TESTING
NVLAP LAB CODE 600118-0

SAR TEST REPORT

No. I20Z62070-SEM05

For

TCL Communication Ltd.

GSM/UMTS/LTE mobile phone

Model Name: T773O

with

Hardware Version: 03

Software Version: v3.0.9D1Y

FCC ID: 2ACCJN045

Issued Date: 2021-2-23

Note:

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Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I20Z62070-SEM05	Rev.0	2021-2-23	Initial creation of test report

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	CTTL
Address:	No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

1.2 Testing Environment

Temperature:	18°C~25°C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω
Ambient noise & Reflection:	< 0.012 W/kg

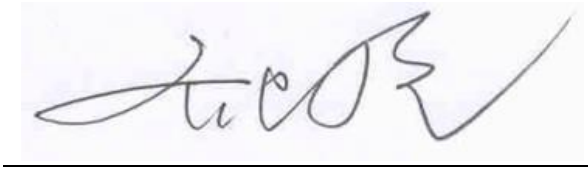
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	February 1, 2021
Testing End Date:	February 9, 2021

1.4 Signature

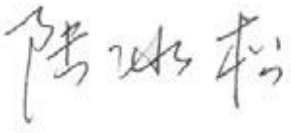
Lin Xiaojun

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)



Lu Bingsong

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 T773O is as follows:

Table 2.1: Highest Reported SAR (1g)

Exposure Configuration	Technology Band	Highest Reported SAR 1g(W/kg)	Equipment Class
Head (Separation Distance 0mm)	GSM850	**0.42**	PCE
	GSM1900	**0.21**	
	WCDMA1900	**0.34**	
	WCDMA1700	**0.26**	
	WCDMA 850	**0.34**	
	LTE Band7	**0.76**	
	LTE Band12	**0.26**	
	LTE Band13	**0.28**	
	LTE Band25	**0.37**	
	LTE Band26	**0.32**	
	LTE Band41	**0.20**	
	LTE Band66	**0.30**	
	LTE Band71	**0.23**	
	WLAN 2.4 GHz	**0.64**	DTS
	WLAN 5 GHz	**0.73**	NII
Hotspot (Separation Distance 10mm)	GSM850	**0.46**	PCE
	GSM1900	**1.12**	
	WCDMA1900	**1.29**	
	WCDMA1700	**1.12**	
	WCDMA 850	**0.35**	
	LTE Band7	**0.98**	
	LTE Band12	**0.39**	
	LTE Band13	**0.36**	
	LTE Band25	**1.25**	
	LTE Band26	**0.35**	
	LTE Band41	**0.97**	
	LTE Band66	**1.37**	
	LTE Band71	**0.42**	
	WLAN 2.4 GHz	**0.17**	DTS
	WLAN 5 GHz	**1.33**	NII

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 10/15 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**: 1.37 W/kg(1g).**

Remark：
This device supports both LTE B2/B4/B5/B17 and LTE B25/B66/B26/B12.Since the supported frequency span for LTE B2/B4/B5/B17 falls completely within the supports frequency span for B25/B66/B26/B12, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25/B66/B26/B12.

Table 2.2: The sum of SAR values for Main antenna + WiFi-2.4G

	Position	Main antenna	WiFi-2.4G	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band7)	0.76	0.63	**1.39**
Highest SAR value for Body	Bottom 10mm (LTE Band66)	1.37	0	**1.37**

Table 2.3: The sum of SAR values for Main antenna + WiFi-5G

	Position	Main antenna	WiFi-2.4G	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band7)	0.76	0.72	**1.48**
Highest SAR value for Body	Rear 10mm (LTE Band7)	0.98	0.60	**1.58**

Table 2.4: The sum of reported SAR values for Main antenna + BT

	Position	Main antenna	BT	Sum
Maximum reported SAR value for Head	Right head, Cheek (LTE Band7)	0.76	<0.01	**0.76**
Maximum reported SAR value for Body	Bottom 10mm (LTE Band66)	1.37	<0.01	**1.37**

According to the above tables, the highest sum of reported SAR values is **1.58 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

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

Table 2.5: 0mm Reported SAR for phablet

Exposure Configuration	Technology Band	Highest Reported SAR 10g(W/kg)	Limited SAR 10g(W/kg)
10-g extremity SAR (Separation Distance 0mm)	GSM1900	3.42	4.0
	WCDMA1900	1.80	
	LTE Band25	2.98	
	LTE Band66	3.18	
	WiFi5G transmit alone	2.38	

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:	Gong Zhizhou
Contact Email:	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722

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:	Gong Zhizhou
Contact Email:	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722

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

4.1 About EUT

Description:	TCL Communication Ltd.
Model name:	T773O
Operating mode(s):	GSM850/900/1800/1900, WCDMA B1/B2/B4/B5/B8 LTEBand1/2/3/4/5/7/8/12/13/17/20/25/26/28/29/38/41/66/71, BT, Wi-Fi2.4G,Wi-Fi5G
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 IV)
	1710-1755 MHz (WCDMA1700 Band II)
	2500 – 2570 MHz (LTE Band 7)
	699.7 – 715.3 MHz (LTE Band 12)
	779.5 –784.5 MHz (LTE Band 13)
	1850.7–1914.3 MHz (LTE Band 25)
	814.7–848.3 MHz (LTE Band 26)
	814.7–848.3 MHz (LTE Band 41)
	1710.7 –1779.3 MHz (LTE Band 66)
	665.5 –695.5 MHz (LTE Band 71)
	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 – 5720 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	015888000200346	03	v3.0.9D1Y
EUT2	015888000200387	03	v3.0.9D1Y
EUT3	015888000200403	03	v3.0.9D1Y
EUT4	015888000200353	03	v3.0.9D1Y
EUT5	015888000200379	03	v3.0.9D1Y
EUT6	015888000200361	03	v3.0.9D1Y
EUT7	015888000200270	03	v3.0.9D1Y
EUT8	015888000200395	03	v3.0.9D1Y

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

Note: It is performed to do SAR with the EUT1~6 and conducted power with the EUT7~8.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	TLp048A1	/	BYD
AE2	Battery	TLp048A7	/	VEKEN
AE3	Headset	WH35	/	JUWEI

*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 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 D01SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

KDB865664 D02RF 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

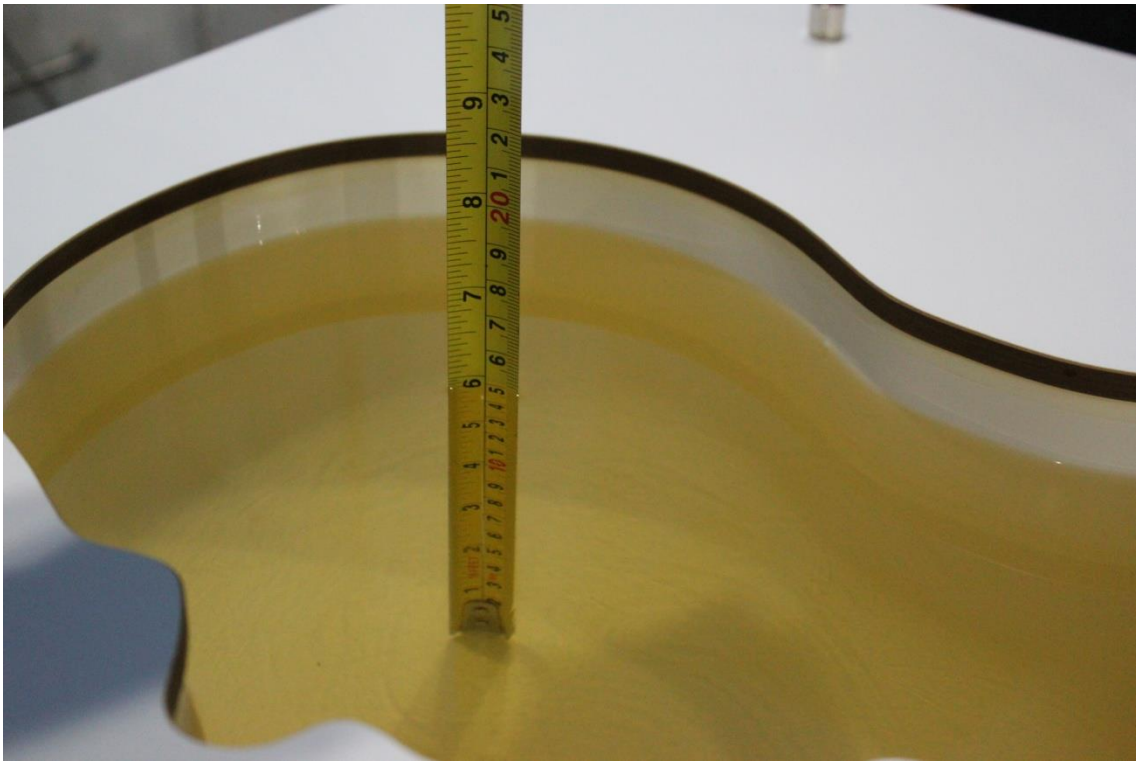
Frequency(MHz)	Liquid Type	Conductivity(σ)	± 5% Range	Permittivity(ε)	± 5% Range
750	Head	0.89	0.85～0.93	41.94	39.8～44.0
835	Head	0.90	0.86～0.95	41.5	39.4～43.6
1750	Head	1.37	1.30～1.44	40.08	38.1～42.1
1900	Head	1.40	1.33～1.47	40.0	38.0～42.0
2450	Head	1.67	1.59～1.75	39.47	37.5～41.4
2600	Head	1.96	1.86～2.06	39.01	37.1～41.0
5250	Head	4.66	4.43～4.89	35.99	34.19～37.79
5600	Head	5.07	4.82～5.32	35.53	33.75～37.31
5750	Head	5.27	5.01～5.53	35.3	33.5～37.1

7.2 Dielectric Performance

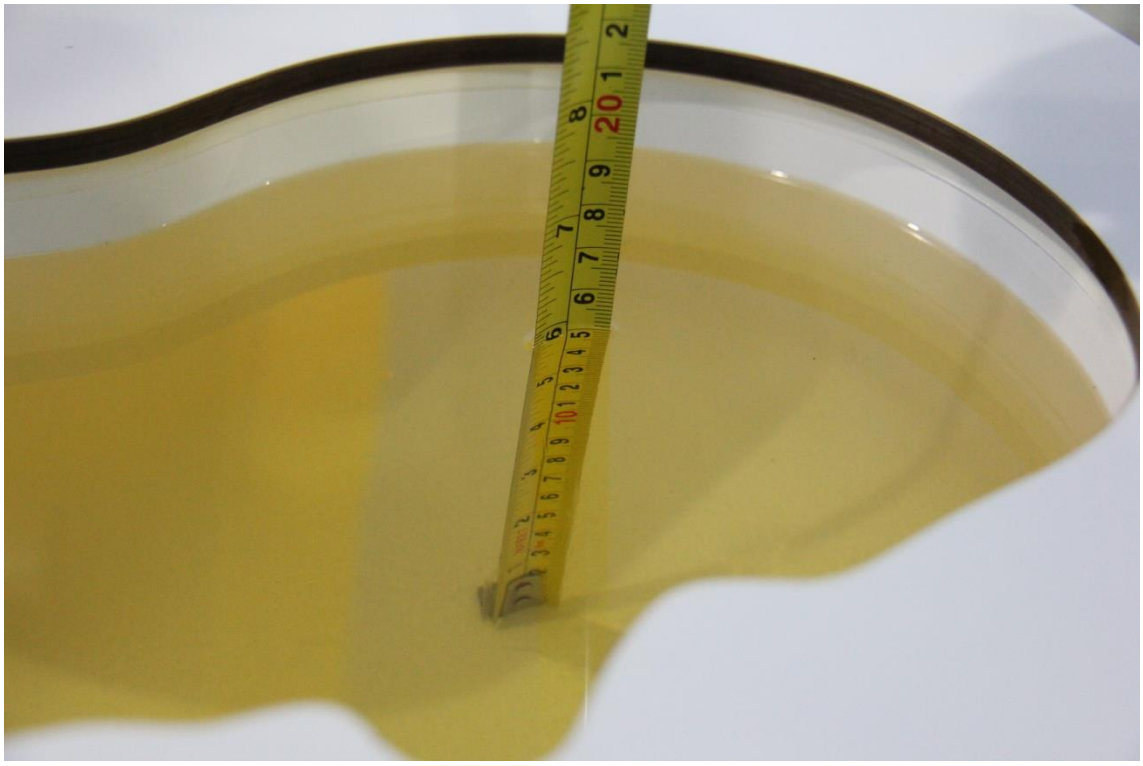
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ε	Drift (%)	Conductivity σ (S/m)	Drift (%)
2021-2-1	Head	750 MHz	41.93	-0.02	0.908	2.02
2021-2-2	Head	835 MHz	41.27	-0.55	0.89	-1.11
2021-2-3	Head	1750 MHz	40.13	0.12	1.345	-1.82
2021-2-4	Head	1900 MHz	39.77	-0.57	1.413	0.93
2021-2-5	Head	2450 MHz	39.29	0.23	1.801	0.06
2021-2-6	Head	2600 MHz	39.6	1.51	1.974	0.71
2021-2-7	Head	5250 MHz	35.52	-1.14	4.677	-0.70
2021-2-8	Head	5600 MHz	35.39	-0.39	5.025	-0.89
2021-2-9	Head	5750 MHz	35.87	1.44	5.236	0.31

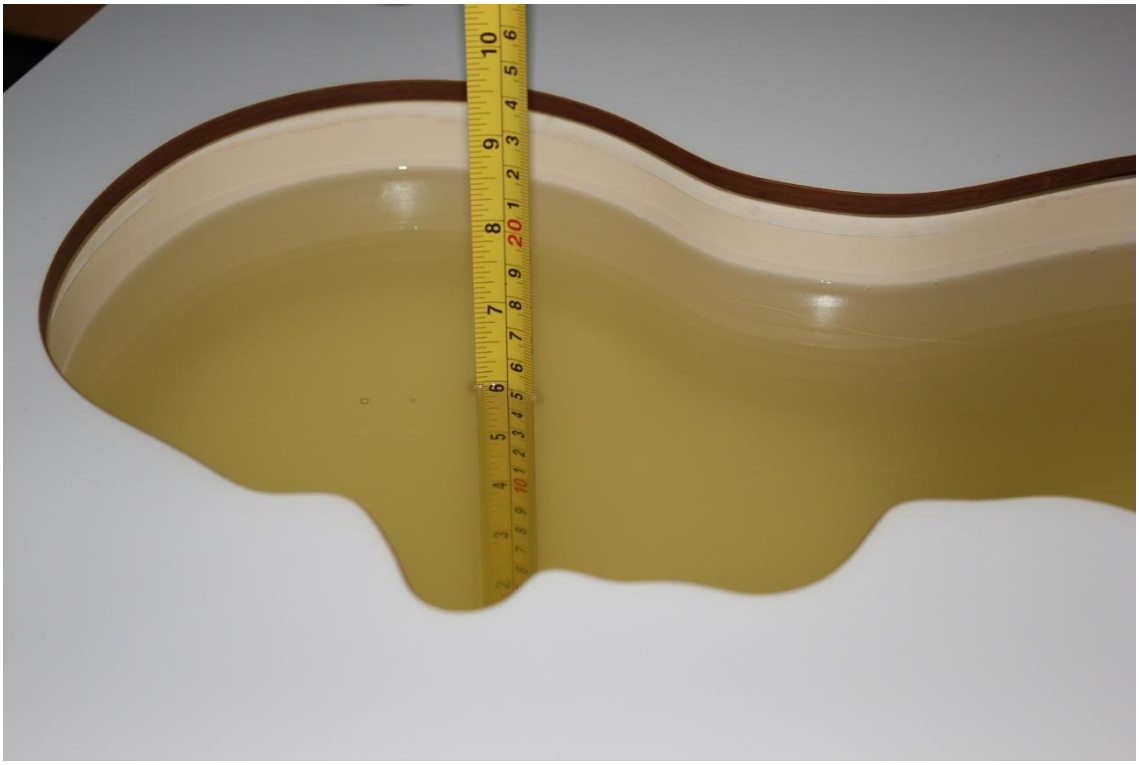
Note: The liquid temperature is 22.0°C



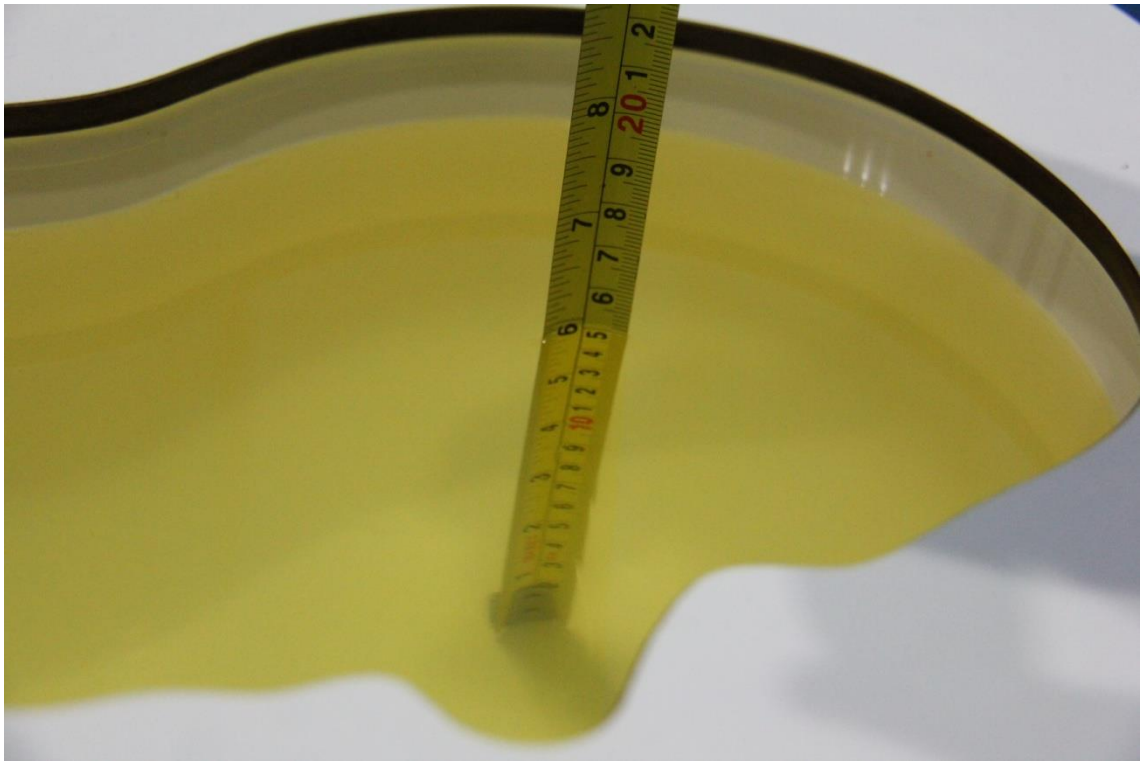
Picture 7-1 Liquid depth in the Head Phantom (750MHz)



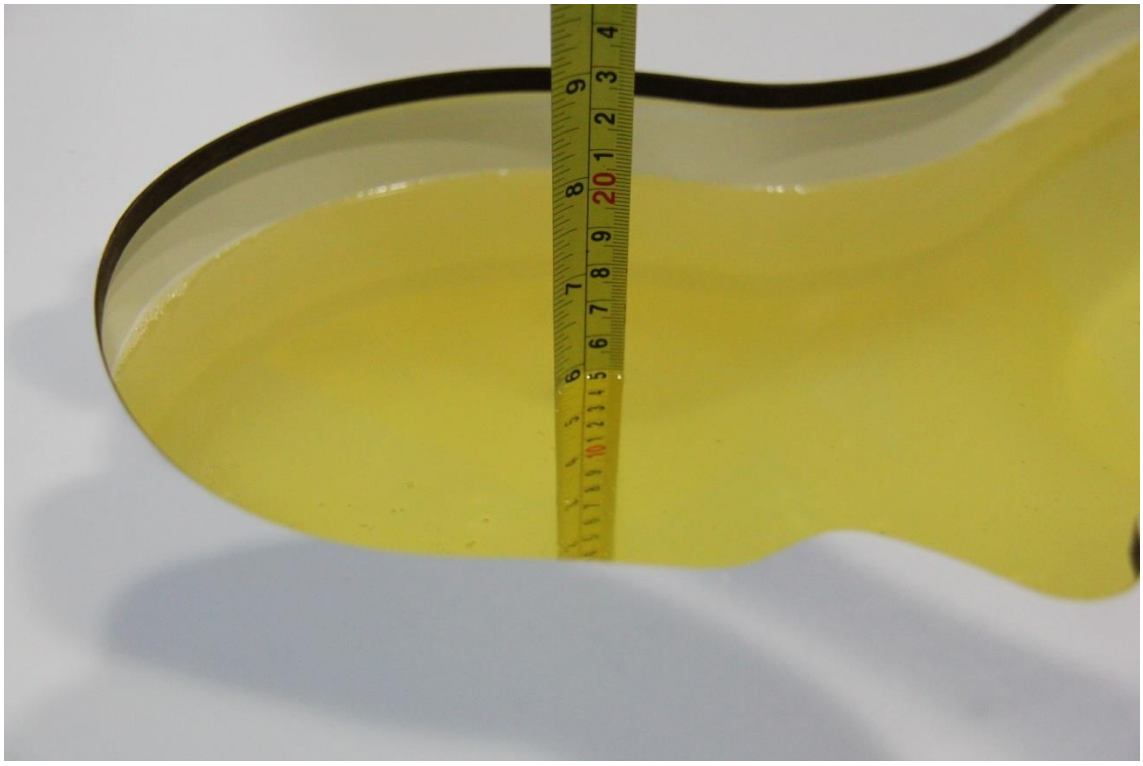
Picture 7-2 Liquid depth in the Head Phantom (835 MHz)



Picture 7-3 Liquid depth in the Head Phantom (1750 MHz)

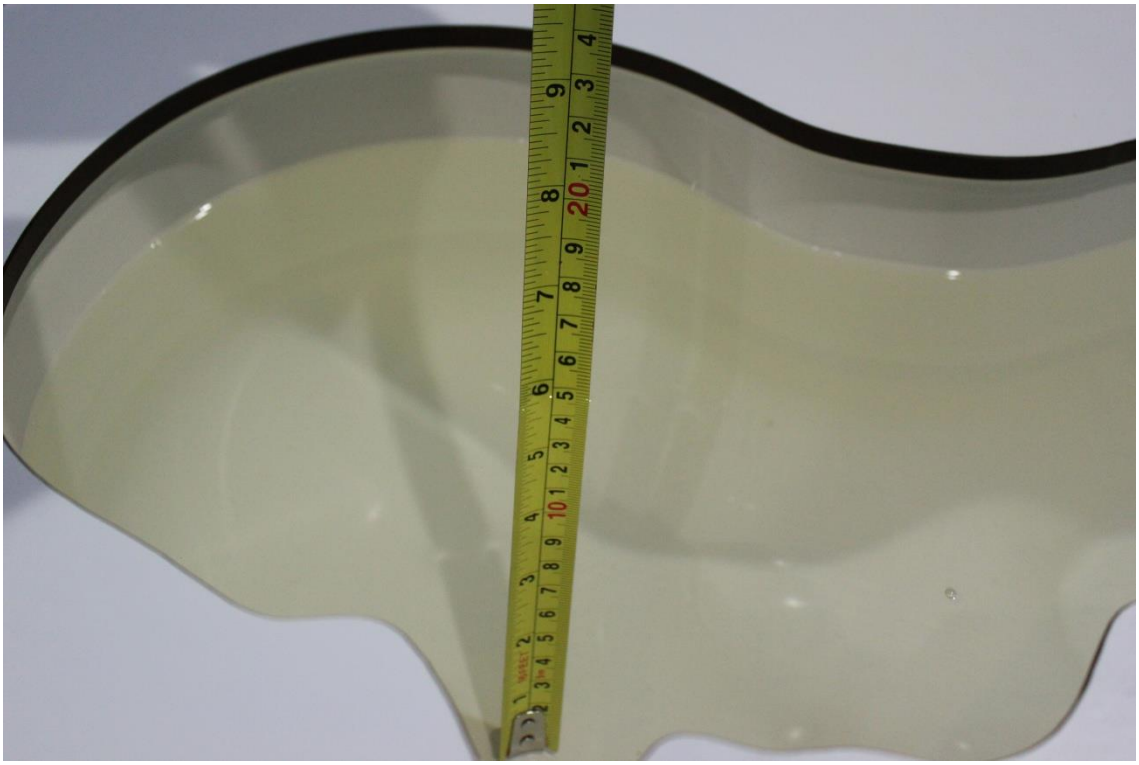


Picture 7-4 Liquid depth in the Head Phantom (1900 MHz)



Picture 7-5 Liquid depth in the Head Phantom (2450MHz)

Picture 7-6 Liquid depth in the Head Phantom (2600 MHz)

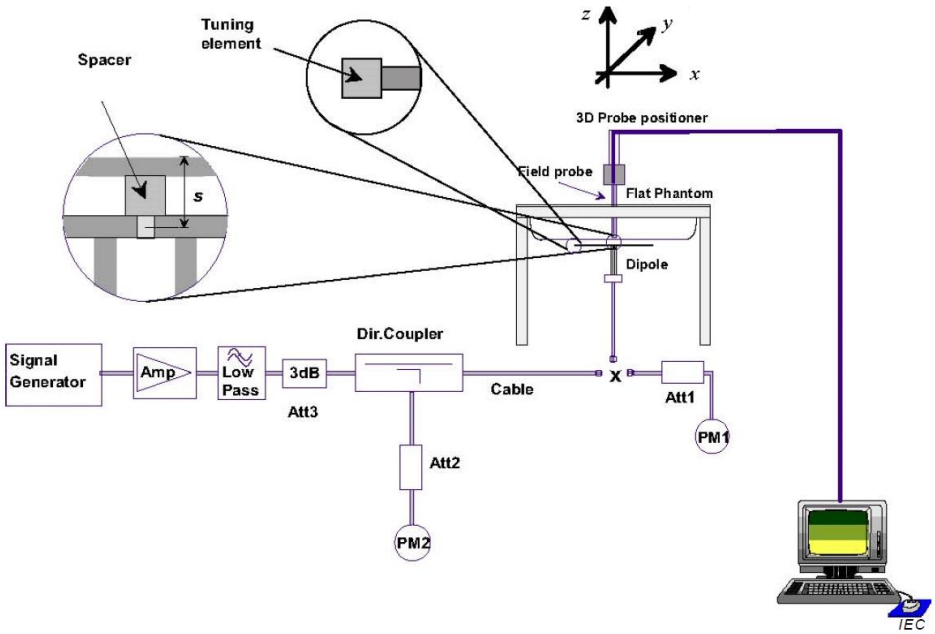


Picture 7-7 Liquid depth in the Head Phantom (5GHz)

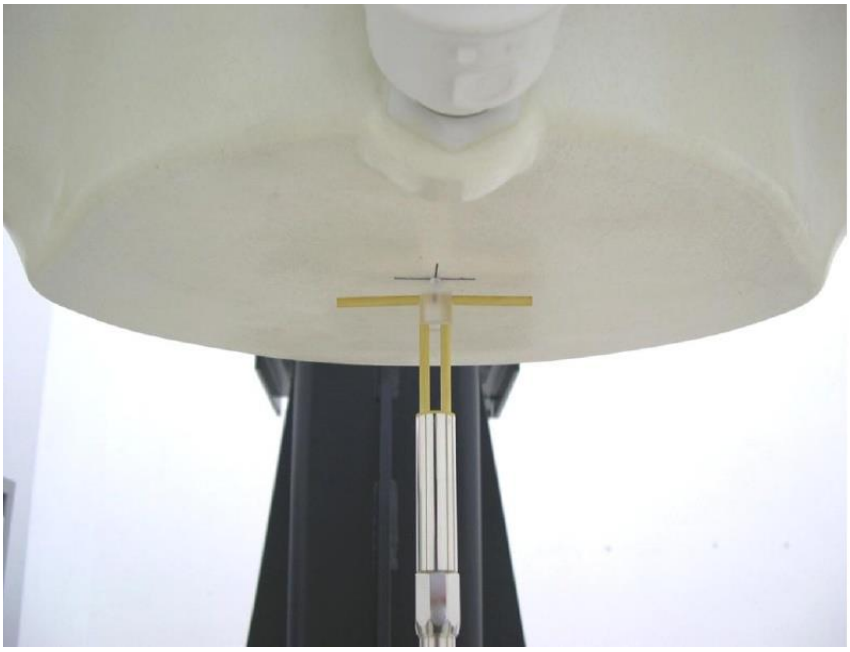
8 System verification

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 (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value(W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2021-2-1	750 MHz	5.53	8.47	5.6	8.48	1.27%	0.12%
2021-2-2	835 MHz	6.25	9.60	6.32	9.44	1.12%	-1.67%
2021-2-3	1750 MHz	19.1	36.5	19.04	35.8	-0.31%	-1.92%
2021-2-4	1900 MHz	20.6	39.6	20.36	39.6	-1.17%	0.00%
2021-2-5	2450 MHz	24.5	52.5	24.52	53.08	0.08%	1.10%
2021-2-6	2600 MHz	25.3	57.0	25.44	56.12	0.55%	-1.54%
2021-2-7	5250 MHz	22.9	80.5	22.7	81.7	-0.96%	1.47%
2021-2-8	5600 MHz	23.6	83.3	24.0	84.8	1.69%	1.85%
2021-2-9	5750 MHz	22.7	80.4	22.8	81.7	0.62%	1.59%

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.

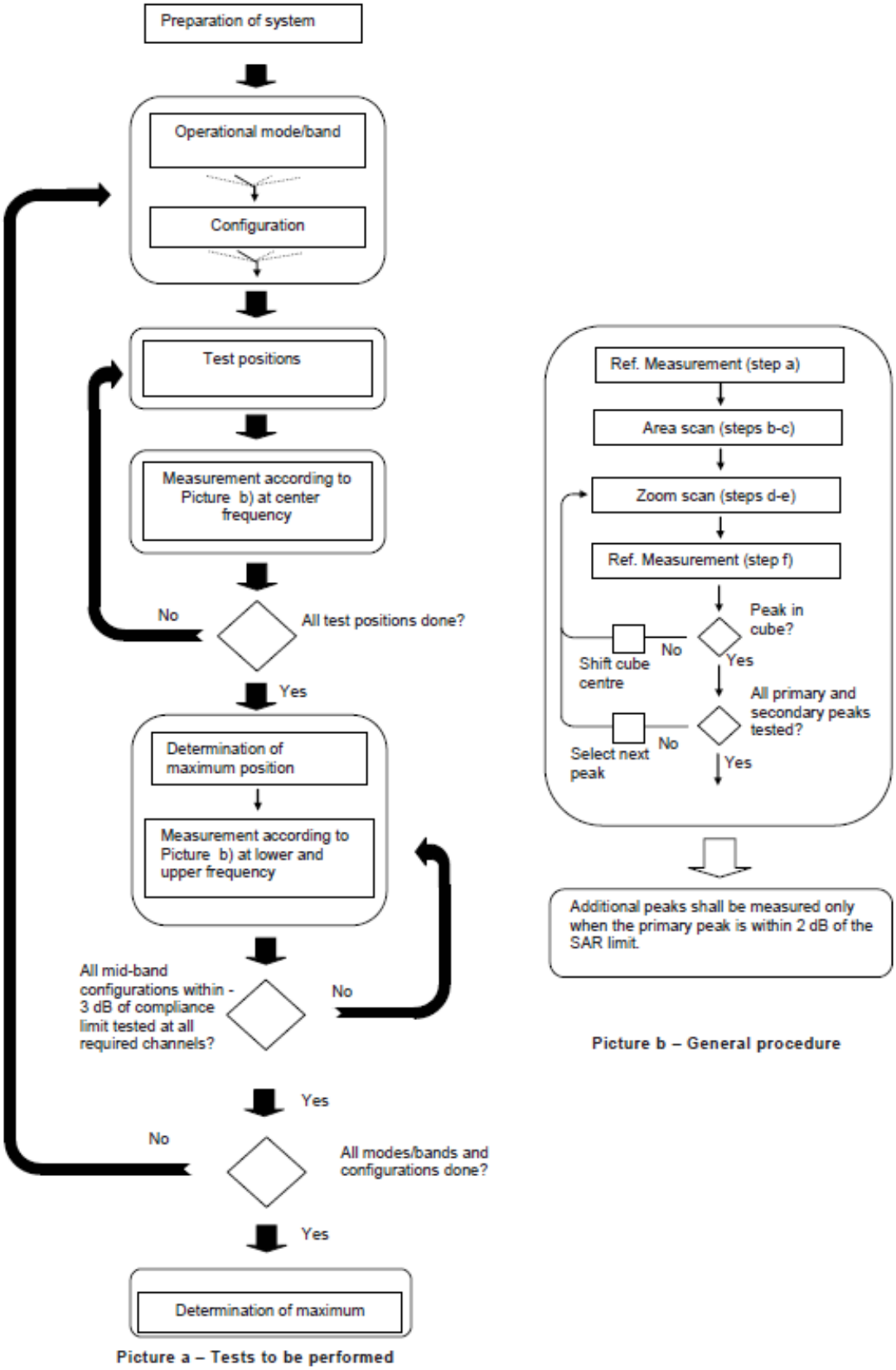
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

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 a – Tests to be performed

Picture b – General procedure

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.

