SAR TEST REPORT

No. 25T04Z100217-019

For

TCL Communication Ltd.

GSM/UMTS/LTE mobile phone

Model Name: T517F

with

Hardware Version: 05

Software Version: 3A4G

FCC ID: 2ACCJB237

Issued Date: 2025-3-28

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
25T04Z100217-019	Rev.0	2025-3-28	Initial creation of test report

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1 Test Laboratory

1.1 Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2 Testing Location

Location 1: CTTL(Huayuan North Road)
Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

1.3 Testing Environment

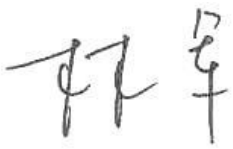
Normal Temperature:	15-35℃
Extreme Temperature:	-10/+55℃
Relative Humidity:	20-75%

1.4 Project data

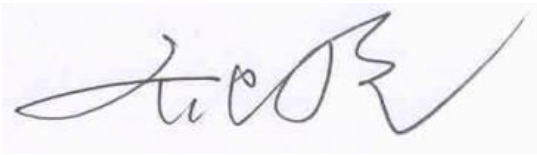
Testing Start Date:	2025-3-12
Testing End Date:	2025-3-22

1.5 Signature

Yao Juming
(Prepared this test report)



Lin Jun
(Reviewed this test report)



Qi Dianyuan
Deputy Director of the laboratory
(Approved this test report)

2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for TCL Communication Ltd. GSM/UMTS/LTE mobile phone T517F is as follows:

Table 2.1: Highest Reported SAR

Technology Band	Head SAR(1g)	Body-Worn SAR(1g)	Hotspot SAR(1g)	Phablet SAR(10g)	Equipment Class
GSM850	**1.15**	**0.38**	**0.52**	\	PCE
PCS 1900	**0.12**	**0.73**	**1.11**	\	
UMTS FDD 2	**0.17**	**0.72**	**0.87**	\	
UMTS FDD 4	**0.17**	**0.61**	**0.61**	\	
UMTS FDD 5	**0.70**	**0.25**	**0.38**	\	
LTE B2	**0.13**	**0.37**	**0.59**	\	
LTE B7	**0.19**	**0.55**	**0.55**	\	
LTE B12(B17)	**0.37**	**0.21**	**0.21**	\	
LTE B13	**0.61**	**0.31**	**0.31**	\	
LTE B26(B5)	**0.49**	**0.16**	**0.24**	\	
LTE B41(B38)	**0.09**	**0.59**	**0.59**	\	
LTE B66(B4)	**0.11**	**0.42**	**0.47**	\	
WLAN 2.4G	**0.30**	**0.11**	**0.16**	\	DTS
WLAN 5G	**0.38**	**0.24**	**0.46**	\	NII
BT	**0.09**	**0.01**	**0.01**	\	DSS

Note1：

This device supports both LTE B4/B5/B17/B38, and LTE B66/B26/B12/B41. Since the supported frequency span for LTE B4/B5/B17/B38 falls completely within the supports frequency span for LTE B66/B26/B12/B41, both bands have the same target power, and both bands share the same transmission path; therefore, SAR was only assessed for LTE B66/B26/B12/B41.

The SAR values found for the Mobile Phone are below the maximum recommended levels of 1.6 W/kg as averaged over any 1g tissue according to the ANSI C95.1-1992.

For body operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 10 mm between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

The measurement together with the test system set-up is described in annex C of this test report. A detailed description of the equipment under test can be found in chapter 4 of this test report. The highest reported SAR value is obtained at the case of **(Table 2.1),** and the values are**:**

Head: 1.15 W/kg (1g)

Body-worn: 0.73 W/kg (1g)

Hotspot: 1.11 W/kg (1g)

Table 2.2: The sum of SAR values for Main antenna + WIFI2.4G

	Position	Main antenna	WIFI2.4G	Sum
Highest SAR value for Head	Right head, Tilt (GSM850)	1.15	0.12	**1.27**
Highest SAR value for Body	Bottom 10mm (GSM1900)	1.11	<0.01	**1.11**

Note: VoLTE or pre-installed VOIP applications are considered.

Table 2.3: The sum of SAR values for Main antenna+WIFI5G+BT

	Position	Main antenna	WIFI5G	BT	Sum
Highest SAR value for Head	Right head, Tilt (GSM850)	1.15	0.14	0.04	**1.33**
Highest SAR value for Body	Bottom 10mm (GSM1900)	1.11	<0.01	<0.01	**1.11**

Note: VoLTE or pre-installed VOIP applications are considered.

Conclusion:

According to the above tables, the sum of reported SAR values is<1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

According to the above tables, the highest sum of reported SAR values is **1.33 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

3 Client Information

3.1 Applicant Information

Company Name:	TCL Communication Ltd.
Address/Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact Person:	Ting Wang
Contact Email:	ting.wang.hz@tcl.com
Telephone:	+86 752 2639091
Fax:	N/A

3.2 Manufacturer Information

Company Name:	TCL Communication Ltd.
Address/Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact Person:	Ting Wang
Contact Email:	ting.wang.hz@tcl.com
Telephone:	+86 752 2639091
Fax:	N/A

4 Equipment Under Test (EUT) and Ancillary Equipment (AE)

4.1 About EUT

Description:	GSM/UMTS/LTE mobile phone
Model name:	T517F
Operating mode(s):	GSM 850/900/1800/1900 WCDMA B1/B2/B4/B5/B8 LTE Band 1/2/3/4/5/7/8/12/13/17/20/26/28/38/40/41/66 BT, Wi-Fi2.4G/5G
Tested Tx Frequency:	824 – 849 MHz (GSM 850)
	1850 – 1910 MHz (GSM 1900)
	824 – 849 MHz (WCDMA 850 Band V)
	1850 – 1910 MHz (WCDMA1900 Band II)
	1710-1755 MHz (WCDMA1700 Band IV)
	1850 – 1910 MHz(LTE Band 2)
	2500 – 2570 MHz (LTE Band 7)
	699 – 716 MHz (LTE Band 12)
	777 – 787 MHz (LTE Band 13)
	814 – 849 MHz (LTE Band 26)
	2496 – 2690 MHz (LTE Band41)
	1710 –1780 MHz (LTE Band 66)
	2412 – 2462 MHz (Wi-Fi 2.4G)
	2400 – 2483.5 MHz (Bluetooth)
	5180 – 5240 MHz (Wi-Fi 5.2G)
	5260 – 5320 MHz (Wi-Fi 5.3G)
	5500 – 5700 MHz (Wi-Fi 5.5G)
	5745 – 5825 MHz (Wi-Fi 5.8G)
GPRS/EGPRS Multislot Class:	12
Test device production information:	Production unit
Device type:	Portable device
Antenna type:	Integrated antenna
Hotspot mode:	Support

4.2 Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
EUT1	356956250000919/356956250000927	05	3A4G
EUT2	356956250000893/356956250000901	05	3A4G
EUT3	356956250000455/356956250000463	05	3A4G
EUT4	356956250000497/356956250000505	05	3A4G
EUT5	356956250000745/356956250000737	05	3A4G

*EUT ID: is used to identify the test sample in the lab internally.

Note: It is performed to test SAR with the EUT1~4 and conducted power with the EUT5.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	TLp050C7	/	Dongguan Veken Battery Co., Ltd.
AE2	Battery	TLp050CB	/	Shenzhen Aerospace Electronic Co., Ltd.

*AE ID: is used to identify the test sample in the lab internally.

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

ANSI C95.1–1992:IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

5.2 Applicable Measurement Standards

IEEE Std 1528:2013: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

KDB447498 D01: General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

KDB648474 D04 Handset SAR v01r03: SAR Evaluation Considerations for Wireless Handsets.

KDB941225 D01 SAR test for 3G devices v03r01: SAR Measurement Procedures for 3G Devices

KDB941225 D05 SAR for LTE Devices v02r05: SAR Evaluation Considerations for LTE Devices

KDB941225 D06 Hotspot Mode SAR v02r01: SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

KDB248227 D01 802.11 Wi-Fi SAR v02r02: SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

KDB865664 D02 RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations

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:

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

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be either related to the temperature elevation in tissue by

$$SAR = c\left(\frac{\delta T}{\delta t}\right)$$

Where: C is the specific head capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

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

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

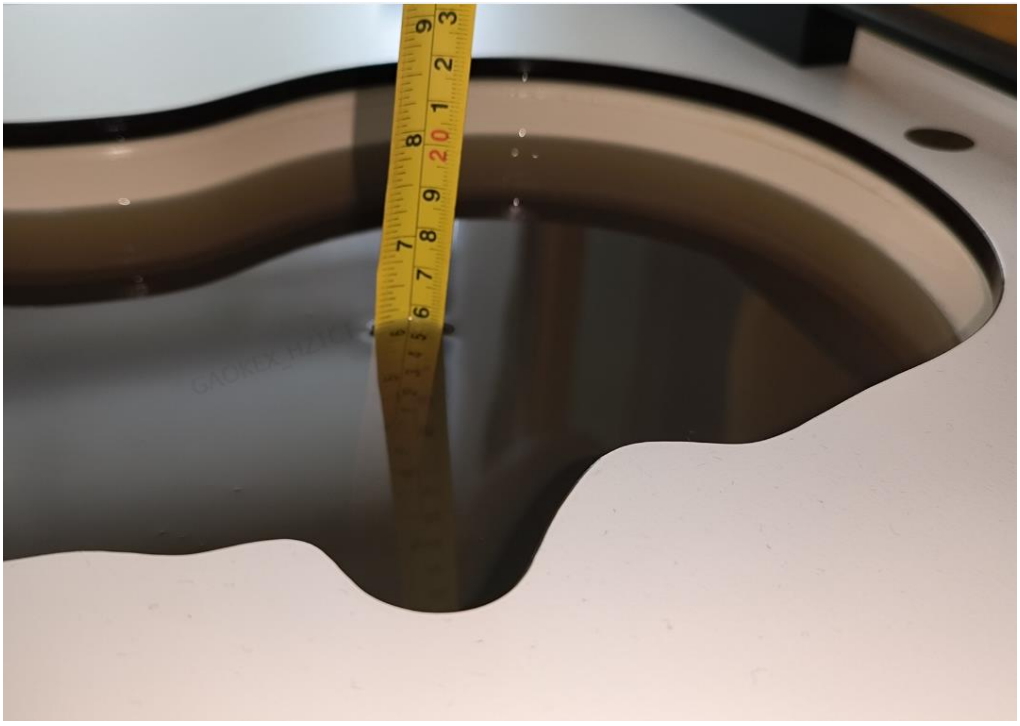
Frequency(MHz)	Liquid Type	Conductivity(σ)	± 5%Range	Permittivity(ε)	± 5%Range
750	Head	0.89	0.85～0.93	41.94	39.8～44.0
900	Head	0.97	0.92～1.02	41.50	39.40～43.60
1800	Head	1.40	1.33～1.47	40.00	38.00～42.00
1900	Head	1.40	1.33～1.47	40.00	38.00～42.00
2450	Head	1.80	1.71～1.89	39.20	37.30～41.10
2600	Head	1.96	1.86～2.06	39.01	37.06～40.96
5250	Head	4.71	4.47～4.95	35.93	34.13～37.73
5600	Head	5.07	4.82～5.32	35.53	33.8～37.3
5750	Head	5.22	4.96～5.48	35.36	33.59～37.13

7.2 Dielectric Performance

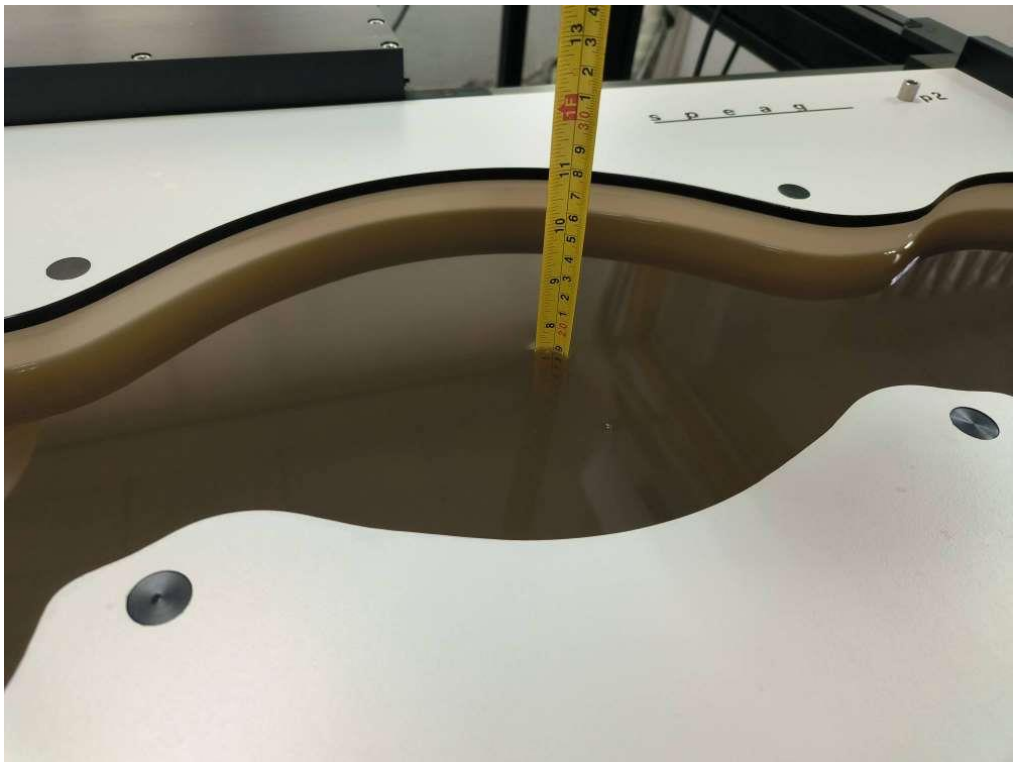
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date yyyy/mm/dd	Frequency	Type	Permittivity ε	Drift	Conductivity σ (S/m)	Drift
2025-3-16	750MHz	Head	40.856	-2.58%	0.917	3.03%
2025-3-12	835MHz	Head	41.03	-1.13%	0.894	-0.67%
2025-3-13	1800MHz	Head	40.576	1.44%	1.41	0.71%
2025-3-15	1900MHz	Head	38.76	-3.10%	1.366	-2.43%
2025-3-17	2450MHz	Head	39.543	0.87%	1.761	-2.17%
2025-3-18	2600MHz	Head	39.32	0.79%	1.94	-1.02%
2025-3-20	5250 MHz	Head	36.745	2.27%	4.65	-1.27%
2025-3-21	5600 MHz	Head	36.462	2.62%	4.919	-2.98%
2025-3-22	5750 MHz	Head	36.321	2.72%	5.205	-0.29%

Note: The liquid temperature is 22.0℃



Picture 7.1: Liquid depth in the Head Phantom

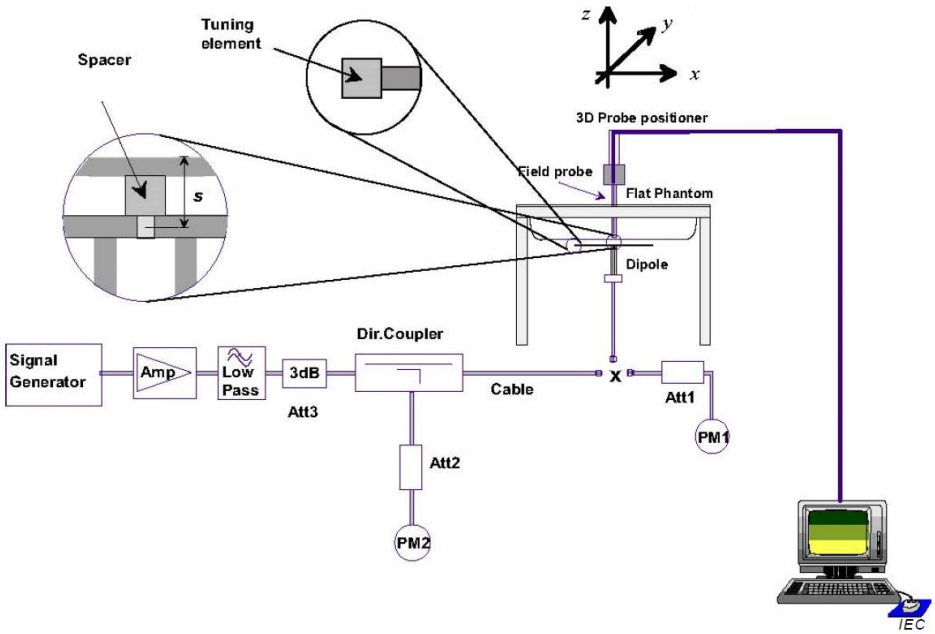


Picture 7.2 Liquid depth in the Flat Phantom

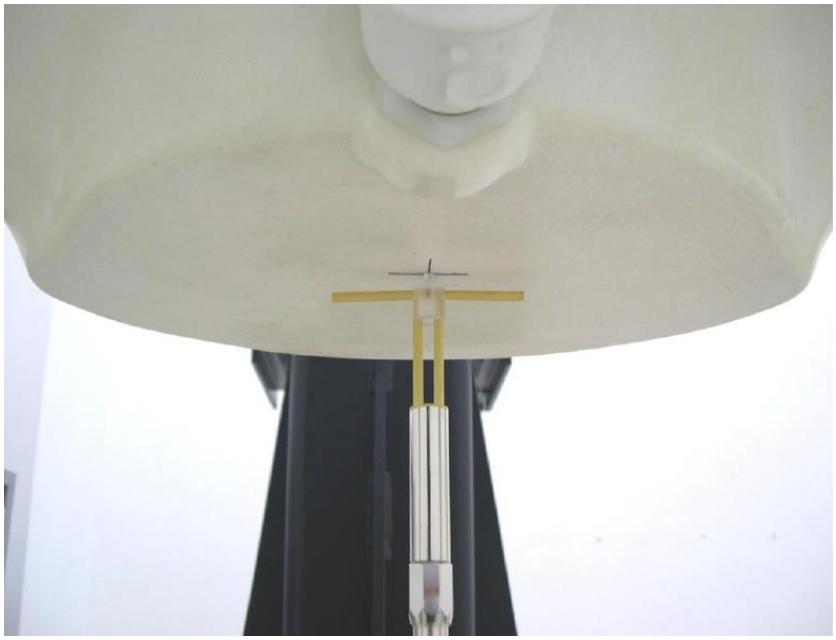
8 System verification

8.1 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

8.2 System Verification

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device.

The system verification results are required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR. The details are presented in annex B.

Table 8.1: System Verification of Head

Measurement Date	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
(yyyy-mm-dd)		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2025-3-16	750MHz	5.53	8.52	5.4	8.32	-2.35%	-2.35%
2025-3-12	835MHz	6.09	9.47	5.88	9.16	-3.45%	-3.27%
2025-3-13	1800MHz	20.6	39.1	20.72	39.24	0.58%	0.36%
2025-3-15	1900MHz	20.6	39.1	20.44	38.8	-0.78%	-0.77%
2025-3-17	2450MHz	24.5	52.2	25	53.44	2.04%	2.38%
2025-3-18	2600MHz	24.8	54.9	25	55.32	0.81%	0.77%
2025-3-20	5250 MHz	22.4	78.3	22.5	78.7	0.45%	0.51%
2025-3-21	5600 MHz	23.2	81.7	23	81.2	-0.86%	-0.61%
2025-3-22	5750 MHz	22.8	79.9	22.3	78.1	-2.19%	-2.25%

9 Measurement Procedures

9.1 Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in picture 9.1.

