FCC SAR Test Report

APPLICANT	:	FUJITSU LIMITED
EQUIPMENT	:	LTE Module
BRAND NAME	:	AirPrime
MODEL NAME	:	EM7355
FCC ID	:	EJE-EM7355D
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2003

The product was installed into Fujitsu Stylistic Q Series Tablet PC (Brand Name: FUJITSU, Model Name: Q584) during test.

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA410904	Rev. 01	Initial issue of report	Apr. 30, 2014

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **FUJITSU LIMITED, LTE Module, EM7355**, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary	
		Body 1g SAR (W/kg)	Highest reported Simultaneous Transmission 1g SAR (W/kg)
PCB	GSM850	1.23	1.59 (Highest reported Simultaneous transmission SAR is the summation of The standalone SAR test result of WWAN and WLAN, the antenna separation distance >150mm)
	GSM1900	1.25	
	WCDMA Band V	1.29	
	WCDMA Band IV	1.10	
	WCDMA Band II	1.27	
	CDMA 2000 BC10	1.11	
	CDMA 2000 BC0	1.10	
	CDMA 2000 BC1	1.29	
	LTE Band 17	0.69	
	LTE Band 13	1.16	
	LTE Band 5	**1.29**	
	LTE Band 4	1.08	
	LTE Band 2	1.28	
	LTE Band 25	1.25	
Date of Testing:		04/09/2014 ~ 04/15/2014	

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003.

2. Administration Data

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	FUJITSU LIMITED
Address	1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, 211-8588 Japan

Manufacturer	
Company Name	FUJITSU LIMITED
Address	1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, 211-8588 Japan

3. Guidance Standard

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2003
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03
- FCC KDB 865664 D02 SAR Reporting v01r01
- FCC KDB 447498 D01 General RF Exposure Guidance v05r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r01
- FCC KDB 941225 D01 SAR test for 3G devices v02
- FCC KDB 941225 D02 HSPA and 1x Advanced v02r02
- FCC KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE v01
- FCC KDB 941225 D05 SAR for LTE Devices v02r03

4. Equipment Under Test (EUT)

4.1 General Information

Product Feature & Specification	
Equipment Name	LTE Module
Brand Name	AirPrime
Model Name	EM7355
FCC ID	EJE-EM7355D
IMEI Code	356196050082318
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC10: 817.9 MHz ~ 823.1 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 2: 1850 MHz ~ 1901 MHz LTE Band 25: 1850 MHz ~ 1915 MHz
Mode	・GPRS/EDGE ・RMC 12.2Kbps ・HSDPA ・HSUPA ・DC-HSDPA ・CDMA2000: 1xRTT/1xEv-Do(Rel.0)/1xEv-Do(Rev.A) ・LTE: QPSK, 16QAM
EUT Stage	Pre-Production Unit

Remark:
1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. WLAN/Bluetooth module FCC ID: EW4DWMW095A is also integrated into this host, and C2PC filing was granted on 10/31/2013. WLAN and Bluetooth power and SAR test data is referred to Sporton FCC SAR Report, Report No: FA391019 Rev.02, available on FCC website.

Host Information	
Host Name	Fujitsu Stylistic Q Series Tablet PC
Brand Name	FUJITSU
Model Name	Q584
Integrated Module	Brand Name: Mitsumi Model Name: DWM-W095A
Wireless Technology	・802.11a/b/g/n HT20/HT40 ・Bluetooth v3.0+EDR，Bluetooth v4.0+LE
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna

4.2 Maximum Tune-up Limit

Mode / Band	Burst Average Power (dBm)			
	GSM 850		GSM 1900	
Output Power Status	Full power mode	Reduced Power mode	Full power mode	Reduced Power mode
GPRS (GMSK, 1 Tx slot)	33.50	28.50	30.50	26.50
GPRS (GMSK, 2 Tx slots)	33.00	28.00	30.00	26.00
EDGE (8PSK, 1 Tx slot)	28.00	28.00	27.00	27.00
EDGE (8PSK, 2 Tx slots)	28.00	28.00	27.00	27.00
EDGE (8PSK, 3 Tx slot)	27.00	25.00	26.00	22.00
EDGE (8PSK, 4 Tx slots)	27.00	25.00	26.00	22.00

Mode / Band	Average Power (dBm)					
	WCDMA Band V		WCDMA Band II		WCDMA Band IV	
Output Power Status	Full power mode	Reduced Power mode	Full power mode	Reduced Power mode	Full power mode	Reduced Power mode
RMC 12.2K	24.00	21.00	24.00	20.00	24.00	18.00
HSDPA Subtest-1	24.00	21.00	24.00	20.00	24.00	18.00
DC-HSDPA Subtest-1	24.00	21.00	24.00	20.00	24.00	18.00
HSUPA Subtest-5	24.00	21.00	24.00	20.00	24.00	18.00

Mode / Band	Average Power (dBm)					
	CDMA BC10		CDMA BC0		CDMA BC1	
Output Power Status	Full power mode	Reduced Power mode	Full power mode	Reduced Power mode	Full power mode	Reduced Power mode
1xRTT RC1 SO55	24.50	21.50	24.50	20.50	24.50	20.50
1xRTT RC3 SO55	24.50	21.50	24.50	20.50	24.50	20.50
1xEV-DO Rev 0 (RTAP 153.6kbps)	24.50	21.50	24.50	20.50	24.50	20.50
1xEV-DO Rev A (RETAP 4096 bits)	24.50	21.50	24.50	20.50	24.50	20.50

LTE Band 17				
Modulation	BW (MHz)	RB size	Full Power mode (MPR)	Full power mode
QPSK	10	≤ 12	0	24.00
QPSK	10	> 12	1	23.00
16QAM	10	≤ 12	1	23.00
16QAM	10	> 12	2	22.00
QPSK	5	≤ 8	0	24.00
QPSK	5	> 8	1	23.00
16QAM	5	≤ 8	1	23.00
16QAM	5	> 8	2	22.00

LTE Band 13						
Modulation	BW (MHz)	RB size	Full Power mode (MPR)	Full power mode	Reduced Power mode (MPR)	Reduced Power mode
QPSK	10	≤ 12	0	24.00	0	23.00
QPSK	10	> 12	1	23.00	0	23.00
16QAM	10	≤ 12	1	23.00	0	23.00
16QAM	10	> 12	2	22.00	0	23.00
QPSK	5	≤ 8	0	24.00	0	23.00
QPSK	5	> 8	1	23.00	0	23.00
16QAM	5	≤ 8	1	23.00	0	23.00
16QAM	5	> 8	2	22.00	0	23.00

LTE Band 5						
Modulation	BW (MHz)	RB size	Full Power mode (MPR)	Full power mode	Reduced Power mode (MPR)	Reduced Power mode
QPSK	10	≤ 12	0	24.00	0	21.00
QPSK	10	> 12	1	23.00	0	21.00
16QAM	10	≤ 12	1	23.00	0	21.00
16QAM	10	> 12	2	22.00	0	21.00
QPSK	5	≤ 8	0	24.00	0	21.00
QPSK	5	> 8	1	23.00	0	21.00
16QAM	5	≤ 8	1	23.00	0	21.00
16QAM	5	> 8	2	22.00	0	21.00

LTE Band 4						
Modulation	BW (MHz)	RB size	Full Power mode (MPR)	Full power mode	Reduced Power mode (MPR)	Reduced Power mode
QPSK	20	≤ 18	0	24.00	0	18.00
QPSK	20	> 18	1	23.00	0	18.00
16QAM	20	≤ 18	1	23.00	0	18.00
16QAM	20	> 18	2	22.00	0	18.00
QPSK	15	≤ 16	0	24.00	0	18.00
QPSK	15	> 16	1	23.00	0	18.00
16QAM	15	≤ 16	1	23.00	0	18.00
16QAM	15	> 16	2	22.00	0	18.00
QPSK	10	≤ 12	0	24.00	0	18.00
QPSK	10	> 12	1	23.00	0	18.00
16QAM	10	≤ 12	1	23.00	0	18.00
16QAM	10	> 12	2	22.00	0	18.00
QPSK	5	≤ 8	0	24.00	0	18.00
QPSK	5	> 8	1	23.00	0	18.00
16QAM	5	≤ 8	1	23.00	0	18.00
16QAM	5	> 8	2	22.00	0	18.00

LTE Band 2						
Modulation	BW (MHz)	RB size	Full Power mode (MPR)	Full power mode	Reduced Power mode (MPR)	Reduced Power mode
QPSK	20	≤ 18	0	24.00	0	20.00
QPSK	20	> 18	1	23.00	0	20.00
16QAM	20	≤ 18	1	23.00	0	20.00
16QAM	20	> 18	2	22.00	0	20.00
QPSK	15	≤ 16	0	24.00	0	20.00
QPSK	15	> 16	1	23.00	0	20.00
16QAM	15	≤ 16	1	23.00	0	20.00
16QAM	15	> 16	2	22.00	0	20.00
QPSK	10	≤ 12	0	24.00	0	20.00
QPSK	10	> 12	1	23.00	0	20.00
16QAM	10	≤ 12	1	23.00	0	20.00
16QAM	10	> 12	2	22.00	0	20.00
QPSK	5	≤ 8	0	24.00	0	20.00
QPSK	5	> 8	1	23.00	0	20.00
16QAM	5	≤ 8	1	23.00	0	20.00
16QAM	5	> 8	2	22.00	0	20.00

LTE Band 25						
Modulation	BW (MHz)	RB size	Full Power mode (MPR)	Full power mode	Reduced Power mode (MPR)	Reduced Power mode
QPSK	20	≤ 18	0	24.00	0	20.00
QPSK	20	> 18	1	23.00	0	20.00
16QAM	20	≤ 18	1	23.00	0	20.00
16QAM	20	> 18	2	22.00	0	20.00
QPSK	15	≤ 16	0	24.00	0	20.00
QPSK	15	> 16	1	23.00	0	20.00
16QAM	15	≤ 16	1	23.00	0	20.00
16QAM	15	> 16	2	22.00	0	20.00
QPSK	10	≤ 12	0	24.00	0	20.00
QPSK	10	> 12	1	23.00	0	20.00
16QAM	10	≤ 12	1	23.00	0	20.00
16QAM	10	> 12	2	22.00	0	20.00
QPSK	5	≤ 8	0	24.00	0	20.00
QPSK	5	> 8	1	23.00	0	20.00
16QAM	5	≤ 8	1	23.00	0	20.00
16QAM	5	> 8	2	22.00	0	20.00

4.3 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r03</th></tr>
<tr><td>FCC ID</td><td>EJE-EM7355D</td></tr>
<tr><td>Equipment Name</td><td>LTE Module</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 17: 704 MHz ~ 716 MHz
LTE Band 13: 777 MHz ~ 787 MHz
LTE Band 05: 824 MHz ~ 849 MHz
LTE Band 04: 1710 MHz ~ 1755 MHz
LTE Band 02: 1850 MHz ~ 1901 MHz
LTE Band 25: 1850 MHz ~ 1915 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 17: 5MHz, 10MHz
LTE Band 13: 5MHz, 10MHz
LTE Band 05: 5MHz, 10MHz
LTE Band 04: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 02: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 25: 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK, and 16QAM</td></tr>
<tr><td>LTE transmitter and antenna implementation (standalone or sharing hardware components / antennas)</td><td>A primary antenna is used for LTE and other wireless interfaces (CDMA/WCDMA) for transmitting and receiving. LTE and other wireless interfaces (CDMA/WCDMA) share the same antenna, and cannot transmit simultaneously
A 2nd antenna is used for LTE and other wireless interfaces (CDMA/WCDMA) for receiving only</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Data only</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Yes, per 3GPP TS 36.101
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></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></td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, proximity sensor.</td></tr>
</table>

Transmission (H, M, L) channel numbers and frequencies in each LTE band				
LTE Band 17				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711
LTE Band 13				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5		
M	23230	782	23230	782
H	23255	784.5		
LTE Band 5				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20425	826.5	20450	829
M	20525	836.5	20525	836.5
H	20625	846.5	20600	844

LTE Band 4								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 2								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880
H	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 25								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880
H	26665	1912.5	26640	1910	26615	1907.5	26590	1905

Proximity sensor power reduction

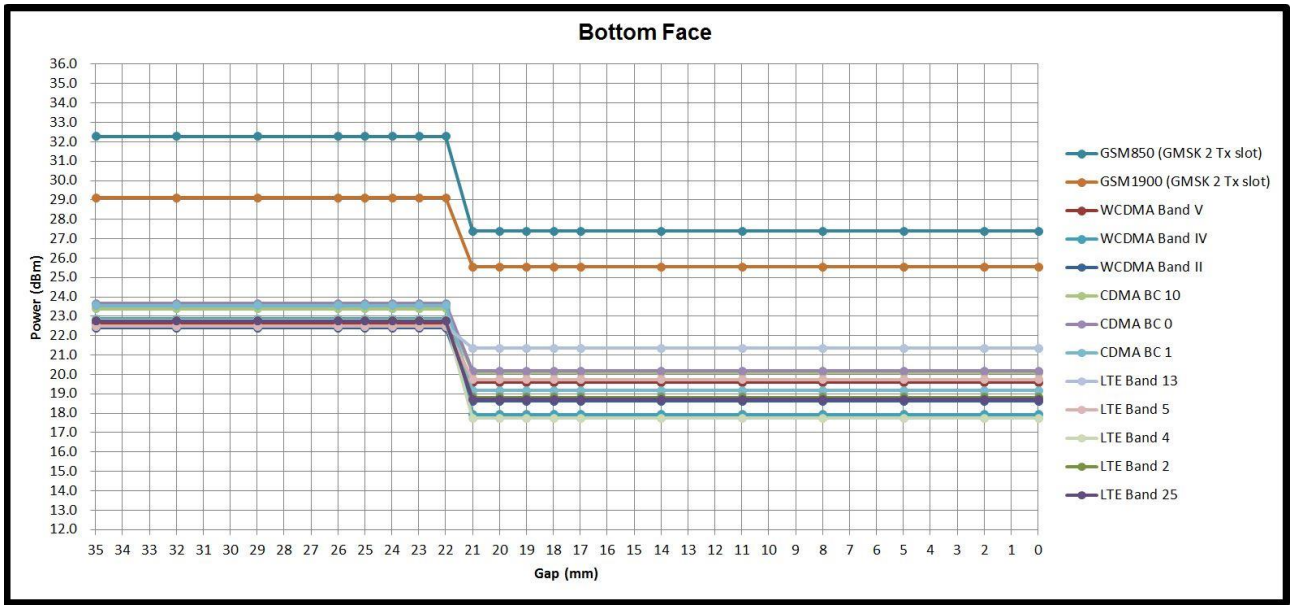
Exposure Position / wireless mode	Bottom Face(1)	Edge 1(1)	Edge 2	Edge 3	Edge 4
GSM850 GPRS (GMSK 1 Tx slot) - CS1	5.0 dB	5.0 dB	0 dB	0 dB	0 dB
GSM850 GPRS (GMSK 2 Tx slot) - CS1	5.0 dB	5.0 dB			
GSM850 EDGE (8PSK 1 Tx slot) - MCS5	0.0 dB	0.0 dB			
GSM850 EDGE (8PSK 2 Tx slot) - MCS5	0.0 dB	0.0 dB			
GSM850 EDGE (8PSK 3 Tx slot) - MCS5	2.0 dB	2.0 dB			
GSM850 EDGE (8PSK 4 Tx slot) - MCS5	2.0 dB	2.0 dB			
GSM1900 GPRS (GMSK 1 Tx slot) - CS1	4.0 dB	4.0 dB			
GSM1900 GPRS (GMSK 2 Tx slot) - CS1	4.0 dB	4.0 dB			
GSM1900 EDGE (8PSK 1 Tx slot) - MCS5	0.0 dB	0.0 dB			
GSM1900 EDGE (8PSK 2 Tx slot) - MCS5	0.0 dB	0.0 dB			
GSM1900 EDGE (8PSK 3 Tx slot) - MCS5	4.0 dB	4.0 dB			
GSM1900 EDGE (8PSK 4 Tx slot) - MCS5	4.0 dB	4.0 dB			
WCDMA Band V	3.0 dB	3.0 dB			
WCDMA Band II	4.0 dB	4.0 dB			
WCDMA Band IV	6.0 dB	6.0 dB			
CDMA2000 BC10	3.0 dB	3.0 dB			
CDMA2000 BC0	4.0 dB	4.0 dB			
CDMA2000 BC1	4.0 dB	4.0 dB			
LTE Band 13	1.0 dB	1.0 dB			
LTE Band 5	3.0 dB	3.0 dB			
LTE Band 4	6.0 dB	6.0 dB			
LTE Band 2	4.0 dB	4.0 dB			
LTE Band 25	4.0 dB	4.0 dB			