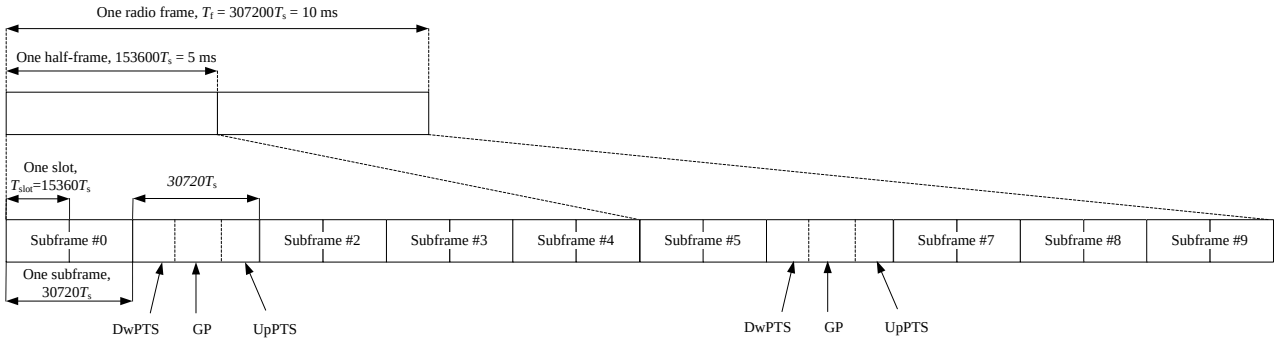


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

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, DASY4 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

Table11-1: Summary of Receiver detection mechanism – Main Antenna

Antenna	Receiver on (head scenario)	Receiver off (Body scenario)
Main Antenna	Power Level A1	Power Level B1

Table11-2: Summary of Receiver detection mechanism – WiFi Antenna

Antenna	Receiver on (head scenario)	Receiver off +WWAN off (Body scenario)	Receiver off + +WWAN on (Body scenario)
WiFi Antenna	Power Level A1	Power Level B1	Power Level C1

11.1 GSM Measurement result

During the process of testing, the EUT was controlled via Agilent Digital Radio Communication tester (E5515C) to ensure the maximum power transmission and proper modulation. This result contains conducted output power for the EUT. In all cases, the measured peak output power should be greater and within 5% than EMI measurement.

Table 11.1-1: The conducted power measurement results-Power Level A1

GSM 850	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	251	190	128			251	190	128
1 Txslot	32.77	32.92	33.21	33.50	/	/	/	/
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	251	190	128			251	190	128
1 Txslot	32.78	33.15	33.14	34.00	-9.03	23.75	24.12	24.11
2 Txslots	31.12	31.34	31.28	32.00	-6.02	25.10	25.32	25.26
3Txslots	29.88	30.31	30.28	31.00	-4.26	25.62	26.05	26.02
4 Txslots	28.65	29.11	29.06	29.50	-3.01	25.64	26.10	26.05
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	251	190	128			251	190	128
1 Txslot	32.73	33.12	33.09	34.00	-9.03	23.70	24.09	24.06
2 Txslots	31.18	31.33	31.67	32.00	-6.02	25.16	25.31	25.65
3 Txslots	29.83	30.32	30.24	31.00	-4.26	25.57	26.06	25.98
4 Txslots	28.61	29.16	29.05	29.50	-3.01	25.60	26.15	26.04
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	251	190	128			251	190	128
1 Txslot	26.19	26.49	26.81	27.50	-9.03	17.16	17.46	17.78
2 Txslots	24.48	24.79	25.13	26.00	-6.02	18.46	18.77	19.11
3Txslots	23.31	23.82	23.98	24.50	-4.26	19.05	19.56	19.72
4 Txslots	22.54	22.52	22.84	23.50	-3.01	19.53	19.51	19.83
PCS1900	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	810	661	512			810	661	512
1 Txslot	29.68	29.83	29.46	30.00	/	/	/	/
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	810	661	512			810	661	512
1 Txslot	29.73	29.81	29.52	30.00	-9.03	20.70	20.78	20.49
2 Txslots	28.07	28.46	28.10	28.50	-6.02	22.05	22.44	22.08
3 Txslots	25.92	26.43	26.13	26.50	-4.26	21.66	22.17	21.87
4 Txslots	25.00	25.44	25.07	25.50	-3.01	21.99	22.43	22.06
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	810	661	512			810	661	512
1 Txslot	29.77	29.79	29.46	30.00	-9.03	20.74	20.76	20.43
2 Txslots	28.08	28.42	28.11	29.00	-6.02	22.06	22.40	22.09
3 Txslots	25.87	26.28	25.96	27.00	-4.26	21.61	22.02	21.70
4 Txslots	25.03	25.38	25.08	25.50	-3.01	22.02	22.37	22.07

PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	810	661	512			810	661	512
1 Txslot	25.85	25.70	25.39	26.50	-9.03	16.82	16.67	16.36
2 Txslots	23.72	23.88	23.53	24.00	-6.02	17.70	17.86	17.51
3Txslots	22.28	22.48	22.25	22.50	-4.26	18.02	18.22	17.99
4 Txslots	20.96	21.32	21.02	21.50	-3.01	17.95	18.31	18.01

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

According to the conducted power as above, the body measurements are performed with 4Txslots for GSM850 and 2 Txslots for GSM1900.

Table 11.1-1: The conducted power measurement results-Power Level B1

PCS1900	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	810	661	512			810	661	512
1 Txslot	29.44	29.71	29.12	30.00	/	/	/	/
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	810	661	512			810	661	512
1 Txslot	29.40	29.73	29.50	30.00	-9.03	20.37	20.70	20.47
2 Txslots	27.84	28.21	27.91	28.50	-6.02	21.82	22.19	21.89
3 Txslots	25.72	26.12	25.81	26.50	-4.26	21.46	21.86	21.55
4 Txslots	24.89	25.29	25.02	25.50	-3.01	21.88	22.28	22.01
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	810	661	512			810	661	512
1 Txslot	29.38	29.70	29.47	30.00	-9.03	20.35	20.67	20.44
2 Txslots	27.81	28.19	27.89	29.00	-6.02	21.79	22.17	21.87
3 Txslots	25.71	26.09	25.79	27.00	-4.26	21.45	21.83	21.53
4 Txslots	24.97	25.35	25.09	25.50	-3.01	21.96	22.34	22.08
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	810	661	512			810	661	512
1 Txslot	25.11	25.43	25.72	26.50	-9.03	16.08	16.40	16.69
2 Txslots	23.27	23.65	23.49	24.00	-6.02	17.25	17.63	17.47
3Txslots	22.01	22.59	22.15	22.50	-4.26	17.75	18.33	17.89
4 Txslots	20.96	21.31	21.62	21.50	-3.01	17.95	18.30	18.61

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

According to the conducted power as above, the body measurements are performed with 4Txslots for GSM1900.

11.2 WCDMA Measurement result

Table 11.2-1: The conducted Power for WCDMA-Power Level A1

WCDMA850	FDDV result (dBm)			Tune up
	4233/4458	4183/4408	4132/4357	
	(846.6MHz)	(836.6MHz)	(826.4MHz)	
	23.84	23.92	23.98	24.50
HSUPA	23.02	22.99	22.98	24.00
	21.03	20.99	20.97	22.00
	22.04	22.08	21.97	23.00
	20.97	20.93	20.99	22.00
	23.09	23.07	23.02	24.00
DC-HSDPA	23.09	23.05	23.01	24.00
	23.11	23.08	23.04	24.00
	22.63	22.55	22.56	23.50
	22.59	22.56	22.54	23.50
WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	23.98	23.94	23.97	24.00
HSUPA	23.16	23.11	23.05	24.00
	21.20	21.14	21.12	22.00
	22.14	22.12	22.09	23.00
	21.25	21.15	21.08	22.00
	23.21	23.18	23.18	24.00
DC-HSDPA	23.24	23.18	23.16	24.00
	23.25	23.17	23.14	24.00
	22.72	22.76	22.69	24.00
	22.66	22.68	22.64	24.00
WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	23.98	23.92	23.96	24.00
HSUPA	23.13	23.08	23.22	24.00
	21.16	21.10	21.21	22.00
	22.16	22.17	22.20	23.00
	21.19	21.13	21.22	22.00
	23.15	23.13	23.24	24.00
DC-HSDPA	23.17	23.15	23.23	24.00
	23.16	23.14	23.26	24.00
	22.68	22.65	22.73	24.00
	22.67	22.63	22.72	24.00

Table 11.2-2: The conducted Power for WCDMA-Power Level B1

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	20.88	20.93	20.90	21.50
HSUPA	19.71	19.76	19.68	21.00
	17.84	17.81	17.86	19.00
	18.74	18.73	18.66	20.00
	17.83	17.87	17.87	19.00
	19.78	19.87	19.76	21.00
DC-HSDPA	19.83	19.92	19.87	20.50
	19.82	19.88	19.88	20.50
	19.42	19.41	19.38	20.50
	19.46	19.39	19.34	20.50
WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	23.62	23.50	23.53	23.70
HSUPA	22.55	22.40	22.34	23.50
	20.67	20.49	20.43	21.50
	21.58	21.36	21.40	22.50
	20.63	20.44	20.49	21.50
	22.60	22.54	22.48	23.50
DC-HSDPA	22.58	22.51	22.51	23.00
	22.61	20.54	22.53	23.00
	22.14	22.02	22.04	23.00
	22.11	22.03	22.05	23.00

11.3 LTE Measurement result

Maximum Target Power for Production Unit – Power Level A1/B1

Band	Tune up (dBm)	
	Power Level A1	Power Level B1
Band 7	24	18.8
Band 12	24.5	24.5
Band 13	24.5	24.5
Band 25	24.5	22
Band 26	24.5	24.5
Band 41	24.5	19.8
Band 66	24	24
Band 71	24.5	24.5

Power level A1：

Band7					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2567.5 (21425)	23.37	22.53	21.90
		2535 (21100)	23.63	22.78	22.03
		2502.5 (20775)	23.65	23.24	22.40
	1RB-Middle (12)	2567.5 (21425)	23.37	22.54	21.86
		2535 (21100)	23.61	22.74	22.14
		2502.5 (20775)	23.57	23.19	22.33
	1RB-Low (0)	2567.5 (21425)	23.32	22.52	21.81
		2535 (21100)	23.60	22.73	22.16
		2502.5 (20775)	23.57	23.14	22.21
	12RB-High (13)	2567.5 (21425)	22.38	21.58	20.90
		2535 (21100)	22.57	21.82	20.98
		2502.5 (20775)	22.63	21.92	21.31
	12RB-Middle (6)	2567.5 (21425)	22.39	21.60	20.90
		2535 (21100)	22.56	21.80	21.04
		2502.5 (20775)	22.65	21.92	21.36
	12RB-Low (0)	2567.5 (21425)	22.35	21.60	20.87
		2535 (21100)	22.52	21.78	21.00
		2502.5 (20775)	22.58	21.86	21.32
	25RB (0)	2567.5 (21425)	22.38	21.47	20.83
		2535 (21100)	22.55	21.74	20.95
		2502.5 (20775)	22.66	21.80	21.32
10MHz	1RB-High (49)	2565 (21400)	23.30	22.45	21.95
		2535 (21100)	23.53	22.57	22.14
		2505 (20800)	23.60	23.08	22.44
	1RB-Middle (24)	2565 (21400)	23.27	22.41	21.95
		2535 (21100)	23.48	22.49	22.16
		2505 (20800)	23.64	23.07	22.43
	1RB-Low (0)	2565 (21400)	23.23	22.45	21.90
		2535 (21100)	23.45	22.51	22.14
		2505 (20800)	23.60	22.97	22.38
	25RB-High (25)	2565 (21400)	22.39	21.61	20.87
		2535 (21100)	22.59	21.76	20.90
		2505 (20800)	22.57	21.76	21.31
	25RB-Middle (12)	2565 (21400)	22.38	21.60	20.78
		2535 (21100)	22.61	21.76	20.99
		2505 (20800)	22.70	21.83	21.31
	25RB-Low (0)	2565 (21400)	22.32	21.63	20.85
		2535 (21100)	22.56	21.72	20.97
		2505 (20800)	22.62	21.81	21.26
	50RB (0)	2565 (21400)	22.34	21.54	20.85
		2535 (21100)	22.58	21.69	20.96
		2505 (20800)	22.53	21.74	21.36

15MHz	1RB-High (74)	2562.5 (21375)	23.36	22.82	21.85
		2535 (21100)	23.59	23.07	21.93
		2507.5 (20825)	23.58	22.61	22.44
	1RB-Middle (37)	2562.5 (21375)	23.29	22.79	21.85
		2535 (21100)	23.50	23.02	22.08
		2507.5 (20825)	23.58	22.59	22.43
	1RB-Low (0)	2562.5 (21375)	23.41	22.89	21.90
		2535 (21100)	23.51	22.99	22.17
		2507.5 (20825)	23.57	22.55	22.44
	36RB-High (38)	2562.5 (21375)	22.39	21.56	20.84
		2535 (21100)	22.61	21.68	20.99
		2507.5 (20825)	22.58	21.67	21.38
	36RB-Middle (19)	2562.5 (21375)	22.38	21.59	20.90
		2535 (21100)	22.57	21.66	21.07
		2507.5 (20825)	22.55	21.68	21.36
	36RB-Low (0)	2562.5 (21375)	22.46	21.60	20.84
		2535 (21100)	22.56	21.64	21.03
		2507.5 (20825)	22.60	21.76	21.37
	75RB (0)	2562.5 (21375)	22.44	21.58	20.93
		2535 (21100)	22.57	21.69	20.96
		2507.5 (20825)	22.54	21.68	21.30
20MHz	1RB-High (99)	2560 (21350)	23.46	22.80	21.87
		2535 (21100)	23.58	22.97	21.98
		2510 (20850)	23.54	22.98	22.28
	1RB-Middle (50)	2560 (21350)	23.48	22.94	21.87
		2535 (21100)	23.63	22.97	22.10
		2510 (20850)	23.57	22.97	22.43
	1RB-Low (0)	2560 (21350)	23.45	22.88	21.91
		2535 (21100)	23.59	22.99	22.23
		2510 (20850)	23.47	22.95	22.40
	50RB-High (50)	2560 (21350)	22.61	21.79	20.84
		2535 (21100)	22.76	21.88	20.88
		2510 (20850)	22.60	21.74	21.19
	50RB-Middle (25)	2560 (21350)	22.59	21.80	20.86
		2535 (21100)	22.75	21.85	21.00
		2510 (20850)	22.66	21.81	21.40
	50RB-Low (0)	2560 (21350)	22.59	21.72	20.74
		2535 (21100)	22.71	21.79	21.02
		2510 (20850)	22.63	21.79	21.37
	100RB (0)	2560 (21350)	22.59	21.74	20.80
		2535 (21100)	22.74	21.85	20.99
		2510 (20850)	22.57	21.74	21.22

Band12					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	715.3 (23173)	23.16	22.19	21.57
		707.5 (23095)	23.22	22.26	21.57
		699.7 (23017)	23.13	22.46	21.53
	1RB-Middle (3)	715.3 (23173)	23.20	22.22	21.63
		707.5 (23095)	23.26	22.35	21.66
		699.7 (23017)	23.21	22.53	21.59
	1RB-Low (0)	715.3 (23173)	23.18	22.22	21.59
		707.5 (23095)	23.21	22.28	21.63
		699.7 (23017)	23.15	22.49	21.58
	3RB-High (3)	715.3 (23173)	23.15	22.34	21.63
		707.5 (23095)	23.18	22.26	21.54
		699.7 (23017)	23.11	22.32	21.45
	3RB-Middle (1)	715.3 (23173)	23.23	22.43	21.68
		707.5 (23095)	23.20	22.30	21.58
		699.7 (23017)	23.20	22.36	21.59
	3RB-Low (0)	715.3 (23173)	23.06	22.31	21.59
		707.5 (23095)	23.11	22.26	21.59
		699.7 (23017)	23.13	22.32	21.51
	6RB (0)	715.3 (23173)	22.22	21.42	20.50
		707.5 (23095)	22.14	21.35	20.46
		699.7 (23017)	22.13	21.06	20.42
3MHz	1RB-High (14)	714.5 (23165)	23.14	22.60	21.67
		707.5 (23095)	23.17	22.22	21.62
		700.5 (23025)	23.17	22.06	21.57
	1RB-Middle (7)	714.5 (23165)	23.27	22.67	21.78
		707.5 (23095)	23.28	22.33	21.81
		700.5 (23025)	23.27	22.17	21.69
	1RB-Low (0)	714.5 (23165)	23.22	22.63	21.70
		707.5 (23095)	23.18	22.23	21.75
		700.5 (23025)	23.20	22.08	21.67
	8RB-High (7)	714.5 (23165)	22.19	21.38	20.62
		707.5 (23095)	22.22	21.30	20.57
		700.5 (23025)	22.15	21.36	20.54
	8RB-Middle (4)	714.5 (23165)	22.22	21.44	20.67
		707.5 (23095)	22.25	21.33	20.64
		700.5 (23025)	22.23	21.37	20.60
	8RB-Low (0)	714.5 (23165)	22.20	21.42	20.61
		707.5 (23095)	22.23	21.31	20.61
		700.5 (23025)	22.22	21.40	20.58
	15RB (0)	714.5 (23165)	22.22	21.35	20.60
		707.5 (23095)	22.19	21.22	20.63
		700.5 (23025)	22.15	21.25	20.49

5MHz	1RB-High (24)	713.5 (23155)	23.21	22.71	21.61
		707.5 (23095)	23.20	22.31	21.59
		701.5 (23035)	23.33	22.39	21.69
	1RB-Middle (12)	713.5 (23155)	23.23	22.77	21.72
		707.5 (23095)	23.24	22.33	21.64
		701.5 (23035)	23.26	22.33	21.54
	1RB-Low (0)	713.5 (23155)	23.14	22.69	21.65
		707.5 (23095)	23.23	22.30	21.67
		701.5 (23035)	23.26	22.35	21.71
	12RB-High (13)	713.5 (23155)	22.23	21.44	20.67
		707.5 (23095)	22.22	21.35	20.57
		701.5 (23035)	22.20	21.38	20.62
	12RB-Middle (6)	713.5 (23155)	22.29	21.51	20.70
		707.5 (23095)	22.25	21.38	20.67
		701.5 (23035)	22.19	21.35	20.57
	12RB-Low (0)	713.5 (23155)	22.20	21.40	20.58
		707.5 (23095)	22.21	21.35	20.61
		701.5 (23035)	22.18	21.29	20.62
	25RB (0)	713.5 (23155)	22.15	21.31	20.51
		707.5 (23095)	22.19	21.23	20.56
		701.5 (23035)	22.23	21.34	20.58
10MHz	1RB-High (49)	711 (23130)	23.24	22.06	21.45
		707.5 (23095)	23.14	22.47	21.48
		704 (23060)	23.14	22.16	21.51
	1RB-Middle (24)	711 (23130)	23.11	22.04	21.62
		707.5 (23095)	23.15	22.52	21.65
		704 (23060)	23.13	22.18	21.68
	1RB-Low (0)	711 (23130)	23.14	22.11	21.74
		707.5 (23095)	23.11	22.42	21.59
		704 (23060)	23.08	22.12	21.57
	25RB-High (25)	711 (23130)	22.16	21.25	20.56
		707.5 (23095)	22.18	21.29	20.48
		704 (23060)	22.19	21.31	20.58
	25RB-Middle (12)	711 (23130)	22.16	21.26	20.65
		707.5 (23095)	22.20	21.31	20.55
		704 (23060)	22.24	21.35	20.63
	25RB-Low (0)	711 (23130)	22.13	21.25	20.57
		707.5 (23095)	22.21	21.23	20.56
		704 (23060)	22.20	21.38	20.66
	50RB (0)	711 (23130)	22.11	21.19	20.78
		707.5 (23095)	22.16	21.21	20.54
		704 (23060)	22.17	21.30	20.58

Band13					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	784.5 (23255)	23.16	22.22	21.85
		782 (23230)	23.23	22.42	22.02
		779.5 (23205)	23.33	22.80	22.10
	1RB-Middle (12)	784.5 (23255)	23.18	22.24	21.90
		782 (23230)	23.30	22.49	22.10
		779.5 (23205)	23.41	22.97	22.16
	1RB-Low (0)	784.5 (23255)	23.29	22.39	22.21
		782 (23230)	23.26	22.49	22.04
		779.5 (23205)	23.46	22.87	22.18
	12RB-High (13)	784.5 (23255)	22.19	21.30	20.86
		782 (23230)	22.26	21.44	20.96
		779.5 (23205)	22.33	21.56	21.00
	12RB-Middle (6)	784.5 (23255)	22.31	21.41	21.00
		782 (23230)	22.39	21.48	21.05
		779.5 (23205)	22.37	21.56	21.04
	12RB-Low (0)	784.5 (23255)	22.34	21.42	20.98
		782 (23230)	22.33	21.46	21.02
		779.5 (23205)	22.41	21.61	21.11
	25RB (0)	784.5 (23255)	22.28	21.32	20.96
		782 (23230)	22.31	21.38	20.95
		779.5 (23205)	22.31	21.45	20.93
10MHz	1RB-High (49)	782 (23230)	23.26	22.05	22.22
	1RB-Middle (24)	782 (23230)	23.35	22.23	22.36
	1RB-Low (0)	782 (23230)	23.33	22.28	22.23
	25RB-High (25)	782 (23230)	22.31	21.40	21.30
	25RB-Middle (12)	782 (23230)	22.34	21.42	21.41
	25RB-Low (0)	782 (23230)	22.36	21.44	21.42
	50RB (0)	782 (23230)	22.31	21.38	21.36

Band25					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1914.3 (26683)	23.09	22.49	21.34
		1882.5 (26365)	23.07	22.23	21.26
		1850.7 (26047)	23.21	22.40	21.27
	1RB-Middle (3)	1914.3 (26683)	23.20	22.48	21.37
		1882.5 (26365)	23.15	22.28	21.38
		1850.7 (26047)	23.28	22.45	21.40
	1RB-Low (0)	1914.3 (26683)	23.11	22.43	21.31
		1882.5 (26365)	23.08	22.23	21.37
		1850.7 (26047)	23.22	22.35	21.32
	3RB-High (3)	1914.3 (26683)	23.12	22.39	21.22
		1882.5 (26365)	23.12	22.40	21.29
		1850.7 (26047)	23.19	22.38	21.25
	3RB-Middle (1)	1914.3 (26683)	23.18	22.50	21.34
		1882.5 (26365)	23.19	22.45	21.33
		1850.7 (26047)	23.27	22.44	21.41
	3RB-Low (0)	1914.3 (26683)	23.14	22.42	21.23
		1882.5 (26365)	23.10	22.45	21.33
		1850.7 (26047)	23.17	22.41	21.30
	6RB (0)	1914.3 (26683)	22.07	21.08	20.14
		1882.5 (26365)	22.07	21.37	20.18
		1850.7 (26047)	22.15	21.36	20.22
3MHz	1RB-High (14)	1913.5 (26675)	23.07	22.21	21.25
		1882.5 (26365)	23.19	22.15	21.44
		1851.5 (26055)	23.22	22.44	21.39
	1RB-Middle (7)	1913.5 (26675)	23.25	22.39	21.44
		1882.5 (26365)	23.29	22.33	21.44
		1851.5 (26055)	23.35	22.45	21.47
	1RB-Low (0)	1913.5 (26675)	23.11	22.31	21.38
		1882.5 (26365)	23.19	22.17	21.41
		1851.5 (26055)	23.22	22.49	21.40
	8RB-High (7)	1913.5 (26675)	22.17	21.33	20.25
		1882.5 (26365)	22.25	21.45	20.34
		1851.5 (26055)	22.25	21.41	20.23
	8RB-Middle (4)	1913.5 (26675)	22.16	21.35	20.27
		1882.5 (26365)	22.24	21.49	20.36
		1851.5 (26055)	22.25	21.46	20.37
	8RB-Low (0)	1913.5 (26675)	22.15	21.32	20.27
		1882.5 (26365)	22.22	21.46	20.36
		1851.5 (26055)	22.27	21.45	20.30
	15RB (0)	1913.5 (26675)	22.18	21.25	20.22
		1882.5 (26365)	22.23	21.37	20.20
		1851.5 (26055)	22.20	21.39	20.17

5MHz	1RB-High (24)	1912.5 (26665)	23.15	22.30	21.35
		1882.5 (26365)	23.29	22.45	21.46
		1852.5 (26065)	23.18	22.49	21.41
	1RB-Middle (12)	1912.5 (26665)	23.22	22.33	21.45
		1882.5 (26365)	23.35	22.48	21.46
		1852.5 (26065)	23.24	22.46	21.41
	1RB-Low (0)	1912.5 (26665)	23.20	22.33	21.31
		1882.5 (26365)	23.31	22.49	21.42
		1852.5 (26065)	23.22	22.41	21.33
	12RB-High (13)	1912.5 (26665)	22.13	21.36	20.28
		1882.5 (26365)	22.22	21.43	20.37
		1852.5 (26065)	22.24	21.44	20.32
	12RB-Middle (6)	1912.5 (26665)	22.19	21.39	20.31
		1882.5 (26365)	22.27	21.44	20.37
		1852.5 (26065)	22.28	21.42	20.32
	12RB-Low (0)	1912.5 (26665)	22.20	21.33	20.31
		1882.5 (26365)	22.25	21.43	20.37
		1852.5 (26065)	22.24	21.49	20.30
	25RB (0)	1912.5 (26665)	22.18	21.26	20.24
		1882.5 (26365)	22.26	21.38	20.31
		1852.5 (26065)	22.29	21.41	20.21
10MHz	1RB-High (49)	1910 (26640)	23.17	22.46	21.38
		1882.5 (26365)	23.24	22.43	21.47
		1855 (26090)	23.28	22.29	21.48
	1RB-Middle (24)	1910 (26640)	23.18	22.42	21.40
		1882.5 (26365)	23.25	22.40	21.45
		1855 (26090)	23.26	22.29	21.46
	1RB-Low (0)	1910 (26640)	23.19	22.48	21.39
		1882.5 (26365)	23.30	22.46	21.46
		1855 (26090)	23.32	22.30	21.46
	25RB-High (25)	1910 (26640)	22.17	21.30	20.23
		1882.5 (26365)	22.23	21.45	20.28
		1855 (26090)	22.23	21.35	20.34
	25RB-Middle (12)	1910 (26640)	22.21	21.34	20.24
		1882.5 (26365)	22.29	21.50	20.38
		1855 (26090)	22.29	21.41	20.29
	25RB-Low (0)	1910 (26640)	22.19	21.32	20.29
		1882.5 (26365)	22.23	21.44	20.36
		1855 (26090)	22.29	21.36	20.32
	50RB (0)	1910 (26640)	22.23	21.30	20.23
		1882.5 (26365)	22.26	21.42	20.35
		1855 (26090)	22.25	21.35	20.33

15MHz	1RB-High (74)	1907.5 (26615)	23.13	22.45	21.37
		1882.5 (26365)	23.12	22.13	21.45
		1857.5 (26115)	23.26	22.46	21.43
	1RB-Middle (37)	1907.5 (26615)	23.18	22.47	21.49
		1882.5 (26365)	23.24	22.23	21.47
		1857.5 (26115)	23.25	22.47	21.48
	1RB-Low (0)	1907.5 (26615)	23.17	22.47	21.43
		1882.5 (26365)	23.23	22.21	21.45
		1857.5 (26115)	23.21	22.43	21.45
	36RB-High (38)	1907.5 (26615)	22.16	21.25	20.35
		1882.5 (26365)	22.18	21.32	20.35
		1857.5 (26115)	22.33	21.48	20.42
	36RB-Middle (19)	1907.5 (26615)	22.19	21.27	20.34
		1882.5 (26365)	22.25	21.35	20.42
		1857.5 (26115)	22.23	21.38	20.37
	36RB-Low (0)	1907.5 (26615)	22.15	21.22	20.33
		1882.5 (26365)	22.20	21.34	20.40
		1857.5 (26115)	22.19	21.38	20.31
	75RB (0)	1907.5 (26615)	22.15	21.27	20.24
		1882.5 (26365)	22.22	21.36	20.31
		1857.5 (26115)	22.26	21.42	20.38
20MHz	1RB-High (99)	1905 (26590)	23.06	22.48	21.37
		1882.5 (26365)	23.20	22.46	21.38
		1860 (26140)	23.33	22.47	21.37
	1RB-Middle (50)	1905 (26590)	23.07	22.43	21.42
		1882.5 (26365)	23.17	22.47	21.45
		1860 (26140)	23.12	22.44	21.42
	1RB-Low (0)	1905 (26590)	23.06	22.48	21.45
		1882.5 (26365)	23.19	22.47	21.48
		1860 (26140)	23.11	22.46	21.43
	50RB-High (50)	1905 (26590)	22.15	21.23	20.32
		1882.5 (26365)	22.19	21.33	20.37
		1860 (26140)	22.25	21.38	20.43
	50RB-Middle (25)	1905 (26590)	22.15	21.27	20.39
		1882.5 (26365)	22.21	21.43	20.43
		1860 (26140)	22.32	21.44	20.43
	50RB-Low (0)	1905 (26590)	22.11	21.22	20.36
		1882.5 (26365)	22.22	21.40	20.38
		1860 (26140)	22.14	21.35	20.31
	100RB (0)	1905 (26590)	22.14	21.26	20.28
		1882.5 (26365)	22.18	21.34	20.36
		1860 (26140)	22.26	21.35	20.42

Band26					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	848.3 (27033)	23.13	22.18	21.77
		831.5 (26865)	23.24	22.36	21.79
		814.7 (26697)	23.01	22.34	21.54
	1RB-Middle (3)	848.3 (27033)	23.16	22.21	21.78
		831.5 (26865)	23.28	22.37	21.84
		814.7 (26697)	23.08	22.39	21.65
	1RB-Low (0)	848.3 (27033)	23.14	22.13	21.73
		831.5 (26865)	23.30	22.33	21.74
		814.7 (26697)	23.02	22.35	21.58
	3RB-High (3)	848.3 (27033)	23.07	22.34	21.70
		831.5 (26865)	23.20	22.29	21.71
		814.7 (26697)	23.00	22.19	21.52
	3RB-Middle (1)	848.3 (27033)	23.18	22.46	21.71
		831.5 (26865)	23.23	22.39	21.78
		814.7 (26697)	23.03	22.23	21.60
	3RB-Low (0)	848.3 (27033)	23.07	22.35	21.74
		831.5 (26865)	23.13	22.29	21.81
		814.7 (26697)	22.99	22.21	21.56
	6RB (0)	848.3 (27033)	22.19	21.38	20.66
		831.5 (26865)	22.23	21.41	20.66
		814.7 (26697)	22.04	20.95	20.47
3MHz	1RB-High (14)	847.5 (27025)	23.13	22.56	21.77
		831.5 (26865)	23.26	22.26	21.83
		815.5 (26705)	23.27	22.27	21.77
	1RB-Middle (7)	847.5 (27025)	23.23	22.65	21.90
		831.5 (26865)	23.35	22.37	21.90
		815.5 (26705)	23.36	22.39	21.85
	1RB-Low (0)	847.5 (27025)	23.20	22.54	21.74
		831.5 (26865)	23.26	22.32	21.81
		815.5 (26705)	23.24	22.31	21.81
	8RB-High (7)	847.5 (27025)	22.18	21.32	20.71
		831.5 (26865)	22.26	21.32	20.75
		815.5 (26705)	22.26	21.33	20.54
	8RB-Middle (4)	847.5 (27025)	22.27	21.39	20.76
		831.5 (26865)	22.29	21.40	20.79
		815.5 (26705)	22.28	21.42	20.68
	8RB-Low (0)	847.5 (27025)	22.24	21.36	20.66
		831.5 (26865)	22.26	21.33	20.74
		815.5 (26705)	22.26	21.35	20.63
	15RB (0)	847.5 (27025)	22.24	21.36	20.72
		831.5 (26865)	22.26	21.30	20.71
		815.5 (26705)	22.28	21.30	20.51

5MHz	1RB-High (24)	846.5 (27015)	23.19	22.26	21.68
		831.5 (26865)	23.34	22.42	21.78
		816.5 (26715)	23.10	22.65	21.69
	1RB-Middle (12)	846.5 (27015)	23.23	22.29	21.72
		831.5 (26865)	23.35	22.40	21.78
		816.5 (26715)	23.03	22.55	21.73
	1RB-Low (0)	846.5 (27015)	23.22	22.34	21.84
		831.5 (26865)	23.36	22.41	21.88
		816.5 (26715)	23.07	22.53	21.58
	12RB-High (13)	846.5 (27015)	22.21	21.33	20.68
		831.5 (26865)	22.23	21.39	20.76
		816.5 (26715)	22.18	21.39	20.69
	12RB-Middle (6)	846.5 (27015)	22.27	21.37	20.80
		831.5 (26865)	22.29	21.45	20.78
		816.5 (26715)	22.20	21.38	20.69
	12RB-Low (0)	846.5 (27015)	22.27	21.40	20.72
		831.5 (26865)	22.26	21.41	20.81
		816.5 (26715)	22.10	21.28	20.58
	25RB (0)	846.5 (27015)	22.24	21.24	20.69
		831.5 (26865)	22.25	21.37	20.74
		816.5 (26715)	22.15	21.26	20.60
10MHz	1RB-High (49)	844 (26990)	23.11	22.03	21.81
		831.5 (26865)	23.18	22.57	21.78
		820 (26750)	23.11	22.21	21.81
	1RB-Middle (24)	844 (26990)	23.17	22.11	21.91
		831.5 (26865)	23.26	22.57	21.86
		820 (26750)	23.04	22.19	21.72
	1RB-Low (0)	844 (26990)	23.19	22.20	21.98
		831.5 (26865)	23.14	22.51	21.76
		820 (26750)	23.00	22.05	21.63
	25RB-High (25)	844 (26990)	22.19	21.29	20.71
		831.5 (26865)	22.24	21.35	20.75
		820 (26750)	22.22	21.42	20.67
	25RB-Middle (12)	844 (26990)	22.22	21.37	20.81
		831.5 (26865)	22.25	21.36	20.77
		820 (26750)	22.17	21.31	20.66
	25RB-Low (0)	844 (26990)	22.23	21.37	20.81
		831.5 (26865)	22.25	21.35	20.75
		820 (26750)	22.16	21.28	20.65
	50RB (0)	844 (26990)	22.21	21.27	20.75
		831.5 (26865)	22.22	21.32	20.71
		820 (26750)	22.24	21.32	20.71

