SAR Compliance Test Report

Test report no.:	FCC_SAR_RM-1116_03	**Date of report:**	2015-10-15
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Tested device:	RM-1116, HW: 2030		
FCC ID:	PYARM-1116	**IC:**	661X-RM1116
Supplement reports:	SAR_Photo_RM-1116_04		
Testing has been carried out in accordance with:	**47CFR §2.1093** Radiofrequency Radiation Exposure Evaluation: Portable Devices **FCC published RF exposure KDB procedures** **RSS-102, Issue 5** Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields **IEEE 1528 - 2013** IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique		
Documentation:	The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft.		
Test results:	**The tested device complies with the requirements in respect of all parameters subject to the test.** The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		

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Date: 2015.10.15 14:41:07 +03'00'

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2015-07-15 to 2015-10-15
HW and SW numbers of tested device	RM-1116, HW: 2030, SW: 01066.00001.15267.14000, 01066.00001.15273.52000
Batteries used in testing	BV-T4D
Headsets used in testing	WH-308
Other accessories used in testing	-
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

The maximum reported SAR values for Head, Body-worn 15 mm and Wireless Router 10 mm configurations are given in section 1.2.1, 1.2.2 and 1.2.3 respectively. The device conforms to the requirements of the standards when the maximum measured SAR value is less than or equal to the limit.

1.2.1 Head Configuration

Mode	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot #
LTE700 (Band 12)	**0.14 W/kg**	1.6 W/kg	**PASSED**	**H1**
LTE700 (Band 17)	**0.15 W/kg**	1.6 W/kg	**PASSED**	**H2**
4-slot GPRS850	**0.39 W/kg**	1.6 W/kg	**PASSED**	**H3**
WCDMA850 (Band 5)	**0.32 W/kg**	1.6 W/kg	**PASSED**	**H4**
LTE850 (Band 5)	**0.24 W/kg**	1.6 W/kg	**PASSED**	**H5**
WCDMA1700/2100 (Band 4)	**0.45 W/kg**	1.6 W/kg	**PASSED**	**H6**
LTE1700/2100 (Band 4)	**0.39 W/kg**	1.6 W/kg	**PASSED**	**H7**
4-slot GPRS1900	**0.23 W/kg**	1.6 W/kg	**PASSED**	**H8**
WCDMA1900 (Band 2)	**0.38 W/kg**	1.6 W/kg	**PASSED**	**H9**
LTE1900 (Band 2)	**0.27 W/kg**	1.6 W/kg	**PASSED**	**H10**
LTE2500 (Band 7)	**0.47 W/kg**	1.6 W/kg	**PASSED**	**H11**
WLAN2450	**1.01 W/kg**	1.6 W/kg	**PASSED**	**H12**
WLAN5000	**1.05 W/kg**	1.6 W/kg	**PASSED**	**H13**
Maximum of SPEAG combined multiband algorithm results				
4-slot GPRS850 + WLAN2450	**1.15 W/kg**	1.6 W/kg	**PASSED**	**H14**
4-slot GPRS850 + WLAN5000	**1.06 W/kg**	1.6 W/kg	**PASSED**	**H15**

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1.2.2 Body-worn 15 mm Configuration

Mode	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot #
LTE700 (Band 12)	**0.22 W/kg**	1.6 W/kg	**PASSED**	**B1**
LTE700 (Band 17)	**0.22 W/kg**	1.6 W/kg	**PASSED**	**B2**
4-slot GPRS850	**0.41 W/kg**	1.6 W/kg	**PASSED**	**B3**
WCDMA850 (Band 5)	**0.35 W/kg**	1.6 W/kg	**PASSED**	**B4**
LTE850 (Band 5)	**0.26 W/kg**	1.6 W/kg	**PASSED**	**B5**
WCDMA1700/2100 (Band 4)	**0.37 W/kg**	1.6 W/kg	**PASSED**	**B6**
LTE1700/2100 (Band 4)	**0.24 W/kg**	1.6 W/kg	**PASSED**	**B7**
4-slot GPRS1900	**0.29 W/kg**	1.6 W/kg	**PASSED**	**B8**
WCDMA1900 (Band 2)	**0.43 W/kg**	1.6 W/kg	**PASSED**	**B9**
LTE1900 (Band 2)	**0.30 W/kg**	1.6 W/kg	**PASSED**	**B10**
LTE2500 (Band 7)	**0.32 W/kg**	1.6 W/kg	**PASSED**	**B11**
WLAN2450	**0.19 W/kg**	1.6 W/kg	**PASSED**	**B12**
WLAN5000	**0.33 W/kg**	1.6 W/kg	**PASSED**	**B13**
Maximum of SPEAG combined multiband algorithm results				
WCDMA1900 (Band 2) + WLAN2450	**0.46 W/kg**	1.6 W/kg	**PASSED**	**B14**
WCDMA1900 (Band 2) + WLAN5000	**0.43 W/kg**	1.6 W/kg	**PASSED**	**B15**

1.2.3 Wireless Router 10 mm Configuration

Mode	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot #
LTE700 (Band 12)	**0.28 W/kg**	1.6 W/kg	**PASSED**	**W1**
LTE700 (Band 17)	**0.32 W/kg**	1.6 W/kg	**PASSED**	**W2**
4-slot GPRS850	**0.54 W/kg**	1.6 W/kg	**PASSED**	**W3**
WCDMA850 (Band 5)	**0.47 W/kg**	1.6 W/kg	**PASSED**	**W4**
LTE850 (Band 5)	**0.32 W/kg**	1.6 W/kg	**PASSED**	**W5**
WCDMA1700/2100 (Band 4)	**0.66 W/kg**	1.6 W/kg	**PASSED**	**W6**
LTE1700/2100 (Band 4)	**0.52 W/kg**	1.6 W/kg	**PASSED**	**W7**
4-slot GPRS1900	**0.61 W/kg**	1.6 W/kg	**PASSED**	**W8**
WCDMA1900 (Band 2)	**0.90 W/kg**	1.6 W/kg	**PASSED**	**W9**
LTE1900 (Band 2)	**0.69 W/kg**	1.6 W/kg	**PASSED**	**W10**
LTE2500 (Band 7)	**1.07 W/kg**	1.6 W/kg	**PASSED**	**W11**
WLAN2450	**0.47 W/kg**	1.6 W/kg	**PASSED**	**W12**
WLAN5000	**0.87 W/kg**	1.6 W/kg	**PASSED**	**W13**
Maximum of SPEAG combined multiband algorithm results				
LTE2500 (Band 7) + WLAN2450	**1.07 W/kg**	1.6 W/kg	**PASSED**	**W11**
LTE2500 (Band 7) + WLAN5000	**1.07 W/kg**	1.6 W/kg	**PASSED**	**W11**

* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.

1.2.4 10g Extremity 0 mm SAR Configuration

All bands/communication systems and all surfaces and edges have Wireless Router 10 mm Reported SAR less than or equal to 1.2 W/kg (when scaled to maximum power if WR power reduction applied), therefore there is no need to test Phablet 10g Extremity 0 mm SAR according to KDB 648474 D04 Handset SAR v01r01.

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1.2.5 Summary SAR data

Description	FCC-defined SAR values for the Grants of Equipment Authorization		
	PCE	DTS	NII
Maximum Head SAR values	0.47	1.01	1.05
{Max + Max} Simultaneous Head SAR value	1.44		
Maximum Body-worn 15 mm SAR values	0.43	0.19	0.33
{Max + Max} Simultaneous Body-worn 15 mm SAR value	0.74		
Maximum Product Specific (Wireless Router 10 mm) SAR values	1.07	0.47	0.87
{Max + Max} Simultaneous Product Specific (Wireless Router 10 mm) SAR value	1.27		
Maximum Simultaneous SAR value **Head SAR: 4-slot GPRS850 + WLAN5000**	1.44		

Note:

PCE contains the highest results between all cellular modes (cellular, AWS and PCS bands)
DTS contains the highest results between all WLAN 2.4 GHz modes
NII contains the highest results between RLAN 5150-5250, 5250-5350, 5470-5725 MHz and 5725-5850 MHz

1.2.6 Maximum Drift

Maximum drift during measurements	≤ 0.2 dB

1.2.7 Measurement Uncertainty

Expanded Uncertainty (k=2) 95 %	± 29.8 %

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2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

2.1 Bands and Modes of the DUT

Bands	Modes of Operation	Modulation Mode	Duty Cycle	Channel Bandwidth (MHz)	Transmitter Frequency Range (MHz)	Power Reduction in Wireless Router (Hotspot) Mode (dB)			
700 (Band 12)	LTE	QPSK / 16QAM	1	1.4, 3, 5, 10	699 – 716	-			
700 (Band 17)	LTE	QPSK / 16QAM	1	5, 10	704 – 716	-			
850	GSM/GPRS	GMSK	1/8 to 4/8		824 – 849	1-slot	2-slot	3-slot	4-slot
						-	-	-	-
850	EGPRS	GMSK / 8PSK	1/8 to 4/8		824 – 849	-	-	-	-
850 (Band 5)	WCDMA	QPSK	1		826 – 847	-			
850 (Band 5)	HSUPA	QPSK	1		826 – 847	-			
850 (Band 5)	DC-HSDPA	QPSK	1		826 – 847	-			
850 (Band 5)	LTE	QPSK / 16QAM	1	1.4, 3, 5, 10	824 – 849	-			
1700/2100 (Band 4)	WCDMA	QPSK	1		1712 - 1753	-			
1700/2100 (Band 4)	HSUPA	QPSK	1		1712 - 1753	-			
1700/2100 (Band 4)	DC-HSDPA	QPSK	1		1712 - 1753	-			
1700/2100 (Band 4)	LTE	QPSK / 16QAM	1	1.4, 3, 5, 10, 15, 20	1710 – 1755	-			
1900	GSM/GPRS	GMSK	1/8 to 4/8		1850 – 1910	1-slot	2-slot	3-slot	4-slot
						-	-	-	-
1900	EGPRS	GMSK / 8PSK	1/8 to 4/8		1850 – 1910	-	-	-	-
1900 (Band 2)	WCDMA	QPSK	1		1852 – 1908	-			
1900 (Band 2)	HSUPA	QPSK	1		1852 – 1908	-			
1900 (Band 2)	DC-HSDPA	QPSK	1		1852 – 1908	-			
1900 (Band 2)	LTE	QPSK / 16QAM	1	1.4, 3, 5, 10, 15, 20	1850 – 1910	-			
2500 (Band 7)	LTE	QPSK / 16QAM	1	5, 10, 15, 20	2500 - 2570	-			
2450	BT	GFSK	1		2402 – 2480	-			
2450	WLAN b-mode	DSSS	1	20	2412 – 2462	-			
2450	WLAN g-mode	OFDM	1	20	2412 – 2462	-			
2450	WLAN n-mode	OFDM	1	20	2412 – 2462	-			
2450	WLAN ac-mode	OFDM	1	20	2412 – 2462	-			
2450	WLAN n-mode	OFDM	1	40	2412 – 2462	-			
2450	WLAN ac-mode	OFDM	1	40	2412 – 2462	-			

(Table continues)

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(Table continues)

Bands	Modes of Operation	Modulation Mode	Duty Cycle	Channel Bandwidth (MHz)	Transmitter Frequency Range (MHz)	Power Reduction in Wireless Router (Hotspot) Mode (dB)
5000	WLAN a-mode	OFDM	1	20	5180 - 5825	-
5000	WLAN n-mode	OFDM	1	20	5180 - 5825	-
5000	WLAN ac-mode	OFDM	1	20	5180 - 5805	-
5000	WLAN n-mode	OFDM	1	40	5180 - 5825	-
5000	WLAN ac-mode	OFDM	1	40	5180 - 5805	-
5000	WLAN ac-mode	OFDM	1	80	5158 - 5805	-

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2.2 DUT Features and Test Requirements

Common features	Testing / Specification / KDB
Bands operating outside USA and Canada	These bands are not part of this filing: GSM/GPRS/EGPRS900 GSM/GPRS/EGPRS1800 WCDMA/HSUPA/DC-HSDPA900 (Band 8) WCDMA/HSUPA/DC-HSDPA2100 (Band 1) LTE700 (Band28) LTE850 (Band 20) LTE900 (Band 8) LTE1800 (Band 3) LTE2100 (Band 1) LTE2300 (Band 40) LTE2500 (Band 41) LTE2600 (Band 38)
Number of SIM cards:	2
Ambient temperature:	20.5 – 22.5 °C / Controlled
Ambient humidity (RH %):	35 – 55 % RH / Controlled
Output power and batteries	The device output power was set to maximum power level for all tests. A fully charged battery was used for every test sequence.
Test channels	In all operating bands the measurements were performed on lowest, middle and highest channels, and/or on all required test channels as defined in Published FCC KDB Procedures.
VOIP	This device has Voice-over-IP capability for use at the ear. Therefore SAR for data modes was evaluated against the head profile of the phantom for all communication systems.

(Table continues)

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(Table continues)

<table>
<tr><td>Antennas</td><td>Two antennas are used for transmission of the all cellular bands in diversity-Tx mode. In this mode the antennas cannot transmit at the same time. All cellular antennas are fully and separately SAR tested for individual transmission. See table below for applicable antennas in each transmission band and mode.

Also the both WLAN bands have two separate antennas. See SAR_Photo_RM-1116_04, Section 3.

All WLAN antennas are tested simultaneously for Delay Diversity/MIMO WLAN transmissions.

Simultaneous transmissions with WLAN2450/WLAN5000 are assessed separately for both cellular antennas.

Same RF PA circuitry is used for both cellular antennas and therefore same output power targets and conducted power results apply to both cellular antennas. Control software was used to route the TX power to the chosen cellular antenna during the SAR test sequence.

Own RF PA circuitry is used for WLAN antennas and therefore own conducted power results are measured for both antennas. For WLAN2450/WLAN5000, average power of the two WLAN antennas have been used for selection of the transmit mode/data rate, as well as the selection of the tested WLAN channels. This was agreed beforehand via FCC KDB Inquiry.

<table>
<tr><th rowspan="2">Band</th><th colspan="2">Tx Antennas</th></tr>
<tr><th>Antenna 1</th><th>Antenna 2</th></tr>
<tr><td>LTE700 (Band 12)</td><td>✓</td><td>✓</td></tr>
<tr><td>LTE700 (Band 17)</td><td>✓</td><td>✓</td></tr>
<tr><td>GSM/GPRS/EGPRS850</td><td>✓</td><td>✓</td></tr>
<tr><td>WCDMA850 (Band 5)</td><td>✓</td><td>✓</td></tr>
<tr><td>LTE850 (Band 5)</td><td>✓</td><td>✓</td></tr>
<tr><td>WCDMA1700/2100 (Band 4)</td><td>✓</td><td>✓</td></tr>
<tr><td>LTE1700/2100 (Band 4)</td><td>✓</td><td>✓</td></tr>
<tr><td>GSM/GPRS/EGPRS1900</td><td>✓</td><td>✓</td></tr>
<tr><td>WCDMA1900 (Band 2)</td><td>✓</td><td>✓</td></tr>
<tr><td>LTE1900 (Band 2)</td><td>✓</td><td>✓</td></tr>
<tr><td>LTE2500 (Band 7)</td><td>✓</td><td>✓</td></tr>
<tr><td>WLAN2450</td><td>✓</td><td>✓</td></tr>
<tr><td>WLAN5000</td><td>✓</td><td>✓</td></tr>
</table>
</td></tr>
<tr><th>GSM/GPRS/EGPRS</th><th>KDB 941225 D03 SAR Test Reduction Procedures for GSM/GPRS/EDGE</th></tr>
<tr><td>Device Class</td><td>B</td></tr>
<tr><td>GSM multi slot class</td><td>33</td></tr>
<tr><td>DTM class</td><td>3
Dual Transfer Mode was not specifically tested as the average power in multi-slot GMSK GPRS mode is always greater than, or equal to, the average power in Dual Transfer Mode in Microsoft devices.</td></tr>
<tr><td>EGPRS</td><td>8PSK EGPRS mode was not measured, because maximum averaged output power is lower in 8PSK EGPRS mode than in GPRS mode.</td></tr>
<tr><td>Call tester settings</td><td>CMU200 / Anritsu: MS signal was always set to maximum power: Pmax 5 for GSM850 and 0 for GSM1900.</td></tr>
</table>

(Table continues)

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(Table continues)

<table>
<tr><td>Number of slots used in testing</td><td>The number of Tx slots in all GSM/GPRS mode tests was based on tuning target/conducted power data, see Section 3. The number of slots with highest or equal highest time-average power was tested.</td></tr>
<tr><td>WCDMA</td><td>KDB 941225 D01 SAR Measurement Procedures for 3G Devices</td></tr>
<tr><td>WCDMA</td><td>Rel9.
Conducted power measurements for WCDMA modes have been carried out in accordance with 3GPP TS34.1083 and GPP TS 34.121-1. See conducted power results in section 3</td></tr>
<tr><td>Call test settings for WCDMA</td><td>CMU200 / Anritsu: UE uplink signal was configured to 12.2kbps RMC with all TPC bit set to 1.</td></tr>
<tr><td>HSUPA</td><td>SAR tests for HSUPA mode have not been performed as no HSUPA Sub-test mode has an average power > 0.25 dB above the basic WCDMA 12.2 kbps RMC mode.</td></tr>
<tr><td>DC-HSDPA</td><td>SAR tests for DC-HSDPA mode have not been performed as no DC-HSDPA Sub-test mode has an average power > 0.25 dB above the basic WCDMA 12.2 kbps RMC mode.</td></tr>
<tr><td>LTE</td><td>KDB 941225 D05 SAR for LTE Devices v02r02 DR07-41372</td></tr>
<tr><td>LTE Category</td><td>4</td></tr>
<tr><td>Call tester settings</td><td>CMW500:
Uplink Power Control was set to ‘Max Power’.
Additional Spectrum Emission was set to ‘NS_01’ to disable A-MPR.</td></tr>
<tr><td>LTE MPR</td><td>MPR values as stipulated in Table 6.2.3_1 of 3GPP TS 36.101 (presented below) have been incorporated into the device; these MPR values are dependent on the modulation, Channel Bandwidth and Resource Block allocations as shown:

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><td rowspan="2">Modulation</td><td colspan="6">Channel bandwidth / Transmission bandwidth (RB)</td><td rowspan="2">MPR (dB)</td></tr>
<tr><td>1.4 MHz</td><td>3.0 MHz</td><td>5 MHz</td><td>10 MHz</td><td>15 MHz</td><td>20 MHz</td></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
</table>
No additional MPR settings have been incorporated into the design of the device and therefore no A-MPR settings have been active during its testing.

Conducted Power Tables in Section 3: “Nominal” column lists measured powers with MPR active. The “A-MPR active” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101).</td></tr>
<tr><td>WLAN</td><td>KDB 248227 SAR Measurement Procedures for 802.11 a/b/g Transmitters</td></tr>
<tr><td>WLAN modes tested</td><td>For WLAN2450 DSSS and OFDM modulation modes are tested separately.

DSSS modulation modes for WLAN2450 are tested by using Initial Test Position or Fixed Test Position Procedure.

OFDM modulation modes for WLAN2450 and WLAN5000 are tested by using Initial Test Position or Fixed Test Position Procedure together with Initial/Subsequent Test Configuration Procedure according to KDB instructions.

Tuning target, upper limit and conducted power values used for test decisions and scaling are averaged values for Antenna 1 and Antenna 2.</td></tr>
<tr><td>WLAN power reduction ‘held to ear’</td><td>This device applies ‘held to ear’ power reduction for SAR compliance for WLAN2450 and WLAN5000 modes. It always applies power reduction in voice or VOIP ‘held to ear’ scenarios on the WLAN transmitter, and does not impact any other transmitter in the device. Head SAR is evaluated at reduced power according to the head SAR test positions. Power reduction is 3.0 dB in all held-to-ear scenarios and modes for WLAN2450, and at 4.0dB for WLAN5000. All other positions are evaluated at full power.</td></tr>
</table>

(Table continues)

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(Table continues)

WLAN test settings	The device was put into operation by using control software.
BT	**KDB 447498 D01 General RF Exposure Guidance v05**
BT Class	I
BT testing	BT power tuning target upper limit is 11.5 dBm. WLAN2450 power tuning target upper limit is 15.5 dBm. Since WLAN2450 and BT use same frequency and antenna, WLAN2450 power is 4.0 dB higher, and they cannot transmit simultaneously, the WLAN2450 standalone SAR is conservative estimation of BT SAR. As WLAN2450 SAR result is below limit, also BT SAR can be deemed to comply without further analysis or standalone measurements. Also WLAN2450+cellular bands combined SAR results can be regarded as conservative estimation of BT+cellular combined SARs. As WLAN2450+cellular combined SAR result are below limit, also BT+cellular combined SAR can be deemed to comply without further analysis.
Simultaneous transmission	**KDB 447498 D01 General RF Exposure Guidance v05**
In Head and Body-worn use	Simultaneous transmission of any singular cellular, PCS or AWS with WLAN2450 / WLAN5000 is possible.
Wireless Router "Hotspot" mode	Yes
In Wireless Router use	Simultaneous transmission of any singular cellular, AWS or PCS band with WLAN2450 / WLAN5000 is possible. The hotspot mode (Wireless Router mode) may operate concurrently in DTM mode with voice calls. The reported SAR test results are conservative regarding that use case, since output power in hotspot mode is equal to or lower than in normal voice and data modes. See Section 2.1 for hotspot mode power reductions. Also simultaneous transmissions with WLANs are already conservatively assessed for head and body-worn exposure conditions due to VoIP capability. WLAN5000 hotspot mode (Wireless Router mode) operates only in UNII-1 and UNII-3 bands.
Power reduction for Wireless Router mode	See the table in Section 2.1.
10g Extremity SAR for phablets	**KDB 648474 D04 SAR Handsets SAR**
Test concentration	For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. Phablet procedures applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10g Extremity 0 mm SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. When Wireless Router mode applies, 10g Extremity 0 mm SAR is required only for the surfaces and edges with Wireless router 10 mm mode 1g SAR > 1.2 W/kg.
KDBs used in testing	**KDB 248227 SAR Measurement Procedures for 802.11 a/b/g Transmitters** **KDB 447498 D01 General RF Exposure Guidance v05** **KDB 648474 D04 Handset SAR v01r01** **KDB 690783 D01 SAR Listings on Grants** **KDB 865664 D01 SAR Measurements 100 MHz to 6 GHz v01** **KDB 865664 D02 SAR Reporting v01** **KDB 941225 D01 SAR Measurement Procedures for 3G Devices** **KDB 941225 D03 SAR Test Reduction Procedures for GSM/GPRS/EDGE** **KDB 941225 D05 SAR for LTE Devices v02r02 DR07-41372**

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3. CONDUCTED POWERS

The conducted output power of the device was measured by a separate test laboratory on the same units as used for SAR testing.

3.1 GSM/GPRS/EGPRS

Shaded lines in the tables below show which mode/configuration is used in testing.

3.1.1 GSM850 Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

GSM 850								
SN: 04402742362225			Conducted power (dBm)			Time-averaged power (dBm)		
Slot configuration	Tuning target (dBm)	Upper limit (dBm)	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GSM 1-slot	**32.8**	**33.2**	32.3	32.3	32.4	23.3	23.3	23.4
GPRS 2-slot	**30.3**	**30.7**	30.2	30.3	29.9	24.2	24.3	23.9
GPRS 3-slot	**28.8**	**29.2**	28.6	28.7	28.8	24.3	24.4	24.5
GPRS 4-slot	**27.8**	**28.2**	27.4	27.5	27.6	24.4	24.5	**24.6**
EGRPS 1-slot	**27.0**	**27.4**	26.7	26.8	26.8	17.7	17.8	17.8
EGPRS 2-slot	**26.0**	**26.4**	26.0	26.1	26.1	20.0	20.1	20.1
EGPRS 3-slot	**25.2**	**25.6**	24.9	25.1	25.1	20.6	20.8	20.8
EGPRS 4-slot	**24.5**	**24.9**	24.4	24.5	24.5	21.4	21.5	21.5

3.1.2 GSM1900 Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

GSM 1900								
SN: 004402742362340			Conducted power (dBm)			Time-averaged power (dBm)		
Slot configuration	Tuning target (dBm)	Upper limit (dBm)	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GSM 1-slot	**29.8**	**30.2**	29.6	30.0	30.1	20.6	21.0	21.1
GPRS 2-slot	**27.3**	**27.7**	27.4	27.7	27.7	21.4	21.7	21.7
GPRS 3-slot	**25.8**	**26.2**	26.0	26.1	26.2	21.7	21.8	21.9
GPRS 4-slot	**24.8**	**25.2**	24.7	25.0	24.8	21.7	**22.0**	21.8
EGRPS 1-slot	**25.0**	**25.4**	24.8	24.7	24.8	15.8	15.7	15.8
EGPRS 2-slot	**25.0**	**25.4**	24.7	24.6	24.7	18.7	18.6	18.7
EGPRS 3-slot	**24.5**	**24.9**	24.6	24.5	24.6	20.3	20.2	20.3
EGPRS 4-slot	**23.0**	**23.4**	23.4	23.4	23.4	20.4	20.4	20.4

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3.2 WCDMA

3.2.1 WCDMA850 (Band 5) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 04402742362225	WCDMA 5				
Mode	Tuning target (dBm)	Upper limit (dBm)	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	24.2	24.6	24.3	24.3	24.3
HSUPA Sub-mode 1	23	23.4	23.4	22.9	22.9
HSUPA Sub-mode 2	22	22.4	21.9	22.2	22.3
HSUPA Sub-mode 3	21.5	21.9	21.6	21.7	21.8
HSUPA Sub-mode 4	22.5	22.9	22.8	22.8	22.8
HSUPA Sub-mode 5	23	23.4	23.3	23.3	23.3
DC-HSDPA Sub-mode 1	23	23.4	23.3	23.2	23.3
DC-HSDPA Sub-mode 2	23	23.4	23.3	23.3	23.3
DC-HSDPA Sub-mode 3	22.5	22.9	22.8	22.8	22.8
DC-HSDPA Sub-mode 4	22.5	22.9	22.8	22.7	22.8

3.2.2 WCMA1700/2100 (Band 4) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 004402742362605	WCDMA 4				
Mode	Tuning target (dBm)	Upper limit (dBm)	CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz
WCDMA	23.5	23.9	23.5	23.5	23.5
HSUPA Sub-mode 1	22	22.4	22.4	22.1	22.1
HSUPA Sub-mode 2	21.5	21.9	21.6	21.5	21.5
HSUPA Sub-mode 3	21	21.4	21.2	21.1	21.1
HSUPA Sub-mode 4	22	22.4	22.0	22.0	22.0
HSUPA Sub-mode 5	22.5	22.9	22.6	22.5	22.5
DC-HSDPA Sub-mode 1	22.5	22.9	22.5	22.5	22.5
DC-HSDPA Sub-mode 2	22.5	22.9	22.5	22.5	22.5
DC-HSDPA Sub-mode 3	22	22.4	22.0	22.0	22.0
DC-HSDPA Sub-mode 4	22	22.4	22.0	22.0	22.0

3.2.3 WCDMA1900 (Band 2) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 004402742362340	WCDMA 2				
Mode	Tuning target (dBm)	Upper limit (dBm)	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	23.5	23.9	23.6	23.5	23.6
HSUPA Sub-mode 1	22	22.4	22.4	22.2	22.0
HSUPA Sub-mode 2	21.5	21.9	21.6	21.6	21.6
HSUPA Sub-mode 3	21	21.4	21.2	21.1	20.9
HSUPA Sub-mode 4	22	22.4	22.1	22.1	22.1
HSUPA Sub-mode 5	22.5	22.9	22.6	22.6	22.6
DC-HSDPA Sub-mode 1	22.5	22.9	22.6	22.5	22.5
DC-HSDPA Sub-mode 2	22.5	22.9	22.6	22.6	22.5
DC-HSDPA Sub-mode 3	22	22.4	22.1	22.0	22.0
DC-HSDPA Sub-mode 4	22	22.4	22.1	22.0	22.0

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3.3 LTE

3.3.1 LTE700 (Band 12) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 004402742362282						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch23017 / 699.7 MHz	Ch23095 / 707.5 MHz	Ch23173 / 715.3 MHz	Ch23017 / 699.7 MHz	Ch23095 / 707.5 MHz	Ch23173 / 715.3 MHz
LTE12 1.4 MHz	QPSK	1	0	22.5	22.9	22.6	22.7	22.7			
		1	2	22.5	22.9	22.7	22.7	22.7			
		1	5	22.5	22.9	22.6	22.6	22.6			
		3	0	22.5	22.9	22.5	22.6	22.6			
		3	2	22.5	22.9	22.5	22.6	22.7			
		3	3	22.5	22.9	22.4	22.6	22.7			
		6	0	21.5	21.9	21.5	21.5	21.6			
	16QAM	1	0	22.0	22.4	21.5	21.7	21.8			
		1	2	22.0	22.4	21.6	21.7	21.9			
		1	5	22.0	22.4	21.5	21.7	21.8			
		3	0	21.5	21.9	21.6	21.5	21.8			
		3	2	21.5	21.9	21.6	21.6	21.8			
		3	3	21.5	21.9	21.5	21.4	21.8			
		6	0	20.5	20.9	20.5	20.6	20.7			

SN: 004402742362282						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch23025 / 700.5 MHz	Ch23095 / 707.5 MHz	Ch23165 / 714.5 MHz	Ch23025 / 700.5 MHz	Ch23095 / 707.5 MHz	Ch23165 / 714.5 MHz
LTE12 3 MHz	QPSK	1	0	22.5	22.9	22.5	22.7	22.7			
		1	7	22.5	22.9	22.7	22.8	22.8			
		1	14	22.5	22.9	22.5	22.6	22.6			
		8	0	21.5	21.9	21.5	21.5	21.5			
		8	3	21.5	21.9	21.5	21.6	21.7			
		8	7	21.5	21.9	21.5	21.5	21.6			
		15	0	21.5	21.9	21.5	21.5	21.7			
	16QAM	1	0	22.0	22.4	21.9	22.1	21.7			
		1	7	22.0	22.4	22.1	22.2	22.0			
		1	14	22.0	22.4	21.9	22.0	21.8			
		8	0	20.5	20.9	20.6	20.5	20.6			
		8	3	20.5	20.9	20.5	20.6	20.6			
		8	7	20.5	20.9	20.5	20.6	20.6			
		15	0	20.5	20.9	20.5	20.6	20.6			

SN: 004402742362282						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch23035 / 701.5 MHz	Ch23095 / 707.5 MHz	Ch23155 / 713.5 MHz	Ch23035 / 701.5 MHz	Ch23095 / 707.5 MHz	Ch23155 / 713.5 MHz
LTE12 5 MHz	QPSK	1	0	22.5	22.9	22.5	22.6	22.6			
		1	12	22.5	22.9	22.5	22.6	22.8			
		1	24	22.5	22.9	22.6	22.7	22.7			
		12	0	21.5	21.9	21.4	21.5	21.6			
		12	6	21.5	21.9	21.5	21.6	21.6			
		12	13	21.5	21.9	21.5	21.4	21.6			
		25	0	21.5	21.9	21.5	21.6	21.7			
	16QAM	1	0	22.0	22.4	21.8	21.9	22.3			
		1	12	22.0	22.4	21.8	22.0	22.2			
		1	24	22.0	22.4	21.8	22.0	22.2			
		12	0	20.5	20.9	20.4	20.5	20.6			
		12	6	20.5	20.9	20.4	20.5	20.6			
		12	13	20.5	20.9	20.4	20.4	20.6			
		25	0	20.5	20.9	20.5	20.5	20.6			

(LTE12 table continues)

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(LTE12 table continues)

SN: 004402742362282						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch23060 / 704 MHz	Ch23095 / 707.5 MHz	Ch23130 / 711 MHz	Ch23060 / 704 MHz	Ch23095 / 707.5 MHz	Ch23130 / 711 MHz
LTE12 10 MHz	QPSK	1	0	22.5	22.9	22.6	22.5	22.6			
		1	24	22.5	22.9	22.7	22.7	22.6			
		1	49	22.5	22.9	22.6	22.7	22.7			
		25	0	21.5	21.9	21.6	21.5	21.5			
		25	12	21.5	21.9	21.6	21.6	21.5			
		25	25	21.5	21.9	21.5	21.5	21.6			
		50	0	21.5	21.9	21.6	21.5	21.6			
	16QAM	1	0	22.0	22.4	21.7	21.5	21.7			
		1	24	22.0	22.4	21.8	21.6	21.8			
		1	49	22.0	22.4	21.7	21.6	21.7			
		25	0	20.5	20.9	20.6	20.5	20.5			
		25	12	20.5	20.9	20.6	20.5	20.6			
		25	25	20.5	20.9	20.6	20.6	20.6			
		50	0	20.5	20.9	20.5	20.5	20.6			

3.3.2 LTE700 (Band 17) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 004402742362282						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch23755 / 706.5 MHz	Ch23790 / 710 MHz	Ch23825 / 713.5 MHz	Ch23755 / 706.5 MHz	Ch23790 / 710 MHz	Ch23825 / 713.5 MHz
LTE17 5 MHz	QPSK	1	0	22.5	22.9	22.5	22.6	22.5			
		1	12	22.5	22.9	22.3	22.5	22.5			
		1	24	22.5	22.9	22.5	22.7	22.5			
		12	0	21.5	21.9	21.4	21.5	21.4			
		12	6	21.5	21.9	21.5	21.5	21.4			
		12	13	21.5	21.9	21.3	21.5	21.4			
		25	0	21.5	21.9	21.4	21.5	21.4			
	16QAM	1	0	22.0	22.4	21.6	22.0	22.0			
		1	12	22.0	22.4	21.8	22.1	22.1			
		1	24	22.0	22.4	21.6	22.1	22.0			
		12	0	20.5	20.9	20.4	20.5	20.4			
		12	6	20.5	20.9	20.5	20.5	20.4			
		12	13	20.5	20.9	20.4	20.6	20.4			
		25	0	20.5	20.9	20.4	20.5	20.4			

SN: 004402742362282						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch23780 / 709 MHz	Ch23790 / 710 MHz	Ch23800 / 711 MHz	Ch23780 / 709 MHz	Ch23790 / 710 MHz	Ch23800 / 711 MHz
LTE17 10 MHz	QPSK	1	0	22.5	22.9	22.6	22.6	22.6			
		1	24	22.5	22.9	22.7	22.6	22.6			
		1	49	22.5	22.9	22.6	22.5	22.6			
		25	0	21.5	21.9	21.5	21.5	21.4			
		25	12	21.5	21.9	21.5	21.5	21.5			
		25	25	21.5	21.9	21.5	21.5	21.5			
		50	0	21.5	21.9	21.5	21.5	21.4			
	16QAM	1	0	22.0	22.4	21.9	21.9	21.9			
		1	24	22.0	22.4	21.9	21.8	21.8			
		1	49	22.0	22.4	21.9	21.8	21.8			
		25	0	20.5	20.9	20.5	20.5	20.3			
		25	12	20.5	20.9	20.6	20.5	20.5			
		25	25	20.5	20.9	20.5	20.5	20.4			
		50	0	20.5	20.9	20.6	20.6	20.4			

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3.3.3 LTE850 (Band 5) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 04402742362225						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20407 / 824.7 MHz	Ch20525 / 836.5 MHz	Ch20643 / 848.3 MHz	Ch20407 / 824.7 MHz	Ch20525 / 836.5 MHz	Ch20643 / 848.3 MHz
LTE5 1.4 MHz	QPSK	1	0	23.0	23.4	22.7	22.7	22.7			
		1	2	23.0	23.4	22.8	22.7	22.7			
		1	5	23.0	23.4	22.8	22.6	22.6			
		3	0	23.0	23.4	22.6	22.5	22.5			
		3	2	23.0	23.4	22.7	22.7	22.6			
		3	3	23.0	23.4	22.6	22.6	22.6			
		6	0	22.0	22.4	21.5	21.5	21.5			
	16QAM	1	0	22.0	22.4	22.2	21.8	21.9			
		1	2	22.0	22.4	22.1	21.9	21.9			
		1	5	22.0	22.4	22.3	21.8	21.9			
		3	0	22.0	22.4	21.5	21.6	21.6			
		3	2	22.0	22.4	21.6	21.7	21.7			
		3	3	22.0	22.4	21.5	21.6	21.7			
		6	0	21.0	21.4	20.7	20.6	20.6			
SN: 04402742362225						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20415 / 825.5 MHz	Ch20525 / 836.5 MHz	Ch20635 / 847.5 MHz	Ch20415 / 825.5 MHz	Ch20525 / 836.5 MHz	Ch20635 / 847.5 MHz
LTE5 3 MHz	QPSK	1	0	23.0	23.4	22.6	22.6	22.6			
		1	7	23.0	23.4	22.9	23.0	22.9			
		1	14	23.0	23.4	22.7	22.7	22.6			
		8	0	22.0	22.4	21.6	21.6	21.6			
		8	3	22.0	22.4	21.6	21.6	21.6			
		8	7	22.0	22.4	21.6	21.6	21.6			
		15	0	22.0	22.4	21.6	21.6	21.6			
	16QAM	1	0	22.0	22.4	21.9	22.1	21.7			
		1	7	22.0	22.4	22.2	22.2	21.9			
		1	14	22.0	22.4	21.8	22.1	21.7			
		8	0	21.0	21.4	20.6	20.6	20.6			
		8	3	21.0	21.4	20.5	20.6	20.6			
		8	7	21.0	21.4	20.6	20.6	20.6			
		15	0	21.0	21.4	20.6	20.5	20.5			
SN: 04402742362225						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20425 / 826.5 MHz	Ch20525 / 836.5 MHz	Ch20625 / 846.5 MHz	Ch20425 / 826.5 MHz	Ch20525 / 836.5 MHz	Ch20625 / 846.5 MHz
LTE5 5 MHz	QPSK	1	0	23.0	23.4	22.6	22.5	22.7			
		1	12	23.0	23.4	22.5	22.6	22.6			
		1	24	23.0	23.4	22.5	22.6	22.6			
		12	0	22.0	22.4	21.5	21.5	21.5			
		12	6	22.0	22.4	21.5	21.6	21.6			
		12	13	22.0	22.4	21.5	21.5	21.5			
		25	0	22.0	22.4	21.5	21.6	21.6			
	16QAM	1	0	22.0	22.4	21.6	21.7	21.9			
		1	12	22.0	22.4	21.5	21.7	21.8			
		1	24	22.0	22.4	21.5	21.7	21.7			
		12	0	21.0	21.4	20.6	20.5	20.5			
		12	6	21.0	21.4	20.6	20.6	20.6			
		12	13	21.0	21.4	20.6	20.6	20.5			
		25	0	21.0	21.4	20.6	20.5	20.5			

(LTE5 table continues)

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(LTE5 table continues)

SN: 04402742362225						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20450 / 829 MHz	Ch20525 / 836.5 MHz	Ch20600 / 844 MHz	Ch20450 / 829 MHz	Ch20525 / 836.5 MHz	Ch20600 / 844 MHz
LTE5 10 MHz	QPSK	1	0	23.0	23.4	22.6	22.6	22.7			
		1	24	23.0	23.4	22.6	22.6	22.7			
		1	49	23.0	23.4	22.5	22.5	22.5			
		25	0	22.0	22.4	21.6	21.6	21.5			
		25	12	22.0	22.4	21.6	21.6	21.6			
		25	25	22.0	22.4	21.5	21.5	21.5			
		50	0	22.0	22.4	21.5	21.6	21.6			
	16QAM	1	0	22.0	22.4	22.2	22.1	21.9			
		1	24	22.0	22.4	22.3	22.2	22.0			
		1	49	22.0	22.4	22.0	22.0	21.8			
		25	0	21.0	21.4	20.6	20.5	20.5			
		25	12	21.0	21.4	20.5	20.6	20.6			
		25	25	21.0	21.4	20.5	20.5	20.6			
		50	0	21.0	21.4	20.5	20.5	20.6			

3.3.4 LTE1700/2100 (Band 4) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 004402742362605						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch19957 / 1710.7 MHz	Ch20175 / 1732.5 MHz	Ch20393 / 1754.3 MHz	Ch19957 / 1710.7 MHz	Ch20175 / 1732.5 MHz	Ch20393 / 1754.3 MHz
LTE4 1.4 MHz	QPSK	1	0	22.6	23.0	22.7	22.6	22.6			
		1	2	22.6	23.0	22.7	22.6	22.6			
		1	5	22.6	23.0	22.7	22.6	22.5			
		3	0	22.6	23.0	22.6	22.5	22.5			
		3	2	22.6	23.0	22.6	22.6	22.6			
		3	3	22.6	23.0	22.5	22.5	22.5			
		6	0	21.6	22.0	21.6	21.5	21.4			
	16QAM	1	0	22.1	22.5	21.9	21.9	22.0			
		1	2	22.1	22.5	21.9	21.9	22.0			
		1	5	22.1	22.5	21.9	21.9	22.0			
		3	0	22.1	22.5	21.7	21.6	21.5			
		3	2	22.1	22.5	21.8	21.7	21.7			
		3	3	22.1	22.5	21.7	21.6	21.5			
		6	0	20.6	21.0	20.6	20.6	20.6			

SN: 004402742362605						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch19965 / 1711.5 MHz	Ch20175 / 1732.5 MHz	Ch20385 / 1753.5 MHz	Ch19965 / 1711.5 MHz	Ch20175 / 1732.5 MHz	Ch20385 / 1753.5 MHz
LTE4 3 MHz	QPSK	1	0	22.6	23.0	22.6	22.5	22.4	22.7	22.6	22.5
		1	7	22.6	23.0	22.8	22.6	22.6	22.9	22.7	22.8
		1	14	22.6	23.0	22.6	22.4	22.5	22.7	22.5	22.4
		8	0	21.6	22.0	21.6	21.5	21.5	20.6	20.5	20.5
		8	3	21.6	22.0	21.7	21.6	21.5	20.6	20.5	20.5
		8	7	21.6	22.0	21.6	21.5	21.5	20.6	20.4	20.4
		15	0	21.6	22.0	21.6	21.6	21.5	20.6	20.5	20.4
	16QAM	1	0	22.1	22.5	21.8	21.6	21.4	21.9	21.8	21.8
		1	7	22.1	22.5	22.3	21.7	21.6	22.0	21.9	22.0
		1	14	22.1	22.5	22.0	21.6	21.5	21.8	21.7	21.8
		8	0	20.6	21.0	20.8	20.7	20.7	19.7	19.5	19.6
		8	3	20.6	21.0	20.8	20.7	20.6	19.7	19.5	19.6
		8	7	20.6	21.0	20.7	20.6	20.5	19.7	19.4	19.5
		15	0	20.6	21.0	20.6	20.7	20.5	19.6	19.6	19.4

(LTE4 table continues)

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(LTE4 table continues)

SN: 004402742362605						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch19975 / 1712.5 MHz	Ch20175 / 1732.5 MHz	Ch20375 / 1752.5 MHz	Ch19975 / 1712.5 MHz	Ch20175 / 1732.5 MHz	Ch20375 / 1752.5 MHz
LTE4 5 MHz	QPSK	1	0	22.6	23.0	22.7	22.6	22.6	22.7	22.5	22.6
		1	12	22.6	23.0	22.6	22.5	22.5	22.6	22.5	22.5
		1	24	22.6	23.0	22.5	22.5	22.5	22.5	22.5	22.5
		12	0	21.6	22.0	21.6	21.5	21.5	20.6	20.5	20.4
		12	6	21.6	22.0	21.7	21.6	21.6	20.7	20.5	20.5
		12	13	21.6	22.0	21.5	21.4	21.4	20.5	20.4	20.4
		25	0	21.6	22.0	21.6	21.5	21.6	20.6	20.5	20.5
	16QAM	1	0	22.1	22.5	21.8	21.8	22.0	22.3	21.8	21.6
		1	12	22.1	22.5	21.8	21.8	22.1	22.2	21.8	21.6
		1	24	22.1	22.5	21.7	21.7	21.9	22.0	21.7	21.6
		12	0	20.6	21.0	20.6	20.5	20.5	19.7	19.6	19.5
		12	6	20.6	21.0	20.6	20.6	20.6	19.7	19.6	19.6
		12	13	20.6	21.0	20.5	20.4	20.5	19.5	19.5	19.5
		25	0	20.6	21.0	20.6	20.5	20.5	19.6	19.6	19.5

SN: 004402742362605						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20000 / 1715 MHz	Ch20175 / 1732.5 MHz	Ch20350 / 1750 MHz	Ch20000 / 1715 MHz	Ch20175 / 1732.5 MHz	Ch20350 / 1750 MHz
LTE4 10 MHz	QPSK	1	0	22.6	23.0	23.0	23.0	22.8	22.9	22.9	22.6
		1	24	22.6	23.0	22.6	22.6	22.5	22.7	22.6	22.4
		1	49	22.6	23.0	22.5	22.5	22.5	22.5	22.4	22.4
		25	0	21.6	22.0	21.8	21.6	21.7	20.8	20.6	20.6
		25	12	21.6	22.0	21.6	21.6	21.5	20.6	20.5	20.4
		25	25	21.6	22.0	21.4	21.4	21.4	20.4	20.4	20.3
		50	0	21.6	22.0	21.6	21.6	21.5	20.6	20.6	20.4
	16QAM	1	0	22.1	22.5	22.5	22.2	22.1	22.1	22.0	22.3
		1	24	22.1	22.5	22.2	21.8	21.8	21.7	21.8	22.0
		1	49	22.1	22.5	21.9	21.8	21.9	21.5	21.8	22.0
		25	0	20.6	21.0	20.8	20.6	20.6	19.8	19.6	19.6
		25	12	20.6	21.0	20.6	20.6	20.4	19.6	19.5	19.5
		25	25	20.6	21.0	20.5	20.4	20.4	19.5	19.4	19.4
		50	0	20.6	21.0	20.6	20.5	20.5	19.6	19.5	19.4

SN: 004402742362605						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20025 / 1717.5 MHz	Ch20175 / 1732.5 MHz	Ch20325 / 1747.5 MHz	Ch20025 / 1717.5 MHz	Ch20175 / 1732.5 MHz	Ch20325 / 1747.5 MHz
LTE4 15 MHz	QPSK	1	0	22.6	23.0	23.0	22.9	23.0	23.0	22.9	23.0
		1	36	22.6	23.0	22.4	22.4	22.3	22.3	22.3	22.3
		1	74	22.6	23.0	22.4	22.4	22.4	22.5	22.4	22.5
		36	0	21.6	22.0	21.8	21.6	21.6	20.7	20.6	20.6
		36	18	21.6	22.0	21.4	21.5	21.5	20.5	20.4	20.4
		36	38	21.6	22.0	21.3	21.4	21.5	20.3	20.4	20.4
		75	0	21.6	22.0	21.5	21.4	21.5	20.5	20.4	20.5
	16QAM	1	0	22.1	22.5	22.4	22.4	22.2	22.5	22.1	22.3
		1	36	22.1	22.5	21.8	21.8	21.5	21.8	21.4	21.6
		1	74	22.1	22.5	21.8	21.9	21.6	22.0	21.6	21.7
		36	0	20.6	21.0	20.8	20.6	20.6	19.8	19.6	19.6
		36	18	20.6	21.0	20.5	20.4	20.5	19.5	19.4	19.5
		36	38	20.6	21.0	20.3	20.4	20.4	19.3	19.3	19.4
		75	0	20.6	21.0	20.6	20.4	20.5	19.6	19.5	19.6

(LTE4 table continues)

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(LTE4 table continues)

SN: 004402742362605						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20050 / 1720 MHz	Ch20175 / 1732.5 MHz	Ch20300 / 1745 MHz	Ch20050 / 1720 MHz	Ch20175 / 1732.5 MHz	Ch20300 / 1745 MHz
LTE4 20 MHz	QPSK	1	0	**22.6**	**23.0**	22.6	22.5	22.5	22.7	22.5	22.5
		1	49	**22.6**	**23.0**	22.3	22.4	22.3	22.4	22.4	22.3
		1	99	**22.6**	**23.0**	22.2	22.2	22.2	22.3	22.2	22.2
		50	0	**21.6**	**22.0**	21.5	21.5	21.5	20.6	20.4	20.5
		50	24	**21.6**	**22.0**	21.4	21.4	21.4	20.4	20.4	20.3
		50	50	**21.6**	**22.0**	21.4	21.3	21.3	20.4	20.3	20.3
		100	0	**21.6**	**22.0**	21.4	21.5	21.4	20.4	20.4	20.4
	16QAM	1	0	**22.1**	**22.5**	21.6	21.6	21.8	22.1	22.0	21.7
		1	49	**22.1**	**22.5**	21.4	21.6	21.5	21.8	21.9	21.5
		1	99	**22.1**	**22.5**	21.3	21.3	21.4	21.7	21.7	21.4
		50	0	**20.6**	**21.0**	20.6	20.4	20.5	19.5	19.5	19.5
		50	24	**20.6**	**21.0**	20.4	20.4	20.3	19.4	19.4	19.4
		50	50	**20.6**	**21.0**	20.5	20.3	20.3	19.4	19.4	19.3
		100	0	**20.6**	**21.0**	20.4	20.5	20.4	19.5	19.5	19.4

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3.3.5 LTE1900 (Band 2) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 004402742362340						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch18607 / 1850.7 MHz	Ch18900 / 1880 MHz	Ch19193 / 1909.3 MHz	Ch18607 / 1850.7 MHz	Ch18900 / 1880 MHz	Ch19193 / 1909.3 MHz
LTE2 1.4 MHz	QPSK	1	0	22.3	22.7	22.1	22.0	22.0			
		1	2	22.3	22.7	22.1	21.9	21.9			
		1	5	22.3	22.7	22.0	21.9	22.0			
		3	0	22.3	22.7	22.0	21.9	21.9			
		3	2	22.3	22.7	22.1	21.9	22.0			
		3	3	22.3	22.7	22.0	21.8	22.0			
		6	0	21.3	21.7	21.0	20.9	20.9			
	16QAM	1	0	21.3	21.7	21.2	21.2	21.5			
		1	2	21.3	21.7	21.1	21.2	21.5			
		1	5	21.3	21.7	21.1	21.1	21.4			
		3	0	21.3	21.7	20.9	21.0	21.0			
		3	2	21.3	21.7	20.9	21.0	21.0			
		3	3	21.3	21.7	20.8	21.0	21.0			
		6	0	20.3	20.7	19.9	20.0	20.1			

SN: 004402742362340						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch18615 / 1851.5 MHz	Ch18900 / 1880 MHz	Ch19185 / 1908.5 MHz	Ch18615 / 1851.5 MHz	Ch18900 / 1880 MHz	Ch19185 / 1908.5 MHz
LTE2 3 MHz	QPSK	1	0	22.3	22.7	22.1	22.0	21.9	22.0	21.9	21.9
		1	7	22.3	22.7	22.2	22.1	22.2	22.2	22.1	22.2
		1	14	22.3	22.7	22.0	21.9	21.9	22.0	21.9	21.9
		8	0	21.3	21.7	21.1	20.9	20.9	19.9	19.9	19.9
		8	3	21.3	21.7	21.1	20.9	20.9	19.9	19.9	19.9
		8	7	21.3	21.7	21.1	20.9	20.9	19.9	19.9	19.9
		15	0	21.3	21.7	21.1	20.9	20.9	19.9	19.9	19.9
	16QAM	1	0	21.3	21.7	21.5	21.1	21.1	21.0	21.0	21.0
		1	7	21.3	21.7	21.6	21.2	21.3	21.0	21.0	21.2
		1	14	21.3	21.7	21.5	21.0	21.2	20.9	20.9	21.0
		8	0	20.3	20.7	20.0	20.0	19.9	19.1	18.9	19.0
		8	3	20.3	20.7	20.0	20.0	19.9	19.1	18.9	19.0
		8	7	20.3	20.7	20.0	19.9	19.9	19.0	18.9	18.9
		15	0	20.3	20.7	20.0	19.9	20.0	19.0	18.9	18.9

SN: 004402742362340						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch18625 / 1852.5 MHz	Ch18900 / 1880 MHz	Ch19175 / 1907.5 MHz	Ch18625 / 1852.5 MHz	Ch18900 / 1880 MHz	Ch19175 / 1907.5 MHz
LTE2 5 MHz	QPSK	1	0	22.3	22.7	22.2	22.0	22.0	22.0	22.0	22.0
		1	12	22.3	22.7	22.0	21.9	21.8	22.1	21.9	21.9
		1	24	22.3	22.7	22.0	21.9	21.9	22.0	21.9	21.9
		12	0	21.3	21.7	21.0	20.9	20.8	20.1	19.9	19.8
		12	6	21.3	21.7	21.0	20.9	20.9	20.1	19.9	19.9
		12	13	21.3	21.7	20.9	20.8	20.8	20.0	19.8	19.8
		25	0	21.3	21.7	21.0	20.9	20.9	20.1	19.9	19.9
	16QAM	1	0	21.3	21.7	21.5	21.6	21.2	21.6	21.5	21.2
		1	12	21.3	21.7	21.5	21.5	21.1	21.7	21.5	21.2
		1	24	21.3	21.7	21.3	21.4	21.1	21.5	21.4	21.1
		12	0	20.3	20.7	20.0	19.9	19.9	19.0	18.9	18.9
		12	6	20.3	20.7	20.0	19.9	20.0	19.0	18.9	18.9
		12	13	20.3	20.7	19.8	19.8	19.9	18.9	18.9	18.9
		25	0	20.3	20.7	20.0	19.9	19.9	19.0	19.0	18.9

(LTE2 table continues)

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(LTE2 table continues)

SN: 004402742362340						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch18650 / 1855 MHz	Ch18900 / 1880 MHz	Ch19150 / 1905 MHz	Ch18650 / 1855 MHz	Ch18900 / 1880 MHz	Ch19150 / 1905 MHz
LTE2 10 MHz	QPSK	1	0	22.3	22.7	22.2	22.3	22.1	22.3	22.4	22.2
		1	24	22.3	22.7	22.0	22.0	21.9	22.1	22.1	22.0
		1	49	22.3	22.7	22.0	21.9	22.0	22.1	22.0	22.0
		25	0	21.3	21.7	21.2	21.0	21.0	20.2	20.1	20.1
		25	12	21.3	21.7	21.1	20.9	20.9	20.0	19.9	20.0
		25	25	21.3	21.7	20.9	20.8	20.8	19.9	19.8	19.9
		50	0	21.3	21.7	21.1	20.9	21.0	20.1	19.9	20.0
	16QAM	1	0	21.3	21.7	21.2	21.3	21.4	21.6	21.7	21.7
		1	24	21.3	21.7	21.0	21.1	21.1	21.3	21.3	21.4
		1	49	21.3	21.7	21.0	21.0	21.3	21.3	21.3	21.5
		25	0	20.3	20.7	20.1	20.0	20.0	19.1	19.0	19.0
		25	12	20.3	20.7	20.0	19.9	19.9	19.0	18.9	18.9
		25	25	20.3	20.7	19.9	19.8	19.8	18.9	18.8	18.8
		50	0	20.3	20.7	20.0	19.9	19.9	19.0	18.9	19.0

SN: 004402742362340						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch18675 / 1857.5 MHz	Ch18900 / 1880 MHz	Ch19125 / 1902.5 MHz	Ch18675 / 1857.5 MHz	Ch18900 / 1880 MHz	Ch19125 / 1902.5 MHz
LTE2 15 MHz	QPSK	1	0	22.3	22.7	22.5	22.6	22.7	22.6	22.5	22.7
		1	36	22.3	22.7	21.9	22.0	22.0	22.1	22.1	21.9
		1	74	22.3	22.7	22.1	22.2	22.3	22.1	22.2	22.2
		36	0	21.3	21.7	21.3	21.3	21.3	20.4	20.3	20.4
		36	18	21.3	21.7	21.1	21.2	21.2	20.2	20.1	20.2
		36	38	21.3	21.7	21.0	21.1	21.2	20.1	19.9	20.1
		75	0	21.3	21.7	21.2	21.2	21.2	20.2	20.1	20.1
	16QAM	1	0	21.3	21.7	22.0	22.1	21.8	21.7	21.5	21.7
		1	36	21.3	21.7	21.4	21.4	21.2	21.2	21.0	21.0
		1	74	21.3	21.7	21.6	21.7	21.4	21.2	21.2	21.3
		36	0	20.3	20.7	20.3	20.3	20.3	19.4	19.3	19.3
		36	18	20.3	20.7	20.1	20.2	20.2	19.1	19.2	19.2
		36	38	20.3	20.7	20.0	20.0	20.1	19.1	19.2	19.2
		75	0	20.3	20.7	20.2	20.2	20.2	19.2	19.1	19.1

SN: 004402742362340						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch18700 / 1860 MHz	Ch18900 / 1880 MHz	Ch19100 / 1900 MHz	Ch18700 / 1860 MHz	Ch18900 / 1880 MHz	Ch19100 / 1900 MHz
LTE2 20 MHz	QPSK	1	0	22.3	22.7	22.3	22.3	22.3	22.3	22.2	22.4
		1	49	22.3	22.7	22.0	22.1	22.2	21.9	22.1	22.1
		1	99	22.3	22.7	22.0	22.1	22.1	21.9	22.1	22.1
		50	0	21.3	21.7	21.2	21.2	21.1	20.2	20.2	20.1
		50	24	21.3	21.7	21.1	21.1	21.1	20.1	20.1	20.1
		50	50	21.3	21.7	21.0	21.0	21.2	20.1	20.0	20.2
		100	0	21.3	21.7	21.1	21.1	21.2	20.2	20.1	20.3
	16QAM	1	0	21.3	21.7	21.5	21.7	21.8	21.5	21.8	21.9
		1	49	21.3	21.7	21.2	21.5	21.6	21.1	21.6	21.7
		1	99	21.3	21.7	21.2	21.4	21.6	21.2	21.6	21.6
		50	0	20.3	20.7	20.2	20.1	20.1	19.2	19.1	19.2
		50	24	20.3	20.7	20.0	20.0	20.1	19.0	19.2	19.1
		50	50	20.3	20.7	20.0	20.0	20.2	19.0	19.0	19.2
		100	0	20.3	20.7	20.1	20.1	20.2	19.1	19.1	19.1

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3.3.6 LTE2500 (Band 7) Head, Body-worn 15 mm and Wireless Router 10 mm

Antenna 1 & 2 / RM-1116

SN: 004402742362068						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20775 / 2502.5 MHz	Ch21100 / 2535 MHz	Ch21425 / 2567.5 MHz	Ch20775 / 2502.5 MHz	Ch21100 / 2535 MHz	Ch21425 / 2567.5 MHz
LTE7 5 MHz	QPSK	1	0	22.8	23.2	22.6	22.7	22.5			
		1	12	22.8	23.2	22.7	22.7	22.5			
		1	24	22.8	23.2	22.6	22.7	22.6			
		12	0	21.6	22.0	21.5	21.5	21.5			
		12	6	21.6	22.0	21.6	21.7	21.5			
		12	13	21.6	22.0	21.5	21.6	21.5			
		25	0	21.6	22.0	21.5	21.6	21.5			
	16QAM	1	0	22.0	22.4	22.0	22.2	21.8			
		1	12	22.0	22.4	22.2	22.3	21.8			
		1	24	22.0	22.4	22.1	22.2	21.7			
		12	0	20.6	21.0	20.6	20.6	20.7			
		12	6	20.6	21.0	20.7	20.7	20.7			
		12	13	20.6	21.0	20.6	20.7	20.6			
		25	0	20.6	21.0	20.6	20.7	20.6			

SN: 004402742362068						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20800 / 2505 MHz	Ch21100 / 2535 MHz	Ch21400 / 2565 MHz	Ch20800 / 2505 MHz	Ch21100 / 2535 MHz	Ch21400 / 2565 MHz
LTE7 10 MHz	QPSK	1	0	22.8	23.2	22.6	22.8	22.8			
		1	24	22.8	23.2	22.7	22.8	23.0			
		1	49	22.8	23.2	22.7	22.7	22.7			
		25	0	21.6	22.0	21.6	21.7	21.7			
		25	12	21.6	22.0	21.5	21.7	21.7			
		25	25	21.6	22.0	21.5	21.7	21.7			
		50	0	21.6	22.0	21.5	21.6	21.7			
	16QAM	1	0	22.0	22.4	22.0	22.2	22.4			
		1	24	22.0	22.4	21.8	22.1	22.4			
		1	49	22.0	22.4	21.9	22.1	22.2			
		25	0	20.6	21.0	20.6	20.7	20.7			
		25	12	20.6	21.0	20.6	20.7	20.8			
		25	25	20.6	21.0	20.5	20.7	20.6			
		50	0	20.6	21.0	20.5	20.6	20.7			

SN: 004402742362068						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20825 / 2507.5 MHz	Ch21100 / 2535 MHz	Ch21375 / 2562.5 MHz	Ch20825 / 2507.5 MHz	Ch21100 / 2535 MHz	Ch21375 / 2562.5 MHz
LTE7 15 MHz	QPSK	1	0	22.8	23.2	22.5	22.6	22.8			
		1	36	22.8	23.2	22.5	22.6	22.6			
		1	74	22.8	23.2	22.5	22.6	22.7			
		36	0	21.6	22.0	21.5	21.6	21.7			
		36	18	21.6	22.0	21.6	21.6	21.6			
		36	38	21.6	22.0	21.4	21.6	21.5			
		75	0	21.6	22.0	21.5	21.6	21.6			
	16QAM	1	0	22.0	22.4	21.7	21.6	21.8			
		1	36	22.0	22.4	21.7	21.6	21.7			
		1	74	22.0	22.4	21.7	21.6	21.6			
		36	0	20.6	21.0	20.6	20.6	20.7			
		36	18	20.6	21.0	20.6	20.7	20.7			
		36	38	20.6	21.0	20.5	20.6	20.6			
		75	0	20.6	21.0	20.5	20.6	20.6			

(LTE7 table continues)

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(LTE7 table continues)

SN: 004402742362068						Nominal			A-MPR active		
Band / BW	Modulation	RB Allocation	RB Offset	Tuning target (dBm)	Upper limit (dBm)	Ch20850 / 2510 MHz	Ch21100 / 2535 MHz	Ch21350 / 2560 MHz	Ch20850 / 2510 MHz	Ch21100 / 2535 MHz	Ch21350 / 2560 MHz
LTE7 20 MHz	QPSK	1	0	**22.8**	**23.2**	22.6	22.6	22.9			
		1	49	**22.8**	**23.2**	22.5	22.6	22.6			
		1	99	**22.8**	**23.2**	22.4	22.5	22.5			
		50	0	**21.6**	**22.0**	21.6	21.6	21.7			
		50	24	**21.6**	**22.0**	21.5	21.6	21.7			
		50	50	**21.6**	**22.0**	21.5	21.6	21.6			
		100	0	**21.6**	**22.0**	21.5	21.6	21.7			
	16QAM	1	0	**22.0**	**22.4**	21.9	22.1	22.4			
		1	49	**22.0**	**22.4**	21.7	22.1	22.2			
		1	99	**22.0**	**22.4**	21.7	22.1	22.1			
		50	0	**20.6**	**21.0**	20.6	20.6	20.8			
		50	24	**20.6**	**21.0**	20.5	20.6	20.8			
		50	50	**20.6**	**21.0**	20.5	20.6	20.7			
		100	0	**20.6**	**21.0**	20.5	20.6	20.7			

3.4 BT

BT	Tuning target (dBm)	Upper limit (dBm)
	10.0	11.5

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3.5 WLAN2450

Note: Channels 12 and 13 are not operational in US and Canada, those results should be omitted for this filing.