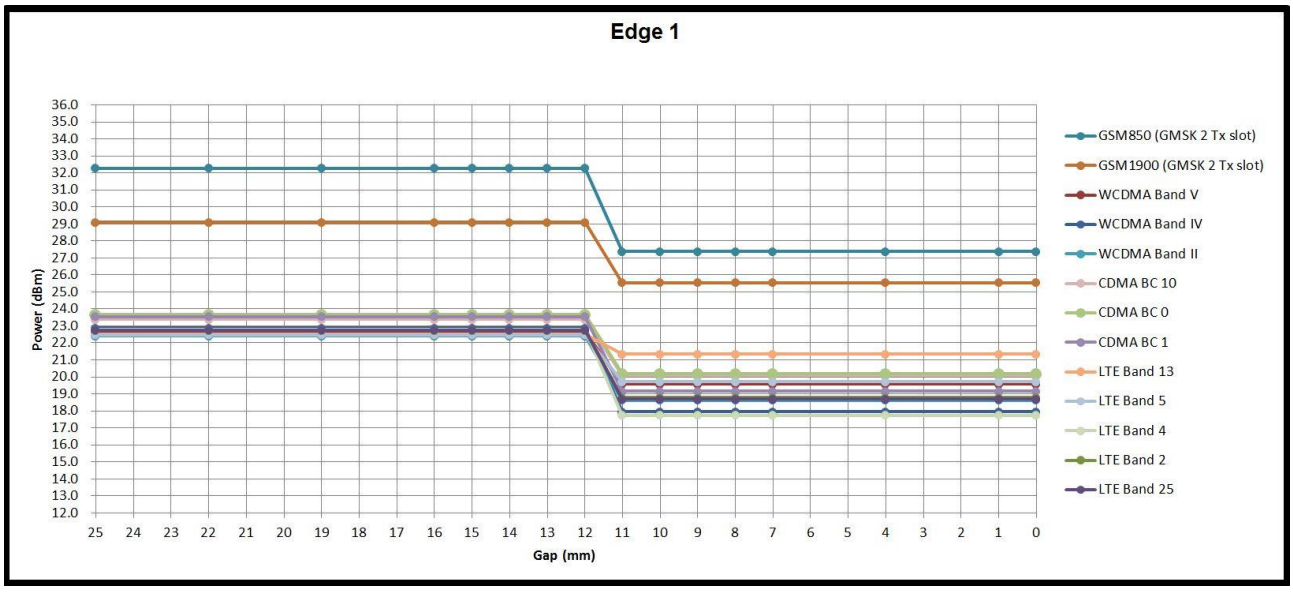
Remark:

1. (1): Reduced maximum limit applied by activation of proximity sensor.
2. Power reduction is not applicable for LTE Band17, WLAN and Bluetooth.
3. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown and described in exhibit “P-Sensor operational description
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
   - Bottom Face: 10 mm
   - Edge1: 10 mm

Power Measurement during Sensor Trigger distance testing

Band/Mode	Ch #	Measured power reduction (dBm)		Reduction Levels
		w/o power back-off	w/ power back-off	(dB)
GSM850 GPRS (GMSK 2 Tx slot)	189	32.28	27.39	4.89
GSM1900 GPRS (GMSK 2 Tx slot)	661	29.10	25.55	3.55
WCDMA Band V (RMC 12.2Kbps)	4182	22.65	19.58	3.07
WCDMA Band IV (RMC 12.2Kbps)	1513	22.86	17.94	4.92
WCDMA Band II (RMC 12.2Kbps)	9538	22.41	18.63	3.78
EVDO BC10 (RTAP 153.6Kbps)	580	23.39	20.10	3.29
EVDO BC0 (RTAP 153.6Kbps)	384	23.65	20.18	3.47
EVDO BC1 (RTAP 153.6Kbps)	1175	23.55	19.16	4.39
LTE Band 13 1RB 24 offset	23230	22.50	21.36	1.14
LTE Band 5 1RB 0offset	20450	22.48	19.73	2.75
LTE Band 4 1RB 0offset	20175	22.80	17.75	5.05
LTE Band 2 1RB 0offset	18700	22.75	18.81	3.94
LTE Band 25 1RB 0offset	26140	22.76	18.70	4.06





5. RF Exposure Limits

5.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

5.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

6. Specific Absorption Rate (SAR)

6.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

6.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{dm}}\right) = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\boldsymbol{\rho}\mathbf{dv}}\right)$$

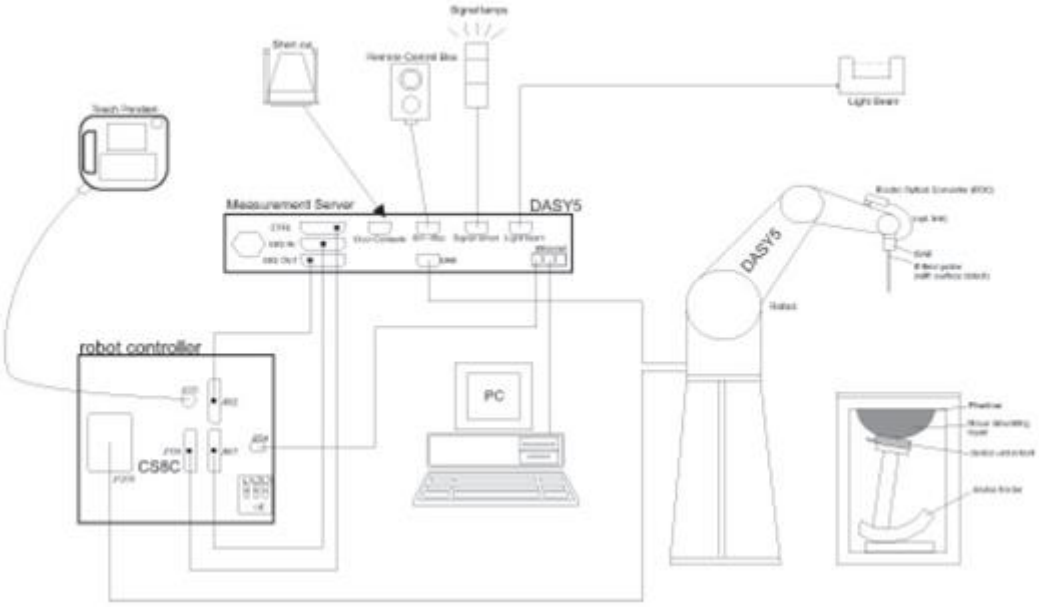
SAR is expressed in units of Watts per kilogram (W/kg)

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

7. System Description and Setup

The DASY system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
(b) Read the WWAN RF power level from the base station simulator.
(c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

8.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

8.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

8.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r03 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

8.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r03 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

8.5 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

8.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1099	Nov. 11, 2013	Nov. 10, 2014
SPEAG	835MHz System Validation Kit	D835V2	499	Mar. 24, 2014	Mar. 23, 2015
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 27, 2013	Nov. 26, 2014
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Mar. 21, 2014	Mar. 20, 2015
SPEAG	Data Acquisition Electronics	DAE3	495	May. 08, 2013	May. 07, 2014
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	Jun. 12, 2013	Jun. 11, 2014
H.M.IRIS	Thermometer	TH-08	TM658	Oct. 22, 2013	Oct. 21, 2014
Anritsu	Radio Communication Analyzer	MT8820C	6201074414	Feb. 11, 2014	Feb. 10, 2015
Anritsu	Radio Communication Analyzer	MT8820C	6201341950	Dec. 25, 2013	Dec. 24, 2014
SPEAG	Device Holder	N/A	N/A	NCR	NCR
Agilent	Signal Generator	E4438C	MY49070755	Oct. 08, 2013	Oct. 07, 2014
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Jul. 23, 2013	Jul. 22, 2014
Agilent	ENA Network Analyzer	E5071C	MY46316648	Feb. 07, 2014	Feb. 06, 2015
Anritsu	Power Meter	ML2495A	1349001	Dec. 04, 2013	Dec. 03, 2014
Anritsu	Power Sensor	MA2411B	1306099	Dec. 03, 2013	Dec. 02, 2014
R&S	Spectrum Analyzer	FSP 7	101131	Jul. 09, 2013	Jul. 08, 2014
Agilent	Dual Directional Coupler	778D	50422	*CBT	
Woken	Attenuator	WK0602-XX	N/A	*CBT	
PE	Attenuator	PE7005-10	N/A	*CBT	
PE	Attenuator	PE7005- 3	N/A	*CBT	
AR	Power Amplifier	5S1G4M2	0328767	*CBT	
Mini-Circuits	Power Amplifier	ZVE-3W	162601250	*CBT	
Mini-Circuits	Power Amplifier	ZHL-42W+	13440021344	*CBT	

General Note:

1. The calibration certificate of DASY can be referred to appendix C of this report.
2. *CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing an amplifier, coupler and attenuator were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurement.

10. System Verification

10.1 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Body	22.6	0.965	54.349	0.96	55.50	0.52	-2.07	±5	2014/4/15
835	Body	22.5	0.981	55.337	0.97	55.20	1.13	0.25	±5	2014/4/10
835	Body	22.4	0.964	54.532	0.97	55.20	-0.62	-1.21	±5	2014/4/14
1750	Body	22.5	1.518	51.956	1.52	53.30	-0.13	-2.52	±5	2014/4/9
1900	Body	22.5	1.521	53.218	1.52	53.30	0.07	-0.15	±5	2014/4/9
1900	Body	22.5	1.535	52.436	1.52	53.30	0.99	-1.62	±5	2014/4/11

10.2 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured SAR (W/kg)	Targeted SAR (W/kg)	Normalized SAR (W/kg)	Deviation (%)
2014/4/15	750	Body	250	D750V3-1099	3925	495	2.05	8.56	8.2	-4.21
2014/4/10	835	Body	250	D835V2-499	3925	495	2.27	9.46	9.08	-4.02
2014/4/14	835	Body	250	D835V2-499	3925	495	2.34	9.46	9.36	-1.06
2014/4/9	1750	Body	250	D1750V2-1068	3925	495	9.13	37.50	36.52	-2.61
2014/4/9	1900	Body	250	D1900V2-5d041	3925	495	9.69	41.00	38.76	-5.46
2014/4/11	1900	Body	250	D1900V2-5d041	3925	495	10.40	41.00	41.6	1.46

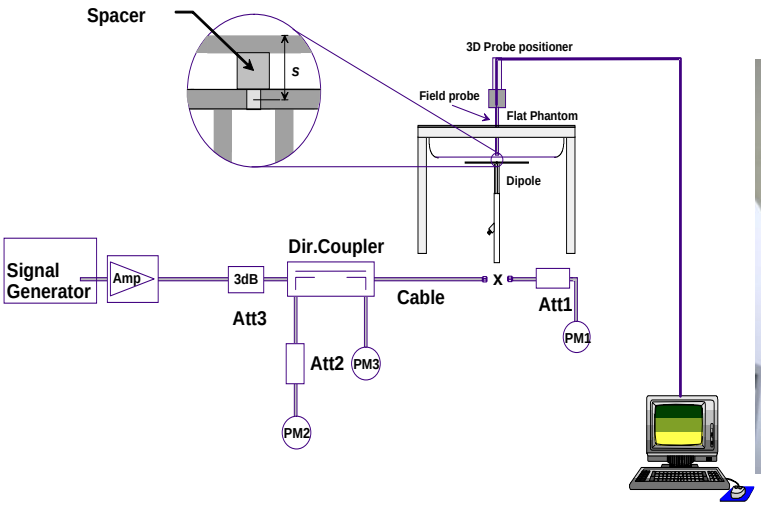


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR exclusion threshold in KDB 447498 D01v05r02 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

12. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

General Note:

1. Per KDB 447498 D01v05r02, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. For Body SAR testing was following KDB 941225 D03v01, the GPRS 2Tx slots modes was selected when EUT operating without power back-off, the GPRS 2Tx slots modes was selected when EUT operating with power back-off, according to the highest source-based time-averaged output power.

Full Power mode (Proximity Sensor Inactive)

Band GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GPRS (GMSK, 1 Tx slot)	32.35	32.45	32.39	33.50	23.35	23.45	23.39	24.50
GPRS (GMSK, 2 Tx slots)	32.27	32.28	32.26	33.00	26.27	26.28	26.26	27.00
EDGE (8PSK, 1 Tx slot)	26.20	26.46	26.37	28.00	17.20	17.46	17.37	19.00
EDGE (8PSK, 2 Tx slots)	26.18	26.31	26.26	27.00	20.18	20.31	20.26	21.00
EDGE (8PSK, 3 Tx slots)	25.80	26.10	26.05	27.00	21.54	21.84	21.79	22.74
EDGE (8PSK, 4 Tx slots)	25.70	25.98	25.81	27.00	22.70	22.98	22.81	24.00

Reduced Power Mode (Proximity Sensor active)

Band GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GPRS (GMSK, 1 Tx slot)	27.95	27.96	27.90	28.50	18.95	18.96	18.90	19.50
GPRS (GMSK, 2 Tx slots)	27.30	27.39	27.37	28.00	21.30	21.39	21.37	22.00
EDGE (8PSK, 1 Tx slot)	26.20	26.46	26.37	28.00	17.20	17.46	17.37	19.00
EDGE (8PSK, 2 Tx slots)	26.18	26.31	26.26	27.00	20.18	20.31	20.26	21.00
EDGE (8PSK, 3 Tx slots)	23.28	23.37	23.34	25.00	19.02	19.11	19.08	20.74
EDGE (8PSK, 4 Tx slots)	23.20	23.28	23.25	25.00	20.20	20.28	20.25	22.00

Full Power mode (Proximity Sensor Inactive)

Band GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GPRS (GMSK, 1 Tx slot)	29.35	29.50	29.30	30.50	20.35	20.50	20.30	21.50
GPRS (GMSK, 2 Tx slots)	29.08	29.10	28.98	30.00	23.08	23.10	22.98	24.00
EDGE (8PSK, 1 Tx slot)	25.44	25.47	25.45	27.00	16.44	16.47	16.45	18.00
EDGE (8PSK, 2 Tx slots)	25.35	25.37	25.33	26.00	19.35	19.37	19.33	20.00
EDGE (8PSK, 3 Tx slots)	25.27	25.28	25.26	26.00	21.01	21.02	21.00	21.74
EDGE (8PSK, 4 Tx slots)	25.14	25.23	25.20	26.00	22.14	22.23	22.20	23.00

Reduced Power Mode (Proximity Sensor active)

Band GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GPRS (GMSK, 1 Tx slot)	26.23	26.27	26.25	26.50	17.23	17.27	17.25	17.50
GPRS (GMSK, 2 Tx slots)	25.45	25.55	25.54	26.00	19.45	19.55	19.54	20.00
EDGE (8PSK, 1 Tx slot)	25.44	25.47	25.45	27.00	16.44	16.47	16.45	18.00
EDGE (8PSK, 2 Tx slots)	25.35	25.37	25.33	26.00	19.35	19.37	19.33	20.00
EDGE (8PSK, 3 Tx slots)	21.59	21.66	21.64	22.00	17.33	17.40	17.38	17.74
EDGE (8PSK, 4 Tx slots)	21.58	21.62	21.59	22.00	18.58	18.62	18.59	19.00

<WCDMA Conducted Power>

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed}1: 47/15 β_{ed}2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.
Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set RMC 12.2Kbps + HSDPA mode.
   ii. Set Cell Power = -25 dBm
   iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
   iv. Select HSDPA Uplink Parameters
   v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
      a). Subtest 1: β_c/β_d=2/15
      b). Subtest 2: β_c/β_d=12/15
      c). Subtest 3: β_c/β_d=15/8
      d). Subtest 4: β_c/β_d=15/4
   vi. Set Delta ACK, Delta NACK and Delta CQI = 8
   vii. Set Ack-Nack Repetition Factor to 3
   viii. Set CQI Feedback Cycle (k) to 4 ms
   ix. Set CQI Repetition Factor to 2
   x. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

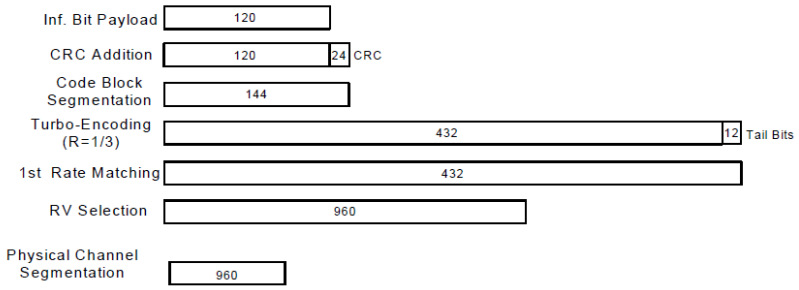


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D02v02r02, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA/DC-HSDPA output power is < 0.25dB higher than RMC, or reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded..