15MHz	1RB-High (74)	841.5 (26965)	23.20	22.58	21.69
		831.5 (26865)	23.19	22.17	21.83
		822.5 (26775)	23.35	22.65	21.84
	1RB-Middle (37)	841.5 (26965)	23.31	22.70	21.92
		831.5 (26865)	23.30	22.22	21.85
		822.5 (26775)	23.20	22.58	21.70
	1RB-Low (0)	841.5 (26965)	23.29	22.67	22.04
		831.5 (26865)	23.21	22.19	21.86
		822.5 (26775)	23.18	22.42	21.69
	36RB-High (38)	841.5 (26965)	22.29	21.34	20.76
		831.5 (26865)	22.24	21.37	20.71
		822.5 (26775)	22.35	21.46	20.81
	36RB-Middle (19)	841.5 (26965)	22.25	21.28	20.76
		831.5 (26865)	22.30	21.41	20.77
		822.5 (26775)	22.29	21.41	20.74
	36RB-Low (0)	841.5 (26965)	22.21	21.30	20.78
		831.5 (26865)	22.32	21.36	20.81
		822.5 (26775)	22.22	21.33	20.71
	75RB (0)	841.5 (26965)	22.19	21.29	20.73
		831.5 (26865)	22.28	21.40	20.74
		822.5 (26775)	22.28	21.37	20.73

Band41					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2652.5 (41215)	23.32	22.34	22.02
		2613.5 (40825)	23.33	22.39	22.32
		2575.5(40445)	23.61	22.81	22.36
		2537.5 (40065)	23.72	22.76	22.40
	1RB-Middle (12)	2652.5 (41215)	23.31	22.31	22.03
		2613.5 (40825)	23.35	22.42	22.38
		2575.5(40445)	23.58	22.76	22.32
		2537.5 (40065)	23.75	22.70	22.38
	1RB-Low (0)	2652.5 (41215)	23.25	22.31	22.00
		2613.5 (40825)	23.35	22.40	22.37
		2575.5(40445)	23.63	22.83	22.42
		2537.5 (40065)	23.69	22.69	22.42
	12RB-High (13)	2652.5 (41215)	22.49	21.59	21.15
		2613.5 (40825)	22.41	21.53	21.44
		2575.5(40445)	22.70	21.86	21.42
		2537.5 (40065)	22.80	21.95	21.54
	12RB-Middle (6)	2652.5 (41215)	22.46	21.58	21.15
		2613.5 (40825)	22.41	21.52	21.50
		2575.5(40445)	22.69	21.86	21.41
		2537.5 (40065)	22.80	21.94	21.56
	12RB-Low (0)	2652.5 (41215)	22.42	21.50	21.14
		2613.5 (40825)	22.40	21.49	21.50
		2575.5(40445)	22.69	21.80	21.40
		2537.5 (40065)	22.76	21.86	21.49
	25RB (0)	2652.5 (41215)	22.40	21.55	21.18
		2613.5 (40825)	22.48	21.62	21.50
		2575.5(40445)	22.68	21.77	21.44
		2537.5 (40065)	22.75	21.87	21.53

10MHz	1RB-High (49)	2650 (41190)	23.36	22.38	22.07
		2612 (40810)	23.41	22.47	22.35
		2576(40450)	23.68	22.84	22.39
		2540 (40090)	23.77	22.87	22.35
	1RB-Middle (24)	2650 (41190)	23.33	22.33	22.01
		2612 (40810)	23.40	22.49	22.41
		2576(40450)	23.62	22.80	22.29
		2540 (40090)	23.72	22.77	22.39
	1RB-Low (0)	2650 (41190)	23.33	22.37	22.15
		2612 (40810)	23.39	22.45	22.46
		2576(40450)	23.63	22.86	22.40
		2540 (40090)	23.72	22.73	22.42
	25RB-High (25)	2650 (41190)	22.46	21.54	21.17
		2612 (40810)	22.48	21.55	21.51
		2576(40450)	22.69	21.79	21.51
		2540 (40090)	22.80	21.91	21.52
	25RB-Middle (12)	2650 (41190)	22.52	21.62	21.27
		2612 (40810)	22.49	21.55	21.56
		2576(40450)	22.67	21.80	21.52
		2540 (40090)	22.80	21.91	21.56
	25RB-Low (0)	2650 (41190)	22.47	21.55	21.28
		2612 (40810)	22.47	21.55	21.55
		2576(40450)	22.64	21.79	21.46
		2540 (40090)	22.75	21.91	21.55
	50RB (0)	2650 (41190)	22.46	21.61	21.19
		2612 (40810)	22.46	21.59	21.48
		2576(40450)	22.68	21.84	21.39
		2540 (40090)	22.82	21.92	21.45

15MHz	1RB-High (74)	2647.5 (41165)	23.40	22.49	22.09
		2612.5 (40815)	23.40	22.54	22.42
		2577.5(40465)	23.69	22.66	22.48
		2542.5 (40115)	23.80	22.93	22.41
	1RB-Middle (37)	2647.5 (41165)	23.40	22.49	22.12
		2612.5 (40815)	23.45	22.54	22.42
		2577.5(40465)	23.60	22.65	22.43
		2542.5 (40115)	23.73	22.83	22.41
	1RB-Low (0)	2647.5 (41165)	23.36	22.43	22.21
		2612.5 (40815)	23.45	22.52	22.52
		2577.5(40465)	23.71	22.72	22.45
		2542.5 (40115)	23.66	22.80	22.54
	36RB-High (38)	2647.5 (41165)	22.54	21.62	21.25
		2612.5 (40815)	22.46	21.57	21.43
		2577.5(40465)	22.66	21.78	21.49
		2542.5 (40115)	22.82	21.87	21.48
	36RB-Middle (19)	2647.5 (41165)	22.53	21.62	21.24
		2612.5 (40815)	22.50	21.59	21.54
		2577.5(40465)	22.65	21.73	21.50
		2542.5 (40115)	22.84	21.88	21.50
	36RB-Low (0)	2647.5 (41165)	22.44	21.52	21.23
		2612.5 (40815)	22.47	21.56	21.59
		2577.5(40465)	22.61	21.72	21.45
		2542.5 (40115)	22.77	21.85	21.52
	75RB (0)	2647.5 (41165)	22.48	21.60	21.23
		2612.5 (40815)	22.44	21.54	21.49
		2577.5(40465)	22.68	21.74	21.43
		2542.5 (40115)	22.80	21.90	21.46

20MHz	1RB-High (99)	2645 (41140)	23.39	22.29	22.07
		2611 (40800)	23.42	22.59	22.36
		2578 (40470)	23.53	22.54	22.44
		2545 (40140)	23.77	22.73	22.35
	1RB-Middle (50)	2645 (41140)	23.40	22.30	22.12
		2611 (40800)	23.47	22.57	22.49
		2578 (40470)	23.58	22.60	22.41
		2545 (40140)	23.77	22.71	22.37
	1RB-Low (0)	2645 (41140)	23.40	22.32	22.32
		2611 (40800)	23.49	22.57	22.54
		2578 (40470)	23.68	22.65	22.47
		2545 (40140)	23.69	22.61	22.47
	50RB-High (50)	2645 (41140)	22.51	21.67	21.21
		2611 (40800)	22.46	21.59	21.41
		2578 (40470)	22.63	21.69	21.47
		2545 (40140)	22.86	21.96	21.44
	50RB-Middle (25)	2645 (41140)	22.48	21.58	21.23
		2611 (40800)	22.47	21.60	21.53
		2578 (40470)	22.67	21.77	21.46
		2545 (40140)	22.87	21.95	21.49
	50RB-Low (0)	2645 (41140)	22.50	21.60	21.25
		2611 (40800)	22.49	21.56	21.56
		2578 (40470)	22.65	21.78	21.40
		2545 (40140)	22.78	21.93	21.51
	100RB (0)	2645 (41140)	22.48	21.57	21.23
		2611 (40800)	22.49	21.54	21.50
		2578 (40470)	22.67	21.74	21.47
		2545 (40140)	22.83	21.94	21.50

Band66					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1779.3 (132665)	23.37	22.37	21.68
		1745 (132322)	23.33	22.42	21.70
		1710.7 (131979)	23.37	22.62	21.55
	1RB-Middle (3)	1779.3 (132665)	23.46	22.42	21.67
		1745 (132322)	23.44	22.51	21.79
		1710.7 (131979)	23.48	22.69	21.60
	1RB-Low (0)	1779.3 (132665)	23.43	22.32	21.68
		1745 (132322)	23.31	22.43	21.73
		1710.7 (131979)	23.41	22.64	21.60
	3RB-High (3)	1779.3 (132665)	23.27	22.56	21.66
		1745 (132322)	23.26	22.44	21.68
		1710.7 (131979)	23.29	22.49	21.61
	3RB-Middle (1)	1779.3 (132665)	23.39	22.66	21.68
		1745 (132322)	23.31	22.51	21.74
		1710.7 (131979)	23.35	22.61	21.67
	3RB-Low (0)	1779.3 (132665)	23.33	22.59	21.66
		1745 (132322)	23.26	22.44	21.70
		1710.7 (131979)	23.28	22.51	21.64
	6RB (0)	1779.3 (132665)	22.27	21.55	20.55
		1745 (132322)	22.22	21.53	20.60
		1710.7 (131979)	22.21	21.20	20.45
3MHz	1RB-High (14)	1778.5 (132657)	23.30	22.14	21.70
		1745 (132322)	23.34	22.65	21.62
		1711.5 (131987)	23.21	22.23	21.62
	1RB-Middle (7)	1778.5 (132657)	23.55	22.37	21.72
		1745 (132322)	23.56	22.85	21.71
		1711.5 (131987)	23.40	22.47	21.75
	1RB-Low (0)	1778.5 (132657)	23.22	22.16	21.51
		1745 (132322)	23.28	22.63	21.68
		1711.5 (131987)	23.35	22.27	21.49
	8RB-High (7)	1778.5 (132657)	22.31	21.54	20.55
		1745 (132322)	22.31	21.45	20.66
		1711.5 (131987)	22.33	21.34	20.58
	8RB-Middle (4)	1778.5 (132657)	22.39	21.59	20.65
		1745 (132322)	22.37	21.56	20.74
		1711.5 (131987)	22.37	21.48	20.62
	8RB-Low (0)	1778.5 (132657)	22.34	21.51	20.61
		1745 (132322)	22.33	21.51	20.68
		1711.5 (131987)	22.33	21.39	20.60
	15RB (0)	1778.5 (132657)	22.36	21.48	20.55
		1745 (132322)	22.28	21.46	20.63
		1711.5 (131987)	22.35	21.30	20.56

5MHz	1RB-High (24)	1777.5 (132647)	23.23	22.79	21.52
		1745 (132322)	23.25	22.38	21.60
		1712.5 (131997)	23.25	22.36	21.86
	1RB-Middle (12)	1777.5 (132647)	23.46	22.97	21.76
		1745 (132322)	23.41	22.53	21.81
		1712.5 (131997)	23.45	22.55	21.83
	1RB-Low (0)	1777.5 (132647)	23.21	22.74	21.59
		1745 (132322)	23.24	22.33	21.59
		1712.5 (131997)	23.26	22.36	21.88
	12RB-High (13)	1777.5 (132647)	22.27	21.58	20.58
		1745 (132322)	22.24	21.49	20.64
		1712.5 (131997)	22.24	21.40	20.72
	12RB-Middle (6)	1777.5 (132647)	22.39	21.65	20.62
		1745 (132322)	22.43	21.55	20.74
		1712.5 (131997)	22.34	21.51	20.66
	12RB-Low (0)	1777.5 (132647)	22.30	21.54	20.57
		1745 (132322)	22.29	21.48	20.64
		1712.5 (131997)	22.27	21.40	20.82
	25RB (0)	1777.5 (132647)	22.31	21.51	20.51
		1745 (132322)	22.29	21.40	20.55
		1712.5 (131997)	22.26	21.40	20.77
10MHz	1RB-High (49)	1775 (132622)	23.35	22.38	21.77
		1745 (132322)	23.35	22.27	21.74
		1715 (132022)	23.34	22.24	21.71
	1RB-Middle (24)	1775 (132622)	23.36	22.39	21.87
		1745 (132322)	23.38	22.32	21.79
		1715 (132022)	23.38	22.26	21.74
	1RB-Low (0)	1775 (132622)	23.31	22.40	21.76
		1745 (132322)	23.29	22.32	21.75
		1715 (132022)	23.30	22.23	21.68
	25RB-High (25)	1775 (132622)	22.33	21.49	20.53
		1745 (132322)	22.31	21.44	20.59
		1715 (132022)	22.29	21.43	20.56
	25RB-Middle (12)	1775 (132622)	22.30	21.53	20.51
		1745 (132322)	22.36	21.46	20.65
		1715 (132022)	22.28	21.44	20.52
	25RB-Low (0)	1775 (132622)	22.33	21.49	20.58
		1745 (132322)	22.29	21.45	20.63
		1715 (132022)	22.29	21.38	20.55
	50RB (0)	1775 (132622)	22.33	21.50	20.59
		1745 (132322)	22.30	21.46	20.59
		1715 (132022)	22.29	21.38	20.53

15MHz	1RB-High (74)	1772.5 (132597)	23.41	22.80	21.67
		1745 (132322)	23.31	22.29	21.72
		1717.5 (132047)	23.39	22.83	21.85
	1RB-Middle (37)	1772.5 (132597)	23.46	22.86	21.77
		1745 (132322)	23.43	22.37	21.85
		1717.5 (132047)	23.45	22.83	21.83
	1RB-Low (0)	1772.5 (132597)	23.37	22.84	21.78
		1745 (132322)	23.32	22.30	21.80
		1717.5 (132047)	23.33	22.71	21.81
	36RB-High (38)	1772.5 (132597)	22.29	21.38	20.55
		1745 (132322)	22.25	21.42	20.59
		1717.5 (132047)	22.34	21.43	20.59
	36RB-Middle (19)	1772.5 (132597)	22.37	21.45	20.69
		1745 (132322)	22.36	21.48	20.72
		1717.5 (132047)	22.37	21.51	20.65
	36RB-Low (0)	1772.5 (132597)	22.25	21.32	20.56
		1745 (132322)	22.28	21.36	20.62
		1717.5 (132047)	22.22	21.38	20.54
	75RB (0)	1772.5 (132597)	22.24	21.37	20.50
		1745 (132322)	22.28	21.36	20.53
		1717.5 (132047)	22.29	21.41	20.60
20MHz	1RB-High (99)	1770 (132572)	23.27	22.83	21.68
		1745 (132322)	23.30	22.70	21.75
		1720 (132072)	23.17	22.73	21.71
	1RB-Middle (50)	1770 (132572)	23.37	22.92	21.70
		1745 (132322)	23.42	22.81	21.86
		1720 (132072)	23.08	22.46	21.86
	1RB-Low (0)	1770 (132572)	23.19	22.78	21.74
		1745 (132322)	23.27	22.76	21.88
		1720 (132072)	22.95	22.32	21.69
	50RB-High (50)	1770 (132572)	22.23	21.31	20.55
		1745 (132322)	22.24	21.34	20.59
		1720 (132072)	22.11	21.19	20.50
	50RB-Middle (25)	1770 (132572)	22.24	21.33	20.56
		1745 (132322)	22.23	21.33	20.60
		1720 (132072)	21.95	21.05	20.61
	50RB-Low (0)	1770 (132572)	22.12	21.23	20.51
		1745 (132322)	22.23	21.34	20.57
		1720 (132072)	21.88	21.03	20.54
	100RB (0)	1770 (132572)	22.12	21.25	20.48
		1745 (132322)	22.22	21.30	20.65
		1720 (132072)	22.03	21.16	20.48

Band71					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	695.5 (133447)	23.12	22.76	21.60
		680.5 (133297)	23.15	22.42	22.05
		665.5 (133147)	23.31	22.45	22.00
	1RB-Middle (12)	695.5 (133447)	23.17	22.78	21.89
		680.5 (133297)	23.24	22.49	22.01
		665.5 (133147)	23.34	22.44	22.07
	1RB-Low (0)	695.5 (133447)	23.17	22.74	22.01
		680.5 (133297)	23.33	22.42	22.07
		665.5 (133147)	23.34	22.45	22.08
	12RB-High (13)	695.5 (133447)	22.12	21.42	20.77
		680.5 (133297)	22.26	21.43	20.95
		665.5 (133147)	22.23	21.43	20.99
	12RB-Middle (6)	695.5 (133447)	22.23	21.47	20.78
		680.5 (133297)	22.33	21.49	21.00
		665.5 (133147)	22.31	21.49	21.03
	12RB-Low (0)	695.5 (133447)	22.16	21.43	20.84
		680.5 (133297)	22.27	21.46	20.95
		665.5 (133147)	22.25	21.43	21.07
	25RB (0)	695.5 (133447)	22.18	21.35	20.74
		680.5 (133297)	22.26	21.36	20.92
		665.5 (133147)	22.30	21.42	20.94
10MHz	1RB-High (49)	693 (132422)	23.31	22.23	21.86
		680.5 (133297)	23.26	22.21	21.95
		668 (133172)	23.11	22.61	22.07
	1RB-Middle (24)	693 (132422)	23.21	22.35	21.92
		680.5 (133297)	23.33	22.26	22.07
		668 (133172)	23.21	22.67	22.13
	1RB-Low (0)	693 (132422)	23.22	22.29	21.91
		680.5 (133297)	23.30	22.27	22.15
		668 (133172)	23.23	22.61	22.13
	25RB-High (25)	693 (132422)	22.37	21.47	20.65
		680.5 (133297)	22.32	21.41	20.88
		668 (133172)	22.25	21.40	20.92
	25RB-Middle (12)	693 (132422)	22.28	21.49	20.73
		680.5 (133297)	22.34	21.43	20.96
		668 (133172)	22.31	21.46	20.99
	25RB-Low (0)	693 (132422)	22.25	21.48	20.77
		680.5 (133297)	22.31	21.40	20.92
		668 (133172)	22.31	21.45	20.98
	50RB (0)	693 (132422)	22.31	21.44	20.73
		680.5 (133297)	22.28	21.36	20.89
		668 (133172)	22.27	21.37	20.99

15MHz	1RB-High (74)	690.5 (133397)	23.15	22.10	21.69
		680.5 (133297)	23.23	22.68	21.91
		670.5 (133197)	23.30	22.69	22.11
	1RB-Middle (37)	690.5 (133397)	23.19	22.21	21.88
		680.5 (133297)	23.30	22.69	22.11
		670.5 (133197)	23.21	22.67	22.08
	1RB-Low (0)	690.5 (133397)	23.27	22.25	22.15
		680.5 (133297)	23.36	22.75	22.19
		670.5 (133197)	23.27	22.64	22.21
	36RB-High (38)	690.5 (133397)	22.16	21.30	20.80
		680.5 (133297)	22.29	21.39	20.93
		670.5 (133197)	22.30	21.36	20.97
	36RB-Middle (19)	690.5 (133397)	22.26	21.37	20.86
		680.5 (133297)	22.33	21.43	20.97
		670.5 (133197)	22.36	21.43	21.09
	36RB-Low (0)	690.5 (133397)	22.23	21.35	20.95
		680.5 (133297)	22.29	21.42	21.03
		670.5 (133197)	22.26	21.36	20.98
	75RB (0)	690.5 (133397)	22.23	21.36	20.84
		680.5 (133297)	22.30	21.39	20.90
		670.5 (133197)	22.33	21.44	21.03
20MHz	1RB-High (99)	688 (133372)	23.65	23.13	21.85
		683 (133322)	23.64	23.04	21.90
		673 (133222)	23.64	23.05	21.97
	1RB-Middle (50)	688 (133372)	23.55	23.23	22.08
		683 (133322)	23.56	23.05	22.06
		673 (133222)	23.63	23.11	22.22
	1RB-Low (0)	688 (133372)	23.67	23.16	22.16
		683 (133322)	23.62	23.09	22.23
		673 (133222)	23.73	23.12	22.17
	50RB-High (50)	688 (133372)	22.63	21.75	20.77
		683 (133322)	22.63	21.71	20.79
		673 (133222)	22.65	21.73	20.93
	50RB-Middle (25)	688 (133372)	22.63	21.72	20.90
		683 (133322)	22.64	21.72	20.95
		673 (133222)	22.71	21.80	21.05
	50RB-Low (0)	688 (133372)	22.65	21.75	20.93
		683 (133322)	22.65	21.74	21.01
		673 (133222)	22.74	21.76	20.99
	100RB (0)	688 (133372)	22.65	21.73	20.85
		683 (133322)	22.60	21.68	20.92
		673 (133222)	22.67	21.79	20.97

Power level B1：

Band7(Receiver off)					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2567.5 (21425)	17.59	17.79	18.04
		2535 (21100)	17.77	18.00	18.02
		2502.5 (20775)	17.97	18.59	18.67
	1RB-Middle (12)	2567.5 (21425)	17.54	17.76	18.07
		2535 (21100)	17.71	17.93	18.04
		2502.5 (20775)	17.92	18.59	18.45
	1RB-Low (0)	2567.5 (21425)	17.55	17.77	18.04
		2535 (21100)	17.73	17.94	18.22
		2502.5 (20775)	17.91	18.55	18.62
	12RB-High (13)	2567.5 (21425)	17.58	17.77	17.95
		2535 (21100)	17.71	17.91	17.96
		2502.5 (20775)	18.04	18.30	18.50
	12RB-Middle (6)	2567.5 (21425)	17.58	17.78	17.88
		2535 (21100)	17.72	17.99	17.99
		2502.5 (20775)	18.07	18.29	18.62
	12RB-Low (0)	2567.5 (21425)	17.56	17.74	17.79
		2535 (21100)	17.69	17.94	17.96
		2502.5 (20775)	18.01	18.24	18.59
	25RB (0)	2567.5 (21425)	17.59	17.66	17.85
		2535 (21100)	17.73	17.87	17.90
		2502.5 (20775)	18.05	18.19	18.52
10MHz	1RB-High (49)	2565 (21400)	17.51	17.68	18.10
		2535 (21100)	17.66	17.75	18.06
		2505 (20800)	17.92	18.37	18.79
	1RB-Middle (24)	2565 (21400)	17.44	17.72	18.03
		2535 (21100)	17.60	17.73	18.10
		2505 (20800)	17.96	18.44	18.72
	1RB-Low (0)	2565 (21400)	17.43	17.66	17.95
		2535 (21100)	17.63	17.72	18.14
		2505 (20800)	17.96	18.45	18.75
	25RB-High (25)	2565 (21400)	17.56	17.78	17.86
		2535 (21100)	17.76	17.92	17.82
		2505 (20800)	17.95	18.06	18.46
	25RB-Middle (12)	2565 (21400)	17.61	17.82	17.84
		2535 (21100)	17.76	17.91	17.90
		2505 (20800)	17.95	18.07	18.48
	25RB-Low (0)	2565 (21400)	17.52	17.79	17.74
		2535 (21100)	17.71	17.91	17.92
		2505 (20800)	18.00	18.14	18.59
	50RB (0)	2565 (21400)	17.56	17.73	17.79
		2535 (21100)	17.72	17.88	17.90
		2505 (20800)	17.95	18.07	18.40

15MHz	1RB-High (74)	2562.5 (21375)	17.57	18.11	18.06
		2535 (21100)	17.69	17.78	17.98
		2507.5 (20825)	17.93	18.41	18.67
	1RB-Middle (37)	2562.5 (21375)	17.52	18.06	17.90
		2535 (21100)	17.63	17.76	18.06
		2507.5 (20825)	17.89	18.38	18.71
	1RB-Low (0)	2562.5 (21375)	17.59	18.19	18.03
		2535 (21100)	17.75	17.85	18.33
		2507.5 (20825)	18.02	18.49	18.73
	36RB-High (38)	2562.5 (21375)	17.54	17.66	17.86
		2535 (21100)	17.69	17.85	17.91
		2507.5 (20825)	17.90	18.05	18.51
	36RB-Middle (19)	2562.5 (21375)	17.55	17.66	17.91
		2535 (21100)	17.70	17.84	18.01
		2507.5 (20825)	17.97	18.05	18.55
	36RB-Low (0)	2562.5 (21375)	17.62	17.74	17.90
		2535 (21100)	17.67	17.84	18.05
		2507.5 (20825)	17.87	18.03	18.50
	75RB (0)	2562.5 (21375)	17.59	17.76	17.92
		2535 (21100)	17.66	17.84	17.97
		2507.5 (20825)	17.91	18.04	18.52
20MHz	1RB-High (99)	2560 (21350)	17.92	18.16	18.10
		2535 (21100)	18.03	18.21	17.85
		2510 (20850)	18.17	18.51	18.35
	1RB-Middle (50)	2560 (21350)	17.90	18.14	17.90
		2535 (21100)	18.08	18.28	18.17
		2510 (20850)	18.29	18.58	18.46
	1RB-Low (0)	2560 (21350)	17.97	18.27	18.03
		2535 (21100)	18.21	18.34	18.41
		2510 (20850)	18.72	18.63	18.38
	50RB-High (50)	2560 (21350)	18.05	17.84	17.83
		2535 (21100)	18.26	17.95	17.90
		2510 (20850)	18.34	18.06	18.30
	50RB-Middle (25)	2560 (21350)	18.13	17.92	17.85
		2535 (21100)	18.22	17.99	17.95
		2510 (20850)	18.45	18.17	18.45
	50RB-Low (0)	2560 (21350)	18.11	17.91	17.82
		2535 (21100)	18.19	17.94	17.99
		2510 (20850)	18.37	18.09	18.43
	100RB (0)	2560 (21350)	18.12	17.84	17.89
		2535 (21100)	18.19	17.97	17.96
		2510 (20850)	18.43	18.16	18.38

Band25(Receiver off)					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1914.3 (26683)	21.23	21.38	20.87
		1882.5 (26365)	21.46	21.27	21.23
		1850.7 (26047)	21.44	21.39	21.22
	1RB-Middle (3)	1914.3 (26683)	21.24	21.45	21.07
		1882.5 (26365)	21.31	21.39	21.29
		1850.7 (26047)	21.33	21.46	21.29
	1RB-Low (0)	1914.3 (26683)	21.37	21.38	20.87
		1882.5 (26365)	21.39	21.26	21.14
		1850.7 (26047)	21.46	21.38	21.26
	3RB-High (3)	1914.3 (26683)	21.47	21.24	20.93
		1882.5 (26365)	21.43	21.46	21.17
		1850.7 (26047)	21.45	21.39	21.20
	3RB-Middle (1)	1914.3 (26683)	21.52	21.35	20.99
		1882.5 (26365)	21.55	21.57	21.22
		1850.7 (26047)	21.52	21.48	21.27
	3RB-Low (0)	1914.3 (26683)	21.46	21.28	20.92
		1882.5 (26365)	21.46	21.47	21.21
		1850.7 (26047)	21.49	21.38	21.18
	6RB (0)	1914.3 (26683)	21.36	20.95	19.89
		1882.5 (26365)	21.34	21.39	20.03
		1850.7 (26047)	21.37	21.38	20.07
3MHz	1RB-High (14)	1913.5 (26675)	21.17	21.04	21.07
		1882.5 (26365)	21.45	21.19	21.36
		1851.5 (26055)	21.42	21.58	21.28
	1RB-Middle (7)	1913.5 (26675)	21.37	21.20	21.16
		1882.5 (26365)	21.48	21.32	21.42
		1851.5 (26055)	21.48	21.48	21.36
	1RB-Low (0)	1913.5 (26675)	21.42	21.14	21.07
		1882.5 (26365)	21.42	21.20	21.33
		1851.5 (26055)	21.41	21.47	21.39
	8RB-High (7)	1913.5 (26675)	21.48	21.11	19.98
		1882.5 (26365)	21.45	21.48	20.25
		1851.5 (26055)	21.47	21.42	20.17
	8RB-Middle (4)	1913.5 (26675)	21.52	21.19	20.03
		1882.5 (26365)	21.52	21.52	20.29
		1851.5 (26055)	21.52	21.43	20.26
	8RB-Low (0)	1913.5 (26675)	21.48	21.16	20.02
		1882.5 (26365)	21.49	21.48	20.26
		1851.5 (26055)	21.50	21.40	20.27
	15RB (0)	1913.5 (26675)	21.51	21.08	19.93
		1882.5 (26365)	21.48	21.38	20.18
		1851.5 (26055)	21.53	21.38	20.18

5MHz	1RB-High (24)	1912.5 (26665)	21.33	21.14	21.04
		1882.5 (26365)	21.41	21.49	21.47
		1852.5 (26065)	21.42	21.49	21.25
	1RB-Middle (12)	1912.5 (26665)	21.41	21.18	21.07
		1882.5 (26365)	21.42	21.46	21.26
		1852.5 (26065)	21.45	21.41	21.34
	1RB-Low (0)	1912.5 (26665)	21.38	21.19	21.12
		1882.5 (26365)	21.41	21.44	21.37
		1852.5 (26065)	21.44	21.49	21.34
	12RB-High (13)	1912.5 (26665)	21.48	21.13	20.07
		1882.5 (26365)	21.49	21.41	20.25
		1852.5 (26065)	21.46	21.42	20.23
	12RB-Middle (6)	1912.5 (26665)	21.54	21.21	20.10
		1882.5 (26365)	21.53	21.44	20.26
		1852.5 (26065)	21.53	21.47	20.29
	12RB-Low (0)	1912.5 (26665)	21.52	21.19	20.02
		1882.5 (26365)	21.55	21.47	20.29
		1852.5 (26065)	21.49	21.47	20.23
	25RB (0)	1912.5 (26665)	21.52	21.11	20.01
		1882.5 (26365)	21.53	21.40	20.26
		1852.5 (26065)	21.52	21.40	20.17
10MHz	1RB-High (49)	1910 (26640)	21.14	21.35	21.14
		1882.5 (26365)	21.45	21.25	21.39
		1855 (26090)	21.44	21.21	21.36
	1RB-Middle (24)	1910 (26640)	21.20	21.43	21.13
		1882.5 (26365)	21.48	21.35	21.38
		1855 (26090)	21.44	21.22	21.43
	1RB-Low (0)	1910 (26640)	21.53	21.37	21.20
		1882.5 (26365)	21.46	21.42	21.48
		1855 (26090)	21.50	21.27	21.45
	25RB-High (25)	1910 (26640)	21.44	21.12	20.04
		1882.5 (26365)	21.44	21.41	20.26
		1855 (26090)	21.39	21.28	20.22
	25RB-Middle (12)	1910 (26640)	21.50	21.13	20.08
		1882.5 (26365)	21.51	21.47	20.29
		1855 (26090)	21.45	21.35	20.24
	25RB-Low (0)	1910 (26640)	21.46	21.10	20.01
		1882.5 (26365)	21.46	21.43	20.32
		1855 (26090)	21.41	21.32	20.21
	50RB (0)	1910 (26640)	21.50	21.09	20.04
		1882.5 (26365)	21.51	21.37	20.26
		1855 (26090)	21.47	21.32	20.20

15MHz	1RB-High (74)	1907.5 (26615)	21.22	21.33	21.22
		1882.5 (26365)	21.34	21.46	21.36
		1857.5 (26115)	21.42	21.20	21.46
	1RB-Middle (37)	1907.5 (26615)	21.25	21.42	21.18
		1882.5 (26365)	21.47	21.45	21.47
		1857.5 (26115)	21.45	21.22	21.38
	1RB-Low (0)	1907.5 (26615)	21.32	21.46	21.32
		1882.5 (26365)	21.51	21.41	21.48
		1857.5 (26115)	21.36	21.14	21.33
	36RB-High (38)	1907.5 (26615)	21.19	21.11	20.13
		1882.5 (26365)	21.47	21.33	20.32
		1857.5 (26115)	21.50	21.35	20.34
	36RB-Middle (19)	1907.5 (26615)	21.32	21.24	20.26
		1882.5 (26365)	21.48	21.36	20.41
		1857.5 (26115)	21.44	21.32	20.38
	36RB-Low (0)	1907.5 (26615)	21.32	21.17	20.19
		1882.5 (26365)	21.48	21.29	20.35
		1857.5 (26115)	21.40	21.26	20.32
	75RB (0)	1907.5 (26615)	21.31	21.17	20.14
		1882.5 (26365)	21.47	21.35	20.31
		1857.5 (26115)	21.53	21.41	20.35
20MHz	1RB-High (99)	1905 (26590)	21.24	21.09	21.28
		1882.5 (26365)	21.40	21.45	21.28
		1860 (26140)	21.55	21.51	21.57
	1RB-Middle (50)	1905 (26590)	21.34	21.24	21.27
		1882.5 (26365)	21.49	21.57	21.56
		1860 (26140)	21.43	21.44	21.42
	1RB-Low (0)	1905 (26590)	21.31	21.17	21.36
		1882.5 (26365)	21.52	21.56	21.54
		1860 (26140)	21.47	21.46	21.43
	50RB-High (50)	1905 (26590)	21.44	21.18	20.22
		1882.5 (26365)	21.57	21.43	20.35
		1860 (26140)	21.55	21.49	20.39
	50RB-Middle (25)	1905 (26590)	21.49	21.25	20.32
		1882.5 (26365)	21.57	21.47	20.42
		1860 (26140)	21.58	21.56	20.47
	50RB-Low (0)	1905 (26590)	21.42	21.17	20.20
		1882.5 (26365)	21.56	21.47	20.37
		1860 (26140)	21.53	21.43	20.36
	100RB (0)	1905 (26590)	21.44	21.17	20.23
		1882.5 (26365)	21.59	21.42	20.36
		1860 (26140)	21.59	21.46	20.41