3.5.1 WLAN2450 Head

Averaged tuning targets for Head / Antenna 1 & 2 / RM-1116

WLAN 2.4 GHz: 20 MHz channel bandwidth													
						Tuning target (dBm)							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 1	CH 2	CH 6	CH 7	CH 10	CH 11	CH 12	CH 13
802.11b			DSSS	BPSK	1	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11b			DSSS	QPSK	2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11b			DSSS	QPSK	5.5	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11b			DSSS	QPSK	11	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	BPSK	6	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	BPSK	9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	QPSK	12	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	QPSK	18	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	16QAM	24	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	16QAM	36	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	64QAM	48	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11g			OFDM	64QAM	54	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0

(WLAN2450 Head averaged tuning target table continues)

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(WLAN2450 Head averaged tuning target table continues)

WLAN 2.4 GHz: 40 MHz channel bandwidth														
Tuning target (dBm)														
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 3 (1...5)	CH 4 (2...6)	CH 5 (3...7)	CH 6 (4...8)	CH 7 (5...9)	CH 8 (6...10)	CH 9 (7...11)	CH 10 (8...12)	CH 11 (9...13)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

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Averaged upper limits for Head / Antenna 1 & 2 / RM-1116

WLAN 2.4 GHz: 20 MHz channel bandwidth													
						Upper limit of tuning target (dBm)							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 1	CH 2	CH 6	CH 7	CH 10	CH 11	CH 12	CH 13
802.11b			DSSS	BPSK	1	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11b			DSSS	QPSK	2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11b			DSSS	QPSK	5.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11b			DSSS	QPSK	11	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	BPSK	6	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	BPSK	9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	QPSK	12	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	QPSK	18	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	16QAM	24	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	16QAM	36	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	64QAM	48	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11g			OFDM	64QAM	54	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5

(WLAN2450 Head averaged upper limit table continues)

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(WLAN2450 Head averaged upper limit table continues)

WLAN 2.4 GHz: 40 MHz channel bandwidth														
Upper limit of tuning target (dBm)														
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 3 (1...5)	CH 4 (2...6)	CH 5 (3...7)	CH 6 (4...8)	CH 7 (5...9)	CH 8 (6...10)	CH 9 (7...11)	CH 10 (8...12)	CH 11 (9...13)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5

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Averaged measured conducted output powers for Head / Antenna 1 & 2 / RM-1116

WLAN 2.4 GHz: 20 MHz channel bandwidth													
SN: 004402742369246						Measured value (dBm)							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 1	CH 2	CH 6	CH 7	CH 10	CH 11	CH 12	CH 13
802.11b			DSSS	BPSK	1	14.3	14.3	14.3	14.2	14.2	14.2	14.2	14.2
802.11b			DSSS	QPSK	2	14.3	14.2	14.3	14.3	14.2	14.3	14.2	14.3
802.11b			DSSS	QPSK	5.5	14.3	14.4	14.2	14.2	14.2	14.2	14.2	14.3
802.11b			DSSS	QPSK	11	14.3	14.3	14.3	14.3	14.2	14.3	14.2	14.3
802.11g			OFDM	BPSK	6	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.1
802.11g			OFDM	BPSK	9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.1
802.11g			OFDM	QPSK	12	14.0	14.0	13.9	14.0	14.0	13.9	14.0	14.0
802.11g			OFDM	QPSK	18	14.0	14.1	14.2	14.1	14.1	14.1	14.1	14.2
802.11g			OFDM	16QAM	24	14.4	14.5	14.4	14.5	14.4	14.5	14.5	14.5
802.11g			OFDM	16QAM	36	14.4	14.4	14.4	14.4	14.2	14.3	14.4	14.4
802.11g			OFDM	64QAM	48	14.3	14.4	14.5	14.4	14.3	14.5	14.4	14.5
802.11g			OFDM	64QAM	54	14.3	14.4	14.4	14.4	14.4	14.3	14.3	14.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.8	13.9	13.8	13.8	13.8	13.8	13.8	13.8
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	14.0	14.0	14.0	13.8	13.9	13.9	13.9	14.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.4	14.4	14.4	14.4	14.4	14.5	14.4
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.4	14.4	14.4	14.4	14.4	14.3	14.5	14.4
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	14.4	14.5	14.4	14.5	14.4	14.4	14.4	14.4
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	14.4	14.5	14.3	14.4	14.4	14.4	14.4	14.4
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.8	13.9	13.8	13.8	13.8	13.8	13.8	13.8
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	14.0	14.0	14.0	13.8	13.9	13.9	13.9	14.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.5	14.4	14.4	14.4	14.4	14.4	14.5	14.4
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.4	14.4	14.4	14.4	14.4	14.3	14.5	14.4
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	14.4	14.5	14.4	14.5	14.4	14.4	14.4	14.4
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	14.4	14.5	14.3	14.4	14.4	14.4	14.4	14.4
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	13.9	13.9	14.0	13.9	13.9	13.9	13.9	14.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.8	13.8	13.8	13.8	13.9	13.9	13.8	13.9
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.9	13.9	13.9	14.0	13.9	13.9	13.9	13.9
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.4	14.4	14.3	14.5	14.4	14.4	14.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.4	14.4	14.4	14.4	14.4	14.5	14.4	14.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	14.3	14.4	14.4	14.4	14.4	14.4	14.5	14.4
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	14.4	14.5	14.4	14.5	14.4	14.4	14.5	14.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	14.3	14.3	14.3	14.4	14.3	14.4	14.3	14.4
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	11.3	11.2	11.0	10.9	11.1	11.2	11.1	11.6
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	13.9	13.9	14.0	13.9	13.9	13.9	13.9	14.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.8	13.8	13.8	13.8	13.9	13.9	13.8	13.9
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.9	13.9	13.9	14.0	13.9	13.9	13.9	13.9
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	14.5	14.4	14.4	14.3	14.5	14.4	14.4	14.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.4	14.4	14.4	14.4	14.4	14.5	14.4	14.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	14.3	14.4	14.4	14.4	14.4	14.4	14.5	14.4
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	14.4	14.5	14.4	14.5	14.4	14.4	14.5	14.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	14.3	14.3	14.3	14.4	14.3	14.4	14.3	14.4
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	11.3	11.2	11.0	10.9	11.1	11.2	11.1	11.6

(WLAN2450 Head averaged measured values table continues)

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(WLAN2450 Head averaged measured values table continues)

WLAN 2.4 GHz: 40 MHz channel bandwidth														
SN: 004402742369246						Measured value (dBm)								
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 3 (1...5)	CH 4 (2...6)	CH 5 (3...7)	CH 6 (4...8)	CH 7 (5...9)	CH 8 (6...10)	CH 9 (7...11)	CH 10 (8...12)	CH 11 (9...13)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	14.1	14.3	14.2	14.3	14.2	14.3	14.3	14.3	14.4
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	14.3	14.3	14.3	14.3	14.4	14.1	14.4	14.3	14.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	14.1	14.3	14.3	14.3	14.4	14.3	14.4	14.3	14.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	14.3	14.5	14.4	14.5	14.6	14.5	14.5	14.7	14.7
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	14.5	14.6	14.5	14.6	14.5	14.7	14.6	14.7	14.8
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	14.3	14.5	14.6	14.7	14.5	14.6	14.6	14.5	14.8
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	14.3	14.5	14.6	14.6	14.6	14.7	14.8	14.6	14.7
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	14.4	14.5	14.5	14.5	14.6	14.6	14.6	14.6	14.7
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	14.1	14.3	14.2	14.3	14.2	14.3	14.3	14.3	14.4
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	14.3	14.3	14.3	14.3	14.4	14.1	14.4	14.3	14.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	14.1	14.3	14.3	14.3	14.4	14.3	14.4	14.3	14.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	14.3	14.5	14.4	14.5	14.6	14.5	14.5	14.7	14.7
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	14.5	14.6	14.5	14.6	14.5	14.7	14.6	14.7	14.8
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	14.3	14.5	14.6	14.7	14.5	14.6	14.6	14.5	14.8
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	14.3	14.5	14.6	14.6	14.6	14.7	14.8	14.6	14.7
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	14.4	14.5	14.5	14.5	14.6	14.6	14.6	14.6	14.7
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	14.0	14.3	14.2	14.3	14.3	14.2	14.4	14.3	14.4
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	14.0	14.1	14.2	14.2	14.2	14.2	14.2	14.3	14.4
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	14.1	14.1	14.1	14.3	14.3	14.2	14.3	14.2	14.4
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	14.2	14.4	14.5	14.5	14.6	14.6	14.6	14.6	14.8
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	14.4	14.6	14.5	14.7	14.6	14.5	14.6	14.8	14.8
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	14.4	14.6	14.4	14.6	14.5	14.6	14.6	14.6	14.8
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	14.4	14.5	14.5	14.6	14.6	14.7	14.6	14.5	14.7
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	14.3	14.4	14.5	14.5	14.5	14.5	14.5	14.5	14.7
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	11.2	11.4	11.2	11.2	11.6	11.3	11.2	11.6	11.7
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	10.1	10.3	10.0	10.2	10.5	10.3	10.3	10.7	10.3
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	14.0	14.3	14.2	14.3	14.3	14.2	14.4	14.3	14.4
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	14.0	14.1	14.2	14.2	14.2	14.2	14.2	14.3	14.4
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	14.1	14.1	14.1	14.3	14.3	14.2	14.3	14.2	14.4
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	14.2	14.4	14.5	14.5	14.6	14.6	14.6	14.6	14.8
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	14.4	14.6	14.5	14.7	14.6	14.5	14.6	14.8	14.8
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	14.4	14.6	14.4	14.6	14.5	14.6	14.6	14.6	14.8
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	14.4	14.5	14.5	14.6	14.6	14.7	14.6	14.5	14.7
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	14.3	14.4	14.5	14.5	14.5	14.5	14.5	14.5	14.7
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	11.2	11.4	11.2	11.2	11.6	11.3	11.2	11.6	11.7
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	10.1	10.3	10.0	10.2	10.5	10.3	10.3	10.7	10.3

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3.5.2 WLAN2450 Body-worn 15 mm and Wireless Router 10 mm

Averaged tuning targets for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1116

WLAN 2.4 GHz: 20 MHz channel bandwidth													
						Tuning target (dBm)							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 1	CH 2	CH 6	CH 7	CH 10	CH 11	CH 12	CH 13
802.11b			DSSS	BPSK	1	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11b			DSSS	QPSK	2	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11b			DSSS	QPSK	5.5	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11b			DSSS	QPSK	11	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11g			OFDM	BPSK	6	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11g			OFDM	BPSK	9	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11g			OFDM	QPSK	12	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11g			OFDM	QPSK	18	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11g			OFDM	16QAM	24	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11g			OFDM	16QAM	36	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11g			OFDM	64QAM	48	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11g			OFDM	64QAM	54	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0

(WLAN2450 Body and WR averaged tuning targets table continues)

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(WLAN2450 Body and WR averaged tuning targets table continues)

WLAN 2.4 GHz: 40 MHz channel bandwidth														
Tuning target (dBm)														
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 3 (1...5)	CH 4 (2...6)	CH 5 (3...7)	CH 6 (4...8)	CH 7 (5...9)	CH 8 (6...10)	CH 9 (7...11)	CH 10 (8...12)	CH 11 (9...13)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

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Averaged upper limits for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1116

WLAN 2.4 GHz: 20 MHz channel bandwidth													
						Upper limit of tuning target (dBm)							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 1	CH 2	CH 6	CH 7	CH 10	CH 11	CH 12	CH 13
802.11b			DSSS	BPSK	1	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11b			DSSS	QPSK	2	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11b			DSSS	QPSK	5.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11b			DSSS	QPSK	11	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11g			OFDM	BPSK	6	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11g			OFDM	BPSK	9	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11g			OFDM	QPSK	12	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11g			OFDM	QPSK	18	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11g			OFDM	16QAM	24	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11g			OFDM	16QAM	36	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11g			OFDM	64QAM	48	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11g			OFDM	64QAM	54	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5

(WLAN2450 Body and WR averaged upper limits table continues)

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(WLAN2450 Body and WR averaged upper limits table continues)

WLAN 2.4 GHz: 40 MHz channel bandwidth														
Upper limit of tuning target (dBm)														
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 3 (1...5)	CH 4 (2...6)	CH 5 (3...7)	CH 6 (4...8)	CH 7 (5...9)	CH 8 (6...10)	CH 9 (7...11)	CH 10 (8...12)	CH 11 (9...13)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5

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Averaged measured conducted output powers for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1116

WLAN 2.4 GHz: 20 MHz channel bandwidth													
SN: 004402742362365						Measured value (dBm)							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 1	CH 2	CH 6	CH 7	CH 10	CH 11	CH 12	CH 13
802.11b			DSSS	BPSK	1	16.3	16.2	16.0	16.0	16.0	16.1	16.1	16.2
802.11b			DSSS	QPSK	2	16.3	16.2	16.0	16.0	16.1	16.1	16.1	16.2
802.11b			DSSS	QPSK	5.5	16.3	16.2	16.0	16.0	16.0	16.2	16.2	16.3
802.11b			DSSS	QPSK	11	16.3	16.2	16.0	16.0	16.0	16.1	16.2	16.2
802.11g			OFDM	BPSK	6	16.9	17.0	16.8	16.7	16.7	16.8	16.8	16.9
802.11g			OFDM	BPSK	9	16.9	16.8	16.8	16.7	16.7	16.7	16.8	16.8
802.11g			OFDM	QPSK	12	16.9	16.8	16.8	16.7	16.6	16.8	16.8	16.8
802.11g			OFDM	QPSK	18	17.0	17.0	17.0	16.9	16.8	17.0	17.0	17.0
802.11g			OFDM	16QAM	24	17.2	17.2	17.2	17.1	17.0	17.2	17.2	17.2
802.11g			OFDM	16QAM	36	16.3	16.3	16.3	16.2	16.3	16.3	16.3	16.3
802.11g			OFDM	64QAM	48	15.3	15.5	15.4	15.3	15.3	15.4	15.4	15.4
802.11g			OFDM	64QAM	54	15.4	15.4	15.4	15.3	15.4	15.4	15.4	15.4
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	17.7	17.7	17.7	17.6	17.5	17.6	17.6	17.6
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	16.7	16.8	16.6	16.6	16.6	16.6	16.6	16.7
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	16.8	16.8	16.7	16.7	16.6	16.8	16.8	16.8
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	17.3	17.2	17.2	17.1	17.2	17.3	17.2	17.2
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	17.4	17.3	17.2	17.1	17.1	17.2	17.2	17.3
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	15.4	15.4	15.4	15.4	15.4	15.3	15.4	15.4
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	15.4	15.4	15.4	15.4	15.3	15.4	15.4	15.4
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	14.4	14.4	14.4	14.5	14.4	14.4	14.5	14.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	17.7	17.7	17.7	17.6	17.5	17.6	17.6	17.6
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	16.7	16.8	16.6	16.6	16.6	16.6	16.6	16.7
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	16.8	16.8	16.7	16.7	16.6	16.8	16.8	16.8
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	17.3	17.2	17.2	17.1	17.2	17.3	17.2	17.2
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	17.4	17.3	17.2	17.1	17.1	17.2	17.2	17.3
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	15.4	15.4	15.4	15.4	15.4	15.3	15.4	15.4
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	15.4	15.4	15.4	15.4	15.3	15.4	15.4	15.4
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	14.4	14.4	14.4	14.5	14.4	14.4	14.5	14.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	17.7	17.7	17.7	17.5	17.5	17.6	17.7	17.7
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	16.7	16.8	16.7	16.5	16.6	16.7	16.7	16.7
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	16.9	16.8	16.7	16.7	16.7	16.7	16.7	16.8
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	17.3	17.3	17.2	17.1	17.1	17.2	17.2	17.2
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	17.2	17.2	17.3	17.2	17.1	17.2	17.2	17.2
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	15.4	15.4	15.4	15.3	15.4	15.3	15.4	15.4
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	15.4	15.3	15.4	15.4	15.4	15.4	15.3	15.3
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	14.4	14.4	14.3	14.4	14.4	14.4	14.4	14.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	11.5	11.6	12.2	12.1	12.5	12.4	12.7	12.7
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	17.7	17.7	17.7	17.5	17.5	17.6	17.7	17.7
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	16.7	16.8	16.7	16.5	16.6	16.7	16.7	16.7
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	16.9	16.8	16.7	16.7	16.7	16.7	16.7	16.8
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	17.3	17.3	17.2	17.1	17.1	17.2	17.2	17.2
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	17.2	17.2	17.3	17.2	17.1	17.2	17.2	17.2
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	15.4	15.4	15.4	15.3	15.4	15.3	15.4	15.4
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	15.4	15.3	15.4	15.4	15.4	15.4	15.3	15.3
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	14.4	14.4	14.3	14.4	14.4	14.4	14.4	14.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	11.5	11.6	12.2	12.1	12.5	12.4	12.7	12.7

(WLAN2450 Body and WR averaged measured values table continues)

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(WLAN2450 Body and WR averaged measured values table continues)

WLAN 2.4 GHz: 40 MHz channel bandwidth														
SN: 004402742362365						Measured value (dBm)								
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data rate [MBPS]	CH 3 (1...5)	CH 4 (2...6)	CH 5 (3...7)	CH 6 (4...8)	CH 7 (5...9)	CH 8 (6...10)	CH 9 (7...11)	CH 10 (8...12)	CH 11 (9...13)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	16.0	16.0	16.1	16.2	16.0	16.1	16.1	16.1	16.4
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	16.0	16.0	16.0	16.2	16.2	16.2	16.3	16.2	16.3
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	16.0	16.0	16.0	16.1	16.2	16.1	16.1	16.1	16.3
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	15.3	15.3	15.4	15.4	15.3	15.4	15.4	15.5	15.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	15.3	15.4	15.4	15.5	15.4	15.4	15.4	15.5	15.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	14.5	14.4	14.5	14.5	14.5	14.5	14.5	14.6	14.7
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	14.3	14.4	14.4	14.5	14.6	14.6	14.6	14.5	14.8
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	14.3	14.4	14.4	14.5	14.5	14.4	14.5	14.4	14.6
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	16.0	16.0	16.1	16.2	16.0	16.1	16.1	16.1	16.4
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	16.0	16.0	16.0	16.2	16.2	16.2	16.3	16.2	16.3
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	16.0	16.0	16.0	16.1	16.2	16.1	16.1	16.1	16.3
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	15.3	15.3	15.4	15.4	15.3	15.4	15.4	15.5	15.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	15.3	15.4	15.4	15.5	15.4	15.4	15.4	15.5	15.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	14.5	14.4	14.5	14.5	14.5	14.5	14.5	14.6	14.7
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	14.3	14.4	14.4	14.5	14.6	14.6	14.6	14.5	14.8
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	14.3	14.4	14.4	14.5	14.5	14.4	14.5	14.4	14.6
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	16.0	16.0	15.9	16.1	16.1	16.0	16.1	16.1	16.3
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	15.9	16.0	16.0	16.1	16.0	16.0	16.1	16.1	16.2
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	15.9	16.0	16.0	16.0	16.1	16.1	16.1	16.1	16.1
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	15.3	15.3	15.4	15.4	15.5	15.5	15.6	15.4	15.6
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	15.3	15.4	15.3	15.4	15.4	15.4	15.5	15.4	15.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	14.3	14.5	14.6	14.5	14.4	14.6	14.5	14.5	14.8
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	14.3	14.5	14.4	14.6	14.6	14.5	14.6	14.5	14.6
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	14.3	14.3	14.3	14.4	14.5	14.4	14.6	14.4	14.6
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	11.4	11.1	12.3	12.3	12.4	12.4	12.5	12.4	12.8
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	10.5	10.1	11.4	11.2	11.4	11.3	11.3	11.4	11.6
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	16.0	16.0	15.9	16.1	16.1	16.0	16.1	16.1	16.3
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	15.9	16.0	16.0	16.1	16.0	16.0	16.1	16.1	16.2
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	15.9	16.0	16.0	16.0	16.1	16.1	16.1	16.1	16.1
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	15.3	15.3	15.4	15.4	15.5	15.5	15.6	15.4	15.6
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	15.3	15.4	15.3	15.4	15.4	15.4	15.5	15.4	15.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	14.3	14.5	14.6	14.5	14.4	14.6	14.5	14.5	14.8
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	14.3	14.5	14.4	14.6	14.6	14.5	14.6	14.5	14.6
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	14.3	14.3	14.3	14.4	14.5	14.4	14.6	14.4	14.6
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	11.4	11.1	12.3	12.3	12.4	12.4	12.5	12.4	12.8
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	10.5	10.1	11.4	11.2	11.4	11.3	11.3	11.4	11.6

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3.6 WLAN5000

Note: Channels 122, 118, 126, 120, 124, 128, 138, 142 and 144 are not operational in US and Canada, those results should be omitted for this filing.

3.6.1 WLAN5000 Head

Averaged tuning targets for Head / Antenna 1 & 2 / RM-1116

RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: TUNING TARGETS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						36	40	44	48
802.11a			OFDM	BPSK	6	10.0	10.0	10.0	10.0
802.11a			OFDM	BPSK	9	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	12	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	18	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	24	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	36	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	48	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	54	10.0	10.0	10.0	10.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0

(WLAN5000 Head averaged tuning targets table continues)

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(WLAN5000 Head averaged tuning targets table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: TUNING TARGETS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						52	56	60	64
802.11a			OFDM	BPSK	6	10.0	10.0	10.0	10.0
802.11a			OFDM	BPSK	9	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	12	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	18	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	24	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	36	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	48	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	54	10.0	10.0	10.0	10.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0

(WLAN5000 Head averaged tuning targets table continues)

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(WLAN5000 Head averaged tuning targets table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						100	104	108	112	116	120
802.11a			OFDM	BPSK	6	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	BPSK	9	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	12	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	18	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	24	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	36	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	48	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	54	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0	9.0	9.0

(WLAN5000 Head averaged tuning targets table continues)

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(WLAN5000 Head averaged tuning targets table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						124	128	132	136	140	144
802.11a			OFDM	BPSK	6	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	BPSK	9	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	12	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	18	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	24	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	36	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	48	10.0	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	54	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0	9.0	9.0

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RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: TUNING TARGETS										
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel				
						149	153	157	161	165
802.11a			OFDM	BPSK	6	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	BPSK	9	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	12	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	QPSK	18	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	24	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	16QAM	36	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	48	10.0	10.0	10.0	10.0	10.0
802.11a			OFDM	64QAM	54	10.0	10.0	10.0	10.0	10.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.0	10.0	10.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.0	10.0	10.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.0	10.0	10.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.0	10.0	10.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.0	10.0	10.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.0	10.0	10.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.0	10.0	10.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.0	10.0	10.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0	9.0

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RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: TUNING TARGETS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	38 (36+40)	46 (44+48)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	**10.0**	**10.0**
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	**10.0**	**10.0**
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	**10.0**	**10.0**
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	**10.0**	**10.0**
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	**10.0**	**10.0**
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	**10.0**	**10.0**
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	**10.0**	**10.0**
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	**10.0**	**10.0**
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	**10.0**	**10.0**
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	**10.0**	**10.0**
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	**10.0**	**10.0**
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	**10.0**	**10.0**
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	**10.0**	**10.0**
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	**10.0**	**10.0**
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	**10.0**	**10.0**
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	**8.0**	**8.0**
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	**7.0**	**7.0**
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	**10.0**	**10.0**
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	**10.0**	**10.0**
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	**10.0**	**10.0**
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	**10.0**	**10.0**
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	**10.0**	**10.0**
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	**8.0**	**8.0**
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	**7.0**	**7.0**

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RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: TUNING TARGETS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	54 (52+56)	62 (60+64)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.0	8.0
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.0	7.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.0	8.0
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.0	7.0

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RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: TUNING TARGETS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	102 (100+104)	110 (108+112)	118 (116+120)	126 (124+128)	134 (132+136)	142 (140+144)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.0	8.0	8.0	8.0	8.0	8.0
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.0	7.0	7.0	7.0	7.0	7.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.0	8.0	8.0	8.0	8.0	8.0
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.0	7.0	7.0	7.0	7.0	7.0

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RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: TUNING TARGETS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	151 (149+153)	159 (157+161)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	10.0	10.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	10.0	10.0
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	10.0	10.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	10.0	10.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	10.0	10.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	10.0	10.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	10.0	10.0
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	10.0	10.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	10.0	10.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	10.0	10.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	10.0	10.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	10.0	10.0
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	10.0	10.0
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	10.0	10.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	10.0	10.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.0	8.0
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.0	7.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	10.0	10.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	10.0	10.0
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	10.0	10.0
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	10.0	10.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	10.0	10.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.0	8.0
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.0	7.0

(WLAN5000 Head averaged tuning targets table continues)

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(WLAN5000 Head averaged tuning targets table continues)

RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: TUNING TARGETS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	42 (36-48)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**10.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**10.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**10.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**10.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**10.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**10.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**10.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**10.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**10.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**10.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**

RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: TUNING TARGETS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	58 (52-64)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**10.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**10.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**10.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**10.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**10.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**10.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**10.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**10.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**10.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**10.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**

(WLAN5000 Head averaged tuning targets table continues)

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(WLAN5000 Head averaged tuning targets table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: TUNING TARGETS								
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	106 (100-112)	122 (116-128)	138 (132-144)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**10.0**	**10.0**	**10.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**10.0**	**10.0**	**10.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**10.0**	**10.0**	**10.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**10.0**	**10.0**	**10.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**10.0**	**10.0**	**10.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**	**10.0**	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**	**10.0**	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**	**9.0**	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**	**8.0**	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**	**7.0**	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**10.0**	**10.0**	**10.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**10.0**	**10.0**	**10.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**10.0**	**10.0**	**10.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**10.0**	**10.0**	**10.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**10.0**	**10.0**	**10.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**	**10.0**	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**	**10.0**	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**	**9.0**	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**	**8.0**	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**	**7.0**	**7.0**

RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth: TUNING TARGETS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	155 (149-161)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**10.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**10.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**10.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**10.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**10.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**10.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**10.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**10.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**10.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**10.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**

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Averaged upper limits for Head / Antenna 1 & 2 / RM-1116

RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: UPPER LIMITS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						36	40	44	48
802.11a			OFDM	BPSK	6	11.5	11.5	11.5	11.5
802.11a			OFDM	BPSK	9	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	12	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	18	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	24	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	36	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	48	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	54	11.5	11.5	11.5	11.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5

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(WLAN5000 Head averaged upper limits table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: UPPER LIMITS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						52	56	60	64
802.11a			OFDM	BPSK	6	11.5	11.5	11.5	11.5
802.11a			OFDM	BPSK	9	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	12	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	18	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	24	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	36	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	48	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	54	11.5	11.5	11.5	11.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5

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(WLAN5000 Head averaged upper limits table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						100	104	108	112	116	120
802.11a			OFDM	BPSK	6	11.5	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	BPSK	9	11.5	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	12	11.5	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	18	11.5	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	24	11.5	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	36	11.5	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	48	11.5	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	54	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5	10.5	10.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5	10.5	10.5

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(WLAN5000 Head averaged upper limits table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS												
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel						
						124	128	132	136	140	144	
802.11a			OFDM	BPSK	6	11.5	11.5	11.5	11.5	11.5	11.5	
802.11a			OFDM	BPSK	9	11.5	11.5	11.5	11.5	11.5	11.5	
802.11a			OFDM	QPSK	12	11.5	11.5	11.5	11.5	11.5	11.5	
802.11a			OFDM	QPSK	18	11.5	11.5	11.5	11.5	11.5	11.5	
802.11a			OFDM	16QAM	24	11.5	11.5	11.5	11.5	11.5	11.5	
802.11a			OFDM	16QAM	36	11.5	11.5	11.5	11.5	11.5	11.5	
802.11a			OFDM	64QAM	48	11.5	11.5	11.5	11.5	11.5	11.5	
802.11a			OFDM	64QAM	54	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5	10.5	10.5	
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5	10.5	10.5	

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RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: UPPER LIMITS										
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel				
						149	153	157	161	165
802.11a			OFDM	BPSK	6	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	BPSK	9	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	12	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	QPSK	18	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	24	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	16QAM	36	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	48	11.5	11.5	11.5	11.5	11.5
802.11a			OFDM	64QAM	54	11.5	11.5	11.5	11.5	11.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5	11.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5	11.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5	11.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5	11.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5	11.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5	11.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	11.5	11.5	11.5	11.5	11.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	11.5	11.5	11.5	11.5	11.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.5	11.5	11.5	11.5	11.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5	10.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	11.5	11.5	11.5	11.5	11.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	11.5	11.5	11.5	11.5	11.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	11.5	11.5	11.5	11.5	11.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	11.5	11.5	11.5	11.5	11.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	11.5	11.5	11.5	11.5	11.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.5	11.5	11.5	11.5	11.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.5	11.5	11.5	11.5	11.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5	10.5

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RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: UPPER LIMITS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	38 (36+40)	46 (44+48)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	**11.5**	**11.5**
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	**11.5**	**11.5**
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	**11.5**	**11.5**
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	**11.5**	**11.5**
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	**11.5**	**11.5**
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	**11.5**	**11.5**
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	**11.5**	**11.5**
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	**11.5**	**11.5**
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	**11.5**	**11.5**
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	**11.5**	**11.5**
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	**11.5**	**11.5**
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	**11.5**	**11.5**
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	**11.5**	**11.5**
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	**11.5**	**11.5**
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	**11.5**	**11.5**
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	**11.5**	**11.5**
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	**11.5**	**11.5**
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	**11.5**	**11.5**
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	**11.5**	**11.5**
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	**11.5**	**11.5**
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	**11.5**	**11.5**
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	**11.5**	**11.5**
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	**11.5**	**11.5**
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	**11.5**	**11.5**
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	**9.5**	**9.5**
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	**8.5**	**8.5**
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	**11.5**	**11.5**
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	**11.5**	**11.5**
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	**11.5**	**11.5**
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	**11.5**	**11.5**
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	**11.5**	**11.5**
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	**11.5**	**11.5**
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	**11.5**	**11.5**
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	**11.5**	**11.5**
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	**9.5**	**9.5**
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	**8.5**	**8.5**

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RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: UPPER LIMITS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	54 (52+56)	62 (60+64)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	11.5	11.5
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	11.5	11.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	11.5	11.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	11.5	11.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	11.5	11.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	11.5	11.5
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	11.5	11.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	11.5	11.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	11.5	11.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	11.5	11.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	11.5	11.5
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	11.5	11.5
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	11.5	11.5
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	11.5	11.5
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	11.5	11.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.5	9.5
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.5	8.5
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	11.5	11.5
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	11.5	11.5
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	11.5	11.5
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	11.5	11.5
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	11.5	11.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.5	9.5
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.5	8.5

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RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: UPPER LIMITS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	102 (100+104)	110 (108+112)	118 (116+120)	126 (124+128)	134 (132+136)	142 (140+144)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.5	9.5	9.5	9.5	9.5	9.5
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.5	8.5	8.5	8.5	8.5	8.5
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.5	9.5	9.5	9.5	9.5	9.5
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.5	8.5	8.5	8.5	8.5	8.5

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(WLAN5000 Head averaged upper limits table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: UPPER LIMITS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	151 (149+153)	159 (157+161)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	**11.5**	**11.5**
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	**11.5**	**11.5**
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	**11.5**	**11.5**
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	**11.5**	**11.5**
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	**11.5**	**11.5**
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	**11.5**	**11.5**
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	**11.5**	**11.5**
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	**11.5**	**11.5**
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	**11.5**	**11.5**
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	**11.5**	**11.5**
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	**11.5**	**11.5**
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	**11.5**	**11.5**
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	**11.5**	**11.5**
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	**11.5**	**11.5**
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	**11.5**	**11.5**
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	**11.5**	**11.5**
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	**11.5**	**11.5**
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	**11.5**	**11.5**
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	**11.5**	**11.5**
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	**11.5**	**11.5**
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	**11.5**	**11.5**
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	**11.5**	**11.5**
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	**11.5**	**11.5**
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	**11.5**	**11.5**
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	**9.5**	**9.5**
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	**8.5**	**8.5**
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	**11.5**	**11.5**
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	**11.5**	**11.5**
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	**11.5**	**11.5**
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	**11.5**	**11.5**
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	**11.5**	**11.5**
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	**11.5**	**11.5**
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	**11.5**	**11.5**
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	**11.5**	**11.5**
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	**9.5**	**9.5**
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	**8.5**	**8.5**

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(WLAN5000 Head averaged upper limits table continues)

RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: UPPER LIMITS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	42 (36-48)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**11.5**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**11.5**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**11.5**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.5**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.5**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**11.5**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**11.5**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**10.5**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**9.5**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**8.5**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**11.5**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**11.5**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**11.5**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.5**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.5**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**11.5**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**11.5**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**10.5**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**9.5**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**8.5**

RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: UPPER LIMITS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	58 (52-64)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**11.5**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**11.5**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**11.5**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.5**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.5**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**11.5**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**11.5**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**10.5**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**9.5**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**8.5**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**11.5**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**11.5**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**11.5**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.5**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.5**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**11.5**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**11.5**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**10.5**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**9.5**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**8.5**

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(WLAN5000 Head averaged upper limits table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: UPPER LIMITS								
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	106 (100-112)	122 (116-128)	138 (132-144)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**11.5**	**11.5**	**11.5**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**11.5**	**11.5**	**11.5**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**11.5**	**11.5**	**11.5**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.5**	**11.5**	**11.5**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.5**	**11.5**	**11.5**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**11.5**	**11.5**	**11.5**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**11.5**	**11.5**	**11.5**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**10.5**	**10.5**	**10.5**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**9.5**	**9.5**	**9.5**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**8.5**	**8.5**	**8.5**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**11.5**	**11.5**	**11.5**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**11.5**	**11.5**	**11.5**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**11.5**	**11.5**	**11.5**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.5**	**11.5**	**11.5**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.5**	**11.5**	**11.5**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**11.5**	**11.5**	**11.5**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**11.5**	**11.5**	**11.5**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**10.5**	**10.5**	**10.5**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**9.5**	**9.5**	**9.5**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**8.5**	**8.5**	**8.5**

RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth: UPPER LIMITS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	155 (149-161)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**11.5**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**11.5**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**11.5**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.5**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.5**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**11.5**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**11.5**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**10.5**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**9.5**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**8.5**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**11.5**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**11.5**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**11.5**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.5**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.5**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**11.5**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**11.5**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**10.5**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**9.5**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**8.5**

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Averaged measured conducted output powers for Head / Antenna 1 & 2 / RM-1116

RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth									
SN: 004402742362365				MEASURED VALUES					
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						36	40	44	48
802.11a			OFDM	BPSK	6	10.6	10.5	10.7	10.7
802.11a			OFDM	BPSK	9	10.6	10.5	10.6	10.6
802.11a			OFDM	QPSK	12	10.5	10.5	10.7	10.6
802.11a			OFDM	QPSK	18	10.6	10.6	10.8	10.7
802.11a			OFDM	16QAM	24	10.9	10.8	10.9	11.0
802.11a			OFDM	16QAM	36	10.7	10.8	10.9	10.9
802.11a			OFDM	64QAM	48	10.8	10.8	11.0	10.9
802.11a			OFDM	64QAM	54	10.8	10.9	10.9	10.9
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.4	10.4	10.5	10.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.4	10.3	10.5	10.4
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.4	10.4	10.6	10.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.8	10.8	11.1	10.9
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.8	10.8	11.0	11.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	10.8	10.8	11.0	11.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	10.9	10.9	11.0	10.9
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.8	10.8	11.1	11.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.4	10.4	10.5	10.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.4	10.3	10.5	10.4
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.4	10.4	10.6	10.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.8	10.8	11.1	10.9
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.8	10.8	11.0	11.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	10.8	10.8	11.0	11.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	10.9	10.9	11.0	10.9
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.8	10.8	11.1	11.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.4	10.4	10.6	10.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.4	10.3	10.4	10.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.5	10.4	10.6	10.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.9	10.9	11.1	11.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.9	10.8	11.0	10.9
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.8	10.8	11.0	10.9
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.9	10.8	11.0	10.9
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.8	10.8	10.9	10.9
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.8	9.9	9.9	9.9
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.4	10.4	10.6	10.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.4	10.3	10.4	10.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.5	10.4	10.6	10.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.9	10.9	11.1	11.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.9	10.8	11.0	10.9
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.8	10.8	11.0	10.9
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.9	10.8	11.0	10.9
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.8	10.8	10.9	10.9
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.8	9.9	9.9	9.9

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(WLAN5000 Head averaged measured values table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth									
SN: 004402742362365				MEASURED VALUES					
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						52	56	60	64
802.11a			OFDM	BPSK	6	10.6	10.6	10.7	10.7
802.11a			OFDM	BPSK	9	10.6	10.6	10.7	10.7
802.11a			OFDM	QPSK	12	10.6	10.5	10.6	10.7
802.11a			OFDM	QPSK	18	10.7	10.7	10.8	10.8
802.11a			OFDM	16QAM	24	10.9	10.9	11.0	11.0
802.11a			OFDM	16QAM	36	10.9	10.8	11.0	11.0
802.11a			OFDM	64QAM	48	10.8	10.9	11.0	11.0
802.11a			OFDM	64QAM	54	10.9	10.8	11.0	11.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.4	10.3	10.6	10.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.4	10.4	10.5	10.4
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.5	10.4	10.6	10.6
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.9	10.9	11.0	11.1
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.9	10.8	11.0	10.9
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.0	10.8	11.0	11.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.0	10.9	11.1	11.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.9	10.8	11.0	10.9
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.4	10.3	10.6	10.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.4	10.4	10.5	10.4
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.5	10.4	10.6	10.6
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.9	10.9	11.0	11.1
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.9	10.8	11.0	10.9
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.0	10.8	11.0	11.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.0	10.9	11.1	11.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.9	10.8	11.0	10.9
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.4	10.4	10.6	10.6
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.4	10.4	10.4	10.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.4	10.5	10.6	10.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.9	10.8	11.0	11.1
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.9	10.9	11.0	11.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.9	10.9	11.0	10.9
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.9	10.9	11.0	11.1
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.9	10.9	11.0	11.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.9	9.9	9.9	10.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.4	10.4	10.6	10.6
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.4	10.4	10.4	10.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.4	10.5	10.6	10.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.9	10.8	11.0	11.1
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.9	10.9	11.0	11.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.9	10.9	11.0	10.9
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.9	10.9	11.0	11.1
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.9	10.9	11.0	11.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.9	9.9	9.9	10.0

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RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth											
SN: 004402742362365				MEASURED VALUES							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						100	104	108	112	116	120
802.11a			OFDM	BPSK	6	10.8	10.9	10.9	10.8	10.9	10.8
802.11a			OFDM	BPSK	9	10.8	10.9	10.8	10.7	10.8	10.7
802.11a			OFDM	QPSK	12	10.8	10.8	10.8	10.8	10.8	10.8
802.11a			OFDM	QPSK	18	10.9	10.9	11.0	10.8	10.9	10.9
802.11a			OFDM	16QAM	24	11.1	11.2	11.2	11.0	11.1	11.1
802.11a			OFDM	16QAM	36	11.0	11.2	11.2	11.0	11.1	11.0
802.11a			OFDM	64QAM	48	11.1	11.2	11.2	11.0	11.2	11.1
802.11a			OFDM	64QAM	54	11.1	11.2	11.1	11.0	11.1	11.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.7	10.7	10.7	10.5	10.6	10.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.5	10.6	10.6	10.5	10.6	10.6
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.6	10.8	10.7	10.6	10.8	10.6
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	11.1	11.2	11.2	11.1	11.2	11.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	11.1	11.2	11.2	11.0	11.2	11.1
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.1	11.2	11.2	11.1	11.2	11.1
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.2	11.2	11.1	11.1	11.2	11.2
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.1	11.2	11.2	11.1	11.1	11.1
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.7	10.7	10.7	10.5	10.6	10.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.5	10.6	10.6	10.5	10.6	10.6
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.6	10.8	10.7	10.6	10.8	10.6
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	11.1	11.2	11.2	11.1	11.2	11.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	11.1	11.2	11.2	11.0	11.2	11.1
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.1	11.2	11.2	11.1	11.2	11.1
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.2	11.2	11.1	11.1	11.2	11.2
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.1	11.2	11.2	11.1	11.1	11.1
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.7	10.8	10.7	10.6	10.7	10.6
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.5	10.6	10.7	10.6	10.7	10.6
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.6	10.8	10.7	10.6	10.8	10.6
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	11.1	11.1	11.1	11.1	11.1	11.1
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	11.0	11.2	11.1	11.1	11.2	11.1
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.1	11.2	11.3	11.0	11.2	11.1
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.1	11.2	11.2	11.2	11.2	11.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.1	11.1	11.1	11.0	11.2	10.9
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.1	10.1	10.2	10.0	10.1	10.1
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.7	10.8	10.7	10.6	10.7	10.6
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.5	10.6	10.7	10.6	10.7	10.6
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.6	10.8	10.7	10.6	10.8	10.6
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	11.1	11.1	11.1	11.1	11.1	11.1
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	11.0	11.2	11.1	11.1	11.2	11.1
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.1	11.2	11.3	11.0	11.2	11.1
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.1	11.2	11.2	11.2	11.2	11.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.1	11.1	11.1	11.0	11.2	10.9
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.1	10.1	10.2	10.0	10.1	10.1

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RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth											
SN: 004402742362365				MEASURED VALUES							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						124	128	132	136	140	144
802.11a			OFDM	BPSK	6	10.8	10.8	10.9	10.9	10.8	10.8
802.11a			OFDM	BPSK	9	10.8	10.8	10.9	10.9	10.8	10.8
802.11a			OFDM	QPSK	12	10.8	10.8	10.9	10.8	10.8	10.8
802.11a			OFDM	QPSK	18	10.9	10.9	10.9	11.0	10.9	10.9
802.11a			OFDM	16QAM	24	11.1	11.1	11.3	11.1	11.3	11.1
802.11a			OFDM	16QAM	36	11.0	11.1	11.1	11.2	11.2	11.0
802.11a			OFDM	64QAM	48	11.1	11.1	11.2	11.1	11.2	11.2
802.11a			OFDM	64QAM	54	11.1	11.1	11.1	11.2	11.1	11.1
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.7	10.6	10.8	10.7	10.7	10.7
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.5	10.5	10.7	10.6	10.6	10.7
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.7	10.7	10.8	10.7	10.7	10.8
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	11.1	11.2	11.1	11.2	11.2	11.2
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	11.2	11.1	11.2	11.2	11.2	11.2
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.2	11.2	11.1	11.1	11.2	11.2
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.1	11.2	11.2	11.2	11.3	11.2
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.1	11.1	11.2	11.1	11.2	11.2
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.7	10.6	10.8	10.7	10.7	10.7
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.5	10.5	10.7	10.6	10.6	10.7
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.7	10.7	10.8	10.7	10.7	10.8
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	11.1	11.2	11.1	11.2	11.2	11.2
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	11.2	11.1	11.2	11.2	11.2	11.2
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.2	11.2	11.1	11.1	11.2	11.2
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.1	11.2	11.2	11.2	11.3	11.2
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.1	11.1	11.2	11.1	11.2	11.2
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.7	10.6	10.8	10.7	10.7	10.6
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.6	10.5	10.6	10.6	10.7	10.6
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.7	10.7	10.8	10.7	10.7	10.6
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	11.1	11.0	11.2	11.1	11.2	11.2
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	11.1	11.1	11.3	11.1	11.2	11.2
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.1	11.1	11.3	11.3	11.2	11.1
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.2	11.1	11.3	11.3	11.2	11.2
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.1	11.1	11.1	11.1	11.1	11.2
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.1	10.0	10.2	10.1	10.2	10.1
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.7	10.6	10.8	10.7	10.7	10.6
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.6	10.5	10.6	10.6	10.7	10.6
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.7	10.7	10.8	10.7	10.7	10.6
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	11.1	11.0	11.2	11.1	11.2	11.2
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	11.1	11.1	11.3	11.1	11.2	11.2
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.1	11.1	11.3	11.3	11.2	11.1
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.2	11.1	11.3	11.3	11.2	11.2
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.1	11.1	11.1	11.1	11.1	11.2
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.1	10.0	10.2	10.1	10.2	10.1

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RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth										
SN: 004402742362365				MEASURED VALUES						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel				
						149	153	157	161	165
802.11a			OFDM	BPSK	6	10.5	10.9	10.9	10.7	10.6
802.11a			OFDM	BPSK	9	10.5	10.8	10.8	10.7	10.7
802.11a			OFDM	QPSK	12	10.4	10.8	10.8	10.6	10.6
802.11a			OFDM	QPSK	18	10.5	10.9	11.0	10.8	10.7
802.11a			OFDM	16QAM	24	10.8	11.2	11.2	11.0	11.0
802.11a			OFDM	16QAM	36	10.7	11.1	11.1	11.0	10.9
802.11a			OFDM	64QAM	48	10.7	11.1	11.1	11.0	11.0
802.11a			OFDM	64QAM	54	10.8	11.1	11.1	10.9	10.9
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	10.3	10.6	10.6	10.5	10.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	10.2	10.6	10.6	10.5	10.4
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	10.3	10.7	10.8	10.5	10.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	10.8	11.2	11.1	10.9	11.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	10.7	11.2	11.2	11.0	11.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	10.8	11.2	11.2	11.0	10.9
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	10.8	11.2	11.2	11.0	11.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.8	11.2	11.1	11.0	11.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	10.3	10.6	10.6	10.5	10.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	10.2	10.6	10.6	10.5	10.4
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	10.3	10.7	10.8	10.5	10.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	10.8	11.2	11.1	10.9	11.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	10.7	11.2	11.2	11.0	11.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	10.8	11.2	11.2	11.0	10.9
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	10.8	11.2	11.2	11.0	11.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.8	11.2	11.1	11.0	11.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	10.3	10.7	10.7	10.5	10.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	10.3	10.7	10.6	10.5	10.4
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	10.4	10.8	10.6	10.5	10.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	10.8	11.1	11.1	11.1	10.9
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	10.8	11.1	11.2	11.0	11.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	10.8	11.2	11.1	11.1	10.9
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	10.9	10.8	10.9	11.0	11.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.7	10.8	10.8	11.0	11.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.9	10.1	10.1	10.0	10.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	10.3	10.7	10.7	10.5	10.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	10.3	10.7	10.6	10.5	10.4
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	10.4	10.8	10.6	10.5	10.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	10.8	11.1	11.1	11.1	10.9
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	10.8	11.1	11.2	11.0	11.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	10.8	11.2	11.1	11.1	10.9
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	10.9	10.8	10.9	11.0	11.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.7	10.8	10.8	11.0	11.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.9	10.1	10.1	10.0	10.0

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RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth							
SN: 004402742362365				MEASURED VALUES			
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	38 (36+40)	46 (44+48)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	10.8	10.9
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	10.8	10.9
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	10.7	10.8
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	11.0	10.9
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	10.8	11.1
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.8	11.1
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.8	11.1
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.9	11.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	10.8	10.9
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	10.8	10.9
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	10.7	10.8
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	11.0	10.9
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	10.8	11.1
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.8	11.1
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.8	11.1
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.9	11.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	10.8	10.9
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	10.7	10.8
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	10.7	10.8
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	10.8	10.9
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	10.8	11.1
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.9	10.8
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.9	11.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.8	11.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.9	9.1
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.9	8.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	10.8	10.9
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	10.7	10.8
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	10.7	10.8
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	10.8	10.9
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	10.8	11.1
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.9	10.8
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.9	11.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.8	11.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.9	9.1
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.9	8.0

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RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth							
SN: 004402742362365				MEASURED VALUES			
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	54 (52+56)	62 (60+64)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	10.8	10.9
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	10.8	10.8
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	10.8	11.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	10.8	11.1
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	10.8	11.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.8	11.1
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.9	11.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.9	11.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	10.8	10.9
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	10.8	10.8
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	10.8	11.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	10.8	11.1
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	10.8	11.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.8	11.1
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.9	11.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.9	11.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	10.8	10.9
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	10.6	10.8
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	10.7	10.9
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	10.8	11.1
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	10.9	11.1
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.9	11.1
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.9	11.1
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.0	11.1
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.9	9.1
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.0	8.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	10.8	10.9
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	10.6	10.8
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	10.7	10.9
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	10.8	11.1
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	10.9	11.1
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.9	11.1
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.9	11.1
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.0	11.1
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.9	9.1
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.0	8.0

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RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth											
SN: 004402742362365				MEASURED VALUES							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	102 (100+104)	110 (108+112)	118 (116+120)	126 (124+128)	134 (132+136)	142 (140+144)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	11.0	11.0	11.0	10.9	11.1	11.1
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	11.0	11.0	11.1	11.0	11.1	11.1
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	10.9	11.0	11.1	11.1	11.1	11.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	11.1	11.2	11.2	11.1	11.1	11.2
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	11.1	11.2	11.2	11.1	11.2	11.1
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.0	11.2	11.3	11.1	11.2	11.1
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	11.1	11.2	11.2	11.0	11.2	11.2
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	11.1	11.0	11.1	11.1	11.1	11.2
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	11.0	11.0	11.0	10.9	11.1	11.1
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	11.0	11.0	11.1	11.0	11.1	11.1
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	10.9	11.0	11.1	11.1	11.1	11.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	11.1	11.2	11.2	11.1	11.1	11.2
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	11.1	11.2	11.2	11.1	11.2	11.1
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.0	11.2	11.3	11.1	11.2	11.1
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	11.1	11.2	11.2	11.0	11.2	11.2
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	11.1	11.0	11.1	11.1	11.1	11.2
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	10.9	10.9	11.0	10.9	11.0	11.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	10.8	10.9	10.9	10.8	11.0	11.0
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	11.0	10.9	11.0	10.9	11.1	11.0
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	11.0	11.3	11.2	11.1	11.2	11.2
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	11.1	11.0	11.3	11.2	11.1	11.2
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	11.1	11.1	11.2	11.2	11.2	11.3
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	11.0	11.0	11.1	11.0	11.1	11.1
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.2	11.1	11.2	11.2	11.1	11.2
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.2	9.1	9.2	9.1	9.2	9.2
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.0	8.0	8.1	8.0	8.2	8.3
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	10.9	10.9	11.0	10.9	11.0	11.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	10.8	10.9	10.9	10.8	11.0	11.0
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	11.0	10.9	11.0	10.9	11.1	11.0
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	11.0	11.3	11.2	11.1	11.2	11.2
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	11.1	11.0	11.3	11.2	11.1	11.2
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	11.1	11.1	11.2	11.2	11.2	11.3
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	11.0	11.0	11.1	11.0	11.1	11.1
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.2	11.1	11.2	11.2	11.1	11.2
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.2	9.1	9.2	9.1	9.2	9.2
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.0	8.0	8.1	8.0	8.2	8.3

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RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth							
SN: 004402742362365				MEASURED VALUES			
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	151 (149+153)	159 (157+161)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	10.6	10.8
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	10.6	11.0
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	10.6	10.8
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	10.7	10.9
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	10.7	11.1
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.7	10.9
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.8	11.1
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.8	11.1
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	10.6	10.8
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	10.6	11.0
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	10.6	10.8
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	10.7	10.9
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	10.7	11.1
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.7	10.9
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.8	11.1
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.8	11.1
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	10.6	10.9
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	10.5	10.8
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	10.6	10.6
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	10.9	11.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	10.8	10.9
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.9	11.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.8	11.1
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.8	10.9
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.9	9.1
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.9	8.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	10.6	10.9
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	10.5	10.8
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	10.6	10.6
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	10.9	11.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	10.8	10.9
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.9	11.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.8	11.1
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.8	10.9
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.9	9.1
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.9	8.0

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RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth						
SN: 004402742362365				MEASURED VALUES		
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	42 (36-48)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	10.8
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	10.8
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	10.8
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	11.1
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	11.1
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.1
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	10.9
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.1
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	8.9
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.1
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	10.8
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	10.8
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	10.8
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	11.1
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	11.1
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.1
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	10.9
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.1
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	8.9
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.1

RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth						
SN: 004402742362365				MEASURED VALUES		
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	58 (52-64)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	10.6
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	10.6
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	10.5
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	10.9
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	10.9
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	10.9
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	10.9
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	9.9
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	8.8
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	7.9
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	10.6
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	10.6
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	10.5
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	10.9
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	10.9
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	10.9
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	10.9
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	9.9
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	8.8
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	7.9

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RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth								
SN: 004402742362365				MEASURED VALUES				
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	106 (100-112)	122 (116-128)	138 (132-144)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	11.0	10.8	10.9
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	10.9	10.8	10.9
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	10.8	10.7	10.8
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	11.2	11.1	11.2
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	11.2	10.9	11.2
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.4	11.1	11.3
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	11.1	11.1	11.2
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.2	10.2	10.4
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	8.9	9.1	9.1
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.1	8.2	8.4
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	11.0	10.8	10.9
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	10.9	10.8	10.9
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	10.8	10.7	10.8
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	11.2	11.1	11.2
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	11.2	10.9	11.2
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.4	11.1	11.3
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	11.1	11.1	11.2
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.2	10.2	10.4
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	8.9	9.1	9.1
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.1	8.2	8.4

RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth						
SN: 004402742362365				MEASURED VALUES		
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	155 (149-161)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	10.9
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	10.9
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	10.8
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	11.2
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	11.1
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.1
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	11.2
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.1
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	9.0
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.1
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	10.9
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	10.9
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	10.8
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	11.2
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	11.1
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.1
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	11.2
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.1
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	9.0
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.1

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3.6.2 WLAN5000 Body-worn 15 mm and Wireless Router 10 mm

Averaged tuning targets for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1116

RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: TUNING TARGETS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						36	40	44	48
802.11a			OFDM	BPSK	6	13.5	13.5	13.5	13.5
802.11a			OFDM	BPSK	9	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	12	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	18	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	24	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	36	13.0	13.0	13.0	13.0
802.11a			OFDM	64QAM	48	11.0	11.0	11.0	11.0
802.11a			OFDM	64QAM	54	11.0	11.0	11.0	11.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: TUNING TARGETS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						52	56	60	64
802.11a			OFDM	BPSK	6	13.5	13.5	13.5	13.5
802.11a			OFDM	BPSK	9	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	12	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	18	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	24	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	36	13.0	13.0	13.0	13.0
802.11a			OFDM	64QAM	48	11.0	11.0	11.0	11.0
802.11a			OFDM	64QAM	54	11.0	11.0	11.0	11.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						100	104	108	112	116	120
802.11a			OFDM	BPSK	6	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	BPSK	9	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	12	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	18	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	24	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	36	13.0	13.0	13.0	13.0	13.0	13.0
802.11a			OFDM	64QAM	48	11.0	11.0	11.0	11.0	11.0	11.0
802.11a			OFDM	64QAM	54	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0	9.0	9.0

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						124	128	132	136	140	144
802.11a			OFDM	BPSK	6	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	BPSK	9	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	12	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	18	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	24	13.5	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	36	13.0	13.0	13.0	13.0	13.0	13.0
802.11a			OFDM	64QAM	48	11.0	11.0	11.0	11.0	11.0	11.0
802.11a			OFDM	64QAM	54	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0	14.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0	11.0	11.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0	9.0	9.0

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: TUNING TARGETS										
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel				
						149	153	157	161	165
802.11a			OFDM	BPSK	6	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	BPSK	9	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	12	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	QPSK	18	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	24	13.5	13.5	13.5	13.5	13.5
802.11a			OFDM	16QAM	36	13.0	13.0	13.0	13.0	13.0
802.11a			OFDM	64QAM	48	11.0	11.0	11.0	11.0	11.0
802.11a			OFDM	64QAM	54	11.0	11.0	11.0	11.0	11.0
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5	13.5
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5	13.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0	13.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0	13.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0	11.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0	11.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5	13.5
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5	13.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0	13.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0	13.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0	11.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0	11.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.0	14.0	14.0	14.0	14.0
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.5	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.5	13.5	13.5	13.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.0	13.0	13.0	13.0	13.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.0	13.0	13.0	13.0	13.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.0	11.0	11.0	11.0	11.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.0	11.0	11.0	11.0	11.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.0	9.0	9.0	9.0	9.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.0	14.0	14.0	14.0	14.0
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.5	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.5	13.5	13.5	13.5	13.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.0	13.0	13.0	13.0	13.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.0	13.0	13.0	13.0	13.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.0	11.0	11.0	11.0	11.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.0	11.0	11.0	11.0	11.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.0	9.0	9.0	9.0	9.0

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: TUNING TARGETS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	38 (36+40)	46 (44+48)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	**13.0**	**13.0**
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	**13.0**	**13.0**
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	**13.0**	**13.0**
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	**12.0**	**12.0**
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	**12.0**	**12.0**
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	**13.0**	**13.0**
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	**13.0**	**13.0**
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	**13.0**	**13.0**
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	**12.0**	**12.0**
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	**12.0**	**12.0**
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	**13.0**	**13.0**
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	**13.0**	**13.0**
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	**13.0**	**13.0**
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	**12.0**	**12.0**
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	**12.0**	**12.0**
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	**8.0**	**8.0**
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	**7.0**	**7.0**
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	**13.0**	**13.0**
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	**13.0**	**13.0**
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	**13.0**	**13.0**
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	**12.0**	**12.0**
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	**12.0**	**12.0**
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	**8.0**	**8.0**
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	**7.0**	**7.0**

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: TUNING TARGETS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	54 (52+56)	62 (60+64)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	**13.0**	**13.0**
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	**13.0**	**13.0**
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	**13.0**	**13.0**
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	**12.0**	**12.0**
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	**12.0**	**12.0**
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	**13.0**	**13.0**
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	**13.0**	**13.0**
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	**13.0**	**13.0**
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	**12.0**	**12.0**
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	**12.0**	**12.0**
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	**13.0**	**13.0**
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	**13.0**	**13.0**
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	**13.0**	**13.0**
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	**12.0**	**12.0**
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	**12.0**	**12.0**
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	**8.0**	**8.0**
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	**7.0**	**7.0**
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	**13.0**	**13.0**
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	**13.0**	**13.0**
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	**13.0**	**13.0**
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	**12.0**	**12.0**
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	**12.0**	**12.0**
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	**8.0**	**8.0**
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	**7.0**	**7.0**

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: TUNING TARGETS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	102 (100+104)	110 (108+112)	118 (116+120)	126 (124+128)	134 (132+136)	142 (140+144)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.0	8.0	8.0	8.0	8.0	8.0
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.0	7.0	7.0	7.0	7.0	7.0
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	13.0	13.0	13.0	13.0	13.0	13.0
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	12.0	12.0	12.0	12.0	12.0	12.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.0	10.0	10.0	10.0	10.0	10.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.0	8.0	8.0	8.0	8.0	8.0
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.0	7.0	7.0	7.0	7.0	7.0

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: TUNING TARGETS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	151 (149+153)	159 (157+161)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	**13.0**	**13.0**
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	**13.0**	**13.0**
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	**13.0**	**13.0**
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	**12.0**	**12.0**
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	**12.0**	**12.0**
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	**13.0**	**13.0**
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	**13.0**	**13.0**
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	**13.0**	**13.0**
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	**12.0**	**12.0**
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	**12.0**	**12.0**
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	**13.0**	**13.0**
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	**13.0**	**13.0**
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	**13.0**	**13.0**
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	**12.0**	**12.0**
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	**12.0**	**12.0**
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	**10.0**	**10.0**
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	**10.0**	**10.0**
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	**10.0**	**10.0**
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	**8.0**	**8.0**
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	**7.0**	**7.0**
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	**13.0**	**13.0**
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	**13.0**	**13.0**
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	**13.0**	**13.0**
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	**12.0**	**12.0**
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	**12.0**	**12.0**
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	**10.0**	**10.0**
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	**10.0**	**10.0**
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	**10.0**	**10.0**
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	**8.0**	**8.0**
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	**7.0**	**7.0**

RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: TUNING TARGETS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	42 (36-48)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**12.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**12.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**12.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**12.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**12.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**12.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: TUNING TARGETS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	58 (52-64)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**12.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**12.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**12.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**12.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**12.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**12.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**

RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: TUNING TARGETS								
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	106 (100-112)	122 (116-128)	138 (132-144)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**12.0**	**12.0**	**12.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**12.0**	**12.0**	**12.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**12.0**	**12.0**	**12.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.0**	**11.0**	**11.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.0**	**11.0**	**11.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**	**10.0**	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**	**10.0**	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**	**9.0**	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**	**8.0**	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**	**7.0**	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**12.0**	**12.0**	**12.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**12.0**	**12.0**	**12.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**12.0**	**12.0**	**12.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.0**	**11.0**	**11.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.0**	**11.0**	**11.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**	**10.0**	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**	**10.0**	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**	**9.0**	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**	**8.0**	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**	**7.0**	**7.0**

(WLAN5000 Body and WR averaged tuning targets table continues)

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(WLAN5000 Body and WR averaged tuning targets table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth: TUNING TARGETS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	155 (149-161)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**12.0**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**12.0**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**12.0**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**11.0**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**11.0**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**10.0**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**10.0**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**9.0**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**8.0**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**7.0**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**12.0**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**12.0**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**12.0**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**11.0**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**11.0**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**10.0**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**10.0**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**9.0**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**8.0**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**7.0**

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Averaged upper limits for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1116

RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: UPPER LIMITS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						36	40	44	48
802.11a			OFDM	BPSK	6	15.0	15.0	15.0	15.0
802.11a			OFDM	BPSK	9	15.0	15.0	15.0	15.0
802.11a			OFDM	QPSK	12	15.0	15.0	15.0	15.0
802.11a			OFDM	QPSK	18	15.0	15.0	15.0	15.0
802.11a			OFDM	16QAM	24	15.0	15.0	15.0	15.0
802.11a			OFDM	16QAM	36	14.5	14.5	14.5	14.5
802.11a			OFDM	64QAM	48	12.5	12.5	12.5	12.5
802.11a			OFDM	64QAM	54	12.5	12.5	12.5	12.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5

(WLAN5000 Body and WR averaged upper limits table continues)

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: UPPER LIMITS									
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						52	56	60	64
802.11a			OFDM	BPSK	6	15.0	15.0	15.0	15.0
802.11a			OFDM	BPSK	9	15.0	15.0	15.0	15.0
802.11a			OFDM	QPSK	12	15.0	15.0	15.0	15.0
802.11a			OFDM	QPSK	18	15.0	15.0	15.0	15.0
802.11a			OFDM	16QAM	24	15.0	15.0	15.0	15.0
802.11a			OFDM	16QAM	36	14.5	14.5	14.5	14.5
802.11a			OFDM	64QAM	48	12.5	12.5	12.5	12.5
802.11a			OFDM	64QAM	54	12.5	12.5	12.5	12.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5

(WLAN5000 Body and WR averaged upper limits table continues)

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS												
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel						
						100	104	108	112	116	120	
802.11a			OFDM	BPSK	6	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	BPSK	9	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	QPSK	12	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	QPSK	18	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	16QAM	24	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	16QAM	36	14.5	14.5	14.5	14.5	14.5	14.5	
802.11a			OFDM	64QAM	48	12.5	12.5	12.5	12.5	12.5	12.5	
802.11a			OFDM	64QAM	54	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5	15.5	
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5	15.5	
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5	10.5	10.5	
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5	10.5	10.5	

(WLAN5000 Body and WR averaged upper limits table continues)

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS												
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel						
						124	128	132	136	140	144	
802.11a			OFDM	BPSK	6	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	BPSK	9	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	QPSK	12	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	QPSK	18	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	16QAM	24	15.0	15.0	15.0	15.0	15.0	15.0	
802.11a			OFDM	16QAM	36	14.5	14.5	14.5	14.5	14.5	14.5	
802.11a			OFDM	64QAM	48	12.5	12.5	12.5	12.5	12.5	12.5	
802.11a			OFDM	64QAM	54	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5	15.5	
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0	15.0	15.0	
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5	14.5	14.5	
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5	15.5	
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5	10.5	10.5	
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5	15.5	
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0	15.0	15.0	
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5	14.5	14.5	
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5	12.5	12.5	
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5	11.5	
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5	10.5	10.5	

(WLAN5000 Body and WR averaged upper limits table continues)

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: UPPER LIMITS										
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel				
						149	153	157	161	165
802.11a			OFDM	BPSK	6	15.0	15.0	15.0	15.0	15.0
802.11a			OFDM	BPSK	9	15.0	15.0	15.0	15.0	15.0
802.11a			OFDM	QPSK	12	15.0	15.0	15.0	15.0	15.0
802.11a			OFDM	QPSK	18	15.0	15.0	15.0	15.0	15.0
802.11a			OFDM	16QAM	24	15.0	15.0	15.0	15.0	15.0
802.11a			OFDM	16QAM	36	14.5	14.5	14.5	14.5	14.5
802.11a			OFDM	64QAM	48	12.5	12.5	12.5	12.5	12.5
802.11a			OFDM	64QAM	54	12.5	12.5	12.5	12.5	12.5
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0	15.0
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0	15.0
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5	14.5
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5	14.5
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5	12.5
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5	12.5
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0	15.0
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0	15.0
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5	14.5
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5	14.5
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5	12.5
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5	12.5
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	15.5	15.5	15.5	15.5	15.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	15.0	15.0	15.0	15.0	15.0
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	15.0	15.0	15.0	15.0	15.0
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	14.5	14.5	14.5	14.5	14.5
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.5	14.5	14.5	14.5	14.5
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.5	12.5	12.5	12.5	12.5
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	12.5	12.5	12.5	12.5	12.5
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.5	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.5	10.5	10.5	10.5	10.5
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	15.5	15.5	15.5	15.5	15.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	15.0	15.0	15.0	15.0	15.0
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	15.0	15.0	15.0	15.0	15.0
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	14.5	14.5	14.5	14.5	14.5
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.5	14.5	14.5	14.5	14.5
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.5	12.5	12.5	12.5	12.5
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	12.5	12.5	12.5	12.5	12.5
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.5	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.5	10.5	10.5	10.5	10.5

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: UPPER LIMITS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	38 (36+40)	46 (44+48)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	14.5	14.5
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	14.5	14.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	14.5	14.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	13.5	13.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	13.5	13.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	14.5	14.5
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	14.5	14.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	14.5	14.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	13.5	13.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	13.5	13.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	14.5	14.5
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	14.5	14.5
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	14.5	14.5
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	13.5	13.5
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	13.5	13.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.5	9.5
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.5	8.5
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	14.5	14.5
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	14.5	14.5
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	14.5	14.5
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	13.5	13.5
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	13.5	13.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.5	9.5
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.5	8.5

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: UPPER LIMITS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	54 (52+56)	62 (60+64)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	14.5	14.5
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	14.5	14.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	14.5	14.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	13.5	13.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	13.5	13.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	14.5	14.5
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	14.5	14.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	14.5	14.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	13.5	13.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	13.5	13.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	14.5	14.5
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	14.5	14.5
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	14.5	14.5
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	13.5	13.5
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	13.5	13.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.5	9.5
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.5	8.5
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	14.5	14.5
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	14.5	14.5
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	14.5	14.5
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	13.5	13.5
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	13.5	13.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.5	9.5
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.5	8.5

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: UPPER LIMITS											
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	102 (100+104)	110 (108+112)	118 (116+120)	126 (124+128)	134 (132+136)	142 (140+144)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.5	9.5	9.5	9.5	9.5	9.5
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.5	8.5	8.5	8.5	8.5	8.5
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	14.5	14.5	14.5	14.5	14.5	14.5
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	13.5	13.5	13.5	13.5	13.5	13.5
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.5	11.5	11.5	11.5	11.5	11.5
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.5	9.5	9.5	9.5	9.5	9.5
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.5	8.5	8.5	8.5	8.5	8.5

(WLAN5000 Body and WR averaged upper limits table continues)

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: UPPER LIMITS							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	151 (149+153)	159 (157+161)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	**14.5**	**14.5**
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	**14.5**	**14.5**
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	**14.5**	**14.5**
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	**13.5**	**13.5**
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	**13.5**	**13.5**
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	**11.5**	**11.5**
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	**11.5**	**11.5**
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	**11.5**	**11.5**
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	**14.5**	**14.5**
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	**14.5**	**14.5**
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	**14.5**	**14.5**
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	**13.5**	**13.5**
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	**13.5**	**13.5**
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	**11.5**	**11.5**
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	**11.5**	**11.5**
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	**11.5**	**11.5**
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	**14.5**	**14.5**
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	**14.5**	**14.5**
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	**14.5**	**14.5**
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	**13.5**	**13.5**
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	**13.5**	**13.5**
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	**11.5**	**11.5**
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	**11.5**	**11.5**
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	**11.5**	**11.5**
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	**9.5**	**9.5**
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	**8.5**	**8.5**
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	**14.5**	**14.5**
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	**14.5**	**14.5**
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	**14.5**	**14.5**
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	**13.5**	**13.5**
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	**13.5**	**13.5**
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	**11.5**	**11.5**
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	**11.5**	**11.5**
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	**11.5**	**11.5**
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	**9.5**	**9.5**
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	**8.5**	**8.5**

RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: UPPER LIMITS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	42 (36-48)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**13.5**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**13.5**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**13.5**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**12.5**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**12.5**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**11.5**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**11.5**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**10.5**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**9.5**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**8.5**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**13.5**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**13.5**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**13.5**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**12.5**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**12.5**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**11.5**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**11.5**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**10.5**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**9.5**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**8.5**

(WLAN5000 Body and WR averaged upper limits table continues)

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: UPPER LIMITS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	58 (52-64)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	13.5
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	13.5
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	13.5
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	12.5
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	12.5
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.5
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	11.5
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.5
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	9.5
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.5
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	13.5
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	13.5
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	13.5
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	12.5
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	12.5
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.5
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	11.5
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.5
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	9.5
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.5

RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: UPPER LIMITS								
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	106 (100-112)	122 (116-128)	138 (132-144)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	13.5	13.5	13.5
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	13.5	13.5	13.5
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	13.5	13.5	13.5
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	12.5	12.5	12.5
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	12.5	12.5	12.5
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.5	11.5	11.5
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	11.5	11.5	11.5
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.5	10.5	10.5
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	9.5	9.5	9.5
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.5	8.5	8.5
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	13.5	13.5	13.5
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	13.5	13.5	13.5
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	13.5	13.5	13.5
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	12.5	12.5	12.5
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	12.5	12.5	12.5
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.5	11.5	11.5
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	11.5	11.5	11.5
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.5	10.5	10.5
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	9.5	9.5	9.5
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.5	8.5	8.5

(WLAN5000 Body and WR averaged upper limits table continues)

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(WLAN5000 Body and WR averaged upper limits table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth: UPPER LIMITS						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	155 (149-161)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	**13.5**
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	**13.5**
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	**13.5**
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	**12.5**
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	**12.5**
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	**11.5**
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	**11.5**
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	**10.5**
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	**9.5**
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	**8.5**
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	**13.5**
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	**13.5**
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	**13.5**
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	**12.5**
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	**12.5**
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	**11.5**
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	**11.5**
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	**10.5**
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	**9.5**
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	**8.5**

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Averaged measured conducted output powers for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1116

RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth									
SN: 004402742362365					MEASURED VALUES				
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						36	40	44	48
802.11a			OFDM	BPSK	6	13.5	13.3	13.5	13.5
802.11a			OFDM	BPSK	9	13.4	13.3	13.5	13.5
802.11a			OFDM	QPSK	12	13.4	13.3	13.5	13.5
802.11a			OFDM	QPSK	18	13.5	13.5	13.6	13.6
802.11a			OFDM	16QAM	24	13.6	13.5	13.6	13.8
802.11a			OFDM	16QAM	36	13.6	13.6	13.7	13.7
802.11a			OFDM	64QAM	48	11.8	11.8	11.9	11.8
802.11a			OFDM	64QAM	54	11.8	11.7	11.9	11.9
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.2	14.2	14.3	14.2
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.2	13.2	13.3	13.2
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.2	13.3	13.4	13.4
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.6	13.6	13.8	13.8
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.6	13.6	13.8	13.8
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.8	11.8	12.0	11.9
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.9	11.8	11.9	11.9
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.9	10.8	11.0	10.9
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.2	14.2	14.3	14.2
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.2	13.2	13.3	13.2
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.2	13.3	13.4	13.4
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.6	13.6	13.8	13.8
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.6	13.6	13.8	13.8
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.8	11.8	12.0	11.9
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.9	11.8	11.9	11.9
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.9	10.8	11.0	10.9
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.3	14.3	14.3	14.3
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.2	13.2	13.3	13.3
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.3	13.2	13.3	13.3
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.6	13.6	13.8	13.8
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.6	13.7	13.7	13.8
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.8	11.8	11.9	11.8
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.8	11.9	12.0	12.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.8	10.8	11.0	10.9
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.8	9.8	9.9	9.9
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.3	14.3	14.3	14.3
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.2	13.2	13.3	13.3
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.3	13.2	13.3	13.3
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.6	13.6	13.8	13.8
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.6	13.7	13.7	13.8
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.8	11.8	11.9	11.8
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.8	11.9	12.0	12.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.8	10.8	11.0	10.9
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.8	9.8	9.9	9.9

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth									
SN: 004402742362365				MEASURED VALUES					
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel			
						52	56	60	64
802.11a			OFDM	BPSK	6	13.5	13.6	13.6	13.5
802.11a			OFDM	BPSK	9	13.5	13.3	13.4	13.5
802.11a			OFDM	QPSK	12	13.5	13.4	13.5	13.5
802.11a			OFDM	QPSK	18	13.5	13.6	13.7	13.5
802.11a			OFDM	16QAM	24	13.7	13.7	13.8	13.8
802.11a			OFDM	16QAM	36	13.7	13.7	13.8	13.7
802.11a			OFDM	64QAM	48	11.8	11.8	12.0	12.0
802.11a			OFDM	64QAM	54	11.8	11.8	12.0	11.9
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.4	14.4	14.4	14.4
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.2	13.2	13.3	13.3
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.3	13.3	13.5	13.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.7	13.7	13.9	13.8
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.8	13.8	13.8	13.8
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.8	11.9	12.0	12.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	11.8	11.8	12.0	12.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.8	10.8	11.0	11.1
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.4	14.4	14.4	14.4
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.2	13.2	13.3	13.3
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.3	13.3	13.5	13.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.7	13.7	13.9	13.8
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.8	13.8	13.8	13.8
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.8	11.9	12.0	12.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	11.8	11.8	12.0	12.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.8	10.8	11.0	11.1
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.4	14.3	14.4	14.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.3	13.3	13.4	13.3
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.4	13.4	13.4	13.4
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.7	13.8	13.8	13.8
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.8	13.7	13.9	13.8
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	11.9	11.9	12.0	12.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.8	11.8	12.1	12.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.9	10.8	11.0	10.9
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.9	9.9	10.0	10.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.4	14.3	14.4	14.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.3	13.3	13.4	13.3
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.4	13.4	13.4	13.4
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.7	13.8	13.8	13.8
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.8	13.7	13.9	13.8
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	11.9	11.9	12.0	12.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.8	11.8	12.1	12.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.9	10.8	11.0	10.9
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.9	9.9	10.0	10.0

