TESTING
NVLAP LAB CODE 600118-0

SAR TEST REPORT

No. I22Z61591-SEM01

For

HMD Global Oy

GSM/WCDMA/LTE phone

Model Name: TA-1420

with

Hardware Version: 1.0

Software Version: 00.2131.11.01

FCC ID: 2AJOTTA-1420

Issued Date: 2022-9-09

Note:

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

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I22Z61591-SEM01	Rev.0	2022-09-09	Initial creation of test report

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51, Xueyuan Road, Haidian District, Beijing, P. R. China 100191.

1.2 Testing Environment

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

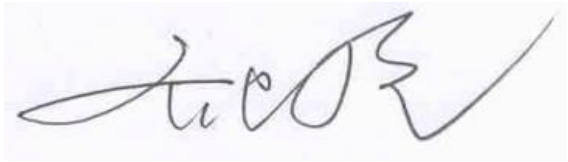
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Yao Juming
Testing Start Date:	September 15, 2021
Testing End Date:	September 09, 2022

1.4 Signature

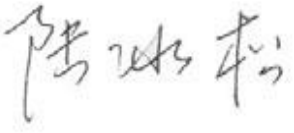
Yao Juming

(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

This EUT is a variant product and the report of original sample is No.I21Z61291-SEM04. We do full test for newly add bands LTE B25/26 and do spot check on highest value point in all bands of the original report. The results are presented in the annex I.

The maximum results of Specific Absorption Rate (SAR) found during testing for HMD Global Oy GSM/WCDMA/LTE phone TA-1420 is as follows:

Table 2.1: Highest Reported SAR (1g)

Technology Band	Head (Separation Distance 0mm)	Hotspot (Separation Distance 10mm)	Body-Worn (Separation Distance 15mm)	Equipment Class
GSM850	**0.56**	**0.59**	**0.47**	PCE
GSM1900	**0.33**	**1.09**	**0.46**	
WCDMA1900	**0.62**	**1.26**	**0.99**	
WCDMA1700	**0.65**	**0.94**	**1.16**	
WCDMA 850	**0.28**	**0.56**	**/**	
LTE Band2	**0.44**	**0.85**	**1.14**	
LTE Band5	**0.52**	**0.67**	**/**	
LTE Band7	**1.06**	**0.98**	**1.17**	
LTE Band12	**0.44**	**0.75**	**/**	
LTE Band13	**0.40**	**0.76**	**/**	
LTE Band25	**0.53**	**0.60**	**1.12**	
LTE Band26	**0.74**	**0.99**	**/**	
LTE Band41-PC3	**0.62**	**1.29**	**0.64**	
LTE Band41-PC2	**0.75**	**0.54**	**0.57**	
LTE Band66	**0.42**	**0.90**	**1.09**	
LTE Band71	**0.46**	**0.56**	**/**	
WLAN 2.4GHz	**0.48**	**0.56**	**0.18**	DTS

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 15/10 mm between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

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

The measurement together with the test system set-up is described in annex C of this test report. A detailed description of the equipment under test can be found in chapter 4 of this test report. The highest reported SAR value is obtained at the case of **(Table 2.1),** and the values are**: 1.29 W/kg(1g).**

Remark：

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

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

	Position	Main antenna	WiFi-2.4G	Sum
Highest SAR value for Head	Left head, Touch (LTE B41-PC2)	0.75	0.47	**1.22**
Highest SAR value for Body	Rear 10mm (LTE B7)	0.85	0.56	**1.41**

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

	Position	Main antenna	BT	Sum
Highest SAR value for Head	Right head, Touch (LTE B7)	1.06	0.37[1]	**1.43**
Highest SAR value for Body	Rear 15mm (LTE B7)	1.17	0.12[1]	**1.29**

[1] - Estimated SAR for Bluetooth (see the table 13.3)

According to the above tables, the highest sum of reported SAR values is **1.43 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

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.

3 Client Information

3.1 Applicant Information

Company Name:	HMD Global Oy
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3.2 Manufacturer Information

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Contact Email:	mikko.kahlos@hmdglobal.com
Telephone:	+358 408036126
Fax:	+97143697604

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

4.1 About EUT

Description:	GSM/WCDMA/LTE phone
Model name:	TA-1420
Operating mode(s):	GSM850/900/1800/1900, WCDMA B2/B4/B5 LTEBand2/4/5/7/12/13/17/25/26/41/66/71 BT, Wi-Fi(2.4G)
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)
	1850.7 – 1909.3 MHz (LTE Band 2)
	824.7 – 848.3 MHz (LTE Band 5)
	2500 – 2570 MHz (LTE Band 7)
	699.7 – 715.3 MHz (LTE Band 12)
	779.5 – 784.5 MHz (LTE Band 13)
	1850 -1915 MHz (LTE Band 25)
	814.7-848.3 MHz (LTE Band 26)
	2498.5 – 2687.5 MHz (LTE Band41)
	1710.7 –1779.3 MHz (LTE Band 66)
	665.5 –695.5 MHz (LTE Band 71)
	2412 – 2462 MHz (Wi-Fi 2.4G)
	2400 – 2483.5 MHz (Bluetooth)
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	358712910012135	1.0	00.2131.11.01
EUT2	358712910013570	1.0	00.2131.11.01

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

Note: It is performed to test SAR with the EUT1 and conducted power with the EUT2.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	HE402	/	SHENZHEN UTILITY ENERGY CO., LTD.

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

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

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

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

5.2 Applicable Measurement Standards

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

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

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

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

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

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

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

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

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

6 Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

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

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

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

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

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

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

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

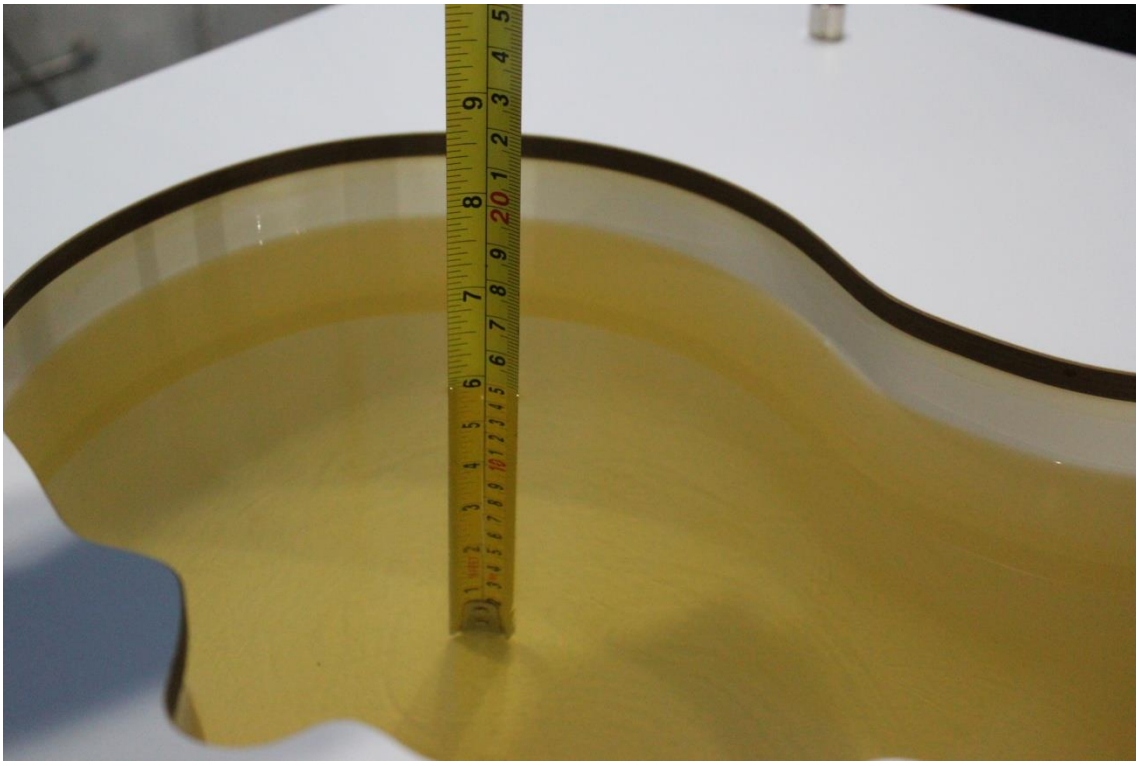
Frequency(MHz)	Liquid Type	Conductivity(σ)	± 5% Range	Permittivity(ε)	± 5% Range
750	Head	0.89	0.85～0.93	41.94	39.8～44.0
835	Head	0.90	0.86～0.95	41.5	39.4～43.6
1750	Head	1.37	1.30～1.44	40.08	38.1～42.1
1900	Head	1.40	1.33～1.47	40.0	38.0～42.0
2450	Head	1.67	1.59～1.75	39.47	37.5～41.4
2600	Head	1.96	1.86～2.06	39.01	37.1～41.0

7.2 Dielectric Performance

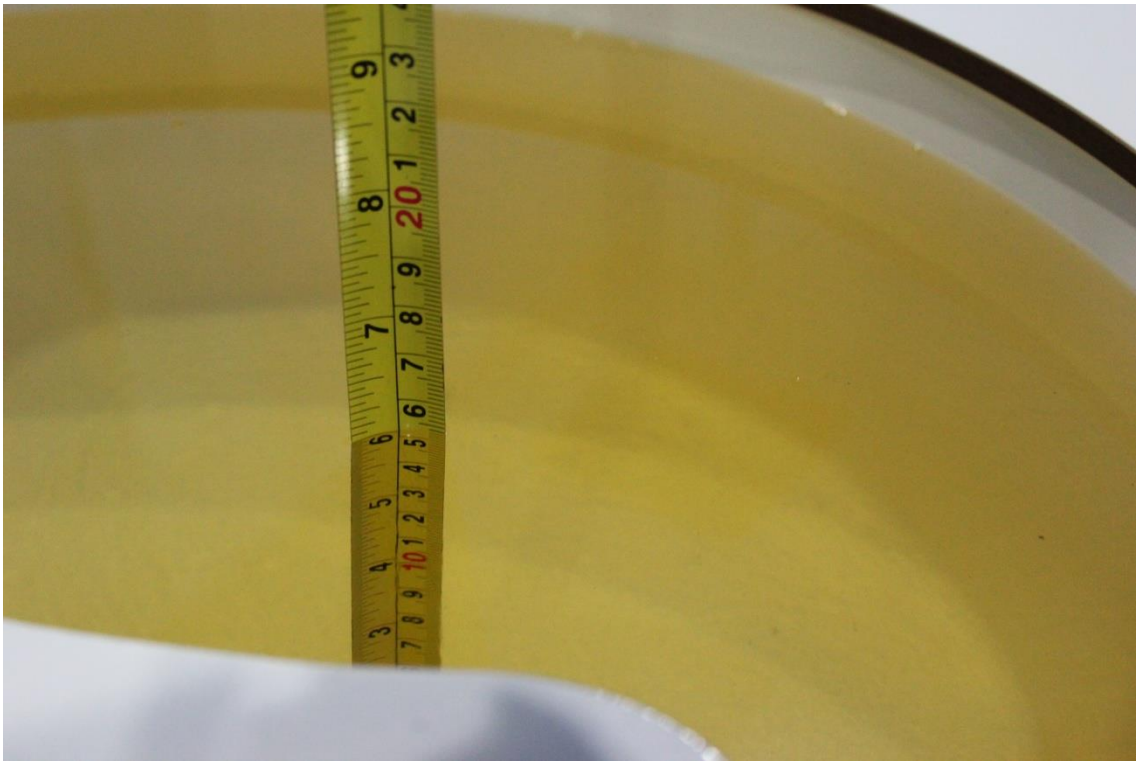
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ε	Drift (%)	Conductivity σ (S/m)	Drift (%)
2021-9-15	Head	750 MHz	43.88	4.63	0.8281	-6.96
2021-9-16	Head	835 MHz	43.59	5.04	0.8613	-4.30
2021-9-17	Head	1750 MHz	41.45	3.42	1.331	-2.85
2021-9-18	Head	1900 MHz	41.27	3.18	1.421	1.50
2021-9-19	Head	2450 MHz	40.49	3.29	1.83	1.67
2021-9-20	Head	2600 MHz	40.16	2.95	1.96	0.00

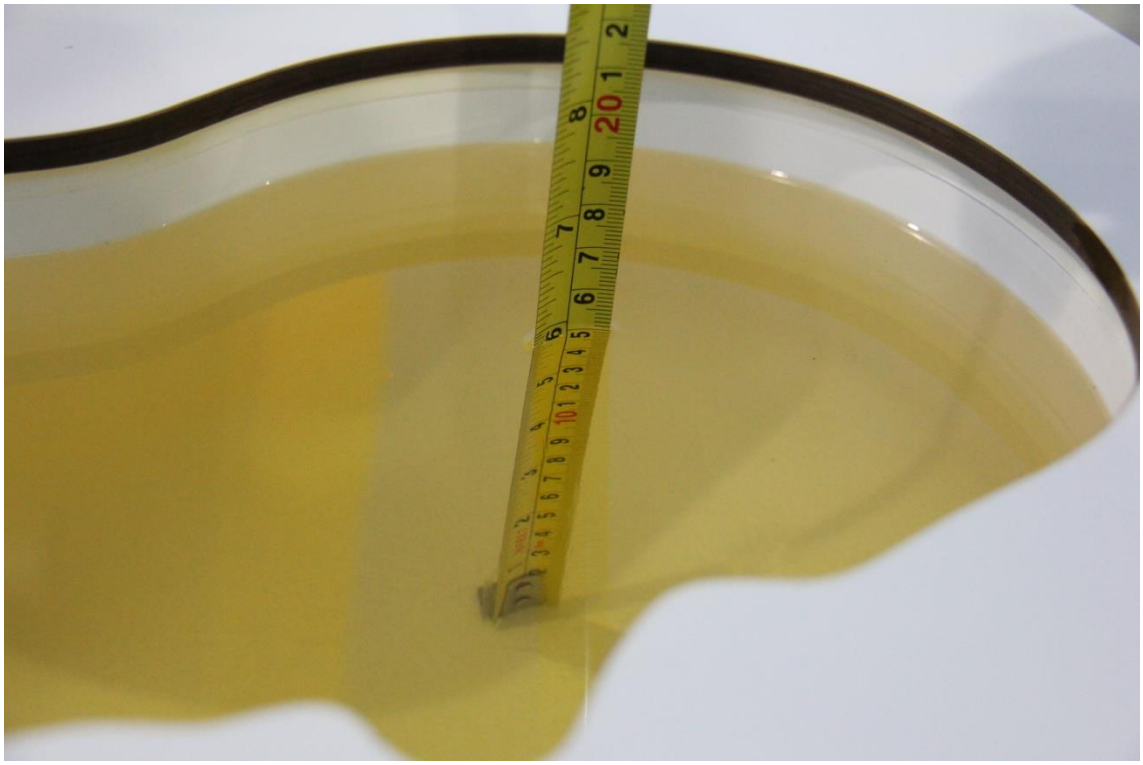
Note: The liquid temperature is 22.0℃



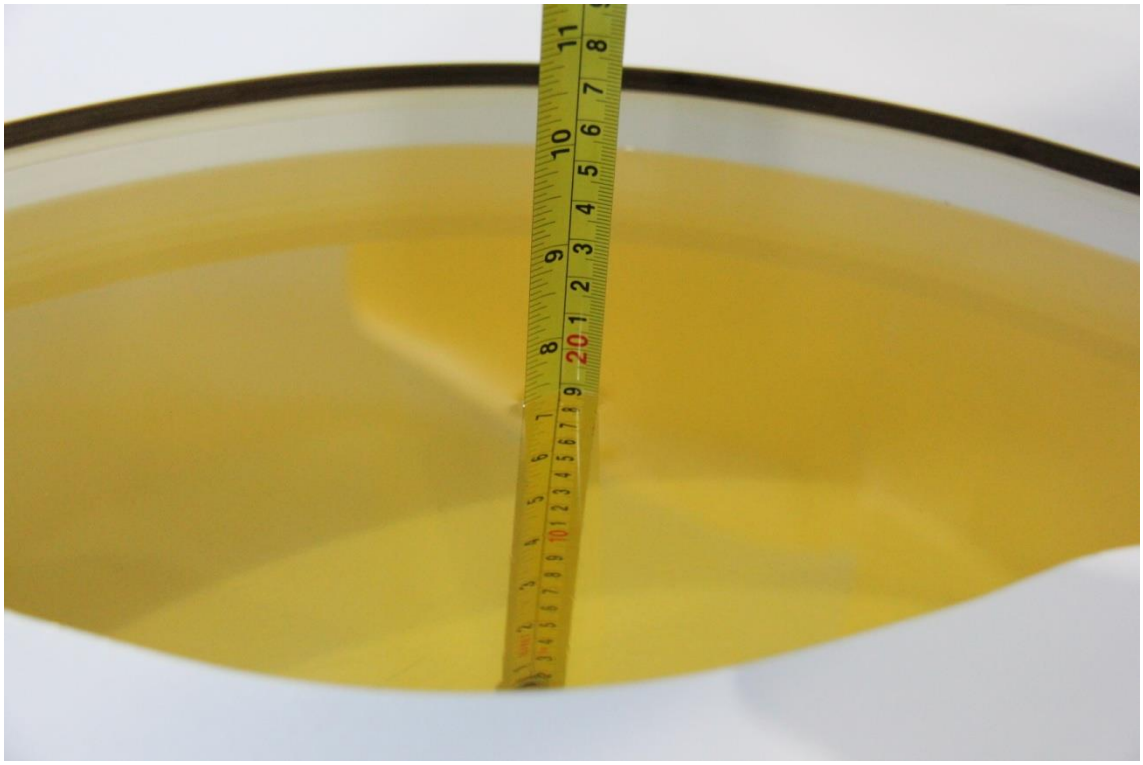
Picture 7-1 Liquid depth in the Head Phantom (750MHz)



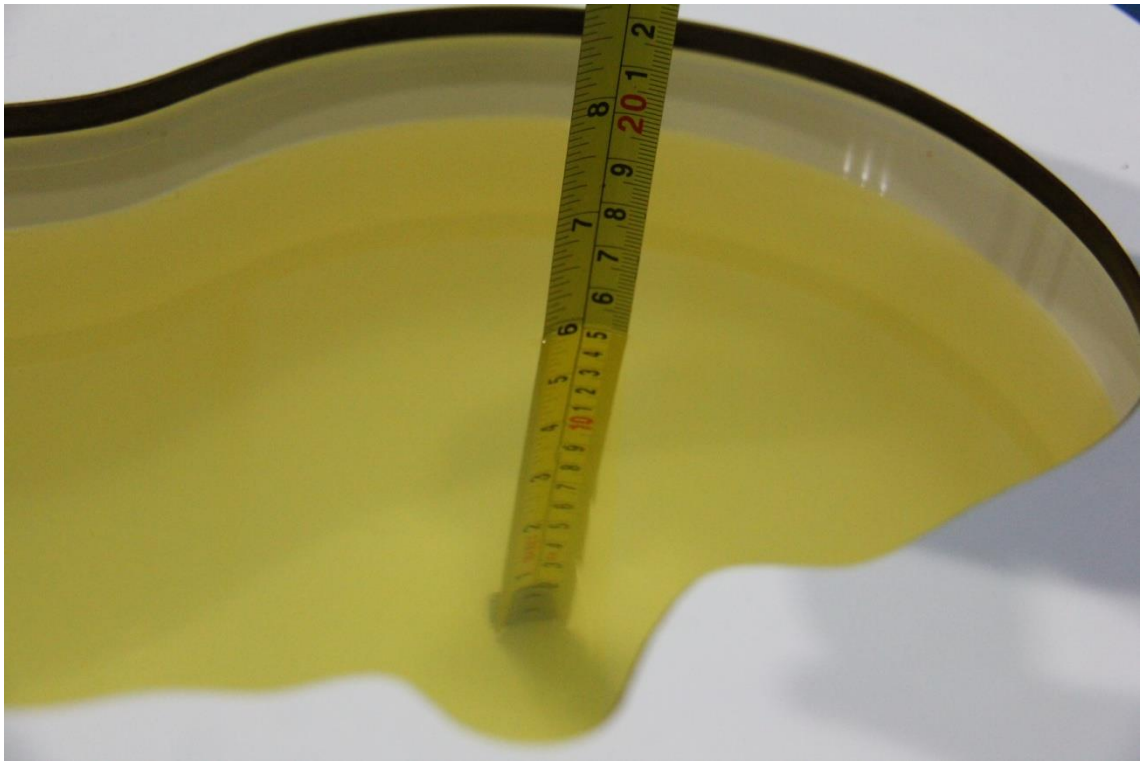
Picture 7-2 Liquid depth in the Flat Phantom (750MHz)



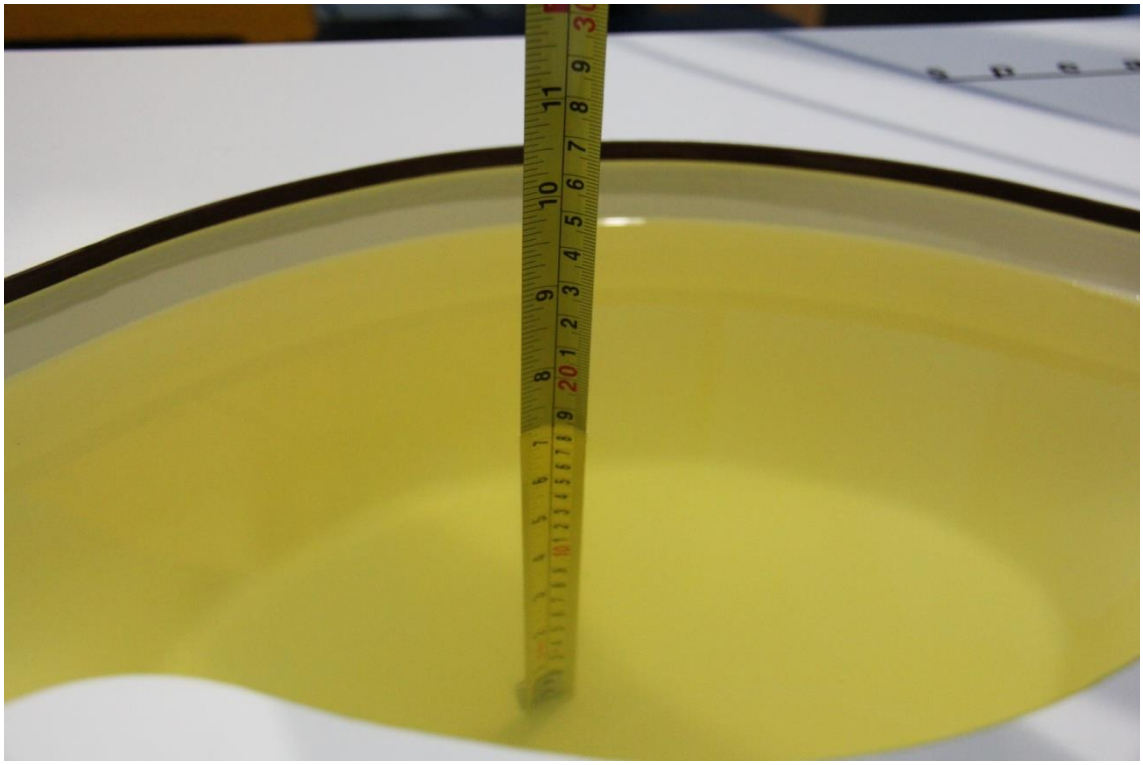
Picture 7-3 Liquid depth in the Head Phantom (835 MHz)



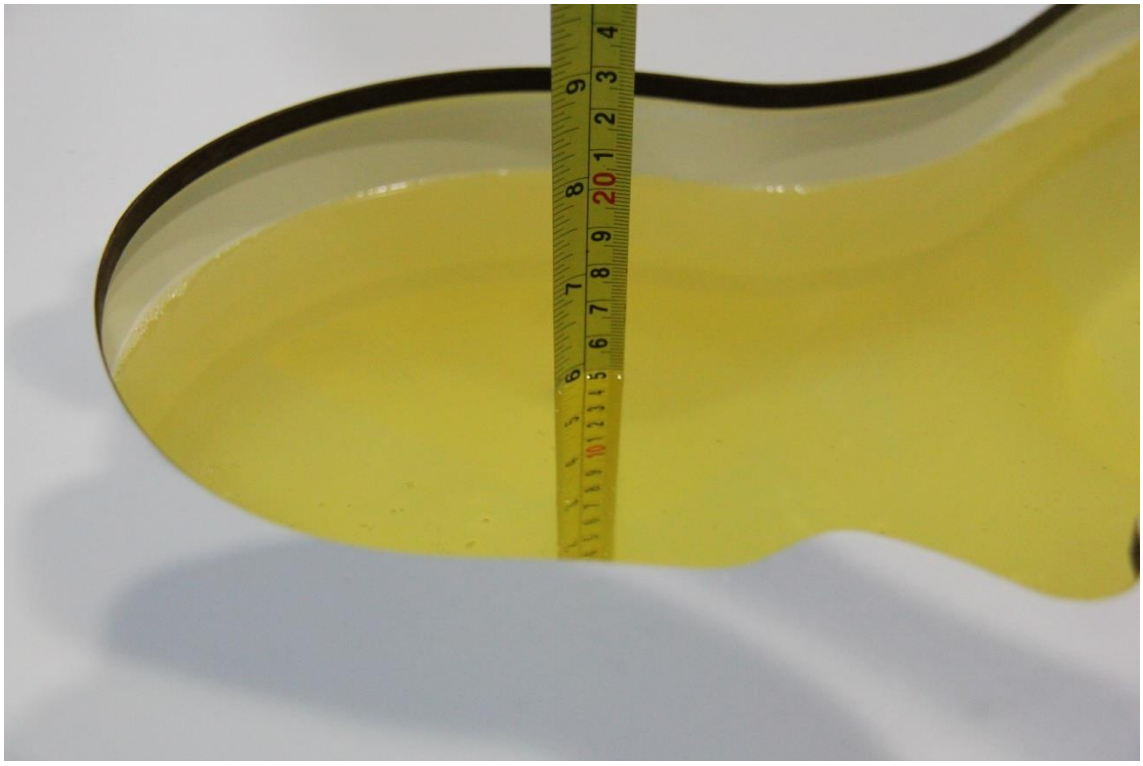
Picture 7-4 Liquid depth in the Flat Phantom (835 MHz)



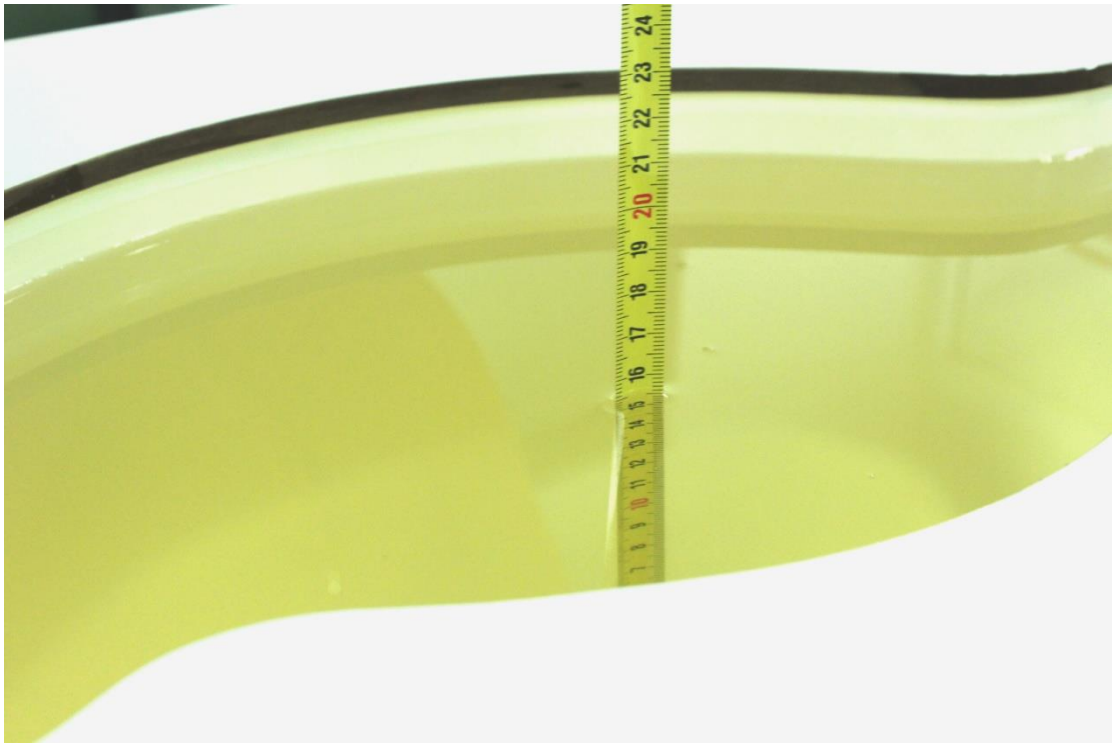
Picture 7-5 Liquid depth in the Head Phantom (1900 MHz)



Picture 7-6 Liquid depth in the Flat Phantom (1900MHz)