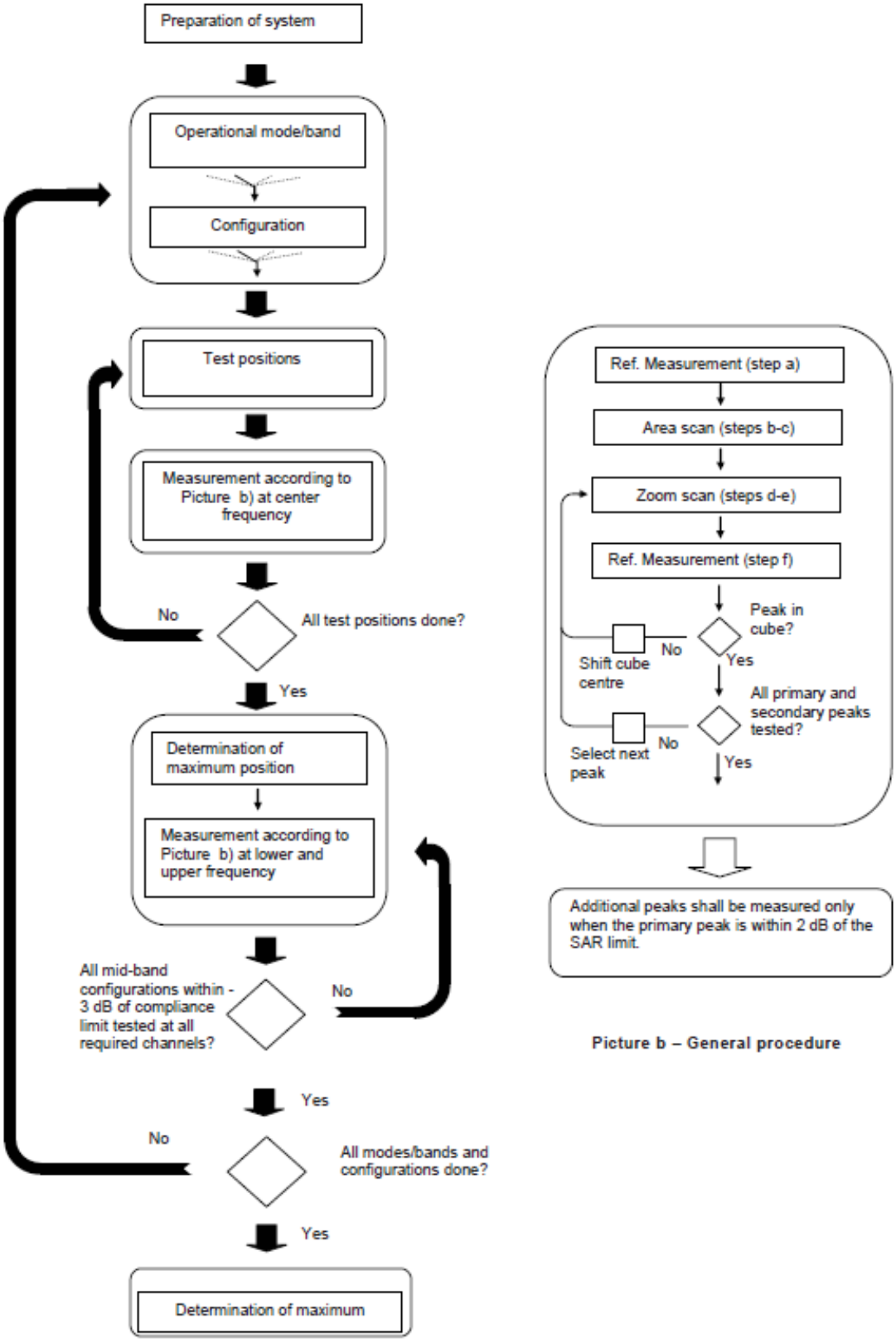
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
b) all configurations for each device position in a), e.g., antenna extended and retracted, and
c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

If more than three frequencies need to be tested according to 11.1 (i.e., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing highest peak spatial-average SAR determined in Step 1,perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

Step 3: Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.



Picture 9.1Block diagram of the tests to be performed

9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2003. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">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 <u>reported</u> 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.</td></tr>
</table>

9.3 WCDMA Measurement Procedures for SAR

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & DPDCH$_n$), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

For Release 5 HSDPA Data Devices:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}	CM/dB
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15	15/15	64	12/15	24/25	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

For Release 6 HSPA Data Devices

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	1.5	1.5	20	75
2	6/15	15/15	64	6/15	12/15	12/15	12/15	4	1	1.5	1.5	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	1.5	1.5	15	92
4	2/15	15/15	64	2/15	4/15	4/15	56/75	4	1	1.5	1.5	17	71
5	15/15	15/15	64	15/15	24/15	30/15	134/15	4	1	1.5	1.5	21	81

Rel.8 DC-HSDPA (Cat 24)

SAR test exclusion for Rel.8 DC-HSDPA must satisfy the SAR test exclusion requirements of Rel.5 HSDPA. SAR test exclusion for DC-HSDPA devices is determined by power measurements according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to qualify for SAR test exclusion.

9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Rchwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.

It is performed for conducted power and SAR based on the KDB941225 D05.

SAR is evaluated separately according to the following procedures for the different test positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

1) QPSK with 1 RB allocation

   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 among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

2) QPSK with 50% RB allocation

   The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

3) QPSK with 100% RB allocation

   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 in 1) and 2) 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.

TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.

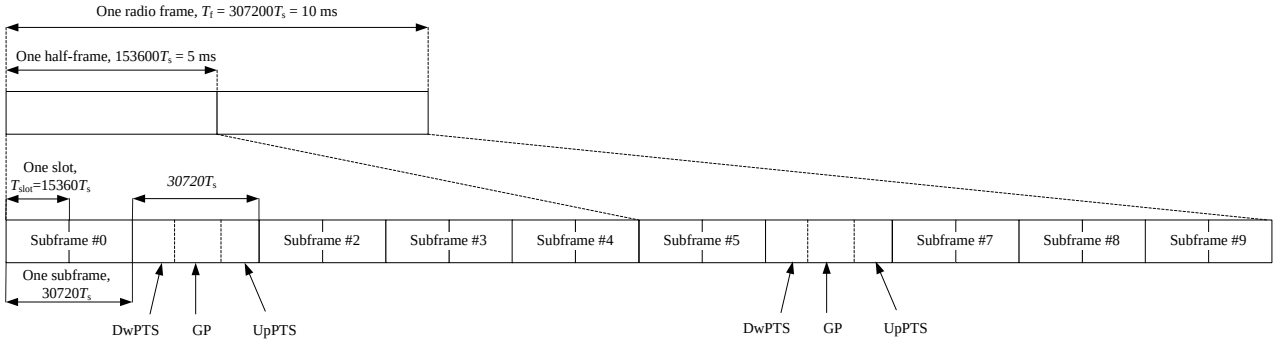


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

Table 9.1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Table 9.2: Uplink-downlink configurations

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Duty factor is calculated by:

Duty factor = uplink frame*6+UpPTS*2/one frame length

= (30720.T_s * 6+5120. T_s*2)/307200.T_s

= 0.633

9.5 Bluetooth & Wi-Fi Measurement Procedures for SAR

Normal network operating configurations are not suitable for measuring the SAR of 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

9.6 Power Drift

To control the output power stability during the SAR test, DASY5 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

10 Area Scan Based 1-g SAR

10.1 Requirement of KDB

According to the KDB447498 D01, when the implementation is based the specific polynomial fit algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-gSAR is ≤ 1.2 W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. The SAR system verification must also demonstrate that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR (See Annex B). When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

10.2 Fast SAR Algorithms

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz)and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 55wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm mare 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

Both algorithms are implemented in DASY software.

11 Conducted Output Power

Table 11: Summary of Receiver detection mechanism-Main antenna

Antenna	**Receiver on** (head scenario)	**Receiver off** (body scenario)
Main Antenna	DSI1	DSI2

11.1 GSM Measurement result

Table 11.1-1: The conducted power measurement results–GSM850 (DSI1/2)

GSM 850 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.52	32.48	32.41	33.50	/	/	/	/
GSM 850 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.55	32.39	32.30	33.50	-9.03	23.52	23.36	23.27
2 Txslots	31.76	31.66	31.55	32.00	-6.02	25.74	25.64	25.53
3 Txslots	29.95	29.84	29.71	30.00	-4.26	25.69	25.58	25.45
4 Txslots	28.82	28.71	28.67	29.50	-3.01	25.81	25.70	25.66
GSM 850 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.38	32.32	32.25	33.50	-9.03	23.35	23.29	23.22
2 Txslots	31.66	31.60	31.51	32.00	-6.02	25.64	25.58	25.49
3 Txslots	29.87	29.78	29.67	30.00	-4.26	25.61	25.52	25.41
4 Txslots	28.75	28.66	28.66	29.50	-3.01	25.74	25.65	25.65
GSM 850 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	26.03	25.98	25.99	27.00	-9.03	17.00	16.95	16.96
2 Txslots	24.53	24.59	24.55	25.50	-6.02	18.51	18.57	18.53
3Txslots	22.70	22.73	22.69	23.50	-4.26	18.44	18.47	18.43
4 Txslots	21.88	22.11	21.84	23.00	-3.01	18.87	19.10	18.83

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

Table 11.1-2: The conducted power measurement results-GSM1900 (DSI1/2)

PCS1900 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.16	29.45	29.63	30.00	/	/	/	/
PCS1900 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.51	28.69	28.72	30.00	-9.03	19.48	19.66	19.69
2 Txslots	27.69	27.86	28.04	29.00	-6.02	21.67	21.84	22.02
3 Txslots	25.72	25.77	25.65	27.00	-4.26	21.46	21.51	21.39
4 Txslots	24.41	24.45	24.37	26.00	-3.01	21.40	21.44	21.36
PCS1900 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.64	28.75	28.99	30.00	-9.03	19.61	19.72	19.96
2 Txslots	27.64	27.98	28.20	29.00	-6.02	21.62	21.96	22.18
3 Txslots	25.64	25.86	26.04	27.00	-4.26	21.38	21.60	21.78
4 Txslots	24.59	24.78	24.95	26.00	-3.01	21.58	21.77	21.94
PCS1900 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.37	25.07	25.09	26.00	-9.03	16.34	16.04	16.06
2 Txslots	24.19	23.73	23.65	25.00	-6.02	18.17	17.71	17.63
3Txslots	21.95	21.45	21.49	22.50	-4.26	17.69	17.19	17.23
4 Txslots	20.54	20.33	20.53	22.00	-3.01	17.53	17.32	17.52

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

11.2 WCDMA Measurement result

Table 11.2-1: The conducted Power for WCDMA B2 (DSI1)

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	21.55	21.89	21.51	23.00
HSUPA	18.93	19.26	19.08	20.00
	19.11	18.76	18.71	20.00
	19.92	19.80	19.67	21.00
	18.45	18.07	18.10	19.50
	20	19.67	19.68	21.00
HSPA+	21.58	21.37	21.54	22.50
DC-HSDPA	19.38	19.45	19.57	21.00
	21.01	20.68	20.82	22.00
	20.49	20.42	20.26	21.50
	20.36	20.38	20.46	21.00

Table 11.2-2: The conducted Power for WCDMA B2 (DSI2)

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	19.71	19.57	19.49	20.50
HSUPA	19.18	19.10	19.15	20.00
	19.62	19.63	19.62	20.50
	18.79	18.82	18.78	20.00
	19.48	19.52	19.52	20.50
	18.81	18.78	18.76	20.00
HSPA+	19.64	19.71	19.62	20.50
DC-HSDPA	18.57	18.52	18.53	19.50
	18.71	18.76	18.80	19.50
	18.25	18.23	18.20	19.50
	18.38	18.28	18.21	19.50

Table 11.2-3: The conducted Power for WCDMA B4 (DSI1)

WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	22.16	22.17	22.14	23.00
HSUPA	19.99	20.48	20.09	21.00
	19.85	19.95	19.69	21.00
	20.91	20.95	20.67	22.00
	19.2	19.47	19.21	20.50
	20.77	20.46	20.64	21.50
HSPA+	21.57	21.82	21.69	22.50
DC-HSDPA	19.81	19.81	19.96	21.00
	20.85	21.37	21.02	22.00
	20.55	20.32	20.47	21.50
	20.36	20.40	20.46	21.00

Table 11.2-4: The conducted Power for WCDMA B4 (DSI2)

WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	19.67	19.61	19.58	20.50
HSUPA	19.03	19.02	19.01	20.00
	19.5	19.46	19.36	20.50
	18.56	18.58	18.53	19.50
	19.5	19.53	19.56	20.50
	18.49	18.46	18.50	19.50
HSPA+	19.56	19.65	19.62	20.50
DC-HSDPA	19.74	19.68	19.60	20.50
	19.03	19.11	19.05	20.00
	18.51	18.46	18.44	19.50
	18.26	18.34	18.29	19.50

Table 11.2-5: The conducted Power for WCDMA B5 (DSI1/2)

WCDMA850	FDDV result (dBm)			Tune up
	4233/4458	4183/4408	4132/4357	
	(846.6MHz)	(836.6MHz)	(826.4MHz)	
	23.99	23.65	23.78	24.50
HSUPA	20.82	20.88	21.01	21.50
	20.86	21.25	20.93	21.50
	21.99	21.80	21.89	22.50
	20.41	20.38	20.45	21.50
	22.05	22.10	22.16	23.00
HSPA+	22.77	23.03	22.67	24.00
DC-HSDPA	21.81	21.91	21.92	23.50
	21.85	22.27	21.87	23.50
	21.64	21.57	21.45	23.00
	21.39	21.33	21.38	23.00

11.3 LTE Measurement result

Maximum Target Power for Production Unit

Band	Tune up (dBm)	
	Receiver on (head scenario)	**Receiver off** (body scenario)
	DSI1	DSI2
LTE B2	24.5	20
LTE B7	24.5	19.5
LTE B12	25	25
LTE B13	25	25
LTE B26	25	25
LTE B41	24.5	24.5
LTE B66	24	20

Maximum Power Reduction (MPR) for LTE

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	3
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	3

LTE B2 (DSI1)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1909.3 (19193)	23.42	22.08	21.08
		1880 (18900)	22.98	22.23	21.19
		1850.7 (18607)	23.02	22.31	21.23
	1RB-Middle (3)	1909.3 (19193)	23.51	22.31	21.20
		1880 (18900)	23.13	22.39	21.29
		1850.7 (18607)	23.12	22.33	21.29
	1RB-Low (0)	1909.3 (19193)	23.03	22.16	21.13
		1880 (18900)	22.98	22.29	21.22
		1850.7 (18607)	23.00	22.28	21.20
	3RB-High (3)	1909.3 (19193)	23.06	21.97	21.10
		1880 (18900)	23.09	22.11	21.24
		1850.7 (18607)	23.14	22.05	21.15
	3RB-Middle (1)	1909.3 (19193)	23.09	21.98	21.17
		1880 (18900)	23.14	22.13	21.25
		1850.7 (18607)	23.19	22.19	21.23
	3RB-Low (0)	1909.3 (19193)	23.09	21.96	21.16
		1880 (18900)	23.09	22.03	21.21
		1850.7 (18607)	23.12	22.03	21.18
	6RB (0)	1909.3 (19193)	22.07	21.07	20.10
		1880 (18900)	22.07	21.18	20.24
		1850.7 (18607)	22.13	21.21	20.12
3MHz	1RB-High (14)	1908.5 (19185)	23.49	22.12	21.10
		1880 (18900)	23.03	22.26	21.57
		1851.5 (18615)	23.02	22.32	21.28
	1RB-Middle (7)	1908.5 (19185)	23.66	22.34	21.40
		1880 (18900)	23.14	22.42	21.89
		1851.5 (18615)	23.24	22.48	21.36
	1RB-Low (0)	1908.5 (19185)	23.44	22.15	21.52
		1880 (18900)	23.05	22.23	21.76
		1851.5 (18615)	23.06	22.34	21.28
	8RB-High (7)	1908.5 (19185)	22.53	21.06	20.19
		1880 (18900)	22.40	21.33	20.38
		1851.5 (18615)	22.06	21.15	20.18
	8RB-Middle (4)	1908.5 (19185)	22.45	21.13	20.62
		1880 (18900)	22.50	21.41	20.36
		1851.5 (18615)	22.11	21.15	20.18
	8RB-Low (0)	1908.5 (19185)	22.46	21.12	20.60
		1880 (18900)	22.48	21.41	20.63

		1851.5 (18615)	22.09	21.18	20.21
	15RB (0)	1908.5 (19185)	22.28	21.34	20.33
		1880 (18900)	22.43	21.53	20.50
		1851.5 (18615)	22.09	21.11	20.11
5MHz	1RB-High (24)	1907.5 (19175)	23.29	22.01	21.03
		1880 (18900)	23.21	22.26	21.34
		1852.5 (18625)	22.92	22.12	21.26
	1RB-Middle (12)	1907.5 (19175)	23.54	22.31	21.38
		1880 (18900)	23.44	22.52	21.93
		1852.5 (18625)	23.15	22.41	21.38
	1RB-Low (0)	1907.5 (19175)	23.26	22.19	21.26
		1880 (18900)	22.99	22.31	21.63
		1852.5 (18625)	22.99	22.22	21.16
	12RB-High (13)	1907.5 (19175)	22.48	21.11	20.07
		1880 (18900)	22.54	21.16	20.29
		1852.5 (18625)	22.09	21.08	20.29
	12RB-Middle (6)	1907.5 (19175)	22.58	21.22	20.50
		1880 (18900)	22.63	21.61	20.65
		1852.5 (18625)	22.15	21.09	20.20
	12RB-Low (0)	1907.5 (19175)	22.50	21.21	20.49
		1880 (18900)	22.56	21.49	20.59
		1852.5 (18625)	22.07	21.06	20.21
	25RB (0)	1907.5 (19175)	22.50	21.23	20.18
		1880 (18900)	22.48	21.61	20.46
		1852.5 (18625)	22.09	21.09	20.29
10MHz	1RB-High (49)	1905 (19150)	23.44	22.08	21.11
		1880 (18900)	23.41	22.39	21.60
		1855 (18650)	22.99	22.18	21.55
	1RB-Middle (24)	1905 (19150)	23.48	22.24	21.39
		1880 (18900)	23.54	22.50	21.73
		1855 (18650)	23.07	22.30	21.45
	1RB-Low (0)	1905 (19150)	23.43	22.09	21.49
		1880 (18900)	23.48	22.52	21.68
		1855 (18650)	23.05	22.28	21.26
	25RB-High (25)	1905 (19150)	22.60	21.43	20.48
		1880 (18900)	22.56	21.46	20.59
		1855 (18650)	22.17	21.15	20.55
	25RB-Middle (12)	1905 (19150)	22.55	21.55	20.59
		1880 (18900)	22.57	21.57	20.58
		1855 (18650)	22.08	21.10	20.53
	25RB-Low (0)	1905 (19150)	22.61	21.50	20.65