Full Power mode (Proximity Sensor Inactive)

Band			WCDMA V			WCDMA II			WCDMA IV		
TX Channel			4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency (MHz)			826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
MPR(dB)	3GPP Rel 99	RMC 12.2Kbps	22.64	22.65	22.40	22.28	22.34	22.41	22.54	22.66	22.86
0	3GPP Rel 6	HSDPA Subtest-1	22.25	22.34	22.28	22.22	22.30	22.32	22.65	22.73	22.85
0	3GPP Rel 6	HSDPA Subtest-2	22.23	22.32	22.31	22.10	22.21	22.31	22.65	22.76	22.81
0.5	3GPP Rel 6	HSDPA Subtest-3	21.73	21.84	21.93	21.60	21.74	21.97	22.13	22.24	22.50
0.5	3GPP Rel 6	HSDPA Subtest-4	21.71	21.83	21.88	21.58	21.72	21.95	22.15	22.08	22.10
0	3GPP Rel 8	DC-HSDPA Subtest-1	22.24	22.30	22.29	22.20	22.27	22.36	22.61	22.72	22.83
0	3GPP Rel 8	DC-HSDPA Subtest-2	22.22	22.27	22.30	22.06	22.20	22.35	22.50	22.53	22.65
0.5	3GPP Rel 8	DC-HSDPA Subtest-3	21.71	21.81	21.91	21.57	21.73	21.95	22.11	22.21	22.46
0.5	3GPP Rel 8	DC-HSDPA Subtest-4	21.69	21.75	21.88	21.56	21.69	21.91	22.09	22.17	22.43
0	3GPP Rel 6	HSUPA Subtest-1	22.10	22.11	22.12	22.07	22.30	22.33	22.50	22.63	22.65
2	3GPP Rel 6	HSUPA Subtest-2	20.72	20.89	20.92	20.36	20.59	20.66	20.63	20.65	20.66
1	3GPP Rel 6	HSUPA Subtest-3	21.11	21.11	21.13	21.05	21.13	21.19	21.44	21.51	21.95
2	3GPP Rel 6	HSUPA Subtest-4	20.79	20.93	20.97	20.39	20.49	20.71	20.65	20.67	20.70
0	3GPP Rel 6	HSUPA Subtest-5	22.24	22.33	22.30	22.15	22.24	22.36	22.47	22.50	22.56

Reduced Power Mode (Proximity Sensor active)

Band			WCDMA V			WCDMA II			WCDMA IV		
TX Channel			4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency (MHz)			826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
MPR(dB)	3GPP Rel 99	RMC 12.2Kbps	19.57	19.58	19.39	18.53	18.60	18.63	17.71	17.91	17.94
0	3GPP Rel 6	HSDPA Subtest-1	19.13	19.03	19.31	18.30	18.35	18.56	17.40	17.45	17.52
0	3GPP Rel 6	HSDPA Subtest-2	19.11	19.01	19.26	18.29	18.33	18.53	17.39	17.43	17.50
0.5	3GPP Rel 6	HSDPA Subtest-3	18.61	18.53	18.86	17.99	18.07	18.11	17.09	17.17	17.19
0.5	3GPP Rel 6	HSDPA Subtest-4	18.59	18.52	18.81	17.95	18.02	18.08	17.05	17.12	17.15
0	3GPP Rel 8	DC-HSDPA Subtest-1	19.12	18.99	19.30	18.28	18.32	18.53	17.38	17.42	17.55
0	3GPP Rel 8	DC-HSDPA Subtest-2	19.10	18.96	19.25	18.27	18.29	18.49	17.37	17.39	17.51
0.5	3GPP Rel 8	DC-HSDPA Subtest-3	18.59	18.50	18.84	17.95	18.04	18.09	17.05	17.14	17.11
0.5	3GPP Rel 8	DC-HSDPA Subtest-4	18.57	18.44	18.81	17.93	17.98	18.05	17.03	17.08	17.07
0	3GPP Rel 6	HSUPA Subtest-1	18.98	18.80	19.05	17.91	17.90	17.94	17.50	17.66	17.53
2	3GPP Rel 6	HSUPA Subtest-2	18.80	18.82	18.80	18.10	18.07	18.05	17.51	17.46	17.32
1	3GPP Rel 6	HSUPA Subtest-3	19.19	19.00	19.26	17.82	17.87	17.96	17.21	17.26	17.35
2	3GPP Rel 6	HSUPA Subtest-4	19.16	19.14	19.12	17.94	17.81	17.99	17.33	17.30	17.62
0	3GPP Rel 6	HSUPA Subtest-5	19.12	19.02	19.23	17.90	17.79	17.99	17.52	17.23	17.22

<CDMA2000 Conducted Power>

General Note:

1. Per KDB 941225 D01v02, the EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps). If 1xRTT and Ev-Do Rev A (RETAP 4096 bits) power is high than 1/4dB higher than Re v0, SAR tests with those settings are necessary.

Full Power mode (Proximity Sensor Inactive)

Band	CDMA2000 BC10			CDMA2000 BC0			CDMA2000 BC1		
TX Channel	476	580	684	1013	384	777	25	600	1175
Frequency (MHz)	817.9	820.5	823.1	824.7	836.52	848.31	1851.25	1880	1908.75
1xRTT RC1 SO55	23.28	23.25	23.23	23.41	23.56	23.39	23.41	23.31	23.46
1xRTT RC3 SO55	23.13	23.21	23.30	23.38	23.55	23.35	23.35	23.30	23.50
1xEVDO RTAP 153.6Kbps	23.33	23.39	23.38	23.51	23.65	23.46	23.49	23.29	23.55
1xEVDO RETAP 4096Bits	23.30	23.34	23.33	23.46	23.52	23.42	23.47	23.38	23.49

Reduced Power Mode (Proximity Sensor active)

Band	CDMA2000 BC10			CDMA2000 BC0			CDMA2000 BC1		
TX Channel	476	580	684	1013	384	777	25	600	1175
Frequency (MHz)	817.9	820.5	823.1	824.7	836.52	848.31	1851.25	1880	1908.75
1xRTT RC1 SO55	19.93	19.99	19.92	19.95	20.11	20.16	19.14	18.76	19.00
1xRTT RC3 SO55	19.95	19.98	19.89	19.93	20.13	20.00	19.10	18.66	18.89
1xEVDO RTAP 153.6Kbps	20.02	20.10	20.01	20.17	20.18	20.02	19.18	19.21	19.30
1xEVDO RETAP 4096Bits	20.05	20.00	20.01	20.08	20.12	20.06	19.10	18.64	18.92

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r03, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r03, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r03, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r03, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r03, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, smaller bandwidth SAR testing is not required.

Maximum Average RF Power (Proximity Sensor Inactive)

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	22.19	22.41	22.22	24	0
10	QPSK	1	24	22.26	22.26	22.02		
10	QPSK	1	49	22.22	22.20	22.16		
10	QPSK	25	0	21.02	21.31	21.14	23	1
10	QPSK	25	12	21.30	21.19	21.22		
10	QPSK	25	24	21.20	21.22	21.18		
10	QPSK	50	0	21.19	21.21	21.00		
10	16QAM	1	0	21.41	21.38	21.29	23	1
10	16QAM	1	24	21.55	21.37	21.44		
10	16QAM	1	49	21.25	21.40	21.02		
10	16QAM	25	0	20.35	20.20	20.22	22	2
10	16QAM	25	12	20.24	20.28	20.21		
10	16QAM	25	24	20.40	20.25	20.12		
10	16QAM	50	0	20.22	20.18	20.25		
Channel				23755	23790	23825	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	22.16	22.07	22.05	24	0
5	QPSK	1	12	22.24	22.26	22.16		
5	QPSK	1	24	22.26	22.29	22.20		
5	QPSK	12	0	21.36	21.12	21.36	23	1
5	QPSK	12	6	21.34	21.23	21.24		
5	QPSK	12	11	21.36	21.15	21.11		
5	QPSK	25	0	21.24	21.30	21.19		
5	16QAM	1	0	21.26	21.33	21.22	23	1
5	16QAM	1	12	21.34	21.29	21.32		
5	16QAM	1	24	21.49	21.36	21.24		
5	16QAM	12	0	20.41	20.32	20.44	22	2
5	16QAM	12	6	20.36	20.26	20.35		
5	16QAM	12	11	20.42	20.45	20.24		
5	16QAM	25	0	20.23	20.22	20.33		

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		22.08		24	0
10	QPSK	1	24		22.50			
10	QPSK	1	49		22.10			
10	QPSK	25	0		21.69		23	1
10	QPSK	25	12		21.64			
10	QPSK	25	24		21.59			
10	QPSK	50	0		21.64			
10	16QAM	1	0		21.29		23	1
10	16QAM	1	24		21.64			
10	16QAM	1	49		21.21			
10	16QAM	25	0		20.37		22	2
10	16QAM	25	12		20.49			
10	16QAM	25	24		20.53			
10	16QAM	50	0		20.22			
Channel				23205	23230	23255	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.15	22.34	22.48	24	0
5	QPSK	1	12	22.43	22.47	22.42		
5	QPSK	1	24	22.00	22.31	22.23		
5	QPSK	12	0	21.38	21.60	21.76	23	1
5	QPSK	12	6	21.42	21.71	21.70		
5	QPSK	12	11	21.54	21.70	21.56		
5	QPSK	25	0	21.38	21.59	21.52		
5	16QAM	1	0	21.12	21.42	21.53	23	1
5	16QAM	1	12	21.40	21.62	21.59		
5	16QAM	1	24	21.54	21.54	21.25		
5	16QAM	12	0	20.47	20.66	20.81	22	2
5	16QAM	12	6	20.54	20.73	20.71		
5	16QAM	12	11	20.61	20.77	20.60		
5	16QAM	25	0	20.42	20.54	20.59		

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.48	22.39	22.38	24	0
10	QPSK	1	24	22.42	22.37	22.21		
10	QPSK	1	49	22.45	22.36	22.18		
10	QPSK	25	0	21.49	21.37	21.26	23	1
10	QPSK	25	12	21.43	21.34	21.30		
10	QPSK	25	24	21.45	21.36	21.21		
10	QPSK	50	0	21.39	21.27	21.20		
10	16QAM	1	0	21.59	21.50	21.42	23	1
10	16QAM	1	24	21.68	21.48	21.50		
10	16QAM	1	49	21.54	21.49	21.21		
10	16QAM	25	0	20.46	20.37	20.32	22	2
10	16QAM	25	12	20.45	20.35	20.33		
10	16QAM	25	24	20.50	20.41	20.23		
10	16QAM	50	0	20.41	20.32	20.28		
Channel				20425	20525	20625	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.43	22.26	22.24	24	0
5	QPSK	1	12	22.46	22.27	22.20		
5	QPSK	1	24	22.33	22.39	22.27		
5	QPSK	12	0	21.38	21.24	21.42	23	1
5	QPSK	12	6	21.40	21.33	21.44		
5	QPSK	12	11	21.46	21.33	21.24		
5	QPSK	25	0	21.35	21.30	21.34		
5	16QAM	1	0	21.52	21.37	21.31	23	1
5	16QAM	1	12	21.53	21.40	21.32		
5	16QAM	1	24	21.46	21.43	21.29		
5	16QAM	12	0	20.56	20.38	20.63	22	2
5	16QAM	12	6	20.56	20.40	20.45		
5	16QAM	12	11	20.67	20.58	20.33		
5	16QAM	25	0	20.43	20.28	20.34		

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	22.64	22.80	22.77	24	0
20	QPSK	1	49	22.50	22.58	22.64		
20	QPSK	1	99	22.52	22.33	22.57		
20	QPSK	50	0	21.16	21.48	21.48	23	1
20	QPSK	50	24	21.17	21.55	21.39		
20	QPSK	50	49	21.23	21.48	21.34		
20	QPSK	100	0	21.17	21.45	21.44		
20	16QAM	1	0	21.56	21.50	21.74	23	1
20	16QAM	1	49	21.52	21.67	21.53		
20	16QAM	1	99	21.52	21.47	21.54		
20	16QAM	50	0	20.16	20.21	20.43	22	2
20	16QAM	50	24	20.17	20.27	20.43		
20	16QAM	50	49	20.22	20.28	20.28		
20	16QAM	100	0	20.16	20.28	20.41		
Channel				20025	20175	20325	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.39	22.45	22.65	24	0
15	QPSK	1	37	22.39	22.53	22.73		
15	QPSK	1	74	22.35	22.37	22.64		
15	QPSK	36	0	21.13	21.35	21.51	23	1
15	QPSK	36	18	21.21	21.22	21.41		
15	QPSK	36	37	21.17	21.09	21.34		
15	QPSK	75	0	21.20	21.11	21.43		
15	16QAM	1	0	21.43	21.50	21.67	23	1
15	16QAM	1	37	21.28	21.63	21.59		
15	16QAM	1	74	21.52	21.40	21.65		
15	16QAM	36	0	20.19	20.26	20.44	22	2
15	16QAM	36	18	20.18	20.14	20.42		
15	16QAM	36	37	20.17	20.17	20.38		
15	16QAM	75	0	20.09	20.20	20.39		
Channel				20000	20175	20350	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.40	22.44	22.48	24	0
10	QPSK	1	24	22.29	22.48	22.73		
10	QPSK	1	49	22.24	22.26	22.49		
10	QPSK	25	0	21.19	21.20	21.53	23	1
10	QPSK	25	12	21.31	21.25	21.34		
10	QPSK	25	24	21.17	21.29	21.40		
10	QPSK	50	0	21.16	21.02	21.31		
10	16QAM	1	0	21.43	21.51	21.66	23	1
10	16QAM	1	24	21.44	21.42	21.54		
10	16QAM	1	49	21.26	21.32	21.60		
10	16QAM	25	0	20.13	20.18	20.58	22	2
10	16QAM	25	12	20.19	20.21	20.40		
10	16QAM	25	24	20.22	20.24	20.46		
10	16QAM	50	0	20.21	20.08	20.39		

Channel				19975	20175	20375	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.33	22.29	22.61	24	0
5	QPSK	1	12	22.23	22.37	22.48		
5	QPSK	1	24	22.37	22.34	22.54		
5	QPSK	12	0	21.23	21.27	21.46	23	1
5	QPSK	12	6	21.30	21.39	21.48		
5	QPSK	12	11	21.21	21.46	21.45		
5	QPSK	25	0	21.17	21.21	21.38		
5	16QAM	1	0	21.35	21.33	21.67	23	1
5	16QAM	1	12	21.22	21.51	21.62		
5	16QAM	1	24	21.30	21.41	21.62		
5	16QAM	12	0	20.38	20.32	20.61	22	2
5	16QAM	12	6	20.28	20.43	20.61		
5	16QAM	12	11	20.28	20.52	20.67		
5	16QAM	25	0	20.05	20.24	20.49		

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	22.75	22.70	22.74	24	0
20	QPSK	1	49	22.57	22.54	22.49		
20	QPSK	1	99	22.47	22.44	22.70		
20	QPSK	50	0	21.56	21.16	21.44	23	1
20	QPSK	50	24	21.55	21.23	21.38		
20	QPSK	50	49	21.43	21.21	21.42		
20	QPSK	100	0	21.54	21.33	21.44		
20	16QAM	1	0	21.78	21.59	21.56	23	1
20	16QAM	1	49	21.69	21.41	21.45		
20	16QAM	1	99	21.61	21.33	21.76		
20	16QAM	50	0	20.47	20.20	20.29	22	2
20	16QAM	50	24	20.28	20.25	20.29		
20	16QAM	50	49	20.31	20.21	20.22		
20	16QAM	100	0	20.36	20.18	20.35		
Channel				18675	18900	19125	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.57	22.52	22.44	24	0
15	QPSK	1	37	22.36	22.37	22.60		
15	QPSK	1	74	22.48	22.21	22.58		
15	QPSK	36	0	21.25	21.14	21.33	23	1
15	QPSK	36	18	21.35	21.16	21.50		
15	QPSK	36	37	21.39	21.18	21.41		
15	QPSK	75	0	21.42	21.07	21.35		
15	16QAM	1	0	21.55	21.36	21.46	23	1
15	16QAM	1	37	21.48	21.51	21.80		
15	16QAM	1	74	21.49	21.20	21.61		
15	16QAM	36	0	20.43	20.22	20.41	22	2
15	16QAM	36	18	20.27	20.17	20.37		
15	16QAM	36	37	20.32	20.04	20.45		
15	16QAM	75	0	20.30	20.10	20.28		
Channel				18650	18900	19150	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.40	22.26	22.35	24	0
10	QPSK	1	24	22.34	22.30	22.69		
10	QPSK	1	49	22.48	22.19	22.63		
10	QPSK	25	0	21.37	21.25	21.42	23	1
10	QPSK	25	12	21.22	21.20	21.36		
10	QPSK	25	24	21.14	21.26	21.41		
10	QPSK	50	0	21.24	21.23	21.46		
10	16QAM	1	0	21.43	21.43	21.44	23	1
10	16QAM	1	24	21.32	21.50	21.51		
10	16QAM	1	49	21.61	21.30	21.58		
10	16QAM	25	0	20.23	20.28	20.40	22	2
10	16QAM	25	12	20.15	20.05	20.33		
10	16QAM	25	24	20.01	20.03	20.48		
10	16QAM	50	0	20.09	20.07	20.45		