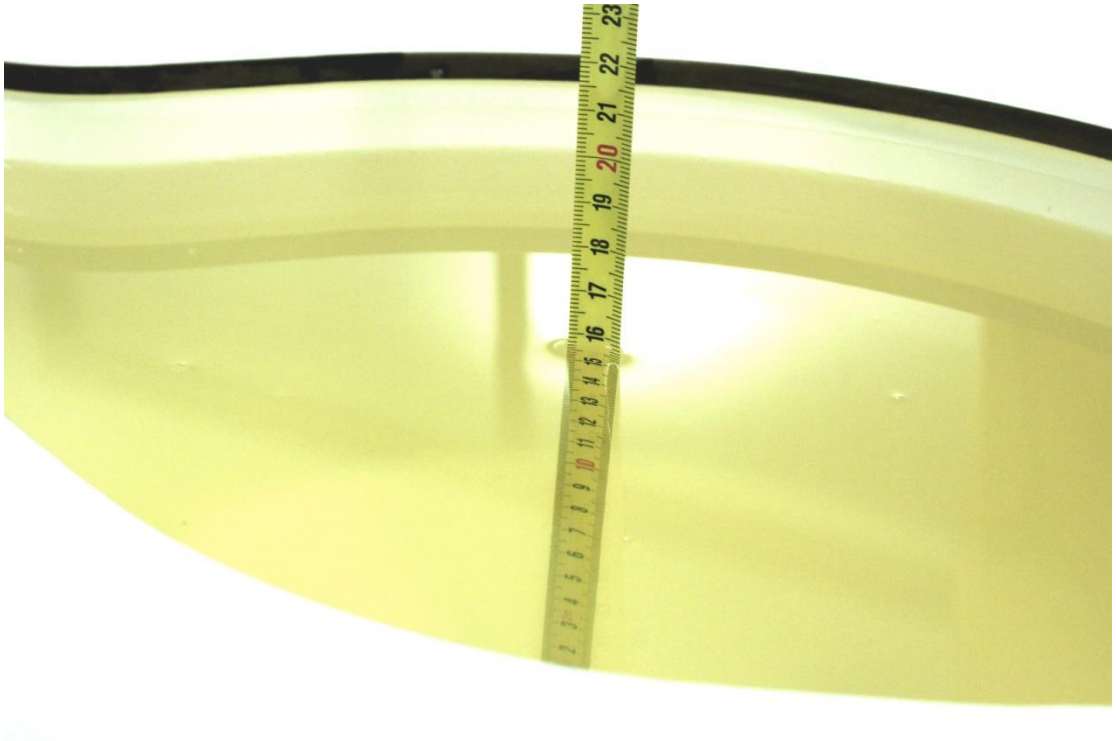


Picture 7-7 Liquid depth in the Head Phantom (2450MHz)



Picture 7-8 Liquid depth in the Flat Phantom (2450MHz)

Picture 7-9 Liquid depth in the Head Phantom (2600 MHz)

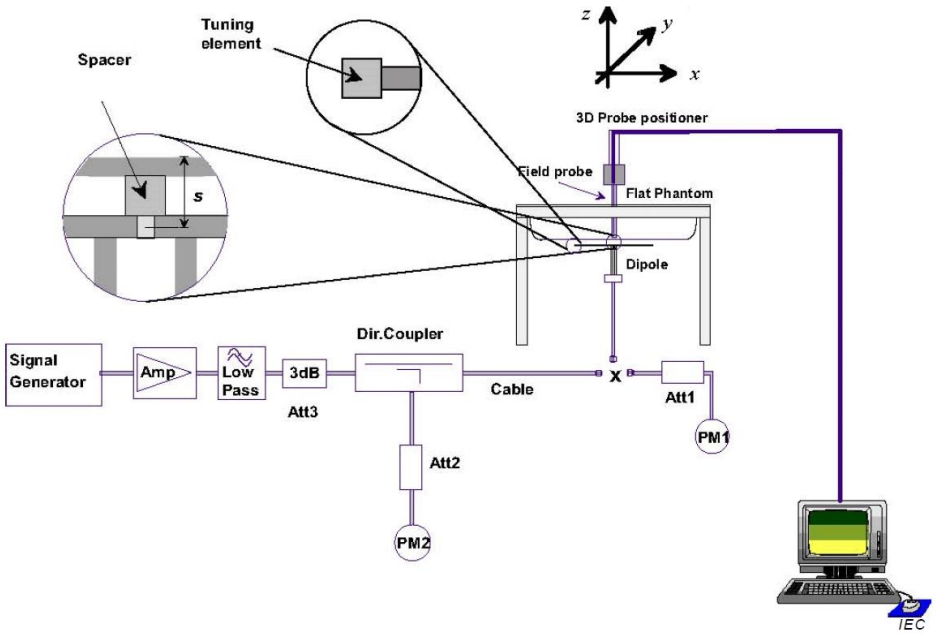


Picture 7-10 Liquid depth in the Flat Phantom (2600MHz)

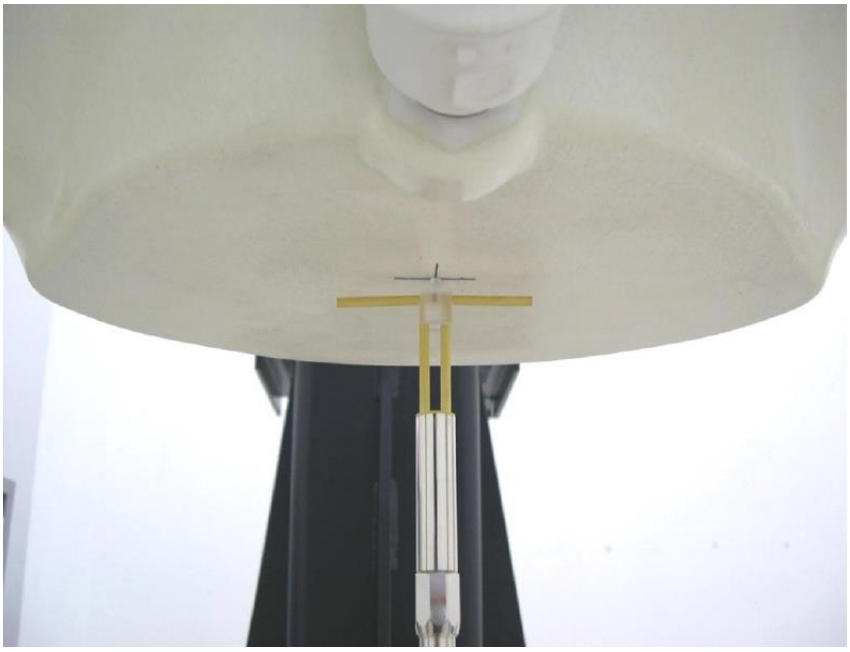
8 System verification

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
2021-9-15	750 MHz	5.65	8.68	5.68	8.52	0.53%	-1.84%
2021-9-16	835 MHz	6.24	9.63	6.24	9.92	0.00%	3.01%
2021-9-17	1750 MHz	19.4	36.9	19.36	36.52	-0.21%	-1.03%
2021-9-18	1900 MHz	20.9	40.1	20.32	39.72	-2.78%	-0.95%
2021-9-19	2450 MHz	24.9	53.3	24.4	53.08	-2.01%	-0.41%
2021-9-20	2600 MHz	25.5	57.1	25.12	57.24	-1.49%	0.25%

9 Measurement Procedures

9.1 Tests to be performed

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

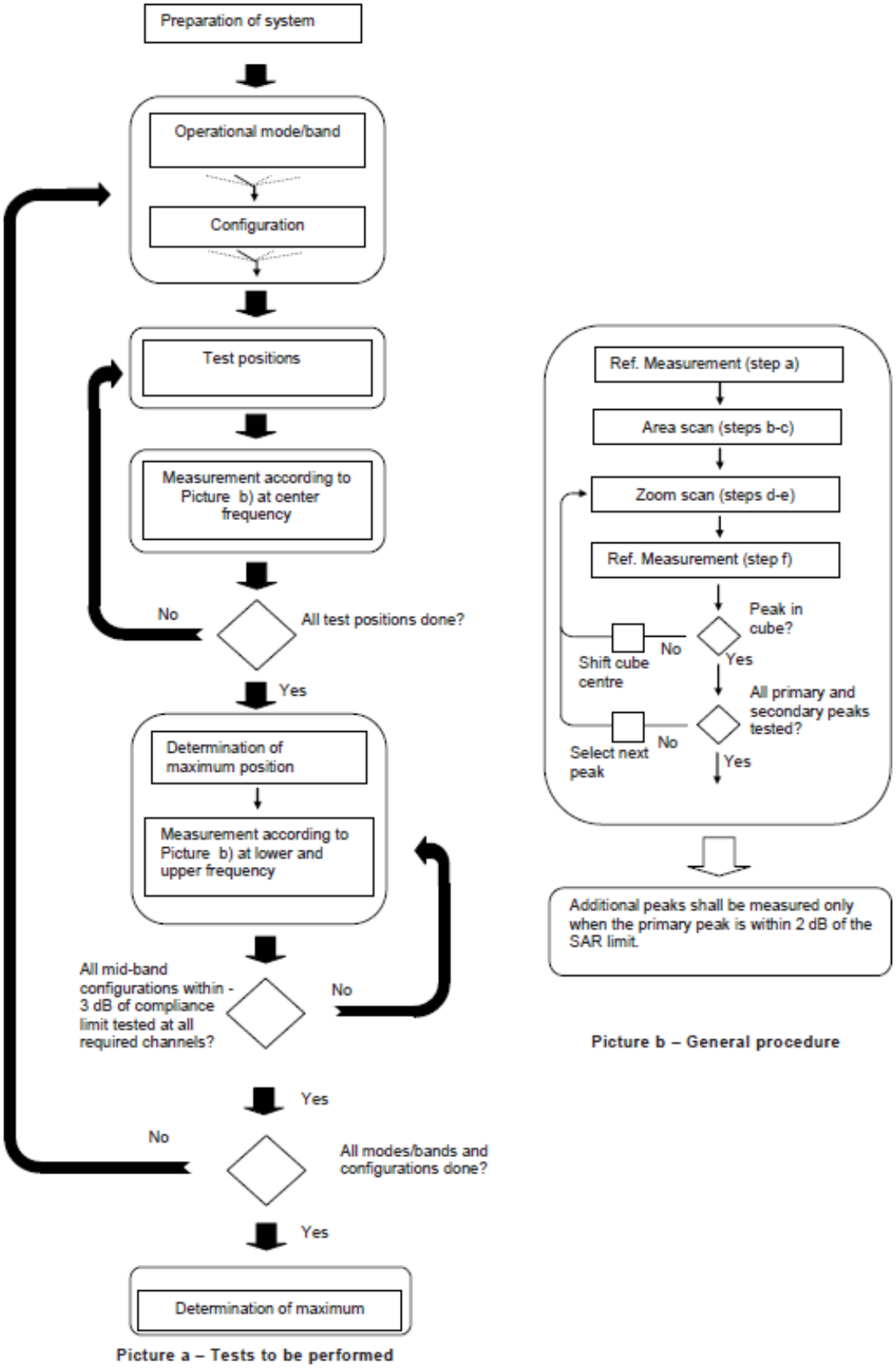
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

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

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

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

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



Picture 9.1Block diagram of the tests to be performed

9.2 General Measurement Procedure

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

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

9.3 WCDMA Measurement Procedures for SAR

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

For Release 5 HSDPA Data Devices:

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

For Release 6 HSPA Data Devices

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

Rel.8 DC-HSDPA (Cat 24)

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

9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Rchwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.
It is performed for conducted power and SAR based on the KDB941225 D05.
SAR is evaluated separately according to the following procedures for the different test positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

1) QPSK with 1 RB allocation
   Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.
2) QPSK with 50% RB allocation
   The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.
3) QPSK with 100% RB allocation
   For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

TDD test:

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

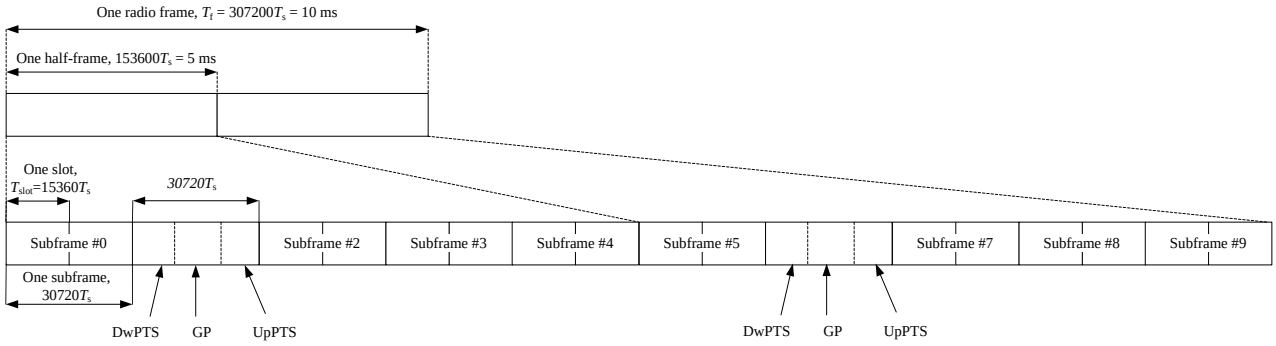


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

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

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

Table 9.2: Uplink-downlink configurations

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

Duty factor is calculated by:

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

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

= 0.633

9.5 Bluetooth & Wi-Fi Measurement Procedures for SAR

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

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

9.6 Power Drift

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

10 Area Scan Based 1-g SAR

10.1 Requirement of KDB

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

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

10.2 Fast SAR Algorithms

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

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

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

Both algorithms are implemented in DASY software.

11 Conducted Output Power

For Main antenna, there are two sets of tune-up power, Normal power and Low power, used for different use cases for GSM850/1900, WCDMA1700/1900 and LTE Band2/7/41/66. Low power status is applied for hotspot mode of above bands. For other bands, Normal power status is applied for both head and body test.

11.1 GSM Measurement result

Table 11.1-1: The conducted power measurement results–GSM850 Normal power

GSM 850	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	251	190	128			251	190	128
1 Txslot	31.65	31.63	31.57	32.50	/	/	/	/
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	251	190	128			251	190	128
1 Txslot	31.53	31.50	31.43	32.50	-9.03	22.50	22.47	22.40
2 Txslots	29.53	29.47	29.37	30.50	-6.02	23.51	23.45	23.35
3Txslots	27.47	27.45	27.40	28.00	-4.26	23.21	23.19	23.14
4 Txslots	26.38	26.40	25.76	27.00	-3.01	23.37	23.39	22.75
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	251	190	128			251	190	128
1 Txslot	31.48	31.44	31.39	32.50	-9.03	22.45	22.41	22.36
2 Txslots	29.48	29.42	29.34	30.50	-6.02	23.46	23.40	23.32
3Txslots	27.42	27.42	27.39	28.00	-4.26	23.16	23.16	23.13
4 Txslots	26.34	26.38	25.75	27.00	-3.01	23.33	23.37	22.74
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	251	190	128			251	190	128
1 Txslot	26.02	26.11	26.11	28.00	-9.03	16.99	17.08	17.08
2 Txslots	23.36	23.39	23.37	25.00	-6.02	17.34	17.37	17.35
3Txslots	22.14	21.26	21.59	23.00	-4.26	17.88	17.00	17.33
4 Txslots	20.05	20.02	20.05	22.00	-3.01	17.04	17.01	17.04

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 2Txslots for GSM850.

Table 11.1-2: The conducted power measurement results–GSM850 Low power

GSM 850	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	251	190	128			251	190	128
1 Txslot	29.88	29.78	29.75	30.00	/	/	/	/

GSM 850 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	29.88	29.80	29.82	30.00	-9.03	20.85	20.77	20.79
2 Txslots	27.60	27.58	27.57	28.00	-6.02	21.58	21.56	21.55
3Txslots	25.73	25.68	25.74	26.00	-4.26	21.47	21.42	21.48
4 Txslots	24.52	24.53	24.53	25.00	-3.01	21.51	21.52	21.52
GSM 850 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	29.76	29.69	29.70	30.00	-9.03	20.73	20.66	20.67
2 Txslots	27.50	27.49	27.47	28.00	-6.02	21.48	21.47	21.45
3Txslots	25.73	25.69	25.63	26.00	-4.26	21.47	21.43	21.37
4 Txslots	24.57	24.58	24.44	25.00	-3.01	21.56	21.57	21.43
GSM 850 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	26.02	26.11	26.11	28.00	-9.03	16.99	17.08	17.08
2 Txslots	23.36	23.39	23.37	25.00	-6.02	17.34	17.37	17.35
3Txslots	22.14	21.26	21.59	23.00	-4.26	17.88	17.00	17.33
4 Txslots	20.05	20.02	20.05	22.00	-3.01	17.04	17.01	17.04

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 2Txslots for GSM850.

Table 11.1-3: The conducted power measurement results-GSM1900 Normal power

PCS1900	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	810	661	512			810	661	512
1 Txslot	29.77	30.14	30.04	31.50	/	/	/	/
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	810	661	512			810	661	512
1 Txslot	29.71	30.09	30.02	31.50	-9.03	20.68	21.06	20.99
2 Txslots	27.15	27.19	27.36	28.30	-6.02	21.13	21.17	21.34
3 Txslots	25.25	25.07	25.45	27.00	-4.26	20.99	20.81	21.19
4 Txslots	24.11	23.94	24.25	25.50	-3.01	21.10	20.93	21.24
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	810	661	512			810	661	512
1 Txslot	29.69	30.06	29.97	31.50	-9.03	20.66	21.03	20.94
2 Txslots	27.18	27.12	27.39	28.30	-6.02	21.16	21.10	21.37
3Txslots	25.40	25.03	25.42	27.00	-4.26	21.14	20.77	21.16
4 Txslots	24.05	23.89	24.21	25.50	-3.01	21.04	20.88	21.20
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	810	661	512			810	661	512
1 Txslot	25.83	26.03	26.11	27.00	-9.03	16.80	17.00	17.08
2 Txslots	22.76	23.21	22.98	24.00	-6.02	16.74	17.19	16.96
3Txslots	21.49	21.31	21.26	23.00	-4.26	17.23	17.05	17.00
4 Txslots	19.87	19.96	20.15	21.00	-3.01	16.86	16.95	17.14

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 2Txslots for GSM1900.

Table 11.1-4: The conducted power measurement results-GSM1900 Low power

PCS1900	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	810	661	512			810	661	512
1 Txslot	27.92	27.92	28.04	29.50	/	/	/	/
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	810	661	512			810	661	512
1 Txslot	27.96	27.89	28.09	29.50	-9.03	18.93	18.86	19.06
2 Txslots	24.83	25.36	25.62	26.00	-6.02	18.81	19.34	19.60
3 Txslots	23.88	24.22	24.41	25.00	-4.26	19.62	19.96	20.15
4 Txslots	22.17	22.67	21.77	23.50	-3.01	19.16	19.66	18.76
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	810	661	512			810	661	512
1 Txslot	27.96	27.90	28.07	29.50	-9.03	18.93	18.87	19.04
2 Txslots	24.81	25.37	25.59	26.00	-6.02	18.79	19.35	19.57
3Txslots	23.68	24.22	24.38	25.00	-4.26	19.42	19.96	20.12
4 Txslots	22.15	22.67	21.75	23.50	-3.01	19.14	19.66	18.74
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	810	661	512			810	661	512
1 Txslot	25.83	26.03	26.11	27.00	-9.03	16.80	17.00	17.08
2 Txslots	22.76	23.21	22.98	24.00	-6.02	16.74	17.19	16.96
3Txslots	21.49	21.31	21.26	23.00	-4.26	17.23	17.05	17.00
4 Txslots	19.87	19.96	20.15	21.00	-3.01	16.86	16.95	17.14

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 GSM1900.

11.2 WCDMA Measurement result

Table 11.2-1: The conducted Power for WCDMA B5

WCDMA850	FDDV result (dBm)			Tune up
	4233/4458	4183/4408	4132/4357	
	(846.6MHz)	(836.6MHz)	(826.4MHz)	
	22.74	22.72	22.47	24.00
HSUPA	21.07	21.18	21.18	22.50
	20.97	21.16	21.01	22.50
	21.07	21.17	21.15	22.50
	21.01	21.12	21.50	22.50
	21.01	21.06	21.68	22.50
HSPA+	20.87	20.99	21.02	22.50
DC-HSDPA	21.52	21.53	21.51	23.00
	21.52	21.52	21.61	23.00
	21.01	21.10	21.16	22.50
	21.00	21.09	21.15	22.50

Table 11.2-2: The conducted Power for WCDMA B2/B4 –Normal Power

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	24.04	24.32	24.20	25.00
HSUPA	23.36	23.28	23.30	25.00
	21.97	22.18	22.56	23.00
	22.21	22.39	22.50	23.50
	22.43	22.45	22.43	22.50
	22.58	22.79	22.72	24.00
HSPA+	22.88	22.89	22.90	24.00
DC-HSDPA	23.51	23.55	23.52	25.00
	23.54	23.57	23.58	25.00
	23.07	23.14	23.17	24.50
	23.05	23.16	23.12	24.50

WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	23.03	22.98	22.91	24.00
HSUPA	21.83	21.70	21.64	23.00
	21.87	21.72	21.75	23.00
	21.88	21.83	21.79	23.00
	21.96	21.82	21.79	23.00
	21.98	21.88	21.85	23.00
HSPA+	21.56	21.42	21.45	23.00
DC-HSDPA	21.90	21.77	21.69	23.00
	21.90	21.75	21.68	23.00
	21.52	21.55	21.53	23.00
	21.51	21.56	21.55	23.00

Table 11.2-3: The conducted Power for WCDMA B2/B4 –Low Power

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	19.81	19.88	19.77	21.00
HSUPA	20.64	20.69	20.61	21.00
	19.34	19.46	19.84	20.50
	19.45	19.43	19.38	20.50
	19.81	19.87	19.72	20.50
	19.96	19.93	19.93	20.50
HSPA+	20.23	20.16	20.40	21.00
DC-HSDPA	20.92	20.82	20.99	21.00
	20.90	20.79	20.92	21.00
	20.35	20.48	20.46	20.50
	20.39	20.44	20.46	20.50

WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	20.25	20.12	20.06	20.50
HSUPA	18.19	18.18	18.12	20.00
	17.98	17.95	17.93	18.50
	18.31	18.05	18.22	18.50
	18.34	18.16	18.09	18.50
	18.45	18.28	18.35	19.00
HSPA+	18.06	17.63	17.85	19.00
DC-HSDPA	18.28	18.15	17.97	19.00
	18.38	18.12	18.11	19.00
	17.81	17.88	17.64	18.50
	17.69	17.82	17.74	18.50

11.3 LTE Measurement result

Maximum Target Power for Production Unit

Band	Tune up (dBm)	
	Normal power	Low power
LTE B2	25.5	21.5
LTE B5	25.5	25.5
LTE B7	24.5	21
LTE B12	25	25
LTE B13	24	24
LTE B41-PC3	24.5	22.5
LTE B41-PC2	26.5	22
LTE B66	25	21
LTE B71	24.5	24.5

LTE Band2-Normal power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
1.4MHz	1RB-High (5)	1909.3 (19193)	23.86	23.43
		1880 (18900)	24.36	23.74
		1850.7 (18607)	23.90	23.51
	1RB-Middle (3)	1909.3 (19193)	24.21	23.22
		1880 (18900)	24.35	22.91
		1850.7 (18607)	23.94	23.25
	1RB-Low (0)	1909.3 (19193)	23.94	22.89
		1880 (18900)	24.23	22.76
		1850.7 (18607)	24.13	23.17
	3RB-High (3)	1909.3 (19193)	24.30	23.03
		1880 (18900)	24.44	23.57
		1850.7 (18607)	24.22	23.00
	3RB-Middle (1)	1909.3 (19193)	24.46	23.15
		1880 (18900)	24.57	23.66
		1850.7 (18607)	24.25	23.03
	3RB-Low (0)	1909.3 (19193)	24.33	23.22
		1880 (18900)	24.53	23.26
		1850.7 (18607)	24.20	23.01
	6RB (0)	1909.3 (19193)	23.17	22.27
		1880 (18900)	23.27	22.29
		1850.7 (18607)	23.23	21.96
3MHz	1RB-High (14)	1908.5 (19185)	24.21	22.91
		1880 (18900)	24.38	22.79
		1851.5 (18615)	24.13	22.72
	1RB-Middle (7)	1908.5 (19185)	24.24	23.00
		1880 (18900)	24.47	23.05
		1851.5 (18615)	24.26	22.86
	1RB-Low (0)	1908.5 (19185)	24.29	22.73
		1880 (18900)	24.34	22.98
		1851.5 (18615)	24.10	22.89
	8RB-High (7)	1908.5 (19185)	23.39	22.32
		1880 (18900)	23.43	22.17
		1851.5 (18615)	23.17	22.38
	8RB-Middle (4)	1908.5 (19185)	23.41	22.39
		1880 (18900)	23.21	22.27
		1851.5 (18615)	23.21	22.33
	8RB-Low (0)	1908.5 (19185)	23.45	22.34
		1880 (18900)	23.56	22.66
		1851.5 (18615)	23.18	22.27
	15RB (0)	1908.5 (19185)	23.30	22.26
		1880 (18900)	23.39	22.20
		1851.5 (18615)	23.17	22.14

5MHz	1RB-High (24)	1907.5 (19175)	24.15	22.92
		1880 (18900)	24.14	22.56
		1852.5 (18625)	24.01	23.05
	1RB-Middle (12)	1907.5 (19175)	24.30	23.53
		1880 (18900)	24.49	23.11
		1852.5 (18625)	24.08	22.92
	1RB-Low (0)	1907.5 (19175)	24.11	22.77
		1880 (18900)	24.21	22.76
		1852.5 (18625)	24.08	22.79
	12RB-High (13)	1907.5 (19175)	23.25	22.06
		1880 (18900)	23.26	22.08
		1852.5 (18625)	23.22	22.11
	12RB-Middle (6)	1907.5 (19175)	23.37	22.11
		1880 (18900)	23.38	22.17
		1852.5 (18625)	23.23	22.31
	12RB-Low (0)	1907.5 (19175)	23.28	22.20
		1880 (18900)	23.27	22.22
		1852.5 (18625)	23.10	22.26
	25RB (0)	1907.5 (19175)	23.21	22.23
		1880 (18900)	23.29	22.40
		1852.5 (18625)	23.08	22.23
10MHz	1RB-High (49)	1905 (19150)	24.30	22.83
		1880 (18900)	24.21	22.90
		1855 (18650)	24.23	23.46
	1RB-Middle (24)	1905 (19150)	24.20	22.76
		1880 (18900)	24.39	23.03
		1855 (18650)	24.06	23.10
	1RB-Low (0)	1905 (19150)	24.08	22.93
		1880 (18900)	24.04	22.89
		1855 (18650)	23.99	22.99
	25RB-High (25)	1905 (19150)	23.30	22.21
		1880 (18900)	23.26	22.37
		1855 (18650)	23.28	22.22
	25RB-Middle (12)	1905 (19150)	23.39	22.30
		1880 (18900)	23.43	22.23
		1855 (18650)	23.30	22.24
	25RB-Low (0)	1905 (19150)	23.21	22.21
		1880 (18900)	23.36	22.57
		1855 (18650)	23.23	22.09
	50RB (0)	1905 (19150)	23.33	22.35
		1880 (18900)	23.31	22.35
		1855 (18650)	23.24	22.29

15MHz	1RB-High (74)	1902.5 (19125)	23.97	22.93
		1880 (18900)	24.38	22.89
		1857.5 (18675)	24.30	23.70
	1RB-Middle (37)	1902.5 (19125)	24.20	22.68
		1880 (18900)	24.48	22.80
		1857.5 (18675)	24.21	23.38
	1RB-Low (0)	1902.5 (19125)	24.29	22.93
		1880 (18900)	24.35	22.91
		1857.5 (18675)	24.26	22.88
	36RB-High (38)	1902.5 (19125)	23.35	22.26
		1880 (18900)	23.34	22.32
		1857.5 (18675)	23.35	22.26
	36RB-Middle (19)	1902.5 (19125)	23.29	22.21
		1880 (18900)	23.28	22.26
		1857.5 (18675)	23.22	22.31
	36RB-Low (0)	1902.5 (19125)	23.32	22.26
		1880 (18900)	23.43	22.29
		1857.5 (18675)	23.11	22.10
	75RB (0)	1902.5 (19125)	23.36	22.30
		1880 (18900)	23.13	22.45
		1857.5 (18675)	23.24	22.23
20MHz	1RB-High (99)	1900 (19100)	24.25	22.86
		1880 (18900)	24.35	22.76
		1860 (18700)	24.22	22.82
	1RB-Middle (50)	1900 (19100)	24.32	23.97
		1880 (18900)	24.66	23.32
		1860 (18700)	24.41	22.89
	1RB-Low (0)	1900 (19100)	24.03	22.87
		1880 (18900)	24.32	22.86
		1860 (18700)	24.19	22.89
	50RB-High (50)	1900 (19100)	23.23	22.36
		1880 (18900)	23.21	22.36
		1860 (18700)	23.20	22.11
	50RB-Middle (25)	1900 (19100)	23.35	22.30
		1880 (18900)	23.69	22.41
		1860 (18700)	23.39	22.30
	50RB-Low (0)	1900 (19100)	23.32	22.29
		1880 (18900)	23.27	22.35
		1860 (18700)	23.25	22.27
	100RB (0)	1900 (19100)	23.46	22.34
		1880 (18900)	23.30	22.25
		1860 (18700)	23.12	22.17