		1880 (18900)	22.62	21.50	20.63
		1855 (18650)	22.07	21.22	20.58
	50RB (0)	1905 (19150)	22.59	21.51	20.62
		1880 (18900)	22.60	21.53	20.61
		1855 (18650)	22.14	21.16	20.57
15MHz	1RB-High (74)	1902.5 (19125)	23.36	22.48	21.32
		1880 (18900)	23.35	22.51	21.55
		1857.5 (18675)	23.38	22.46	21.51
	1RB-Middle (37)	1902.5 (19125)	23.51	22.65	21.61
		1880 (18900)	23.49	22.72	21.72
		1857.5 (18675)	23.51	22.61	21.60
	1RB-Low (0)	1902.5 (19125)	23.35	22.42	21.44
		1880 (18900)	23.39	22.70	21.63
		1857.5 (18675)	23.31	22.56	21.65
	36RB-High (38)	1902.5 (19125)	22.57	21.47	20.53
		1880 (18900)	22.57	21.52	20.56
		1857.5 (18675)	22.63	21.55	20.58
	36RB-Middle (19)	1902.5 (19125)	22.57	21.49	20.53
		1880 (18900)	22.58	21.58	20.56
		1857.5 (18675)	22.58	21.50	20.56
	36RB-Low (0)	1902.5 (19125)	22.61	21.51	20.59
		1880 (18900)	22.64	21.60	20.63
		1857.5 (18675)	22.39	21.44	20.53
	75RB (0)	1902.5 (19125)	22.58	21.51	20.51
		1880 (18900)	22.60	21.61	20.59
		1857.5 (18675)	22.50	21.48	20.51
20MHz	1RB-High (99)	1900 (19100)	23.15	22.47	21.44
		1880 (18900)	23.16	22.47	21.30
		1860 (18700)	23.21	22.42	21.39
	1RB-Middle (50)	1900 (19100)	23.44	22.75	21.70
		1880 (18900)	23.65	22.90	21.69
		1860 (18700)	23.58	22.73	21.61
	1RB-Low (0)	1900 (19100)	23.17	22.33	21.35
		1880 (18900)	23.23	22.57	21.42
		1860 (18700)	23.30	22.64	21.48
	50RB-High (50)	1900 (19100)	22.43	21.50	20.48
		1880 (18900)	22.60	21.63	20.61
		1860 (18700)	22.69	21.64	20.57
	50RB-Middle (25)	1900 (19100)	22.56	21.59	20.55
		1880 (18900)	22.59	21.69	20.59
		1860 (18700)	22.68	21.62	20.55

	50RB-Low (0)	1900 (19100)	22.56	21.58	20.48
		1880 (18900)	22.70	21.72	20.66
		1860 (18700)	22.51	21.49	20.42
	100RB (0)	1900 (19100)	22.48	21.51	20.49
		1880 (18900)	22.65	21.65	20.63
		1860 (18700)	22.63	21.57	20.49

LTE B2 (DSI2)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1909.3 (19193)	19.01	19.06	19.06
		1880 (18900)	18.55	18.83	18.86
		1850.7 (18607)	18.26	19.06	18.33
	1RB-Middle (3)	1909.3 (19193)	19.20	19.28	19.47
		1880 (18900)	19.06	19.09	19.21
		1850.7 (18607)	18.73	19.40	18.65
	1RB-Low (0)	1909.3 (19193)	18.83	19.00	19.11
		1880 (18900)	18.45	19.01	19.03
		1850.7 (18607)	18.16	18.87	18.39
	3RB-High (3)	1909.3 (19193)	19.13	19.00	19.26
		1880 (18900)	18.69	19.18	18.99
		1850.7 (18607)	18.63	19.04	18.48
	3RB-Middle (1)	1909.3 (19193)	19.08	19.11	19.15
		1880 (18900)	19.24	18.97	19.08
		1850.7 (18607)	18.62	18.97	19.19
	3RB-Low (0)	1909.3 (19193)	19.13	19.03	19.36
		1880 (18900)	18.68	18.98	19.00
		1850.7 (18607)	18.65	18.82	19.02
	6RB (0)	1909.3 (19193)	18.92	18.93	19.29
		1880 (18900)	19.14	19.18	18.99
		1850.7 (18607)	18.42	18.98	18.98
3MHz	1RB-High (14)	1908.5 (19185)	19.01	19.12	19.18
		1880 (18900)	18.65	19.01	19.07
		1851.5 (18615)	18.41	19.03	18.29
	1RB-Middle (7)	1908.5 (19185)	19.10	19.29	19.41
		1880 (18900)	19.23	19.18	19.21
		1851.5 (18615)	18.57	19.20	18.62
	1RB-Low (0)	1908.5 (19185)	18.90	18.85	18.97
		1880 (18900)	18.53	19.04	18.95
		1851.5 (18615)	18.07	18.74	18.41
	8RB-High (7)	1908.5 (19185)	19.19	19.19	19.41

		1880 (18900)	18.77	19.02	19.15
		1851.5 (18615)	18.35	18.90	18.51
	8RB-Middle (4)	1908.5 (19185)	19.11	19.07	19.36
		1880 (18900)	19.17	19.22	19.29
		1851.5 (18615)	18.51	19.00	19.11
	8RB-Low (0)	1908.5 (19185)	18.94	19.05	19.33
		1880 (18900)	18.60	18.98	19.10
		1851.5 (18615)	18.58	19.00	18.97
	15RB (0)	1908.5 (19185)	19.05	19.05	19.35
		1880 (18900)	19.01	19.14	18.95
		1851.5 (18615)	18.43	18.87	18.89
5MHz	1RB-High (24)	1907.5 (19175)	19.04	19.08	19.25
		1880 (18900)	18.69	18.85	19.10
		1852.5 (18625)	18.33	18.90	18.30
	1RB-Middle (12)	1907.5 (19175)	19.18	19.41	19.35
		1880 (18900)	19.23	19.14	19.25
		1852.5 (18625)	18.62	19.39	18.78
	1RB-Low (0)	1907.5 (19175)	18.99	18.90	19.21
		1880 (18900)	18.53	19.20	19.02
		1852.5 (18625)	18.13	18.79	18.20
	12RB-High (13)	1907.5 (19175)	19.05	19.17	19.15
		1880 (18900)	18.64	19.08	19.05
		1852.5 (18625)	18.53	18.82	18.53
	12RB-Middle (6)	1907.5 (19175)	19.02	19.21	19.33
		1880 (18900)	19.02	19.19	19.10
		1852.5 (18625)	18.43	18.98	18.90
	12RB-Low (0)	1907.5 (19175)	19.14	18.88	19.22
		1880 (18900)	18.55	18.89	19.08
		1852.5 (18625)	18.65	18.83	18.94
	25RB (0)	1907.5 (19175)	18.93	19.02	19.12
		1880 (18900)	18.89	19.06	19.20
		1852.5 (18625)	18.50	18.90	18.87
10MHz	1RB-High (49)	1905 (19150)	19.03	19.26	19.17
		1880 (18900)	18.70	18.91	18.98
		1855 (18650)	18.22	18.94	18.42
	1RB-Middle (24)	1905 (19150)	19.11	19.42	19.41
		1880 (18900)	19.04	19.25	19.24
		1855 (18650)	18.49	19.34	18.76
	1RB-Low (0)	1905 (19150)	19.05	18.97	18.94
		1880 (18900)	18.45	19.21	18.95
		1855 (18650)	18.30	18.92	18.44

	25RB-High (25)	1905 (19150)	19.00	18.96	19.18
		1880 (18900)	18.82	19.10	19.04
		1855 (18650)	18.51	18.83	18.44
	25RB-Middle (12)	1905 (19150)	19.04	19.19	19.42
		1880 (18900)	19.11	19.16	19.16
		1855 (18650)	18.59	18.93	19.11
	25RB-Low (0)	1905 (19150)	19.09	19.15	19.10
		1880 (18900)	18.80	19.02	18.98
		1855 (18650)	18.70	18.88	18.93
	50RB (0)	1905 (19150)	18.84	19.23	19.26
		1880 (18900)	19.11	19.05	18.99
		1855 (18650)	18.63	19.05	18.80
15MHz	1RB-High (74)	1902.5 (19125)	18.96	19.15	19.31
		1880 (18900)	18.68	19.04	18.86
		1857.5 (18675)	18.33	18.83	18.42
	1RB-Middle (37)	1902.5 (19125)	19.20	19.24	19.38
		1880 (18900)	19.06	19.35	19.24
		1857.5 (18675)	18.74	19.32	18.70
	1RB-Low (0)	1902.5 (19125)	18.99	18.87	19.10
		1880 (18900)	18.50	18.97	18.82
		1857.5 (18675)	18.10	18.67	18.29
	36RB-High (38)	1902.5 (19125)	18.98	19.25	19.41
		1880 (18900)	18.59	19.09	18.94
		1857.5 (18675)	18.63	19.00	18.53
	36RB-Middle (19)	1902.5 (19125)	19.07	19.11	19.42
		1880 (18900)	19.12	19.17	19.19
		1857.5 (18675)	18.44	19.05	19.09
	36RB-Low (0)	1902.5 (19125)	19.03	18.89	19.21
		1880 (18900)	18.59	19.13	19.16
		1857.5 (18675)	18.57	18.91	18.96
	75RB (0)	1902.5 (19125)	19.11	19.09	19.26
		1880 (18900)	18.85	19.04	19.13
		1857.5 (18675)	18.64	19.03	19.00
20MHz	1RB-High (99)	1900 (19100)	19.07	19.16	19.17
		1880 (18900)	18.57	18.96	19.01
		1860 (18700)	18.33	18.93	18.42
	1RB-Middle (50)	1900 (19100)	19.05	19.31	19.48
		1880 (18900)	19.19	19.24	19.31
		1860 (18700)	18.60	19.25	18.70
	1RB-Low (0)	1900 (19100)	18.90	18.99	19.06
		1880 (18900)	18.40	19.09	18.88

		1860 (18700)	18.22	18.82	18.30
	50RB-High (50)	1900 (19100)	19.06	19.10	19.26
		1880 (18900)	18.71	19.03	19.07
		1860 (18700)	18.50	18.90	18.49
	50RB-Middle (25)	1900 (19100)	19.04	19.09	19.30
		1880 (18900)	19.10	19.09	19.14
		1860 (18700)	18.58	18.99	19.05
	50RB-Low (0)	1900 (19100)	19.01	19.03	19.24
		1880 (18900)	18.67	18.98	19.01
		1860 (18700)	18.55	18.94	19.00
	100RB (0)	1900 (19100)	18.98	19.08	19.25
		1880 (18900)	18.99	19.04	19.05
		1860 (18700)	18.53	18.90	18.94

LTE B7 (DSI1)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	22.92	22.17	21.06
		2535 (21100)	22.84	22.04	20.99
		2502.5 (20775)	22.58	21.67	20.76
	1RB-Middle (12)	2567.5 (21425)	23.14	22.36	21.22
		2535 (21100)	23.09	22.18	21.12
		2502.5 (20775)	22.83	21.95	21.02
	1RB-Low (0)	2567.5 (21425)	22.91	22.20	21.08
		2535 (21100)	22.86	22.08	21.00
		2502.5 (20775)	22.61	21.81	20.78
	12RB-High (13)	2567.5 (21425)	22.14	21.07	20.10
		2535 (21100)	22.04	20.89	19.96
		2502.5 (20775)	21.76	20.66	19.80
	12RB-Middle (6)	2567.5 (21425)	22.21	21.15	20.10
		2535 (21100)	22.03	20.91	19.98
		2502.5 (20775)	21.79	20.65	19.74
	12RB-Low (0)	2567.5 (21425)	22.19	21.13	20.07
		2535 (21100)	22.00	20.88	19.96
		2502.5 (20775)	21.70	20.59	19.69
	25RB (0)	2567.5 (21425)	22.20	21.07	20.07
		2535 (21100)	22.02	20.91	19.94
		2502.5 (20775)	21.71	20.68	19.68
10MHz	1RB-High (49)	2565 (21400)	22.97	22.15	21.18
		2535 (21100)	22.89	22.23	21.12
		2505 (20800)	22.61	21.92	20.73

	1RB-Middle (24)	2565 (21400)	23.10	22.31	21.38
		2535 (21100)	22.97	22.15	21.16
		2505 (20800)	22.74	22.05	20.96
	1RB-Low (0)	2565 (21400)	23.02	22.22	21.21
		2535 (21100)	22.85	22.16	20.96
		2505 (20800)	22.63	21.95	20.80
	25RB-High (25)	2565 (21400)	22.15	21.14	20.15
		2535 (21100)	22.07	21.03	20.04
		2505 (20800)	21.78	20.79	19.77
	25RB-Middle (12)	2565 (21400)	22.14	21.10	20.11
		2535 (21100)	22.00	20.98	19.96
		2505 (20800)	21.75	20.75	19.74
	25RB-Low (0)	2565 (21400)	22.16	21.13	20.14
		2535 (21100)	22.00	20.97	19.98
		2505 (20800)	21.71	20.71	19.71
	50RB (0)	2565 (21400)	22.17	21.12	20.13
		2535 (21100)	22.04	21.02	20.04
		2505 (20800)	21.72	20.74	19.73
15MHz	1RB-High (74)	2562.5 (21375)	22.90	22.09	21.05
		2535 (21100)	22.85	22.04	21.11
		2507.5 (20825)	22.57	21.89	20.74
	1RB-Middle (37)	2562.5 (21375)	23.05	22.34	21.31
		2535 (21100)	22.89	22.18	21.14
		2507.5 (20825)	22.65	21.92	20.90
	1RB-Low (0)	2562.5 (21375)	22.93	22.17	21.21
		2535 (21100)	22.79	22.05	20.91
		2507.5 (20825)	22.60	21.93	20.76
	36RB-High (38)	2562.5 (21375)	22.10	21.08	20.11
		2535 (21100)	22.03	21.00	20.03
		2507.5 (20825)	21.74	20.73	19.74
	36RB-Middle (19)	2562.5 (21375)	22.13	21.09	20.12
		2535 (21100)	22.02	20.98	20.02
		2507.5 (20825)	21.74	20.71	19.74
	36RB-Low (0)	2562.5 (21375)	22.11	21.07	20.11
		2535 (21100)	21.97	20.94	19.93
		2507.5 (20825)	21.70	20.67	19.68
	75RB (0)	2562.5 (21375)	22.14	21.11	20.08
		2535 (21100)	22.02	20.99	20.01
		2507.5 (20825)	21.73	20.71	19.71
20MHz	1RB-High (99)	2560 (21350)	22.76	21.92	20.93
		2535 (21100)	22.71	21.85	20.92

		2510 (20850)	22.62	21.59	20.71
	1RB-Middle (50)	2560 (21350)	23.10	22.37	21.27
		2535 (21100)	23.00	22.09	21.20
		2510 (20850)	22.68	21.86	20.89
	1RB-Low (0)	2560 (21350)	22.80	21.93	20.95
		2535 (21100)	22.56	21.70	20.76
		2510 (20850)	22.59	21.65	20.65
	50RB-High (50)	2560 (21350)	22.16	20.93	20.06
		2535 (21100)	22.04	20.91	19.99
		2510 (20850)	21.66	20.56	19.66
	50RB-Middle (25)	2560 (21350)	22.20	20.99	20.11
		2535 (21100)	22.02	20.91	19.98
		2510 (20850)	21.77	20.66	19.71
	50RB-Low (0)	2560 (21350)	22.24	20.95	20.05
		2535 (21100)	21.96	20.82	19.91
		2510 (20850)	21.68	20.55	19.63
	100RB (0)	2560 (21350)	22.13	20.96	20.08
		2535 (21100)	22.02	20.89	19.97
		2510 (20850)	21.66	20.57	19.65

LTE B7 (DSI2)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	18.20	18.48	18.27
		2535 (21100)	17.66	18.52	18.37
		2502.5 (20775)	18.13	18.57	18.37
	1RB-Middle (12)	2567.5 (21425)	18.38	18.62	18.61
		2535 (21100)	18.30	18.76	18.47
		2502.5 (20775)	18.53	18.96	18.64
	1RB-Low (0)	2567.5 (21425)	17.95	18.24	18.30
		2535 (21100)	18.06	18.67	18.45
		2502.5 (20775)	18.02	18.66	18.40
	12RB-High (13)	2567.5 (21425)	18.42	18.51	18.62
		2535 (21100)	18.05	18.48	18.57
		2502.5 (20775)	18.24	18.37	18.33
	12RB-Middle (6)	2567.5 (21425)	18.40	18.58	18.37
		2535 (21100)	18.29	18.42	18.48
		2502.5 (20775)	18.33	18.46	18.58
	12RB-Low (0)	2567.5 (21425)	18.38	18.49	18.67
		2535 (21100)	18.23	18.48	18.48
		2502.5 (20775)	18.45	18.50	18.45

	25RB (0)	2567.5 (21425)	18.90	18.49	18.64
		2535 (21100)	18.76	18.40	18.40
		2502.5 (20775)	18.29	18.36	18.42
10MHz	1RB-High (49)	2565 (21400)	18.28	18.45	18.51
		2535 (21100)	17.78	18.51	18.16
		2505 (20800)	18.06	18.66	18.28
	1RB-Middle (24)	2565 (21400)	18.56	18.69	18.78
		2535 (21100)	18.36	18.78	18.59
		2505 (20800)	18.49	19.00	18.65
	1RB-Low (0)	2565 (21400)	17.82	18.25	18.36
		2535 (21100)	17.95	18.51	18.52
		2505 (20800)	18.24	18.70	18.41
	25RB-High (25)	2565 (21400)	18.47	18.61	18.53
		2535 (21100)	18.07	18.37	18.38
		2505 (20800)	18.38	18.34	18.57
	25RB-Middle (12)	2565 (21400)	18.35	18.59	18.51
		2535 (21100)	18.07	18.39	18.39
		2505 (20800)	18.39	18.42	18.54
	25RB-Low (0)	2565 (21400)	18.40	18.39	18.67
		2535 (21100)	18.20	18.47	18.41
		2505 (20800)	18.52	18.42	18.57
	50RB (0)	2565 (21400)	18.73	18.51	18.69
		2535 (21100)	18.79	18.40	18.52
		2505 (20800)	18.36	18.60	18.43
15MHz	1RB-High (74)	2562.5 (21375)	18.34	18.53	18.39
		2535 (21100)	17.80	18.28	18.30
		2507.5 (20825)	17.99	18.39	18.52
	1RB-Middle (37)	2562.5 (21375)	18.48	18.64	18.63
		2535 (21100)	18.27	18.82	18.56
		2507.5 (20825)	18.35	18.80	18.87
	1RB-Low (0)	2562.5 (21375)	17.84	18.40	18.24
		2535 (21100)	17.92	18.52	18.54
		2507.5 (20825)	18.08	18.57	18.38
	36RB-High (38)	2562.5 (21375)	18.44	18.43	18.61
		2535 (21100)	18.01	18.57	18.55
		2507.5 (20825)	18.34	18.38	18.29
	36RB-Middle (19)	2562.5 (21375)	18.37	18.42	18.46
		2535 (21100)	18.36	18.48	18.45
		2507.5 (20825)	18.44	18.67	18.65
	36RB-Low (0)	2562.5 (21375)	18.34	18.61	18.64
		2535 (21100)	18.18	18.45	18.30

