TESTING
NVLAP LAB CODE 600118-0

SAR TEST REPORT

No. I20Z62284-SEM05

For

TCL Communication Ltd.

HSUPA/HSDPA/UMTS 7 Bands/GSM Quad Bands/LTE 13 bands mobile phone

Model Name: T782P

with

Hardware Version: 03

Software Version: 5EID

FCC ID: 2ACCJN051

Issued Date: 2021-1-23

Note:

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Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I20Z62284-SEM05	Rev.0	2021-1-23	Initial creation of test report

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

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

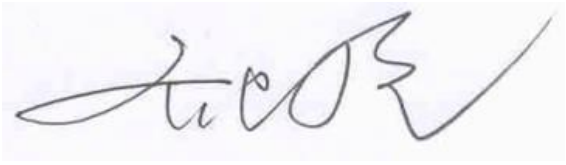
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	January 7, 2021
Testing End Date:	January 15, 2021

1.4 Signature

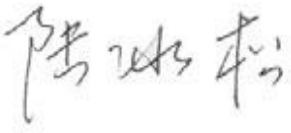
Lin Xiaojun

(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. HSUPA/HSDPA/UMTS7Bands/GSM Quad Bands/LTE13bands mobile phone T782P 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	**0.45**	PCE
	GSM1900	**0.09**	
	WCDMA1900	**0.13**	
	WCDMA1700	**0.16**	
	WCDMA 850	**0.83**	
	LTE Band2	**0.13**	
	LTE Band7	**0.54**	
	LTE Band12	**0.77**	
	LTE Band13	**0.70**	
	LTE Band26	**0.92**	
	LTE Band66	**0.11**	
	WLAN 2.4 GHz	**0.37**	DTS
	WLAN 5 GHz	**0.12**	NII
Hotspot (Separation Distance 10mm)	GSM850	**0.70**	PCE
	GSM1900	**0.90**	
	WCDMA1900	**0.98**	
	WCDMA1700	**0.89**	
	WCDMA 850	**0.69**	
	LTE Band2	**0.58**	
	LTE Band7	**1.07**	
	LTE Band12	**0.65**	
	LTE Band13	**0.54**	
	LTE Band26	**0.71**	
	LTE Band66	**0.65**	
	WLAN 2.4 GHz	**0.23**	DTS
	WLAN 5 GHz	**0.39**	NII
Body-Worn (Separation Distance 15mm)	GSM1900	**0.71**	PCE

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**: 1.07 W/kg(1g).**

Remark：
This device supports both LTE B5/B18/B19/B4 and LTE B26/B66. Since the supported frequency span for LTE B5/B18/B19/B4 falls completely within the supports frequency span for B26/B66, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B26/B66.

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	Left head, Cheek (LTE Band26)	0.77	0.37	**1.14**
Highest SAR value for Body	Rear 10mm (LTE Band7)	1.07	0.20	**1.27**

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

	Position	Main antenna	WiFi-5G	Sum
Highest SAR value for Head	Right head, Tilt (LTE Band26)	0.89	0.12	**1.01**
Highest SAR value for Body	Rear 10mm (LTE Band7)	1.07	0.39	**1.46**

Table 2.4: 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 Band26)	0.92	<0.01	**0.92**
Maximum reported SAR value for Body	Rear 10mm (LTE Band7)	1.07	<0.01	**1.07**

According to the above tables, the highest sum of reported SAR values is **1.46 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)
10g extremity SAR (Separation Distance 0mm)	GSM1900	**2.54**	4.0

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:	HSUPA/HSDPA/UMTS 7 Bands/GSM Quad Bands/LTE 13 bands mobile phone
Model name:	T782P
Operating mode(s):	GSM850/900/1800/1900, WCDMA B1/B2/B4/B5/B8 LTEBand1/2/3/4/5/7/8/12/13/18/19/26/66 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)
	814.7–848.3 MHz (LTE Band 26)
	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	352430520005847	03	5EID
EUT2	352430520005219	03	5EID
EUT3	352430520005664	03	5EID
EUT4	352430520005854	03	5EID
EUT5	352430520005656	03	5EID
EUT6	352430520005714	03	5EID

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

Note: It is performed to do SAR with the EUT1~4 and conducted power with the EUT5~6.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	TLp043D1	/	BYD

*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

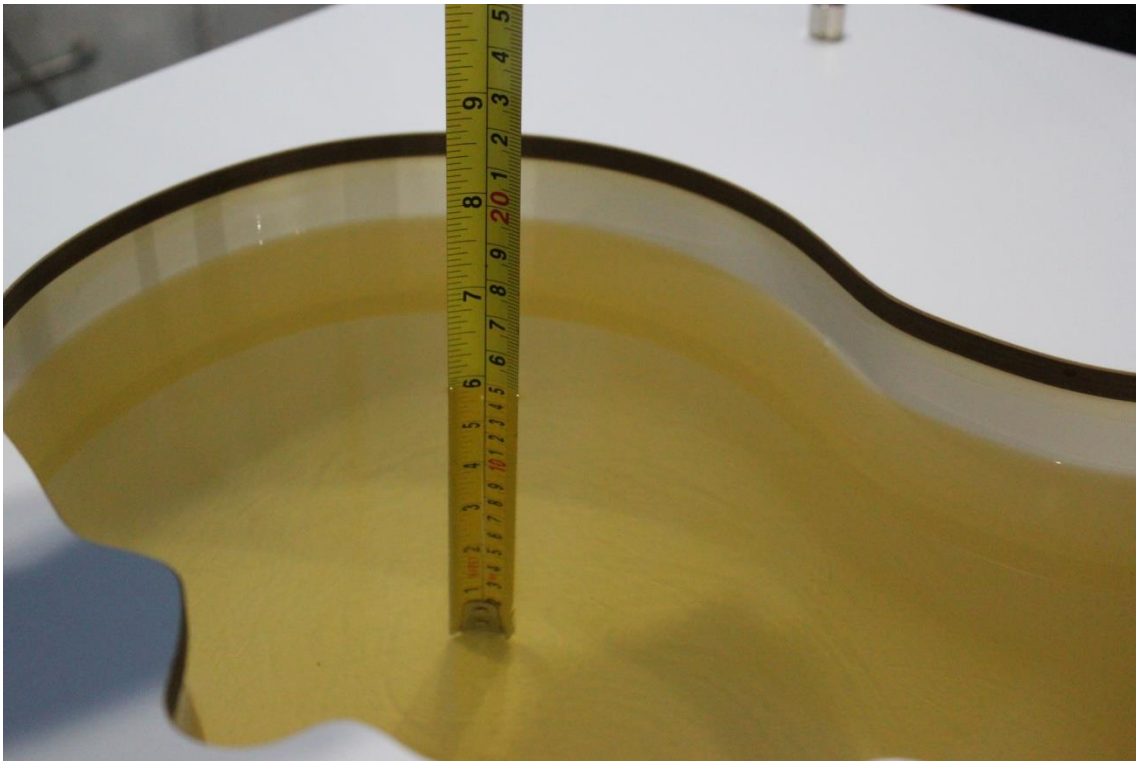
Frequency(MHz)	Liquid Type	Conductivity(σ)	± 5% Range	Permittivity(ε)	± 5% Range
750	Head	0.89	0.85～0.93	41.94	39.8～44.0
835	Head	0.90	0.86～0.95	41.5	39.4～43.6
1750	Head	1.37	1.30～1.44	40.08	38.1～42.1
1900	Head	1.40	1.33～1.47	40.0	38.0～42.0
2450	Head	1.67	1.59～1.75	39.47	37.5～41.4
2600	Head	1.96	1.86～2.06	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

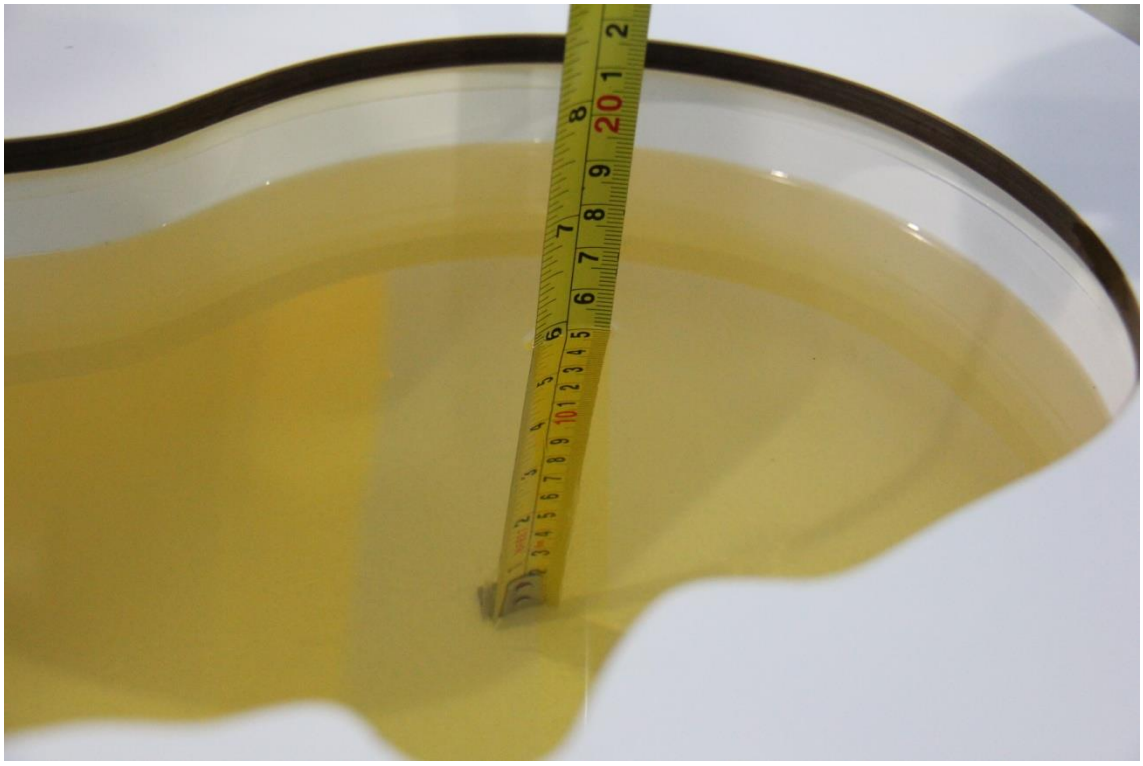
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ε	Drift (%)	Conductivity σ (S/m)	Drift (%)
2021-1-7	Head	750 MHz	42.41	1.12	0.905	1.69
2021-1-8	Head	835 MHz	41.94	1.06	0.913	1.44
2021-1-9	Head	1750 MHz	39.74	-0.85	1.377	0.51
2021-1-10	Head	1900 MHz	39.58	-1.05	1.375	-1.79
2021-1-11	Head	2450 MHz	38.81	-0.99	1.793	-0.39
2021-1-12	Head	2600 MHz	39.01	0.00	1.926	-1.73
2021-1-13	Head	5250 MHz	36.6	1.86	4.763	1.13
2021-1-14	Head	5600 MHz	34.97	-1.58	5.133	1.24
2021-1-15	Head	5750 MHz	35.2	-0.45	5.263	0.82

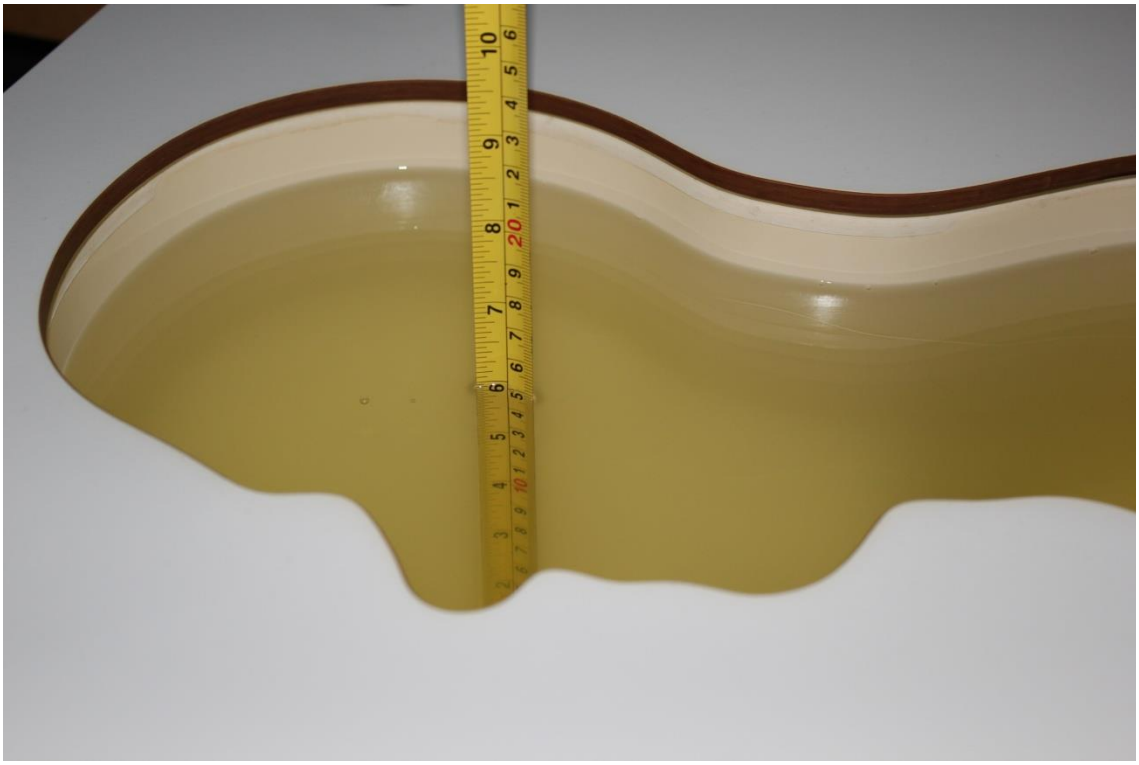
Note: The liquid temperature is 22.0℃



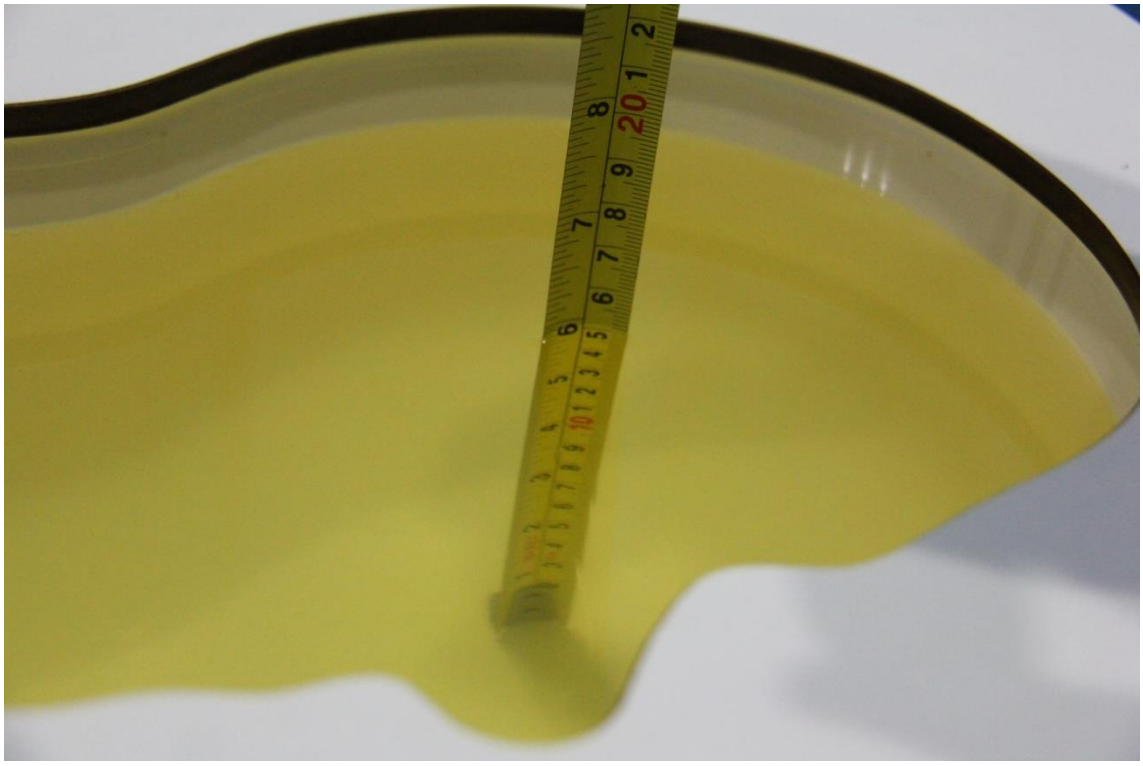
Picture 7-1 Liquid depth in the Head Phantom (750MHz)



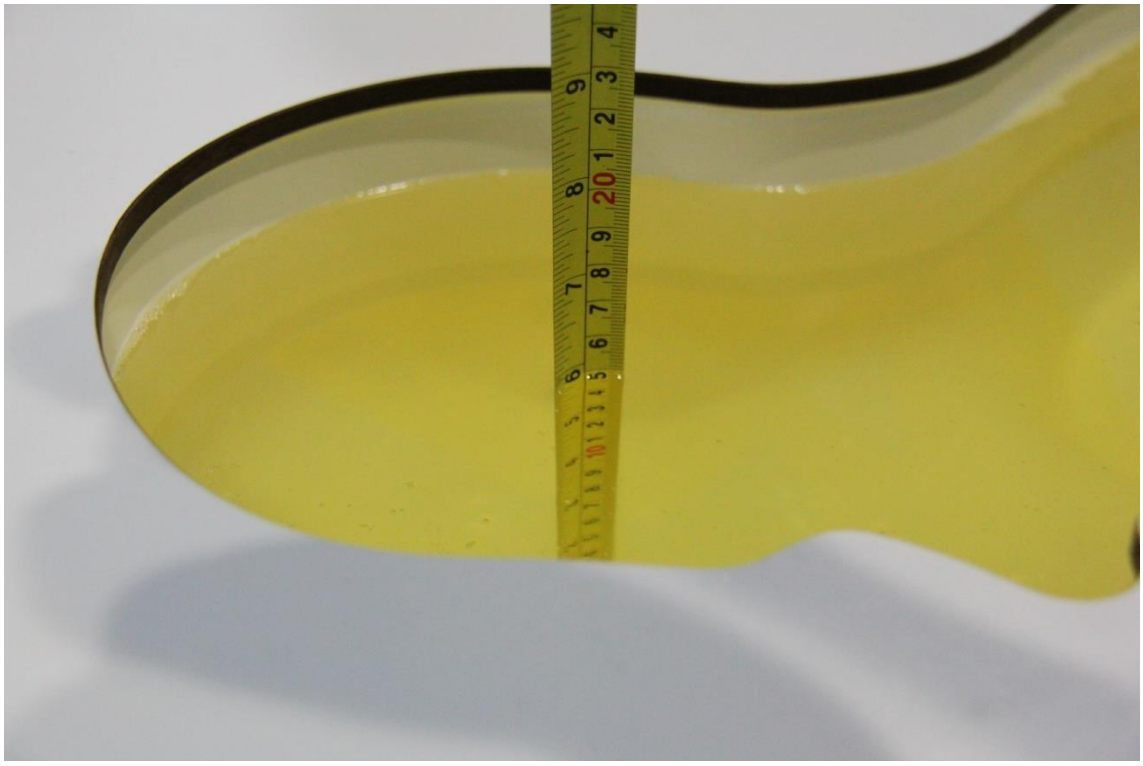
Picture 7-2 Liquid depth in the Head Phantom (835 MHz)



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

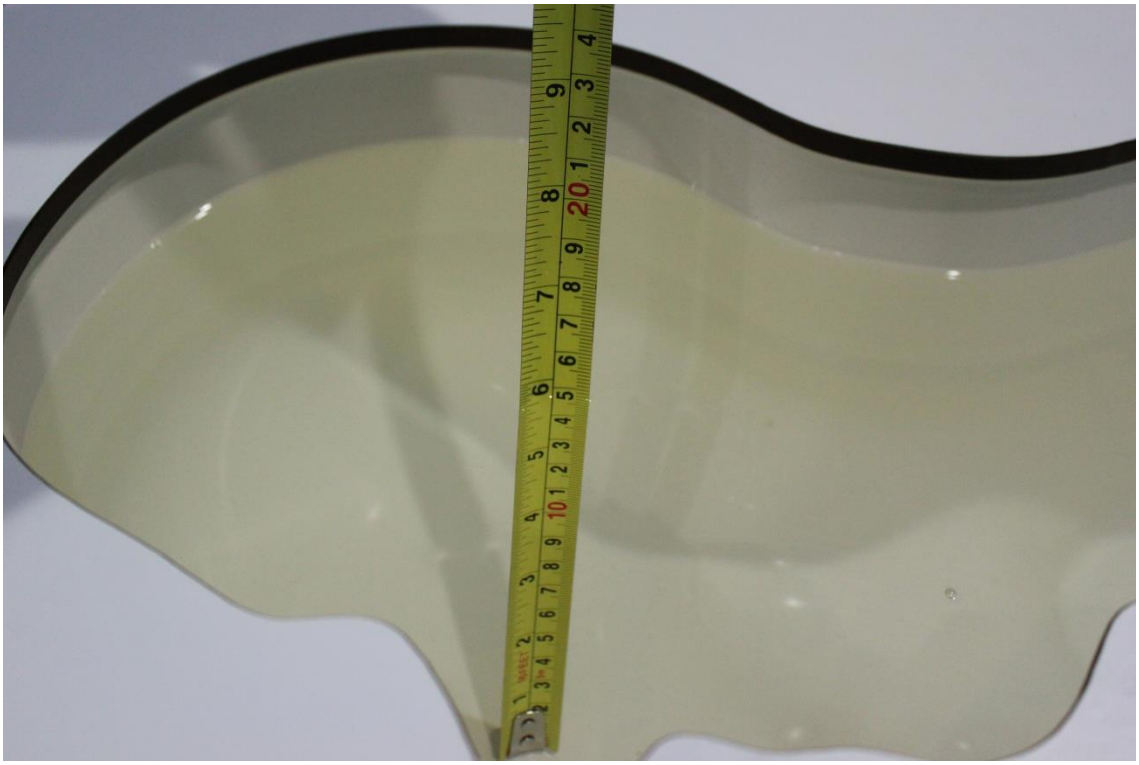


Picture 7-4 Liquid depth in the Head Phantom (1900 MHz)



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

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

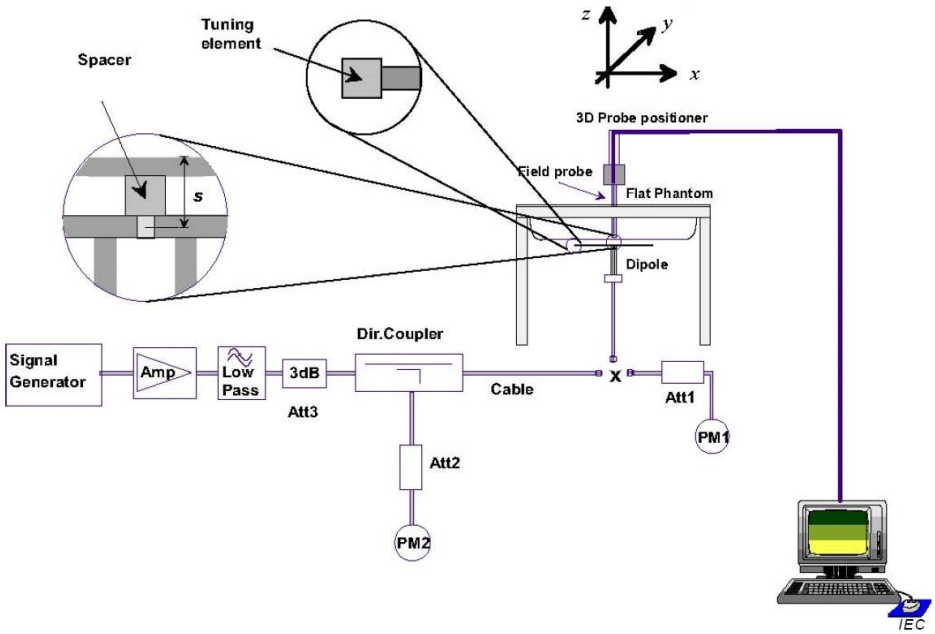


Picture 7-7 Liquid depth in the Head Phantom (5GHz)

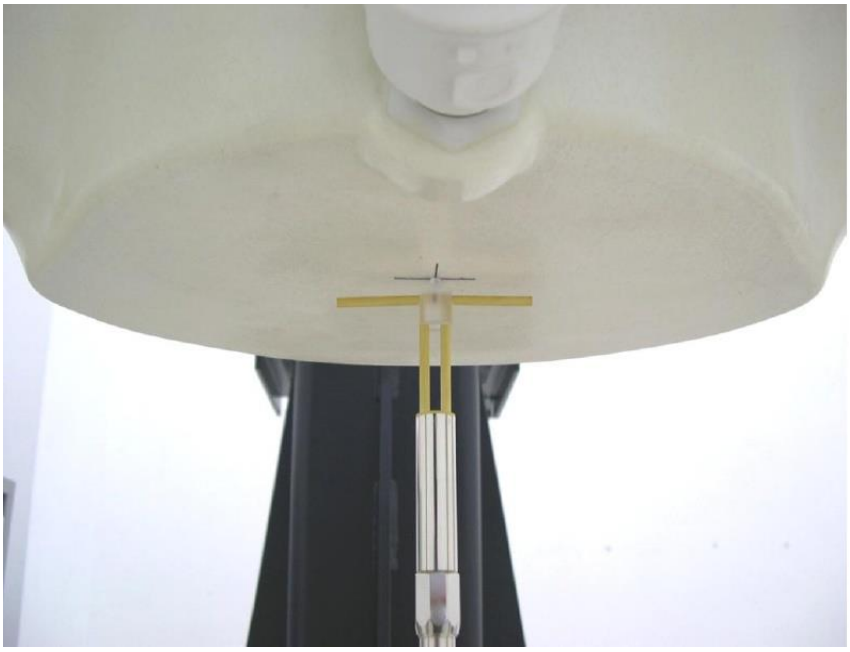
8 System verification

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
2021-1-7	750 MHz	5.53	8.47	5.52	8.48	-0.18%	0.12%
2021-1-8	835 MHz	6.25	9.60	6.16	9.48	-1.44%	-1.25%
2021-1-9	1750 MHz	19.1	36.5	18.76	35.84	-1.78%	-1.81%
2021-1-10	1900 MHz	20.6	39.6	20.96	39.76	1.75%	0.40%
2021-1-11	2450 MHz	24.5	52.5	24.12	52.32	-1.55%	-0.34%
2021-1-12	2600 MHz	25.3	57.0	25.24	57.76	-0.24%	1.33%
2021-1-13	5250 MHz	22.9	80.5	23.3	79.0	1.66%	-1.86%
2021-1-14	5600 MHz	23.6	83.3	23.8	81.6	1.02%	-1.99%
2021-1-15	5750 MHz	22.7	80.4	23.1	79.9	1.67%	-0.65%

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.

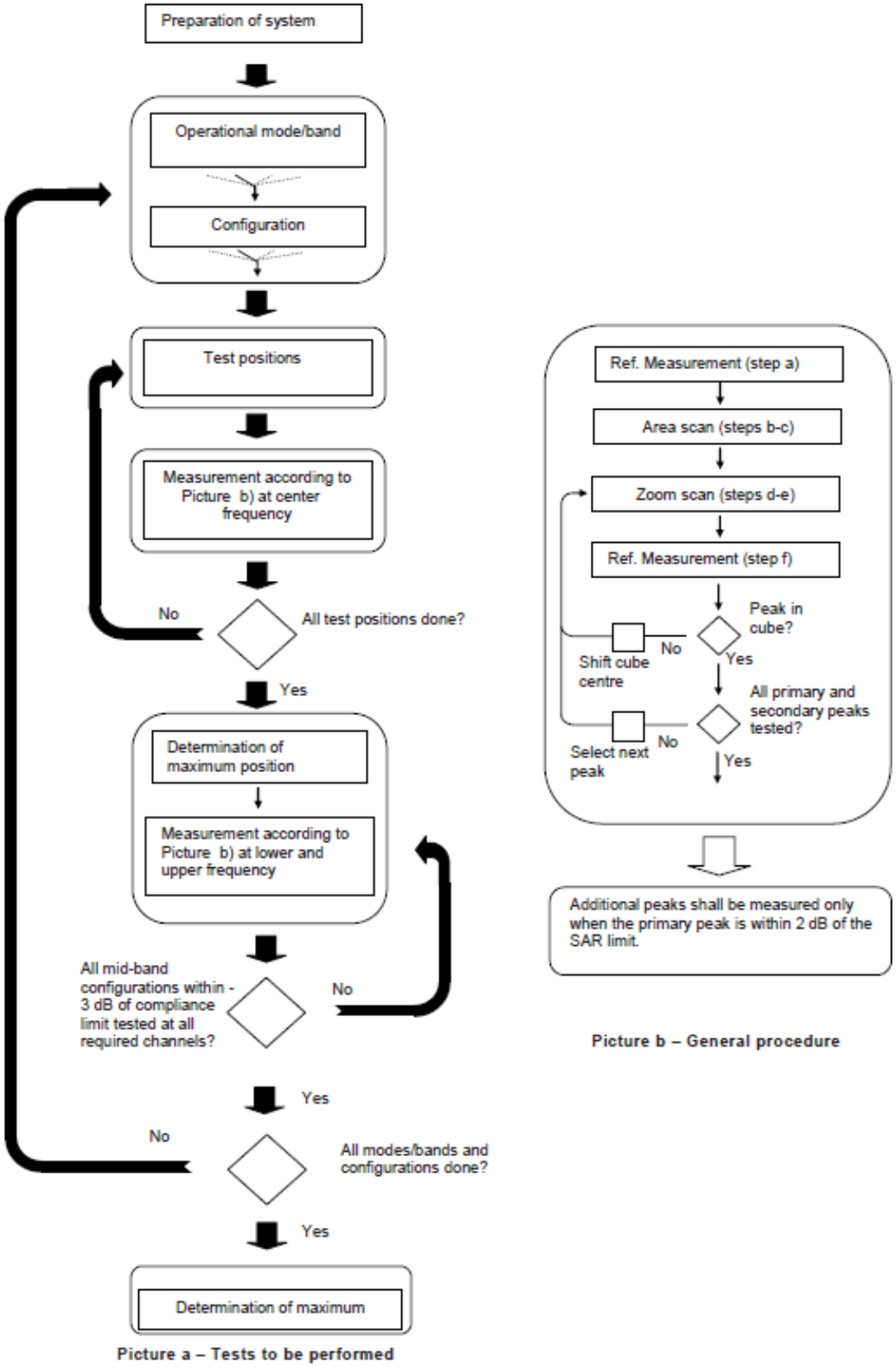
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

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.

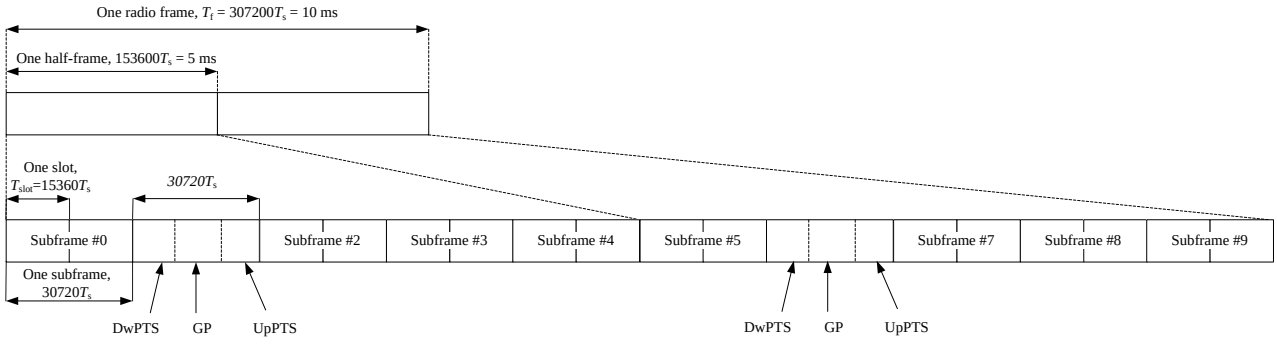


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

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: Summary of Receiver detection mechanism

Antenna	Receiver on (head scenario)	Receiver off + Hotspot off (Body scenario)	Receiver off + Hotspot on (Hotspot scenario)
Main Antenna/ Wifi Antenna	Power Level A1	Power Level B1	Power Level C1

For WWAN, when the phone is in head mode and receiver off, then power reduction will be implemented immediately at WCDMA B5 and LTEB5/B12/B13/B26. When the phone is in body worn mode, receiver off and hotspot off, then power reduction will be implemented immediately at WCDMA B2/B4 and LTEB2/B4/B7/B66. When the phone hotspot worked, then power reduction will be implemented immediately at GSM1900, WCDMA B2/B4 and LTEB2/B4/B7/B66.

For WiFi, when the phone is in head mode and receiver off, then power reduction will be implemented immediately at WiFi2.4G. When the phone is in body worn mode, receiver off and hotspot off, then power reduction will be implemented immediately at WiFi5G. When the phone hotspot worked, then power reduction will be implemented immediately at WiFi5G.