LTE Band2-Low power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
1.4MHz	1RB-High (5)	1909.3 (19193)	20.80	20.66
		1880 (18900)	21.27	20.74
		1850.7 (18607)	21.19	21.10
	1RB-Middle (3)	1909.3 (19193)	21.00	20.79
		1880 (18900)	21.39	20.99
		1850.7 (18607)	21.26	20.97
	1RB-Low (0)	1909.3 (19193)	20.92	20.94
		1880 (18900)	21.17	20.90
		1850.7 (18607)	21.21	20.71
	3RB-High (3)	1909.3 (19193)	21.31	21.37
		1880 (18900)	21.41	21.12
		1850.7 (18607)	21.32	21.07
	3RB-Middle (1)	1909.3 (19193)	21.34	20.97
		1880 (18900)	21.39	21.29
		1850.7 (18607)	21.36	21.19
	3RB-Low (0)	1909.3 (19193)	21.22	20.95
		1880 (18900)	21.47	21.27
		1850.7 (18607)	21.33	21.18
	6RB (0)	1909.3 (19193)	21.04	21.27
		1880 (18900)	21.28	21.39
		1850.7 (18607)	21.15	21.36
3MHz	1RB-High (14)	1908.5 (19185)	21.06	20.82
		1880 (18900)	21.28	20.75
		1851.5 (18615)	21.25	20.79
	1RB-Middle (7)	1908.5 (19185)	21.16	21.03
		1880 (18900)	21.43	21.18
		1851.5 (18615)	21.39	20.82
	1RB-Low (0)	1908.5 (19185)	21.09	21.07
		1880 (18900)	21.28	20.62
		1851.5 (18615)	21.08	20.94
	8RB-High (7)	1908.5 (19185)	21.18	21.30
		1880 (18900)	21.36	21.42
		1851.5 (18615)	21.27	21.52
	8RB-Middle (4)	1908.5 (19185)	21.17	21.59
		1880 (18900)	21.37	21.36
		1851.5 (18615)	21.32	21.39
	8RB-Low (0)	1908.5 (19185)	21.26	21.21
		1880 (18900)	21.41	21.40
		1851.5 (18615)	21.31	21.48
	15RB (0)	1908.5 (19185)	21.13	21.09
		1880 (18900)	21.24	21.29
		1851.5 (18615)	21.29	21.22

5MHz	1RB-High (24)	1907.5 (19175)	20.85	20.60
		1880 (18900)	21.16	20.96
		1852.5 (18625)	21.15	21.01
	1RB-Middle (12)	1907.5 (19175)	21.10	20.88
		1880 (18900)	21.20	20.98
		1852.5 (18625)	21.26	20.90
	1RB-Low (0)	1907.5 (19175)	21.13	20.68
		1880 (18900)	21.15	21.00
		1852.5 (18625)	21.27	20.89
	12RB-High (13)	1907.5 (19175)	21.13	20.89
		1880 (18900)	21.29	21.30
		1852.5 (18625)	21.15	21.08
	12RB-Middle (6)	1907.5 (19175)	21.20	21.08
		1880 (18900)	21.37	21.31
		1852.5 (18625)	21.26	21.29
	12RB-Low (0)	1907.5 (19175)	21.20	21.19
		1880 (18900)	21.33	21.26
		1852.5 (18625)	21.27	21.30
	25RB (0)	1907.5 (19175)	21.16	21.25
		1880 (18900)	21.33	21.26
		1852.5 (18625)	21.22	21.32
10MHz	1RB-High (49)	1905 (19150)	21.27	20.91
		1880 (18900)	21.41	21.61
		1855 (18650)	21.28	20.79
	1RB-Middle (24)	1905 (19150)	21.32	20.63
		1880 (18900)	21.49	21.26
		1855 (18650)	21.35	21.34
	1RB-Low (0)	1905 (19150)	21.21	20.99
		1880 (18900)	21.17	21.16
		1855 (18650)	21.17	20.97
	25RB-High (25)	1905 (19150)	21.16	21.06
		1880 (18900)	21.40	21.40
		1855 (18650)	21.19	21.17
	25RB-Middle (12)	1905 (19150)	21.24	21.32
		1880 (18900)	21.39	21.56
		1855 (18650)	21.34	21.45
	25RB-Low (0)	1905 (19150)	21.29	21.28
		1880 (18900)	21.37	21.47
		1855 (18650)	21.21	21.31
	50RB (0)	1905 (19150)	21.23	21.23
		1880 (18900)	21.43	21.43
		1855 (18650)	21.33	21.25

15MHz	1RB-High (74)	1902.5 (19125)	21.26	21.27
		1880 (18900)	21.23	21.54
		1857.5 (18675)	21.17	21.45
	1RB-Middle (37)	1902.5 (19125)	21.22	21.37
		1880 (18900)	21.34	21.42
		1857.5 (18675)	21.23	21.33
	1RB-Low (0)	1902.5 (19125)	21.29	20.92
		1880 (18900)	21.20	21.02
		1857.5 (18675)	21.19	20.94
	36RB-High (38)	1902.5 (19125)	21.31	21.28
		1880 (18900)	21.39	21.26
		1857.5 (18675)	21.23	21.22
	36RB-Middle (19)	1902.5 (19125)	21.32	21.24
		1880 (18900)	21.38	21.43
		1857.5 (18675)	21.21	21.20
	36RB-Low (0)	1902.5 (19125)	21.22	21.29
		1880 (18900)	21.32	21.28
		1857.5 (18675)	21.20	21.24
	75RB (0)	1902.5 (19125)	21.37	21.43
		1880 (18900)	21.30	21.36
		1857.5 (18675)	21.26	21.23
20MHz	1RB-High (99)	1900 (19100)	20.98	20.41
		1880 (18900)	21.06	20.92
		1860 (18700)	21.21	20.81
	1RB-Middle (50)	1900 (19100)	21.25	21.49
		1880 (18900)	21.28	21.35
		1860 (18700)	21.26	20.67
	1RB-Low (0)	1900 (19100)	20.79	20.71
		1880 (18900)	21.08	20.82
		1860 (18700)	20.90	20.24
	50RB-High (50)	1900 (19100)	21.09	21.07
		1880 (18900)	21.19	21.15
		1860 (18700)	21.16	21.22
	50RB-Middle (25)	1900 (19100)	21.20	21.17
		1880 (18900)	21.25	21.30
		1860 (18700)	21.19	21.15
	50RB-Low (0)	1900 (19100)	21.10	21.10
		1880 (18900)	21.22	21.21
		1860 (18700)	20.95	21.05
	100RB (0)	1900 (19100)	21.18	21.06
		1880 (18900)	21.22	21.30
		1860 (18700)	21.15	21.14

LTE Band5				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
1.4MHz	1RB-High (5)	848.3 (20643)	23.58	22.91
		836.5 (20525)	24.67	23.23
		824.7 (20407)	24.43	23.36
	1RB-Middle (3)	848.3 (20643)	23.76	23.12
		836.5 (20525)	24.44	23.33
		824.7 (20407)	24.82	23.41
	1RB-Low (0)	848.3 (20643)	23.86	23.25
		836.5 (20525)	24.40	23.16
		824.7 (20407)	24.38	23.31
	3RB-High (3)	848.3 (20643)	23.67	22.83
		836.5 (20525)	24.80	23.42
		824.7 (20407)	24.78	24.00
	3RB-Middle (1)	848.3 (20643)	23.79	22.97
		836.5 (20525)	24.59	23.60
		824.7 (20407)	24.87	23.92
	3RB-Low (0)	848.3 (20643)	23.81	23.00
		836.5 (20525)	24.78	23.55
		824.7 (20407)	24.82	23.66
	6RB (0)	848.3 (20643)	23.74	22.94
		836.5 (20525)	23.44	22.78
		824.7 (20407)	23.65	22.50
3MHz	1RB-High (14)	847.5 (20635)	23.51	22.93
		836.5 (20525)	24.66	23.23
		825.5 (20415)	24.41	23.62
	1RB-Middle (7)	847.5 (20635)	24.03	23.38
		836.5 (20525)	24.86	23.30
		825.5 (20415)	24.97	23.43
	1RB-Low (0)	847.5 (20635)	24.27	23.69
		836.5 (20525)	24.76	23.15
		825.5 (20415)	24.71	23.30
	8RB-High (7)	847.5 (20635)	23.80	22.84
		836.5 (20525)	23.54	22.72
		825.5 (20415)	23.53	22.77
	8RB-Middle (4)	847.5 (20635)	23.83	22.90
		836.5 (20525)	23.65	22.89
		825.5 (20415)	23.49	22.88
	8RB-Low (0)	847.5 (20635)	23.77	22.99
		836.5 (20525)	23.53	22.91
		825.5 (20415)	23.68	22.91
	15RB (0)	847.5 (20635)	23.66	22.74
		836.5 (20525)	23.61	22.74
		825.5 (20415)	23.74	22.71

5MHz	1RB-High (24)	846.5 (20625)	24.46	22.89
		836.5 (20525)	24.61	23.34
		826.5 (20425)	24.78	22.94
	1RB-Middle (12)	846.5 (20625)	24.33	23.69
		836.5 (20525)	24.87	23.27
		826.5 (20425)	25.04	23.40
	1RB-Low (0)	846.5 (20625)	24.55	22.98
		836.5 (20525)	24.35	23.03
		826.5 (20425)	24.66	23.09
	12RB-High (13)	846.5 (20625)	23.61	22.79
		836.5 (20525)	23.66	22.68
		826.5 (20425)	23.84	22.63
	12RB-Middle (6)	846.5 (20625)	23.73	22.63
		836.5 (20525)	23.69	22.45
		826.5 (20425)	23.87	22.85
	12RB-Low (0)	846.5 (20625)	23.52	22.62
		836.5 (20525)	23.69	22.44
		826.5 (20425)	23.70	22.48
	25RB (0)	846.5 (20625)	23.70	22.82
		836.5 (20525)	23.62	22.70
		826.5 (20425)	23.79	22.74
10MHz	1RB-High (49)	844 (20600)	24.37	23.46
		836.5 (20525)	24.58	23.58
		829 (20450)	24.73	23.89
	1RB-Middle (24)	844 (20600)	25.11	24.29
		836.5 (20525)	24.96	23.29
		829 (20450)	24.85	23.78
	1RB-Low (0)	844 (20600)	24.80	23.42
		836.5 (20525)	24.72	23.39
		829 (20450)	24.79	23.45
	25RB-High (25)	844 (20600)	23.82	23.01
		836.5 (20525)	23.83	22.89
		829 (20450)	23.84	22.90
	25RB-Middle (12)	844 (20600)	23.86	22.79
		836.5 (20525)	23.85	22.83
		829 (20450)	23.76	22.92
	25RB-Low (0)	844 (20600)	23.82	22.84
		836.5 (20525)	23.71	22.85
		829 (20450)	23.81	22.98
	50RB (0)	844 (20600)	23.83	23.10
		836.5 (20525)	23.81	22.78
		829 (20450)	23.90	22.89

LTE Band7-Normal power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	2567.5 (21425)	23.65	22.08
		2535 (21100)	23.57	21.76
		2502.5 (20775)	23.63	22.08
	1RB-Middle (12)	2567.5 (21425)	23.75	22.25
		2535 (21100)	23.51	22.17
		2502.5 (20775)	23.58	22.37
	1RB-Low (0)	2567.5 (21425)	23.81	22.10
		2535 (21100)	23.44	21.59
		2502.5 (20775)	23.58	22.12
	12RB-High (13)	2567.5 (21425)	22.69	21.64
		2535 (21100)	22.46	21.52
		2502.5 (20775)	22.67	21.71
	12RB-Middle (6)	2567.5 (21425)	22.67	21.63
		2535 (21100)	22.46	21.60
		2502.5 (20775)	22.68	21.62
	12RB-Low (0)	2567.5 (21425)	22.65	21.79
		2535 (21100)	22.46	21.55
		2502.5 (20775)	22.69	21.66
	25RB (0)	2567.5 (21425)	22.67	21.63
		2535 (21100)	22.57	21.64
		2502.5 (20775)	22.73	21.70
10MHz	1RB-High (49)	2565 (21400)	23.84	22.48
		2535 (21100)	23.55	21.93
		2505 (20800)	23.70	22.85
	1RB-Middle (24)	2565 (21400)	23.95	22.15
		2535 (21100)	23.76	22.07
		2505 (20800)	23.90	22.61
	1RB-Low (0)	2565 (21400)	23.95	22.31
		2535 (21100)	23.64	22.31
		2505 (20800)	23.85	22.26
	25RB-High (25)	2565 (21400)	22.69	21.95
		2535 (21100)	22.61	21.74
		2505 (20800)	22.81	21.84
	25RB-Middle (12)	2565 (21400)	22.76	21.92
		2535 (21100)	22.55	21.67
		2505 (20800)	22.73	21.94
	25RB-Low (0)	2565 (21400)	22.78	21.99
		2535 (21100)	22.61	21.73
		2505 (20800)	22.78	21.80
	50RB (0)	2565 (21400)	22.87	21.96
		2535 (21100)	22.50	21.65
		2505 (20800)	22.79	21.74

15MHz	1RB-High (74)	2562.5 (21375)	23.81	22.51
		2535 (21100)	23.59	22.03
		2507.5 (20825)	23.72	22.08
	1RB-Middle (37)	2562.5 (21375)	23.85	22.60
		2535 (21100)	23.65	22.02
		2507.5 (20825)	23.72	22.23
	1RB-Low (0)	2562.5 (21375)	23.86	22.10
		2535 (21100)	23.72	22.19
		2507.5 (20825)	23.70	22.47
	36RB-High (38)	2562.5 (21375)	22.81	21.84
		2535 (21100)	22.58	21.66
		2507.5 (20825)	22.67	21.62
	36RB-Middle (19)	2562.5 (21375)	22.93	22.00
		2535 (21100)	22.58	21.58
		2507.5 (20825)	22.70	21.72
	36RB-Low (0)	2562.5 (21375)	22.94	21.78
		2535 (21100)	22.63	21.65
		2507.5 (20825)	22.74	21.88
	75RB (0)	2562.5 (21375)	22.77	21.92
		2535 (21100)	22.55	21.65
		2507.5 (20825)	22.71	21.85
20MHz	1RB-High (99)	2560 (21350)	23.67	22.07
		2535 (21100)	23.38	21.93
		2510 (20850)	23.40	21.95
	1RB-Middle (50)	2560 (21350)	23.89	22.43
		2535 (21100)	23.55	22.07
		2510 (20850)	23.74	22.35
	1RB-Low (0)	2560 (21350)	23.52	22.06
		2535 (21100)	23.44	21.80
		2510 (20850)	23.61	22.34
	50RB-High (50)	2560 (21350)	22.55	21.69
		2535 (21100)	22.32	21.34
		2510 (20850)	22.44	21.58
	50RB-Middle (25)	2560 (21350)	22.65	21.91
		2535 (21100)	22.45	21.42
		2510 (20850)	22.58	21.66
	50RB-Low (0)	2560 (21350)	22.57	21.83
		2535 (21100)	22.24	21.36
		2510 (20850)	22.55	21.69
	100RB (0)	2560 (21350)	22.50	21.56
		2535 (21100)	22.33	21.35
		2510 (20850)	22.44	21.58

LTE Band7-Low power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	2567.5 (21425)	20.07	19.82
		2535 (21100)	19.83	19.94
		2502.5 (20775)	20.19	19.59
	1RB-Middle (12)	2567.5 (21425)	20.42	20.19
		2535 (21100)	19.78	19.65
		2502.5 (20775)	20.07	19.90
	1RB-Low (0)	2567.5 (21425)	20.26	20.57
		2535 (21100)	19.89	19.40
		2502.5 (20775)	20.05	19.77
	12RB-High (13)	2567.5 (21425)	20.46	20.29
		2535 (21100)	20.01	19.93
		2502.5 (20775)	20.18	20.20
	12RB-Middle (6)	2567.5 (21425)	20.50	20.58
		2535 (21100)	20.02	20.07
		2502.5 (20775)	20.30	20.37
	12RB-Low (0)	2567.5 (21425)	20.51	20.47
		2535 (21100)	19.99	20.01
		2502.5 (20775)	20.22	20.03
	25RB (0)	2567.5 (21425)	20.42	20.55
		2535 (21100)	19.91	20.02
		2502.5 (20775)	20.26	20.34
10MHz	1RB-High (49)	2565 (21400)	20.31	20.09
		2535 (21100)	20.12	19.65
		2505 (20800)	20.30	20.65
	1RB-Middle (24)	2565 (21400)	20.63	20.45
		2535 (21100)	20.17	19.86
		2505 (20800)	20.33	20.74
	1RB-Low (0)	2565 (21400)	20.50	20.07
		2535 (21100)	19.78	19.26
		2505 (20800)	19.98	19.91
	25RB-High (25)	2565 (21400)	20.52	20.35
		2535 (21100)	20.07	20.01
		2505 (20800)	20.34	20.36
	25RB-Middle (12)	2565 (21400)	20.52	20.68
		2535 (21100)	20.05	20.01
		2505 (20800)	20.30	20.46
	25RB-Low (0)	2565 (21400)	20.48	20.63
		2535 (21100)	20.03	20.16
		2505 (20800)	20.33	20.42
	50RB (0)	2565 (21400)	20.34	20.48
		2535 (21100)	19.94	19.98
		2505 (20800)	20.35	20.35

15MHz	1RB-High (74)	2562.5 (21375)	20.25	20.10
		2535 (21100)	20.07	19.77
		2507.5 (20825)	19.95	19.40
	1RB-Middle (37)	2562.5 (21375)	20.31	20.43
		2535 (21100)	19.95	19.69
		2507.5 (20825)	20.13	19.58
	1RB-Low (0)	2562.5 (21375)	20.41	20.51
		2535 (21100)	20.09	19.73
		2507.5 (20825)	20.10	19.25
	36RB-High (38)	2562.5 (21375)	20.45	20.47
		2535 (21100)	20.15	20.03
		2507.5 (20825)	20.20	20.09
	36RB-Middle (19)	2562.5 (21375)	20.48	20.53
		2535 (21100)	19.99	19.91
		2507.5 (20825)	20.25	20.09
	36RB-Low (0)	2562.5 (21375)	20.38	20.42
		2535 (21100)	20.08	19.96
		2507.5 (20825)	20.29	20.20
	75RB (0)	2562.5 (21375)	20.41	20.35
		2535 (21100)	20.03	20.00
		2507.5 (20825)	20.24	20.26
20MHz	1RB-High (99)	2560 (21350)	20.57	19.89
		2535 (21100)	20.46	19.77
		2510 (20850)	20.47	20.47
	1RB-Middle (50)	2560 (21350)	20.35	19.80
		2535 (21100)	20.08	20.03
		2510 (20850)	20.27	20.55
	1RB-Low (0)	2560 (21350)	20.24	19.39
		2535 (21100)	19.95	19.76
		2510 (20850)	20.12	20.25
	50RB-High (50)	2560 (21350)	20.28	20.38
		2535 (21100)	20.04	20.21
		2510 (20850)	20.02	20.09
	50RB-Middle (25)	2560 (21350)	20.46	20.41
		2535 (21100)	20.38	20.03
		2510 (20850)	20.35	20.20
	50RB-Low (0)	2560 (21350)	20.27	20.37
		2535 (21100)	19.89	19.94
		2510 (20850)	20.18	20.17
	100RB (0)	2560 (21350)	20.50	20.40
		2535 (21100)	20.00	19.95
		2510 (20850)	20.14	20.11

LTE Band12				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
1.4MHz	1RB-High (5)	715.3 (23173)	24.29	23.20
		707.5 (23095)	24.28	23.74
		699.7 (23017)	24.10	23.25
	1RB-Middle (3)	715.3 (23173)	24.23	23.46
		707.5 (23095)	24.20	23.12
		699.7 (23017)	24.23	22.71
	1RB-Low (0)	715.3 (23173)	24.05	22.77
		707.5 (23095)	23.97	22.81
		699.7 (23017)	24.18	22.46
	3RB-High (3)	715.3 (23173)	24.24	23.13
		707.5 (23095)	24.41	23.45
		699.7 (23017)	24.32	23.12
	3RB-Middle (1)	715.3 (23173)	24.23	22.90
		707.5 (23095)	24.39	23.08
		699.7 (23017)	24.26	23.12
	3RB-Low (0)	715.3 (23173)	24.20	23.08
		707.5 (23095)	24.32	23.07
		699.7 (23017)	24.25	23.11
	6RB (0)	715.3 (23173)	23.29	22.30
		707.5 (23095)	23.24	22.04
		699.7 (23017)	23.16	22.10
3MHz	1RB-High (14)	714.5 (23165)	24.17	22.73
		707.5 (23095)	24.12	22.64
		700.5 (23025)	23.92	23.29
	1RB-Middle (7)	714.5 (23165)	24.06	23.01
		707.5 (23095)	24.29	22.81
		700.5 (23025)	24.07	22.79
	1RB-Low (0)	714.5 (23165)	23.99	22.82
		707.5 (23095)	24.16	22.87
		700.5 (23025)	24.18	22.86
	8RB-High (7)	714.5 (23165)	23.23	22.04
		707.5 (23095)	23.28	22.46
		700.5 (23025)	23.26	22.28
	8RB-Middle (4)	714.5 (23165)	23.21	22.24
		707.5 (23095)	23.17	22.36
		700.5 (23025)	23.22	22.23
	8RB-Low (0)	714.5 (23165)	23.14	22.19
		707.5 (23095)	23.33	22.24
		700.5 (23025)	23.26	22.27
	15RB (0)	714.5 (23165)	23.06	22.17
		707.5 (23095)	23.15	22.27
		700.5 (23025)	23.23	22.21

5MHz	1RB-High (24)	713.5 (23155)	23.86	22.49
		707.5 (23095)	23.78	23.31
		701.5 (23035)	23.87	23.06
	1RB-Middle (12)	713.5 (23155)	23.81	23.14
		707.5 (23095)	23.92	22.73
		701.5 (23035)	23.85	22.86
	1RB-Low (0)	713.5 (23155)	24.04	23.29
		707.5 (23095)	23.89	22.61
		701.5 (23035)	23.84	22.57
	12RB-High (13)	713.5 (23155)	23.08	22.14
		707.5 (23095)	23.12	22.26
		701.5 (23035)	22.89	21.98
	12RB-Middle (6)	713.5 (23155)	23.03	21.98
		707.5 (23095)	23.08	21.98
		701.5 (23035)	22.95	21.84
	12RB-Low (0)	713.5 (23155)	23.10	22.13
		707.5 (23095)	23.05	21.96
		701.5 (23035)	23.09	21.99
	25RB (0)	713.5 (23155)	22.97	22.20
		707.5 (23095)	23.02	22.17
		701.5 (23035)	23.01	21.98
10MHz	1RB-High (49)	711 (23130)	23.85	23.16
		707.5 (23095)	23.78	23.18
		704 (23060)	23.92	22.52
	1RB-Middle (24)	711 (23130)	23.99	22.97
		707.5 (23095)	24.10	22.20
		704 (23060)	23.90	22.45
	1RB-Low (0)	711 (23130)	23.81	22.56
		707.5 (23095)	23.58	22.57
		704 (23060)	23.65	22.35
	25RB-High (25)	711 (23130)	23.02	21.90
		707.5 (23095)	23.04	21.85
		704 (23060)	22.97	22.05
	25RB-Middle (12)	711 (23130)	23.03	21.99
		707.5 (23095)	22.98	21.95
		704 (23060)	22.98	21.97
	25RB-Low (0)	711 (23130)	23.05	22.00
		707.5 (23095)	23.06	21.98
		704 (23060)	22.91	22.00
	50RB (0)	711 (23130)	23.06	21.97
		707.5 (23095)	22.99	21.96
		704 (23060)	22.90	21.98

LTE Band13				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	784.5 (23255)	22.57	21.20
		782 (23230)	22.71	21.64
		779.5 (23205)	22.66	21.23
	1RB-Middle (12)	784.5 (23255)	22.69	21.43
		782 (23230)	22.74	21.35
		779.5 (23205)	22.64	21.44
	1RB-Low (0)	784.5 (23255)	22.73	21.25
		782 (23230)	22.76	21.44
		779.5 (23205)	22.61	21.19
	12RB-High (13)	784.5 (23255)	21.73	20.76
		782 (23230)	21.71	20.70
		779.5 (23205)	21.73	20.65
	12RB-Middle (6)	784.5 (23255)	21.74	20.68
		782 (23230)	21.78	20.59
		779.5 (23205)	21.83	20.97
	12RB-Low (0)	784.5 (23255)	21.82	20.86
		782 (23230)	21.78	20.87
		779.5 (23205)	21.71	20.85
	25RB (0)	784.5 (23255)	21.77	20.81
		782 (23230)	21.68	20.77
		779.5 (23205)	21.77	20.90
10MHz	1RB-High (49)	782 (23230)	22.59	21.08
	1RB-Middle (24)	782 (23230)	22.94	21.60
	1RB-Low (0)	782 (23230)	22.73	21.29
	25RB-High (25)	782 (23230)	21.69	20.74
	25RB-Middle (12)	782 (23230)	21.71	20.77
	25RB-Low (0)	782 (23230)	21.82	20.98
	50RB (0)	782 (23230)	21.71	20.78

LTE B41 PC3-Normal power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	2687.5 (41565)	22.85	21.94
		2640.3(41093)	22.89	21.52
		2593 (40620)	23.24	21.93
		2545.8(40148)	22.88	21.82
		2498.5 (39675)	23.08	21.89
	1RB-Middle (12)	2687.5 (41565)	23.08	21.58
		2640.3(41093)	22.99	21.73
		2593 (40620)	23.45	21.83
		2545.8(40148)	23.09	21.76
		2498.5 (39675)	23.25	21.99
	1RB-Low (0)	2687.5 (41565)	23.03	21.92
		2640.3(41093)	22.91	21.59
		2593 (40620)	23.30	21.86
		2545.8(40148)	22.91	21.55
		2498.5 (39675)	23.24	21.63
	12RB-High (13)	2687.5 (41565)	22.06	20.87
		2640.3(41093)	21.94	20.79
		2593 (40620)	22.38	21.24
		2545.8(40148)	21.95	20.90
		2498.5 (39675)	22.25	21.18
	12RB-Middle (6)	2687.5 (41565)	22.11	20.83
		2640.3(41093)	21.94	20.70
		2593 (40620)	22.40	21.28
		2545.8(40148)	21.97	20.92
		2498.5 (39675)	22.18	21.14
	12RB-Low (0)	2687.5 (41565)	22.16	20.90
		2640.3(41093)	22.01	20.78
		2593 (40620)	22.33	21.21
		2545.8(40148)	21.98	20.84
		2498.5 (39675)	22.14	21.09
	25RB (0)	2687.5 (41565)	22.05	21.24
		2640.3(41093)	21.95	21.04
		2593 (40620)	22.27	21.08
		2545.8(40148)	21.94	20.93
		2498.5 (39675)	22.26	21.34

10MHz	1RB-High (49)	2685 (41540)	22.88	21.65
		2639(41080)	22.94	21.80
		2593 (40620)	23.35	21.93
		2547(40160)	22.85	21.60
		2501 (39700)	23.40	21.98
	1RB-Middle (24)	2685 (41540)	23.15	21.77
		2639(41080)	23.12	21.72
		2593 (40620)	23.53	21.90
		2547(40160)	23.23	21.61
		2501 (39700)	23.42	21.80
	1RB-Low (0)	2685 (41540)	23.14	21.79
		2639(41080)	23.03	21.62
		2593 (40620)	23.50	21.90
		2547(40160)	22.76	21.67
		2501 (39700)	23.37	21.66
	25RB-High (25)	2685 (41540)	22.14	21.28
		2639(41080)	21.98	21.18
		2593 (40620)	22.44	21.55
		2547(40160)	22.00	21.19
		2501 (39700)	22.24	21.24
	25RB-Middle (12)	2685 (41540)	22.02	21.08
		2639(41080)	22.00	21.00
		2593 (40620)	22.41	21.40
		2547(40160)	22.03	21.21
		2501 (39700)	22.21	21.30
	25RB-Low (0)	2685 (41540)	22.23	21.31
		2639(41080)	22.03	21.03
		2593 (40620)	22.43	21.35
		2547(40160)	22.07	20.96
		2501 (39700)	22.16	21.15
	50RB (0)	2685 (41540)	22.12	21.05
		2639(41080)	22.06	20.91
		2593 (40620)	22.49	21.47
		2547(40160)	22.14	20.98
		2501 (39700)	22.21	21.25

15MHz	1RB-High (74)	2682.5 (41515)	23.00	21.67
		2637.8(41068)	22.86	21.50
		2593 (40620)	23.32	22.40
		2548.3(40173)	22.97	21.65
		2503.5 (39725)	22.97	21.94
	1RB-Middle (37)	2682.5 (41515)	23.02	21.71
		2637.8(41068)	22.83	21.56
		2593 (40620)	23.45	22.43
		2548.3(40173)	23.02	21.71
		2503.5 (39725)	22.92	21.90
	1RB-Low (0)	2682.5 (41515)	23.09	21.72
		2637.8(41068)	22.88	21.61
		2593 (40620)	23.54	22.06
		2548.3(40173)	22.93	21.68
		2503.5 (39725)	22.98	21.61
	36RB-High (38)	2682.5 (41515)	22.16	21.09
		2637.8(41068)	21.96	20.89
		2593 (40620)	22.46	21.38
		2548.3(40173)	22.09	20.98
		2503.5 (39725)	22.15	21.15
	36RB-Middle (19)	2682.5 (41515)	22.16	21.16
		2637.8(41068)	21.97	20.97
		2593 (40620)	22.50	21.28
		2548.3(40173)	22.08	20.96
		2503.5 (39725)	22.08	21.03
	36RB-Low (0)	2682.5 (41515)	22.31	21.13
		2637.8(41068)	21.96	20.86
		2593 (40620)	22.39	21.20
		2548.3(40173)	22.09	20.87
		2503.5 (39725)	22.00	21.06
	75RB (0)	2682.5 (41515)	22.20	21.16
		2637.8(41068)	22.04	21.09
		2593 (40620)	22.48	21.36
		2548.3(40173)	22.02	21.14
		2503.5 (39725)	22.05	21.07