		2507.5 (20825)	18.49	18.55	18.75
	75RB (0)	2562.5 (21375)	18.89	18.56	18.50
		2535 (21100)	18.80	18.46	18.46
		2507.5 (20825)	18.49	18.63	18.60
20MHz	1RB-High (99)	2560 (21350)	18.25	18.50	18.42
		2535 (21100)	17.78	18.43	18.28
		2510 (20850)	18.03	18.52	18.41
	1RB-Middle (50)	2560 (21350)	18.48	18.69	18.68
		2535 (21100)	18.23	18.86	18.61
		2510 (20850)	18.47	18.95	18.78
	1RB-Low (0)	2560 (21350)	17.94	18.38	18.37
		2535 (21100)	17.99	18.57	18.43
		2510 (20850)	18.13	18.59	18.41
	50RB-High (50)	2560 (21350)	18.57	18.57	18.56
		2535 (21100)	18.14	18.48	18.47
		2510 (20850)	18.32	18.47	18.44
	50RB-Middle (25)	2560 (21350)	18.39	18.50	18.52
		2535 (21100)	18.22	18.43	18.44
		2510 (20850)	18.38	18.54	18.53
	50RB-Low (0)	2560 (21350)	18.27	18.52	18.54
		2535 (21100)	18.11	18.40	18.38
		2510 (20850)	18.50	18.54	18.60
	100RB (0)	2560 (21350)	18.78	18.55	18.54
		2535 (21100)	18.74	18.43	18.46
		2510 (20850)	18.39	18.49	18.48

LTE B12 (DSI1/2)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	715.3 (23173)	23.70	22.39	21.35
		707.5 (23095)	23.56	22.46	21.51
		699.7 (23017)	23.22	22.39	21.88
	1RB-Middle (3)	715.3 (23173)	23.80	22.45	21.45
		707.5 (23095)	23.58	22.55	22.01
		699.7 (23017)	23.28	22.57	21.93
	1RB-Low (0)	715.3 (23173)	23.63	22.33	21.41
		707.5 (23095)	23.26	22.49	21.79
		699.7 (23017)	23.15	22.43	21.69
	3RB-High (3)	715.3 (23173)	23.79	22.22	21.44
		707.5 (23095)	23.33	22.23	21.83
		699.7 (23017)	23.27	22.23	21.84

	3RB-Middle (1)	715.3 (23173)	23.83	22.29	21.49
		707.5 (23095)	23.38	22.30	21.61
		699.7 (23017)	23.29	22.31	21.62
	3RB-Low (0)	715.3 (23173)	23.78	22.25	21.42
		707.5 (23095)	23.32	22.24	21.58
		699.7 (23017)	23.23	22.20	21.48
	6RB (0)	715.3 (23173)	22.74	21.42	20.71
		707.5 (23095)	22.44	21.45	20.84
		699.7 (23017)	22.25	21.40	20.38
3MHz	1RB-High (14)	714.5 (23165)	23.77	22.89	21.96
		707.5 (23095)	23.68	22.97	21.93
		700.5 (23025)	23.71	23.00	22.08
	1RB-Middle (7)	714.5 (23165)	23.84	23.02	22.12
		707.5 (23095)	23.82	23.17	22.05
		700.5 (23025)	23.87	23.10	22.17
	1RB-Low (0)	714.5 (23165)	23.76	22.94	21.94
		707.5 (23095)	23.73	22.94	21.98
		700.5 (23025)	23.70	23.02	22.01
	8RB-High (7)	714.5 (23165)	22.78	21.82	20.88
		707.5 (23095)	22.76	21.87	20.89
		700.5 (23025)	22.77	21.85	20.86
	8RB-Middle (4)	714.5 (23165)	22.78	21.86	20.89
		707.5 (23095)	22.80	21.91	20.90
		700.5 (23025)	22.80	21.90	20.89
	8RB-Low (0)	714.5 (23165)	22.77	21.86	20.88
		707.5 (23095)	22.75	21.89	20.84
		700.5 (23025)	22.74	21.86	20.89
	15RB (0)	714.5 (23165)	22.79	21.82	20.80
		707.5 (23095)	22.79	21.84	20.84
		700.5 (23025)	22.77	21.83	20.82
5MHz	1RB-High (24)	713.5 (23155)	23.71	22.81	21.84
		707.5 (23095)	23.63	22.90	21.86
		701.5 (23035)	23.65	22.92	21.87
	1RB-Middle (12)	713.5 (23155)	23.98	23.11	22.15
		707.5 (23095)	23.91	23.12	22.17
		701.5 (23035)	23.93	23.11	22.16
	1RB-Low (0)	713.5 (23155)	23.71	22.84	21.83
		707.5 (23095)	23.70	22.93	21.93
		701.5 (23035)	23.65	22.86	21.91
	12RB-High (13)	713.5 (23155)	22.80	21.77	20.84
		707.5 (23095)	22.80	21.81	20.90

		701.5 (23035)	22.80	21.85	20.87
	12RB-Middle (6)	713.5 (23155)	22.90	21.91	20.95
		707.5 (23095)	22.85	21.90	20.90
		701.5 (23035)	22.87	21.89	20.94
	12RB-Low (0)	713.5 (23155)	22.86	21.90	20.94
		707.5 (23095)	22.78	21.82	20.85
		701.5 (23035)	22.81	21.84	20.86
	25RB (0)	713.5 (23155)	22.83	21.89	20.88
		707.5 (23095)	22.84	21.88	20.87
		701.5 (23035)	22.81	21.85	20.86
10MHz	1RB-High (49)	711 (23130)	23.81	23.04	21.94
		707.5 (23095)	23.77	22.98	21.94
		704 (23060)	23.79	23.05	22.01
	1RB-Middle (24)	711 (23130)	23.97	23.07	22.00
		707.5 (23095)	23.96	23.13	22.13
		704 (23060)	23.95	23.22	22.11
	1RB-Low (0)	711 (23130)	23.89	23.04	22.00
		707.5 (23095)	23.89	23.17	22.11
		704 (23060)	23.83	23.06	22.01
	25RB-High (25)	711 (23130)	22.92	21.92	20.91
		707.5 (23095)	22.88	21.87	20.89
		704 (23060)	22.97	21.99	21.00
	25RB-Middle (12)	711 (23130)	22.98	21.95	20.93
		707.5 (23095)	22.91	21.94	20.93
		704 (23060)	22.93	21.97	20.96
	25RB-Low (0)	711 (23130)	22.96	21.98	20.98
		707.5 (23095)	22.91	21.91	20.91
		704 (23060)	22.95	22.00	20.99
	50RB (0)	711 (23130)	22.97	21.97	20.97
		707.5 (23095)	22.87	21.89	20.90
		704 (23060)	22.95	22.00	20.99

LTE B13 (DSI1/2)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	784.5 (23255)	23.75	22.47	21.43
		782 (23230)	23.23	22.56	21.41
		779.5 (23205)	23.25	22.44	21.54
	1RB-Middle (12)	784.5 (23255)	24.07	22.82	21.80
		782 (23230)	23.46	22.82	21.67
		779.5 (23205)	23.53	22.70	21.68

	1RB-Low (0)	784.5 (23255)	23.80	22.57	21.66
		782 (23230)	23.30	22.55	21.46
		779.5 (23205)	23.26	22.42	21.47
	12RB-High (13)	784.5 (23255)	22.92	21.39	20.48
		782 (23230)	22.34	21.38	20.46
		779.5 (23205)	22.34	21.31	20.49
	12RB-Middle (6)	784.5 (23255)	22.98	21.44	20.64
		782 (23230)	22.46	21.44	20.54
		779.5 (23205)	22.41	21.40	20.50
	12RB-Low (0)	784.5 (23255)	22.84	21.37	20.77
		782 (23230)	22.44	21.44	20.53
		779.5 (23205)	22.37	21.32	20.42
	25RB (0)	784.5 (23255)	22.69	21.42	20.55
		782 (23230)	22.42	21.43	20.48
		779.5 (23205)	22.35	21.35	20.56
10MHz	1RB-High (49)	782 (23230)	23.31	22.47	21.48
	1RB-Middle (24)	782 (23230)	23.46	22.74	21.66
	1RB-Low (0)	782 (23230)	23.39	22.56	21.56
	25RB-High (25)	782 (23230)	22.45	21.47	20.51
	25RB-Middle (12)	782 (23230)	22.55	21.47	20.53
	25RB-Low (0)	782 (23230)	22.51	21.51	20.52
	50RB (0)	782 (23230)	22.49	21.48	20.56

LTE B26 (DSI1/2)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	848.3 (27033)	24.10	22.84	21.81
		831.5 (26865)	23.60	22.83	21.80
		814.7 (26697)	23.71	22.93	21.82
	1RB-Middle (3)	848.3 (27033)	24.19	23.01	21.89
		831.5 (26865)	23.74	22.95	22.00
		814.7 (26697)	23.93	22.99	22.45
	1RB-Low (0)	848.3 (27033)	24.08	22.90	21.83
		831.5 (26865)	23.61	22.88	21.85
		814.7 (26697)	23.75	23.01	22.34
	3RB-High (3)	848.3 (27033)	24.16	22.70	21.84
		831.5 (26865)	23.71	22.66	21.83
		814.7 (26697)	23.82	22.82	21.96
	3RB-Middle (1)	848.3 (27033)	24.24	22.74	21.87
		831.5 (26865)	23.77	22.73	21.88
		814.7 (26697)	23.83	22.85	22.43

	3RB-Low (0)	848.3 (27033)	24.14	22.66	21.78
		831.5 (26865)	23.71	22.70	21.88
		814.7 (26697)	23.81	22.79	22.31
	6RB (0)	848.3 (27033)	23.12	21.77	20.70
		831.5 (26865)	22.74	21.86	20.78
		814.7 (26697)	22.86	21.91	20.94
3MHz	1RB-High (14)	847.5 (27025)	24.15	23.26	22.31
		831.5 (26865)	23.68	23.00	22.43
		815.5 (26705)	23.30	23.46	22.49
	1RB-Middle (7)	847.5 (27025)	24.26	23.19	22.55
		831.5 (26865)	23.84	23.08	22.34
		815.5 (26705)	23.31	23.64	22.56
	1RB-Low (0)	847.5 (27025)	23.69	23.05	22.31
		831.5 (26865)	23.69	23.00	22.07
		815.5 (26705)	23.30	23.52	22.44
	8RB-High (7)	847.5 (27025)	22.69	21.80	21.23
		831.5 (26865)	22.74	21.84	21.24
		815.5 (26705)	23.27	22.36	21.35
	8RB-Middle (4)	847.5 (27025)	22.74	21.80	21.31
		831.5 (26865)	22.76	21.86	21.23
		815.5 (26705)	23.29	22.35	21.34
	8RB-Low (0)	847.5 (27025)	22.71	21.79	21.14
		831.5 (26865)	22.75	21.84	21.20
		815.5 (26705)	23.28	22.30	21.34
	15RB (0)	847.5 (27025)	22.69	21.72	21.14
		831.5 (26865)	22.77	21.79	21.28
		815.5 (26705)	23.30	22.31	21.32
5MHz	1RB-High (24)	846.5 (27015)	24.03	22.80	21.73
		831.5 (26865)	23.54	22.89	21.82
		816.5 (26715)	23.61	22.90	21.83
	1RB-Middle (12)	846.5 (27015)	24.17	23.13	22.01
		831.5 (26865)	23.82	23.16	21.97
		816.5 (26715)	23.85	23.10	22.11
	1RB-Low (0)	846.5 (27015)	23.71	22.92	21.78
		831.5 (26865)	23.60	22.88	21.80
		816.5 (26715)	23.64	22.89	21.90
	12RB-High (13)	846.5 (27015)	22.65	21.64	20.70
		831.5 (26865)	22.74	21.75	20.78
		816.5 (26715)	22.78	21.77	20.81
	12RB-Middle (6)	846.5 (27015)	22.73	21.73	20.78
		831.5 (26865)	22.77	21.76	20.81

		816.5 (26715)	22.83	21.79	20.97
	12RB-Low (0)	846.5 (27015)	22.70	21.71	20.73
		831.5 (26865)	22.75	21.74	20.81
		816.5 (26715)	22.83	21.80	20.91
	25RB (0)	846.5 (27015)	22.72	21.73	20.72
		831.5 (26865)	22.77	21.78	20.80
		816.5 (26715)	22.82	21.83	20.85
10MHz	1RB-High (49)	844 (26990)	24.08	22.78	21.81
		831.5 (26865)	23.63	22.98	21.87
		820 (26750)	23.67	22.95	21.91
	1RB-Middle (24)	844 (26990)	24.07	23.01	22.02
		831.5 (26865)	23.72	22.98	22.00
		820 (26750)	23.82	23.10	22.04
	1RB-Low (0)	844 (26990)	23.65	22.98	21.91
		831.5 (26865)	23.66	22.88	21.83
		820 (26750)	23.75	23.00	22.00
	25RB-High (25)	844 (26990)	22.70	21.72	20.71
		831.5 (26865)	22.73	21.74	20.75
		820 (26750)	22.80	21.81	20.82
	25RB-Middle (12)	844 (26990)	22.75	21.78	20.78
		831.5 (26865)	22.78	21.77	20.78
		820 (26750)	22.84	21.86	21.06
	25RB-Low (0)	844 (26990)	22.76	21.78	20.80
		831.5 (26865)	22.77	21.78	20.79
		820 (26750)	22.84	21.85	20.98
	50RB (0)	844 (26990)	22.76	21.75	20.76
		831.5 (26865)	22.76	21.78	20.80
		820 (26750)	22.85	21.87	20.85
15MHz	1RB-High (74)	841.5 (26965)	23.50	22.82	21.71
		831.5 (26865)	23.54	22.84	21.81
		822.5 (26775)	23.52	22.78	21.82
	1RB-Middle (37)	841.5 (26965)	23.65	22.98	21.89
		831.5 (26865)	23.62	22.94	21.83
		822.5 (26775)	23.68	23.04	21.92
	1RB-Low (0)	841.5 (26965)	23.55	22.82	21.83
		831.5 (26865)	23.59	22.83	21.82
		822.5 (26775)	23.61	22.95	21.85
	36RB-High (38)	841.5 (26965)	22.68	21.64	20.72
		831.5 (26865)	22.72	21.68	20.73
		822.5 (26775)	22.74	21.73	20.77
	36RB-Middle (19)	841.5 (26965)	22.76	21.77	20.79

		831.5 (26865)	22.78	21.75	20.80
		822.5 (26775)	22.79	21.77	20.82
	36RB-Low (0)	841.5 (26965)	22.80	21.80	20.83
		831.5 (26865)	22.76	21.72	20.76
		822.5 (26775)	22.83	21.81	20.91
	75RB (0)	841.5 (26965)	22.76	21.77	20.76
		831.5 (26865)	22.75	21.73	20.74
		822.5 (26775)	22.78	21.77	20.77

LTE B41 (DSI1/2)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2687.5 (41565)	23.62	22.60	21.29
		2640.3(41093)	23.73	22.75	21.41
		2593 (40620)	23.63	22.59	21.27
		2545.8(40148)	23.57	22.66	21.27
		2498.5 (39675)	23.25	22.26	20.93
	1RB-Middle (12)	2687.5 (41565)	23.83	22.82	21.53
		2640.3(41093)	23.85	22.94	21.58
		2593 (40620)	23.84	22.92	21.55
		2545.8(40148)	23.78	22.80	21.41
		2498.5 (39675)	23.39	22.47	21.09
	1RB-Low (0)	2687.5 (41565)	23.62	22.66	21.31
		2640.3(41093)	23.76	22.80	21.45
		2593 (40620)	23.65	22.70	21.33
		2545.8(40148)	23.58	22.60	21.24
		2498.5 (39675)	23.26	22.28	20.93
	12RB-High (13)	2687.5 (41565)	22.76	21.63	20.71
		2640.3(41093)	22.84	21.77	20.83
		2593 (40620)	22.70	21.63	20.63
		2545.8(40148)	22.68	21.59	20.67
		2498.5 (39675)	22.39	21.33	20.33
	12RB-Middle (6)	2687.5 (41565)	22.82	21.76	20.70
		2640.3(41093)	22.87	21.81	20.78
		2593 (40620)	22.74	21.67	20.66
		2545.8(40148)	22.70	21.66	20.68
		2498.5 (39675)	22.40	21.37	20.39
	12RB-Low (0)	2687.5 (41565)	22.79	21.68	20.73
		2640.3(41093)	22.84	21.77	20.81
		2593 (40620)	22.62	21.63	20.72
		2545.8(40148)	22.61	21.51	20.58

		2498.5 (39675)	22.37	21.25	20.34
	25RB (0)	2687.5 (41565)	22.71	21.68	20.75
		2640.3(41093)	22.82	21.85	20.86
		2593 (40620)	22.74	21.71	20.74
		2545.8(40148)	22.64	21.73	20.71
		2498.5 (39675)	22.31	21.35	20.40
10MHz	1RB-High (49)	2685 (41540)	23.70	22.63	21.36
		2639(41080)	23.83	22.83	21.49
		2593 (40620)	23.72	22.71	21.35
		2547(40160)	23.70	22.73	21.34
		2501 (39700)	23.37	22.40	21.02
	1RB-Middle (24)	2685 (41540)	23.80	22.75	21.42
		2639(41080)	23.98	22.96	21.61
		2593 (40620)	23.82	22.77	21.44
		2547(40160)	23.68	22.77	21.41
		2501 (39700)	23.47	22.38	21.08
	1RB-Low (0)	2685 (41540)	23.82	22.74	21.44
		2639(41080)	23.86	22.85	21.48
		2593 (40620)	23.75	22.75	21.41
		2547(40160)	23.64	22.68	21.31
		2501 (39700)	23.36	22.39	21.03
	25RB-High (25)	2685 (41540)	22.70	21.70	20.71
		2639(41080)	22.81	21.80	20.85
		2593 (40620)	22.70	21.69	20.73
		2547(40160)	22.69	21.74	20.69
		2501 (39700)	22.37	21.33	20.36
	25RB-Middle (12)	2685 (41540)	22.74	21.74	20.78
		2639(41080)	22.86	21.89	20.87
		2593 (40620)	22.70	21.75	20.78
		2547(40160)	22.69	21.73	20.75
		2501 (39700)	22.33	21.36	20.40
	25RB-Low (0)	2685 (41540)	22.82	21.82	20.83
		2639(41080)	22.83	21.85	20.83
		2593 (40620)	22.74	21.71	20.72
		2547(40160)	22.69	21.67	20.68
		2501 (39700)	22.32	21.34	20.39
	50RB (0)	2685 (41540)	22.71	21.70	20.69
		2639(41080)	22.76	21.79	20.73
		2593 (40620)	22.64	21.69	20.63
		2547(40160)	22.56	21.62	20.64
		2501 (39700)	22.24	21.33	20.35

15MHz	1RB-High (74)	2682.5 (41515)	23.54	22.54	21.24
		2637.8(41068)	23.72	22.71	21.38
		2593 (40620)	23.59	22.60	21.23
		2548.3(40173)	23.55	22.62	21.24
		2503.5 (39725)	23.25	22.30	20.94
	1RB-Middle (37)	2682.5 (41515)	23.78	22.72	21.42
		2637.8(41068)	23.85	22.87	21.52
		2593 (40620)	23.73	22.71	21.38
		2548.3(40173)	23.68	22.74	21.36
		2503.5 (39725)	23.38	22.39	21.04
	1RB-Low (0)	2682.5 (41515)	23.66	22.64	21.34
		2637.8(41068)	23.75	22.80	21.46
		2593 (40620)	23.66	22.70	21.32
		2548.3(40173)	23.53	22.60	21.22
		2503.5 (39725)	23.22	22.26	20.91
	36RB-High (38)	2682.5 (41515)	22.72	21.68	20.62
		2637.8(41068)	22.93	21.73	20.83
		2593 (40620)	22.71	21.61	20.67
		2548.3(40173)	22.70	21.61	20.70
		2503.5 (39725)	22.38	21.34	20.31
	36RB-Middle (19)	2682.5 (41515)	22.81	21.68	20.71
		2637.8(41068)	22.91	21.82	20.85
		2593 (40620)	22.75	21.67	20.70
		2548.3(40173)	22.72	21.66	20.70
		2503.5 (39725)	22.40	21.33	20.34
	36RB-Low (0)	2682.5 (41515)	22.80	21.69	20.74
		2637.8(41068)	22.85	21.80	20.82
		2593 (40620)	22.71	21.66	20.66
		2548.3(40173)	22.67	21.58	20.65
		2503.5 (39725)	22.38	21.29	20.30
	75RB (0)	2682.5 (41515)	22.64	21.64	20.67
		2637.8(41068)	22.76	21.76	20.76
		2593 (40620)	22.61	21.62	20.64
		2548.3(40173)	22.53	21.58	20.57
		2503.5 (39725)	22.26	21.28	20.28
20MHz	1RB-High (99)	2680 (41490)	23.38	22.41	21.10
		2636.5(41055)	23.54	22.55	21.22
		2593 (40620)	23.38	22.41	21.07
		2549.5(40185)	23.41	22.45	21.03
		2506 (39750)	23.07	22.15	20.75
	1RB-Middle (50)	2680 (41490)	23.80	22.73	21.46