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth											
SN: 004402742362365				MEASURED VALUES							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						100	104	108	112	116	120
802.11a			OFDM	BPSK	6	13.7	13.8	13.7	13.6	13.8	13.7
802.11a			OFDM	BPSK	9	13.6	13.7	13.7	13.6	13.7	13.6
802.11a			OFDM	QPSK	12	13.6	13.7	13.7	13.6	13.6	13.6
802.11a			OFDM	QPSK	18	13.7	13.8	13.7	13.7	13.7	13.6
802.11a			OFDM	16QAM	24	13.9	14.0	13.9	13.8	13.9	13.8
802.11a			OFDM	16QAM	36	13.8	13.9	13.9	13.8	13.9	13.9
802.11a			OFDM	64QAM	48	12.0	12.1	12.1	12.0	12.1	12.0
802.11a			OFDM	64QAM	54	11.9	12.2	12.0	12.0	12.1	12.1
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.4	14.4	14.4	14.5	14.5	14.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.4	13.5	13.5	13.3	13.4	13.4
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.7	13.6	13.4	13.5	13.5
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.9	14.1	14.0	13.9	14.0	13.9
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.9	14.1	14.0	13.9	13.9	14.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	11.9	12.1	12.1	12.0	12.1	12.1
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.0	12.1	12.1	12.1	12.1	12.1
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.1	11.2	11.2	11.0	11.1	11.1
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.4	14.4	14.4	14.5	14.5	14.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.4	13.5	13.5	13.3	13.4	13.4
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.5	13.7	13.6	13.4	13.5	13.5
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.9	14.1	14.0	13.9	14.0	13.9
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.9	14.1	14.0	13.9	13.9	14.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	11.9	12.1	12.1	12.0	12.1	12.1
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.0	12.1	12.1	12.1	12.1	12.1
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.1	11.2	11.2	11.0	11.1	11.1
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.4	14.5	14.4	14.5	14.5	14.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.4	13.7	13.5	13.5	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.6	13.6	13.4	13.5	13.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.9	14.1	14.0	13.8	14.0	14.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.9	14.0	14.0	13.8	13.9	13.9
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.1	12.2	12.1	12.0	12.1	12.1
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	11.9	12.1	12.2	12.0	12.1	12.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.0	11.1	11.1	11.0	11.1	11.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.1	10.1	10.2	10.0	10.1	10.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.4	14.5	14.4	14.5	14.5	14.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.4	13.7	13.5	13.5	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.5	13.6	13.6	13.4	13.5	13.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.9	14.1	14.0	13.8	14.0	14.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.9	14.0	14.0	13.8	13.9	13.9
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.1	12.2	12.1	12.0	12.1	12.1
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	11.9	12.1	12.2	12.0	12.1	12.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.0	11.1	11.1	11.0	11.1	11.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.1	10.1	10.2	10.0	10.1	10.0

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth											
SN: 004402742362365				MEASURED VALUES							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel					
						124	128	132	136	140	144
802.11a			OFDM	BPSK	6	13.7	13.7	13.8	13.8	13.8	13.7
802.11a			OFDM	BPSK	9	13.6	13.6	13.7	13.7	13.7	13.7
802.11a			OFDM	QPSK	12	13.6	13.6	13.7	13.7	13.7	13.7
802.11a			OFDM	QPSK	18	13.7	13.7	13.8	13.8	13.8	13.8
802.11a			OFDM	16QAM	24	13.8	13.8	14.0	14.0	14.0	13.9
802.11a			OFDM	16QAM	36	13.9	13.8	14.0	14.0	13.9	13.9
802.11a			OFDM	64QAM	48	12.0	12.0	12.1	12.1	12.1	12.1
802.11a			OFDM	64QAM	54	12.1	12.0	12.1	12.1	12.0	12.1
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.5	14.5	14.4	14.4	14.5	14.5
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.4	13.4	13.6	13.5	13.5	13.4
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.6	13.6	13.7	13.6	13.6	13.6
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	14.0	13.9	14.0	14.0	14.0	14.1
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	13.9	13.9	14.0	14.0	14.0	14.0
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	12.0	12.0	12.1	12.0	12.1	12.1
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.1	12.1	12.1	12.1	12.1	12.1
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	11.1	11.2	11.1	11.2	11.2	11.1
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.5	14.5	14.4	14.4	14.5	14.5
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.4	13.4	13.6	13.5	13.5	13.4
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.6	13.6	13.7	13.6	13.6	13.6
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	14.0	13.9	14.0	14.0	14.0	14.1
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	13.9	13.9	14.0	14.0	14.0	14.0
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	12.0	12.0	12.1	12.0	12.1	12.1
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.1	12.1	12.1	12.1	12.1	12.1
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	11.1	11.2	11.1	11.2	11.2	11.1
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.6	14.5	14.5	14.5	14.6	14.5
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.6	13.4	13.6	13.6	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.6	13.5	13.8	13.5	13.6	13.5
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.9	13.9	14.0	14.0	14.0	14.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	14.0	14.0	14.1	14.0	14.0	14.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.0	12.1	12.2	12.1	12.0	12.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	12.0	12.0	12.2	12.2	12.1	12.1
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	11.2	11.1	11.1	11.1	11.1	11.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	10.0	10.1	10.2	10.1	10.2	10.2
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.6	14.5	14.5	14.5	14.6	14.5
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.6	13.4	13.6	13.6	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.6	13.5	13.8	13.5	13.6	13.5
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.9	13.9	14.0	14.0	14.0	14.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	14.0	14.0	14.1	14.0	14.0	14.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.0	12.1	12.2	12.1	12.0	12.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	12.0	12.0	12.2	12.2	12.1	12.1
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	11.2	11.1	11.1	11.1	11.1	11.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	10.0	10.1	10.2	10.1	10.2	10.2

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth										
SN: 004402742362365				MEASURED VALUES						
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	Channel				
						149	153	157	161	165
802.11a			OFDM	BPSK	6	13.7	13.8	13.8	13.7	13.7
802.11a			OFDM	BPSK	9	13.6	13.7	13.7	13.6	13.7
802.11a			OFDM	QPSK	12	13.6	13.7	13.6	13.6	13.7
802.11a			OFDM	QPSK	18	13.8	13.8	13.8	13.8	13.8
802.11a			OFDM	16QAM	24	13.8	14.0	13.9	13.9	13.9
802.11a			OFDM	16QAM	36	13.9	14.0	13.9	13.9	13.8
802.11a			OFDM	64QAM	48	12.0	12.1	12.0	12.0	12.0
802.11a			OFDM	64QAM	54	11.9	12.1	12.0	12.0	11.9
802.11n	0	1	OFDM	BPSK	6.5 / 7.2	14.4	14.4	14.5	14.5	14.4
802.11n	1	1	OFDM	QPSK	13.0 / 14.4	13.4	13.5	13.5	13.4	13.4
802.11n	2	1	OFDM	QPSK	19.5 / 21.7	13.5	13.6	13.6	13.6	13.6
802.11n	3	1	OFDM	16QAM	26.0 / 28.9	13.9	14.0	14.0	14.0	14.0
802.11n	4	1	OFDM	16QAM	39.0 / 43.3	14.0	14.0	14.0	14.0	13.9
802.11n	5	1	OFDM	64QAM	52.0 / 57.8	12.0	12.1	12.0	12.0	12.0
802.11n	6	1	OFDM	64QAM	58.5 / 65.0	12.0	12.2	12.1	12.0	12.0
802.11n	7	1	OFDM	64QAM	65.0 / 72.2	10.8	11.1	11.2	10.9	10.9
802.11n	8	2	OFDM	BPSK	13.0 / 14.4	14.4	14.4	14.5	14.5	14.4
802.11n	9	2	OFDM	QPSK	26.0 / 28.9	13.4	13.5	13.5	13.4	13.4
802.11n	10	2	OFDM	QPSK	39.0 / 43.3	13.5	13.6	13.6	13.6	13.6
802.11n	11	2	OFDM	16QAM	52.0 / 57.8	13.9	14.0	14.0	14.0	14.0
802.11n	12	2	OFDM	16QAM	78.0 / 86.7	14.0	14.0	14.0	14.0	13.9
802.11n	13	2	OFDM	64QAM	104.0 / 115.6	12.0	12.1	12.0	12.0	12.0
802.11n	14	2	OFDM	64QAM	117.0 / 130.0	12.0	12.2	12.1	12.0	12.0
802.11n	15	2	OFDM	64QAM	130.0 / 144.4	10.8	11.1	11.2	10.9	10.9
802.11ac	0	1	OFDM	BPSK	6.5 / 7.2	14.5	14.5	14.5	14.5	14.4
802.11ac	1	1	OFDM	QPSK	13.0 / 14.4	13.5	13.5	13.6	13.5	13.5
802.11ac	2	1	OFDM	QPSK	19.5 / 21.7	13.6	13.6	13.6	13.6	13.6
802.11ac	3	1	OFDM	16QAM	26.0 / 28.9	13.9	14.0	13.9	13.9	14.0
802.11ac	4	1	OFDM	16QAM	39.0 / 43.3	13.9	14.0	13.8	14.0	14.0
802.11ac	5	1	OFDM	64QAM	52.0 / 57.8	12.0	12.1	12.0	12.1	12.0
802.11ac	6	1	OFDM	64QAM	58.5 / 65.0	12.0	12.2	12.0	12.0	12.0
802.11ac	7	1	OFDM	64QAM	65.0 / 72.2	10.7	10.7	10.7	11.0	11.0
802.11ac	8	1	OFDM	256QAM	78.0 / 86.7	9.9	10.1	10.2	10.0	10.0
802.11ac	0	2	OFDM	BPSK	13.0 / 14.4	14.5	14.5	14.5	14.5	14.4
802.11ac	1	2	OFDM	QPSK	26.0 / 28.9	13.5	13.5	13.6	13.5	13.5
802.11ac	2	2	OFDM	QPSK	39.0 / 43.3	13.6	13.6	13.6	13.6	13.6
802.11ac	3	2	OFDM	16QAM	52.0 / 57.8	13.9	14.0	13.9	13.9	14.0
802.11ac	4	2	OFDM	16QAM	78.0 / 86.7	13.9	14.0	13.8	14.0	14.0
802.11ac	5	2	OFDM	64QAM	104.0 / 115.6	12.0	12.1	12.0	12.1	12.0
802.11ac	6	2	OFDM	64QAM	117.0 / 130.0	12.0	12.2	12.0	12.0	12.0
802.11ac	7	2	OFDM	64QAM	130.0 / 144.4	10.7	10.7	10.7	11.0	11.0
802.11ac	8	2	OFDM	256QAM	156.0 / 173.3	9.9	10.1	10.2	10.0	10.0

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RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth							
SN: 004402742362365				MEASURED VALUES			
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	38 (36+40)	46 (44+48)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	13.6	13.7
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	13.6	13.8
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	13.6	13.7
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	12.7	13.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	12.7	12.8
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.0	11.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.9	11.1
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.8	10.9
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	13.6	13.7
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	13.6	13.8
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	13.6	13.7
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	12.7	13.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	12.7	12.8
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.0	11.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.9	11.1
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.8	10.9
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	13.5	13.7
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	13.5	13.6
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	13.6	13.7
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	12.7	12.8
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	12.8	12.8
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.8	11.0
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.8	11.1
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.9	11.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.0	9.0
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.9	7.9
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	13.5	13.7
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	13.5	13.6
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	13.6	13.7
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	12.7	12.8
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	12.8	12.8
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.8	11.0
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.8	11.1
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.9	11.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.0	9.0
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.9	7.9

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth							
SN: 004402742362365				MEASURED VALUES			
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	54 (52+56)	62 (60+64)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	13.7	13.8
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	13.6	13.8
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	13.7	13.8
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	13.0	12.9
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	12.8	13.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.8	11.0
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.9	11.1
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.8	11.0
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	13.7	13.8
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	13.6	13.8
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	13.7	13.8
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	13.0	12.9
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	12.8	13.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.8	11.0
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.9	11.1
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.8	11.0
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	13.7	13.7
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	13.5	13.6
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	13.7	13.8
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	12.9	12.8
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	12.8	13.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.8	11.1
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.9	11.0
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.0	11.0
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.9	9.1
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	7.9	8.1
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	13.7	13.7
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	13.5	13.6
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	13.7	13.8
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	12.9	12.8
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	12.8	13.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.8	11.1
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.9	11.0
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.0	11.0
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.9	9.1
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	7.9	8.1

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth											
SN: 004402742362365				MEASURED VALUES							
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	102 (100+104)	110 (108+112)	118 (116+120)	126 (124+128)	134 (132+136)	142 (140+144)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	13.9	13.8	13.9	13.9	14.0	14.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	13.8	13.8	14.0	13.9	14.0	13.9
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	13.8	13.8	13.8	13.9	13.9	14.0
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	13.0	13.1	12.9	12.9	13.0	13.1
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	12.9	13.0	13.1	13.0	13.1	13.1
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	11.0	11.2	11.1	11.1	11.2	11.2
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	11.2	11.1	11.1	11.1	11.2	11.2
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	11.0	11.2	11.2	11.1	11.2	11.1
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	13.9	13.8	13.9	13.9	14.0	14.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	13.8	13.8	14.0	13.9	14.0	13.9
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	13.8	13.8	13.8	13.9	13.9	14.0
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	13.0	13.1	12.9	12.9	13.0	13.1
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	12.9	13.0	13.1	13.0	13.1	13.1
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	11.0	11.2	11.1	11.1	11.2	11.2
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	11.2	11.1	11.1	11.1	11.2	11.2
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	11.0	11.2	11.2	11.1	11.2	11.1
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	13.7	13.8	13.9	14.0	13.9	14.0
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	13.8	13.7	13.8	13.8	14.0	13.9
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	13.8	13.8	13.8	13.9	14.0	13.9
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	12.8	12.9	12.9	12.9	13.0	13.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	12.9	13.0	13.1	13.1	13.1	13.1
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	11.0	11.2	11.3	11.1	11.2	11.2
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	11.1	11.1	11.3	11.1	11.1	11.1
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	11.1	11.1	11.0	11.0	11.3	11.1
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	9.2	9.3	9.1	9.1	9.3	9.1
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.1	8.1	8.0	8.0	8.2	8.2
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	13.7	13.8	13.9	14.0	13.9	14.0
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	13.8	13.7	13.8	13.8	14.0	13.9
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	13.8	13.8	13.8	13.9	14.0	13.9
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	12.8	12.9	12.9	12.9	13.0	13.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	12.9	13.0	13.1	13.1	13.1	13.1
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	11.0	11.2	11.3	11.1	11.2	11.2
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	11.1	11.1	11.3	11.1	11.1	11.1
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	11.1	11.1	11.0	11.0	11.3	11.1
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	9.2	9.3	9.1	9.1	9.3	9.1
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.1	8.1	8.0	8.0	8.2	8.2

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth							
SN: 004402742362365				MEASURED VALUES			
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	151 (149+153)	159 (157+161)
802.11n	0	1	OFDM	BPSK	13.5 / 15.0	13.9	14.0
802.11n	1	1	OFDM	QPSK	27.0 / 30.0	13.9	13.9
802.11n	2	1	OFDM	QPSK	40.5 / 45.0	14.0	13.8
802.11n	3	1	OFDM	16QAM	54.0 / 60.0	12.9	13.0
802.11n	4	1	OFDM	16QAM	81.0 / 90.0	13.0	13.0
802.11n	5	1	OFDM	64QAM	108.0 / 120.0	10.8	11.1
802.11n	6	1	OFDM	64QAM	121.5 / 135.0	10.8	11.0
802.11n	7	1	OFDM	64QAM	135.0 / 150.0	10.7	10.9
802.11n	8	2	OFDM	BPSK	27.0 / 30.0	13.9	14.0
802.11n	9	2	OFDM	QPSK	54.0 / 60.0	13.9	13.9
802.11n	10	2	OFDM	QPSK	81.0 / 90.0	14.0	13.8
802.11n	11	2	OFDM	16QAM	108.0 / 120.0	12.9	13.0
802.11n	12	2	OFDM	16QAM	162.0 / 180.0	13.0	13.0
802.11n	13	2	OFDM	64QAM	216.0 / 240.0	10.8	11.1
802.11n	14	2	OFDM	64QAM	243.0 / 270.0	10.8	11.0
802.11n	15	2	OFDM	64QAM	270.0 / 300.0	10.7	10.9
802.11ac	0	1	OFDM	BPSK	13.5 / 15.0	13.9	13.9
802.11ac	1	1	OFDM	QPSK	27.0 / 30.0	13.8	13.8
802.11ac	2	1	OFDM	QPSK	40.5 / 45.0	13.9	13.8
802.11ac	3	1	OFDM	16QAM	54.0 / 60.0	12.9	13.0
802.11ac	4	1	OFDM	16QAM	81.0 / 90.0	13.0	13.0
802.11ac	5	1	OFDM	64QAM	108.0 / 120.0	10.9	10.9
802.11ac	6	1	OFDM	64QAM	121.5 / 135.0	10.7	10.9
802.11ac	7	1	OFDM	64QAM	135.0 / 150.0	10.8	10.9
802.11ac	8	1	OFDM	256QAM	162.0 / 180.0	8.9	9.1
802.11ac	9	1	OFDM	256QAM	180.0 / 200.0	8.0	7.9
802.11ac	0	2	OFDM	BPSK	27.0 / 30.0	13.9	13.9
802.11ac	1	2	OFDM	QPSK	54.0 / 60.0	13.8	13.8
802.11ac	2	2	OFDM	QPSK	81.0 / 90.0	13.9	13.8
802.11ac	3	2	OFDM	16QAM	108.0 / 120.0	12.9	13.0
802.11ac	4	2	OFDM	16QAM	162.0 / 180.0	13.0	13.0
802.11ac	5	2	OFDM	64QAM	216.0 / 240.0	10.9	10.9
802.11ac	6	2	OFDM	64QAM	243.0 / 270.0	10.7	10.9
802.11ac	7	2	OFDM	64QAM	270.0 / 300.0	10.8	10.9
802.11ac	8	2	OFDM	256QAM	324.0 / 360.0	8.9	9.1
802.11ac	9	2	OFDM	256QAM	360.0 / 400.0	8.0	7.9

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth						
SN: 004402742362365				MEASURED VALUES		
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	42 (36-48)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	12.6
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	12.6
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	12.6
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	12.0
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	12.0
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.1
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	11.0
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.0
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	9.0
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.0
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	12.6
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	12.6
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	12.6
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	12.0
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	12.0
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.1
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	11.0
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.0
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	9.0
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.0

RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth						
SN: 004402742362365				MEASURED VALUES		
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	58 (52-64)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	12.6
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	12.6
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	12.5
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	11.8
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	11.7
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	10.8
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	10.8
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.0
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	9.0
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.0
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	12.6
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	12.6
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	12.5
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	11.8
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	11.7
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	10.8
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	10.8
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.0
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	9.0
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.0

(WLAN5000 Body and WR averaged measured values table continues)

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(WLAN5000 Body and WR averaged measured values table continues)

RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth								
SN: 004402742362365				MEASURED VALUES				
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	106 (100-112)	122 (116-128)	138 (132-144)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	12.7	12.6	12.8
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	12.6	12.7	12.8
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	12.7	12.7	12.6
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	12.2	12.1	12.2
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	12.0	12.0	12.0
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.2	11.1	11.2
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	11.2	11.2	11.2
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.1	10.1	10.1
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	9.2	9.3	9.2
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.0	8.1	8.4
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	12.7	12.6	12.8
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	12.6	12.7	12.8
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	12.7	12.7	12.6
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	12.2	12.1	12.2
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	12.0	12.0	12.0
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.2	11.1	11.2
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	11.2	11.2	11.2
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.1	10.1	10.1
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	9.2	9.3	9.2
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.0	8.1	8.4

RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth						
SN: 004402742362365				MEASURED VALUES		
Standard	MCS index	Spatial streams	Transmission mode	Modulation	Data speed [MBPS]	155 (149-161)
802.11ac	0	1	OFDM	BPSK	29.3 / 32.5	12.7
802.11ac	1	1	OFDM	QPSK	58.5 / 65.0	12.7
802.11ac	2	1	OFDM	QPSK	87.8 / 97.5	12.7
802.11ac	3	1	OFDM	16QAM	117.0 / 130 .0	12.1
802.11ac	4	1	OFDM	16QAM	175.5 / 195.0	11.9
802.11ac	5	1	OFDM	64QAM	234.0 / 260.0	11.1
802.11ac	6	1	OFDM	64QAM	263.3 / 292.5	11.1
802.11ac	7	1	OFDM	64QAM	292.5 / 325.0	10.2
802.11ac	8	1	OFDM	256QAM	351.0 / 390.0	9.1
802.11ac	9	1	OFDM	256QAM	390.0 / 433.3	8.2
802.11ac	0	2	OFDM	BPSK	58.5 / 65.0	12.7
802.11ac	1	2	OFDM	QPSK	117.0 / 130.0	12.7
802.11ac	2	2	OFDM	QPSK	175.5 / 195.0	12.7
802.11ac	3	2	OFDM	16QAM	234.0 / 260.0	12.1
802.11ac	4	2	OFDM	16QAM	351.0 / 390.0	11.9
802.11ac	5	2	OFDM	64QAM	468.0 / 520.0	11.1
802.11ac	6	2	OFDM	64QAM	526.5 / 585.0	11.1
802.11ac	7	2	OFDM	64QAM	585.0 / 650.0	10.2
802.11ac	8	2	OFDM	256QAM	702.0 / 780.0	9.1
802.11ac	9	2	OFDM	256QAM	780.0 / 866.7	8.2

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4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

The measurements were performed using an automated DASY near-field scanning system manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the 'advanced extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration date	Calibration expiry
DAE4	793	2014-10	2015-10
DAE4	538	2015-04	2016-04
DAE4	1213	2014-10	2015-10
DAE4	555	2014-11	2015-11
DAE4	1302	2015-04	2016-04
DAE4	756	2015-04	2016-04
E-field Probe ES3DV3	3131	2014-10	2015-10
E-field Probe EX3DV4	3892	2015-04	2016-04
E-field Probe EX3DV4	3835	2014-10	2015-10
E-field Probe ES3DV3	3194	2015-01	2016-01
E-field Probe ES3DV3	3275	2015-04	2016-04
E-field Probe EX3DV4	3852	2015-04	2016-04
Dipole Validation Kit, D750V3	1075	2015-01	2017-01
Dipole Validation Kit, D835V2	480	2015-01	2017-01
Dipole Validation Kit, D1750V2	1082	2015-01	2017-01
Dipole Validation Kit, D1900V2	5d013	2015-01	2017-01
Dipole Validation Kit, D2450V2	749	2015-01	2017-01
Dipole Validation Kit, D2600V2	1056	2015-01	2017-01
Dipole Validation Kit, D5GHzV2	1048	2015-01	2017-01
DASY5 software	Version 52.8	-	-

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Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration expiry
Signal Generator	SML03	101264	2015-04	2016-04
Signal Generator	SMB100A	105735	2015-04	2016-04
Signal Generator	E4436B	US39260114	2015-04	2016-04
Signal Generator	SME06	836407/007	2015-04	2016-04
Signal Generator	N5181B	MY51350034	2015-04	2016-04
Signal Generator	E8247C	MY43321016	2015-04	2016-04
Amplifier	ZHL-42-SMA	NO72095-5	-	-
Amplifier	5S4G11	312661	-	-
Amplifier	ZVE-3W-83+	373701337 / 1005	-	-
Amplifier	5S1G4	330638	-	-
Amplifier	ZHL-42	854105	-	-
Amplifier	10S1G4A	322327	-	-
Amplifier	ZVE-8G+	811401219	-	-
Amplifier	ZHL-1000-3W	277201310	-	-
Power Meter	NRVD	840023/028	2015-04	2016-04
Power Meter	NRP	101465	2015-04	2016-04
Power Meter	NRVZ	849305/029	2015-04	2016-04
Power Meter	NRVD	840297/032	2015-04	2016-04
Power Meter	NRP	101466	2015-04	2016-04
Power Meter	NRP	100714	2015-04	2016-04
Power Sensor	NRV-Z32	849745/018	2015-04	2016-04
Power Sensor	NRP-Z92	100088	2015-04	2016-04
Power Sensor	NRV-Z32	825600/002	2015-04	2016-04
Power Sensor	NRV-Z53	848532/001	2015-04	2016-04
Power Sensor	NRP-Z92	100087	2015-04	2016-04
Power Sensor	NRP-Z92	100085	2015-04	2016-04
Call Tester	CMU 200	104983	-	-
Call Tester	CMU 200	103294	-	-
Call Tester	CMU 200	101111	-	-
Call Tester	CMW 500	145474	-	-
Call Tester	CMW 500	108406	-	-
Call Tester	CMW 500	110565	-	-
Call Tester	CMW 500	136294	-	-
Call Tester	MT8820C	6201060952	-	-
Network Analyzer	ENA E5071C	MY46213166	2015-04	2016-04
Network Analyzer	ENA E5071C	MY46315958	2015-04	2016-04
Dielectric Probe Kit	DAK-3.5	1042	-	-
Dielectric Probe Kit	DAK-3.5	2088	-	-

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4.1.1 Isotropic E-field Probe Type ES3DV3

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol)
Calibration	Calibration certificate in Appendix D
Frequency	10 MHz to 4 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 20 mm Body diameter: 12 mm Tip diameter: 3.9 mm Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.1.2 Isotropic E-field Probe Type EX3DV4

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Calibration certificate in Appendix D
Frequency	10 MHz to >6 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g, Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 10 mm Body diameter: 12 mm Tip diameter: 2.5 mm Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 6 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

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4.2 Phantoms

The phantom used for all Head SAR tests i.e. for both system checks and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG; the SAM phantom conforms to the requirements of IEEE 1528.

The phantom used for all Body SAR tests i.e. for both system checks and device testing, was a flat phantom also manufactured by SPEAG this phantom conform to the requirements of FCC published RF Exposure KDB Procedures.

The SPEAG device holder (see Section 5.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.

4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 and FCC published RF Exposure KDB Procedures. All tests were carried out using simulants whose dielectric parameters were within ± 5% of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.

The depth of the tissue simulant was at least 15.0 cm for all system check and device tests, measured from the ear reference point in the case of the SAM phantom and from the inner surface of the flat phantom.

4.3.1 Tissue Simulant Recipes

The following recipe(s) were used for Head and Body tissue simulant(s):

700 MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	52.13	69.23
Tween 20	46.59	29.56
Salt	1.28	1.21

800 MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	51.50	69.25
Tween 20	47.35	30.00
Salt	1.15	0.75

1750 MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	54.0	70.20
Tween 20	45.6	29.37
Salt	0.4	0.43

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1900 MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	54.50	70.25
Tween 20	45.23	29.41
Salt	0.27	0.34

2450-2600 MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	56.0	70.20
Tween 20	44.0	29.62
Salt	-	0.18

5000 MHz band †

Ingredient	Head (% by weight)	Body (% by weight)
Water	50-65	60-80
Oil	10-30	-
Emulsifiers, Esters, Inhibitors	8-25	20-40
Sodium salt	0-1.5	0-1.5

† Recipe is proprietary to SPEAG. The proportions of the constituents have not been disclosed

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4.4 System validation and System checking

4.4.1 System validation status

Probe Calibration Point f / MHz	Test System	Dipole Type / SN	Probe Type / SN	Calibrated signal type(s)	DAE4 unit / SN	Validation done	
						Head tissue simulant	Body tissue simulant
750	TCC Salo SAR-4	D750V2 1075	EX3DV4 3835	CW	1213	2014-10	2014-10
835	TCC Salo SAR-2	D835V2 480	ES3DV3 3131	CW	793	2014-10	2014-12
1750	TCC Salo SAR-5	D1750V2 1082	ES3DV3 3194	CW	555	2015-03	2015-05
1900	TCC Salo SAR-6	D1900V2 5d013	ES3DV3 3275	CW	1302	2015-05	2015-05
2450	TCC Salo SAR-3	D2450V2 749	EX3DV4 3892	CW	538	2015-05	2015-05
2600	TCC Salo SAR-3	D2600V2 1056	EX3DV4 3892	CW	538	2015-05	2015-05
5200	TCC Salo SAR-8	D5GHzV2 1048	EX3DV4 3852	CW	756	2015-05	2015-05
5300	TCC Salo SAR-8	D5GHzV2 1048	EX3DV4 3852	CW	756	2015-05	2015-05
5500	TCC Salo SAR-8	D5GHzV2 1048	EX3DV4 3852	CW	756	2015-05	2015-05
5600	TCC Salo SAR-8	D5GHzV2 1048	EX3DV4 3852	CW	756	2015-05	2015-05
5800	TCC Salo SAR-8	D5GHzV2 1048	EX3DV4 3852	CW	756	2015-05	2015-05

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4.4.2 System checking

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyser. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, except in the case of the 5000 MHz dipole for which 100 mW was supplied. The dipole was placed under the flat section of the twin SAM phantom for head system checking, and under the flat phantom for body system checking. The system checking results (dielectric parameters and SAR values) are given in the table below.

System checking, head tissue simulant

Dipole freq. [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Dev. dSAR [%]	Scaled 1W SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation from target	Dielectric Parameters Deviation from target		Temp [°C]	Plot #
						e_r	s [S/m]	dSAR [%]	de_r [%]	ds [%]		
	Tolerances			±3%				±10 %	±5 %	±5 %		
750	Target result **SN:1075**	-	-	-	8.13	41.9	0.89	TCC Salo / SAR-4 EX3DV4 - SN:3835 Head 750 MHz				
	2015-07-29	2.14	2.18	1.87	8.56	40.8	0.92	5.29	-2.63	3.37	22.0	1
	2015-07-30	2.10	2.15	2.38	8.40	40.7	0.90	3.32	-2.86	1.12	21.9	-
	2015-07-31	2.07	2.11	1.93	8.28	40.5	0.90	1.85	-3.34	1.12	21.9	-
	2015-08-03	2.11	2.15	1.90	8.44	41.1	0.91	3.81	-1.91	2.25	22.1	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
835	Target result **SN:480**	-	-	-	9.13	41.5	0.90	TCC Salo / SAR-2 ES3DV3 - SN:3131 Head 835 MHz				
	2015-07-23	2.31	2.33	0.87	9.24	40.1	0.90	1.20	-3.37	0.00	22.8	-
	2015-07-24	2.24	2.24	0.00	8.96	39.9	0.90	-1.86	-3.86	0.00	23.0	2
	2015-07-25	2.27	2.31	1.76	9.08	40.1	0.90	-0.55	-3.37	0.00	22.8	-
	2015-07-26	2.26	2.31	2.21	9.04	39.8	0.90	-0.99	-4.10	0.00	22.9	-
	2015-07-27	2.27	2.33	2.64	9.08	40.4	0.90	-0.55	-2.65	0.00	22.8	-
	2015-08-13	2.28	2.32	1.75	9.12	40.3	0.90	-0.11	-2.89	0.00	22.8	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
1750	Target result **SN:1082**	-	-	-	36.60	40.1	1.37	TCC Salo / SAR-5 ES3DV3 - SN:3194 Head 1750 MHz				
	2015-07-22	9.44	9.72	2.97	37.76	38.6	1.33	3.17	-3.74	-2.92	22.5	3
	2015-07-23	9.35	9.61	2.78	37.40	38.6	1.33	2.19	-3.74	-2.92	22.3	-
	2015-07-24	9.30	9.52	2.37	37.20	39.2	1.32	1.64	-2.24	-3.65	22.2	-
	2015-07-27	9.13	9.38	2.74	36.52	38.9	1.32	-0.22	-2.99	-3.65	22.7	-
	2015-07-28	9.22	9.44	2.39	36.88	38.6	1.32	0.77	-3.74	-3.65	22.2	-
	2015-07-29	9.21	9.45	2.61	36.84	38.6	1.33	0.66	-3.74	-2.92	22.2	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
1900	Target result **SN:5d013**	-	-	-	40.70	40.0	1.40	TCC Salo / SAR-6 ES3DV3 - SN:3275 Head 1900 MHz				
	2015-07-25	9.97	10.10	1.30	39.88	38.7	1.37	-2.01	-3.25	-2.14	22.4	-
	2015-07-29	10.10	10.10	0.00	40.40	38.7	1.38	-0.74	-3.25	-1.43	22.6	-
	2015-07-30	10.20	10.40	1.96	40.80	38.5	1.40	0.25	-3.75	0.00	22.2	-
	2015-07-31	9.93	10.00	0.70	39.72	38.8	1.40	-2.41	-3.00	0.00	22.1	-
	2015-08-13	9.86	9.88	0.20	39.44	39.3	1.38	-3.10	-1.75	-1.43	22.7	4
	Tolerances			±3%				±10 %	±5 %	±5 %		
2450	Target result **SN:749**	-	-	-	52.10	39.2	1.80	TCC Salo / SAR-3 EX3DV4 - SN:3892 Head 2450 MHz				
	2015-07-31	13.50	13.20	-2.22	54.00	38.1	1.75	3.65	-2.81	-2.78	22.6	5
	2015-08-10	13.00	13.00	0.00	52.00	38.1	1.75	-0.19	-2.81	-2.78	22.5	-

(Table continues)

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(Table continues)

Dipole freq. [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Dev. dSAR [%]	Scaled 1W SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation from target	Dielectric Parameters Deviation from target		Temp [°C]	Plot #
						e_r	s [S/m]	dSAR [%]	de_r [%]	ds [%]		
	Tolerances			±3%				±10 %	±5 %	±5 %		
2600	Target result **SN:1056**	-	-	-	56.80	39.0	1.96	TCC Salo / SAR-3 EX3DV4 - SN:3892 Head 2600 MHz				
	2015-07-27	14.30	14.40	0.70	57.20	37.9	1.92	0.70	-2.82	-2.04	22.5	-
	2015-07-28	13.40	13.70	2.24	53.60	37.1	1.88	-5.63	-4.87	-4.08	22.4	6
	2015-07-30	14.00	14.40	2.86	56.00	38.2	1.92	-1.41	-2.05	-2.04	22.9	-
	2015-08-02	14.30	14.50	1.40	57.20	37.1	1.93	0.70	-4.87	-1.53	22.3	-
	2015-08-05	14.20	14.50	2.11	56.80	38.0	1.92	0.00	-2.56	-2.04	22.6	-
	2015-08-06	14.50	14.90	2.76	58.00	37.8	1.92	2.11	-3.08	-2.04	22.5	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
5200	Target result **SN:1048**	-	-	-	79.00	36.0	4.66	TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5200 MHz				
	2015-07-15	8.47	8.05	-4.96	84.70	36.5	4.61	7.22	1.39	-1.07	21.5	7
	Tolerances			±3%				±10 %	±5 %	±5 %		
5300	Target result **SN:1048**	-	-	-	84.10	35.9	4.76	TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5300 MHz				
	2015-07-15	8.33	7.87	-5.52	83.30	36.4	4.72	-0.95	1.39	-0.84	21.5	-
	2015-07-18	8.51	7.34	-13.75	85.10	35.9	4.70	1.19	0.00	-1.26	21.3	8
	2015-07-21	8.35	7.82	-6.35	83.50	36.1	4.71	-0.71	0.56	-1.05	21.4	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
5500	Target result **SN:1048**	-	-	-	81.80	35.6	4.96	TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5500 MHz				
	2015-07-15	7.77	7.22	-7.08	77.70	36.1	4.92	-5.01	1.40	-0.81	21.5	-
	2015-07-18	7.88	6.98	-11.42	78.80	35.6	4.89	-3.67	0.00	-1.41	21.3	-
	2015-10-15	7.54	6.87	-8.89	75.40	35.8	4.81	-7.82	0.56	-3.02	21.0	9
	Tolerances			±3%				±10 %	±5 %	±5 %		
5600	Target result **SN:1048**	-	-	-	81.40	35.5	5.07	TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5600 MHz				
	2015-07-15	8.25	7.70	-6.67	82.50	35.9	5.02	1.35	1.13	-0.99	21.5	-
	2015-07-18	8.38	7.06	-15.75	83.80	35.4	5.00	2.95	-0.28	-1.38	21.3	10
	Tolerances			±3%				±10 %	±5 %	±5 %		
5800	Target result **SN:1048**	-	-	-	78.90	35.3	5.27	TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5800 MHz				
	2015-07-15	7.76	7.36	-5.15	77.60	35.6	5.25	-1.65	0.85	-0.38	21.5	-
	2015-07-16	7.67	7.10	-7.43	76.70	35.0	5.20	-2.79	-0.85	-1.33	21.5	11
	2015-07-18	7.87	7.31	-7.12	78.70	35.2	5.21	-0.25	-0.28	-1.14	21.3	-

* Dielectric parameter reference data taken from IEEE1528/IEC62209

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System checking, body tissue simulant

Dipole freq. [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Dev. dSAR [%]	Scaled 1W SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation from target	Dielectric Parameters Deviation from target		Temp [°C]	Plot #
						e_r	s [S/m]	dSAR [%]	de_r [%]	ds [%]		
	Tolerances			±3%				±10 %	±5 %	±5 %		
750	Target result **SN:1075**	-	-	-	8.50	55.5	0.96	TCC Salo / SAR-4 EX3DV4 - SN:3835 Body 750 MHz				
	2015-08-01	2.20	2.22	0.91	8.80	53.1	0.98	3.53	-4.32	2.08	22.2	-
	2015-08-02	2.22	2.24	0.90	8.88	53.4	0.96	4.47	-3.78	0.00	22.0	12
	2015-08-03	2.16	2.18	0.93	8.64	53.2	0.96	1.65	-4.14	0.00	22.1	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
835	Target result **SN:480**	-	-	-	9.02	55.2	0.97	TCC Salo / SAR-2 ES3DV3 - SN:3131 Body 835 MHz				
	2015-07-28	2.39	2.43	1.67	9.56	53.0	0.98	5.99	-3.99	1.03	22.5	13
	2015-07-29	2.39	2.43	1.67	9.56	53.9	0.99	5.99	-2.36	2.06	22.5	-
	2015-07-30	2.39	2.43	1.67	9.56	53.7	0.98	5.99	-2.72	1.03	22.5	-
	2015-08-06	2.39	2.42	1.26	9.56	53.7	0.98	5.99	-2.72	1.03	22.5	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
1750	Target result **SN:1082**	-	-	-	37.50	53.4	1.49	TCC Salo / SAR-5 ES3DV3 - SN:3194 Body 1750 MHz				
	2015-07-20	9.32	9.51	2.04	37.28	51.7	1.46	-0.59	-3.18	-2.01	21.9	-
	2015-07-21	9.30	9.46	1.72	37.20	51.4	1.46	-0.80	-3.75	-2.01	22.3	14
	2015-07-22	9.30	9.40	1.08	37.20	51.5	1.46	-0.80	-3.56	-2.01	22.5	-
	Tolerances			±3%				±10 %	±5 %	±5 %		
1900	Target result **SN:5d013**	-	-	-	40.50	53.3	1.52	TCC Salo / SAR-6 ES3DV3 - SN:3275 Body 1900 MHz				
	2015-07-22	9.77	9.64	-1.33	39.08	51.8	1.51	-3.51	-2.81	-0.66	22.8	-
	2015-07-26	9.74	9.68	-0.62	38.96	51.8	1.49	-3.80	-2.81	-1.97	22.8	-
	2015-07-27	9.66	9.60	-0.62	38.64	51.6	1.50	-4.59	-3.19	-1.32	22.5	-
	2015-07-28	9.75	9.60	-1.54	39.00	51.3	1.49	-3.70	-3.75	-1.97	22.6	-
	2015-08-11	9.63	9.70	0.73	38.52	51.9	1.49	-4.89	-2.63	-1.97	23.3	15
	Tolerances			±3%				±10 %	±5 %	±5 %		
2450	Target result **SN:749**	-	-	-	50.80	52.7	1.95	TCC Salo / SAR-3 EX3DV4 - SN:3892 Body 2450 MHz				
	2015-08-01	11.90	11.90	0.00	47.60	51.5	1.90	-6.30	-2.28	-2.56	22.6	16
	Tolerances			±3%				±10 %	±5 %	±5 %		
2600	Target result **SN:1056**	-	-	-	55.90	52.5	2.16	TCC Salo / SAR-3 EX3DV4 - SN:3892 Body 2600 MHz				
	2015-07-29	13.20	13.40	1.52	52.80	50.7	2.08	-5.55	-3.43	-3.70	22.7	-
	2015-08-06	13.00	13.10	0.77	52.00	51.2	2.06	-6.98	-2.48	-4.63	23.3	17
	Tolerances			±3%				±10 %	±5 %	±5 %		
5200	Target result **SN:1048**	-	-	-	74.40	49.0	5.30	TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5200 MHz				
	2015-07-20	7.40	6.80	-8.11	74.00	47.5	5.43	-0.54	-3.06	2.45	21.7	18
	Tolerances			±3%				±10 %	±5 %	±5 %		
5300	Target result **SN:1048**	-	-	-	75.00	48.9	5.42	TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5300 MHz				
	2015-07-19	7.82	7.25	-7.29	78.20	47.6	5.56	4.27	-2.66	2.58	21.6	19
	Tolerances			±3%				±10 %	±5 %	±5 %		
5600	Target result **SN:1048**	-	-	-	77.90	48.5	5.77	TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5600 MHz				
	2015-07-19	8.47	8.06	-4.84	84.70	47.0	5.95	8.73	-3.09	3.12	21.6	20
	Tolerances			±3%				±10 %	±5 %	±5 %		
5800	Target result **SN:1048**	-	-	-	76.00	48.2	6.00	TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5800 MHz				
	2015-07-19	7.22	6.63	-8.17	72.20	46.7	6.21	-5.00	-3.11	3.50	21.6	21

* Dielectric parameter reference data taken from FCC Published RF Exposure KDB Procedures

Plots of the system checking scans are given in Appendix A.

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4.5 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from recommended value		Temp
		e_r	s [S/m]	de_r [%]	ds [%]	[°C]
707	Tolerances			±5 %	±5 %	
	Recommended value	42.2	0.89			
	2015-07-29	41.1	0.89	-2.61	0.00	22.0
	2015-07-30	41.0	0.87	-2.84	-2.25	21.9
	2015-07-31	40.8	0.87	-3.32	-2.25	21.9
	2015-08-03	41.3	0.88	-2.13	-1.12	22.1
710	Tolerances			±5 %	±5 %	
	Recommended value	42.1	0.89			
	2015-07-29	41.1	0.89	-2.38	0.00	22.0
	2015-07-30	41.0	0.88	-2.61	-1.12	21.9
	2015-07-31	40.8	0.88	-3.09	-1.12	21.9
	2015-08-03	41.3	0.88	-1.90	-1.12	22.1
835	Tolerances			±5 %	±5 %	
	Recommended value	41.5	0.90			
	2015-07-23	40.1	0.90	-3.37	0.00	22.8
	2015-07-24	39.9	0.90	-3.86	0.00	23.0
	2015-07-25	40.1	0.90	-3.37	0.00	22.8
	2015-07-26	39.8	0.90	-4.10	0.00	22.9
	2015-07-27	40.4	0.90	-2.65	0.00	22.8
	2015-08-13	40.3	0.90	0.00	0.00	22.8
836	Tolerances			±5 %	±5 %	
	Recommended value	41.5	0.90			
	2015-07-23	40.1	0.90	-3.37	0.00	22.8
	2015-07-24	40.0	0.90	-3.61	0.00	23.0
	2015-07-25	40.1	0.90	-3.37	0.00	22.8
	2015-07-26	39.9	0.90	-3.86	0.00	22.9
	2015-07-27	40.4	0.90	-2.65	0.00	22.8
	2015-08-13	40.3	0.90	0.00	0.00	22.8
1732	Tolerances			±5 %	±5 %	
	Recommended value	40.1	1.36			
	2015-07-22	38.8	1.31	-3.24	-3.68	22.5
	2015-07-23	38.6	1.31	-3.74	-3.68	22.3
	2015-07-24	39.2	1.30	-2.24	-4.41	22.2
	2015-07-27	38.9	1.30	-2.99	-4.41	22.7
	2015-07-28	38.6	1.31	-3.74	-3.68	22.2
	2015-07-29	38.7	1.31	-3.49	-3.68	22.2
1880	Tolerances			±5 %	±5 %	
	Recommended value	40.0	1.40			
	2015-07-25	38.8	1.35	-3.00	-3.57	22.4
	2015-07-29	38.8	1.36	-3.00	-2.86	22.6
	2015-07-30	38.5	1.37	-3.75	-2.14	22.2
	2015-07-31	38.9	1.37	-2.75	-2.14	22.1
	2015-08-13	39.3	1.36	-1.75	-2.86	22.7

(Table continues)

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(Table continues)

f [MHz]	Description	Dielectric Parameters e_r	Dielectric Parameters s [S/m]	Dielectric Parameters Deviation from recommended value de_r [%]	Dielectric Parameters Deviation from recommended value ds [%]	Temp [°C]
2437	Tolerances			±5 %	±5 %	
	Recommended value	39.2	1.79			
	2015-07-31	38.1	1.74	-2.81	-2.79	22.6
	2015-08-10	38.1	1.74	-2.81	-2.79	22.5
2535	Tolerances			±5 %	±5 %	
	Recommended value	39.1	1.89			
	2015-07-27	38.2	1.85	-2.30	-2.12	22.5
	2015-07-28	37.3	1.80	-4.60	-4.76	22.4
	2015-07-30	38.4	1.84	-1.79	-2.65	22.9
	2015-08-02	37.4	1.86	-4.35	-1.59	22.3
	2015-08-05	38.2	1.85	-2.30	-2.12	22.6
	2015-08-06	38.0	1.85	-2.81	-2.12	22.5
5210	Tolerances			±5 %	±5 %	
	Recommended value	36.0	4.67			
	2015-07-15	36.5	4.63	1.39	-0.86	21.5
5290	Tolerances			±5 %	±5 %	
	Recommended value	35.9	4.75			
	2015-07-15	36.4	4.71	1.39	-0.84	21.5
	2015-07-18	35.9	4.69	0.00	-1.26	21.3
	2015-07-21	36.1	4.70	0.56	-1.05	21.4
5520	Tolerances			±5 %	±5 %	
	Recommended value	35.6	4.99			
	2015-07-15	36.0	4.94	1.12	-1.00	21.5
	2015-07-18	35.6	4.92	0.00	-1.40	21.3
	2015-10-15	35.8	4.84	0.56	-3.01	21.0
5620	Tolerances			±5 %	±5 %	
	Recommended value	35.5	5.09			
	2015-07-15	35.9	5.05	1.13	-0.79	21.5
	2015-07-18	35.4	5.03	-0.28	-1.18	21.3
5760	Tolerances			±5 %	±5 %	
	Recommended value	35.3	5.23			
	2015-07-15	35.7	5.20	1.13	-0.57	21.5
	2015-07-16	35.0	5.19	-0.85	-0.76	21.5
	2015-07-18	35.2	5.18	-0.28	-0.96	21.3

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Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters e_r	Dielectric Parameters s [S/m]	Dielectric Parameters Deviation from recommended value de_r [%]	Dielectric Parameters Deviation from recommended value ds [%]	Temp [°C]
707	Tolerances			±5 %	±5 %	
	Recommended value	55.7	0.96			
	2015-08-01	53.2	0.95	-4.49	-1.04	22.2
	2015-08-02	53.4	0.94	-4.13	-2.08	22.0
	2015-08-03	53.2	0.94	-4.49	-2.08	22.1
710	Tolerances			±5 %	±5 %	
	Recommended value	55.7	0.96			
	2015-08-01	53.2	0.95	-4.49	-1.04	22.2
	2015-08-02	53.4	0.94	-4.13	-2.08	22.0
	2015-08-03	53.2	0.94	-4.49	-2.08	22.1
835	Tolerances			±5 %	±5 %	
	Recommended value	55.2	0.97			
	2015-07-28	53.0	0.98	-3.99	1.03	22.5
	2015-07-29	53.9	0.99	-2.36	2.06	22.5
	2015-07-30	53.7	0.98	-2.72	1.03	22.5
	2015-08-06	53.7	0.98	-2.72	1.03	22.5
836	Tolerances			±5 %	±5 %	
	Recommended value	55.2	0.97			
	2015-07-28	53.0	0.98	-3.99	1.03	22.5
	2015-07-29	53.9	0.99	-2.36	2.06	22.5
	2015-07-30	53.7	0.98	-2.72	1.03	22.5
	2015-08-06	53.6	0.98	-2.90	1.03	22.5
1732	Tolerances			±5 %	±5 %	
	Recommended value	53.5	1.48			
	2015-07-20	51.8	1.44	-3.18	-2.70	21.9
	2015-07-21	51.5	1.44	-3.74	-2.70	22.3
	2015-07-22	51.6	1.44	-3.55	-2.70	22.5
1880	Tolerances			±5 %	±5 %	
	Recommended value	53.3	1.52			
	2015-07-22	51.8	1.49	-2.81	-1.97	22.8
	2015-07-26	51.8	1.47	-2.81	-3.29	22.8
	2015-07-27	51.6	1.48	-3.19	-2.63	22.5
	2015-07-28	51.4	1.47	-3.56	-3.29	22.6
	2015-08-11	51.9	1.48	-2.63	-2.63	23.3

(Table continues)

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(Table continues)

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from recommended value		Temp
		e_r	s [S/m]	de_r [%]	ds [%]	[°C]
2437	Tolerances			±5 %	±5 %	
	Recommended value	52.7	1.94			
	2015-08-01	51.6	1.88	-2.09	-3.09	22.6
2535	Tolerances			±5 %	±5 %	
	Recommended value	52.6	2.07			
	2015-07-29	50.9	2.00	-3.23	-3.38	22.7
	2015-08-06	51.4	1.98	-2.28	-4.35	23.3
5210	Tolerances			±5 %	±5 %	
	Recommended value	49.0	5.31			
	2015-07-20	47.5	5.44	-3.06	2.45	21.7
5290	Tolerances			±5 %	±5 %	
	Recommended value	48.9	5.40			
	2015-07-19	47.6	5.55	-2.66	2.78	21.6
5620	Tolerances			±5 %	±5 %	
	Recommended value	48.4	5.79			
	2015-07-19	47.0	6.00	-2.89	3.63	21.6
5760	Tolerances			±5 %	±5 %	
	Recommended value	48.3	5.95			
	2015-07-19	46.8	6.19	-3.11	4.03	21.6

Dielectric parameter data for the band edges is given in Appendix C.

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5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.

Device holder supplied by SPEAG

A spacer (illustrated below) was used to position the device within the SPEAG holder. The spacer positions the device so that the holder has minimal effect on the test results but still holds the device securely. The spacer was removed before the tests.

Spacer

5.2 Test Positions

5.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

5.2.2 Body-worn 15 mm Configuration

The device was placed in the SPEAG holder using the spacer and placed below the flat phantom. The distance between the device and the phantom was kept at the separation distance indicated in Section 1.2 using a separate flat spacer that was removed before the start of the measurements. The device was oriented with both sides facing the phantom to find the highest results.

Microsoft Body-worn accessories are commonly available for the separation distance used in this testing.

5.2.3 Wireless Router 10 mm Configuration

The device was placed in the SPEAG holder and, in sequence, the back, display and each of the 4 edges was positioned 10 mm away from the flat phantom. The spacer was removed before the start of the measurements.

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5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan. Fast SAR is measured according to the KDB 447498 D01 General RF Exposure Guidance v05r01.

5.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.

The interpolation, extrapolation and maximum search routines within Dasy52 are all based on the modified Quadratic Shepard's method (Robert J. Renka,"Multivariate Interpolation of Large Sets of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).

The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.

In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

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6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation for 1g Full SAR in 0.3-6G Hz range

Uncertainty Component	Section in IEEE 1528	Tol. (%)	Prob Dist	Div	c_i	$c_i . u_i$ (%)	v_i
Measurement System							
Probe Calibration	E2.1	±6.6	N	1	1	±6.6	∞
Axial Isotropy	E2.2	±4.7	R	√3	$(1-c_p)^{1/2}$	±1.9	∞
Hemispherical Isotropy	E2.2	±9.6	R	√3	$(c_p)^{1/2}$	±3.9	∞
Boundary Effect	E2.3	±2.0	R	√3	1	±1.2	∞
Linearity	E2.4	±4.7	R	√3	1	±2.7	∞
System Detection Limits	E2.5	±1.0	R	√3	1	±0.6	∞
Modulation response	E2.5	±2.4	R	√3	1	±1.4	
Readout Electronics	E2.6	±0.3	N	1	1	±0.3	∞
Response Time	E2.7	±0.8	R	√3	1	±0.5	∞
Integration Time	E2.8	±2.6	R	√3	1	±1.5	∞
RF Ambient Conditions - Noise	E6.1	±3.0	R	√3	1	±1.7	∞
RF Ambient Conditions - Reflections	E6.1	±3.0	R	√3	1	±1.7	∞
Probe Positioner Mechanical Tolerance	E6.2	±0.8	R	√3	1	±0.5	∞
Probe Positioning with respect to Phantom Shell	E6.3	±6.7	R	√3	1	±3.9	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E5	±4.0	R	√3	1	±2.3	∞
Test sample Related							
Test Sample Positioning	E4.2	±6.0	N	1	1	±6.0	11
Device Holder Uncertainty	E4.1	±3.6	N	1	1	±3.6	5
Output Power Variation - SAR drift measurement	E2.9	±5.0	R	√3	1	±2.9	∞
Phantom and Tissue Parameters							
Phantom Uncertainty (shape and thickness tolerances)	E3.1	±6.6	R	√3	1	±3.8	∞
SAR correction	E3.2	±1.9	R	√3	1	±1.1	∞
Conductivity Target - tolerance	E3.4	±5.0	R	√3	0.6	±1.8	∞
Conductivity - measurement uncertainty	E3.3	±5.5	N	1	0.6	±3.5	5
Permittivity Target - tolerance	E3.4	±5.0	R	√3	0.6	±1.7	∞
Permittivity - measurement uncertainty	E3.3	±2.9	N	1	0.6	±1.7	5
Combined Standard Uncertainty			RSS			**±14.0**	198
Coverage Factor for 95%			**k=2**				
Expanded Uncertainty						**±28.2**	

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Table 6.2 – Measurement uncertainty evaluation for 1g Fast SAR in 0.3-6G Hz range

Relative DASY5 Uncertainty Budget for Fast SAR Tests According to IEEE 1528/2011 and IEC 62209-1/2011 (0.3-6 GHz range)						
Uncertainty Component	**Tol. (%)**	**Prob Dist.**	**Div.**	c_i	$c_i . u_i$ (%)	v_i
Measurement System						
Probe Calibration	±6.6	N	1	0		
Axial Isotropy	±4.7	R	√3	$(1-c_p)^{1/2}$	±1.9	∞
Hemispherical Isotropy	±9.6	R	√3	$(c_p)^{1/2}$	±3.9	∞
Boundary Effect	±2.0	R	√3	1	±1.2	∞
Linearity	±4.7	R	√3	1	±2.7	∞
System Detection Limits	±1.0	R	√3	1	±0.6	∞
Modulation Response	±2.4	R	√3	1	±1.4	∞
Readout Electronics	±0.3	N	1	0		
Response Time	±0.8	R	√3	0		
Integration Time	±2.6	R	√3	1	±1.5	∞
RF Ambient Conditions - Noise	±3.0	R	√3	1	±1.7	∞
RF Ambient Conditions - Reflections	±3.0	R	√3	0		
Probe Positioner Mechanical Tolerance	±0.8	R	√3	1	±0.5	∞
Probe Positioning with respect to Phantom Shell	±6.7	R	√3	1	±3.9	∞
Spatial x-y Resolution	±10.0	R	√3	1	±5.8	∞
Fast SAR z Approximation	±14.0	R	√3	1	±8.1	∞
Test sample Related						
Test Sample Positioning	±6.0	N	1	1	±6.0	12
Device Holder Uncertainty	±3.6	N	1	1	±3.6	5
Output Power Variation - SAR drift measurement	±5.0	R	√3	1	±2.9	∞
Power Scaling	±0	R	√3	0		
Phantom and Setup						
Phantom Uncertainty (shape and thickness tolerances)	±6.6	R	√3	1	±3.8	∞
SAR correction	±1.9	R	√3	0		
Conductivity Target - tolerance	±1.9	R	√3	0		
Conductivity - measurement uncertainty	±5.0	R	√3	0		
Permittivity Target - tolerance	±5.5	N	1	0		
Permittivity - measurement uncertainty	±5.0	R	√3	0		
Combined Standard Uncertainty		RSS			**±14.9**	748
Coverage Factor for 95%		**k=2**				
Expanded Uncertainty					**±29.8**	

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7. RESULTS

7.1 The measured Head SAR values for the test device

7.1.1 LTE700 (Band 12) Head SAR results

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LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.7	22.6	0.2	0.2	0.3	dB	
Time-averaged Power		22.7	22.7	22.6	1.05	1.05	1.07	Lin	
Left Cheek	Estimated SAR	-	0.096	-	-	0.101	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.053	-	-	0.055	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.067	-	-	0.070	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.043	-	-	0.045	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.6	21.5	0.3	0.3	0.4	dB	
Time-averaged Power		21.6	21.6	21.5	1.07	1.07	1.10	Lin	
Left Cheek	Estimated SAR	-	0.077	-	-	0.083	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.042	-	-	0.045	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.052	-	-	0.056	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.033	-	-	0.036	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.5	21.6	0.3	0.4	0.3	dB	
Time-averaged Power		21.6	21.5	21.6	1.07	1.10	1.07	Lin	
Left Cheek	Estimated SAR	-	-	0.103	-	-	0.110	0.00	-
	Full SAR	-	-	0.101	-	-	0.108		

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LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.7	22.6	0.2	0.2	0.3	dB	
Time-averaged Power		22.7	22.7	22.6	1.05	1.05	1.07	Lin	
Left Cheek	Estimated SAR	-	0.120	-	-	0.126	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.073	-	-	0.076	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.128	-	-	0.134	-	0.01	H1
	Full SAR	-	0.133	-	-	**0.139**	-		
Right Tilt	Estimated SAR	-	0.082	-	-	0.086	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.6	21.5	0.3	0.3	0.4	dB	
Time-averaged Power		21.6	21.6	21.5	1.07	1.07	1.10	Lin	
Left Cheek	Estimated SAR	-	0.094	-	-	0.101	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.057	-	-	0.061	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.104	-	-	0.111	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.048	-	-	0.051	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.5	21.6	0.3	0.4	0.3	dB	
Time-averaged Power		21.6	21.5	21.6	1.07	1.10	1.07	Lin	
Right Cheek	Estimated SAR	-	-	0.103	-	-	0.110	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.2 LTE700 (Band 17) Head SAR results

Antenna 1 / RM-1116

LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.6	22.6	0.2	0.3	0.3	dB	
Time-averaged Power		22.7	22.6	22.6	1.05	1.07	1.07	Lin	
Left Cheek	Estimated SAR	-	0.096	-	-	0.103	-	0.01	-
	Full SAR	-	0.104	-	-	0.111	-		
Left Tilt	Estimated SAR	-	0.065	-	-	0.069	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.080	-	-	0.086	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.047	-	-	0.050	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.4	0.4	0.4	dB	
Time-averaged Power		21.5	21.5	21.5	1.10	1.10	1.10	Lin	
Left Cheek	Estimated SAR	-	0.076	-	-	0.083	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.049	-	-	0.053	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.062	-	-	0.067	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.035	-	-	0.038	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 17) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.4	0.4	0.4	0.5	dB	
Time-averaged Power		21.5	21.5	21.4	1.10	1.10	1.12	Lin	
Left Cheek	Estimated SAR	-	0.057	-	-	0.063	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.6	22.6	0.2	0.3	0.3	dB	
Time-averaged Power		22.7	22.6	22.6	1.05	1.07	1.07	Lin	
Left Cheek	Estimated SAR	-	0.125	-	-	0.134	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.076	-	-	0.082	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.134	-	-	0.144	-	0.00	H2
	Full SAR	-	0.137	-	-	**0.147**	-		
Right Tilt	Estimated SAR	-	0.084	-	-	0.090	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.4	0.4	0.4	dB	
Time-averaged Power		21.5	21.5	21.5	1.10	1.10	1.10	Lin	
Left Cheek	Estimated SAR	-	0.097	-	-	0.107	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.058	-	-	0.064	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.103	-	-	0.113	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.064	-	-	0.070	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 17) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.4	0.4	0.4	0.5	dB	
Time-averaged Power		21.5	21.5	21.4	1.10	1.10	1.12	Lin	
Right Cheek	Estimated SAR	-	0.104	-	-	0.114	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.3 GSM/GPRS/EGPRS 850 Head SAR results

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4-slot GPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		**28.2**			**Scaling factor***				
Conducted Power		**27.4**	**27.5**	**27.6**	**0.8**	**0.7**	**0.6**	**dB**	
Time-averaged Power		**24.4**	**24.5**	**24.6**	**1.20**	**1.17**	**1.15**	**Lin**	
Left Cheek	Estimated SAR	-	0.252	-	-	0.296	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.156	-	-	0.183	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	0.155	0.254	0.323	0.186	0.298	0.371	0.02	H3
	Full SAR	-	-	0.340	-	-	**0.390**		
Right Tilt	Estimated SAR	-	0.150	-	-	0.176	-	-	-
	Full SAR	-	-	-	-	-	-		

4-slot 8PSK EGPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		**24.9**			**Scaling factor***				
Conducted Power		**24.4**	**24.5**	**24.5**	**0.5**	**0.4**	**0.4**	**dB**	
Time-averaged Power		**21.4**	**21.5**	**21.5**	**1.12**	**1.10**	**1.10**	**Lin**	
Right Cheek	Estimated SAR	-	-	0.142	-	-	0.156	0.00	-
	Full SAR	-	-	0.145	-	-	0.159		

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4-slot GPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		28.2			Scaling factor*				
Conducted Power		27.4	27.5	27.6	0.8	0.7	0.6	dB	
Time-averaged Power		24.4	24.5	24.6	1.20	1.17	1.15	Lin	
Left Cheek	Estimated SAR	-	0.071	-	-	0.083	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.049	-	-	0.058	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	0.139	0.110	0.138	0.167	0.129	0.158	0.00	-
	Full SAR	0.143	-	-	0.172	-	-		
Right Tilt	Estimated SAR	-	0.061	-	-	0.072	-	-	-
	Full SAR	-	-	-	-	-	-		

4-slot 8PSK EGPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		24.9			Scaling factor*				
Conducted Power		24.4	24.5	24.5	0.5	0.4	0.4	dB	
Time-averaged Power		21.4	21.5	21.5	1.12	1.10	1.10	Lin	
Right Cheek	Estimated SAR	0.056	-	-	0.062	-	-	0.00	-
	Full SAR	0.056	-	-	0.062	-	-		

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7.1.4 WCDMA850 (Band 5) Head SAR results

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WCDMA850 (Band 5)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz		
Upper limit		24.6			Scaling factor*				
Conducted Power		24.3	24.3	24.3	0.3	0.3	0.3	dB	
Time-averaged Power		24.3	24.3	24.3	1.07	1.07	1.07	Lin	
Left Cheek	Estimated SAR	0.183	0.231	0.284	0.196	0.248	0.304	0.01	H4
	Full SAR	-	-	0.295	-	-	**0.316**		
Left Tilt	Estimated SAR	-	0.128	-	-	0.137	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.212	-	-	0.227	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.125	-	-	0.134	-	-	-
	Full SAR	-	-	-	-	-	-		

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WCDMA850 (Band 5)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz		
Upper limit		24.6			Scaling factor*				
Conducted Power		24.3	24.3	24.3	0.3	0.3	0.3	dB	
Time-averaged Power		24.3	24.3	24.3	1.07	1.07	1.07	Lin	
Left Cheek	Estimated SAR	-	0.261	-	-	0.280	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.165	-	-	0.177	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	0.287	0.284	0.245	0.308	0.304	0.263	0.01	-
	Full SAR	0.294	-	-	0.315	-	-		
Right Tilt	Estimated SAR	-	0.186	-	-	0.199	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.5 LTE850 (Band 5) Head SAR results

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LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		23.4			Scaling factor*				
Conducted Power		22.6	22.6	22.7	0.8	0.8	0.7	dB	
Time-averaged Power		22.6	22.6	22.7	1.20	1.20	1.17	Lin	
Left Cheek	Estimated SAR	-	-	0.186	-	-	0.219	0.02	H5
	Full SAR	-	-	0.202	-	-	**0.237**		
Left Tilt	Estimated SAR	-	-	0.111	-	-	0.130	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	-	0.179	-	-	0.210	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	-	0.114	-	-	0.134	-	-
	Full SAR	-	-	-	-	-	-		
LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.6	21.6	21.6	0.8	0.8	0.8	dB	
Time-averaged Power		21.6	21.6	21.6	1.20	1.20	1.20	Lin	
Left Cheek	Estimated SAR	-	0.126	-	-	0.151	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.073	-	-	0.088	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.120	-	-	0.144	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.075	-	-	0.090	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.5	21.6	21.6	0.9	0.8	0.8	dB	
Time-averaged Power		21.5	21.6	21.6	1.23	1.20	1.20	Lin	
Left Cheek	Estimated SAR	-	0.132	-	-	0.159	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		23.4			Scaling factor*				
Conducted Power		22.6	22.6	22.7	0.8	0.8	0.7	dB	
Time-averaged Power		22.6	22.6	22.7	1.20	1.20	1.17	Lin	
Left Cheek	Estimated SAR	-	-	0.177	-	-	0.208	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	-	0.118	-	-	0.139	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	-	0.181	-	-	0.213	0.01	-
	Full SAR	-	-	0.190	-	-	0.223		
Right Tilt	Estimated SAR	-	-	0.137	-	-	0.161	-	-
	Full SAR	-	-	-	-	-	-		
LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.6	21.6	21.6	0.8	0.8	0.8	dB	
Time-averaged Power		21.6	21.6	21.6	1.20	1.20	1.20	Lin	
Left Cheek	Estimated SAR	-	0.144	-	-	0.173	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.094	-	-	0.113	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.158	-	-	0.190	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.112	-	-	0.135	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.5	21.6	21.6	0.9	0.8	0.8	dB	
Time-averaged Power		21.5	21.6	21.6	1.23	1.20	1.20	Lin	
Right Cheek	Estimated SAR	-	0.156	-	-	0.188	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.6 WCDMA1700/2100 (Band 4) Head SAR results

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WCDMA1700/2100 (Band 4)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz	CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.5	23.5	23.5	0.4	0.4	0.4	dB	
Time-averaged Power		23.5	23.5	23.5	1.10	1.10	1.10	Lin	
Left Cheek	Estimated SAR	0.385	0.469	0.392	0.422	0.514	0.430	0.06	H6
	Full SAR	-	0.411	-	-	**0.451**	-		
Left Tilt	Estimated SAR	-	0.208	-	-	0.228	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.221	-	-	0.242	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.182	-	-	0.200	-	-	-
	Full SAR	-	-	-	-	-	-		

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WCDMA1700/2100 (Band 4)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz	CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.5	23.5	23.5	0.4	0.4	0.4	dB	
Time-averaged Power		23.5	23.5	23.5	1.10	1.10	1.10	Lin	
Left Cheek	Estimated SAR	-	0.208	-	-	0.228	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.076	-	-	0.083	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	0.178	0.215	0.248	0.195	0.236	0.272	0.00	-
	Full SAR	-	-	0.251	-	-	0.275		
Right Tilt	Estimated SAR	-	0.059	-	-	0.064	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.7 LTE1700/2100 (Band 4) Head SAR results

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LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		23.0			Scaling factor*				
Conducted Power		22.6	22.5	22.5	0.4	0.5	0.5	dB	
Time-averaged Power		22.6	22.5	22.5	1.10	1.12	1.12	Lin	
Left Cheek	Estimated SAR	0.340	-	-	0.373	-	-	0.02	H7
	Full SAR	0.355	-	-	**0.389**	-	-		
Left Tilt	Estimated SAR	0.150	-	-	0.164	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	0.179	-	-	0.196	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	0.142	-	-	0.156	-	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.5	0.5	0.5	dB	
Time-averaged Power		21.5	21.5	21.5	1.12	1.12	1.12	Lin	
Left Cheek	Estimated SAR	-	0.300	-	-	0.337	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.124	-	-	0.139	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.139	-	-	0.156	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.106	-	-	0.119	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.4	21.5	21.4	0.6	0.5	0.6	dB	
Time-averaged Power		21.4	21.5	21.4	1.15	1.12	1.15	Lin	
Left Cheek	Estimated SAR	-	0.306	-	-	0.343	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		23.0			Scaling factor*				
Conducted Power		22.6	22.5	22.5	0.4	0.5	0.5	dB	
Time-averaged Power		22.6	22.5	22.5	1.10	1.12	1.12	Lin	
Left Cheek	Estimated SAR	0.144	-	-	0.158	-	-	0.01	-
	Full SAR	0.151	-	-	0.166	-	-		
Left Tilt	Estimated SAR	0.052	-	-	0.057	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	0.134	-	-	0.147	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	0.040	-	-	0.044	-	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.5	0.5	0.5	dB	
Time-averaged Power		21.5	21.5	21.5	1.12	1.12	1.12	Lin	
Left Cheek	Estimated SAR	-	0.139	-	-	0.156	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.047	-	-	0.053	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.121	-	-	0.136	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.038	-	-	0.043	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.4	21.5	21.4	0.6	0.5	0.6	dB	
Time-averaged Power		21.4	21.5	21.4	1.15	1.12	1.15	Lin	
Left Cheek	Estimated SAR	-	0.142	-	-	0.159	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.8 GSM/GPRS/EGPRS 1900 Head SAR results