20MHz	1RB-High (99)	2680 (41490)	22.89	21.78
		2636.5(41055)	22.61	21.83
		2593 (40620)	23.19	22.12
		2549.5(40185)	22.94	21.66
		2506 (39750)	22.77	21.79
	1RB-Middle (50)	2680 (41490)	23.04	21.89
		2636.5(41055)	22.88	22.03
		2593 (40620)	23.64	21.89
		2549.5(40185)	23.01	21.76
		2506 (39750)	23.36	21.80
	1RB-Low (0)	2680 (41490)	22.82	21.55
		2636.5(41055)	22.70	21.69
		2593 (40620)	23.18	21.76
		2549.5(40185)	22.83	21.78
		2506 (39750)	22.92	21.50
	50RB-High (50)	2680 (41490)	21.93	20.91
		2636.5(41055)	21.87	20.77
		2593 (40620)	22.31	21.14
		2549.5(40185)	21.97	20.95
		2506 (39750)	22.08	21.07
	50RB-Middle (25)	2680 (41490)	22.08	21.09
		2636.5(41055)	21.88	20.79
		2593 (40620)	22.42	21.14
		2549.5(40185)	22.01	20.99
		2506 (39750)	21.93	21.02
	50RB-Low (0)	2680 (41490)	21.98	20.90
		2636.5(41055)	21.81	20.82
		2593 (40620)	22.27	21.16
		2549.5(40185)	21.94	20.83
		2506 (39750)	21.93	21.02
	100RB (0)	2680 (41490)	22.10	21.00
		2636.5(41055)	21.79	20.70
		2593 (40620)	22.33	21.22
		2549.5(40185)	21.97	21.05
		2506 (39750)	22.02	20.91

LTE B41 PC3-Low power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	2687.5 (41565)	21.34	21.25
		2640.3(41093)	21.35	21.24
		2593 (40620)	21.77	21.42
		2545.8(40148)	21.33	20.96
		2498.5 (39675)	21.53	21.50
	1RB-Middle (12)	2687.5 (41565)	21.51	21.45
		2640.3(41093)	21.46	20.83
		2593 (40620)	22.01	21.63
		2545.8(40148)	21.34	20.79
		2498.5 (39675)	21.73	21.32
	1RB-Low (0)	2687.5 (41565)	21.43	21.31
		2640.3(41093)	21.29	21.36
		2593 (40620)	21.80	21.55
		2545.8(40148)	21.17	20.89
		2498.5 (39675)	21.67	21.34
	12RB-High (13)	2687.5 (41565)	21.50	21.02
		2640.3(41093)	21.33	20.90
		2593 (40620)	21.79	21.19
		2545.8(40148)	21.44	20.90
		2498.5 (39675)	21.60	21.18
	12RB-Middle (6)	2687.5 (41565)	21.42	20.97
		2640.3(41093)	21.37	20.92
		2593 (40620)	21.85	21.21
		2545.8(40148)	21.35	20.83
		2498.5 (39675)	21.63	21.14
	12RB-Low (0)	2687.5 (41565)	21.59	20.93
		2640.3(41093)	21.30	20.91
		2593 (40620)	21.83	21.23
		2545.8(40148)	21.45	20.83
		2498.5 (39675)	21.76	21.07
	25RB (0)	2687.5 (41565)	21.49	21.07
		2640.3(41093)	21.32	20.97
		2593 (40620)	21.78	21.32
		2545.8(40148)	21.22	21.03
		2498.5 (39675)	21.70	21.13

10MHz	1RB-High (49)	2685 (41540)	21.61	21.40
		2639(41080)	21.34	21.38
		2593 (40620)	21.84	21.48
		2547(40160)	21.44	21.00
		2501 (39700)	21.81	21.58
	1RB-Middle (24)	2685 (41540)	21.69	21.42
		2639(41080)	21.83	21.32
		2593 (40620)	22.04	21.61
		2547(40160)	21.70	21.11
		2501 (39700)	21.89	21.40
	1RB-Low (0)	2685 (41540)	21.75	21.52
		2639(41080)	21.58	21.08
		2593 (40620)	21.98	21.47
		2547(40160)	21.55	21.04
		2501 (39700)	21.67	21.25
	25RB-High (25)	2685 (41540)	21.52	21.22
		2639(41080)	21.50	21.06
		2593 (40620)	21.87	21.58
		2547(40160)	21.53	20.98
		2501 (39700)	21.58	21.40
	25RB-Middle (12)	2685 (41540)	21.58	21.11
		2639(41080)	21.46	21.02
		2593 (40620)	21.89	21.51
		2547(40160)	21.48	21.10
		2501 (39700)	21.63	21.45
	25RB-Low (0)	2685 (41540)	21.79	21.34
		2639(41080)	21.45	21.14
		2593 (40620)	21.82	21.57
		2547(40160)	21.49	21.23
		2501 (39700)	21.67	21.41
	50RB (0)	2685 (41540)	21.67	21.25
		2639(41080)	21.47	21.01
		2593 (40620)	22.00	21.38
		2547(40160)	21.56	20.95
		2501 (39700)	21.73	21.19

15MHz	1RB-High (74)	2682.5 (41515)	21.45	21.61
		2637.8(41068)	21.38	21.23
		2593 (40620)	21.70	21.68
		2548.3(40173)	21.51	21.33
		2503.5 (39725)	21.50	21.34
	1RB-Middle (37)	2682.5 (41515)	21.61	21.19
		2637.8(41068)	21.42	21.06
		2593 (40620)	21.84	21.79
		2548.3(40173)	21.44	21.37
		2503.5 (39725)	21.52	21.38
	1RB-Low (0)	2682.5 (41515)	21.63	21.28
		2637.8(41068)	21.37	20.96
		2593 (40620)	21.89	21.82
		2548.3(40173)	21.51	21.36
		2503.5 (39725)	21.47	21.16
	36RB-High (38)	2682.5 (41515)	21.49	21.00
		2637.8(41068)	21.47	20.80
		2593 (40620)	21.86	21.33
		2548.3(40173)	21.53	20.94
		2503.5 (39725)	21.60	21.10
	36RB-Middle (19)	2682.5 (41515)	21.65	21.09
		2637.8(41068)	21.50	20.87
		2593 (40620)	21.92	21.41
		2548.3(40173)	21.54	21.01
		2503.5 (39725)	21.50	20.98
	36RB-Low (0)	2682.5 (41515)	21.78	21.14
		2637.8(41068)	21.44	20.86
		2593 (40620)	21.82	21.31
		2548.3(40173)	21.52	21.00
		2503.5 (39725)	21.51	20.98
	75RB (0)	2682.5 (41515)	21.57	21.26
		2637.8(41068)	21.42	20.98
		2593 (40620)	21.94	21.37
		2548.3(40173)	21.54	21.08
		2503.5 (39725)	21.55	21.11

20MHz	1RB-High (99)	2680 (41490)	21.15	20.85
		2636.5(41055)	21.08	21.23
		2593 (40620)	21.48	21.47
		2549.5(40185)	21.32	20.94
		2506 (39750)	21.16	21.02
	1RB-Middle (50)	2680 (41490)	21.49	21.05
		2636.5(41055)	21.24	21.37
		2593 (40620)	22.05	21.59
		2549.5(40185)	21.66	21.11
		2506 (39750)	21.43	21.00
	1RB-Low (0)	2680 (41490)	21.15	20.98
		2636.5(41055)	21.19	20.85
		2593 (40620)	21.86	21.33
		2549.5(40185)	21.41	20.97
		2506 (39750)	21.29	20.98
	50RB-High (50)	2680 (41490)	21.32	21.43
		2636.5(41055)	21.25	21.32
		2593 (40620)	21.75	21.63
		2549.5(40185)	21.37	21.49
		2506 (39750)	21.32	21.43
	50RB-Middle (25)	2680 (41490)	21.54	21.46
		2636.5(41055)	21.30	21.30
		2593 (40620)	21.84	21.86
		2549.5(40185)	21.42	21.54
		2506 (39750)	21.44	21.34
	50RB-Low (0)	2680 (41490)	21.38	21.37
		2636.5(41055)	21.16	21.24
		2593 (40620)	21.74	21.83
		2549.5(40185)	21.32	21.35
		2506 (39750)	21.41	21.26
	100RB (0)	2680 (41490)	21.39	21.49
		2636.5(41055)	21.48	21.24
		2593 (40620)	21.71	21.79
		2549.5(40185)	21.36	21.38
		2506 (39750)	21.41	21.35

LTE B41 PC2-Normal power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	2687.5 (41565)	25.10	23.57
		2640.3(41093)	24.57	23.69
		2593 (40620)	24.78	23.89
		2545.8(40148)	25.00	23.62
		2498.5 (39675)	24.96	23.53
	1RB-Middle (12)	2687.5 (41565)	25.39	23.78
		2640.3(41093)	24.85	23.81
		2593 (40620)	25.43	24.34
		2545.8(40148)	25.12	23.58
		2498.5 (39675)	25.15	23.90
	1RB-Low (0)	2687.5 (41565)	25.25	23.57
		2640.3(41093)	24.57	23.55
		2593 (40620)	25.24	23.81
		2545.8(40148)	25.02	23.65
		2498.5 (39675)	24.75	23.75
	12RB-High (13)	2687.5 (41565)	24.10	22.76
		2640.3(41093)	23.95	22.99
		2593 (40620)	24.43	23.04
		2545.8(40148)	24.34	23.43
		2498.5 (39675)	24.00	23.09
	12RB-Middle (6)	2687.5 (41565)	24.27	22.91
		2640.3(41093)	24.08	22.97
		2593 (40620)	24.46	23.23
		2545.8(40148)	23.92	23.15
		2498.5 (39675)	23.92	23.14
	12RB-Low (0)	2687.5 (41565)	23.91	23.06
		2640.3(41093)	24.09	22.81
		2593 (40620)	24.56	23.41
		2545.8(40148)	24.10	23.34
		2498.5 (39675)	24.26	22.87
	25RB (0)	2687.5 (41565)	23.73	23.12
		2640.3(41093)	23.91	22.68
		2593 (40620)	24.30	23.06
		2545.8(40148)	24.03	23.46
		2498.5 (39675)	23.75	23.08

10MHz	1RB-High (49)	2685 (41540)	24.87	23.70
		2639(41080)	24.55	23.67
		2593 (40620)	25.18	23.96
		2547(40160)	24.75	23.63
		2501 (39700)	24.57	23.66
	1RB-Middle (24)	2685 (41540)	25.38	23.80
		2639(41080)	24.58	23.76
		2593 (40620)	25.11	24.20
		2547(40160)	25.23	23.79
		2501 (39700)	25.28	23.87
	1RB-Low (0)	2685 (41540)	25.21	23.53
		2639(41080)	24.82	23.55
		2593 (40620)	25.42	24.12
		2547(40160)	24.63	23.69
		2501 (39700)	24.62	23.78
	25RB-High (25)	2685 (41540)	23.95	22.82
		2639(41080)	24.04	22.72
		2593 (40620)	24.35	23.13
		2547(40160)	23.90	23.17
		2501 (39700)	24.24	23.00
	25RB-Middle (12)	2685 (41540)	24.33	23.29
		2639(41080)	23.87	23.02
		2593 (40620)	24.20	22.94
		2547(40160)	24.38	23.34
		2501 (39700)	24.13	23.11
	25RB-Low (0)	2685 (41540)	24.15	22.81
		2639(41080)	23.71	22.84
		2593 (40620)	24.37	23.06
		2547(40160)	23.99	23.32
		2501 (39700)	24.17	23.08
	50RB (0)	2685 (41540)	23.75	23.35
		2639(41080)	23.97	23.06
		2593 (40620)	23.89	22.89
		2547(40160)	23.83	22.93
		2501 (39700)	24.07	22.83

15MHz	1RB-High (74)	2682.5 (41515)	24.86	23.50
		2637.8(41068)	24.86	23.51
		2593 (40620)	24.94	23.55
		2548.3(40173)	24.78	23.51
		2503.5 (39725)	24.67	23.62
	1RB-Middle (37)	2682.5 (41515)	25.23	23.83
		2637.8(41068)	25.13	23.83
		2593 (40620)	25.42	24.03
		2548.3(40173)	25.39	23.80
		2503.5 (39725)	24.95	23.71
	1RB-Low (0)	2682.5 (41515)	25.15	23.61
		2637.8(41068)	24.98	23.87
		2593 (40620)	25.31	24.08
		2548.3(40173)	24.60	23.60
		2503.5 (39725)	24.94	23.61
	36RB-High (38)	2682.5 (41515)	24.29	22.89
		2637.8(41068)	23.66	22.62
		2593 (40620)	23.86	23.01
		2548.3(40173)	24.47	23.05
		2503.5 (39725)	24.15	22.77
	36RB-Middle (19)	2682.5 (41515)	24.08	23.33
		2637.8(41068)	23.74	22.63
		2593 (40620)	24.21	22.88
		2548.3(40173)	24.10	22.89
		2503.5 (39725)	24.06	22.99
	36RB-Low (0)	2682.5 (41515)	24.09	23.20
		2637.8(41068)	23.92	22.67
		2593 (40620)	24.02	23.18
		2548.3(40173)	24.35	22.84
		2503.5 (39725)	24.17	23.21
	75RB (0)	2682.5 (41515)	24.23	23.04
		2637.8(41068)	23.72	22.69
		2593 (40620)	24.45	23.41
		2548.3(40173)	24.15	23.28
		2503.5 (39725)	23.89	23.03

20MHz	1RB-High (99)	2680 (41490)	25.03	23.54
		2636.5(41055)	24.64	23.56
		2593 (40620)	24.95	23.72
		2549.5(40185)	25.05	23.74
		2506 (39750)	24.72	23.50
	1RB-Middle (50)	2680 (41490)	25.12	23.96
		2636.5(41055)	24.74	23.62
		2593 (40620)	25.31	24.20
		2549.5(40185)	25.18	23.87
		2506 (39750)	25.09	23.87
	1RB-Low (0)	2680 (41490)	25.00	23.64
		2636.5(41055)	24.69	23.58
		2593 (40620)	25.18	24.05
		2549.5(40185)	24.82	23.52
		2506 (39750)	24.90	23.61
	50RB-High (50)	2680 (41490)	23.99	22.92
		2636.5(41055)	23.81	22.71
		2593 (40620)	24.13	23.13
		2549.5(40185)	24.19	23.20
		2506 (39750)	23.98	22.87
	50RB-Middle (25)	2680 (41490)	24.08	23.04
		2636.5(41055)	23.78	22.79
		2593 (40620)	24.24	23.15
		2549.5(40185)	24.17	23.19
		2506 (39750)	24.07	22.99
	50RB-Low (0)	2680 (41490)	24.04	22.99
		2636.5(41055)	23.83	22.73
		2593 (40620)	24.28	23.18
		2549.5(40185)	24.07	23.08
		2506 (39750)	24.04	23.07
	100RB (0)	2680 (41490)	24.00	23.05
		2636.5(41055)	23.87	22.87
		2593 (40620)	24.18	23.18
		2549.5(40185)	24.09	23.19
		2506 (39750)	24.01	22.93

LTE B41 PC2-Low power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	2687.5 (41565)	21.44	21.02
		2640.3(41093)	21.24	21.00
		2593 (40620)	21.58	21.39
		2545.8(40148)	21.35	21.24
		2498.5 (39675)	21.51	21.18
	1RB-Middle (12)	2687.5 (41565)	21.53	21.14
		2640.3(41093)	21.32	21.04
		2593 (40620)	21.82	21.53
		2545.8(40148)	21.49	21.13
		2498.5 (39675)	21.54	21.18
	1RB-Low (0)	2687.5 (41565)	21.29	21.19
		2640.3(41093)	21.23	20.99
		2593 (40620)	21.66	21.49
		2545.8(40148)	21.31	21.02
		2498.5 (39675)	21.43	21.18
	12RB-High (13)	2687.5 (41565)	21.41	21.60
		2640.3(41093)	21.19	21.35
		2593 (40620)	21.66	21.59
		2545.8(40148)	21.47	21.51
		2498.5 (39675)	21.65	21.64
	12RB-Middle (6)	2687.5 (41565)	21.56	21.45
		2640.3(41093)	21.18	21.38
		2593 (40620)	21.73	21.83
		2545.8(40148)	21.37	21.48
		2498.5 (39675)	21.64	21.45
	12RB-Low (0)	2687.5 (41565)	21.51	21.56
		2640.3(41093)	21.27	21.34
		2593 (40620)	21.76	21.78
		2545.8(40148)	21.49	21.34
		2498.5 (39675)	21.59	21.40
	25RB (0)	2687.5 (41565)	21.49	21.54
		2640.3(41093)	21.19	21.36
		2593 (40620)	21.71	21.65
		2545.8(40148)	21.44	21.39
		2498.5 (39675)	21.63	21.88

10MHz	1RB-High (49)	2685 (41540)	21.44	21.26
		2639(41080)	21.30	21.01
		2593 (40620)	21.67	21.40
		2547(40160)	21.65	21.02
		2501 (39700)	21.69	21.27
	1RB-Middle (24)	2685 (41540)	21.77	21.39
		2639(41080)	21.46	21.03
		2593 (40620)	21.98	21.47
		2547(40160)	21.72	21.29
		2501 (39700)	21.77	21.45
	1RB-Low (0)	2685 (41540)	21.68	21.39
		2639(41080)	21.38	21.02
		2593 (40620)	21.93	21.50
		2547(40160)	21.51	21.09
		2501 (39700)	21.63	21.29
	25RB-High (25)	2685 (41540)	21.67	21.80
		2639(41080)	21.26	21.50
		2593 (40620)	21.77	21.91
		2547(40160)	21.63	21.83
		2501 (39700)	21.61	21.86
	25RB-Middle (12)	2685 (41540)	21.66	21.79
		2639(41080)	21.40	21.28
		2593 (40620)	21.83	21.85
		2547(40160)	21.56	21.77
		2501 (39700)	21.61	21.53
	25RB-Low (0)	2685 (41540)	21.69	21.64
		2639(41080)	21.34	21.31
		2593 (40620)	21.97	21.95
		2547(40160)	21.52	21.87
		2501 (39700)	21.65	21.51
	50RB (0)	2685 (41540)	21.66	21.75
		2639(41080)	21.45	21.44
		2593 (40620)	21.77	21.75
		2547(40160)	21.58	21.52
		2501 (39700)	21.62	21.55

15MHz	1RB-High (74)	2682.5 (41515)	21.60	21.18
		2637.8(41068)	21.44	21.03
		2593 (40620)	21.80	21.37
		2548.3(40173)	21.76	21.38
		2503.5 (39725)	21.48	21.06
	1RB-Middle (37)	2682.5 (41515)	21.61	21.24
		2637.8(41068)	21.46	21.10
		2593 (40620)	21.88	21.43
		2548.3(40173)	21.65	21.41
		2503.5 (39725)	21.54	21.13
	1RB-Low (0)	2682.5 (41515)	21.58	21.34
		2637.8(41068)	21.42	21.08
		2593 (40620)	21.99	21.53
		2548.3(40173)	21.61	21.27
		2503.5 (39725)	21.60	21.25
	36RB-High (38)	2682.5 (41515)	21.56	21.53
		2637.8(41068)	21.43	21.33
		2593 (40620)	21.68	21.68
		2548.3(40173)	21.67	21.70
		2503.5 (39725)	21.49	21.39
	36RB-Middle (19)	2682.5 (41515)	21.64	21.70
		2637.8(41068)	21.46	21.26
		2593 (40620)	21.60	21.66
		2548.3(40173)	21.64	21.57
		2503.5 (39725)	21.45	21.37
	36RB-Low (0)	2682.5 (41515)	21.67	21.85
		2637.8(41068)	21.39	21.27
		2593 (40620)	21.91	21.88
		2548.3(40173)	21.58	21.61
		2503.5 (39725)	21.51	21.44
	75RB (0)	2682.5 (41515)	21.64	21.58
		2637.8(41068)	21.31	21.34
		2593 (40620)	21.75	21.86
		2548.3(40173)	21.67	21.74
		2503.5 (39725)	21.52	21.51

20MHz	1RB-High (99)	2680 (41490)	21.46	20.97
		2636.5(41055)	21.12	20.88
		2593 (40620)	21.61	21.20
		2549.5(40185)	21.64	21.29
		2506 (39750)	21.30	20.87
	1RB-Middle (50)	2680 (41490)	21.58	21.39
		2636.5(41055)	21.25	21.25
		2593 (40620)	21.95	21.54
		2549.5(40185)	21.88	21.36
		2506 (39750)	21.59	21.18
	1RB-Low (0)	2680 (41490)	21.36	21.06
		2636.5(41055)	21.34	20.99
		2593 (40620)	21.83	21.49
		2549.5(40185)	21.42	20.99
		2506 (39750)	21.41	21.08
	50RB-High (50)	2680 (41490)	21.51	21.53
		2636.5(41055)	21.26	21.34
		2593 (40620)	21.60	21.57
		2549.5(40185)	21.70	21.62
		2506 (39750)	21.44	21.30
	50RB-Middle (25)	2680 (41490)	21.63	21.54
		2636.5(41055)	21.22	21.40
		2593 (40620)	21.76	21.66
		2549.5(40185)	21.64	21.62
		2506 (39750)	21.47	21.33
	50RB-Low (0)	2680 (41490)	21.57	21.58
		2636.5(41055)	21.19	21.17
		2593 (40620)	21.56	21.69
		2549.5(40185)	21.65	21.40
		2506 (39750)	21.46	21.46
	100RB (0)	2680 (41490)	21.54	21.46
		2636.5(41055)	21.32	21.31
		2593 (40620)	21.64	21.69
		2549.5(40185)	21.60	21.60
		2506 (39750)	21.43	21.43

LTE Band66-Normal power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
1.4MHz	1RB-High (5)	1779.3 (132665)	24.10	22.60
		1745 (132322)	24.41	23.48
		1710.7 (131979)	24.48	22.91
	1RB-Middle (3)	1779.3 (132665)	24.22	22.90
		1745 (132322)	24.39	23.08
		1710.7 (131979)	24.45	23.39
	1RB-Low (0)	1779.3 (132665)	24.07	22.73
		1745 (132322)	24.37	22.87
		1710.7 (131979)	24.24	22.87
	3RB-High (3)	1779.3 (132665)	24.11	23.28
		1745 (132322)	24.69	23.41
		1710.7 (131979)	24.38	23.22
	3RB-Middle (1)	1779.3 (132665)	24.14	23.32
		1745 (132322)	24.48	23.37
		1710.7 (131979)	24.42	23.32
	3RB-Low (0)	1779.3 (132665)	24.26	23.29
		1745 (132322)	24.54	23.44
		1710.7 (131979)	24.44	23.30
	6RB (0)	1779.3 (132665)	23.02	21.88
		1745 (132322)	23.44	22.39
		1710.7 (131979)	23.43	22.48
3MHz	1RB-High (14)	1778.5 (132657)	24.26	22.57
		1745 (132322)	24.53	23.06
		1711.5 (131987)	24.45	23.08
	1RB-Middle (7)	1778.5 (132657)	24.30	22.86
		1745 (132322)	24.65	23.25
		1711.5 (131987)	24.65	23.11
	1RB-Low (0)	1778.5 (132657)	24.23	22.60
		1745 (132322)	24.57	23.17
		1711.5 (131987)	24.57	22.72
	8RB-High (7)	1778.5 (132657)	23.28	22.26
		1745 (132322)	23.56	22.70
		1711.5 (131987)	23.44	22.64
	8RB-Middle (4)	1778.5 (132657)	23.25	22.34
		1745 (132322)	23.52	22.76
		1711.5 (131987)	23.50	22.70
	8RB-Low (0)	1778.5 (132657)	23.28	22.42
		1745 (132322)	23.51	22.63
		1711.5 (131987)	23.49	22.69
	15RB (0)	1778.5 (132657)	23.21	22.09
		1745 (132322)	23.49	22.31
		1711.5 (131987)	23.38	22.44

5MHz	1RB-High (24)	1777.5 (132647)	24.15	22.50
		1745 (132322)	24.48	23.05
		1712.5 (131997)	24.28	23.74
	1RB-Middle (12)	1777.5 (132647)	24.20	22.98
		1745 (132322)	24.45	23.34
		1712.5 (131997)	24.60	23.68
	1RB-Low (0)	1777.5 (132647)	24.29	22.60
		1745 (132322)	24.49	22.78
		1712.5 (131997)	24.40	22.82
	12RB-High (13)	1777.5 (132647)	23.18	22.07
		1745 (132322)	23.52	22.42
		1712.5 (131997)	23.41	22.34
	12RB-Middle (6)	1777.5 (132647)	23.19	22.21
		1745 (132322)	23.55	22.47
		1712.5 (131997)	23.48	22.38
	12RB-Low (0)	1777.5 (132647)	23.24	22.36
		1745 (132322)	23.57	22.55
		1712.5 (131997)	23.40	22.27
	25RB (0)	1777.5 (132647)	23.10	22.23
		1745 (132322)	23.56	22.71
		1712.5 (131997)	23.47	22.41
10MHz	1RB-High (49)	1775 (132622)	23.91	23.07
		1745 (132322)	24.75	23.13
		1715 (132022)	23.72	23.03
	1RB-Middle (24)	1775 (132622)	24.57	22.82
		1745 (132322)	24.73	23.47
		1715 (132022)	24.56	23.33
	1RB-Low (0)	1775 (132622)	24.38	22.98
		1745 (132322)	24.56	23.39
		1715 (132022)	23.92	23.14
	25RB-High (25)	1775 (132622)	23.25	22.16
		1745 (132322)	23.61	22.67
		1715 (132022)	23.49	22.60
	25RB-Middle (12)	1775 (132622)	23.32	22.31
		1745 (132322)	23.64	22.70
		1715 (132022)	23.55	22.59
	25RB-Low (0)	1775 (132622)	23.35	22.39
		1745 (132322)	23.64	22.77
		1715 (132022)	23.54	22.65
	50RB (0)	1775 (132622)	23.27	22.26
		1745 (132322)	23.62	22.67
		1715 (132022)	23.56	22.56

15MHz	1RB-High (74)	1772.5 (132597)	23.82	22.52
		1745 (132322)	24.55	23.14
		1717.5 (132047)	23.77	23.07
	1RB-Middle (37)	1772.5 (132597)	24.38	22.86
		1745 (132322)	24.75	23.13
		1717.5 (132047)	24.56	23.08
	1RB-Low (0)	1772.5 (132597)	24.34	23.16
		1745 (132322)	24.74	23.27
		1717.5 (132047)	23.88	23.02
	36RB-High (38)	1772.5 (132597)	23.31	22.31
		1745 (132322)	23.63	22.68
		1717.5 (132047)	23.61	22.61
	36RB-Middle (19)	1772.5 (132597)	23.36	22.33
		1745 (132322)	23.71	22.84
		1717.5 (132047)	23.55	22.47
	36RB-Low (0)	1772.5 (132597)	23.40	22.34
		1745 (132322)	23.69	22.83
		1717.5 (132047)	23.60	22.50
	75RB (0)	1772.5 (132597)	23.30	22.34
		1745 (132322)	23.71	22.75
		1717.5 (132047)	23.56	22.55
20MHz	1RB-High (99)	1770 (132572)	24.14	22.79
		1745 (132322)	24.45	23.14
		1720 (132072)	24.17	22.95
	1RB-Middle (50)	1770 (132572)	24.37	23.02
		1745 (132322)	24.58	23.35
		1720 (132072)	24.88	23.12
	1RB-Low (0)	1770 (132572)	24.32	22.63
		1745 (132322)	24.63	23.31
		1720 (132072)	24.13	22.85
	50RB-High (50)	1770 (132572)	23.22	22.32
		1745 (132322)	23.53	22.63
		1720 (132072)	23.49	22.66
	50RB-Middle (25)	1770 (132572)	23.20	22.24
		1745 (132322)	23.55	22.64
		1720 (132072)	23.48	22.66
	50RB-Low (0)	1770 (132572)	23.18	22.40
		1745 (132322)	23.60	22.52
		1720 (132072)	23.62	22.60
	100RB (0)	1770 (132572)	23.13	22.31
		1745 (132322)	23.55	22.64
		1720 (132072)	23.50	22.57

LTE Band66-Low power				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
1.4MHz	1RB-High (5)	1779.3 (132665)	20.26	20.40
		1745 (132322)	20.69	20.10
		1710.7 (131979)	20.63	20.19
	1RB-Middle (3)	1779.3 (132665)	20.41	20.16
		1745 (132322)	20.84	20.36
		1710.7 (131979)	20.79	20.16
	1RB-Low (0)	1779.3 (132665)	20.23	20.10
		1745 (132322)	20.56	20.23
		1710.7 (131979)	20.54	20.04
	3RB-High (3)	1779.3 (132665)	20.49	20.10
		1745 (132322)	20.71	20.57
		1710.7 (131979)	20.74	20.44
	3RB-Middle (1)	1779.3 (132665)	20.49	20.41
		1745 (132322)	20.84	20.62
		1710.7 (131979)	20.69	20.53
	3RB-Low (0)	1779.3 (132665)	20.58	20.15
		1745 (132322)	20.71	20.52
		1710.7 (131979)	20.65	20.41
	6RB (0)	1779.3 (132665)	20.25	20.10
		1745 (132322)	20.70	20.57
		1710.7 (131979)	20.64	20.54
3MHz	1RB-High (14)	1778.5 (132657)	20.37	19.61
		1745 (132322)	20.71	20.11
		1711.5 (131987)	20.64	19.91
	1RB-Middle (7)	1778.5 (132657)	20.52	19.90
		1745 (132322)	20.83	20.34
		1711.5 (131987)	20.49	20.25
	1RB-Low (0)	1778.5 (132657)	20.41	19.77
		1745 (132322)	20.68	20.16
		1711.5 (131987)	20.54	19.93
	8RB-High (7)	1778.5 (132657)	20.29	20.49
		1745 (132322)	20.71	20.75
		1711.5 (131987)	20.58	20.63
	8RB-Middle (4)	1778.5 (132657)	20.34	20.45
		1745 (132322)	20.75	20.79
		1711.5 (131987)	20.54	20.59
	8RB-Low (0)	1778.5 (132657)	20.45	20.37
		1745 (132322)	20.73	20.77
		1711.5 (131987)	20.64	20.68
	15RB (0)	1778.5 (132657)	20.32	20.31
		1745 (132322)	20.60	20.72
		1711.5 (131987)	20.51	20.62