		2636.5(41055)	23.88	22.89	21.55
		2593 (40620)	23.77	22.85	21.45
		2549.5(40185)	23.75	22.83	21.41
		2506 (39750)	23.40	22.40	21.05
	1RB-Low (0)	2680 (41490)	23.58	22.53	21.25
		2636.5(41055)	23.59	22.61	21.25
		2593 (40620)	23.49	22.57	21.15
		2549.5(40185)	23.36	22.43	21.06
		2506 (39750)	23.11	22.11	20.76
	50RB-High (50)	2680 (41490)	22.48	21.54	20.49
		2636.5(41055)	22.73	21.71	20.73
		2593 (40620)	22.60	21.67	20.59
		2549.5(40185)	22.56	21.59	20.60
		2506 (39750)	22.26	21.26	20.32
	50RB-Middle (25)	2680 (41490)	22.62	21.67	20.64
		2636.5(41055)	22.71	21.78	20.73
		2593 (40620)	22.56	21.67	20.61
		2549.5(40185)	22.54	21.63	20.59
		2506 (39750)	22.20	21.28	20.27
	50RB-Low (0)	2680 (41490)	22.68	21.71	20.69
		2636.5(41055)	22.67	21.71	20.60
		2593 (40620)	22.59	21.61	20.56
		2549.5(40185)	22.52	21.55	20.55
		2506 (39750)	22.16	21.24	20.19
	100RB (0)	2680 (41490)	22.69	21.67	20.69
		2636.5(41055)	22.78	21.85	20.76
		2593 (40620)	22.62	21.73	20.70
		2549.5(40185)	22.62	21.65	20.63
		2506 (39750)	22.28	21.30	20.26

LTE B66 (DSI1)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	22.88	22.13	21.07
		1745 (132322)	22.87	22.12	21.09
		1710.7 (131979)	22.91	22.20	21.08
	1RB-Middle (3)	1779.3 (132665)	22.94	22.32	21.17
		1745 (132322)	22.93	22.15	21.18
		1710.7 (131979)	23.03	22.25	21.66
	1RB-Low (0)	1779.3 (132665)	22.88	22.04	21.05
		1745 (132322)	22.85	22.09	21.23

		1710.7 (131979)	22.89	22.10	21.26
	3RB-High (3)	1779.3 (132665)	22.97	21.97	21.05
		1745 (132322)	22.95	21.94	21.11
		1710.7 (131979)	23.02	21.97	21.11
	3RB-Middle (1)	1779.3 (132665)	23.02	22.00	21.09
		1745 (132322)	22.99	21.99	21.19
		1710.7 (131979)	23.07	22.08	21.31
	3RB-Low (0)	1779.3 (132665)	22.97	21.94	21.10
		1745 (132322)	22.96	21.86	21.33
		1710.7 (131979)	22.98	22.04	21.12
	6RB (0)	1779.3 (132665)	21.98	21.11	20.02
		1745 (132322)	22.00	21.05	20.08
		1710.7 (131979)	21.99	21.12	20.06
3MHz	1RB-High (14)	1778.5 (132657)	22.93	22.28	21.15
		1745 (132322)	22.93	22.21	21.16
		1711.5 (131987)	22.99	22.35	21.41
	1RB-Middle (7)	1778.5 (132657)	23.16	22.37	21.28
		1745 (132322)	23.16	22.42	21.39
		1711.5 (131987)	23.08	22.41	21.38
	1RB-Low (0)	1778.5 (132657)	22.94	22.20	21.13
		1745 (132322)	22.93	22.21	21.45
		1711.5 (131987)	22.97	22.28	21.65
	8RB-High (7)	1778.5 (132657)	21.97	21.07	20.09
		1745 (132322)	21.95	21.06	20.17
		1711.5 (131987)	21.99	21.09	20.11
	8RB-Middle (4)	1778.5 (132657)	22.02	21.06	20.12
		1745 (132322)	22.02	21.12	20.57
		1711.5 (131987)	22.05	21.10	20.63
	8RB-Low (0)	1778.5 (132657)	21.97	21.04	20.13
		1745 (132322)	22.09	21.22	20.54
		1711.5 (131987)	22.01	21.08	20.50
	15RB (0)	1778.5 (132657)	22.00	20.99	20.03
		1745 (132322)	21.97	21.11	20.48
		1711.5 (131987)	21.98	21.04	20.08
5MHz	1RB-High (24)	1777.5 (132647)	22.84	22.09	21.02
		1745 (132322)	22.82	22.11	21.04
		1712.5 (131997)	22.87	22.13	21.19
	1RB-Middle (12)	1777.5 (132647)	23.06	22.30	21.28
		1745 (132322)	23.07	22.40	21.52
		1712.5 (131997)	23.20	22.44	21.68
	1RB-Low (0)	1777.5 (132647)	22.78	22.02	21.05

		1745 (132322)	22.84	22.11	21.37
		1712.5 (131997)	22.87	22.21	21.53
	12RB-High (13)	1777.5 (132647)	21.96	20.94	20.03
		1745 (132322)	21.95	21.10	20.13
		1712.5 (131997)	22.04	21.06	20.20
	12RB-Middle (6)	1777.5 (132647)	22.04	21.04	20.12
		1745 (132322)	22.03	21.13	20.54
		1712.5 (131997)	22.05	21.06	20.66
	12RB-Low (0)	1777.5 (132647)	22.02	21.00	20.08
		1745 (132322)	22.10	21.35	20.52
		1712.5 (131997)	22.00	21.10	20.59
	25RB (0)	1777.5 (132647)	21.99	21.00	20.08
		1745 (132322)	22.21	21.35	20.48
		1712.5 (131997)	22.01	21.11	20.08
10MHz	1RB-High (49)	1775 (132622)	22.89	22.17	21.09
		1745 (132322)	22.92	22.22	21.11
		1715 (132022)	22.96	22.27	21.38
	1RB-Middle (24)	1775 (132622)	22.98	22.23	21.28
		1745 (132322)	23.02	22.20	21.64
		1715 (132022)	23.11	22.37	21.82
	1RB-Low (0)	1775 (132622)	22.91	22.16	21.07
		1745 (132322)	22.94	22.29	21.64
		1715 (132022)	22.96	22.19	21.31
	25RB-High (25)	1775 (132622)	21.97	20.96	20.03
		1745 (132322)	22.05	21.02	20.26
		1715 (132022)	22.09	21.12	20.20
	25RB-Middle (12)	1775 (132622)	22.01	21.01	20.06
		1745 (132322)	22.02	21.17	20.51
		1715 (132022)	22.07	21.09	20.64
	25RB-Low (0)	1775 (132622)	22.03	21.04	20.21
		1745 (132322)	22.04	21.35	20.50
		1715 (132022)	22.02	21.09	20.61
	50RB (0)	1775 (132622)	21.98	21.00	20.07
		1745 (132322)	22.07	21.48	20.53
		1715 (132022)	22.03	21.11	20.30
15MHz	1RB-High (74)	1772.5 (132597)	23.03	22.12	21.05
		1745 (132322)	22.83	22.08	20.97
		1717.5 (132047)	22.92	22.26	21.50
	1RB-Middle (37)	1772.5 (132597)	22.98	22.18	21.11
		1745 (132322)	22.95	22.17	21.55
		1717.5 (132047)	23.06	22.43	21.68

	1RB-Low (0)	1772.5 (132597)	22.84	22.08	21.01
		1745 (132322)	22.94	22.16	21.55
		1717.5 (132047)	22.90	22.16	21.39
	36RB-High (38)	1772.5 (132597)	22.01	20.99	20.07
		1745 (132322)	22.31	21.14	20.30
		1717.5 (132047)	22.05	21.32	20.17
	36RB-Middle (19)	1772.5 (132597)	22.05	21.02	20.27
		1745 (132322)	22.37	21.36	20.57
		1717.5 (132047)	22.15	21.17	20.63
	36RB-Low (0)	1772.5 (132597)	22.02	21.01	20.38
		1745 (132322)	22.48	21.49	20.53
		1717.5 (132047)	22.03	21.12	20.59
	75RB (0)	1772.5 (132597)	22.00	21.03	20.06
		1745 (132322)	22.47	21.51	20.49
		1717.5 (132047)	22.12	21.37	20.15
20MHz	1RB-High (99)	1770 (132572)	23.15	22.01	20.89
		1745 (132322)	23.10	21.96	20.88
		1720 (132072)	23.06	22.10	21.05
	1RB-Middle (50)	1770 (132572)	23.57	22.31	21.32
		1745 (132322)	23.54	22.48	21.71
		1720 (132072)	23.27	22.44	21.80
	1RB-Low (0)	1770 (132572)	23.16	21.95	20.91
		1745 (132322)	23.20	22.10	21.38
		1720 (132072)	22.70	22.02	21.45
	50RB-High (50)	1770 (132572)	22.44	20.89	20.00
		1745 (132322)	22.53	21.51	20.50
		1720 (132072)	22.57	21.60	20.56
	50RB-Middle (25)	1770 (132572)	22.59	21.06	20.48
		1745 (132322)	22.59	21.57	20.58
		1720 (132072)	22.53	21.57	20.64
	50RB-Low (0)	1770 (132572)	22.67	21.13	20.60
		1745 (132322)	22.57	21.58	20.58
		1720 (132072)	22.15	21.37	20.60
	100RB (0)	1770 (132572)	22.57	21.02	20.10
		1745 (132322)	22.58	21.50	20.52
		1720 (132072)	22.27	21.34	20.52

LTE B66 (DSI2)

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	18.39	18.59	18.63
		1745 (132322)	18.31	18.87	18.70
		1710.7 (131979)	18.75	19.07	19.00
	1RB-Middle (3)	1779.3 (132665)	19.22	19.18	19.11
		1745 (132322)	18.99	19.13	19.09
		1710.7 (131979)	19.26	19.42	19.37
	1RB-Low (0)	1779.3 (132665)	18.50	18.91	18.73
		1745 (132322)	18.51	19.17	19.01
		1710.7 (131979)	18.64	19.18	19.04
	3RB-High (3)	1779.3 (132665)	18.72	18.89	18.74
		1745 (132322)	18.87	18.87	18.59
		1710.7 (131979)	18.87	19.16	19.17
	3RB-Middle (1)	1779.3 (132665)	18.70	18.93	18.96
		1745 (132322)	18.71	19.01	18.92
		1710.7 (131979)	18.95	18.93	19.05
	3RB-Low (0)	1779.3 (132665)	19.31	18.91	18.98
		1745 (132322)	18.75	18.89	19.00
		1710.7 (131979)	19.04	19.14	19.24
	6RB (0)	1779.3 (132665)	18.85	18.72	18.84
		1745 (132322)	18.74	18.64	18.80
		1710.7 (131979)	18.95	19.06	18.92
3MHz	1RB-High (14)	1778.5 (132657)	18.27	18.63	18.67
		1745 (132322)	18.57	18.71	18.76
		1711.5 (131987)	18.65	18.96	18.95
	1RB-Middle (7)	1778.5 (132657)	19.39	19.14	19.13
		1745 (132322)	18.80	19.36	19.10
		1711.5 (131987)	19.22	19.26	19.55
	1RB-Low (0)	1778.5 (132657)	18.47	18.71	18.57
		1745 (132322)	18.76	18.90	18.80
		1711.5 (131987)	18.69	19.13	19.00
	8RB-High (7)	1778.5 (132657)	18.79	18.75	18.90
		1745 (132322)	18.61	18.75	18.82
		1711.5 (131987)	18.97	18.95	19.14
	8RB-Middle (4)	1778.5 (132657)	18.70	18.78	18.77
		1745 (132322)	18.82	18.80	18.90
		1711.5 (131987)	19.11	19.03	19.05
	8RB-Low (0)	1778.5 (132657)	19.12	19.01	18.89
		1745 (132322)	18.80	18.91	18.74

		1711.5 (131987)	18.97	19.10	18.97
	15RB (0)	1778.5 (132657)	18.85	18.95	18.68
		1745 (132322)	18.77	18.78	18.73
		1711.5 (131987)	18.96	18.99	19.05
5MHz	1RB-High (24)	1777.5 (132647)	18.52	18.61	18.57
		1745 (132322)	18.38	18.68	18.71
		1712.5 (131997)	18.66	18.85	18.82
	1RB-Middle (12)	1777.5 (132647)	19.40	19.04	18.97
		1745 (132322)	18.80	19.27	19.13
		1712.5 (131997)	19.22	19.17	19.47
	1RB-Low (0)	1777.5 (132647)	18.43	18.81	18.54
		1745 (132322)	18.62	19.12	18.77
		1712.5 (131997)	18.68	18.95	19.18
	12RB-High (13)	1777.5 (132647)	18.70	18.71	18.83
		1745 (132322)	18.76	18.75	18.62
		1712.5 (131997)	18.88	19.12	19.12
	12RB-Middle (6)	1777.5 (132647)	18.79	18.64	18.78
		1745 (132322)	18.76	18.91	18.78
		1712.5 (131997)	18.95	19.15	19.16
	12RB-Low (0)	1777.5 (132647)	19.17	18.92	18.89
		1745 (132322)	18.90	18.87	18.80
		1712.5 (131997)	19.09	19.11	19.18
	25RB (0)	1777.5 (132647)	18.83	19.00	18.77
		1745 (132322)	18.80	18.71	18.85
		1712.5 (131997)	18.96	19.13	18.98
10MHz	1RB-High (49)	1775 (132622)	18.44	18.54	18.55
		1745 (132322)	18.47	18.81	18.77
		1715 (132022)	18.58	18.95	18.82
	1RB-Middle (24)	1775 (132622)	19.32	19.22	18.95
		1745 (132322)	18.99	19.12	19.07
		1715 (132022)	19.22	19.41	19.26
	1RB-Low (0)	1775 (132622)	18.35	18.74	18.54
		1745 (132322)	18.65	19.14	18.86
		1715 (132022)	18.77	19.00	19.18
	25RB-High (25)	1775 (132622)	18.82	18.73	18.63
		1745 (132322)	18.90	18.74	18.59
		1715 (132022)	18.81	18.90	18.97
	25RB-Middle (12)	1775 (132622)	18.66	18.76	18.83
		1745 (132322)	18.73	18.81	18.84
		1715 (132022)	18.97	19.12	18.89
	25RB-Low (0)	1775 (132622)	19.34	18.96	18.80

		1745 (132322)	18.76	18.77	18.87
		1715 (132022)	19.25	19.11	19.14
	50RB (0)	1775 (132622)	19.02	18.89	18.89
		1745 (132322)	18.83	18.83	18.64
		1715 (132022)	19.06	18.92	19.04
15MHz	1RB-High (74)	1772.5 (132597)	18.53	18.55	18.60
		1745 (132322)	18.50	18.87	18.83
		1717.5 (132047)	18.57	18.94	18.91
	1RB-Middle (37)	1772.5 (132597)	19.39	19.01	18.91
		1745 (132322)	18.84	19.23	19.15
		1717.5 (132047)	19.16	19.39	19.31
	1RB-Low (0)	1772.5 (132597)	18.38	18.71	18.63
		1745 (132322)	18.47	19.04	18.79
		1717.5 (132047)	18.79	19.03	19.16
	36RB-High (38)	1772.5 (132597)	18.79	18.68	18.76
		1745 (132322)	18.62	18.65	18.63
		1717.5 (132047)	18.84	19.05	18.94
	36RB-Middle (19)	1772.5 (132597)	18.94	18.70	18.90
		1745 (132322)	18.73	19.00	18.92
		1717.5 (132047)	18.86	19.03	19.03
	36RB-Low (0)	1772.5 (132597)	19.33	18.94	18.83
		1745 (132322)	18.93	18.82	18.81
		1717.5 (132047)	19.05	19.20	19.26
	75RB (0)	1772.5 (132597)	18.83	18.86	18.90
		1745 (132322)	18.77	18.80	18.76
		1717.5 (132047)	18.93	19.00	19.01
20MHz	1RB-High (99)	1770 (132572)	18.39	18.67	18.57
		1745 (132322)	18.45	18.76	18.71
		1720 (132072)	18.65	18.99	18.93
	1RB-Middle (50)	1770 (132572)	19.25	19.11	19.00
		1745 (132322)	18.90	19.25	19.13
		1720 (132072)	19.11	19.31	19.40
	1RB-Low (0)	1770 (132572)	18.47	18.78	18.66
		1745 (132322)	18.62	19.03	18.90
		1720 (132072)	18.78	19.04	19.04
	50RB-High (50)	1770 (132572)	18.77	18.77	18.76
		1745 (132322)	18.75	18.76	18.73
		1720 (132072)	18.96	19.04	19.04
	50RB-Middle (25)	1770 (132572)	18.79	18.78	18.83
		1745 (132322)	18.84	18.86	18.86
		1720 (132072)	18.97	19.04	19.03

	50RB-Low (0)	1770 (132572)	19.23	18.93	18.95
		1745 (132322)	18.82	18.86	18.86
		1720 (132072)	19.11	19.08	19.12
	100RB (0)	1770 (132572)	18.87	18.85	18.82
		1745 (132322)	18.76	18.76	18.77
		1720 (132072)	19.01	19.05	19.04

11.4 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 11.3dBm.
The maximum tune up of BT antenna is 12.5dBm.