Channel				18625	18900	19175	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.43	22.29	22.53	24	0
5	QPSK	1	12	22.29	22.31	22.54		
5	QPSK	1	24	22.10	22.25	22.51		
5	QPSK	12	0	21.37	21.41	21.48	23	1
5	QPSK	12	6	21.38	21.46	21.46		
5	QPSK	12	11	21.33	21.35	21.42		
5	QPSK	25	0	21.18	21.23	21.44		
5	16QAM	1	0	21.46	21.40	21.58	23	1
5	16QAM	1	12	21.48	21.29	21.69		
5	16QAM	1	24	21.18	21.22	21.66		
5	16QAM	12	0	20.51	20.31	20.63	22	2
5	16QAM	12	6	20.57	20.40	20.66		
5	16QAM	12	11	20.42	20.24	20.68		
5	16QAM	25	0	20.29	20.09	20.49		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	22.76	22.68	22.48	24	0
20	QPSK	1	49	22.66	22.58	22.52		
20	QPSK	1	99	22.73	22.56	22.44		
20	QPSK	50	0	21.75	21.57	21.43	23	1
20	QPSK	50	24	21.73	21.25	21.35		
20	QPSK	50	49	21.61	21.18	21.48		
20	QPSK	100	0	21.72	21.43	21.46		
20	16QAM	1	0	21.92	21.69	21.64	23	1
20	16QAM	1	49	21.82	21.81	21.70		
20	16QAM	1	99	21.76	21.68	21.67		
20	16QAM	50	0	20.38	20.50	20.37	22	2
20	16QAM	50	24	20.38	20.28	20.50		
20	16QAM	50	49	20.26	20.28	20.38		
20	16QAM	100	0	20.46	20.30	20.35		
Channel				26115	26340	26615	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	22.71	22.75	22.55	24	0
15	QPSK	1	37	22.75	22.64	22.74		
15	QPSK	1	74	22.50	22.34	22.56		
15	QPSK	36	0	21.48	21.48	21.49	23	1
15	QPSK	36	18	21.52	21.55	21.55		
15	QPSK	36	37	21.35	21.40	21.68		
15	QPSK	75	0	21.54	21.33	21.47		
15	16QAM	1	0	21.94	21.77	21.59	23	1
15	16QAM	1	37	21.84	21.68	21.76		
15	16QAM	1	74	21.52	21.48	21.87		
15	16QAM	36	0	20.66	20.44	20.34	22	2
15	16QAM	36	18	20.43	20.31	20.63		
15	16QAM	36	37	20.50	20.30	20.67		
15	16QAM	75	0	20.35	20.27	20.33		
Channel				26090	26340	26640	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	22.71	22.58	22.59	24	0
10	QPSK	1	24	22.73	22.52	22.67		
10	QPSK	1	49	22.49	22.40	22.64		
10	QPSK	25	0	21.58	21.49	21.53	23	1
10	QPSK	25	12	21.45	21.27	21.72		
10	QPSK	25	24	21.55	21.48	21.71		
10	QPSK	50	0	21.23	21.32	21.62		
10	16QAM	1	0	21.74	21.69	21.67	23	1
10	16QAM	1	24	21.71	21.66	21.68		
10	16QAM	1	49	21.66	21.57	21.76		
10	16QAM	25	0	20.59	20.52	20.57	22	2
10	16QAM	25	12	20.64	20.35	20.58		
10	16QAM	25	24	20.47	20.30	20.71		
10	16QAM	50	0	20.47	20.28	20.60		

Channel				26065	26340	26665	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.67	22.44	22.66	24	0
5	QPSK	1	12	22.64	22.59	22.70		
5	QPSK	1	24	22.65	22.54	22.56		
5	QPSK	12	0	21.71	21.64	21.62	23	1
5	QPSK	12	6	21.70	21.59	21.53		
5	QPSK	12	11	21.63	21.63	21.54		
5	QPSK	25	0	21.61	21.41	21.61		
5	16QAM	1	0	21.75	21.59	21.64	23	1
5	16QAM	1	12	21.81	21.63	21.74		
5	16QAM	1	24	21.67	21.72	21.79		
5	16QAM	12	0	20.78	20.70	20.78	22	2
5	16QAM	12	6	20.75	20.73	20.64		
5	16QAM	12	11	20.57	20.43	20.65		
5	16QAM	25	0	20.38	20.50	20.62		

Reduced Average RF Power (Proximity Sensor active)

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		21.21		23	0
10	QPSK	1	24		21.66			
10	QPSK	1	49		21.32			
10	QPSK	25	0		21.57		23	0
10	QPSK	25	12		21.53			
10	QPSK	25	24		21.51			
10	QPSK	50	0		21.41			
10	16QAM	1	0		21.28		23	0
10	16QAM	1	24		21.65			
10	16QAM	1	49		21.50			
10	16QAM	25	0		21.33		23	0
10	16QAM	25	12		21.53			
10	16QAM	25	24		21.55			
10	16QAM	50	0		21.36			
Channel				23205	23230	23255	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	21.12	21.35	21.55	23	0
5	QPSK	1	12	21.22	21.57	21.47		
5	QPSK	1	24	21.56	21.52	21.19		
5	QPSK	12	0	21.22	21.52	21.53	23	0
5	QPSK	12	6	21.39	21.54	21.51		
5	QPSK	12	11	21.34	21.43	21.50		
5	QPSK	25	0	21.31	21.47	21.44		
5	16QAM	1	0	21.19	21.54	21.54	23	0
5	16QAM	1	12	21.52	21.51	21.49		
5	16QAM	1	24	21.28	21.52	21.19		
5	16QAM	12	0	21.29	21.53	21.50	23	0
5	16QAM	12	6	21.30	21.53	21.52		
5	16QAM	12	11	21.43	21.51	21.51		
5	16QAM	25	0	21.32	21.44	21.49		

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	19.73	19.70	19.67	21	0
10	QPSK	1	24	19.72	19.66	19.62		
10	QPSK	1	49	19.62	19.64	19.57		
10	QPSK	25	0	19.72	19.62	19.62	21	0
10	QPSK	25	12	19.66	19.66	19.59		
10	QPSK	25	24	19.63	19.68	19.45		
10	QPSK	50	0	19.57	19.54	19.45		
10	16QAM	1	0	19.69	19.65	19.66	21	0
10	16QAM	1	24	19.60	19.63	19.57		
10	16QAM	1	49	19.63	19.62	19.38		
10	16QAM	25	0	19.56	19.50	19.55	21	0
10	16QAM	25	12	19.50	19.55	19.54		
10	16QAM	25	24	19.54	19.46	19.43		
10	16QAM	50	0	19.43	19.33	19.29		
Channel				20425	20525	20625	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	19.51	19.62	19.60	21	0
5	QPSK	1	12	19.56	19.58	19.50		
5	QPSK	1	24	19.53	19.56	19.41		
5	QPSK	12	0	19.54	19.51	19.50	21	0
5	QPSK	12	6	19.53	19.58	19.43		
5	QPSK	12	11	19.45	19.52	19.52		
5	QPSK	25	0	19.49	19.49	19.59		
5	16QAM	1	0	19.61	19.68	19.60	21	0
5	16QAM	1	12	19.61	19.62	19.55		
5	16QAM	1	24	19.62	19.53	19.56		
5	16QAM	12	0	19.55	19.63	19.40	21	0
5	16QAM	12	6	19.51	19.56	19.42		
5	16QAM	12	11	19.58	19.42	19.55		
5	16QAM	25	0	19.49	19.38	19.44		

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	17.68	17.75	17.65	18	0
20	QPSK	1	49	17.60	17.62	17.50		
20	QPSK	1	99	17.38	17.37	17.56		
20	QPSK	50	0	17.53	17.57	17.40	18	0
20	QPSK	50	24	17.56	17.46	17.25		
20	QPSK	50	49	17.55	17.54	17.33		
20	QPSK	100	0	17.41	17.60	17.42		
20	16QAM	1	0	17.59	17.54	17.57	18	0
20	16QAM	1	49	17.47	17.64	17.58		
20	16QAM	1	99	17.43	17.62	17.57		
20	16QAM	50	0	17.44	17.49	17.25	18	0
20	16QAM	50	24	17.37	17.45	17.21		
20	16QAM	50	49	17.46	17.39	17.24		
20	16QAM	100	0	17.48	17.39	17.18		
Channel				20025	20175	20325	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	17.55	17.31	17.43	18	0
15	QPSK	1	37	17.45	17.47	17.46		
15	QPSK	1	74	17.56	17.44	17.33		
15	QPSK	36	0	17.38	17.27	17.20	18	0
15	QPSK	36	18	17.26	17.06	17.23		
15	QPSK	36	37	17.37	17.14	17.18		
15	QPSK	75	0	17.44	17.07	17.21		
15	16QAM	1	0	17.52	17.52	17.40	18	0
15	16QAM	1	37	17.40	17.53	17.52		
15	16QAM	1	74	17.56	17.42	17.48		
15	16QAM	36	0	17.50	17.18	17.34	18	0
15	16QAM	36	18	17.26	17.40	17.35		
15	16QAM	36	37	17.30	17.22	17.30		
15	16QAM	75	0	17.35	17.28	17.31		
Channel				20000	20175	20350	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	17.44	17.43	17.48	18	0
10	QPSK	1	24	17.41	17.48	17.40		
10	QPSK	1	49	17.41	17.21	17.17		
10	QPSK	25	0	17.11	17.29	17.31	18	0
10	QPSK	25	12	17.41	17.25	17.24		
10	QPSK	25	24	17.36	17.36	17.31		
10	QPSK	50	0	17.15	17.22	17.14		
10	16QAM	1	0	17.44	17.59	17.41	18	0
10	16QAM	1	24	17.52	17.52	17.48		
10	16QAM	1	49	17.30	17.43	17.43		
10	16QAM	25	0	17.06	17.16	17.44	18	0
10	16QAM	25	12	17.24	17.18	17.18		
10	16QAM	25	24	17.30	17.27	17.27		
10	16QAM	50	0	17.09	17.11	17.19		

Channel				19975	20175	20375	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	17.61	17.43	17.57	18	0
5	QPSK	1	12	17.54	17.49	17.61		
5	QPSK	1	24	17.53	17.50	17.55		
5	QPSK	12	0	17.60	17.36	17.46	18	0
5	QPSK	12	6	17.60	17.37	17.16		
5	QPSK	12	11	17.55	17.62	17.58		
5	QPSK	25	0	17.45	17.32	17.34		
5	16QAM	1	0	17.53	17.55	17.65	18	0
5	16QAM	1	12	17.44	17.66	17.69		
5	16QAM	1	24	17.40	17.55	17.66		
5	16QAM	12	0	17.50	17.41	17.61	18	0
5	16QAM	12	6	17.49	17.54	17.57		
5	16QAM	12	11	17.40	17.40	17.44		
5	16QAM	25	0	17.25	17.45	17.44		

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	18.81	18.72	18.47	20	0
20	QPSK	1	49	18.77	18.70	18.40		
20	QPSK	1	99	18.57	18.35	18.46		
20	QPSK	50	0	18.57	18.48	18.24	20	0
20	QPSK	50	24	18.44	18.51	18.12		
20	QPSK	50	49	18.37	18.44	18.21		
20	QPSK	100	0	18.58	18.49	18.25		
20	16QAM	1	0	18.69	18.62	18.46	20	0
20	16QAM	1	49	18.72	18.66	18.34		
20	16QAM	1	99	18.45	18.51	18.43		
20	16QAM	50	0	18.26	18.48	18.15	20	0
20	16QAM	50	24	18.28	18.43	18.25		
20	16QAM	50	49	18.18	18.33	18.20		
20	16QAM	100	0	18.25	18.49	18.39		
Channel				18675	18900	19125	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	18.64	18.47	18.32	20	0
15	QPSK	1	37	18.70	18.52	18.46		
15	QPSK	1	74	18.56	18.39	18.63		
15	QPSK	36	0	18.16	18.23	18.08	20	0
15	QPSK	36	18	18.29	18.36	18.25		
15	QPSK	36	37	18.39	18.14	18.55		
15	QPSK	75	0	18.25	18.18	18.30		
15	16QAM	1	0	18.62	18.53	18.49	20	0
15	16QAM	1	37	18.72	18.51	18.37		
15	16QAM	1	74	18.38	18.20	18.70		
15	16QAM	36	0	18.28	18.33	18.06	20	0
15	16QAM	36	18	18.12	18.18	18.32		
15	16QAM	36	37	18.25	18.31	18.46		
15	16QAM	75	0	18.29	18.23	18.09		
Channel				18650	18900	19150	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	18.46	18.42	18.13	20	0
10	QPSK	1	24	18.21	18.35	18.45		
10	QPSK	1	49	18.55	18.41	18.49		
10	QPSK	25	0	18.35	18.20	18.25	20	0
10	QPSK	25	12	18.18	18.31	18.28		
10	QPSK	25	24	18.18	18.21	18.30		
10	QPSK	50	0	18.18	18.18	18.30		
10	16QAM	1	0	18.57	18.22	18.40	20	0
10	16QAM	1	24	18.26	18.44	18.40		
10	16QAM	1	49	18.60	18.62	18.60		
10	16QAM	25	0	18.32	18.39	18.26	20	0
10	16QAM	25	12	18.29	18.32	18.34		
10	16QAM	25	24	18.14	18.14	18.24		
10	16QAM	50	0	18.23	18.22	18.25		

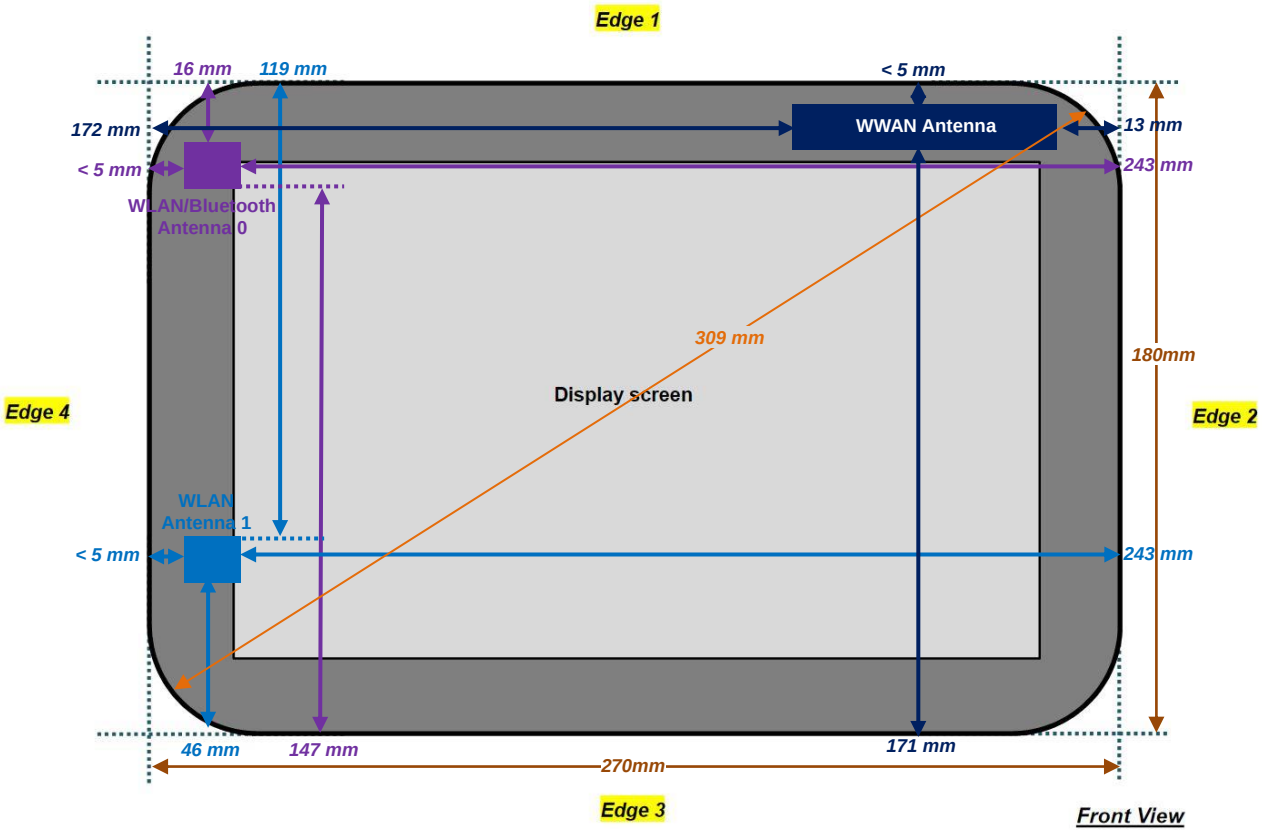
Channel				18625	18900	19175	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	18.46	18.49	18.44	20	0
5	QPSK	1	12	18.32	18.55	18.43		
5	QPSK	1	24	18.19	18.29	18.53		
5	QPSK	12	0	18.45	18.46	18.42	20	0
5	QPSK	12	6	18.38	18.55	18.37		
5	QPSK	12	11	18.33	18.31	18.41		
5	QPSK	25	0	18.10	18.29	18.42		
5	16QAM	1	0	18.39	18.54	18.47	20	0
5	16QAM	1	12	18.66	18.51	18.76		
5	16QAM	1	24	18.34	18.44	18.49		
5	16QAM	12	0	18.50	18.43	18.40	20	0
5	16QAM	12	6	18.45	18.43	18.46		
5	16QAM	12	11	18.52	18.54	18.55		
5	16QAM	25	0	18.12	18.25	18.27		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	18.70	18.59	18.41	20	0
20	QPSK	1	49	18.61	18.61	18.47		
20	QPSK	1	99	18.63	18.41	18.58		
20	QPSK	50	0	18.65	18.39	18.34	20	0
20	QPSK	50	24	18.56	18.44	18.31		
20	QPSK	50	49	18.56	18.46	18.40		
20	QPSK	100	0	18.64	18.55	18.32		
20	16QAM	1	0	18.52	18.62	18.42	20	0
20	16QAM	1	49	18.56	18.64	18.49		
20	16QAM	1	99	18.54	18.66	18.46		
20	16QAM	50	0	18.18	18.50	18.22	20	0
20	16QAM	50	24	18.14	18.37	18.22		
20	16QAM	50	49	18.16	18.32	18.44		
20	16QAM	100	0	18.16	18.33	18.34		
Channel				26115	26340	26615	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	18.66	18.53	18.38	20	0
15	QPSK	1	37	18.61	18.61	18.49		
15	QPSK	1	74	18.57	18.32	18.41		
15	QPSK	36	0	18.46	18.34	18.24	20	0
15	QPSK	36	18	18.46	18.27	18.42		
15	QPSK	36	37	18.47	18.13	18.44		
15	QPSK	75	0	18.64	18.21	18.39		
15	16QAM	1	0	18.65	18.52	18.36	20	0
15	16QAM	1	37	18.61	18.38	18.49		
15	16QAM	1	74	18.63	18.20	18.41		
15	16QAM	36	0	18.37	18.19	18.20	20	0
15	16QAM	36	18	18.44	18.35	18.28		
15	16QAM	36	37	18.58	18.19	18.40		
15	16QAM	75	0	18.46	18.28	18.13		
Channel				26090	26340	26640	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	18.64	18.46	18.23	20	0
10	QPSK	1	24	18.52	18.43	18.45		
10	QPSK	1	49	18.61	18.24	18.51		
10	QPSK	25	0	18.48	18.04	18.26	20	0
10	QPSK	25	12	18.34	18.30	18.33		
10	QPSK	25	24	18.35	18.38	18.18		
10	QPSK	50	0	18.42	18.25	18.30		
10	16QAM	1	0	18.62	18.34	18.41	20	0
10	16QAM	1	24	18.42	18.50	18.39		
10	16QAM	1	49	18.60	18.52	18.51		
10	16QAM	25	0	18.50	18.33	18.40	20	0
10	16QAM	25	12	18.17	18.34	18.27		
10	16QAM	25	24	18.35	18.32	18.14		
10	16QAM	50	0	18.35	18.24	18.18		