5MHz	1RB-High (24)	1777.5 (132647)	20.19	19.57
		1745 (132322)	20.52	20.53
		1712.5 (131997)	20.47	20.18
	1RB-Middle (12)	1777.5 (132647)	20.17	19.93
		1745 (132322)	20.77	20.23
		1712.5 (131997)	20.73	20.26
	1RB-Low (0)	1777.5 (132647)	20.23	19.61
		1745 (132322)	20.59	20.31
		1712.5 (131997)	20.57	20.37
	12RB-High (13)	1777.5 (132647)	20.23	20.09
		1745 (132322)	20.55	20.73
		1712.5 (131997)	20.51	20.61
	12RB-Middle (6)	1777.5 (132647)	20.25	20.21
		1745 (132322)	20.62	20.66
		1712.5 (131997)	20.59	20.43
	12RB-Low (0)	1777.5 (132647)	20.33	20.34
		1745 (132322)	20.61	20.51
		1712.5 (131997)	20.61	20.70
	25RB (0)	1777.5 (132647)	20.19	20.29
		1745 (132322)	20.70	20.60
		1712.5 (131997)	20.56	20.64
10MHz	1RB-High (49)	1775 (132622)	20.14	19.95
		1745 (132322)	20.81	20.22
		1715 (132022)	20.58	20.13
	1RB-Middle (24)	1775 (132622)	20.42	20.39
		1745 (132322)	20.83	20.47
		1715 (132022)	20.51	20.30
	1RB-Low (0)	1775 (132622)	20.26	19.85
		1745 (132322)	20.58	20.30
		1715 (132022)	20.57	20.09
	25RB-High (25)	1775 (132622)	20.34	20.32
		1745 (132322)	20.66	20.85
		1715 (132022)	20.60	20.59
	25RB-Middle (12)	1775 (132622)	20.38	20.28
		1745 (132322)	20.77	20.75
		1715 (132022)	20.52	20.60
	25RB-Low (0)	1775 (132622)	20.42	20.31
		1745 (132322)	20.70	20.59
		1715 (132022)	20.59	20.57
	50RB (0)	1775 (132622)	20.30	20.29
		1745 (132322)	20.67	20.57
		1715 (132022)	20.59	20.76

15MHz	1RB-High (74)	1772.5 (132597)	20.26	19.89
		1745 (132322)	20.71	20.47
		1717.5 (132047)	20.70	20.78
	1RB-Middle (37)	1772.5 (132597)	20.41	19.63
		1745 (132322)	20.83	20.48
		1717.5 (132047)	20.55	20.52
	1RB-Low (0)	1772.5 (132597)	20.52	20.06
		1745 (132322)	20.53	20.29
		1717.5 (132047)	20.56	20.48
	36RB-High (38)	1772.5 (132597)	20.46	20.33
		1745 (132322)	20.77	20.78
		1717.5 (132047)	20.76	20.72
	36RB-Middle (19)	1772.5 (132597)	20.47	20.46
		1745 (132322)	20.81	20.74
		1717.5 (132047)	20.73	20.69
	36RB-Low (0)	1772.5 (132597)	20.49	20.40
		1745 (132322)	20.84	20.67
		1717.5 (132047)	20.59	20.62
	75RB (0)	1772.5 (132597)	20.38	20.46
		1745 (132322)	20.75	20.67
		1717.5 (132047)	20.64	20.66
20MHz	1RB-High (99)	1770 (132572)	20.23	19.96
		1745 (132322)	20.62	20.27
		1720 (132072)	20.63	20.43
	1RB-Middle (50)	1770 (132572)	20.35	20.70
		1745 (132322)	20.90	20.58
		1720 (132072)	20.77	20.58
	1RB-Low (0)	1770 (132572)	20.32	20.10
		1745 (132322)	20.66	20.30
		1720 (132072)	20.66	20.44
	50RB-High (50)	1770 (132572)	20.36	20.39
		1745 (132322)	20.69	20.74
		1720 (132072)	20.75	20.70
	50RB-Middle (25)	1770 (132572)	20.42	20.46
		1745 (132322)	20.81	20.84
		1720 (132072)	20.73	20.74
	50RB-Low (0)	1770 (132572)	20.48	20.42
		1745 (132322)	20.76	20.81
		1720 (132072)	20.74	20.59
	100RB (0)	1770 (132572)	20.44	20.45
		1745 (132322)	20.78	20.71
		1720 (132072)	20.74	20.77

LTE Band71				
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**
5MHz	1RB-High (24)	695.5 (133447)	23.45	21.95
		680.5 (133297)	23.20	22.05
		665.5 (133147)	23.67	22.11
	1RB-Middle (12)	695.5 (133447)	23.43	22.23
		680.5 (133297)	23.72	22.34
		665.5 (133147)	23.96	22.63
	1RB-Low (0)	695.5 (133447)	23.55	22.23
		680.5 (133297)	23.40	22.11
		665.5 (133147)	23.76	22.32
	12RB-High (13)	695.5 (133447)	22.57	21.36
		680.5 (133297)	22.76	21.60
		665.5 (133147)	22.86	21.95
	12RB-Middle (6)	695.5 (133447)	22.50	21.36
		680.5 (133297)	22.70	21.56
		665.5 (133147)	22.84	21.86
	12RB-Low (0)	695.5 (133447)	22.58	21.27
		680.5 (133297)	22.75	21.50
		665.5 (133147)	22.91	21.82
	25RB (0)	695.5 (133447)	22.48	21.47
		680.5 (133297)	22.71	21.64
		665.5 (133147)	22.93	21.92
10MHz	1RB-High (49)	693 (132422)	23.46	22.15
		680.5 (133297)	23.35	22.21
		668 (133172)	23.63	22.29
	1RB-Middle (24)	693 (132422)	23.59	22.07
		680.5 (133297)	23.53	22.41
		668 (133172)	23.90	22.75
	1RB-Low (0)	693 (132422)	23.65	22.13
		680.5 (133297)	23.47	22.49
		668 (133172)	23.74	22.67
	25RB-High (25)	693 (132422)	22.59	21.67
		680.5 (133297)	22.72	21.69
		668 (133172)	22.95	21.96
	25RB-Middle (12)	693 (132422)	22.59	21.58
		680.5 (133297)	22.71	21.74
		668 (133172)	22.83	21.87
	25RB-Low (0)	693 (132422)	22.62	21.64
		680.5 (133297)	22.73	21.85
		668 (133172)	22.89	21.92
	50RB (0)	693 (132422)	22.56	21.48
		680.5 (133297)	22.77	21.58
		668 (133172)	22.96	21.99

15MHz	1RB-High (74)	690.5 (133397)	23.35	21.74
		680.5 (133297)	23.31	22.11
		670.5 (133197)	23.63	22.47
	1RB-Middle (37)	690.5 (133397)	23.44	21.78
		680.5 (133297)	23.52	22.01
		670.5 (133197)	23.80	22.37
	1RB-Low (0)	690.5 (133397)	23.71	21.96
		680.5 (133297)	23.74	22.29
		670.5 (133197)	23.72	22.62
	36RB-High (38)	690.5 (133397)	22.60	21.49
		680.5 (133297)	22.75	21.65
		670.5 (133197)	22.83	21.62
	36RB-Middle (19)	690.5 (133397)	22.64	21.62
		680.5 (133297)	22.73	21.58
		670.5 (133197)	22.84	21.72
	36RB-Low (0)	690.5 (133397)	22.75	21.66
		680.5 (133297)	22.76	21.70
		670.5 (133197)	22.92	21.84
	75RB (0)	690.5 (133397)	22.56	21.62
		680.5 (133297)	22.76	21.77
		670.5 (133197)	22.89	21.93
20MHz	1RB-High (99)	688 (133372)	23.11	21.84
		683 (133322)	23.36	21.87
		673 (133222)	23.37	21.58
	1RB-Middle (50)	688 (133372)	23.63	22.45
		683 (133322)	23.76	22.39
		673 (133222)	23.77	22.11
	1RB-Low (0)	688 (133372)	23.37	22.12
		683 (133322)	23.52	22.27
		673 (133222)	23.54	22.18
	50RB-High (50)	688 (133372)	22.46	21.46
		683 (133322)	22.60	21.71
		673 (133222)	22.65	21.59
	50RB-Middle (25)	688 (133372)	22.58	21.59
		683 (133322)	22.70	21.70
		673 (133222)	22.73	21.69
	50RB-Low (0)	688 (133372)	22.69	21.61
		683 (133322)	22.64	21.75
		673 (133222)	22.69	21.55
	100RB (0)	688 (133372)	22.58	21.50
		683 (133322)	22.67	21.54
		673 (133222)	22.70	21.63

11.4 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 8.96dBm.
The maximum tune up of BT antenna is 9.5dBm.

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

802.11b								
Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps				
11(2462MHz)	15.73	/	15.88	/				
6(2437(MHz)	16.32	16.38	16.48	16.46				
1(2412MHz)	15.96	/	16.03	/				
Tune up	16.50	16.50	16.50	16.50				
802.11g								
Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
11(2462MHz)	15.10	/	/	/	/	/	/	/
6(2437(MHz)	16.27	16.26	16.23	16.22	16.16	14.71	14.68	14.66
1(2412MHz)	15.81	/	/	/	/	/	/	/
Tune up	17.00	17.00	17.00	17.00	17.00	15.50	15.50	15.50
802.11n-20MHz								
Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
11(2462MHz)	14.10	/	/	/	/	/	/	/
6(2437(MHz)	15.30	15.28	15.26	15.23	15.20	14.66	14.67	14.64
1(2412MHz)	14.74	/	/	/	/	/	/	/
Tune up	17.00	17.00	17.00	17.00	17.00	15.50	15.50	15.50

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 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

Please refer to the picture of antenna locations in the document: “The Photos of SAR test - I22Z61591”

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
WWAN-Main	Yes	Yes	Yes	Yes	No	Yes
WIFI	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	9.5	8.91	Yes
		Body	19.20	9.5	8.91	Yes
2.4GHz WLAN	2.45	Head	9.58	16.5	44.67	No
		Body	19.17	16.5	44.67	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, Touch (LTE B41-PC2)	0.75	0.47	**1.22**
Highest SAR value for Body	Rear 10mm (LTE B7)	0.85	0.56	**1.41**

Table 13.2: The sum of SAR values for Main antenna +BT

	Position	Main antenna	BT	Sum
Highest SAR value for Head	Right head, Touch (LTE B7)	1.06	0.37[1]	**1.43**
Highest SAR value for Body	Rear 15mm (LTE B7)	1.17	0.12[1]	**1.29**

[1] - Estimated SAR for Bluetooth (see the table 13.3)

Table 13.3: Estimated SAR for Bluetooth

Mode/Band	F (GHz)	Position	Distance (mm)	Upper limit of power *		Estimated$_{1g}$ (W/kg)
				dBm	mW	
Bluetooth	2.441	Head	5	9.5	8.91	0.37
Bluetooth	2.441	Body	10	9.5	8.91	0.19
Bluetooth	2.441	Body	15	9.5	8.91	0.12

* - Maximum possible output power declared by manufacturer

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

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

14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom.
The distance is 10 mm and just applied to the condition of body worn accessory.
It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-g SAR is the highest measured SAR in each exposure configuration, wireless mode and frequency band combination or more than 1.2W/kg.
The calculated SAR is obtained by the following formula:

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

Where P_{Target} is the power of manufacturing upper limit;
$P_{Measured}$ is the measured power in chapter 11.

Table 14.1: Duty Cycle

Mode	Duty Cycle
GSM 850/1900	1:8.3
GPRS/EGPRS 850/1900	1:4 or 1:2.67
WCDMA&LTE FDD	1:1
LTE TDD	1:1.58 or 1:2.37

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

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	/	31.63	32.5	0.315	**0.38**	0.431	**0.53**	-0.13
190	836.6	Left	Tilt	/	31.63	32.5	0.183	**0.22**	0.237	**0.29**	-0.11
251	848.8	Right	Cheek	/	31.65	32.5	0.317	**0.39**	0.432	**0.53**	-0.07
190	836.6	Right	Cheek	Fig.1	31.63	32.5	0.336	**0.41**	0.46	**0.56**	-0.13
128	824.2	Right	Cheek	/	31.57	32.5	0.301	**0.37**	0.417	**0.52**	0.14
190	836.6	Right	Tilt	/	31.63	32.5	0.179	**0.22**	0.227	**0.28**	0.06

Table 14.1-2: SAR Values (GSM 850 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										
190	836.6	GPRS (2)	Front	/	29.47	30.5	0.098	**0.12**	0.132	**0.17**	-0.07
251	848.8	GPRS (2)	Rear	/	29.53	30.5	0.224	**0.28**	0.309	**0.39**	0.10
190	836.6	GPRS (2)	Rear	Fig.2	29.47	30.5	0.265	**0.34**	0.367	**0.47**	-0.11
128	824.2	GPRS (2)	Rear	/	29.37	30.5	0.226	**0.29**	0.31	**0.40**	-0.01
190	836.6	GPRS (2)	Rear	Unfold	29.47	30.5	0.116	**0.15**	0.166	**0.21**	-0.18
190	836.6	EGPRS (2)	Rear	/	29.42	30.5	0.248	**0.32**	0.346	**0.44**	0.06

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

Table 14.1-3: SAR Values (GSM 850 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										
190	836.6	GPRS (2)	Front	/	27.58	28	0.151	**0.17**	0.204	**0.22**	0.06
251	848.8	GPRS (2)	Rear	Fig.3	27.6	28	0.389	**0.43**	0.539	**0.59**	-0.09
190	836.6	GPRS (2)	Rear	/	27.58	28	0.363	**0.40**	0.511	**0.56**	-0.06
128	824.2	GPRS (2)	Rear	/	27.57	28	0.356	**0.39**	0.504	**0.56**	-0.14
190	836.6	GPRS (2)	Rear	Unfold	27.58	28	0.27	**0.30**	0.384	**0.42**	-0.08
190	836.6	GPRS (2)	Left	/	27.58	28	0.121	**0.13**	0.171	**0.19**	0.05
190	836.6	GPRS (2)	Right	/	27.58	28	0.245	**0.27**	0.343	**0.38**	-0.04
190	836.6	GPRS (2)	Bottom	/	27.58	28	0.071	**0.08**	0.121	**0.13**	-0.02
190	836.6	EGPRS (2)	Rear	/	27.49	28	0.375	**0.42**	0.518	**0.58**	0.05

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

Table 14.1-4: 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	/	29.77	31.5	0.107	**0.16**	0.198	**0.29**	-0.06
661	1880	Left	Cheek	Fig.4	30.14	31.5	0.135	**0.18**	0.242	**0.33**	0.02
512	1850.2	Left	Cheek	/	30.04	31.5	0.112	**0.16**	0.214	**0.30**	-0.11
661	1880	Left	Tilt	/	30.14	31.5	0.061	**0.08**	0.094	**0.13**	-0.07
661	1880	Right	Cheek	/	30.14	31.5	0.103	**0.14**	0.15	**0.21**	0.08
661	1880	Right	Tilt	/	30.14	31.5	0.051	**0.07**	0.075	**0.10**	0.12

Table 14.1-5: 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	/	27.19	28.3	0.097	**0.13**	0.157	**0.20**	-0.08
810	1909.8	GPRS (2)	Rear	/	27.15	28.3	0.157	**0.20**	0.251	**0.33**	0.10
661	1880	GPRS (2)	Rear	/	27.19	28.3	0.206	**0.27**	0.338	**0.44**	0.17
512	1850.2	GPRS (2)	Rear	Fig.5	27.36	28.3	0.227	**0.28**	0.372	**0.46**	-0.01
661	1880	GPRS (2)	Rear	Unfold	27.19	28.3	0.186	**0.24**	0.322	**0.42**	-0.08
512	1850.2	EGPRS (2)	Rear	/	27.39	28.3	0.21	**0.26**	0.362	**0.45**	0.06

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

Table 14.1-6: 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 (3)	Front	/	24.22	25	0.202	**0.24**	0.322	**0.39**	-0.08
810	1909.8	GPRS (3)	Rear	/	23.88	25	0.307	**0.40**	0.511	**0.66**	-0.12
661	1880	GPRS (3)	Rear	/	24.22	25	0.343	**0.41**	0.553	**0.66**	0.08
512	1850.2	GPRS (3)	Rear	/	24.46	25	0.355	**0.40**	0.599	**0.68**	-0.11
810	1909.8	GPRS (3)	Rear	Unfold	23.88	25	0.311	**0.40**	0.554	**0.72**	0.09
661	1880	GPRS (3)	Rear	Unfold	24.22	25	0.358	**0.43**	0.622	**0.74**	-0.20
512	1850.2	GPRS (3)	Rear	Unfold	24.41	25	0.345	**0.40**	0.609	**0.70**	0.16
661	1880	GPRS (3)	Left	/	24.22	25	0.191	**0.23**	0.326	**0.39**	0.11
661	1880	GPRS (3)	Right	/	24.22	25	0.091	**0.11**	0.148	**0.18**	-0.04
810	1909.8	GPRS (3)	Bottom	/	23.69	25	0.331	**0.45**	0.594	**0.80**	-0.07
661	1880	GPRS (3)	Bottom	/	24.22	25	0.409	**0.49**	0.76	**0.91**	-0.17
512	1850.2	GPRS (3)	Bottom	Fig.6	24.41	25	0.519	**0.59**	0.954	**1.09**	0.02
512	1850.2	EGPRS (3)	Bottom	/	24.38	25	0.518	**0.60**	0.939	**1.08**	-0.01

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

Table 14.1-7: 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	Fig.7	24.04	25	0.299	**0.37**	0.497	**0.62**	0.01
9400	1880	Left	Cheek	/	24.32	25	0.246	**0.29**	0.422	**0.49**	0.02
9262	1852.4	Left	Cheek	/	24.2	25	0.258	**0.31**	0.418	**0.50**	0.08
9400	1880	Left	Tilt	/	24.32	25	0.12	**0.14**	0.164	**0.19**	0.02
9400	1880	Right	Cheek	/	24.32	25	0.27	**0.32**	0.401	**0.47**	-0.18
9400	1880	Right	Tilt	/	24.32	25	0.106	**0.12**	0.143	**0.17**	-0.03

Table 14.1-8: SAR Values (WCDMA 1900 MHz Band – Body worn)

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									
9400	1880	Front	/	24.32	25	0.177	**0.21**	0.283	**0.33**	-0.08
9538	1907.6	Rear	/	24.04	25	0.39	**0.49**	0.64	**0.80**	-0.07
9400	1880	Rear	/	24.32	25	0.446	**0.52**	0.769	**0.90**	0.13
9262	1852.4	Rear	Fig.8	24.2	25	0.505	**0.61**	0.823	**0.99**	-0.04
9400	1880	Rear	Unfold	24.32	25	0.406	**0.47**	0.667	**0.78**	-0.17

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

Table 14.1-9: SAR Values (WCDMA 1900 MHz Band - Hotspot)

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									
9400	1880	Front	/	19.88	21	0.192	**0.25**	0.316	**0.41**	0.09
9538	1907.6	Rear	/	19.81	21	0.28	**0.37**	0.514	**0.68**	0.06
9400	1880	Rear	/	19.88	21	0.331	**0.43**	0.605	**0.78**	-0.17
9262	1852.4	Rear	/	19.77	21	0.337	**0.45**	0.618	**0.82**	-0.11
9400	1880	Rear	Unfold	19.88	21	0.358	**0.46**	0.608	**0.79**	0.15
9400	1880	Left	/	19.88	21	0.16	**0.21**	0.276	**0.36**	-0.02
9400	1880	Right	/	19.88	21	<0.01	<0.01	<0.01	<0.01	/
9538	1907.6	Bottom	/	19.81	21	0.43	**0.57**	0.791	**1.04**	-0.13
9400	1880	Bottom	/	19.88	21	0.508	**0.66**	0.931	**1.20**	0.16
9262	1852.4	Bottom	Fig.9	19.77	21	0.519	**0.69**	0.95	**1.26**	0.05
9262	1852.4	Bottom	H	19.77	21	0.489	**0.65**	0.928	**1.23**	0.16

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

Table 14.1-10: 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	/	22.98	24	0.153	**0.19**	0.341	**0.43**	-0.09
1412	1732.4	Left	Tilt	/	22.98	24	0.044	**0.06**	0.079	**0.10**	-0.05
1513	1752.6	Right	Cheek	/	23.03	24	0.28	**0.35**	0.471	**0.59**	0.18
1412	1732.4	Right	Cheek	/	22.98	24	0.259	**0.33**	0.401	**0.51**	-0.08
1312	1712.4	Right	Cheek	Fig.10	22.91	24	0.301	**0.39**	0.503	**0.65**	-0.09
1412	1732.4	Right	Tilt	/	22.98	24	0.068	**0.09**	0.119	**0.15**	-0.01

Table 14.1-11: SAR Values (WCDMA 1700 MHz Band – Body worn)

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	/	22.98	24	0.227	**0.29**	0.361	**0.46**	0.08
1513	1752.6	Rear	Fig.11	23.03	24	0.573	**0.72**	0.925	**1.16**	0.10
1412	1732.4	Rear	/	22.98	24	0.494	**0.62**	0.795	**1.01**	0.05
1312	1712.4	Rear	/	22.91	24	0.451	**0.58**	0.663	**0.85**	0.09
1412	1732.4	Rear	Unfold	22.98	24	0.374	**0.47**	0.606	**0.77**	-0.04

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

Table 14.1-12: SAR Values (WCDMA 1700 MHz Band - Hotspot)

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	/	20.12	20.5	0.145	**0.16**	0.237	**0.26**	0.12
1412	1732.4	Rear	/	20.12	20.5	0.409	**0.45**	0.676	**0.74**	-0.06
1412	1732.4	Rear	/	20.12	20.5	0.275	**0.30**	0.453	**0.49**	0.07
1412	1732.4	Left	/	20.12	20.5	0.1	**0.11**	0.189	**0.21**	-0.11
1412	1732.4	Right	/	20.12	20.5	0.057	**0.06**	0.092	**0.10**	0.06
1513	1752.6	Bottom	Fig.12	20.25	20.5	0.484	**0.51**	0.886	**0.94**	0.01
1412	1732.4	Bottom	/	20.12	20.5	0.462	**0.50**	0.854	**0.93**	-0.06
1312	1712.4	Bottom	/	20.06	20.5	0.458	**0.51**	0.834	**0.92**	0.14

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

Table 14.1-13: 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										
4183	836.6	Left	Cheek	/	22.72	24	0.156	**0.21**	0.207	**0.28**	0.12
4183	836.6	Left	Tilt	/	22.72	24	0.096	**0.13**	0.121	**0.16**	-0.11
4233	846.6	Right	Cheek	/	22.74	24	0.099	**0.13**	0.153	**0.20**	0.06
4183	836.6	Right	Cheek	Fig.13	22.72	24	0.155	**0.21**	0.21	**0.28**	-0.07
4132	826.4	Right	Cheek	/	22.47	24	0.145	**0.21**	0.196	**0.28**	0.03
4132	826.4	Right	Tilt	/	22.72	24	0.102	**0.14**	0.129	**0.17**	0.15

Table 14.1-14: 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	/	22.72	24	0.04	**0.05**	0.089	**0.12**	-0.06
4233	846.6	Rear	/	22.74	24	0.097	**0.13**	0.222	**0.30**	0.09
4183	836.6	Rear	Fig.14	22.72	24	0.185	**0.25**	0.418	**0.56**	-0.01
4132	826.4	Rear	/	22.47	24	0.164	**0.23**	0.373	**0.53**	-0.14
4183	836.6	Rear	unfold	22.72	24	0.11	**0.15**	0.258	**0.35**	0.04
4183	836.6	Left	/	22.72	24	0.042	**0.06**	0.101	**0.14**	-0.03
4183	836.6	Right	/	22.72	24	0.04	**0.05**	0.095	**0.13**	0.05
4183	836.6	Bottom	/	22.72	24	0.029	**0.04**	0.08	**0.11**	0.12

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

Table 14.1-15: 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											
18900	1880	1RB_Mid	Left	Cheek	Fig.15	24.66	25.5	0.209	**0.25**	0.366	**0.44**	0.03
18900	1880	1RB_Mid	Left	Tilt	/	24.66	25.5	0.202	**0.25**	0.248	**0.30**	0.16
18900	1880	1RB_Mid	Right	Cheek	/	24.66	25.5	0.234	**0.28**	0.3	**0.36**	0.08
18900	1880	1RB_Mid	Right	Tilt	/	24.66	25.5	0.107	**0.13**	0.129	**0.16**	-0.06
18900	1880	50RB-Mid	Left	Cheek	/	23.43	24.5	0.215	**0.28**	0.332	**0.42**	-0.18
18900	1880	50RB-Mid	Left	Tilt	/	23.43	24.5	0.133	**0.17**	0.165	**0.21**	0.17
18900	1880	50RB-Mid	Right	Cheek	/	23.43	24.5	0.133	**0.17**	0.335	**0.43**	0.02
18900	1880	50RB-Mid	Right	Tilt	/	23.43	24.5	0.182	**0.23**	0.223	**0.29**	-0.07

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-16: SAR Values (LTE Band2 – Body worn)

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									
18900	1880	1RB-Mid Front	/	24.66	25.5	0.234	**0.28**	0.367	**0.45**	0.02
19100	1900	1RB-Mid Rear	/	24.32	25.5	0.463	**0.61**	0.781	**1.02**	-0.06
18900	1880	1RB-Mid Rear	Fig.16	24.66	25.5	0.573	**0.70**	0.943	**1.14**	-0.08
18700	1860	1RB-Mid Rear	/	24.41	25.5	0.511	**0.66**	0.858	**1.10**	-0.13
18900	1880	100RB Rear	/	23.3	24.5	0.481	**0.63**	0.801	**1.06**	-0.08
19100	1900	1RB-Mid Rear	Unfold	24.32	25.5	0.395	**0.52**	0.665	**0.87**	-0.07
18900	1880	1RB-Mid Rear	Unfold	24.66	25.5	0.489	**0.59**	0.803	**0.97**	0.12
18700	1860	1RB-Mid Rear	Unfold	24.41	25.5	0.436	**0.56**	0.731	**0.94**	-0.01
18900	1880	100RB Rear	Unfold	23.3	24.5	0.41	**0.54**	0.682	**0.90**	0.05
18900	1880	50RB-Mid Front	/	23.69	24.5	0.195	**0.23**	0.309	**0.37**	0.04
18900	1880	50RB-Mid Rear	/	23.69	24.5	0.407	**0.49**	0.655	**0.79**	-0.08
18900	1880	50RB-Mid Rear	Unfold	23.69	24.5	0.382	**0.46**	0.628	**0.76**	-0.01

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-17: SAR Values (LTE Band2 – Hotspot)

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									
18900	1880	1RB-Mid Front	/	21.28	21.5	0.139	**0.15**	0.227	**0.24**	-0.09
18900	1880	1RB-Mid Rear	/	21.28	21.5	0.341	**0.36**	0.568	**0.60**	-0.15
18900	1880	1RB-Mid Rear	unfold	21.28	21.5	0.34	**0.36**	0.589	**0.62**	-0.15
18900	1880	1RB-Mid Left	/	21.28	21.5	0.126	**0.13**	0.222	**0.23**	-0.08
18900	1880	1RB-Mid Right	/	21.28	21.5	0.123	**0.13**	0.224	**0.24**	-0.02
19100	1900	1RB-Mid Bottom	/	21.25	21.5	0.397	**0.42**	0.761	**0.81**	0.16
18900	1880	1RB-Mid Bottom	Fig.17	21.28	21.5	0.424	**0.45**	0.807	**0.85**	0.08
18700	1860	1RB-Mid Bottom	/	21.26	21.5	0.414	**0.44**	0.781	**0.83**	0.18
18900	1880	100RB Bottom	/	21.22	21.5	0.403	**0.43**	0.775	**0.83**	-0.15
18900	1880	50RB-Mid Front	/	21.25	21.5	0.135	**0.14**	0.219	**0.23**	-0.16
18900	1880	50RB-Mid Rear	/	21.25	21.5	0.325	**0.34**	0.539	**0.57**	-0.07
18900	1880	50RB-Mid Rear	unfold	21.25	21.5	0.335	**0.35**	0.581	**0.62**	-0.06
18900	1880	50RB-Mid Left	/	21.25	21.5	0.112	**0.12**	0.197	**0.21**	0.11
18900	1880	50RB-Mid Right	/	21.25	21.5	0.114	**0.12**	0.206	**0.22**	0.03
18900	1880	50RB-Mid Bottom	/	21.25	21.5	0.383	**0.41**	0.729	**0.77**	-0.10

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 Band5 - 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											
20600	844	1RB_Low	Left	Cheek	Fig.18	25.11	25.5	0.36	**0.39**	0.476	**0.52**	0.15
20600	844	1RB_Low	Left	Tilt	/	25.11	25.5	0.203	**0.22**	0.235	**0.26**	-0.13
20600	844	1RB_Low	Right	Cheek	/	25.11	25.5	0.29	**0.32**	0.428	**0.47**	0.18
20600	844	1RB_Low	Right	Tilt	/	25.11	25.5	0.207	**0.23**	0.242	**0.26**	0.02
20600	844	25RB-Mid	Left	Cheek	/	23.86	24.5	0.282	**0.33**	0.37	**0.43**	0.07
20600	844	25RB-Mid	Left	Tilt	/	23.86	24.5	0.161	**0.19**	0.188	**0.22**	-0.07
20600	844	25RB-Mid	Right	Cheek	/	23.86	24.5	0.242	**0.28**	0.347	**0.40**	0.01
20600	844	25RB-Mid	Right	Tilt	/	23.86	24.5	0.165	**0.19**	0.196	**0.23**	-0.16