Table 11.4: Summary of Receiver detection mechanism-WIFI antenna

Antenna	Receiver on (head scenario)	Receiver off (body scenario)
WIFI Antenna	DSI1	DSI2

The average conducted power for Wi-Fi 2.4G is as following-DSI1/2

802.11b		
Channel\data rate	1Mbps	Tune up
11(2462MHz)	17.74	18.5
6(2437(MHz)	18.14	18.5
1(2412MHz)	17.86	18.5
802.11g		
Channel\data rate	6Mbps	Tune up
11(2462MHz)	15.11	16
6(2437(MHz)	17.66	18
1(2412MHz)	16.25	17
802.11n-20MHz		
Channel\data rate	MCS0	Tune up
11(2462MHz)	15.05	15.5
6(2437(MHz)	17.42	18
1(2412MHz)	16.16	17
802.11n-40MHz		
Channel\data rate	MCS0	Tune up
9(2452MHz)	11.76	12.5
6(2437MHz)	14.84	15.5
3(2422MHz)	13.84	14.5

The tune up power for Wi-Fi 5G is as following-DSI1/2

WiFi 802.11a (5GHz)					
Channel	Channel 36~64	Channel 100	Channel 104~136	Channel 140	Channel 149~165
Target (dBm)	17.5+/-1	16+/-1	16.5+/-1	14.5+/-1	17.0+/-1
WiFi 802.11n - BW20 (5GHz)					
Channel	Channel 36~64	\	Channel 100~140	\	Channel 149~165
Target (dBm)	17 +/-1	\	16.5 +/-1	\	16.5 +/-1
WiFi 802.11n - BW40 (5GHz)					
Channel	Channel 38~62	\	Channel 102~134	\	Channel 149~159
Target (dBm)	16.5 +/-1	\	16.5 +/-1	\	16.5 +/-1
WiFi 802.11ac - BW20 (5GHz)					
Channel	Channel 36~64	\	Channel 100~140	\	Channel 149~165
Target (dBm)	15.0+/-1	\	15.0 +/-1	\	15.0+/-1
WiFi 802.11ac - BW40 (5GHz) MCS0					
Channel	Channel 38~62	\	Channel 102~134	\	Channel 149~165
Target (dBm)	15.0+/-1	\	15.0 +/-1	\	15.0+/-1
WiFi 802.11ac - BW80 (5GHz) MCS0					
Channel	Channel 42~58	\	Channel 106~138	\	Channel 149~155
Target (dBm)	15.0+/-1	\	15.0 +/-1	\	15.0+/-1

The average conducted power for Wi-Fi 5G is as following-DSI1/2

802.11a(dBm)		
Channel\data rate	6Mbps	Tune up
36(5180 MHz)	17.07	18.5
40(5200 MHz)	17.49	18.5
44(5220 MHz)	17.28	18.5
48(5240 MHz)	17.46	18.5
52(5260 MHz)	17.34	18.5
56(5280 MHz)	17.29	18.5
60(5300 MHz)	16.85	18.5
64(5320 MHz)	16.68	18
100(5500 MHz)	15.89	17
104(5520 MHz)	16.97	17.5
108(5540 MHz)	16.74	17.5
112(5560 MHz)	16.89	17.5
116(5580 MHz)	16.79	17.5
120(5600 MHz)	16.73	17.5
124(5620 MHz)	16.75	17.5
128(5640 MHz)	16.69	17.5
132(5660 MHz)	16.73	17.5
136(5680 MHz)	16.69	17.5
140(5700 MHz)	14.98	15.5
149(5745 MHz)	16.89	18
153(5765 MHz)	17.04	18
157(5785 MHz)	17.22	18
161(5805 MHz)	16.86	18
165(5825 MHz)	16.84	18

12 Simultaneous TX SAR Considerations

12.1 Introduction

Simultaneous Transmission Possibilities

The Simultaneous Transmission Possibilities are as below:

NO.	Antenna combines	head	body
1	WWAN + BT	Yes	Yes
2	WWAN + Wi-Fi 2.4G	Yes	Yes
3	WWAN + Wi-Fi 5G	Yes	Yes
4	WWAN + Wi-Fi 5G + BT	Yes	Yes
5	Wi-Fi 5G + BT	Yes	Yes

12.2 Transmit Antenna Separation Distances

Please refer to the file< The Photos of SAR test - 25T04Z100217-019>

12.3 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

SAR measurement positions						
Mode	Front	Rear	Left edge	Right edge	Top edge	Bottom edge
Down-ANT	Yes	Yes	Yes	Yes	No	Yes
UP-ANT	Yes	Yes	Yes	No	Yes	No
3IN1-ANT	Yes	Yes	No	Yes	Yes	No

13 Evaluation of Simultaneous

Reported SAR 1g (W/kg)																			
State		1													2	3	4	1+2	1+3+4
Head(1g)		GSM850	GSM1900	W850	W1700	W1900	LTE B2	LTE B5	LTE B7	LTE B12	LTE B13	LTE B26	LTE B41	LTE B66	WiFi 2.4G	WiFi 5G	BT		
Cheek	Left	0.60	0.12	0.63	0.17	0.17	0.13	0.31	0.11	0.27	0.44	0.36	0.07	0.04	0.30	0.38	0.09	0.93	1.10
Tilt	Left	0.76	0.09	0.62	0.10	0.13	0.07	0.33	0.11	0.26	0.29	0.37	0.06	0.06	0.30	0.40	0.07	1.06	1.23
Cheek	Right	1.15	0.07	0.71	0.10	0.15	0.09	0.37	0.19	0.34	0.49	0.39	0.09	0.11	0.10	0.13	0.00	1.25	1.28
Tilt	Right	1.15	0.08	0.66	0.08	0.15	0.11	0.44	0.17	0.37	0.61	0.49	0.08	0.03	0.12	0.14	0.04	1.27	**1.33**
State		1													2	3	4	1+2	1+3+4
Hotspot(1g)		GSM850	GSM1900	W850	W1700	W1900	LTE B2	LTE B5	LTE B7	LTE B12	LTE B13	LTE B26	LTE B41	LTE B66	WiFi 2.4G	WiFi 5G	BT		
Front	10mm	0.31	0.38	0.20	0.20	0.34	0.19	0.15	0.18	0.16	0.22	0.15	0.21	0.16	0.10	0.16	0.00	0.48	0.54
Rear	10mm	0.38	0.73	0.25	0.61	0.72	0.37	0.16	0.55	0.21	0.31	0.16	0.59	0.42	0.11	0.24	0.01	0.84	0.98
Left	10mm	0.28	0.08	0.18	0.06	0.00	0.00	0.13	0.05	0.14	0.29	0.14	0.06	0.04	0.00	0.00	0.00	0.29	0.29
Right	10mm	0.12	0.22	0.08	0.07	0.00	0.07	0.08	0.08	0.09	0.12	0.08	0.12	0.07	0.16	0.46	0.00	0.38	0.68
Bottom	10mm	0.00	1.11	0.00	0.53	0.87	0.59	0.00	0.32	0.00	0.00	0.00	0.39	0.47	0.00	0.00	0.00	**1.11**	**1.11**
Top	10mm	0.52	0.00	0.38	0.00	0.00	0.00	0.24	0.00	0.12	0.21	0.24	0.00	0.00	0.09	0.22	0.00	0.61	0.74

Conclusion:

According to the above tables, the sum of reported SAR values is<1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

14 SAR Test Result

Note:

KDB 447498 D01 General RF Exposure Guidance:

For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor

For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor

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

KDB 648474 D04 Handset SAR:

With headset attached, when the reported SAR for body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

KDB 941225 D01 SAR test for 3G devices:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.

When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.

Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low,Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.

Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.

Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is <1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the

group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

KDB 248227 D01 SAR meas for 802.11:

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions.An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the initial test position(s) by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The initial test position(s) is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s).

When the reported SAR for the initial test position is:

≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.

> 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions are tested.

- For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
- When it is unclear, all equivalent conditions must be tested.

For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required test channels are considered.

- The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

Table 14.1: Duty Cycle

Mode	Duty Cycle
GPRS/EGPRS (2TX)	1:4
GPRS/EGPRS (4TX)	1:2
WCDMA&LTE FDD	1:1
LTE TDD	1:1.58

14.1 SAR results for 2G/3G/4G

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Head	GSM850	190	836.6	GPRS(4TX)	Cheek Left	0mm	\	28.71	29.5	0.5	**0.60**	0.297	**0.36**	-0.04
Head	GSM850	190	836.6	GPRS(4TX)	Tilt Left	0mm	\	28.71	29.5	0.632	**0.76**	0.332	**0.40**	0.02
Head	GSM850	251	848.8	GPRS(4TX)	Cheek Right	0mm	\	28.82	29.5	0.951	**1.11**	0.666	**0.78**	0.05
Head	GSM850	190	836.6	GPRS(4TX)	Cheek Right	0mm	1	28.71	29.5	0.959	**1.15**	0.684	**0.82**	-0.01
Head	GSM850	128	824.2	GPRS(4TX)	Cheek Right	0mm	\	28.67	29.5	0.944	**1.14**	0.624	**0.76**	-0.08
Head	GSM850	251	848.8	GPRS(4TX)	Tilt Right	0mm	\	28.82	29.5	0.907	**1.06**	0.478	**0.56**	0.02
Head	GSM850	190	836.6	GPRS(4TX)	Tilt Right	0mm	\	28.71	29.5	0.957	**1.15**	0.481	**0.58**	0.01
Head	GSM850	128	824.2	GPRS(4TX)	Tilt Right	0mm	\	28.67	29.5	0.864	**1.05**	0.455	**0.55**	-0.04
Head	GSM850	190	836.6	EGPRS(4TX)	Cheek Right	0mm	\	28.66	29.5	0.932	**1.13**	0.671	**0.81**	0.13
Head	GSM850	190	836.6	GPRS(4TX)	Cheek Right	0mm	SIM2	28.71	29.5	0.938	**1.13**	0.669	**0.80**	-0.05
Head	GSM850	190	836.6	GPRS(4TX)	Cheek Right	0mm	Single SIM	28.71	29.5	0.921	**1.10**	0.653	**0.78**	0.08
Head	GSM850	190	836.6	GPRS(4TX)	Cheek Right	0mm	Battery2	28.71	29.5	0.933	**1.12**	0.664	**0.80**	0.09
Body	GSM850	190	836.6	GPRS(4TX)	Front	10mm	\	28.71	29.5	0.257	**0.31**	0.173	**0.21**	-0.16
Body	GSM850	190	836.6	GPRS(4TX)	Rear	10mm	\	28.71	29.5	0.314	**0.38**	0.202	**0.24**	-0.13
Body	GSM850	190	836.6	GPRS(4TX)	Left	10mm	\	28.71	29.5	0.236	**0.28**	0.164	**0.20**	0.14
Body	GSM850	190	836.6	GPRS(4TX)	Right	10mm	\	28.71	29.5	0.096	**0.12**	0.069	**0.08**	-0.13
Body	GSM850	251	848.8	GPRS(4TX)	Top	10mm	\	28.82	29.5	0.419	**0.49**	0.221	**0.26**	0.12
Body	GSM850	190	836.6	GPRS(4TX)	Top	10mm	\	28.71	29.5	0.344	**0.41**	0.206	**0.25**	0.07
Body	GSM850	128	824.2	GPRS(4TX)	Top	10mm	2	28.67	29.5	0.43	**0.52**	0.223	**0.27**	0.03
Body	GSM850	128	824.2	EGPRS(4TX)	Top	10mm	\	28.66	29.5	0.411	**0.50**	0.215	**0.26**	0.13
Head	GSM1900	810	1909.8	GPRS(2TX)	Cheek Left	0mm	\	27.69	29	0.09	**0.12**	0.059	**0.08**	0.03
Head	GSM1900	661	1880	GPRS(2TX)	Cheek Left	0mm	\	27.86	29	0.079	**0.10**	0.051	**0.07**	0.12
Head	GSM1900	512	1850.2	GPRS(2TX)	Cheek Left	0mm	3	28.04	29	0.1	**0.12**	0.065	**0.08**	-0.09
Head	GSM1900	661	1880	GPRS(2TX)	Tilt Left	0mm	\	27.86	29	0.068	**0.09**	0.044	**0.06**	0.07
Head	GSM1900	661	1880	GPRS(2TX)	Cheek Right	0mm	\	27.86	29	0.056	**0.07**	0.039	**0.05**	0.09
Head	GSM1900	661	1880	GPRS(2TX)	Tilt Right	0mm	\	27.86	29	0.058	**0.08**	0.037	**0.05**	-0.18
Head	GSM1900	512	1850.2	EGPRS(2TX)	Cheek Left	0mm	\	28.2	29	0.089	**0.11**	0.057	**0.07**	0.03
Body	GSM1900	661	1880	GPRS(2TX)	Front	10mm	\	27.86	29	0.292	**0.38**	0.179	**0.23**	0.11
Body	GSM1900	661	1880	GPRS(2TX)	Rear	10mm	\	27.86	29	0.561	**0.73**	0.33	**0.43**	0.12
Body	GSM1900	661	1880	GPRS(2TX)	Left	10mm	\	27.86	29	0.063	**0.08**	0.038	**0.05**	0.02
Body	GSM1900	661	1880	GPRS(2TX)	Right	10mm	\	27.86	29	0.172	**0.22**	0.1	**0.13**	0.06
Body	GSM1900	810	1909.8	GPRS(2TX)	Bottom	10mm	\	27.69	29	0.745	**1.01**	0.424	**0.57**	-0.1
Body	GSM1900	661	1880	GPRS(2TX)	Bottom	10mm	4	27.86	29	0.856	**1.11**	0.483	**0.63**	-0.01
Body	GSM1900	512	1850.2	GPRS(2TX)	Bottom	10mm	\	28.04	29	0.787	**0.98**	0.458	**0.57**	0.16
Body	GSM1900	661	1880	GPRS(2TX)	Bottom	10mm	\	27.98	29	0.841	**1.06**	0.472	**0.60**	-0.03
Body	GSM1900	661	1880	EGPRS(2TX)	Bottom	10mm	\	27.98	29	0.843	**1.07**	0.474	**0.60**	0.03
Body	GSM1900	661	1880	GPRS(2TX)	Bottom	10mm	SIM2	27.86	29	0.832	**1.08**	0.471	**0.61**	-0.09
Body	GSM1900	661	1880	GPRS(2TX)	Bottom	10mm	Single SIM	27.86	29	0.825	**1.07**	0.467	**0.61**	0.05
Body	GSM1900	661	1880	GPRS(2TX)	Bottom	10mm	Battery2	27.86	29	0.838	**1.09**	0.473	**0.61**	-0.07
Head	WCDMA 850	4183	836.6	RMC	Cheek Left	0mm	\	23.65	24.5	0.521	**0.63**	0.378	**0.46**	-0.06
Head	WCDMA 850	4183	836.6	RMC	Tilt Left	0mm	\	23.65	24.5	0.513	**0.62**	0.342	**0.42**	-0.09
Head	WCDMA 850	4233	846.6	RMC	Cheek Right	0mm	5	23.99	24.5	0.626	**0.70**	0.445	**0.50**	-0.03
Head	WCDMA 850	4183	836.6	RMC	Cheek Right	0mm	\	23.65	24.5	0.581	**0.71**	0.432	**0.53**	0.01
Head	WCDMA 850	4132	826.4	RMC	Cheek Right	0mm	\	23.78	24.5	0.587	**0.69**	0.444	**0.52**	0.16
Head	WCDMA 850	4183	836.6	RMC	Tilt Right	0mm	\	23.65	24.5	0.546	**0.66**	0.359	**0.44**	0.12
Body	WCDMA 850	4183	836.6	RMC	Front	10mm	\	23.65	24.5	0.163	**0.20**	0.109	**0.13**	-0.04
Body	WCDMA 850	4183	836.6	RMC	Rear	10mm	\	23.65	24.5	0.204	**0.25**	0.137	**0.17**	0.01
Body	WCDMA 850	4183	836.6	RMC	Left	10mm	\	23.65	24.5	0.147	**0.18**	0.101	**0.12**	0.07
Body	WCDMA 850	4183	836.6	RMC	Right	10mm	\	23.65	24.5	0.068	**0.08**	0.049	**0.06**	-0.05
Body	WCDMA 850	4233	846.6	RMC	Top	10mm	\	23.99	24.5	0.243	**0.27**	0.133	**0.15**	-0.15
Body	WCDMA 850	4183	836.6	RMC	Top	10mm	6	23.65	24.5	0.313	**0.38**	0.164	**0.20**	0.02
Body	WCDMA 850	4132	826.4	RMC	Top	10mm	\	23.78	24.5	0.248	**0.29**	0.135	**0.16**	0.02
Head	WCDMA 1700	1513	1752.6	RMC	Cheek Left	0mm	\	22.16	23	0.133	**0.16**	0.09	**0.11**	-0.06
Head	WCDMA 1700	1412	1732.4	RMC	Cheek Left	0mm	\	22.17	23	0.11	**0.13**	0.075	**0.09**	0.02
Head	WCDMA 1700	1312	1712.4	RMC	Cheek Left	0mm	7	22.14	23	0.141	**0.17**	0.092	**0.11**	0.06
Head	WCDMA 1700	1412	1732.4	RMC	Tilt Left	0mm	\	22.17	23	0.081	**0.10**	0.055	**0.07**	-0.05
Head	WCDMA 1700	1412	1732.4	RMC	Cheek Right	0mm	\	22.17	23	0.082	**0.10**	0.057	**0.07**	-0.08
Head	WCDMA 1700	1412	1732.4	RMC	Tilt Right	0mm	\	22.17	23	0.069	**0.08**	0.047	**0.06**	0.18
Body	WCDMA 1700	1412	1732.4	RMC	Front	10mm	\	19.61	20.5	0.165	**0.20**	0.105	**0.13**	0.01
Body	WCDMA 1700	1513	1752.6	RMC	Rear	10mm	\	19.67	20.5	0.492	**0.60**	0.281	**0.34**	0.07
Body	WCDMA 1700	1412	1732.4	RMC	Rear	10mm	8	19.61	20.5	0.493	**0.61**	0.282	**0.35**	0.01
Body	WCDMA 1700	1312	1712.4	RMC	Rear	10mm	\	19.58	20.5	0.485	**0.60**	0.277	**0.34**	0.02
Body	WCDMA 1700	1412	1732.4	RMC	Left	10mm	\	19.61	20.5	0.047	**0.06**	0.029	**0.04**	0.1
Body	WCDMA 1700	1412	1732.4	RMC	Right	10mm	\	19.61	20.5	0.058	**0.07**	0.033	**0.04**	0.12
Body	WCDMA 1700	1412	1732.4	RMC	Bottom	10mm	\	19.61	20.5	0.435	**0.53**	0.245	**0.30**	0.01
Head	WCDMA 1900	9538	1907.6	RMC	Cheek Left	0mm	\	21.55	23	0.117	**0.16**	0.078	**0.11**	0.14
Head	WCDMA 1900	9400	1880	RMC	Cheek Left	0mm	9	21.89	23	0.135	**0.17**	0.086	**0.11**	-0.04
Head	WCDMA 1900	9262	1852.4	RMC	Cheek Left	0mm	\	21.51	23	0.112	**0.16**	0.079	**0.11**	-0.15
Head	WCDMA 1900	9400	1880	RMC	Tilt Left	0mm	\	21.89	23	0.1	**0.13**	0.064	**0.08**	0.04
Head	WCDMA 1900	9400	1880	RMC	Cheek Right	0mm	\	21.89	23	0.116	**0.15**	0.077	**0.10**	-0.14
Head	WCDMA 1900	9400	1880	RMC	Tilt Right	0mm	\	21.89	23	0.113	**0.15**	0.071	**0.09**	-0.1
Body	WCDMA 1900	9400	1880	RMC	Front	10mm	\	19.57	20.5	0.271	**0.34**	0.168	**0.21**	0.08
Body	WCDMA 1900	9400	1880	RMC	Rear	10mm	\	19.57	20.5	0.579	**0.72**	0.356	**0.44**	-0.09
Body	WCDMA 1900	9400	1880	RMC	Left	10mm	\	19.57	20.5	<0.01	<0.01	<0.01	<0.01	\
Body	WCDMA 1900	9400	1880	RMC	Right	10mm	\	19.57	20.5	<0.01	<0.01	<0.01	<0.01	\
Body	WCDMA 1900	9538	1907.6	RMC	Bottom	10mm	\	19.71	20.5	0.643	**0.77**	0.365	**0.44**	0.1
Body	WCDMA 1900	9400	1880	RMC	Bottom	10mm	10	19.57	20.5	0.701	**0.87**	0.399	**0.49**	-0.02
Body	WCDMA 1900	9262	1852.4	RMC	Bottom	10mm	\	19.49	20.5	0.649	**0.82**	0.369	**0.47**	0.14