Band41(Receiver off)					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2652.5 (41215)	18.88	18.94	19.19
		2613.5 (40825)	18.80	18.98	19.50
		2575.5(40445)	18.97	19.16	19.40
		2537.5 (40065)	19.34	19.38	19.49
	1RB-Middle (12)	2652.5 (41215)	18.84	18.87	19.13
		2613.5 (40825)	18.76	18.97	19.54
		2575.5(40445)	19.04	19.29	19.50
		2537.5 (40065)	19.33	19.39	19.54
	1RB-Low (0)	2652.5 (41215)	18.80	18.88	19.15
		2613.5 (40825)	18.81	18.95	19.55
		2575.5(40445)	19.04	19.25	19.46
		2537.5 (40065)	19.31	19.37	19.54
	12RB-High (13)	2652.5 (41215)	18.95	19.11	19.21
		2613.5 (40825)	18.91	19.04	19.61
		2575.5(40445)	19.00	19.22	19.45
		2537.5 (40065)	19.41	19.56	19.44
	12RB-Middle (6)	2652.5 (41215)	18.96	19.15	19.25
		2613.5 (40825)	18.96	19.08	19.64
		2575.5(40445)	19.02	19.22	19.46
		2537.5 (40065)	19.41	19.53	19.64
	12RB-Low (0)	2652.5 (41215)	18.92	19.11	19.04
		2613.5 (40825)	18.95	19.04	19.58
		2575.5(40445)	19.06	19.28	19.54
		2537.5 (40065)	19.40	19.54	19.63
	25RB (0)	2652.5 (41215)	18.93	19.08	19.20
		2613.5 (40825)	18.94	19.13	19.57
		2575.5(40445)	18.99	19.13	19.49
		2537.5 (40065)	19.42	19.53	19.62

10MHz	1RB-High (49)	2650 (41190)	18.86	19.00	19.39
		2612 (40810)	18.84	19.05	19.54
		2576(40450)	18.95	19.23	19.13
		2540 (40090)	19.35	19.47	19.66
	1RB-Middle (24)	2650 (41190)	18.82	18.93	19.46
		2612 (40810)	18.82	19.01	19.59
		2576(40450)	18.91	19.20	19.25
		2540 (40090)	19.30	19.42	19.54
	1RB-Low (0)	2650 (41190)	18.79	18.86	19.53
		2612 (40810)	18.82	18.98	19.52
		2576(40450)	19.02	19.27	19.28
		2540 (40090)	19.29	19.42	19.68
	25RB-High (25)	2650 (41190)	18.96	19.08	19.50
		2612 (40810)	18.94	19.09	19.64
		2576(40450)	18.98	19.17	19.20
		2540 (40090)	19.41	19.55	19.63
	25RB-Middle (12)	2650 (41190)	18.94	19.05	19.45
		2612 (40810)	18.94	19.09	19.62
		2576(40450)	19.02	19.16	19.15
		2540 (40090)	19.43	19.56	19.56
	25RB-Low (0)	2650 (41190)	18.88	19.02	19.41
		2612 (40810)	18.93	19.08	19.56
		2576(40450)	18.97	19.14	19.46
		2540 (40090)	19.37	19.50	19.52
	50RB (0)	2650 (41190)	18.92	19.04	19.18
		2612 (40810)	18.96	19.10	19.69
		2576(40450)	19.03	19.19	19.51
		2540 (40090)	19.38	19.50	19.73

15MHz	1RB-High (74)	2647.5 (41165)	18.93	19.02	19.19
		2612.5 (40815)	18.81	18.97	19.57
		2577.5(40465)	18.94	19.18	19.51
		2542.5 (40115)	19.40	19.48	19.55
	1RB-Middle (37)	2647.5 (41165)	18.85	18.95	19.21
		2612.5 (40815)	18.84	19.02	19.63
		2577.5(40465)	18.89	19.13	19.51
		2542.5 (40115)	19.35	19.42	19.60
	1RB-Low (0)	2647.5 (41165)	18.93	18.97	19.30
		2612.5 (40815)	18.84	19.08	19.59
		2577.5(40465)	19.04	19.28	19.44
		2542.5 (40115)	19.35	19.44	19.60
	36RB-High (38)	2647.5 (41165)	18.91	19.04	19.29
		2612.5 (40815)	18.92	19.01	19.60
		2577.5(40465)	18.96	19.10	19.48
		2542.5 (40115)	19.40	19.50	19.57
	36RB-Middle (19)	2647.5 (41165)	18.86	18.99	19.44
		2612.5 (40815)	18.93	19.02	19.50
		2577.5(40465)	18.96	19.11	19.30
		2542.5 (40115)	19.37	19.48	19.45
	36RB-Low (0)	2647.5 (41165)	18.95	19.04	19.50
		2612.5 (40815)	18.93	19.01	19.67
		2577.5(40465)	18.94	19.10	19.16
		2542.5 (40115)	19.38	19.46	19.53
	75RB (0)	2647.5 (41165)	18.96	19.11	19.53
		2612.5 (40815)	18.89	19.05	19.52
		2577.5(40465)	18.95	19.09	19.31
		2542.5 (40115)	19.39	19.50	19.61

20MHz	1RB-High (99)	2645 (41140)	19.34	19.37	19.47
		2611 (40800)	18.74	18.95	19.58
		2578 (40470)	18.95	18.96	19.32
		2545 (40140)	19.38	19.61	19.67
	1RB-Middle (50)	2645 (41140)	19.38	19.14	19.42
		2611 (40800)	19.31	19.08	19.59
		2578 (40470)	18.93	18.96	19.29
		2545 (40140)	19.42	19.70	19.62
	1RB-Low (0)	2645 (41140)	18.86	19.19	19.48
		2611 (40800)	18.88	19.04	19.58
		2578 (40470)	19.09	19.02	19.64
		2545 (40140)	19.38	19.56	19.50
	50RB-High (50)	2645 (41140)	18.94	18.87	19.58
		2611 (40800)	18.98	18.84	19.18
		2578 (40470)	19.03	18.91	19.48
		2545 (40140)	19.41	19.29	19.42
	50RB-Middle (25)	2645 (41140)	19.38	18.94	19.53
		2611 (40800)	19.35	18.86	19.12
		2578 (40470)	19.22	18.92	19.51
		2545 (40140)	19.42	19.30	19.50
	50RB-Low (0)	2645 (41140)	18.98	18.89	19.54
		2611 (40800)	18.97	18.83	19.16
		2578 (40470)	19.01	18.89	19.57
		2545 (40140)	19.42	19.28	19.47
	100RB (0)	2645 (41140)	19.28	18.85	19.57
		2611 (40800)	19.01	18.84	19.25
		2578 (40470)	19.05	18.88	19.59
		2545 (40140)	19.43	19.25	19.57

11.4 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 12.17dBm.
The maximum tune up of BT antenna is 12.5dBm.

The average conducted power for Wi-Fi 2.4G is as following:

802.11b	
Channel\data rate	1Mbps
11(2462MHz)	18.75
6(2437(MHz)	18.10
1(2412MHz)	18.53
Tune up	20.00
802.11g	
Channel\data rate	6Mbps
11(2462MHz)	17.26
6(2437(MHz)	16.56
1(2412MHz)	16.92
Tune up	18.50
802.11n-20MHz	
Channel\data rate	MCS0
11(2462MHz)	16.00
6(2437(MHz)	15.53
1(2412MHz)	15.87
Tune up	17.00
802.11n-40MHz	
Channel\data rate	MCS0
9(2452MHz)	16.19
6(2437MHz)	16.47
3(2422MHz)	15.99
Tune up	17.50

The average conducted power for Wi-Fi 5G is as following:

802.11a(dBm)-Power level B1	
Channel\data rate	6Mbps
36(5180 MHz)	9.93
40(5200 MHz)	10.09
44(5220 MHz)	10.70
48(5240 MHz)	10.64
Tune up	11.00
52(5260 MHz)	10.98
56(5280 MHz)	10.87
60(5300 MHz)	11.41
64(5320 MHz)	10.88
Tune up	11.50
100(5500 MHz)	10.41
104(5520 MHz)	10.70
108(5540 MHz)	10.86
112(5560 MHz)	10.18
116(5580 MHz)	10.03
120(5600 MHz)	9.96
124(5620 MHz)	9.84
128(5640 MHz)	9.93
132(5660 MHz)	9.81
136(5680 MHz)	10.02
140(5700 MHz)	10.51
144(5720 MHz)	10.95
Tune up	11.00
149(5745 MHz)	11.95
153(5765 MHz)	12.30
157(5785 MHz)	12.51
161(5805 MHz)	12.56
165(5825 MHz)	12.45
Tune up	12.70

802.11a(dBm)-Powel level B1	
Channel\data rate	6Mbps
36(5180 MHz)	15.73
40(5200 MHz)	15.87
44(5220 MHz)	16.47
48(5240 MHz)	16.47
Tune up	17.00
52(5260 MHz)	16.67
56(5280 MHz)	16.61
60(5300 MHz)	17.08
64(5320 MHz)	16.60
Tune up	17.20
100(5500 MHz)	15.97
104(5520 MHz)	16.20
108(5540 MHz)	16.32
112(5560 MHz)	15.68
116(5580 MHz)	15.47
120(5600 MHz)	15.49
124(5620 MHz)	15.30
128(5640 MHz)	15.40
132(5660 MHz)	15.00
136(5680 MHz)	15.50
140(5700 MHz)	16.12
144(5720 MHz)	16.62
Tune up	17.00
149(5745 MHz)	17.23
153(5765 MHz)	17.83
157(5785 MHz)	18.22
161(5805 MHz)	18.25
165(5825 MHz)	18.06
Tune up	18.50

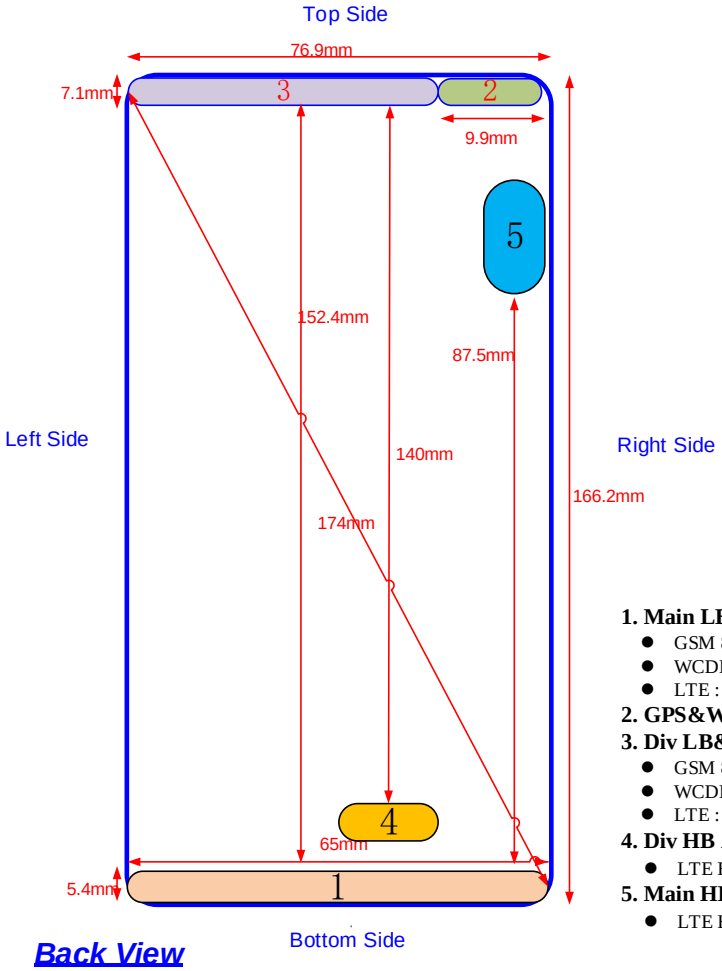
802.11a(dBm)-Power level C1	
Channel\data rate	6Mbps
36(5180 MHz)	14.18
40(5200 MHz)	14.37
44(5220 MHz)	14.98
48(5240 MHz)	14.91
Tune up	15.00
52(5260 MHz)	15.28
56(5280 MHz)	15.19
60(5300 MHz)	15.72
64(5320 MHz)	15.12
Tune up	16.00
100(5500 MHz)	14.53
104(5520 MHz)	14.87
108(5540 MHz)	14.98
112(5560 MHz)	14.32
116(5580 MHz)	14.14
120(5600 MHz)	14.25
124(5620 MHz)	14.13
128(5640 MHz)	14.27
132(5660 MHz)	14.02
136(5680 MHz)	14.26
140(5700 MHz)	14.89
144(5720 MHz)	15.34
Tune up	15.50
149(5745 MHz)	16.04
153(5765 MHz)	16.54
157(5785 MHz)	16.65
161(5805 MHz)	16.61
165(5825 MHz)	16.88
Tune up	17.00

12 Simultaneous TX SAR Considerations

12.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter.
For this device, the BT and Wi-Fi can transmit simultaneous with other transmitters.

12.2 Transmit Antenna Separation Distances



1. Main LB&MB Antenna
- GSM 850/900/1800/1900
- WCDMA B1/2/4/5/8
- LTE : B1/2/3/4/5/8/12/13/17/25/26/28/66

2. GPS&WIFI Antenna

3. Div LB&MB Antenna
- GSM 850/900/1800/1900
- WCDMA B1/2/4/5/8
- LTE : B1/2/3/4/5/8/12/13/17/25/26/28/29/66

4. Div HB Antenna
- LTE B7/38/40/41

5. Main HB Antenna
- LTE B7/38/40/41

Picture 12.1 Antenna Locations

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
Main Antenna-ANT1	Yes	Yes	Yes	Yes	No	Yes
Main Antenna-ANT5	Yes	Yes	Yes	No	Yes	No
WiFi Antenna-ANT2	Yes	Yes	Yes	No	Yes	No

12.4 Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied. The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Table 12.1: Standalone SAR test exclusion considerations

Band/Mode	F(GHz)	Position	SAR test exclusion threshold(mW)	RF output power		SAR test exclusion
				dBm	mW	
Bluetooth	2.441	Head	9.60	12.5	17.78	No
		Body	19.20	12.5	17.78	Yes
2.4GHz WLAN	2.45	Head	9.58	19	79.4	No
		Body	19.17	19	79.4	No
5GHz WLAN	5.2	Head	6.58	17	50.12	No
		Body	13.16	17	50.12	No
	5.3	Head	6.52	17.2	52.48	No
		Body	13.03	17.2	52.48	No
	5.6	Head	6.34	17	50.12	No
		Body	12.68	17	50.12	No
	5.8	Head	6.23	18.5	70.79	No
		Body	12.46	18.5	70.79	No

13 Evaluation of Simultaneous

Table 13.1: The sum of SAR values for Main antenna + WiFi-2.4G

	Position	Main antenna	WiFi-2.4G	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band7)	0.76	0.63	**1.39**
Highest SAR value for Body	Bottom 10mm (LTE Band66)	1.37	0	**1.37**

Table 13.2: The sum of SAR values for Main antenna + WiFi-5G

	Position	Main antenna	WiFi-2.4G	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band7)	0.76	0.72	**1.48**
Highest SAR value for Body	Rear 10mm (LTE Band7)	0.98	0.60	**1.58**

Table 13.3: The sum of reported SAR values for main antenna and BT

	Position	Main antenna	BT	Sum
Maximum reported SAR value for Head	Right head, Cheek (LTE Band7)	0.76	<0.01	**0.76**
Maximum reported SAR value for Body	Bottom 10mm (LTE Band66)	1.37	<0.01	**1.37**

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;
where x = 7.5 for 1-g SAR.
When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

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

It is determined by user manual for the distance between the EUT and the phantom bottom. The distance is 10 mm and just applied to the condition of body worn accessory.

It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-g SAR is the highest measured SAR in each exposure configuration, wireless mode and frequency band combination or more than 1.2W/kg.

The calculated SAR is obtained by the following formula:

$$\text{Reported SAR} = \text{Measured SAR} \times 10^{(P_{Target}-P_{Measured})/10}$$

Where P_{Target} is the power of manufacturing upper limit;

$P_{Measured}$ is the measured power in chapter 11.

Table 14.1: Duty Cycle

Mode	Duty Cycle
Speech for GSM850/1900	1:8.3
GPRS&EGPRS for GSM 850	1:2
GPRS&EGPRS for GSM 1900-Receiver on	1:4
GPRS&EGPRS for GSM 1900-Receiver off	1:2
WCDMA&LTE FDD	1:1
LTE TDD	1:1.58

The evaluation of multi-Batteries:

We'll perform the head measurement in all bands with the primary Battery depending on the evaluation of multi-Batteries and retest on highest value point with other Battery. Then, repeat the measurement in the Body test.

Frequency		Side	Test Position	Batteries	SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.					
824.2	128	Right	Cheek	B1	0.383	0.13
824.2	128	Right	Cheek	B2	0.277	0.06

Note: According to the values in the above table, the **B1** is the primary Battery.

We'll perform the head measurement with the **B1** and retest on highest value point with others.

Frequency		Test Position	Spacing (mm)	Batteries	SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.					
824.2	128	Rear	10	B1	0.413	-0.03
824.2	128	Rear	10	B2	0.377	0.09

Note: According to the values in the above table, the **B1** is the primary Battery.

We'll perform the body measurement with the **B1** and retest on highest value point with others.

Note

B1: The Battery of CAC3860032CA by BYD

B2: The Battery of CAC3860025C7 by VEKEN

14.1 SAR results for Fast SAR

Table 14.1-1: SAR Values (GSM 850 MHz Band - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	Left	Cheek	/	29.11	29.50	0.188	**0.21**	0.248	**0.27**	-0.11
190	836.6	Left	Tilt	/	29.11	29.50	0.133	**0.15**	0.172	**0.19**	-0.17
251	848.8	Right	Cheek	/	28.65	29.50	0.208	**0.25**	0.275	**0.33**	-0.17
190	836.6	Right	Cheek	/	29.11	29.50	0.248	**0.27**	0.327	**0.36**	0.06
128	824.2	Right	Cheek	Fig.1	29.06	29.50	0.291	**0.32**	0.383	**0.42**	0.13
190	836.6	Right	Tilt	/	29.11	29.50	0.149	**0.16**	0.194	**0.21**	-0.17
251	848.8	Right	Cheek	B2	29.11	29.50	0.214	**0.23**	0.277	**0.30**	0.06

Note: the head SAR of GSM850 is tested with GPRS (4xslots) mode because of VoIP.

Table 14.1-2: SAR Values (GSM 850 MHz Band - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	GPRS (4)	Front	/	29.11	29.50	0.163	**0.18**	0.279	**0.31**	0.07
251	848.8	GPRS (4)	Rear	/	28.65	29.50	0.213	**0.26**	0.379	**0.46**	-0.07
190	836.6	GPRS (4)	Rear	/	29.11	29.50	0.226	**0.25**	0.392	**0.43**	0.17
128	824.2	GPRS (4)	Rear	Fig.2	29.06	29.50	0.239	**0.26**	0.413	**0.46**	-0.03
190	836.6	GPRS (4)	Left	/	29.11	29.50	0.09	**0.10**	0.154	**0.17**	0.00
190	836.6	GPRS (4)	Right	/	29.11	29.50	0.187	**0.20**	0.295	**0.32**	0.08
190	836.6	GPRS (4)	Bottom	/	29.11	29.50	0.113	**0.12**	0.244	**0.27**	0.16
128	824.2	EPRS (4)	Rear	/	29.06	29.50	0.226	**0.25**	0.407	**0.45**	0.14
128	824.2	GPRS (4)	Rear	B2	29.06	29.50	0.219	**0.24**	0.377	**0.42**	0.09

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-3: SAR Values (GSM 1900 MHz Band - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
810	1909.8	Left	Cheek	/	28.07	28.50	0.114	**0.13**	0.185	**0.20**	-0.19
661	1880	Left	Cheek	Fig.3	28.46	28.50	0.131	**0.13**	0.207	**0.21**	-0.02
512	1850.2	Left	Cheek	/	28.10	28.50	0.112	**0.12**	0.178	**0.20**	0.11
661	1880	Left	Tilt	/	28.46	28.50	0.091	**0.09**	0.149	**0.15**	-0.08
661	1880	Right	Cheek	/	28.46	28.50	0.089	**0.09**	0.144	**0.15**	-0.01
661	1880	Right	Tilt	/	28.46	28.50	0.071	**0.07**	0.118	**0.12**	-0.15
661	1880	Left	Cheek	B2	28.46	28.50	0.131	**0.13**	0.157	**0.16**	-0.02

Note: the head SAR of GSM850 is tested with GPRS (2slots) mode because of VoIP.

Table 14.1-4 SAR Values (GSM 1900 MHz Band – Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
661	1880	GPRS (4)	Front	/	25.29	25.50	0.19	**0.20**	0.356	**0.37**	-0.11
661	1880	GPRS (4)	Rear	/	25.29	25.50	0.275	**0.29**	0.539	**0.57**	0.06
661	1880	GPRS (4)	Left	/	25.29	25.50	0.048	**0.05**	0.078	**0.08**	-0.07
661	1880	GPRS (4)	Right	/	25.29	25.50	0.024	**0.03**	0.042	**0.04**	0.07
810	1909.8	GPRS (4)	Bottom	/	24.89	25.50	0.331	**0.38**	0.844	**0.97**	0.16
661	1880	GPRS (4)	Bottom		25.29	25.50	0.457	**0.48**	0.888	**0.93**	-0.14

512	1850.2	GPRS (4)	Bottom	Fig.4	25.02	25.50	0.515	**0.58**	1	**1.12**	0.05
512	1850.2	EGPRS (4)	Bottom	/	25.09	25.50	0.477	**0.52**	0.924	**1.02**	0.06
512	1850.2	GPRS (4)	Bottom	B2	25.02	25.50	0.489	**0.55**	0.952	**1.06**	0.12

Note: The distance between the EUT and the phantom bottom is 10mm

Table 14.1-5 SAR Values (WCDMA 1900 MHz Band - Head)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
9538	1907.6	Left	Cheek	/	23.98	24.00	0.196	**0.20**	0.309	**0.31**	0.17
9400	1880	Left	Cheek	/	23.94	24.00	0.210	**0.21**	0.328	**0.33**	0.03
9262	1852.4	Left	Cheek	Fig.5	23.97	24.00	0.214	**0.22**	0.337	**0.34**	-0.20
9400	1880	Left	Tilt	/	23.94	24.00	0.151	**0.15**	0.243	**0.25**	0.09
9400	1880	Right	Cheek	/	23.94	24.00	0.162	**0.16**	0.256	**0.26**	0.16
9400	1880	Right	Tilt	/	23.94	24.00	0.124	**0.13**	0.203	**0.21**	-0.12
9262	1852.4	Left	Cheek	B2	23.97	24.00	0.178	**0.18**	0.307	**0.31**	-0.20

Table 14.1-6 SAR Values (WCDMA 1900 MHz Band – Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C										
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9400	1880	Front	/	20.80	21.50	0.189	**0.22**	0.356	**0.42**	0.04
9400	1880	Rear	/	20.93	21.50	0.270	**0.31**	0.542	**0.62**	-0.05
9400	1880	Left	/	20.93	21.50	0.048	**0.05**	0.084	**0.10**	-0.01
9400	1880	Right	/	20.93	21.50	0.032	**0.04**	0.058	**0.07**	-0.1
9538	1907.6	Bottom	/	20.88	21.50	3.845	**4.44**	0.793	**0.91**	-0.12
9400	1880	Bottom	/	20.93	21.50	0.499	**0.57**	1.03	**1.17**	0.03
9262	1852.4	Bottom	Fig.6	20.90	21.50	0.545	**0.63**	1.12	**1.29**	0.02
9262	1852.4	Bottom	B2	20.90	21.50	0.512	**0.59**	1.06	**1.22**	0.13
9262	1852.4	Bottom	H	20.90	21.50	0.489	**0.56**	1.01	**1.16**	0.15

Note: The distance between the EUT and the phantom bottom is 10mm

Table 14.1-7 SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
1513	1752.6	Left	Cheek	Fig.7	23.98	24.00	0.170	**0.17**	0.263	**0.26**	-0.01
1412	1732.4	Left	Cheek	/	23.92	24.00	0.144	**0.15**	0.222	**0.23**	-0.04
1312	1712.4	Left	Cheek	/	23.96	24.00	0.126	**0.13**	0.198	**0.20**	-0.09
1412	1732.4	Left	Tilt	/	23.92	24.00	0.093	**0.09**	0.146	**0.15**	-0.10
1412	1732.4	Right	Cheek	/	23.92	24.00	0.120	**0.12**	0.193	**0.20**	0.09
1412	1732.4	Right	Tilt	/	23.92	24.00	0.080	**0.08**	0.129	**0.13**	0.10
1513	1752.6	Left	Cheek	B2	23.98	24.00	0.122	**0.12**	0.245	**0.25**	-0.01

Table 14.1-8: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C										
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
1412	1732.4	Front	/	23.50	23.70	0.229	**0.24**	0.39	**0.41**	-0.11
1412	1732.4	Rear	/	23.50	23.70	0.334	**0.35**	0.606	**0.63**	0.08
1412	1732.4	Left	/	23.50	23.70	0.062	**0.06**	0.114	**0.12**	-0.09
1412	1732.4	Right	/	23.50	23.70	0.053	**0.06**	0.089	**0.09**	0.07
1513	1752.6	Bottom	/	23.62	23.70	0.523	**0.53**	0.988	**1.01**	-0.16
1412	1732.4	Bottom	/	23.50	23.70	0.548	**0.57**	1.04	**1.09**	0.09
1312	1712.4	Bottom	Fig.8	23.53	23.70	0.569	**0.59**	1.08	**1.12**	0.02
1312	1712.4	Bottom	B2	23.53	23.70	0.512	**0.53**	0.991	**1.03**	0.17

Note: The distance between the EUT and the phantom bottom is 10mm

Table 14.1-9: SAR Values (WCDMA 850 MHz Band - Head)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
4182	836.4	Left	Cheek	/	23.92	24.50	0.130	**0.15**	0.162	**0.19**	0.19
4182	836.4	Left	Tilt		23.92	24.50	0.089	**0.10**	0.111	**0.13**	0.16
4233	846.6	Right	Cheek	Fig.9	23.84	24.50	0.218	**0.25**	0.289	**0.34**	-0.02
4182	836.4	Right	Cheek	/	23.92	24.50	0.163	**0.19**	0.218	**0.25**	-0.16
4132	826.4	Right	Cheek	/	23.98	24.50	0.161	**0.18**	0.217	**0.24**	-0.17
4182	836.4	Right	Tilt	/	23.92	24.50	0.105	**0.12**	0.131	**0.15**	0.14
4233	846.6	Right	Cheek	B2	23.84	24.50	0.154	**0.18**	0.196	**0.23**	0.01

Table 14.1-10: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
4183	836.6	Front	/	23.92	24.50	0.142	**0.16**	0.231	**0.26**	0.17
4233	846.6	Rear	/	23.84	24.50	0.173	**0.20**	0.289	**0.34**	-0.18
4183	836.6	Rear	Fig.10	23.92	24.50	0.184	**0.21**	0.307	**0.35**	-0.01
4132	826.4	Rear	/	23.98	24.50	0.177	**0.20**	0.290	**0.33**	0.05
4183	836.6	Left	/	23.92	24.50	0.152	**0.17**	0.228	**0.26**	-0.09
4183	836.6	Right	/	23.92	24.50	0.077	**0.09**	0.116	**0.13**	0.08
4183	836.6	Bottom	/	23.92	24.50	0.105	**0.12**	0.203	**0.23**	0.18
4233	846.6	Rear	S2	23.92	24.50	0.182	**0.21**	0.275	**0.31**	-0.01

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-11: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
21100	2535	1RB-Mid	Left	Cheek	/	23.63	24.00	0.133	**0.14**	0.300	**0.33**	0.00
21100	2535	1RB-Mid	Left	Tilt	/	23.63	24.00	0.048	**0.05**	0.095	**0.10**	-0.04
21100	2535	1RB-Mid	Right	Cheek	Fig.11	23.63	24.00	0.282	**0.31**	0.701	**0.76**	0.16
21100	2535	1RB-Mid	Right	Tilt	/	23.63	24.00	0.113	**0.12**	0.246	**0.27**	-0.17
21100	2535	50RB-High	Left	Cheek	/	22.76	23.00	0.083	**0.09**	0.183	**0.19**	-0.05
21100	2535	50RB-High	Left	Tilt	/	22.76	23.00	0.037	**0.04**	0.076	**0.08**	0.06
21100	2535	50RB-High	Right	Cheek	/	22.76	23.00	0.227	**0.24**	0.566	**0.60**	0.14
21100	2535	50RB-High	Right	Tilt	/	22.76	23.00	0.093	**0.10**	0.207	**0.22**	-0.19
21100	2535	1RB-Mid	Left	Tilt	B2	23.63	24.00	0.273	**0.30**	0.693	**0.75**	0.16
21100	2535	1RB-Mid	Right	Cheek	With cover	23.63	24.00	0.252	**0.27**	0.661	**0.72**	0.13

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-12: SAR Values (LTE Band7 –Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
20850	2510	1RB-Low Front	/	18.36	18.80	0.019	**0.02**	0.034	**0.04**	-0.14
21350	2565	1RB-Low Rear	/	17.97	18.80	0.339	**0.41**	0.745	**0.90**	0.12
21100	2535	1RB-Low Rear	/	18.21	18.80	0.372	**0.43**	0.816	**0.93**	0.19
20850	2510	1RB-Low Rear	Fig.12	18.72	18.80	0.397	**0.40**	0.960	**0.98**	0.01
20850	2510	1RB-Low Left	/	18.43	18.80	0.352	**0.38**	0.862	**0.94**	0.13
20850	2510	1RB-Low Top	/	18.36	18.80	0.135	**0.15**	0.280	**0.31**	-0.17
20850	2510	100RB Bottom	/	18.36	18.80	0.010	**0.01**	0.033	**0.04**	0.17
20850	2510	50RB-Mid Front	/	18.45	18.80	0.017	**0.02**	0.033	**0.04**	-0.11
21350	2565	50RB-Mid Rear	/	18.13	18.80	0.351	**0.41**	0.771	**0.90**	0.05
21100	2535	50RB-Mid Rear	/	18.22	18.80	0.363	**0.41**	0.794	**0.91**	0.17
20850	2510	50RB-Mid Rear	/	18.45	18.80	0.368	**0.40**	0.844	**0.91**	0.10
20850	2510	50RB-Mid Left	/	18.45	18.80	0.149	**0.16**	0.309	**0.33**	0.17
20850	2510	50RB-Mid Top	/	18.45	18.80	<0.01	<0.01	<0.01	<0.01	/
20850	2510	50RB-High Bottom	/	18.72	18.80	0.373	**0.38**	0.914	**0.93**	0.01
20850	2510	1RB-Low Rear	B2	18.36	18.80	0.019	**0.02**	0.034	**0.04**	-0.14

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

Table 14.1-13: SAR Values (LTE Band12- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23130	711	1RB-High	Left	Cheek	/	23.24	24.50	0.067	**0.09**	0.071	**0.09**	0.04
23130	711	1RB-High	Left	Tilt	/	23.24	24.50	0.040	**0.05**	0.042	**0.06**	-0.14
23130	711	1RB-High	Right	Cheek	Fig.13	23.24	24.50	0.155	**0.21**	0.197	**0.26**	0.04
23130	711	1RB-High	Right	Tilt	/	23.24	24.50	0.100	**0.13**	0.126	**0.17**	0.01
23065	704	25RB-Mid	Left	Cheek	/	22.24	23.50	0.056	**0.07**	0.059	**0.08**	0.14
23065	704	25RB-Mid	Left	Tilt	/	22.24	23.50	0.034	**0.05**	0.038	**0.05**	0.10
23065	704	25RB-Mid	Right	Cheek	/	22.24	23.50	0.130	**0.17**	0.165	**0.22**	-0.08
23065	704	25RB-Mid	Right	Tilt	/	22.24	23.50	0.077	**0.10**	0.097	**0.13**	-0.19
23130	711	1RB-High	Right	Cheek	B2	23.24	24.50	0.143	**0.19**	0.189	**0.25**	0.04

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-14: SAR Values (LTE Band12 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
23130	711	1RB-High Front	/	23.24	24.50	0.138	**0.18**	0.183	**0.24**	0.08
23130	711	1RB-High Rear	/	23.24	24.50	0.185	**0.25**	0.244	**0.33**	0.05
23130	711	1RB-High Left	/	23.24	24.50	0.134	**0.18**	0.196	**0.26**	0.03
23130	711	1RB-High Right	Fig.14	23.24	24.50	0.225	**0.30**	0.291	**0.39**	0.03
23130	711	1RB-High Bottom	/	23.24	24.50	0.075	**0.10**	0.140	**0.19**	-0.14
23065	704	25RB-Middle Front	/	22.24	23.50	0.123	**0.16**	0.162	**0.22**	-0.03
23065	704	25RB-Middle Rear	/	22.24	23.50	0.162	**0.22**	0.213	**0.28**	0.08
23065	704	25RB-Middle Left	/	22.24	23.50	0.118	**0.16**	0.170	**0.23**	-0.06
23065	704	25RB-Middle Right	/	22.24	23.50	0.157	**0.21**	0.227	**0.30**	-0.03
23065	704	25RB-Middle Bottom	/	22.24	23.50	0.059	**0.08**	0.108	**0.14**	0.04
23130	711	1RB-High Rear	B2	23.24	24.50	0.155	**0.21**	0.241	**0.32**	-0.07

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-15: SAR Values (LTE Band13- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23230	782	1RB-Mid	Left	Cheek	/	23.35	24.50	0.091	**0.12**	0.113	**0.15**	0.14
23230	782	1RB-Mid	Left	Tilt	/	23.35	24.50	0.068	**0.09**	0.084	**0.11**	-0.16
23230	782	1RB-Mid	Right	Cheek	Fig.15	23.35	24.50	0.171	**0.22**	0.217	**0.28**	0.05
23230	782	1RB-Mid	Right	Tilt	/	23.35	24.50	0.085	**0.11**	0.104	**0.14**	0.17
23230	782	25RB-Low	Left	Cheek	/	22.36	23.50	0.075	**0.10**	0.093	**0.12**	0.18
23230	782	25RB-Low	Left	Tilt	/	22.36	23.50	0.055	**0.07**	0.068	**0.09**	-0.18
23230	782	25RB-Low	Right	Cheek	/	22.36	23.50	0.104	**0.14**	0.132	**0.17**	0.10
23230	782	25RB-Low	Right	Tilt	/	22.36	23.50	0.068	**0.09**	0.084	**0.11**	-0.17
23230	782	1RB-Mid	Right	Cheek	B2	23.35	24.50	0.125	**0.16**	0.157	**0.20**	-0.07