Channel				26065	26340	26665	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	18.46	18.50	18.41	20	0
5	QPSK	1	12	18.37	18.38	18.31		
5	QPSK	1	24	18.16	18.40	18.45		
5	QPSK	12	0	18.43	18.58	18.29	20	0
5	QPSK	12	6	18.44	18.45	18.50		
5	QPSK	12	11	18.39	18.33	18.54		
5	QPSK	25	0	18.14	18.19	18.32		
5	16QAM	1	0	18.55	18.48	18.44	20	0
5	16QAM	1	12	18.54	18.53	18.51		
5	16QAM	1	24	18.36	18.38	18.39		
5	16QAM	12	0	18.56	18.44	18.48	20	0
5	16QAM	12	6	18.45	18.48	18.37		
5	16QAM	12	11	18.50	18.38	18.46		
5	16QAM	25	0	18.22	18.25	18.30		

13. Antenna Location



<SAR test exclusion table>

General Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
2. Per KDB 447498 D01v05r02, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D01v05r02, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
4. Per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison
5. Per KDB 447498 D01v05r02, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
   a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
   b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

	Wireless Interface	GPRS 850 Class 10	GPRS 1900 Class10	WCDMA Band V	WCDMA Band IV	WCDMA Band II	CDMA 2000 BC10	CDMA 2000 BC0	CDMA 2000 BC1	LTE Band 17	LTE Band 13	LTE Band 5	LTE Band 4	LTE Band 2	LTE Band 25
Exposure Position	Calculated Frequency (MHz)	848	1909	846	1750	1907	846	848	1907	713	784	848	1754	1909	1914
	Maximum power (dBm)	27	24	24	24	24	24.5	24.5	24.5	24	24	24	24	24	24
	Maximum rated power(mW)	501	251	251	251	251	282	282	282	251	251	251	251	251	251
Bottom Face	Separation distance(mm)	5													
	exclusion threshold	92	69	46	66	69	52	52	78	42	44	46	66	69	69
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	5													
	exclusion threshold	92	69	46	66	69	52	52	78	42	44	46	66	69	69
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	13													
	exclusion threshold	35	27	18	26	27	20	20	30	16	17	18	26	27	27
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 3	Separation distance(mm)	171													
	exclusion threshold	847	1319	846	1323	1319	846	847	1319	753	802	847	1323	1319	1318
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	172													
	exclusion threshold	853	1329	851	1333	1329	851	853	1329	758	807	853	1333	1329	1328
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No

14. SAR Test Results

General Note:

1. Per KDB 447498 D01v05r02, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
2. Per KDB 447498 D01v05r02, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in normal mode was performed; 1.0cm for bottom face, 1.0cm for edge1
4. Following KDB 941225 D03v01, the GPRS 2Tx slots modes was selected when EUT operating without power back-off, the GPRS 2Tx slots modes was selected when EUT operating with power back-off, according to the highest source-based time-averaged output power.
5. Per KDB 941225 D02v02r02, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA/DC-HSDPA output power is < 0.25dB higher than RMC, or reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded..
6. Per KDB 941225 D01v02, the EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps). If 1xRTT and Ev-Do Rev A (RETAP 4096 bits) power is high than 1/4dB higher than Re v0, SAR tests with those settings are necessary.
7. Per KDB 941225 D05v02r03, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
8. Per KDB 941225 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
9. Per KDB 941225 D05v02r03, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
10. Per KDB 941225 D05v02r03, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, 16QAM SAR testing is not required.
11. Per KDB 941225 D05v02r03, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, smaller bandwidth SAR testing is not required.

14.1 Body SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	P-Sensor Power Reduction	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (2 Tx slot)	Bottom Face	0cm	189	836.4	ON	27.39	28.00	1.151	-0.01	0.982	1.130
	GSM850	GPRS (2 Tx slot)	Bottom Face	0cm	128	824.2	ON	27.30	28.00	1.175	-0.01	0.899	1.056
	GSM850	GPRS (2 Tx slot)	Bottom Face	0cm	251	848.8	ON	27.37	28.00	1.156	-0.15	0.897	1.037
	GSM850	GPRS (2 Tx slot)	Bottom Face	1cm	189	836.4	OFF	32.28	33.00	1.180	-0.03	0.752	0.888
	GSM850	GPRS (2 Tx slot)	Bottom Face	1cm	128	824.2	OFF	32.27	33.00	1.183	0.05	0.706	0.835
	GSM850	GPRS (2 Tx slot)	Bottom Face	1cm	251	848.8	OFF	32.26	33.00	1.186	0.03	0.796	0.944
	GSM850	GPRS (2 Tx slot)	Edge 1	0cm	189	836.4	ON	27.39	28.00	1.151	-0.01	0.988	1.137
	GSM850	GPRS (2 Tx slot)	Edge 1	0cm	128	824.2	ON	27.30	28.00	1.175	-0.07	0.944	1.109
01	GSM850	GPRS (2 Tx slot)	Edge 1	0cm	251	848.8	ON	27.37	28.00	1.156	-0.07	1.060	**1.225**
	GSM850	GPRS (2 Tx slot)	Edge 1	1cm	189	836.4	OFF	32.28	33.00	1.180	0.04	0.849	1.002
	GSM850	GPRS (2 Tx slot)	Edge 1	1cm	128	824.2	OFF	32.27	33.00	1.183	-0.02	0.711	0.841
	GSM850	GPRS (2 Tx slot)	Edge 1	1cm	251	848.8	OFF	32.26	33.00	1.186	0.03	0.877	1.040
	GSM850	GPRS (2 Tx slot)	Edge 2	0cm	189	836.4	OFF	32.28	33.00	1.180	-0.07	0.120	0.142
	GSM1900	GPRS (2 Tx slots)	Bottom Face	0cm	661	1880	ON	25.55	26.00	1.109	0.14	0.939	1.042
02	GSM1900	GPRS (2 Tx slots)	Bottom Face	0cm	512	1850.2	ON	25.45	26.00	1.135	0.14	1.100	**1.249**
	GSM1900	GPRS (2 Tx slots)	Bottom Face	0cm	810	1909.8	ON	25.54	26.00	1.112	0.11	0.753	0.837
	GSM1900	GPRS (2 Tx slots)	Bottom Face	1cm	661	1880	OFF	29.10	30.00	1.230	0.03	0.337	0.415
	GSM1900	GPRS (2 Tx slots)	Edge 1	0cm	661	1880	ON	25.55	26.00	1.109	0.06	0.608	0.674
	GSM1900	GPRS (2 Tx slots)	Edge 1	1cm	661	1880	OFF	29.10	30.00	1.230	-0.11	0.320	0.394
	GSM1900	GPRS (2 Tx slots)	Edge 2	0cm	661	1880	OFF	29.10	30.00	1.230	-0.01	0.658	0.810
	GSM1900	GPRS (2 Tx slots)	Edge 2	0cm	512	1850.2	OFF	29.08	30.00	1.236	-0.03	0.568	0.702
	GSM1900	GPRS (2 Tx slots)	Edge 2	0cm	810	1909.8	OFF	28.98	30.00	1.265	0.18	0.688	0.870

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	P-Sensor Power Reduction	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	4182	836.4	ON	19.58	21.00	1.387	-0.1	0.756	1.048
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	4132	826.4	ON	19.57	21.00	1.390	0.06	0.721	1.002
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	4233	846.6	ON	19.39	21.00	1.449	0.02	0.797	1.155
	WCDMA V	RMC 12.2Kbps	Bottom Face	1cm	4182	836.4	OFF	22.65	24.00	1.365	-0.14	0.310	0.423
	WCDMA V	RMC 12.2Kbps	Edge 1	0cm	4182	836.4	ON	19.58	21.00	1.387	-0.13	0.890	1.234
	WCDMA V	RMC 12.2Kbps	Edge 1	0cm	4132	826.4	ON	19.57	21.00	1.390	-0.12	0.861	1.197
03	WCDMA V	RMC 12.2Kbps	Edge 1	0cm	4233	846.6	ON	19.39	21.00	1.449	-0.1	0.889	**1.288**
	WCDMA V	RMC 12.2Kbps	Edge 1	1cm	4182	836.4	OFF	22.65	24.00	1.365	0.13	0.425	0.580
	WCDMA V	RMC 12.2Kbps	Edge 2	0cm	4182	836.4	OFF	22.65	24.00	1.365	0.16	0.066	0.090
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	1513	1752.6	ON	17.94	18.00	1.014	0.13	1.070	1.085
04	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	1312	1712.4	ON	17.71	18.00	1.069	0.01	1.030	**1.101**
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	1413	1732.6	ON	17.91	18.00	1.021	0.05	1.020	1.041
	WCDMA IV	RMC 12.2Kbps	Bottom Face	1cm	1513	1752.6	OFF	22.86	24.00	1.300	0.02	0.629	0.818
	WCDMA IV	RMC 12.2Kbps	Bottom Face	1cm	1312	1712.4	OFF	22.54	24.00	1.400	-0.04	0.625	0.875
	WCDMA IV	RMC 12.2Kbps	Bottom Face	1cm	1413	1732.6	OFF	22.66	24.00	1.361	-0.11	0.603	0.821
	WCDMA IV	RMC 12.2Kbps	Edge 1	0cm	1513	1752.6	ON	17.94	18.00	1.014	-0.06	0.663	0.672
	WCDMA IV	RMC 12.2Kbps	Edge 1	1cm	1513	1752.6	OFF	22.86	24.00	1.300	-0.04	0.522	0.679
	WCDMA IV	RMC 12.2Kbps	Edge 2	0cm	1513	1752.6	OFF	22.86	24.00	1.300	0.12	0.590	0.767
	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	9538	1907.6	ON	18.63	20.00	1.371	0.16	0.909	1.246
	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	9262	1852.4	ON	18.53	20.00	1.403	0.1	0.887	1.244
05	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	9400	1880	ON	18.60	20.00	1.380	-0.07	0.921	**1.271**
	WCDMA II	RMC 12.2Kbps	Bottom Face	1cm	9538	1907.6	OFF	22.41	24.00	1.442	-0.05	0.359	0.518
	WCDMA II	RMC 12.2Kbps	Edge 1	0cm	9538	1907.6	ON	18.63	20.00	1.371	0	0.518	0.710
	WCDMA II	RMC 12.2Kbps	Edge 1	1cm	9538	1907.6	OFF	22.41	24.00	1.442	0.01	0.285	0.411
	WCDMA II	RMC 12.2Kbps	Edge 2	0cm	9538	1907.6	OFF	22.41	24.00	1.442	-0.04	0.656	0.946
	WCDMA II	RMC 12.2Kbps	Edge 2	0cm	9262	1852.4	OFF	22.28	24.00	1.486	0.15	0.473	0.703
	WCDMA II	RMC 12.2Kbps	Edge 2	0cm	9400	1880	OFF	22.34	24.00	1.466	-0.11	0.607	0.890

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	P-Sensor Power Reduction	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA BC10	RTAP 153.6Kbps	Bottom Face	0cm	580	820.5	ON	20.10	21.50	1.380	0.13	0.700	0.966
	CDMA BC10	RTAP 153.6Kbps	Bottom Face	1cm	580	820.5	OFF	23.39	24.50	1.291	-0.1	0.392	0.506
06	CDMA BC10	RTAP 153.6Kbps	Edge 1	0cm	580	820.5	ON	20.10	21.50	1.380	-0.1	0.802	**1.107**
	CDMA BC10	RTAP 153.6Kbps	Edge 1	1cm	580	820.5	OFF	23.39	24.50	1.291	0.06	0.465	0.600
	CDMA BC10	RTAP 153.6Kbps	Edge 2	0cm	580	820.5	OFF	23.39	24.50	1.291	0.04	0.077	0.099
	CDMA BC0	RTAP 153.6Kbps	Bottom Face	0cm	384	836.52	ON	20.18	20.50	1.076	-0.07	0.800	0.861
	CDMA BC0	RTAP 153.6Kbps	Bottom Face	0cm	1013	824.7	ON	20.17	20.50	1.079	0.08	0.868	0.937
	CDMA BC0	RTAP 153.6Kbps	Bottom Face	0cm	777	848.31	ON	20.02	20.50	1.117	0	0.846	0.945
	CDMA BC0	RTAP 153.6Kbps	Bottom Face	1cm	384	836.52	OFF	23.65	24.50	1.216	-0.15	0.441	0.536
	CDMA BC0	RTAP 153.6Kbps	Edge 1	0cm	384	836.52	ON	20.18	20.50	1.076	-0.13	0.947	1.019
	CDMA BC0	RTAP 153.6Kbps	Edge 1	0cm	1013	824.7	ON	20.17	20.50	1.079	-0.11	0.912	0.984
07	CDMA BC0	RTAP 153.6Kbps	Edge 1	0cm	777	848.31	ON	20.02	20.50	1.117	-0.11	0.986	**1.101**
	CDMA BC0	RTAP 153.6Kbps	Edge 1	1cm	384	836.52	OFF	23.65	24.50	1.216	-0.15	0.601	0.731
	CDMA BC0	RTAP 153.6Kbps	Edge 2	0cm	384	836.52	OFF	23.65	24.50	1.216	-0.18	0.082	0.100
	CDMA BC1	RTAP 153.6Kbps	Bottom Face	0cm	1175	1908.75	ON	19.30	20.50	1.318	0.15	0.944	1.244
	CDMA BC1	RTAP 153.6Kbps	Bottom Face	0cm	25	1851.25	ON	19.18	20.50	1.355	-0.11	0.911	1.235
08	CDMA BC1	RTAP 153.6Kbps	Bottom Face	0cm	600	1880	ON	19.21	20.50	1.346	0.19	0.958	**1.289**
	CDMA BC1	RTAP 153.6Kbps	Bottom Face	1cm	1175	1908.75	OFF	23.55	24.50	1.245	0.1	0.373	0.464
	CDMA BC1	RTAP 153.6Kbps	Edge 1	0cm	1175	1908.75	ON	19.30	20.50	1.318	-0.13	0.573	0.755
	CDMA BC1	RTAP 153.6Kbps	Edge 1	1cm	1175	1908.75	OFF	23.55	24.50	1.245	0.15	0.365	0.454
	CDMA BC1	RTAP 153.6Kbps	Edge 2	0cm	1175	1908.75	OFF	23.55	24.50	1.245	0.04	0.857	1.067
	CDMA BC1	RTAP 153.6Kbps	Edge 2	0cm	25	1851.25	OFF	23.49	24.50	1.262	-0.06	0.673	0.849
	CDMA BC1	RTAP 153.6Kbps	Edge 2	0cm	600	1880	OFF	23.29	24.50	1.321	0	0.714	0.943