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4-slot GPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		**25.2**			**Scaling factor***				
Conducted Power		**24.7**	**25.0**	**24.8**	**0.5**	**0.2**	**0.4**	**dB**	
Time-averaged Power		**21.7**	**22.0**	**21.8**	**1.12**	**1.05**	**1.10**	**Lin**	
Left Cheek	Estimated SAR	0.207	0.154	0.161	0.232	0.161	0.177	0.00	H8
	Full SAR	0.205	-	-	**0.230**	-	-		
Left Tilt	Estimated SAR	-	0.070	-	-	0.073	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.087	-	-	0.091	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.074	-	-	0.077	-	-	-
	Full SAR	-	-	-	-	-	-		

4-slot 8PSK EGPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		**23.4**			**Scaling factor***				
Conducted Power		**23.4**	**23.4**	**23.4**	**-**	**-**	**-**	**dB**	
Time-averaged Power		**20.4**	**20.4**	**20.4**	**1.00**	**1.00**	**1.00**	**Lin**	
Left Cheek	Estimated SAR	0.159	-	-	0.159	-	-	0.00	-
	Full SAR	0.162	-	-	0.162	-	-		

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4-slot GPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		25.2			Scaling factor*				
Conducted Power		24.7	25.0	24.8	0.5	0.2	0.4	dB	
Time-averaged Power		21.7	22.0	21.8	1.12	1.05	1.10	Lin	
Left Cheek	Estimated SAR	0.187	0.123	0.127	0.210	0.129	0.139	0.00	-
	Full SAR	0.190	-	-	0.213	-	-		
Left Tilt	Estimated SAR	-	0.092	-	-	0.097	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.103	-	-	0.108	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.086	-	-	0.090	-	-	-
	Full SAR	-	-	-	-	-	-		

4-slot 8PSK EGPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		23.4			Scaling factor*				
Conducted Power		23.4	23.4	23.4	-	-	-	dB	
Time-averaged Power		20.4	20.4	20.4	1.00	1.00	1.00	Lin	
Left Cheek	Estimated SAR	0.170	-	-	0.170	-	-	0.01	-
	Full SAR	0.176	-	-	0.176	-	-		

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7.1.9 WCDMA1900 (Band 2) Head SAR results

Antenna 1 / RM-1116

WCDMA1900 (Band 2)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.6	23.5	23.6	0.3	0.4	0.3	dB	
Time-averaged Power		23.6	23.5	23.6	1.07	1.10	1.07	Lin	
Left Cheek	Estimated SAR	0.350	0.298	0.327	0.375	0.327	0.350	-	H9
	Full SAR	0.350	-	-	**0.375**	-	-		
Left Tilt	Estimated SAR	-	0.147	-	-	0.161	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.171	-	-	0.187	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.143	-	-	0.157	-	-	-
	Full SAR	-	-	-	-	-	-		

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WCDMA1900 (Band 2)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.6	23.5	23.6	0.3	0.4	0.3	dB	
Time-averaged Power		23.6	23.5	23.6	1.07	1.10	1.07	Lin	
Left Cheek	Estimated SAR	0.268	0.236	0.195	0.287	0.259	0.209	0.00	-
	Full SAR	0.270	-	-	0.289	-	-		
Left Tilt	Estimated SAR	-	0.164	-	-	0.180	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.218	-	-	0.239	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.144	-	-	0.158	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.10 LTE1900 (Band 2) Head SAR results

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LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		22.7			Scaling factor*				
Conducted Power		22.3	22.3	22.3	0.4	0.4	0.4	dB	
Time-averaged Power		22.3	22.3	22.3	1.10	1.10	1.10	Lin	
Left Cheek	Estimated SAR	-	0.248	-	-	0.272	-	0.00	H10
	Full SAR	-	0.247	-	-	**0.271**	-		
Left Tilt	Estimated SAR	-	0.100	-	-	0.110	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.124	-	-	0.136	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.106	-	-	0.116	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.2	21.2	21.1	0.5	0.5	0.6	dB	
Time-averaged Power		21.2	21.2	21.1	1.12	1.12	1.15	Lin	
Left Cheek	Estimated SAR	-	0.184	-	-	0.206	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.078	-	-	0.088	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.099	-	-	0.111	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.086	-	-	0.096	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.1	21.1	21.2	0.6	0.6	0.5	dB	
Time-averaged Power		21.1	21.1	21.2	1.15	1.15	1.12	Lin	
Left Cheek	Estimated SAR	-	-	0.181	-	-	0.203	-	-
	Full SAR	-	-	-	-	-	-		

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LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		22.7			Scaling factor*				
Conducted Power		22.3	22.3	22.3	0.4	0.4	0.4	dB	
Time-averaged Power		22.3	22.3	22.3	1.10	1.10	1.10	Lin	
Left Cheek	Estimated SAR	-	0.195	-	-	0.214	-	0.01	-
	Full SAR	-	0.207	-	-	0.227	-		
Left Tilt	Estimated SAR	-	0.137	-	-	0.150	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.184	-	-	0.202	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.119	-	-	0.130	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.2	21.2	21.1	0.5	0.5	0.6	dB	
Time-averaged Power		21.2	21.2	21.1	1.12	1.12	1.15	Lin	
Left Cheek	Estimated SAR	-	0.143	-	-	0.160	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.103	-	-	0.116	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	0.139	-	-	0.156	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	0.087	-	-	0.098	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.1	21.1	21.2	0.6	0.6	0.5	dB	
Time-averaged Power		21.1	21.1	21.2	1.15	1.15	1.12	Lin	
Left Cheek	Estimated SAR	-	-	0.128	-	-	0.144	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.11 LTE2500 (Band 7) Head SAR results

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LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		23.2			Scaling factor*				
Conducted Power		22.6	22.6	22.9	0.6	0.6	0.3	dB	
Time-averaged Power		22.6	22.6	22.9	1.15	1.15	1.07	Lin	
Left Cheek	Estimated SAR	-	-	0.458	-	-	0.491	0.02	H11
	Full SAR	-	-	0.442	-	-	**0.474**		
Left Tilt	Estimated SAR	-	-	0.155	-	-	0.166	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	-	0.178	-	-	0.191	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	-	0.148	-	-	0.159	-	-
	Full SAR	-	-	-	-	-	-		
LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.6	21.6	21.7	0.4	0.4	0.3	dB	
Time-averaged Power		21.6	21.6	21.7	1.10	1.10	1.07	Lin	
Left Cheek	Estimated SAR	-	-	0.356	-	-	0.381	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	-	0.115	-	-	0.123	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	-	0.137	-	-	0.147	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	-	0.107	-	-	0.115	-	-
	Full SAR	-	-	-	-	-	-		
LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.6	21.7	0.5	0.4	0.3	dB	
Time-averaged Power		21.5	21.6	21.7	1.12	1.10	1.07	Lin	
Left Cheek	Estimated SAR	-	-	0.330	-	-	0.354	-	-
	Full SAR	-	-	-	-	-	-		

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LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		23.2			Scaling factor*				
Conducted Power		22.6	22.6	22.9	0.6	0.6	0.3	dB	
Time-averaged Power		22.6	22.6	22.9	1.15	1.15	1.07	Lin	
Left Cheek	Estimated SAR	-	-	0.106	-	-	0.114	-	-
	Full SAR	-	-	0.106	-	-	0.114		
Left Tilt	Estimated SAR	-	-	0.089	-	-	0.095	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	-	0.086	-	-	0.092	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	-	0.050	-	-	0.053	-	-
	Full SAR	-	-	-	-	-	-		
LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.6	21.6	21.7	0.4	0.4	0.3	dB	
Time-averaged Power		21.6	21.6	21.7	1.10	1.10	1.07	Lin	
Left Cheek	Estimated SAR	-	-	0.085	-	-	0.091	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	-	0.066	-	-	0.070	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	-	-	0.067	-	-	0.072	-	-
	Full SAR	-	-	-	-	-	-		
Right Tilt	Estimated SAR	-	-	0.037	-	-	0.039	-	-
	Full SAR	-	-	-	-	-	-		
LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.6	21.7	0.5	0.4	0.3	dB	
Time-averaged Power		21.5	21.6	21.7	1.12	1.10	1.07	Lin	
Left Cheek	Estimated SAR	-	-	0.080	-	-	0.086	-	-
	Full SAR	-	-	-	-	-	-		

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7.1.12 WLAN2450 Head SAR results

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WLAN2450 b-mode DSSS 20 MHz									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1 2412.0 MHz	CH 6 2437.0 MHz	CH 11 2462.0 MHz	CH 1 2412.0 MHz	CH 6 2437.0 MHz	CH 11 2462.0 MHz		
Data rate		1	1	2	Scaling factor*			Mbps	
Upper limit		15.5	15.5	15.5					
Conducted Power		14.3	14.3	14.3	1.2	1.2	1.2	dB	
Time-averaged Power		14.3	14.3	14.3	1.32	1.32	1.32	Lin	
Left Cheek	Estimated SAR	-	0.313	-	-	0.413	-	-	-
	Full SAR	-	-	-	-	-	-		
Left Tilt	Estimated SAR	-	0.261	-	-	0.344	-	-	-
	Full SAR	-	-	-	-	-	-		
Right Cheek	Estimated SAR	0.783	0.686	0.805	1.032	0.904	1.061	0.04	H12
	Full SAR	-	-	0.768	-	-	**1.012**		
Right Tilt	Estimated SAR	-	0.469	-	-	0.618	-	0.01	-
	Full SAR	-	0.463	-	-	0.610	-		
Repeated Right Cheek	Estimated SAR	-	-	0.738	-	-	0.973	0.01	-
	Full SAR	-	-	0.727	-	-	0.958		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS b-mode 20 MHz 2Mbps SS1	Right Cheek	1.012	14.0	14.0	1.012	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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7.1.13 WLAN5000 Head SAR results, 5150–5250 MHz and 5250–5350 MHz

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WLAN OFDM 80 MHz												
Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation* [W/kg]	Plot #
		U-NII-2A				U-NII-2A					
		CH 58 5290.0 MHz	-	-	-	CH 58 5290.0 MHz	-	-	-		
Standard		ac	-	-	-	Scaling factor*					
Data rate / MCS		MCS0	-	-	-					Mbps	
Upper limit		11.5	-	-	-						
Conducted Power		10.6	-	-	-	0.9	-	-	-	dB	
Time-averaged Power		10.6	-	-	-	1.23	-	-	-	Lin	
Left Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.467	-	-	-	0.575	-	-	-		
Left Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.485	-	-	-	0.597	-	-	-		
Right Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.845	-	-	-	1.040	-	-	-		
Right Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.797	-	-	-	0.981	-	-	-		
Right Cheek Repeated	Estimated SAR	-	-	-	-	-	-	-	-	-	H13
	Full SAR	0.853	-	-	-	1.049	-	-	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
OFDM ac-mode 80 MHz MCS0 SS1	Right Cheek	1.049	10.0	9.0	0.833	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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WLAN OFDM 80 MHz												
Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation* [W/kg]	Plot #
		U-NII-2C				U-NII-2C					
		CH 106 5530.0 MHz	-	-	-	CH 106 5530.0 MHz	-	-	-		
Standard		ac	-	-	-	Scaling factor*					
Data rate / MCS		MCS0	-	-	-					Mbps	
Upper limit		11.5	-	-	-						
Conducted Power		11.0	-	-	-	0.5	-	-	-	dB	
Time-averaged Power		11.0	-	-	-	1.12	-	-	-	Lin	
Left Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.490	-	-	-	0.550	-	-	-		
Left Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.521	-	-	-	0.585	-	-	-		
Right Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.880	-	-	-	0.987	-	-	-		
Right Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.725	-	-	-	0.813	-	-	-		
Right Cheek Repeated	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.846	-	-	-	0.949	-	-	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
OFDM ac-mode 80 MHz MCS0 SS1	Right Cheek	0.987	10.0	9.0	0.783	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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WLAN OFDM 80 MHz														
Device orientation	SAR measurement	Measured 1g SAR [W/kg]					Reported* 1g SAR [W/kg]					Max Deviation* [W/kg]	Plot #
		U-NII-3					U-NII-3						
		CH 155 5775.0 MHz	-	-	-	-	CH 155 5775.0 MHz	-	-	-	-		
Standard		ac	-	-	-	-	Scaling factor*						
Data rate / MCS		MCS0	-	-	-	-						Mbps	
Upper limit		11.5	-	-	-	-							
Conducted Power		10.9	-	-	-	-	0.6	-	-	-	-	dB	
Time-averaged Power		10.9	-	-	-	-	1.15	-	-	-	-	Lin	
Left Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.513	-	-	-	-	0.589	-	-	-	-		
Left Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.494	-	-	-	-	0.567	-	-	-	-		
Right Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.909	-	-	-	-	1.044	-	-	-	-		
Right Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.713	-	-	-	-	0.819	-	-	-	-		
Right Cheek Repeated	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	0.880	-	-	-	-	1.010	-	-	-	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
OFDM ac-mode 80 MHz MCS0 SS1	Right Cheek	1.044	10.0	9.0	0.829	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

Individual Head SAR plots are given in Appendix B.

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Simultaneous transmissions: Combined Head 1g SAR results – WLAN and Individual band Max results - Antenna 1

Test configuration	WLAN 2450	WLAN 5000	LTE700 (Band 12)	LTE700 (Band 17)	4-slot GPRS850	WCDMA 850 (Band 5)	LTE850 (Band 5)	WCDMA 1700/2100 (Band 4)
Left Cheek	0.413	0.589	0.108	0.111	0.296	0.316	0.237	0.451
Left Tilt	0.344	0.597	0.055	0.069	0.183	0.137	0.130	0.228
Right Cheek	1.012	1.049	0.070	0.086	0.390	0.227	0.210	0.242
Right Tilt	0.610	0.981	0.045	0.050	0.176	0.134	0.134	0.200
Test configuration	**LTE 1700/2100 (Band 4)**	**4-slot GPRS1900**	**WCDMA 1900 (Band 2)**	**LTE 1900 (Band 2)**	**LTE 2500 (Band 7)**	**-**	**-**	**-**
Left Cheek	0.389	0.230	0.375	0.271	0.474	-	-	-
Left Tilt	0.164	0.073	0.161	0.110	0.166	-	-	-
Right Cheek	0.196	0.091	0.187	0.136	0.191	-	-	-
Right Tilt	0.156	0.077	0.157	0.116	0.159	-	-	-

Simultaneous transmissions: Combined Head 1g SAR results – WLAN and Individual band Max results - Antenna 2

Test configuration	WLAN 2450	WLAN 5000	LTE700 (Band 12)	LTE700 (Band 17)	4-slot GPRS850	WCDMA 850 (Band 5)	LTE850 (Band 5)	WCDMA 1700/2100 (Band 4)
Left Cheek	0.413	0.589	0.126	0.134	0.083	0.280	0.208	0.228
Left Tilt	0.344	0.597	0.076	0.082	0.058	0.177	0.139	0.083
Right Cheek	1.012	1.049	0.139	0.147	0.172	0.315	0.223	0.275
Right Tilt	0.610	0.981	0.086	0.090	0.072	0.199	0.161	0.064
Test configuration	**LTE 1700/2100 (Band 4)**	**4-slot GPRS1900**	**WCDMA 1900 (Band 2)**	**LTE 1900 (Band 2)**	**LTE 2500 (Band 7)**	**-**	**-**	**-**
Left Cheek	0.166	0.213	0.289	0.227	0.114	-	-	-
Left Tilt	0.057	0.097	0.180	0.150	0.095	-	-	-
Right Cheek	0.147	0.108	0.239	0.202	0.092	-	-	-
Right Tilt	0.044	0.090	0.158	0.130	0.053	-	-	-

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Simultaneous transmissions: Combined Head 1g SAR results – WLAN2450 Max + Max combined results - Antenna 1

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Left Cheek	0.521	0.524	0.709	0.729	0.650	0.864	0.802	0.643
Left Tilt	0.399	0.413	0.527	0.481	0.474	0.572	0.508	0.417
Right Cheek	**1.082**	**1.098**	**1.402**	**1.239**	**1.222**	**1.254**	**1.208**	**1.103**
Right Tilt	0.655	0.660	0.786	0.744	0.744	0.810	0.766	0.687
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Left Cheek	0.788	0.684	0.887	-	-	-	-	-
Left Tilt	0.505	0.454	0.510	-	-	-	-	-
Right Cheek	**1.199**	**1.148**	**1.203**	-	-	-	-	-
Right Tilt	0.767	0.726	0.769	-	-	-	-	-

Simultaneous transmissions: Combined Head 1g SAR results – WLAN2450 Max + Max combined results - Antenna 2

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Left Cheek	0.539	0.547	0.496	0.693	0.621	0.641	0.579	0.626
Left Tilt	0.420	0.426	0.402	0.521	0.483	0.427	0.401	0.441
Right Cheek	**1.151**	**1.159**	**1.184**	**1.327**	**1.235**	**1.287**	**1.159**	**1.120**
Right Tilt	0.696	0.700	0.682	0.809	0.771	0.674	0.654	0.700
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Left Cheek	0.702	0.640	0.527	-	-	-	-	-
Left Tilt	0.524	0.494	0.439	-	-	-	-	-
Right Cheek	**1.251**	**1.214**	**1.104**	-	-	-	-	-
Right Tilt	0.768	0.740	0.663	-	-	-	-	-

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Simultaneous transmissions: Combined Head 1g SAR results – WLAN5000 Max + Max combined results - Antenna 1

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Left Cheek	0.697	0.700	0.885	0.905	0.826	1.040	0.978	0.819
Left Tilt	0.652	0.666	0.780	0.734	0.727	0.825	0.761	0.670
Right Cheek	**1.119**	**1.135**	**1.439**	**1.276**	**1.259**	**1.291**	**1.245**	**1.140**
Right Tilt	1.026	1.031	1.157	1.115	1.115	1.181	1.137	1.058
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Left Cheek	0.964	0.860	1.063	-	-	-	-	-
Left Tilt	0.758	0.707	0.763	-	-	-	-	-
Right Cheek	**1.236**	**1.185**	**1.240**	-	-	-	-	-
Right Tilt	1.138	1.097	1.140	-	-	-	-	-

Simultaneous transmissions: Combined Head 1g SAR results – WLAN5000 Max + Max combined results - Antenna 2

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Left Cheek	0.715	0.723	0.672	0.869	0.797	0.817	0.755	0.802
Left Tilt	0.673	0.679	0.655	0.774	0.736	0.680	0.654	0.694
Right Cheek	**1.188**	**1.196**	**1.221**	**1.364**	**1.272**	**1.324**	**1.196**	**1.157**
Right Tilt	1.067	1.071	1.053	1.180	1.142	1.045	1.025	1.071
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Left Cheek	0.878	0.816	0.703	-	-	-	-	-
Left Tilt	0.777	0.747	0.692	-	-	-	-	-
Right Cheek	**1.288**	**1.251**	**1.141**	-	-	-	-	-
Right Tilt	1.139	1.111	1.034	-	-	-	-	-

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Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for Head configurations for this product.

7.1.16 Combined 1g Head SAR data

The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

The combinations are done for the maximum Head configuration of the each band or band group. Maximum configurations are given in the Max+Max tables in the Section 7.1 of the report. The same scaling factors are used in plotting as for the individual reported SAR value calculations.

Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 1+WLAN2450 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	-	-	1.150	-	-	-	-	-
Right Tilt	-	-	-	-	-	-	-	-
Plot no	-	-	H14	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	-	-	1.100	-	-	-	-	-
Right Tilt	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

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Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 2+WLAN2450 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	1.090	1.100	-	-	-	1.090	-	-
Right Tilt	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	1.110	-	-	-	-	-	-	-
Right Tilt	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

4-slot GPRS850 Antenna 1 + WLAN2450 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 2 + WLAN2450 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN2450 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

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Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 1+WLAN5000 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	-	-	1.060	-	-	-	-	-
Right Tilt	-	-	-	-	-	-	-	-
-	-	-	H15	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	-	-	1.030	-	-	-	-	-
Right Tilt	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

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Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 2+WLAN5000 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	1.030	1.030	-	-	-	1.030	-	-
Right Tilt	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Left Cheek	-	-	-	-	-	-	-	-
Left Tilt	-	-	-	-	-	-	-	-
Right Cheek	1.040	-	-	-	-	-	-	-
Right Tilt	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

4-slot GPRS850 Antenna 1 + WLAN5000 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 2 + WLAN5000 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN5000 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 2-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

Note:
* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.
The highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. The highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results is given in the Section for the simultaneous transmitter combination giving the highest combined value.

Speag Combined Multiband Head SAR plots are given in Appendix B.

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7.2 The measured Body-worn 15 mm SAR values for the test device

7.2.1 LTE700 (Band 12) Body-worn 15 mm SAR results

Antenna 1 / RM-1116

LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.7	22.6	0.2	0.2	0.3	dB	
Time-averaged Power		22.7	22.7	22.6	1.05	1.05	1.07	Lin	
Back	Estimated SAR	-	0.157	-	-	0.164	-	0.00	-
	Full SAR	-	0.155	-	-	0.162	-		
Display	Estimated SAR	-	0.133	-	-	0.139	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.6	21.5	0.3	0.3	0.4	dB	
Time-averaged Power		21.6	21.6	21.5	1.07	1.07	1.10	Lin	
Back	Estimated SAR	-	0.123	-	-	0.132	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.105	-	-	0.113	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 12) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.5	21.6	0.3	0.4	0.3	dB	
Time-averaged Power		21.6	21.5	21.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.132	-	-	0.141	-	-
	Full SAR	-	-	-	-	-	-		

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LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.7	22.6	0.2	0.2	0.3	dB	
Time-averaged Power		22.7	22.7	22.6	1.05	1.05	1.07	Lin	
Back	Estimated SAR	-	0.213	-	-	0.223	-	0.00	B1
	Full SAR	-	0.211	-	-	**0.221**	-		
Display	Estimated SAR	-	0.209	-	-	0.219	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.6	21.5	0.3	0.3	0.4	dB	
Time-averaged Power		21.6	21.6	21.5	1.07	1.07	1.10	Lin	
Back	Estimated SAR	-	0.167	-	-	0.179	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.164	-	-	0.176	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.5	21.6	0.3	0.4	0.3	dB	
Time-averaged Power		21.6	21.5	21.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.159	-	-	0.170	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.2 LTE700 (Band 17) Body-worn 15 mm SAR results

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LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.6	22.6	0.2	0.3	0.3	dB	
Time-averaged Power		22.7	22.6	22.6	1.05	1.07	1.07	Lin	
Back	Estimated SAR	-	0.133	-	-	0.143	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.146	-	-	0.156	-	0.00	-
	Full SAR	-	0.149	-	-	0.160	-		
LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.4	0.4	0.4	dB	
Time-averaged Power		21.5	21.5	21.5	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.101	-	-	0.111	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.112	-	-	0.123	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 17) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.4	0.4	0.4	0.5	dB	
Time-averaged Power		21.5	21.5	21.4	1.10	1.10	1.12	Lin	
Display	Estimated SAR	-	0.114	-	-	0.125	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.6	22.6	0.2	0.3	0.3	dB	
Time-averaged Power		22.7	22.6	22.6	1.05	1.07	1.07	Lin	
Back	Estimated SAR	-	0.198	-	-	0.212	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.205	-	-	0.220	-	0.00	B2
	Full SAR	-	0.206	-	-	**0.221**	-		

LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.4	0.4	0.4	dB	
Time-averaged Power		21.5	21.5	21.5	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.159	-	-	0.174	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.160	-	-	0.175	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 17) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.5	21.5	21.4	0.4	0.4	0.5	dB	
Time-averaged Power		21.5	21.5	21.4	1.10	1.10	1.12	Lin	
Display	Estimated SAR	-	0.161	-	-	0.177	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.3 GSM/GPRS/EGPRS 850 Body-worn 15 mm SAR results

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4-slot GPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		**28.2**			**Scaling factor***				
Conducted Power		**27.4**	**27.5**	**27.6**	**0.8**	**0.7**	**0.6**	**dB**	
Time-averaged Power		**24.4**	**24.5**	**24.6**	**1.20**	**1.17**	**1.15**	**Lin**	
Back	Estimated SAR	-	0.173	-	-	0.203	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.178	0.260	0.342	0.214	0.305	0.393	0.01	B3
	Full SAR	-	-	0.354	-	-	**0.406**		

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4-slot GPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		**28.2**			**Scaling factor***				
Conducted Power		**27.4**	**27.5**	**27.6**	**0.8**	**0.7**	**0.6**	**dB**	
Time-averaged Power		**24.4**	**24.5**	**24.6**	**1.20**	**1.17**	**1.15**	**Lin**	
Back	Estimated SAR	-	0.180	-	-	0.211	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.242	0.187	0.171	0.291	0.220	0.196	-	-
	Full SAR	0.242	-	-	0.291	-	-		

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7.2.4 WCDMA850 (Band 5) Body-worn 15 mm SAR results

Antenna 1 / RM-1116

WCDMA850 (Band 5)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz		
Upper limit		24.6			Scaling factor*				
Conducted Power		24.3	24.3	24.3	0.3	0.3	0.3	dB	
Time-averaged Power		24.3	24.3	24.3	1.07	1.07	1.07	Lin	
Back	Estimated SAR	-	0.202	-	-	0.216	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.220	0.262	0.314	0.236	0.281	0.336	0.01	B4
	Full SAR	-	-	0.323	-	-	**0.346**		

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WCDMA850 (Band 5)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz		
Upper limit		24.6			Scaling factor*				
Conducted Power		24.3	24.3	24.3	0.3	0.3	0.3	dB	
Time-averaged Power		24.3	24.3	24.3	1.07	1.07	1.07	Lin	
Back	Estimated SAR	-	0.296	-	-	0.317	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.276	0.304	0.293	0.296	0.326	0.314	0.01	-
	Full SAR	-	0.311	-	-	0.333	-		

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7.2.5 LTE850 (Band 5) Body-worn 15 mm SAR results

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LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		23.4			Scaling factor*				
Conducted Power		22.6	22.6	22.7	0.8	0.8	0.7	dB	
Time-averaged Power		22.6	22.6	22.7	1.20	1.20	1.17	Lin	
Back	Estimated SAR	-	-	0.164	-	-	0.193	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.218	-	-	0.256	0.00	B5
	Full SAR	-	-	0.222	-	-	**0.261**		

LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.6	21.6	21.6	0.8	0.8	0.8	dB	
Time-averaged Power		21.6	21.6	21.6	1.20	1.20	1.20	Lin	
Back	Estimated SAR	-	0.110	-	-	0.132	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.145	-	-	0.174	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.5	21.6	21.6	0.9	0.8	0.8	dB	
Time-averaged Power		21.5	21.6	21.6	1.23	1.20	1.20	Lin	
Display	Estimated SAR	-	0.145	-	-	0.174	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		23.4			Scaling factor*				
Conducted Power		22.6	22.6	22.7	0.8	0.8	0.7	dB	
Time-averaged Power		22.6	22.6	22.7	1.20	1.20	1.17	Lin	
Back	Estimated SAR	-	-	0.205	-	-	0.241	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.213	-	-	0.250	0.01	-
	Full SAR	-	-	0.220	-	-	0.258		
LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.6	21.6	21.6	0.8	0.8	0.8	dB	
Time-averaged Power		21.6	21.6	21.6	1.20	1.20	1.20	Lin	
Back	Estimated SAR	-	0.162	-	-	0.195	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.169	-	-	0.203	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.5	21.6	21.6	0.9	0.8	0.8	dB	
Time-averaged Power		21.5	21.6	21.6	1.23	1.20	1.20	Lin	
Display	Estimated SAR	-	0.164	-	-	0.197	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.6 WCDMA1700/2100 (Band 4) Body-worn 15 mm SAR results

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WCDMA1700/2100 (Band 4)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz	CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.5	23.5	23.5	0.4	0.4	0.4	dB	
Time-averaged Power		23.5	23.5	23.5	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.220	-	-	0.241	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.254	0.241	0.246	0.279	0.264	0.270	0.00	-
	Full SAR	0.258	-	-	0.283	-	-		

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WCDMA1700/2100 (Band 4)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz	CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.5	23.5	23.5	0.4	0.4	0.4	dB	
Time-averaged Power		23.5	23.5	23.5	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.295	-	-	0.323	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.272	0.310	0.329	0.298	0.340	0.361	0.01	B6
	Full SAR	-	-	0.335	-	-	**0.367**		

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7.2.7 LTE1700/2100 (Band 4) Body-worn 15 mm SAR results

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LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		23.0			Scaling factor*				
Conducted Power		22.6	22.5	22.5	0.4	0.5	0.5	dB	
Time-averaged Power		22.6	22.5	22.5	1.10	1.12	1.12	Lin	
Back	Estimated SAR	0.192	-	-	0.211	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.196	-	-	0.215	-	-	0.00	-
	Full SAR	0.200	-	-	0.219	-	-		
LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.5	0.5	0.5	dB	
Time-averaged Power		21.5	21.5	21.5	1.12	1.12	1.12	Lin	
Back	Estimated SAR	-	0.131	-	-	0.147	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.140	-	-	0.157	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.4	21.5	21.4	0.6	0.5	0.6	dB	
Time-averaged Power		21.4	21.5	21.4	1.15	1.12	1.15	Lin	
Display	Estimated SAR	-	0.141	-	-	0.158	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		23.0			Scaling factor*				
Conducted Power		22.6	22.5	22.5	0.4	0.5	0.5	dB	
Time-averaged Power		22.6	22.5	22.5	1.10	1.12	1.12	Lin	
Back	Estimated SAR	0.206	-	-	0.226	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.212	-	-	0.232	-	-	0.01	B7
	Full SAR	0.218	-	-	**0.239**	-	-		

LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.5	0.5	0.5	dB	
Time-averaged Power		21.5	21.5	21.5	1.12	1.12	1.12	Lin	
Back	Estimated SAR	-	0.180	-	-	0.202	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.187	-	-	0.210	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.4	21.5	21.4	0.6	0.5	0.6	dB	
Time-averaged Power		21.4	21.5	21.4	1.15	1.12	1.15	Lin	
Display	Estimated SAR	-	0.192	-	-	0.215	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.8 GSM/GPRS/EGPRS 1900 Body-worn 15 mm SAR results

Antenna 1 / RM-1116

4-slot GPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		**25.2**			**Scaling factor***				
Conducted Power		**24.7**	**25.0**	**24.8**	**0.5**	**0.2**	**0.4**	**dB**	
Time-averaged Power		**21.7**	**22.0**	**21.8**	**1.12**	**1.05**	**1.10**	**Lin**	
Back	Estimated SAR	0.147	0.115	0.128	0.165	0.120	0.140	0.00	-
	Full SAR	0.146	-	-	0.164	-	-		
Display	Estimated SAR	-	0.101	-	-	0.106	-	-	-
	Full SAR	-	-	-	-	-	-		

Antenna 2 / RM-1116

4-slot GPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		**25.2**			**Scaling factor***				
Conducted Power		**24.7**	**25.0**	**24.8**	**0.5**	**0.2**	**0.4**	**dB**	
Time-averaged Power		**21.7**	**22.0**	**21.8**	**1.12**	**1.05**	**1.10**	**Lin**	
Back	Estimated SAR	0.257	0.192	0.179	0.288	0.201	0.196	-	B8
	Full SAR	0.257	-	-	**0.288**	-	-		
Display	Estimated SAR	-	0.185	-	-	0.194	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.9 WCDMA1900 (Band 2) Body-worn 15 mm SAR results

Antenna 1 / RM-1116

WCDMA1900 (Band 2)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.6	23.5	23.6	0.3	0.4	0.3	dB	
Time-averaged Power		23.6	23.5	23.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	0.252	0.242	0.242	0.270	0.265	0.259	0.00	-
	Full SAR	0.254	-	-	0.272	-	-		
Display	Estimated SAR	-	0.212	-	-	0.232	-	-	-
	Full SAR	-	-	-	-	-	-		

Antenna 2 / RM-1116

WCDMA1900 (Band 2)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.6	23.5	23.6	0.3	0.4	0.3	dB	
Time-averaged Power		23.6	23.5	23.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	0.405	0.363	0.298	0.434	0.398	0.319	0.01	B9
	Full SAR	0.399	-	-	**0.428**	-	-		
Display	Estimated SAR	-	0.305	-	-	0.334	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.10 LTE1900 (Band 2) Body-worn 15 mm SAR results

Antenna 1 / RM-1116

LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		22.7			Scaling factor*				
Conducted Power		22.3	22.3	22.3	0.4	0.4	0.4	dB	
Time-averaged Power		22.3	22.3	22.3	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.187	-	-	0.205	-	0.01	-
	Full SAR	-	0.173	-	-	0.190	-		
Display	Estimated SAR	-	0.166	-	-	0.182	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.2	21.2	21.1	0.5	0.5	0.6	dB	
Time-averaged Power		21.2	21.2	21.1	1.12	1.12	1.15	Lin	
Back	Estimated SAR	-	0.139	-	-	0.156	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.122	-	-	0.137	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.1	21.1	21.2	0.6	0.6	0.5	dB	
Time-averaged Power		21.1	21.1	21.2	1.15	1.15	1.12	Lin	
Back	Estimated SAR	-	-	0.129	-	-	0.145	-	-
	Full SAR	-	-	-	-	-	-		

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LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		22.7			Scaling factor*				
Conducted Power		22.3	22.3	22.3	0.4	0.4	0.4	dB	
Time-averaged Power		22.3	22.3	22.3	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.277	-	-	0.304	-	0.01	B10
	Full SAR	-	0.272	-	-	**0.298**	-		
Display	Estimated SAR	-	0.258	-	-	0.283	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.2	21.2	21.1	0.5	0.5	0.6	dB	
Time-averaged Power		21.2	21.2	21.1	1.12	1.12	1.15	Lin	
Back	Estimated SAR	-	0.210	-	-	0.236	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.189	-	-	0.212	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.1	21.1	21.2	0.6	0.6	0.5	dB	
Time-averaged Power		21.1	21.1	21.2	1.15	1.15	1.12	Lin	
Back	Estimated SAR	-	-	0.182	-	-	0.204	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.11 LTE2500 (Band 7) Body-worn 15 mm SAR results

Antenna 1 / RM-1116

LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		23.2			Scaling factor*				
Conducted Power		22.6	22.6	22.9	0.6	0.6	0.3	dB	
Time-averaged Power		22.6	22.6	22.9	1.15	1.15	1.07	Lin	
Back	Estimated SAR	-	-	0.287	-	-	0.308	0.01	B11
	Full SAR	-	-	0.297	-	-	**0.318**		
Display	Estimated SAR	-	-	0.283	-	-	0.303	-	-
	Full SAR	-	-	-	-	-	-		
LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.6	21.6	21.7	0.4	0.4	0.3	dB	
Time-averaged Power		21.6	21.6	21.7	1.10	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.220	-	-	0.236	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.212	-	-	0.227	-	-
	Full SAR	-	-	-	-	-	-		
LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.6	21.7	0.5	0.4	0.3	dB	
Time-averaged Power		21.5	21.6	21.7	1.12	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.210	-	-	0.225	-	-
	Full SAR	-	-	-	-	-	-		

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LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		23.2			Scaling factor*				
Conducted Power		22.6	22.6	22.9	0.6	0.6	0.3	dB	
Time-averaged Power		22.6	22.6	22.9	1.15	1.15	1.07	Lin	
Back	Estimated SAR	-	-	0.290	-	-	0.311	0.00	-
	Full SAR	-	-	0.286	-	-	0.306		
Display	Estimated SAR	-	-	0.237	-	-	0.254	-	-
	Full SAR	-	-	-	-	-	-		

LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.6	21.6	21.7	0.4	0.4	0.3	dB	
Time-averaged Power		21.6	21.6	21.7	1.10	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.229	-	-	0.245	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.184	-	-	0.197	-	-
	Full SAR	-	-	-	-	-	-		

LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.6	21.7	0.5	0.4	0.3	dB	
Time-averaged Power		21.5	21.6	21.7	1.12	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.223	-	-	0.239	-	-
	Full SAR	-	-	-	-	-	-		

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7.2.12 WLAN2450 Body-worn 15 mm SAR results

Antenna 1 & 2 / RM-1116

WLAN2450 b-mode DSSS 20 MHz									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1 2412.0 MHz	CH 6 2437.0 MHz	CH 11 2462.0 MHz	CH 1 2412.0 MHz	CH 6 2437.0 MHz	CH 11 2462.0 MHz		
Data rate		1	1	5.5	Scaling factor*			Mbps	
Upper limit		17.5	17.5	17.5					
Conducted Power		16.3	16.0	16.2	1.2	1.5	1.3	dB	
Time-averaged Power		16.3	16.0	16.2	1.32	1.41	1.35	Lin	
Back	Estimated SAR	-	0.107	-	-	0.151	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.075	0.123	0.100	0.099	0.174	0.135	0.01	B12
	Full SAR	-	0.133	-	-	**0.188**	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS b-mode 20 MHz 1Mbps SS1	Display	0.188	16.0	16.5	0.211	NO
DSSS b-mode 20 MHz 1Mbps SS1	Display	0.188	16.0	17.0	0.237	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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7.2.13 WLAN5000 Body-worn 15 mm SAR results, 5150–5250 MHz and 5250–5350 MHz

Antenna 1 & 2 / RM-1116

WLAN OFDM 20 MHz												
Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation* [W/kg]	Plot #
		U-NII-2A				U-NII-2A					
		CH 52 5260.0 MHz	CH 56 5280.0 MHz	CH 60 5300.0 MHz	CH 64 5320.0 MHz	CH 52 5260.0 MHz	CH 56 5280.0 MHz	CH 60 5300.0 MHz	CH 64 5320.0 MHz		
Standard		ac	ac	ac	ac	Scaling factor*					
Data rate / MCS		MCS0	MCS0	MCS0	MCS0					Mbps	
Upper limit		15.5	15.5	15.5	15.5						
Conducted Power		14.4	14.3	14.4	14.5	1.1	1.2	1.1	1.0	dB	
Time-averaged Power		14.4	14.3	14.4	14.5	1.29	1.32	1.29	1.26	Lin	
Back	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	-	0.236	-	-	-	0.297		
Display	Estimated SAR	-	-	-	-	-	-	-	-	-	B13
	Full SAR	-	-	-	0.262	-	-	-	**0.330**		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS ac-mode 20 MHz MCS0 SS1	Display	0.330	14.0	13.5	0.294	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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7.2.14 WLAN5000 Body-worn 15 mm SAR results, 5470–5725 MHz

Antenna 1 & 2 / RM-1116

WLAN OFDM 20 MHz												
Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation* [W/kg]	Plot #
		U-NII-2C				U-NII-2C					
		CH 132 5660.0 MHz	CH 136 5680.0 MHz	CH 140 5700.0 MHz	CH 144 5720.0 MHz	CH 132 5660.0 MHz	CH 136 5680.0 MHz	CH 140 5700.0 MHz	CH 144 5720.0 MHz		
Standard		ac	ac	ac	ac	Scaling factor*					
Data rate / MCS		MCS0	MCS0	MCS0	MCS0					Mbps	
Upper limit		15.5	15.5	15.5	15.5						
Conducted Power		14.5	14.5	14.6	14.5	1.0	1.0	0.9	1.0	dB	
Time-averaged Power		14.5	14.5	14.6	14.5	1.26	1.26	1.23	1.26	Lin	
Back	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.200	-	-	-	0.246	-		
Display	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.254	-	-	-	0.312	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS ac-mode 20 MHz MCS0 SS1	Display	0.312	14.0	13.5	0.278	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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7.2.15 WLAN5000 Body-worn 15 mm SAR results, 5725–5850 MHz

Antenna 1 & 2 / RM-1116

WLAN OFDM 20 MHz														
Device orientation	SAR measurement	Measured 1g SAR [W/kg]					Reported* 1g SAR [W/kg]					Max Deviation*	Plot #
		U-NII-3					U-NII-3						
		CH 149 5745.0 MHz	CH 153 5765.0 MHz	CH 157 5785.0 MHz	CH 161 5805.0 MHz	CH 165 5825.0 MHz	CH 149 5745.0 MHz	CH 153 5765.0 MHz	CH 157 5785.0 MHz	CH 161 5805.0 MHz	CH 165 5825.0 MHz	[W/kg]	
Standard		ac	ac	ac	ac	ac	Scaling factor*						
Data rate / MCS		MCS0	MCS0	MCS0	MCS0	MCS0						Mbps	
Upper limit		15.5	15.5	15.5	15.5	15.5							
Conducted Power		14.5	14.5	14.5	14.5	14.4	1.0	1.0	1.0	1.0	1.1	dB	
Time-averaged Power		14.5	14.5	14.5	14.5	14.4	1.26	1.26	1.26	1.26	1.29	Lin	
Back	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.205	-	-	-	-	0.258	-	-		
Display	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.252	-	-	-	-	0.317	-	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS ac-mode 20 MHz MCS0 SS1	Display	0.317	14.0	13.5	0.283	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

Individual Body-worn 15 mm SAR plots are given Appendix B.

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Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN and Individual band Max results - Antenna 1

Test configuration	WLAN 2450	WLAN 5000	LTE700 (Band 12)	LTE700 (Band 17)	4-slot GPRS850	WCDMA 850 (Band 5)	LTE850 (Band 5)	WCDMA 1700/2100 (Band 4)
Back	0.151	0.297	0.162	0.143	0.203	0.216	0.193	0.241
Display	0.188	0.330	0.139	0.160	0.406	0.346	0.261	0.283
Test configuration	**LTE 1700/2100 (Band 4)**	**4-slot GPRS1900**	**WCDMA 1900 (Band 2)**	**LTE 1900 (Band 2)**	**LTE 2500 (Band 7)**	**-**	**-**	**-**
Back	0.211	0.164	0.272	0.190	0.318	-	-	-
Display	0.219	0.106	0.232	0.182	0.303	-	-	-

Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN and Individual band Max results - Antenna 2

Test configuration	WLAN 2450	WLAN 5000	LTE700 (Band 12)	LTE700 (Band 17)	4-slot GPRS850	WCDMA 850 (Band 5)	LTE850 (Band 5)	WCDMA 1700/2100 (Band 4)
Back	0.151	0.297	0.221	0.212	0.211	0.317	0.241	0.323
Display	0.188	0.330	0.219	0.221	0.291	0.333	0.258	0.367
Test configuration	**LTE 1700/2100 (Band 4)**	**4-slot GPRS1900**	**WCDMA 1900 (Band 2)**	**LTE 1900 (Band 2)**	**LTE 2500 (Band 7)**	**-**	**-**	**-**
Back	0.226	0.288	0.428	0.298	0.306	-	-	-
Display	0.239	0.194	0.334	0.283	0.254	-	-	-

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Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN2450 Max + Max combined results - Antenna 1

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Back	0.313	0.294	0.354	0.367	0.344	0.392	0.362	**0.315**
Display	**0.327**	**0.348**	**0.594**	**0.534**	**0.449**	**0.471**	**0.407**	0.294
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	-	-	-	-	-
Back	**0.423**	0.341	0.469	-	-	-	-	-
Display	0.420	**0.370**	**0.491**	-	-	-	-	-

Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN2450 Max + Max combined results - Antenna 2

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Back	0.372	0.363	0.362	0.468	0.392	0.474	0.377	**0.439**
Display	**0.407**	**0.409**	**0.479**	**0.521**	**0.446**	**0.555**	**0.427**	0.382
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	-	-	-	-	-
Back	**0.579**	0.449	**0.457**	-	-	-	-	-
Display	0.522	**0.471**	0.442	-	-	-	-	-

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Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN5000 Max + Max combined results - Antenna 1

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	0.459	0.440	0.500	0.513	0.490	0.538	0.508	**0.461**
Display	**0.469**	**0.490**	**0.736**	**0.676**	**0.591**	**0.613**	**0.549**	0.436
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Back	**0.569**	0.487	0.615	-	-	-	-	-
Display	0.562	**0.512**	**0.633**	-	-	-	-	-

Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN5000 Max + Max combined results - Antenna 2

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	0.518	0.509	0.508	0.614	0.538	0.620	0.523	**0.585**
Display	**0.549**	**0.551**	**0.621**	**0.663**	**0.588**	**0.697**	**0.569**	0.524
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Back	**0.725**	0.595	**0.603**	-	-	-	-	-
Display	0.664	**0.613**	0.584	-	-	-	-	-

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for Body-worn 15 mm configurations for this product.

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7.2.16 Combined 1g Body-worn 15 mm SAR data

The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

The combinations are done for the maximum Body configuration of the each band or band group. Maximum configurations are given in the Max+Max tables in the Section 7.2 of the report. The same scaling factors are used in plotting as for the individual reported SAR value calculations.

Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 1 + WLAN2450 SPEAG Combined Multiband algorithm results

Test configuration	**LTE700 (Band 12) + WLAN 2450**	**LTE700 (Band 17) + WLAN 2450**	**4-slot GPRS850 + WLAN 2450**	**WCDMA 850 (Band 5) + WLAN 2450**	**LTE850 (Band 5) + WLAN 2450**	**WCDMA 1700/2100 (Band 4) + WLAN 2450**	**LTE 1700/2100 (Band 4) + WLAN 2450**	**4-slot GPRS1900 + WLAN 2450**
Back	-	-	-	-	-	-	-	-
Display	-	-	0.428	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Back	-	-	-	-	-	-	-	-
Display	-	-	0.329	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

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Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 2 + WLAN2450 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Back	-	-	-	-	-	-	-	-
Display	0.251	0.243	-	-	-	0.405	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Back	0.458	-	-	-	-	-	-	-
Display	-	-	-	-	-	-	-	-
Plot no	B14							

4-slot GPRS850 Antenna 1 + WLAN2450 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 2 + WLAN2450 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN2450 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

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Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 1 + WLAN5000 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	-	-	-	-	-	-	-	-
Display	-	-	0.425	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Back	-	-	-	-	-	-	-	-
Display	-	-	0.367	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 2 + WLAN5000 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	-	-	-	-	-	-	-	-
Display	0.339	0.345	-	-	-	0.383	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Back	0.432	-	-	-	-	-	-	-
Display	-	-	-	-	-	-	-	-
Plot no	B15	-	-	-	-	-	-	-

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4-slot PGRS850 Antenna 1 + WLAN5000 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 2 + WLAN5000 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN5000 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

Note:
* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.
The highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. The highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results is given in the Section for the simultaneous transmitter combination giving the highest combinated value.

Speag Combined Multiband Body-worn 15 mm SAR plots are given in Appendix B.

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7.3 The measured Wireless Router 10 mm SAR values for the test device

7.3.1 LTE700 (Band 12) Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 24										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit			22.9			Scaling factor*			
Conducted Power		22.7	22.7	22.6	0.2	0.2	0.3	dB	
Time-averaged Power		22.7	22.7	22.6	1.05	1.05	1.07	Lin	
Back	Estimated SAR	-	0.234	-	-	0.245	-	0.00	-
	Full SAR	-	0.231	-	-	0.242	-		
Display	Estimated SAR	-	0.180	-	-	0.188	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.019	-	-	0.020	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.116	-	-	0.121	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.176	-	-	0.184	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.060	-	-	0.062	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 12										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit			21.9			Scaling factor*			
Conducted Power		21.6	21.6	21.5	0.3	0.3	0.4	dB	
Time-averaged Power		21.6	21.6	21.5	1.07	1.07	1.10	Lin	
Back	Estimated SAR	-	0.184	-	-	0.197	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.140	-	-	0.150	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.015	-	-	0.017	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.092	-	-	0.099	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.139	-	-	0.149	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.047	-	-	0.050	-	-	-
	Full SAR	-	-	-	-	-	-		
LTE700 (Band 12) - 10MHz - QPSK - 50 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit			21.9			Scaling factor*			
Conducted Power		21.6	21.5	21.6	0.3	0.4	0.3	dB	
Time-averaged Power		21.6	21.5	21.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.187	-	-	0.200	-	-
	Full SAR	-	-	-	-	-	-		

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Antenna 2 / RM-1116

LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 24										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		22.9			Scaling factor*				
Conducted Power		22.7	22.7	22.6	0.2	0.2	0.3	dB	
Time-averaged Power		22.7	22.7	22.6	1.05	1.05	1.07	Lin	
Back	Estimated SAR	-	0.275	-	-	0.288	-	0.01	W1
	Full SAR	-	0.270	-	-	**0.283**	-		
Display	Estimated SAR	-	0.248	-	-	0.260	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.007	-	-	0.008	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.135	-	-	0.141	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.145	-	-	0.152	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.193	-	-	0.202	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 12										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.6	21.5	0.3	0.3	0.4	dB	
Time-averaged Power		21.6	21.6	21.5	1.07	1.07	1.10	Lin	
Back	Estimated SAR	-	0.211	-	-	0.226	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.194	-	-	0.208	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.007	-	-	0.007	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.105	-	-	0.113	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.116	-	-	0.124	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.149	-	-	0.160	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 12) - 10MHz - QPSK - 50 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz	CH 23060 704.0 MHz	CH 23095 707.5 MHz	CH 23130 711.0 MHz		
Upper limit		21.9			Scaling factor*				
Conducted Power		21.6	21.5	21.6	0.3	0.4	0.3	dB	
Time-averaged Power		21.6	21.5	21.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.213	-	-	0.228	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.2 LTE700 (Band 17) Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit			22.9			Scaling factor*			
Conducted Power		22.7	22.6	22.6	0.2	0.3	0.3	dB	
Time-averaged Power		22.7	22.6	22.6	1.05	1.07	1.07	Lin	
Back	Estimated SAR	-	0.209	-	-	0.224	-	0.01	-
	Full SAR	-	0.203	-	-	0.218	-		
Display	Estimated SAR	-	0.156	-	-	0.167	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.011	-	-	0.011	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.177	-	-	0.190	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.154	-	-	0.165	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.086	-	-	0.093	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit			21.9			Scaling factor*			
Conducted Power		21.5	21.5	21.5	0.4	0.4	0.4	dB	
Time-averaged Power		21.5	21.5	21.5	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.162	-	-	0.178	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.121	-	-	0.133	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.009	-	-	0.010	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.137	-	-	0.150	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.122	-	-	0.134	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.066	-	-	0.072	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 17) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit			21.9			Scaling factor*			
Conducted Power		21.5	21.5	21.4	0.4	0.4	0.5	dB	
Time-averaged Power		21.5	21.5	21.4	1.10	1.10	1.12	Lin	
Back	Estimated SAR	-	0.168	-	-	0.184	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 24									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit			22.9		Scaling factor*				
Conducted Power		22.7	22.6	22.6	0.2	0.3	0.3	dB	
Time-averaged Power		22.7	22.6	22.6	1.05	1.07	1.07	Lin	
Back	Estimated SAR	-	0.294	-	-	0.315	-	0.00	W2
	Full SAR	-	0.295	-	-	**0.316**	-		
Display	Estimated SAR	-	0.263	-	-	0.282	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.008	-	-	0.008	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.151	-	-	0.162	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.134	-	-	0.144	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.200	-	-	0.214	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 12									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit			21.9		Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.4	0.4	0.4	dB	
Time-averaged Power		21.5	21.5	21.5	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.226	-	-	0.248	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.204	-	-	0.224	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.006	-	-	0.007	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.116	-	-	0.127	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.104	-	-	0.114	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.156	-	-	0.171	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE700 (Band 17) - 10MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz	CH 23780 709.0 MHz	CH 23790 710.0 MHz	CH 23800 711.0 MHz		
Upper limit			21.9		Scaling factor*				
Conducted Power		21.5	21.5	21.4	0.4	0.4	0.5	dB	
Time-averaged Power		21.5	21.5	21.4	1.10	1.10	1.12	Lin	
Back	Estimated SAR	-	0.227	-	-	0.249	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.3 GSM/GPRS/EGPRS 850 Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

4-slot GPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		28.2			Scaling factor*				
Conducted Power		27.4	27.5	27.6	0.8	0.7	0.6	dB	
Time-averaged Power		24.4	24.5	24.6	1.20	1.17	1.15	Lin	
Back	Estimated SAR	-	0.318	-	-	0.374	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.235	0.367	0.454	0.283	0.431	0.521	0.01	W3
	Full SAR	-	-	0.466	-	-	**0.535**		
Top	Estimated SAR	-	0.027	-	-	0.031	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.218	-	-	0.256	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.229	-	-	0.269	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.185	-	-	0.217	-	-	-
	Full SAR	-	-	-	-	-	-		

Antenna 2 / RM-1116

4-slot GPRS850									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz		
Upper limit		28.2			Scaling factor*				
Conducted Power		27.4	27.5	27.6	0.8	0.7	0.6	dB	
Time-averaged Power		24.4	24.5	24.6	1.20	1.17	1.15	Lin	
Back	Estimated SAR	0.407	0.337	0.292	0.489	0.396	0.335	0.03	-
	Full SAR	0.381	-	-	0.458	-	-		
Display	Estimated SAR	-	0.313	-	-	0.368	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.011	-	-	0.013	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.300	-	-	0.352	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.047	-	-	0.055	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.108	-	-	0.127	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.4 WCDMA850 (Band 5) Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

WCDMA850 (Band 5)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz		
Upper limit		24.6			Scaling factor*				
Conducted Power		24.3	24.3	24.3	0.3	0.3	0.3	dB	
Time-averaged Power		24.3	24.3	24.3	1.07	1.07	1.07	Lin	
Back	Estimated SAR	0.235	0.296	0.388	0.252	0.317	0.416	0.01	-
	Full SAR	-	-	0.377	-	-	0.404		
Display	Estimated SAR	-	0.295	-	-	0.316	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.026	-	-	0.028	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.227	-	-	0.243	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.226	-	-	0.242	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.161	-	-	0.173	-	-	-
	Full SAR	-	-	-	-	-	-		

Antenna 2 / RM-1116

WCDMA850 (Band 5)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz		
Upper limit		24.6			Scaling factor*				
Conducted Power		24.3	24.3	24.3	0.3	0.3	0.3	dB	
Time-averaged Power		24.3	24.3	24.3	1.07	1.07	1.07	Lin	
Back	Estimated SAR	-	0.415	-	-	0.445	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.447	0.424	0.392	0.479	0.454	0.420	0.01	W4
	Full SAR	0.434	-	-	**0.465**	-	-		
Top	Estimated SAR	-	0.015	-	-	0.016	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.221	-	-	0.237	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.219	-	-	0.235	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.284	-	-	0.304	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.5 LTE850 (Band 5) Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 24										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		23.4			Scaling factor*				
Conducted Power		22.6	22.6	22.7	0.8	0.8	0.7	dB	
Time-averaged Power		22.6	22.6	22.7	1.20	1.20	1.17	Lin	
Back	Estimated SAR	-	-	0.251	-	-	0.295	0.01	-
	Full SAR	-	-	0.242	-	-	0.284		
Display	Estimated SAR	-	-	0.239	-	-	0.281	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	-	0.021	-	-	0.024	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	-	0.208	-	-	0.244	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	-	0.195	-	-	0.229	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	-	0.147	-	-	0.173	-	-
	Full SAR	-	-	-	-	-	-		

LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.6	21.6	21.6	0.8	0.8	0.8	dB	
Time-averaged Power		21.6	21.6	21.6	1.20	1.20	1.20	Lin	
Back	Estimated SAR	-	0.156	-	-	0.188	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.164	-	-	0.197	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.014	-	-	0.017	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.130	-	-	0.156	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.124	-	-	0.149	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.089	-	-	0.106	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.5	21.6	21.6	0.9	0.8	0.8	dB	
Time-averaged Power		21.5	21.6	21.6	1.23	1.20	1.20	Lin	
Back	Estimated SAR	-	0.165	-	-	0.198	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 24										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		23.4			Scaling factor*				
Conducted Power		22.6	22.6	22.7	0.8	0.8	0.7	dB	
Time-averaged Power		22.6	22.6	22.7	1.20	1.20	1.17	Lin	
Back	Estimated SAR	-	-	0.271	-	-	0.318	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.280	-	-	0.329	0.01	W5
	Full SAR	-	-	0.268	-	-	**0.315**		
Top	Estimated SAR	-	-	0.008	-	-	0.009	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	-	0.149	-	-	0.175	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	-	0.187	-	-	0.220	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	-	0.193	-	-	0.227	-	-
	Full SAR	-	-	-	-	-	-		

LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.6	21.6	21.6	0.8	0.8	0.8	dB	
Time-averaged Power		21.6	21.6	21.6	1.20	1.20	1.20	Lin	
Back	Estimated SAR	-	0.232	-	-	0.279	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.233	-	-	0.280	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.008	-	-	0.009	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.119	-	-	0.143	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.130	-	-	0.156	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.152	-	-	0.183	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz	CH 20450 829.0 MHz	CH 20525 836.5 MHz	CH 20600 844.0 MHz		
Upper limit		22.4			Scaling factor*				
Conducted Power		21.5	21.6	21.6	0.9	0.8	0.8	dB	
Time-averaged Power		21.5	21.6	21.6	1.23	1.20	1.20	Lin	
Display	Estimated SAR	-	0.229	-	-	0.275	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.6 WCDMA1700/2100 (Band 4) Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

WCDMA1700/2100 (Band 4)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz	CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz		
Upper limit		**23.9**			**Scaling factor***				
Conducted Power		**23.5**	**23.5**	**23.5**	**0.4**	**0.4**	**0.4**	**dB**	
Time-averaged Power		**23.5**	**23.5**	**23.5**	**1.10**	**1.10**	**1.10**	**Lin**	
Back	Estimated SAR	-	0.508	-	-	0.557	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.497	0.577	0.540	0.545	0.633	0.592	0.02	W6
	Full SAR	-	0.597	-	-	**0.655**	-		
Top	Estimated SAR	-	0.051	-	-	0.056	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.492	-	-	0.539	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.443	-	-	0.486	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.033	-	-	0.036	-	-	-
	Full SAR	-	-	-	-	-	-		

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WCDMA1700/2100 (Band 4)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz	CH 1312 1712.4 MHz	CH 1412 1732.4 MHz	CH 1513 1752.6 MHz		
Upper limit		**23.9**			**Scaling factor***				
Conducted Power		**23.5**	**23.5**	**23.5**	**0.4**	**0.4**	**0.4**	**dB**	
Time-averaged Power		**23.5**	**23.5**	**23.5**	**1.10**	**1.10**	**1.10**	**Lin**	
Back	Estimated SAR	-	0.502	-	-	0.550	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.597	-	-	0.655	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.054	-	-	0.059	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	0.460	0.619	0.602	0.504	0.679	0.660	0.05	-
	Full SAR	-	0.571	-	-	0.626	-		
Left	Estimated SAR	-	0.134	-	-	0.147	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.130	-	-	0.143	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.7 LTE1700/2100 (Band 4) Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		23.0			Scaling factor*				
Conducted Power		22.6	22.5	22.5	0.4	0.5	0.5	dB	
Time-averaged Power		22.6	22.5	22.5	1.10	1.12	1.12	Lin	
Back	Estimated SAR	0.354	-	-	0.388	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	0.427	0.348	0.365	0.468	0.390	0.410	0.04	-
	Full SAR	0.391	-	-	0.429	-	-		
Top	Estimated SAR	0.051	-	-	0.055	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	0.353	-	-	0.387	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	0.319	-	-	0.350	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	0.038	-	-	0.041	-	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.5	0.5	0.5	dB	
Time-averaged Power		21.5	21.5	21.5	1.12	1.12	1.12	Lin	
Back	Estimated SAR	-	0.296	-	-	0.332	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.352	-	-	0.395	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.031	-	-	0.035	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.293	-	-	0.329	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.255	-	-	0.286	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.040	-	-	0.045	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.4	21.5	21.4	0.6	0.5	0.6	dB	
Time-averaged Power		21.4	21.5	21.4	1.15	1.12	1.15	Lin	
Display	Estimated SAR	-	0.288	-	-	0.323	-	-	-
	Full SAR	-	-	-	-	-	-		

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LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		23.0			Scaling factor*				
Conducted Power		22.6	22.5	22.5	0.4	0.5	0.5	dB	
Time-averaged Power		22.6	22.5	22.5	1.10	1.12	1.12	Lin	
Back	Estimated SAR	0.370	0.400	0.443	0.406	0.449	0.497	0.02	W7
	Full SAR	-	-	0.465	-	-	**0.522**		
Display	Estimated SAR	0.314	-	-	0.344	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	0.042	-	-	0.046	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	0.320	-	-	0.351	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	0.066	-	-	0.072	-	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	0.156	-	-	0.171	-	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.5	21.5	0.5	0.5	0.5	dB	
Time-averaged Power		21.5	21.5	21.5	1.12	1.12	1.12	Lin	
Back	Estimated SAR	-	0.313	-	-	0.351	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.272	-	-	0.305	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.032	-	-	0.036	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.296	-	-	0.332	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.060	-	-	0.068	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.134	-	-	0.150	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz	CH 20050 1720.0 MHz	CH 20175 1732.5 MHz	CH 20300 1745.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.4	21.5	21.4	0.6	0.5	0.6	dB	
Time-averaged Power		21.4	21.5	21.4	1.15	1.12	1.15	Lin	
Back	Estimated SAR	-	0.342	-	-	0.384	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.8 GSM/GPRS/EGPRS 1900 Wireless Router 10 mm SAR results

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4-slot GPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		25.2			Scaling factor*				
Conducted Power		**24.7**	**25.0**	**24.8**	**0.5**	**0.2**	**0.4**	**dB**	
Time-averaged Power		**21.7**	**22.0**	**21.8**	**1.12**	**1.05**	**1.10**	**Lin**	
Back	Estimated SAR	0.316	0.252	0.284	0.355	0.264	0.311	0.01	-
	Full SAR	0.311	-	-	0.349	-	-		
Display	Estimated SAR	-	0.206	-	-	0.216	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.022	-	-	0.023	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.218	-	-	0.228	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.153	-	-	0.160	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.027	-	-	0.028	-	-	-
	Full SAR	-	-	-	-	-	-		

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4-slot GPRS1900									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz		
Upper limit		25.2			Scaling factor*				
Conducted Power		**24.7**	**25.0**	**24.8**	**0.5**	**0.2**	**0.4**	**dB**	
Time-averaged Power		**21.7**	**22.0**	**21.8**	**1.12**	**1.05**	**1.10**	**Lin**	
Back	Estimated SAR	0.583	0.473	0.390	0.654	0.495	0.428	0.04	W8
	Full SAR	0.540	-	-	**0.606**	-	-		
Display	Estimated SAR	-	0.373	-	-	0.391	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.007	-	-	0.007	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.436	-	-	0.457	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.077	-	-	0.081	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.137	-	-	0.143	-	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.9 WCDMA1900 (Band 2) Wireless Router 10 mm SAR results

Antenna 1 / RM-1116

WCDMA1900 (Band 2)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.6	23.5	23.6	0.3	0.4	0.3	dB	
Time-averaged Power		23.6	23.5	23.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	0.550	0.543	0.555	0.589	0.595	0.595	0.01	-
	Full SAR	-	-	0.541	-	-	0.580		
Display	Estimated SAR	-	0.439	-	-	0.481	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.044	-	-	0.048	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.455	-	-	0.499	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.312	-	-	0.342	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.057	-	-	0.063	-	-	-
	Full SAR	-	-	-	-	-	-		

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WCDMA1900 (Band 2)									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz		
Upper limit		23.9			Scaling factor*				
Conducted Power		23.6	23.5	23.6	0.3	0.4	0.3	dB	
Time-averaged Power		23.6	23.5	23.6	1.07	1.10	1.07	Lin	
Back	Estimated SAR	0.879	0.775	0.679	0.942	0.850	0.728	0.06	-
	Full SAR	0.818	-	-	0.877	-	-		
Display	Estimated SAR	-	0.630	-	-	0.691	-	0.04	-
	Full SAR	-	0.673	-	-	0.738	-		
Top	Estimated SAR	-	0.018	-	-	0.020	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	0.740	0.724	0.692	0.793	0.794	0.741	0.10	W9
	Full SAR	-	0.823	-	-	**0.902**	-		
Left	Estimated SAR	-	0.143	-	-	0.157	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.240	-	-	0.263	-	-	-
	Full SAR	-	-	-	-	-	-		
Repeated Bottom	Estimated SAR	-	0.734	-	-	0.805	-	0.06	-
	Full SAR	-	0.795	-	-	0.872	-		

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7.3.10 LTE1900 (Band 2) Wireless Router 10 mm SAR results

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LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		22.7			Scaling factor*				
Conducted Power		22.3	22.3	22.3	0.4	0.4	0.4	dB	
Time-averaged Power		22.3	22.3	22.3	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.423	-	-	0.464	-	0.01	-
	Full SAR	-	0.429	-	-	0.470	-		
Display	Estimated SAR	-	0.349	-	-	0.383	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.032	-	-	0.035	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.336	-	-	0.368	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.226	-	-	0.248	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.054	-	-	0.059	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.2	21.2	21.1	0.5	0.5	0.6	dB	
Time-averaged Power		21.2	21.2	21.1	1.12	1.12	1.15	Lin	
Back	Estimated SAR	-	0.320	-	-	0.359	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.267	-	-	0.300	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.025	-	-	0.028	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.266	-	-	0.298	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.176	-	-	0.197	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.039	-	-	0.044	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 100 RB - Offset 0									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.1	21.1	21.2	0.6	0.6	0.5	dB	
Time-averaged Power		21.1	21.1	21.2	1.15	1.15	1.12	Lin	
Back	Estimated SAR	-	-	0.319	-	-	0.358	-	-
	Full SAR	-	-	-	-	-	-		

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LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		22.7			Scaling factor*				
Conducted Power		22.3	22.3	22.3	0.4	0.4	0.4	dB	
Time-averaged Power		22.3	22.3	22.3	1.10	1.10	1.10	Lin	
Back	Estimated SAR	-	0.649	-	-	0.712	-	0.02	W10
	Full SAR	-	0.633	-	-	**0.694**	-		
Display	Estimated SAR	-	0.564	-	-	0.618	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.019	-	-	0.021	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.555	-	-	0.609	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.104	-	-	0.114	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.200	-	-	0.219	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.2	21.2	21.1	0.5	0.5	0.6	dB	
Time-averaged Power		21.2	21.2	21.1	1.12	1.12	1.15	Lin	
Back	Estimated SAR	-	0.482	-	-	0.541	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.428	-	-	0.480	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	0.013	-	-	0.015	-	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	0.433	-	-	0.486	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.079	-	-	0.088	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.149	-	-	0.167	-	-	-
	Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) - 20MHz - QPSK - 100 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz	CH 18700 1860.0 MHz	CH 18900 1880.0 MHz	CH 19100 1900.0 MHz		
Upper limit		21.7			Scaling factor*				
Conducted Power		21.1	21.1	21.2	0.6	0.6	0.5	dB	
Time-averaged Power		21.1	21.1	21.2	1.15	1.15	1.12	Lin	
Back	Estimated SAR	-	-	0.425	-	-	0.477	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.11 LTE2500 (Band 7) Wireless Router 10 mm SAR results

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LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		23.2			Scaling factor*				
Conducted Power		22.6	22.6	22.9	0.6	0.6	0.3	dB	
Time-averaged Power		22.6	22.6	22.9	1.15	1.15	1.07	Lin	
Back	Estimated SAR	-	-	0.719	-	-	0.770	0.01	-
	Full SAR	-	-	0.729	-	-	0.781		
Display	Estimated SAR	-	-	0.667	-	-	0.715	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	-	0.016	-	-	0.018	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	0.905	0.802	0.814	1.039	0.921	0.872	0.02	-
	Full SAR	0.924	-	-	1.061	-	-		
Left	Estimated SAR	-	-	0.401	-	-	0.430	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	-	0.080	-	-	0.086	-	-
	Full SAR	-	-	-	-	-	-		
Bottom Repeated	Estimated SAR	0.895	-	-	1.028	-	-	0.03	W11
	Full SAR	0.928	-	-	**1.065**	-	-		

LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.6	21.6	21.7	0.4	0.4	0.3	dB	
Time-averaged Power		21.6	21.6	21.7	1.10	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.542	-	-	0.581	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.507	-	-	0.543	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	-	0.010	-	-	0.011	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	-	0.636	-	-	0.681	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	-	0.302	-	-	0.324	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	-	0.063	-	-	0.067	-	-
	Full SAR	-	-	-	-	-	-		

LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.6	21.7	0.5	0.4	0.3	dB	
Time-averaged Power		21.5	21.6	21.7	1.12	1.10	1.07	Lin	
Bottom	Estimated SAR	-	-	0.620	-	-	0.664	-	-
	Full SAR	-	-	-	-	-	-		

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LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		23.2			Scaling factor*				
Conducted Power		22.6	22.6	22.9	0.6	0.6	0.3	dB	
Time-averaged Power		22.6	22.6	22.9	1.15	1.15	1.07	Lin	
Back	Estimated SAR	-	-	0.532	-	-	0.570	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.430	-	-	0.461	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	-	0.014	-	-	0.015	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	-	0.614	-	-	0.658	0.02	-
	Full SAR	-	-	0.631	-	-	0.676		
Left	Estimated SAR	-	-	0.093	-	-	0.100	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	-	0.112	-	-	0.120	-	-
	Full SAR	-	-	-	-	-	-		

LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.6	21.6	21.7	0.4	0.4	0.3	dB	
Time-averaged Power		21.6	21.6	21.7	1.10	1.10	1.07	Lin	
Back	Estimated SAR	-	-	0.419	-	-	0.449	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	-	0.340	-	-	0.364	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	-	-	0.009	-	-	0.010	-	-
	Full SAR	-	-	-	-	-	-		
Bottom	Estimated SAR	-	-	0.470	-	-	0.504	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	-	0.071	-	-	0.076	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	-	0.086	-	-	0.092	-	-
	Full SAR	-	-	-	-	-	-		

LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0										
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz		
Upper limit		22.0			Scaling factor*				
Conducted Power		21.5	21.6	21.7	0.5	0.4	0.3	dB	
Time-averaged Power		21.5	21.6	21.7	1.12	1.10	1.07	Lin	
Bottom	Estimated SAR	-	-	0.464	-	-	0.497	-	-
	Full SAR	-	-	-	-	-	-		

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7.3.12 WLAN2450 Wireless Router 10 mm SAR results

Antenna 1 & 2 / RM-1116

WLAN2450 b-mode DSSS 20 MHz									
Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation* [W/kg]	Plot #
		CH 1 2412.0 MHz	CH 6 2437.0 MHz	CH 11 2462.0 MHz	CH 1 2412.0 MHz	CH 6 2437.0 MHz	CH 11 2462.0 MHz		
Data rate		1	1	5.5	Scaling factor*			Mbps	
Upper limit		17.5	17.5	17.5					
Conducted Power		16.3	16.0	16.2	1.2	1.5	1.3	dB	
Time-averaged Power		16.3	16.0	16.2	1.32	1.41	1.35	Lin	
Back	Estimated SAR	-	0.176	-	-	0.249	-	-	-
	Full SAR	-	-	-	-	-	-		
Display	Estimated SAR	-	0.204	-	-	0.288	-	-	-
	Full SAR	-	-	-	-	-	-		
Top	Estimated SAR	0.343	0.329	0.270	0.452	0.465	0.364	0.00	W12
	Full SAR	-	0.332	-	-	**0.469**	-		
Bottom	Estimated SAR	-	0.016	-	-	0.023	-	-	-
	Full SAR	-	-	-	-	-	-		
Left	Estimated SAR	-	0.098	-	-	0.138	-	-	-
	Full SAR	-	-	-	-	-	-		
Right	Estimated SAR	-	0.045	-	-	0.063	-	-	-
	Full SAR	-	-	-	-	-	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS b-mode 20 MHz 1Mbps SS1	Display	0.469	16.0	16.5	0.526	NO
DSSS b-mode 20 MHz 1Mbps SS1	Display	0.469	16.0	17.0	0.590	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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7.3.13 WLAN5000 Wireless Router 10 mm SAR results, 5150–5250 MHz and 5250–5350 MHz

Antenna 1 & 2 / RM-1116

WLAN OFDM 20 MHz												
Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation* [W/kg]	Plot #
		U-NII-1				U-NII-1					
		CH 36 5180.0 MHz	CH 40 5200.0 MHz	CH 44 5220.0 MHz	CH 48 5240.0 MHz	CH 36 5180.0 MHz	CH 40 5200.0 MHz	CH 44 5220.0 MHz	CH 48 5240.0 MHz		
Standard		ac	ac	ac	ac	Scaling factor*					
Data rate / MCS		MCS0	MCS0	MCS0	MCS0					Mbps	
Upper limit		15.5	15.5	15.5	15.5						
Conducted Power		14.3	14.3	14.3	14.3	1.2	1.2	1.2	1.2	dB	
Time-averaged Power		14.3	14.3	14.3	14.3	1.32	1.32	1.32	1.32	Lin	
Back	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.294	-	-	-	0.388	-		
Display	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.371	-	-	-	0.489	-		
Top	Estimated SAR	-	-	-	-	-	-	-	-	-	W13
	Full SAR	0.646	0.651	0.655	0.660	0.852	0.858	0.863	**0.870**		
Bottom	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.029	-	-	-	0.039	-		
Left	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.302	-	-	-	0.398	-		
Right	Estimated SAR	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.032	-	-	-	0.043	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS ac-mode 20 MHz MCS0 SS1	Display	0.870	14.0	13.5	0.775	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

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7.3.14 WLAN5000 Wireless Router 10 mm SAR results, 5725–5850 MHz

Antenna 1 & 2 / RM-1116

WLAN OFDM 20 MHz														
Device orientation	SAR measurement	Measured 1g SAR [W/kg] U-NII-3					Reported* 1g SAR [W/kg] U-NII-3					Max Deviation* [W/kg]	Plot #
		CH 149 5745.0 MHz	CH 153 5765.0 MHz	CH 157 5785.0 MHz	CH 161 5805.0 MHz	CH 165 5825.0 MHz	CH 149 5745.0 MHz	CH 153 5765.0 MHz	CH 157 5785.0 MHz	CH 161 5805.0 MHz	CH 165 5825.0 MHz		
Standard		ac	ac	ac	ac	ac	Scaling factor*						
Data rate / MCS		MCS0	MCS0	MCS0	MCS0	MCS0						Mbps	
Upper limit		15.5	15.5	15.5	15.5	15.5							
Conducted Power		14.5	14.5	14.5	14.5	14.4	1.0	1.0	1.0	1.0	1.1	dB	
Time-averaged Power		14.5	14.5	14.5	14.5	14.4	1.26	1.26	1.26	1.26	1.29	Lin	
Back	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.274	-	-	-	-	0.345	-	-		
Display	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.414	-	-	-	-	0.521	-	-		
Top	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.471	-	-	-	-	0.593	-	-		
Bottom	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.054	-	-	-	-	0.068	-	-		
Left	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.404	-	-	-	-	0.509	-	-		
Right	Estimated SAR	-	-	-	-	-	-	-	-	-	-	-	-
	Full SAR	-	-	0.029	-	-	-	-	0.036	-	-		

Adjusted SAR calculations for the next OFDM test configurations

Adjusted SAR						
Test configuration used	Device Orientation	Reported 1g SAR for test cfg used [W/kg]	Tuning target for test cfg used [dBm]*	Tuning target for next test cfg [dBm]*	Adjusted 1g SAR [W/kg]	Adjusted SAR > 1.20 [YES/NO]
DSSS ac-mode 20 MHz MCS0 SS1	Display	0.593	14.0	13.5	0.529	NO

* Tuning targets are used as [mW] when calculated Adjusted SAR.