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-16: SAR Values (LTE Band13 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
23230	782	1RB-Middle Front	/	23.35	24.50	0.091	**0.12**	0.164	**0.21**	-0.10
23230	782	1RB-Middle Rear	/	23.35	24.50	0.118	**0.15**	0.202	**0.26**	-0.02
23230	782	1RB-Middle Left	/	23.35	24.50	0.072	**0.09**	0.114	**0.15**	0.15
23230	782	1RB-Middle Right	Fig.16	23.35	24.50	0.193	**0.25**	0.274	**0.36**	-0.07
23230	782	1RB-Middle Bottom	/	23.35	24.50	0.074	**0.10**	0.156	**0.20**	-0.19
23230	782	25RB-Low Front	/	22.36	23.50	0.072	**0.09**	0.126	**0.16**	0.04
23230	782	25RB-Low Rear	/	22.36	23.50	0.094	**0.12**	0.161	**0.21**	0.10
23230	782	25RB-Low Left	/	22.36	23.50	0.058	**0.08**	0.094	**0.12**	0.07
23230	782	25RB-Low Right	/	22.36	23.50	0.106	**0.14**	0.169	**0.22**	-0.05
23230	782	25RB-Low Bottom	/	22.36	23.50	0.060	**0.08**	0.134	**0.17**	0.07
23230	782	1RB-Middle Rear	B2	23.35	24.50	0.080	**0.10**	0.172	**0.22**	-0.02

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-17: SAR Values (LTE Band25- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
26140	1860	1RB-High	Left	Cheek	Fig.17	23.33	24.50	0.178	**0.23**	0.286	**0.37**	-0.12
26140	1860	1RB-High	Left	Tilt	/	23.33	24.50	0.127	**0.17**	0.210	**0.27**	0.19
26140	1860	1RB-High	Right	Cheek	/	23.33	24.50	0.125	**0.16**	0.202	**0.26**	-0.19
26140	1860	1RB-High	Right	Tilt	/	23.33	24.50	0.097	**0.13**	0.165	**0.22**	0.17
26140	1860	50RB-Mid	Left	Cheek	/	22.32	23.50	0.148	**0.19**	0.238	**0.31**	-0.17
26140	1860	50RB-Mid	Left	Tilt	/	22.32	23.50	0.101	**0.13**	0.167	**0.22**	-0.19
26140	1860	50RB-Mid	Right	Cheek	/	22.32	23.50	0.114	**0.15**	0.188	**0.25**	-0.12
26140	1860	50RB-Mid	Right	Tilt	/	22.32	23.50	0.077	**0.10**	0.129	**0.17**	-0.16
26140	1860	1RB-High	Right	Cheek	B2	23.33	24.50	0.144	**0.19**	0.258	**0.34**	-0.12

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-18: SAR Values (LTE Band25 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
26140	1860	1RB-High Front	/	21.55	22.00	0.218	**0.24**	0.385	**0.43**	0.01
26590	1905	1RB-High Rear	/	21.34	22.00	0.216	**0.25**	0.397	**0.46**	0.08
26365	1882.5	1RB-High Rear	/	21.49	22.00	0.264	**0.30**	0.493	**0.55**	0.02
26140	1860	1RB-High Rear	/	21.55	22.00	0.322	**0.36**	0.606	**0.67**	0.18
26140	1860	1RB-High Left	/	21.55	22.00	0.039	**0.04**	0.066	**0.07**	-0.01
26140	1860	1RB-High Right	/	21.55	22.00	0.044	**0.05**	0.073	**0.08**	-0.09
26590	1905	1RB-High Bottom	/	21.34	22.00	0.390	**0.45**	0.75	**0.87**	-0.01
26365	1882.5	1RB-High Bottom	/	21.49	22.00	0.466	**0.52**	0.898	**1.01**	-0.18
26140	1860	1RB-High Bottom	Fig.18	21.55	22.00	0.580	**0.64**	1.13	**1.25**	0.08
26140	1860	50RB-Mid Front	/	21.58	22.00	0.202	**0.22**	0.36	**0.40**	-0.09
26590	1905	50RB-Mid Rear	/	21.49	22.00	0.207	**0.23**	0.383	**0.43**	-0.03
26365	1882.5	50RB-Mid Rear	/	21.57	22.00	0.256	**0.28**	0.48	**0.53**	-0.07
26140	1860	50RB-Mid Rear	/	21.58	22.00	0.304	**0.33**	0.571	**0.63**	0.15
26140	1860	50RB-Mid Left	/	21.58	22.00	0.031	**0.03**	0.051	**0.06**	0.02
26140	1860	50RB-Mid Right	/	21.58	22.00	0.040	**0.04**	0.065	**0.07**	-0.17
26590	1905	50RB-Mid Bottom	/	21.49	22.00	0.374	**0.42**	0.722	**0.81**	0.12
26365	1882.5	50RB-Mid Bottom	/	21.57	22.00	0.452	**0.50**	0.873	**0.96**	0.16
26140	1860	50RB-Mid Bottom	/	21.58	22.00	0.505	**0.56**	0.976	**1.08**	0.07
26140	1860	100RB Rear	/	21.59	22.00	0.301	**0.33**	0.586	**0.64**	0.14
26140	1860	100RB Bottom	/	21.59	22.00	0.563	**0.62**	1.03	**1.13**	0.06
26140	1860	1RB-High Bottom	B2	21.55	22.00	0.503	**0.56**	1.06	**1.18**	-0.03
26140	1860	1RB-High Bottom	H	21.55	22.00	0.489	**0.54**	1.05	**1.16**	0.12

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-19: SAR Values (LTE Band26- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
26775	822.5	1RB-High	Left	Cheek	/	23.35	24.50	0.115	**0.15**	0.147	**0.19**	0.04
26775	822.5	1RB-High	Left	Tilt	/	23.35	24.50	0.073	**0.10**	0.091	**0.12**	0.11
26775	822.5	1RB-High	Right	Cheek	Fig.19	23.35	24.50	0.193	**0.25**	0.248	**0.32**	0.02
26775	822.5	1RB-High	Right	Tilt	/	23.35	24.50	0.091	**0.12**	0.114	**0.15**	-0.02
26775	822.5	36RB-High	Left	Cheek	/	22.35	23.50	0.097	**0.13**	0.126	**0.16**	-0.19
26775	822.5	36RB-High	Left	Tilt	/	22.35	23.50	0.065	**0.08**	0.082	**0.11**	-0.18
26775	822.5	36RB-High	Right	Cheek	/	22.35	23.50	0.121	**0.16**	0.157	**0.20**	-0.13
26775	822.5	36RB-High	Right	Tilt	/	22.35	23.50	0.071	**0.09**	0.089	**0.12**	-0.10
26775	822.5	1RB-High	Right	Cheek	B2	23.35	24.50	0.110	**0.14**	0.155	**0.20**	0.02

Note1: The LTE mode is QPSK_15MHz.

Table 14.1-20: SAR Values (LTE Band26 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
26775	822.5	1RB-High Front	/	23.35	24.50	0.117	**0.15**	0.186	**0.24**	-0.17
26775	822.5	1RB-High Rear	Fig.20	23.35	24.50	0.155	**0.20**	0.270	**0.35**	0.09
26775	822.5	1RB-High Left	/	23.35	24.50	0.065	**0.08**	0.101	**0.13**	-0.10
26775	822.5	1RB-High Right	/	23.35	24.50	0.123	**0.16**	0.189	**0.25**	0.07
26775	822.5	1RB-Middle Bottom	/	23.35	24.50	0.086	**0.11**	0.172	**0.22**	0.04
26775	822.5	36RB-High Front	/	22.35	23.50	0.091	**0.12**	0.145	**0.19**	-0.17
26775	822.5	36RB-High Rear	/	22.35	23.50	0.121	**0.16**	0.202	**0.26**	0.14
26775	822.5	36RB-High Left	/	22.35	23.50	0.054	**0.07**	0.084	**0.11**	-0.09
26775	822.5	36RB-High Right	/	22.35	23.50	0.100	**0.13**	0.153	**0.20**	0.05
26775	822.5	36RB-High Bottom	/	22.35	23.50	0.071	**0.09**	0.148	**0.19**	-0.12
26775	822.5	1RB-High Rear	B2	23.35	24.50	0.136	**0.18**	0.219	**0.29**	-0.05

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_15MHz.

Table 14.1-21: SAR Values (LTE Band41 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
40140	2545	1RB-High	Left	Cheek	/	23.77	24.50	0.034	**0.04**	0.070	**0.08**	-0.12
40140	2545	1RB-High	Left	Tilt	/	23.77	24.50	<0.01	<0.01	<0.01	<0.01	/
40140	2545	1RB-High	Right	Cheek	Fig.21	23.77	24.50	0.073	**0.09**	0.169	**0.20**	0.00
40140	2545	1RB-High	Right	Tilt	/	23.77	24.50	0.030	**0.04**	0.060	**0.07**	-0.03
40140	2545	50RB-Mid	Left	Cheek	/	22.87	23.50	0.030	**0.03**	0.063	**0.07**	-0.07
40140	2545	50RB-Mid	Left	Tilt	/	22.87	23.50	<0.01	<0.01	<0.01	<0.01	/
40140	2545	50RB-Mid	Right	Cheek	/	22.87	23.50	0.045	**0.05**	0.107	**0.12**	-0.07
40140	2545	50RB-Mid	Right	Tilt	/	22.87	23.50	0.021	**0.02**	0.041	**0.05**	-0.12
40140	2545	1RB-High	Right	Cheek	B2	23.77	24.50	0.048	**0.06**	0.165	**0.20**	0.00

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-22: SAR Values (LTE Band41 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
40140	2545	1RB-Mid Front	/	19.42	19.80	0.014	**0.02**	0.030	**0.03**	0.13
41140	2645	1RB-Mid Rear	Fig.22	19.38	19.80	0.359	**0.40**	0.880	**0.97**	0.04
40800	2611	1RB-Mid Rear	/	19.31	19.80	0.337	**0.38**	0.859	**0.96**	-0.06
40470	2578	1RB-Mid Rear	/	18.93	19.80	0.300	**0.37**	0.763	**0.93**	0.07
40140	2545	1RB-Mid Rear	/	19.42	19.80	0.326	**0.36**	0.859	**0.94**	0.09
40140	2545	1RB-Mid Left	/	19.42	19.80	0.122	**0.13**	0.284	**0.31**	-0.15
40140	2545	1RB-Mid Top	/	19.42	19.80	<0.01	<0.01	<0.01	<0.01	/
40140	2545	50RB-Mid Front	/	19.42	19.80	0.013	**0.01**	0.026	**0.03**	0.11
41140	2645	50RB-Mid Rear	/	19.38	19.80	0.349	**0.38**	0.868	**0.96**	0.09
40800	2611	50RB-Mid Rear	/	19.35	19.80	0.328	**0.36**	0.844	**0.94**	0.15
40470	2578	50RB-Mid Rear	/	19.22	19.80	0.285	**0.33**	0.743	**0.85**	0.08
40140	2545	50RB-Mid Rear	/	19.42	19.80	0.319	**0.35**	0.832	**0.91**	0.13
40140	2545	50RB-Mid Left	/	19.42	19.80	0.106	**0.12**	0.249	**0.27**	0.05
40140	2545	50RB-Mid Top	/	19.42	19.80	0.013	**0.01**	0.023	**0.03**	-0.09
41140	2645	100RB Rear	/	19.28	19.80	0.325	**0.37**	0.846	**0.95**	0.19
41140	2645	1RB-Mid Rear	B2	19.38	19.80	0.341	**0.38**	0.820	**0.90**	0.04

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

Table 14.1-23: SAR Values (LTE Band66 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
132322	1745	1RB-Mid	Left	Cheek	Fig.23	23.42	24.00	0.164	**0.19**	0.259	**0.30**	0.02
132322	1745	1RB-Mid	Left	Tilt	/	23.42	24.00	0.101	**0.12**	0.164	**0.19**	0.01
132322	1745	1RB-Mid	Right	Cheek	/	23.42	24.00	0.128	**0.15**	0.210	**0.24**	0.07
132322	1745	1RB-Mid	Right	Tilt	/	23.42	24.00	0.081	**0.09**	0.134	**0.15**	0.02
132322	1745	50RB-High	Left	Cheek	/	22.24	23.00	0.129	**0.15**	0.203	**0.24**	-0.03
132322	1745	50RB-High	Left	Tilt	/	22.24	23.00	0.079	**0.09**	0.128	**0.15**	-0.12
132322	1745	50RB-High	Right	Cheek	/	22.24	23.00	0.104	**0.12**	0.170	**0.20**	0.06
132322	1745	50RB-High	Right	Tilt	/	22.24	23.00	0.105	**0.13**	0.172	**0.20**	-0.06
132322	1745	1RB-Mid	Right	Cheek	B2	23.42	24.00	0.145	**0.17**	0.248	**0.28**	0.18

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-24: SAR Values (LTE Band66 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
132322	1745	1RB-Mid Front	/	23.62	24.00	0.259	**0.28**	0.434	**0.47**	0.18
132322	1745	1RB-Mid Rear	/	23.62	24.00	0.381	**0.42**	0.668	**0.73**	0.10
132322	1745	1RB-Mid Left	/	23.62	24.00	0.092	**0.10**	0.146	**0.16**	0.16
132322	1745	1RB-Mid Right	/	23.62	24.00	0.063	**0.07**	0.106	**0.12**	0.05
132072	1720	1RB-Mid Bottom	Fig.24	23.57	24.00	0.662	**0.73**	1.24	**1.37**	0.11
132322	1745	1RB-Mid Bottom	/	23.62	24.00	0.614	**0.67**	1.18	**1.29**	-0.01
132572	1770	1RB-Mid Bottom	/	23.37	24.00	0.557	**0.64**	1.05	**1.21**	-0.16
132322	1745	50RB-High Front	/	22.24	23.00	0.196	**0.23**	0.325	**0.39**	0.02
132322	1745	50RB-High Rear	/	22.24	23.00	0.291	**0.35**	0.517	**0.62**	0.07
132322	1745	50RB-High Left	/	22.24	23.00	0.066	**0.08**	0.105	**0.13**	0.18
132322	1745	50RB-High Right	/	22.24	23.00	0.043	**0.05**	0.069	**0.08**	-0.17
132072	1720	50RB-High Bottom	/	22.11	23.00	0.504	**0.62**	0.967	**1.19**	-0.04
132322	1745	50RB-High Bottom	/	22.24	23.00	0.461	**0.55**	0.86	**1.02**	-0.16
132572	1770	50RB-High Bottom	/	22.23	23.00	0.427	**0.51**	0.818	**0.98**	0.03
132072	1720	100RB Bottom	/	22.12	23.00	0.470	**0.58**	0.888	**1.09**	-0.18
132072	1720	1RB-Mid Bottom	B2	23.57	24.00	0.621	**0.69**	1.18	**1.30**	-0.06
132072	1720	1RB-Mid Bottom	H	23.57	24.00	0.608	**0.67**	1.15	**1.27**	-0.06
132072	1720	1RB-Mid Bottom	With cover	23.57	24.00	0.625	**0.69**	1.18	**1.30**	0.09

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

Table 14.1-25: SAR Values (LTE Band71 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
133222	673	1RB-Low	Left	Cheek	/	23.73	24.50	0.115	**0.14**	0.142	**0.17**	0.01
133222	673	1RB-Low	Left	Tilt	/	23.73	24.50	0.068	**0.08**	0.081	**0.10**	0.01
133222	673	1RB-Low	Right	Cheek	Fig.25	23.73	24.50	0.151	**0.18**	0.190	**0.23**	-0.07
133222	673	1RB-Low	Right	Tilt	/	23.73	24.50	0.075	**0.09**	0.094	**0.11**	-0.12
133222	673	50RB-Low	Left	Cheek	/	22.74	23.50	0.088	**0.10**	0.109	**0.13**	0.00
133222	673	50RB-Low	Left	Tilt	/	22.74	23.50	0.055	**0.07**	0.066	**0.08**	-0.19
133222	673	50RB-Low	Right	Cheek	/	22.74	23.50	0.103	**0.12**	0.131	**0.16**	-0.07
133222	673	50RB-Low	Right	Tilt	/	22.74	23.50	0.065	**0.08**	0.080	**0.10**	-0.08
133222	673	1RB-Low	Right	Cheek	B2	23.73	24.50	0.126	**0.15**	0.177	**0.21**	0.15

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-26: SAR Values (LTE Band71 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
133222	673	1RB-Low Front	/	23.73	24.50	0.196	**0.23**	0.257	**0.31**	-0.03
133222	673	1RB-Low Rear	Fig.26	23.73	24.50	0.266	**0.32**	0.350	**0.42**	0.05
133222	673	1RB-Low Left	/	23.73	24.50	0.090	**0.11**	0.129	**0.15**	0.08
133222	673	1RB-Low Right	/	23.73	24.50	0.166	**0.20**	0.241	**0.29**	0.16
133222	673	1RB-Low Bottom	/	23.73	24.50	0.085	**0.10**	0.149	**0.18**	-0.14
133222	673	50RB-Low Front	/	22.74	23.50	0.151	**0.18**	0.196	**0.23**	0.00
133222	673	50RB-Low Rear	/	22.74	23.50	0.198	**0.24**	0.260	**0.31**	-0.10
133222	673	50RB-Low Left	/	22.74	23.50	0.149	**0.18**	0.212	**0.25**	-0.05
133222	673	50RB-Low Right	/	22.74	23.50	0.193	**0.23**	0.276	**0.33**	-0.02
133222	673	50RB-Low Bottom	/	22.74	23.50	0.066	**0.08**	0.115	**0.14**	-0.09
133222	673	1RB-Low Rear	B2	23.73	24.50	0.247	**0.29**	0.325	**0.39**	0.07

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

14.2 SAR results for Standard procedure

There is zoom scan measurement to be added for the highest measured SAR in each exposure configuration/band.

Table 14.2-1: SAR Values (GSM 850 MHz Band - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
128	824.2	Right	Cheek	Fig.1	29.06	29.50	0.291	**0.32**	0.383	**0.42**	0.13

Note: the head SAR of GSM850 is tested with GPRS (4xslots) mode because of VoIP.

Table 14.2-2: SAR Values (GSM 850 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
128	824.2	GPRS (4)	Rear	Fig.2	29.06	29.50	0.239	**0.26**	0.413	**0.46**	-0.03

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.2-3: SAR Values (GSM 1900 MHz Band - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
661	1880	Left	Cheek	Fig.3	28.46	28.50	0.131	**0.13**	0.207	**0.21**	-0.02

Note: the head SAR of GSM850 is tested with GPRS (2slots) mode because of VoIP.

Table 14.2-4 SAR Values (GSM 1900 MHz Band – Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
512	1850.2	GPRS (4)	Bottom	Fig.4	25.02	25.50	0.515	**0.58**	1	**1.12**	0.05

Note: The distance between the EUT and the phantom bottom is 10mm

Table 14.2-5 SAR Values (WCDMA 1900 MHz Band - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
9262	1852.4	Left	Cheek	Fig.5	23.97	24.00	0.214	**0.22**	0.337	**0.34**	-0.20

Table 14.2-6 SAR Values (WCDMA 1900 MHz Band – Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9262	1852.4	Bottom	Fig.6	20.90	21.50	0.545	**0.63**	1.12	**1.29**	0.02

Note: The distance between the EUT and the phantom bottom is 10mm

Table 14.2-7 SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
1513	1752.6	Left	Cheek	Fig.7	23.98	24.00	0.170	**0.17**	0.263	**0.26**	-0.01

Table 14.2-8: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
1312	1712.4	Bottom	Fig.8	23.53	23.70	0.569	**0.59**	1.08	**1.12**	0.02

Note: The distance between the EUT and the phantom bottom is 10mm

Table 14.2-9: SAR Values (WCDMA 850 MHz Band - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
4233	846.6	Right	Cheek	Fig.9	23.84	24.50	0.218	**0.25**	0.289	**0.34**	-0.02

Table 14.2-10: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
4183	836.6	Rear	Fig.10	23.92	24.50	0.184	**0.21**	0.307	**0.35**	-0.01

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.2-11: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
21100	2535	1RB-Mid	Right	Cheek	Fig.11	23.63	24.00	0.282	**0.31**	0.701	**0.76**	0.16

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-12: SAR Values (LTE Band7 –Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
20850	2510	1RB-Low Rear	Fig.12	18.72	18.80	0.397	**0.40**	0.960	**0.98**	0.01

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

Table 14.2-13: SAR Values (LTE Band12- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23130	711	1RB-High	Right	Cheek	Fig.13	23.24	24.50	0.155	**0.21**	0.197	**0.26**	0.04

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-14: SAR Values (LTE Band12 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
23130	711	1RB-High Right	Fig.14	23.24	24.50	0.225	**0.30**	0.291	**0.39**	0.03

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-15: SAR Values (LTE Band13- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23230	782	1RB-Mid	Right	Cheek	Fig.15	23.35	24.50	0.171	**0.22**	0.217	**0.28**	0.05

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-16: SAR Values (LTE Band13 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
23230	782	1RB-Middle Right	Fig.16	23.35	24.50	0.193	**0.25**	0.274	**0.36**	-0.07

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-17: SAR Values (LTE Band25- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
26140	1860	1RB-High	Left	Cheek	Fig.17	23.33	24.50	0.178	**0.23**	0.286	**0.37**	-0.12

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-18: SAR Values (LTE Band25 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
26140	1860	1RB-High Bottom	Fig.18	21.55	22.00	0.580	**0.64**	1.13	**1.25**	0.08

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-19: SAR Values (LTE Band26- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
26775	822.5	1RB-High	Right	Cheek	Fig.19	23.35	24.50	0.193	**0.25**	0.248	**0.32**	0.02

Note1: The LTE mode is QPSK_15MHz.

Table 14.2-20: SAR Values (LTE Band26 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
26775	822.5	1RB-High Rear	Fig.20	23.35	24.50	0.155	**0.20**	0.270	**0.35**	0.09

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK_15MHz.

Table 14.2-21: SAR Values (LTE Band41 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
40140	2545	1RB-High	Right	Cheek	Fig.21	23.77	24.50	0.073	**0.09**	0.169	**0.20**	0.00

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-22: SAR Values (LTE Band41 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
41140	2645	1RB-Mid Rear	Fig.22	19.38	19.80	0.359	**0.40**	0.880	**0.97**	0.04

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

Table 14.2-23: SAR Values (LTE Band66 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
132322	1745	1RB-Mid	Left	Cheek	Fig.23	23.42	24.00	0.164	**0.19**	0.259	**0.30**	0.02

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-24: SAR Values (LTE Band66 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
132072	1720	1RB-Mid Bottom	Fig.24	23.57	24.00	0.662	**0.73**	1.24	**1.37**	0.11

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

Table 14.2-25: SAR Values (LTE Band71 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
133222	673	1RB-Low	Right	Cheek	Fig.25	23.73	24.50	0.151	**0.18**	0.190	**0.23**	-0.07

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-26: SAR Values (LTE Band71 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
133222	673	1RB-Low Rear	Fig.26	23.73	24.50	0.266	**0.32**	0.350	**0.42**	0.05

Note: The distance between the EUT and the phantom bottom is 10mm. The LTE mode is QPSK_20MHz.

14.3 SAR results for Phablet

Table 14.3-1: SAR Values for Phablet

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency			Mode/ Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Band	Ch.	MHz								
GSM1900	512	1850.2	Bottom/Fig.27	25.02	25.50	3.06	**3.42**	7.1	**7.93**	-0.05
WCDMA1900	9262	1852.4	Bottom	20.90	21.50	1.57	**1.80**	3.69	**4.24**	0.03
WCDMA1700	1312	1712.4	Bottom	20.16	21.5	1.88	**2.56**	4.460	**6.07**	0.08
LTE Band25	26140	1860	Bottom	21.55	22.00	2.69	**2.98**	6.27	**6.95**	0.08
LTE Band66	132072	1720	Bottom	23.57	24.00	2.88	**3.18**	6.48	**7.15**	0.09
LTE Band66	132322	1745	Bottom	23.62	24.00	2.78	**3.03**	6.26	**6.83**	-0.06
LTE Band66	132572	1770	Bottom	23.37	24.00	2.58	**2.98**	5.73	**6.62**	0.03
WiFi5G	144	5720	Left	16.62	17.00	2.18	**2.38**	11.000	**12.01**	0.05
WiFi5G	157	5785	Left	18.22	18.50	2.120	**2.26**	10.600	**11.31**	0.01

Note1: The distance between the EUT and the phantom bottom is 0mm.

14.4 WLAN Evaluation for 2.4G

According to the KDB248227 D01, SAR is measured for 2.4GHz 802.11b DSSS using the initial test position procedure.

Head Evaluation

Table 14.4-1: SAR Values (WLAN - Head)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.	MHz										
11	2462	Left	Cheek	/	18.75	19.00	0.144	**0.15**	0.252	**0.27**	0.08
11	2462	Left	Tilt	/	18.75	19.00	0.149	**0.16**	0.301	**0.32**	-0.16
11	2462	Left	Cheek	/	18.75	19.00	0.273	**0.29**	0.551	**0.58**	-0.09
6	2437	Right	Cheek	/	18.10	19.00	0.238	**0.29**	0.501	**0.62**	-0.06
1	2412	Right	Cheek	/	18.53	19.00	0.285	**0.32**	0.566	**0.63**	-0.05
11	2462	Right	Cheek	/	18.75	19.00	0.236	**0.25**	0.471	**0.50**	-0.19
1	2412	Right	Tilt	/	18.53	19.00	0.234	**0.26**	0.553	**0.62**	-0.05
11	2462	Right	Tilt	/	18.75	19.00	0.144	**0.15**	0.252	**0.27**	0.08
11	2462	Right	Cheek	B2	18.75	19.00	0.149	**0.16**	0.301	**0.32**	-0.16

As shown above table, the initial test position for head is “Right Cheek”. So the head SAR of WLAN is presented as below:

Table 14.4-2: SAR Values (WLAN - Head)– 802.11b (Full SAR)

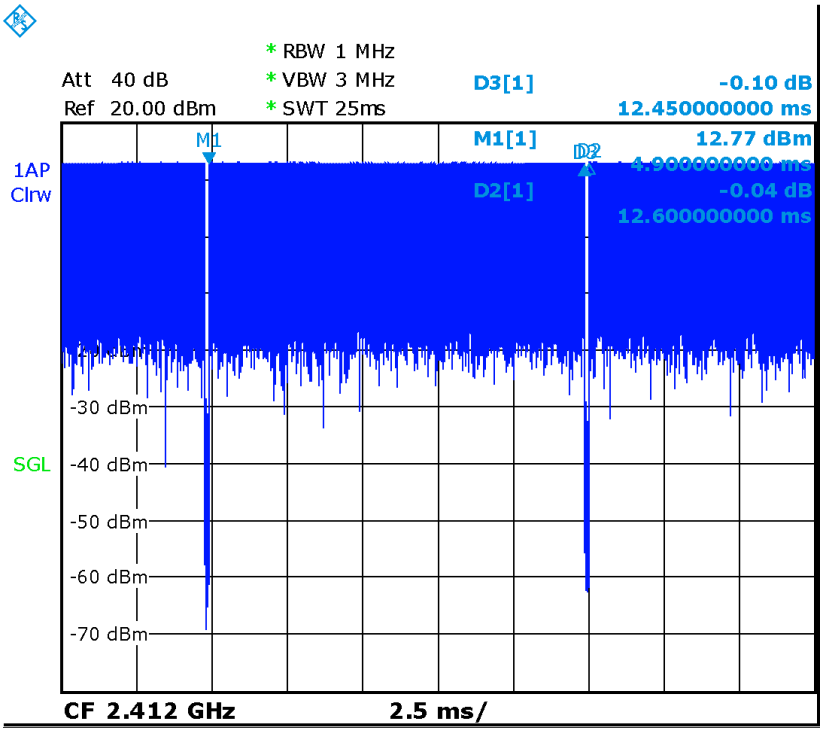
Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.	MHz										
11	2462	Left	Cheek	/	18.75	19.00	0.278	**0.29**	0.555	**0.59**	-0.09
6	2437	Left	Cheek	/	18.10	19.00	0.242	**0.30**	0.505	**0.62**	-0.06
1	2412	Left	Cheek	Fig.28	18.53	19.00	0.288	**0.32**	0.569	**0.63**	-0.05
Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg. Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.											

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.4-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ºC			Liquid Temperature: 22.5ºC				
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz						
1	2412	Right	Cheek	98.8%	100%	**0.63**	**0.64**

SAR is not required for OFDM because the 802.11b adjusted SAR ≤ 1.2 W/kg.



Picture 14.1 Duty factor plot

Body Evaluation

Table 14.3-4: SAR Values (WLAN - Body)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.	MHz									
11	2462	Front	/	18.75	19.00	0.061	**0.06**	0.113	**0.12**	0.05
11	2462	Rear	/	18.75	19.00	0.073	**0.08**	0.158	**0.17**	-0.05
11	2462	Left	/	18.75	19.00	0.071	**0.08**	0.146	**0.15**	-0.07
11	2462	Top	/	18.75	19.00	0.062	**0.07**	0.117	**0.12**	-0.19
11	2462	Rear	B2	18.75	19.00	0.069	**0.07**	0.153	**0.16**	-0.05

Note: The distance between the EUT and the phantom bottom is 10mm.

As shown above table, the initial test position for body is “Rear 10mm”. So the body SAR of WLAN is presented as below:

Table 14.3-5: SAR Values (WLAN - Body)– 802.11b (Full SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.	MHz									
11	2462	Rear	Fig.29	18.75	19.00	0.076	**0.08**	0.162	**0.17**	-0.05

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg.

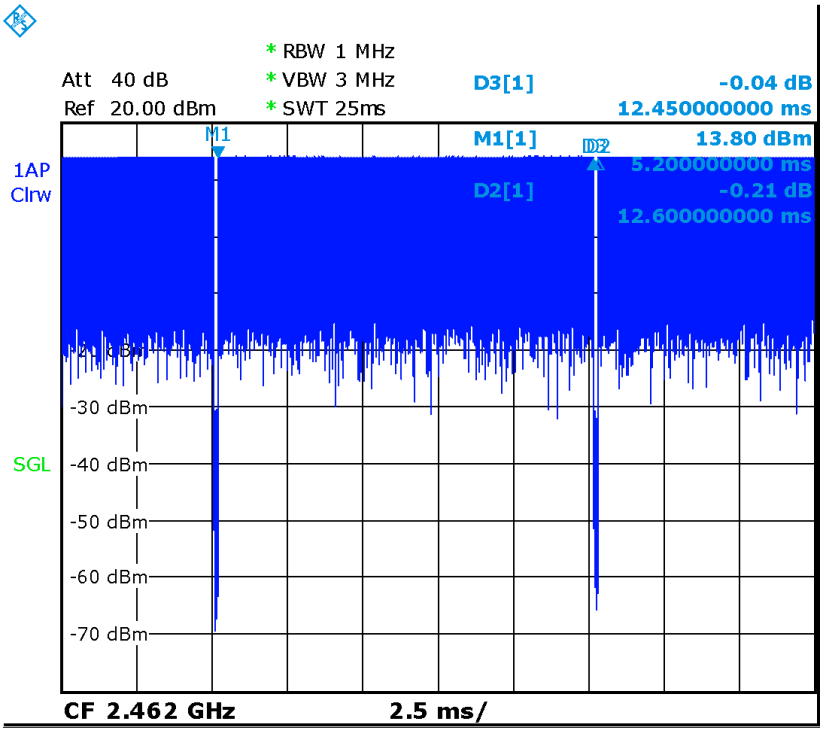
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.3-6: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz					
11	2462	Rear	98.8%	100%	**0.17**	**0.17**

SAR is not required for OFDM because the 802.11b adjusted SAR ≤ 1.2 W/kg.



Picture 14.2 Duty factor plot

14.5 SAR results for BT

Table 14.5-1: SAR Values (BT - Head)

Frequency		Side	Test Position	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.	MHz									
0	2402	Left	Cheek	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/
0	2402	Left	Tilt	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/
0	2402	Right	Cheek	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/
0	2402	Right	Tilt	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/

Table 14.5-2: SAR Values (BT - Body)

Frequency		Test Position	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.	MHz								
0	2402	Front	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/
0	2402	Rear	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/
0	2402	Right	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/
0	2402	Top	12.17	12.5	<0.01	<0.01	<0.01	<0.01	/

Note1: The distance between the EUT and the phantom bottom is 10mm.