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Ch.	Freq. (MHz)	P-Sensor Power Reduction	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
09	LTE Band 17	10M	QPSK	1	0	Bottom Face	0cm	23790	710	OFF	22.41	24.00	1.442	-0.03	0.480	**0.692**
	LTE Band 17	10M	QPSK	25	0	Bottom Face	0cm	23790	710	OFF	21.31	23.00	1.476	-0.03	0.410	0.605
	LTE Band 17	10M	QPSK	1	0	Edge 1	0cm	23790	710	OFF	22.41	24.00	1.442	0.11	0.442	0.637
	LTE Band 17	10M	QPSK	25	0	Edge 1	0cm	23790	710	OFF	21.31	23.00	1.476	0.19	0.399	0.589
	LTE Band 17	10M	QPSK	1	0	Edge 2	0cm	23790	710	OFF	22.41	24.00	1.442	-0.07	0.160	0.231
	LTE Band 17	10M	QPSK	25	0	Edge 2	0cm	23790	710	OFF	21.31	23.00	1.476	0.1	0.147	0.217
	LTE Band 13	10M	QPSK	1	24	Bottom Face	0cm	23230	782	ON	21.66	23.00	1.361	0.06	0.648	0.882
	LTE Band 13	10M	QPSK	25	0	Bottom Face	0cm	23230	782	ON	21.57	23.00	1.390	0.03	0.626	0.870
	LTE Band 13	10M	QPSK	50	0	Bottom Face	0cm	23230	782	ON	21.41	23.00	1.442	0.13	0.608	0.877
	LTE Band 13	10M	QPSK	1	24	Bottom Face	1cm	23230	782	OFF	22.50	24.00	1.413	-0.02	0.182	0.257
	LTE Band 13	10M	QPSK	25	0	Bottom Face	1cm	23230	782	OFF	21.69	23.00	1.352	0.08	0.140	0.189
10	LTE Band 13	10M	QPSK	1	24	Edge 1	0cm	23230	782	ON	21.66	23.00	1.361	-0.01	0.848	**1.155**
	LTE Band 13	10M	QPSK	25	0	Edge 1	0cm	23230	782	ON	21.57	23.00	1.390	-0.11	0.789	1.097
	LTE Band 13	10M	QPSK	50	0	Edge 1	0cm	23230	782	ON	21.41	23.00	1.442	-0.1	0.799	1.152
	LTE Band 13	10M	QPSK	1	24	Edge 1	1cm	23230	782	OFF	22.50	24.00	1.413	0.04	0.272	0.384
	LTE Band 13	10M	QPSK	25	0	Edge 1	1cm	23230	782	OFF	21.69	23.00	1.352	0.06	0.205	0.277
	LTE Band 13	10M	QPSK	1	24	Edge 2	0cm	23230	782	OFF	22.50	24.00	1.413	0.04	0.110	0.155
	LTE Band 13	10M	QPSK	25	0	Edge 2	0cm	23230	782	OFF	21.69	23.00	1.352	0.17	0.092	0.124

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Ch.	Freq. (MHz)	P-Sensor Power Reduction	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 5	10M	QPSK	1	0	Bottom Face	0cm	20450	829	ON	19.73	21.00	1.340	0.01	0.809	1.084
	LTE Band 5	10M	QPSK	1	0	Bottom Face	0cm	20525	836.5	ON	19.70	21.00	1.349	0.03	0.832	1.122
	LTE Band 5	10M	QPSK	1	0	Bottom Face	0cm	20600	844	ON	19.67	21.00	1.358	-0.04	0.888	1.206
	LTE Band 5	10M	QPSK	25	0	Bottom Face	0cm	20450	829	ON	19.72	21.00	1.343	0.02	0.695	0.933
	LTE Band 5	10M	QPSK	25	0	Bottom Face	0cm	20525	829	ON	19.62	21.00	1.374	0.07	0.681	0.936
	LTE Band 5	10M	QPSK	25	0	Bottom Face	0cm	20600	844	ON	19.62	21.00	1.374	0.12	0.689	0.947
	LTE Band 5	10M	QPSK	50	0	Bottom Face	0cm	20450	829	ON	19.57	21.00	1.390	0.01	0.681	0.947
	LTE Band 5	10M	QPSK	1	0	Bottom Face	1cm	20450	829	OFF	22.48	24.00	1.419	-0.12	0.280	0.397
	LTE Band 5	10M	QPSK	25	0	Bottom Face	1cm	20450	829	OFF	21.49	23.00	1.416	0.03	0.221	0.313
	LTE Band 5	10M	QPSK	1	0	Edge 1	0cm	20450	829	ON	19.73	21.00	1.340	-0.13	0.901	1.207
	LTE Band 5	10M	QPSK	1	0	Edge 1	0cm	20525	836.5	ON	19.70	21.00	1.349	-0.12	0.882	1.190
	LTE Band 5	10M	QPSK	1	0	Edge 1	0cm	20600	844	ON	19.67	21.00	1.358	-0.16	0.930	1.263
	LTE Band 5	10M	QPSK	25	0	Edge 1	0cm	20450	829	ON	19.72	21.00	1.343	-0.02	0.894	1.200
	LTE Band 5	10M	QPSK	25	0	Edge 1	0cm	20525	836.5	ON	19.62	21.00	1.374	-0.04	0.876	1.204
11	LTE Band 5	10M	QPSK	25	0	Edge 1	0cm	20600	844	ON	19.62	21.00	1.374	-0.17	0.941	**1.293**
	LTE Band 5	10M	QPSK	50	0	Edge 1	0cm	20450	829	ON	19.57	21.00	1.390	0.13	0.806	1.120
	LTE Band 5	10M	QPSK	1	0	Edge 1	1cm	20450	829	OFF	22.48	24.00	1.419	-0.04	0.330	0.468
	LTE Band 5	10M	QPSK	25	0	Edge 1	1cm	20450	829	OFF	21.49	23.00	1.416	0.03	0.263	0.372
	LTE Band 5	10M	QPSK	1	0	Edge 2	0cm	20450	829	OFF	22.48	24.00	1.419	0.04	0.071	0.101
	LTE Band 5	10M	QPSK	25	0	Edge 2	0cm	20450	829	OFF	21.49	23.00	1.416	0.09	0.056	0.079
	LTE Band 4	20M	QPSK	1	0	Bottom Face	0cm	20175	1732.5	ON	17.75	18.00	1.059	-0.06	0.987	1.045
	LTE Band 4	20M	QPSK	1	0	Bottom Face	0cm	20050	1720	ON	17.68	18.00	1.076	-0.02	0.966	1.040
	LTE Band 4	20M	QPSK	1	0	Bottom Face	0cm	20300	1745	ON	17.65	18.00	1.084	0.01	0.960	1.041
	LTE Band 4	20M	QPSK	50	0	Bottom Face	0cm	20175	1732.5	ON	17.57	18.00	1.104	0.05	0.920	1.016
	LTE Band 4	20M	QPSK	50	0	Bottom Face	0cm	20050	1720	ON	17.53	18.00	1.114	0.01	0.954	1.063
12	LTE Band 4	20M	QPSK	50	0	Bottom Face	0cm	20300	1745	ON	17.40	18.00	1.148	0.04	0.938	**1.077**
	LTE Band 4	20M	QPSK	100	0	Bottom Face	0cm	20175	1732.5	ON	17.60	18.00	1.096	0.04	0.914	1.002
	LTE Band 4	20M	QPSK	1	0	Bottom Face	1cm	20175	1732.5	OFF	22.80	24.00	1.318	-0.07	0.643	0.848
	LTE Band 4	20M	QPSK	1	0	Bottom Face	1cm	20050	1720	OFF	22.64	24.00	1.368	0.09	0.605	0.827
	LTE Band 4	20M	QPSK	1	0	Bottom Face	1cm	20300	1745	OFF	22.77	24.00	1.327	0.07	0.592	0.786
	LTE Band 4	20M	QPSK	50	0	Bottom Face	1cm	20175	1732.5	OFF	21.55	23.00	1.396	-0.02	0.448	0.626
	LTE Band 4	20M	QPSK	100	0	Bottom Face	1cm	20175	1732.5	OFF	21.45	23.00	1.429	0.05	0.450	0.643
	LTE Band 4	20M	QPSK	1	0	Edge 1	0cm	20175	1732.5	ON	17.75	18.00	1.059	-0.15	0.687	0.728
	LTE Band 4	20M	QPSK	50	0	Edge 1	0cm	20175	1732.5	ON	17.57	18.00	1.104	-0.12	0.625	0.690
	LTE Band 4	20M	QPSK	1	0	Edge 1	1cm	20175	1732.5	OFF	22.80	24.00	1.318	0.02	0.735	0.969
	LTE Band 4	20M	QPSK	1	0	Edge 1	1cm	20050	1720	OFF	22.64	24.00	1.368	-0.01	0.723	0.989
	LTE Band 4	20M	QPSK	1	0	Edge 1	1cm	20300	1745	OFF	22.77	24.00	1.327	-0.04	0.619	0.822
	LTE Band 4	20M	QPSK	50	0	Edge 1	1cm	20175	1732.5	OFF	21.55	23.00	1.396	0.09	0.516	0.721
	LTE Band 4	20M	QPSK	100	0	Edge 1	1cm	20175	1732.5	OFF	21.45	23.00	1.429	-0.03	0.483	0.690
	LTE Band 4	20M	QPSK	1	0	Edge 2	0cm	20175	1732.5	OFF	22.80	24.00	1.318	-0.18	0.493	0.650
	LTE Band 4	20M	QPSK	50	0	Edge 2	0cm	20175	1732.5	OFF	21.55	23.00	1.396	-0.04	0.377	0.526

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Ch.	Freq. (MHz)	P-Sensor Power Reduction	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Bottom Face	0cm	18700	1860	ON	18.81	20.00	1.315	-0.12	0.932	1.226
	LTE Band 2	20M	QPSK	1	0	Bottom Face	0cm	18900	1880	ON	18.72	20.00	1.343	0.01	0.890	1.195
	LTE Band 2	20M	QPSK	1	0	Bottom Face	0cm	19100	1900	ON	18.47	20.00	1.422	0.06	0.893	1.270
	LTE Band 2	20M	QPSK	50	0	Bottom Face	0cm	18700	1860	ON	18.57	20.00	1.390	0.09	0.878	1.220
	LTE Band 2	20M	QPSK	50	0	Bottom Face	0cm	18900	1880	ON	18.48	20.00	1.419	0.02	0.854	1.212
13	LTE Band 2	20M	QPSK	50	0	Bottom Face	0cm	19100	1900	ON	18.24	20.00	1.500	0.03	0.853	**1.279**
	LTE Band 2	20M	QPSK	100	0	Bottom Face	0cm	18700	1900	ON	18.58	20.00	1.387	0.03	0.853	1.183
	LTE Band 2	20M	QPSK	1	0	Bottom Face	1cm	18700	1860	OFF	22.75	24.00	1.334	0.03	0.361	0.481
	LTE Band 2	20M	QPSK	50	0	Bottom Face	1cm	18700	1860	OFF	21.56	23.00	1.393	-0.14	0.266	0.371
	LTE Band 2	20M	QPSK	1	0	Edge 1	0cm	18700	1860	ON	18.81	20.00	1.315	0.07	0.609	0.801
	LTE Band 2	20M	QPSK	1	0	Edge 1	0cm	18900	1880	ON	18.72	20.00	1.343	0.15	0.554	0.744
	LTE Band 2	20M	QPSK	1	0	Edge 1	0cm	19100	1900	ON	18.47	20.00	1.422	0.14	0.569	0.809
	LTE Band 2	20M	QPSK	50	0	Edge 1	0cm	18700	1860	ON	18.57	20.00	1.390	0.14	0.606	0.842
	LTE Band 2	20M	QPSK	50	0	Edge 1	0cm	18900	1880	ON	18.48	20.00	1.419	0.17	0.548	0.778
	LTE Band 2	20M	QPSK	50	0	Edge 1	0cm	19100	1900	ON	18.24	20.00	1.500	0.17	0.554	0.831
	LTE Band 2	20M	QPSK	100	0	Edge 1	0cm	18700	1860	ON	18.58	20.00	1.387	0.18	0.564	0.782
	LTE Band 2	20M	QPSK	1	0	Edge 1	1cm	18700	1860	OFF	22.75	24.00	1.334	-0.15	0.314	0.419
	LTE Band 2	20M	QPSK	50	0	Edge 1	1cm	18700	1860	OFF	21.56	23.00	1.393	0.04	0.227	0.316
	LTE Band 2	20M	QPSK	1	0	Edge 2	0cm	18700	1860	OFF	22.75	24.00	1.334	-0.13	0.541	0.721
	LTE Band 2	20M	QPSK	50	0	Edge 2	0cm	18700	1860	OFF	21.56	23.00	1.393	-0.04	0.404	0.563
	LTE Band 25	20M	QPSK	1	0	Bottom Face	0cm	26140	1860	ON	18.70	20.00	1.349	0.04	0.909	1.226
14	LTE Band 25	20M	QPSK	1	0	Bottom Face	0cm	26340	1880	ON	18.59	20.00	1.384	0.14	0.905	**1.252**
	LTE Band 25	20M	QPSK	1	0	Bottom Face	0cm	26590	1905	ON	18.41	20.00	1.442	0.08	0.846	1.220
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0cm	26140	1860	ON	18.65	20.00	1.365	0.12	0.850	1.160
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0cm	26340	1880	ON	18.39	20.00	1.449	0.11	0.861	1.247
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0cm	26590	1905	ON	18.34	20.00	1.466	0.12	0.805	1.180
	LTE Band 25	20M	QPSK	100	0	Bottom Face	0cm	26140	1860	ON	18.64	20.00	1.368	0.1	0.844	1.154
	LTE Band 25	20M	QPSK	1	0	Bottom Face	1cm	26140	1860	OFF	22.76	24.00	1.330	0	0.415	0.552
	LTE Band 25	20M	QPSK	50	0	Bottom Face	1cm	26140	1860	OFF	21.75	23.00	1.334	-0.08	0.301	0.401
	LTE Band 25	20M	QPSK	1	0	Edge 1	0cm	26140	1860	ON	18.70	20.00	1.349	-0.13	0.555	0.749
	LTE Band 25	20M	QPSK	50	0	Edge 1	0cm	26140	1860	ON	18.65	20.00	1.365	-0.14	0.519	0.708
	LTE Band 25	20M	QPSK	1	0	Edge 1	1cm	26140	1860	OFF	22.76	24.00	1.330	-0.04	0.294	0.391
	LTE Band 25	20M	QPSK	50	0	Edge 1	1cm	26140	1860	OFF	21.75	23.00	1.334	-0.02	0.219	0.292
	LTE Band 25	20M	QPSK	1	0	Edge 2	0cm	26140	1860	OFF	22.76	24.00	1.330	-0.08	0.545	0.725
	LTE Band 25	20M	QPSK	50	0	Edge 2	0cm	26140	1860	OFF	21.75	23.00	1.334	0.07	0.416	0.555

14.2 Repeated SAR Measurement

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	P-Sensor Power Reduction	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	GSM850					GPRS (2 Tx slot)	Edge 1	0cm	251	848.8	ON	27.37	28.00	1.156	-0.07	1.060	-	1.225
2nd	GSM850					GPRS (2 Tx slot)	Edge 1	0cm	251	848.8	ON	27.37	28.00	1.156	0.05	1.040	1.02	1.202
1st	GSM1900					GPRS (2 Tx slots)	Bottom Face	0cm	512	1850.2	ON	25.45	26.00	1.135	0.14	1.100	-	1.249
2nd	GSM1900					GPRS (2 Tx slots)	Bottom Face	0cm	512	1850.2	ON	25.45	26.00	1.135	0.04	1.090	1.01	1.237
1st	WCDMA IV					RMC 12.2Kbps	Bottom Face	0cm	1513	1752.6	ON	17.94	18.00	1.014	0.13	1.070	-	1.085
2nd	WCDMA IV					RMC 12.2Kbps	Bottom Face	0cm	1513	1752.6	ON	17.94	18.00	1.014	0.05	1.050	1.02	1.065
1st	LTE Band 13	10M	QPSK	1	24		Edge 1	0cm	23230	782	ON	21.66	23.00	1.361	-0.01	0.848	-	1.155
2nd	LTE Band 13	10M	QPSK	1	24		Edge 1	0cm	23230	782	ON	21.66	23.00	1.361	0.14	0.805	1.05	1.096

General Note:

1. Per KDB 865664 D01v01r03, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg
2. Per KDB 865664 D01v01r03, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Tablet	Note
		Body	
1.	GPRS/EDGE(Data) + WLAN2.4GHz(data)	Yes	2.4GHz Hotspot
2.	WCDMA(Data) + WLAN2.4GHz(data)	Yes	2.4GHz Hotspot
3.	CDMA(Data) + WLAN2.4GHz(data)	Yes	2.4GHz Hotspot
4.	LTE(Data) + WLAN2.4GHz(data)	Yes	2.4GHz Hotspot
5.	GPRS/EDGE(Data) + Bluetooth(data)	Yes	
6.	WCDMA(Data) + Bluetooth(data)	Yes	
7.	CDMA(Data) + Bluetooth(data)	Yes	
8.	LTE(Data) + Bluetooth(data)	Yes	
9.	GPRS/EDGE(data) + WLAN5GHz(data)	No	
10.	WCDMA(data) + WLAN5GHz(data)	No	
11.	CDMA(data) + WLAN5 GHz(data)	No	
12.	LTE(data) + WLAN5GHz(data)	No	

General Note:

1. WLAN/Bluetooth module FCC ID: EW4DWMW095A is also integrated into this host, and C2PC filing was granted on 2013/10/31. WLAN and Bluetooth power and SAR test data is referred to Sporton FCC SAR Report, Report No: FA391019 Rev.02, available on FCC website.
2. For simultaneous transmission analysis for exposure position of Bottom face 1.0cm and Edge1 1.0cm, WLAN SAR tested at 0mm separation testing results are used for conservative SAR summation.
3. For co-location analysis:
   i) For WWAN SAR testing was performed on bottom face, Edge1 and Edge2, according to KDB 447498 D01v05r02 exclusion thresholds which can be referred to page59.
   ii) The WLAN SAR testing was performed on bottom face, Edge1 and Edge4, according to KDB 447498 D01v05r02 exclusion thresholds which can be referred to Sporton FCC SAR Test Report, FCC ID: EW4DWMW095A, Report No: FA391019 Rev.02 page29.
   iii) For co-location analysis was performed at the same exposure positions, which are bottom face and Edge1, where both WWAN standalone SAR and WLAN standalone SAR was assessed.
   iv) For scalar SAR summation > 1.6W/kg, SAR peak location information and SPLSR analysis is required, and WLAN SAR testing was performed for this purpose. The re-test WLAN SAR distribution and reported SAR was used for SPLSR analysis in section 16.2.
4. Per KDB 447498 D01v05r02, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*). If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary
   iii) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg
5. For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01v05r02 based on the formula below.
   i) (*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)]·[$\sqrt{}$f(GHz)/*x*] W/kg for *test separation distances* ≤ 50 mm; where *x* = 7.5 for 1-g SAR, and *x* = 18.75 for 10-g SAR.
   ii) When the minimum separation distance is < 5mm, the distance is used 5mm to determine SAR test exclusion.
   iii) 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the *test separation distances* is > 50 mm.
   iv) Bluetooth estimated SAR is conservatively determined by 5mm separation, for all applicable exposure positions.