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-Normal power

GSM 850	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	251	190	128			251	190	128
1 Txslot	32.66	32.81	32.65	33.50	/	/	/	/
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	251	190	128			251	190	128
1 Txslot	32.61	32.75	32.58	33.50	-9.03	23.58	23.72	23.55
2 Txslots	30.07	30.29	30.08	32.00	-6.02	24.05	24.27	24.06
3Txslots	28.74	28.96	28.73	30.00	-4.26	24.48	24.70	24.47
4 Txslots	27.24	27.48	27.28	29.00	-3.01	24.23	24.47	24.27
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	251	190	128			251	190	128
1 Txslot	32.56	32.71	32.52	33.50	-9.03	23.53	23.68	23.49
2 Txslots	30.00	30.23	30.00	32.00	-6.02	23.98	24.21	23.98
3 Txslots	28.67	28.91	28.66	30.00	-4.26	24.41	24.65	24.40
4 Txslots	27.17	27.40	27.18	29.00	-3.01	24.16	24.39	24.17
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	251	190	128			251	190	128
1 Txslot	25.09	25.64	25.65	27.00	-9.03	16.06	16.61	16.62
2 Txslots	23.25	23.80	23.90	25.00	-6.02	17.23	17.78	17.88
3Txslots	22.03	22.32	22.59	23.50	-4.26	17.77	18.06	18.33
4 Txslots	21.35	21.42	21.53	23.00	-3.01	18.34	18.41	18.52
PCS1900	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	810	661	512			810	661	512
1 Txslot	28.25	28.03	28.00	30.00	/	/	/	/
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	810	661	512			810	661	512
1 Txslot	28.28	28.00	27.95	30.00	-9.03	19.25	18.97	18.92
2 Txslots	26.91	26.60	26.53	27.50	-6.02	20.89	20.58	20.51
3 Txslots	24.70	24.40	24.21	25.50	-4.26	20.44	20.14	19.95
4 Txslots	23.49	23.30	23.12	24.50	-3.01	20.48	20.29	20.11
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	810	661	512			810	661	512
1 Txslot	28.35	28.06	28.01	30.00	-9.03	19.32	19.03	18.98
2 Txslots	26.98	26.67	26.58	27.50	-6.02	20.96	20.65	20.56

3 Txslots	24.75	24.44	24.26	25.50	-4.26	20.49	20.18	20.00
4 Txslots	23.55	23.35	23.16	24.50	-3.01	20.54	20.34	20.15
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	810	661	512			810	661	512
1 Txslot	24.22	23.91	23.97	25.50	-9.03	15.19	14.88	14.94
2 Txslots	22.38	22.75	22.05	23.50	-6.02	16.36	16.73	16.03
3Txslots	21.05	20.92	20.70	22.50	-4.26	16.79	16.66	16.44
4 Txslots	19.89	19.55	19.50	20.50	-3.01	16.88	16.54	16.49

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 3Txslots for GSM850 and 2Txslots for GSM1900.

Table 11.1-2: The conducted power measurement results-Power Level C1

PCS1900	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	810	661	512			810	661	512
1 Txslot	25.53	25.33	25.26	26.20	/	/	/	/
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	810	661	512			810	661	512
1 Txslot	25.67	25.30	25.23	26.20	-9.03	16.64	16.27	16.20
2 Txslots	22.39	22.18	22.01	23.50	-6.02	16.37	16.16	15.99
3 Txslots	21.26	20.99	20.80	22.70	-4.26	17.00	16.73	16.54
4 Txslots	20.12	19.86	19.72	21.00	-3.01	17.11	16.85	16.71
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	810	661	512			810	661	512
1 Txslot	25.58	25.34	25.26	26.20	-9.03	16.55	16.31	16.23
2 Txslots	22.31	22.12	21.96	23.50	-6.02	16.29	16.10	15.94
3 Txslots	21.19	20.95	20.76	22.70	-4.26	16.93	16.69	16.50
4 Txslots	20.05	19.82	19.74	21.00	-3.01	17.04	16.81	16.73
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	810	661	512			810	661	512
1 Txslot	24.37	24.12	24.01	25.50	-9.03	15.34	15.09	14.98
2 Txslots	22.59	22.34	22.23	23.50	-6.02	16.57	16.32	16.21
3Txslots	21.27	21.05	20.91	22.50	-4.26	17.01	16.79	16.65
4 Txslots	19.95	19.74	19.61	20.50	-3.01	16.94	16.73	16.60

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-Normal Power

WCDMA850	**FDDV result (dBm)**			**Tune up**
	4233/4458	**4183/4408**	**4132/4357**	
	(846.6MHz)	**(836.6MHz)**	**(826.4MHz)**	
	22.99	23.03	22.89	23.80
HSUPA	21.08	21.10	21.03	22.80
	19.04	19.02	18.98	20.00
	19.95	19.98	19.98	20.00
	18.98	18.98	18.88	20.00
	21.06	21.09	21.02	22.80
DC-HSDPA	21.96	21.98	21.87	22.80
	21.95	21.96	21.88	22.80
	21.46	21.45	21.42	22.80
	21.44	21.46	21.40	22.80
WCDMA1900	**FDDII result (dBm)**			**Tune up**
	9538/9938	**9400/9800**	**9262/9662**	
	(1907.6MHz)	**(1880MHz)**	**(1852.4MHz)**	
	22.74	22.75	22.85	23.80
HSUPA	20.87	20.86	20.96	22.80
	18.90	18.83	18.90	20.00
	19.79	19.91	19.89	20.00
	18.89	18.64	18.91	20.00
	20.90	20.81	20.83	22.80
DC-HSDPA	21.69	21.68	21.73	22.80
	21.66	21.69	21.75	22.80
	21.22	21.18	21.27	22.80
	21.20	21.20	21.21	22.80
WCDMA1700	**FDDIV result (dBm)**			**Tune up**
	1513/1738	**1412/1637**	**1312/1537**	
	(1752.6MHz)	**(1732.4MHz)**	**(1712.4MHz)**	
	22.73	22.69	22.82	23.80

HSUPA	20.86	20.83	20.96	22.80
	18.78	18.92	19.00	20.00
	19.80	19.80	19.98	20.00
	18.77	18.80	18.96	20.00
	20.80	20.83	20.94	22.80
DC-HSDPA	21.62	21.60	21.79	22.80
	21.62	21.61	21.78	22.80
	21.13	21.12	21.28	22.80
	21.10	21.13	21.29	22.80

Table 11.2-2: 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)	
	20.98	21.01	20.96	21.50
HSUPA	20.08	19.97	19.92	20.50
	17.93	18.06	17.94	19.50
	18.99	18.96	18.75	19.50
	18.02	18.00	17.92	19.50
	19.49	19.42	19.47	19.50
DC-HSDPA	20.70	20.68	20.68	20.50
	19.33	19.39	19.36	20.50
	18.89	18.90	18.85	20.50
	18.78	18.88	18.85	20.50

Table 11.2-3: The conducted Power for WCDMA- Power Level B1/C1

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	17.58	17.63	17.72	18.50
HSUPA	16.57	16.60	16.65	17.50
	14.61	14.59	14.59	15.50
	14.76	14.85	14.91	15.50
	13.80	13.86	13.89	15.50
	15.80	15.82	15.86	17.50
DC-HSDPA	16.72	16.63	16.65	17.50
	15.88	15.77	15.93	17.50
	16.10	16.13	16.10	17.50
	16.12	16.13	16.27	17.50
WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	17.63	17.54	17.69	18.30
HSUPA	16.57	16.48	16.67	17.30
	14.55	14.57	14.74	15.30
	14.80	14.73	14.92	15.30
	13.83	13.77	13.90	15.30
	15.74	15.73	15.90	17.30
DC-HSDPA	16.60	16.53	16.73	17.30
	15.77	15.78	15.92	17.30
	16.12	16.04	16.25	17.30
	16.19	16.20	16.16	17.30

11.3 LTE Measurement result

Maximum Target Power for Production Unit – Power Level A1/B1/C1

Band	Tune up (dBm)			
	Normal power	Level A1	Level B1	Level C1
Band 2	23.8	/	18.5	18.5
Band 7	24.5	/	18	18
Band 12	23.5	20.5	/	/
Band 13	23.5	20.5	/	/
Band 26	23.8	21.5	/	/
Band 66	23.8	/	18	18

Normal power:

LTE Band2-Normal Power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1909.3 (19193)	22.90	21.75	21.43
		1880 (18900)	22.83	21.96	21.59
		1850.7 (18607)	22.98	22.30	21.65
	1RB-Middle (3)	1909.3 (19193)	22.86	21.81	21.56
		1880 (18900)	22.78	22.04	21.79
		1850.7 (18607)	22.76	22.36	21.65
	1RB-Low (0)	1909.3 (19193)	22.44	21.74	21.49
		1880 (18900)	22.43	21.96	21.58
		1850.7 (18607)	22.95	22.33	21.70
	3RB-High (3)	1909.3 (19193)	22.81	21.90	21.48
		1880 (18900)	22.84	21.96	21.55
		1850.7 (18607)	22.83	22.14	21.62
	3RB-Middle (1)	1909.3 (19193)	22.90	21.99	21.61
		1880 (18900)	22.86	21.99	21.64
		1850.7 (18607)	22.90	22.22	21.75
	3RB-Low (0)	1909.3 (19193)	22.84	21.92	21.48
		1880 (18900)	22.85	21.99	21.57
		1850.7 (18607)	22.84	22.21	21.66
	6RB (0)	1909.3 (19193)	21.77	20.95	20.44
		1880 (18900)	21.78	21.03	20.51
		1850.7 (18607)	21.76	20.85	20.53
3MHz	1RB-High (14)	1908.5 (19185)	22.86	21.76	21.63
		1880 (18900)	22.97	21.82	21.64
		1851.5 (18615)	22.99	22.34	21.68
	1RB-Middle (7)	1908.5 (19185)	22.95	21.90	21.71
		1880 (18900)	23.06	21.96	21.65
		1851.5 (18615)	23.14	22.46	21.62
	1RB-Low (0)	1908.5 (19185)	22.99	21.86	21.66
		1880 (18900)	22.93	21.83	21.61
		1851.5 (18615)	22.87	22.38	21.65
	8RB-High (7)	1908.5 (19185)	21.89	20.84	20.50
		1880 (18900)	21.89	21.11	20.54
		1851.5 (18615)	21.87	21.13	20.60
	8RB-Middle (4)	1908.5 (19185)	21.94	20.96	20.50
		1880 (18900)	21.91	21.12	20.58
		1851.5 (18615)	21.90	21.15	20.63
	8RB-Low (0)	1908.5 (19185)	21.93	20.87	20.46
		1880 (18900)	21.93	21.11	20.58
		1851.5 (18615)	21.88	21.14	20.64
	15RB (0)	1908.5 (19185)	21.90	20.84	20.48
		1880 (18900)	21.88	21.03	20.53
		1851.5 (18615)	21.87	21.06	20.63

5MHz	1RB-High (24)	1907.5 (19175)	22.74	21.89	21.56
		1880 (18900)	22.84	22.12	21.67
		1852.5 (18625)	22.99	22.50	21.72
	1RB-Middle (12)	1907.5 (19175)	22.77	21.93	21.63
		1880 (18900)	22.90	22.14	21.68
		1852.5 (18625)	23.00	22.43	21.74
	1RB-Low (0)	1907.5 (19175)	22.76	21.93	21.48
		1880 (18900)	22.89	22.12	21.79
		1852.5 (18625)	22.97	22.43	21.71
	12RB-High (13)	1907.5 (19175)	21.79	20.91	20.47
		1880 (18900)	21.90	21.06	20.60
		1852.5 (18625)	21.94	21.18	20.69
	12RB-Middle (6)	1907.5 (19175)	21.81	20.97	20.55
		1880 (18900)	21.94	21.09	20.65
		1852.5 (18625)	21.95	21.24	20.70
	12RB-Low (0)	1907.5 (19175)	21.81	20.93	20.49
		1880 (18900)	21.91	21.06	20.66
		1852.5 (18625)	21.95	21.21	20.67
	25RB (0)	1907.5 (19175)	21.80	20.82	20.42
		1880 (18900)	21.89	21.01	20.59
		1852.5 (18625)	21.95	21.09	20.60
10MHz	1RB-High (49)	1905 (19150)	22.81	21.77	21.64
		1880 (18900)	23.03	21.87	21.69
		1855 (18650)	23.03	22.36	21.67
	1RB-Middle (24)	1905 (19150)	22.85	21.84	21.66
		1880 (18900)	23.01	21.86	21.68
		1855 (18650)	23.04	22.37	21.76
	1RB-Low (0)	1905 (19150)	22.88	21.87	21.62
		1880 (18900)	22.85	21.86	21.65
		1855 (18650)	22.92	22.33	21.73
	25RB-High (25)	1905 (19150)	21.88	20.92	20.49
		1880 (18900)	21.91	21.05	20.63
		1855 (18650)	21.91	21.08	20.65
	25RB-Middle (12)	1905 (19150)	21.91	21.03	20.49
		1880 (18900)	21.96	21.07	20.64
		1855 (18650)	21.93	21.14	20.69
	25RB-Low (0)	1905 (19150)	21.89	20.98	20.46
		1880 (18900)	21.90	21.04	20.58
		1855 (18650)	21.92	21.10	20.69
	50RB (0)	1905 (19150)	21.95	20.91	20.46
		1880 (18900)	21.96	21.00	20.59
		1855 (18650)	21.90	21.12	20.64

15MHz	1RB-High (74)	1902.5 (19125)	22.75	22.07	21.59
		1880 (18900)	22.87	22.25	21.75
		1857.5 (18675)	22.90	21.86	21.76
	1RB-Middle (37)	1902.5 (19125)	22.86	22.25	21.64
		1880 (18900)	23.01	22.36	21.64
		1857.5 (18675)	23.08	21.90	21.68
	1RB-Low (0)	1902.5 (19125)	22.85	22.30	21.62
		1880 (18900)	23.04	22.36	21.80
		1857.5 (18675)	23.09	21.93	21.72
	36RB-High (38)	1902.5 (19125)	21.82	21.00	20.52
		1880 (18900)	22.00	21.03	20.67
		1857.5 (18675)	22.01	21.06	20.68
	36RB-Middle (19)	1902.5 (19125)	21.75	20.93	20.60
		1880 (18900)	21.99	21.02	20.69
		1857.5 (18675)	22.08	21.06	20.72
	36RB-Low (0)	1902.5 (19125)	21.74	20.92	20.56
		1880 (18900)	21.97	20.99	20.65
		1857.5 (18675)	21.98	21.04	20.67
	75RB (0)	1902.5 (19125)	21.82	20.88	20.46
		1880 (18900)	22.00	21.04	20.61
		1857.5 (18675)	22.03	21.07	20.67
20MHz	1RB-High (99)	1900 (19100)	22.58	21.96	21.63
		1880 (18900)	22.74	22.17	21.68
		1860 (18700)	22.81	22.35	21.67
	1RB-Middle (50)	1900 (19100)	22.67	22.04	21.62
		1880 (18900)	22.84	22.26	21.74
		1860 (18700)	22.91	22.46	21.74
	1RB-Low (0)	1900 (19100)	22.56	22.05	21.66
		1880 (18900)	22.83	22.20	21.72
		1860 (18700)	22.85	22.39	21.77
	50RB-High (50)	1900 (19100)	21.61	20.71	20.55
		1880 (18900)	21.83	20.88	20.60
		1860 (18700)	21.85	20.95	20.61
	50RB-Middle (25)	1900 (19100)	21.66	20.79	20.53
		1880 (18900)	21.90	20.97	20.64
		1860 (18700)	21.92	21.03	20.72
	50RB-Low (0)	1900 (19100)	21.60	20.74	20.49
		1880 (18900)	21.87	20.95	20.61
		1860 (18700)	21.90	21.01	20.68
	100RB (0)	1900 (19100)	21.63	20.68	20.55
		1880 (18900)	21.82	20.97	20.66
		1860 (18700)	21.89	21.03	20.62

LTE Band7-Normal Power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2567.5 (21425)	23.27	22.48	22.20
		2535 (21100)	23.12	22.40	22.13
		2502.5 (20775)	23.21	22.79	22.13
	1RB-Middle (12)	2567.5 (21425)	23.28	22.39	22.34
		2535 (21100)	23.17	22.42	22.06
		2502.5 (20775)	23.21	22.75	22.24
	1RB-Low (0)	2567.5 (21425)	23.20	22.37	22.26
		2535 (21100)	23.09	22.36	22.06
		2502.5 (20775)	23.19	22.73	22.21
	12RB-High (13)	2567.5 (21425)	22.31	21.41	21.18
		2535 (21100)	22.21	21.35	20.97
		2502.5 (20775)	22.25	21.50	21.18
	12RB-Middle (6)	2567.5 (21425)	22.28	21.44	21.19
		2535 (21100)	22.24	21.38	21.04
		2502.5 (20775)	22.27	21.50	21.23
	12RB-Low (0)	2567.5 (21425)	22.24	21.37	21.13
		2535 (21100)	22.20	21.38	20.96
		2502.5 (20775)	22.21	21.46	21.13
	25RB (0)	2567.5 (21425)	22.24	21.29	21.11
		2535 (21100)	22.20	21.31	20.95
		2502.5 (20775)	22.22	21.41	21.12
10MHz	1RB-High (49)	2565 (21400)	23.39	22.36	22.29
		2535 (21100)	23.29	22.16	22.14
		2505 (20800)	23.32	22.67	22.22
	1RB-Middle (24)	2565 (21400)	23.29	22.31	22.25
		2535 (21100)	23.22	22.16	22.12
		2505 (20800)	23.25	22.62	22.17
	1RB-Low (0)	2565 (21400)	23.18	22.26	22.26
		2535 (21100)	23.21	22.11	22.20
		2505 (20800)	23.17	22.58	22.28
	25RB-High (25)	2565 (21400)	22.24	21.45	21.15
		2535 (21100)	22.21	21.33	21.00
		2505 (20800)	22.22	21.39	21.12
	25RB-Middle (12)	2565 (21400)	22.26	21.44	21.16
		2535 (21100)	22.25	21.35	21.03
		2505 (20800)	22.19	21.38	21.09
	25RB-Low (0)	2565 (21400)	22.19	21.37	21.12
		2535 (21100)	22.18	21.27	20.94
		2505 (20800)	22.18	21.35	21.12
	50RB (0)	2565 (21400)	22.23	21.35	21.18
		2535 (21100)	22.24	21.30	21.00
		2505 (20800)	22.20	21.41	21.09

15MHz	1RB-High (74)	2562.5 (21375)	23.33	22.79	22.25
		2535 (21100)	23.20	22.20	22.20
		2507.5 (20825)	23.33	22.72	22.29
	1RB-Middle (37)	2562.5 (21375)	23.22	22.67	22.23
		2535 (21100)	23.15	22.11	22.09
		2507.5 (20825)	23.27	22.66	22.26
	1RB-Low (0)	2562.5 (21375)	23.20	22.65	22.26
		2535 (21100)	23.17	22.16	22.23
		2507.5 (20825)	23.31	22.65	22.20
	36RB-High (38)	2562.5 (21375)	22.29	21.35	21.18
		2535 (21100)	22.25	21.34	21.05
		2507.5 (20825)	22.24	21.40	21.17
	36RB-Middle (19)	2562.5 (21375)	22.25	21.34	21.11
		2535 (21100)	22.27	21.32	21.05
		2507.5 (20825)	22.28	21.44	21.16
	36RB-Low (0)	2562.5 (21375)	22.22	21.28	21.08
		2535 (21100)	22.23	21.33	21.01
		2507.5 (20825)	22.24	21.37	21.14
	75RB (0)	2562.5 (21375)	22.19	21.30	21.04
		2535 (21100)	22.20	21.32	21.00
		2507.5 (20825)	22.24	21.35	21.10
20MHz	1RB-High (99)	2560 (21350)	23.22	22.73	22.14
		2535 (21100)	23.18	22.68	22.20
		2510 (20850)	23.14	22.77	22.34
	1RB-Middle (50)	2560 (21350)	23.17	22.63	22.15
		2535 (21100)	23.16	22.62	22.09
		2510 (20850)	23.17	22.82	22.14
	1RB-Low (0)	2560 (21350)	23.06	22.66	22.32
		2535 (21100)	23.16	22.61	22.15
		2510 (20850)	23.18	22.70	22.32
	50RB-High (50)	2560 (21350)	22.24	21.37	21.45
		2535 (21100)	22.27	21.35	21.01
		2510 (20850)	22.27	21.42	21.06
	50RB-Middle (25)	2560 (21350)	22.26	21.34	21.45
		2535 (21100)	22.30	21.35	21.05
		2510 (20850)	22.33	21.42	21.11
	50RB-Low (0)	2560 (21350)	22.20	21.30	21.15
		2535 (21100)	22.25	21.33	21.04
		2510 (20850)	22.23	21.38	21.13
	100RB (0)	2560 (21350)	22.17	21.33	21.05
		2535 (21100)	22.29	21.34	20.98
		2510 (20850)	22.24	21.38	21.11

LTE Band12-Power Level A1					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	715.3	22.82	20.51	20.03
		707.5	22.92	20.81	20.19
		699.7	22.85	20.51	20.14
	1RB-Middle (3)	715.3	22.88	20.54	20.06
		707.5	22.99	20.94	20.24
		699.7	22.92	20.55	20.25
	1RB-Low (0)	715.3	22.82	20.51	20.12
		707.5	22.93	20.83	20.23
		699.7	22.86	20.50	20.22
	3RB-High (3)	715.3	22.79	20.52	20.02
		707.5	22.90	20.72	20.06
		699.7	22.90	20.73	20.11
	3RB-Middle (1)	715.3	22.88	20.60	19.97
		707.5	22.95	20.79	20.18
		699.7	22.94	20.79	20.15
	3RB-Low (0)	715.3	22.82	20.53	20.01
		707.5	22.89	20.73	20.11
		699.7	22.86	20.74	20.11
	6RB (0)	715.3	20.76	20.49	19.85
		707.5	20.79	20.33	19.93
		699.7	20.79	20.58	19.94
3MHz	1RB-High (14)	714.5	22.99	20.81	20.52
		707.5	22.88	20.54	20.22
		700.5	22.94	20.55	20.27
	1RB-Middle (7)	714.5	23.07	20.86	20.34
		707.5	23.07	20.65	20.31
		700.5	23.02	20.52	20.38
	1RB-Low (0)	714.5	22.99	20.79	20.04
		707.5	22.95	20.59	20.25
		700.5	22.94	20.54	20.24
	8RB-High (7)	714.5	20.90	20.47	19.94
		707.5	20.91	20.56	20.05
		700.5	20.89	20.63	20.12
	8RB-Middle (4)	714.5	20.96	20.56	20.02
		707.5	20.98	20.64	20.10
		700.5	20.97	20.66	20.17
	8RB-Low (0)	714.5	20.90	20.55	20.00
		707.5	20.98	20.56	20.14
		700.5	20.91	20.65	20.15
	15RB (0)	714.5	20.95	20.56	19.97
		707.5	20.96	20.49	20.03
		700.5	20.90	20.57	20.09

5MHz	1RB-High (24)	713.5	22.95	20.59	20.09
		707.5	22.87	21.06	20.07
		701.5	23.00	20.66	20.32
	1RB-Middle (12)	713.5	22.97	20.62	20.18
		707.5	22.89	21.08	20.25
		701.5	22.94	20.61	20.29
	1RB-Low (0)	713.5	22.96	20.65	20.25
		707.5	22.93	21.06	20.23
		701.5	22.99	20.65	20.31
	12RB-High (13)	713.5	20.87	20.57	19.99
		707.5	20.92	20.71	20.10
		701.5	21.01	20.71	20.16
	12RB-Middle (6)	713.5	20.93	20.59	20.11
		707.5	20.96	20.72	20.13
		701.5	20.96	20.63	20.09
	12RB-Low (0)	713.5	20.92	20.63	20.05
		707.5	21.02	20.75	20.11
		701.5	20.97	20.66	20.18
	25RB (0)	713.5	20.93	20.57	19.97
		707.5	20.96	20.63	20.02
		701.5	21.06	20.63	20.14
10MHz	1RB-High (49)	711	22.88	22.23	21.02
		707.5	22.83	21.96	20.13
		704	22.92	21.91	20.21
	1RB-Middle (24)	711	22.89	22.39	21.21
		707.5	22.88	22.03	20.23
		704	22.95	21.91	20.28
	1RB-Low (0)	711	22.92	22.35	21.14
		707.5	22.85	21.89	20.26
		704	22.87	21.92	20.34
	25RB-High (25)	711	21.91	21.08	20.46
		707.5	21.98	21.17	20.10
		704	22.02	21.12	20.08
	25RB-Middle (12)	711	21.92	21.13	20.13
		707.5	22.00	21.17	20.14
		704	22.03	21.12	20.15
	25RB-Low (0)	711	21.99	21.11	20.14
		707.5	21.96	21.14	20.12
		704	22.04	21.15	20.19
	50RB (0)	711	21.93	21.11	20.12
		707.5	21.97	21.11	20.11
		704	22.02	21.13	20.19

LTE Band13-Normal Power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	784.5 (23255)	23.07	20.56	20.06
		782 (23230)	22.87	20.61	20.17
		779.5 (23205)	22.96	21.01	20.18
	1RB-Middle (12)	784.5 (23255)	23.04	20.50	20.24
		782 (23230)	22.91	20.65	20.23
		779.5 (23205)	22.88	21.00	20.16
	1RB-Low (0)	784.5 (23255)	22.92	20.54	20.24
		782 (23230)	22.93	20.66	20.25
		779.5 (23205)	22.92	20.98	20.14
	12RB-High (13)	784.5 (23255)	20.92	20.52	20.14
		782 (23230)	20.91	20.59	20.07
		779.5 (23205)	20.95	20.70	20.05
	12RB-Middle (6)	784.5 (23255)	20.86	20.52	20.09
		782 (23230)	20.98	20.65	20.11
		779.5 (23205)	21.00	20.77	20.16
	12RB-Low (0)	784.5 (23255)	20.83	20.53	20.07
		782 (23230)	20.96	20.64	20.11
		779.5 (23205)	20.90	20.63	20.00
	25RB (0)	784.5 (23255)	20.81	20.40	19.99
		782 (23230)	20.96	20.58	20.01
		779.5 (23205)	20.97	20.63	20.05
10MHz	1RB-High (49)	782 (23230)	23.09	21.79	20.09
	1RB-Middle (24)	782 (23230)	22.88	21.83	20.18
	1RB-Low (0)	782 (23230)	22.89	21.75	20.16
	25RB-High (25)	782 (23230)	21.96	21.01	19.96
	25RB-Middle (12)	782 (23230)	21.97	21.11	20.06
	25RB-Low (0)	782 (23230)	22.02	21.09	20.09
	50RB (0)	782 (23230)	21.95	21.04	20.01

LTE Band26-Normal Power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	848.3 (27033)	22.80	21.72	21.78
		831.5 (26865)	23.08	22.12	21.54
		814.7 (26697)	22.88	22.21	21.30
	1RB-Middle (3)	848.3 (27033)	22.81	21.77	21.43
		831.5 (26865)	23.10	22.18	21.72
		814.7 (26697)	22.91	22.26	21.47
	1RB-Low (0)	848.3 (27033)	22.79	21.77	21.40
		831.5 (26865)	23.08	22.12	21.63
		814.7 (26697)	22.89	22.23	21.43
	3RB-High (3)	848.3 (27033)	22.68	21.93	21.33
		831.5 (26865)	23.01	22.17	21.54
		814.7 (26697)	22.88	22.06	21.41
	3RB-Middle (1)	848.3 (27033)	22.73	22.00	21.35
		831.5 (26865)	23.05	22.20	21.69
		814.7 (26697)	22.90	22.13	21.43
	3RB-Low (0)	848.3 (27033)	22.67	21.92	21.44
		831.5 (26865)	22.99	22.13	21.59
		814.7 (26697)	22.85	22.08	21.40
	6RB (0)	848.3 (27033)	21.83	20.98	20.25
		831.5 (26865)	22.00	21.17	20.50
		814.7 (26697)	21.82	20.79	20.23
3MHz	1RB-High (14)	847.5 (27025)	22.86	22.14	21.46
		831.5 (26865)	23.04	22.10	21.73
		815.5 (26705)	23.06	22.07	20.60
	1RB-Middle (7)	847.5 (27025)	22.94	22.26	21.72
		831.5 (26865)	23.15	22.22	21.80
		815.5 (26705)	23.12	22.20	20.61
	1RB-Low (0)	847.5 (27025)	22.82	22.22	21.59
		831.5 (26865)	23.06	22.16	21.67
		815.5 (26705)	23.09	22.17	20.58
	8RB-High (7)	847.5 (27025)	21.87	20.91	20.41
		831.5 (26865)	22.03	21.16	20.63
		815.5 (26705)	22.03	21.12	20.59
	8RB-Middle (4)	847.5 (27025)	21.89	21.01	20.43
		831.5 (26865)	22.06	21.22	20.69
		815.5 (26705)	22.06	21.24	20.67
	8RB-Low (0)	847.5 (27025)	21.87	20.97	20.41
		831.5 (26865)	22.07	21.23	20.63
		815.5 (26705)	22.05	21.19	20.64
	15RB (0)	847.5 (27025)	21.86	20.94	20.44
		831.5 (26865)	22.07	21.10	20.57
		815.5 (26705)	22.07	21.08	20.59

5MHz	1RB-High (24)	846.5 (27015)	22.98	21.92	21.39
		831.5 (26865)	22.99	22.54	21.71
		816.5 (26715)	23.00	22.06	21.55
	1RB-Middle (12)	846.5 (27015)	22.97	22.00	21.56
		831.5 (26865)	23.05	22.63	21.77
		816.5 (26715)	22.95	22.00	21.56
	1RB-Low (0)	846.5 (27015)	22.97	22.07	21.51
		831.5 (26865)	22.93	22.50	21.71
		816.5 (26715)	22.97	22.01	21.58
	12RB-High (13)	846.5 (27015)	21.84	20.99	20.40
		831.5 (26865)	22.07	21.27	20.58
		816.5 (26715)	21.99	21.09	20.41
	12RB-Middle (6)	846.5 (27015)	21.89	21.03	20.51
		831.5 (26865)	22.10	21.32	20.67
		816.5 (26715)	21.96	21.06	20.35
	12RB-Low (0)	846.5 (27015)	21.91	21.05	20.47
		831.5 (26865)	22.11	21.32	20.66
		816.5 (26715)	21.96	21.07	20.46
	25RB (0)	846.5 (27015)	21.87	20.96	20.42
		831.5 (26865)	22.10	21.21	20.60
		816.5 (26715)	21.98	20.99	20.44
10MHz	1RB-High (49)	844 (26990)	22.88	21.67	21.38
		831.5 (26865)	23.02	22.33	21.62
		820 (26750)	23.05	22.09	21.55
	1RB-Middle (24)	844 (26990)	22.86	21.82	21.60
		831.5 (26865)	23.09	22.46	21.70
		820 (26750)	22.91	21.99	21.54
	1RB-Low (0)	844 (26990)	22.95	21.82	21.55
		831.5 (26865)	23.01	22.37	21.72
		820 (26750)	22.87	21.89	21.62
	25RB-High (25)	844 (26990)	21.85	20.96	20.40
		831.5 (26865)	22.04	21.13	20.58
		820 (26750)	22.00	21.16	20.40
	25RB-Middle (12)	844 (26990)	21.93	21.01	20.46
		831.5 (26865)	22.09	21.19	20.61
		820 (26750)	22.09	21.25	20.50
	25RB-Low (0)	844 (26990)	21.94	20.98	20.48
		831.5 (26865)	22.12	21.24	20.63
		820 (26750)	21.97	21.13	20.45
	50RB (0)	844 (26990)	21.90	20.95	20.41
		831.5 (26865)	22.08	21.16	20.57
		820 (26750)	22.09	21.18	20.51

15MHz	1RB-High (74)	841.5 (26965)	22.82	22.13	21.38
		831.5 (26865)	22.95	22.24	21.48
		822.5 (26775)	22.92	21.88	21.72
	1RB-Middle (37)	841.5 (26965)	22.95	22.28	21.61
		831.5 (26865)	23.08	22.42	21.77
		822.5 (26775)	22.89	21.83	21.64
	1RB-Low (0)	841.5 (26965)	23.05	22.36	21.74
		831.5 (26865)	23.02	22.31	21.73
		822.5 (26775)	22.80	21.72	21.58
	36RB-High (38)	841.5 (26965)	21.91	20.99	20.41
		831.5 (26865)	22.03	21.07	20.55
		822.5 (26775)	22.10	21.15	20.60
	36RB-Middle (19)	841.5 (26965)	21.96	21.09	20.55
		831.5 (26865)	22.08	21.10	20.65
		822.5 (26775)	22.07	21.13	20.61
	36RB-Low (0)	841.5 (26965)	21.93	21.07	20.55
		831.5 (26865)	21.97	21.08	20.62
		822.5 (26775)	21.87	20.93	20.45
	75RB (0)	841.5 (26965)	21.88	20.99	20.48
		831.5 (26865)	22.09	21.15	20.61
		822.5 (26775)	21.99	21.06	20.55