Individual Wireless Router 10 mm SAR plots are given in Appendix B.

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Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN and Individual band Max results - Antenna 1

Test configuration	WLAN 2450	WLAN 5000	LTE700 (Band 12)	LTE700 (Band 17)	4-slot GPRS850	WCDMA 850 (Band 5)	LTE850 (Band 5)	WCDMA 1700/2100 (Band 4)
Back	0.249	0.388	0.242	0.218	0.374	0.404	0.284	0.557
Display	0.288	0.521	0.188	0.167	0.535	0.316	0.281	0.655
Top	0.469	0.870	0.020	0.011	0.031	0.028	0.024	0.056
Bottom	0.023	0.068	0.121	0.190	0.256	0.243	0.244	0.539
Left	0.138	0.509	0.184	0.165	0.269	0.242	0.229	0.486
Right	0.063	0.043	0.062	0.093	0.217	0.173	0.173	0.036
Test configuration	**LTE 1700/2100 (Band 4)**	**4-slot GPRS1900**	**WCDMA 1900 (Band 2)**	**LTE 1900 (Band 2)**	**LTE 2500 (Band 7)**	**-**	**-**	**-**
Back	0.388	0.349	0.580	0.470	0.781	-	-	-
Display	0.429	0.216	0.481	0.383	0.715	-	-	-
Top	0.055	0.023	0.048	0.035	0.018	-	-	-
Bottom	0.387	0.228	0.499	0.368	1.065	-	-	-
Left	0.350	0.160	0.342	0.248	0.430	-	-	-
Right	0.045	0.028	0.063	0.059	0.086	-	-	-

Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN and Individual band Max results - Antenna 2

Test configuration	WLAN 2450	WLAN 5000	LTE700 (Band 12)	LTE700 (Band 17)	4-slot GPRS850	WCDMA 850 (Band 5)	LTE850 (Band 5)	WCDMA 1700/2100 (Band 4)
Back	0.249	0.388	0.283	0.316	0.458	0.445	0.318	0.550
Display	0.288	0.521	0.260	0.282	0.368	0.465	0.315	0.655
Top	0.469	0.870	0.008	0.008	0.013	0.016	0.009	0.059
Bottom	0.023	0.068	0.141	0.162	0.352	0.237	0.175	0.626
Left	0.138	0.509	0.152	0.144	0.055	0.235	0.220	0.147
Right	0.063	0.043	0.202	0.214	0.127	0.304	0.227	0.143
Test configuration	**LTE 1700/2100 (Band 4)**	**4-slot GPRS1900**	**WCDMA 1900 (Band 2)**	**LTE 1900 (Band 2)**	**LTE 2500 (Band 7)**	**-**	**-**	**-**
Back	0.522	0.606	0.877	0.694	0.570	-	-	-
Display	0.344	0.391	0.738	0.618	0.461	-	-	-
Top	0.046	0.007	0.020	0.021	0.015	-	-	-
Bottom	0.351	0.457	0.902	0.609	0.676	-	-	-
Left	0.072	0.081	0.157	0.114	0.100	-	-	-
Right	0.171	0.143	0.263	0.219	0.120	-	-	-

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Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN2450 Max + Max combined results - Antenna 1

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Back	**0.491**	0.467	0.623	**0.653**	0.533	0.806	0.637	**0.598**
Display	0.476	0.455	**0.823**	0.604	**0.569**	**0.943**	**0.717**	0.504
Top	0.489	**0.480**	0.500	0.497	0.493	0.525	0.524	0.492
Bottom	0.144	0.213	0.279	0.266	0.267	0.562	0.410	0.251
Left	0.322	0.303	0.407	0.380	0.367	0.624	0.488	0.298
Right	0.125	0.156	0.280	0.236	0.236	0.099	0.108	0.091
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Back	**0.829**	**0.719**	1.030	-	-	-	-	-
Display	0.769	0.671	1.003	-	-	-	-	-
Top	0.517	0.504	0.487	-	-	-	-	-
Bottom	0.522	0.391	**1.088**	-	-	-	-	-
Left	0.480	0.386	0.568	-	-	-	-	-
Right	0.126	0.122	0.149	-	-	-	-	-

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Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN2450 Max + Max combined results - Antenna 2

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Back	0.532	0.565	**0.707**	0.694	0.567	0.799	**0.771**	**0.855**
Display	**0.548**	**0.570**	0.656	**0.753**	**0.603**	**0.943**	0.632	0.679
Top	0.477	0.477	0.482	0.485	0.478	0.528	0.515	0.476
Bottom	0.164	0.185	0.375	0.260	0.198	0.649	0.374	0.480
Left	0.290	0.282	0.193	0.373	0.358	0.285	0.210	0.219
Right	0.265	0.277	0.190	0.367	0.290	0.206	0.234	0.206
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Back	**1.126**	**0.943**	**0.819**	-	-	-	-	-
Display	1.026	0.906	0.749	-	-	-	-	-
Top	0.489	0.490	0.484	-	-	-	-	-
Bottom	0.925	0.632	0.699	-	-	-	-	-
Left	0.295	0.252	0.238	-	-	-	-	-
Right	0.326	0.282	0.183	-	-	-	-	-

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Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN5000 Max + Max combined results - Antenna 1

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	0.630	0.606	0.762	0.792	0.672	0.945	0.776	0.737
Display	0.709	0.688	**1.056**	0.837	0.802	**1.176**	**0.950**	0.737
Top	**0.890**	**0.881**	0.901	**0.898**	**0.894**	0.926	0.925	**0.893**
Bottom	0.189	0.258	0.324	0.311	0.312	0.607	0.455	0.296
Left	0.693	0.674	0.778	0.751	0.738	0.995	0.859	0.669
Right	0.105	0.136	0.260	0.216	0.216	0.079	0.088	0.071
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Back	0.968	0.858	1.169	-	-	-	-	-
Display	**1.002**	0.904	**1.236**	-	-	-	-	-
Top	0.918	**0.905**	0.888	-	-	-	-	-
Bottom	0.567	0.436	1.133	-	-	-	-	-
Left	0.851	0.757	0.939	-	-	-	-	-
Right	0.106	0.102	0.129	-	-	-	-	-

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Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN5000 Max + Max combined results - Antenna 2

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	0.671	0.704	0.846	0.833	0.706	0.938	0.910	**0.994**
Display	0.781	0.803	**0.889**	**0.986**	0.836	**1.176**	0.865	0.912
Top	**0.878**	**0.878**	0.883	0.886	**0.879**	0.929	**0.916**	0.877
Bottom	0.209	0.230	0.420	0.305	0.243	0.694	0.419	0.525
Left	0.661	0.653	0.564	0.744	0.729	0.656	0.581	0.590
Right	0.245	0.257	0.170	0.347	0.270	0.186	0.214	0.186
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Back	**1.265**	1.082	**0.958**	-	-	-	-	-
Display	1.259	**1.139**	0.982	-	-	-	-	-
Top	0.890	0.891	0.885	-	-	-	-	-
Bottom	0.970	0.677	0.744	-	-	-	-	-
Left	0.666	0.623	0.609	-	-	-	-	-
Right	0.306	0.262	0.163	-	-	-	-	-

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for Wireless Router 10 mm configurations for this product.

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7.3.15 Combined 1g Wireless Router 10 mm SAR data

The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

The combinations are done for the maximum Wireless Router 10 mm configuration of the each band or band group. Maximum configurations are given in the Max+Max tables in the Section 7.3 of the report. The same scaling factors are used in plotting as for the individual reported SAR value calculations.

Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 1 + WLAN2450 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Back	-	-	-	-	-	-	-	-
Display	-	-	0.590	-	-	0.644	-	-
Top	-	-	-	-	-	-	-	-
Bottom	-	-	-	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Back	-	-	-	-	-	-	-	-
Display	-	-	-	-	-	-	-	-
Top	-	-	-	-	-	-	-	-
Bottom	-	-	1.060	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	-	-	W14	-	-	-	-	-

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Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 2 + WLAN2450 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 2450	LTE700 (Band 17) + WLAN 2450	4-slot GPRS850 + WLAN 2450	WCDMA 850 (Band 5) + WLAN 2450	LTE850 (Band 5) + WLAN 2450	WCDMA 1700/2100 (Band 4) + WLAN 2450	LTE 1700/2100 (Band 4) + WLAN 2450	4-slot GPRS1900 + WLAN 2450
Back	-	-	-	-	-	-	-	-
Display	0.334	0.344	-	-	-	-	-	-
Top	-	-	-	-	-	-	-	-
Bottom	-	-	-	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 2450**	**LTE 1900 (Band 2) + WLAN 2450**	**LTE 2500 (Band 7) + WLAN 2450**	**-**	**-**	**-**	**-**	**-**
Back	0.981	-	-	-	-	-	-	-
Display	-	-	-	-	-	-	-	-
Top	-	-	-	-	-	-	-	-
Bottom	-	-	-	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

4-slot GPRS850 Antenna 1 + WLAN2450 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN2450 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN2450 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

Maximum of the Combined SAR values, namely LTE2500 (Band 7) + WLAN2450, in the above table is less than the maximum SAR value for the contributing cellular band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN2450 and b) uncertainties associated with the different methods of calculation. In this case, the maximum SAR values given for the combined Mode in the Summary table in Section 1.2.3 is that for the individual cellular band LTE2500 (Band 7).

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Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 1 + WLAN5000 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	-	-	-	-	-	-	-	-
Display	-	-	0.605	-	-	0.648	-	-
Top	0.873	0.866	-	-	-	-	-	-
Bottom	-	-	-	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	-	-	-	-	-
Back	-	-	-	-	-	-	-	-
Display	-	-	0.756	-	-	-	-	-
Top	-	-	-	-	-	-	-	-
Bottom	-	-	-	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-

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Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 2 + WLAN5000 SPEAG Combined Multiband algorithm results

Test configuration	LTE700 (Band 12) + WLAN 5000	LTE700 (Band 17) + WLAN 5000	4-slot GPRS850 + WLAN 5000	WCDMA 850 (Band 5) + WLAN 5000	LTE850 (Band 5) + WLAN 5000	WCDMA 1700/2100 (Band 4) + WLAN 5000	LTE 1700/2100 (Band 4) + WLAN 5000	4-slot GPRS1900 + WLAN 5000
Back	-	-	-	-	-	-	-	-
Display	-	-	-	-	-	-	-	-
Top	-	-	-	-	-	-	-	-
Bottom	-	-	-	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	-	-	-	-	-	-	-	-
Test configuration	**WCDMA 1900 (Band 2) + WLAN 5000**	**LTE 1900 (Band 2) + WLAN 5000**	**LTE 2500 (Band 7) + WLAN 5000**	**-**	**-**	**-**	**-**	**-**
Back	0.916	-	-	-	-	-	-	-
Display	-	-	-	-	-	-	-	-
Top	-	-	-	-	-	-	-	-
Bottom	-	-	-	-	-	-	-	-
Left	-	-	-	-	-	-	-	-
Right	-	-	-	-	-	-	-	-
Plot no	W15	-	-	-	-	-	-	-

4-slot GPRS850 Antenna 1 + WLAN5000 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN5000 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN5000 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 4-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

Note:
* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.
The highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. The highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results is given in the Section for the simultaneous transmitter combination giving the highest combined value.

Speag Combined Multiband Wireless Router 10 mm SAR plots are given in Appendix B.

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APPENDIX A: SYSTEM CHECKING SCANS

Plot 1

Date/Time: 2015-07-29 2:01:49 PM

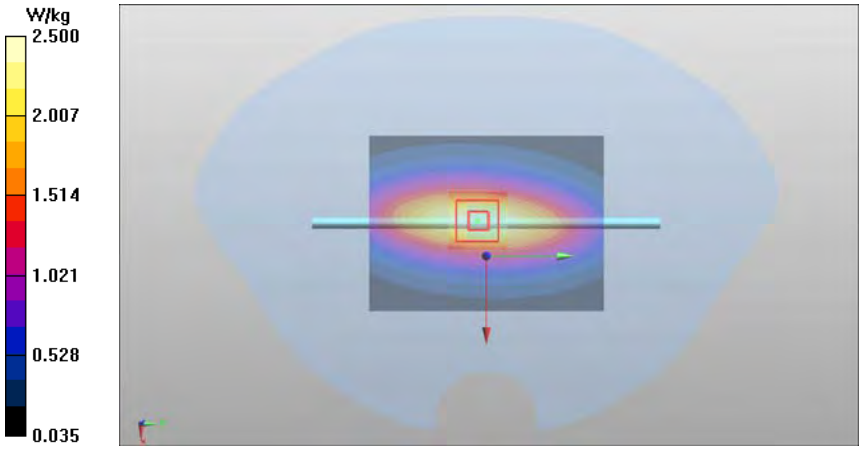
Test Laboratory: TCC Microsoft
Type: D750V3; Serial: D750V3 - SN:1075

Communication System: CW
Frequency: **750 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 22,0 C
Medium parameters used: f = 750 MHz; σ = 0.917 S/m; ε_r = 40.772; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(9.14, 9.14, 9.14); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #1 SAM, SAR4; Type: SAM; Serial: TP-1018
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=15mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 50.41 V/m
Fast SAR: SAR(1 g) = 2.18 W/kg
Fast SAR(10 g) = 1.49 W/kg
Maximum value of SAR (interpolated) = 2.50 W/kg

d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 50.41 V/m
Peak SAR (extrapolated) = 3.18 W/kg
SAR(1 g) = 2.14 W/kg
SAR(10 g) = 1.41 W/kg
Power Drift = -0.02 dB
Maximum value of SAR (measured) = 2.50 W/kg



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Plot 2

Date/Time: 2015-07-24 8:58:04 AM

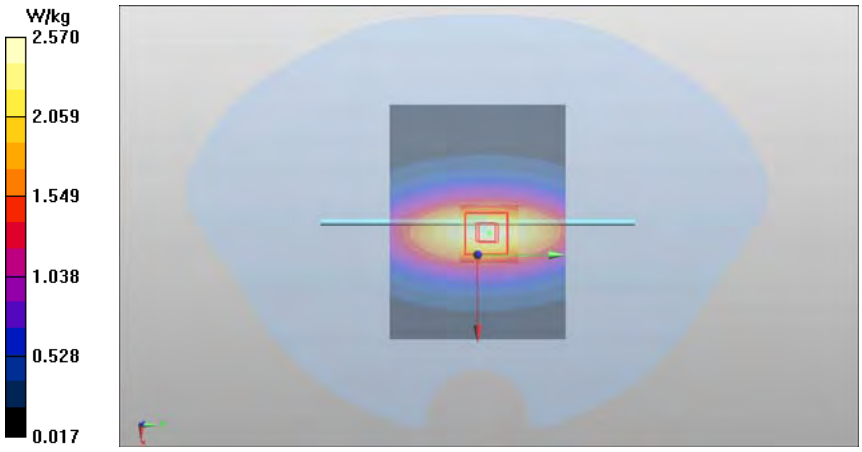
Test Laboratory: TCC Microsoft
Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW
Frequency: **835 MHz**; Duty Cycle: 1:1
Medium: HSL835; Medium Notes: t= 23 C
Medium parameters used: f = 835 MHz; σ = 0.898 S/m; ε_r = 39.912; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=15mm, Pin=250mW 2/Area Scan (81x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 50.22 V/m
Fast SAR: SAR(1 g) = 2.24 W/kg
Fast SAR(10 g) = 1.53 W/kg
Maximum value of SAR (interpolated) = 2.57 W/kg

d=15mm, Pin=250mW 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 50.22 V/m
Peak SAR (extrapolated) = 3.33 W/kg
SAR(1 g) = 2.24 W/kg
SAR(10 g) = 1.46 W/kg
Power Drift = 0.00 dB
Maximum value of SAR (measured) = 2.61 W/kg



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Plot 3

Date/Time: 2015-07-22 10:32:54 AM

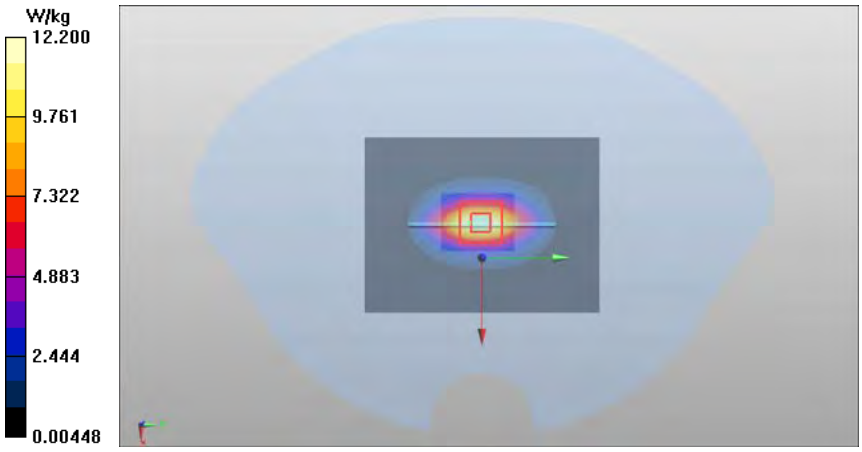
Test Laboratory: TCC Microsoft
Type: D1750V2; Serial: D1750V2 - SN:1082

Communication System: CW
Frequency: **1750 MHz**; Duty Cycle: 1:1
Medium: HSL1800; Medium Notes: t= 22,5 C
Medium parameters used: f = 1750 MHz; σ = 1.331 S/m; ε_r = 38.636; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.22, 5.22, 5.22); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: SAM 1; Type: SAM; Serial: TP-1167
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 90.75 V/m
Fast SAR: SAR(1 g) = 9.72 W/kg
Fast SAR(10 g) = 5.21 W/kg
Maximum value of SAR (interpolated) = 12.2 W/kg

d=10mm, Pin=250mW/Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.75 V/m
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 9.44 W/kg
SAR(10 g) = 5.01 W/kg
Power Drift = 0.00 dB
Maximum value of SAR (measured) = 11.9 W/kg



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Plot 4

Date/Time: 2015-08-13 8:32:26 AM

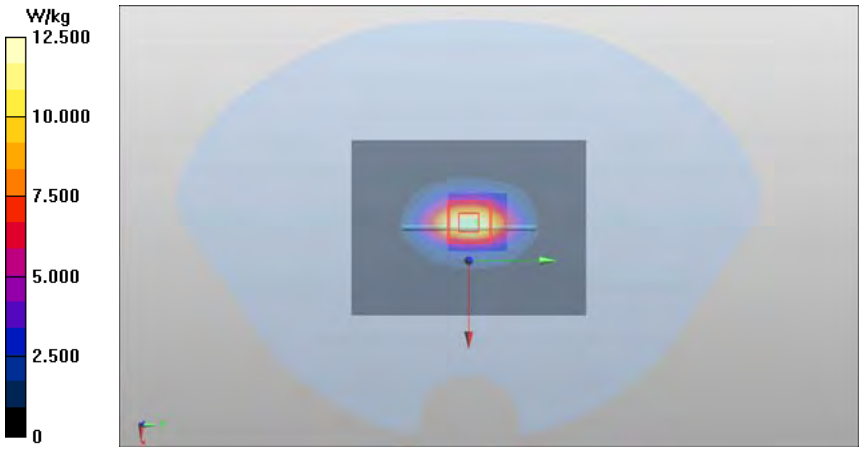
Test Laboratory: TCC Microsoft
Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW
Frequency: **1900 MHz**; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t= 22.7 C
Medium parameters used: f = 1900 MHz; σ = 1.383 S/m; ε_r = 39.299; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 89.40 V/m
Fast SAR: SAR(1 g) = 9.88 W/kg
Fast SAR(10 g) = 5.15 W/kg
Maximum value of SAR (interpolated) = 12.5 W/kg

d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 89.40 V/m
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 9.86 W/kg
SAR(10 g) = 5.14 W/kg
Power Drift = -0.07 dB
Maximum value of SAR (measured) = 12.4 W/kg



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Plot 5

Date/Time: 2015-07-31 8:31:53 AM

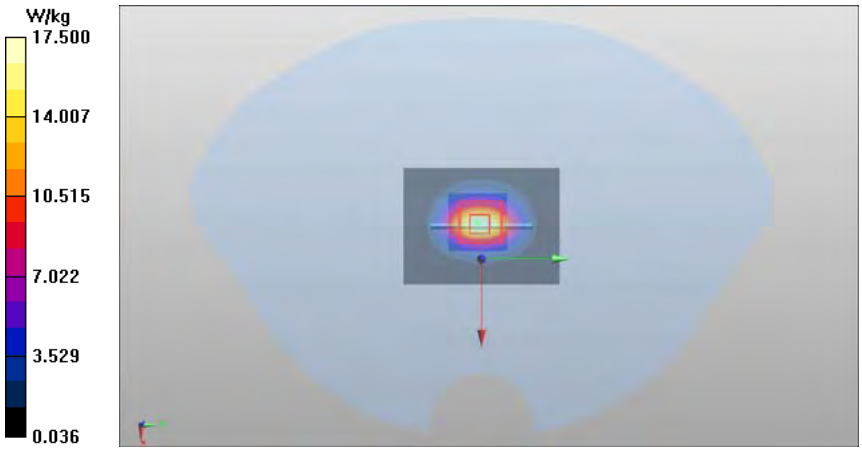
Test Laboratory: TCC Microsoft
Type: D2450V2; Serial: D2450V2 - SN:749

Communication System: CW
Frequency: **2450 MHz**; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: t= 22.6 C
Medium parameters used: f = 2450 MHz; σ = 1.75 S/m; ε_r = 38.078; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.24, 7.24, 7.24); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 92.75 V/m
Fast SAR: SAR(1 g) = 13.2 W/kg
Fast SAR(10 g) = 5.91 W/kg
Maximum value of SAR (interpolated) = 17.5 W/kg

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.75 V/m
Peak SAR (extrapolated) = 27.8 W/kg
SAR(1 g) = 13.5 W/kg
SAR(10 g) = 6.27 W/kg
Power Drift = -0.04 dB
Maximum value of SAR (measured) = 17.7 W/kg



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Plot 6

Date/Time: 2015-07-28 1:14:13 PM

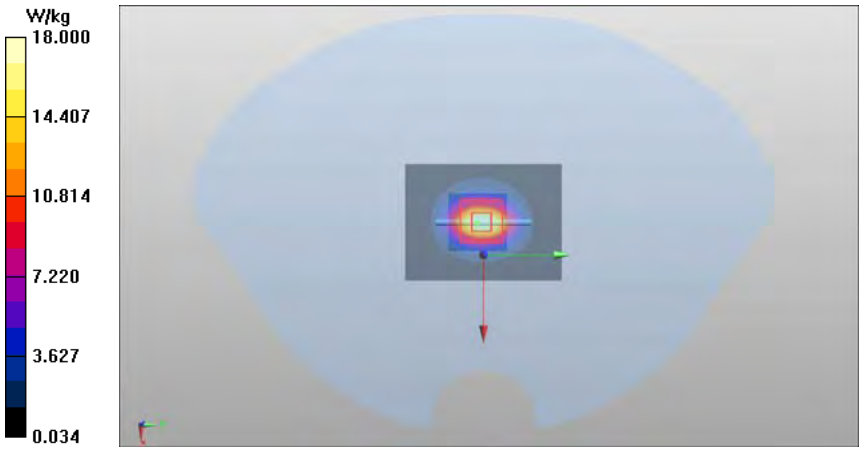
Test Laboratory: TCC Microsoft
Type: D2600V2; Serial: D2600V2 - SN:1056

Communication System: CW
Frequency: **2600 MHz**; Duty Cycle: 1:1
Medium: HSL2600; Medium Notes: t= 22.4 C
Medium parameters used: f = 2600 MHz; σ = 1.884 S/m; ε_r = 37.122; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.13, 7.13, 7.13); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 90.20 V/m
Fast SAR: SAR(1 g) = 13.7 W/kg
Fast SAR(10 g) = 6.16 W/kg
Maximum value of SAR (interpolated) = 18.0 W/kg

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.20 V/m
Peak SAR (extrapolated) = 30.0 W/kg
SAR(1 g) = 13.4 W/kg
SAR(10 g) = 5.89 W/kg
Power Drift = 0.02 dB
Maximum value of SAR (measured) = 17.6 W/kg



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Plot 7

Date/Time: 2015-07-15 8:16:39 AM

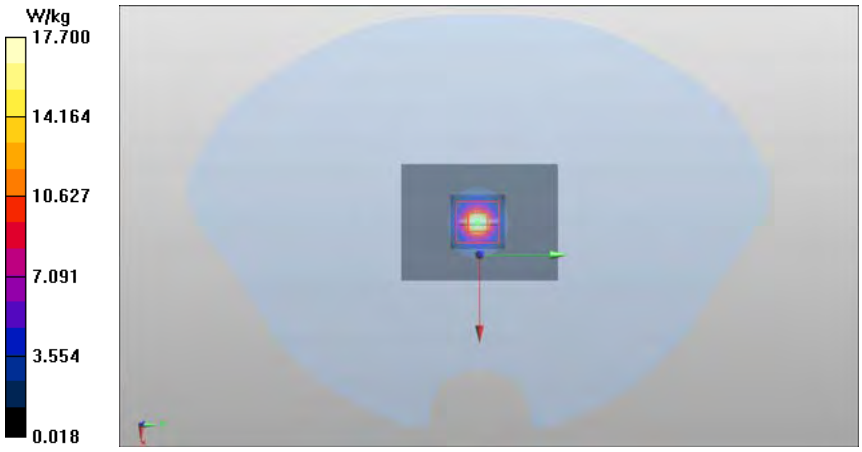
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5200 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t=21.6 C
Medium parameters used: f = 5200 MHz; σ = 4.621 S/m; ε_r = 36.529; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.87, 4.87, 4.87); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5200/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 64.69 V/m
Fast SAR: SAR(1 g) = 8.05 W/kg
Fast SAR(10 g) = 2.21 W/kg
Maximum value of SAR (interpolated) = 17.7 W/kg

d=10mm, Pin=100mW 5200/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 64.69 V/m
Peak SAR (extrapolated) = 35.6 W/kg
SAR(1 g) = 8.47 W/kg
SAR(10 g) = 2.41 W/kg
Power Drift = 0.02 dB
Maximum value of SAR (measured) = 16.1 W/kg



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Plot 8

Date/Time: 2015-07-18 10:13:11 AM

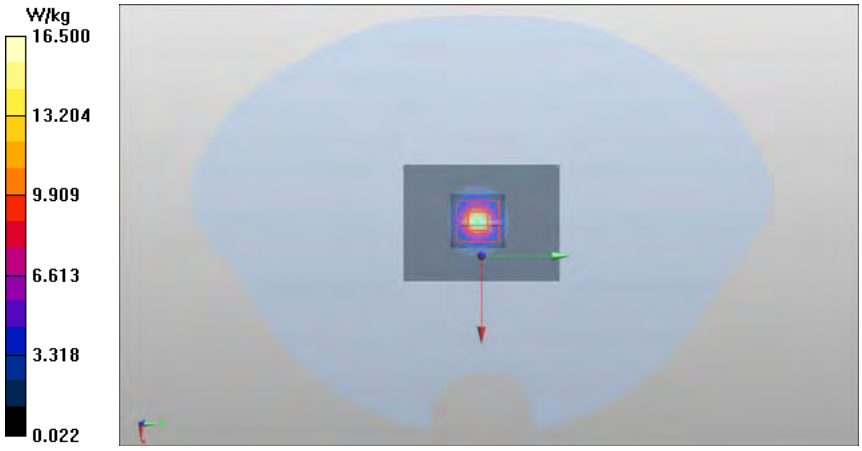
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5300 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t=21.6 C
Medium parameters used: f = 5300 MHz; σ = 4.704 S/m; ε_r = 35.888; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5300/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 62.89 V/m
Fast SAR: SAR(1 g) = 7.34 W/kg
Fast SAR(10 g) = 2.02 W/kg
Maximum value of SAR (interpolated) = 16.5 W/kg

d=10mm, Pin=100mW 5300/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 62.89 V/m
Peak SAR (extrapolated) = 36.7 W/kg
SAR(1 g) = 8.51 W/kg
SAR(10 g) = 2.41 W/kg
Power Drift = 0.13 dB
Maximum value of SAR (measured) = 16.4 W/kg



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Plot 9

Date/Time: 2015-10-15 10:39:16 AM

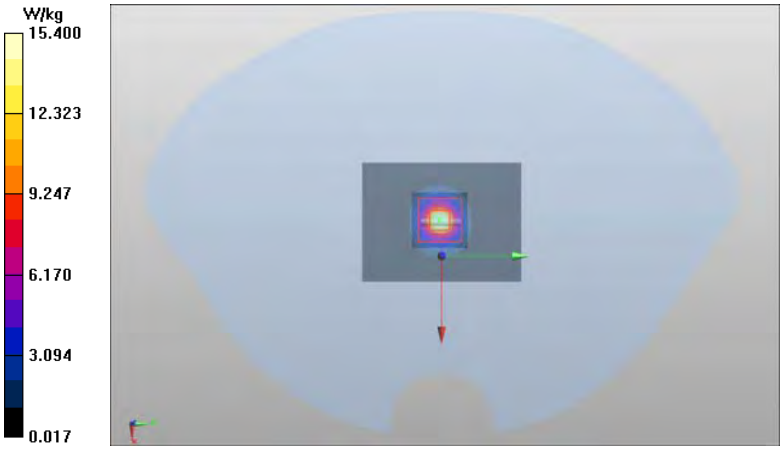
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5500 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t=21.0 C
Medium parameters used: f = 5500 MHz; σ = 4.817 S/m; ε_r = 35.825; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.7, 4.7, 4.7); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5500/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 60.99 V/m
Fast SAR: SAR(1 g) = 6.87 W/kg
Fast SAR(10 g) = 1.87 W/kg
Maximum value of SAR (interpolated) = 15.4 W/kg

d=10mm, Pin=100mW 5500/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 60.99 V/m
Peak SAR (extrapolated) = 33.0 W/kg
SAR(1 g) = 7.54 W/kg
SAR(10 g) = 2.12 W/kg
Power Drift = -0.00 dB
Maximum value of SAR (measured) = 14.6 W/kg



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Plot 10

Date/Time: 2015-07-18 8:42:36 AM

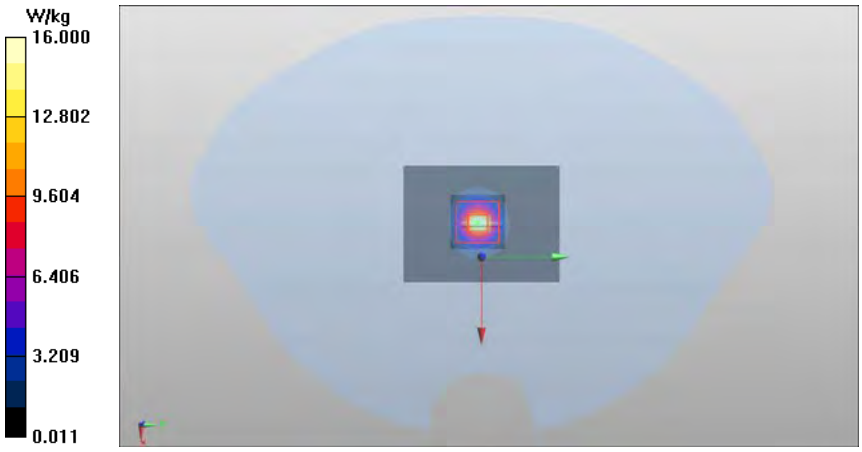
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5600 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t=21.6 C
Medium parameters used: f = 5600 MHz; σ = 5.003 S/m; ε_r = 35.434; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.53, 4.53, 4.53); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5600/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 62.05 V/m
Fast SAR: SAR(1 g) = 7.06 W/kg
Fast SAR(10 g) = 1.93 W/kg
Maximum value of SAR (interpolated) = 16.0 W/kg

d=10mm, Pin=100mW 5600/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 62.05 V/m
Peak SAR (extrapolated) = 37.1 W/kg
SAR(1 g) = 8.38 W/kg
SAR(10 g) = 2.35 W/kg
Power Drift = 0.12 dB
Maximum value of SAR (measured) = 16.4 W/kg



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Plot 11

Date/Time: 2015-07-16 9:39:18 AM

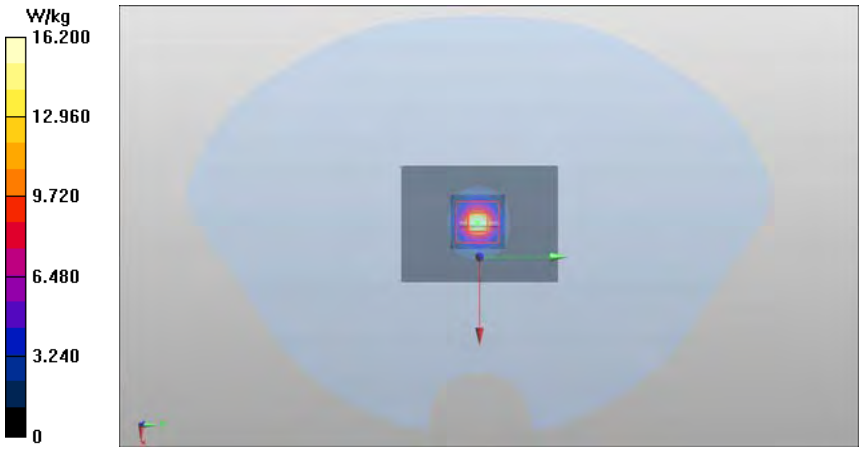
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5800 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t=21.6 C
Medium parameters used: f = 5800 MHz; σ = 5.206 S/m; ε_r = 34.958; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.5, 4.5, 4.5); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5800/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 59.45 V/m
Fast SAR: SAR(1 g) = 7.1 W/kg
Fast SAR(10 g) = 1.94 W/kg
Maximum value of SAR (interpolated) = 16.2 W/kg

d=10mm, Pin=100mW 5800/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 59.45 V/m
Peak SAR (extrapolated) = 35.6 W/kg
SAR(1 g) = 7.67 W/kg
SAR(10 g) = 2.17 W/kg
Power Drift = 0.08 dB
Maximum value of SAR (measured) = 15.3 W/kg



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Plot 12

Date/Time: 2015-08-02 6:39:49 AM

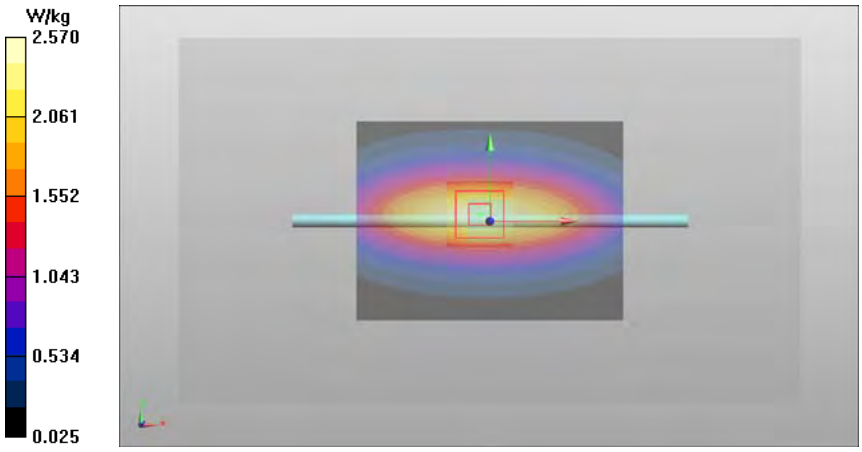
Test Laboratory: TCC Microsoft
Type: D750V3; Serial: D750V3 - SN:1075

Communication System: CW
Frequency: **750 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22.0 C
Medium parameters used: f = 750 MHz; σ = 0.961 S/m; ε_r = 53.355; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=15mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 49.55 V/m
Fast SAR: SAR(1 g) = 2.24 W/kg
Fast SAR(10 g) = 1.52 W/kg
Maximum value of SAR (interpolated) = 2.57 W/kg

d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 49.55 V/m
Peak SAR (extrapolated) = 3.23 W/kg
SAR(1 g) = 2.22 W/kg
SAR(10 g) = 1.47 W/kg
Power Drift = -0.02 dB
Maximum value of SAR (measured) = 2.59 W/kg



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Plot 13

Date/Time: 2015-07-28 8:39:00 AM

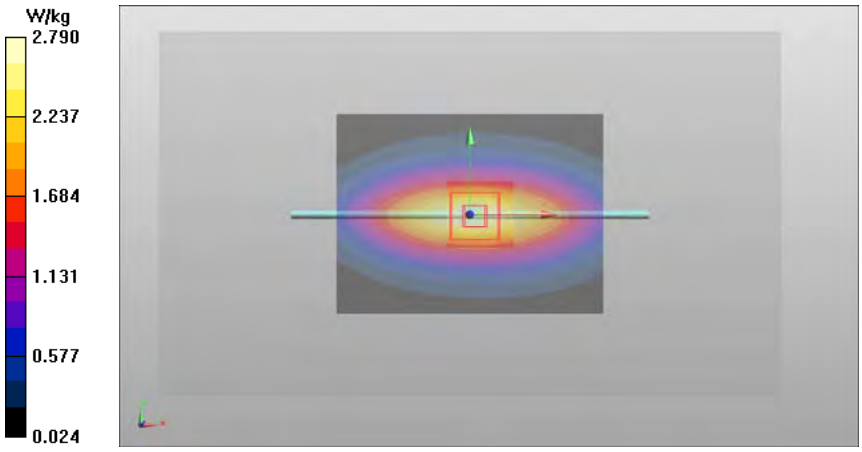
Test Laboratory: TCC Microsoft
Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW
Frequency: **835 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used: f = 835 MHz; σ = 0.986 S/m; ε_r = 53.036; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=15mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 51.70 V/m
Fast SAR: SAR(1 g) = 2.43 W/kg
Fast SAR(10 g) = 1.63 W/kg
Maximum value of SAR (interpolated) = 2.79 W/kg

d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 51.70 V/m
Peak SAR (extrapolated) = 3.51 W/kg
SAR(1 g) = 2.39 W/kg
SAR(10 g) = 1.57 W/kg
Power Drift = -0.01 dB
Maximum value of SAR (measured) = 2.78 W/kg



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Plot 14

Date/Time: 2015-07-21 8:32:16 AM

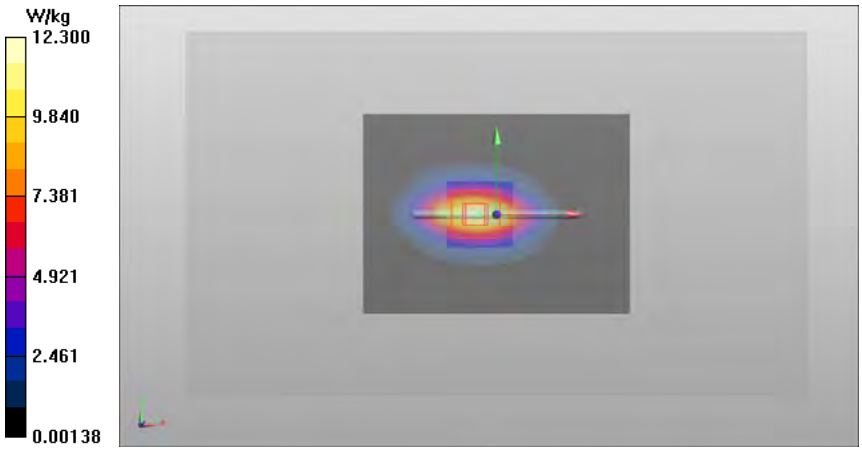
Test Laboratory: TCC Microsoft
Type: D1750V2; Serial: D1750V2 - SN:1082

Communication System: CW
Frequency: **1750 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 22,3 C
Medium parameters used: f = 1750 MHz; σ = 1.459 S/m; ε_r = 51.44; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: Triple Flat Phantom 5.1C; Type: SN 000 T01 DA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 80.93 V/m
Fast SAR: SAR(1 g) = 9.46 W/kg
Fast SAR(10 g) = 4.9 W/kg
Maximum value of SAR (interpolated) = 12.3 W/kg

d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 80.93 V/m
Peak SAR (extrapolated) = 16.2 W/kg
SAR(1 g) = 9.3 W/kg
SAR(10 g) = 4.98 W/kg
Power Drift = 0.00 dB
Maximum value of SAR (measured) = 11.6 W/kg



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Plot 15

Date/Time: 2015-08-11 8:19:29 AM

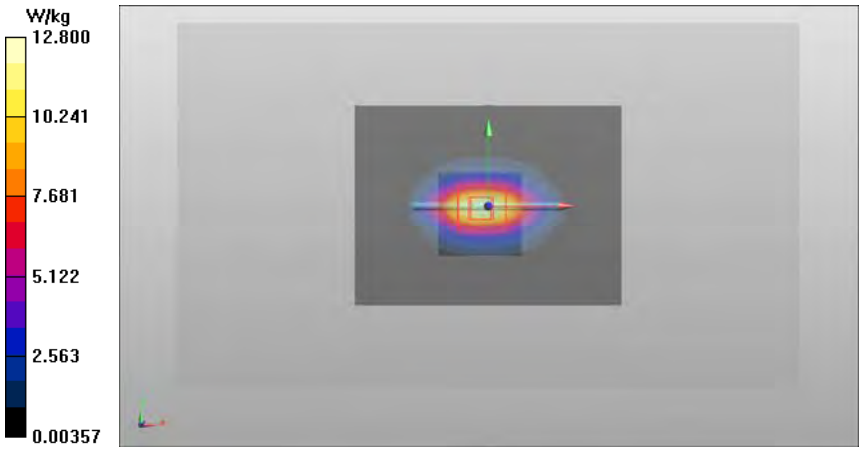
Test Laboratory: TCC Microsoft
Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW
Frequency: **1900 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 23.3 C
Medium parameters used: f = 1900 MHz; σ = 1.495 S/m; ε_r = 51.889; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 87.06 V/m
Fast SAR: SAR(1 g) = 9.7 W/kg
Fast SAR(10 g) = 4.86 W/kg
Maximum value of SAR (interpolated) = 12.8 W/kg

d=10mm, Pin=250mW/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.06 V/m
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 9.63 W/kg
SAR(10 g) = 5.12 W/kg
Power Drift = 0.03 dB
Maximum value of SAR (measured) = 12.0 W/kg



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Plot 16

Date/Time: 2015-08-01 7:36:04 AM

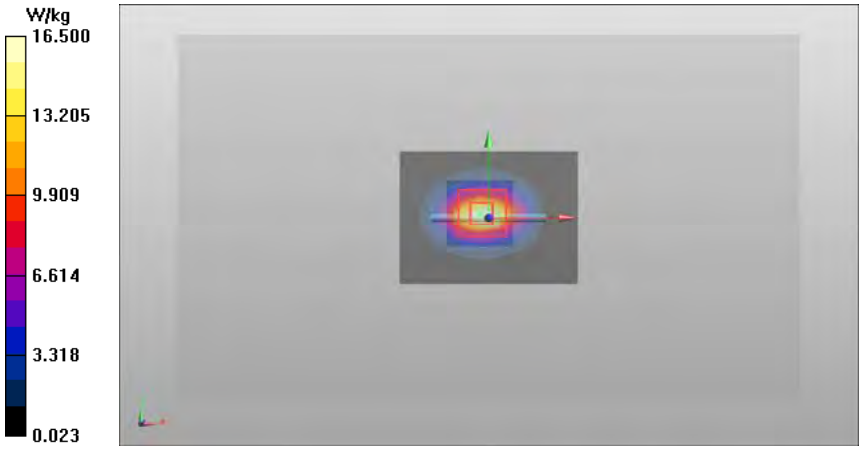
Test Laboratory: TCC Microsoft
Type: D2450V2; Serial: D2450V2 - SN:749

Communication System: CW
Frequency: **2450 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22,6 C
Medium parameters used: f = 2450 MHz; σ = 1.902 S/m; ε_r = 51.53; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 83.59 V/m
Fast SAR: SAR(1 g) = 11.9 W/kg
Fast SAR(10 g) = 5.14 W/kg
Maximum value of SAR (interpolated) = 16.5 W/kg

d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 83.59 V/m
Peak SAR (extrapolated) = 23.3 W/kg
SAR(1 g) = 11.9 W/kg
SAR(10 g) = 5.61 W/kg
Power Drift = -0.05 dB
Maximum value of SAR (measured) = 13.5 W/kg



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Plot 17

Date/Time: 2015-08-06 5:37:00 PM

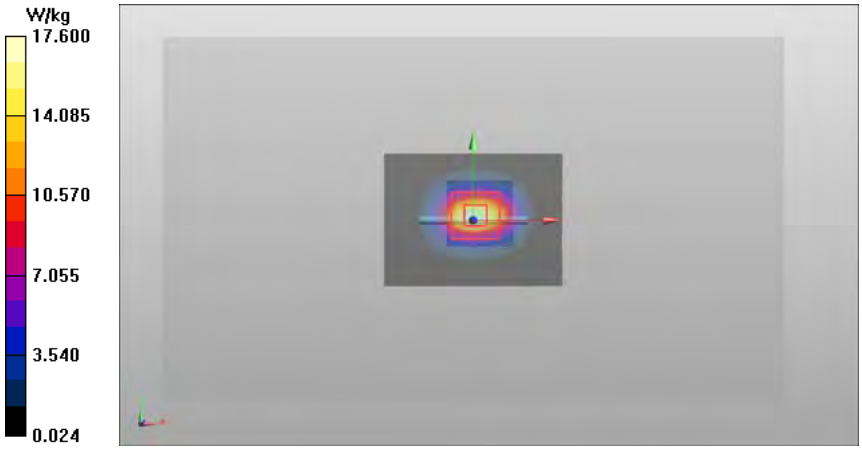
Test Laboratory: TCC Microsoft
Type: D2600V2; Serial: D2600V2 - SN:1056

Communication System: CW
Frequency: **2600 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 23.3 C
Medium parameters used: f = 2600 MHz; σ = 2.061 S/m; ε_r = 51.228; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 83.30 V/m
Fast SAR: SAR(1 g) = 13.1 W/kg
Fast SAR(10 g) = 5.81 W/kg
Maximum value of SAR (interpolated) = 17.6 W/kg

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.30 V/m
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 13 W/kg
SAR(10 g) = 5.93 W/kg
Power Drift = 0.12 dB
Maximum value of SAR (measured) = 17.0 W/kg



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Plot 18

Date/Time: 2015-07-20 8:57:26 AM

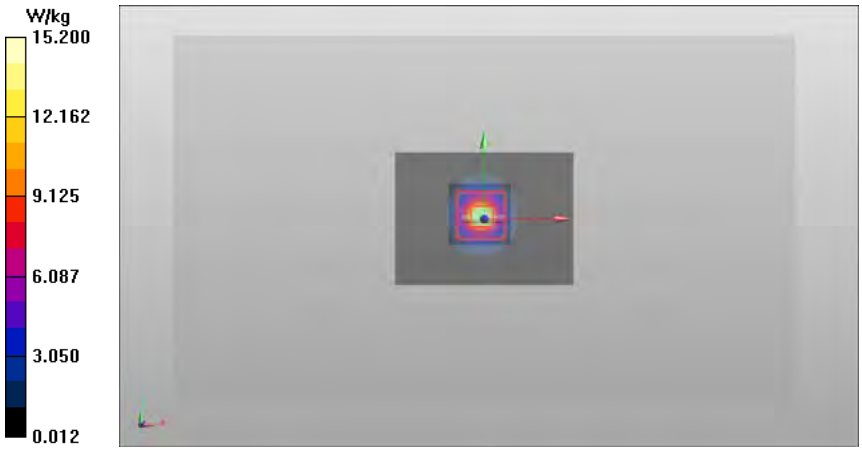
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5200 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: 21.3 C
Medium parameters used: f = 5200 MHz; σ = 5.443 S/m; ε_r = 47.542; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5200/Area Scan (81x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 55.40 V/m
Fast SAR: SAR(1 g) = 6.8 W/kg
Fast SAR(10 g) = 1.89 W/kg
Maximum value of SAR (interpolated) = 15.2 W/kg

d=10mm, Pin=100mW 5200/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 55.40 V/m
Peak SAR (extrapolated) = 30.8 W/kg
SAR(1 g) = 7.4 W/kg
SAR(10 g) = 2.08 W/kg
Power Drift = 0.07 dB
Maximum value of SAR (measured) = 14.5 W/kg



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Plot 19

Date/Time: 2015-07-19 6:31:59 AM

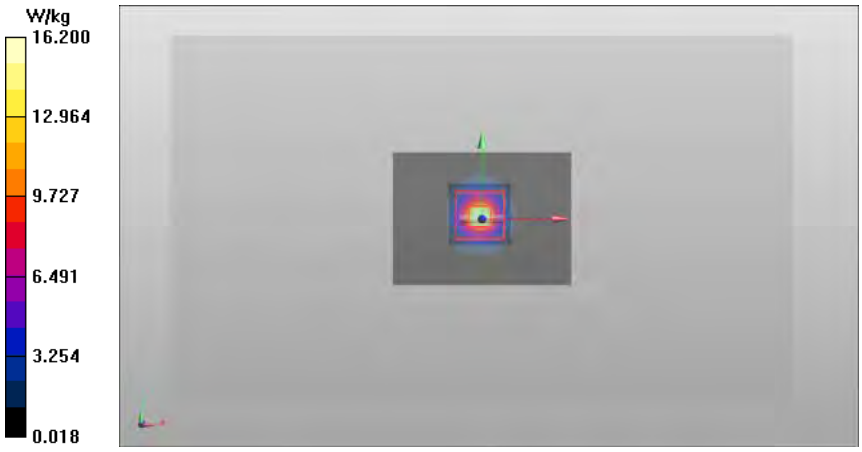
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5300 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: 21.3 C
Medium parameters used: f = 5300 MHz; σ = 5.566 S/m; ε_r = 47.574; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.35, 4.35, 4.35); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5300/Area Scan (81x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 56.96 V/m
Fast SAR: SAR(1 g) = 7.25 W/kg
Fast SAR(10 g) = 1.99 W/kg
Maximum value of SAR (interpolated) = 16.2 W/kg

d=10mm, Pin=100mW 5300/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 56.96 V/m
Peak SAR (extrapolated) = 33.1 W/kg
SAR(1 g) = 7.82 W/kg
SAR(10 g) = 2.2 W/kg
Power Drift = 0.09 dB
Maximum value of SAR (measured) = 15.3 W/kg



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Plot 20

Date/Time: 2015-07-19 7:11:18 AM

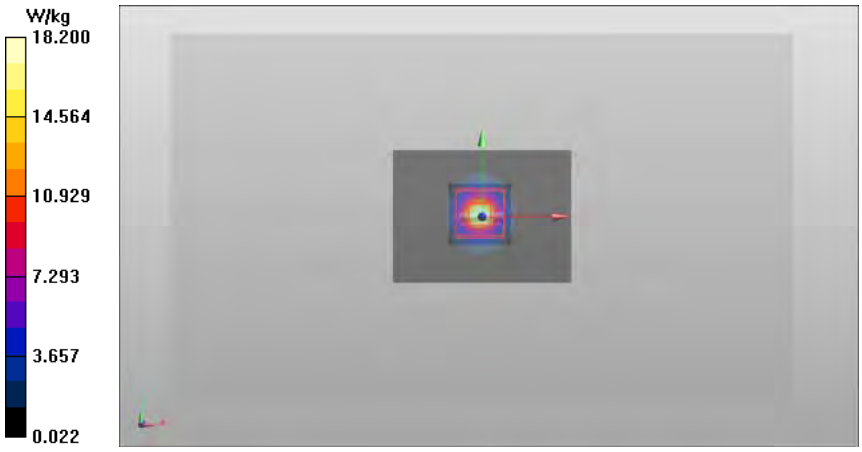
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5600 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: 21.3 C
Medium parameters used: f = 5600 MHz; σ = 5.963 S/m; ε_r = 47.003; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(3.65, 3.65, 3.65); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5600/Area Scan (81x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 59.33 V/m
Fast SAR: SAR(1 g) = 8.06 W/kg
Fast SAR(10 g) = 2.19 W/kg
Maximum value of SAR (interpolated) = 18.2 W/kg

d=10mm, Pin=100mW 5600/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 59.33 V/m
Peak SAR (extrapolated) = 36.1 W/kg
SAR(1 g) = 8.47 W/kg
SAR(10 g) = 2.36 W/kg
Power Drift = -0.00 dB
Maximum value of SAR (measured) = 16.8 W/kg



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Plot 21

Date/Time: 2015-07-19 8:43:04 AM

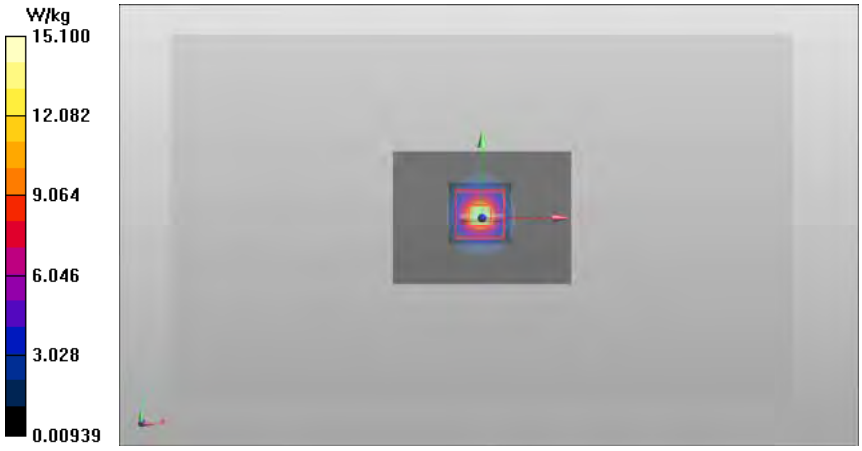
Test Laboratory: TCC Microsoft
Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048

Communication System: CW
Frequency: **5800 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: 21.3 C
Medium parameters used: f = 5800 MHz; σ = 6.22 S/m; ε_r = 46.706; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.1, 4.1, 4.1); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

d=10mm, Pin=100mW 5800/Area Scan (81x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 53.79 V/m
Fast SAR: SAR(1 g) = 6.63 W/kg
Fast SAR(10 g) = 1.8 W/kg
Maximum value of SAR (interpolated) = 15.1 W/kg

d=10mm, Pin=100mW 5800/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 53.79 V/m
Peak SAR (extrapolated) = 31.6 W/kg
SAR(1 g) = 7.22 W/kg
SAR(10 g) = 2 W/kg
Power Drift = 0.03 dB
Maximum value of SAR (measured) = 14.5 W/kg



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APPENDIX B: MEASUREMENT SCANS

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Plot H1

Date/Time: 2015-07-31 11:42:38 AM

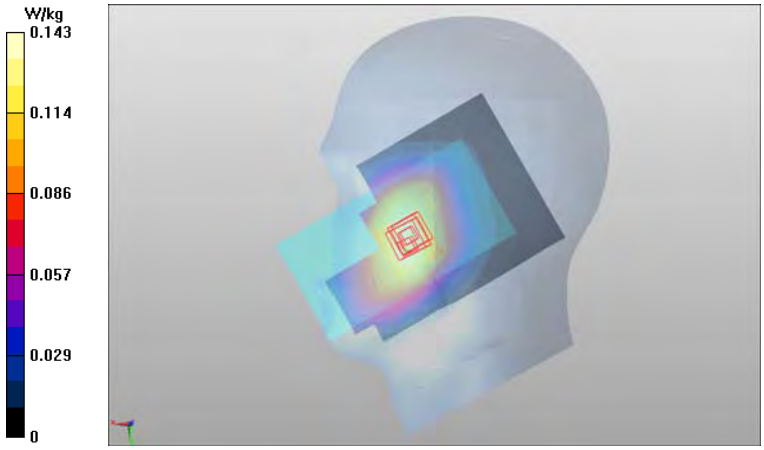
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236228/2, 004402/74/236229/0

Communication System: LTE700 (Band 12)
Frequency: **707.5 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 21.9 C
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.876 S/m; ε_r = 40.773; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(9.14, 9.14, 9.14); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #1 SAM, SAR4; Type: SAM; Serial: TP-1018
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE700 (Band 12) - Right/Cheek - CH 23095 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 13.13 V/m
Fast SAR: SAR(1 g) = 0.128 W/kg
Fast SAR(10 g) = 0.092 W/kg
Maximum value of SAR (interpolated) = 0.143 W/kg

LTE700 (Band 12) - Right/Cheek - CH 23095 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 2/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.95 V/m
Peak SAR (extrapolated) = 0.158 W/kg
SAR(1 g) = 0.133 W/kg
SAR(10 g) = 0.107 W/kg
Power Drift = 0.11 dB
Maximum value of SAR (measured) = 0.143 W/kg



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Plot H2

Date/Time: 2015-07-30 10:34:35 AM

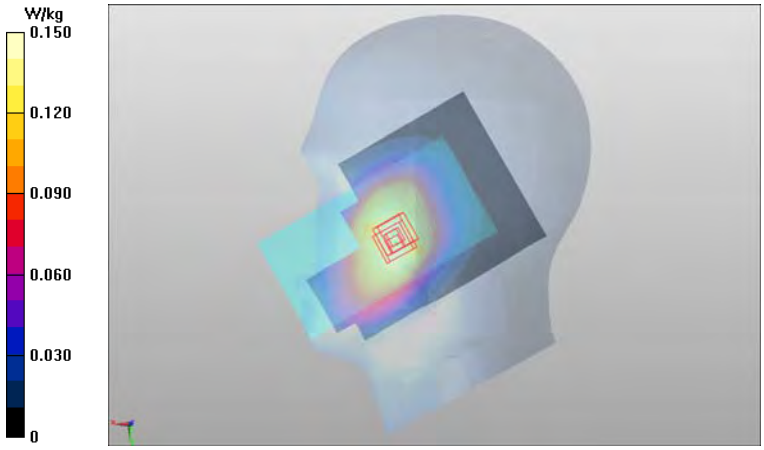
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236228/2, 004402/74/236229/0

Communication System: LTE700 (Band 17)
Frequency: **710 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 21.9 C
Medium parameters used: f = 710 MHz; σ = 0.877 S/m; ε_r = 40.983; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(9.14, 9.14, 9.14); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #1 SAM, SAR4; Type: SAM; Serial: TP-1018
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE700 (Band 17) - Right/Cheek - CH 23790 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 13.04 V/m
Fast SAR: SAR(1 g) = 0.134 W/kg
Fast SAR(10 g) = 0.096 W/kg
Maximum value of SAR (interpolated) = 0.150 W/kg

LTE700 (Band 17) - Right/Cheek - CH 23790 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 2/Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.98 V/m
Peak SAR (extrapolated) = 0.164 W/kg
SAR(1 g) = 0.137 W/kg
SAR(10 g) = 0.110 W/kg
Power Drift = 0.09 dB
Maximum value of SAR (measured) = 0.148 W/kg



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Plot H3

Date/Time: 2015-07-24 10:35:46 AM

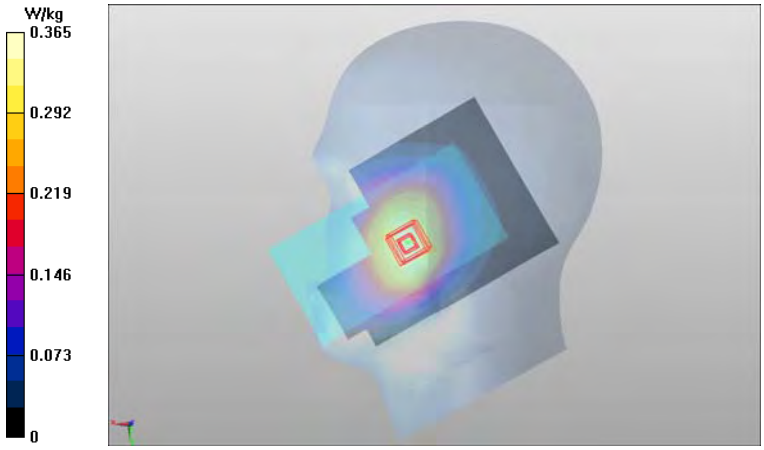
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: 4-slot GPRS850
Frequency: **848.8 MHz**; Duty Cycle: 1:2.09991
Medium: HSL835; Medium Notes: t= 23 C
Medium parameters used: f = 849 MHz; σ = 0.908 S/m; ε_r = 39.844; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

4-Slot GPRS850 - Right/Cheek - CH 251 - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 20.18 V/m
Fast SAR: SAR(1 g) = 0.323 W/kg
Fast SAR(10 g) = 0.229 W/kg
Maximum value of SAR (interpolated) = 0.365 W/kg

4-Slot GPRS850 - Right/Cheek - CH 251 - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.55 V/m
Peak SAR (extrapolated) = 0.416 W/kg
SAR(1 g) = 0.340 W/kg
SAR(10 g) = 0.267 W/kg
Power Drift = 0.05 dB
Maximum value of SAR (measured) = 0.356 W/kg



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Plot H4

Date/Time: 2015-07-24 1:32:04 PM

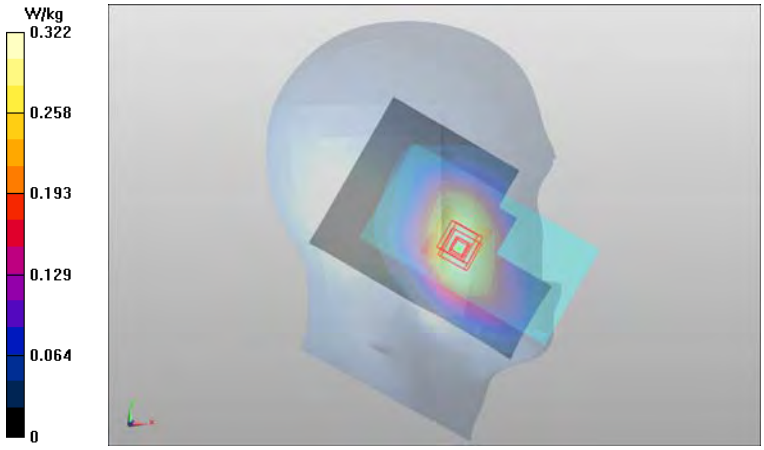
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: WCDMA850 (Band 5)
Frequency: **846.6 MHz**; Duty Cycle: 1:1
Medium: HSL835; Medium Notes: t= 23 C
Medium parameters used: f = 847 MHz; σ = 0.906 S/m; ε_r = 39.861; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA850 (Band 5) - Left/Cheek - CH 4233 - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 19.50 V/m
Fast SAR: SAR(1 g) = 0.284 W/kg
Fast SAR(10 g) = 0.201 W/kg
Maximum value of SAR (interpolated) = 0.322 W/kg