Bluetooth Max Power	Exposure Position	All Positions
8.63 dBm	Estimated SAR (W/kg)	0.294 W/kg

15.1 Body Exposure Conditions

<WWAN + WLAN Ant 0>

WWAN Band		Exposure Position	WWAN SAR (W/kg)	2.4GHz WLAN Ant 0 SAR (W/kg)	Summed SAR (W/kg)	SPLSR Results	Case No
GSM	GSM850	Bottom Face at 1 cm	0.944	0.966	**1.91**	0.01	Case 1
		Edge1 at 1 cm	1.040	0.167	**1.21**		
		Bottom Face at 0cm	1.130	0.966	**2.10**	0.01	Case 2
		Edge1 at 0cm	1.225	0.167	**1.39**		
		Edge2 at 0cm	0.142		**0.14**		
	GSM1900	Bottom Face at 1 cm	0.415	0.966	**1.38**		
		Edge1 at 1 cm	0.394	0.167	**0.56**		
		Bottom Face at 0cm	1.249	0.966	**2.22**	0.02	Case 3
		Edge1 at 0cm	0.674	0.167	**0.84**		
		Edge2 at 0cm	0.870		**0.87**		
WCMDA	Band V	Bottom Face at 1 cm	0.423	0.966	**1.39**		
		Edge1 at 1 cm	0.580	0.167	**0.75**		
		Bottom Face at 0cm	1.155	0.966	**2.12**	0.02	Case 4
		Edge1 at 0cm	1.288	0.167	**1.46**		
		Edge2 at 0cm	0.090		**0.09**		
	Band IV	Bottom Face at 1 cm	0.875	0.966	**1.84**	0.01	Case 5
		Edge1 at 1 cm	0.679	0.167	**0.85**		
		Bottom Face at 0cm	1.101	0.966	**2.07**	0.01	Case 6
		Edge1 at 0cm	0.672	0.167	**0.84**		
		Edge2 at 0cm	0.767		**0.77**		
	Band II	Bottom Face at 1 cm	0.518	0.966	**1.48**		
		Edge1 at 1 cm	0.411	0.167	**0.58**		
		Bottom Face at 0cm	1.271	0.966	**2.24**	0.02	Case 7
		Edge1 at 0cm	0.710	0.167	**0.88**		
		Edge2 at 0cm	0.946		**0.95**		
CDMA	BC10	Bottom Face at 1 cm	0.506	0.966	**1.47**		
		Edge1 at 1 cm	0.600	0.167	**0.77**		
		Bottom Face at 0cm	0.966	0.966	**1.93**	0.01	Case 8
		Edge1 at 0cm	1.107	0.167	**1.27**		
		Edge2 at 0cm	0.099		**0.10**		
	BC0	Bottom Face at 1 cm	0.536	0.966	**1.50**		
		Edge1 at 1 cm	0.731	0.167	**0.90**		
		Bottom Face at 0cm	0.945	0.966	**1.91**	0.01	Case 9
		Edge1 at 0cm	1.101	0.167	**1.27**		
		Edge2 at 0cm	0.100		**0.10**		
	BC1	Bottom Face at 1 cm	0.464	0.966	**1.43**		
		Edge1 at 1 cm	0.454	0.167	**0.62**		
		Bottom Face at 0cm	1.289	0.966	**2.26**	0.02	Case 10
		Edge1 at 0cm	0.755	0.167	**0.92**		
		Edge2 at 0cm	1.067		**1.07**		

WWAN Band		Exposure Position	WWAN SAR (W/kg)	2.4GHz WLAN Ant 0 SAR (W/kg)	Summed SAR (W/kg)	SPLSR Results	Case No
LTE	Band 17	Bottom Face at 0cm	0.692	0.966	**1.66**	0.01	Case 11
		Edge1 at 0cm	0.637	0.167	**0.80**		
		Edge2 at 0cm	0.231		**0.23**		
	Band 13	Bottom Face at 1 cm	0.257	0.966	**1.22**		
		Edge1 at 1 cm	0.384	0.167	**0.55**		
		Bottom Face at 0cm	0.882	0.966	**1.85**	0.01	Case 12
		Edge1 at 0cm	1.155	0.167	**1.32**		
		Edge2 at 0cm	0.155		**0.16**		
	Band 5	Bottom Face at 1 cm	0.397	0.966	**1.36**		
		Edge1 at 1 cm	0.468	0.167	**0.64**		
		Bottom Face at 0cm	1.206	0.966	**2.17**	0.02	Case 13
		Edge1 at 0cm	1.293	0.167	**1.46**		
		Edge2 at 0cm	0.101		**0.10**		
	Band 4	Bottom Face at 1 cm	0.848	0.966	**1.81**	0.01	Case 14
		Edge1 at 1 cm	0.989	0.167	**1.16**		
		Bottom Face at 0cm	1.077	0.966	**2.04**	0.01	Case 15
		Edge1 at 0cm	0.728	0.167	**0.90**		
		Edge2 at 0cm	0.650		**0.65**		
	Band 2	Bottom Face at 1 cm	0.481	0.966	**1.45**		
		Edge1 at 1 cm	0.419	0.167	**0.59**		
		Bottom Face at 0cm	1.279	0.966	**2.25**	0.02	Case 16
		Edge1 at 0cm	0.842	0.167	**1.01**		
		Edge2 at 0cm	0.721		**0.72**		
	Band 25	Bottom Face at 1 cm	0.552	0.966	**1.52**		
		Edge1 at 1 cm	0.391	0.167	**0.56**		
		Bottom Face at 0cm	1.252	0.966	**2.22**	0.02	Case 17
		Edge1 at 0cm	0.749	0.167	**0.92**		
		Edge2 at 0cm	0.725		**0.73**		

<WWAN + WLAN Ant 1>

WWAN Band		Exposure Position	WWAN SAR (W/kg)	2.4GHz WLAN Ant 1 SAR (W/kg)	**Summed SAR (W/kg)**	SPLSR Results	Case No
GSM	GSM850	Bottom Face at 1 cm	0.944	0.512	**1.46**		
		Edge1 at 1 cm	1.040		**1.04**		
		Bottom Face at 0cm	1.130	0.512	**1.64**	0.01	Case 18
		Edge1 at 0cm	1.225		**1.23**		
		Edge2 at 0cm	0.142		**0.14**		
	GSM1900	Bottom Face at 1 cm	0.415	0.512	**0.93**		
		Edge1 at 1 cm	0.394		**0.39**		
		Bottom Face at 0cm	1.249	0.512	**1.76**	0.01	Case 19
		Edge1 at 0cm	0.674		**0.67**		
		Edge2 at 0cm	0.870		**0.87**		
WCMDA	Band V	Bottom Face at 1 cm	0.423	0.512	**0.94**		
		Edge1 at 1 cm	0.580		**0.58**		
		Bottom Face at 0cm	1.155	0.512	**1.67**	0.01	Case 20
		Edge1 at 0cm	1.288		**1.29**		
		Edge2 at 0cm	0.090		**0.09**		
	Band IV	Bottom Face at 1 cm	0.875	0.512	**1.39**		
		Edge1 at 1 cm	0.679		**0.68**		
		Bottom Face at 0cm	1.101	0.512	**1.61**	0.01	Case 21
		Edge1 at 0cm	0.672		**0.67**		
		Edge2 at 0cm	0.767		**0.77**		
	Band II	Bottom Face at 1 cm	0.518	0.512	**1.03**		
		Edge1 at 1 cm	0.411		**0.41**		
		Bottom Face at 0cm	1.271	0.512	**1.78**	0.01	Case 22
		Edge1 at 0cm	0.710		**0.71**		
		Edge2 at 0cm	0.946		**0.95**		
CDMA	BC10	Bottom Face at 1 cm	0.506	0.512	**1.02**		
		Edge1 at 1 cm	0.600		**0.60**		
		Bottom Face at 0cm	0.966	0.512	**1.48**		
		Edge1 at 0cm	1.107		**1.11**		
		Edge2 at 0cm	0.099		**0.10**		
	BC0	Bottom Face at 1 cm	0.536	0.512	**1.05**		
		Edge1 at 1 cm	0.731		**0.73**		
		Bottom Face at 0cm	0.945	0.512	**1.46**		
		Edge1 at 0cm	1.101		**1.10**		
		Edge2 at 0cm	0.100		**0.10**		
	BC1	Bottom Face at 1 cm	0.464	0.512	**0.98**		
		Edge1 at 1 cm	0.454		**0.45**		
		Bottom Face at 0cm	1.289	0.512	**1.80**	0.01	Case 23
		Edge1 at 0cm	0.755		**0.76**		
		Edge2 at 0cm	1.067		**1.07**		

WWAN Band		Exposure Position	WWAN SAR (W/kg)	2.4GHz WLAN Ant 1 SAR (W/kg)	**Summed SAR (W/kg)**	SPLSR Results	Case No
LTE	Band 17	Bottom Face at 0cm	0.692	0.512	**1.20**		
		Edge1 at 0cm	0.637		**0.64**		
		Edge2 at 0cm	0.231		**0.23**		
	Band 13	Bottom Face at 1 cm	0.257	0.512	**0.77**		
		Edge1 at 1 cm	0.384		**0.38**		
		Bottom Face at 0cm	0.882	0.512	**1.39**		
		Edge1 at 0cm	1.155		**1.16**		
		Edge2 at 0cm	0.155		**0.16**		
	Band 5	Bottom Face at 1 cm	0.397	0.512	**0.91**		
		Edge1 at 1 cm	0.468		**0.47**		
		Bottom Face at 0cm	1.206	0.512	**1.72**	0.01	Case 24
		Edge1 at 0cm	1.293		**1.29**		
		Edge2 at 0cm	0.101		**0.10**		
	Band 4	Bottom Face at 1 cm	0.848	0.512	**1.36**		
		Edge1 at 1 cm	0.989		**0.99**		
		Bottom Face at 0cm	1.077	0.512	**1.59**		
		Edge1 at 0cm	0.728		**0.73**		
		Edge2 at 0cm	0.650		**0.65**		
	Band 2	Bottom Face at 1 cm	0.481	0.512	**0.99**		
		Edge1 at 1 cm	0.419		**0.42**		
		Bottom Face at 0cm	1.279	0.512	**1.79**	0.01	Case 25
		Edge1 at 0cm	0.842		**0.84**		
		Edge2 at 0cm	0.721		**0.72**		
	Band 25	Bottom Face at 1 cm	0.552	0.512	**1.06**		
		Edge1 at 1 cm	0.391		**0.39**		
		Bottom Face at 0cm	1.252	0.512	**1.76**	0.01	Case 26
		Edge1 at 0cm	0.749		**0.75**		
		Edge2 at 0cm	0.725		**0.73**		

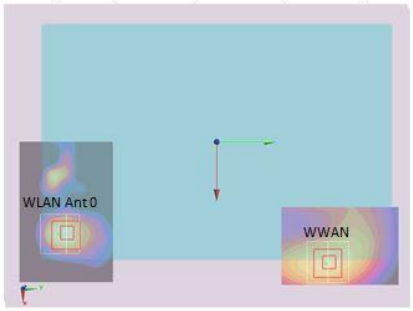
<WWAN + Bluetooth>

WWAN Band		Exposure Position	WWAN SAR (W/kg)	Bluetooth Estimated SAR (W/kg)	**Summed SAR (W/kg)**	SPLSR Results	Case No
GSM	GSM850	Bottom Face at 1 cm	0.944	0.294	**1.24**		
		Edge1 at 1 cm	1.040	0.294	**1.33**		
		Bottom Face at 0cm	1.130	0.294	**1.42**		
		Edge1 at 0cm	1.225	0.294	**1.52**		
		Edge2 at 0cm	0.142	0.294	**0.44**		
	GSM1900	Bottom Face at 1 cm	0.415	0.294	**0.71**		
		Edge1 at 1 cm	0.394	0.294	**0.69**		
		Bottom Face at 0cm	1.249	0.294	**1.54**		
		Edge1 at 0cm	0.674	0.294	**0.97**		
		Edge2 at 0cm	0.870	0.294	**1.16**		
WCMDA	Band V	Bottom Face at 1 cm	0.423	0.294	**0.72**		
		Edge1 at 1 cm	0.580	0.294	**0.87**		
		Bottom Face at 0cm	1.155	0.294	**1.45**		
		Edge1 at 0cm	1.288	0.294	**1.58**		
		Edge2 at 0cm	0.090	0.294	**0.38**		
	Band IV	Bottom Face at 1 cm	0.875	0.294	**1.17**		
		Edge1 at 1 cm	0.679	0.294	**0.97**		
		Bottom Face at 0cm	1.101	0.294	**1.40**		
		Edge1 at 0cm	0.672	0.294	**0.97**		
		Edge2 at 0cm	0.767	0.294	**1.06**		
	Band II	Bottom Face at 1 cm	0.518	0.294	**0.81**		
		Edge1 at 1 cm	0.411	0.294	**0.71**		
		Bottom Face at 0cm	1.271	0.294	**1.57**		
		Edge1 at 0cm	0.710	0.294	**1.00**		
		Edge2 at 0cm	0.946	0.294	**1.24**		
CDMA	BC10	Bottom Face at 1 cm	0.506	0.294	**0.80**		
		Edge1 at 1 cm	0.600	0.294	**0.89**		
		Bottom Face at 0cm	0.966	0.294	**1.26**		
		Edge1 at 0cm	1.107	0.294	**1.40**		
		Edge2 at 0cm	0.099	0.294	**0.39**		
	BC0	Bottom Face at 1 cm	0.536	0.294	**0.83**		
		Edge1 at 1 cm	0.731	0.294	**1.03**		
		Bottom Face at 0cm	0.945	0.294	**1.24**		
		Edge1 at 0cm	1.101	0.294	**1.40**		
		Edge2 at 0cm	0.100	0.294	**0.39**		
	BC1	Bottom Face at 1 cm	0.464	0.294	**0.76**		
		Edge1 at 1 cm	0.454	0.294	**0.75**		
		Bottom Face at 0cm	1.289	0.294	**1.58**		
		Edge1 at 0cm	0.755	0.294	**1.05**		
		Edge2 at 0cm	1.067	0.294	**1.36**		

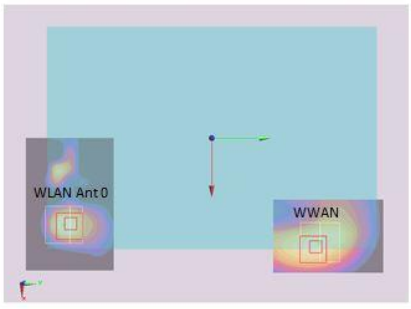
WWAN Band		Exposure Position	WWAN SAR (W/kg)	Bluetooth Estimated SAR (W/kg)	**Summed SAR (W/kg)**	SPLSR Results	Case No
LTE	Band 17	Bottom Face at 0cm	0.692	0.294	**0.99**		
		Edge1 at 0cm	0.637	0.294	**0.93**		
		Edge2 at 0cm	0.231	0.294	**0.53**		
	Band 13	Bottom Face at 1 cm	0.257	0.294	**0.55**		
		Edge1 at 1 cm	0.384	0.294	**0.68**		
		Bottom Face at 0cm	0.882	0.294	**1.18**		
		Edge1 at 0cm	1.155	0.294	**1.45**		
		Edge2 at 0cm	0.155	0.294	**0.45**		
	Band 5	Bottom Face at 1 cm	0.397	0.294	**0.69**		
		Edge1 at 1 cm	0.468	0.294	**0.76**		
		Bottom Face at 0cm	1.206	0.294	**1.50**		
		Edge1 at 0cm	1.293	0.294	**1.59**		
		Edge2 at 0cm	0.101	0.294	**0.40**		
	Band 4	Bottom Face at 1 cm	0.848	0.294	**1.14**		
		Edge1 at 1 cm	0.989	0.294	**1.28**		
		Bottom Face at 0cm	1.077	0.294	**1.37**		
		Edge1 at 0cm	0.728	0.294	**1.02**		
		Edge2 at 0cm	0.650	0.294	**0.94**		
	Band 2	Bottom Face at 1 cm	0.481	0.294	**0.78**		
		Edge1 at 1 cm	0.419	0.294	**0.71**		
		Bottom Face at 0cm	1.279	0.294	**1.57**		
		Edge1 at 0cm	0.842	0.294	**1.14**		
		Edge2 at 0cm	0.721	0.294	**1.02**		
	Band 25	Bottom Face at 1 cm	0.552	0.294	**0.85**		
		Edge1 at 1 cm	0.391	0.294	**0.69**		
		Bottom Face at 0cm	1.252	0.294	**1.55**		
		Edge1 at 0cm	0.749	0.294	**1.04**		
		Edge2 at 0cm	0.725	0.294	**1.02**		