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Head	LTE Band2	18900	1880	1RB-Middle	Cheek Left	0mm	11	23.65	24.5	0.107	0.13	0.069	**0.08**	-0.04
Head	LTE Band2	18900	1880	1RB-Middle	Tilt Left	0mm	\	23.65	24.5	0.06	**0.07**	0.039	**0.05**	0.12
Head	LTE Band2	18900	1880	1RB-Middle	Cheek Right	0mm	\	23.65	24.5	0.078	**0.09**	0.055	**0.07**	0.15
Head	LTE Band2	18900	1880	1RB-Middle	Tilt Right	0mm	\	23.65	24.5	0.092	**0.11**	0.059	**0.07**	-0.13
Head	LTE Band2	18900	1880	50RB-Low	Cheek Left	0mm	\	22.7	23.5	0.092	**0.11**	0.059	**0.07**	-0.01
Head	LTE Band2	18900	1880	50RB-Low	Tilt Left	0mm	\	22.7	23.5	0.048	**0.06**	0.033	**0.04**	-0.03
Head	LTE Band2	18900	1880	50RB-Low	Cheek Right	0mm	\	22.7	23.5	0.065	**0.08**	0.045	**0.05**	0.13
Head	LTE Band2	18900	1880	50RB-Low	Tilt Right	0mm	\	22.7	23.5	0.074	**0.09**	0.047	**0.06**	-0.09
Body	LTE Band2	18900	1880	1RB-Middle	Front	10mm	\	19.19	20	0.154	**0.19**	0.095	**0.11**	-0.06
Body	LTE Band2	18900	1880	1RB-Middle	Rear	10mm	\	19.19	20	0.304	**0.37**	0.182	**0.22**	0.14
Body	LTE Band2	18900	1880	1RB-Middle	Left	10mm	\	19.19	20	<0.01	<0.01	<0.01	<0.01	\
Body	LTE Band2	18900	1880	1RB-Middle	Right	10mm	\	19.19	20	0.055	**0.07**	0.03	**0.04**	-0.09
Body	LTE Band2	19100	1900	1RB-Middle	Bottom	10mm	\	19.05	20	0.366	**0.46**	0.21	**0.26**	-0.13
Body	LTE Band2	18900	1880	1RB-Middle	Bottom	10mm	\	19.19	20	0.391	**0.47**	0.224	**0.27**	0.16
Body	LTE Band2	18700	1860	1RB-Middle	Bottom	10mm	12	18.6	20	0.424	0.59	0.243	**0.34**	-0.06
Body	LTE Band2	18900	1880	50RB-Middle	Front	10mm	\	19.1	20	0.144	**0.18**	0.09	**0.11**	0.05
Body	LTE Band2	18900	1880	50RB-Middle	Rear	10mm	\	19.1	20	0.291	**0.36**	0.174	**0.21**	-0.1
Body	LTE Band2	18900	1880	50RB-Middle	Left	10mm	\	19.1	20	<0.01	<0.01	<0.01	<0.01	\
Body	LTE Band2	18900	1880	50RB-Middle	Right	10mm	\	19.1	20	0.039	**0.05**	0.021	**0.03**	0.08
Body	LTE Band2	18900	1880	50RB-Middle	Bottom	10mm	\	19.1	20	0.305	**0.38**	0.179	**0.22**	0.18
Head	LTE Band7	21350	2560	1RB-Middle	Cheek Left	0mm	\	23.1	24.5	0.07	**0.10**	0.041	**0.06**	-0.04
Head	LTE Band7	21350	2560	1RB-Middle	Tilt Left	0mm	\	23.1	24.5	0.083	**0.11**	0.05	**0.07**	-0.01
Head	LTE Band7	21350	2560	1RB-Middle	Cheek Right	0mm	13	23.1	24.5	0.137	0.19	0.081	**0.11**	0.11
Head	LTE Band7	21350	2560	1RB-Middle	Tilt Right	0mm	\	23.1	24.5	0.121	**0.17**	0.068	**0.09**	-0.18
Head	LTE Band7	21350	2560	50RB-Low	Cheek Left	0mm	\	22.24	23.5	0.082	**0.11**	0.045	**0.06**	0.16
Head	LTE Band7	21350	2560	50RB-Low	Tilt Left	0mm	\	22.24	23.5	0.071	**0.09**	0.041	**0.05**	-0.17
Head	LTE Band7	21350	2560	50RB-Low	Cheek Right	0mm	\	22.24	23.5	0.1	**0.13**	0.057	**0.08**	0.02
Head	LTE Band7	21350	2560	50RB-Low	Tilt Right	0mm	\	22.24	23.5	0.091	**0.12**	0.051	**0.07**	0.07
Body	LTE Band7	21350	2560	1RB-Middle	Front	10mm	\	18.48	19.5	0.139	**0.18**	0.077	**0.10**	0.03
Body	LTE Band7	21350	2560	1RB-Middle	Rear	10mm	\	18.48	19.5	0.399	**0.50**	0.208	**0.26**	0.14
Body	LTE Band7	21100	2535	1RB-Middle	Rear	10mm	\	18.23	19.5	0.406	**0.54**	0.205	**0.27**	-0.12
Body	LTE Band7	20850	2510	1RB-Middle	Rear	10mm	14	18.47	19.5	0.434	0.55	0.223	**0.28**	0.02
Body	LTE Band7	21350	2560	1RB-Middle	Left	10mm	\	18.48	19.5	0.042	**0.05**	0.013	**0.02**	-0.18
Body	LTE Band7	21350	2560	1RB-Middle	Right	10mm	\	18.48	19.5	0.066	**0.08**	0.039	**0.05**	-0.15
Body	LTE Band7	21350	2560	1RB-Middle	Bottom	10mm	\	18.48	19.5	0.211	**0.27**	0.115	**0.15**	0.17
Body	LTE Band7	21350	2560	50RB-High	Front	10mm	\	18.57	19.5	0.136	**0.17**	0.071	**0.09**	-0.17
Body	LTE Band7	21350	2560	50RB-High	Rear	10mm	\	18.57	19.5	0.394	**0.49**	0.199	**0.25**	-0.14
Body	LTE Band7	21350	2560	50RB-High	Left	10mm	\	18.57	19.5	0.035	**0.04**	0.02	**0.02**	-0.14
Body	LTE Band7	21350	2560	50RB-High	Right	10mm	\	18.57	19.5	0.056	**0.07**	0.032	**0.04**	-0.02
Body	LTE Band7	21350	2560	50RB-High	Bottom	10mm	\	18.57	19.5	0.258	**0.32**	0.126	**0.16**	0.11
Head	LTE Band12	23130	711	1RB-Middle	Cheek Left	0mm	\	23.97	25	0.215	**0.27**	0.151	**0.19**	0.14
Head	LTE Band12	23130	711	1RB-Middle	Tilt Left	0mm	\	23.97	25	0.208	**0.26**	0.134	**0.17**	-0.08
Head	LTE Band12	23130	711	1RB-Middle	Cheek Right	0mm	\	23.97	25	0.269	**0.34**	0.184	**0.23**	0.02
Head	LTE Band12	23130	711	1RB-Middle	Tilt Right	0mm	15	23.97	25	0.29	0.37	0.166	**0.21**	0.01
Head	LTE Band12	23130	711	25RB-Middle	Cheek Left	0mm	\	22.98	24	0.162	**0.20**	0.115	**0.15**	0.05
Head	LTE Band12	23130	711	25RB-Middle	Tilt Left	0mm	\	22.98	24	0.167	**0.21**	0.106	**0.13**	-0.15
Head	LTE Band12	23130	711	25RB-Middle	Cheek Right	0mm	\	22.98	24	0.202	**0.26**	0.14	**0.18**	0.11
Head	LTE Band12	23130	711	25RB-Middle	Tilt Right	0mm	\	22.98	24	0.226	**0.29**	0.129	**0.16**	-0.15
Body	LTE Band12	23130	711	1RB-Middle	Front	10mm	\	23.97	25	0.13	**0.16**	0.079	**0.10**	0.06
Body	LTE Band12	23130	711	1RB-Middle	Rear	10mm	16	23.97	25	0.164	0.21	0.099	**0.13**	-0.11
Body	LTE Band12	23130	711	1RB-Middle	Left	10mm	\	23.97	25	0.108	**0.14**	0.059	**0.07**	0.02
Body	LTE Band12	23130	711	1RB-Middle	Right	10mm	\	23.97	25	0.068	**0.09**	0.039	**0.05**	-0.05
Body	LTE Band12	23130	711	1RB-Middle	Top	10mm	\	23.97	25	0.097	**0.12**	0.041	**0.05**	-0.07
Body	LTE Band12	23130	711	25RB-Middle	Front	10mm	\	22.98	24	0.101	**0.13**	0.061	**0.08**	-0.06
Body	LTE Band12	23130	711	25RB-Middle	Rear	10mm	\	22.98	24	0.126	**0.16**	0.077	**0.10**	0.02
Body	LTE Band12	23130	711	25RB-Middle	Left	10mm	\	22.98	24	0.084	**0.11**	0.044	**0.06**	-0.04
Body	LTE Band12	23130	711	25RB-Middle	Right	10mm	\	22.98	24	0.061	**0.08**	0.034	**0.04**	-0.07
Body	LTE Band12	23130	711	25RB-Middle	Top	10mm	\	22.98	24	0.095	**0.12**	0.036	**0.05**	-0.14
Head	LTE Band13	23230	782	1RB-Middle	Cheek Left	0mm	\	23.46	25	0.312	**0.44**	0.213	**0.30**	0.04
Head	LTE Band13	23230	782	1RB-Middle	Tilt Left	0mm	\	23.46	25	0.206	**0.29**	0.171	**0.24**	-0.17
Head	LTE Band13	23230	782	1RB-Middle	Cheek Right	0mm	\	23.46	25	0.344	**0.49**	0.22	**0.31**	-0.04
Head	LTE Band13	23230	782	1RB-Middle	Tilt Right	0mm	17	23.46	25	0.426	0.61	0.233	**0.33**	-0.06
Head	LTE Band13	23230	782	25RB-Middle	Cheek Left	0mm	\	22.55	24	0.206	**0.29**	0.137	**0.19**	0.18
Head	LTE Band13	23230	782	25RB-Middle	Tilt Left	0mm	\	22.55	24	0.21	**0.29**	0.124	**0.17**	0.07
Head	LTE Band13	23230	782	25RB-Middle	Cheek Right	0mm	\	22.55	24	0.269	**0.46**	0.173	**0.24**	-0.09
Head	LTE Band13	23230	782	25RB-Middle	Tilt Right	0mm	\	22.55	24	0.329	**0.46**	0.18	**0.25**	0.14
Body	LTE Band13	23230	782	1RB-Middle	Front	10mm	\	23.46	25	0.157	**0.22**	0.093	**0.13**	0.12
Body	LTE Band13	23230	782	1RB-Middle	Rear	10mm	18	23.46	25	0.218	0.31	0.129	**0.18**	-0.01
Body	LTE Band13	23230	782	1RB-Middle	Left	10mm	\	23.46	25	0.204	**0.29**	0.114	**0.16**	0.12
Body	LTE Band13	23230	782	1RB-Middle	Right	10mm	\	23.46	25	0.086	**0.12**	0.048	**0.07**	-0.1
Body	LTE Band13	23230	782	1RB-Middle	Top	10mm	\	23.46	25	0.13	**0.19**	0.056	**0.08**	-0.04
Body	LTE Band13	23230	782	25RB-Middle	Front	10mm	\	22.55	24	0.124	**0.17**	0.073	**0.10**	0.11
Body	LTE Band13	23230	782	25RB-Middle	Rear	10mm	\	22.55	24	0.166	**0.23**	0.098	**0.14**	-0.14
Body	LTE Band13	23230	782	25RB-Middle	Left	10mm	\	22.55	24	0.162	**0.23**	0.089	**0.12**	-0.15
Body	LTE Band13	23230	782	25RB-Middle	Right	10mm	\	22.55	24	0.06	**0.08**	0.033	**0.05**	-0.01
Body	LTE Band13	23230	782	25RB-Middle	Top	10mm	\	22.55	24	0.148	**0.21**	0.065	**0.09**	0.1

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Head	LTE Band26	26775	822.5	1RB-Middle	Cheek Left	0mm	\	23.68	25	0.264	**0.36**	0.17	**0.23**	-0.02
Head	LTE Band26	26775	822.5	1RB-Middle	Tilt Left	0mm	\	23.68	25	0.273	**0.37**	0.159	**0.22**	-0.13
Head	LTE Band26	26775	822.5	1RB-Middle	Cheek Right	0mm	\	23.68	25	0.288	**0.39**	0.182	**0.25**	-0.16
Head	LTE Band26	26775	822.5	1RB-Middle	Tilt Right	0mm	19	23.68	25	0.363	**0.49**	0.189	**0.26**	-0.03
Head	LTE Band26	26775	822.5	36RB-Low	Cheek Left	0mm	\	22.83	24	0.242	**0.32**	0.155	**0.20**	0.02
Head	LTE Band26	26775	822.5	36RB-Low	Tilt Left	0mm	\	22.83	24	0.227	**0.30**	0.132	**0.17**	0.1
Head	LTE Band26	26775	822.5	36RB-Low	Cheek Right	0mm	\	22.83	24	0.221	**0.29**	0.14	**0.18**	-0.08
Head	LTE Band26	26775	822.5	36RB-Low	Tilt Right	0mm	\	22.83	24	0.279	**0.37**	0.145	**0.19**	0.1
Body	LTE Band26	26775	822.5	1RB-Middle	Front	10mm	\	23.68	25	0.109	**0.15**	0.073	**0.10**	0.01
Body	LTE Band26	26775	822.5	1RB-Middle	Rear	10mm	\	23.68	25	0.121	**0.16**	0.079	**0.11**	0.13
Body	LTE Band26	26775	822.5	1RB-Middle	Left	10mm	\	23.68	25	0.102	**0.14**	0.071	**0.10**	0.04
Body	LTE Band26	26775	822.5	1RB-Middle	Right	10mm	\	23.68	25	0.058	**0.08**	0.04	**0.05**	0.07
Body	LTE Band26	26775	822.5	1RB-Middle	Top	10mm	20	23.68	25	0.18	**0.24**	0.097	**0.13**	-0.09
Body	LTE Band26	26775	822.5	36RB-Low	Front	10mm	\	22.83	24	0.085	**0.11**	0.056	**0.07**	-0.1
Body	LTE Band26	26775	822.5	36RB-Low	Rear	10mm	\	22.83	24	0.096	**0.13**	0.061	**0.08**	-0.08
Body	LTE Band26	26775	822.5	36RB-Low	Left	10mm	\	22.83	24	0.07	**0.09**	0.049	**0.06**	-0.09
Body	LTE Band26	26775	822.5	36RB-Low	Right	10mm	\	22.83	24	<0.01	<0.01	<0.01	<0.01	\
Body	LTE Band26	26775	822.5	36RB-Low	Top	10mm	\	22.83	24	0.141	**0.18**	0.077	**0.10**	0.08
Head	LTE Band41	41055	2636.5	1RB-Middle	Cheek Left	0mm	\	23.88	24.5	0.063	**0.07**	0.036	**0.04**	0.1
Head	LTE Band41	41055	2636.5	1RB-Middle	Tilt Left	0mm	\	23.88	24.5	0.049	**0.06**	0.03	**0.03**	0.11
Head	LTE Band41	41055	2636.5	1RB-Middle	Cheek Right	0mm	21	23.88	24.5	0.081	**0.09**	0.05	**0.06**	-0.08
Head	LTE Band41	41055	2636.5	1RB-Middle	Tilt Right	0mm	\	23.88	24.5	0.071	**0.08**	0.041	**0.05**	0.01
Head	LTE Band41	41055	2636.5	50RB-High	Cheek Left	0mm	\	22.73	23.5	0.028	**0.03**	0.018	**0.02**	-0.02
Head	LTE Band41	41055	2636.5	50RB-High	Tilt Left	0mm	\	22.73	23.5	0.033	**0.04**	0.021	**0.03**	-0.01
Head	LTE Band41	41055	2636.5	50RB-High	Cheek Right	0mm	\	22.73	23.5	0.06	**0.07**	0.037	**0.04**	0.07
Head	LTE Band41	41055	2636.5	50RB-High	Tilt Right	0mm	\	22.73	23.5	0.055	**0.07**	0.032	**0.04**	-0.18
Body	LTE Band41	41055	2636.5	1RB-Middle	Front	10mm	\	23.88	24.5	0.186	**0.21**	0.105	**0.12**	-0.12
Body	LTE Band41	41490	2680	1RB-Middle	Rear	10mm	\	23.88	24.5	0.31	**0.36**	0.174	**0.20**	-0.16
Body	LTE Band41	41055	2636.5	1RB-Middle	Rear	10mm	\	23.88	24.5	0.294	**0.34**	0.161	**0.19**	-0.02
Body	LTE Band41	40620	2593	1RB-Middle	Rear	10mm	\	23.88	24.5	0.468	**0.54**	0.248	**0.29**	-0.06
Body	LTE Band41	40185	2549.5	1RB-Middle	Rear	10mm	22	23.88	24.5	0.511	**0.59**	0.267	**0.31**	-0.08
Body	LTE Band41	39750	2506	1RB-Middle	Rear	10mm	\	23.88	24.5	0.504	**0.58**	0.261	**0.30**	0.01
Body	LTE Band41	41055	2636.5	1RB-Middle	Left	10mm	\	23.88	24.5	0.055	**0.06**	0.031	**0.04**	0.1
Body	LTE Band41	41055	2636.5	1RB-Middle	Right	10mm	\	23.88	24.5	0.102	**0.12**	0.061	**0.07**	0.07
Body	LTE Band41	41055	2636.5	1RB-Middle	Bottom	10mm	\	23.88	24.5	0.34	**0.39**	0.173	**0.20**	-0.1
Body	LTE Band41	41055	2636.5	50RB-High	Front	10mm	\	22.73	23.5	0.141	**0.17**	0.081	**0.10**	0.18
Body	LTE Band41	41055	2636.5	50RB-High	Rear	10mm	\	22.73	23.5	0.366	**0.44**	0.195	**0.23**	0.14
Body	LTE Band41	41055	2636.5	50RB-High	Left	10mm	\	22.73	23.5	0.042	**0.05**	0.023	**0.03**	-0.17
Body	LTE Band41	41055	2636.5	50RB-High	Right	10mm	\	22.73	23.5	0.079	**0.09**	0.047	**0.06**	-0.08
Body	LTE Band41	41055	2636.5	50RB-High	Bottom	10mm	\	22.73	23.5	0.254	**0.30**	0.128	**0.15**	-0.17
Head	LTE Band66	132572	1770	1RB-Middle	Cheek Left	0mm	\	23.57	24	0.032	**0.04**	0.023	**0.03**	-0.16
Head	LTE Band66	132572	1770	1RB-Middle	Tilt Left	0mm	\	23.57	24	0.016	**0.02**	0.012	**0.01**	-0.05
Head	LTE Band66	132572	1770	1RB-Middle	Cheek Right	0mm	23	23.57	24	0.098	**0.11**	0.066	**0.07**	-0.05
Head	LTE Band66	132572	1770	1RB-Middle	Tilt Right	0mm	\	23.57	24	0.03	**0.03**	0.022	**0.02**	0.16
Head	LTE Band66	132572	1770	50RB-Low	Cheek Left	0mm	\	22.67	23	0.028	**0.03**	0.02	<0.01	-0.09
Head	LTE Band66	132572	1770	50RB-Low	Tilt Left	0mm	\	22.67	23	0.056	**0.06**	0.036	<0.01	0.02
Head	LTE Band66	132572	1770	50RB-Low	Cheek Right	0mm	\	22.67	23	0.052	**0.06**	0.035	**0.04**	-0.03
Head	LTE Band66	132572	1770	50RB-Low	Tilt Right	0mm	\	22.67	23	0.024	**0.03**	0.017	<0.01	-0.1
Body	LTE Band66	132572	1770	1RB-Middle	Front	10mm	\	19.25	20	0.137	**0.16**	0.087	**0.10**	0.12
Body	LTE Band66	132572	1770	1RB-Middle	Rear	10mm	\	19.25	20	0.357	**0.42**	0.209	**0.25**	-0.02
Body	LTE Band66	132572	1770	1RB-Middle	Left	10mm	\	19.25	20	0.033	**0.04**	0.02	**0.02**	-0.15
Body	LTE Band66	132572	1770	1RB-Middle	Right	10mm	\	19.25	20	0.062	**0.07**	0.035	**0.04**	-0.07
Body	LTE Band66	132572	1770	1RB-Middle	Bottom	10mm	24	19.25	20	0.395	**0.47**	0.223	**0.27**	-0.13
Body	LTE Band66	132572	1770	50RB-Low	Front	10mm	\	19.23	20	0.139	**0.17**	0.087	**0.10**	0.16
Body	LTE Band66	132572	1770	50RB-Low	Rear	10mm	\	19.23	20	0.364	**0.43**	0.208	**0.25**	-0.07
Body	LTE Band66	132572	1770	50RB-Low	Left	10mm	\	19.23	20	0.031	**0.04**	0.02	**0.02**	0.03
Body	LTE Band66	132572	1770	50RB-Low	Right	10mm	\	19.23	20	0.055	**0.07**	0.031	**0.04**	0.09
Body	LTE Band66	132572	1770	50RB-Low	Bottom	10mm	\	19.23	20	0.353	**0.42**	0.202	**0.24**	0.08