LTE Band66-Normal Power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1779.3 (132665)	22.94	22.61	21.72
		1745 (132322)	23.03	22.11	21.61
		1710.7 (131979)	22.96	22.04	21.54
	1RB-Middle (3)	1779.3 (132665)	22.98	22.70	21.80
		1745 (132322)	23.08	22.16	21.60
		1710.7 (131979)	23.00	22.16	21.49
	1RB-Low (0)	1779.3 (132665)	22.92	22.61	21.76
		1745 (132322)	23.06	22.07	21.59
		1710.7 (131979)	23.00	22.07	21.54
	3RB-High (3)	1779.3 (132665)	22.91	22.48	21.74
		1745 (132322)	23.04	22.29	21.53
		1710.7 (131979)	22.88	22.06	21.51
	3RB-Middle (1)	1779.3 (132665)	22.94	22.53	21.79
		1745 (132322)	23.06	22.33	21.58
		1710.7 (131979)	22.95	22.11	21.48
	3RB-Low (0)	1779.3 (132665)	23.00	22.48	21.73
		1745 (132322)	23.00	22.25	21.53
		1710.7 (131979)	22.88	22.06	21.48
	6RB (0)	1779.3 (132665)	22.01	21.19	20.64
		1745 (132322)	21.95	21.26	20.39
		1710.7 (131979)	21.90	21.16	20.38
3MHz	1RB-High (14)	1778.5 (132657)	23.06	22.32	21.74
		1745 (132322)	22.98	21.95	21.58
		1711.5 (131987)	22.99	22.37	21.50
	1RB-Middle (7)	1778.5 (132657)	23.23	22.44	21.80
		1745 (132322)	23.12	22.13	21.71
		1711.5 (131987)	23.09	22.52	21.66
	1RB-Low (0)	1778.5 (132657)	23.21	22.33	21.78
		1745 (132322)	23.02	21.96	21.54
		1711.5 (131987)	23.00	22.41	21.57
	8RB-High (7)	1778.5 (132657)	22.24	21.35	20.75
		1745 (132322)	22.02	21.23	20.56
		1711.5 (131987)	22.01	21.13	20.46
	8RB-Middle (4)	1778.5 (132657)	22.30	21.41	20.79
		1745 (132322)	22.08	21.29	20.59
		1711.5 (131987)	22.05	21.19	20.52
	8RB-Low (0)	1778.5 (132657)	22.27	21.38	20.74
		1745 (132322)	22.07	21.29	20.51
		1711.5 (131987)	22.02	21.16	20.46
	15RB (0)	1778.5 (132657)	22.24	21.34	20.72
		1745 (132322)	22.08	21.24	20.57
		1711.5 (131987)	22.02	21.17	20.49

5MHz	1RB-High (24)	1777.5 (132647)	23.19	22.37	21.80
		1745 (132322)	23.09	22.27	21.67
		1712.5 (131997)	22.95	22.55	21.45
	1RB-Middle (12)	1777.5 (132647)	23.33	22.42	21.78
		1745 (132322)	23.11	22.29	21.71
		1712.5 (131997)	22.97	22.55	21.60
	1RB-Low (0)	1777.5 (132647)	23.27	22.42	21.79
		1745 (132322)	23.15	22.23	21.79
		1712.5 (131997)	22.94	22.49	21.59
	12RB-High (13)	1777.5 (132647)	22.24	21.38	20.78
		1745 (132322)	22.01	21.21	20.53
		1712.5 (131997)	22.02	21.25	20.56
	12RB-Middle (6)	1777.5 (132647)	22.31	21.47	20.64
		1745 (132322)	22.10	21.30	20.61
		1712.5 (131997)	22.05	21.29	20.59
	12RB-Low (0)	1777.5 (132647)	22.31	21.43	20.79
		1745 (132322)	22.06	21.26	20.56
		1712.5 (131997)	22.05	21.27	20.53
	25RB (0)	1777.5 (132647)	22.25	21.32	20.73
		1745 (132322)	22.09	21.22	20.52
		1712.5 (131997)	22.05	21.17	20.48
10MHz	1RB-High (49)	1775 (132622)	22.87	22.66	21.80
		1745 (132322)	22.88	21.99	21.66
		1715 (132022)	23.07	22.01	21.64
	1RB-Middle (24)	1775 (132622)	22.93	22.67	21.80
		1745 (132322)	23.01	22.12	21.60
		1715 (132022)	22.98	21.95	21.63
	1RB-Low (0)	1775 (132622)	22.89	22.55	21.79
		1745 (132322)	23.02	22.16	21.65
		1715 (132022)	22.98	21.92	21.64
	25RB-High (25)	1775 (132622)	21.93	21.41	20.73
		1745 (132322)	22.04	21.23	20.50
		1715 (132022)	22.13	21.22	20.56
	25RB-Middle (12)	1775 (132622)	21.97	21.34	20.69
		1745 (132322)	22.11	21.28	20.55
		1715 (132022)	22.03	21.16	20.46
	25RB-Low (0)	1775 (132622)	21.96	21.33	20.70
		1745 (132322)	22.06	21.24	20.53
		1715 (132022)	22.05	21.13	20.43
	50RB (0)	1775 (132622)	21.97	21.32	20.67
		1745 (132322)	22.09	21.24	20.53
		1715 (132022)	22.09	21.19	20.56

15MHz	1RB-High (74)	1772.5 (132597)	23.06	22.15	21.76
		1745 (132322)	23.07	22.52	21.74
		1717.5 (132047)	23.05	22.45	21.65
	1RB-Middle (37)	1772.5 (132597)	23.04	22.14	21.80
		1745 (132322)	23.03	22.48	21.63
		1717.5 (132047)	22.99	22.42	21.51
	1RB-Low (0)	1772.5 (132597)	23.05	22.09	21.80
		1745 (132322)	23.03	22.48	21.75
		1717.5 (132047)	22.95	22.39	21.57
	36RB-High (38)	1772.5 (132597)	22.13	21.28	20.69
		1745 (132322)	22.05	21.21	20.57
		1717.5 (132047)	22.10	21.15	20.59
	36RB-Middle (19)	1772.5 (132597)	22.20	21.28	20.73
		1745 (132322)	22.09	21.20	20.62
		1717.5 (132047)	22.11	21.18	20.59
	36RB-Low (0)	1772.5 (132597)	22.18	21.25	20.71
		1745 (132322)	22.08	21.16	20.56
		1717.5 (132047)	21.94	21.03	20.49
	75RB (0)	1772.5 (132597)	22.14	21.23	20.67
		1745 (132322)	22.05	21.17	20.53
		1717.5 (132047)	22.02	21.13	20.57
20MHz	1RB-High (99)	1770 (132572)	22.88	22.48	21.71
		1745 (132322)	22.76	22.31	21.78
		1720 (132072)	22.79	22.37	21.57
	1RB-Middle (50)	1770 (132572)	22.80	22.39	21.79
		1745 (132322)	22.81	22.24	21.71
		1720 (132072)	22.83	22.41	21.70
	1RB-Low (0)	1770 (132572)	22.67	22.31	21.77
		1745 (132322)	22.64	22.13	21.51
		1720 (132072)	22.66	22.24	21.54
	50RB-High (50)	1770 (132572)	21.90	21.08	20.67
		1745 (132322)	21.85	20.95	20.51
		1720 (132072)	21.87	20.97	20.53
	50RB-Middle (25)	1770 (132572)	21.88	21.14	20.74
		1745 (132322)	21.88	20.97	20.57
		1720 (132072)	21.87	20.99	20.57
	50RB-Low (0)	1770 (132572)	21.75	21.03	20.59
		1745 (132322)	21.88	20.94	20.57
		1720 (132072)	21.82	20.99	20.52
	100RB (0)	1770 (132572)	21.86	21.04	20.69
		1745 (132322)	21.81	20.96	20.54
		1720 (132072)	21.86	20.97	20.54

Power level A1：

LTE Band12-Normal Power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	715.3	19.75	19.93	19.66
		707.5	19.90	20.11	19.76
		699.7	19.86	20.34	19.89
	1RB-Middle (3)	715.3	19.80	19.96	19.83
		707.5	19.95	20.18	19.91
		699.7	19.93	20.41	19.93
	1RB-Low (0)	715.3	19.76	19.88	19.78
		707.5	19.92	20.11	19.89
		699.7	19.85	20.38	19.90
	3RB-High (3)	715.3	19.87	20.15	19.69
		707.5	19.95	20.16	19.77
		699.7	19.98	20.25	19.86
	3RB-Middle (1)	715.3	19.87	20.23	19.69
		707.5	19.96	20.15	19.91
		699.7	20.03	20.29	19.90
	3RB-Low (0)	715.3	19.81	20.15	19.67
		707.5	19.94	20.16	19.82
		699.7	19.96	20.29	19.82
	6RB (0)	715.3	19.77	20.07	19.56
		707.5	19.82	20.10	19.69
		699.7	19.78	19.83	19.72
3MHz	1RB-High (14)	714.5	19.79	19.97	19.84
		707.5	19.89	19.89	19.96
		700.5	19.90	20.37	19.93
	1RB-Middle (7)	714.5	19.93	20.08	19.98
		707.5	19.98	20.01	20.06
		700.5	20.03	20.50	20.06
	1RB-Low (0)	714.5	19.84	20.02	19.76
		707.5	19.86	19.91	19.88
		700.5	19.91	20.43	19.99
	8RB-High (7)	714.5	19.86	20.03	19.61
		707.5	19.86	20.14	19.79
		700.5	19.90	20.05	19.77
	8RB-Middle (4)	714.5	19.88	20.04	19.67
		707.5	19.93	20.20	19.81
		700.5	19.92	20.14	19.83
	8RB-Low (0)	714.5	19.86	20.03	19.67
		707.5	19.93	20.19	19.81
		700.5	19.90	20.11	19.91
	15RB (0)	714.5	19.92	19.99	19.62
		707.5	19.93	20.11	19.77
		700.5	19.89	20.11	19.83

5MHz	1RB-High (24)	713.5	19.86	20.44	19.69
		707.5	19.95	20.14	19.89
		701.5	20.07	20.24	19.97
	1RB-Middle (12)	713.5	19.87	20.46	19.83
		707.5	19.99	20.16	19.94
		701.5	20.00	20.17	19.85
	1RB-Low (0)	713.5	19.84	20.50	19.87
		707.5	20.00	20.19	19.88
		701.5	20.00	20.22	20.06
	12RB-High (13)	713.5	19.93	20.17	19.72
		707.5	19.94	20.12	19.83
		701.5	19.99	20.21	19.85
	12RB-Middle (6)	713.5	19.97	20.20	19.72
		707.5	19.99	20.17	19.83
		701.5	19.96	20.18	19.88
	12RB-Low (0)	713.5	19.95	20.20	19.78
		707.5	19.99	20.19	19.81
		701.5	19.93	20.13	19.87
	25RB (0)	713.5	19.94	20.09	19.65
		707.5	20.01	20.03	19.75
		701.5	20.10	20.17	19.87
10MHz	1RB-High (49)	711	19.86	20.28	19.76
		707.5	19.79	19.98	19.77
		704	19.88	19.93	19.81
	1RB-Middle (24)	711	19.91	20.18	19.89
		707.5	19.85	20.08	19.93
		704	19.98	19.95	19.97
	1RB-Low (0)	711	19.90	20.11	19.96
		707.5	19.82	19.98	19.91
		704	19.84	19.93	20.01
	25RB-High (25)	711	19.92	20.04	19.61
		707.5	19.92	20.13	19.68
		704	20.00	20.10	19.74
	25RB-Middle (12)	711	19.97	20.08	19.73
		707.5	19.98	20.18	19.75
		704	20.04	20.19	19.78
	25RB-Low (0)	711	19.95	20.12	19.76
		707.5	19.97	20.20	19.81
		704	20.00	20.16	19.83
	50RB (0)	711	19.93	20.06	19.67
		707.5	19.98	20.07	19.77
		704	19.98	20.10	19.82

LTE Band13-Power Level A1					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	784.5 (23255)	20.04	20.10	20.15
		782 (23230)	19.97	20.10	20.17
		779.5 (23205)	19.87	20.17	20.15
	1RB-Middle (12)	784.5 (23255)	20.07	20.15	20.26
		782 (23230)	19.97	20.14	20.14
		779.5 (23205)	19.83	20.25	20.19
	1RB-Low (0)	784.5 (23255)	19.93	20.10	20.25
		782 (23230)	20.00	20.16	20.25
		779.5 (23205)	19.83	20.25	20.07
	12RB-High (13)	784.5 (23255)	20.04	20.18	20.14
		782 (23230)	19.91	20.09	20.06
		779.5 (23205)	19.95	20.23	20.07
	12RB-Middle (6)	784.5 (23255)	19.95	20.09	20.09
		782 (23230)	19.92	20.17	20.09
		779.5 (23205)	20.00	20.22	20.16
	12RB-Low (0)	784.5 (23255)	19.92	20.10	20.06
		782 (23230)	19.94	20.13	20.11
		779.5 (23205)	19.91	20.11	20.05
	25RB (0)	784.5 (23255)	19.91	19.99	19.99
		782 (23230)	19.95	20.06	20.04
		779.5 (23205)	19.97	20.16	20.04
10MHz	1RB-High (49)	782 (23230)	19.95	19.94	20.12
	1RB-Middle (24)	782 (23230)	19.86	19.96	20.23
	1RB-Low (0)	782 (23230)	19.82	19.83	20.20
	25RB-High (25)	782 (23230)	19.92	20.08	20.02
	25RB-Middle (12)	782 (23230)	19.97	20.14	20.09
	25RB-Low (0)	782 (23230)	20.00	20.14	20.12
	50RB (0)	782 (23230)	19.97	20.02	20.06

LTE Band26-Power Level A1					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	848.3 (27033)	20.68	20.73	20.85
		831.5 (26865)	20.95	21.12	21.08
		814.7 (26697)	20.67	21.08	21.05
	1RB-Middle (3)	848.3 (27033)	20.72	20.81	20.94
		831.5 (26865)	20.99	21.16	21.35
		814.7 (26697)	20.72	21.17	21.14
	1RB-Low (0)	848.3 (27033)	20.68	20.74	20.90
		831.5 (26865)	20.97	21.13	21.38
		814.7 (26697)	20.69	21.10	21.08
	3RB-High (3)	848.3 (27033)	20.72	20.94	20.99
		831.5 (26865)	20.95	21.13	21.23
		814.7 (26697)	20.69	20.98	20.99
	3RB-Middle (1)	848.3 (27033)	20.78	21.02	21.04
		831.5 (26865)	21.01	21.19	21.32
		814.7 (26697)	20.79	21.03	21.06
	3RB-Low (0)	848.3 (27033)	20.70	20.96	20.97
		831.5 (26865)	20.96	21.12	21.28
		814.7 (26697)	20.76	20.99	21.02
	6RB (0)	848.3 (27033)	20.70	20.90	20.96
		831.5 (26865)	20.91	21.11	21.19
		814.7 (26697)	20.63	20.62	21.00
3MHz	1RB-High (14)	847.5 (27025)	20.70	21.15	21.16
		831.5 (26865)	20.93	21.05	21.40
		815.5 (26705)	20.95	21.07	21.14
	1RB-Middle (7)	847.5 (27025)	20.83	21.28	21.30
		831.5 (26865)	21.05	21.18	21.24
		815.5 (26705)	21.08	21.17	21.32
	1RB-Low (0)	847.5 (27025)	20.79	21.23	21.24
		831.5 (26865)	20.93	21.12	21.29
		815.5 (26705)	20.98	21.12	21.19
	8RB-High (7)	847.5 (27025)	20.78	20.92	20.14
		831.5 (26865)	20.96	21.12	20.32
		815.5 (26705)	20.97	21.12	20.10
	8RB-Middle (4)	847.5 (27025)	20.82	20.95	20.12
		831.5 (26865)	21.03	21.14	20.43
		815.5 (26705)	21.06	21.15	20.15
	8RB-Low (0)	847.5 (27025)	20.80	20.95	20.12
		831.5 (26865)	20.99	21.14	20.32
		815.5 (26705)	20.99	21.14	20.07
	15RB (0)	847.5 (27025)	20.82	20.94	20.10
		831.5 (26865)	20.98	21.04	20.32
		815.5 (26705)	21.04	21.05	20.10

5MHz	1RB-High (24)	846.5 (27015)	20.85	20.89	21.14
		831.5 (26865)	21.01	21.18	21.37
		816.5 (26715)	20.75	21.34	21.24
	1RB-Middle (12)	846.5 (27015)	20.86	20.98	21.23
		831.5 (26865)	21.11	21.26	21.32
		816.5 (26715)	20.72	21.32	21.15
	1RB-Low (0)	846.5 (27015)	20.87	20.98	21.26
		831.5 (26865)	21.04	21.15	21.38
		816.5 (26715)	20.69	21.29	21.22
	12RB-High (13)	846.5 (27015)	20.82	20.94	20.16
		831.5 (26865)	20.99	21.18	20.34
		816.5 (26715)	20.85	21.06	20.18
	12RB-Middle (6)	846.5 (27015)	20.87	21.00	20.23
		831.5 (26865)	21.05	21.25	20.36
		816.5 (26715)	20.78	20.98	20.10
	12RB-Low (0)	846.5 (27015)	20.85	20.99	20.23
		831.5 (26865)	21.06	21.20	20.42
		816.5 (26715)	20.77	20.97	20.09
	25RB (0)	846.5 (27015)	20.84	20.86	20.10
		831.5 (26865)	21.10	21.12	20.31
		816.5 (26715)	20.88	21.02	20.16
10MHz	1RB-High (49)	844 (26990)	20.79	21.15	21.16
		831.5 (26865)	20.92	21.03	21.30
		820 (26750)	20.91	20.93	21.23
	1RB-Middle (24)	844 (26990)	20.86	21.26	21.25
		831.5 (26865)	20.99	21.13	21.37
		820 (26750)	20.76	20.80	21.17
	1RB-Low (0)	844 (26990)	20.89	21.29	21.32
		831.5 (26865)	20.92	21.07	21.44
		820 (26750)	20.71	20.73	21.12
	25RB-High (25)	844 (26990)	20.88	20.97	21.10
		831.5 (26865)	21.03	21.20	20.28
		820 (26750)	20.91	21.00	20.18
	25RB-Middle (12)	844 (26990)	20.91	21.02	20.18
		831.5 (26865)	21.11	21.24	20.34
		820 (26750)	20.98	21.06	20.24
	25RB-Low (0)	844 (26990)	20.89	21.00	20.16
		831.5 (26865)	21.10	21.27	20.40
		820 (26750)	20.85	20.94	20.17
	50RB (0)	844 (26990)	20.91	20.93	20.15
		831.5 (26865)	21.05	21.16	20.35
		820 (26750)	20.97	21.01	20.19

15MHz	1RB-High (74)	841.5 (26965)	20.91	20.73	21.10
		831.5 (26865)	20.94	20.94	21.30
		822.5 (26775)	20.97	20.53	21.20
	1RB-Middle (37)	841.5 (26965)	21.00	20.89	21.30
		831.5 (26865)	21.23	21.05	21.39
		822.5 (26775)	20.89	20.51	21.30
	1RB-Low (0)	841.5 (26965)	21.06	20.99	21.49
		831.5 (26865)	20.99	21.02	21.47
		822.5 (26775)	20.76	20.53	21.26
	36RB-High (38)	841.5 (26965)	20.89	20.56	20.15
		831.5 (26865)	21.05	20.65	20.27
		822.5 (26775)	21.05	20.72	20.28
	36RB-Middle (19)	841.5 (26965)	20.95	20.64	20.24
		831.5 (26865)	21.25	20.68	20.38
		822.5 (26775)	21.07	20.64	20.28
	36RB-Low (0)	841.5 (26965)	20.96	20.65	20.21
		831.5 (26865)	21.04	20.58	20.29
		822.5 (26775)	20.86	20.55	20.11
	75RB (0)	841.5 (26965)	20.94	20.55	20.13
		831.5 (26865)	21.07	20.71	20.32
		822.5 (26775)	21.02	20.62	20.27

Power level B1/C1：

LTE Band2-Power Level B1/C1					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1909.3 (19193)	17.07	17.22	17.47
		1880 (18900)	17.23	17.47	17.69
		1850.7 (18607)	17.31	17.78	17.68
	1RB-Middle (3)	1909.3 (19193)	17.14	17.28	17.55
		1880 (18900)	17.32	17.49	17.71
		1850.7 (18607)	17.40	17.83	17.83
	1RB-Low (0)	1909.3 (19193)	17.09	17.18	17.48
		1880 (18900)	17.30	17.43	17.67
		1850.7 (18607)	17.32	17.80	17.69
	3RB-High (3)	1909.3 (19193)	17.14	17.44	17.49
		1880 (18900)	17.30	17.46	17.56
		1850.7 (18607)	17.42	17.61	17.58
	3RB-Middle (1)	1909.3 (19193)	17.19	17.47	17.44
		1880 (18900)	17.32	17.48	17.64
		1850.7 (18607)	17.43	17.69	17.68
	3RB-Low (0)	1909.3 (19193)	17.14	17.41	17.42
		1880 (18900)	17.29	17.44	17.53
		1850.7 (18607)	17.41	17.66	17.63
	6RB (0)	1909.3 (19193)	17.10	17.34	16.57
		1880 (18900)	17.25	17.47	16.63
		1850.7 (18607)	17.30	17.28	16.66
3MHz	1RB-High (14)	1908.5 (19185)	17.16	17.26	17.21
		1880 (18900)	17.31	17.31	17.71
		1851.5 (18615)	17.40	17.87	17.85
	1RB-Middle (7)	1908.5 (19185)	17.20	17.40	17.47
		1880 (18900)	17.37	17.38	17.75
		1851.5 (18615)	17.49	17.96	17.89
	1RB-Low (0)	1908.5 (19185)	17.17	17.33	17.26
		1880 (18900)	17.31	17.30	17.64
		1851.5 (18615)	17.39	17.84	17.71
	8RB-High (7)	1908.5 (19185)	17.18	17.26	16.67
		1880 (18900)	17.35	17.54	16.84
		1851.5 (18615)	17.42	17.54	16.88
	8RB-Middle (4)	1908.5 (19185)	17.25	17.34	16.69
		1880 (18900)	17.34	17.52	16.83
		1851.5 (18615)	17.38	17.60	16.88
	8RB-Low (0)	1908.5 (19185)	17.19	17.30	16.68
		1880 (18900)	17.32	17.53	16.82
		1851.5 (18615)	17.40	17.59	16.86
	15RB (0)	1908.5 (19185)	17.24	17.24	16.68
		1880 (18900)	17.35	17.47	16.75
		1851.5 (18615)	17.38	17.55	16.80

5MHz	1RB-High (24)	1907.5 (19175)	17.17	17.30	17.49
		1880 (18900)	17.42	17.59	17.63
		1852.5 (18625)	17.37	17.95	17.70
	1RB-Middle (12)	1907.5 (19175)	17.25	17.37	17.58
		1880 (18900)	17.42	17.55	17.71
		1852.5 (18625)	17.39	18.00	17.67
	1RB-Low (0)	1907.5 (19175)	17.26	17.37	17.61
		1880 (18900)	17.41	17.60	17.68
		1852.5 (18625)	17.36	18.00	17.74
	12RB-High (13)	1907.5 (19175)	17.24	17.36	16.67
		1880 (18900)	17.36	17.52	16.86
		1852.5 (18625)	17.44	17.62	16.86
	12RB-Middle (6)	1907.5 (19175)	17.25	17.37	16.70
		1880 (18900)	17.38	17.53	16.85
		1852.5 (18625)	17.46	17.69	16.89
	12RB-Low (0)	1907.5 (19175)	17.22	17.37	16.67
		1880 (18900)	17.37	17.52	16.80
		1852.5 (18625)	17.44	17.66	16.86
	25RB (0)	1907.5 (19175)	17.22	17.28	16.63
		1880 (18900)	17.34	17.47	16.75
		1852.5 (18625)	17.41	17.52	16.84
10MHz	1RB-High (49)	1905 (19150)	17.06	17.17	17.48
		1880 (18900)	17.27	17.33	17.68
		1855 (18650)	17.36	17.81	17.66
	1RB-Middle (24)	1905 (19150)	17.14	17.29	17.52
		1880 (18900)	17.33	17.32	17.67
		1855 (18650)	17.39	17.85	17.76
	1RB-Low (0)	1905 (19150)	17.17	17.29	17.59
		1880 (18900)	17.27	17.35	17.75
		1855 (18650)	17.38	17.84	17.70
	25RB-High (25)	1905 (19150)	17.24	17.37	16.64
		1880 (18900)	17.42	17.47	16.75
		1855 (18650)	17.43	17.54	16.80
	25RB-Middle (12)	1905 (19150)	17.24	17.41	16.69
		1880 (18900)	17.39	17.50	16.75
		1855 (18650)	17.43	17.56	16.86
	25RB-Low (0)	1905 (19150)	17.19	17.42	16.64
		1880 (18900)	17.38	17.49	16.80
		1855 (18650)	17.41	17.57	16.79
	50RB (0)	1905 (19150)	17.21	17.29	16.64
		1880 (18900)	17.42	17.45	16.75
		1855 (18650)	17.42	17.57	16.83

15MHz	1RB-High (74)	1902.5 (19125)	17.07	17.09	17.26
		1880 (18900)	17.27	17.72	17.60
		1857.5 (18675)	17.38	17.83	17.66
	1RB-Middle (37)	1902.5 (19125)	17.12	17.17	17.33
		1880 (18900)	17.35	17.81	17.69
		1857.5 (18675)	17.45	17.92	17.74
	1RB-Low (0)	1902.5 (19125)	17.18	17.21	17.35
		1880 (18900)	17.40	17.80	17.71
		1857.5 (18675)	17.45	17.92	17.73
	36RB-High (38)	1902.5 (19125)	17.20	17.27	17.41
		1880 (18900)	17.30	17.45	17.57
		1857.5 (18675)	17.38	17.41	17.56
	36RB-Middle (19)	1902.5 (19125)	17.18	17.27	17.44
		1880 (18900)	17.39	17.49	17.59
		1857.5 (18675)	17.40	17.47	17.69
	36RB-Low (0)	1902.5 (19125)	17.22	17.24	17.47
		1880 (18900)	17.38	17.48	17.59
		1857.5 (18675)	17.37	17.46	17.63
	75RB (0)	1902.5 (19125)	17.18	17.29	17.44
		1880 (18900)	17.31	17.48	17.59
		1857.5 (18675)	17.34	17.45	17.63
20MHz	1RB-High (99)	1900 (19100)	17.11	17.73	17.56
		1880 (18900)	17.30	17.84	17.55
		1860 (18700)	17.34	18.01	17.66
	1RB-Middle (50)	1900 (19100)	17.22	17.79	17.59
		1880 (18900)	17.36	17.91	17.59
		1860 (18700)	17.43	18.09	17.83
	1RB-Low (0)	1900 (19100)	17.18	17.82	17.58
		1880 (18900)	17.34	17.88	17.65
		1860 (18700)	17.38	18.03	17.77
	50RB-High (50)	1900 (19100)	17.33	17.39	16.67
		1880 (18900)	17.46	17.54	16.78
		1860 (18700)	17.49	17.58	16.81
	50RB-Middle (25)	1900 (19100)	17.35	17.49	16.69
		1880 (18900)	17.50	17.58	16.84
		1860 (18700)	17.54	17.63	16.86
	50RB-Low (0)	1900 (19100)	17.34	17.43	16.68
		1880 (18900)	17.48	17.56	16.81
		1860 (18700)	17.49	17.66	16.80
	100RB (0)	1900 (19100)	17.31	17.45	16.67
		1880 (18900)	17.42	17.55	16.76
		1860 (18700)	17.50	17.61	16.81

LTE Band7-Power Level B1/C1					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2567.5 (21425)	17.17	17.84	17.73
		2535 (21100)	17.16	17.40	17.57
		2502.5 (20775)	17.10	17.44	17.70
	1RB-Middle (12)	2567.5 (21425)	17.16	17.83	17.75
		2535 (21100)	17.11	17.39	17.57
		2502.5 (20775)	17.13	17.45	17.74
	1RB-Low (0)	2567.5 (21425)	17.16	17.75	17.67
		2535 (21100)	17.13	17.34	17.62
		2502.5 (20775)	17.13	17.42	17.72
	12RB-High (13)	2567.5 (21425)	17.23	17.51	17.65
		2535 (21100)	17.22	17.35	17.44
		2502.5 (20775)	17.22	17.42	17.56
	12RB-Middle (6)	2567.5 (21425)	17.23	17.50	17.62
		2535 (21100)	17.21	17.39	17.45
		2502.5 (20775)	17.23	17.43	17.56
	12RB-Low (0)	2567.5 (21425)	17.17	17.46	17.59
		2535 (21100)	17.19	17.36	17.37
		2502.5 (20775)	17.18	17.39	17.57
	25RB (0)	2567.5 (21425)	17.21	17.40	17.61
		2535 (21100)	17.20	17.26	17.34
		2502.5 (20775)	17.19	17.34	17.53
10MHz	1RB-High (49)	2565 (21400)	17.29	17.30	17.64
		2535 (21100)	17.21	17.70	17.55
		2505 (20800)	17.25	17.38	17.70
	1RB-Middle (24)	2565 (21400)	17.21	17.14	17.75
		2535 (21100)	17.13	17.61	17.59
		2505 (20800)	17.12	17.34	17.68
	1RB-Low (0)	2565 (21400)	17.25	17.09	17.60
		2535 (21100)	17.21	17.59	17.53
		2505 (20800)	17.23	17.30	17.71
	25RB-High (25)	2565 (21400)	17.29	17.38	17.62
		2535 (21100)	17.25	17.39	17.40
		2505 (20800)	17.26	17.47	17.58
	25RB-Middle (12)	2565 (21400)	17.25	17.38	17.62
		2535 (21100)	17.24	17.38	17.41
		2505 (20800)	17.23	17.45	17.55
	25RB-Low (0)	2565 (21400)	17.20	17.29	17.49
		2535 (21100)	17.16	17.31	17.38
		2505 (20800)	17.24	17.38	17.55
	50RB (0)	2565 (21400)	17.25	17.33	17.62
		2535 (21100)	17.20	17.33	17.40
		2505 (20800)	17.26	17.36	17.55

15MHz	1RB-High (74)	2562.5 (21375)	17.29	17.82	17.88
		2535 (21100)	17.14	17.25	17.64
		2507.5 (20825)	17.23	17.72	17.70
	1RB-Middle (37)	2562.5 (21375)	17.21	17.64	17.71
		2535 (21100)	17.12	17.16	17.57
		2507.5 (20825)	17.17	17.65	17.61
	1RB-Low (0)	2562.5 (21375)	17.18	17.60	17.72
		2535 (21100)	17.18	17.17	17.56
		2507.5 (20825)	17.18	17.67	17.71
	36RB-High (38)	2562.5 (21375)	17.21	17.35	17.64
		2535 (21100)	17.22	17.34	17.49
		2507.5 (20825)	17.23	17.37	17.58
	36RB-Middle (19)	2562.5 (21375)	17.21	17.32	17.61
		2535 (21100)	17.23	17.34	17.45
		2507.5 (20825)	17.25	17.38	17.61
	36RB-Low (0)	2562.5 (21375)	17.20	17.25	17.57
		2535 (21100)	17.18	17.28	17.46
		2507.5 (20825)	17.18	17.38	17.59
	75RB (0)	2562.5 (21375)	17.25	17.29	17.58
		2535 (21100)	17.22	17.30	17.46
		2507.5 (20825)	17.18	17.34	17.50
20MHz	1RB-High (99)	2560 (21350)	17.19	17.40	17.52
		2535 (21100)	17.13	17.35	17.38
		2510 (20850)	17.14	17.43	17.42
	1RB-Middle (50)	2560 (21350)	17.11	17.21	17.30
		2535 (21100)	17.12	17.19	17.36
		2510 (20850)	17.10	17.44	17.46
	1RB-Low (0)	2560 (21350)	17.02	17.25	17.47
		2535 (21100)	17.10	17.24	17.31
		2510 (20850)	17.11	17.41	17.48
	50RB-High (50)	2560 (21350)	17.25	16.98	17.34
		2535 (21100)	17.24	16.96	17.21
		2510 (20850)	17.29	17.03	17.30
	50RB-Middle (25)	2560 (21350)	17.22	16.90	17.36
		2535 (21100)	17.27	16.94	17.24
		2510 (20850)	17.29	17.01	17.37
	50RB-Low (0)	2560 (21350)	17.16	16.87	17.31
		2535 (21100)	17.24	16.93	17.25
		2510 (20850)	17.31	17.02	17.36
	100RB (0)	2560 (21350)	17.20	16.90	17.33
		2535 (21100)	17.27	16.96	17.19
		2510 (20850)	17.27	16.99	17.35