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-19: SAR Values (LTE Band5 – 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									
20600	844	1RB-Low Front	/	25.11	25.5	0.134	**0.15**	0.205	**0.22**	-0.14
20600	844	1RB-Low Rear	Fig.19	25.11	25.5	0.436	**0.48**	0.612	**0.67**	0.02
20600	844	1RB-Low Rear	unfold	25.11	25.5	0.321	**0.35**	0.479	**0.52**	-0.11
20600	844	1RB-Low Left	/	25.11	25.5	0.155	**0.17**	0.234	**0.26**	0.05
20600	844	1RB-Low Right	/	25.11	25.5	0.084	**0.09**	0.121	**0.13**	-0.18
20600	844	1RB-Low Bottom	/	25.11	25.5	0.134	**0.15**	0.221	**0.24**	-0.12
20600	844	25RB-Mid Front	/	23.86	24.5	0.109	**0.13**	0.167	**0.19**	-0.17
20600	844	25RB-Mid Rear	/	23.86	24.5	0.368	**0.43**	0.516	**0.60**	0.12
20600	844	25RB-Mid Rear	unfold	23.86	24.5	0.251	**0.29**	0.375	**0.43**	0.16
20600	844	25RB-Mid Left	/	23.86	24.5	0.096	**0.11**	0.142	**0.16**	-0.12
20600	844	25RB-Mid Right	/	23.86	24.5	0.048	**0.06**	0.07	**0.08**	0.17
20600	844	25RB-Mid Bottom	/	23.86	24.5	0.115	**0.13**	0.198	**0.23**	0.18

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 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											
20850	2510	1RB_Mid	Left	Cheek	/	23.89	24.5	0.202	**0.23**	0.143	**0.16**	-0.01
21100	2535	1RB_Mid	Left	Cheek	/	23.89	24.5	0.249	**0.29**	0.499	**0.57**	0.12
21350	2560	1RB_Mid	Left	Cheek	/	23.89	24.5	0.28	**0.32**	0.636	**0.73**	0.06
21350	2560	100RB	Left	Cheek	/	23.85	23.5	0.205	**0.19**	0.729	**0.67**	-0.03
21350	2560	1RB_Mid	Left	Tilt	/	23.89	24.5	0.085	**0.10**	0.181	**0.21**	0.07
20850	2510	1RB_Mid	Right	Cheek	/	23.65	24.5	0.276	**0.34**	0.633	**0.77**	-0.10
21100	2535	1RB_Mid	Right	Cheek	/	23.55	24.5	0.34	**0.42**	0.807	**1.00**	-0.02
21350	2560	1RB_Mid	Right	Cheek	Fig.20	23.89	24.5	0.383	**0.44**	0.925	**1.06**	-0.05
21350	2560	100RB	Right	Cheek	/	22.5	23.5	0.28	**0.35**	0.678	**0.85**	-0.11
21350	2560	1RB_Mid	Right	Tilt	/	23.74	24.5	0.072	**0.09**	0.138	**0.16**	-0.06
21350	2560	50RB-Mid	Left	Cheek	/	22.65	23.5	0.217	**0.26**	0.552	**0.67**	-0.01
21350	2560	50RB-Mid	Left	Tilt	/	22.65	23.5	0.055	**0.07**	0.148	**0.18**	-0.04
21350	2560	50RB-Mid	Right	Cheek	/	22.65	23.5	0.244	**0.30**	0.574	**0.70**	-0.09
21350	2560	50RB-Mid	Right	Tilt	/	22.65	23.5	0.055	**0.07**	0.103	**0.13**	-0.06

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-21: SAR Values (LTE Band7 – Body worn)

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									
21350	2560	1RB-Mid Front	/	23.89	24.5	0.149	**0.17**	0.256	**0.29**	-0.14
21350	2560	1RB-Mid Rear	Fig.21	23.89	24.5	0.562	**0.65**	1.02	**1.17**	-0.12
21100	2535	1RB-Mid Rear	/	23.55	24.5	0.515	**0.64**	0.93	**1.16**	0.16
20850	2510	1RB-Mid Rear	/	23.74	24.5	0.426	**0.51**	0.763	**0.91**	-0.01
21350	2560	100RB Rear	/	22.5	23.5	0.454	**0.57**	0.824	**1.04**	0.02
21350	2560	1RB-Mid Rear	unfold	23.89	24.5	0.494	**0.57**	0.837	**0.96**	-0.14
21100	2535	1RB-Mid Rear	unfold	23.55	24.5	0.487	**0.61**	0.835	**1.04**	0.01
20850	2510	1RB-Mid Rear	unfold	23.74	24.5	0.437	**0.52**	0.75	**0.89**	-0.13
21350	2560	100RB Rear	unfold	22.5	23.5	0.374	**0.47**	0.634	**0.80**	0.02
21350	2560	50RB-Mid Front	/	22.65	23.5	0.109	**0.13**	0.188	**0.23**	-0.09
21350	2560	50RB-Mid Rear	/	22.65	23.5	0.47	**0.57**	0.855	**1.04**	0.11
21100	2535	50RB-Mid Rear	/	22.45	23.5	0.461	**0.59**	0.835	**1.06**	-0.08
20850	2510	50RB-Mid Rear	/	22.58	23.5	0.449	**0.55**	0.628	**0.78**	0.13
21350	2560	50RB-Mid Rear	unfold	22.65	23.5	0.377	**0.46**	0.64	**0.78**	-0.04

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-22: SAR Values (LTE Band7 – Hotspot)

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									
21350	2560	1RB-High Front	/	20.57	21	0.106	**0.12**	0.187	**0.21**	-0.04
21350	2560	1RB-High Rear	/	20.57	21	0.415	**0.46**	0.768	**0.85**	-0.20
21100	2535	1RB-High Rear	/	20.46	21	0.362	**0.41**	0.666	**0.75**	0.03
20850	2510	1RB-High Rear	/	20.47	21	0.318	**0.36**	0.576	**0.65**	0.07
21350	2560	100RB Rear	/	20.5	21	0.389	**0.44**	0.735	**0.82**	-0.11
21350	2560	1RB-High Rear	unfold	20.57	21	0.39	**0.43**	0.731	**0.81**	0.03
21100	2535	1RB-High Rear	unfold	20.46	21	0.353	**0.40**	0.627	**0.71**	0.04
20850	2510	1RB-High Rear	unfold	20.47	21	0.349	**0.39**	0.635	**0.72**	0.17
21350	2560	100RB Rear	unfold	20.5	21	0.375	**0.42**	0.715	**0.80**	0.07
21350	2560	1RB-High Left	/	20.57	21	0.237	**0.26**	0.464	**0.51**	-0.02
21350	2560	1RB-High Right	/	20.57	21	0.069	**0.08**	0.137	**0.15**	0.02
20850	2510	1RB-High Bottom	/	20.27	21	0.276	**0.33**	0.71	**0.84**	0.05
21100	2535	1RB-High Bottom	/	20.26	21	0.288	**0.34**	0.745	**0.88**	0.16
21350	2560	1RB-High Bottom	Fig.22	20.57	21	0.397	**0.44**	0.884	**0.98**	0.07
21350	2560	100RB Bottom	/	20.5	21	0.375	**0.42**	0.857	**0.96**	0.05
21350	2560	1RB-High Top	/	20.57	21	0.075	**0.08**	0.149	**0.16**	0.01
21350	2560	50RB-Mid Front	/	20.46	21	0.1	**0.11**	0.176	**0.20**	0.05
21350	2560	50RB-Mid Rear	/	20.46	21	0.406	**0.46**	0.751	**0.85**	0.15
21100	2535	50RB-Mid Rear	/	20.38	21	0.381	**0.44**	0.703	**0.81**	-0.16
20850	2510	50RB-Mid Rear	/	20.35	21	0.314	**0.36**	0.573	**0.67**	-0.03
21350	2560	50RB-Mid Rear	unfold	20.46	21	0.379	**0.43**	0.722	**0.82**	0.15
21100	2535	50RB-Mid Rear	unfold	20.38	21	0.389	**0.45**	0.659	**0.76**	-0.17
20850	2510	50RB-Mid Rear	unfold	20.35	21	0.35	**0.41**	0.653	**0.76**	0.06
21350	2560	50RB-Mid Left	/	20.46	21	0.313	**0.35**	0.619	**0.70**	-0.16
21350	2560	50RB-Mid Right	/	20.46	21	0.046	**0.05**	0.092	**0.10**	-0.07
21350	2560	50RB-Mid Bottom	/	20.46	21	0.323	**0.37**	0.775	**0.88**	0.14
21100	2535	50RB-Mid Bottom	/	20.38	21	0.364	**0.42**	0.791	**0.91**	-0.16
20850	2510	50RB-Mid Bottom	/	20.35	21	0.342	**0.40**	0.742	**0.86**	0.15
21350	2560	50RB-Mid Top	/	20.46	21	0.077	**0.09**	0.148	**0.17**	0.07
21350	2560	1RB-High Bottom	H	20.57	21	0.384	**0.42**	0.873	**0.96**	-0.05

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-23: SAR Values (LTE Band12 - 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											
23095	707.5	1RB-Mid	Left	Cheek	Fig.23	24.1	25	0.249	**0.31**	0.361	**0.44**	-0.12
23095	707.5	1RB-Mid	Left	Tilt	/	24.1	25	0.114	**0.14**	0.133	**0.16**	0.07
23095	707.5	1RB-Mid	Right	Cheek	/	24.1	25	0.221	**0.27**	0.351	**0.43**	-0.11
23095	707.5	1RB-Mid	Right	Tilt	/	24.1	25	0.108	**0.13**	0.126	**0.16**	0.13
23095	707.5	25RB-Low	Left	Cheek	/	23.06	24	0.206	**0.26**	0.294	**0.37**	0.10
23095	707.5	25RB-Low	Left	Tilt	/	23.06	24	0.081	**0.10**	0.095	**0.12**	-0.06
23095	707.5	25RB-Low	Right	Cheek	/	23.06	24	0.179	**0.22**	0.276	**0.34**	-0.18
23095	707.5	25RB-Low	Right	Tilt	/	23.06	24	0.082	**0.10**	0.096	**0.12**	0.09

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-24: SAR Values (LTE Band12 – 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									
23095	707.5	1RB-Mid Front	/	24.1	25	0.2	**0.25**	0.263	**0.32**	0.02
23095	707.5	1RB-Mid Rear	Fig.22	24.1	25	0.399	**0.49**	0.575	**0.71**	0.01
23095	707.5	1RB-Mid Rear	unfold/ Fig.24	24.1	25	0.448	**0.55**	0.612	**0.75**	0.07
23095	707.5	1RB-Mid Left	/	24.1	25	0.066	**0.08**	0.095	**0.12**	-0.18
23095	707.5	1RB-Mid Right	/	24.1	25	0.088	**0.11**	0.124	**0.15**	0.04
23095	707.5	1RB-Mid Bottom	/	24.1	25	0.107	**0.13**	0.179	**0.22**	-0.13
23095	707.5	25RB-Low Front	/	23.06	24	0.167	**0.21**	0.219	**0.27**	-0.06
23095	707.5	25RB-Low Rear	/	23.06	24	0.352	**0.44**	0.505	**0.63**	0.12
23095	707.5	25RB-Low Rear	unfold	23.06	24	0.341	**0.42**	0.463	**0.57**	0.17
23095	707.5	25RB-Low Left	/	23.06	24	0.03	**0.04**	0.044	**0.05**	0.06
23095	707.5	25RB-Low Right	/	23.06	24	0.088	**0.11**	0.125	**0.16**	0.06
23095	707.5	25RB-Low Bottom	/	23.06	24	0.084	**0.10**	0.144	**0.18**	0.08

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-25: SAR Values (LTE Band13 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23230	782	1RB-Mid	Left	Cheek	Fig.25	22.94	24	0.238	**0.30**	0.315	**0.40**	0.06
23230	782	1RB-Mid	Left	Tilt	/	22.94	24	0.137	**0.17**	0.157	**0.20**	0.05
23230	782	1RB-Mid	Right	Cheek	/	22.94	24	0.179	**0.23**	0.249	**0.32**	0.08
23230	782	1RB-Mid	Right	Tilt	/	22.94	24	0.14	**0.18**	0.162	**0.21**	-0.01
23230	782	25RB-Low	Left	Cheek	/	21.82	23	0.179	**0.23**	0.242	**0.32**	-0.03
23230	782	25RB-Low	Left	Tilt	/	21.82	23	0.1	**0.13**	0.114	**0.15**	0.17
23230	782	25RB-Low	Right	Cheek	/	21.82	23	0.157	**0.21**	0.201	**0.26**	-0.01
23230	782	25RB-Low	Right	Tilt	/	21.82	23	0.105	**0.14**	0.12	**0.16**	-0.16

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-26: 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-Low Front	/	22.94	24	0.106	**0.14**	0.142	**0.18**	0.18
23230	782	1RB-Low Rear	Fig.26	22.94	24	0.411	**0.52**	0.594	**0.76**	-0.02
23230	782	1RB-Low Rear	unfold	22.94	24	0.194	**0.25**	0.265	**0.34**	-0.11
23230	782	1RB-Low Left	/	22.94	24	0.069	**0.09**	0.102	**0.13**	0.11
23230	782	1RB-Low Right	/	22.94	24	0.077	**0.10**	0.109	**0.14**	-0.03
23230	782	1RB-Low Bottom	/	22.94	24	0.067	**0.09**	0.111	**0.14**	0.12
23230	782	25RB-Low Front	/	21.82	23	0.143	**0.19**	0.19	**0.25**	0.06
23230	782	25RB-Low Rear	/	21.82	23	0.334	**0.44**	0.484	**0.64**	0.01
23230	782	25RB-Low Rear	unfold	21.82	23	0.162	**0.21**	0.225	**0.30**	-0.10
23230	782	25RB-Low Right	/	21.82	23	0.064	**0.08**	0.094	**0.12**	0.16
23230	782	25RB-Low Bottom	/	21.82	23	0.068	**0.09**	0.095	**0.12**	0.07

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-27: SAR Values (LTE Band41 PC3 - 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											
40620	2593	1RB-Mid	Left	Cheek	/	23.64	24.5	0.201	**0.25**	0.501	**0.61**	0.10
40620	2593	1RB-Mid	Left	Tilt	/	23.64	24.5	0.052	**0.06**	0.117	**0.14**	-0.11
40620	2593	1RB-Mid	Right	Cheek	Fig.27	23.64	24.5	0.208	**0.25**	0.51	**0.62**	-0.03
40620	2593	1RB-Mid	Right	Tilt	/	23.64	24.5	0.048	**0.06**	0.09	**0.11**	0.07
40620	2593	50RB-Mid	Left	Cheek	/	22.42	23.5	0.172	**0.22**	0.437	**0.56**	0.13
40620	2593	50RB-Mid	Left	Tilt	/	22.42	23.5	0.046	**0.06**	0.093	**0.12**	0.14
40620	2593	50RB-Mid	Right	Cheek	/	22.42	23.5	0.063	**0.08**	0.237	**0.30**	0.10
40620	2593	50RB-Mid	Right	Tilt	/	22.42	23.5	0.039	**0.05**	0.074	**0.09**	0.06

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-28: SAR Values (LTE Band41 PC3– Body worn)

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									
40620	2593	1RB-Mid Front	/	23.64	24.5	0.075	**0.09**	0.129	**0.16**	0.16
40620	2593	1RB-Mid Rear	Fig.28	23.64	24.5	0.284	**0.35**	0.524	**0.64**	0.05
40620	2593	1RB-Mid Rear	unfold	23.64	24.5	0.233	**0.28**	0.456	**0.56**	-0.17
40620	2593	50RB-Mid Front	/	22.42	23.5	0.056	**0.07**	0.099	**0.13**	-0.14
40620	2593	50RB-Mid Rear	/	22.42	23.5	0.233	**0.30**	0.43	**0.55**	-0.07
40620	2593	50RB-Mid Rear	unfold	22.42	23.5	0.189	**0.24**	0.371	**0.48**	0.14

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-29: SAR Values (LTE Band41 PC3 – Hotspot)

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									
40620	2593	1RB-Mid Front	/	22.05	22.5	0.084	**0.09**	0.156	**0.17**	0.03
40620	2593	1RB-Mid Rear	/	22.05	22.5	0.369	**0.41**	0.685	**0.76**	0.08
40620	2593	1RB-Mid Rear	unfold	22.05	22.5	0.324	**0.36**	0.643	**0.71**	0.06
40620	2593	1RB-Mid Left	/	22.05	22.5	0.251	**0.28**	0.491	**0.54**	0.13
40620	2593	1RB-Mid Right	/	22.05	22.5	0.077	**0.09**	0.146	**0.16**	0.15
41490	2680	1RB-Mid Bottom	/	21.49	22.5	0.412	**0.52**	0.938	**1.18**	0.05
41055	2636.5	1RB-Mid Bottom	Fig.29	21.24	22.5	0.425	**0.57**	0.964	**1.29**	-0.15
40620	2593	1RB-Mid Bottom	/	22.05	22.5	0.383	**0.42**	0.865	**0.96**	0.09
40185	2549.5	1RB-Mid Bottom	/	21.66	22.5	0.364	**0.44**	0.812	**0.99**	-0.12
39750	2506	1RB-Mid Bottom	/	21.43	22.5	0.385	**0.49**	0.842	**1.08**	0.08
41055	2636.5	100RB Bottom	/	21.48	22.5	0.41	**0.52**	0.933	**1.18**	0.17
40620	2593	50RB-Mid Front	/	21.84	22.5	0.081	**0.09**	0.153	**0.18**	-0.06
40620	2593	50RB-Mid Rear	/	21.84	22.5	0.347	**0.40**	0.632	**0.74**	0.09
40620	2593	50RB-Mid Rear	unfold	21.84	22.5	0.297	**0.35**	0.611	**0.71**	0.02
40620	2593	50RB-Mid Left	/	21.84	22.5	0.239	**0.28**	0.474	**0.55**	-0.12
40620	2593	50RB-Mid Right	/	21.84	22.5	0.101	**0.12**	0.194	**0.23**	-0.08
41490	2680	50RB-Mid Bottom	/	21.54	22.5	0.354	**0.44**	0.807	**1.01**	-0.14
41055	2636.5	50RB-Mid Bottom	/	21.3	22.5	0.366	**0.48**	0.829	**1.09**	-0.09
40620	2593	50RB-Mid Bottom	/	21.84	22.5	0.329	**0.38**	0.744	**0.87**	-0.10
40185	2549.5	50RB-Mid Bottom	/	21.42	22.5	0.313	**0.40**	0.698	**0.90**	-0.04
39750	2506	50RB-Mid Bottom	/	21.44	22.5	0.331	**0.42**	0.724	**0.92**	-0.12
41055	2636.5	1RB-Mid Bottom	H	21.24	22.5	0.412	**0.55**	0.946	**1.26**	-0.06

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-30: SAR Values (LTE Band41 PC2 - 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											
40620	2593	1RB-Mid	Left	Cheek	Fig.30	25.31	26.5	0.283	**0.37**	0.572	**0.75**	-0.10
40620	2593	1RB-Mid	Left	Tilt	/	25.31	26.5	0.086	**0.11**	0.142	**0.19**	0.03
40620	2593	1RB-Mid	Right	Cheek	/	25.31	26.5	0.257	**0.34**	0.426	**0.56**	0.14
40620	2593	1RB-Mid	Right	Tilt	/	25.31	26.5	0.061	**0.08**	0.099	**0.13**	-0.14
40620	2593	50RB-Mid	Left	Cheek	/	24.28	25.5	0.248	**0.33**	0.501	**0.66**	0.02
40620	2593	50RB-Mid	Left	Tilt	/	24.28	25.5	0.066	**0.09**	0.108	**0.14**	0.18
40620	2593	50RB-Mid	Right	Cheek	/	24.28	25.5	0.248	**0.33**	0.447	**0.59**	-0.16
40620	2593	50RB-Mid	Right	Tilt	/	24.28	25.5	0.053	**0.07**	0.074	**0.10**	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-31: SAR Values (LTE Band41 PC2– Body worn)

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									
40620	2593	1RB-Mid Front	/	25.31	26.5	0.092	**0.12**	0.161	**0.21**	0.11
40620	2593	1RB-Mid Rear	Fig.31	25.31	26.5	0.303	**0.40**	0.55	**0.72**	0.02
40620	2593	1RB-Mid Rear	unfold	25.31	26.5	0.27	**0.36**	0.514	**0.68**	-0.11
40620	2593	50RB-Mid Front	/	24.28	25.5	0.073	**0.10**	0.126	**0.17**	-0.18
40620	2593	50RB-Mid Rear	/	24.28	25.5	0.227	**0.30**	0.407	**0.54**	0.15
40620	2593	50RB-Mid Rear	unfold	24.28	25.5	0.221	**0.29**	0.419	**0.55**	0.13

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-32: SAR Values (LTE Band41 PC2 – Hotspot)

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									
40620	2593	1RB-Mid Front	/	21.95	22	0.046	**0.05**	0.083	**0.08**	0.13
40620	2593	1RB-Mid Rear	/	21.95	22	0.175	**0.18**	0.313	**0.32**	0.05
40620	2593	1RB-Mid Rear	unfold	21.95	22	0.162	**0.16**	0.322	**0.33**	0.04
40620	2593	1RB-Mid Left	/	21.95	22	0.116	**0.12**	0.219	**0.22**	0.04
40620	2593	1RB-Mid Right	/	21.95	22	0.038	**0.04**	0.071	**0.07**	-0.18
40620	2593	1RB-Mid Bottom	Fig.32	21.95	22	0.239	**0.24**	0.532	**0.54**	0.06
40620	2593	50RB-Mid Front	/	21.76	22	0.05	**0.05**	0.09	**0.10**	-0.08
40620	2593	50RB-Mid Rear	/	21.76	22	0.199	**0.21**	0.36	**0.38**	0.06
40620	2593	50RB-Mid Rear	unfold	21.76	22	0.166	**0.18**	0.33	**0.35**	-0.05
40620	2593	50RB-Mid Left	/	21.76	22	0.122	**0.13**	0.232	**0.25**	-0.09
40620	2593	50RB-Mid Right	/	21.76	22	0.041	**0.04**	0.077	**0.08**	-0.04
40620	2593	50RB-Mid Bottom	/	21.76	22	0.209	**0.22**	0.46	**0.49**	-0.15

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-33: 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											
132072	1720	1RB-Mid	Left	Cheek	/	24.88	25	0.145	**0.15**	0.332	**0.34**	0.13
132072	1720	1RB-Mid	Left	Tilt	/	24.88	25	0.064	**0.07**	0.105	**0.11**	-0.12
132072	1720	1RB-Mid	Right	Cheek	/	24.88	25	0.209	**0.21**	0.354	**0.36**	-0.05
132072	1720	1RB-Mid	Right	Tilt	/	24.88	25	0.054	**0.06**	0.086	**0.09**	-0.06
132072	1720	50RB-Low	Left	Cheek	/	23.62	24	0.168	**0.18**	0.371	**0.40**	0.10
132072	1720	50RB-Low	Left	Tilt	/	23.62	24	0.064	**0.07**	0.105	**0.11**	-0.14
132072	1720	50RB-Low	Right	Cheek	Fig.33	23.62	24	0.232	**0.25**	0.386	**0.42**	0.06
132072	1720	50RB-Low	Right	Tilt	/	23.62	24	0.053	**0.06**	0.084	**0.09**	0.05

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-34: SAR Values (LTE Band66 – Body worn)

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									
132072	1720	1RB-Mid Front	/	24.88	25	0.133	**0.14**	0.208	**0.21**	-0.16
132572	1770	1RB-Mid Rear	/	24.37	25	0.568	**0.66**	0.911	**1.05**	-0.04
132322	1745	1RB-Mid Rear	Fig.34	24.58	25	0.609	**0.67**	0.985	**1.09**	0.02
132072	1720	1RB-Mid Rear	/	24.88	25	0.457	**0.47**	0.738	**0.76**	-0.20
132322	1745	100RB Rear	/	23.55	24	0.498	**0.55**	0.81	**0.90**	-0.12
132072	1720	1RB-Mid Rear	unfold	24.88	25	0.243	**0.25**	0.389	**0.40**	-0.03
132072	1720	50RB-Mid Front	/	23.62	24	0.151	**0.16**	0.233	**0.25**	0.13
132572	1770	50RB-Mid Rear	/	23.62	24	0.512	**0.56**	0.806	**0.88**	-0.05
132322	1745	50RB-Mid Rear	/	23.62	24	0.553	**0.60**	0.881	**0.96**	-0.15
132072	1720	50RB-Mid Rear	/	23.62	24	0.487	**0.53**	0.783	**0.85**	0.08
132072	1720	50RB-Mid Rear	unfold	23.62	24	0.278	**0.30**	0.438	**0.48**	-0.06

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-35: SAR Values (LTE Band66 – Hotspot)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
132322	1745	1RB-Mid Front	/	20.9	21	0.156	**0.16**	0.253	**0.26**	0.16
132322	1745	1RB-Mid Rear	/	20.9	21	0.33	**0.34**	0.569	**0.58**	0.02
132322	1745	1RB-Mid Rear	unfold	20.9	21	0.261	**0.27**	0.466	**0.48**	0.14
132322	1745	1RB-Mid Left	/	20.9	21	0.086	**0.09**	0.143	**0.15**	-0.14
132322	1745	1RB-Mid Right	/	20.9	21	0.065	**0.07**	0.11	**0.11**	0.00
132572	1770	1RB-Mid Bottom	/	20.35	21	0.413	**0.48**	0.764	**0.89**	0.14
132322	1745	1RB-Mid Bottom	Fig.35	20.9	21	0.477	**0.49**	0.882	**0.90**	0.02
132072	1720	1RB-Mid Bottom	/	20.77	21	0.452	**0.48**	0.848	**0.89**	0.05
132322	1745	1RB-Mid Bottom	/	20.78	21	0.445	**0.47**	0.834	**0.88**	-0.07
132322	1745	50RB-Mid Front	/	20.81	21	0.169	**0.18**	0.28	**0.29**	-0.04
132322	1745	50RB-Mid Rear	/	20.81	21	0.343	**0.36**	0.601	**0.63**	-0.11
132322	1745	50RB-Mid Rear	unfold	20.81	21	0.276	**0.29**	0.499	**0.52**	0.01
132322	1745	50RB-Mid Left	/	20.81	21	0.091	**0.10**	0.154	**0.16**	-0.13
132322	1745	50RB-Mid Right	/	20.81	21	0.066	**0.07**	0.116	**0.12**	-0.16
132572	1770	50RB-Low Bottom	/	20.48	21	0.4	**0.45**	0.741	**0.84**	0.13
132322	1745	50RB-Mid Bottom	/	20.81	21	0.463	**0.48**	0.851	**0.89**	-0.10
132072	1720	50RB-Low Bottom	/	20.74	21	0.464	**0.49**	0.842	**0.89**	0.16
132072	1720	100RB Bottom	/	20.74	21	0.453	**0.48**	0.834	**0.89**	0.10

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-36: SAR Values (LTE Band71- Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
133222	673	1RB-Mid	Left	Cheek	Fig.36	23.77	24.5	0.246	**0.29**	0.387	**0.46**	0.20
133222	673	1RB-Mid	Left	Tilt	/	23.77	24.5	0.077	**0.09**	0.103	**0.12**	0.07
133222	673	1RB-Mid	Right	Cheek	/	23.77	24.5	0.187	**0.22**	0.334	**0.40**	-0.10
133222	673	1RB-Mid	Right	Tilt	/	23.77	24.5	0.091	**0.11**	0.121	**0.14**	0.01
133222	673	50RB-Mid	Left	Cheek	/	22.73	23.5	0.194	**0.23**	0.306	**0.37**	0.12
133222	673	50RB-Mid	Left	Tilt	/	22.73	23.5	0.062	**0.07**	0.081	**0.10**	-0.15
133222	673	50RB-Mid	Right	Cheek	/	22.73	23.5	0.139	**0.17**	0.251	**0.30**	-0.14
133222	673	50RB-Mid	Right	Tilt	/	22.73	23.5	0.07	**0.08**	0.094	**0.11**	0.06

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-37 SAR Values (LTE Band71 – Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
133222	673	1RB-Mid Front	/	23.77	24.5	0.132	**0.16**	0.182	**0.22**	-0.19
133222	673	1RB-Mid Rear	/	23.77	24.5	0.291	**0.34**	0.427	**0.51**	0.06
133222	673	1RB-Mid Rear	unfold/ Fig.37	23.77	24.5	0.344	**0.41**	0.476	**0.56**	-0.03
133222	673	1RB-Mid Left	/	23.77	24.5	0.074	**0.09**	0.111	**0.13**	-0.11
133222	673	1RB-Mid Right	/	23.77	24.5	0.057	**0.07**	0.082	**0.10**	-0.02
133222	673	1RB-Mid Bottom	/	23.77	24.5	0.077	**0.09**	0.127	**0.15**	-0.02
133222	673	50RB-Mid Front	/	22.73	23.5	0.104	**0.12**	0.144	**0.17**	-0.12
133222	673	50RB-Mid Rear	/	22.73	23.5	0.227	**0.27**	0.333	**0.40**	-0.02
133222	673	50RB-Mid Rear	unfold	22.73	23.5	0.257	**0.31**	0.357	**0.43**	0.19
133222	673	50RB-Mid Left	/	22.73	23.5	0.04	**0.05**	0.059	**0.07**	0.13
133222	673	50RB-Mid Right	/	22.73	23.5	0.036	**0.04**	0.053	**0.06**	0.03
133222	673	50RB-Mid Bottom	/	22.73	23.5	0.074	**0.09**	0.134	**0.16**	0.16

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

Note2: The LTE mode is QPSK_20MHz.