14.2 SAR Evaluation for WIFI

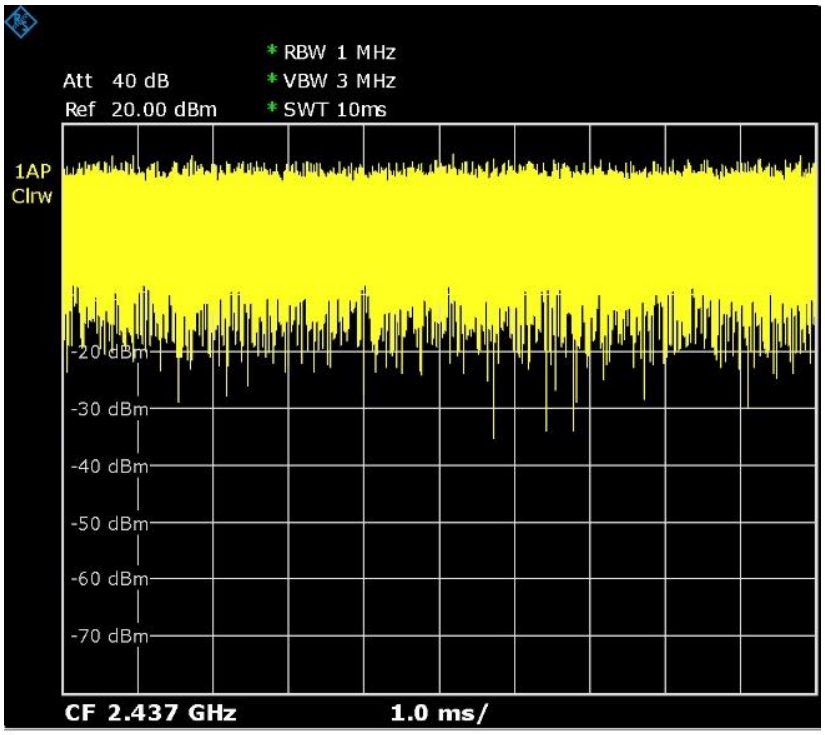
The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.

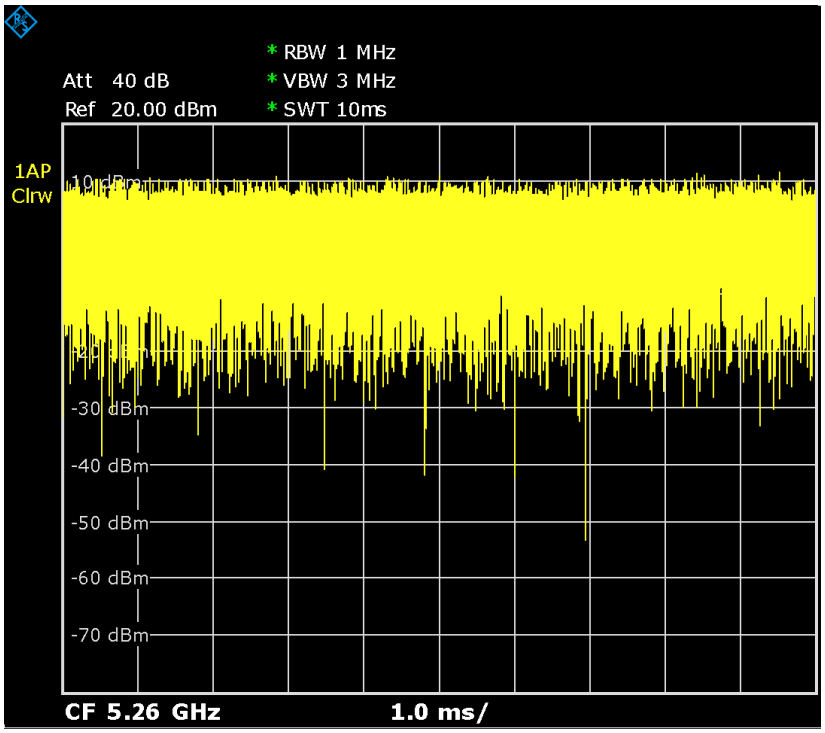
SAR Test reduction was applied from KDB 248227 guidance, when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

Duty factor plot

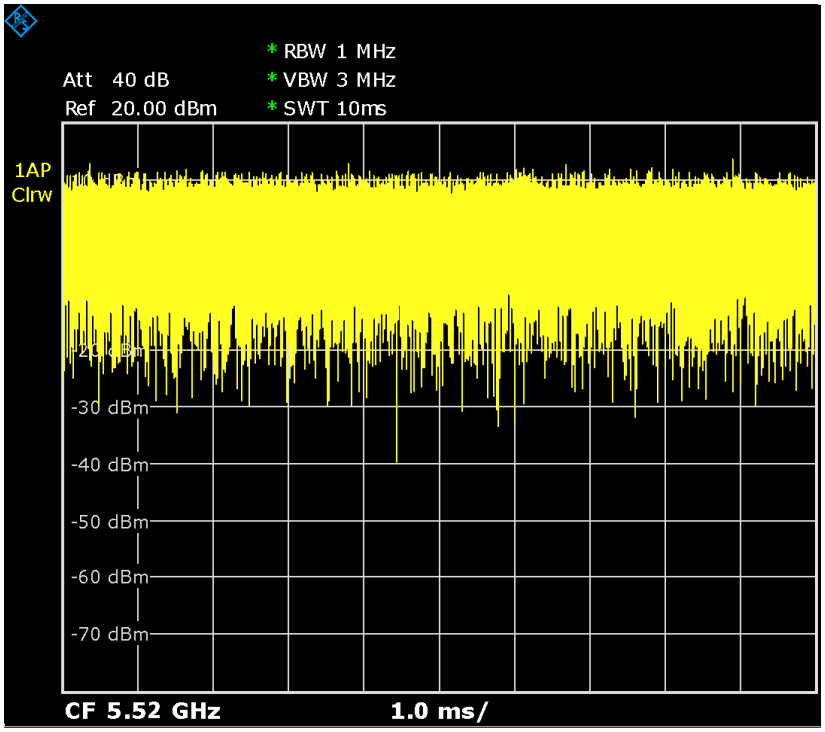
CH6



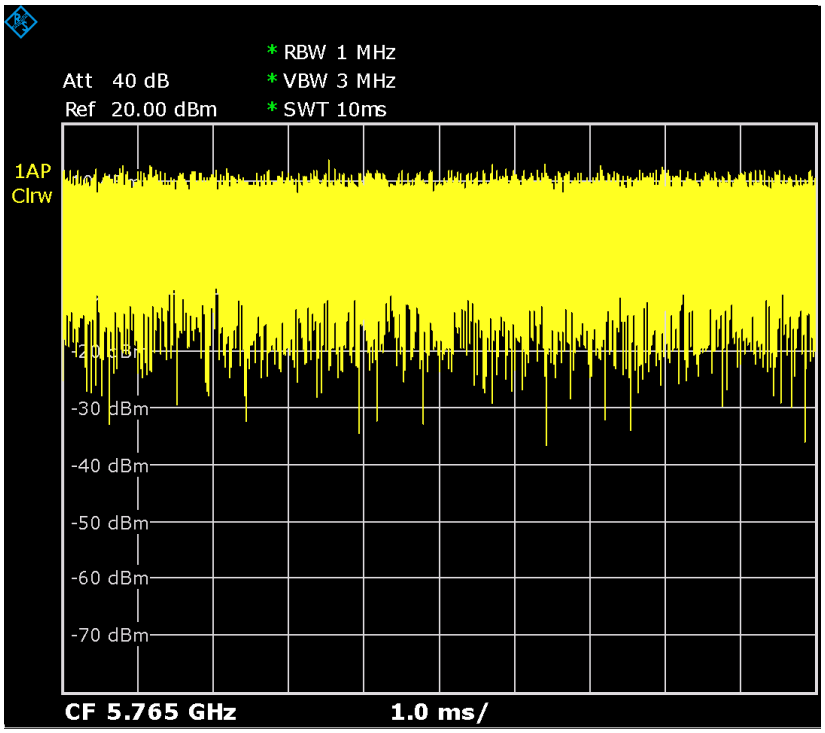
CH52



CH104



CH153



SAR results for WLAN 2.4G

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Head	WIFI2.4G	6	2437	11b 1Mbs	Cheek Left	0mm	\	18.14	18.5	0.272	**0.30**	0.152	**0.17**	0.16
Head	WIFI2.4G	6	2437	11b 1Mbs	Tilt Left	0mm	25	18.14	18.5	0.280	**0.30**	0.143	**0.16**	0.01
Head	WIFI2.4G	6	2437	11b 1Mbs	Cheek Right	0mm	\	18.14	18.5	0.091	**0.10**	0.051	**0.06**	-0.15
Head	WIFI2.4G	6	2437	11b 1Mbs	Tilt Right	0mm	\	18.14	18.5	0.106	**0.12**	0.063	**0.07**	-0.06
Body	WIFI2.4G	6	2437	11b 1Mbs	Front	10mm	\	18.14	18.5	0.088	**0.10**	0.052	**0.06**	0.02
Body	WIFI2.4G	6	2437	11b 1Mbs	Rear	10mm	\	18.14	18.5	0.103	**0.11**	0.056	**0.06**	0.16
Body	WIFI2.4G	6	2437	11b 1Mbs	Right	10mm	26	18.14	18.5	0.149	**0.16**	0.084	**0.09**	0.09
Body	WIFI2.4G	6	2437	11b 1Mbs	Top	10mm	\	18.14	18.5	0.082	**0.09**	0.042	**0.05**	-0.06

SAR results for WLAN 5G

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Head	WIFI5G	52	5260	11a 6Mbs	Cheek Left	0mm	\	17.34	18.5	0.261	**0.34**	0.102	**0.13**	-0.09
Head	WIFI5G	52	5260	11a 6Mbs	Tilt Left	0mm	\	17.34	18.5	0.304	**0.40**	0.109	**0.14**	0.04
Head	WIFI5G	52	5260	11a 6Mbs	Cheek Right	0mm	\	17.34	18.5	0.084	**0.11**	0.033	**0.04**	0.08
Head	WIFI5G	52	5260	11a 6Mbs	Tilt Right	0mm	\	17.34	18.5	0.084	**0.11**	0.034	**0.04**	-0.03
Head	WIFI5G	104	5520	11a 6Mbs	Cheek Left	0mm	27	16.97	17.5	0.335	**0.38**	0.129	**0.15**	0.04
Head	WIFI5G	104	5520	11a 6Mbs	Tilt Left	0mm	\	16.97	17.5	0.205	**0.23**	0.08	**0.09**	0.03
Head	WIFI5G	104	5520	11a 6Mbs	Cheek Right	0mm	\	16.97	17.5	0.119	**0.13**	0.046	**0.05**	-0.15
Head	WIFI5G	104	5520	11a 6Mbs	Tilt Right	0mm	\	16.97	17.5	0.114	**0.13**	0.047	**0.05**	-0.02
Head	WIFI5G	153	5765	11a 6Mbs	Cheek Left	0mm	\	17.22	18	0.244	**0.29**	0.089	**0.11**	-0.06
Head	WIFI5G	153	5765	11a 6Mbs	Tilt Left	0mm	\	17.22	18	0.25	**0.30**	0.083	**0.10**	-0.16
Head	WIFI5G	153	5765	11a 6Mbs	Cheek Right	0mm	\	17.22	18	0.104	**0.12**	0.037	**0.04**	0.18
Head	WIFI5G	153	5765	11a 6Mbs	Tilt Right	0mm	\	17.22	18	0.114	**0.14**	0.039	**0.05**	0.12
Body	WIFI5G	52	5260	11a 6Mbs	Front	10mm	\	17.34	18.5	0.121	**0.16**	0.049	**0.06**	0.1
Body	WIFI5G	52	5260	11a 6Mbs	Rear	10mm	\	17.34	18.5	0.181	**0.24**	0.08	**0.10**	-0.03
Body	WIFI5G	52	5260	11a 6Mbs	Right	10mm	28	17.34	18.5	0.355	**0.46**	0.131	**0.17**	0.08
Body	WIFI5G	52	5260	11a 6Mbs	Top	10mm	\	17.34	18.5	0.172	**0.22**	0.065	**0.08**	-0.03
Body	WIFI5G	104	5520	11a 6Mbs	Front	10mm	\	16.97	17.5	0.116	**0.13**	0.047	**0.05**	-0.15
Body	WIFI5G	104	5520	11a 6Mbs	Rear	10mm	\	16.97	17.5	0.158	**0.18**	0.066	**0.07**	-0.05
Body	WIFI5G	104	5520	11a 6Mbs	Right	10mm	\	16.97	17.5	0.236	**0.27**	0.087	**0.10**	-0.04
Body	WIFI5G	104	5520	11a 6Mbs	Top	10mm	\	16.97	17.5	0.139	**0.16**	0.052	**0.06**	0.12
Body	WIFI5G	153	5765	11a 6Mbs	Front	10mm	\	17.22	18	0.079	**0.09**	0.033	**0.04**	0.09
Body	WIFI5G	153	5765	11a 6Mbs	Rear	10mm	\	17.22	18	0.104	**0.12**	0.041	**0.05**	-0.16
Body	WIFI5G	153	5765	11a 6Mbs	Right	10mm	\	17.22	18	0.146	**0.17**	0.059	**0.07**	0.14
Body	WIFI5G	153	5765	11a 6Mbs	Top	10mm	\	17.22	18	0.094	**0.11**	0.02	**0.02**	-0.1

14.3 SAR Evaluation For BT

SAR results for BT

RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Head	BT	39	2441	GFSK	Cheek Left	0mm	29	10.02	11.5	0.061	0.09	0.033	**0.05**	-0.06
Head	BT	39	2441	GFSK	Tilt Left	0mm	\	10.02	11.5	0.052	**0.07**	0.026	**0.04**	-0.16
Head	BT	39	2441	GFSK	Cheek Right	0mm	\	10.02	11.5	<0.01	<0.01	<0.01	<0.01	\
Head	BT	39	2441	GFSK	Tilt Right	0mm	\	10.02	11.5	0.032	**0.04**	0.016	**0.02**	0.12
Body	BT	39	2441	GFSK	Front	10mm	\	10.02	11.5	<0.01	<0.01	<0.01	<0.01	\
Body	BT	39	2441	GFSK	Rear	10mm	30	10.02	11.5	0.01	0.01	0.006	**0.01**	-0.03
Body	BT	39	2441	GFSK	Right	10mm	\	10.02	11.5	<0.01	<0.01	<0.01	<0.01	\
Body	BT	39	2441	GFSK	Top	10mm	\	10.02	11.5	<0.01	<0.01	<0.01	<0.01	\

14.4 SAR results for 10-g extremity SAR

According to the KDB648474 D04, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg. If power reduction applied for hotspot mode, the SAR values should be scaled to normal power, and then compare it with 1.2W/kg.

The 10g extremity SAR is not required for this DUT, because all the hotspot mode 1g reported SAR is less than 1.2 W/kg.

15 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps2) through 4) do not apply.

2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45W/kg (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20

Band	Frequency		Setup	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
	Ch.	MHz						
GSM850	190	836.6	GPRS(4TX)	Right Cheek	0.959	0.933	1.03	\
GSM850	190	836.6	GPRS(4TX)	Right Tilt	0.957	0.935	1.02	\
GSM1900	661	1880	GPRS(2TX)	Bottom10mm	0.856	0.847	1.01	\

16 Measurement Uncertainty

16.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

Combined standard uncertainty	$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$					19.1	18.9	

16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	√3	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	√3	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	√3	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	√3	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	√3	1	1	2.3	2.3	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√3	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	√3	0.6	0.49	1.7	1.4	∞

21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

16.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞

20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5

17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						27.0	26.8	

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	N5239A	MY55491241	May 21, 2024	One year
02	Power sensor	NRP50S	101488	June 5, 2024	One year
03	Power sensor	NRP50S	101489	June 5, 2024	One year
04	Signal Generator	E4438C	MY49070393	May 17, 2024	One year
05	Dielectric Probe Kit	85070E	Agilent	No Calibration Requested	
06	Directional Coupler	778D	MY48220584	No Calibration Requested	
07	Amplifier	60S1G4	0331848	No Calibration Requested	
08	BTS	CMW500	149646	December 9, 2024	One year
09	E-field Probe	SPEAG EX3DV4	7727	September 11, 2024	One year
10	DAE	SPEAG DAE4ip	1832	December 31, 2024	One year
11	Dipole Validation Kit	SPEAG D750V3	1017	July 9,2024	One year
12	Dipole Validation Kit	SPEAG D835V2	4d069	July 9,2024	One year
13	Dipole Validation Kit	SPEAG D1800V2	2d145	July 11,2024	One year
14	Dipole Validation Kit	SPEAG D1900V2	5d101	July 8,2024	One year
15	Dipole Validation Kit	SPEAG D2450V2	853	July 10,2024	One year
16	Dipole Validation Kit	SPEAG D2600V2	1012	July 10,2024	One year
17	Dipole Validation Kit	SPEAG D5GHzV2	1060	June 12,2024	One year

END OF REPORT BODY

Appendixes

ANNEX A Graph Results
ANNEX B System Verification Results
ANNEX C SAR Measurement Setup
ANNEX D Position of the wireless device in relation to the phantom
ANNEX E Equivalent Media Recipes
ANNEX F System Validation
ANNEX G Probe Calibration Certificate
ANNEX H Dipole Calibration Certificate
ANNEX I Accreditation Certificate