LTE Band66-Power Level B1/C1					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1779.3 (132665)	17.46	17.65	17.52
		1745 (132322)	17.25	17.54	17.38
		1710.7 (131979)	17.18	17.67	17.42
	1RB-Middle (3)	1779.3 (132665)	17.52	17.71	17.42
		1745 (132322)	17.34	17.58	17.28
		1710.7 (131979)	17.26	17.72	17.55
	1RB-Low (0)	1779.3 (132665)	17.47	17.63	17.50
		1745 (132322)	17.30	17.51	17.18
		1710.7 (131979)	17.17	17.65	17.42
	3RB-High (3)	1779.3 (132665)	17.52	17.84	17.61
		1745 (132322)	17.31	17.51	17.36
		1710.7 (131979)	17.26	17.56	17.34
	3RB-Middle (1)	1779.3 (132665)	17.58	17.89	17.62
		1745 (132322)	17.36	17.58	17.48
		1710.7 (131979)	17.31	17.61	17.28
	3RB-Low (0)	1779.3 (132665)	17.48	17.85	17.53
		1745 (132322)	17.27	17.47	17.20
		1710.7 (131979)	17.21	17.56	17.33
	6RB (0)	1779.3 (132665)	17.46	17.78	17.62
		1745 (132322)	17.25	17.47	17.14
		1710.7 (131979)	17.13	17.23	16.91
3MHz	1RB-High (14)	1778.5 (132657)	17.52	17.66	17.45
		1745 (132322)	17.26	17.31	17.17
		1711.5 (131987)	17.23	17.71	17.52
	1RB-Middle (7)	1778.5 (132657)	17.57	17.81	17.69
		1745 (132322)	17.36	17.44	17.16
		1711.5 (131987)	17.36	17.84	17.65
	1RB-Low (0)	1778.5 (132657)	17.50	17.75	17.43
		1745 (132322)	17.21	17.30	17.09
		1711.5 (131987)	17.22	17.75	17.59
	8RB-High (7)	1778.5 (132657)	17.53	17.68	17.35
		1745 (132322)	17.28	17.56	17.25
		1711.5 (131987)	17.22	17.42	17.15
	8RB-Middle (4)	1778.5 (132657)	17.55	17.77	17.68
		1745 (132322)	17.36	17.57	17.44
		1711.5 (131987)	17.26	17.48	17.17
	8RB-Low (0)	1778.5 (132657)	17.55	17.72	17.52
		1745 (132322)	17.29	17.56	17.44
		1711.5 (131987)	17.25	17.45	17.17
	15RB (0)	1778.5 (132657)	17.57	17.66	17.53
		1745 (132322)	17.34	17.52	17.22
		1711.5 (131987)	17.27	17.45	17.19

5MHz	1RB-High (24)	1777.5 (132647)	17.56	17.77	17.55
		1745 (132322)	17.39	17.59	17.44
		1712.5 (131997)	17.21	17.87	17.65
	1RB-Middle (12)	1777.5 (132647)	17.67	17.76	17.67
		1745 (132322)	17.36	17.59	17.39
		1712.5 (131997)	17.25	17.92	17.65
	1RB-Low (0)	1777.5 (132647)	17.62	17.76	17.57
		1745 (132322)	17.38	17.62	17.55
		1712.5 (131997)	17.16	17.86	17.58
	12RB-High (13)	1777.5 (132647)	17.57	17.74	17.53
		1745 (132322)	17.31	17.53	17.26
		1712.5 (131997)	17.27	17.54	17.34
	12RB-Middle (6)	1777.5 (132647)	17.67	17.79	17.55
		1745 (132322)	17.36	17.60	17.53
		1712.5 (131997)	17.33	17.60	17.45
	12RB-Low (0)	1777.5 (132647)	17.63	17.74	17.41
		1745 (132322)	17.33	17.55	17.32
		1712.5 (131997)	17.28	17.54	17.45
	25RB (0)	1777.5 (132647)	17.62	17.62	17.30
		1745 (132322)	17.37	17.52	17.39
		1712.5 (131997)	17.30	17.48	17.15
10MHz	1RB-High (49)	1775 (132622)	17.53	17.72	17.62
		1745 (132322)	17.29	17.34	17.27
		1715 (132022)	17.37	17.83	17.51
	1RB-Middle (24)	1775 (132622)	17.53	17.72	17.50
		1745 (132322)	17.34	17.41	17.11
		1715 (132022)	17.30	17.76	17.50
	1RB-Low (0)	1775 (132622)	17.41	17.63	17.37
		1745 (132322)	17.33	17.41	17.10
		1715 (132022)	17.27	17.76	17.58
	25RB-High (25)	1775 (132622)	17.60	17.84	17.72
		1745 (132322)	17.41	17.54	17.40
		1715 (132022)	17.39	17.54	17.22
	25RB-Middle (12)	1775 (132622)	17.55	17.76	17.46
		1745 (132322)	17.40	17.51	17.44
		1715 (132022)	17.34	17.51	17.34
	25RB-Low (0)	1775 (132622)	17.53	17.73	17.59
		1745 (132322)	17.41	17.53	17.34
		1715 (132022)	17.31	17.48	17.18
	50RB (0)	1775 (132622)	17.51	17.70	17.51
		1745 (132322)	17.38	17.47	17.39
		1715 (132022)	17.41	17.57	17.47

15MHz	1RB-High (74)	1772.5 (132597)	17.49	17.55	17.43
		1745 (132322)	17.41	17.89	17.66
		1717.5 (132047)	17.32	17.85	17.72
	1RB-Middle (37)	1772.5 (132597)	17.44	17.52	17.26
		1745 (132322)	17.33	17.83	17.64
		1717.5 (132047)	17.26	17.81	17.71
	1RB-Low (0)	1772.5 (132597)	17.44	17.52	17.44
		1745 (132322)	17.36	17.80	17.49
		1717.5 (132047)	17.28	17.84	17.53
	36RB-High (38)	1772.5 (132597)	17.48	17.59	17.46
		1745 (132322)	17.34	17.54	17.31
		1717.5 (132047)	17.36	17.48	17.35
	36RB-Middle (19)	1772.5 (132597)	17.51	17.66	17.54
		1745 (132322)	17.34	17.55	17.31
		1717.5 (132047)	17.39	17.50	17.21
	36RB-Low (0)	1772.5 (132597)	17.46	17.58	17.41
		1745 (132322)	17.38	17.53	17.43
		1717.5 (132047)	17.22	17.36	17.17
	75RB (0)	1772.5 (132597)	17.46	17.57	17.33
		1745 (132322)	17.36	17.49	17.42
		1717.5 (132047)	17.37	17.49	17.30
20MHz	1RB-High (99)	1770 (132572)	17.55	17.91	17.63
		1745 (132322)	17.43	17.92	17.82
		1720 (132072)	17.34	17.91	17.83
	1RB-Middle (50)	1770 (132572)	17.47	17.92	17.67
		1745 (132322)	17.37	17.91	17.79
		1720 (132072)	17.37	17.89	17.74
	1RB-Low (0)	1770 (132572)	17.39	17.92	17.83
		1745 (132322)	17.25	17.79	17.71
		1720 (132072)	17.22	17.90	17.75
	50RB-High (50)	1770 (132572)	17.54	17.71	17.58
		1745 (132322)	17.41	17.51	17.35
		1720 (132072)	17.41	17.57	17.40
	50RB-Middle (25)	1770 (132572)	17.61	17.78	17.67
		1745 (132322)	17.50	17.59	17.35
		1720 (132072)	17.50	17.67	17.59
	50RB-Low (0)	1770 (132572)	17.49	17.60	17.35
		1745 (132322)	17.44	17.59	17.35
		1720 (132072)	17.44	17.61	17.52
	100RB (0)	1770 (132572)	17.54	17.67	17.34
		1745 (132322)	17.46	17.59	17.41
		1720 (132072)	17.46	17.61	17.52

Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive. SAR test in not required since maximum output power when downlink carrier aggregation active is not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

11.4 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 11.78dBm.
The maximum tune up of BT antenna is 12dBm.

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

802.11b-Normal Power	
11(2462MHz)	18.23
6(2437(MHz)	17.70
1(2412MHz)	17.68
Tune up	19.00
802.11g-Normal Power	
Channel\data rate	6Mbps
11(2462MHz)	17.97
6(2437(MHz)	17.30
1(2412MHz)	17.79
Tune up	19.00
802.11n-20MHz-Normal Power	
Channel\data rate	MCS0
11(2462MHz)	17.33
6(2437(MHz)	16.68
1(2412MHz)	17.18
Tune up	18.50
802.11n-40MHz-Normal Power	
Channel\data rate	MCS0
9(2452MHz)	16.60
6(2437MHz)	16.21
3(2422MHz)	16.24
Tune up	18.00

802.11b-Power Level A1	
11(2462MHz)	15.00
6(2437(MHz)	14.19
1(2412MHz)	14.26
Tune up	15.00
802.11g-Power Level A1	
Channel\data rate	6Mbps
11(2462MHz)	14.56
6(2437(MHz)	13.84
1(2412MHz)	14.48
Tune up	15.00
802.11n-20MHz-Power Level A1	
Channel\data rate	MCS0
11(2462MHz)	14.40
6(2437(MHz)	13.72
1(2412MHz)	14.33
Tune up	15.00
802.11n-40MHz-Power Level A1	
Channel\data rate	MCS0
9(2452MHz)	14.95
6(2437MHz)	14.70
3(2422MHz)	14.72
Tune up	15.00

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

802.11a(dBm)-Normal Power	
Channel\data rate	6Mbps
36(5180 MHz)	15.62
40(5200 MHz)	15.77
44(5220 MHz)	15.80
48(5240 MHz)	16.21
52(5260 MHz)	16.45
56(5280 MHz)	16.51
60(5300 MHz)	16.57
64(5320 MHz)	16.02
100(5500 MHz)	16.58
104(5520 MHz)	16.42
108(5540 MHz)	16.06
112(5560 MHz)	15.77
116(5580 MHz)	15.35
120(5600 MHz)	15.21
124(5620 MHz)	15.19
128(5640 MHz)	15.37
132(5660 MHz)	15.66
136(5680 MHz)	16.15
140(5700 MHz)	16.63
144(5720 MHz)	16.88
149(5745 MHz)	16.68
153(5765 MHz)	16.63
157(5785 MHz)	16.61
161(5805 MHz)	16.27
165(5825 MHz)	16.01
Tune up	17.00

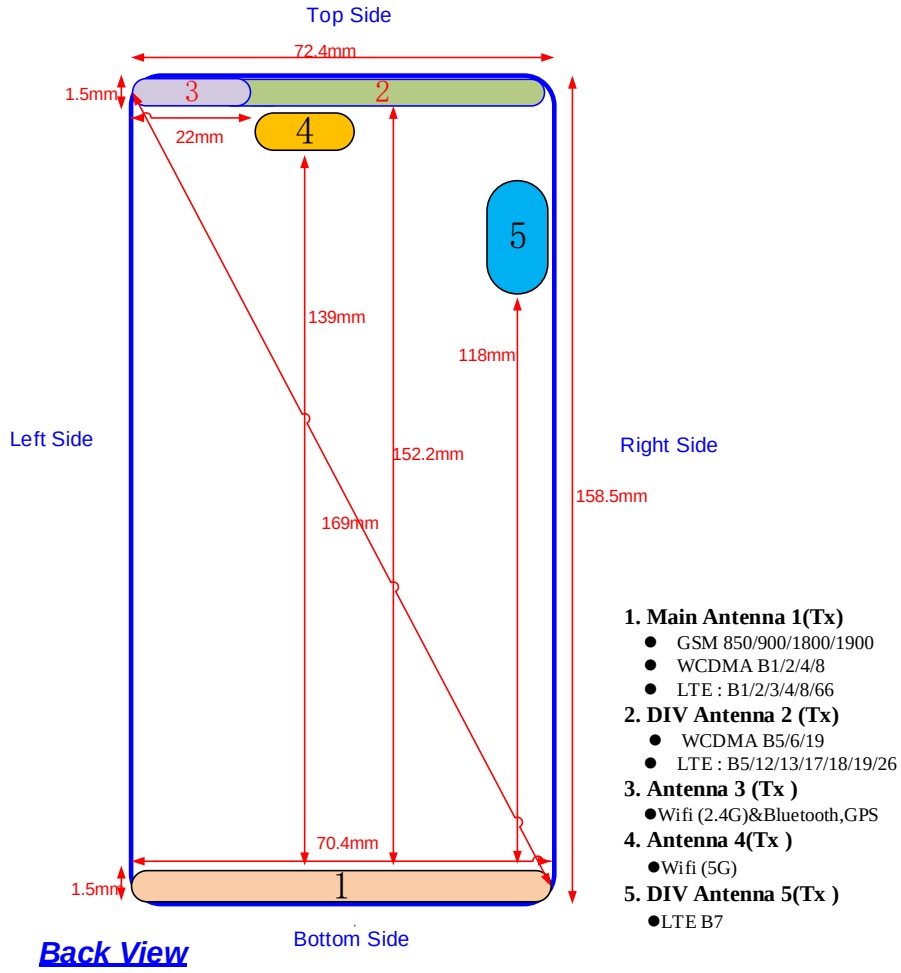
802.11a(dBm)-Power Level B1/C1	
Channel\data rate	6Mbps
36(5180 MHz)	10.33
40(5200 MHz)	10.47
44(5220 MHz)	10.66
48(5240 MHz)	10.79
52(5260 MHz)	11.06
56(5280 MHz)	11.26
60(5300 MHz)	11.30
64(5320 MHz)	11.02
100(5500 MHz)	11.24
104(5520 MHz)	11.16
108(5540 MHz)	10.89
112(5560 MHz)	10.54
116(5580 MHz)	10.12
120(5600 MHz)	10.03
124(5620 MHz)	9.98
128(5640 MHz)	10.15
132(5660 MHz)	10.46
136(5680 MHz)	10.88
140(5700 MHz)	11.25
144(5720 MHz)	11.48
149(5745 MHz)	10.86
153(5765 MHz)	11.40
157(5785 MHz)	11.23
161(5805 MHz)	10.74
165(5825 MHz)	10.71
Tune up	11.50

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



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
Div Antenna-ANT2	Yes	Yes	Yes	Yes	Yes	No
WiFi Antenna-ANT3	Yes	Yes	No	Yes	Yes	No
WiFi Antenna-ANT4	Yes	Yes	No	Yes	Yes	No
Div Antenna-ANT5	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	15.85	No
		Body	19.20	12	15.85	Yes
2.4GHz WLAN	2.45	Head	9.58	15	31.62	No
		Body	19.17	19	79.4	No
5GHz WLAN	5.2	Head	6.58	17	50.12	No
		Body	13.16	11.5	14.13	No
	5.3	Head	6.52	17	50.12	No
		Body	13.03	11.5	14.13	No
	5.6	Head	6.34	17	50.12	No
		Body	12.68	11.5	14.13	No
	5.8	Head	6.23	17	50.12	No
		Body	12.46	11.5	14.13	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	Left head, Cheek (LTE Band26)	0.77	0.37	**1.14**
Highest SAR value for Body	Rear 10mm (LTE Band7)	1.07	0.20	**1.27**

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

	Position	Main antenna	WiFi-5G	Sum
Highest SAR value for Head	Right head, Tilt (LTE Band26)	0.89	0.12	**1.01**
Highest SAR value for Body	Rear 10mm (LTE Band7)	1.07	0.39	**1.46**

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 Band26)	0.92	<0.01	**0.92**
Maximum reported SAR value for Body	Rear 10mm (LTE Band7)	1.07	<0.01	**1.07**

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	1:2.67
GPRS&EGPRS for GSM 1900-Normal Power	1:4
GPRS&EGPRS for GSM 1900-Power Level C1	1:2
WCDMA&LTE FDD	1:1

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	/	28.96	30.00	0.183	**0.23**	0.295	**0.37**	0.04
190	836.6	Left	Tilt	/	28.96	30.00	0.105	**0.13**	0.129	**0.16**	-0.04
251	848.8	Right	Cheek	Fig.1	28.74	30.00	0.255	**0.34**	0.337	**0.45**	0.07
190	836.6	Right	Cheek	/	28.96	30.00	0.228	**0.29**	0.297	**0.38**	-0.01
128	824.2	Right	Cheek	/	28.73	30.00	0.151	**0.20**	0.200	**0.27**	0.15
190	836.6	Right	Tilt	/	28.96	30.00	0.135	**0.17**	0.174	**0.22**	0.12

Note: the head SAR of GSM850 is tested with GPRS (3Txslots) mode because of VoIP.

Table 14.1-2: 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										
190	836.6	GPRS (3)	Front	/	28.96	30.00	0.205	**0.26**	0.337	**0.43**	-0.05
251	848.8	GPRS (3)	Rear	Fig.2	28.74	30.00	0.303	**0.40**	0.520	**0.70**	-0.11
190	836.6	GPRS (3)	Rear	/	28.96	30.00	0.260	**0.33**	0.460	**0.58**	0.12
128	824.2	GPRS (3)	Rear	/	28.73	30.00	0.196	**0.26**	0.316	**0.42**	0.16
190	836.6	GPRS (3)	Left	/	28.96	30.00	0.06	**0.08**	0.094	**0.12**	0.04
190	836.6	GPRS (3)	Right	/	28.96	30.00	0.092	**0.12**	0.137	**0.17**	-0.12
190	836.6	GPRS (3)	Bottom	/	28.96	30.00	0.146	**0.19**	0.297	**0.38**	-0.18
251	848.8	EGPRS (3)	Rear	/	28.67	30.00	0.281	**0.38**	0.489	**0.66**	-0.19

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 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										
810	1909.8	Left	Cheek	/	26.91	27.50	0.030	**0.03**	0.050	**0.06**	0.04
661	1880	Left	Cheek	/	26.60	27.50	0.041	**0.05**	0.068	**0.08**	-0.11
512	1850.2	Left	Cheek	Fig.3	26.53	27.50	0.045	**0.06**	0.074	**0.09**	0.07
661	1880	Left	Tilt	/	26.60	27.50	<0.01	<0.01	<0.01	<0.01	/
661	1880	Right	Cheek	/	26.60	27.50	0.028	**0.03**	0.050	**0.06**	0.19
661	1880	Right	Tilt	/	26.60	27.50	<0.01	<0.01	<0.01	<0.01	/

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

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

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										
661	1880	GPRS (2)	Front	/	26.60	27.50	0.232	**0.29**	0.416	**0.51**	-0.14
810	1909.8	GPRS (2)	Rear	/	26.91	27.50	0.211	**0.24**	0.385	**0.44**	-0.16
661	1880	GPRS (2)	Rear	/	26.60	27.50	0.262	**0.32**	0.469	**0.58**	0.02
512	1850.2	GPRS (2)	Rear	Fig.4	26.53	27.50	0.319	**0.40**	0.564	**0.71**	0.08
512	1850.2	EGPRS (2)	Rear	/	26.58	27.50	0.295	**0.36**	0.532	**0.66**	-0.03

Note: The distance between the EUT and the phantom bottom is 15mm

Table 14.1-5: SAR Values (GSM 1900 MHz Band – Hotspot)

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										
661	1880	GPRS (4)	Front	/	19.86	21.00	0.126	**0.16**	0.253	**0.33**	0.04
661	1880	GPRS (4)	Rear	/	19.86	21.00	0.188	**0.24**	0.359	**0.47**	0.06
661	1880	GPRS (4)	Left	/	19.86	21.00	<0.01	<0.01	<0.01	<0.01	/
661	1880	GPRS (4)	Right	/	19.86	21.00	0.022	**0.03**	0.042	**0.05**	-0.05
810	1909.8	GPRS (4)	Bottom	/	20.12	21.00	0.244	**0.30**	0.486	**0.60**	-0.17
661	1880	GPRS (4)	Bottom	/	19.86	21.00	0.326	**0.42**	0.666	**0.87**	0.13
512	1850.2	GPRS (4)	Bottom	Fig.5	19.72	21.00	0.341	**0.46**	0.669	**0.90**	0.12
512	1850.2	EGPRS (4)	Bottom	/	19.61	21.00	0.321	**0.44**	0.635	**0.87**	0.18

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

Table 14.1-6: SAR Values (WCDMA 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										
9538	1907.6	Left	Cheek	/	22.74	23.80	0.060	**0.08**	0.104	**0.13**	-0.15
9400	1880	Left	Cheek	Fig.6	22.75	23.80	0.064	**0.08**	0.105	**0.13**	-0.01
9262	1852.4	Left	Cheek	/	22.85	23.80	0.056	**0.07**	0.088	**0.11**	0.02
9400	1880	Left	Tilt	/	22.75	23.80	0.043	**0.05**	0.076	**0.10**	0.05
9400	1880	Right	Cheek	/	22.75	23.80	0.043	**0.05**	0.071	**0.09**	0.19
9400	1880	Right	Tilt	/	22.75	23.80	<0.01	<0.01	<0.01	<0.01	/

Table 14.1-7: 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									
9400	1880	Front	/	17.63	18.50	0.209	**0.26**	0.397	**0.49**	-0.04
9400	1880	Rear	/	17.63	18.50	0.264	**0.32**	0.510	**0.62**	0.09
9400	1880	Left	/	17.63	18.50	<0.01	<0.01	<0.01	<0.01	/
9400	1880	Right	/	17.63	18.50	0.034	**0.04**	0.063	**0.08**	-0.12
9538	1907.6	Bottom	/	17.58	18.50	0.397	**0.49**	0.778	**0.96**	-0.15
9400	1880	Bottom	/	17.63	18.50	0.401	**0.49**	0.784	**0.96**	-0.05
9262	1852.4	Bottom	Fig.7	17.72	18.50	0.421	**0.50**	0.823	**0.98**	0.01

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

Table 14.1-8: 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										
1412	1732.4	Left	Cheek	/	22.69	23.80	0.037	**0.05**	0.060	**0.08**	-0.11
1412	1732.4	Left	Tilt	/	22.69	23.80	0.035	**0.05**	0.059	**0.08**	-0.19
1513	1752.6	Right	Cheek	/	22.73	23.80	0.049	**0.06**	0.079	**0.10**	0.03
1412	1732.4	Right	Cheek	/	22.69	23.80	0.059	**0.08**	0.093	**0.12**	-0.11
1312	1712.4	Right	Cheek	Fig.8	22.82	23.80	0.079	**0.10**	0.130	**0.16**	-0.16
1412	1732.4	Right	Tilt	/	22.69	23.80	<0.01	<0.01	<0.01	<0.01	/

Table 14.1-9: 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									
1412	1732.4	Front	/	17.54	18.30	0.178	**0.21**	0.332	**0.40**	-0.07
1412	1732.4	Rear	/	17.54	18.30	0.248	**0.30**	0.476	**0.57**	-0.19
1412	1732.4	Left	/	17.54	18.30	<0.01	<0.01	<0.01	<0.01	/
1412	1732.4	Right	/	17.54	18.30	0.036	**0.04**	0.069	**0.08**	0.02
1513	1752.6	Bottom	/	17.63	18.30	0.271	**0.32**	0.533	**0.62**	-0.02
1412	1732.4	Bottom	Fig.9	17.54	18.30	0.384	**0.46**	0.747	**0.89**	0.10
1312	1712.4	Bottom	/	17.69	18.30	0.348	**0.40**	0.691	**0.80**	-0.14

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

Table 14.1-10: 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										
4182	836.4	Left	Cheek	/	21.01	21.50	0.391	**0.44**	0.580	**0.65**	0.08
4182	836.4	Left	Tilt	/	21.01	21.50	0.351	**0.39**	0.557	**0.62**	0.00
4233	846.6	Right	Cheek	/	20.98	21.50	0.416	**0.47**	0.623	**0.70**	-0.17
4182	836.4	Right	Cheek	/	21.01	21.50	0.380	**0.43**	0.712	**0.80**	0.06
4132	826.4	Right	Cheek	/	20.96	21.50	0.415	**0.47**	0.622	**0.70**	0.04
4182	836.4	Right	Tilt	Fig.10	21.01	21.50	0.381	**0.43**	0.737	**0.83**	0.16

Table 14.1-11: 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	/	23.03	23.80	0.228	**0.27**	0.388	**0.46**	0.06
4233	846.6	Rear	Fig.11	22.99	23.80	0.318	**0.38**	0.573	**0.69**	0.01
4183	836.6	Rear	/	23.03	23.80	0.293	**0.35**	0.544	**0.65**	-0.02
4132	826.4	Rear	/	22.89	23.80	0.268	**0.33**	0.466	**0.57**	0.04
4183	836.6	Left	/	23.03	23.80	0.192	**0.23**	0.284	**0.34**	-0.01
4183	836.6	Right	/	23.03	23.80	0.051	**0.06**	0.078	**0.09**	0.11
4183	836.6	Bottom	/	23.03	23.80	0.217	**0.26**	0.447	**0.53**	0.17

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

Table 14.1-12: SAR Values (LTE Band2 - 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											
18700	1860	1RB_Mid	Left	Cheek	Fig.12	22.91	23.80	0.066	**0.08**	0.108	**0.13**	0.04
18700	1860	1RB_Mid	Left	Tilt	/	22.91	23.80	0.038	**0.05**	0.062	**0.08**	0.09
18700	1860	1RB_Mid	Right	Cheek	/	22.91	23.80	0.044	**0.05**	0.069	**0.08**	0.12
18700	1860	1RB_Mid	Right	Tilt	/	22.91	23.80	0.030	**0.04**	0.048	**0.06**	-0.10
18700	1860	50RB-Mid	Left	Cheek	/	21.92	23.80	0.038	**0.06**	0.062	**0.10**	0.06
18700	1860	50RB-Mid	Left	Tilt	/	21.92	23.80	0.031	**0.05**	0.050	**0.08**	0.06
18700	1860	50RB-Mid	Right	Cheek	/	21.92	23.80	<0.01	<0.01	<0.01	<0.01	/
18700	1860	50RB-Mid	Right	Tilt	/	21.92	23.80	0.023	**0.04**	0.039	**0.06**	-0.05

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-13: SAR Values (LTE Band2 - 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									
18700	1860	1RB-Middle Front	/	17.43	18.50	0.168	**0.21**	0.338	**0.43**	-0.09
18700	1860	1RB-Middle Rear	/	17.43	18.50	0.218	**0.28**	0.418	**0.53**	-0.08
18700	1860	1RB-Middle Left	/	17.43	18.50	<0.01	<0.01	<0.01	<0.01	/
18700	1860	1RB-Middle Right	/	17.43	18.50	0.036	**0.05**	0.070	**0.09**	0.19
18700	1860	1RB-Middle Bottom	/	17.43	18.50	0.205	**0.26**	0.404	**0.52**	0.16
18700	1860	100RB Bottom	/	17.54	18.50	0.173	**0.22**	0.348	**0.43**	-0.10
18700	1860	50RB-Mid Front	Fig.13	17.54	18.50	0.226	**0.28**	0.429	**0.54**	-0.06
18700	1860	50RB-Mid Rear	/	17.54	18.50	<0.01	<0.01	<0.01	<0.01	/
18700	1860	50RB-Mid Left	/	17.54	18.50	0.038	**0.05**	0.074	**0.09**	-0.09
18700	1860	50RB-Mid Right	/	17.54	18.50	0.212	**0.26**	0.410	**0.51**	0.09
18700	1860	50RB-Mid Bottom	/	17.43	18.50	0.168	**0.21**	0.338	**0.43**	-0.09

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

Table 14.1-14: 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											
21350	2560	1RB-High	Left	Cheek	/	23.22	24.50	0.051	**0.07**	0.094	**0.13**	0.17
21350	2560	1RB-High	Left	Tilt	/	23.22	24.50	0.043	**0.06**	0.084	**0.11**	0.17
21350	2560	1RB-High	Right	Cheek	Fig.14	23.22	24.50	0.178	**0.24**	0.399	**0.54**	0.09
21350	2560	1RB-High	Right	Tilt	/	23.22	24.50	0.084	**0.11**	0.171	**0.23**	-0.03
20850	2510	50RB-Mid	Left	Cheek	/	22.33	23.50	0.032	**0.04**	0.061	**0.08**	-0.03
20850	2510	50RB-Mid	Left	Tilt	/	22.33	23.50	0.025	**0.03**	0.049	**0.06**	0.12
20850	2510	50RB-Mid	Right	Cheek	/	22.33	23.50	0.109	**0.14**	0.223	**0.29**	-0.07
20850	2510	50RB-Mid	Right	Tilt	/	22.33	23.50	0.046	**0.06**	0.089	**0.12**	-0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-15: 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									
21350	2560	1RB-High Front	/	17.19	18.00	<0.01	<0.01	<0.01	<0.01	/
21350	2560	1RB-High Rear	Fig.15	17.19	18.00	0.368	**0.44**	0.888	**1.07**	-0.19
21100	2535	1RB-High Rear	/	17.13	18.00	0.348	**0.43**	0.878	**1.07**	0.06
20850	2510	1RB rear	/	17.14	18.00	0.341	**0.42**	0.875	**1.07**	0.04
21350	2560	100RB-High Rear	/	17.20	18.00	0.351	**0.42**	0.865	**1.04**	0.05
21350	2560	1RB-High Left	/	17.19	18.00	0.103	**0.12**	0.215	**0.26**	0.09
21350	2560	1RB-High Top	/	17.19	18.00	<0.01	<0.01	<0.01	<0.01	/
20850	2510	100RB Bottom	/	17.31	18.00	<0.01	<0.01	<0.01	<0.01	/
21350	2560	50RB-Low Front	/	17.25	18.00	0.342	**0.41**	0.857	**1.02**	0.15
21100	2535	50RB-High Rear	/	17.27	18.00	0.348	**0.41**	0.856	**1.01**	0.09
20850	2510	50RB-Mid Rear	/	17.31	18.00	0.358	**0.42**	0.867	**1.02**	0.06
20850	2510	50RB-Low Rear	/	17.31	18.00	0.102	**0.12**	0.220	**0.26**	-0.08
20850	2510	50RB-Low Left	/	17.31	18.00	<0.01	<0.01	<0.01	<0.01	/
21350	2560	50RB-Low Top	/	17.19	18.00	<0.01	<0.01	<0.01	<0.01	/

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

Table 14.1-16: 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											
23065	704	1RB-Mid	Left	Cheek	Fig.16	19.98	20.50	0.327	**0.37**	0.680	**0.77**	0.05
23065	704	1RB-Mid	Left	Tilt	/	19.98	20.50	0.226	**0.25**	0.456	**0.51**	0.06
23065	704	1RB-Mid	Right	Cheek	/	19.98	20.50	0.329	**0.37**	0.648	**0.73**	0.17
23065	704	1RB-Mid	Right	Tilt	/	19.98	20.50	0.279	**0.31**	0.584	**0.66**	-0.18
23065	704	25RB-Mid	Left	Cheek	/	20.04	20.50	0.324	**0.36**	0.661	**0.73**	-0.10
23065	704	25RB-Mid	Left	Tilt	/	20.04	20.50	0.244	**0.27**	0.490	**0.54**	0.15
23065	704	25RB-Mid	Right	Cheek	/	20.04	20.50	0.328	**0.36**	0.636	**0.71**	0.17
23065	704	25RB-Mid	Right	Tilt	/	20.04	20.50	0.290	**0.32**	0.603	**0.67**	0.00

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-17: 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									
23065	704	1RB-Middle Front	/	22.95	23.50	0.306	**0.35**	0.525	**0.60**	-0.14
23065	704	1RB-Middle Rear	Fig.17	22.95	23.50	0.325	**0.37**	0.569	**0.65**	-0.01
23065	704	1RB-Middle Left	/	22.95	23.50	0.267	**0.30**	0.388	**0.44**	0.13
23065	704	1RB-Middle Right	/	22.95	23.50	0.080	**0.09**	0.117	**0.13**	0.17
23065	704	1RB-Middle Top	/	22.95	23.50	0.234	**0.27**	0.471	**0.53**	-0.14
23065	704	25RB-Low Front	/	22.04	22.50	0.157	**0.17**	0.277	**0.31**	0.13
23065	704	25RB-Low Rear	/	22.04	22.50	0.178	**0.20**	0.315	**0.35**	0.12
23065	704	25RB-Low eft	/	22.04	22.50	0.108	**0.12**	0.159	**0.18**	-0.09
23065	704	25RB-Low Right	/	22.04	22.50	<0.01	<0.01	<0.01	<0.01	/
23065	704	25RB-Low Top	/	22.04	22.50	0.119	**0.13**	0.241	**0.27**	-0.19

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-18: 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-High	Left	Cheek	/	19.95	20.50	0.258	**0.29**	0.459	**0.52**	-0.03
23230	782	1RB-High	Left	Tilt	/	19.95	20.50	0.204	**0.23**	0.353	**0.40**	-0.18
23230	782	1RB-High	Right	Cheek		19.95	20.50	0.240	**0.27**	0.417	**0.47**	0.05
23230	782	1RB-High	Right	Tilt	/	19.95	20.50	0.224	**0.25**	0.401	**0.46**	0.13
23230	782	25RB-Low	Left	Cheek	Fig.18	20.00	20.50	0.288	**0.32**	0.512	**0.57**	-0.01
23230	782	25RB-Low	Left	Tilt	/	20.00	20.50	0.223	**0.25**	0.386	**0.43**	-0.14
23230	782	25RB-Low	Right	Cheek	/	20.00	20.50	0.269	**0.30**	0.464	**0.52**	0.12
23230	782	25RB-Low	Right	Tilt	/	20.00	20.50	0.254	**0.28**	0.454	**0.51**	0.01

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-19: 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-High Front	/	23.09	23.50	0.306	**0.34**	0.453	**0.50**	0.17
23230	782	1RB-High Rear	Fig.19	23.09	23.50	0.325	**0.36**	0.491	**0.54**	-0.02
23230	782	1RB-High Left	/	23.09	23.50	0.267	**0.29**	0.335	**0.37**	-0.18
23230	782	1RB-High Right	/	23.09	23.50	0.080	**0.09**	0.101	**0.11**	0.17
23230	782	1RB-High Top	/	23.09	23.50	0.234	**0.26**	0.406	**0.45**	0.19
23230	782	25RB-Low Front	/	22.02	22.50	0.185	**0.21**	0.314	**0.35**	0.01
23230	782	25RB-Middle Rear	/	22.02	22.50	0.207	**0.23**	0.367	**0.41**	0.15
23230	782	25RB-Middle Left	/	22.02	22.50	0.169	**0.19**	0.246	**0.27**	0.03
23230	782	25RB-Middle Right	/	22.02	22.50	0.045	**0.05**	0.068	**0.08**	0.08
23230	782	25RB-Middle Top	/	22.02	22.50	0.157	**0.18**	0.321	**0.36**	0.05

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-20: 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											
26865	831.5	1RB-Mid	Left	Cheek	/	21.23	21.50	0.379	**0.40**	0.727	**0.77**	0.04
26865	831.5	1RB-Mid	Left	Tilt	/	21.23	21.50	0.371	**0.39**	0.718	**0.76**	0.08
26965	841.5	1RB-Low	Right	Cheek	/	21.06	21.50	0.421	**0.47**	0.821	**0.91**	0.07
26865	831.5	1RB-Mid	Right	Cheek	Fig.20	21.23	21.50	0.457	**0.49**	0.867	**0.92**	0.00
26775	822.5	1RB-High	Right	Cheek	/	20.97	21.50	0.396	**0.45**	0.795	**0.90**	-0.06
26865	831.5	100RB	Right	Cheek	/	21.07	21.50	0.395	**0.44**	0.805	**0.89**	0.00
26965	841.5	1RB-Low	Right	Tilt	/	21.06	21.50	0.389	**0.43**	0.767	**0.85**	0.06
26865	831.5	1RB-Mid	Right	Tilt	/	21.23	21.50	0.430	**0.46**	0.835	**0.89**	-0.16
26775	822.5	1RB-High	Right	Tilt	/	20.97	21.50	0.388	**0.44**	0.771	**0.87**	-0.06
26865	831.5	100RB	Right	Tilt	/	21.07	21.50	0.377	**0.42**	0.762	**0.84**	-0.14
26865	831.5	36RB-Mid	Left	Cheek	/	21.25	21.50	0.333	**0.35**	0.612	**0.65**	0.08
26865	831.5	36RB-Mid	Left	Tilt	/	21.25	21.50	0.325	**0.34**	0.634	**0.67**	-0.17
26865	831.5	36RB-Mid	Right	Cheek	/	21.25	21.50	0.398	**0.42**	0.748	**0.79**	0.12
26865	831.5	36RB-Mid	Right	Tilt	/	21.25	21.50	0.374	**0.40**	0.721	**0.76**	0.11

Note1: The LTE mode is QPSK_15MHz.