14.6 WLAN Evaluation For 5G

When the phone hotspot worked, then power reduction will be implemented immediately at WIFI 5G **U-NII-1/ U-NII-3**. Hotspot is not supported for **U-NII-2A/ U-NII-2C**

Table 14.6-1: OFDM mode specified maximum output power of WLAN antenna-Head

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	X	X	X	X	X	X	X	
U-NII-2A	X	X	X	X	X	X	X	
U-NII-2C	X	X	X	X	X	X	X	
U-NII-3	X	X	X	X	X	X	X	
§ 15.247 (5.8 GHz)								
X: maximum(conducted) output power(mW), including tolerance, specified for production units								

Table 14.6-2: Maximum output power specified of WLAN antenna – Head

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	13		10	10	8	8	6	
U-NII-2A	11		10	10	8	8	6	
U-NII-2C	13		10	10	8	8	6	
U-NII-3	19		10	10	8	8	6	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.6-3: Maximum output power specified of WLAN antenna – Body-transmit alone

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	50		40	40	25	25	25	
U-NII-2A	52		40	40	25	25	25	
U-NII-2C	50		40	40	25	25	25	
U-NII-3	71		40	40	25	25	25	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.6-4: Maximum output power specified of WLAN antenna – Body-transmit with WWAN

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	32		25	25	16	16	13	
U-NII-2A	40		25	25	16	16	13	
U-NII-2C	35		25	25	16	16	13	
U-NII-3	50		25	25	16	16	13	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.6-5: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Head

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 10/10/12/12	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 13/12/14/12	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 116/120/124/128/ 132/136/140/144 11/11/11/10/10/1 0/10/10/10/10/11/ 12	100/104/108/112 116/120/124/128 /132/136/140/14 4 Lower power	102/110/118/ 126/134/142 Lower power	100/104/108/11 2 116/132/136/14 0 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/ 165 16/17/17/18/17	149/153/157/161 /165 Lower power	151/159 Lower power	149/153/157/16 1/165 Lower power	151/159 Lower power	155 Lower power

- The **bold numbers** is the maximum output measured power (mW).
- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.6-6: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations –Body-transmit alone

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 37/39/44/44	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 46/46/51/46	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 116/120/124/128/ 132/136/140/144 40/42/43/37/35/3 5/34/35/32/35/41/ 46	100/104/108/112 116/120/124/128 /132/136/140/14 4 Lower power	102/110/118/ 126/134/142 Lower power	100/104/108/11 2 116/132/136/14 0 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/ 165 53/61/66/67/64	149/153/157/161 /165 Lower power	151/159 Lower power	149/153/157/16 1/165 Lower power	151/159 Lower power	155 Lower power

- The **bold numbers** is the maximum output measured power (mW).
- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.6-7: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations –Body-transmit with WWAN

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 26/27/31/31	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 34/33/37/33	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 116/120/124/128/ 132/136/140/144 28/31/31/27/26/27/26/27/25/27/31/35	100/104/108/112 116/120/124/128 /132/136/140/144 Lower power	102/110/118/ 126/134/142 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/ 165 40/45/46/46/49	149/153/157/161 /165 Lower power	151/159 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	155 Lower power

- The **bold numbers** is the maximum output measured power (mW).
- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.6-8: Reported SAR of initial test configuration for Head

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.61**	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144 **0.59**	100/104/108/112/116/120/124/128/132/136/140/144	102/110/118/126/134/142	100/104/108/112116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 **0.72**	149/153/157/161/165 **0.69**	151/159	149/153/157/161/165	151/159	155
Initial test configuration SAR for U-NII-2A band is > 0.8 W/kg, SAR is required for next highest output channel in initial test configuration. The next highest output channel SAR is ≤ 1.2 W/kg, SAR is not required for subsequent next highest output channel. Similar circumstances apply to U-NII-1, U-NII-2C band and U-NII-3 band. The green highlighted channels are next highest measured output channel in the initial test configuration. Highest measured output power channel tested initially are in yellow highlight.						

Table 14.6-9: Reported SAR of initial test configuration for Body
-WiFi antenna transmit alone

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **1.16**	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **1.15**	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144 **1.30**	100/104/108/112/116/120/124/128/132/136/140/144	102/110/118/126/134/142	100/104/108/112116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 **1.31**	149/153/157/161/165 **0.69**	151/159	149/153/157/161/165	151/159	155
Initial test configuration SAR for U-NII-2A band is > 0.8 W/kg, SAR is required for next highest output channel in initial test configuration. The next highest output channel SAR is ≤ 1.2 W/kg, SAR is not required for subsequent next highest output channel. Similar circumstances apply to U-NII-1, U-NII-2C band and U-NII-3 band. The green highlighted channels are next highest measured output channel in the initial test configuration. Highest measured output power channel tested initially are in yellow highlight.						

Table 14.6-10: Reported SAR of initial test configuration for Body -WiFi antenna transmit with WWAN

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.77**	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144 **0.86**	100/104/108/112/116/120/124/128/132/136/140/144	102/110/118/126/134/142	100/104/108/112116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 **0.68**	149/153/157/161/165 **0.69**	151/159	149/153/157/161/165	151/159	155

Initial test configuration SAR for U-NII-2A band is > 0.8 W/kg, SAR is required for next highest output channel in initial test configuration. The next highest output channel SAR is ≤ 1.2 W/kg, SAR is not required for subsequent next highest output channel. Similar circumstances apply to U-NII-1, U-NII-2C band and U-NII-3 band.
The green highlighted channels are next highest measured output channel in the initial test configuration. Highest measured output power channel tested initially are in yellow highlight.

Table 14.6-11: SAR Values (WLAN 5G - Head)

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
60	5300	Left	Cheek	/	11.41	11.50	0.033	**0.03**	0.101	**0.10**	0.09
60	5300	Left	Tilt	/	11.41	11.50	0.037	**0.04**	0.113	**0.12**	-0.12
60	5300	Right	Cheek	/	11.41	11.50	0.139	**0.14**	0.596	**0.61**	0.13
60	5300	Right	Tilt	/	11.41	11.50	0.134	**0.14**	0.536	**0.55**	0.06
144	5720	Left	Cheek	/	10.95	11.00	0.027	**0.03**	0.078	**0.08**	-0.11
144	5720	Left	Tilt	/	10.95	11.00	0.033	**0.03**	0.094	**0.10**	0.03
144	5720	Right	Cheek	/	10.95	11.00	0.146	**0.15**	0.579	**0.59**	-0.17
144	5720	Right	Tilt	/	10.95	11.00	0.143	**0.14**	0.517	**0.52**	0.08
161	5805	Left	Cheek	/	12.56	12.70	0.027	**0.03**	0.082	**0.08**	-0.09
161	5805	Left	Tilt	/	12.56	12.70	0.037	**0.04**	0.122	**0.13**	0.05
161	5805	Right	Cheek	Fig.30	12.56	12.70	0.154	**0.16**	0.701	**0.72**	-0.14
161	5805	Right	Tilt	/	12.56	12.70	0.154	**0.16**	0.655	**0.68**	-0.09

Table 14.6-12: SAR Values (WLAN 5G – Body- transmit standalone)

Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz									
44	5220	Front	/	16.47	17.00	0.160	**0.18**	0.429	**0.48**	0.15
44	5220	Rear	/	16.47	17.00	0.297	**0.34**	0.835	**0.94**	-0.05
48	5240	Rear	/	16.47	17.00	0.256	**0.29**	0.702	**0.79**	0.00
44	5220	Left	/	16.47	17.00	0.392	**0.44**	1.030	**1.16**	0.09
48	5240	Left	/	16.47	17.00	0.293	**0.33**	0.764	**0.86**	0.04
44	5220	Top	/	16.47	17.00	0.270	**0.31**	0.668	**0.75**	0.06
60	5300	Front	/	17.08	17.20	0.160	**0.16**	0.488	**0.50**	0.05
52	5260	Rear	/	16.67	17.20	0.363	**0.41**	1.020	**1.15**	0.12
60	5300	Rear	/	17.08	17.20	0.349	**0.36**	0.973	**1.00**	0.02
52	5260	Left	/	16.67	17.20	0.340	**0.38**	0.908	**1.03**	0.04
60	5300	Left	/	17.08	17.20	0.388	**0.40**	1.060	**1.09**	0.04
60	5300	Top	/	17.08	17.20	0.309	**0.32**	0.723	**0.74**	-0.06
144	5720	Front	/	16.62	17.00	0.195	**0.21**	0.627	**0.68**	0.14
108	5540	Rear	/	16.32	17.00	0.184	**0.22**	0.523	**0.61**	0.15
144	5720	Rear	/	16.62	17.00	0.386	**0.42**	1.080	**1.18**	0.07
108	5540	Left	/	16.32	17.00	0.179	**0.21**	0.497	**0.58**	-0.03
144	5720	Left	/	16.62	17.00	0.440	**0.48**	1.190	**1.30**	-0.17
144	5720	Top	/	16.62	17.00	0.309	**0.34**	0.770	**0.84**	0.07
108	5540	Top	/	16.32	17.00	0.152	**0.18**	0.375	**0.44**	0.05
161	5805	Front	/	18.25	18.50	0.176	**0.19**	0.478	**0.51**	0.16
161	5805	Rear	/	18.25	18.50	0.314	**0.33**	0.841	**0.89**	0.04
157	5785	Rear	/	18.22	18.50	0.289	**0.31**	0.828	**0.88**	0.16
157	5785	Left	Fig.31	18.22	18.50	0.458	**0.49**	1.230	**1.31**	0.03
161	5805	Left	/	18.25	18.50	0.417	**0.44**	1.180	**1.25**	0.01
165	5825	Left	/	18.06	18.50	0.366	**0.41**	0.979	**1.08**	0.07
161	5805	Top	/	18.25	18.50	0.220	**0.23**	0.715	**0.76**	0.17
157	5785	Left	B2	18.22	18.50	0.432	**0.46**	1.180	**1.26**	0.14

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.6-13: SAR Values (WLAN 5G – Body- transmit with WWAN)

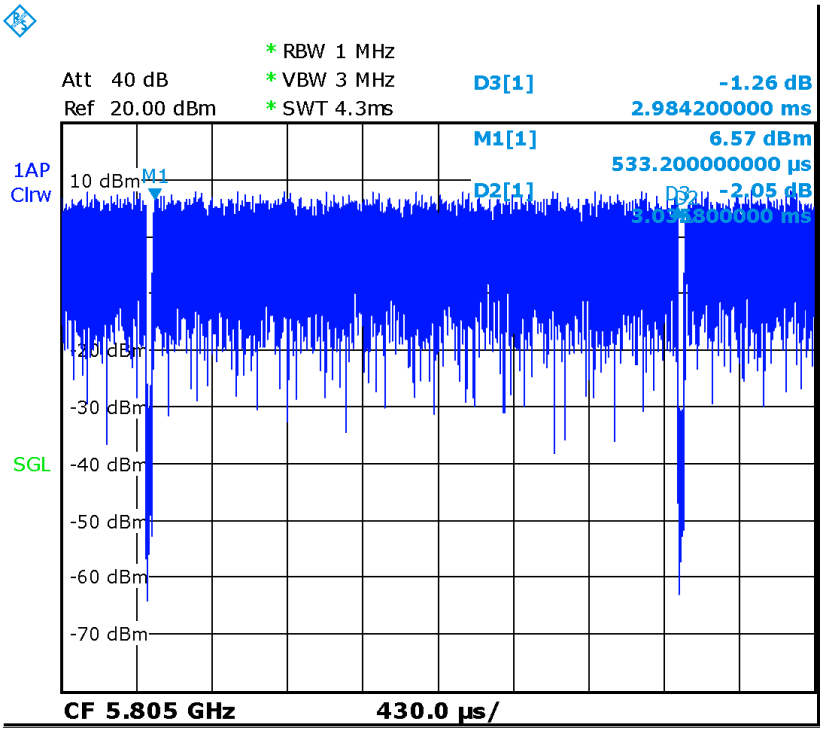
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz									
60	5300	Front	/	15.72	16.00	0.112	**0.12**	0.328	**0.35**	0.08
60	5300	Rear	/	15.72	16.00	0.197	**0.21**	0.534	**0.57**	-0.12
60	5300	Left	/	15.72	16.00	0.244	**0.26**	0.725	**0.77**	0.09
60	5300	Top	/	15.72	16.00	0.195	**0.21**	0.525	**0.56**	-0.14
144	5720	Front	/	15.38	15.50	0.142	**0.15**	0.444	**0.46**	-0.17
144	5720	Rear	/	15.38	15.50	0.191	**0.20**	0.578	**0.59**	-0.15
144	5720	Left	Fig.32	15.38	15.50	0.305	**0.31**	0.841	**0.86**	0.02
108	5540	Left	/	14.98	15.50	0.124	**0.14**	0.344	**0.39**	0.03
144	5720	Top	/	15.38	15.50	0.135	**0.14**	0.435	**0.45**	0.12
165	5825	Front	/	16.88	17.00	0.12	**0.12**	0.368	**0.38**	0.06
165	5825	Rear	/	16.88	17.00	0.214	**0.22**	0.588	**0.60**	0.05
165	5825	Left	/	16.88	17.00	0.248	**0.25**	0.663	**0.68**	-0.03
165	5825	Top	/	16.88	17.00	0.172	**0.18**	0.429	**0.44**	-0.09

Note: The distance between the EUT and the phantom bottom is 10mm.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.6-14: SAR Values (WLAN 5G - Head) (Scaled Reported SAR)

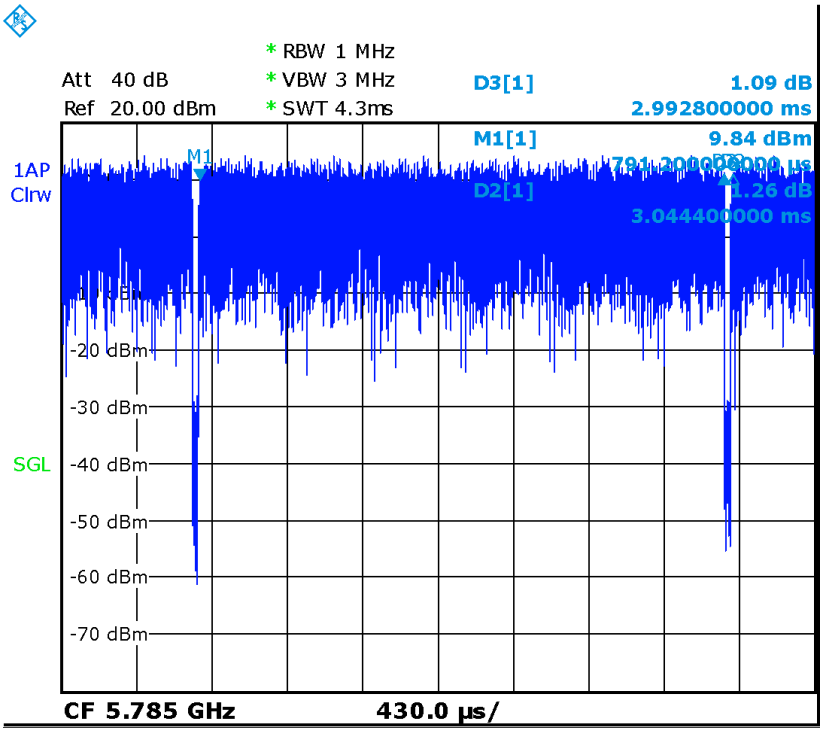
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
161	5805	Right	Cheek	98.5%	100%	**0.72**	**0.73**



Picture 14.6-1 The plot of duty factor for Head

Table 14.6-15 SAR Values (WLAN 5G – Body- Transmit standalone) (Scaled Reported SAR)

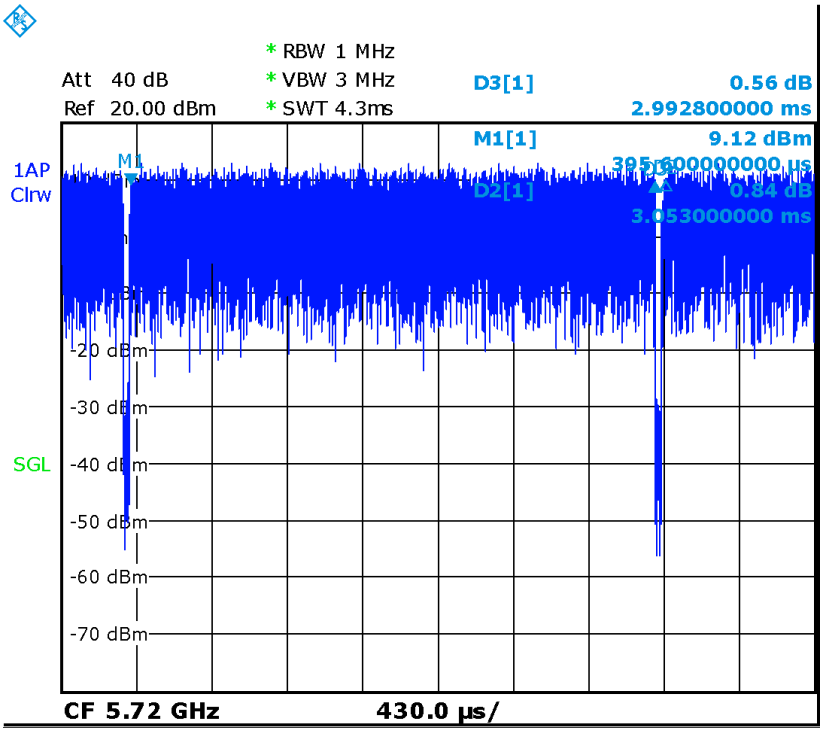
Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
157	5785	Left	10	98.3%	100%	**1.31**	**1.33**



Picture 14.6-2 The plot of duty factor for Body-Transmit standalone

Table 14.6-16 SAR Values (WLAN 5G – Body- Transmit with WWAN) (Scaled Reported SAR)

Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
144	5720	Left	10	98%	100%	**0.86**	**0.88**



Picture 14.6-3 The plot of duty factor for Body-Transmit with WWAN

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

Table 15.1: SAR Measurement Variability for Body GSM1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
512	1850.2	Bottom	10	1	0.982	1.02	/

Table 15.2: SAR Measurement Variability for Body WCDMA1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
9262	1852.4	Bottom	10	1.12	1.06	1.06	/

Table 15.3: SAR Measurement Variability for Body WCDMA1700 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
1312	1712.4	Bottom	10	1.08	1.03	1.05	/

Table 15.4: SAR Measurement Variability for Body LTE Band7(1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
20850	2510	Rear	10	0.96	0.951	1.01	/

Table 15.5: SAR Measurement Variability for Body LTE Band25(1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
26140	1860	Rear	10	1.13	1.06	1.07	/

Table 15.6: SAR Measurement Variability for Body LTE Band41(1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
41140	2645	Rear	10	0.88	0.832	1.06	/

Table 15.7: SAR Measurement Variability for Body LTE Band66(1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
132072	1720	Bottom	10	1.24	1.2	1.03	/

Table 15.8: SAR Measurement Variability for Body WiFi5G(1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
144	5720	Rear	10	1.08	1.02	1.06	/
157	5785	Left	10	1.23	1.15	1.07	/

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	E5071C	MY46110673	January 14, 2021	One year
02	Power meter	NRP2	101919	May 12, 2020	One year
03	Power sensor	NRP-Z91	101547		
04	Signal Generator	E4438C	MY49071430	February 25, 2020	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	129942	February 10, 2020	One year
07	E-field Probe	SPEAG EX3DV4	7307	May 29, 2020	One year
08	DAE	SPEAG DAE4	536	November 6, 2020	One year
09	Dipole Validation Kit	SPEAG D750V3	1017	July 24,2020	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 24,,2020	One year
11	Dipole Validation Kit	SPEAG D1750V2	1003	July 24, 2020	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 28,2020	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 21,2020	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 21,2020	One year
15	Dipole Validation Kit	SPEAG D5GHzV2	1060	July 27,2020	One year

END OF REPORT BODY

ANNEX A Graph Results

GSM850_CH128 Right Cheek
Date: 2/2/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 824.2 MHz; σ = 0.88 mho/m; εr = 41.28; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: GSM850 824.2 MHz Duty Cycle: 1:2
Probe: EX3DV4 – SN7307 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.473 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.488 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.515 W/kg
SAR(1 g) = 0.383 W/kg; SAR(10 g) = 0.291 W/kg
Maximum value of SAR (measured) = 0.464 W/kg

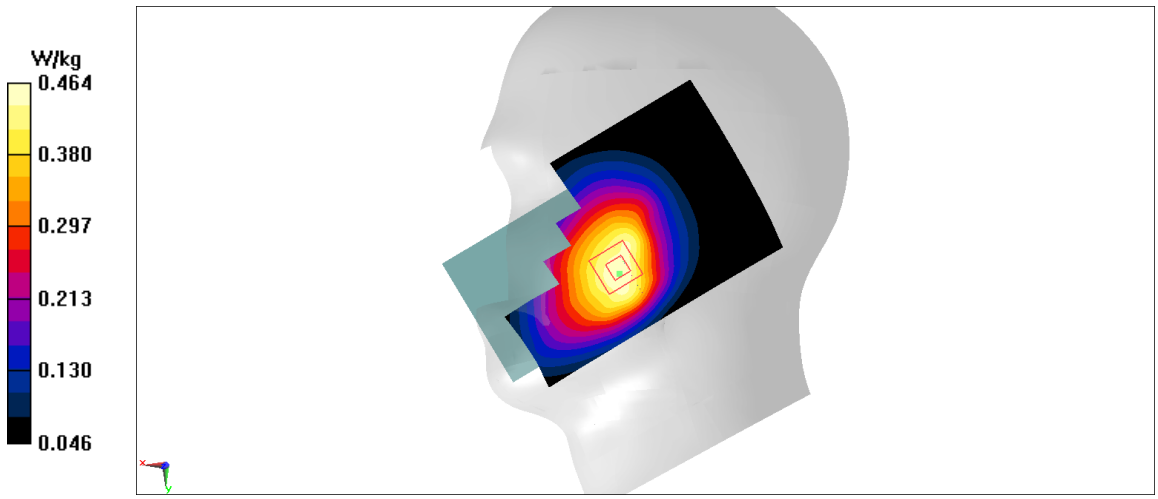


Fig A.1

GSM850_CH128 Rear 10mm
Date: 2/2/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 824.2 MHz; σ = 0.88 mho/m; εr = 41.28; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: GSM850 824.2 MHz Duty Cycle: 1:2
Probe: EX3DV4 – SN7307 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.621 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.43 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.752 W/kg
SAR(1 g) = 0.413 W/kg; SAR(10 g) = 0.239 W/kg
Maximum value of SAR (measured) = 0.618 W/kg

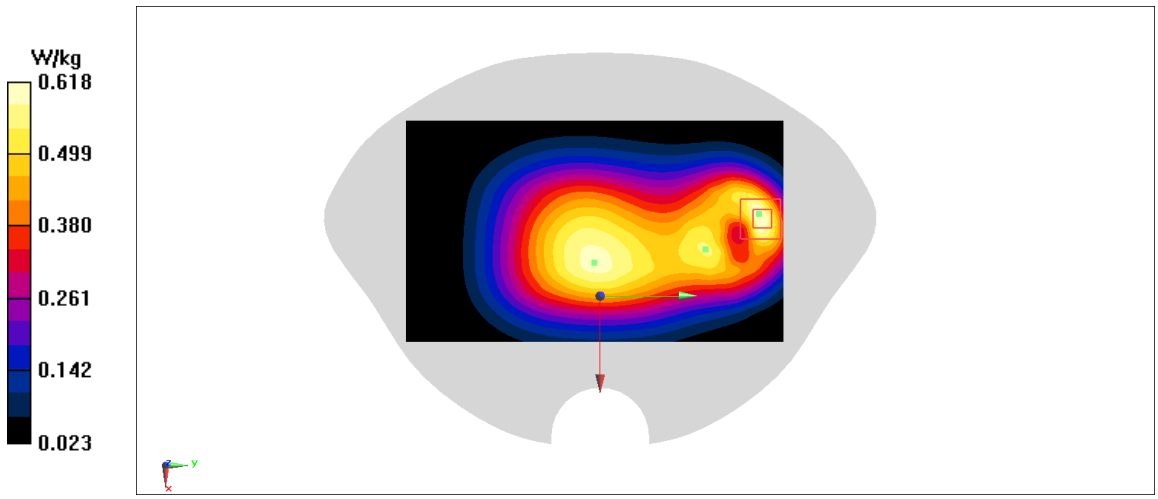


Fig A.2

PCS1900_CH661 Left Cheek
Date: 2/4/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.394 mho/m; εr = 39.79; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: PCS1900 1880 MHz Duty Cycle: 1:4
Probe: EX3DV4 – SN7307 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.27 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.271 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.322 W/kg
SAR(1 g) = 0.207 W/kg; SAR(10 g) = 0.131 W/kg
Maximum value of SAR (measured) = 0.282 W/kg

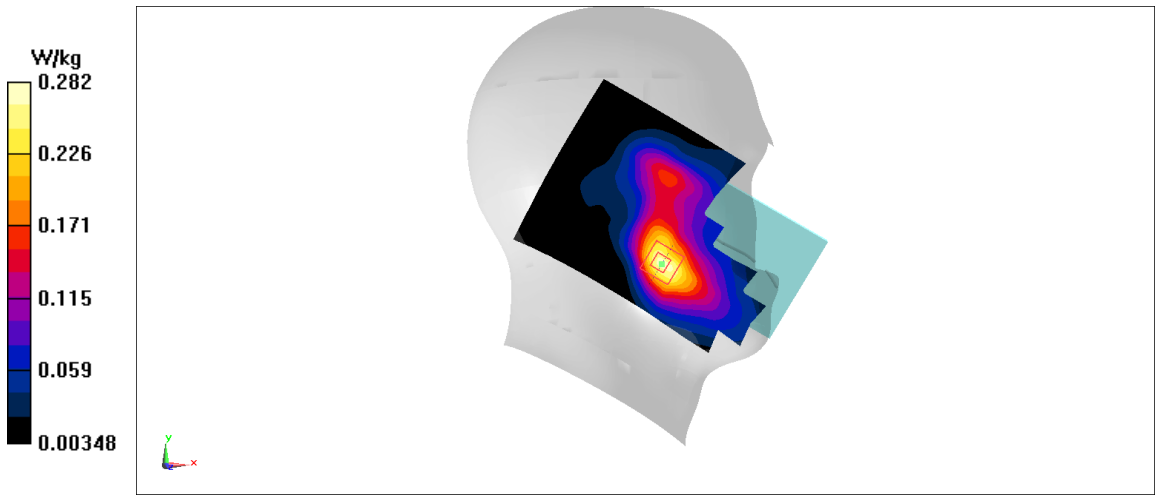


Fig A.3

PCS1900_CH512 Bottom 10mm
Date: 2/4/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.366 mho/m; εr = 39.83; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:2
Probe: EX3DV4 – SN7307 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.06 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.98 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 1 W/kg; SAR(10 g) = 0.515 W/kg
Maximum value of SAR (measured) = 1.05 W/kg

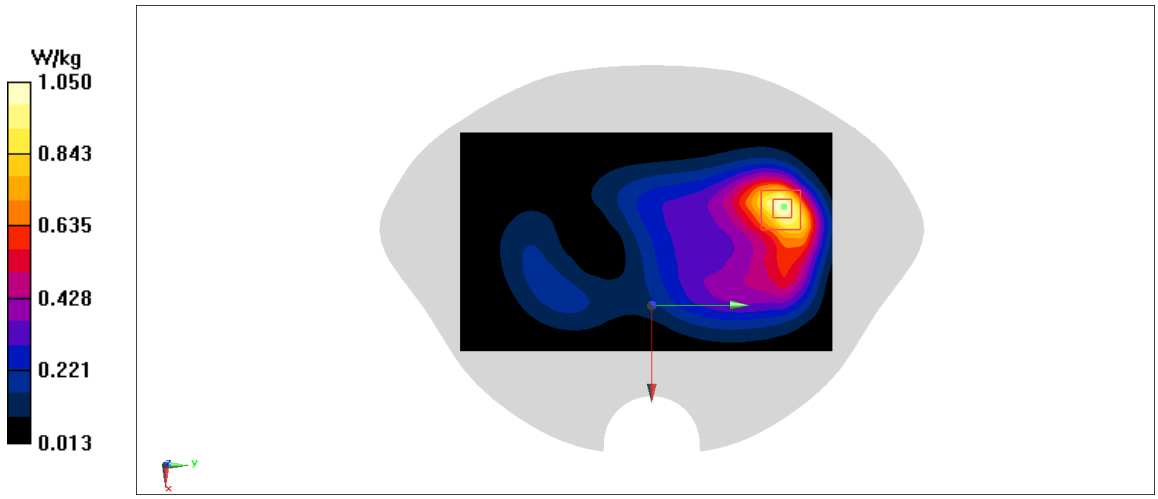


Fig A.4

WCDMA1900-BII_CH9262 Left Cheek
Date: 2/4/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.367 mho/m; εr = 39.83; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.449 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.976 V/m; Power Drift = -0.2 dB
Peak SAR (extrapolated) = 0.523 W/kg
SAR(1 g) = 0.337 W/kg; SAR(10 g) = 0.214 W/kg
Maximum value of SAR (measured) = 0.453 W/kg

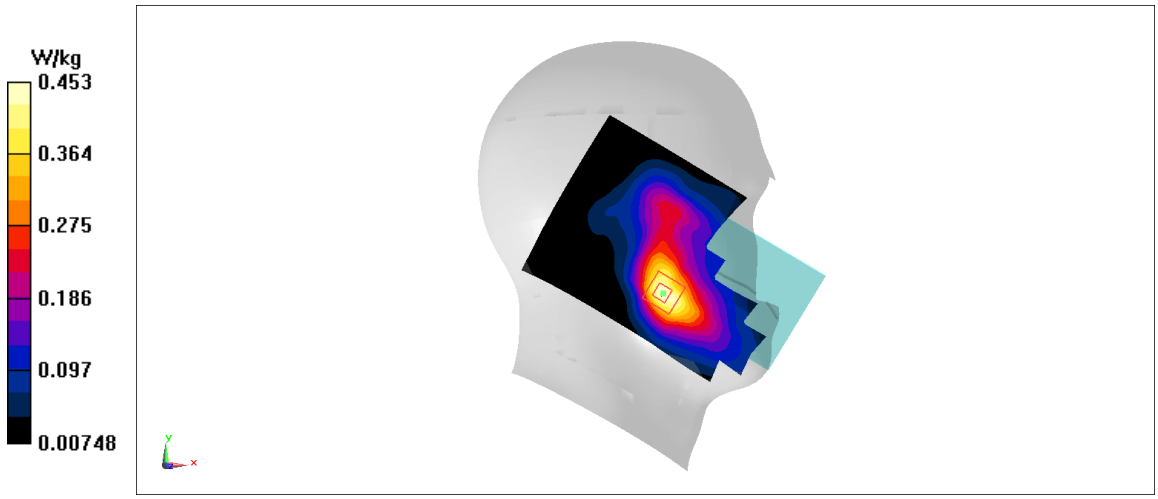


Fig A.5

WCDMA1900-BII_CH9262 Bottom 10mm
Date: 2/4/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.367 mho/m; εr = 39.83; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.58 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.22 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.83 W/kg
SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.545 W/kg
Maximum value of SAR (measured) = 1.54 W/kg

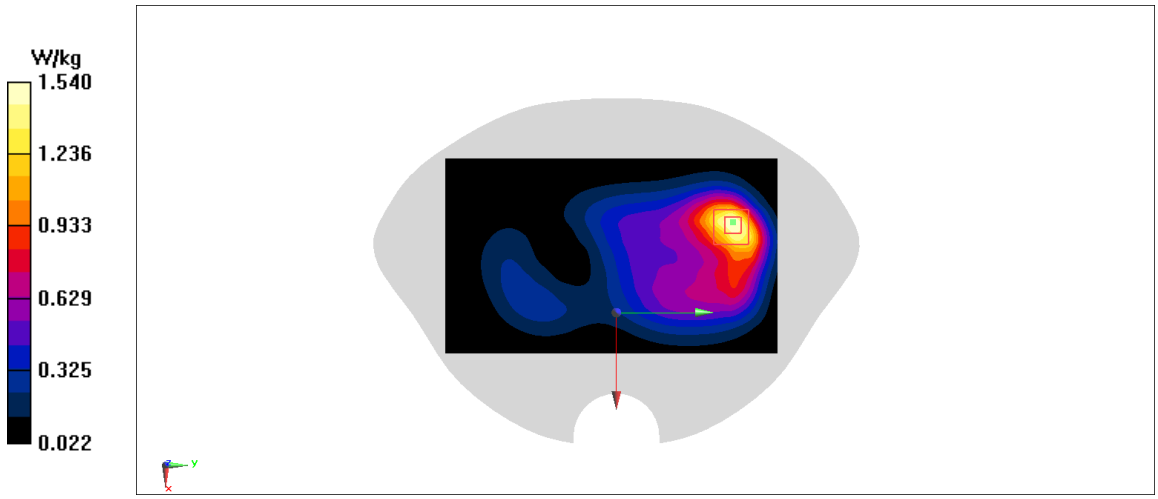


Fig A.6

WCDMA1700-BIV_CH1513 Left Cheek
Date: 2/3/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 1752.6 MHz; σ = 1.348 mho/m; εr = 40.13; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1700-BIV 1752.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.343 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.028 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.4 W/kg
SAR(1 g) = 0.263 W/kg; SAR(10 g) = 0.17 W/kg
Maximum value of SAR (measured) = 0.351 W/kg

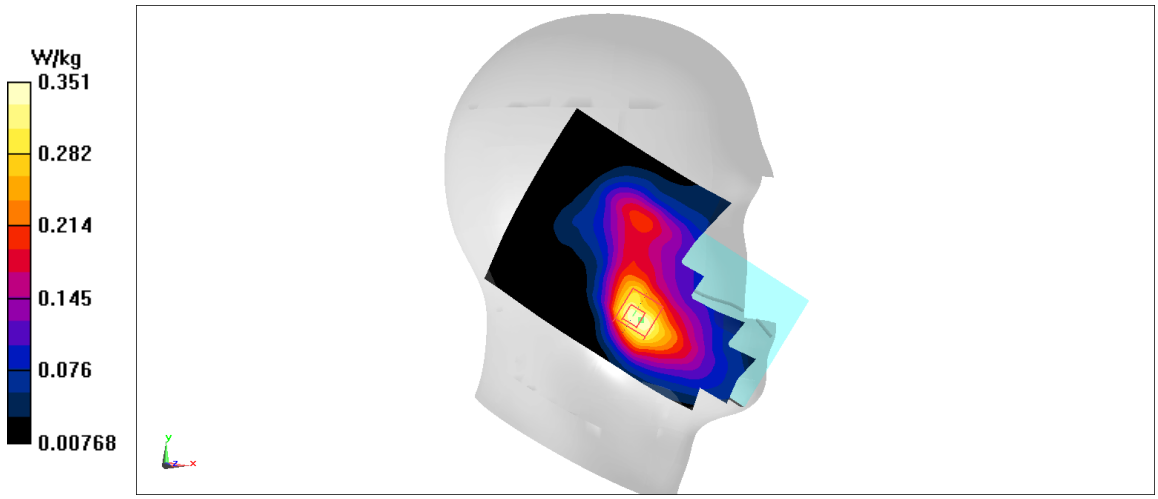


Fig A.7

WCDMA1700-BIV_CH1312 Bottom 10mm
Date: 2/3/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.309 mho/m; εr = 40.18; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1700-BIV 1712.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.06 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.02 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.569 W/kg
Maximum value of SAR (measured) = 1.07 W/kg