WCDMA850 (Band 5) - Left/Cheek - CH 4233 - Antenna 1/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.53 V/m
Peak SAR (extrapolated) = 0.374 W/kg
SAR(1 g) = 0.295 W/kg
SAR(10 g) = 0.228 W/kg
Power Drift = 0.01 dB
Maximum value of SAR (measured) = 0.325 W/kg



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Plot H5

Date/Time: 2015-07-25 11:36:38 AM

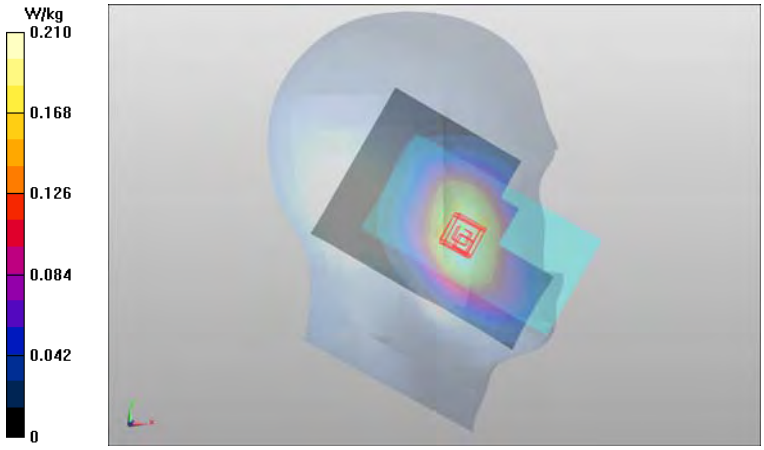
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: LTE850 (Band 5)
Frequency: **844 MHz**; Duty Cycle: 1:1
Medium: HSL835; Medium Notes: t= 22.8 C
Medium parameters used: f = 844 MHz; σ = 0.908 S/m; ε_r = 40.09; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE750 (Band 5) - Left/Cheek - CH 20600 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 1/Area Scan (81x141x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 15.79 V/m
Fast SAR: SAR(1 g) = 0.186 W/kg
Fast SAR(10 g) = 0.132 W/kg
Maximum value of SAR (interpolated) = 0.210 W/kg

LTE750 (Band 5) - Left/Cheek - CH 20600 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.06 V/m
Peak SAR (extrapolated) = 0.256 W/kg
SAR(1 g) = 0.202 W/kg
SAR(10 g) = 0.156 W/kg
Power Drift = 0.02 dB
Maximum value of SAR (measured) = 0.221 W/kg



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Plot H6

Date/Time: 2015-07-27 10:19:13 AM

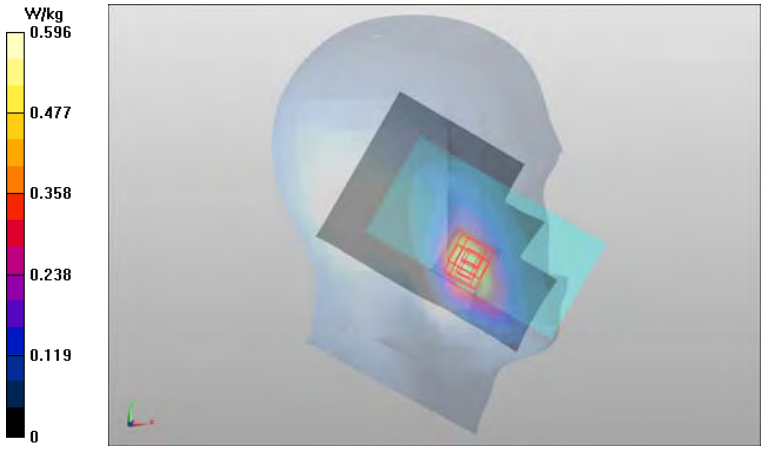
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236260/5, 004402/74/236263/1

Communication System: WCDMA1700/2100 (Band 4)
Frequency: **1732.4 MHz**; Duty Cycle: 1:1
Medium: HSL 1750; Medium Notes: t= 22.7 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.308 S/m; ε_r = 38.951; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.22, 5.22, 5.22); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: SAM 1; Type: SAM; Serial: TP-1167
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA1700_2100 (Band 4) - Left/Cheek - CH 1412 - Antenna 1/Area Scan (81x141x1): Interpolated grid:
dx=1.500 mm, dy=1.500 mm
Reference Value = 5.728 V/m
Fast SAR: SAR(1 g) = 0.469 W/kg
Fast SAR(10 g) = 0.280 W/kg
Maximum value of SAR (interpolated) = 0.596 W/kg

WCDMA1700_2100 (Band 4) - Left/Cheek - CH 1412 - Antenna 1/Zoom Scan (6x6x7)/Cube 0: Measurement grid:
dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.263 V/m
Peak SAR (extrapolated) = 0.617 W/kg
SAR(1 g) = 0.411 W/kg
SAR(10 g) = 0.260 W/kg
Power Drift = 0.17 dB
Maximum value of SAR (measured) = 0.483 W/kg



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Plot H7

Date/Time: 2015-07-24 9:22:14 AM

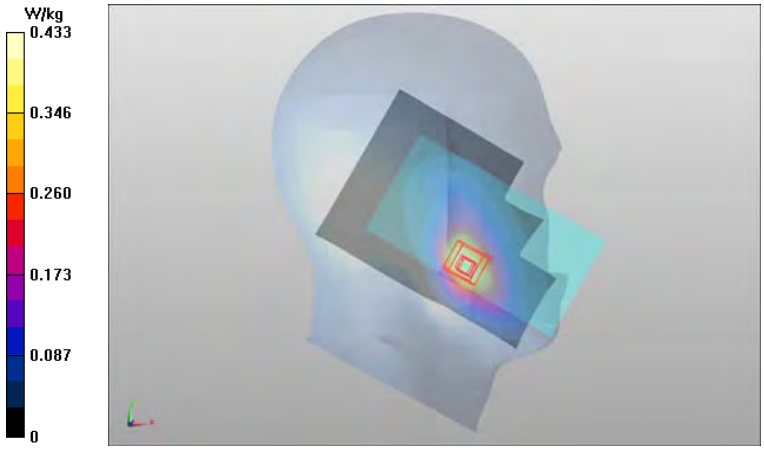
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236260/5, 004402/74/236263/1

Communication System: LTE1700/2100 (Band 4)
Frequency: **1720 MHz**; Duty Cycle: 1:1
Medium: HSL1750; Medium Notes: t= 22,2 C
Medium parameters used: f = 1720 MHz; σ = 1.292 S/m; ε_r = 39.296; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.22, 5.22, 5.22); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: SAM 1; Type: SAM; Serial: TP-1167
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE1700_2100 (Band 4) - Left/Cheek - CH 20050 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 16.05 V/m
Fast SAR: SAR(1 g) = 0.340 W/kg
Fast SAR(10 g) = 0.205 W/kg
Maximum value of SAR (interpolated) = 0.433 W/kg

LTE1700_2100 (Band 4) - Left/Cheek - CH 20050 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.06 V/m
Peak SAR (extrapolated) = 0.520 W/kg
SAR(1 g) = 0.355 W/kg
SAR(10 g) = 0.229 W/kg
Power Drift = 0.06 dB
Maximum value of SAR (measured) = 0.415 W/kg



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Plot H8

Date/Time: 2015-07-25 5:10:08 PM

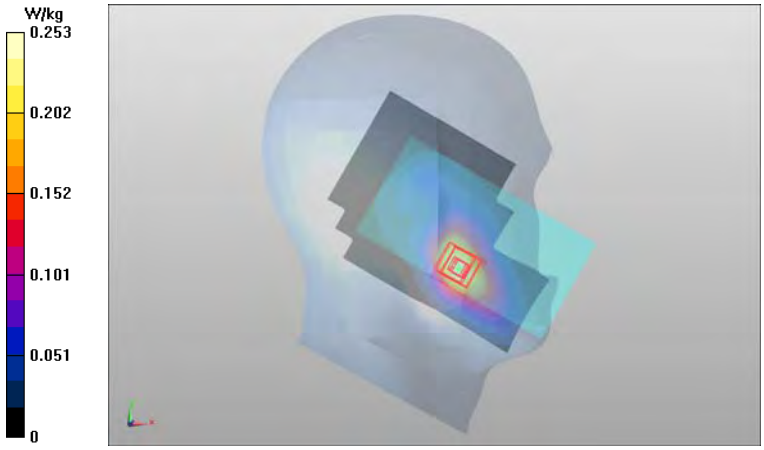
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: 4-slot GPRS1900
Frequency: **1850.2 MHz**; Duty Cycle: 1:2.09991
Medium: HSL 1900; Medium Notes: t= 22.4 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.331 S/m; ε_r = 38.837; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

4-slot GPRS1900 - Left/Cheek - CH 512 - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 13.42 V/m
Fast SAR: SAR(1 g) = 0.207 W/kg
Fast SAR(10 g) = 0.121 W/kg
Maximum value of SAR (interpolated) = 0.253 W/kg

4-slot GPRS1900 - Left/Cheek - CH 512 - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.48 V/m
Peak SAR (extrapolated) = 0.300 W/kg
SAR(1 g) = 0.205 W/kg
SAR(10 g) = 0.131 W/kg
Power Drift = 0.07 dB
Maximum value of SAR (measured) = 0.239 W/kg



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Plot H9

Date/Time: 2015-07-29 1:49:52 PM

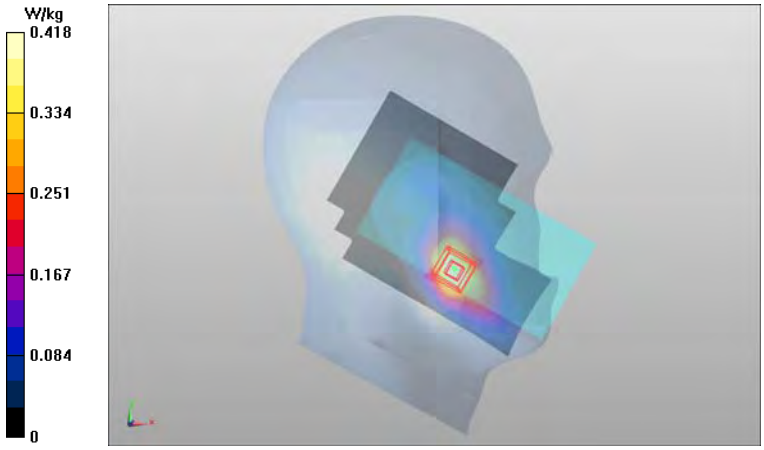
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: WCDMA1900 (Band 2)
Frequency: **1852.4 MHz**; Duty Cycle: 1:1
Medium: HSL 1900; Medium Notes: t= 22.6 C
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.337 S/m; ε_r = 38.913; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA1900 (Band 2) - Left/Cheek - CH 9262 - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 17.77 V/m
Fast SAR: SAR(1 g) = 0.350 W/kg
Fast SAR(10 g) = 0.208 W/kg
Maximum value of SAR (interpolated) = 0.418 W/kg

WCDMA1900 (Band 2) - Left/Cheek - CH 9262 - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.84 V/m
Peak SAR (extrapolated) = 0.515 W/kg
SAR(1 g) = 0.350 W/kg
SAR(10 g) = 0.227 W/kg
Power Drift = 0.02 dB
Maximum value of SAR (measured) = 0.403 W/kg



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Plot H10

Date/Time: 2015-07-29 2:35:07 PM

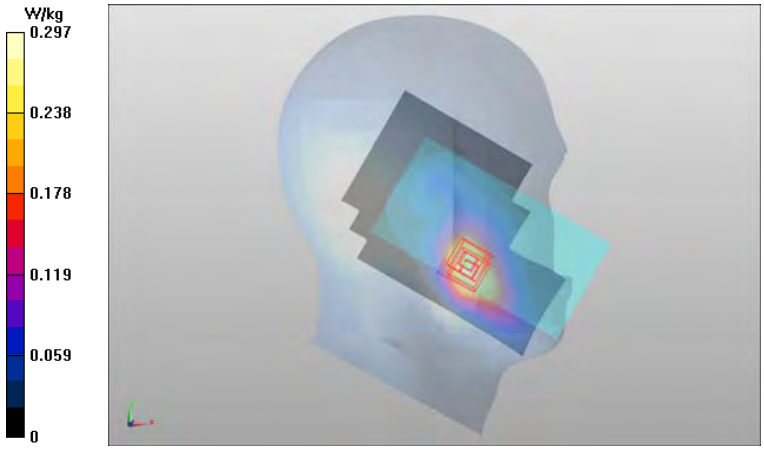
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: LTE1900 (Band 2)
Frequency: **1880 MHz**; Duty Cycle: 1:1
Medium: HSL 1900; Medium Notes: t= 22.6 C
Medium parameters used: f = 1880 MHz; σ = 1.365 S/m; ε_r = 38.765; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE1900 (Band 2) - Left/Cheek - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Area Scan (81x141x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 12.16 V/m
Fast SAR: SAR(1 g) = 0.248 W/kg
Fast SAR(10 g) = 0.147 W/kg
Maximum value of SAR (interpolated) = 0.297 W/kg

LTE1900 (Band 2) - Left/Cheek - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.11 V/m
Peak SAR (extrapolated) = 0.374 W/kg
SAR(1 g) = 0.247 W/kg
SAR(10 g) = 0.155 W/kg
Power Drift = 0.12 dB
Maximum value of SAR (measured) = 0.291 W/kg



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Plot H11

Date/Time: 2015-08-06 10:19:45 AM

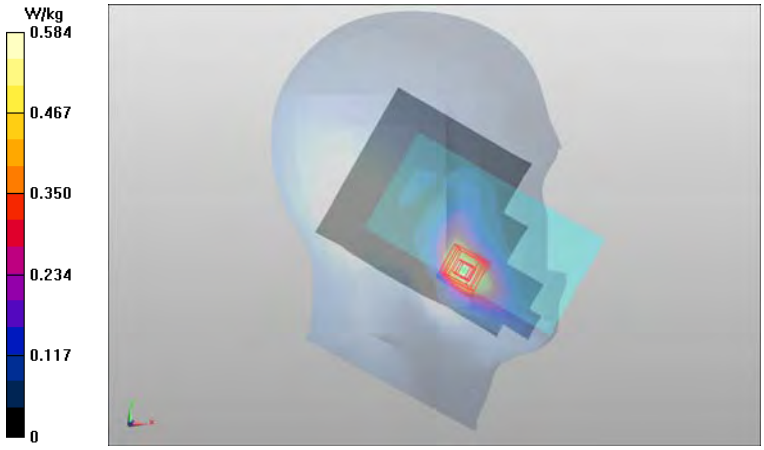
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236206/8, 004402/74/236207/6

Communication System: LTE2500 (Band 7)
Frequency: **2560 MHz**; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: t= 22.5 C
Medium parameters used: f = 2560 MHz; σ = 1.879 S/m; ε_r = 38.022; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.13, 7.13, 7.13); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE2500 (Band 7) - Left/Cheek - CH 21350 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Area Scan (121x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 12.86 V/m
Fast SAR: SAR(1 g) = 0.458 W/kg
Fast SAR(10 g) = 0.241 W/kg
Maximum value of SAR (interpolated) = 0.584 W/kg

LTE2500 (Band 7) - Left/Cheek - CH 21350 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.82 V/m
Peak SAR (extrapolated) = 0.793 W/kg
SAR(1 g) = 0.442 W/kg
SAR(10 g) = 0.241 W/kg
Power Drift = 0.17 dB
Maximum value of SAR (measured) = 0.554 W/kg



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Plot H12

Date/Time: 2015-08-10 11:58:20 AM

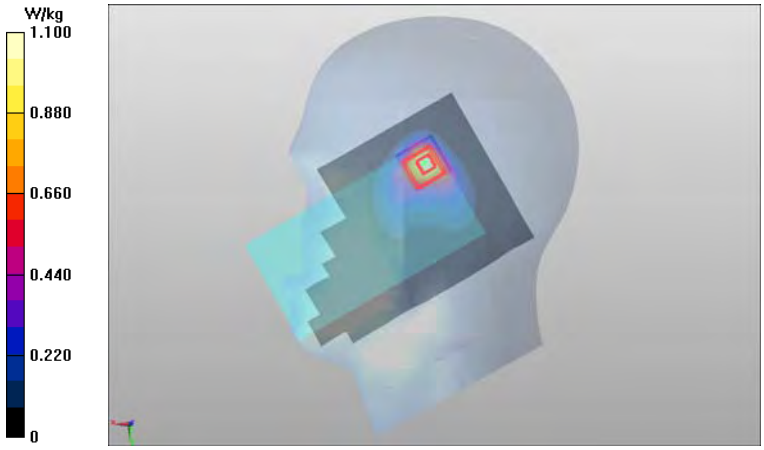
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236924/6, 004402/74/236925/3

Communication System: WLAN2450
Frequency: **2462 MHz**; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: t= 22.5 C
Medium parameters used: f = 2462 MHz; σ = 1.769 S/m; ε_r = 38.044; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.24, 7.24, 7.24); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WLAN2450 b-mode - Right/Cheek - CH 11 - 20 MHz DSSS QPSK 2 Mbps SS 1 - Antenna 1 and 2/Area Scan (121x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 22.90 V/m
Fast SAR: SAR(1 g) = 0.805 W/kg
Fast SAR(10 g) = 0.388 W/kg
Maximum value of SAR (interpolated) = 1.10 W/kg

WLAN2450 b-mode - Right/Cheek - CH 11 - 20 MHz DSSS QPSK 2 Mbps SS 1 - Antenna 1 and 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.37 V/m
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 0.768 W/kg
SAR(10 g) = 0.385 W/kg
Power Drift = 0.16 dB
Maximum value of SAR (measured) = 0.975 W/kg



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Plot H13

Date/Time: 2015-07-18 2:35:58 PM

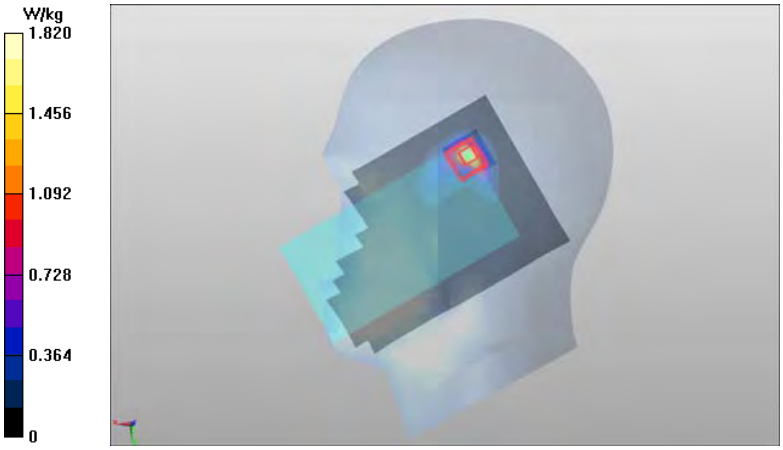
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN5000
Frequency: **5290 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t=21.6 C
Medium parameters used: f = 5290 MHz; σ = 4.695 S/m; ε_r = 35.89; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WLAN5000 ac-mode - Right/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2 - Repeated/Area Scan (121x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value
Fast SAR: SAR(1 g) = 0.817 W/kg
Fast SAR(10 g) = 0.275 W/kg
Maximum value of SAR (interpolated) = 1.82 W/kg

WLAN5000 ac-mode - Right/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2 - Repeated/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.88 V/m
Peak SAR (extrapolated) = 3.45 W/kg
SAR(1 g) = 0.853 W/kg
SAR(10 g) = 0.277 W/kg
Power Drift = 0.03 dB
Maximum value of SAR (measured) = 1.67 W/kg



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Plot H14

Date/Time: 2015-07-24 10:35:46 AM

DASY Configuration for 4-Slot GPRS850 - Right/Cheek - CH 251 - Antenna 1/Area Scan:
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3
Communication System: 4-slot GPRS850; Frequency: 848.8 MHz; Duty Cycle: 1:2.09991; PMF: 1.44911
Medium: HSL835 Medium parameters used: f = 849 MHz; σ = 0.908 S/m; ε_r = 39.844; ρ = 1000 kg/m^3
Phantom section: Right Section

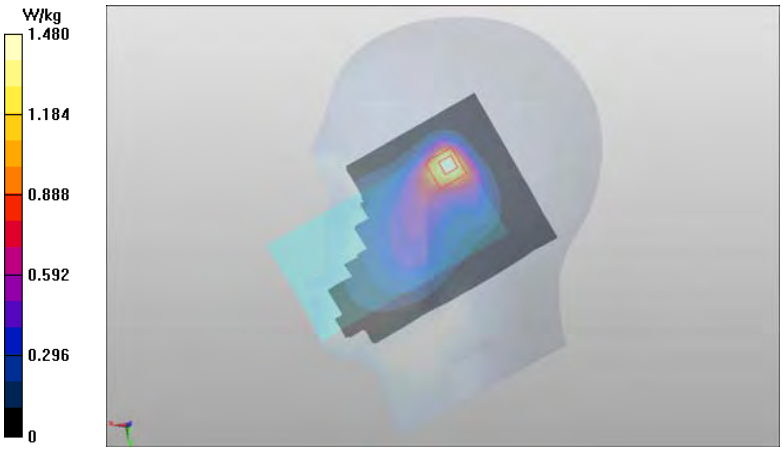
Probe: ES3DV3 - SN3131; ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn793; Calibrated: 2014-10-14
Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-08-10 11:58:20 AM

DASY Configuration for WLAN2450 b-mode - Right/Cheek - CH 11 - 20 MHz DSSS QPSK 2 Mbps SS 1 - Antenna 1 and 2/Area Scan:
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236924/6, 004402/74/236925/3
Communication System: WLAN2450; Frequency: 2462 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL2450 Medium parameters used: f = 2462 MHz; σ = 1.769 S/m; ε_r = 38.044; ρ = 1000 kg/m^3
Phantom section: Right Section

Probe: EX3DV4 - SN3892; ConvF(7.24, 7.24, 7.24); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: SAM2; Type: SAM; Serial: TP-1570
Measurement SW: DASY52, Version 52.8 (8)

Fast SAR of Combined Scans: SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.579 W/kg
Maximum value of SAR (interpolated) = 1.48 W/kg



WLAN2450 b-mode was scaled with factor 1.32and 4-slot GPRS850 with factor 1.15 before combining in SEMCAD SW.

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Plot H15

Date/Time: 2015-07-24 10:35:46 AM

DASY Configuration for 4-Slot GPRS850 - Right/Cheek - CH 251 - Antenna 1/Area Scan:
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3
Communication System: 4-slot GPRS850; Frequency: 848.8 MHz; Duty Cycle: 1:2.09991; PMF: 1.44911
Medium: HSL835 Medium parameters used: f = 849 MHz; σ = 0.908 S/m; ε_r = 39.844; ρ = 1000 kg/m^3
Phantom section: Right Section

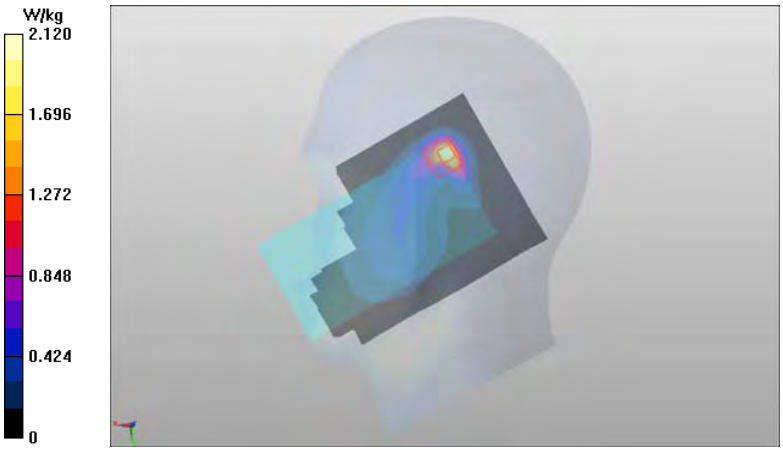
Probe: ES3DV3 - SN3131; ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn793; Calibrated: 2014-10-14
Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-07-18 2:35:58 PM

DASY Configuration for WLAN5000 ac-mode - Right/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2 - Repeated/Area Scan:
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3
Communication System: WLAN5000; Frequency: 5290 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL5000 Medium parameters used: f = 5290 MHz; σ = 4.695 S/m; ε_r = 35.89; ρ = 1000 kg/m^3
Phantom section: Right Section

Probe: EX3DV4 - SN3852; ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
Measurement SW: DASY52, Version 52.8 (8)

Fast SAR of Combined Scans: SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.376 W/kg
Maximum value of SAR (interpolated) = 2.12 W/kg



WLAN5000 ac-mode was scaled with factor 1.23 and 4-slot GPRS850 with factor 1.15 before combining in SEMCAD SW.

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Plot B1

Date/Time: 2015-08-01 10:58:17 AM

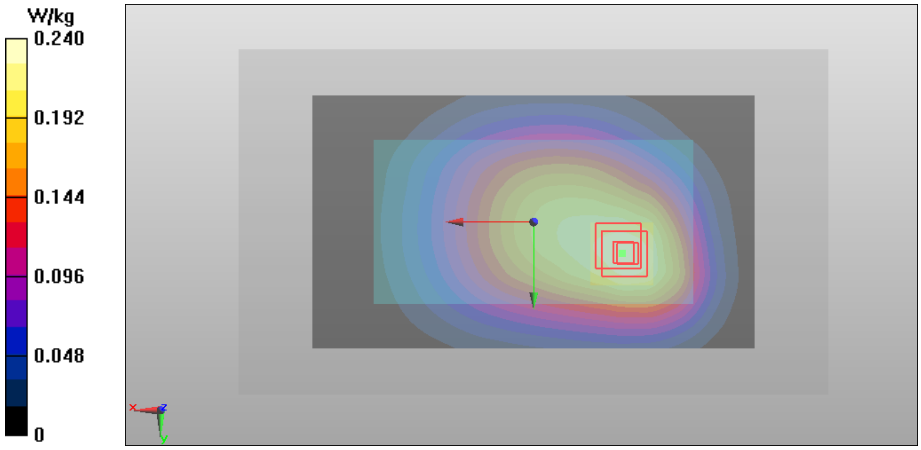
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236228/2, 004402/74/236229/0

Communication System: LTE700 (Band 12)
Frequency: **707.5 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22.6 C
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.954 S/m; ε_r = 53.223; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 15.32 V/m
Fast SAR: SAR(1 g) = 0.213 W/kg
Fast SAR(10 g) = 0.153 W/kg
Maximum value of SAR (interpolated) = 0.240 W/kg

LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Back - Antenna 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.42 V/m
Peak SAR (extrapolated) = 0.268 W/kg
SAR(1 g) = 0.211 W/kg
SAR(10 g) = 0.159 W/kg
Power Drift = -0.05 dB
Maximum value of SAR (measured) = 0.232 W/kg



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Plot B2

Date/Time: 2015-08-01 1:19:09 PM

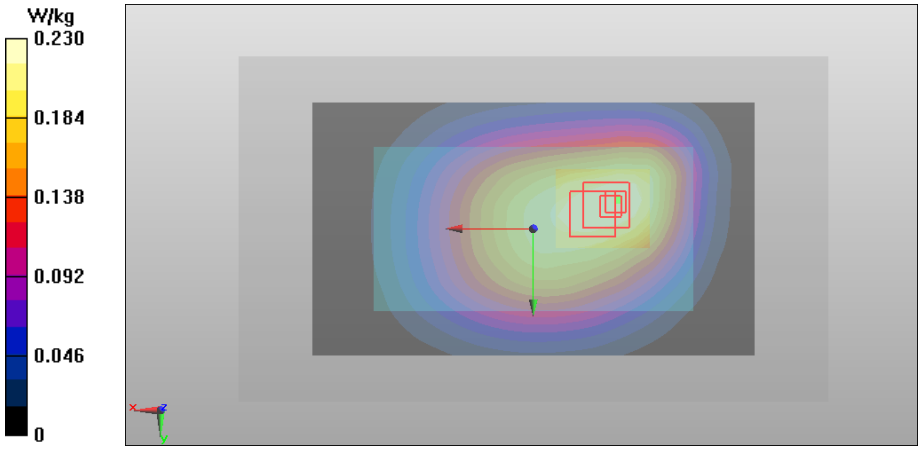
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236228/2, 004402/74/236229/0

Communication System: LTE700 (Band 17)
Frequency: **710 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22.6 C
Medium parameters used: f = 710 MHz; σ = 0.955 S/m; ε_r = 53.214; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Display - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 15.31 V/m
Fast SAR: SAR(1 g) = 0.205 W/kg
Fast SAR(10 g) = 0.149 W/kg
Maximum value of SAR (interpolated) = 0.230 W/kg

LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Display - Antenna 2/Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.33 V/m
Peak SAR (extrapolated) = 0.266 W/kg
SAR(1 g) = 0.206 W/kg
SAR(10 g) = 0.160 W/kg
Power Drift = -0.05 dB
Maximum value of SAR (measured) = 0.228 W/kg



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Plot B3

Date/Time: 2015-07-28 3:26:34 PM

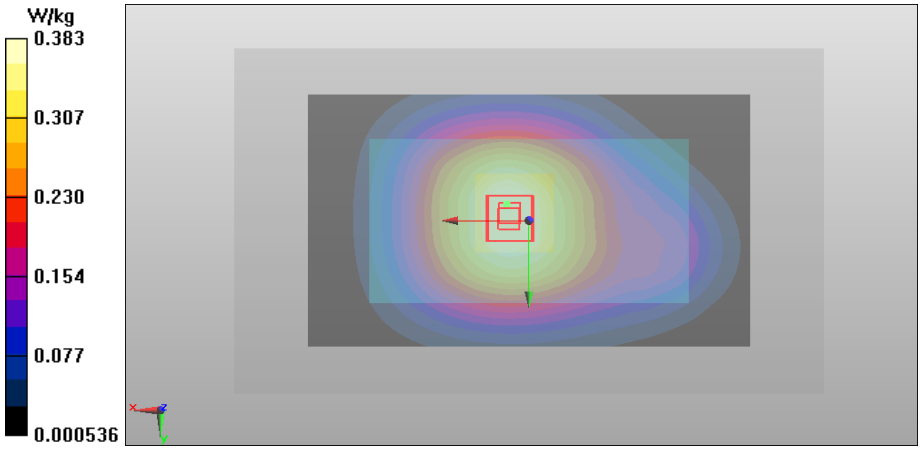
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: 4-slot GPRS850
Frequency: **848.8 MHz**; Duty Cycle: 1:2.09991
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used: f = 849 MHz; σ = 0.992 S/m; ε_r = 52.994; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

4-slot GPRS850/Body - CH 251 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 20.10 V/m
Fast SAR: SAR(1 g) = 0.342 W/kg
Fast SAR(10 g) = 0.248 W/kg
Maximum value of SAR (interpolated) = 0.383 W/kg

4-slot GPRS850/Body - CH 251 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.18 V/m
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.354 W/kg
SAR(10 g) = 0.273 W/kg
Power Drift = -0.01 dB
Maximum value of SAR (measured) = 0.389 W/kg



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Plot B4

Date/Time: 2015-07-28 2:22:07 PM

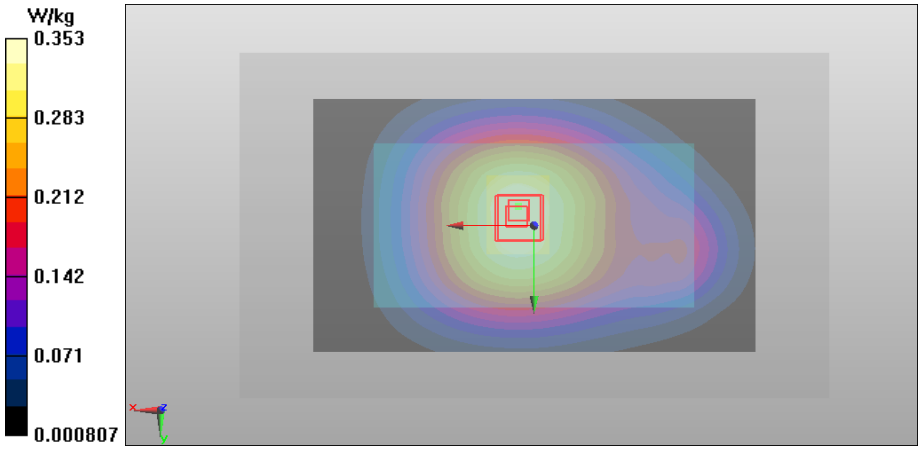
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: WCDMA850 (Band 5)
Frequency: **846.6 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used: f = 847 MHz; σ = 0.992 S/m; ε_r = 53.003; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA850 (Band 5)/Body - CH 4233 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x141x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 19.35 V/m
Fast SAR: SAR(1 g) = 0.314 W/kg
Fast SAR(10 g) = 0.228 W/kg
Maximum value of SAR (interpolated) = 0.353 W/kg

WCDMA850 (Band 5)/Body - CH 4233 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (6x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.37 V/m
Peak SAR (extrapolated) = 0.404 W/kg
SAR(1 g) = 0.323 W/kg
SAR(10 g) = 0.249 W/kg
Power Drift = -0.01 dB
Maximum value of SAR (measured) = 0.352 W/kg



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Plot B5

Date/Time: 2015-07-28 1:30:04 PM

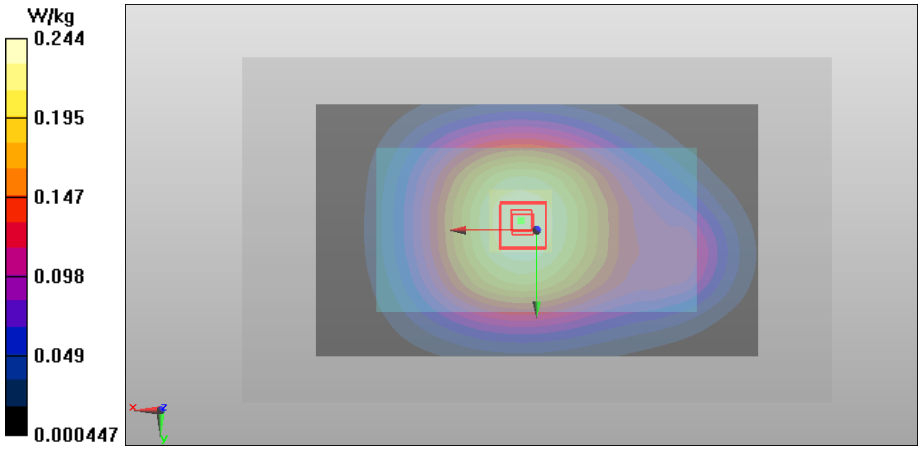
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: LTE850 (Band 5)
Frequency: **844 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used: f = 844 MHz; σ = 0.991 S/m; ε_r = 53.034; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE850 (Band 5)/Body - CH 20600 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 16.14 V/m
Fast SAR: SAR(1 g) = 0.218 W/kg
Fast SAR(10 g) = 0.158 W/kg
Maximum value of SAR (interpolated) = 0.244 W/kg

LTE850 (Band 5)/Body - CH 20600 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.08 V/m
Peak SAR (extrapolated) = 0.277 W/kg
SAR(1 g) = 0.222 W/kg
SAR(10 g) = 0.171 W/kg
Power Drift = 0.03 dB
Maximum value of SAR (measured) = 0.242 W/kg



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Plot B6

Date/Time: 2015-07-21 5:50:25 PM

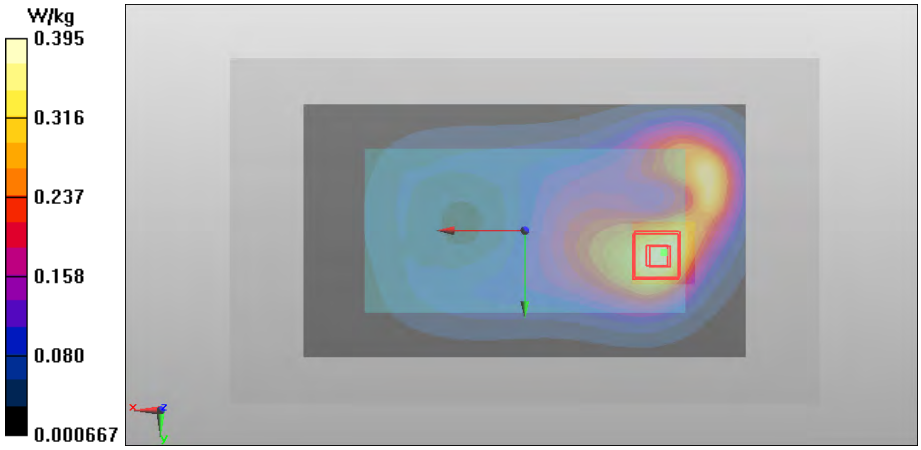
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236260/5, 004402/74/236263/1

Communication System: WCDMA1700/2100 (Band 4)
Frequency: **1752.6 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 22,3 C
Medium parameters used: f = 1753 MHz; σ = 1.462 S/m; ε_r = 51.423; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: Triple Flat Phantom 5.1C; Type: SN 000 T01 DA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA1700_2100 (Band 4)/Body - CH 1513 - 15 mm - No Headset - Display - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 16.54 V/m
Fast SAR: SAR(1 g) = 0.329 W/kg
Fast SAR(10 g) = 0.202 W/kg
Maximum value of SAR (interpolated) = 0.395 W/kg

WCDMA1700_2100 (Band 4)/Body - CH 1513 - 15 mm - No Headset - Display - Antenna 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.71 V/m
Peak SAR (extrapolated) = 0.511 W/kg
SAR(1 g) = 0.335 W/kg
SAR(10 g) = 0.214 W/kg
Power Drift = 0.02 dB
Maximum value of SAR (measured) = 0.393 W/kg



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Plot B7

Date/Time: 2015-07-21 7:44:57 PM

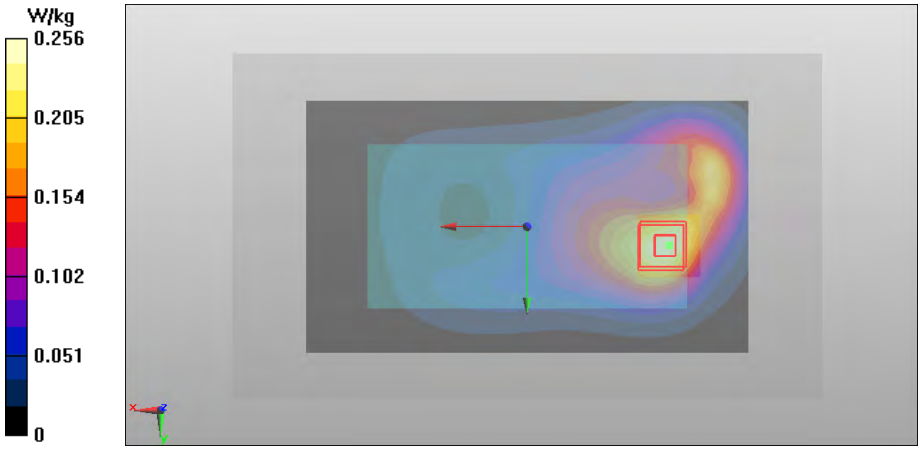
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236260/5, 004402/74/236263/1

Communication System: LTE1700/2100 (Band 4)
Frequency: **1720 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 22,3 C
Medium parameters used: f = 1720 MHz; σ = 1.43 S/m; ε_r = 51.586; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: Triple Flat Phantom 5.1C; Type: SN 000 T01 DA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE1700_2100 (Band 4)/Body - CH 20050 - 20 MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 13.42 V/m
Fast SAR: SAR(1 g) = 0.212 W/kg
Fast SAR(10 g) = 0.132 W/kg
Maximum value of SAR (interpolated) = 0.256 W/kg

LTE1700_2100 (Band 4)/Body - CH 20050 - 20 MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.34 V/m
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.218 W/kg
SAR(10 g) = 0.140 W/kg
Power Drift = 0.01 dB
Maximum value of SAR (measured) = 0.233 W/kg



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Plot B8

Date/Time: 2015-07-22 4:28:21 PM

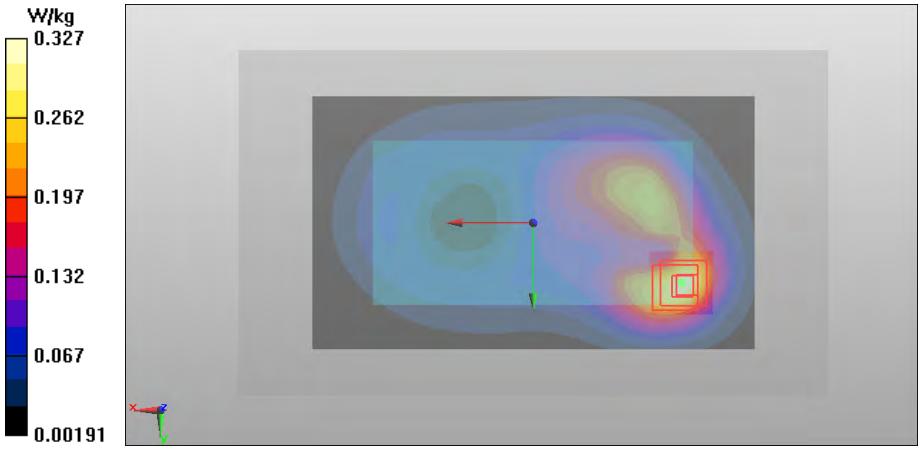
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: 4-slot GPRS1900
Frequency: **1850.2 MHz**; Duty Cycle: 1:2.09991
Medium: BSL1900; Medium Notes: t= 22.8 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.458 S/m; ε_r = 51.867; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

4-slot GPRS1900/Body - CH 512 - 15 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 15.13 V/m
Fast SAR: SAR(1 g) = 0.257 W/kg
Fast SAR(10 g) = 0.146 W/kg
Maximum value of SAR (interpolated) = 0.327 W/kg

4-slot GPRS1900/Body - CH 512 - 15 mm - No Headset - Back - Antenna 2/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.28 V/m
Peak SAR (extrapolated) = 0.418 W/kg
SAR(1 g) = 0.257 W/kg
SAR(10 g) = 0.151 W/kg
Power Drift = 0.04 dB
Maximum value of SAR (measured) = 0.304 W/kg



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Plot B9

Date/Time: 2015-07-27 3:28:04 PM

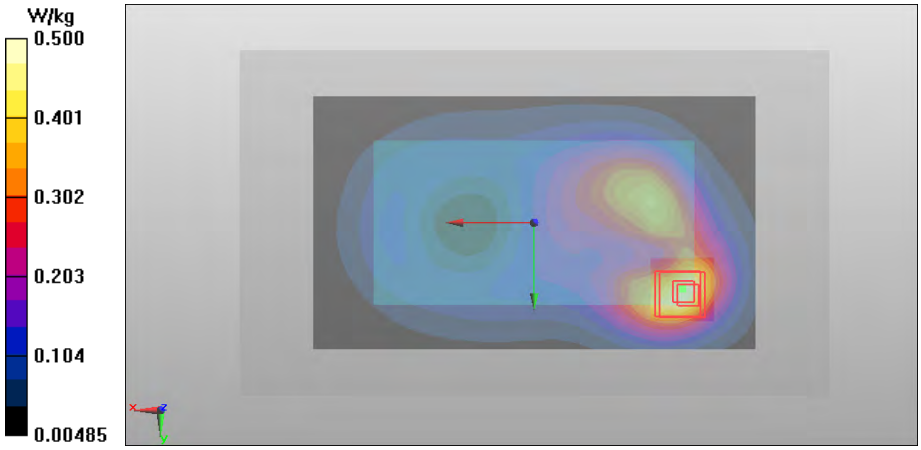
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: WCDMA1900 (Band 2)
Frequency: **1852.4 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 22.5 C
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.458 S/m; ε_r = 51.66; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA1900 (Band 2)/Body - CH 9262 - 15 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 19.19 V/m
Fast SAR: SAR(1 g) = 0.405 W/kg
Fast SAR(10 g) = 0.237 W/kg
Maximum value of SAR (interpolated) = 0.500 W/kg

WCDMA1900 (Band 2)/Body - CH 9262 - 15 mm - No Headset - Back - Antenna 2/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.32 V/m
Peak SAR (extrapolated) = 0.650 W/kg
SAR(1 g) = 0.399 W/kg
SAR(10 g) = 0.234 W/kg
Power Drift = -0.01 dB
Maximum value of SAR (measured) = 0.476 W/kg



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Plot B10

Date/Time: 2015-07-26 3:51:31 PM

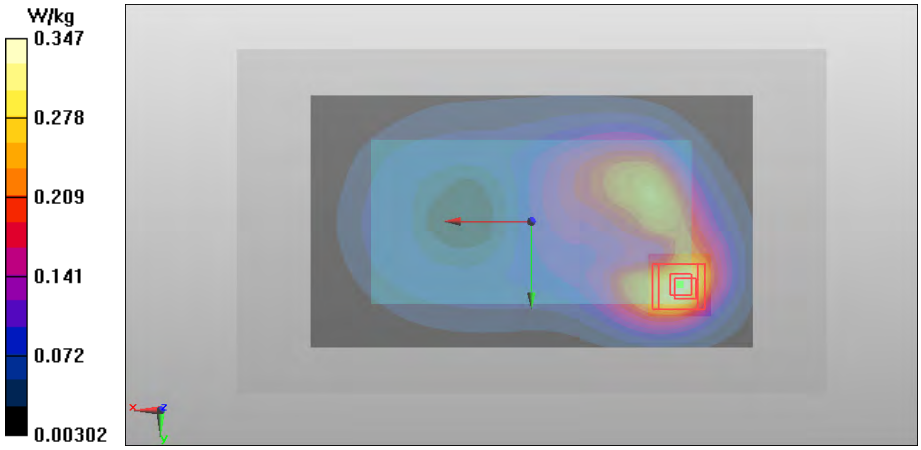
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: LTE1900 (Band 2)
Frequency: **1880 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 22.8 C
Medium parameters used: f = 1880 MHz; σ = 1.473 S/m; ε_r = 51.849; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 14.36 V/m
Fast SAR: SAR(1 g) = 0.277 W/kg
Fast SAR(10 g) = 0.158 W/kg
Maximum value of SAR (interpolated) = 0.347 W/kg

LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.28 V/m
Peak SAR (extrapolated) = 0.443 W/kg
SAR(1 g) = 0.272 W/kg
SAR(10 g) = 0.160 W/kg
Power Drift = -0.03 dB
Maximum value of SAR (measured) = 0.320 W/kg



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Plot B11

Date/Time: 2015-08-07 9:03:06 AM

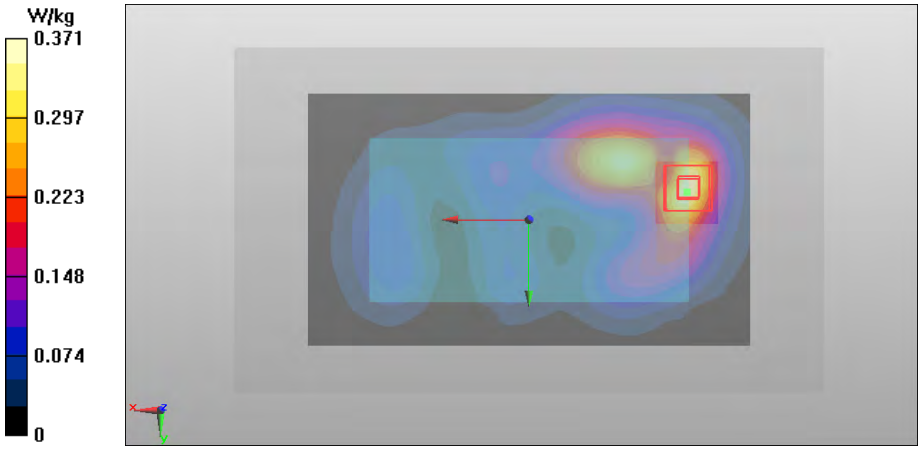
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236206/8, 004402/74/236207/6

Communication System: LTE2500 (Band 7)
Frequency: **2560 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 23.3 C
Medium parameters used: f = 2560 MHz; σ = 2.011 S/m; ε_r = 51.362; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE2500 (Band 7)/Body - CH 21350 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 1/Area Scan (121x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 10.13 V/m
Fast SAR: SAR(1 g) = 0.287 W/kg
Fast SAR(10 g) = 0.148 W/kg
Maximum value of SAR (interpolated) = 0.371 W/kg

LTE2500 (Band 7)/Body - CH 21350 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.23 V/m
Peak SAR (extrapolated) = 0.566 W/kg
SAR(1 g) = 0.297 W/kg
SAR(10 g) = 0.152 W/kg
Power Drift = -0.08 dB
Maximum value of SAR (measured) = 0.377 W/kg



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Plot B12

Date/Time: 2015-08-01 8:10:56 AM

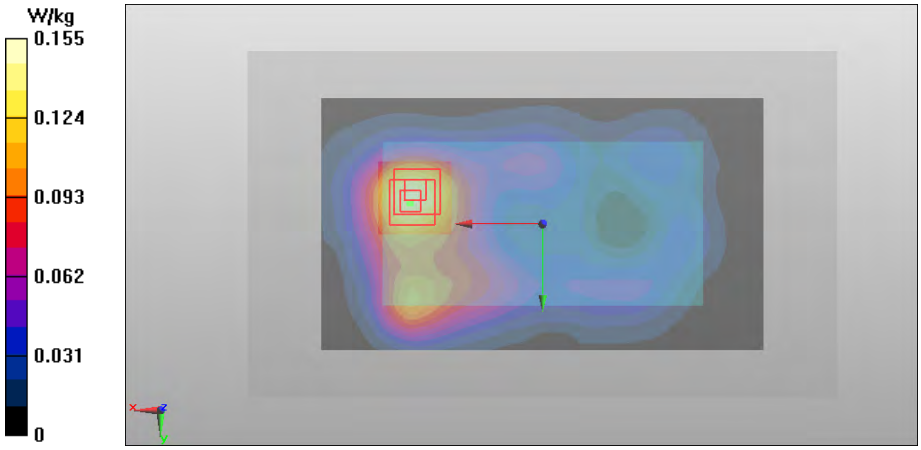
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN2450
Frequency: **2437 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22,6 C
Medium parameters used: f = 2437 MHz; σ = 1.887 S/m; ε_r = 51.602; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WLAN2450 b-mode/Body - CH 6 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Area Scan (121x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 9.295 V/m
Fast SAR: SAR(1 g) = 0.123 W/kg
Fast SAR(10 g) = 0.067 W/kg
Maximum value of SAR (interpolated) = 0.155 W/kg

WLAN2450 b-mode/Body - CH 6 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.455 V/m
Peak SAR (extrapolated) = 0.225 W/kg
SAR(1 g) = 0.133 W/kg
SAR(10 g) = 0.078 W/kg
Power Drift = 0.06 dB
Maximum value of SAR (measured) = 0.161 W/kg



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Plot B13

Date/Time: 2015-07-19 1:32:58 PM

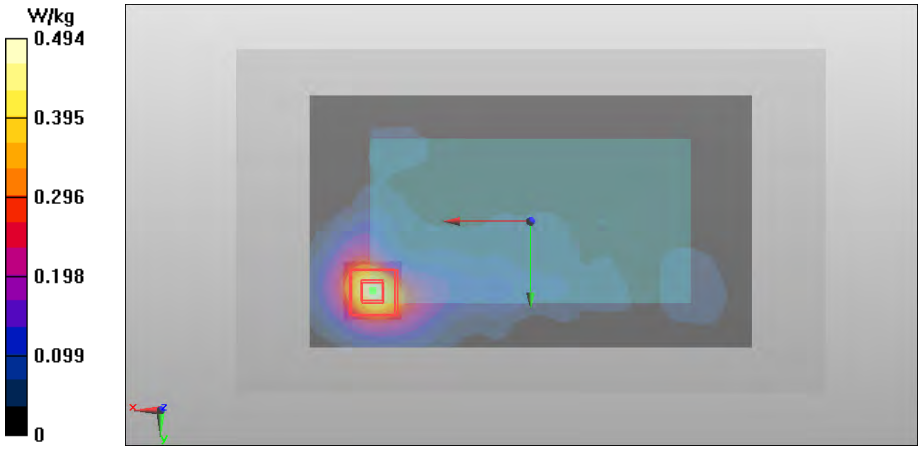
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN5000
Frequency: **5320 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: 21.3 C
Medium parameters used: f = 5320 MHz; σ = 5.582 S/m; ε_r = 47.528; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.35, 4.35, 4.35); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WLAN5000 ac-mode/Body - CH 64 - 20 MHz OFDM BPSK MCS0 SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Area Scan (121x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value =
Fast SAR: SAR(1 g) = 0.264 W/kg
Fast SAR(10 g) = 0.106 W/kg
Maximum value of SAR (interpolated) = 0.494 W/kg

WLAN5000 ac-mode/Body - CH 64 - 20 MHz OFDM BPSK MCS0 SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 9.766 V/m
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.262 W/kg
SAR(10 g) = 0.107 W/kg
Power Drift = -0.05 dB
Maximum value of SAR (measured) = 0.474 W/kg



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Plot B14

Date/Time: 2015-07-27 3:28:04 PM

DASY Configuration for WCDMA1900 (Band 2)/Body - CH 9262 - 15 mm - No Headset - Back - Antenna 2/Area Scan:

Test Laboratory: TCC Microsoft

Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.458 S/m; ε_r = 51.66; ρ = 1000 kg/m^3

Phantom section: Center Section

Probe: ES3DV3 - SN3275; ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-08-01 8:38:45 AM

DASY Configuration for WLAN2450 b-mode/Body - CH 6 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 15mm - No Headset - Back - Antenna 1 and 2/Area Scan:

Test Laboratory: TCC Microsoft

Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN2450; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

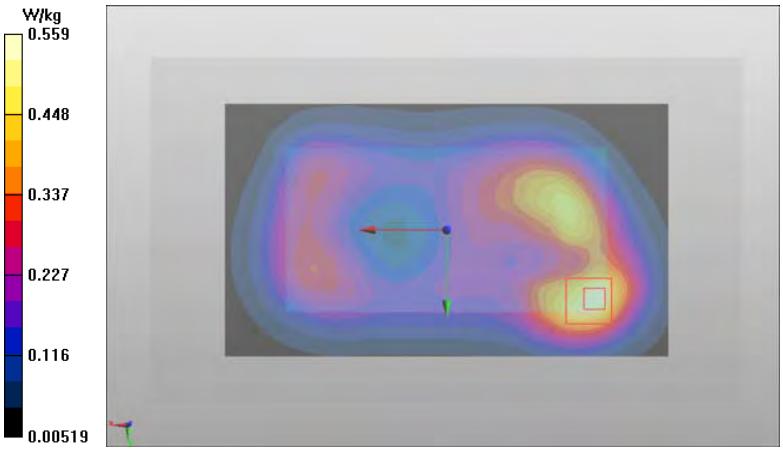
Medium: BSL2450 Medium parameters used: f = 2437 MHz; σ = 1.887 S/m; ε_r = 51.602; ρ = 1000 kg/m^3

Phantom section: Center Section

Probe: EX3DV4 - SN3892; ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
Measurement SW: DASY52, Version 52.8 (8)

Fast SAR of Combined Scans: SAR(1 g) = 0.458 W/kg; SAR(10 g) = 0.267 W/kg

Maximum value of SAR (interpolated) = 0.559 W/kg



WLAN2450 b-mode was scaled with factor 1.41 and WCDMA1900 (Band 2) with factor 1.07 before combining in SEMCAD SW.

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Plot B15

Date/Time: 2015-07-27 3:28:04 PM

DASY Configuration for WCDMA1900 (Band 2)/Body - CH 9262 - 15 mm - No Headset - Back - Antenna 2/Area Scan:

Test Laboratory: TCC Microsoft

Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.458 S/m; ε_r = 51.66; ρ = 1000 kg/m^3

Phantom section: Center Section

Probe: ES3DV3 - SN3275; ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-07-19 9:30:33 AM

DASY Configuration for WLAN5000 ac-mode/Body - CH 64 - 20 MHz OFDM BPSK MCS0 SS 1 - 15mm - No Headset - Back - Antenna 1 and 2/Area Scan:

Test Laboratory: TCC Microsoft

Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN5000; Frequency: 5320 MHz; Duty Cycle: 1:1; PMF: 1

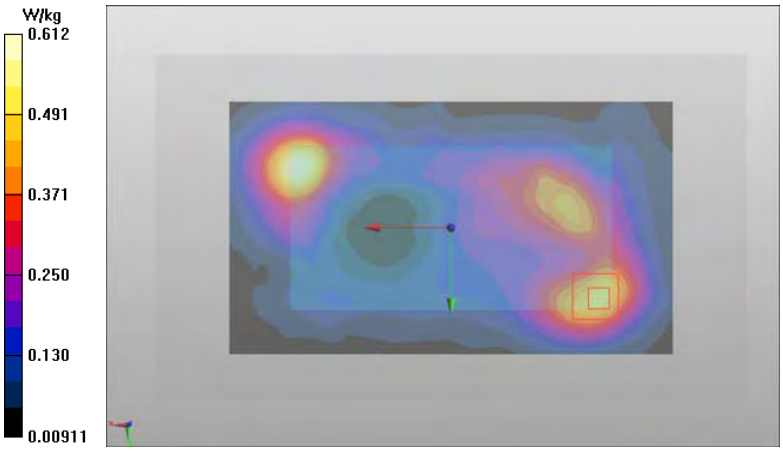
Medium: BSL5000 Medium parameters used: f = 5320 MHz; σ = 5.582 S/m; ε_r = 47.528; ρ = 1000 kg/m^3

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(4.35, 4.35, 4.35); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
Measurement SW: DASY52, Version 52.8 (8)

Fast SAR of Combined Scans: SAR(1 g) = 0.432 W/kg; SAR(10 g) = 0.252 W/kg

Maximum value of SAR (interpolated) = 0.612 W/kg



WLAN5000 ac-mode was scaled with factor 1.26 and WCDMA1900 (Band 2) with factor 1.07 before combining in SEMCAD SW.

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Plot W1

Date/Time: 2015-08-03 10:40:15 AM

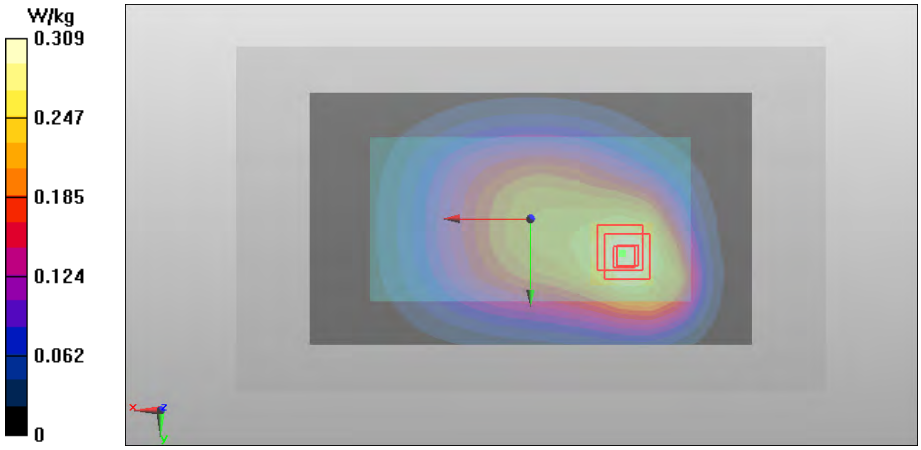
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236228/2, 004402/74/236229/0

Communication System: LTE700 (Band 12)
Frequency: **707.5 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22,1 C
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.939 S/m; ε_r = 53.223; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 13.31 V/m
Fast SAR: SAR(1 g) = 0.275 W/kg
Fast SAR(10 g) = 0.197 W/kg
Maximum value of SAR (interpolated) = 0.309 W/kg

LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Back - Antenna 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.01 V/m
Peak SAR (extrapolated) = 0.366 W/kg
SAR(1 g) = 0.270 W/kg
SAR(10 g) = 0.196 W/kg
Power Drift = 0.05 dB
Maximum value of SAR (measured) = 0.300 W/kg



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Plot W2

Date/Time: 2015-08-02 1:19:10 PM

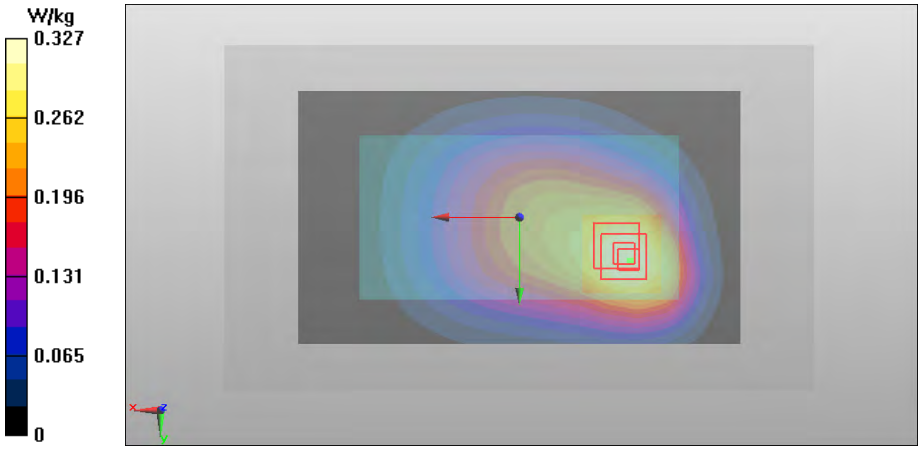
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236228/2, 004402/74/236229/0

Communication System: LTE700 (Band 17)
Frequency: **710 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22.0 C
Medium parameters used: f = 710 MHz; σ = 0.941 S/m; ε_r = 53.416; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.63 V/m
Fast SAR: SAR(1 g) = 0.294 W/kg
Fast SAR(10 g) = 0.211 W/kg
Maximum value of SAR (interpolated) = 0.327 W/kg

LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Back - Antenna 2/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.63 V/m
Peak SAR (extrapolated) = 0.399 W/kg
SAR(1 g) = 0.295 W/kg
SAR(10 g) = 0.215 W/kg
Power Drift = 0.07 dB
Maximum value of SAR (measured) = 0.328 W/kg



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Plot W3

Date/Time: 2015-07-28 12:25:09 PM

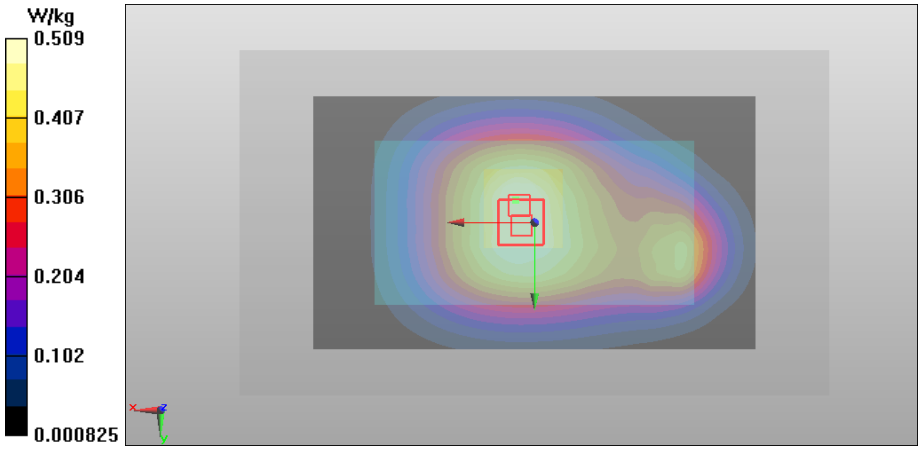
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: 4-slot GPRS850
Frequency: **848.8 MHz**; Duty Cycle: 1:2.09991
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used: f = 849 MHz; σ = 0.992 S/m; ε_r = 52.994; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

4-slot GPRS850/Body - CH 251 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 23.11 V/m
Fast SAR: SAR(1 g) = 0.454 W/kg
Fast SAR(10 g) = 0.330 W/kg
Maximum value of SAR (interpolated) = 0.509 W/kg

4-slot GPRS850/Body - CH 251 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 23.22 V/m
Peak SAR (extrapolated) = 0.578 W/kg
SAR(1 g) = 0.466 W/kg
SAR(10 g) = 0.364 W/kg
Power Drift = -0.01 dB
Maximum value of SAR (measured) = 0.487 W/kg



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Plot W4

Date/Time: 2015-07-30 3:46:53 PM

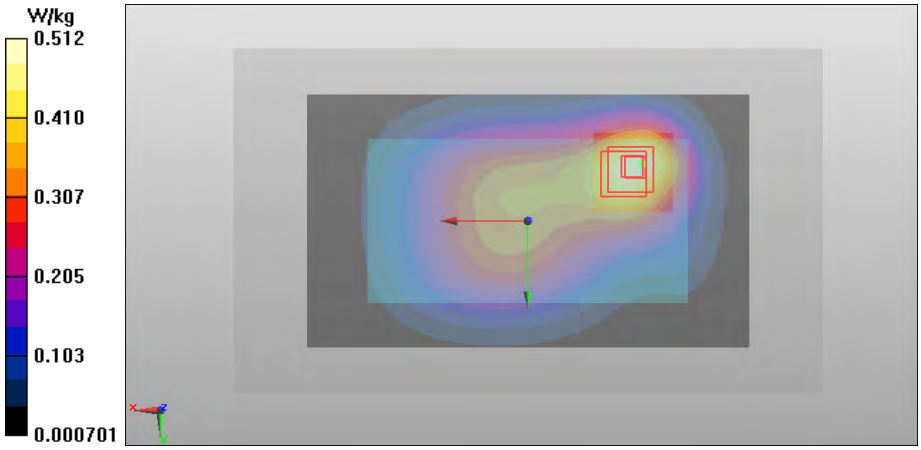
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: WCDMA850 (Band 5)
Frequency: **826.4 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.976 S/m; ε_r = 53.754; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA850 (Band 5)/Body - CH 4132 - 10 mm - No Headset - Display - Antenna 2/Area Scan (81x141x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 8.779 V/m
Fast SAR: SAR(1 g) = 0.447 W/kg
Fast SAR(10 g) = 0.307 W/kg
Maximum value of SAR (interpolated) = 0.512 W/kg

WCDMA850 (Band 5)/Body - CH 4132 - 10 mm - No Headset - Display - Antenna 2/Zoom Scan (6x6x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.828 V/m
Peak SAR (extrapolated) = 0.634 W/kg
SAR(1 g) = 0.434 W/kg
SAR(10 g) = 0.295 W/kg
Power Drift = -0.00 dB
Maximum value of SAR (measured) = 0.460 W/kg



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Plot W5

Date/Time: 2015-07-30 10:38:24 AM

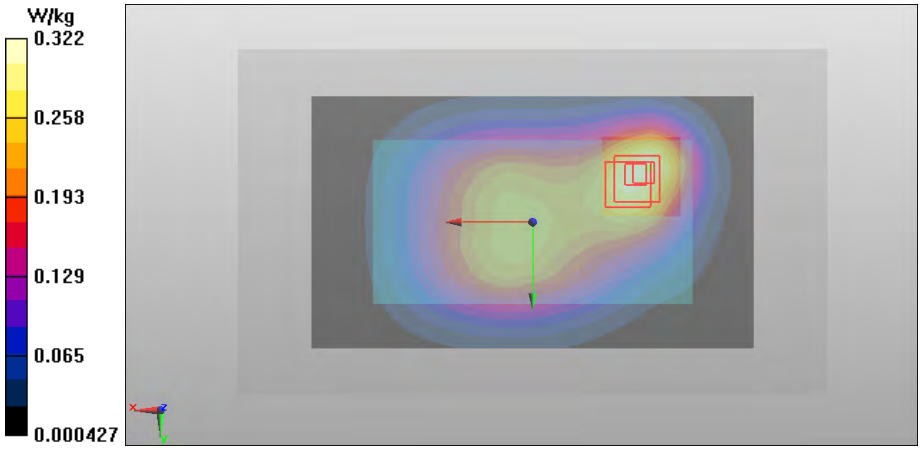
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236222/5, 004402/74/236223/3

Communication System: LTE850 (Band 5)
Frequency: **844 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used: f = 844 MHz; σ = 0.986 S/m; ε_r = 53.706; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE850 (Band 5)/Body - CH 20600 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Display - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 16.48 V/m
Fast SAR: SAR(1 g) = 0.280 W/kg
Fast SAR(10 g) = 0.194 W/kg
Maximum value of SAR (interpolated) = 0.322 W/kg

LTE850 (Band 5)/Body - CH 20600 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Display - Antenna 2/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.19 V/m
Peak SAR (extrapolated) = 0.392 W/kg
SAR(1 g) = 0.268 W/kg
SAR(10 g) = 0.185 W/kg
Power Drift = 0.04 dB
Maximum value of SAR (measured) = 0.286 W/kg