Table 14.1-21: 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									
26865	831.5	1RB-High Front	/	23.08	23.80	0.257	**0.30**	0.461	**0.54**	-0.19
26865	831.5	1RB-High Rear	Fig.21	23.08	23.80	0.334	**0.39**	0.599	**0.71**	-0.01
26865	831.5	1RB-High Left	/	23.08	23.80	0.159	**0.19**	0.242	**0.29**	-0.07
26865	831.5	1RB-High Right	/	23.08	23.80	0.045	**0.05**	0.069	**0.08**	-0.03
26865	831.5	1RB-High Top	/	23.08	23.80	0.232	**0.27**	0.489	**0.58**	0.12
26775	822.5	36RB-High Front	/	22.10	22.80	0.141	**0.17**	0.242	**0.28**	0.09
26775	822.5	36RB-High Rear	/	22.10	22.80	0.198	**0.23**	0.358	**0.42**	0.10
26775	822.5	36RB-High Left	/	22.10	22.80	0.111	**0.13**	0.167	**0.20**	0.16
26775	822.5	36RB-High Right	/	22.10	22.80	<0.01	<0.01	<0.01	<0.01	/
26775	822.5	36RB-High Top	/	22.10	22.80	0.142	**0.17**	0.299	**0.35**	-0.12

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.1-22: 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											
132572	1770	1RB-High	Left	Cheek	Fig.22	22.88	23.80	0.053	**0.07**	0.085	**0.11**	0.13
132572	1770	1RB-High	Left	Tilt	/	22.88	23.80	0.029	**0.04**	0.045	**0.06**	-0.04
132572	1770	1RB-High	Right	Cheek	/	22.88	23.80	0.036	**0.04**	0.054	**0.07**	-0.16
132572	1770	1RB-High	Right	Tilt	/	22.88	23.80	0.037	**0.05**	0.058	**0.07**	-0.10
132572	1770	50RB-High	Left	Cheek	/	21.90	22.80	0.036	**0.04**	0.057	**0.07**	-0.07
132572	1770	50RB-High	Left	Tilt	/	21.90	22.80	<0.01	<0.01	<0.01	<0.01	/
132572	1770	50RB-High	Right	Cheek	/	21.90	22.80	0.027	**0.03**	0.042	**0.05**	-0.11
132572	1770	50RB-High	Right	Tilt	/	21.90	22.80	<0.01	<0.01	<0.01	<0.01	/

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-23: 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									
132572	1770	1RB-High Front	/	17.55	18.00	0.155	**0.17**	0.287	**0.32**	-0.18
132572	1770	1RB-High Rear	/	17.55	18.00	0.214	**0.24**	0.396	**0.44**	0.08
132572	1770	1RB-High Left	/	17.55	18.00	<0.01	<0.01	<0.01	<0.01	/
132572	1770	1RB-High Right	/	17.55	18.00	0.039	**0.04**	0.071	**0.08**	-0.06
132572	1770	1RB-High Bottom	Fig.23	17.55	18.00	0.301	**0.33**	0.582	**0.65**	0.16
132572	1770	50RB-Mid Front	/	17.61	18.00	0.162	**0.18**	0.296	**0.32**	0.00
132572	1770	50RB-Mid Rear	/	17.61	18.00	0.223	**0.24**	0.411	**0.45**	0.11
132572	1770	50RB-Mid Left	/	17.61	18.00	<0.01	<0.01	<0.01	<0.01	/
132572	1770	50RB-Mid Right	/	17.61	18.00	0.033	**0.04**	0.059	**0.06**	0.17
132572	1770	50RB-Mid Bottom	/	17.61	18.00	0.289	**0.32**	0.571	**0.62**	-0.13

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										
251	848.8	Right	Cheek	Fig.1	28.74	30.00	0.255	**0.34**	0.337	**0.45**	0.07

Note: the head SAR of GSM850 is tested with GPRS (3Txslots) 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										
251	848.8	GPRS (3)	Rear	Fig.2	28.74	30.00	0.303	**0.40**	0.520	**0.70**	-0.11

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										
512	1850.2	Left	Cheek	Fig.3	26.53	27.50	0.045	**0.06**	0.074	**0.09**	0.07

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

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

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 (2)	Rear	Fig.4	26.53	27.50	0.319	**0.40**	0.564	**0.71**	0.08

Note: The distance between the EUT and the phantom bottom is 15mm

Table 14.2-5: SAR Values (GSM 1900 MHz Band – Hotspot)

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.5	19.72	21.00	0.341	**0.46**	0.669	**0.90**	0.12

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

Table 14.2-6: SAR Values (WCDMA 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										
9400	1880	Left	Cheek	Fig.6	22.75	23.80	0.064	**0.08**	0.105	**0.13**	-0.01

Table 14.2-7: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
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.7	17.72	18.50	0.421	**0.50**	0.823	**0.98**	0.01

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

Table 14.2-8: SAR Values (WCDMA 1700 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										
1312	1712.4	Right	Cheek	Fig.8	22.82	23.80	0.079	**0.10**	0.130	**0.16**	-0.16

Table 14.2-9: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
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	Bottom	Fig.9	17.54	18.30	0.384	**0.46**	0.747	**0.89**	0.10

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

Table 14.2-10: SAR Values (WCDMA 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										
4182	836.4	Right	Tilt	Fig.10	21.01	21.50	0.381	**0.43**	0.737	**0.83**	0.16

Table 14.2-11: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
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									
4233	846.6	Rear	Fig.11	22.99	23.80	0.318	**0.38**	0.573	**0.69**	0.01

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

Table 14.2-12: SAR Values (LTE Band2 - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC												
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											
18700	1860	1RB_Mid	Left	Cheek	Fig.12	22.91	23.80	0.066	**0.08**	0.108	**0.13**	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-13: SAR Values (LTE Band2 - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
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									
18700	1860	50RB-Mid Front	Fig.13	17.54	18.50	0.226	**0.28**	0.429	**0.54**	-0.06

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

Table 14.2-14: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC												
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											
21350	2560	1RB-High	Right	Cheek	Fig.14	23.22	24.50	0.178	**0.24**	0.399	**0.54**	0.09

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-15: 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									
21350	2560	1RB-High Rear	Fig.15	17.19	18.00	0.368	**0.44**	0.888	**1.07**	-0.19

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

Table 14.2-16: 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											
23065	704	1RB-Mid	Left	Cheek	Fig.16	19.98	20.50	0.327	**0.37**	0.680	**0.77**	0.05

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-17: 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									
23065	704	1RB-Middle Rear	Fig.17	22.95	23.50	0.325	**0.37**	0.569	**0.65**	-0.01

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-18: 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	25RB-Low	Left	Cheek	Fig.18	20.00	20.50	0.288	**0.32**	0.512	**0.57**	-0.01

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-19: 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-High Rear	Fig.19	23.09	23.50	0.325	**0.36**	0.491	**0.54**	-0.02

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-20: 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											
26865	831.5	1RB-Mid	Right	Cheek	Fig.20	21.23	21.50	0.457	**0.49**	0.867	**0.92**	0.00

Note1: The LTE mode is QPSK_15MHz.

Table 14.2-21: 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									
26865	831.5	1RB-High Rear	Fig.21	23.08	23.80	0.334	**0.39**	0.599	**0.71**	-0.01

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.2-22: 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											
132572	1770	1RB-High	Left	Cheek	Fig.22	22.88	23.80	0.053	**0.07**	0.085	**0.11**	0.13

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-23: 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									
132572	1770	1RB-High Bottom	Fig.23	17.55	18.00	0.301	**0.33**	0.582	**0.65**	0.16

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 ºC Liquid Temperature: 22.5ºC										
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	810	1909.8	Bottom	26.91	27.50	1.540	**1.76**	3.230	**3.70**	-0.09
GSM1900	661	1880	Bottom	26.60	27.50	1.780	**2.19**	3.940	**4.85**	0.04
GSM1900	512	1850.2	Bottom/Fig.24	26.53	27.50	2.030	**2.54**	4.760	**5.95**	0.16

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	/	15.00	15.00	0.093	**0.09**	0.195	**0.20**	0.12
6	2437	Left	Cheek	/	14.19	15.00	0.083	**0.10**	0.178	**0.21**	0.09
1	2412	Left	Cheek	/	14.26	15.00	0.141	**0.17**	0.295	**0.35**	-0.14
11	2462	Left	Tilt	/	15.00	15.00	0.071	**0.07**	0.163	**0.16**	0.08
11	2462	Right	Cheek	/	15.00	15.00	0.034	**0.03**	0.067	**0.07**	0.08
11	2462	Right	Tilt	/	15.00	15.00	0.034	**0.03**	0.058	**0.06**	-0.17

As shown above table, the initial test position for head is “Left 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	/	15.00	15.00	0.096	**0.10**	0.200	**0.20**	0.12
6	2437	Left	Cheek	/	14.19	15.00	0.087	**0.10**	0.181	**0.22**	0.09
1	2412	Left	Cheek	Fig,25	14.26	15.00	0.144	**0.17**	0.301	**0.36**	-0.14

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.

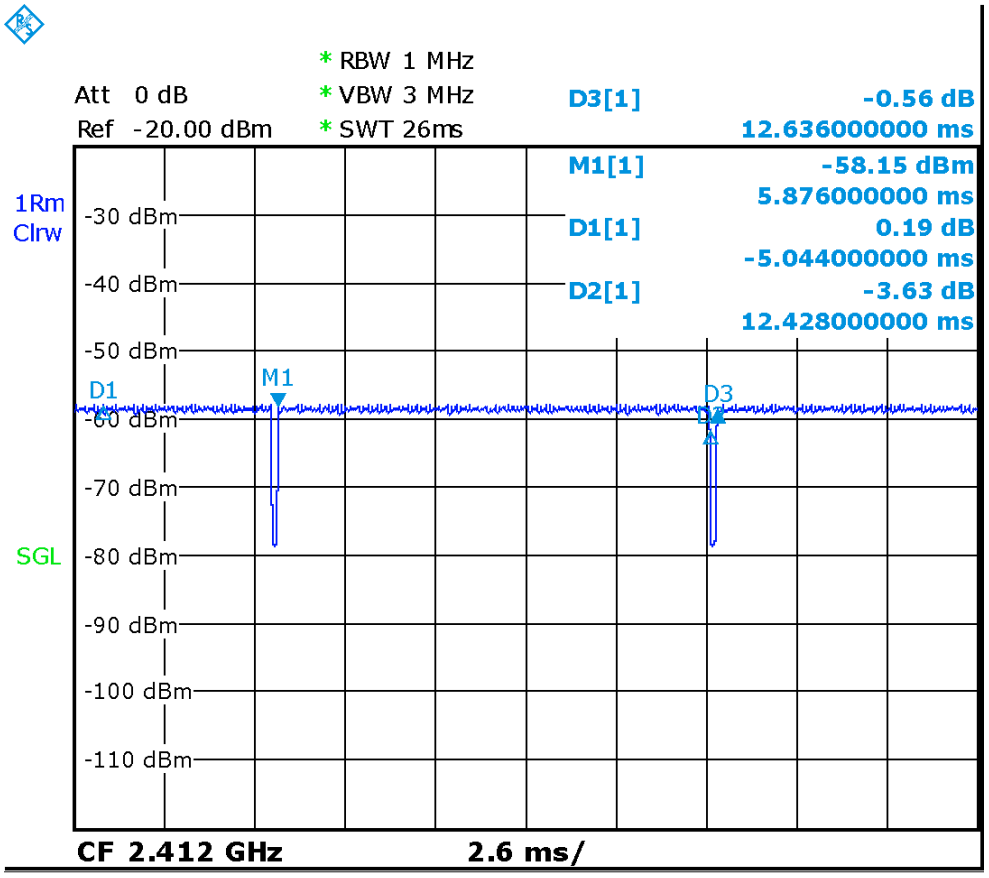


Table 14.4-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃							
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	Left	Cheek	98%	100%	**0.36**	**0.37**

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

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	/	17.70	18.50	0.071	**0.09**	0.121	**0.15**	-0.07
11	2462	Rear	/	17.70	18.50	0.091	**0.11**	0.165	**0.20**	-0.11
11	2462	Right	/	18.23	18.50	0.110	**0.12**	0.217	**0.23**	0.03
11	2462	Top	/	17.70	18.50	0.041	**0.05**	0.084	**0.10**	-0.01

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	Right	Fig.26	18.23	18.50	0.110	**0.12**	0.217	**0.23**	0.03

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.

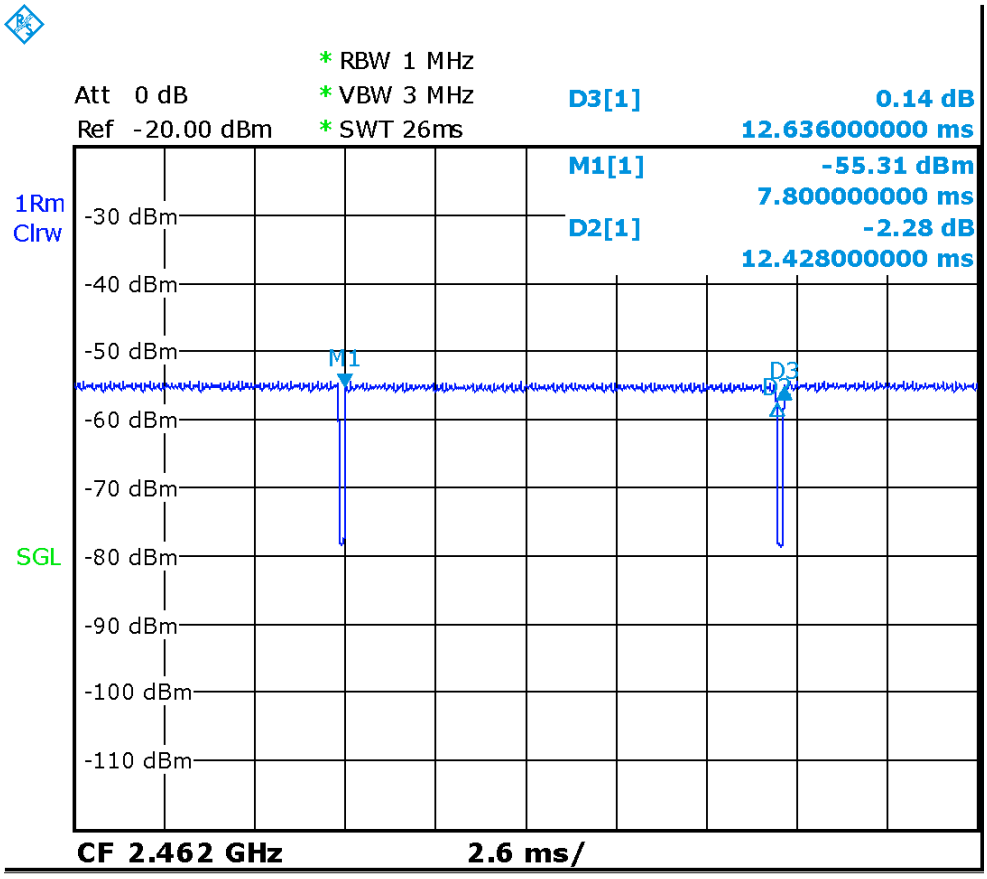
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg 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	Right	98%	100%	**0.23**	**0.23**

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



Picture 14.1 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	11.78	12	<0.01	<0.01	<0.01	<0.01	/
0	2402	Left	Tilt	11.78	12	<0.01	<0.01	<0.01	<0.01	/
0	2402	Right	Cheek	11.78	12	<0.01	<0.01	<0.01	<0.01	/
0	2402	Right	Tilt	11.78	12	<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	11.78	12	<0.01	<0.01	<0.01	<0.01	/
0	2402	Rear	11.78	12	<0.01	<0.01	<0.01	<0.01	/
0	2402	Right	11.78	12	<0.01	<0.01	<0.01	<0.01	/
0	2402	Top	11.78	12	<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

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

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 (Receiver on)

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	50		40	40	35	40	32	
U-NII-2A	50		40	40	35	40	32	
U-NII-2C	50		40	40	35	40	32	
U-NII-3	50		40	40	35	40	32	
§ 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 (Receiver off)

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	14		11	11	11	11	11	
U-NII-2A	14		11	11	11	11	11	
U-NII-2C	14		11	11	11	11	11	
U-NII-3	14		11	11	11	11	11	
§ 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 measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Head (Receiver on)

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 36/38/38/42	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 44/45/45/40	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 45/44/40/38/34/3 3/33/34/37/41/46/ 49	100/104/108/112 116/132/136/140 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 47/46/46/42/40	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 14.6-5: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Body (Receiver off)

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 11/11/12/12	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 13/13/13/13	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 13/13/12/11/10/10/10/10/11/12/13/14	100/104/108/112 116/132/136/140 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 12/14/13/12/12	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 14.6-6: Reported SAR of initial test configuration for Head (Receiver on)

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 UNII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.12**	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 **0.08**	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 **0.09**	149/153/157/161/165	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 14.6-7: Reported SAR of initial test configuration for Body (Receiver off)

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 UNII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.38**	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 **0.30**	100/104/108/112/116/120/124/128/132/136/140/144	118/126/134/142	100/104/108/112/116/120/124/128/132/136/140/144	102/110/134	106
U-NII-3	149/153/157/161/165 **0.33**	149/153/157/161/165	151/159	149/153/157/161	151/159	155
Highest measured output power channel tested initially are in yellow highlight.						

Table 14.6-8: SAR Values (WLAN 5G - Head)

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										
60	5300	Left	Cheek	/	16.57	17.00	0.031	**0.03**	0.102	**0.11**	0.16
60	5300	Left	Tilt	/	16.57	17.00	0.046	**0.05**	0.101	**0.11**	0.10
60	5300	Right	Cheek	/	16.57	17.00	0.020	**0.02**	0.048	**0.05**	0.12
60	5300	Right	Tilt	Fig.27	16.57	17.00	0.041	**0.05**	0.108	**0.12**	-0.13
144	5720	Left	Cheek	/	16.88	17.00	0.013	**0.01**	0.045	**0.05**	0.02
144	5720	Left	Tilt	/	16.88	17.00	0.028	**0.03**	0.074	**0.08**	0.13
144	5720	Right	Cheek	/	16.88	17.00	0.020	**0.02**	0.046	**0.05**	-0.05
144	5720	Right	Tilt	/	16.88	17.00	0.027	**0.03**	0.064	**0.07**	-0.14
149	5745	Left	Cheek	/	16.68	17.00	0.013	**0.01**	0.047	**0.05**	0.13
149	5745	Left	Tilt	/	16.68	17.00	0.032	**0.03**	0.087	**0.09**	0.12
149	5745	Right	Cheek	/	16.68	17.00	0.018	**0.02**	0.044	**0.05**	-0.06
149	5745	Right	Tilt	/	16.68	17.00	0.032	**0.03**	0.088	**0.09**	-0.14

Table 14.6-9: SAR Values (WLAN 5G - Body)

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									
60	5300	Front	/	11.30	11.50	0.009	**0.01**	0.046	**0.05**	0.12
60	5300	Rear	Fig.28	11.30	11.50	0.094	**0.10**	0.361	**0.38**	-0.06
60	5300	Right	/	11.30	11.50	0.008	**0.01**	0.040	**0.04**	0.07
60	5300	Top	/	11.30	11.50	0.030	**0.03**	0.083	**0.09**	-0.11
144	5720	Front	/	11.48	11.50	0.014	**0.01**	0.056	**0.06**	0.06
144	5720	Rear	/	11.48	11.50	0.080	**0.08**	0.294	**0.30**	0.04
144	5720	Right	/	11.48	11.50	0.010	**0.01**	0.044	**0.04**	-0.14
144	5720	Top	/	11.48	11.50	0.029	**0.03**	0.078	**0.08**	0.09
153	5765	Front	/	11.40	11.50	0.009	**0.01**	0.042	**0.04**	-0.09
153	5765	Rear	/	11.40	11.50	0.090	**0.09**	0.327	**0.33**	0.12
153	5765	Right	/	11.40	11.50	0.009	**0.01**	0.041	**0.04**	0.14
153	5765	Top	/	11.40	11.50	0.029	**0.03**	0.079	**0.08**	-0.03

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.

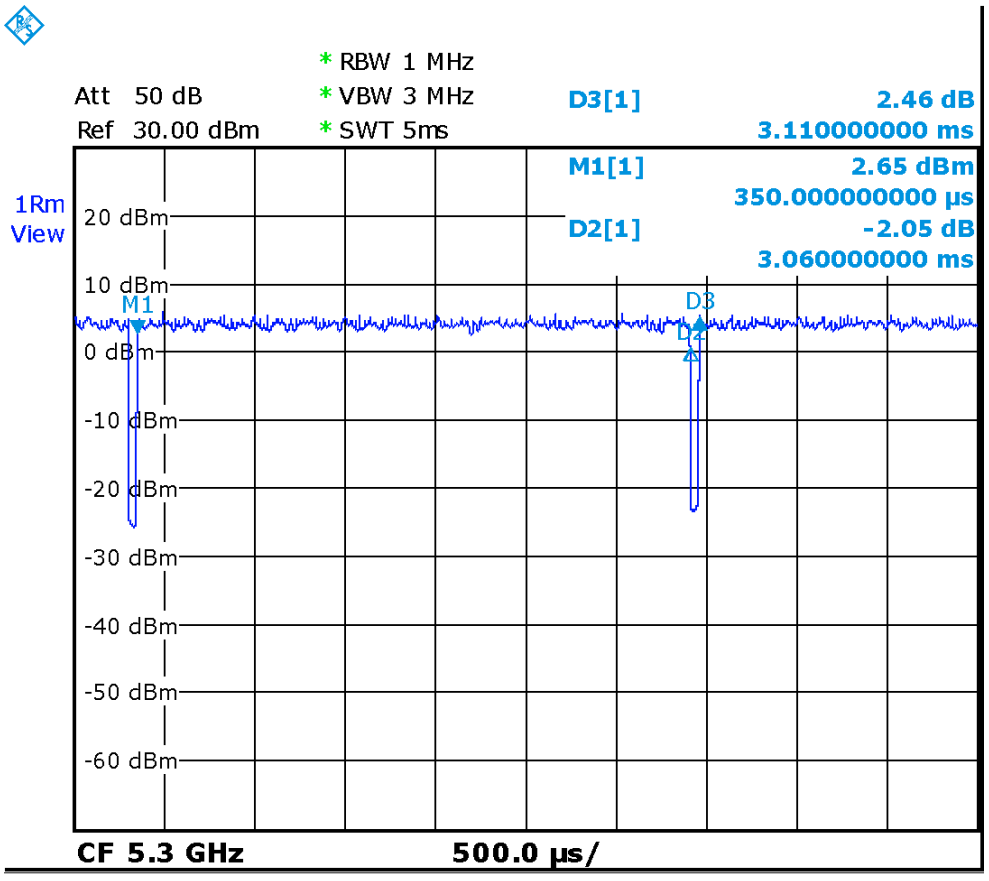
Table 14.6-10: SAR Values (WLAN 5G - Head) (Scaled Reported SAR)

Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
60	5300	Right	Tilt	98%	100%	**0.12**	**0.12**

Table 14.6-11 SAR Values (WLAN 5G - Body) (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						
60	5300	Rear	10	98%	100%	**0.38**	**0.39**

Note1: The distance between the EUT and the phantom bottom is 15mm.



Picture 14.6-1 The plot of duty factor for Head&Body

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 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	0.823	0.808	1.02	/

Table 15.2: 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						
1412	1732.4	Bottom	10	0.832	0.805	1.03	/

Table 15.3: 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						
21350	2560	Rear	10	0.888	0.865	1.03	/

Table 15.4: SAR Measurement Variability for Body LTE Band26(1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
26865	831.5	Right Cheek	0.867	0.842	1.03	/

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	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	√3	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	√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	√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	0.4	R	√3	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	√3	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	√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	√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	$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$					19.1	18.9	

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

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

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

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

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

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

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

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

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

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	N5239A	MY46110673	January 24, 2020	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	3617	Jan 30, 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_CH251 Right Cheek
Date: 1/8/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 848.8 MHz; σ = 0.926 mho/m; εr = 41.92; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: GSM850 848.8 MHz Duty Cycle: 1:2.67
Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.419 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.059 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.447 W/kg
SAR(1 g) = 0.337 W/kg; SAR(10 g) = 0.255 W/kg
Maximum value of SAR (measured) = 0.409 W/kg

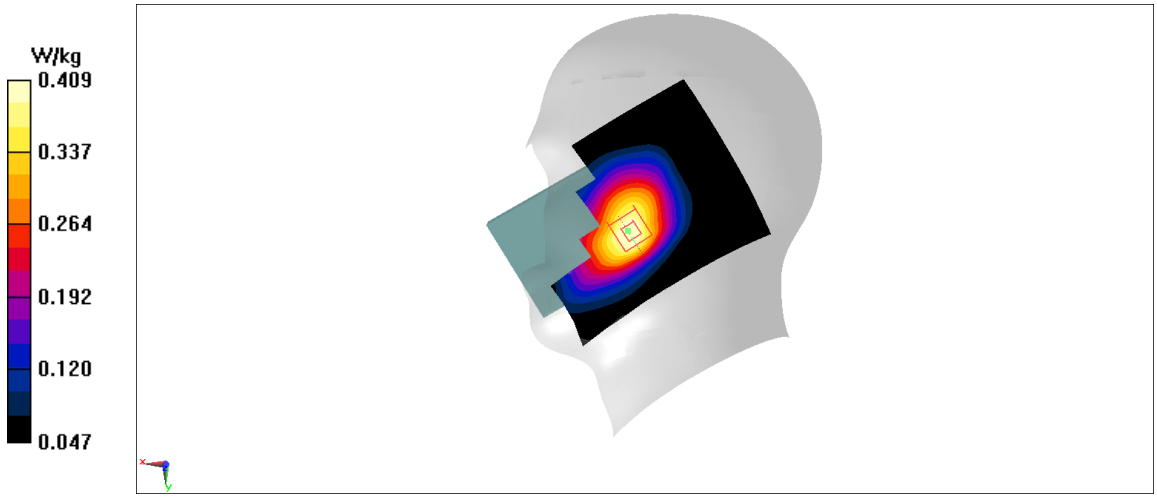


Fig A.1

GSM850_CH251 Rear 10mm
Date: 1/8/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 848.8 MHz; σ = 0.926 mho/m; εr = 41.92; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: GSM850 848.8 MHz Duty Cycle: 1:2.67
Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.697 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.96 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.927 W/kg
SAR(1 g) = 0.52 W/kg; SAR(10 g) = 0.303 W/kg
Maximum value of SAR (measured) = 0.775 W/kg

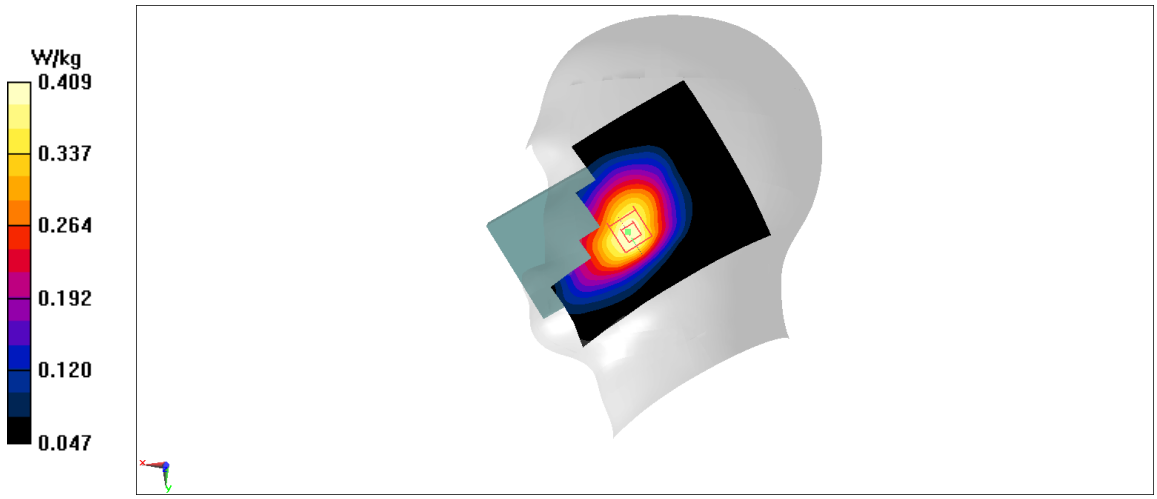


Fig A.2

PCS1900_CH512 Left Cheek
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.328 mho/m; εr = 39.64; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:4
Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0996 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.659 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.12 W/kg
SAR(1 g) = 0.074 W/kg; SAR(10 g) = 0.045 W/kg
Maximum value of SAR (measured) = 0.104 W/kg

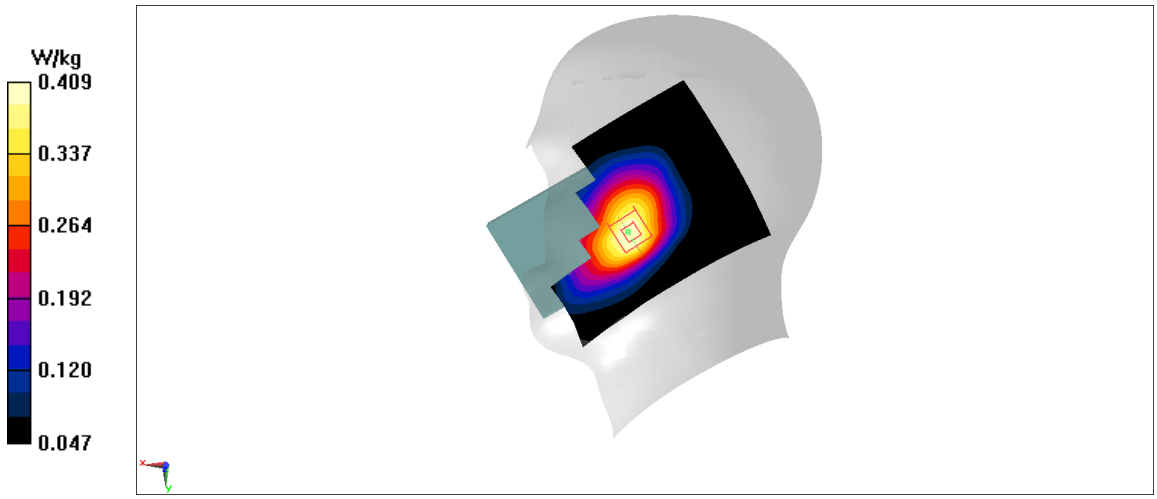


Fig A.3

PCS1900_CH512 Rear 15mm_Body worn
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.328 mho/m; εr = 39.64; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:4
Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.536 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.817 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.949 W/kg
SAR(1 g) = 0.564 W/kg; SAR(10 g) = 0.319 W/kg
Maximum value of SAR (measured) = 0.813 W/kg