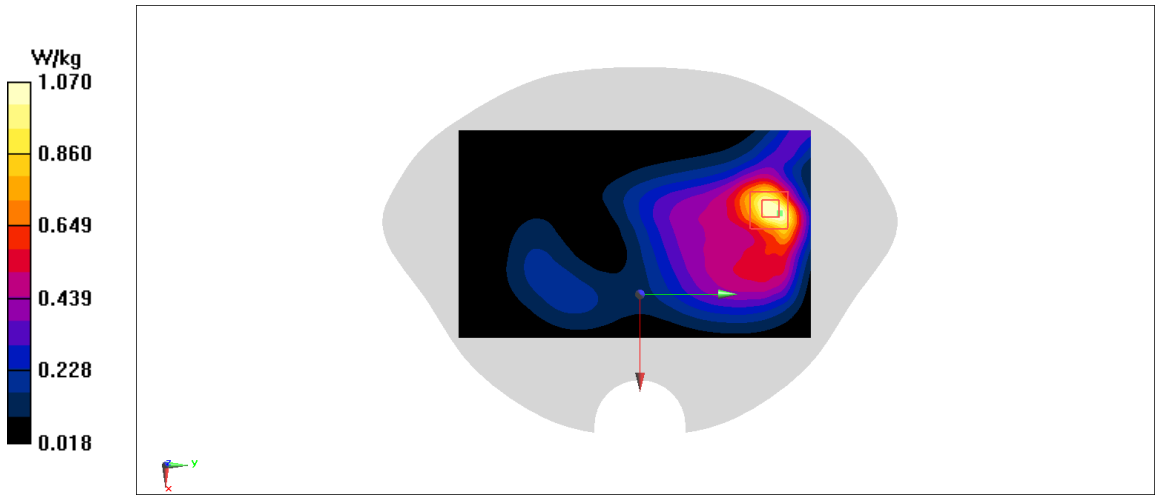


Fig A.8

WCDMA850-BV_CH4233 Right Cheek
Date: 2/2/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 846.6 MHz; σ = 0.901 mho/m; εr = 41.26; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.355 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.765 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.385 W/kg
SAR(1 g) = 0.289 W/kg; SAR(10 g) = 0.218 W/kg
Maximum value of SAR (measured) = 0.351 W/kg

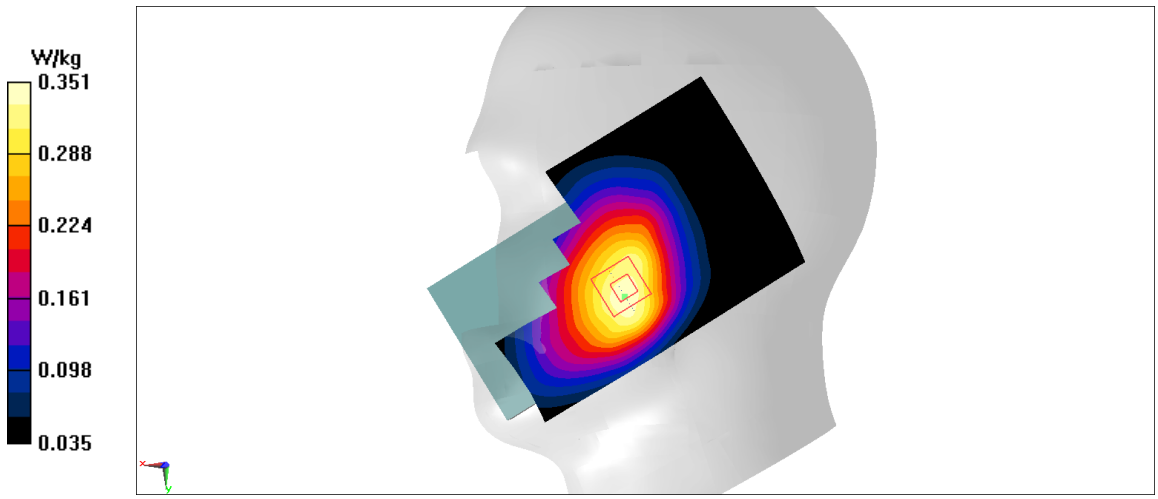


Fig A.9

WCDMA850-BV_CH4182 Rear 10mm
Date: 2/2/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 836.4 MHz; σ = 0.891 mho/m; εr = 41.27; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA850-BV 836.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.468 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.21 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.556 W/kg
SAR(1 g) = 0.307 W/kg; SAR(10 g) = 0.184 W/kg
Maximum value of SAR (measured) = 0.46 W/kg

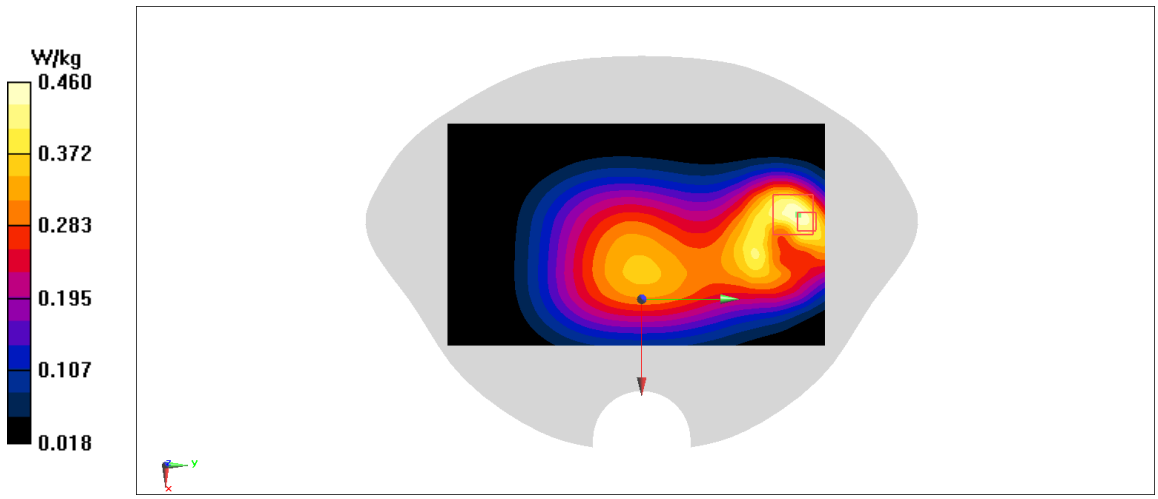


Fig A.10

LTE2500-FDD7_CH21100 Right Cheek
Date: 2/6/2021
Electronics: DAE4 Sn536
Medium: head 2600 MHz
Medium parameters used: f = 2535 MHz; σ = 1.912 mho/m; εr = 39.68; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.788 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.331 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.701 W/kg; SAR(10 g) = 0.282 W/kg
Maximum value of SAR (measured) = 0.782 W/kg

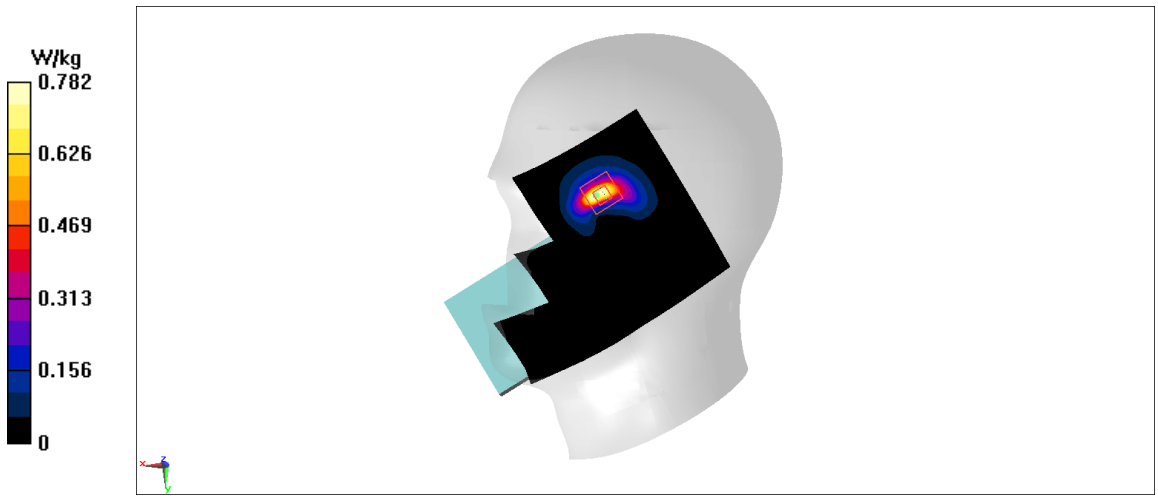


Fig A.11

LTE2500-FDD7_CH20850 Rear 10mm
Date: 2/6/2021
Electronics: DAE4 Sn536
Medium: head 2600 MHz
Medium parameters used: f = 2510 MHz; σ = 1.888 mho/m; εr = 39.71; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE2500-FDD7 2510 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.389 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.1 W/kg
SAR(1 g) = 0.96 W/kg; SAR(10 g) = 0.397 W/kg
Maximum value of SAR (measured) = 1.68 W/kg

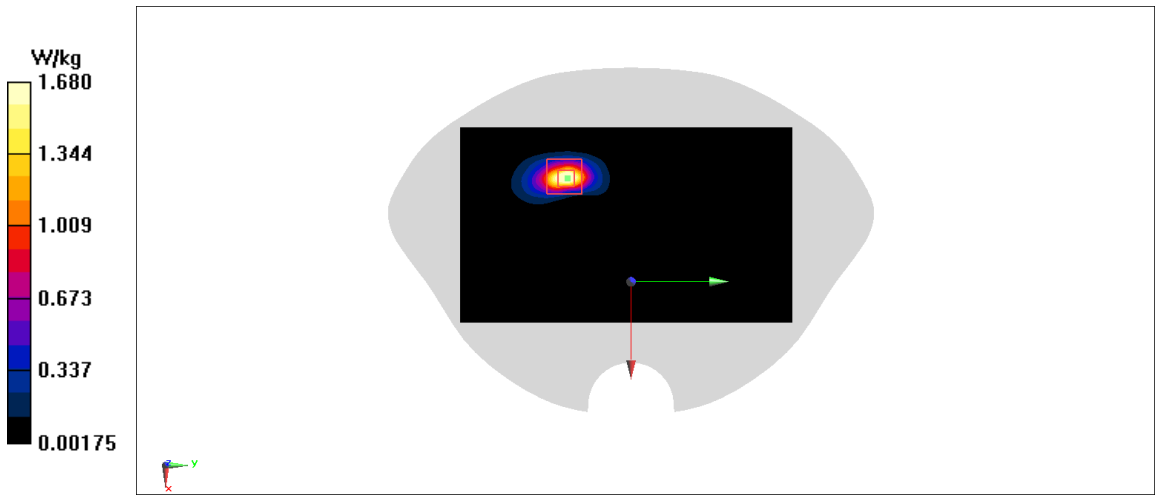


Fig A.12

LTE700-FDD12_CH23130 Right Cheek
Date: 2/1/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 711 MHz; σ = 0.871 mho/m; εr = 41.98; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD12 711 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.23 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.744 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.25 W/kg
SAR(1 g) = 0.197 W/kg; SAR(10 g) = 0.155 W/kg
Maximum value of SAR (measured) = 0.231 W/kg

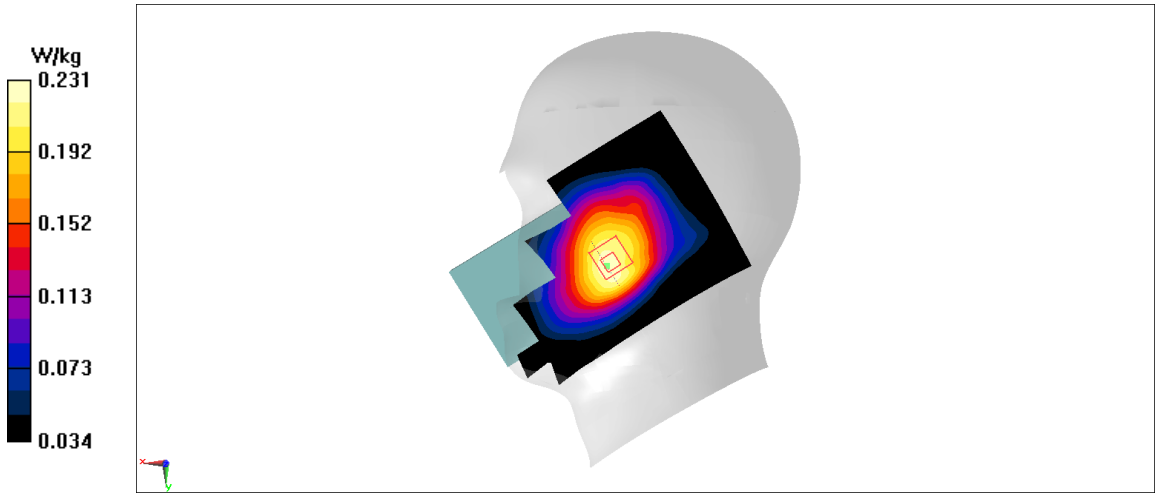


Fig A.13

LTE700-FDD12_CH23130 Right 10mm
Date: 2/1/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 711 MHz; σ = 0.871 mho/m; εr = 41.98; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD12 711 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.355 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.52 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.387 W/kg
SAR(1 g) = 0.291 W/kg; SAR(10 g) = 0.225 W/kg
Maximum value of SAR (measured) = 0.351 W/kg

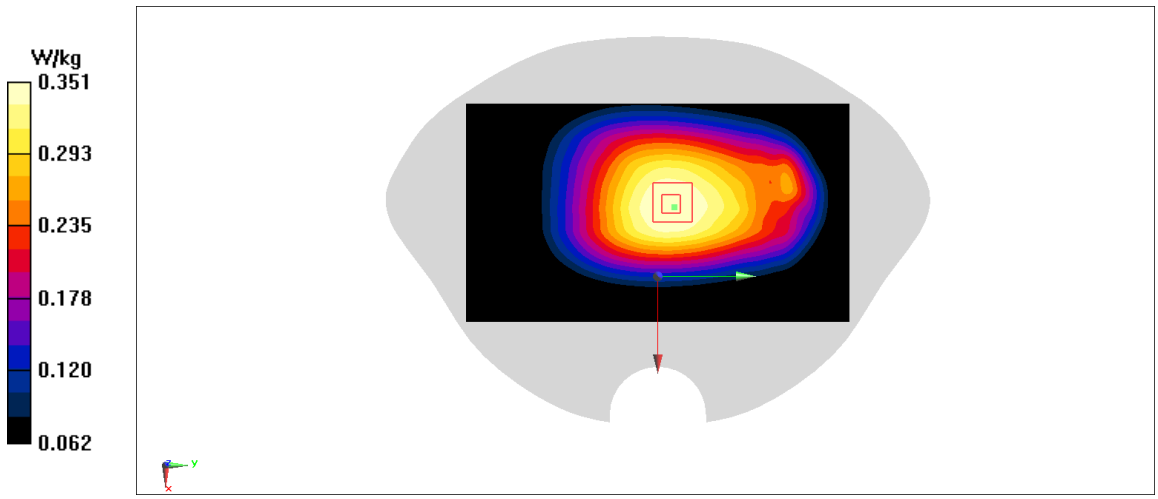


Fig A.14

LTE750-FDD13_CH23230 Right Cheek
Date: 2/1/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.938 mho/m; εr = 41.89; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.255 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.325 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.278 W/kg
SAR(1 g) = 0.217 W/kg; SAR(10 g) = 0.171 W/kg
Maximum value of SAR (measured) = 0.256 W/kg

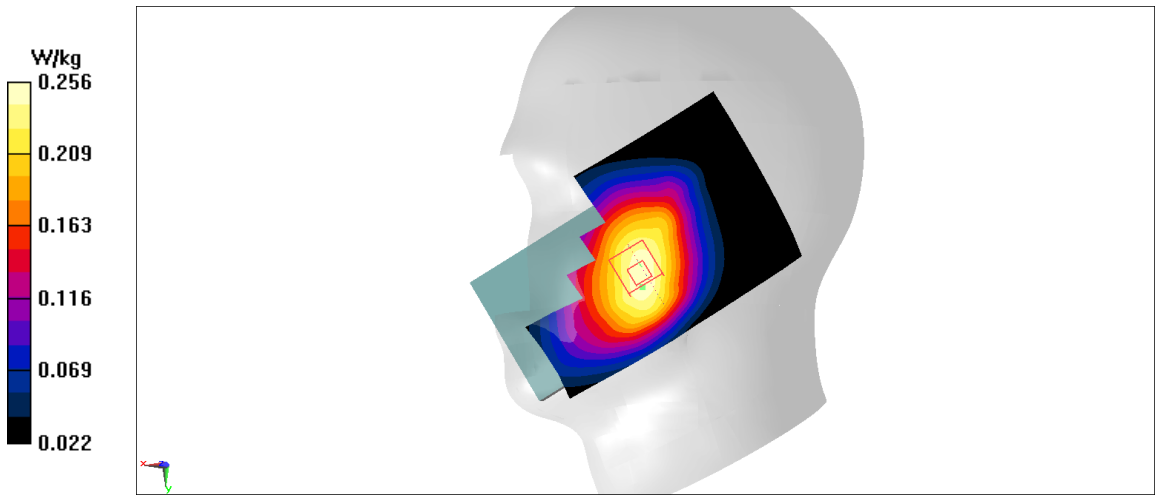


Fig A.15

LTE750-FDD13_CH23230 Right 10mm
Date: 2/1/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.938 mho/m; εr = 41.89; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.357 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.89 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.406 W/kg
SAR(1 g) = 0.274 W/kg; SAR(10 g) = 0.193 W/kg
Maximum value of SAR (measured) = 0.357 W/kg

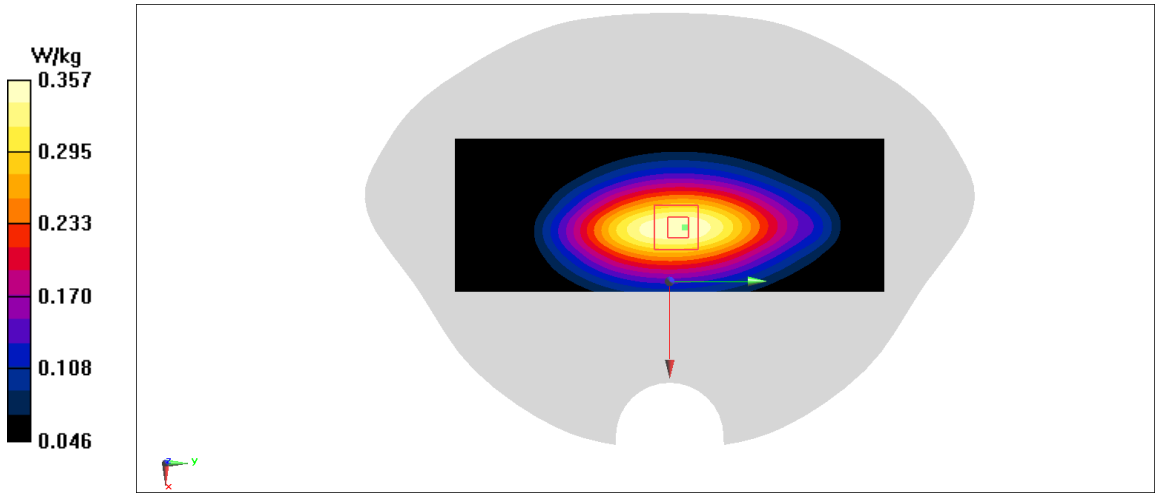


Fig A.16

LTE1900-FDD25_CH26140 Left Cheek
Date: 2/4/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.375 mho/m; εr = 39.82; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1900-FDD25 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.386 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.911 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.458 W/kg
SAR(1 g) = 0.286 W/kg; SAR(10 g) = 0.178 W/kg
Maximum value of SAR (measured) = 0.396 W/kg

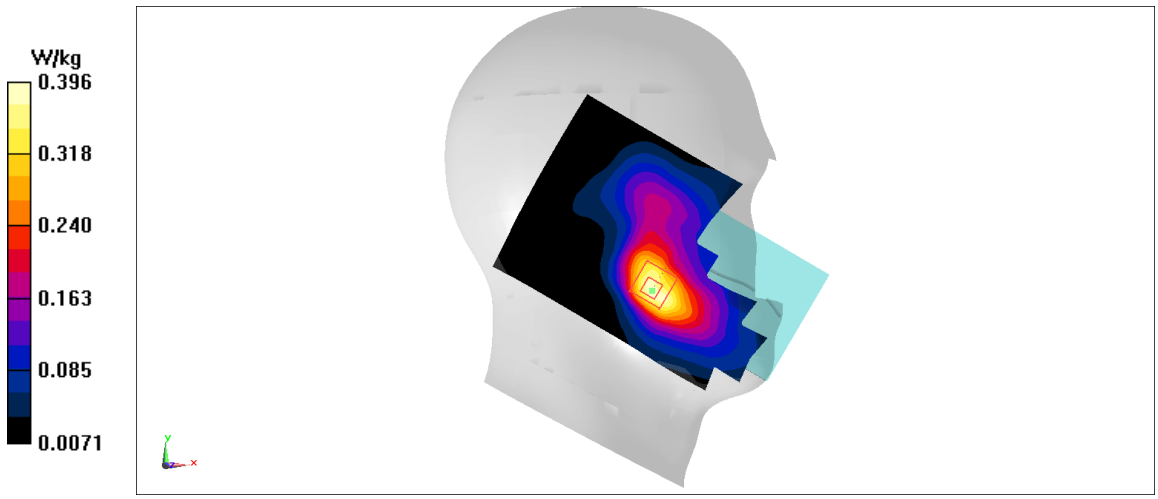


Fig A.17

LTE1900-FDD25_CH26140 Bottom 10mm
Date: 2/4/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.375 mho/m; εr = 39.82; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1900-FDD25 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.3 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.58 W/kg
Maximum value of SAR (measured) = 1.31 W/kg

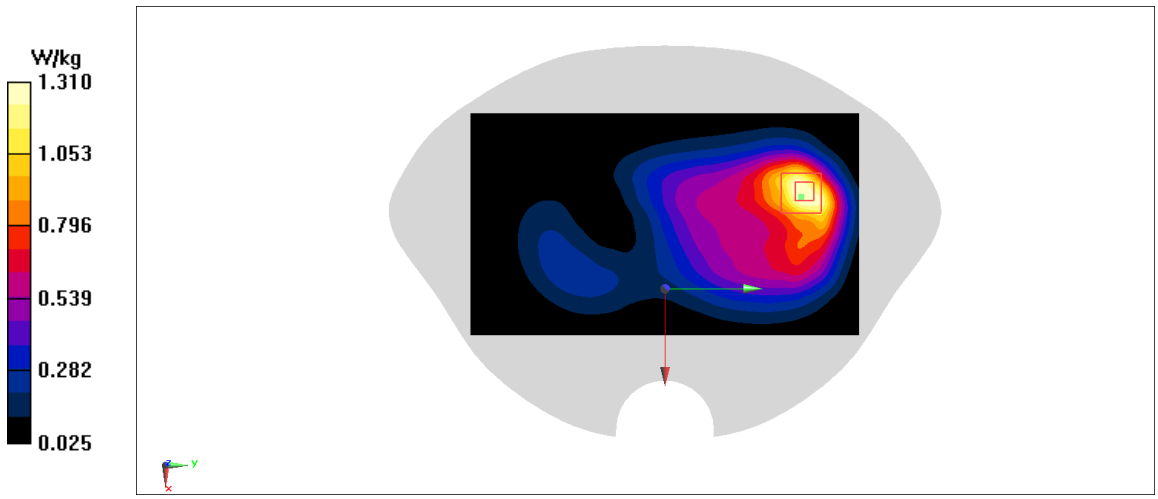


Fig A.18

LTE850-FDD26_CH26775 Right Cheek
Date: 2/2/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 822.5 MHz; σ = 0.878 mho/m; εr = 41.29; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE850-FDD26 822.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.293 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.535 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.321 W/kg
SAR(1 g) = 0.248 W/kg; SAR(10 g) = 0.193 W/kg
Maximum value of SAR (measured) = 0.296 W/kg

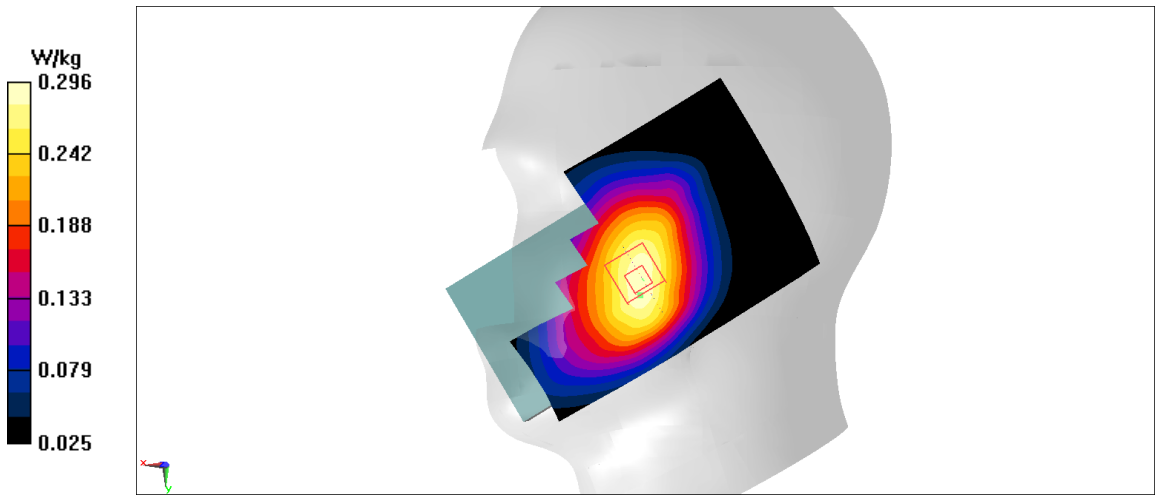


Fig A.19

LTE850-FDD26_CH26775 Rear 10mm
Date: 2/2/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 822.5 MHz; σ = 0.878 mho/m; εr = 41.29; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE850-FDD26 822.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.39 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.95 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.521 W/kg
SAR(1 g) = 0.27 W/kg; SAR(10 g) = 0.155 W/kg
Maximum value of SAR (measured) = 0.423 W/kg

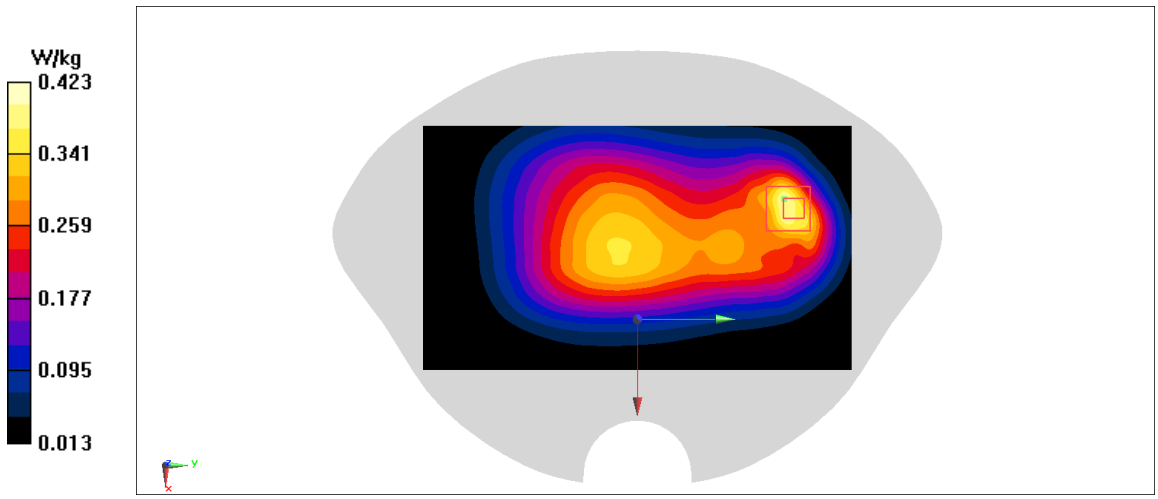


Fig A.20

LTE2600-TDD41_CH40140 Right Cheek
Date: 2/6/2021
Electronics: DAE4 Sn536
Medium: head 2600 MHz
Medium parameters used: f = 2545 MHz; σ =2.016 mho/m; εr =39.225 ; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2600-TDD41 2545 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 – SN7307 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.29 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0 dB
Peak SAR (extrapolated) = 0.388 W/kg
SAR(1 g) = 0.169 W/kg; SAR(10 g) = 0.073 W/kg
Maximum value of SAR (measured) = 0.289 W/kg

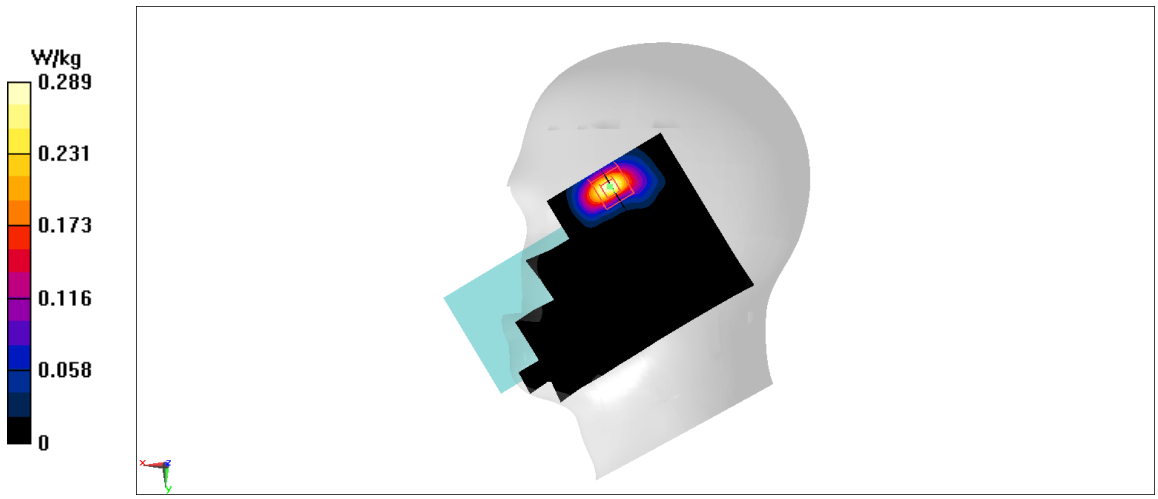


Fig A.21

LTE2600-TDD41_CH41140 Rear 10mm
Date: 2/6/2021
Electronics: DAE4 Sn536
Medium: head 2600 MHz
Medium parameters used: f = 2645 MHz; σ =2.11mho/m; εr =38.967 ; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE2600-TDD41 2645 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 – SN7307 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 3.21 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.595 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 3.4 W/kg
SAR(1 g) = 0.88 W/kg; SAR(10 g) = 0.359 W/kg
Maximum value of SAR (measured) = 2.71 W/kg

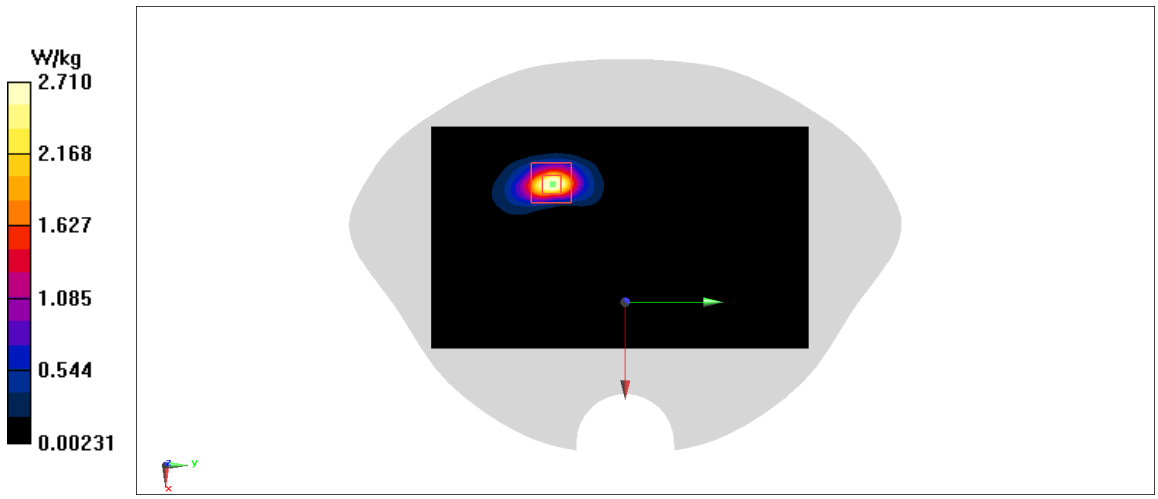


Fig A.22

LTE1700-FDD66_CH132322 Left Cheek
Date: 2/3/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 1745 MHz; σ = 2.195 mho/m; εr = 39.06; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1700-FDD66 1745 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.37 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.265 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.416 W/kg
SAR(1 g) = 0.259 W/kg; SAR(10 g) = 0.164 W/kg
Maximum value of SAR (measured) = 0.355 W/kg