14.2 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 14.2-1: SAR Values (WLAN - Head)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		**Side**	**Test Position**	**Note**	**Conducted Power (dBm)**	**Max. tune-up Power (dBm)**	**Measured SAR(1g) (W/kg)**	**Reported SAR(1g)(W/kg)**	**Measured SAR(10g) (W/kg)**	**Reported SAR(10g)(W/kg)**	**Power Drift (dB)**
Ch.	MHz										
6	2437	Left	Cheek	/	16.48	16.5	0.202	**0.20**	0.468	**0.47**	0.05
6	2437	Left	Tilt	/	16.48	16.5	0.02	**0.02**	0.035	**0.04**	-0.12
6	2437	Right	Cheek	/	16.48	16.5	0.033	**0.03**	0.074	**0.07**	0.06
6	2437	Right	Tilt	/	16.48	16.5	0.021	**0.02**	0.032	**0.03**	-0.11

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

Table 14.2-2: SAR Values (WLAN - Head)– 802.11b (Full SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Power Drift (dB)
Ch.	MHz										
6	2437	Left	Cheek	Fig.38	16.48	16.5	0.208	**0.21**	0.481	**0.48**	0.05
6	2437	Right	Cheek	/	16.48	16.5	0.039	**0.04**	0.088	**0.09**	0.06

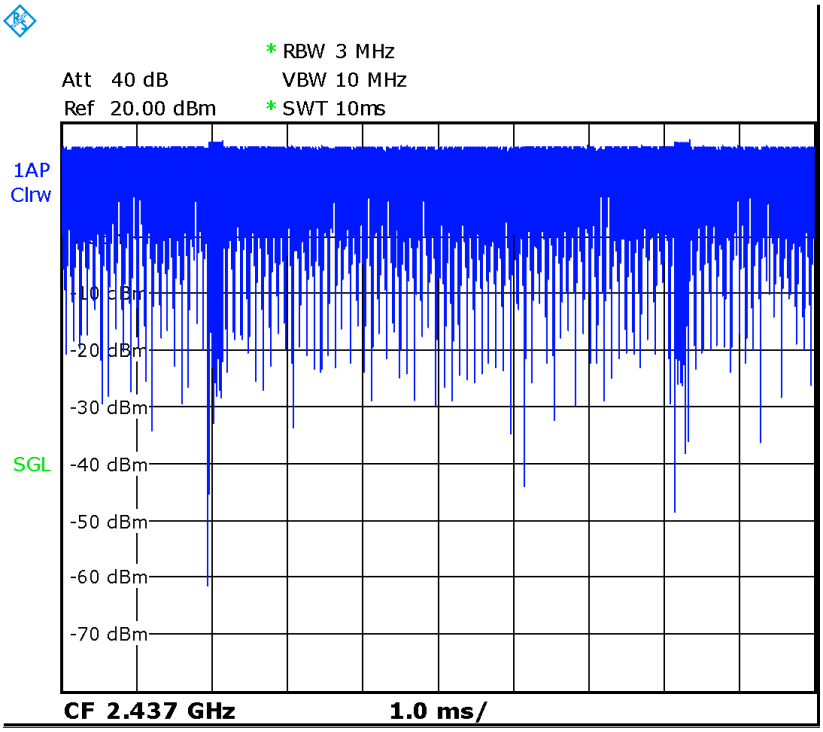
Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until 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 14.2-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC							
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz						
6	2437	Left	Cheek	100%	100%	**0.48**	**0.48**

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



Picture 14.2-1 Duty factor plot

Body Evaluation

Table 14.2-4: SAR Values (WLAN - Body)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		**Test Position**	**Note**	**Conducted Power (dBm)**	**Max. tune-up Power (dBm)**	**Measured SAR(1g) (W/kg)**	**Reported SAR(1g)(W/kg)**	**Measured SAR(10g) (W/kg)**	**Reported SAR(10g)(W/kg)**	**Power Drift (dB)**
Ch.	MHz									
6	2437	Front	10mm	16.48	16.5	0.0281	**0.03**	0.0538	**0.05**	0.06
6	2437	Rear	10mm	16.48	16.5	0.244	**0.25**	0.558	**0.56**	-0.14
6	2437	Rear	10mm/ Unfold	16.48	16.5	0.175	**0.18**	0.391	**0.39**	-0.08
6	2437	Left	10mm	16.48	16.5	0.099	**0.10**	0.205	**0.21**	-0.18
6	2437	Top	10mm	16.48	16.5	0.039	**0.04**	0.069	**0.07**	-0.06
6	2437	Rear	15mm	16.48	16.5	0.0887	**0.09**	0.18	**0.18**	-0.02

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

Table 14.2-5: 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(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz									
6	2437	Rear 10mm	Fig.39	16.48	16.5	0.25	**0.25**	0.562	**0.56**	-0.14
6	2437	Rear 10mm/ Unfold	/	16.48	16.5	0.18	**0.18**	0.397	**0.40**	-0.08

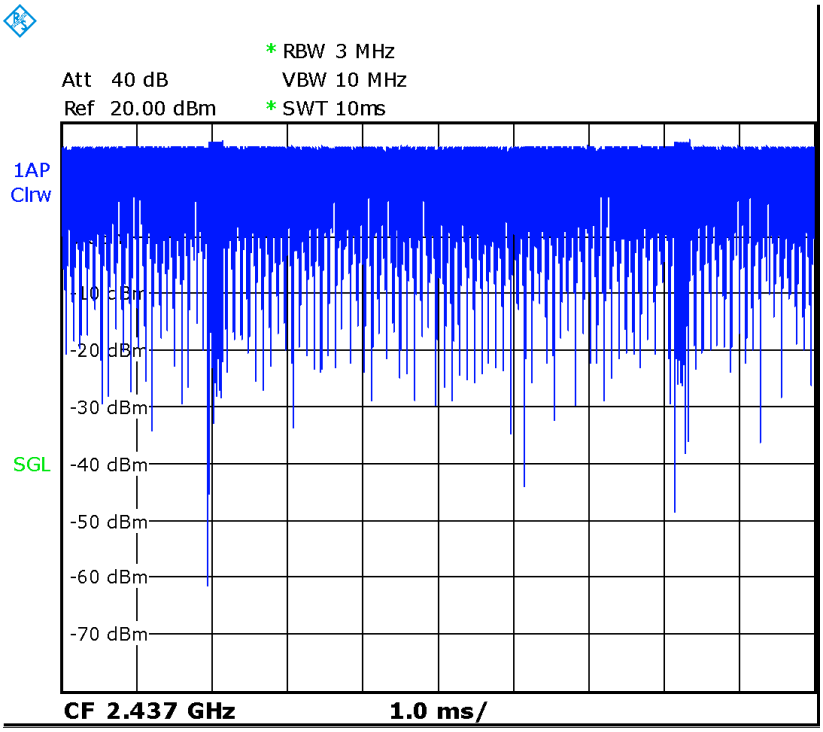
Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until 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 14.2-6: 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					
6	2437	Rear 10mm	100%	100%	**0.56**	**0.56**

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



Picture 14.2-2 Duty factor plot

15 SAR Measurement Variability

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

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

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

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

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

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

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

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
512	1850.2	Bottom	10	0.954	0.938	1.02	/

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

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
9262	1852.4	Rear	15	0.823	0.803	1.02	/
9262	1852.4	Bottom	10	0.95	0.932	1.02	/

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

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
1513	1752.6	Rear	15	0.925	0.902	1.03	/
1513	1752.6	Bottom	10	0.886	0.857	1.03	/

Table 15.4: SAR Measurement Variability for Body LTE B2 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
18900	1880	1RB-Mid	Rear	15	0.943	0.911	1.04	/
18900	1880	1RB-Mid	Rear unfold	15	0.803	0.788	1.02	/
18900	1880	1RB-Mid	Bottom	10	0.807	0.785	1.03	/

Table 15.5: SAR Measurement Variability for Head LTE B7 (1g)

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
21350	2560	1RB-Mid	Right Cheek	0.925	0.905	1.02	/

Table 15.6: SAR Measurement Variability for Body LTE B7 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
21350	2560	1RB-Mid	Rear	15	1.02	0.989	1.03	/
21350	2560	1RB-Mid	Rear unfold	15	0.837	0.823	1.02	/
21350	2560	1RB-Mid	Bottom	10	0.884	0.861	1.03	/

Table 15.7: SAR Measurement Variability for Body LTE B66 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
132322	1745	1RB-Mid	Rear	15	0.985	0.954	1.03	/
132322	1745	1RB-Mid	Bottom	10	0.882	0.856	1.03	/

Table 15.8: SAR Measurement Variability for Body LTE B41-PC3 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
41055	2636.5	1RB-Mid	Bottom	10	0.964	0.938	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	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

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

16.2 Measurement Uncertainty for 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	√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	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	0.4	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	∞
14	Fast SAR z-Approximation	B	7.0	R	√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	√3	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	√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	

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	January 14, 2021	One year
02	Power meter	NRP2	106276	May 11, 2021	One year
03	Power sensor	NRP6A	101369		
04	Signal Generator	E4438C	MY49071430	February 1, 2021	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	159889	January 13, 2021	One year
07	E-field Probe	SPEAG EX3DV4	7548	June 25, 2021	One year
08	DAE	SPEAG DAE4	1331	September 1, 2021	One year
09	Dipole Validation Kit	SPEAG D750V3	1017	July 12,,2021	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 21,,2021	One year
11	Dipole Validation Kit	SPEAG D1750V2	1003	July 12,,2021	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 15,2021	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 26,2021	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 26,2021	One year

END OF REPORT BODY

ANNEX A Graph Results

GSM850_CH190 Right Cheek
Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: head 835 MHz
Medium parameters used: f = 836.6 MHz; σ = 0.903 S/m; ε_r = 45.6; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: GSM850 836.6 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.565 W/kg

Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.711 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.677 W/kg
SAR(1 g) = 0.460 W/kg; SAR(10 g) = 0.336 W/kg
Maximum value of SAR (measured) = 0.601 W/kg

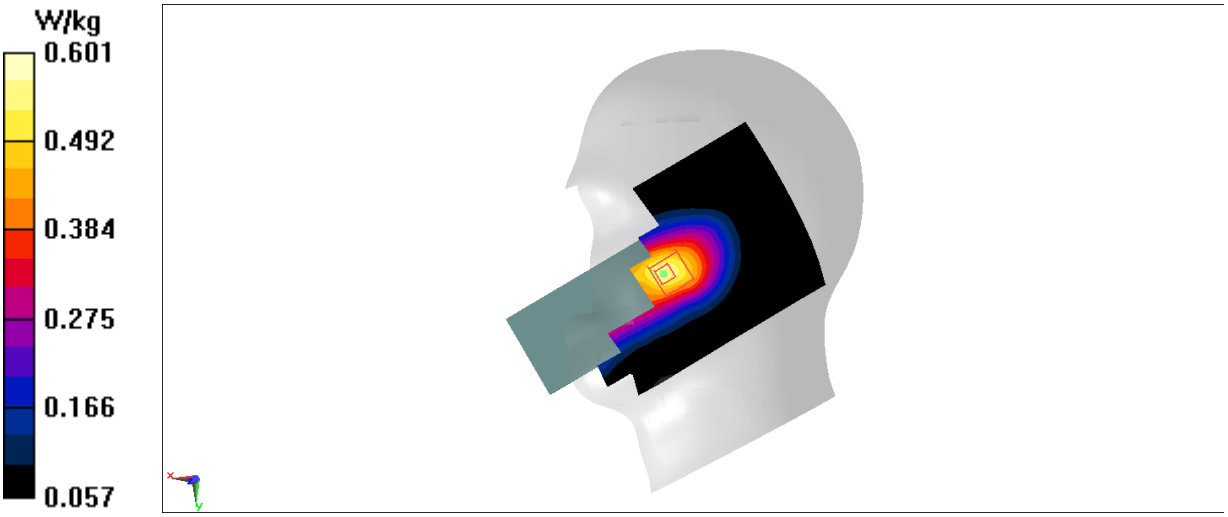


Fig A.1

GSM850_CH190 Rear 15mm
Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: head 835 MHz
Medium parameters used: f = 836.6 MHz; σ = 0.876 S/m; ε_r = 43.881; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: GSM850 836.6 MHz Duty Cycle: 1:4
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.471 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.08 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.532 W/kg
SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.265 W/kg

Maximum value of SAR (measured) = 0.471 W/kg

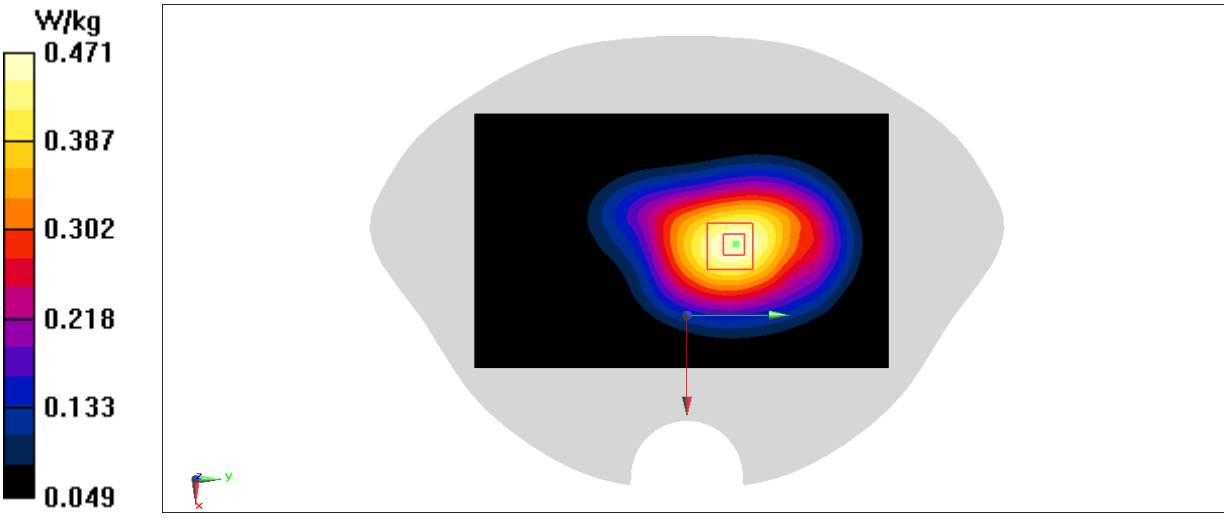


Fig A.2

GSM850_CH190 Rear 10mm
Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: head 835 MHz
Medium parameters used: f = 836.6 MHz; σ = 0.876 S/m; ε_r = 43.881;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: GSM850 836.6 MHz Duty Cycle: 1:4
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.471 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.08 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.532 W/kg
SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.265 W/kg

Maximum value of SAR (measured) = 0.471 W/kg

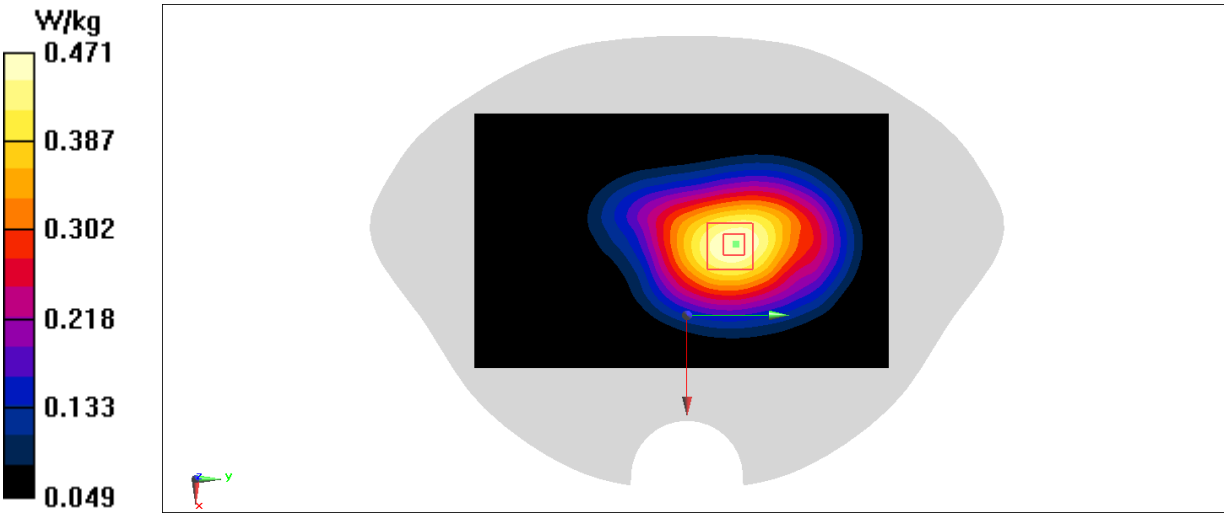


Fig A.3

PCS1900_CH661 Left Cheek
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.486 S/m; ε_r = 42.803;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: PCS1900 1880 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

Area Scan (81x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.325 W/kg

Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.7570 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.389 W/kg
SAR(1 g) = 0.242 W/kg; SAR(10 g) = 0.135 W/kg
Maximum value of SAR (measured) = 0.338 W/kg

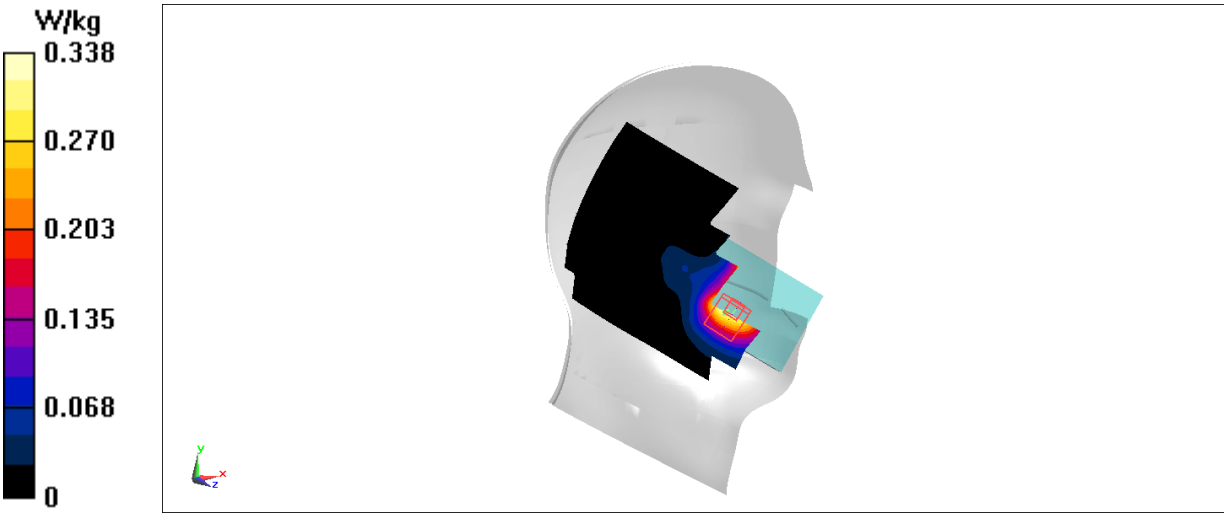


Fig A.4

PCS1900_CH661 Rear 15mm
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.414 S/m; ε_r = 41.492; ρ = 1000 kg/m^3
Ambient Temperature: 22.9°C, Liquid Temperature: 22.5°C
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:4
Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

Area Scan (81x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.527 W/kg

Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.516 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.616 W/kg
SAR(1 g) = 0.372 W/kg; SAR(10 g) = 0.227 W/kg

Maximum value of SAR (measured) = 0.523 W/kg

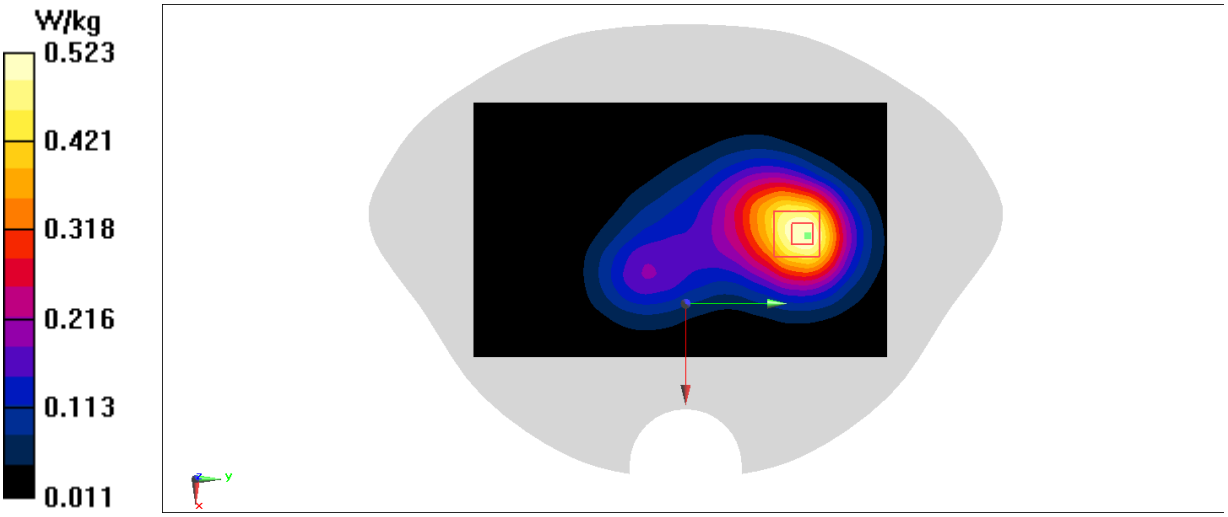


Fig A.5

PCS1900_CH512 Bottom 10mm
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.388 S/m; ε_r = 41.334;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:2.67
Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

Area Scan (71x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.45 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.54 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.71 W/kg
SAR(1 g) = 0.954 W/kg; SAR(10 g) = 0.519 W/kg
Maximum value of SAR (measured) = 1.43 W/kg

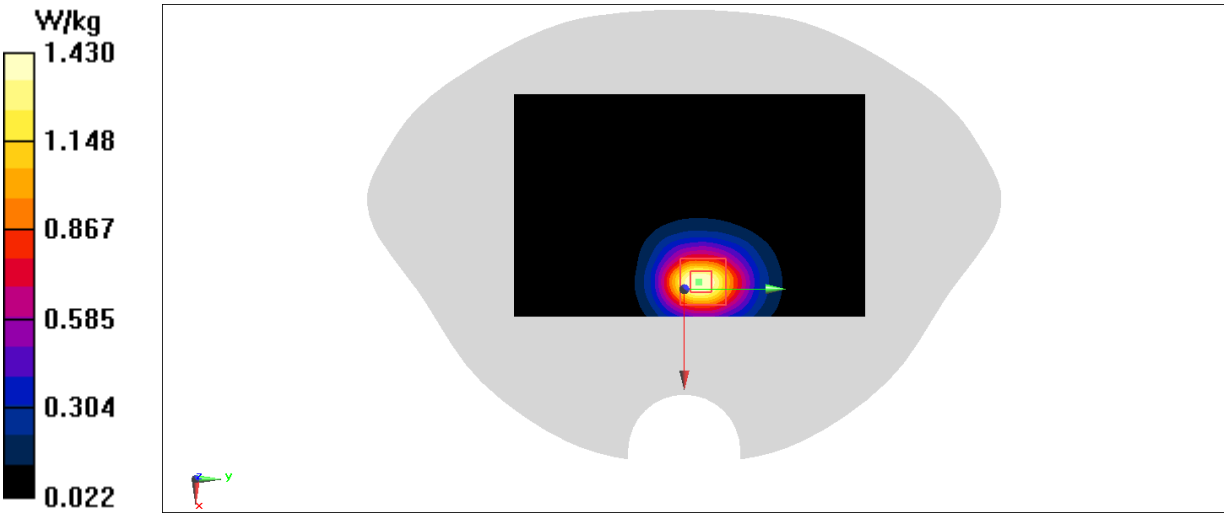


Fig A.6

WCDMA1900-BII_CH9538 Left Cheek
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1907.6 MHz; σ = 1.451 S/m; ε_r = 43.101; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.276 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.593 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.295 W/kg
SAR(1 g) = 0.193 W/kg; SAR(10 g) = 0.123 W/kg
Maximum value of SAR (measured) = 0.260 W/kg

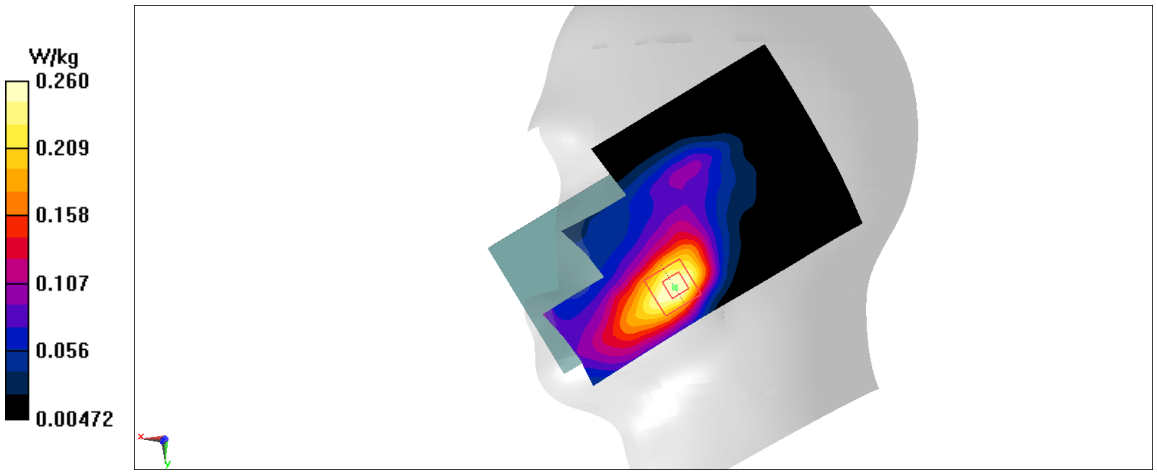


Fig A.7

WCDMA1900-BII_CH9262 Rear 15mm
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.427 mho/m; εr = 42.674; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

Area Scan (81x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.17 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.93 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.823 W/kg; SAR(10 g) = 0.505 W/kg

Maximum value of SAR (measured) = 1.16 W/kg

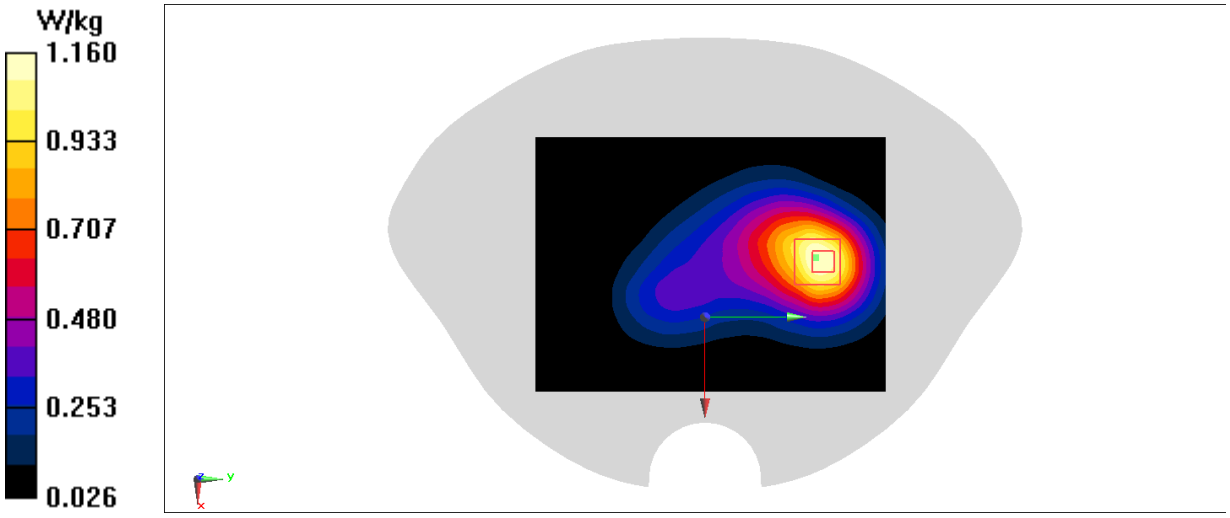


Fig A.8

WCDMA1900-BII_CH9262 Bottom 10mm
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.436 S/m; ε_r = 42.001;ρ = 1000 kg/m^3
Ambient Temperature: 22.9°C, Liquid Temperature: 22.5°C
Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.49 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.904 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.519 W/kg
Maximum value of SAR (measured) = 1.43 W/kg

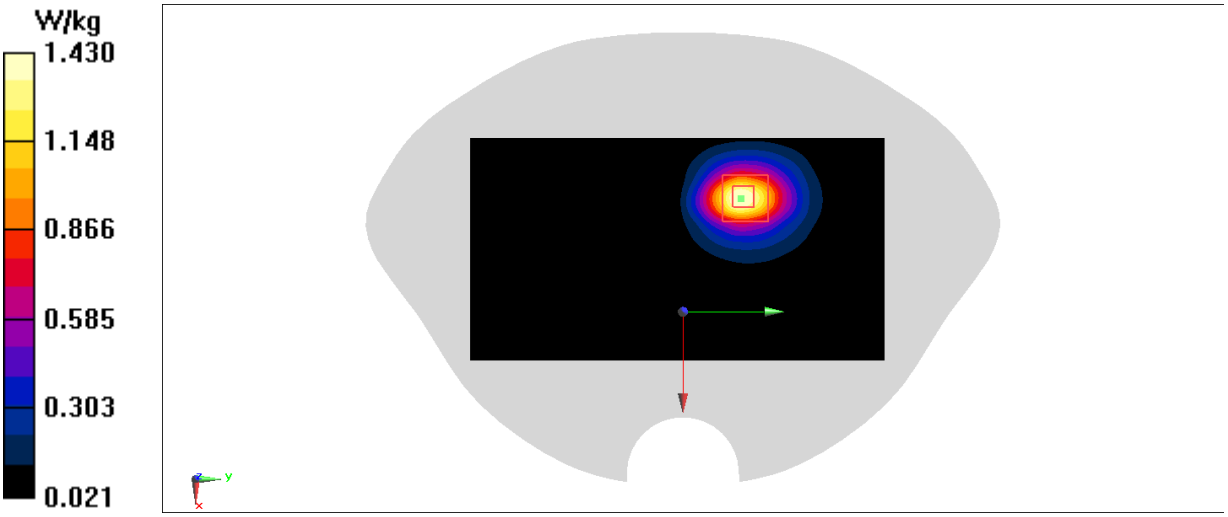


Fig A.9

WCDMA1700-BIV_CH4183 Right Cheek
Date: 9/17/2021
Electronics: DAE4 Sn1331
Medium: head 1750 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.311 S/m; ε_r = 41.526; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA1700-BIV 1712.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(8.14,8.14,8.14)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.715 W/kg