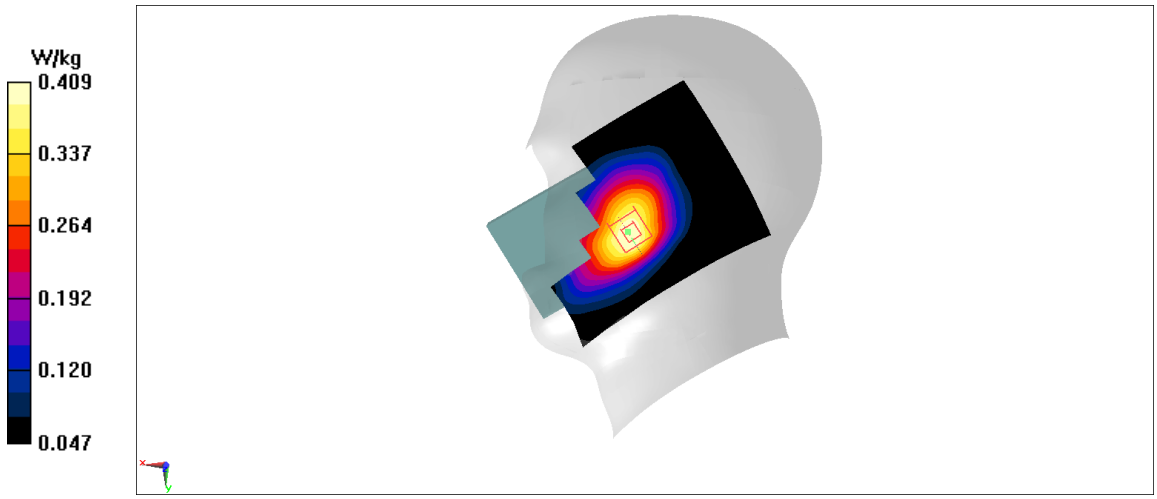


Fig A.4

PCS1900_CH512 Bottom 10mm_Hotspot
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.328 mho/m; εr = 39.64; 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 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.10 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.10 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.669 W/kg; SAR(10 g) = 0.341 W/kg
Maximum value of SAR (measured) = 1.04 W/kg

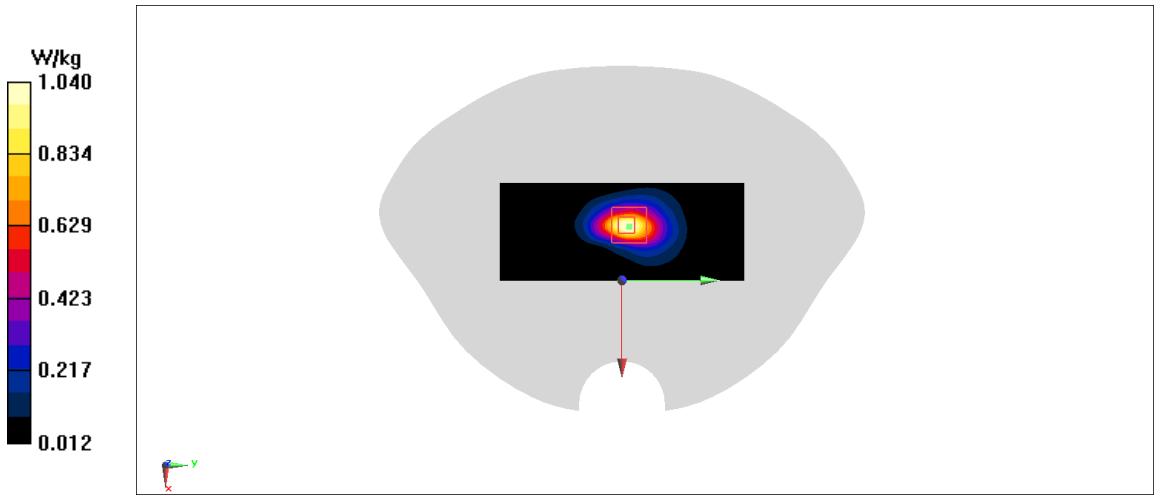


Fig A.5

WCDMA1900-BII_CH9400 Left Cheek
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.356 mho/m; εr = 39.6; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA1900-BII 1880 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.143 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.378 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.169 W/kg
SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.064 W/kg
Maximum value of SAR (measured) = 0.146 W/kg

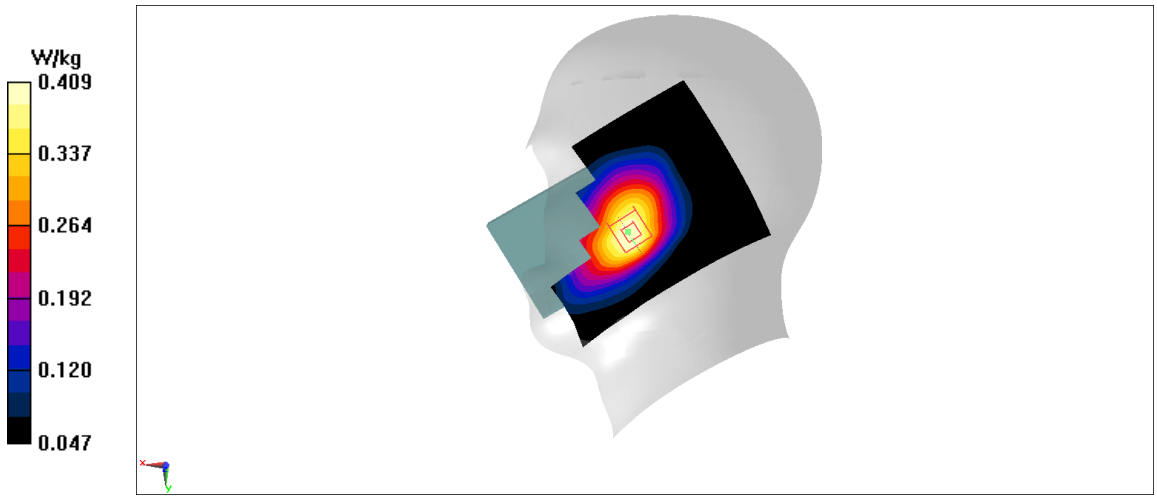


Fig A.6

WCDMA1900-BII_CH9262 Bottom 10mm
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.329 mho/m; εr = 39.64; 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 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.35 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.69 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.823 W/kg; SAR(10 g) = 0.421 W/kg
Maximum value of SAR (measured) = 1.28 W/kg

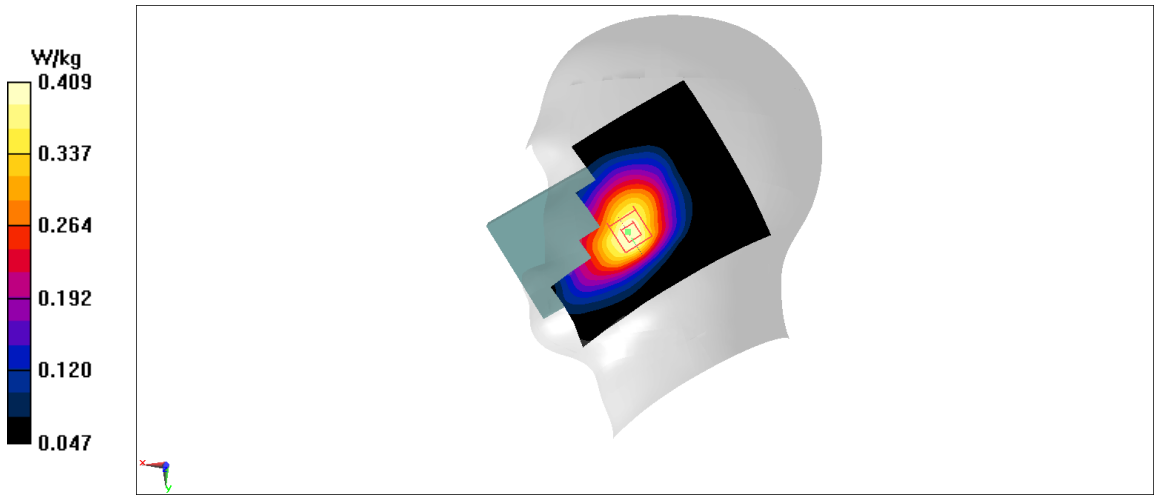


Fig A.7

WCDMA1700-BIV_CH1312 Right Cheek
Date: 1/9/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.341 mho/m; εr = 39.79; 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 – SN3617 ConvF(8.41,8.41,8.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.112 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.66 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.128 W/kg
SAR(1 g) = 0.13 W/kg; SAR(10 g) = 0.079 W/kg
Maximum value of SAR (measured) = 0.113 W/kg

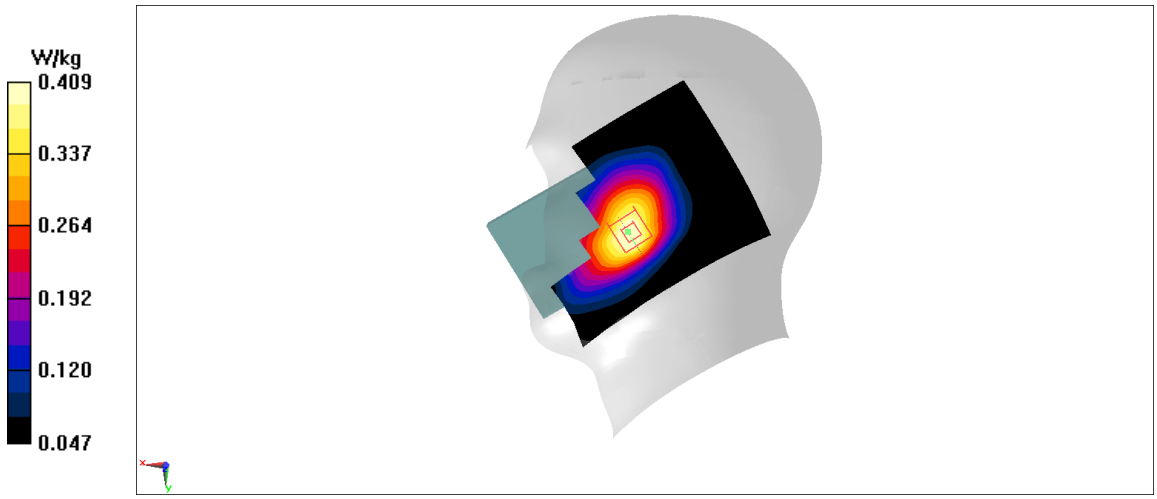


Fig A.8

WCDMA1700-BIV_CH1412 Bottom 10mm
Date: 1/9/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 1732.4 MHz; σ = 1.36 mho/m; εr = 39.76; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1700-BIV 1732.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.16 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.81 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.747 W/kg; SAR(10 g) = 0.384 W/kg
Maximum value of SAR (measured) = 1.15 W/kg

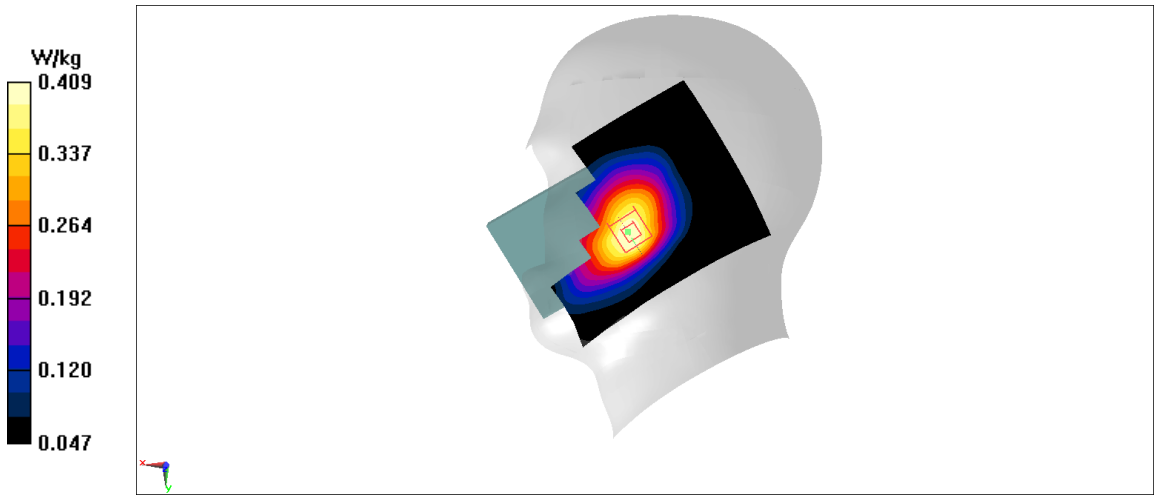


Fig A.9

WCDMA850-BV_CH4182 Right Tilt
Date: 1/8/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 836.4 MHz; σ = 0.914 mho/m; εr = 41.94; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA850-BV 836.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.38 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.89 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 0.737 W/kg; SAR(10 g) = 0.381 W/kg
Maximum value of SAR (measured) = 1.32 W/kg

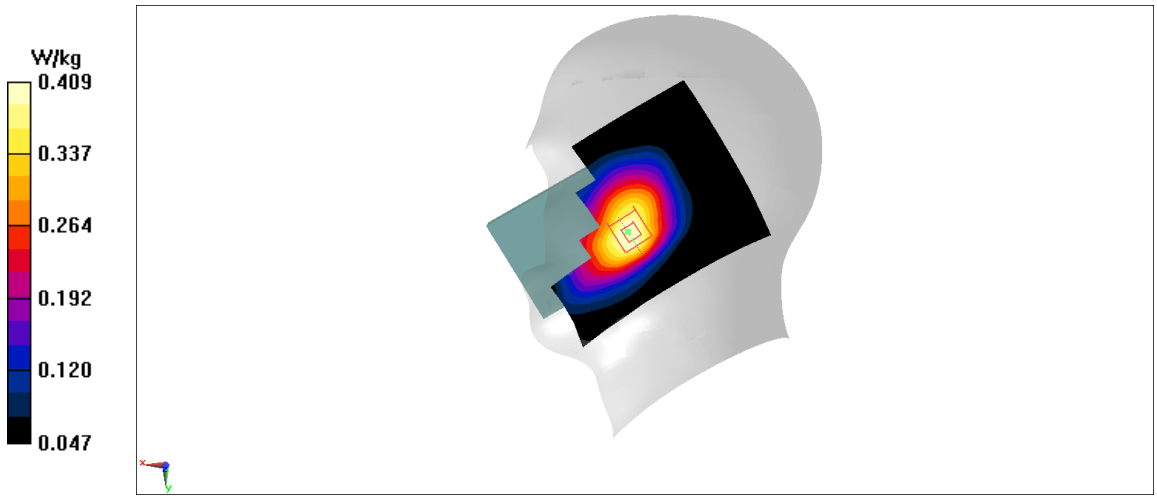


Fig A.10

WCDMA850-BV_CH4233 Rear 10mm
Date: 1/8/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 846.6 MHz; σ = 0.924 mho/m; εr = 41.93; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.866 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.93 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.573 W/kg; SAR(10 g) = 0.318 W/kg
Maximum value of SAR (measured) = 0.871 W/kg

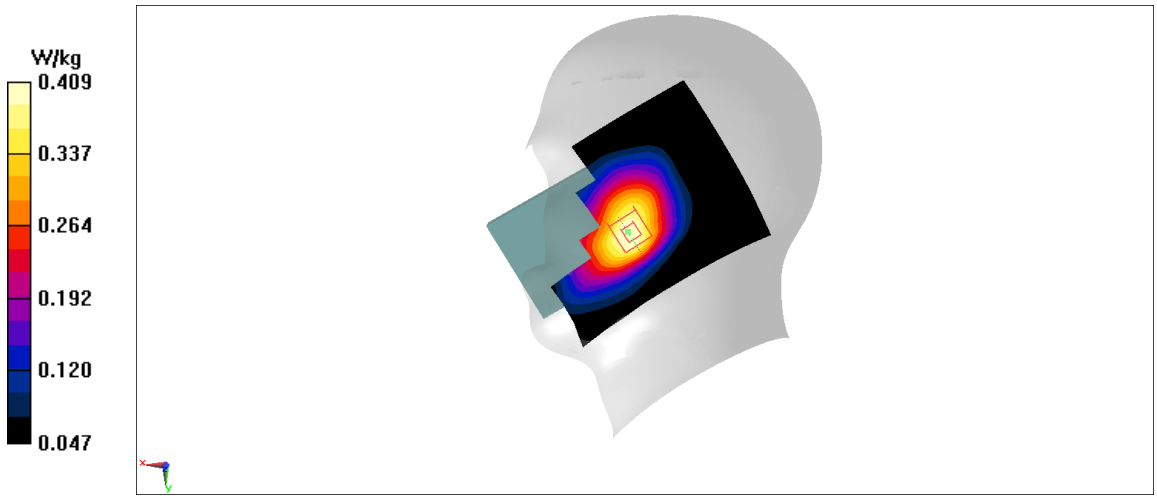


Fig A.11

LTE1900-FDD2_CH18700 Left Cheek
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.337 mho/m; εr = 39.63; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1900-FDD2 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.138 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.991 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.172 W/kg
SAR(1 g) = 0.108 W/kg; SAR(10 g) = 0.066 W/kg
Maximum value of SAR (measured) = 0.147 W/kg

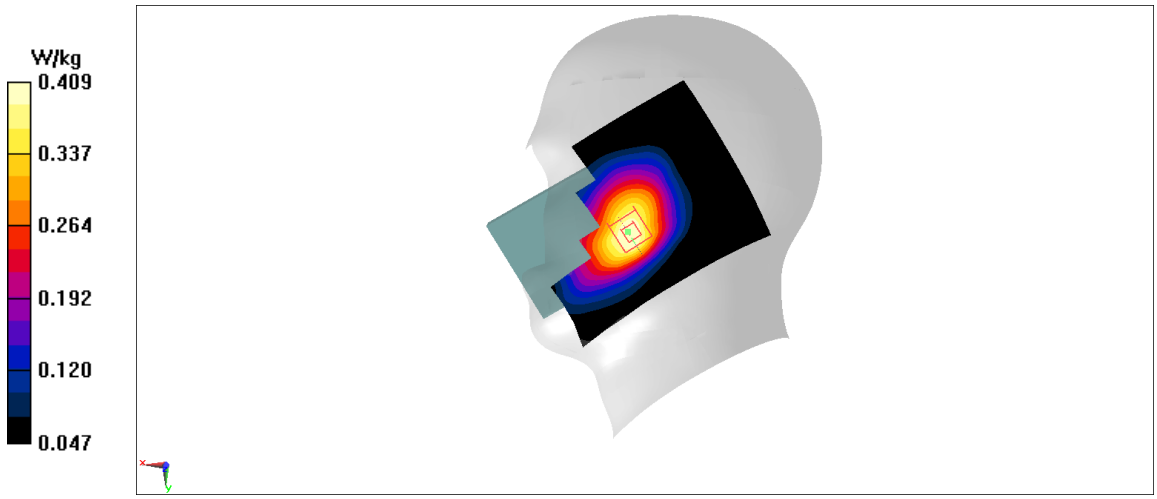


Fig A.12

LTE1900-FDD2_CH18700 Rear 10mm
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.337 mho/m; εr = 39.63; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1900-FDD2 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.622 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.61 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.772 W/kg
SAR(1 g) = 0.429 W/kg; SAR(10 g) = 0.226 W/kg
Maximum value of SAR (measured) = 0.648 W/kg

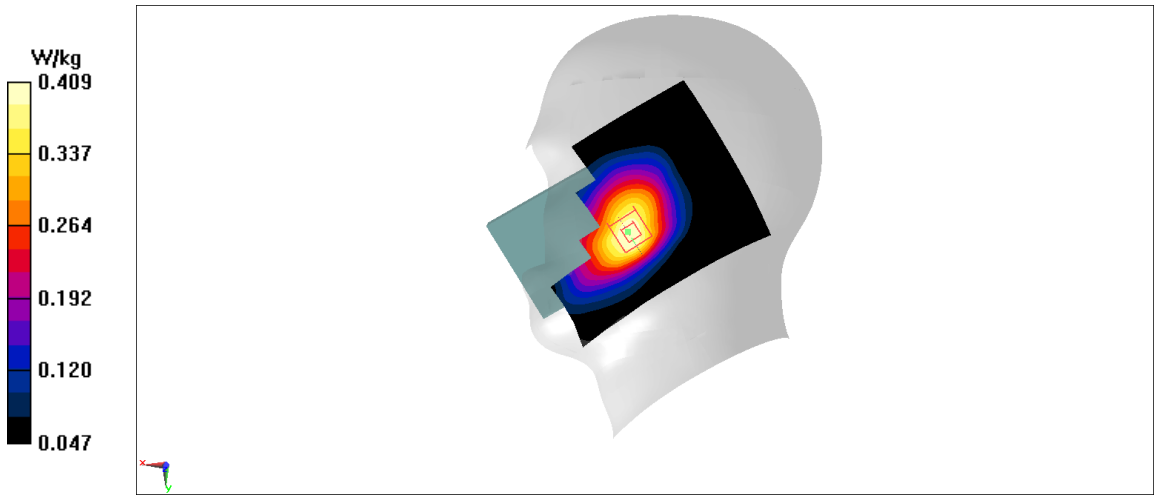


Fig A.13

LTE2500-FDD7_CH21350 Right Cheek
Date: 1/12/2021
Electronics: DAE4 Sn536
Medium: head 2600 MHz
Medium parameters used: f = 2560 MHz; σ = 1.888 mho/m; εr = 39.06; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.672 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.15 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.923 W/kg
SAR(1 g) = 0.399 W/kg; SAR(10 g) = 0.178 W/kg
Maximum value of SAR (measured) = 0.696 W/kg

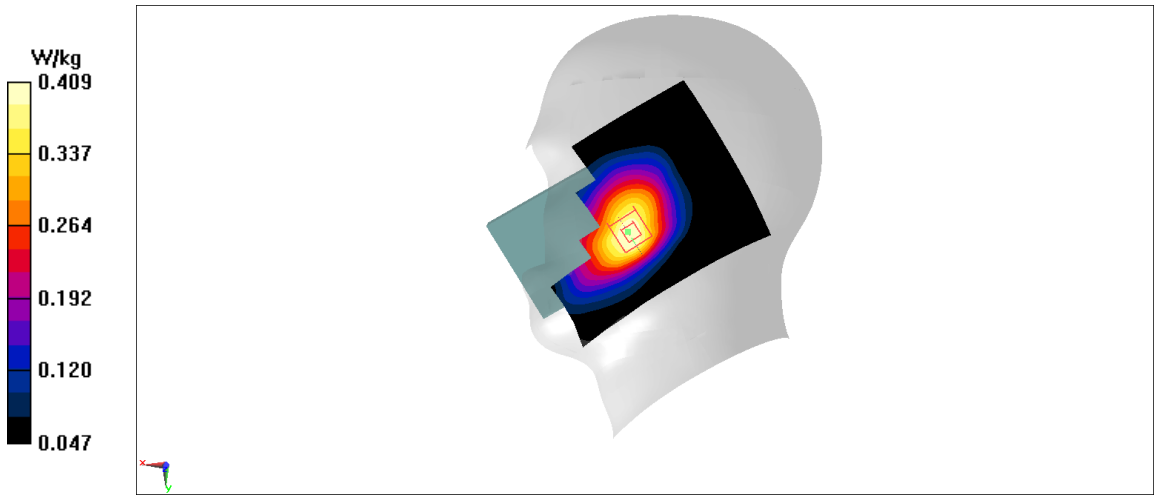


Fig A.14

LTE2500-FDD7_CH21350 Rear 10mm
Date: 1/12/2021
Electronics: DAE4 Sn536
Medium: head 2600 MHz
Medium parameters used: f = 2560 MHz; σ = 1.888 mho/m; εr = 39.06; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.63 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.129 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 1.93 W/kg
SAR(1 g) = 0.888 W/kg; SAR(10 g) = 0.368 W/kg
Maximum value of SAR (measured) = 1.55 W/kg

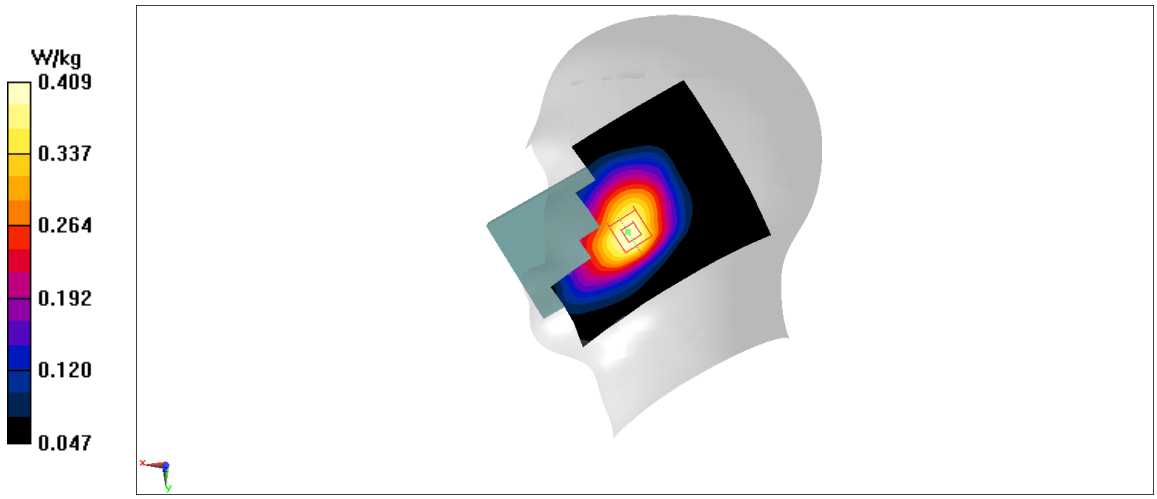


Fig A.15

LTE700-FDD12_CH23060 Left Cheek
Date: 1/7/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 704 MHz; σ = 0.861 mho/m; εr = 42.47; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD12 704 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.866 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.24 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.68 W/kg; SAR(10 g) = 0.327 W/kg
Maximum value of SAR (measured) = 1.16 W/kg

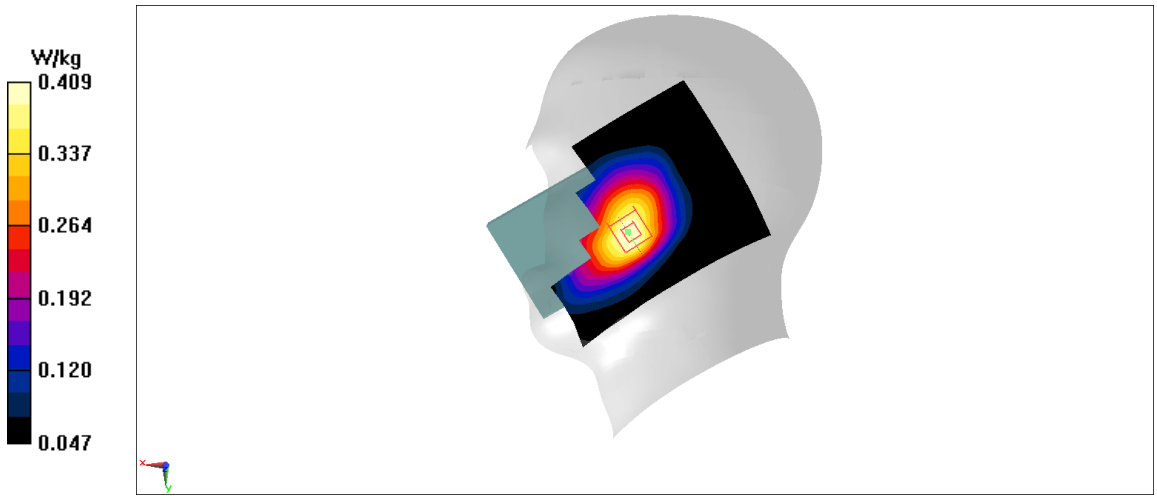


Fig A.16

LTE700-FDD12_CH23065 Rear 10mm
Date: 1/7/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 704.5 MHz; σ = 0.861 mho/m; εr = 42.47; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD12 704.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

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 = 17.29 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.569 W/kg; SAR(10 g) = 0.325 W/kg
Maximum value of SAR (measured) = 0.831 W/kg

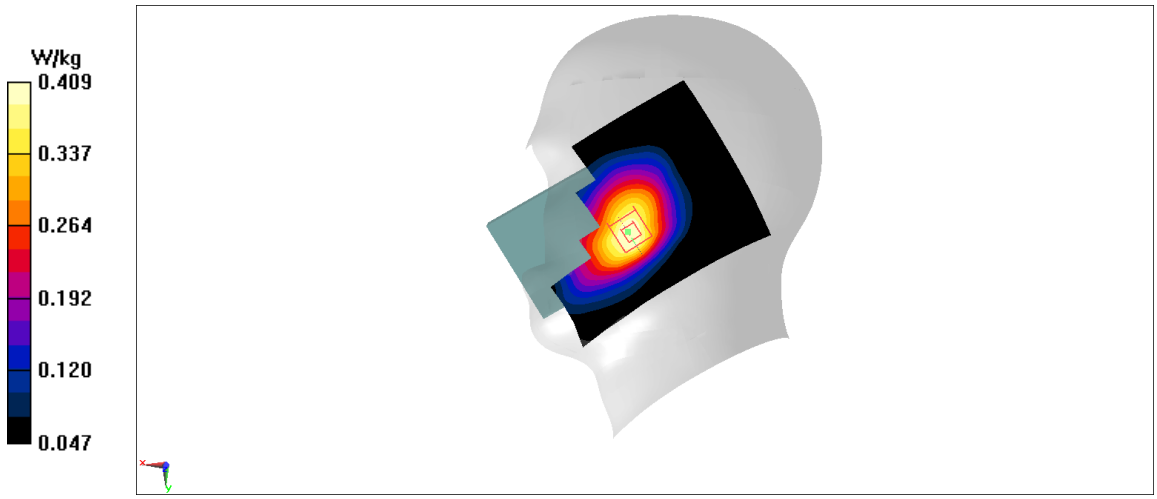


Fig A.17

LTE750-FDD13_CH23230 Left Cheek
Date: 1/7/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.935 mho/m; εr = 42.37; 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 – SN3617 ConvF(10.07,10.07,10.07)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.783 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.53 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.512 W/kg; SAR(10 g) = 0.288 W/kg
Maximum value of SAR (measured) = 1.1 W/kg

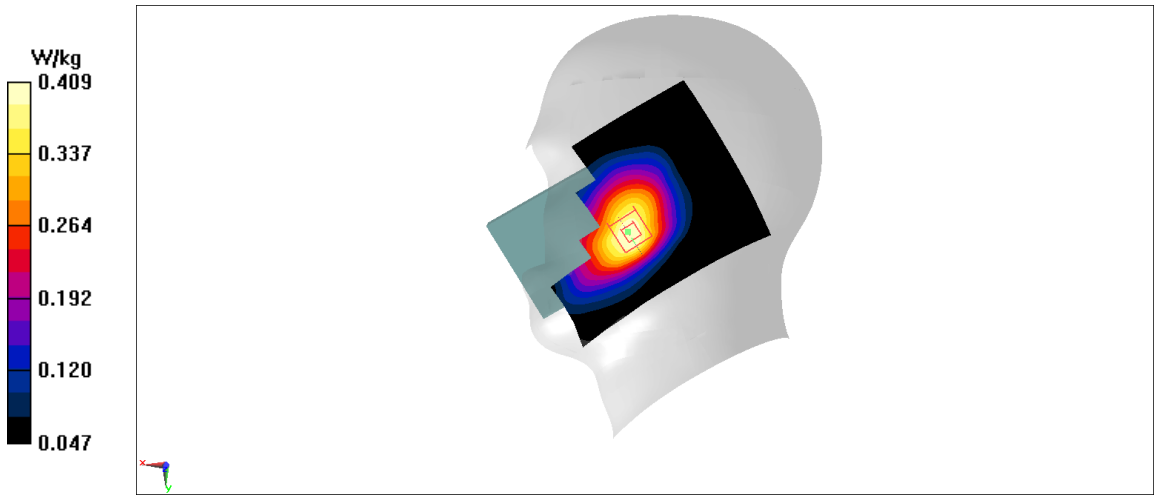


Fig A.18

LTE750-FDD13_CH23230 Rear 10mm
Date: 1/7/2021
Electronics: DAE4 Sn536
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.935 mho/m; εr = 42.37; 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 – SN3617 ConvF(10.07,10.07,10.07)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.697 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.26 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.955 W/kg
SAR(1 g) = 0.491 W/kg; SAR(10 g) = 0.325 W/kg
Maximum value of SAR (measured) = 0.772 W/kg