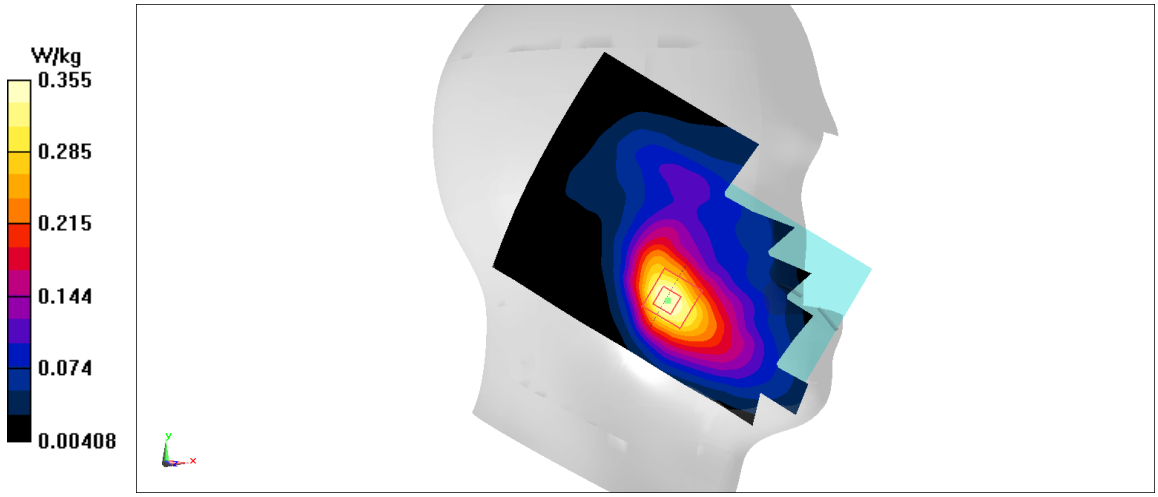


Fig A.23

LTE1700-FDD66_CH132072 Bottom 10mm
Date: 2/3/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 2.195 mho/m; εr = 39.06; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.97 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.18 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 2.2 W/kg
SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.662 W/kg
Maximum value of SAR (measured) = 1.86 W/kg

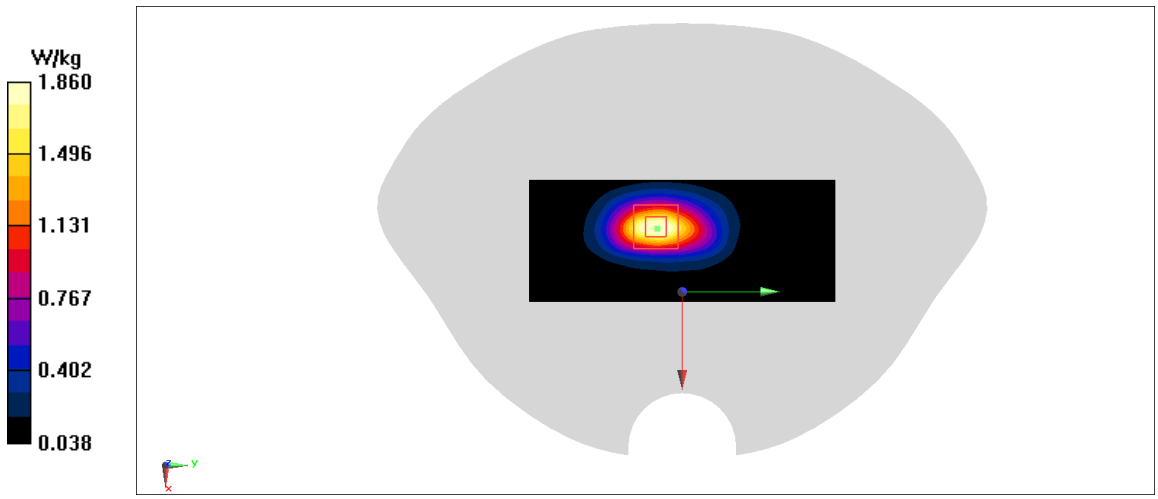


Fig A.24

LTE700-FDD71_CH133222 Right Cheek
Date: 2/1/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 2645 MHz; σ = 2.708 mho/m; εr = 39.66; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD71 2645 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.224 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.067 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.239 W/kg
SAR(1 g) = 0.19 W/kg; SAR(10 g) = 0.151 W/kg
Maximum value of SAR (measured) = 0.222 W/kg

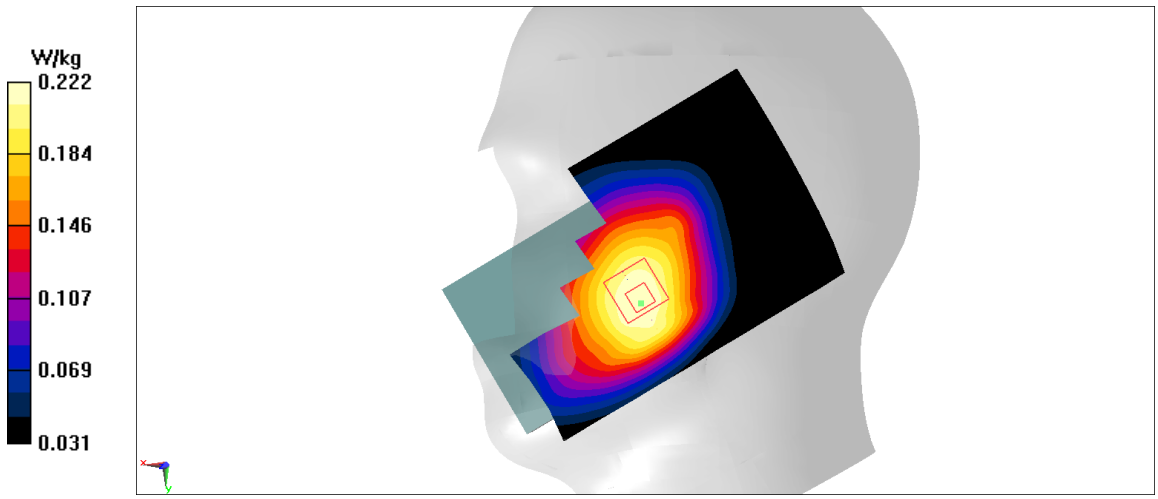


Fig A.25

LTE700-FDD71_CH133222 Rear 10mm
Date: 2/1/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 2645 MHz; σ = 2.708 mho/m; εr = 39.66; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD71 2645 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.435 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.45 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.491 W/kg
SAR(1 g) = 0.35 W/kg; SAR(10 g) = 0.266 W/kg
Maximum value of SAR (measured) = 0.436 W/kg

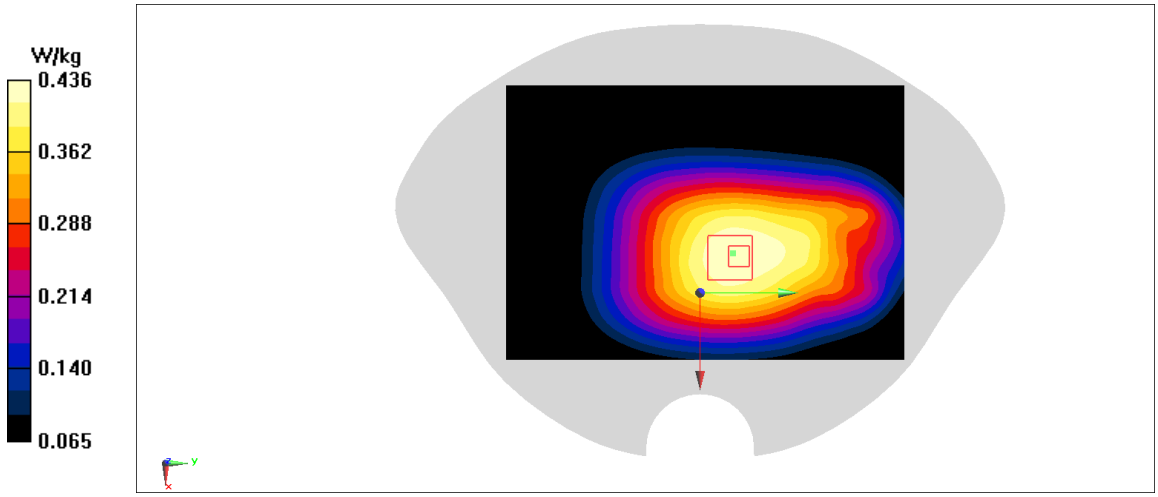


Fig A.26

WLAN2450_CH1 Right Cheek
Date: 2/5/2021
Electronics: DAE4 Sn536
Medium: head 2450 MHz
Medium parameters used: f = 2412 MHz; σ = 1.765 mho/m; εr = 39.34; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN2450 2412 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.77,7.77,7.77)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.947 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.585 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.569 W/kg; SAR(10 g) = 0.288 W/kg
Maximum value of SAR (measured) = 0.886 W/kg

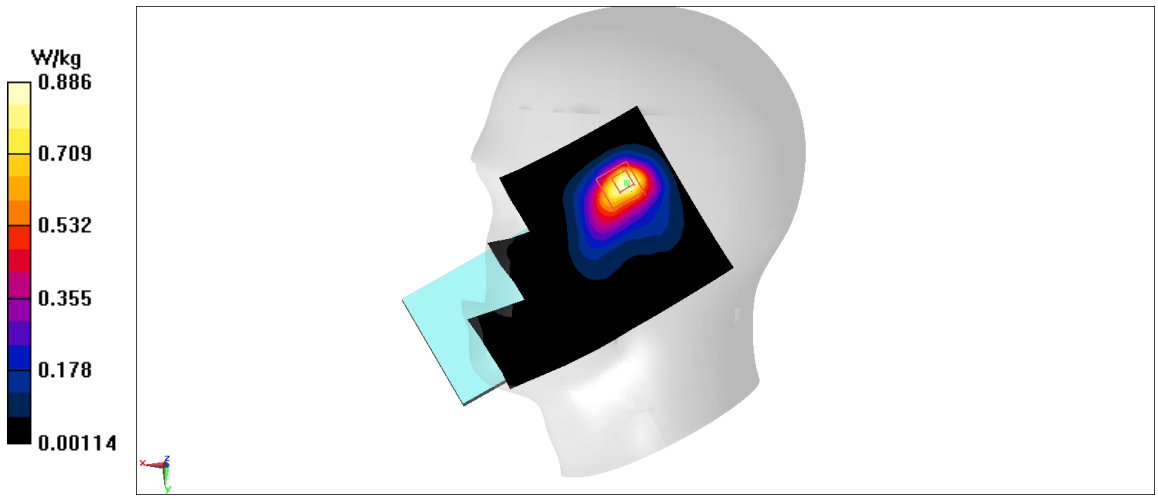


Fig A.27

WLAN2450_CH11 Rear 10mm
Date: 2/5/2021
Electronics: DAE4 Sn536
Medium: head 2450 MHz
Medium parameters used: f = 2462 MHz; σ = 1.812 mho/m; εr = 39.28; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN2450 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.77,7.77,7.77)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.309 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.255 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.35 W/kg
SAR(1 g) = 0.162 W/kg; SAR(10 g) = 0.076 W/kg
Maximum value of SAR (measured) = 0.27 W/kg

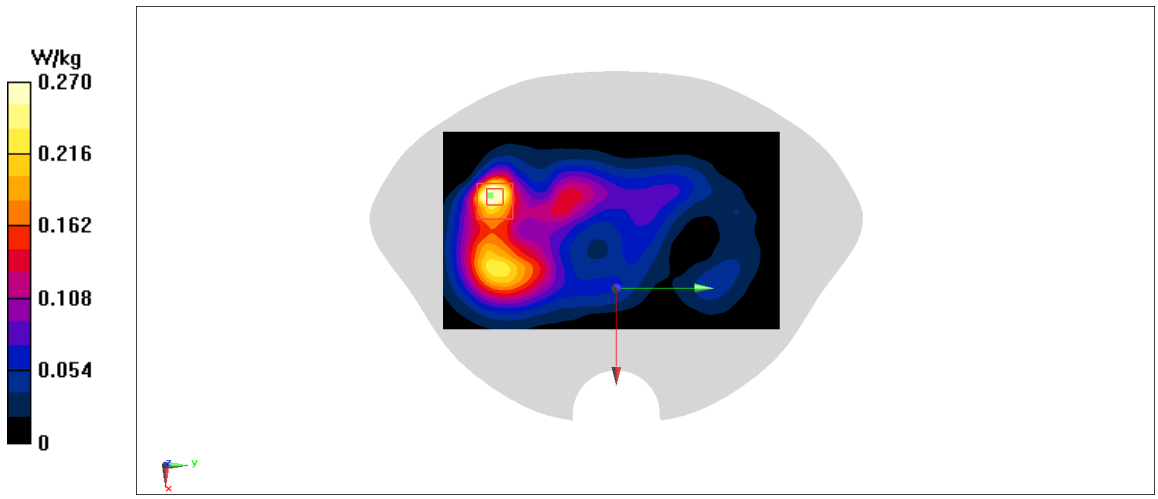


Fig A.28

PCS1900_CH512 Bottom 0mm for phablet
Date: 2/4/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.366 mho/m; εr = 39.83; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle:
Probe: EX3DV4 – SN7307 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 11.2 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 45.71 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 16.9 W/kg
SAR(1 g) = 7.1 W/kg; SAR(10 g) = 3.06 W/kg
Maximum value of SAR (measured) = 13.3 W/kg

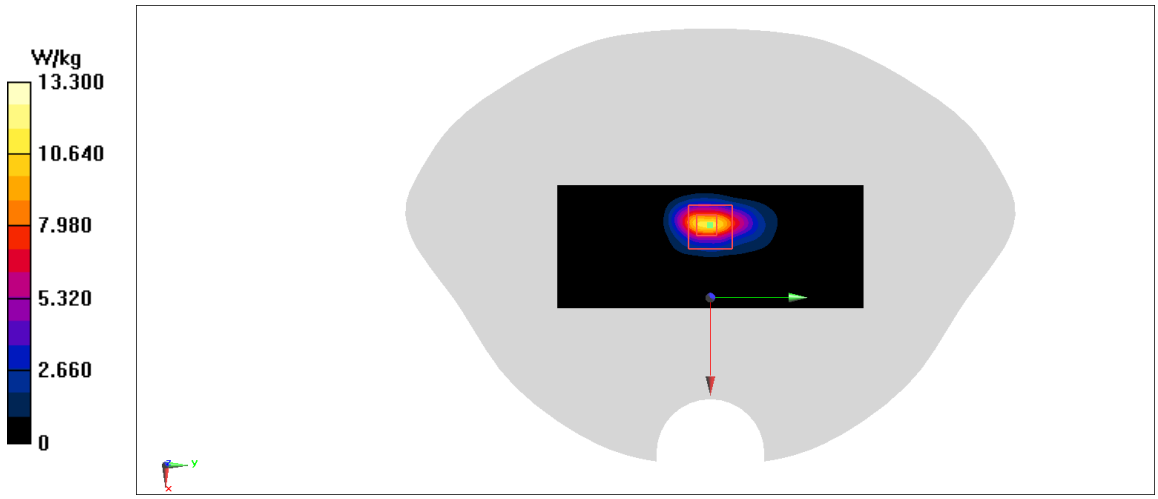


Fig A.29

WLAN5G_CH161 Right Cheek
Date: 2/9/2021
Electronics: DAE4 Sn536
Medium: head 5 GHz
Medium parameters used: f = 5805 MHz; σ = 5.361 mho/m; εr = 32.7; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN5G 5805 MHz Duty Cycle:
Probe: EX3DV4 – SN7307 ConvF(5.05,5.05,5.05)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.04 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.442 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 4.14 W/kg
SAR(1 g) = 0.701 W/kg; SAR(10 g) = 0.154 W/kg
Maximum value of SAR (measured) = 2.01 W/kg

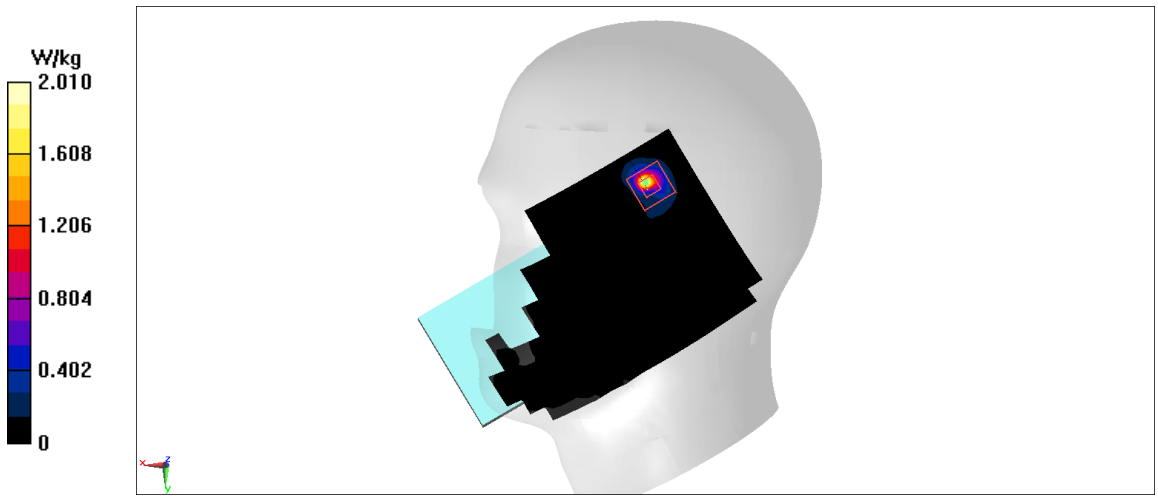


Fig A.30

WLAN5G_CH157 Left 10mm
Date: 2/9/2021
Electronics: DAE4 Sn536
Medium: head 5 GHz
Medium parameters used: f = 5785 MHz; σ =5.34mho/m; εr =32.734 ; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN5G 5785 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(5.05,5.05,5.05)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.9 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.404 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 5.01 W/kg
SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.458 W/kg
Maximum value of SAR (measured) = 2.97 W/kg

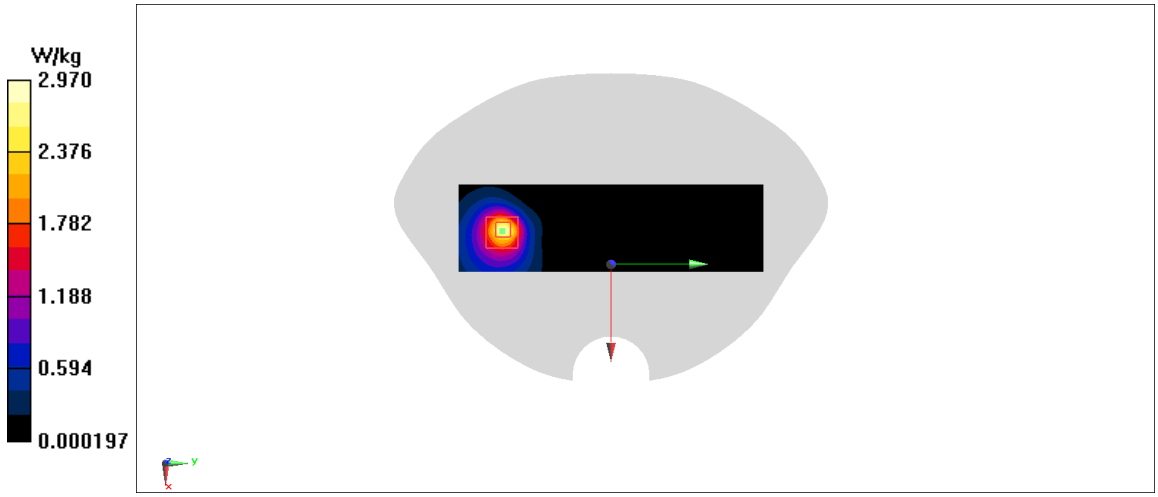


Fig A.31

WLAN5G_CH144 Left 10mm
Date: 2/9/2021
Electronics: DAE4 Sn536
Medium: head 5 GHz
Medium parameters used: f = 5720 MHz; σ = 5.263mho/m; εr = 32.856; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN5G 5720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(5.05,5.05,5.05)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.06 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.886 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 0.841 W/kg; SAR(10 g) = 0.305 W/kg
Maximum value of SAR (measured) = 2 W/kg

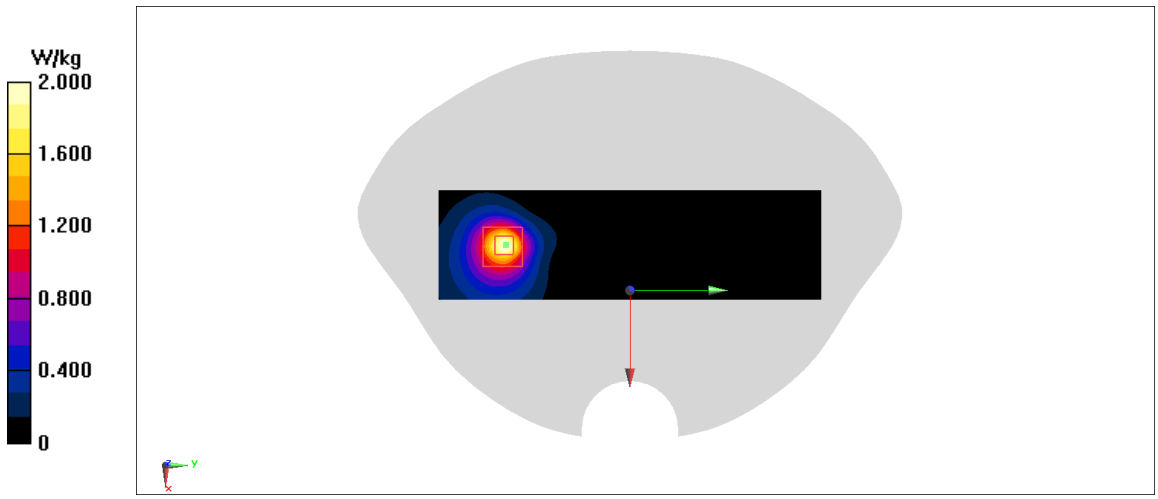
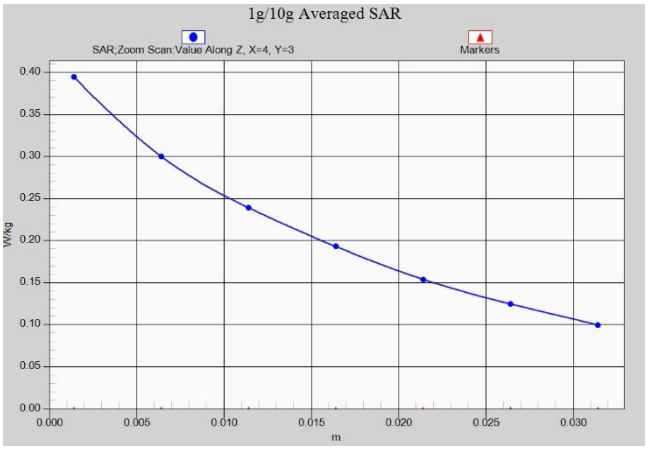
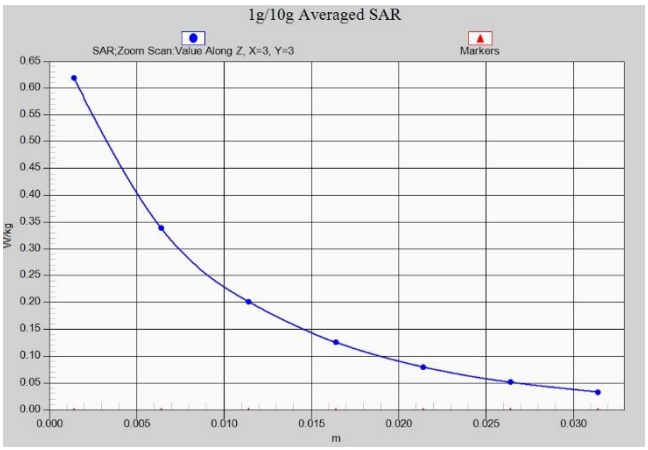


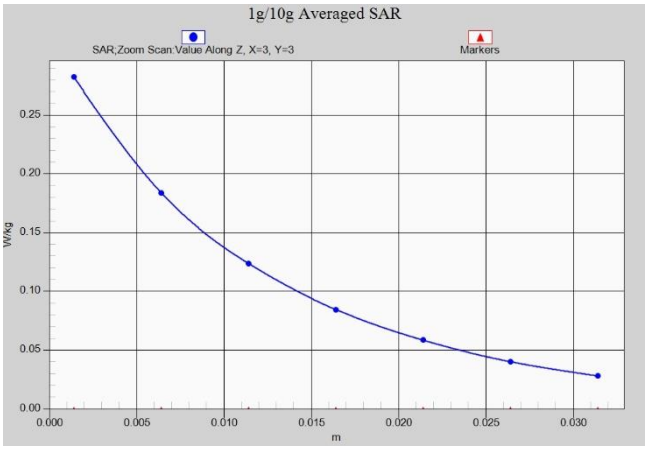
Fig A.32



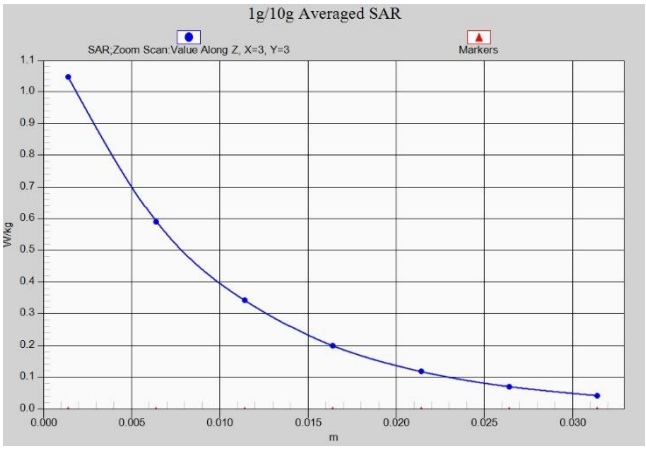
Z-Scan at power reference point (850 MHz)



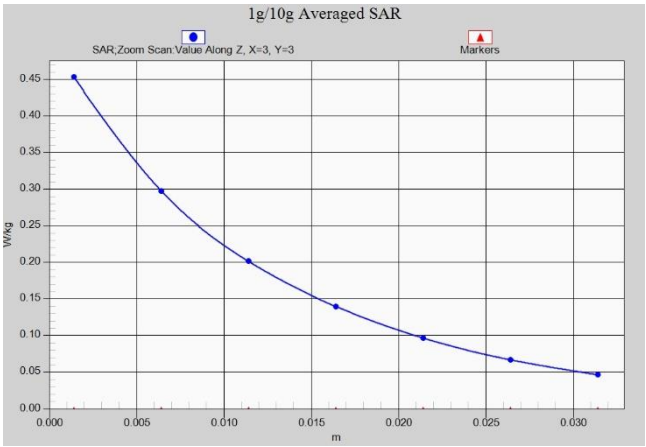
Z-Scan at power reference point (850 MHz)



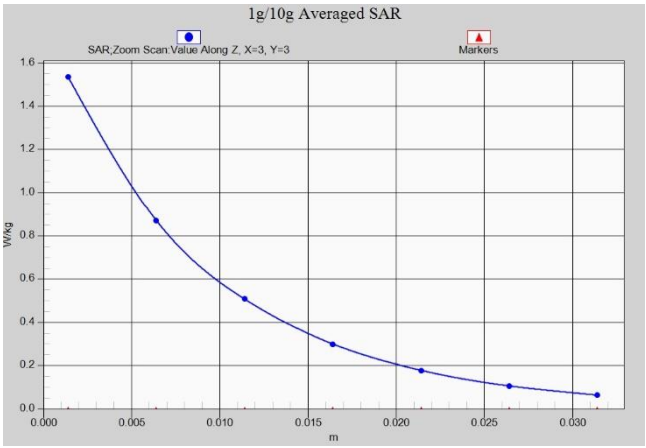
Z-Scan at power reference point (1900 MHz)



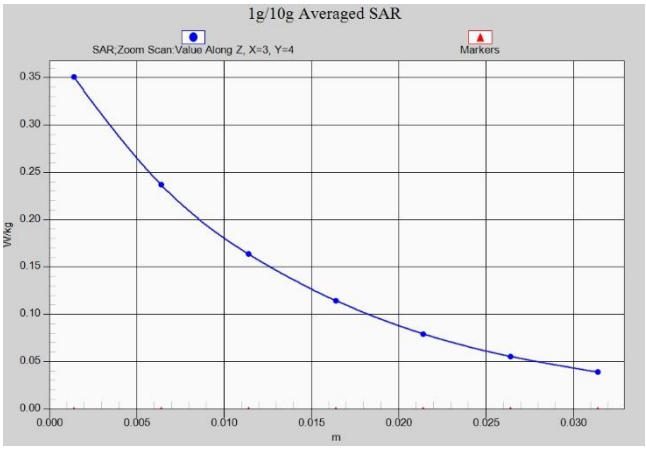
Z-Scan at power reference point (GSM1900)



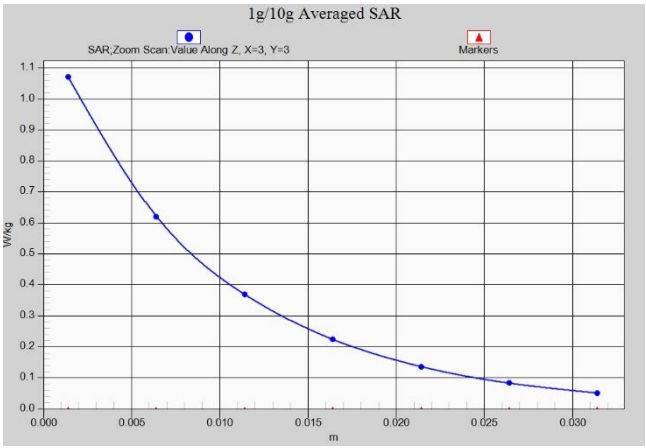
Z-Scan at power reference point (WCDMA1900)



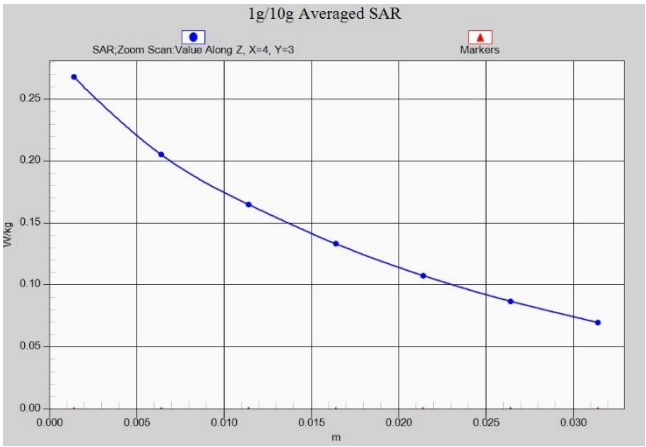
Z-Scan at power reference point (WCDMA1900)



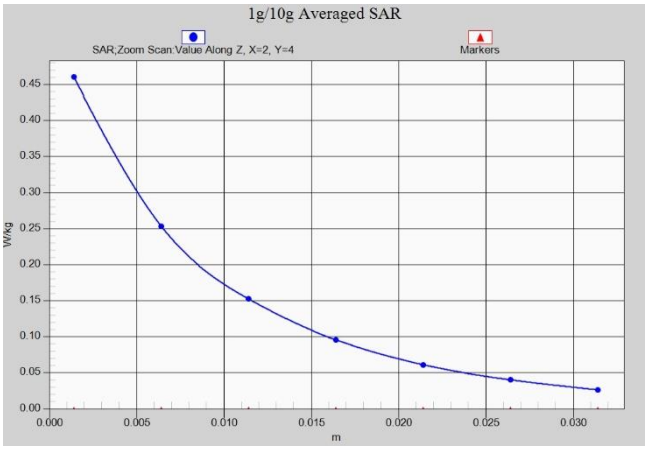
Z-Scan at power reference point (WCDMA1700)



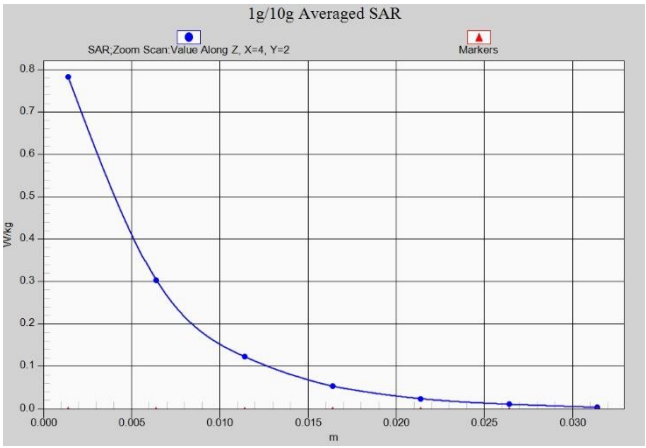
Z-Scan at power reference point (WCDMA1700)



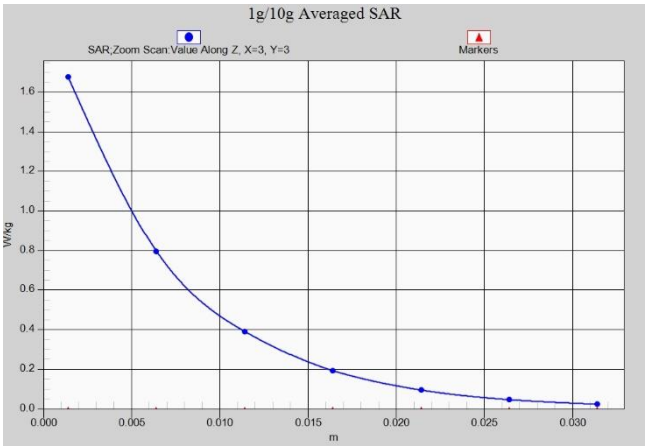
Z-Scan at power reference point (WCDMA850)



Z-Scan at power reference point (WCDMA850)



Z-Scan at power reference point (LTEB7)



Z-Scan at power reference point (LTEB7)