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Plot W6

Date/Time: 2015-07-21 1:01:26 PM

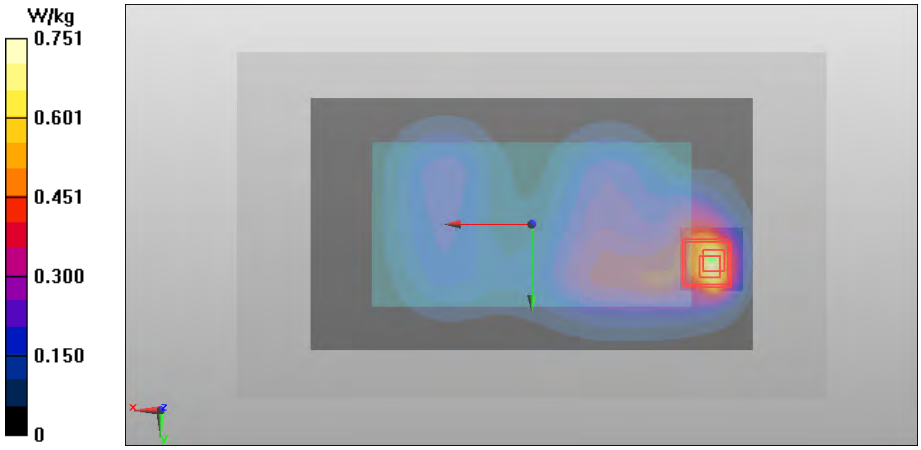
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236260/5, 004402/74/236263/1

Communication System: WCDMA1700/2100 (Band 4)
Frequency: **1732.4 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 22,3 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.441 S/m; ε_r = 51.533; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: Triple Flat Phantom 5.1C; Type: SN 000 T01 DA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WCDMA1700_2100 (Band 4)/Body - CH 1412 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 21.52 V/m
Fast SAR: SAR(1 g) = 0.577 W/kg
Fast SAR(10 g) = 0.314 W/kg
Maximum value of SAR (interpolated) = 0.751 W/kg

WCDMA1700_2100 (Band 4)/Body - CH 1412 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.58 V/m
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.597 W/kg
SAR(10 g) = 0.309 W/kg
Power Drift = -0.01 dB
Maximum value of SAR (measured) = 0.739 W/kg



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Plot W7

Date/Time: 2015-07-20 5:14:34 PM

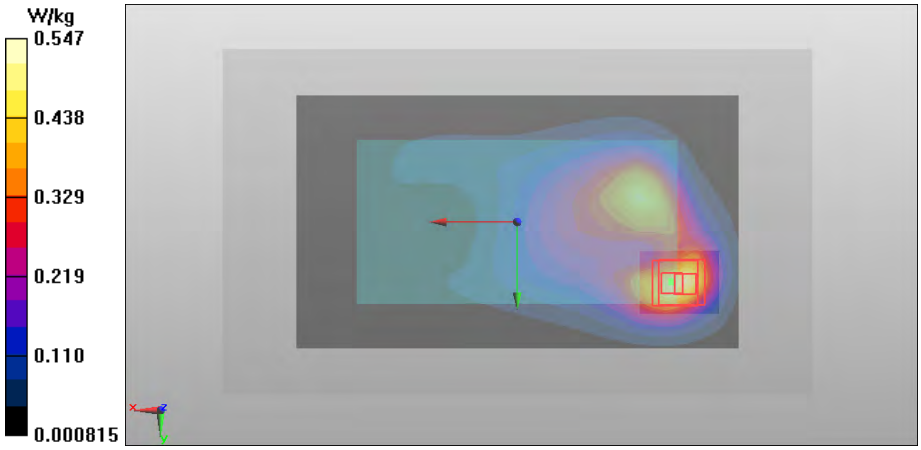
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236260/5, 004402/74/236263/1

Communication System: LTE1700/2100 (Band 4)
Frequency: **1745 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 21,9 C
Medium parameters used: f = 1745 MHz; σ = 1.459 S/m; ε_r = 51.729; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2015-01-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2014-11-03
- Phantom: Triple Flat Phantom 5.1C; Type: SN 000 T01 DA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE1700_2100 (Band 4)/Body - CH 20300 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 20.20 V/m
Fast SAR: SAR(1 g) = 0.443 W/kg
Fast SAR(10 g) = 0.251 W/kg
Maximum value of SAR (interpolated) = 0.547 W/kg

LTE1700_2100 (Band 4)/Body - CH 20300 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 2/Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.15 V/m
Peak SAR (extrapolated) = 0.823 W/kg
SAR(1 g) = 0.465 W/kg
SAR(10 g) = 0.251 W/kg
Power Drift = 0.05 dB
Maximum value of SAR (measured) = 0.593 W/kg



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Plot W8

Date/Time: 2015-07-26 2:43:01 PM

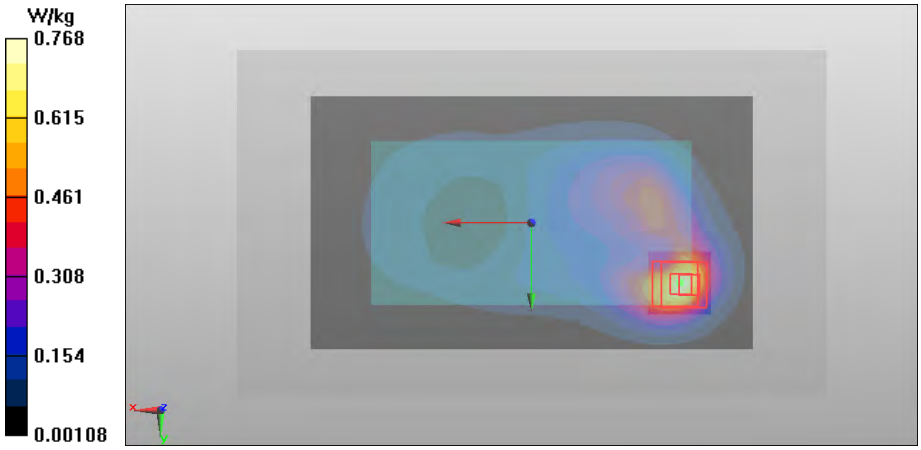
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: 4-slot GPRS1900
Frequency: **1850.2 MHz**; Duty Cycle: 1:2.09991
Medium: BSL1900; Medium Notes: t= 22.8 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 S/m; ε_r = 51.862; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

4-slot GPRS1900/Body - CH 512 - 10 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 22.73 V/m
Fast SAR: SAR(1 g) = 0.583 W/kg
Fast SAR(10 g) = 0.310 W/kg
Maximum value of SAR (interpolated) = 0.768 W/kg

4-slot GPRS1900/Body - CH 512 - 10 mm - No Headset - Back - Antenna 2/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.87 V/m
Peak SAR (extrapolated) = 0.937 W/kg
SAR(1 g) = 0.540 W/kg
SAR(10 g) = 0.296 W/kg
Power Drift = 0.03 dB
Maximum value of SAR (measured) = 0.660 W/kg



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Plot W9

Date/Time: 2015-07-27 10:53:20 AM

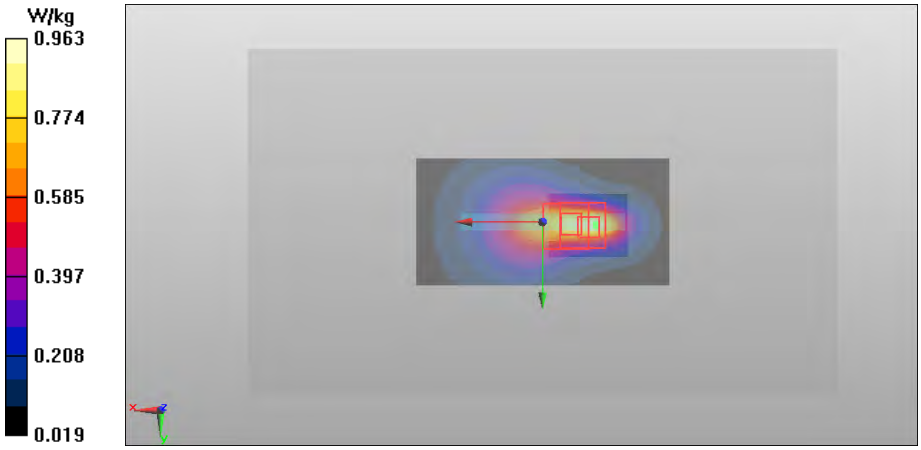
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: WCDMA1900 (Band 2)
Frequency: **1880 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.48 S/m; ε_r = 51.611; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WDCMA1900 (Band 2)/Body - CH 9400 - 10 mm - No Headset - Bottom - Antenna 2/Area Scan (41x81x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 25.13 V/m
Fast SAR: SAR(1 g) = 0.724 W/kg
Fast SAR(10 g) = 0.374 W/kg
Maximum value of SAR (interpolated) = 0.963 W/kg

WDCMA1900 (Band 2)/Body - CH 9400 - 10 mm - No Headset - Bottom - Antenna 2/Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 26.36 V/m
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.823 W/kg
SAR(10 g) = 0.430 W/kg
Power Drift = -0.05 dB
Maximum value of SAR (measured) = 1.02 W/kg



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Plot W10

Date/Time: 2015-07-28 10:38:57 AM

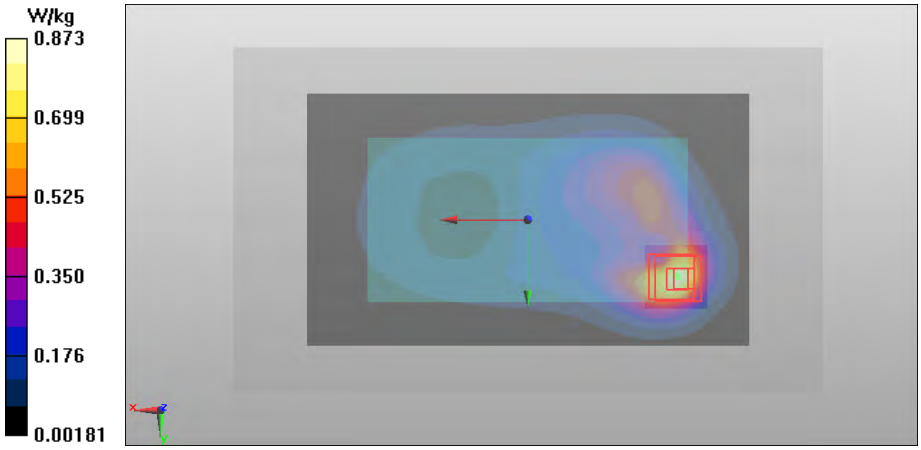
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: LTE1900 (Band 2)
Frequency: **1880 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 22.6 C
Medium parameters used: f = 1880 MHz; σ = 1.474 S/m; ε_r = 51.381; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 2/Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.27 V/m
Fast SAR: SAR(1 g) = 0.649 W/kg
Fast SAR(10 g) = 0.342 W/kg
Maximum value of SAR (interpolated) = 0.873 W/kg

LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.21 V/m
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.633 W/kg
SAR(10 g) = 0.345 W/kg
Power Drift = 0.09 dB
Maximum value of SAR (measured) = 0.756 W/kg



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Plot W11

Date/Time: 2015-08-07 1:49:47 PM

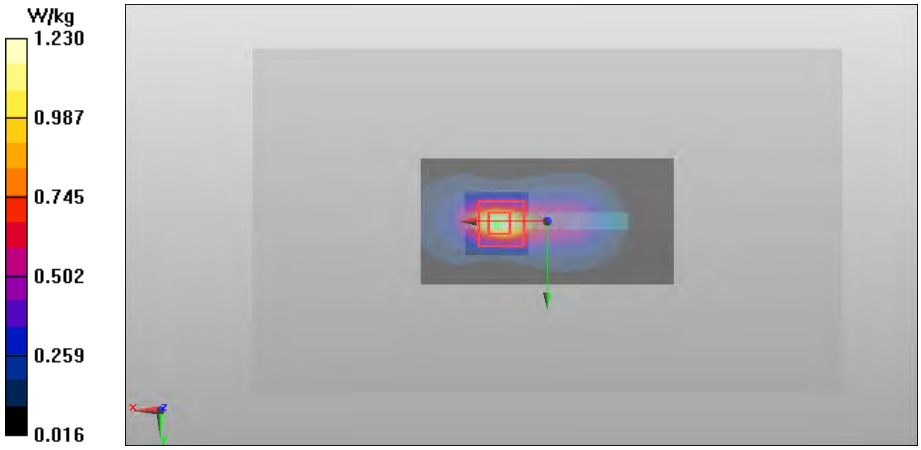
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236206/8, 004402/74/236207/6

Communication System: LTE2500 (Band 7)
Frequency: **2510 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 23.3 C
Medium parameters used: f = 2510 MHz; σ = 1.955 S/m; ε_r = 51.469; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

LTE2500 (Band 7)/Body - CH 20850 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Bottom - Antenna 1 - Repeated/Area Scan (61x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 23.87 V/m
Fast SAR: SAR(1 g) = 0.895 W/kg
Fast SAR(10 g) = 0.394 W/kg
Maximum value of SAR (interpolated) = 1.23 W/kg

LTE2500 (Band 7)/Body - CH 20850 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Bottom - Antenna 1 - Repeated/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.91 V/m
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 0.928 W/kg
SAR(10 g) = 0.423 W/kg
Power Drift = 0.01 dB
Maximum value of SAR (measured) = 1.24 W/kg



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Plot W12

Date/Time: 2015-08-01 12:18:18 PM

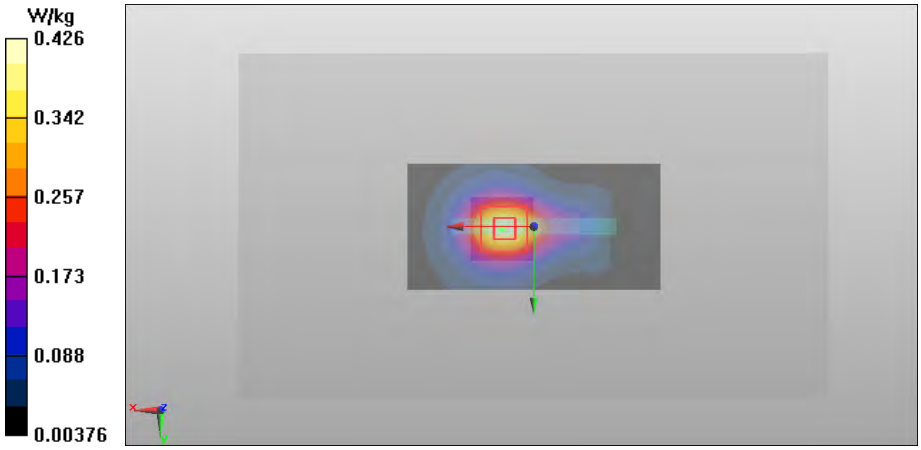
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN2450
Frequency: **2437 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22,6 C
Medium parameters used: f = 2437 MHz; σ = 1.887 S/m; ε_r = 51.602; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WLAN2450 b-mode/Body - CH 6 - 20 MHz DSSS BPSK 1Mbps SS 1 - 10mm - No Headset - Top - Antenna 1 and 2/Area Scan (61x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 12.46 V/m
Fast SAR: SAR(1 g) = 0.329 W/kg
Fast SAR(10 g) = 0.161 W/kg
Maximum value of SAR (interpolated) = 0.426 W/kg

WLAN2450 b-mode/Body - CH 6 - 20 MHz DSSS BPSK 1Mbps SS 1 - 10mm - No Headset - Top - Antenna 1 and 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.38 V/m
Peak SAR (extrapolated) = 0.592 W/kg
SAR(1 g) = 0.332 W/kg
SAR(10 g) = 0.177 W/kg
Power Drift = 0.03 dB
Maximum value of SAR (measured) = 0.414 W/kg



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Plot W13

Date/Time: 2015-07-20 11:12:00 AM

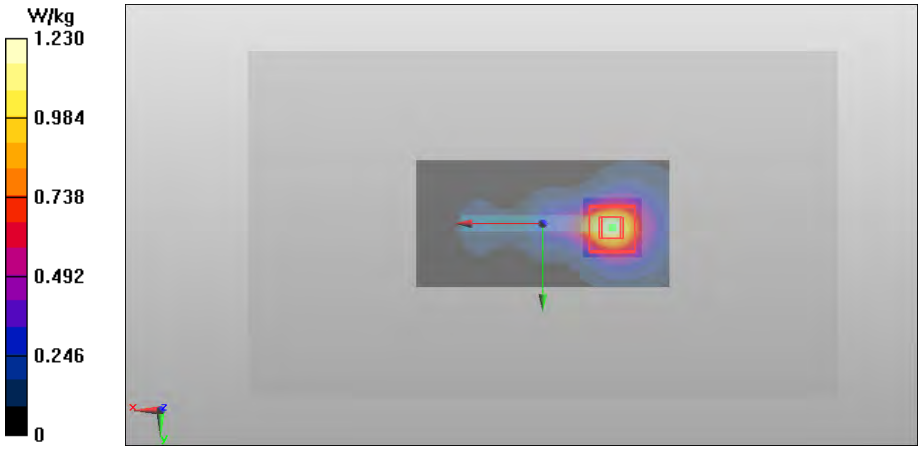
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN5000
Frequency: **5240 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: 21.3 C
Medium parameters used: f = 5240 MHz; σ = 5.491 S/m; ε_r = 47.427; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

WLAN5000 ac-mode/Body - CH 48 - 20 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Top - Antenna 1 and 2/Area Scan (61x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value =
Fast SAR: SAR(1 g) = 0.646 W/kg
Fast SAR(10 g) = 0.244 W/kg
Maximum value of SAR (interpolated) = 1.23 W/kg

WLAN5000 ac-mode/Body - CH 48 - 20 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Top - Antenna 1 and 2/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.65 V/m
Peak SAR (extrapolated) = 2.41 W/kg
SAR(1 g) = 0.660 W/kg
SAR(10 g) = 0.246 W/kg
Power Drift = 0.13 dB
Maximum value of SAR (measured) = 1.20 W/kg



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Plot W14

Date/Time: 2015-08-07 1:49:47 PM

DASY Configuration for LTE2500 (Band 7)/Body - CH 20850 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Bottom - Antenna 1 - Repeated/Area Scan:
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236206/8, 004402/74/236207/6
Communication System: LTE2500 (Band 7); Frequency: 2510 MHz; Duty Cycle: 1:1; PMF: 1
Medium: BSL2450 Medium parameters used: f = 2510 MHz; σ = 1.955 S/m; ε_r = 51.469; ρ = 1000 kg/m^3
Phantom section: Center Section

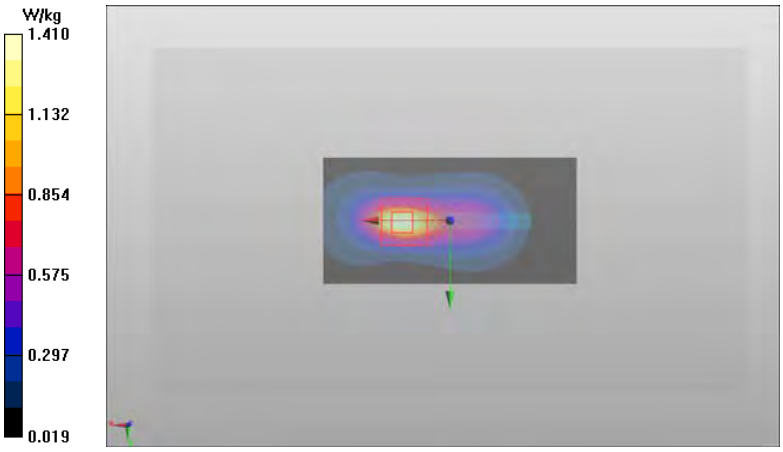
Probe: EX3DV4 - SN3892; ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-08-01 12:34:20 PM

DASY Configuration for WLAN2450 b-mode/Body - CH 6 - 20 MHz DSSS BPSK 1Mbps SS 1 - 10mm - No Headset - Bottom - Antenna 1 and 2/Area Scan:
Test Laboratory: TCC Microsoft
Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3
Communication System: WLAN2450; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1
Medium: BSL2450 Medium parameters used: f = 2437 MHz; σ = 1.887 S/m; ε_r = 51.602; ρ = 1000 kg/m^3
Phantom section: Center Section

Probe: EX3DV4 - SN3892; ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
Measurement SW: DASY52, Version 52.8 (8)

Fast SAR of Combined Scans: SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.465 W/kg
Maximum value of SAR (interpolated) = 1.41 W/kg



WLAN2450 b-mode was scaled with factor 1.41 and LTE2500 (Band 7) with factor 1.15 before combining in SEMCAD SW.

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Plot W15

Date/Time: 2015-07-27 12:48:43 PM

DASY Configuration for WCDMA1900 (Band 2)/Body - CH 9262 - 10 mm - No Headset - Back - Antenna 2/Area Scan:

Test Laboratory: TCC Microsoft

Type: RM-1116, HW:2030; Serial: 004402/74/236234/0, 004402/74/236235/7

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.458 S/m; ε_r = 51.66; ρ = 1000 kg/m^3

Phantom section: Center Section

Probe: ES3DV3 - SN3275; ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-07-20 3:35:44 PM

DASY Configuration for WLAN5000 ac-mode/Body - CH 44 - 20 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Back - Antenna 1 and 2/Area Scan:

Test Laboratory: TCC Microsoft

Type: RM-1116, HW:2030; Serial: 004402/74/236236/5, 004402/74/236237/3

Communication System: WLAN5000; Frequency: 5220 MHz; Duty Cycle: 1:1; PMF: 1

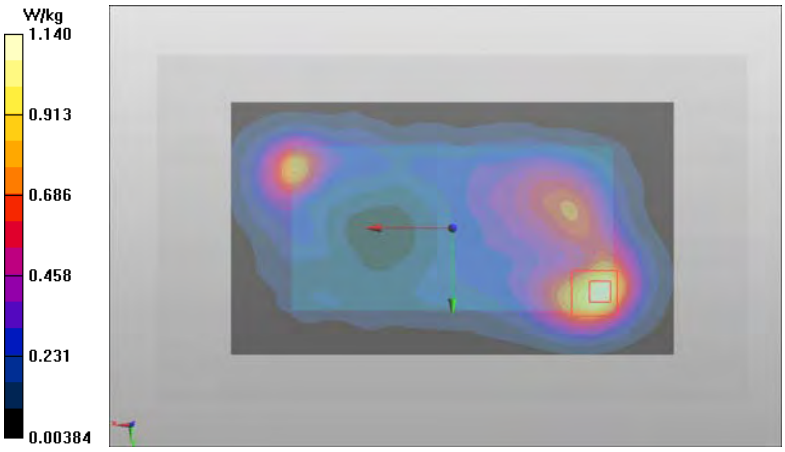
Medium: BSL5000 Medium parameters used: f = 5220 MHz; σ = 5.463 S/m; ε_r = 47.491; ρ = 1000 kg/m^3

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
Measurement SW: DASY52, Version 52.8 (8)

Fast SAR of Combined Scans: SAR(1 g) = 0.916 W/kg; SAR(10 g) = 0.504 W/kg

Maximum value of SAR (interpolated) = 1.14 W/kg



WLAN5000 ac-mode was scaled with factor 1.32 and WCDMA1900 (Band 2) with factor 1.07 before combining in SEMCAD SW.

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APPENDIX C: DIELECTRIC PARAMETERS OF THE TISSUE SIMULANTS

Head tissue simulant dielectric parameters used in the measurements:

f (MHz)	LTE700 (Band 12)	Dielectric Parameters					
	Date	CH 23060 704.0 MHz		CH 23095 707.5 MHz		CH 23130 711.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
707	2015-07-29	41.1	0.89	41.1	0.89	41.1	0.89
	2015-07-30	41.0	0.87	41.0	0.87	41.0	0.88
	2015-07-31	40.8	0.87	40.8	0.88	40.7	0.88
	2015-08-03	41.3	0.88	41.3	0.88	41.3	0.88
f (MHz)	LTE700 (Band 17)	Dielectric Parameters					
	Date	CH 23780 709.0 MHz		CH 23790 710.0 MHz		CH 23800 711.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
710	2015-07-29	41.1	0.89	41.1	0.89	41.1	0.89
	2015-07-30	41.0	0.88	41.0	0.88	41.0	0.88
	2015-07-31	40.8	0.88	40.8	0.88	40.7	0.88
	2015-08-03	41.3	0.88	41.3	0.88	41.3	0.88
f (MHz)	GSM850	Dielectric Parameters					
	Date	CH 128 824.2 MHz		CH 190 836.6 MHz		CH 251 848.8 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
836	2015-07-23	40.1	0.89	40.1	0.90	40.0	0.91
	2015-07-24	40.0	0.89	39.9	0.90	39.8	0.91
	2015-07-25	40.2	0.89	40.1	0.90	40.1	0.91
	2015-07-26	39.9	0.89	39.9	0.90	39.8	0.91
	2015-07-27	40.4	0.90	40.4	0.90	40.3	0.91
	2015-08-13	40.4	0.90	40.3	0.90	40.2	0.91
f (MHz)	WCDMA850 (Band 5)	Dielectric Parameters					
	Date	CH 4132 826.4 MHz		CH 4175 835.0 MHz		CH 4233 846.6 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
835	2015-07-23	40.1	0.89	40.1	0.90	40.0	0.91
	2015-07-24	40.0	0.89	39.9	0.90	39.9	0.90
	2015-07-25	40.2	0.90	40.1	0.90	40.1	0.91
	2015-07-26	39.9	0.89	39.8	0.90	39.8	0.91
	2015-07-27	40.4	0.90	40.4	0.90	40.4	0.91
f (MHz)	LTE850 (Band 5)	Dielectric Parameters					
	Date	CH 20450 829.0 MHz		CH 20525 836.5 MHz		CH 20600 844.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
836	2015-07-23	40.1	0.90	40.1	0.90	40.0	0.91
	2015-07-24	40.0	0.89	39.9	0.90	39.9	0.90
	2015-07-25	40.2	0.90	40.1	0.90	40.1	0.91
	2015-07-26	39.9	0.89	39.9	0.90	39.8	0.91
	2015-07-27	40.4	0.90	40.4	0.90	40.3	0.91

(Head tissue simulant table continues)

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(Head tissue simulant table continues)

f (MHz)	WCDMA1700/2100 (Band 4) Date	Dielectric Parameters					
		CH 1312 1712.4 MHz		CH 1412 1732.4 MHz		CH 1513 1752.6 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1732	2015-07-22	38.9	1.30	38.8	1.31	38.6	1.33
	2015-07-23	38.7	1.29	38.6	1.31	38.6	1.33
	2015-07-24	39.3	1.28	39.2	1.30	39.2	1.32
	2015-07-27	39.0	1.29	39.0	1.31	38.9	1.32
	2015-07-28	38.7	1.29	38.6	1.31	38.6	1.32
	2015-07-29	38.7	1.29	38.7	1.31	38.6	1.33
f (MHz)	LTE1700/2100 (Band 4) Date	Dielectric Parameters					
		CH 20050 1720.0 MHz		CH 20175 1732.5 MHz		CH 20300 1745.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1732	2015-07-22	38.8	1.30	38.8	1.31	38.7	1.32
	2015-07-23	38.7	1.30	38.6	1.31	38.6	1.32
	2015-07-24	39.3	1.29	39.2	1.30	39.2	1.31
	2015-07-27	39.0	1.29	39.0	1.31	38.9	1.32
	2015-07-28	38.7	1.30	38.6	1.31	38.6	1.32
	2015-07-29	38.7	1.30	38.7	1.31	38.7	1.32
f (MHz)	GSM1900 Date	Dielectric Parameters					
		CH 512 1850.2 MHz		CH 661 1880.0 MHz		CH 810 1909.8 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1880	2015-07-25	38.8	1.33	38.8	1.35	38.6	1.38
	2015-07-29	38.9	1.33	38.8	1.36	38.7	1.39
	2015-07-30	38.7	1.34	38.5	1.37	38.5	1.40
	2015-07-31	39.0	1.34	38.9	1.37	38.8	1.40
	2015-08-13	39.5	1.33	39.3	1.36	39.2	1.39
f (MHz)	WCDMA1900 (Band 2) Date	Dielectric Parameters					
		CH 9262 1852.4 MHz		CH 9400 1880.0 MHz		CH 9538 1907.6 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1880	2015-07-25	38.8	1.33	38.8	1.35	38.6	1.38
	2015-07-29	38.9	1.34	38.8	1.36	38.7	1.39
	2015-07-30	38.7	1.35	38.5	1.37	38.5	1.40
	2015-07-31	39.0	1.35	38.9	1.37	38.8	1.40
f (MHz)	LTE1900 (Band 2) Date	Dielectric Parameters					
		CH 18700 1860.0 MHz		CH 18900 1880.0 MHz		CH 19100 1900.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1880	2015-07-25	38.8	1.34	38.8	1.35	38.7	1.37
	2015-07-29	38.9	1.34	38.8	1.36	38.7	1.38
	2015-07-30	38.7	1.36	38.5	1.37	38.5	1.40
	2015-07-31	39.0	1.35	38.9	1.37	38.8	1.40

(Head tissue simulant table continues)

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(Head tissue simulant table continues)

f (MHz)	WLAN2450	Dielectric Parameters					
	Date	CH 1 2412.0 MHz		CH 6 2437.0 MHz		CH 11 2462.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
2437	2015-07-31	38.2	1.71	38.1	1.74	38.1	1.76
	2015-08-10	38.2	1.72	38.1	1.74	38.0	1.77
f (MHz)	LTE2500 (Band 7)	Dielectric Parameters					
	Date	CH 20850 2510.0 MHz		CH 21100 2535.0 MHz		CH 21350 2560.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
2535	2015-07-27	38.2	1.82	38.2	1.85	38.1	1.87
	2015-07-28	37.4	1.78	37.3	1.80	37.2	1.84
	2015-07-30	38.5	1.82	38.4	1.84	38.3	1.87
	2015-08-02	37.4	1.84	37.4	1.86	37.4	1.89
	2015-08-05	38.3	1.82	38.2	1.85	38.2	1.87
	2015-08-06	38.1	1.83	38.0	1.85	38.0	1.88

Head tissue simulant dielectric parameters used in the measurements 5180 – 5805 MHz:

f (MHz)	WLAN5200	Dielectric Parameters									
	Date	5200.0		5210.0		5220.0		5230.0		5240.0	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5210	2015-07-15	36.5	4.61	36.5	4.62	36.5	4.63	36.5	4.64	36.4	4.66
f (MHz)	WLAN5300	Dielectric Parameters									
	Date	5260.0		5290.0		5300.0		5310.0		5320.0	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5290	2015-07-15	36.4	4.67	36.4	4.71	36.4	4.72	36.4	4.73	36.3	4.74
	2015-07-18	35.9	4.65	35.9	4.69	35.9	4.70	35.9	4.70	35.9	4.71
	2015-07-21	36.2	4.65	36.1	4.70	36.1	4.71	36.1	4.71	36.1	4.72
f (MHz)	WLAN5500-5600	Dielectric Parameters									
	Date	5520.0		5600.0		5620.0		5640.0		5700.0	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5520	2015-07-15	36.0	4.94	35.9	5.02	35.9	5.05	35.9	5.07	35.8	5.14
5620	2015-07-18	35.6	4.92	35.4	5.00	35.4	5.03	35.4	5.05	35.3	5.10
	2015-10-15	35.8	4.83	35.7	4.92	35.7	4.94	35.6	4.96	35.6	5.03
f (MHz)	WLAN5800	Dielectric Parameters									
	Date	5745.0		5760.0		5785.0		5805.0		5815.0	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5760	2015-07-15	35.7	5.19	35.7	5.20	35.7	5.23	35.6	5.25	35.6	5.26
	2015-07-16	35.0	5.18	35.0	5.19	35.0	5.19	34.9	5.20	34.9	5.21
	2015-07-18	35.2	5.16	35.2	5.18	35.2	5.20	35.2	5.22	35.1	5.22

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Body tissue simulant dielectric parameters used in the measurements:

f (MHz)	LTE700 (Band 12)	Dielectric Parameters					
	Date	CH 23060 704.0 MHz		CH 23095 707.5 MHz		CH 23130 711.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
707	2015-08-01	53.3	0.95	53.2	0.95	53.2	0.95
	2015-08-02	53.5	0.93	53.5	0.94	53.4	0.94
	2015-08-03	53.2	0.93	53.2	0.94	53.2	0.94
f (MHz)	LTE700 (Band 17)	Dielectric Parameters					
	Date	CH 23780 709.0 MHz		CH 23790 710.0 MHz		CH 23800 711.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
710	2015-08-01	53.2	0.95	53.2	0.95	53.2	0.95
	2015-08-02	53.4	0.94	53.4	0.94	53.4	0.94
	2015-08-03	53.2	0.94	53.2	0.94	53.2	0.94
f (MHz)	GSM850	Dielectric Parameters					
	Date	CH 128 824.2 MHz		CH 190 836.6 MHz		CH 251 848.8 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
836	2015-07-28	53.1	0.98	53.1	0.98	53.0	0.99
	2015-07-29	53.9	0.98	53.9	0.99	53.8	1.00
	2015-07-30	53.8	0.97	53.7	0.98	53.7	0.99
	2015-08-06	53.7	0.97	53.6	0.98	53.6	0.99
f (MHz)	WCDMA850 (Band 5)	Dielectric Parameters					
	Date	CH 4132 826.4 MHz		CH 4175 835.0 MHz		CH 4233 846.6 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
835	2015-07-28	53.1	0.98	53.0	0.98	53.0	0.99
	2015-07-29	54.0	0.98	53.9	0.99	53.8	1.00
	2015-07-30	53.8	0.98	53.7	0.98	53.7	0.99
	2015-08-06	53.7	0.98	53.7	0.98	53.6	0.99
f (MHz)	LTE850 (Band 5)	Dielectric Parameters					
	Date	CH 20450 829.0 MHz		CH 20525 836.5 MHz		CH 20600 844.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
836	2015-07-28	53.1	0.98	53.0	0.98	53.0	0.99
	2015-07-29	53.9	0.99	53.9	0.99	53.9	0.99
	2015-07-30	53.8	0.98	53.7	0.98	53.7	0.98
	2015-08-06	53.7	0.98	53.6	0.98	53.6	0.99
f (MHz)	WCDMA1700/2100 (Band 4)	Dielectric Parameters					
	Date	CH 1312 1712.4 MHz		CH 1412 1732.4 MHz		CH 1513 1752.6 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1732	2015-07-20	51.9	1.43	51.8	1.44	51.7	1.47
	2015-07-21	51.6	1.42	51.5	1.44	51.4	1.46
	2015-07-22	51.7	1.42	51.6	1.44	51.5	1.46

(Body tissue simulant table continues)

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(Body tissue simulant table continues)

f (MHz)	LTE1700/2100 (Band 4)	Dielectric Parameters					
	Date	CH 20050 1720.0 MHz		CH 20175 1732.5 MHz		CH 20300 1745.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1732	2015-07-20	51.8	1.43	51.8	1.45	51.7	1.46
	2015-07-21	51.6	1.43	51.5	1.44	51.5	1.45
	2015-07-22	51.7	1.43	51.6	1.44	51.5	1.45
f (MHz)	GSM1900	Dielectric Parameters					
	Date	CH 512 1850.2 MHz		CH 661 1880.0 MHz		CH 810 1909.8 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1880	2015-07-22	51.9	1.46	51.8	1.49	51.8	1.52
	2015-07-26	51.9	1.45	51.8	1.47	51.7	1.50
	2015-07-27	51.6	1.45	51.6	1.48	51.5	1.51
	2015-07-28	51.4	1.45	51.4	1.47	51.2	1.50
	2015-08-11	52.0	1.45	51.9	1.48	51.8	1.50
f (MHz)	WCDMA1900 (Band 2)	Dielectric Parameters					
	Date	CH 9262 1852.4 MHz		CH 9400 1880.0 MHz		CH 9538 1907.6 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1880	2015-07-22	51.9	1.46	51.8	1.49	51.8	1.52
	2015-07-26	51.9	1.45	51.8	1.47	51.7	1.50
	2015-07-27	51.7	1.46	51.6	1.48	51.5	1.51
	2015-07-28	51.4	1.45	51.4	1.47	51.2	1.50
	2015-08-11	52.0	1.45	51.9	1.48	51.8	1.50
f (MHz)	LTE1900 (Band 2)	Dielectric Parameters					
	Date	CH 18700 1860.0 MHz		CH 18900 1880.0 MHz		CH 19100 1900.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
1880	2015-07-22	51.8	1.47	51.8	1.49	51.8	1.52
	2015-07-26	51.9	1.46	51.8	1.47	51.8	1.49
	2015-07-27	51.7	1.47	51.6	1.48	51.6	1.50
	2015-07-28	51.4	1.46	51.4	1.47	51.3	1.49
	2015-08-11	51.9	1.46	51.9	1.48	51.9	1.49
f (MHz)	WLAN2450	Dielectric Parameters					
	Date	CH 1 2412.0 MHz		CH 6 2437.0 MHz		CH 11 2462.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
2437	2015-08-01	51.7	1.86	51.6	1.88	51.5	1.91
f (MHz)	LTE2500 (Band 7)	Dielectric Parameters					
	Date	CH 20850 2510.0 MHz		CH 21100 2535.0 MHz		CH 21350 2560.0 MHz	
		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
2535	2015-07-29	51.0	1.97	50.9	2.00	50.8	2.03
	2015-08-06	51.5	1.95	51.4	1.98	51.4	2.01

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Body tissue simulant dielectric parameters used in the measurements 5180 – 5805 MHz:

f	WLAN5200	Dielectric Parameters									
	Date	5200.0		5210.0		5220.0		5230.0		5240.0	
(MHz)		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5210	2015-07-20	47.5	5.44	47.5	5.45	47.5	5.46	47.5	5.47	47.4	5.48
f	WLAN5300	Dielectric Parameters									
	Date	5260.0		5290.0		5300.0		5310.0		5320.0	
(MHz)		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5290	2015-07-19	47.6	5.50	47.6	5.55	47.6	5.56	47.6	5.57	47.5	5.57
f	WLAN5500-5600	Dielectric Parameters									
	Date	5520.0		5600.0		5620.0		5640.0		5700.0	
(MHz)		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5520 5620	2015-07-19	47.2	5.86	47.0	5.95	47.0	6.00	47.0	6.02	46.8	6.08
f	WLAN5800	Dielectric Parameters									
	Date	5745.0		5760.0		5785.0		5805.0		5815.0	
(MHz)		e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]	e_r	s [S/m]
5760	2015-07-19	46.8	6.18	46.8	6.19	46.8	6.20	46.7	6.22	46.6	6.24

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APPENDIX D: RELEVANT PAGES FROM PROBE CALIBRATION REPORTS

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Calibration Laboratory of
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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client TCC Microsoft

Certificate No: ES3-3131_Oct14

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3131

Calibration procedure(s): QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: October 21, 2014

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	03-Apr-14 (No. 217-01911)	Apr-15
Power sensor E4412A	MY41498087	03-Apr-14 (No. 217-01911)	Apr-15
Reference 3 dB Attenuator	SN: S5054 (3c)	03-Apr-14 (No. 217-01915)	Apr-15
Reference 20 dB Attenuator	SN: S5277 (20x)	03-Apr-14 (No. 217-01919)	Apr-15
Reference 30 dB Attenuator	SN: S5129 (30b)	03-Apr-14 (No. 217-01920)	Apr-15
Reference Probe ES3DV2	SN: 3013	30-Dec-13 (No. ES3-3013_Dec13)	Dec-14
DAE4	SN: 660	13-Dec-13 (No. DAE4-660_Dec13)	Dec-14
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Israe El-Naouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: October 21, 2014

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3131

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	41.9	0.89	6.29	6.29	6.29	0.58	1.27	± 12.0 %
835	41.5	0.90	6.04	6.04	6.04	0.62	1.27	± 12.0 %
1750	40.1	1.37	5.10	5.10	5.10	0.43	1.55	± 12.0 %
1900	40.0	1.40	4.92	4.92	4.92	0.58	1.32	± 12.0 %
2300	39.5	1.67	4.62	4.62	4.62	0.78	1.17	± 12.0 %
2450	39.2	1.80	4.39	4.39	4.39	0.65	1.33	± 12.0 %
2600	39.0	1.96	4.25	4.25	4.25	0.79	1.22	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3131

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	55.5	0.96	5.97	5.97	5.97	0.27	2.03	± 12.0 %
835	55.2	0.97	5.96	5.96	5.96	0.54	1.37	± 12.0 %
1750	53.4	1.49	4.79	4.79	4.79	0.43	1.72	± 12.0 %
1900	53.3	1.52	4.58	4.58	4.58	0.65	1.40	± 12.0 %
2300	52.9	1.81	4.33	4.33	4.33	0.76	1.21	± 12.0 %
2450	52.7	1.95	4.14	4.14	4.14	0.80	1.11	± 12.0 %
2600	52.5	2.16	4.03	4.03	4.03	0.80	1.06	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencias above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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Accreditation No.: SCS 0108

Client **TCC Microsoft**

Certificate No: EX3-3892_Apr15

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3892
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	April 24, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	30-Dec-14 (No. ES3-3013_Dec14)	Dec-15
DAE4	SN: 660	14-Jan-15 (No. DAE4-660_Jan15)	Jan-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Israe Elnaouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 27, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3892

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	41.9	0.89	10.14	10.14	10.14	0.23	1.36	± 12.0 %
835	41.5	0.90	9.65	9.65	9.65	0.21	1.36	± 12.0 %
1750	40.1	1.37	8.13	8.13	8.13	0.35	0.80	± 12.0 %
1900	40.0	1.40	7.92	7.92	7.92	0.35	0.80	± 12.0 %
2300	39.5	1.67	7.47	7.47	7.47	0.21	1.14	± 12.0 %
2450	39.2	1.80	7.24	7.24	7.24	0.24	0.97	± 12.0 %
2600	39.0	1.96	7.13	7.13	7.13	0.35	0.95	± 12.0 %
5200	36.0	4.66	5.07	5.07	5.07	0.35	1.80	± 13.1 %
5300	35.9	4.76	4.84	4.84	4.84	0.35	1.80	± 13.1 %
5500	35.6	4.96	4.78	4.78	4.78	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.60	4.60	4.60	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.52	4.52	4.52	0.40	1.80	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3892

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	55.5	0.96	9.62	9.62	9.62	0.41	0.92	± 12.0 %
835	55.2	0.97	9.55	9.55	9.55	0.36	1.05	± 12.0 %
1750	53.4	1.49	7.90	7.90	7.90	0.29	0.96	± 12.0 %
1900	53.3	1.52	7.68	7.68	7.68	0.41	0.80	± 12.0 %
2300	52.9	1.81	7.44	7.44	7.44	0.37	0.85	± 12.0 %
2450	52.7	1.95	7.32	7.32	7.32	0.35	0.90	± 12.0 %
2600	52.5	2.16	7.04	7.04	7.04	0.35	0.90	± 12.0 %
5200	49.0	5.30	4.54	4.54	4.54	0.40	1.90	± 13.1 %
5300	48.9	5.42	4.33	4.33	4.33	0.40	1.90	± 13.1 %
5500	48.6	5.65	4.01	4.01	4.01	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.93	3.93	3.93	0.50	1.90	± 13.1 %
5800	48.2	6.00	4.05	4.05	4.05	0.50	1.90	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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Accreditation No.: SCS 108

Client **TCC Microsoft**

Certificate No: EX3-3835_Oct14

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:3835

Calibration procedure(s): QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: October 20, 2014

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	03-Apr-14 (No. 217-01911)	Apr-15
Power sensor E4412A	MY41498087	03-Apr-14 (No. 217-01911)	Apr-15
Reference 3 dB Attenuator	SN: S5054 (3c)	03-Apr-14 (No. 217-01915)	Apr-15
Reference 20 dB Attenuator	SN: S5277 (20x)	03-Apr-14 (No. 217-01919)	Apr-15
Reference 30 dB Attenuator	SN: S5129 (30b)	03-Apr-14 (No. 217-01920)	Apr-15
Reference Probe ES3DV2	SN: 3013	30-Dec-13 (No. ES3-3013_Dec13)	Dec-14
DAE4	SN: 660	13-Dec-13 (No. DAE4-660_Dec13)	Dec-14
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: October 21, 2014

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3835

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	41.9	0.89	9.14	9.14	9.14	0.28	1.12	± 12.0 %
835	41.5	0.90	8.87	8.87	8.87	0.29	1.03	± 12.0 %
1750	40.1	1.37	7.73	7.73	7.73	0.50	0.72	± 12.0 %
1900	40.0	1.40	7.52	7.52	7.52	0.76	0.57	± 12.0 %
2300	39.5	1.67	7.23	7.23	7.23	0.50	0.70	± 12.0 %
2450	39.2	1.80	6.92	6.92	6.92	0.41	0.80	± 12.0 %
2600	39.0	1.96	6.79	6.79	6.79	0.40	0.84	± 12.0 %
5200	36.0	4.66	4.91	4.91	4.91	0.35	1.80	± 13.1 %
5300	35.9	4.76	4.73	4.73	4.73	0.35	1.80	± 13.1 %
5500	35.6	4.96	4.52	4.52	4.52	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.32	4.32	4.32	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.36	4.36	4.36	0.40	1.80	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3835

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	55.5	0.96	8.80	8.80	8.80	0.24	1.33	± 12.0 %
835	55.2	0.97	8.90	8.90	8.90	0.63	0.67	± 12.0 %
1750	53.4	1.49	7.46	7.46	7.46	0.78	0.63	± 12.0 %
1900	53.3	1.52	7.17	7.17	7.17	0.43	0.80	± 12.0 %
2300	52.9	1.81	7.03	7.03	7.03	0.80	0.61	± 12.0 %
2450	52.7	1.95	6.87	6.87	6.87	0.80	0.58	± 12.0 %
2600	52.5	2.16	6.74	6.74	6.74	0.80	0.50	± 12.0 %
5200	49.0	5.30	4.20	4.20	4.20	0.45	1.90	± 13.1 %
5300	48.9	5.42	4.03	4.03	4.03	0.45	1.90	± 13.1 %
5500	48.6	5.65	3.79	3.79	3.79	0.45	1.90	± 13.1 %
5600	48.5	5.77	3.63	3.63	3.63	0.45	1.90	± 13.1 %
5800	48.2	6.00	3.80	3.80	3.80	0.50	1.90	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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Accreditation No.: SCS 0108

Client TCC Microsoft

Certificate No: ES3-3194_Jan15

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3194

Calibration procedure(s): QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: January 20, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	03-Apr-14 (No. 217-01911)	Apr-15
Power sensor E4412A	MY41498087	03-Apr-14 (No. 217-01911)	Apr-15
Reference 3 dB Attenuator	SN: S5054 (3c)	03-Apr-14 (No. 217-01915)	Apr-15
Reference 20 dB Attenuator	SN: S5277 (20x)	03-Apr-14 (No. 217-01919)	Apr-15
Reference 30 dB Attenuator	SN: S5129 (30b)	03-Apr-14 (No. 217-01920)	Apr-15
Reference Probe ES3DV2	SN: 3013	30-Dec-14 (No. ES3-3013_Dec14)	Dec-15
DAE4	SN: 660	14-Jan-15 (No. DAE4-660_Jan15)	Jan-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 22, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3194

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	41.9	0.89	6.52	6.52	6.52	0.56	1.42	± 12.0 %
835	41.5	0.90	6.34	6.34	6.34	0.59	1.36	± 12.0 %
1750	40.1	1.37	5.22	5.22	5.22	0.73	1.26	± 12.0 %
1900	40.0	1.40	5.09	5.09	5.09	0.80	1.16	± 12.0 %
2300	39.5	1.67	4.71	4.71	4.71	0.79	1.19	± 12.0 %
2450	39.2	1.80	4.50	4.50	4.50	0.75	1.30	± 12.0 %
2600	39.0	1.96	4.31	4.31	4.31	0.80	1.30	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3194

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	55.5	0.96	6.08	6.08	6.08	0.46	1.57	± 12.0 %
835	55.2	0.97	6.11	6.11	6.11	0.49	1.56	± 12.0 %
1750	53.4	1.49	4.92	4.92	4.92	0.80	1.23	± 12.0 %
1900	53.3	1.52	4.75	4.75	4.75	0.78	1.28	± 12.0 %
2300	52.9	1.81	4.46	4.46	4.46	0.80	1.26	± 12.0 %
2450	52.7	1.95	4.35	4.35	4.35	0.68	1.20	± 12.0 %
2600	52.5	2.16	4.19	4.19	4.19	0.73	1.18	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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Accreditation No.: SCS 0108

Client **TCC Microsoft**

Certificate No: ES3-3275_Apr15

CALIBRATION CERTIFICATE

Object ES3DV3 - SN:3275

Calibration procedure(s) QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: April 27, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	30-Dec-14 (No. ES3-3013_Dec14)	Dec-15
DAE4	SN: 660	14-Jan-15 (No. DAE4-660_Jan15)	Jan-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 29, 2015

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DASY/EASY - Parameters of Probe: ES3DV3 - SN:3275

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	41.9	0.89	6.19	6.19	6.19	0.31	2.01	± 12.0 %
835	41.5	0.90	5.95	5.95	5.95	0.29	2.09	± 12.0 %
1750	40.1	1.37	4.99	4.99	4.99	0.49	1.47	± 12.0 %
1900	40.0	1.40	4.85	4.85	4.85	0.61	1.32	± 12.0 %
2300	39.5	1.67	4.55	4.55	4.55	0.69	1.30	± 12.0 %
2450	39.2	1.80	4.33	4.33	4.33	0.80	1.35	± 12.0 %
2600	39.0	1.96	4.22	4.22	4.22	0.80	1.26	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3275

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	55.5	0.96	6.04	6.04	6.04	0.54	1.43	± 12.0 %
835	55.2	0.97	5.93	5.93	5.93	0.36	1.83	± 12.0 %
1750	53.4	1.49	4.78	4.78	4.78	0.52	1.60	± 12.0 %
1900	53.3	1.52	4.63	4.63	4.63	0.73	1.36	± 12.0 %
2300	52.9	1.81	4.38	4.38	4.38	0.77	1.23	± 12.0 %
2450	52.7	1.95	4.25	4.25	4.25	0.80	1.11	± 12.0 %
2600	52.5	2.16	4.07	4.07	4.07	0.85	1.35	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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Accreditation No.: SCS 0108

Client **TCC Microsoft** **Certificate No: EX3-3852_Apr15**

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3852

Calibration procedure(s) QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: April 24, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	30-Dec-14 (No. ES3-3013_Dec14)	Dec-15
DAE4	SN: 660	14-Jan-15 (No. DAE4-660_Jan15)	Jan-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Israe Elnaouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 27, 2015

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3852

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	41.9	0.89	9.36	9.36	9.36	0.35	0.99	± 12.0 %
835	41.5	0.90	8.96	8.96	8.96	0.23	1.28	± 12.0 %
1750	40.1	1.37	7.69	7.69	7.69	0.40	0.80	± 12.0 %
1900	40.0	1.40	7.49	7.49	7.49	0.32	0.80	± 12.0 %
2300	39.5	1.67	7.15	7.15	7.15	0.36	0.80	± 12.0 %
2450	39.2	1.80	6.86	6.86	6.86	0.37	0.83	± 12.0 %
2600	39.0	1.96	6.67	6.67	6.67	0.25	1.11	± 12.0 %
5200	36.0	4.66	4.87	4.87	4.87	0.35	1.80	± 13.1 %
5300	35.9	4.76	4.68	4.68	4.68	0.35	1.80	± 13.1 %
5500	35.6	4.96	4.70	4.70	4.70	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.53	4.53	4.53	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.50	4.50	4.50	0.40	1.80	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3852

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unct. (k=2)
750	55.5	0.96	9.31	9.31	9.31	0.35	1.02	± 12.0 %
835	55.2	0.97	9.11	9.11	9.11	0.25	1.21	± 12.0 %
1750	53.4	1.49	7.50	7.50	7.50	0.43	0.85	± 12.0 %
1900	53.3	1.52	7.31	7.31	7.31	0.42	0.82	± 12.0 %
2300	52.9	1.81	7.18	7.18	7.18	0.41	0.80	± 12.0 %
2450	52.7	1.95	7.04	7.04	7.04	0.39	0.95	± 12.0 %
2600	52.5	2.16	6.83	6.83	6.83	0.40	0.95	± 12.0 %
5200	49.0	5.30	4.51	4.51	4.51	0.40	1.90	± 13.1 %
5300	48.9	5.42	4.35	4.35	4.35	0.40	1.90	± 13.1 %
5500	48.6	5.65	3.82	3.82	3.82	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.65	3.65	3.65	0.50	1.90	± 13.1 %
5800	48.2	6.00	4.10	4.10	4.10	0.50	1.90	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

APPENDIX E: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORTS

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Accreditation No.: SCS 0108

Client **TCC Microsoft**

Certificate No: D750V3-1075_Jan15

CALIBRATION CERTIFICATE

Object	D750V3 - SN: 1075
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 16, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 19, 2015

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.7 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.07 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.13 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.36 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	56.0 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.17 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**8.50 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.43 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**5.62 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.2 Ω + 0.6 jΩ
Return Loss	- 27.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.2 Ω - 1.1 jΩ
Return Loss	- 37.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.033 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	September 04, 2012

Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075

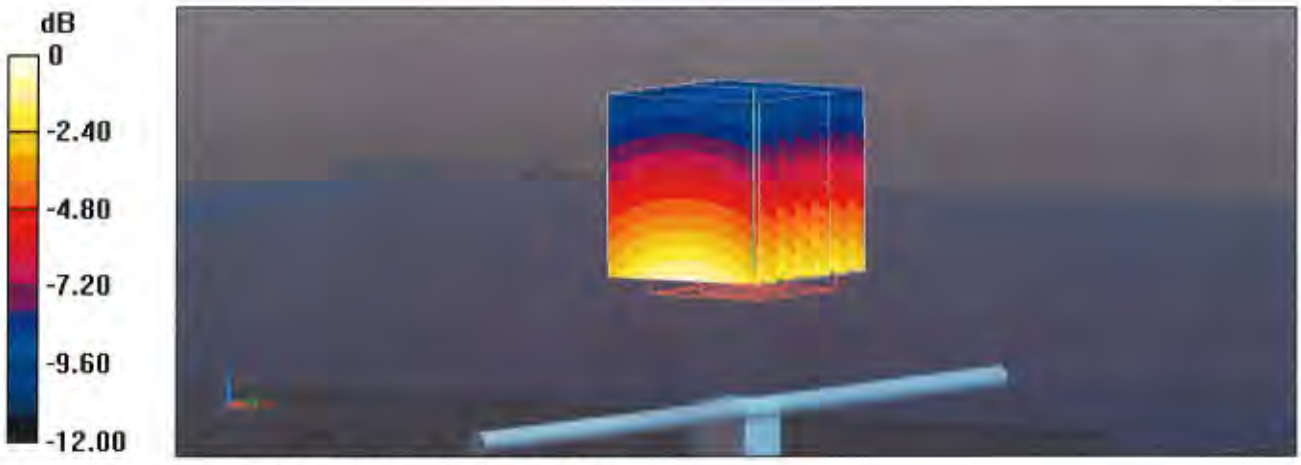
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.91 S/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.44, 6.44, 6.44); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

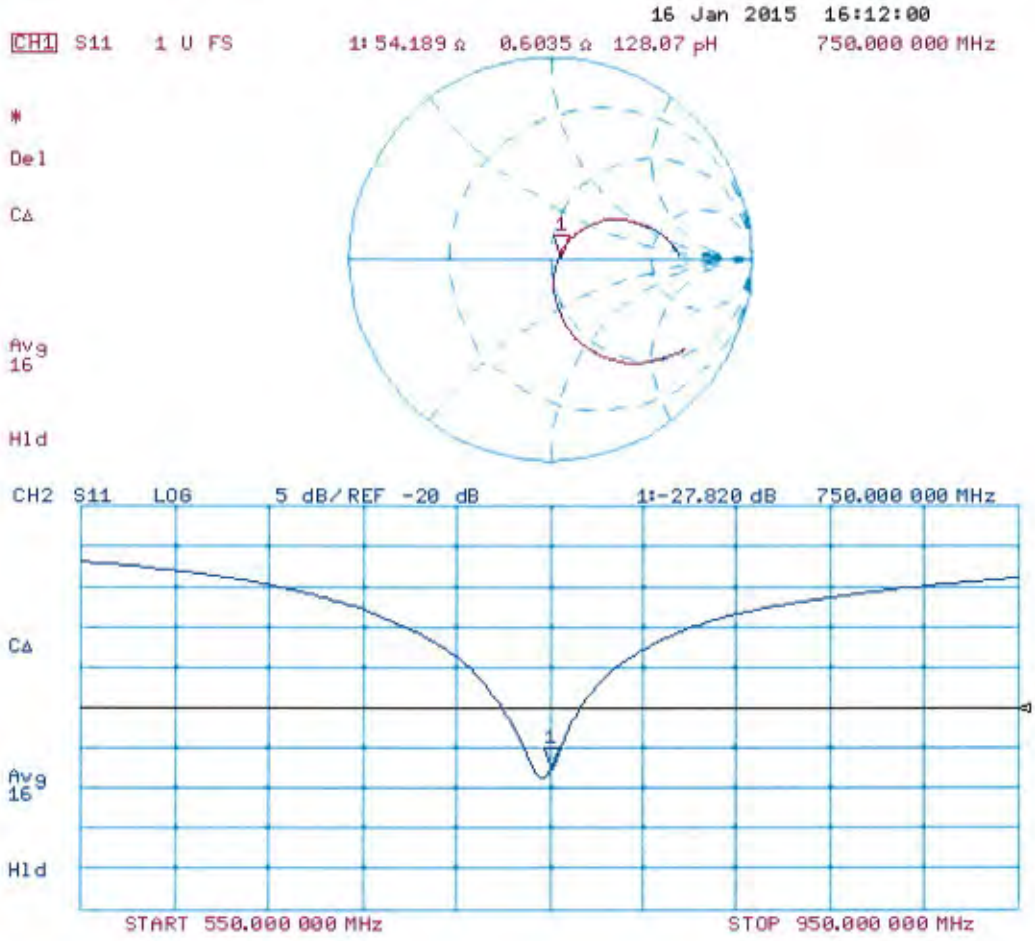
Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.09 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.06 W/kg
SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.36 W/kg
Maximum value of SAR (measured) = 2.41 W/kg



0 dB = 2.41 W/kg = 3.82 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075

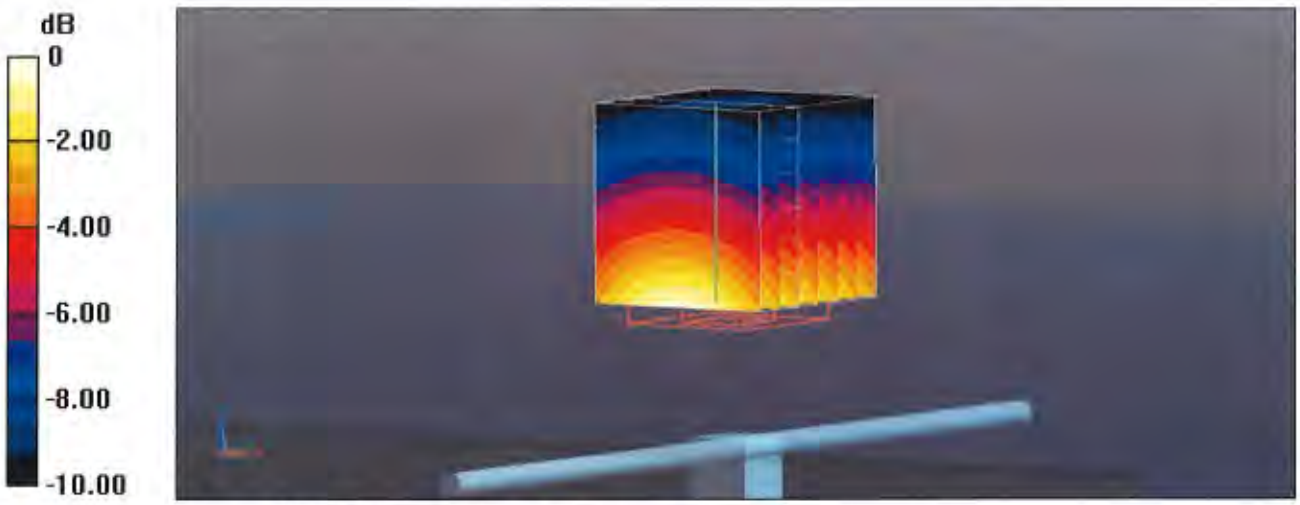
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.99 S/m; ε_r = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.21, 6.21, 6.21); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

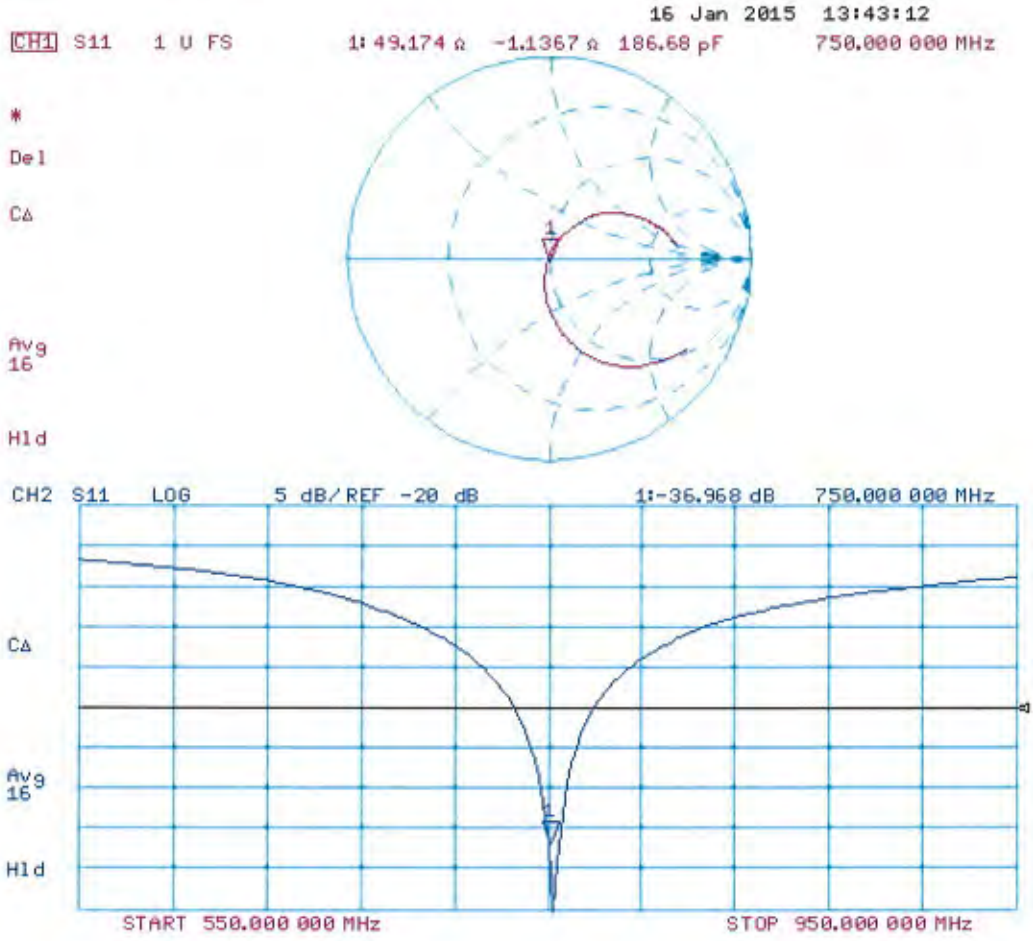
Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.44 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.17 W/kg
SAR(1 g) = 2.17 W/kg; SAR(10 g) = 1.43 W/kg
Maximum value of SAR (measured) = 2.53 W/kg



0 dB = 2.53 W/kg = 4.03 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client **TCC Microsoft**

Certificate No: D835V2-480_Jan15

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 480
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 16, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 19, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.5 ± 6 %	0.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.34 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**9.13 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.53 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.00 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.8 ± 6 %	1.01 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.32 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**9.02 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.52 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**5.95 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.9 Ω - 2.3 jΩ
Return Loss	- 30.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.3 Ω - 4.1 jΩ
Return Loss	- 26.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.389 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 28, 2003

Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480

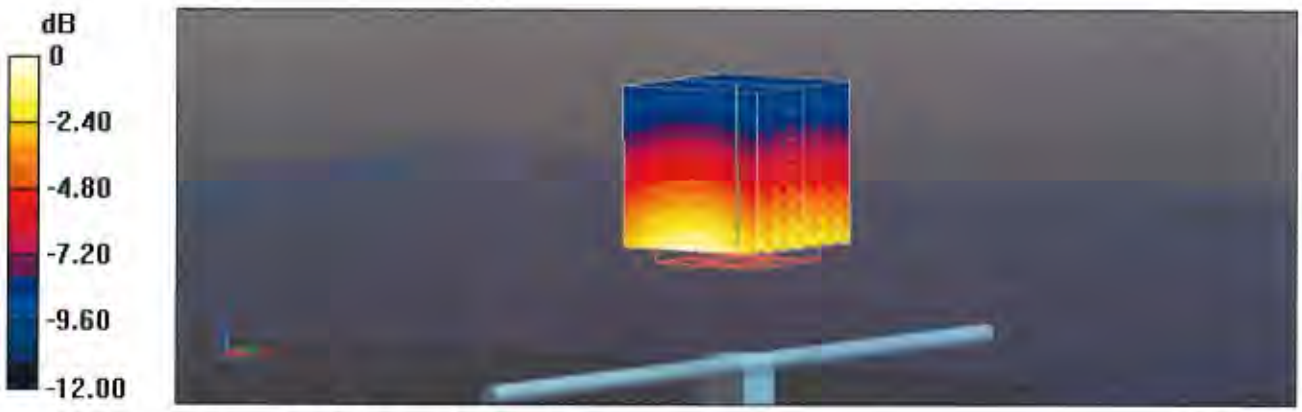
Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.93 S/m; ε_r = 41.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.2, 6.2, 6.2); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

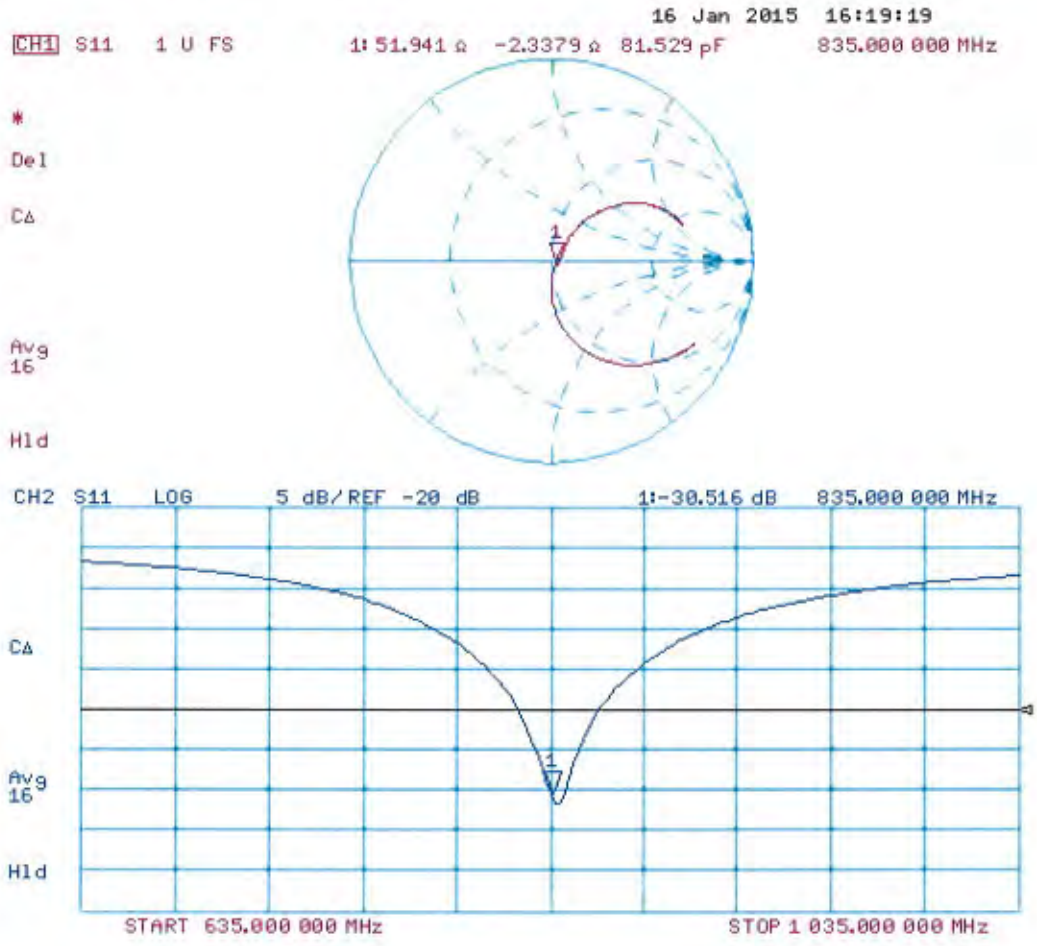
Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.08 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.47 W/kg
SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.53 W/kg
Maximum value of SAR (measured) = 2.74 W/kg