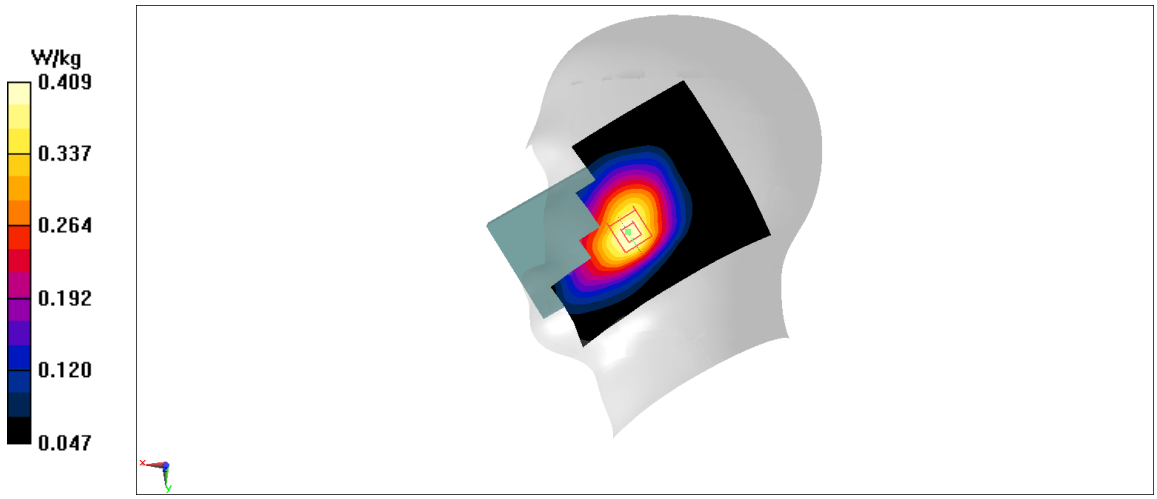


Fig A.19

LTE850-FDD26_CH26865 Right Cheek
Date: 1/8/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 831.5 MHz; σ = 0.91 mho/m; εr = 41.94; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE850-FDD26 831.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.4 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 39.48 V/m; Power Drift = 0 dB
Peak SAR (extrapolated) = 2.3 W/kg
SAR(1 g) = 0.867 W/kg; SAR(10 g) = 0.457 W/kg
Maximum value of SAR (measured) = 1.59 W/kg

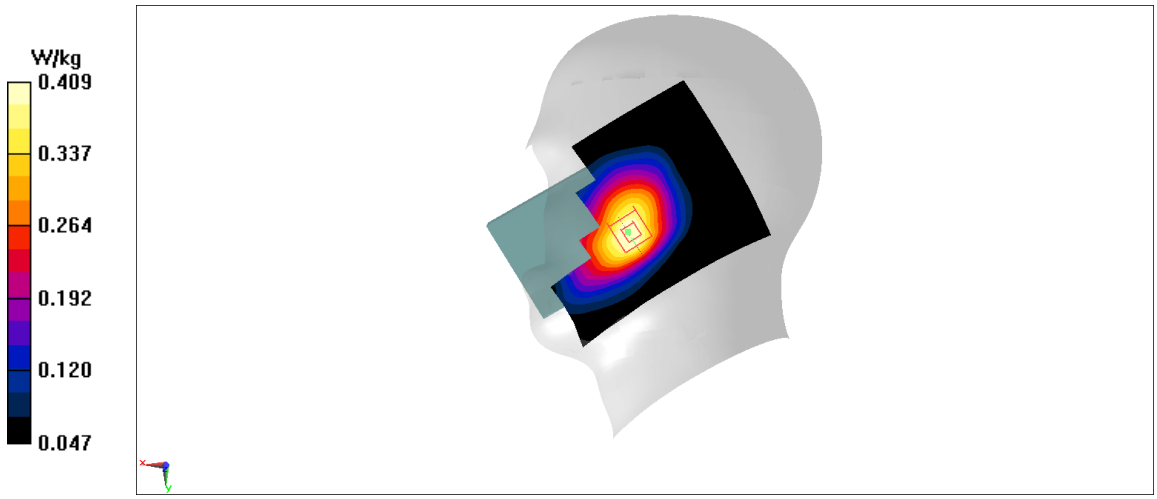


Fig A.20

LTE850-FDD26_CH26865 Rear 10mm
Date: 1/8/2021
Electronics: DAE4 Sn536
Medium: head 835 MHz
Medium parameters used: f = 831.5 MHz; σ = 0.91 mho/m; εr = 41.94; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE850-FDD26 831.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.807 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.96 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.599 W/kg; SAR(10 g) = 0.334 W/kg
Maximum value of SAR (measured) = 0.884 W/kg

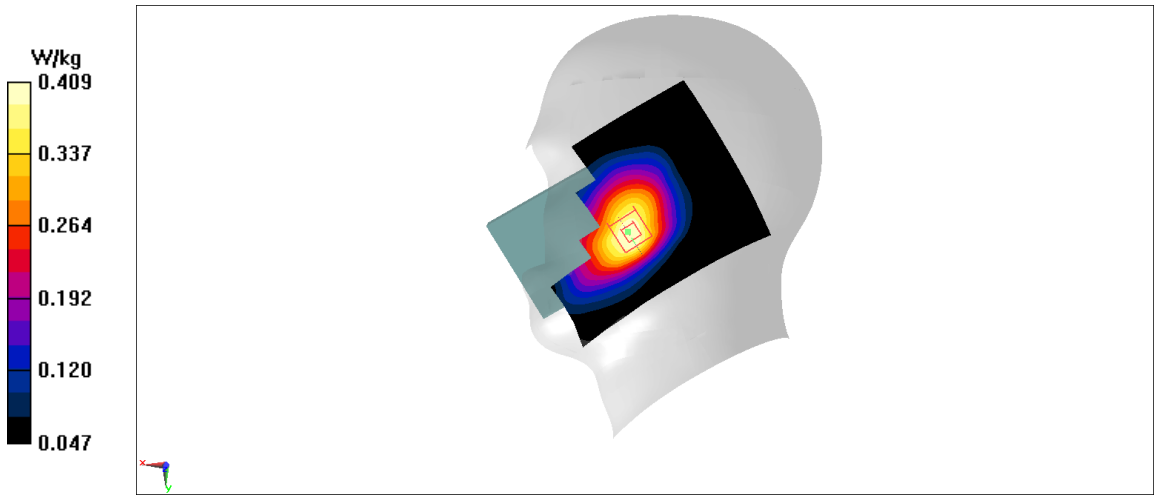


Fig A.21

LTE1700-FDD66_CH132572 Left Cheek
Date: 1/9/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 831.5 MHz; σ = 0.505 mho/m; εr = 40.84; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1700-FDD66 831.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.115 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.734 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.133 W/kg
SAR(1 g) = 0.085 W/kg; SAR(10 g) = 0.053 W/kg
Maximum value of SAR (measured) = 0.117 W/kg

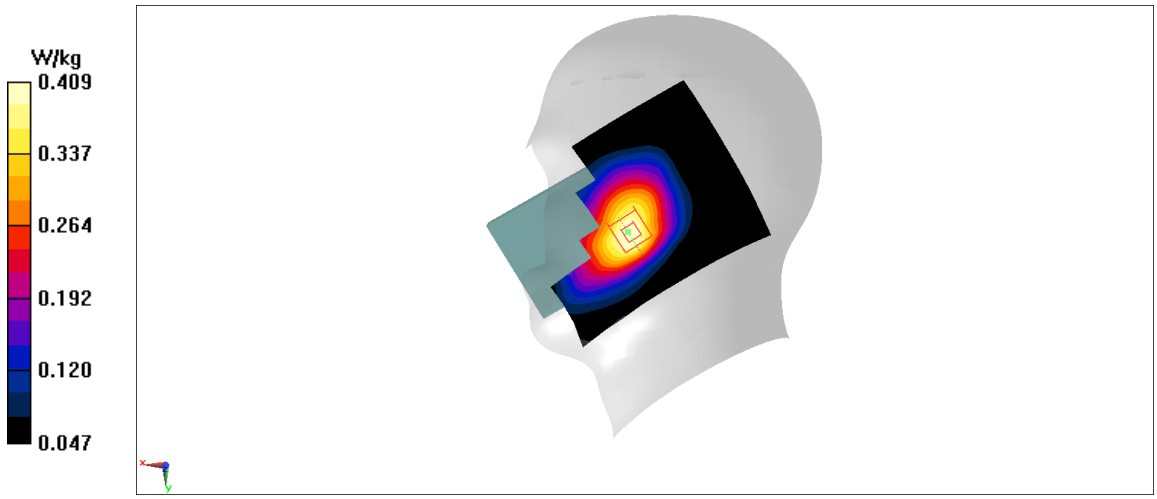


Fig A.22

LTE1700-FDD66_CH132572 Bottom 10mm
Date: 1/9/2021
Electronics: DAE4 Sn536
Medium: head 1750 MHz
Medium parameters used: f = 831.5 MHz; σ = 0.505 mho/m; εr = 40.84; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1700-FDD66 831.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.918 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.92 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.582 W/kg; SAR(10 g) = 0.301 W/kg
Maximum value of SAR (measured) = 0.881 W/kg

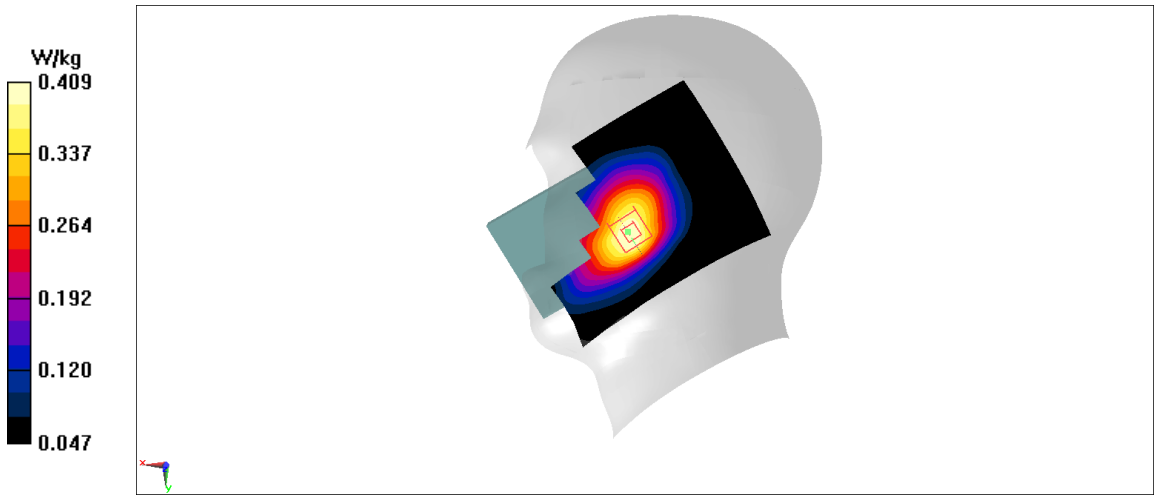


Fig A.23

PCS1900_CH512 Bottom 0mm
Date: 1/10/2021
Electronics: DAE4 Sn536
Medium: head 1900 MHz
Medium parameters used: f = 1850.2; σ = 1.328 mho/m; εr = 39.64; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: PCS1900 1850.2 Duty Cycle: 1:4
Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.10 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.10 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 4.76 W/kg; SAR(10 g) = 2.03 W/kg
Maximum value of SAR (measured) = 1.04 W/kg

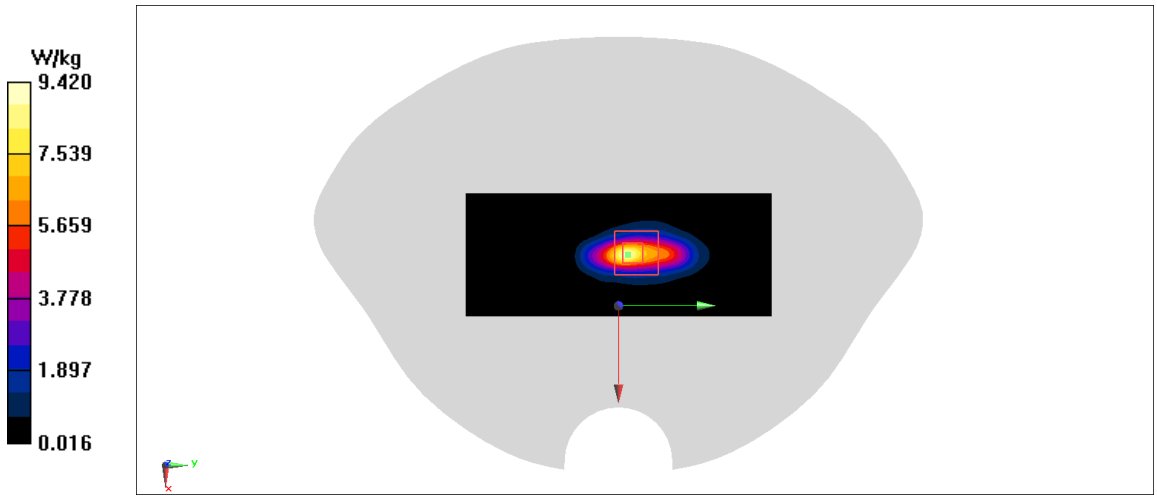


Fig A.24

WLAN2450_CH1 Left Cheek
Date: 1/11/2021
Electronics: DAE4 Sn536
Medium: head 2450 MHz
Medium parameters used: f = 2412 MHz; σ = 1.757 mho/m; εr = 38.86; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2412 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.44 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.933 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.591 W/kg
SAR(1 g) = 0.301 W/kg; SAR(10 g) = 0.144 W/kg
Maximum value of SAR (measured) = 0.483 W/kg

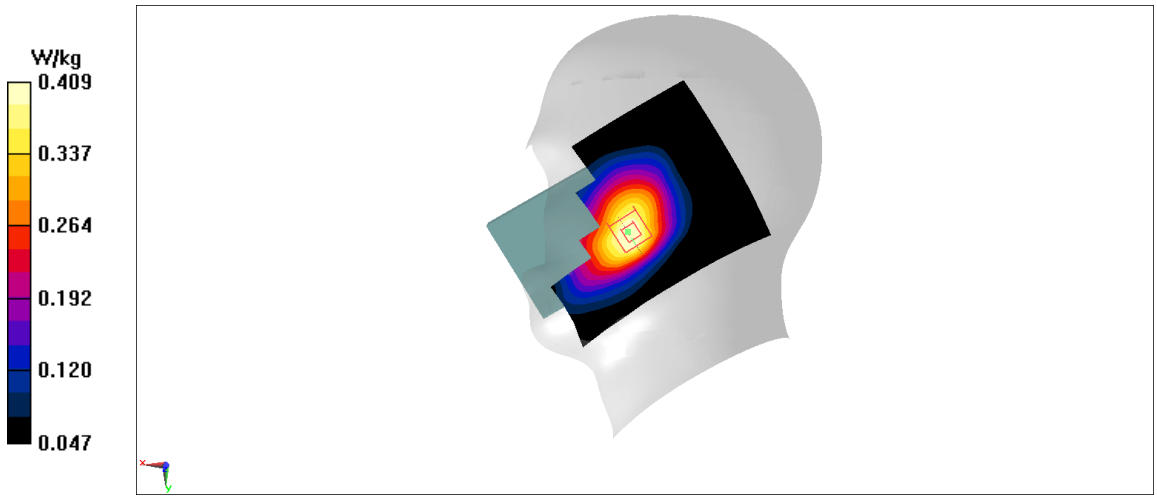


Fig A.25

WLAN2450_CH11 Right 10mm
Date: 1/11/2021
Electronics: DAE4 Sn536
Medium: head 2450 MHz
Medium parameters used: f = 2462 MHz; σ = 1.804 mho/m; εr = 38.8; 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 – SN3617 ConvF(7.65,7.65,7.65)

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 = 9.334 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.431 W/kg
SAR(1 g) = 0.217 W/kg; SAR(10 g) = 0.11 W/kg
Maximum value of SAR (measured) = 0.351 W/kg

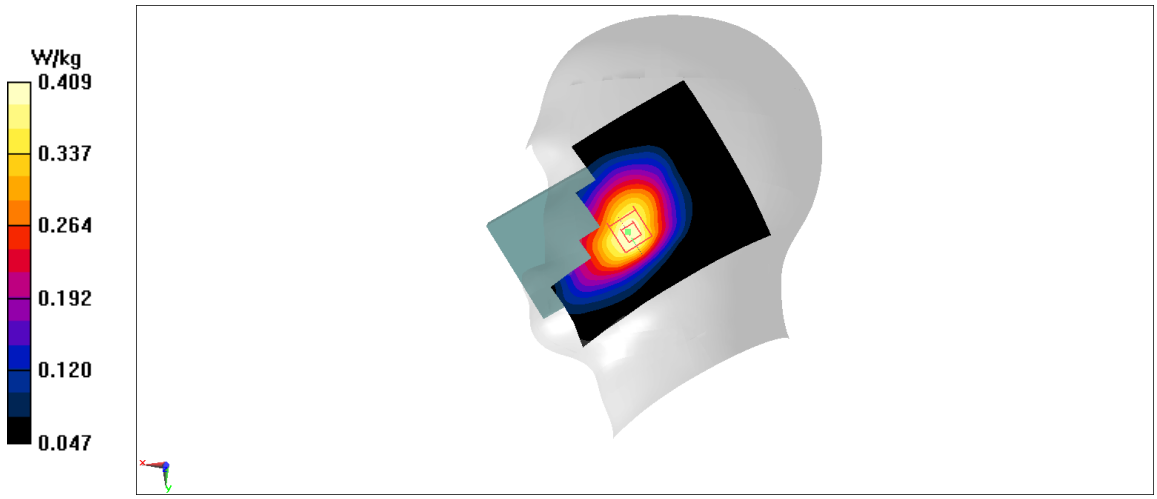


Fig A.26

WLAN5G_CH60 Right Tilt
Date: 1/13/2021
Electronics: DAE4 Sn536
Medium: head 5 GHz
Medium parameters used: f = 5300 MHz; σ = 4.535 mho/m; εr = 36.23; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN5G 5300 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(5.29,5.29,5.29)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.26 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.911 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.362 W/kg
SAR(1 g) = 0.108 W/kg; SAR(10 g) = 0.041 W/kg
Maximum value of SAR (measured) = 0.237 W/kg

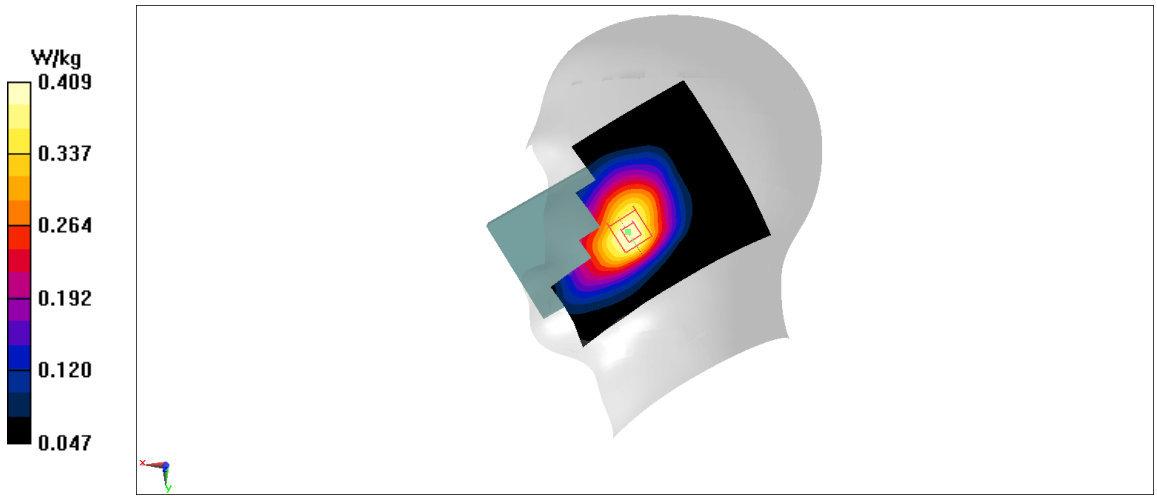


Fig A.27

WLAN5G_CH60 Rear 10mm
Date: 1/13/2021
Electronics: DAE4 Sn536
Medium: head 5 GHz
Medium parameters used: f = 5300 MHz; σ = 4.535 mho/m; εr = 36.23; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN5G 5300 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(5.29,5.29,5.29)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.02 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.433 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.361 W/kg; SAR(10 g) = 0.094 W/kg
Maximum value of SAR (measured) = 0.902 W/kg

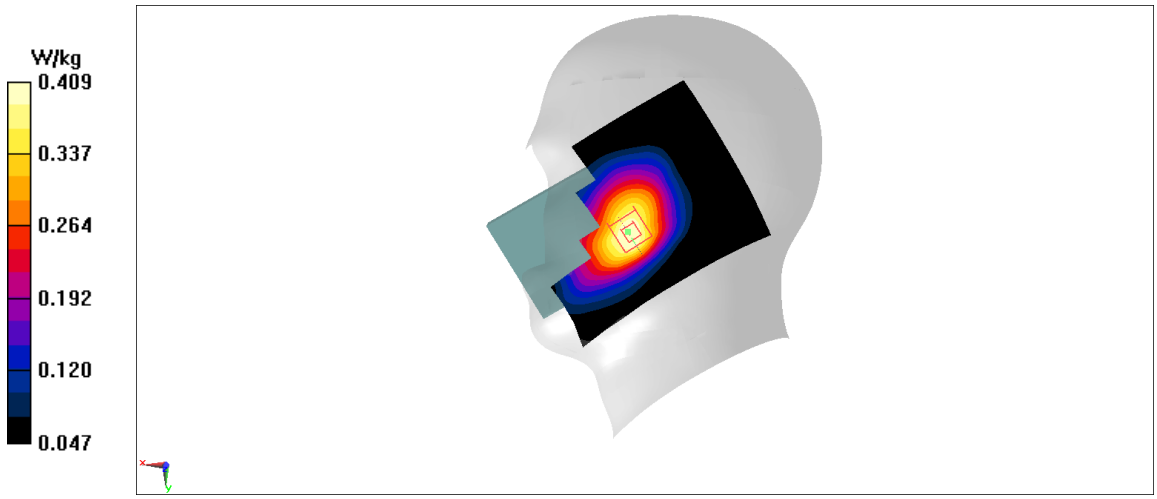
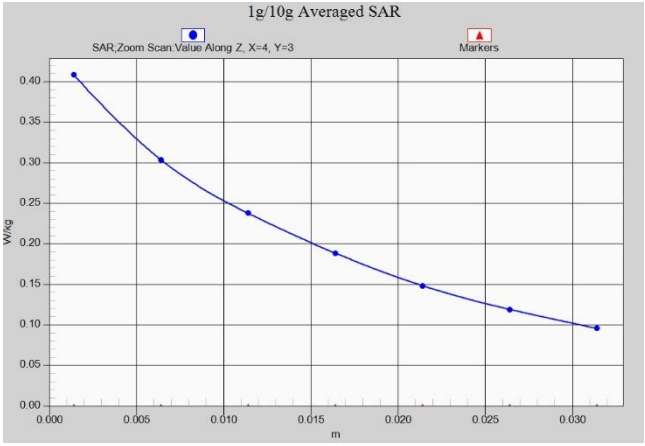
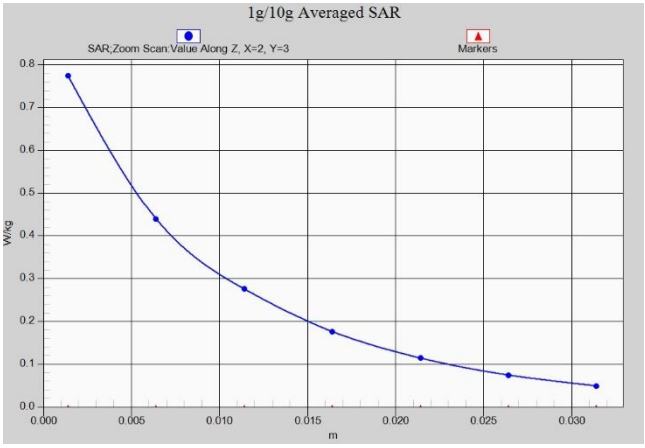


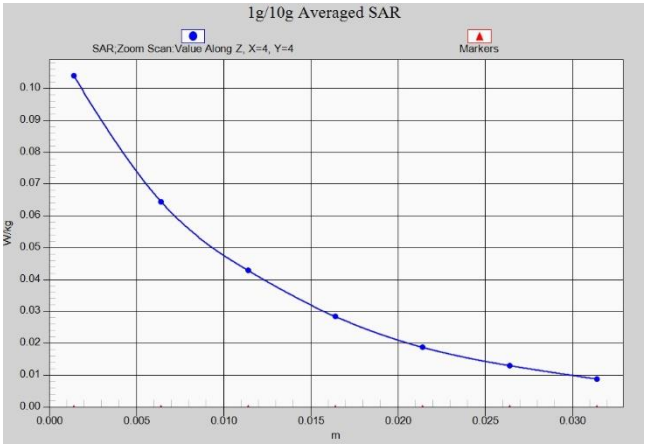
Fig A.28



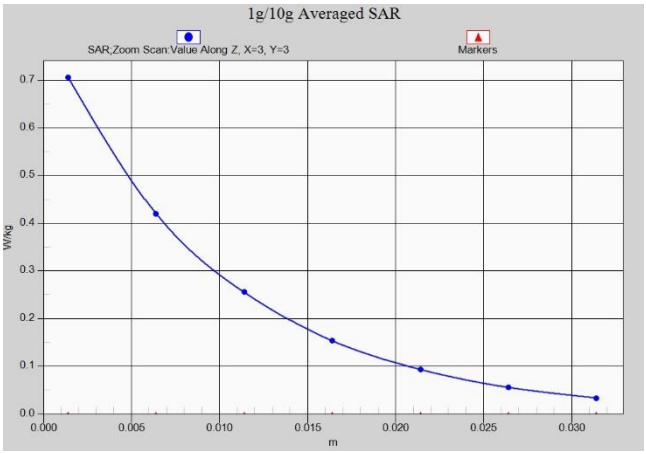
Z-Scan at power reference point (850 MHz)



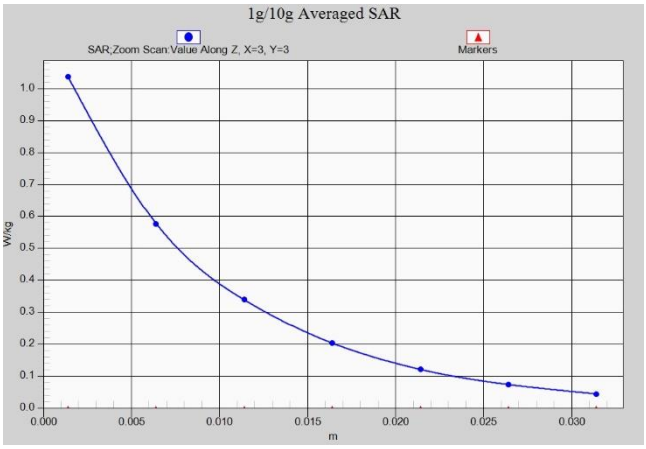
Z-Scan at power reference point (850 MHz)



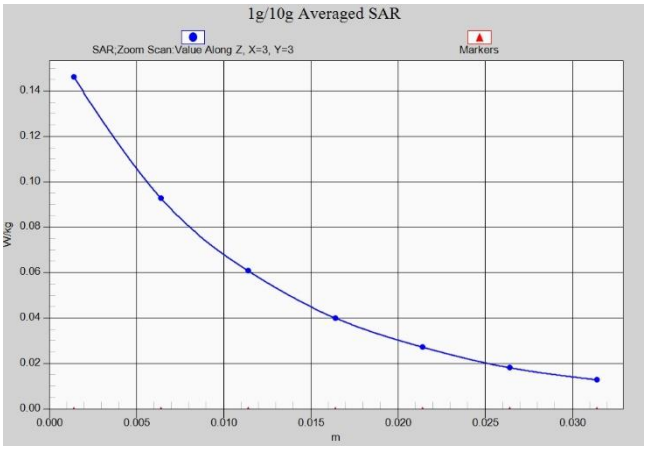
Z-Scan at power reference point (1900 MHz)



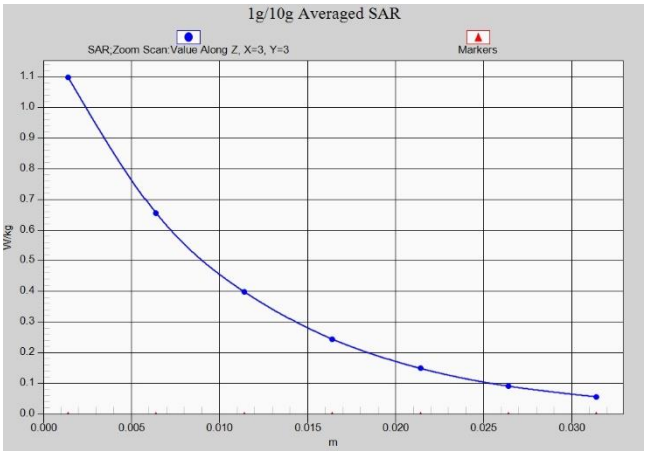
Z-Scan at power reference point (GSM1900)



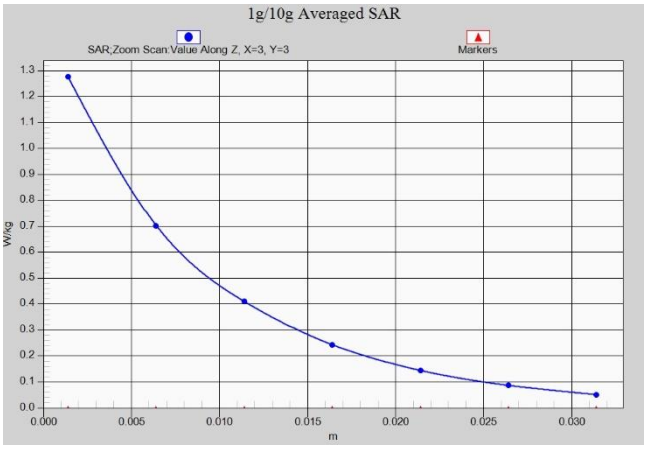
Z-Scan at power reference point (GSM1900)



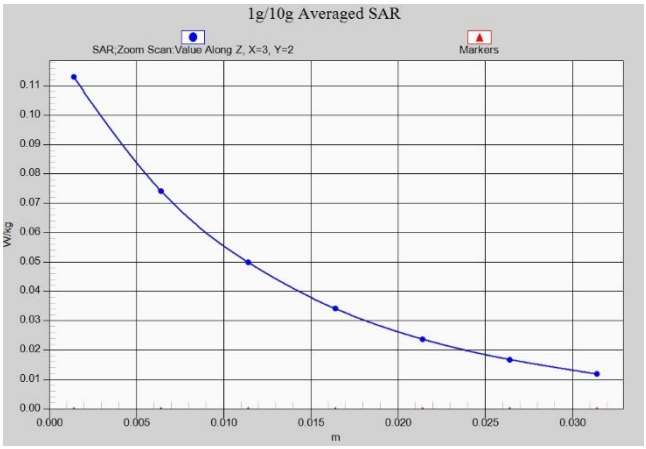
Z-Scan at power reference point (WCDMA1900)



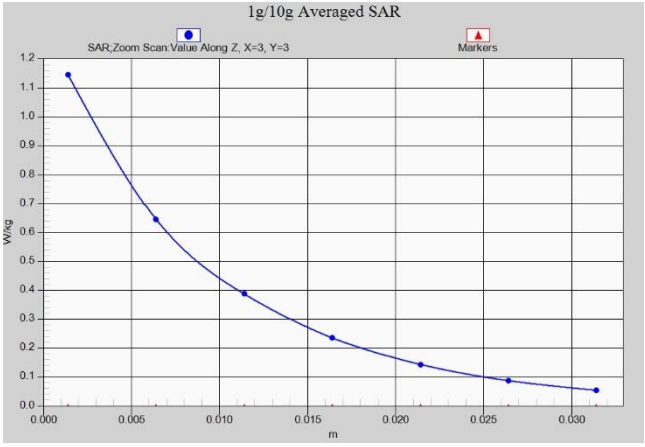
Z-Scan at power reference point (WCDMA1900)



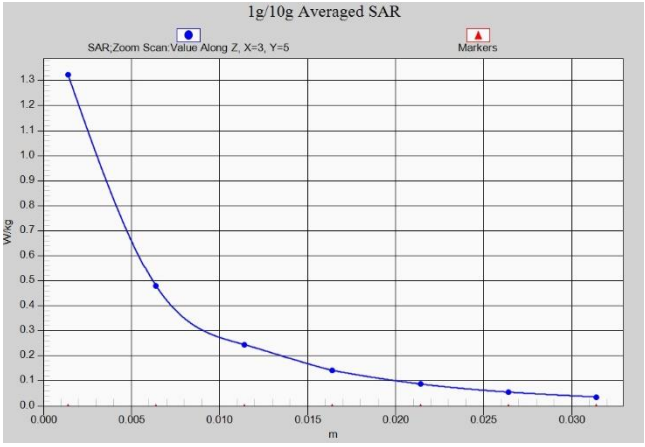
Z-Scan at power reference point (WCDMA1900)