15.2 SPLSR Evaluation and Analysis

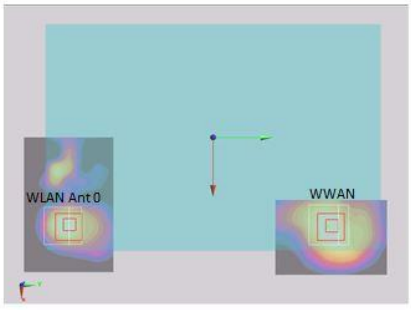
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 1	GSM850	Bottom Face	0.944	1	0.0925	0.0855	-0.18	202.7	1.91	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



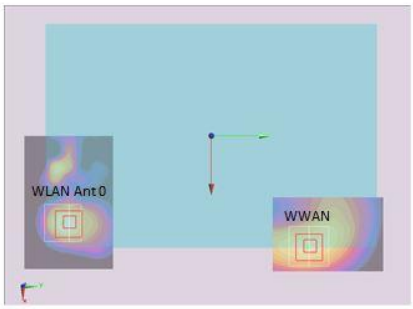
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 2	GSM850	Bottom Face	1.130	0	0.085	0.0885	-0.179	205.0	2.10	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



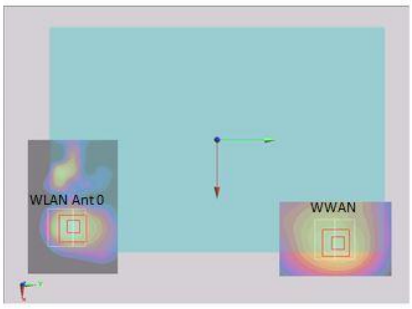
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 3	GSM1900	Bottom Face	1.249	0	0.07	0.101	-0.18	217.0	2.22	0.02	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



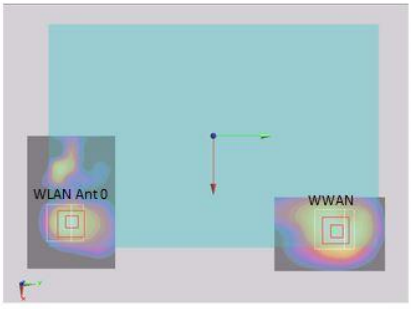
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 4	WCDMA V	Bottom Face	1.155	0	0.0895	0.0795	-0.179	196.4	2.12	0.02	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



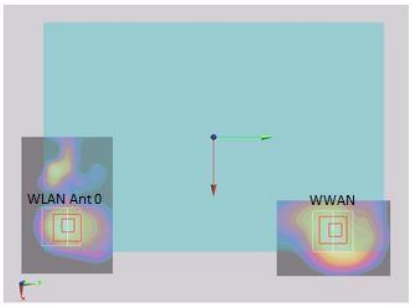
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 5	WCDMA IV	Bottom Face	0.875	1	0.0805	0.0945	-0.18	210.7	1.84	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



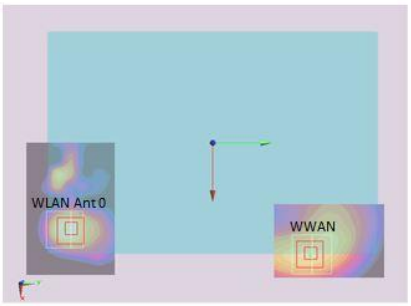
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 6	WCDMA IV	Bottom Face	1.101	0	0.084	0.107	-0.178	223.4	2.07	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



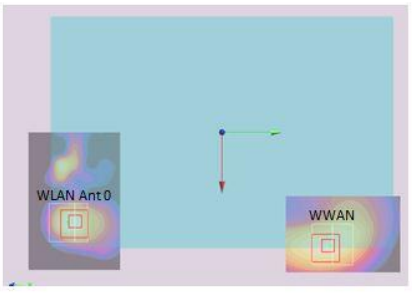
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 7	WCDMA II	Bottom Face	1.271	0	0.0745	0.0945	-0.179	210.5	2.24	0.02	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



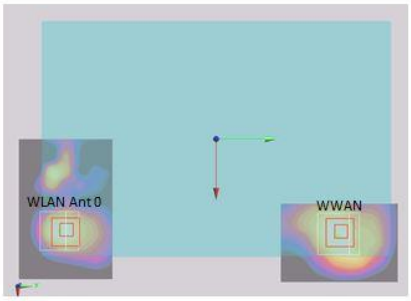
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 8	CDMA BC10	Bottom Face	0.966	0	0.091	0.081	-0.179	198.0	1.93	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



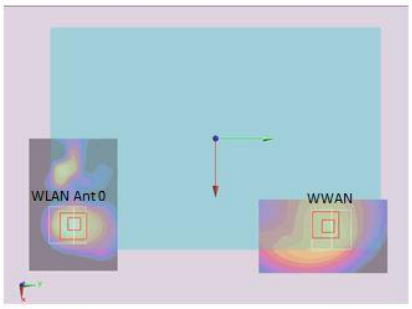
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 9	CDMA BC0	Bottom Face	0.945	0	0.088	0.087	-0.179	203.7	1.91	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



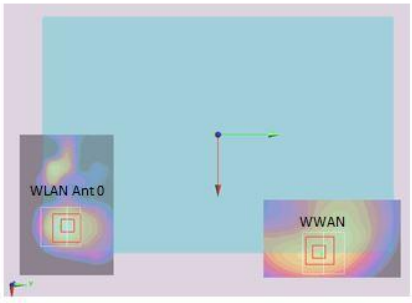
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 10	CDMA BC1	Bottom Face	1.289	0	0.073	0.103	-0.179	219.0	2.26	0.02	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



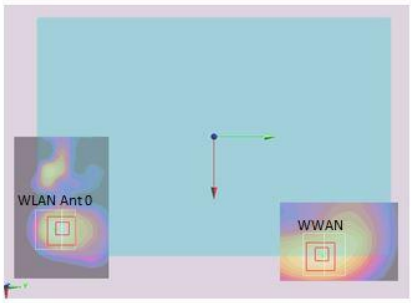
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 11	LTE Band 17	Bottom Face	0.692	0	0.0745	0.0945	-0.18	210.5	1.66	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



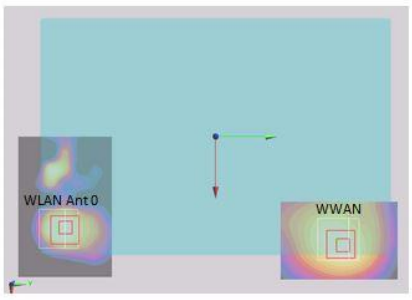
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 12	LTE Band 5	Bottom Face	0.882	0	0.091	0.081	-0.179	198.0	1.85	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



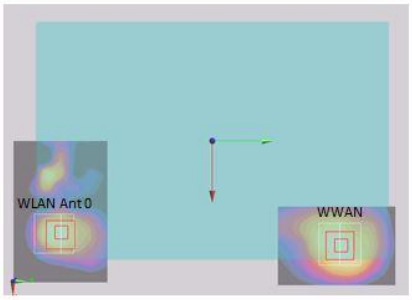
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 13	LTE Band 5	Bottom Face	1.206	0	0.0895	0.084	-0.179	200.9	2.17	0.02	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



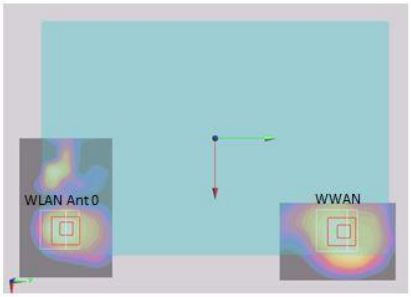
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 14	LTE Band 4	Bottom Face	0.848	0	0.087	0.103	-0.18	219.6	1.81	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



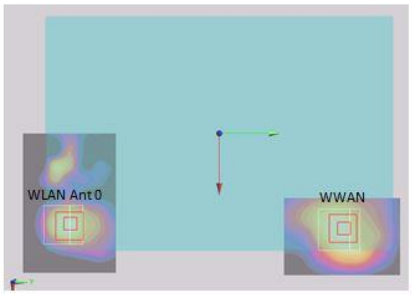
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 15	LTE Band 4	Bottom Face	1.077	0	0.079	0.0975	-0.179	213.7	2.04	0.01	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



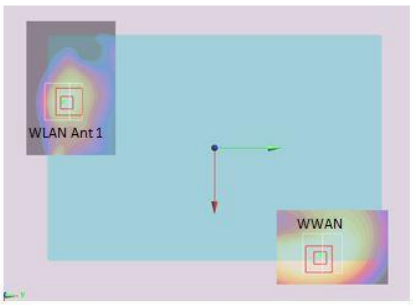
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 16	LTE Band 2	Bottom Face	1.279	0	0.0715	0.103	-0.179	219.0	2.25	0.02	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



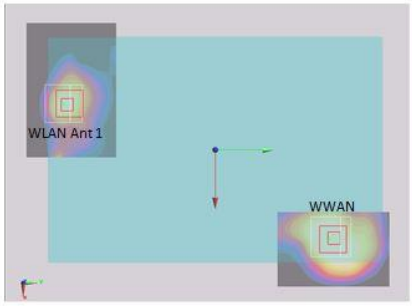
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 17	LTE Band 25	Bottom Face	1.252	0	0.0745	0.101	-0.179	217.0	2.22	0.02	Not required
	WLAN 2.4GHz		0.966	0	0.0708	-0.116	-0.179				



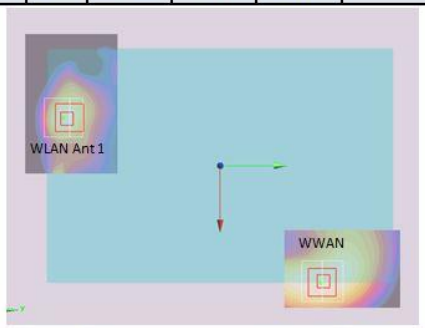
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 18	GSM850	Bottom Face	1.13	0	0.085	0.0885	-0.179	239.1	1.64	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



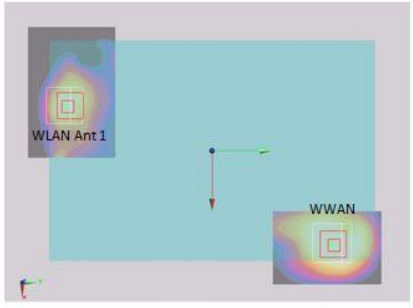
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 19	GSM1900	Bottom Face	1.249	0	0.07	0.101	-0.18	242.9	1.76	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



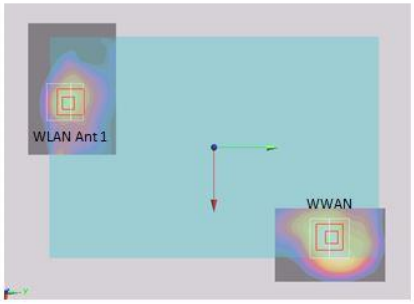
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 20	WCDMA V	Bottom Face	1.155	0	0.0895	0.0795	-0.179	233.8	1.67	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



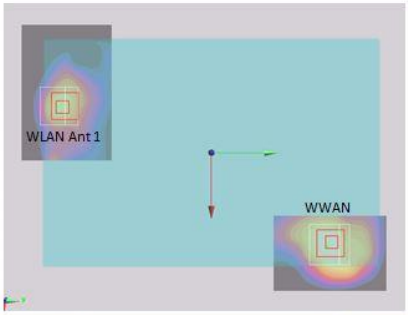
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 21	WCDMA IV	Bottom Face	1.101	0	0.084	0.107	-0.178	254.7	1.61	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



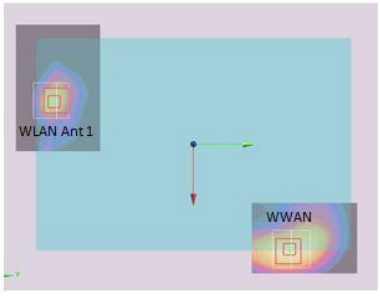
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 22	WCDMA II	Bottom Face	1.271	0	0.0745	0.0945	-0.179	239.2	1.78	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



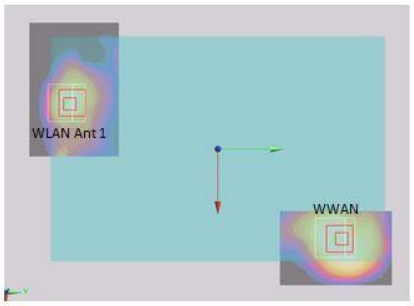
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 23	CDMA BC1	Bottom Face	1.289	0	0.073	0.103	-0.179	246.1	1.80	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



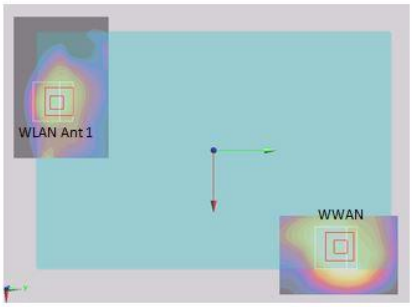
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 24	LTE Band 5	Bottom Face	1.206	0	0.0895	0.084	-0.179	237.6	1.72	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



Case 25	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
	LTE Band 2	Bottom Face	1.279	0	0.0715	0.103	-0.179	245.4	1.79	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



Case 26	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
	LTE Band 25	Bottom Face	1.252	0	0.0745	0.101	-0.179	245.0	1.76	0.01	Not required
	WLAN 2.4GHz		0.512	0	-0.0372	-0.117	-0.179				



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16. Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[(a)]	1/k[(b)]	1/√3	1/√6	1/√2

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Table 16.1. Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)
Measurement System							
Probe Calibration	6.0	Normal	1	1	1	± 6.0 %	± 6.0 %
Axial Isotropy	4.7	Rectangular	√3	0.7	0.7	± 1.9 %	± 1.9 %
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	0.7	± 3.9 %	± 3.9 %
Boundary Effects	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Linearity	4.7	Rectangular	√3	1	1	± 2.7 %	± 2.7 %
System Detection Limits	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Readout Electronics	0.3	Normal	1	1	1	± 0.3 %	± 0.3 %
Response Time	0.8	Rectangular	√3	1	1	± 0.5 %	± 0.5 %
Integration Time	2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %
RF Ambient Noise	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
RF Ambient Reflections	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
Probe Positioner	0.4	Rectangular	√3	1	1	± 0.2 %	± 0.2 %
Probe Positioning	2.9	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
Max. SAR Eval.	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Test Sample Related							
Device Positioning	2.9	Normal	1	1	1	± 2.9 %	± 2.9 %
Device Holder	3.6	Normal	1	1	1	± 3.6 %	± 3.6 %
Power Drift	5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %
Phantom and Setup							
Phantom Uncertainty	4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %
Liquid Conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %
Liquid Conductivity (Meas.)	2.5	Normal	1	0.64	0.43	± 1.6 %	± 1.1 %
Liquid Permittivity (Target)	5.0	Rectangular	√3	0.6	0.49	± 1.7 %	± 1.4 %
Liquid Permittivity (Meas.)	2.5	Normal	1	0.6	0.49	± 1.5 %	± 1.2 %
Combined Standard Uncertainty						± 11.0 %	± 10.8 %
Coverage Factor for 95 %						K=2	
Expanded Uncertainty						**± 22.0 %**	**± 21.5 %**

Table 16.2. Uncertainty Budget for frequency range 300 MHz to 3 GHz

17. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, December 2003

[4] SPEAG DASY System Handbook

[5] FCC KDB 447498 D01 v05r02, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Feb 2014

[6] FCC KDB 941225 D01 v02, “SAR Measurement Procedures for 3G Devices – CDMA 2000 / Ev-Do / WCDMA / HSDPA / HSPA”, October 2007

[7] FCC KDB 941225 D02 v02r02, “SAR Guidance for HSPA, HSPA+, DC-HSDPA and 1x-Advanced”, May 2013.

[8] FCC KDB 941225 D03 v01, “Recommended SAR Test Reduction Procedures for GSM / GPRS / EDGE”, December 2008

[9] FCC KDB 941225 D05 v02r03, “SAR Evaluation Considerations for LTE Devices”, Dec 2013

[10] FCC KDB 616217 D04 v01r01, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, May 2013

[11] FCC KDB 865664 D01 v01r03, "SAR Measurement Requirements for 100 MHz to 6 GHz", Feb 2014.

[12] FCC KDB 865664 D02 v01r01, “RF Exposure Compliance Reporting and Documentation Considerations” May 2013.