0 dB = 2.74 W/kg = 4.38 dBW/kg

Impedance Measurement Plot for Head TSL



Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480

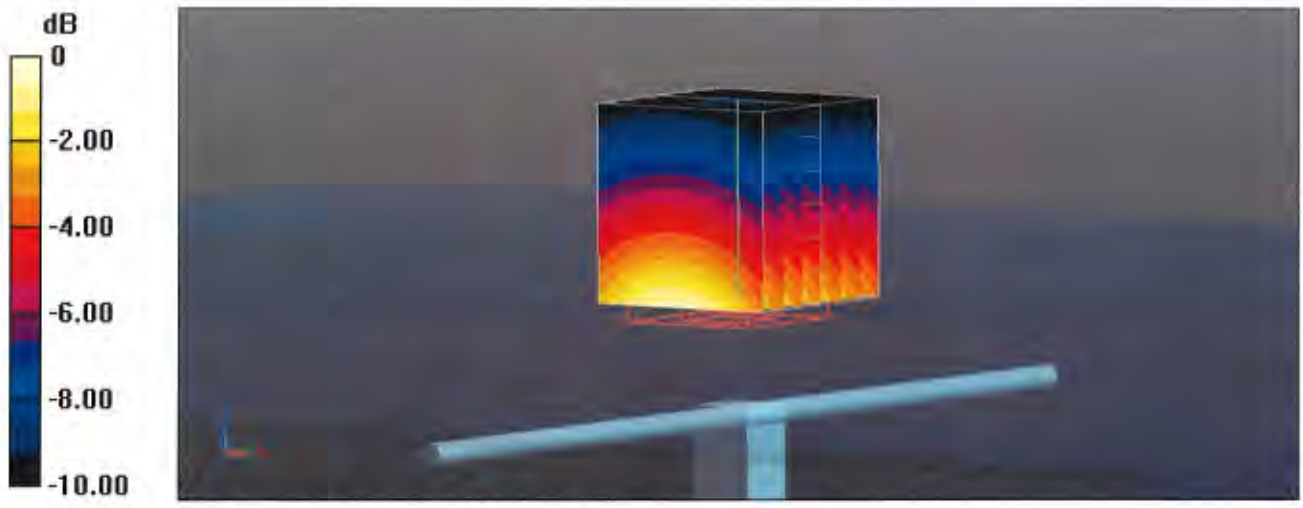
Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 1.01 S/m; ε_r = 55.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.17, 6.17, 6.17); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

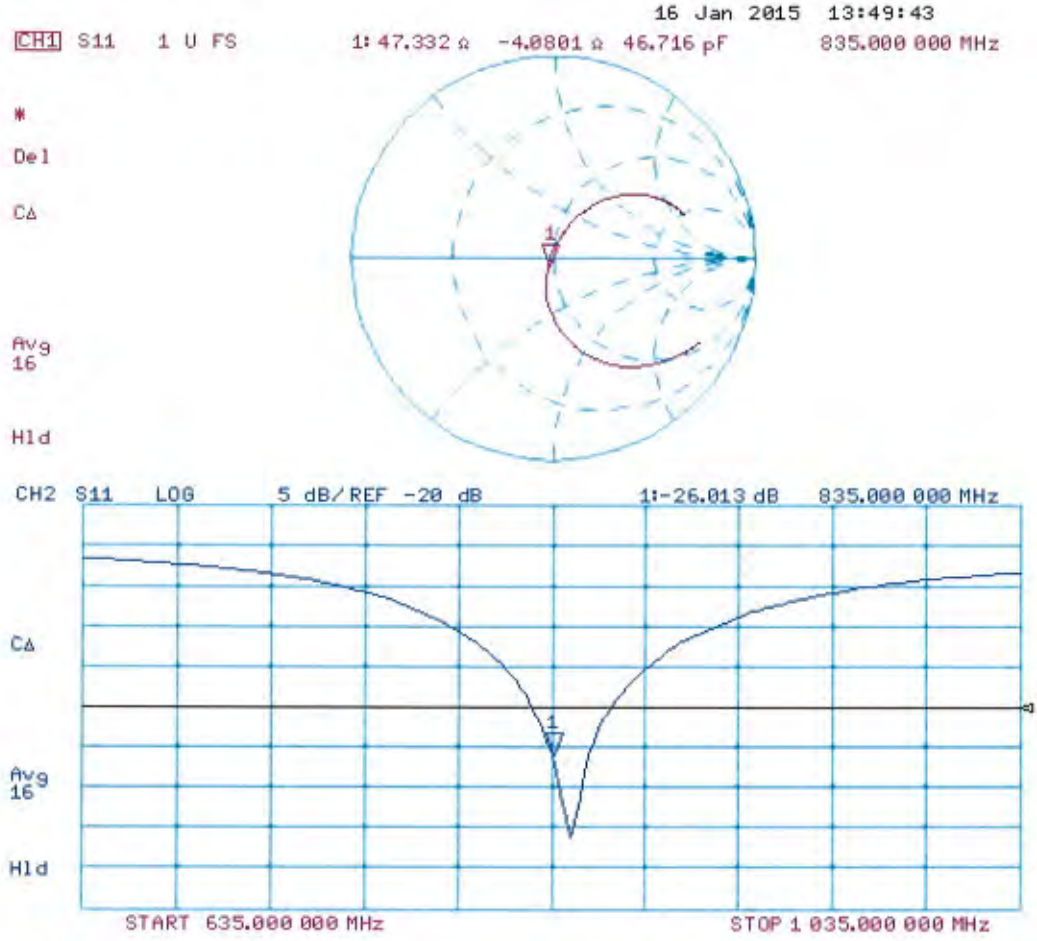
Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.43 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.42 W/kg
SAR(1 g) = 2.32 W/kg; SAR(10 g) = 1.52 W/kg
Maximum value of SAR (measured) = 2.69 W/kg



0 dB = 2.69 W/kg = 4.30 dBW/kg

Impedance Measurement Plot for Body TSL



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S Swiss Calibration Service

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The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client TCC Microsoft

Certificate No: D1750V2-1082_Jan15

CALIBRATION CERTIFICATE

Object	D1750V2 - SN: 1082
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 14, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 15, 2015

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.0 ± 6 %	1.38 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.24 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**36.6 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.90 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**19.5 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.8 ± 6 %	1.49 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.43 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**37.5 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.07 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**20.2 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.9 Ω + 0.5 jΩ
Return Loss	- 39.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.3 Ω + 1.0 jΩ
Return Loss	- 28.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.219 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 19, 2011

Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082

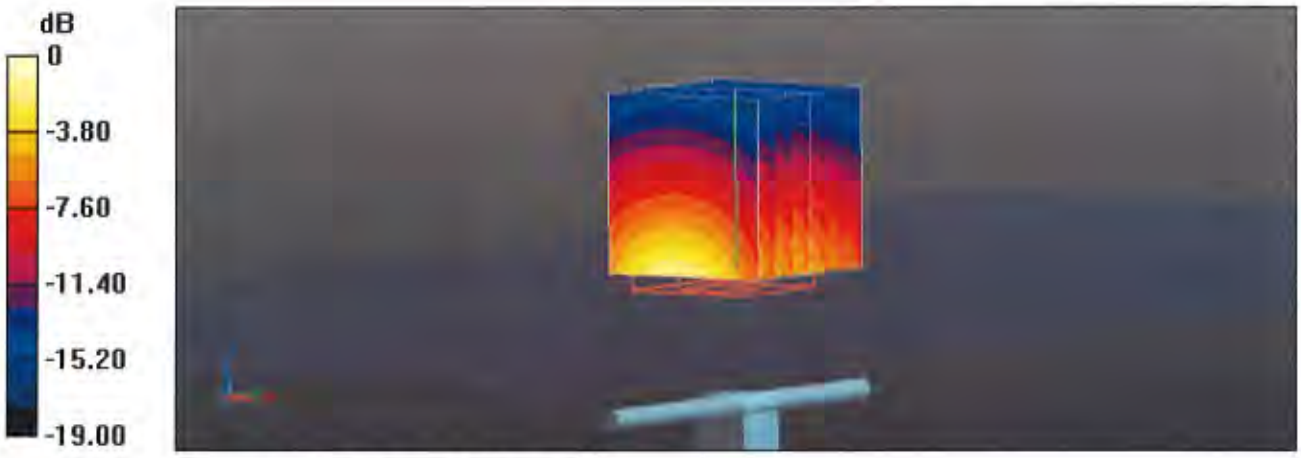
Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.38 S/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.2, 5.2, 5.2); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

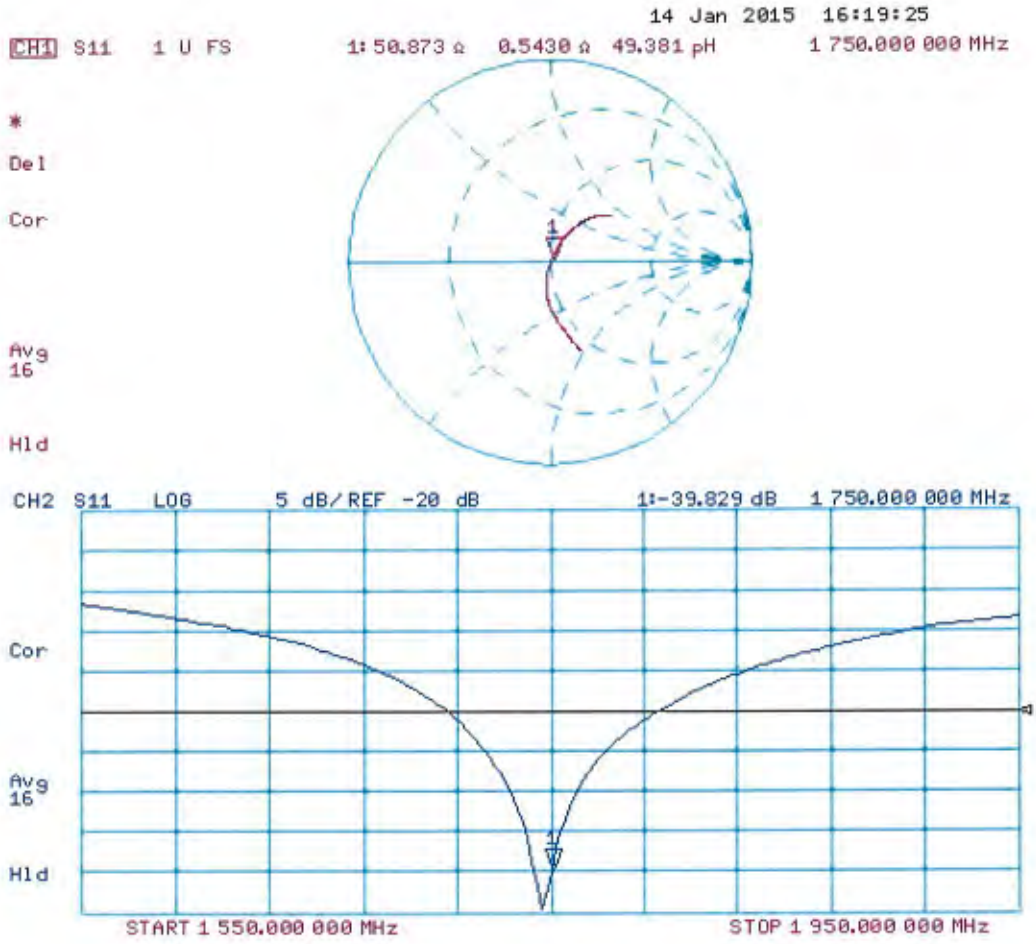
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.14 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 9.24 W/kg; SAR(10 g) = 4.9 W/kg
Maximum value of SAR (measured) = 11.5 W/kg



0 dB = 11.5 W/kg = 10.61 dBW/kg

Impedance Measurement Plot for Head TSL



Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082

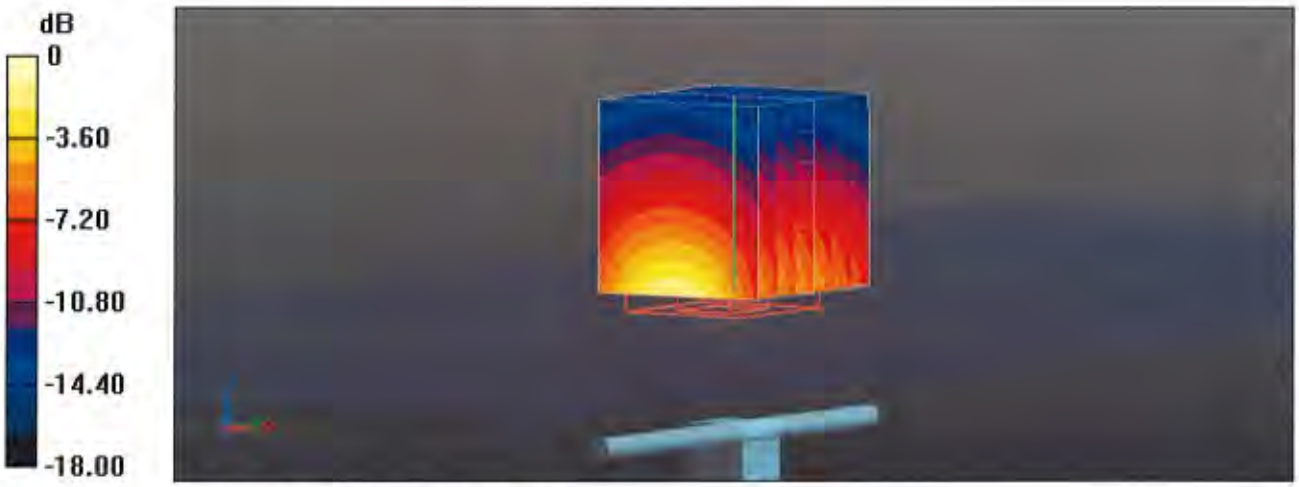
Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.49 S/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.88, 4.88, 4.88); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

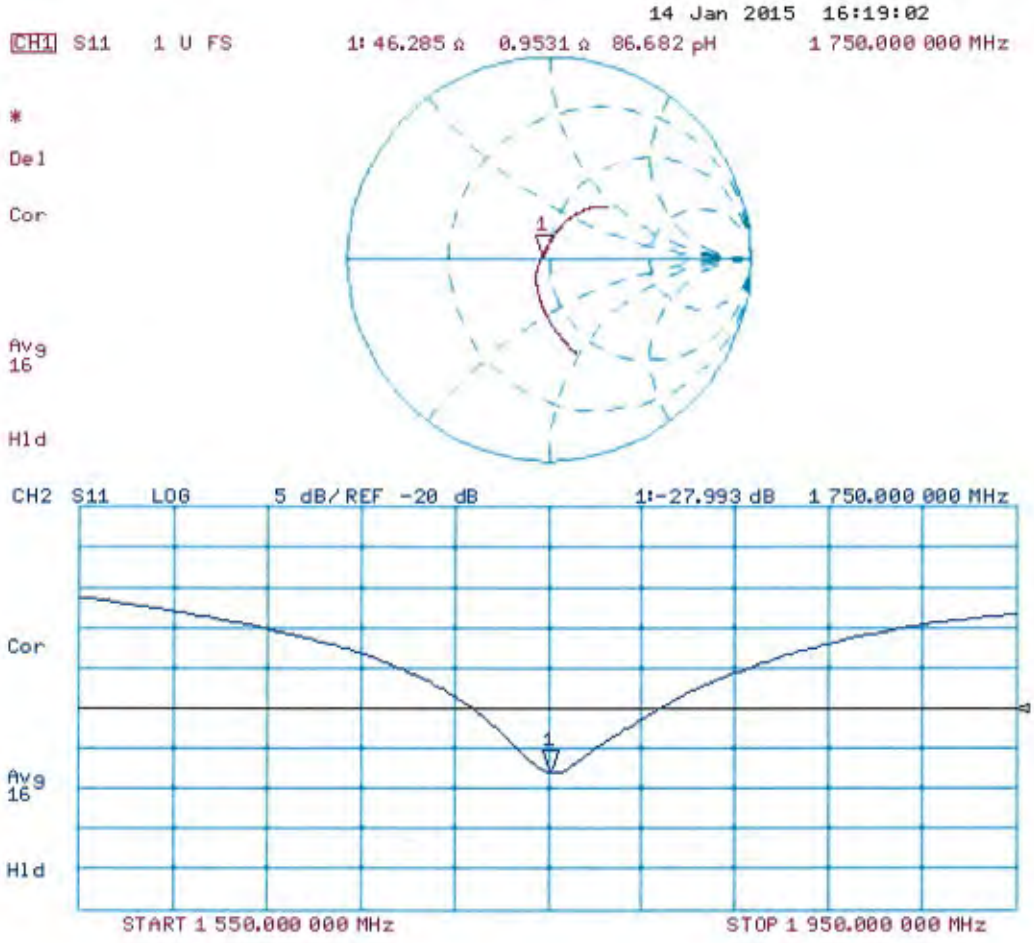
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.60 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 9.43 W/kg; SAR(10 g) = 5.07 W/kg
Maximum value of SAR (measured) = 11.7 W/kg



0 dB = 11.7 W/kg = 10.68 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client **TCC Microsoft**

Certificate No: D1900V2-5d013_Jan15

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d013
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 14, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	M. Weber
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 15, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.4 ± 6 %	1.40 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.2 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**40.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.30 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**21.2 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.0 ± 6 %	1.51 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**40.5 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.38 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.6 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.5 Ω + 6.1 jΩ
Return Loss	- 23.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.1 Ω + 6.9 jΩ
Return Loss	- 22.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.194 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	April 30, 2002

Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013

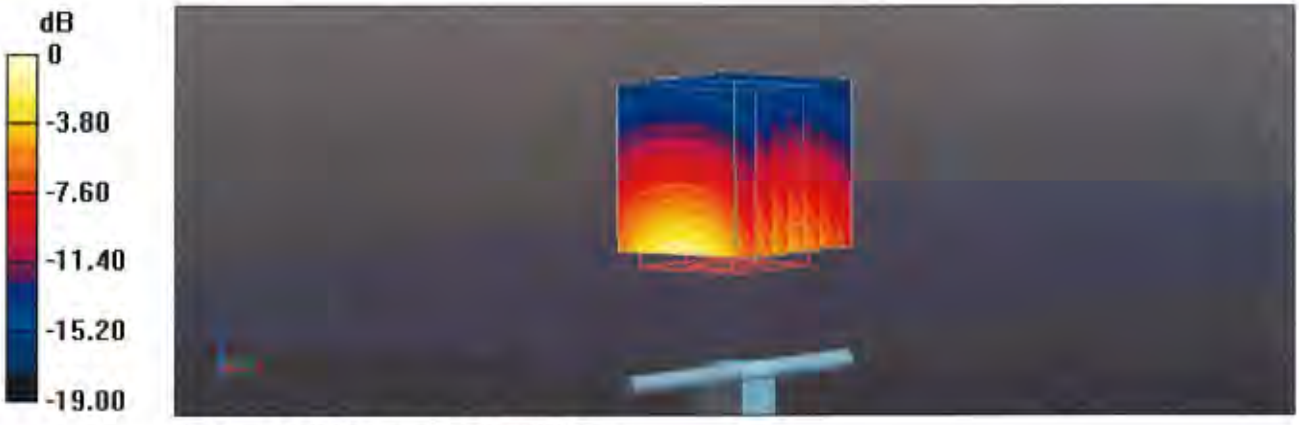
Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.4 S/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5, 5, 5); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

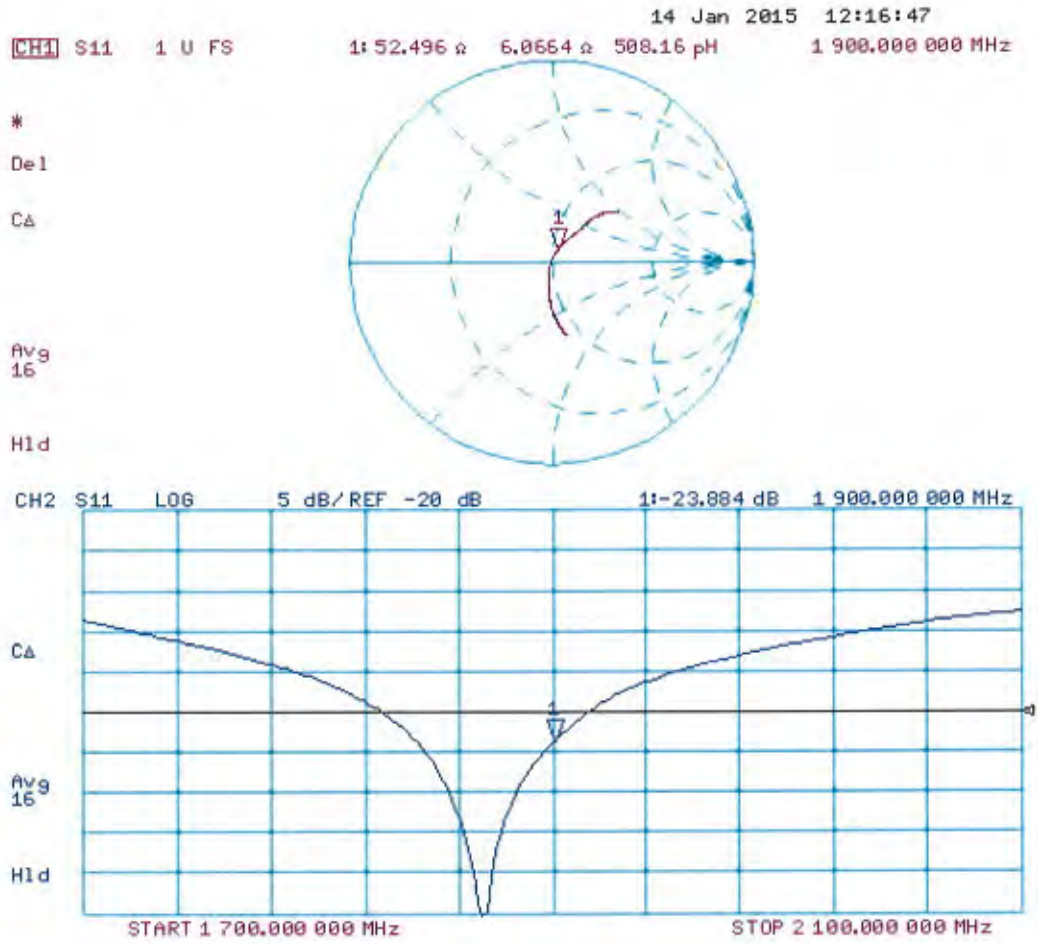
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.31 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 18.6 W/kg
SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.3 W/kg
Maximum value of SAR (measured) = 12.8 W/kg



0 dB = 12.8 W/kg = 11.07 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013

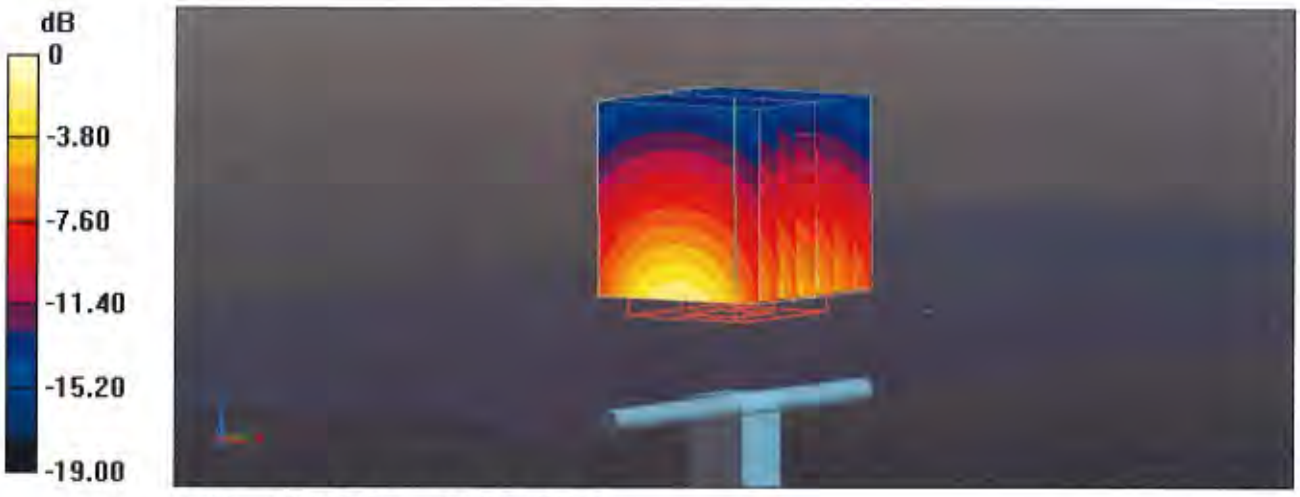
Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.51 S/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.65, 4.65, 4.65); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

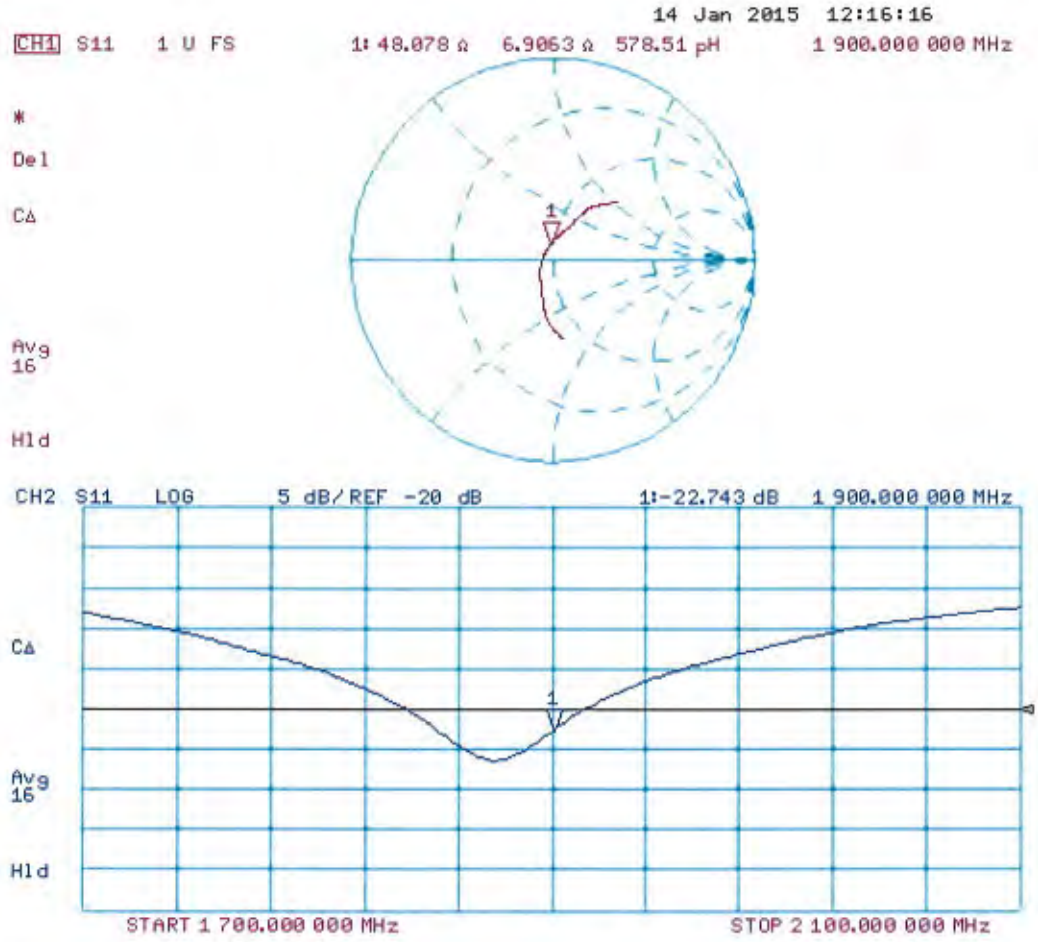
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.35 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 17.1 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.38 W/kg
Maximum value of SAR (measured) = 12.7 W/kg



0 dB = 12.7 W/kg = 11.04 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client TCC Microsoft

Certificate No: D2450V2-749_Jan15

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 749
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 15, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 16, 2015

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.3 ± 6 %	1.88 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.3 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**52.1 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.17 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.4 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.6 ± 6 %	2.03 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.0 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**50.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.96 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**23.5 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.8 Ω + 3.4 jΩ
Return Loss	- 27.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.6 Ω + 4.6 jΩ
Return Loss	- 26.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.162 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 01, 2003

DASY5 Validation Report for Head TSL

Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 749

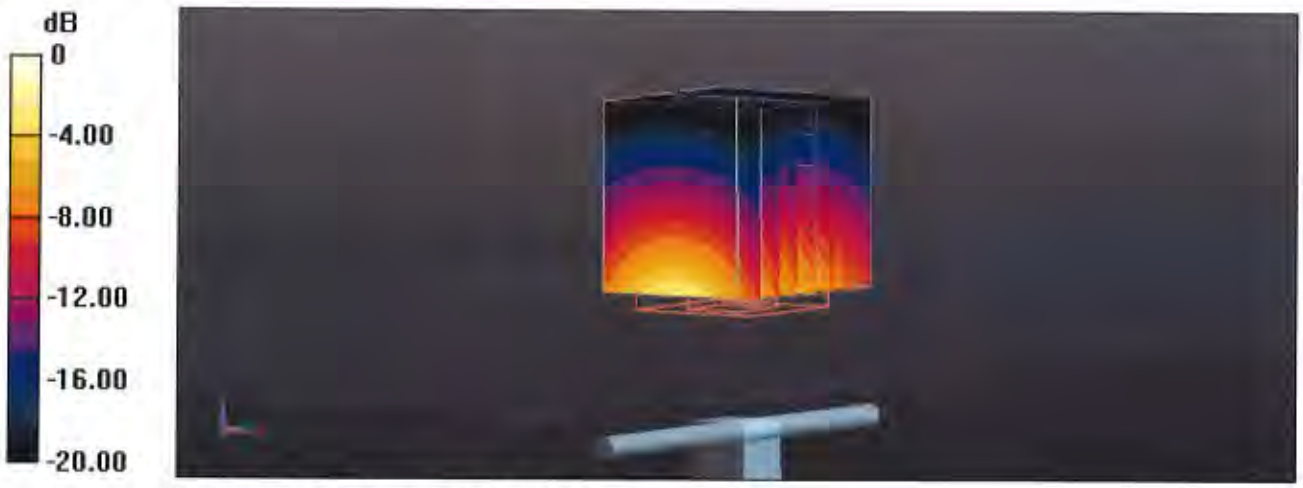
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.88 S/m; ε_r = 39.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.54, 4.54, 4.54); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

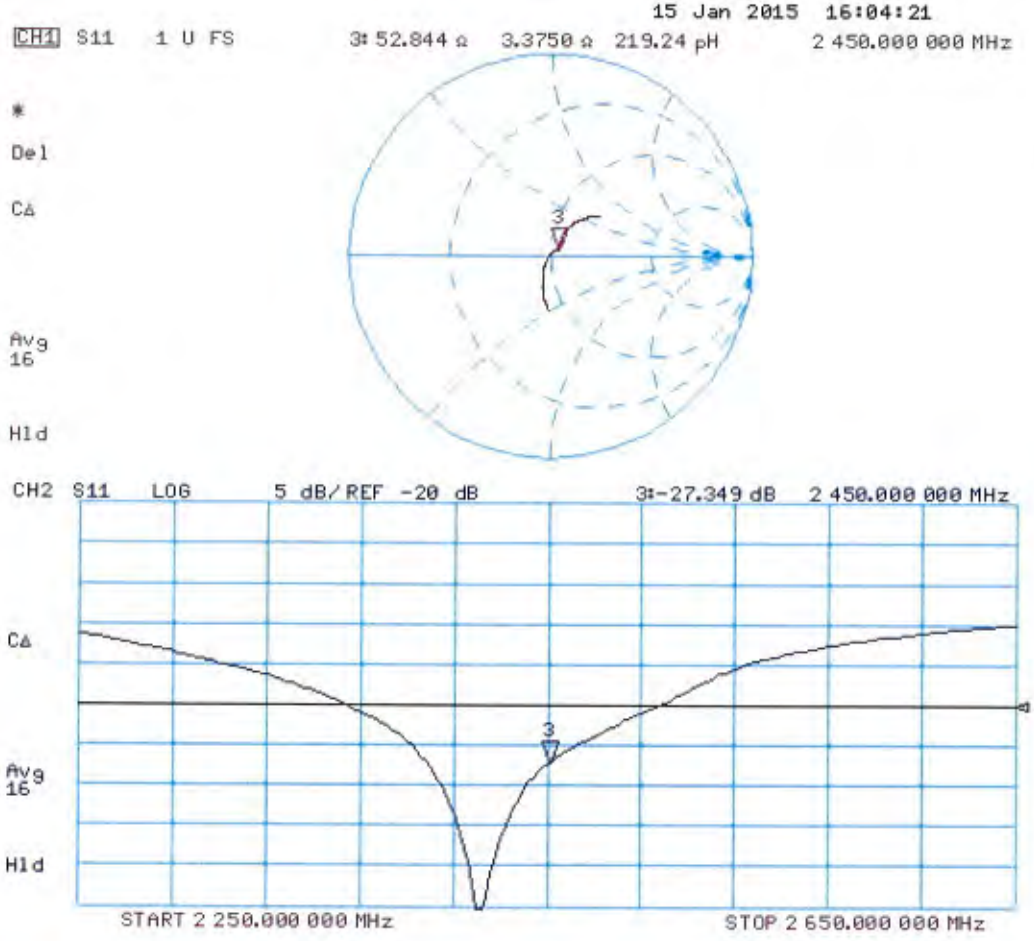
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.2 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 27.8 W/kg
SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.17 W/kg
Maximum value of SAR (measured) = 17.5 W/kg



0 dB = 17.5 W/kg = 12.43 dBW/kg

Impedance Measurement Plot for Head TSL



Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 749

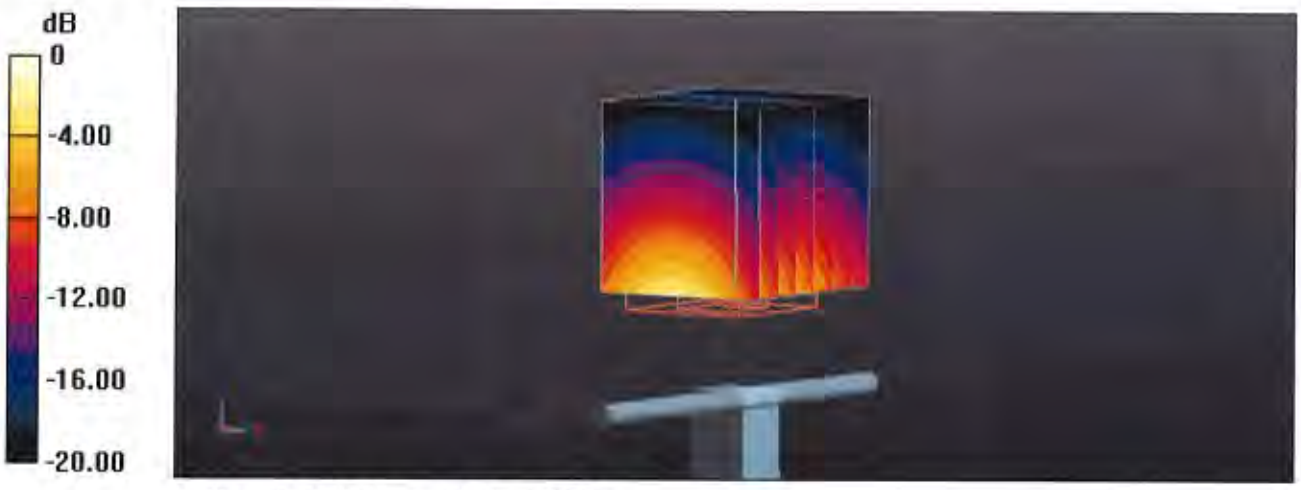
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.03 S/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.32, 4.32, 4.32); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

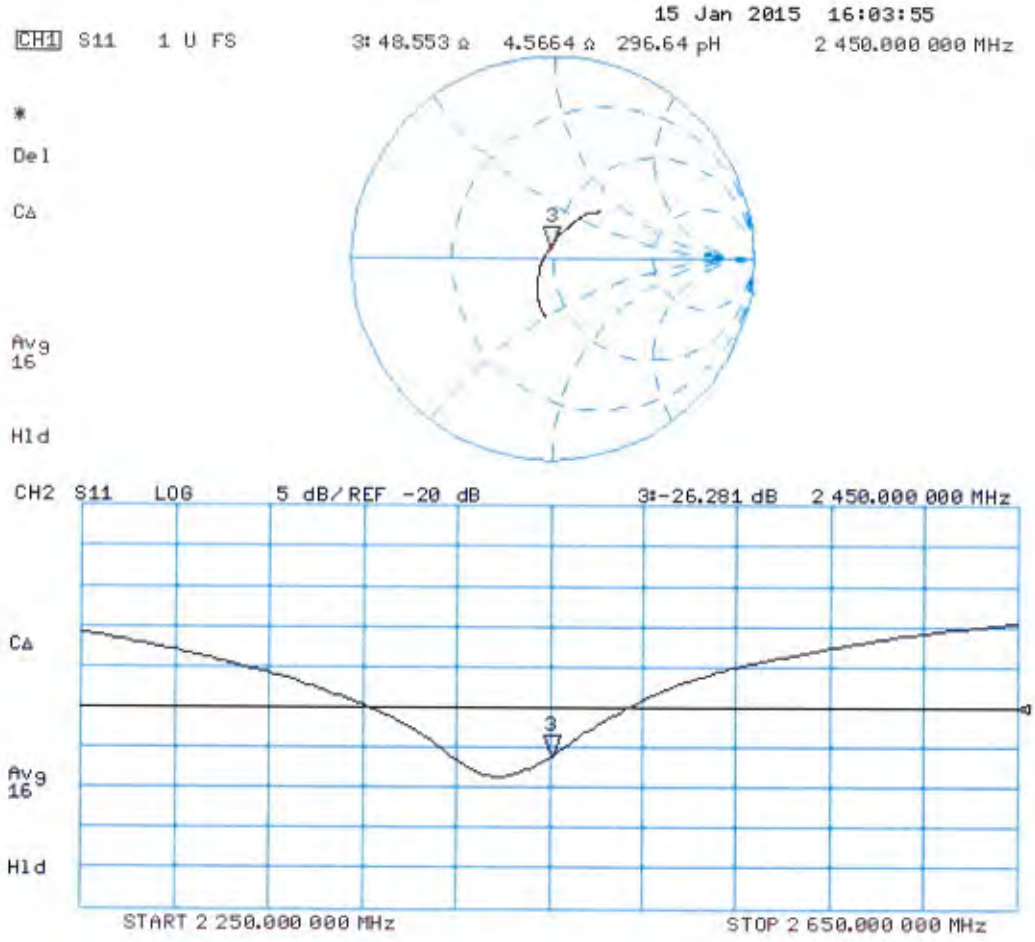
Dipole Calibration for Body Tissue 2/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.78 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 27.4 W/kg
SAR(1 g) = 13 W/kg; SAR(10 g) = 5.96 W/kg
Maximum value of SAR (measured) = 16.9 W/kg



0 dB = 16.9 W/kg = 12.28 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client **TCC Microsoft**

Certificate No: D2600V2-1056_Jan15

CALIBRATION CERTIFICATE

Object	D2600V2 - SN: 1056
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 19, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Israe Elnaouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 19, 2015

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.8 ± 6 %	2.05 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**56.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.44 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**25.5 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.1 ± 6 %	2.21 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	14.2 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**55.9 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.25 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**24.8 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.4 Ω - 4.2 jΩ
Return Loss	- 27.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.9 Ω - 4.0 jΩ
Return Loss	- 25.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.150 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 14, 2012

Date: 19.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1056

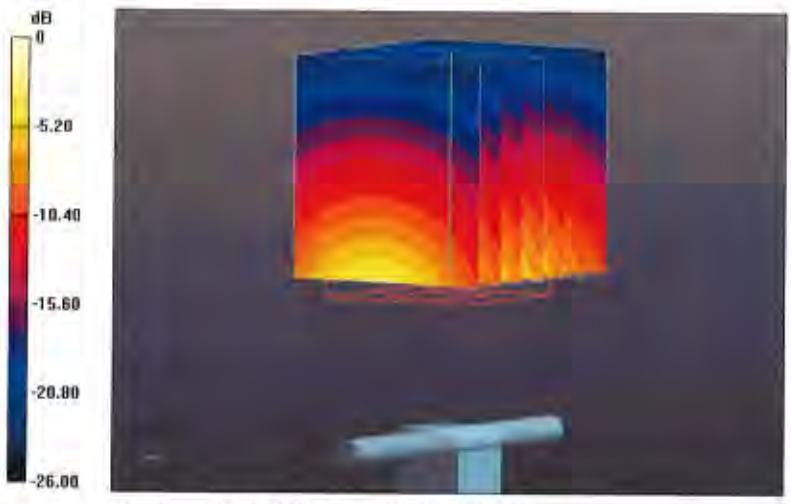
Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.05 S/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.49, 4.49, 4.49); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

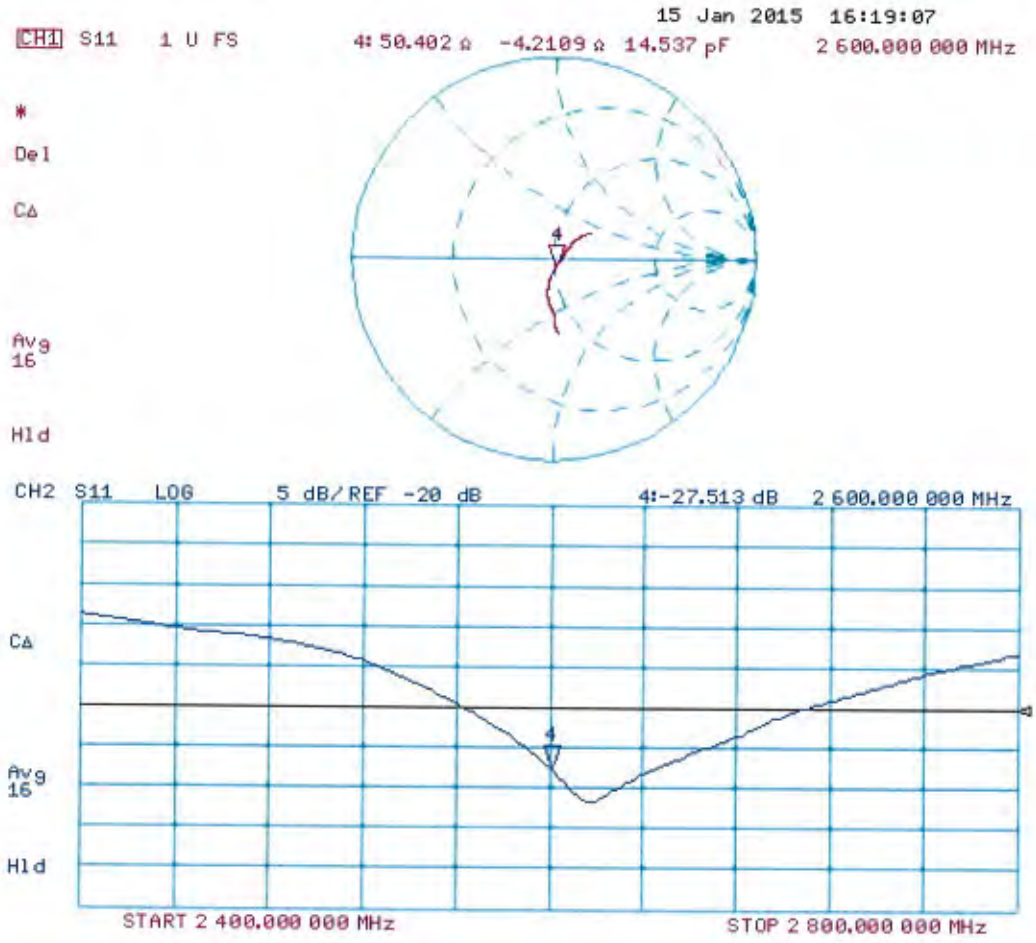
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.5 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 30.7 W/kg
SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.44 W/kg
Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.2 W/kg = 12.83 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1056

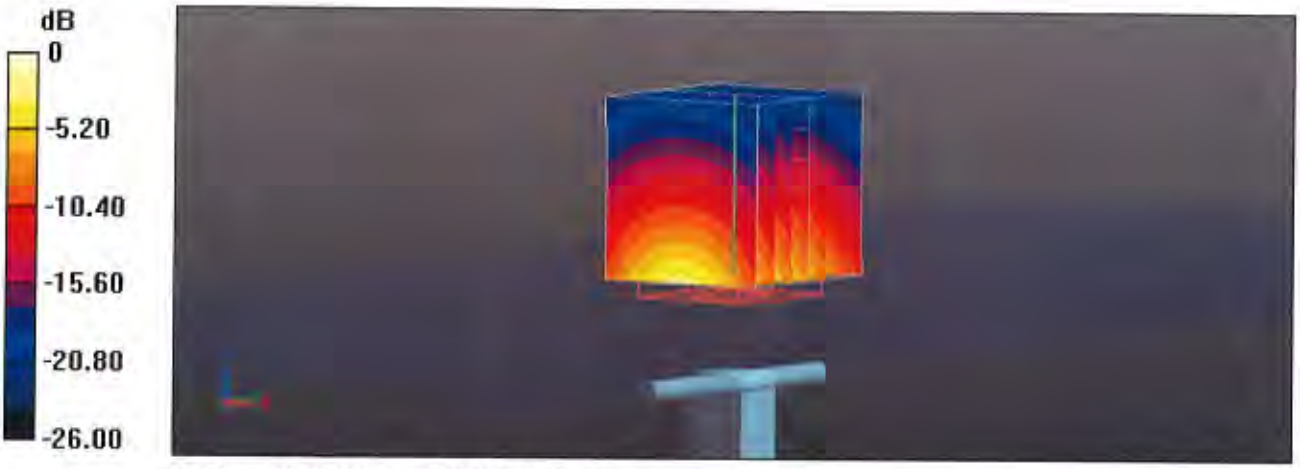
Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.21 S/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.13, 4.13, 4.13); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

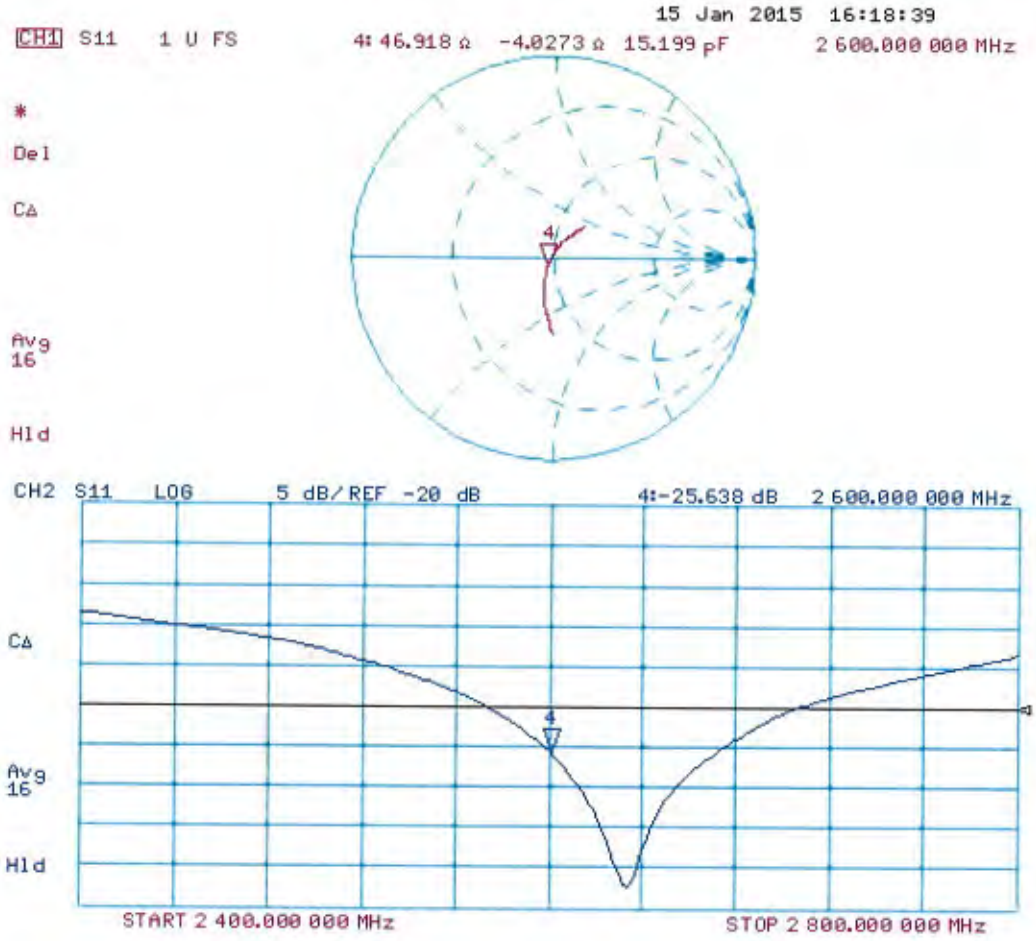
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.02 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 29.8 W/kg
SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.25 W/kg
Maximum value of SAR (measured) = 19.1 W/kg



0 dB = 19.1 W/kg = 12.81 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client TCC Microsoft

Certificate No: D5GHzV2-1048_Jan15

CALIBRATION CERTIFICATE

Object	D5GHzV2 - SN:1048
Calibration procedure(s)	QA CAL-22.v2 Calibration procedure for dipole validation kits between 3-6 GHz
Calibration date:	January 13, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe EX3DV4	SN: 3503	30-Dec-14 (No. EX3-3503_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Israe Elnaouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 14, 2015

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz ± 1 MHz 5300 MHz ± 1 MHz 5500 MHz ± 1 MHz 5600 MHz ± 1 MHz 5800 MHz ± 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.3 ± 6 %	4.56 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.89 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**79.0 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.25 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.5 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.76 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.1 ± 6 %	4.66 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5300 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.41 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**84.1 W / kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.41 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.1 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.9 ± 6 %	4.86 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.18 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**81.8 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.3 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.6 ± 6 %	4.97 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.14 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**81.4 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.31 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.1 W/kg ± 19.5 % (k=2)**

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.4 ± 6 %	5.18 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.89 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**78.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.24 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**22.4 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	49.4 ± 6 %	5.42 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.42 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**74.4 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.07 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**20.8 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.42 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	49.2 ± 6 %	5.55 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5300 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.49 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**75.0 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.09 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.0 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.9 ± 6 %	5.82 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL at 5500 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.85 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**78.7 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.18 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.9 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.7 ± 6 %	5.96 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.77 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**77.9 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.15 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.6 W/kg ± 19.5 % (k=2)**

Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.4 ± 6 %	6.25 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.58 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**76.0 W/kg ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.09 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**20.9 W/kg ± 19.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	50.9 Ω - 6.8 jΩ
Return Loss	- 21.2 dB

Antenna Parameters with Head TSL at 5300 MHz

Impedance, transformed to feed point	51.0 Ω - 6.8 jΩ
Return Loss	- 23.4 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	55.9 Ω - 5.7 jΩ
Return Loss	- 22.3 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	58.5 Ω - 3.6 jΩ
Return Loss	- 21.4 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	57.6 Ω - 5.5 jΩ
Return Loss	- 21.2 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	53.8 Ω + 7.1 jΩ
Return Loss	- 22.2 dB

Antenna Parameters with Body TSL at 5300 MHz

Impedance, transformed to feed point	53.7 Ω + 4.0 jΩ
Return Loss	- 25.6 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	50.4 Ω + 7.3 jΩ
Return Loss	- 22.7 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	47.9 Ω + 8.6 jΩ
Return Loss	- 20.9 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	51.4 Ω + 9.0 jΩ
Return Loss	- 21.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.193 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	June 09, 2006

DASY5 Validation Report for Head TSL

Date: 12.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1048

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 4.56 S/m; ε_r = 36.3; ρ = 1000 kg/m^3 , Medium parameters used: f = 5300 MHz; σ = 4.66 S/m; ε_r = 36.1; ρ = 1000 kg/m^3 , Medium parameters used: f = 5500 MHz; σ = 4.86 S/m; ε_r = 35.9; ρ = 1000 kg/m^3 , Medium parameters used: f = 5600 MHz; σ = 4.97 S/m; ε_r = 35.6; ρ = 1000 kg/m^3 , Medium parameters used: f = 5800 MHz; σ = 5.18 S/m; ε_r = 35.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.51, 5.51, 5.51); Calibrated: 30.12.2014, ConvF(5.21, 5.21, 5.21); Calibrated: 30.12.2014, ConvF(5.12, 5.12, 5.12); Calibrated: 30.12.2014, ConvF(4.92, 4.92, 4.92); Calibrated: 30.12.2014, ConvF(4.9, 4.9, 4.9); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

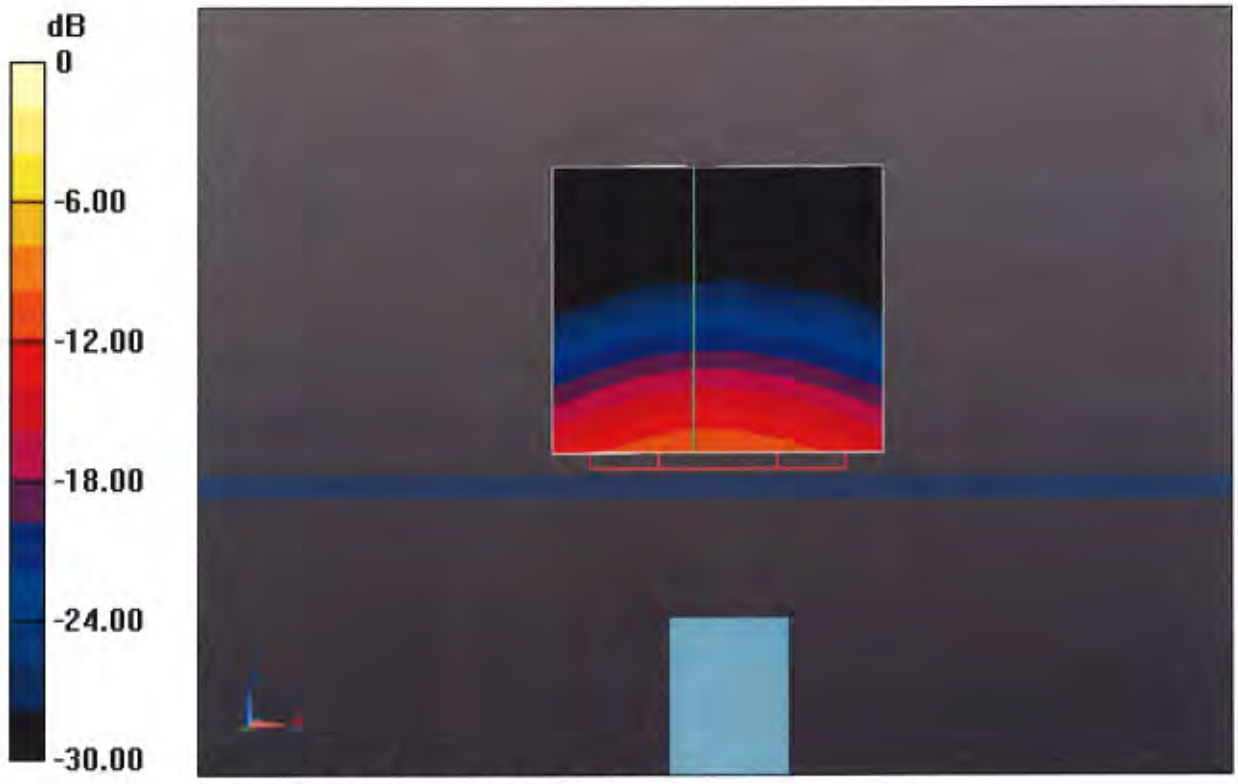
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.32 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 28.9 W/kg
SAR(1 g) = 7.89 W/kg; SAR(10 g) = 2.25 W/kg
Maximum value of SAR (measured) = 17.8 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 66.44 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 31.7 W/kg
SAR(1 g) = 8.41 W/kg; SAR(10 g) = 2.41 W/kg
Maximum value of SAR (measured) = 19.2 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.59 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 8.18 W/kg; SAR(10 g) = 2.33 W/kg
Maximum value of SAR (measured) = 19.1 W/kg

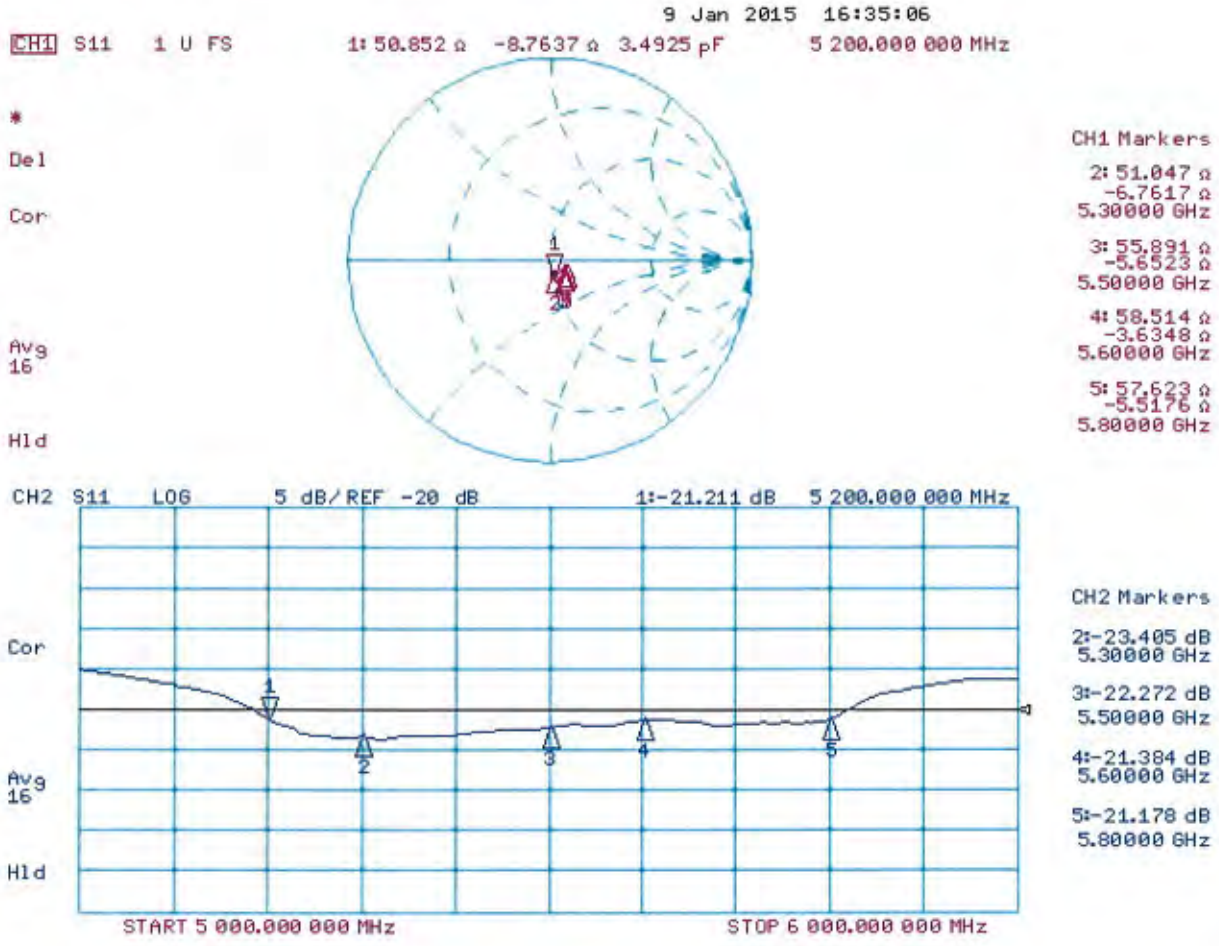
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.16 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 8.14 W/kg; SAR(10 g) = 2.31 W/kg
Maximum value of SAR (measured) = 19.1 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 61.81 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 32.8 W/kg
SAR(1 g) = 7.89 W/kg; SAR(10 g) = 2.24 W/kg
Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 17.8 W/kg = 12.50 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 13.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1048

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 5.42 S/m; ε_r = 49.4; ρ = 1000 kg/m^3 , Medium parameters used: f = 5300 MHz; σ = 5.55 S/m; ε_r = 49.2; ρ = 1000 kg/m^3 , Medium parameters used: f = 5500 MHz; σ = 5.82 S/m; ε_r = 48.9; ρ = 1000 kg/m^3 , Medium parameters used: f = 5600 MHz; σ = 5.96 S/m; ε_r = 48.7; ρ = 1000 kg/m^3 , Medium parameters used: f = 5800 MHz; σ = 6.25 S/m; ε_r = 48.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.95, 4.95, 4.95); Calibrated: 30.12.2014, ConvF(4.78, 4.78, 4.78); Calibrated: 30.12.2014, ConvF(4.45, 4.45, 4.45); Calibrated: 30.12.2014, ConvF(4.35, 4.35, 4.35); Calibrated: 30.12.2014, ConvF(4.32, 4.32, 4.32); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

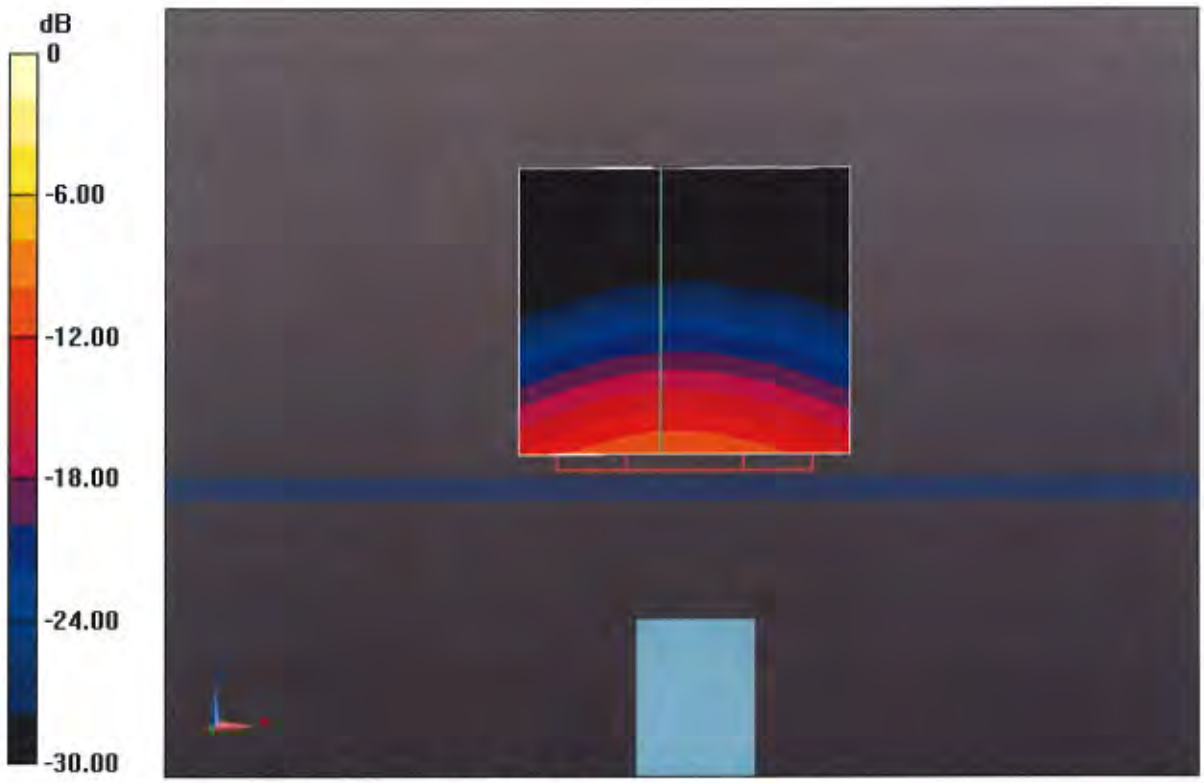
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.44 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 29.2 W/kg
SAR(1 g) = 7.42 W/kg; SAR(10 g) = 2.07 W/kg
Maximum value of SAR (measured) = 17.0 W/kg

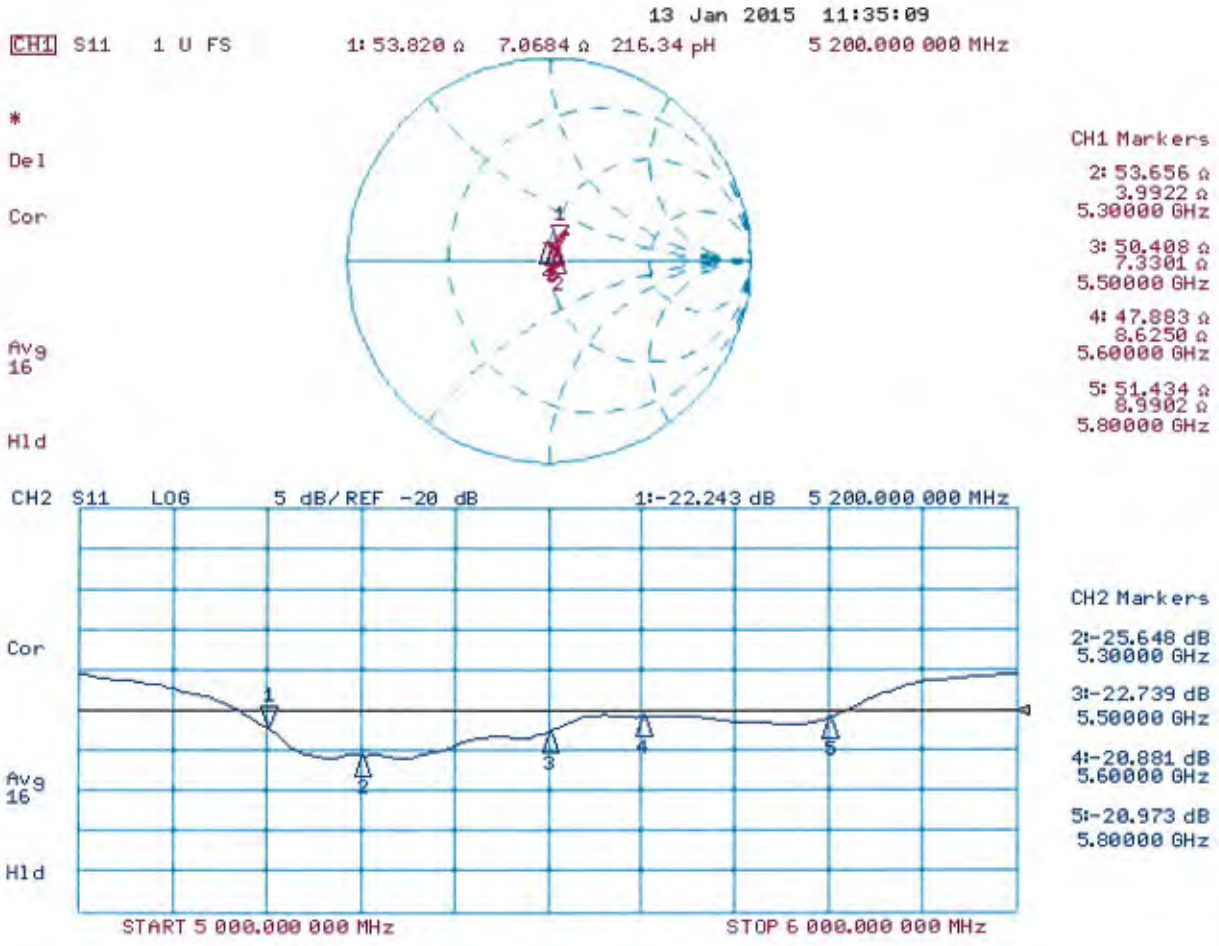
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.11 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 30.3 W/kg
SAR(1 g) = 7.49 W/kg; SAR(10 g) = 2.09 W/kg
Maximum value of SAR (measured) = 17.5 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.45 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 33.7 W/kg
SAR(1 g) = 7.85 W/kg; SAR(10 g) = 2.18 W/kg
Maximum value of SAR (measured) = 18.6 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 57.07 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 34.4 W/kg
SAR(1 g) = 7.77 W/kg; SAR(10 g) = 2.15 W/kg
Maximum value of SAR (measured) = 18.8 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 55.75 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 35.6 W/kg
SAR(1 g) = 7.58 W/kg; SAR(10 g) = 2.09 W/kg
Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 17.0 W/kg = 12.30 dBW/kg

Impedance Measurement Plot for Body TSL