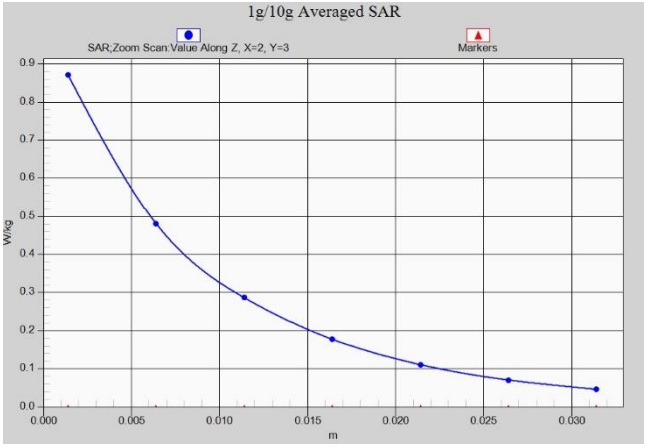
Z-Scan at power reference point (WCDMA1700)



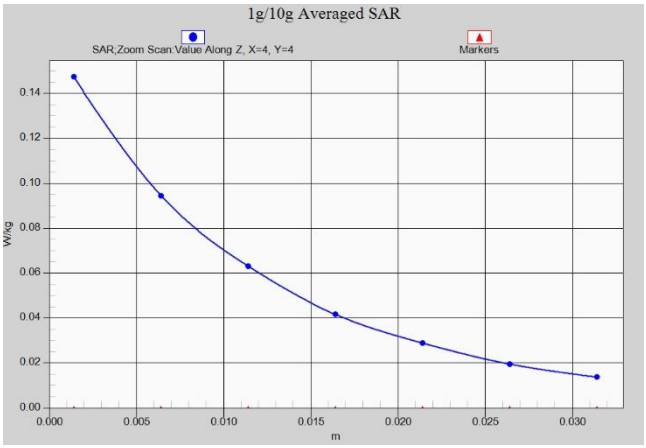
Z-Scan at power reference point (WCDMA1700)



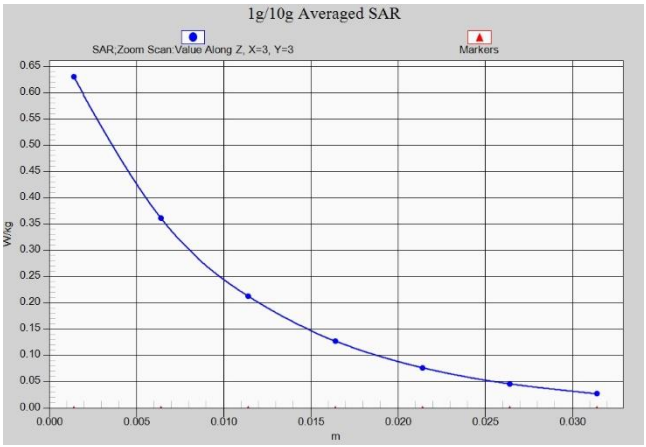
Z-Scan at power reference point (WCDMA850)



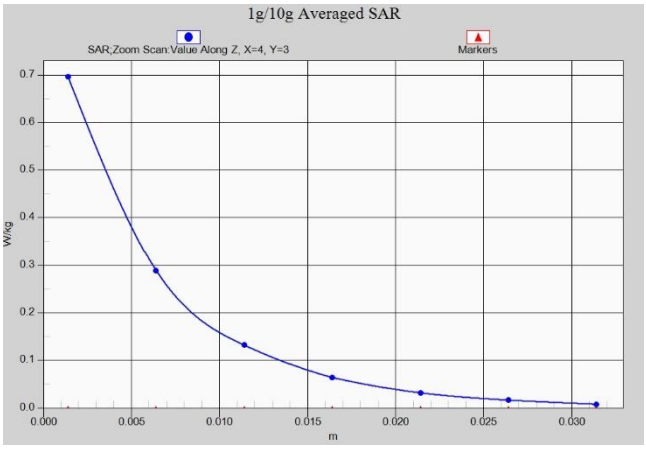
Z-Scan at power reference point (WCDMA850)



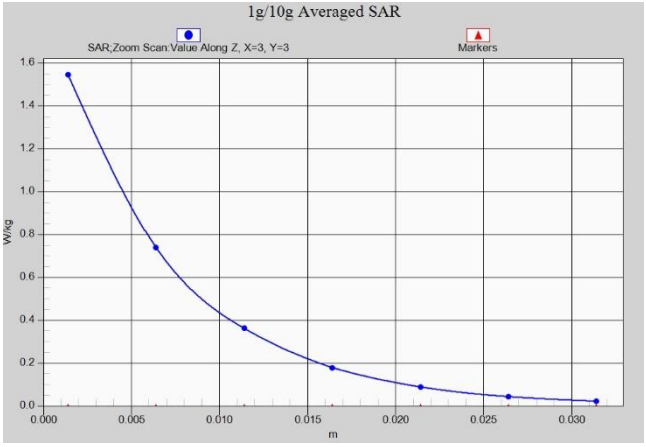
Z-Scan at power reference point (LTEB2)



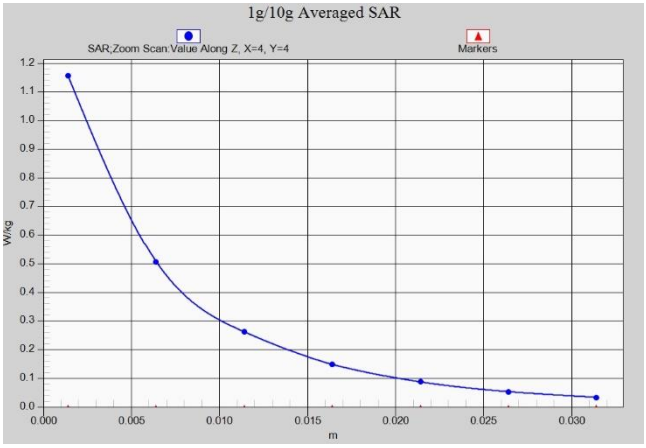
Z-Scan at power reference point (LTEB2)



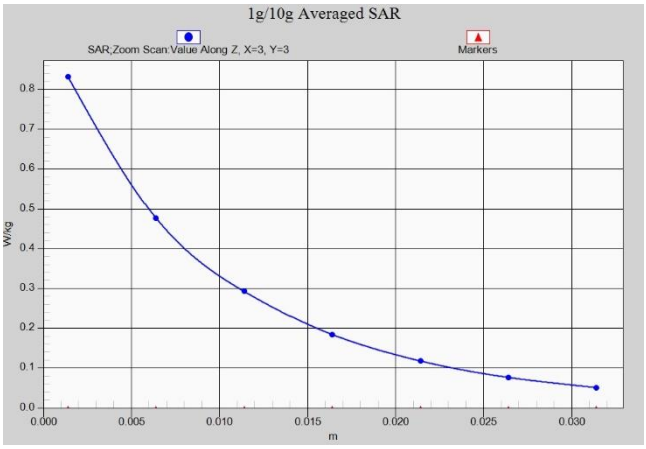
Z-Scan at power reference point (LTEB7)



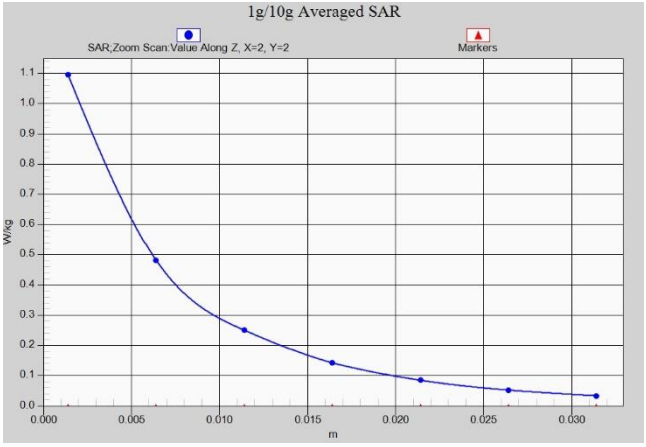
Z-Scan at power reference point (LTEB7)



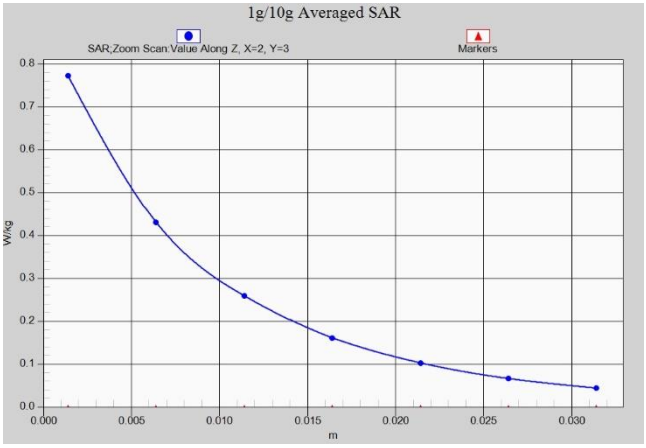
Z-Scan at power reference point (LTEB12)



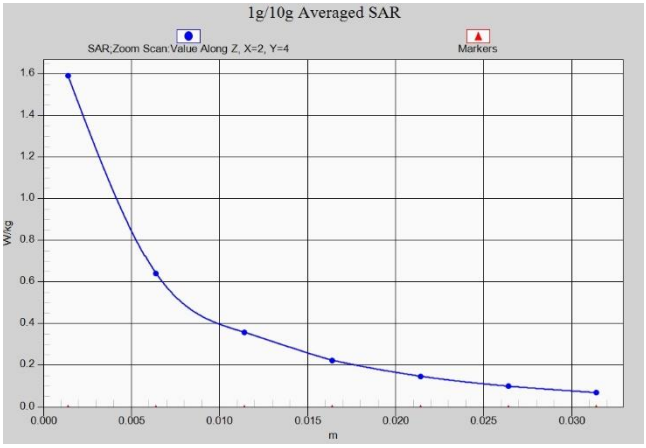
Z-Scan at power reference point (LTEB12)



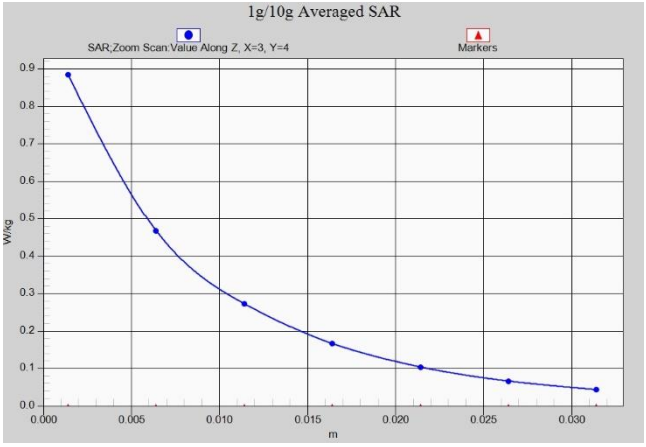
Z-Scan at power reference point (LTEB13)



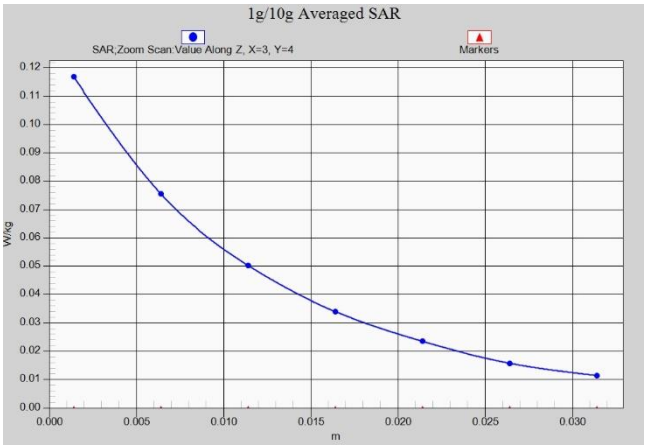
Z-Scan at power reference point (LTEB13)



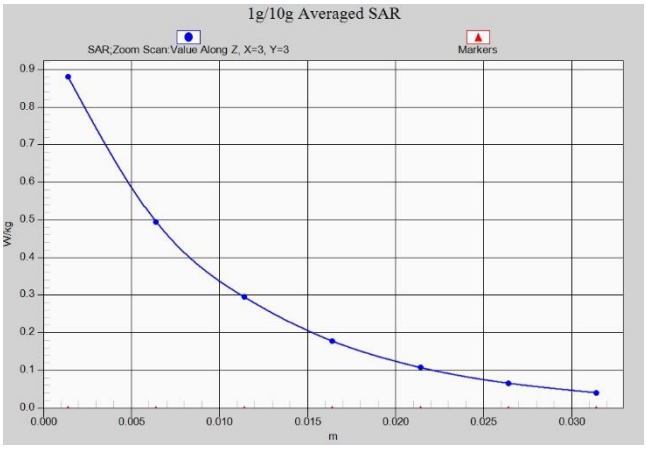
Z-Scan at power reference point (LTEB26)



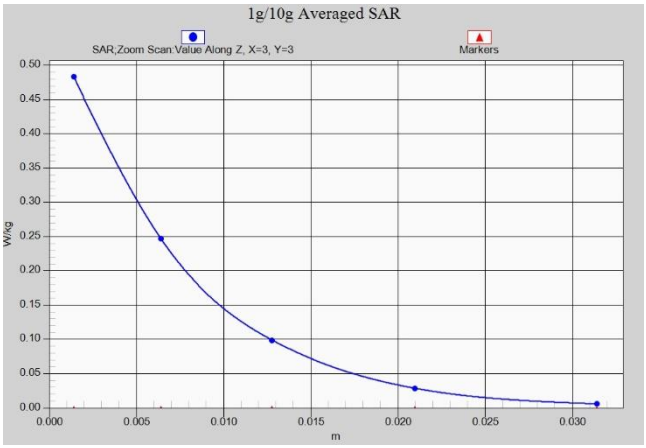
Z-Scan at power reference point (LTEB26)



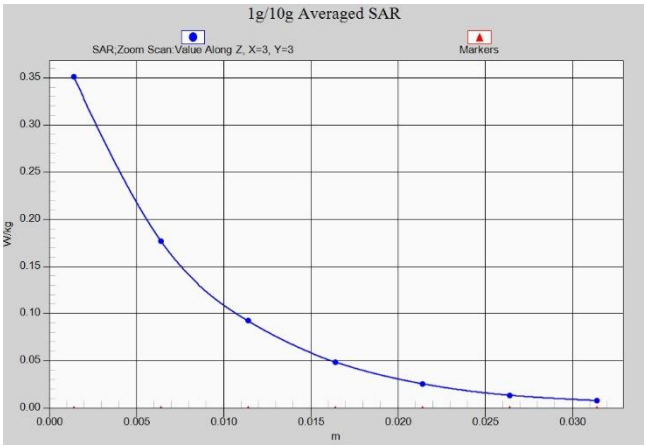
Z-Scan at power reference point (LTEB66)



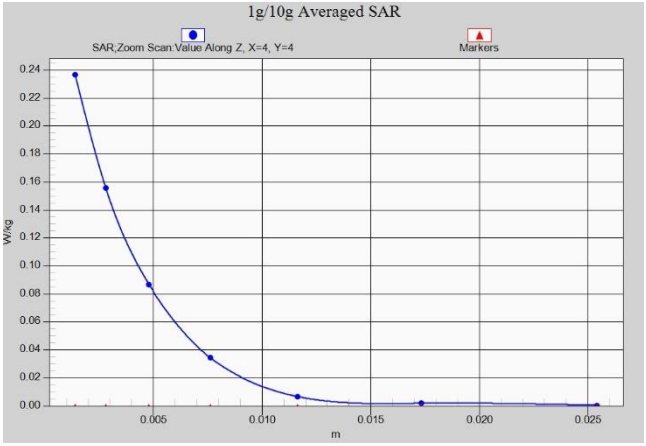
Z-Scan at power reference point (LTEB66)



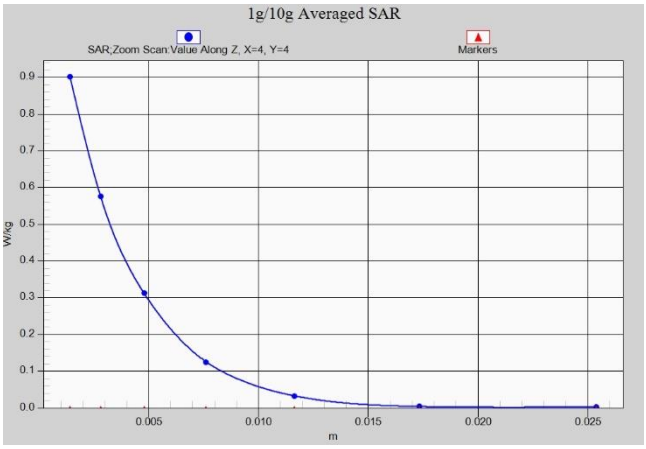
Z-Scan at power reference point (WIFI2.4G)



Z-Scan at power reference point (WIFI2.4G)



Z-Scan at power reference point (WIFI5G)



Z-Scan at power reference point (WIFI5G)

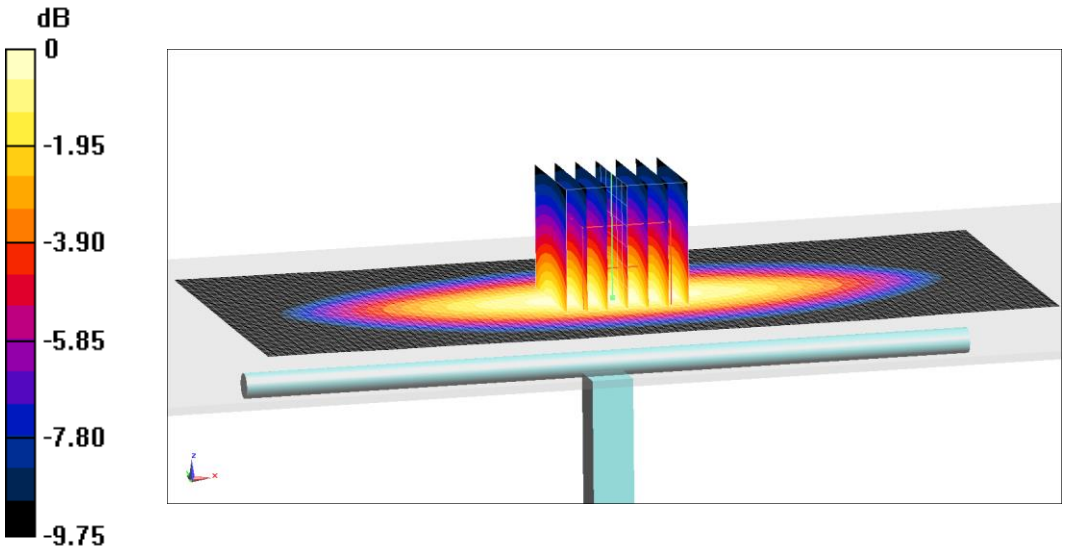
ANNEX B System Verification Results

750 MHz

Date: 1/7/2021
Electronics: DAE4 Sn777
Medium: Head 750 MHz
Medium parameters used: f = 750 MHz; σ =0.905 mho/m; ε_r = 42.41; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC Liquid Temperature: 22.3ºC
Communication System: CW Frequency: 750 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 59.4 V/m; Power Drift = .01
Fast SAR: SAR(1 g) = 2.15 W/kg; SAR(10 g) = 1.38 W/kg
Maximum value of SAR (interpolated) = 2.85 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =59.4 V/m; Power Drift = .01 dB
Peak SAR (extrapolated) = 3.24 W/kg
SAR(1 g) = 2.12 W/kg; SAR(10 g) = 1.38 W/kg
Maximum value of SAR (measured) = 2.85 W/kg



0 dB = 2.85 W/kg = 4.55 dB W/kg

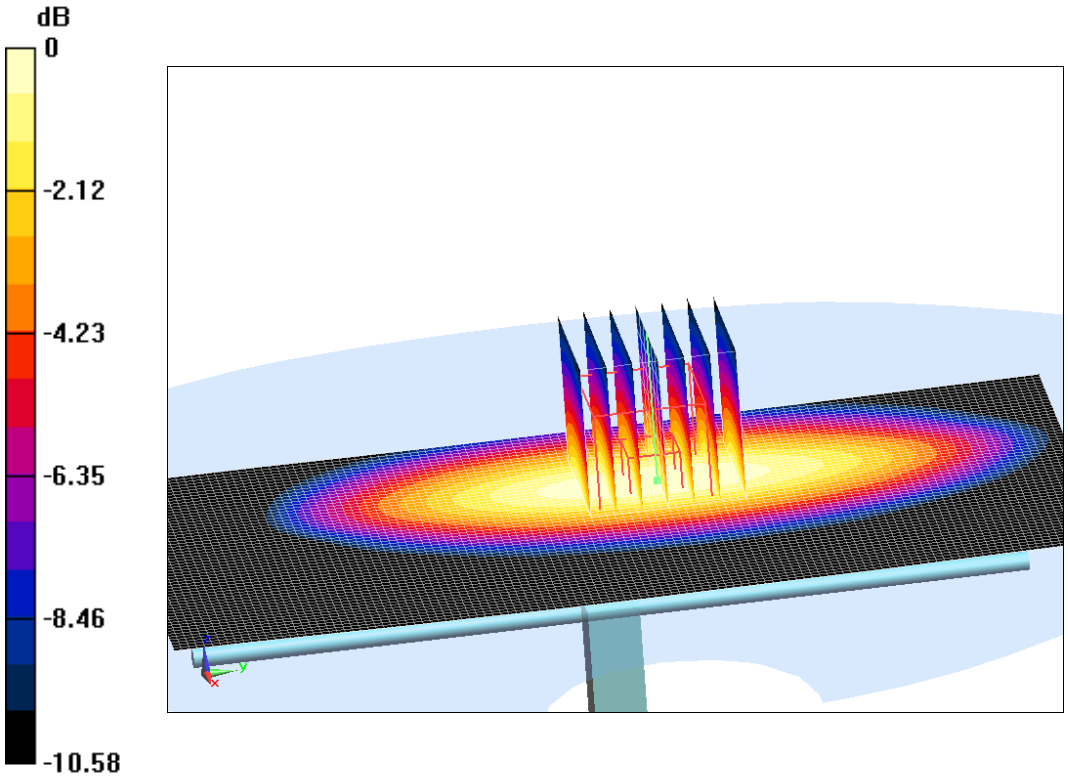
Fig.B.1 validation 750 MHz 250mW

835 MHz

Date: 1/8/2021
Electronics: DAE4 Sn777
Medium: Head 835 MHz
Medium parameters used: f = 835 MHz; σ =0.913 mho/m; ε_r = 41.94; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC Liquid Temperature: 22.3ºC
Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 62 V/m; Power Drift = -.05
Fast SAR: SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.56 W/kg
Maximum value of SAR (interpolated) = 3.13 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =62 V/m; Power Drift = -.05 dB
Peak SAR (extrapolated) = 3.58 W/kg
SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.54 W/kg
Maximum value of SAR (measured) = 3.27 W/kg



0 dB = 3.27 W/kg = 5.15 dB W/kg

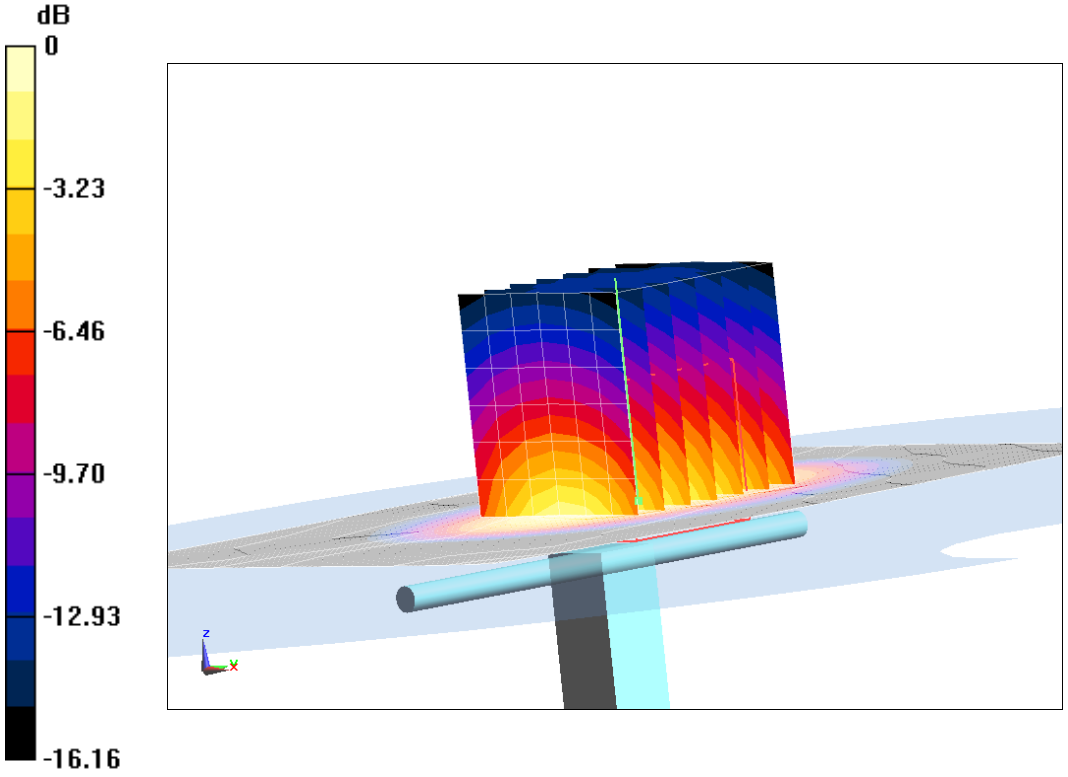
Fig.B.2 validation 835 MHz 250mW

1750 MHz

Date: 1/9/2021
Electronics: DAE4 Sn777
Medium: Head 1750 MHz
Medium parameters used: f = 1750 MHz; σ =1.377 mho/m; ε_r = 39.74; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC Liquid Temperature: 22.3ºC
Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 105.28 V/m; Power Drift = -.02
Fast SAR: SAR(1 g) = 9.07 W/kg; SAR(10 g) = 4.81 W/kg
Maximum value of SAR (interpolated) = 14.01 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =105.28 V/m; Power Drift = -.02 dB
Peak SAR (extrapolated) = 17.01 W/kg
SAR(1 g) = 8.96 W/kg; SAR(10 g) = 4.69 W/kg
Maximum value of SAR (measured) = 14 W/kg



0 dB = 14 W/kg = 11.46 dB W/kg

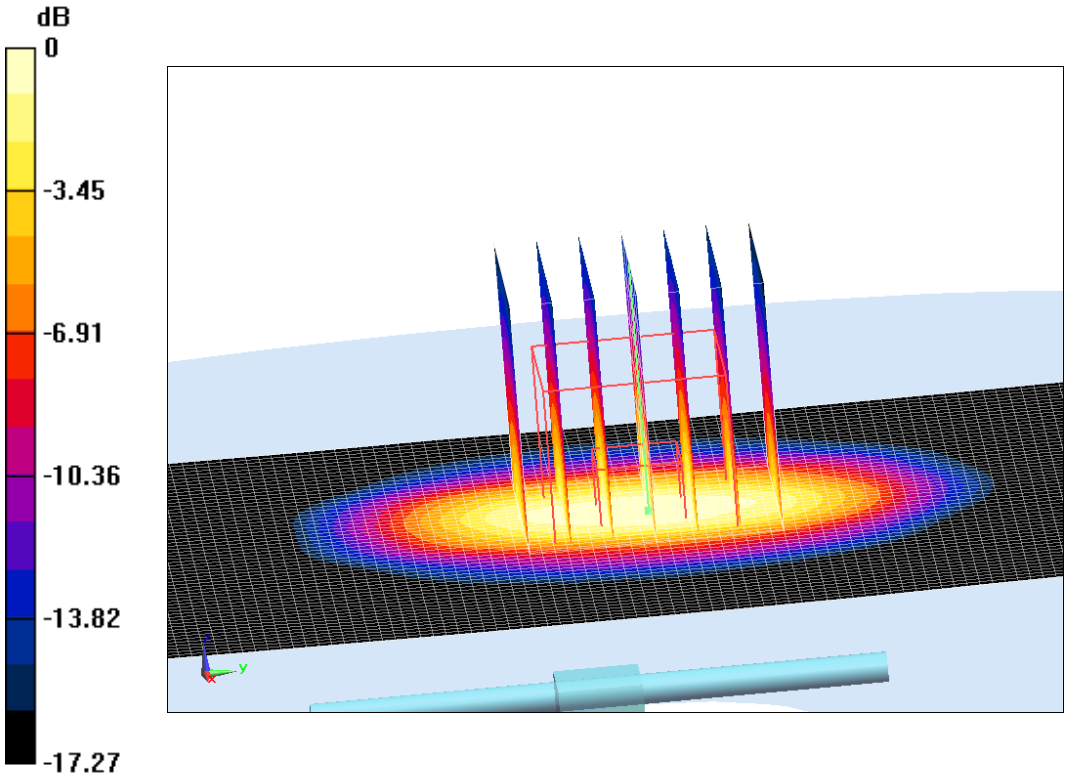
Fig.B.3 validation 1750 MHz 250mW

1900 MHz

Date: 1/10/2021
Electronics: DAE4 Sn777
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ =1.375 mho/m; ε_r = 39.58; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC Liquid Temperature: 22.3ºC
Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 110.12 V/m; Power Drift = -.07
Fast SAR: SAR(1 g) = 9.79 W/kg; SAR(10 g) = 5.15 W/kg
Maximum value of SAR (interpolated) = 15.4 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =110.12 V/m; Power Drift = -.07 dB
Peak SAR (extrapolated) = 18.03 W/kg
SAR(1 g) = 9.94 W/kg; SAR(10 g) = 5.24 W/kg
Maximum value of SAR (measured) = 15.11 W/kg



0 dB = 15.11 W/kg = 11.79 dB W/kg

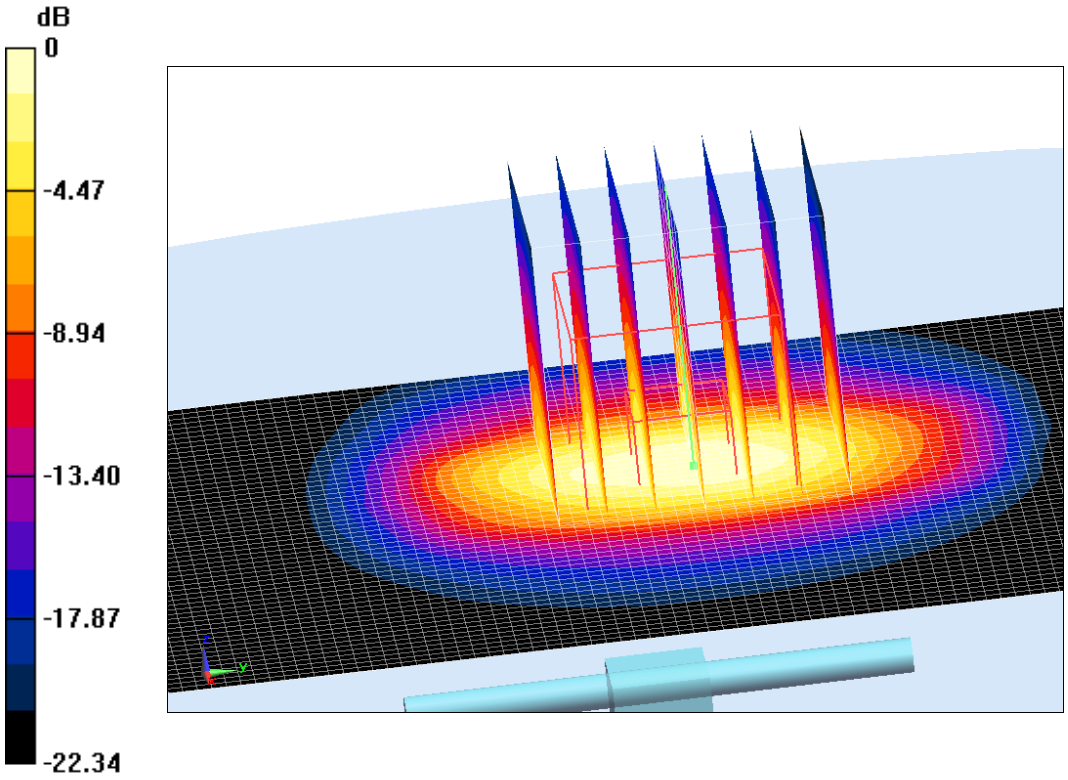
Fig.B.4 validation 1900 MHz 250mW

2450 MHz

Date: 1/11/2021
Electronics: DAE4 Sn777
Medium: Head 2450 MHz
Medium parameters used: f = 2450 MHz; σ =1.793 mho/m; ε_r = 38.81; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC Liquid Temperature: 22.3ºC
Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 116.05 V/m; Power Drift = -.01
Fast SAR: SAR(1 g) = 13.25 W/kg; SAR(10 g) = 6.05 W/kg
Maximum value of SAR (interpolated) = 21.94 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =116.05 V/m; Power Drift = -.01 dB
Peak SAR (extrapolated) = 26.07 W/kg
SAR(1 g) = 13.08 W/kg; SAR(10 g) = 6.03 W/kg
Maximum value of SAR (measured) = 22.08 W/kg



0 dB = 22.08 W/kg = 13.44 dB W/kg

Fig.B.5 validation 2450 MHz 250mW