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.263 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.824 W/kg
SAR(1 g) = 0.503 W/kg; SAR(10 g) = 0.301 W/kg

Maximum value of SAR (measured) = 0.704 W/kg

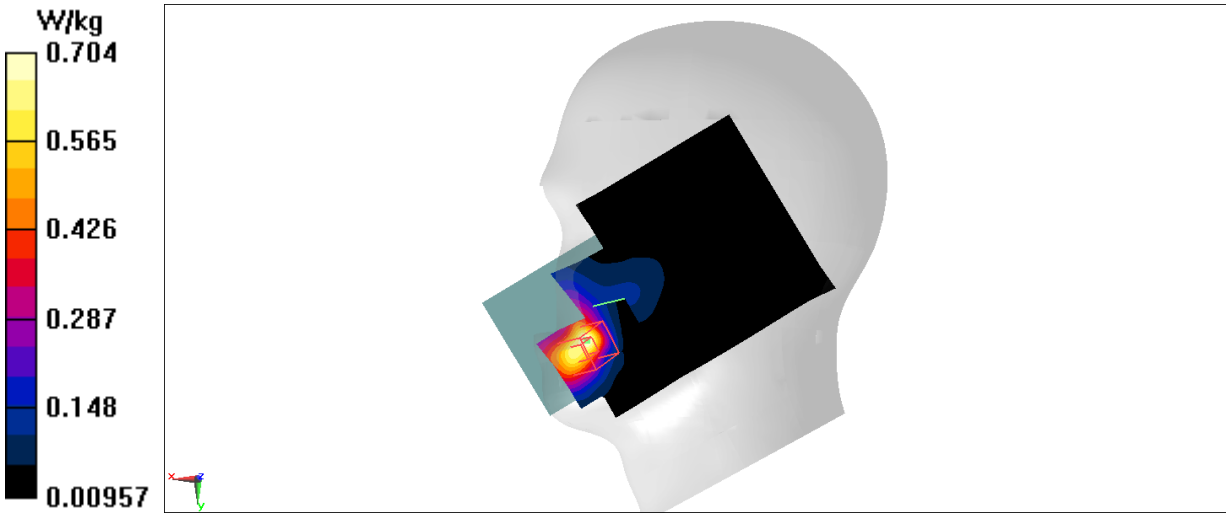


Fig A.10

WCDMA1700-BIV_CH1513 Rear 15mm
Date: 9/17/2021
Electronics: DAE4 Sn1331
Medium: head 1750 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.469 S/m; ε_r = 42.857;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA1700-BIV 1852.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(8.14,8.14,8.14)

Area Scan (81x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.17 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.93 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.823 W/kg; SAR(10 g) = 0.505 W/kg

Maximum value of SAR (measured) = 1.16 W/kg

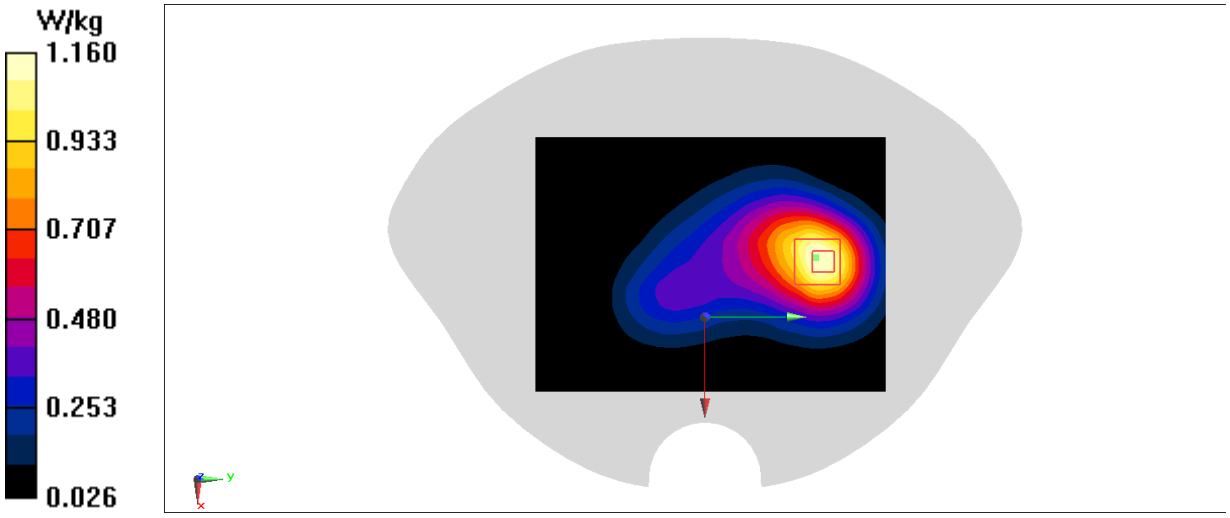


Fig A.11

WCDMA1700-BIV_CH1513 Bototm 10mm
Date: 9/17/2021
Electronics: DAE4 Sn1331
Medium: head 1750 MHz
Medium parameters used: f = 1752.6 MHz; σ = 1.368 S/m; ε_r = 42.166;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA1700-BIV 1752.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(8.14,8.14,8.14)

Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.38 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.040 V/m; Power Drift = 0.31 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 0.886 W/kg; SAR(10 g) = 0.484 W/kg
Maximum value of SAR (measured) = 1.33 W/kg

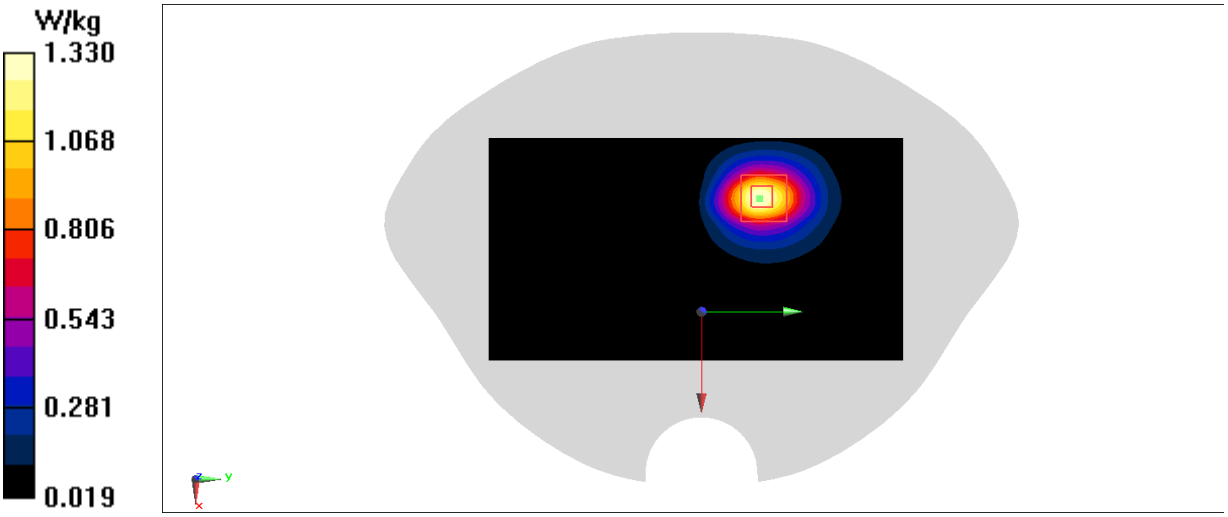


Fig A.12

WCDMA850-BV_CH4183 Right Cheek
Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: head 835 MHz
Medium parameters used: f = 836.6 MHz; σ = 0.909 S/m; ε_r = 41.935; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA850-BV 836.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.422 W/kg

Zoom Scan (8x11x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.835 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.348 W/kg
SAR(1 g) = 0.210 W/kg; SAR(10 g) = 0.155 W/kg

Maximum value of SAR (measured) = 0.308 W/kg

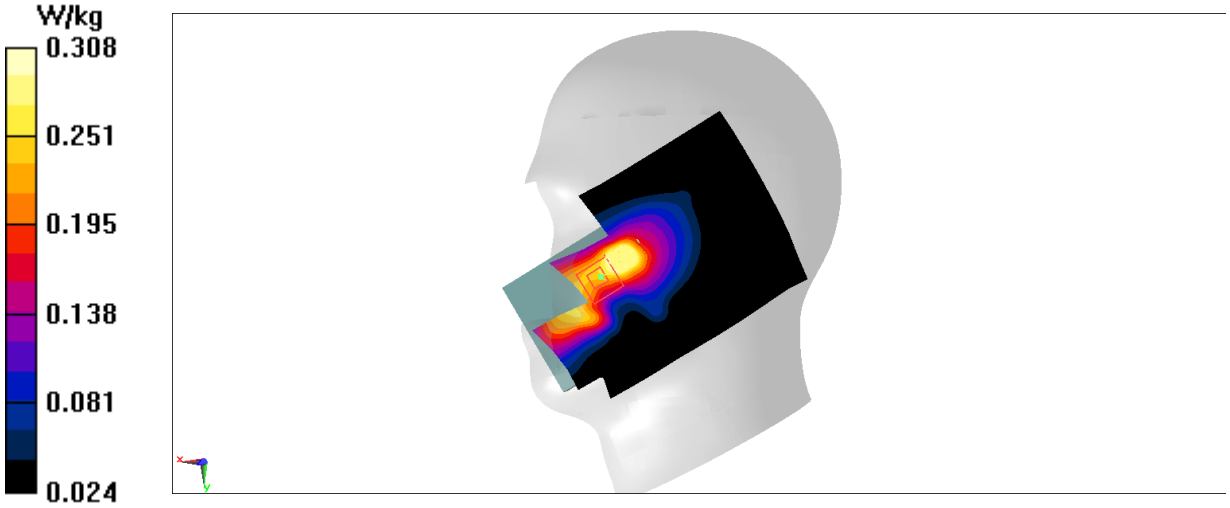


Fig A.13

WCDMA850-BV_CH4183 Rear 10mm
Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: head 835 MHz
Medium parameters used: f = 836.6 MHz; σ = 0.909 S/m; ε_r = 41.935; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA850-BV 836.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.450 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.18 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.807 W/kg
SAR(1 g) = 0.418 W/kg; SAR(10 g) = 0.185 W/kg

Maximum value of SAR (measured) = 0.431 W/kg

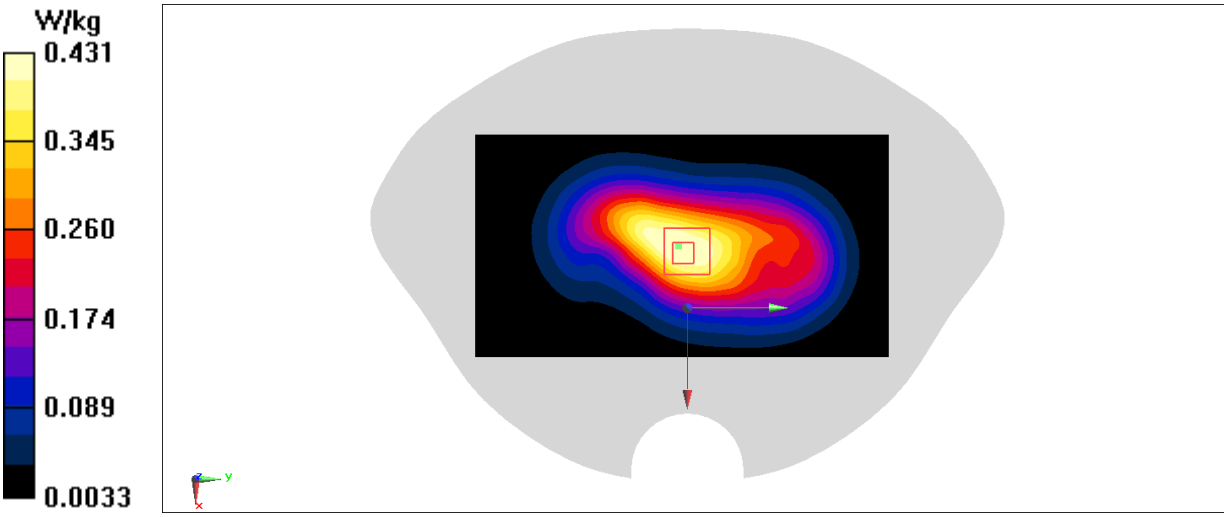


Fig A.14

LTE1900-FDD2_CH18900 Left Cheek
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.455 S/m; ε_r = 41.951;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1900-FDD2 1880 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.88, 7.88, 7.88)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.481 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.658 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.547 W/kg
SAR(1 g) = 0.366 W/kg; SAR(10 g) = 0.209 W/kg

Maximum value of SAR (measured) = 0.497 W/kg

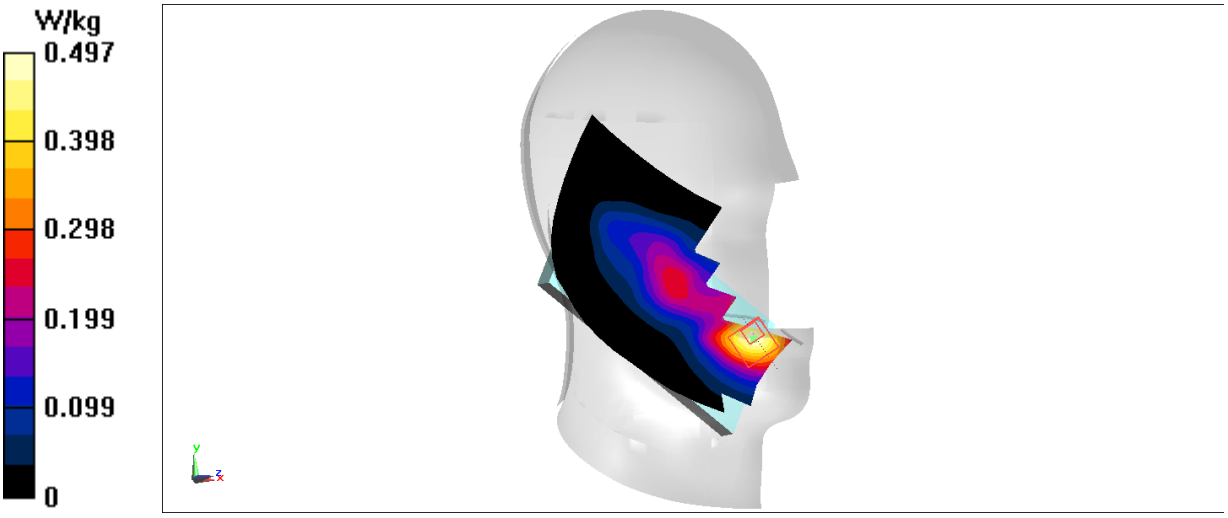


Fig A.15

LTE1900-FDD2_CH18900 Rear 15mm
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.455 S/m; ε_r = 41.951; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1900-FDD2 1880 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.88, 7.88, 7.88)

Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.46 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.18 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 0.943 W/kg; SAR(10 g) = 0.573 W/kg
Maximum value of SAR (measured) = 1.34 W/kg

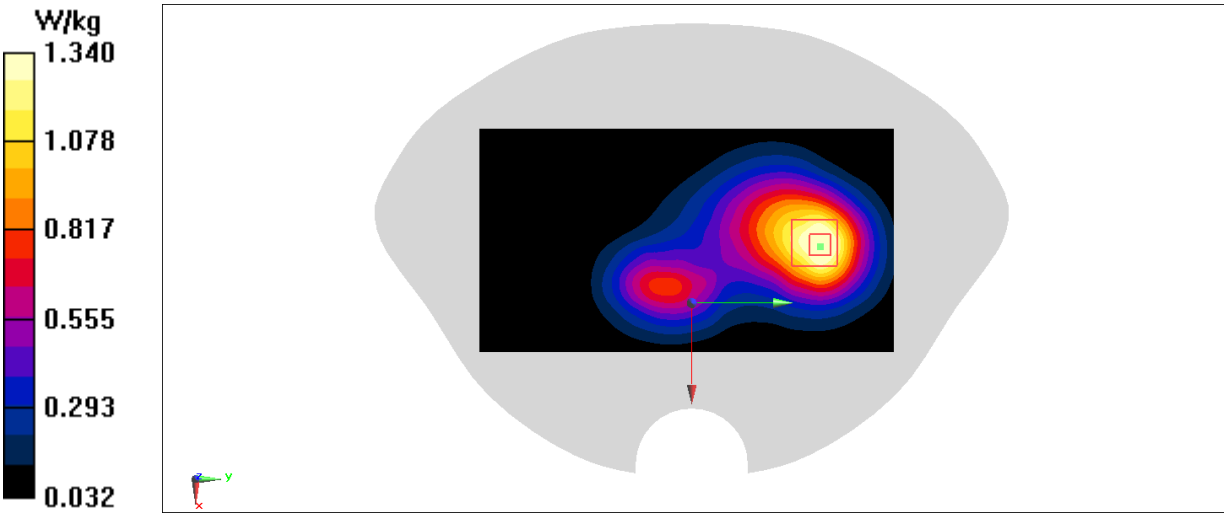


Fig A.16

LTE1900-FDD2_CH18900 Bottom 10mm
Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.455 S/m; ε_r = 41.951; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1900-FDD2 1880 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.88, 7.88, 7.88)

Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 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 = 9.753 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.807 W/kg; SAR(10 g) = 0.424 W/kg
Maximum value of SAR (measured) = 1.28 W/kg

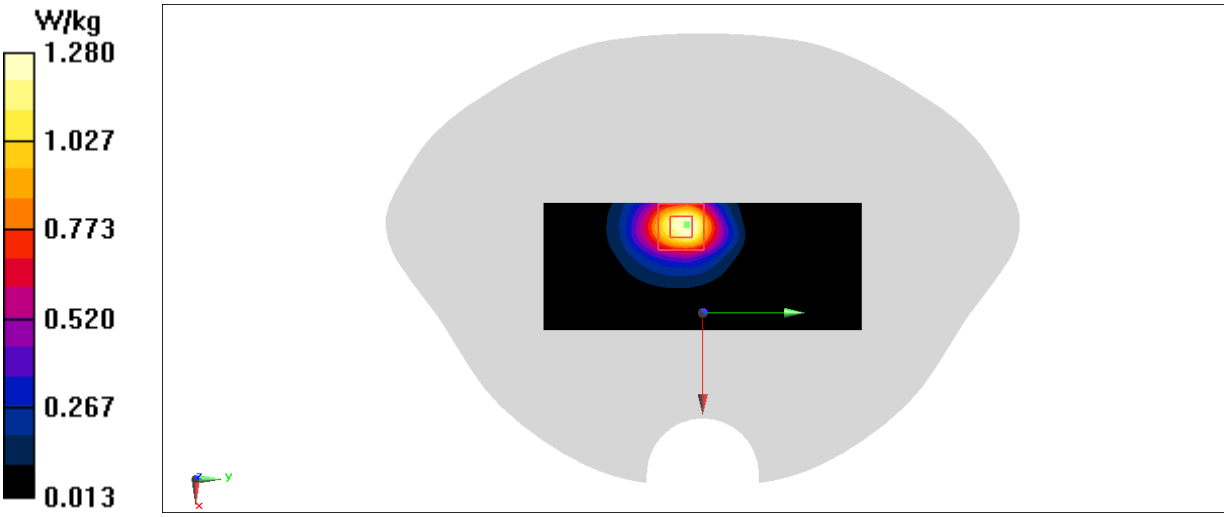


Fig A.17

LTE850-FDD5_CH20600 Left Cheek
Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: head 835 MHz
Medium parameters used: f = 844 MHz; σ = 0.912 S/m; ε_r = 44.472; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.596 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.229 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.629 W/kg
SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.360 W/kg

Maximum value of SAR (measured) = 0.567 W/kg

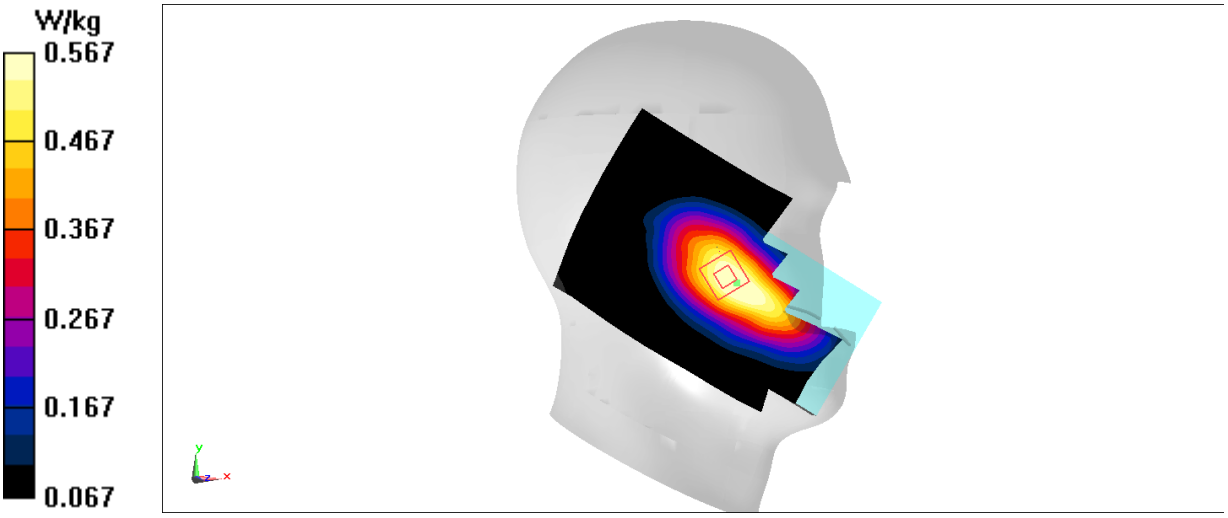


Fig A.18

LTE850-FDD5_CH20600 Rear 10mm
Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: head 835 MHz
Medium parameters used: f = 844 MHz; σ = 0.912 S/m; ε_r = 44.472; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.835 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.42 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.889 W/kg
SAR(1 g) = 0.612 W/kg; SAR(10 g) = 0.436 W/kg
Maximum value of SAR (measured) = 0.782 W/kg

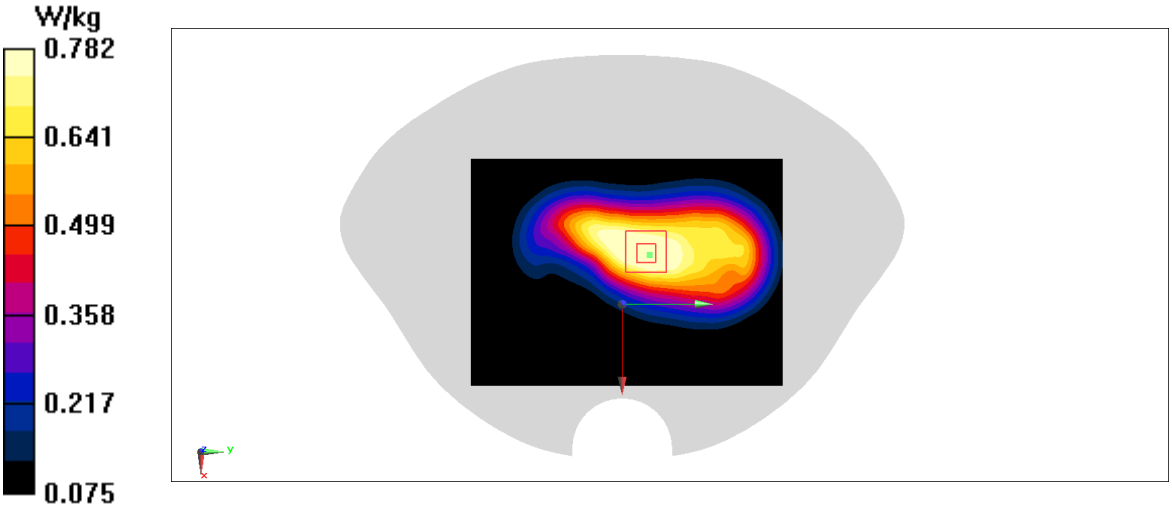


Fig A.19

LTE2500-FDD7_CH21350 Right Cheek
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2560 MHz; σ = 1.928 S/m; ε_r = 40.254; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.11, 7.11, 7.11)

Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.42 W/kg

Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.392 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.06 W/kg
SAR(1 g) = 0.925 W/kg; SAR(10 g) = 0.383 W/kg
Maximum value of SAR (measured) = 1.55 W/kg

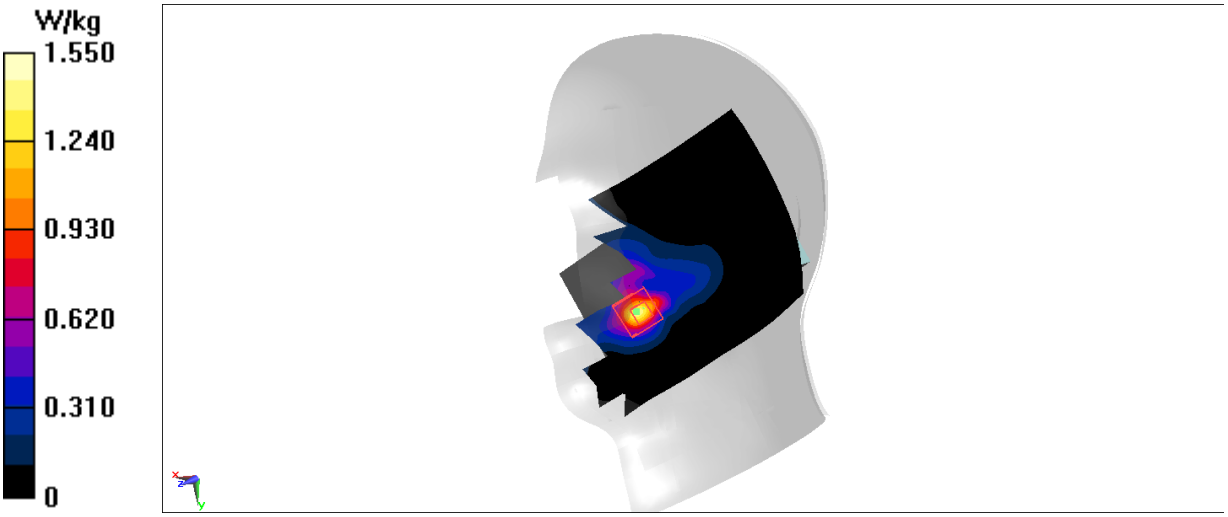


Fig A.20

LTE2500-FDD7_CH21350 Rear 15mm
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2560 MHz; σ = 1.928 S/m; ε_r = 40.254; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.11, 7.11, 7.11)

Area Scan (101x141x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.74 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.67 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.90 W/kg
SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.562 W/kg
Maximum value of SAR (measured) = 1.54 W/kg

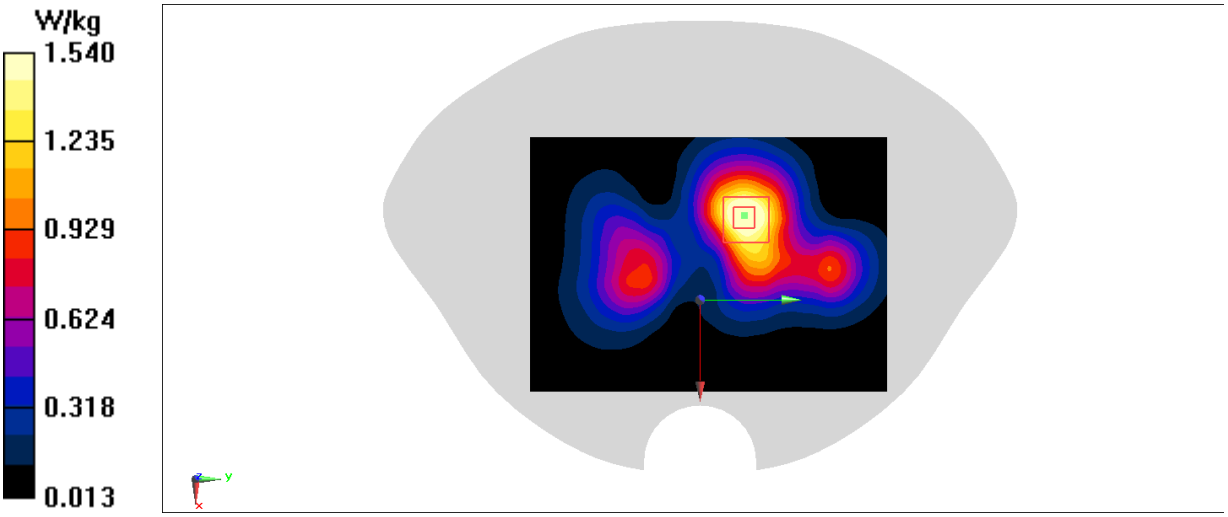


Fig A.21

LTE2500-FDD7_CH21350 Bottom 10mm
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2560 MHz; σ = 1.928 S/m; ε_r = 40.254; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.11, 7.11, 7.11)

Area Scan (51x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.57 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.35 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.84 W/kg
SAR(1 g) = 0.884 W/kg; SAR(10 g) = 0.397 W/kg
Maximum value of SAR (measured) = 1.46 W/kg

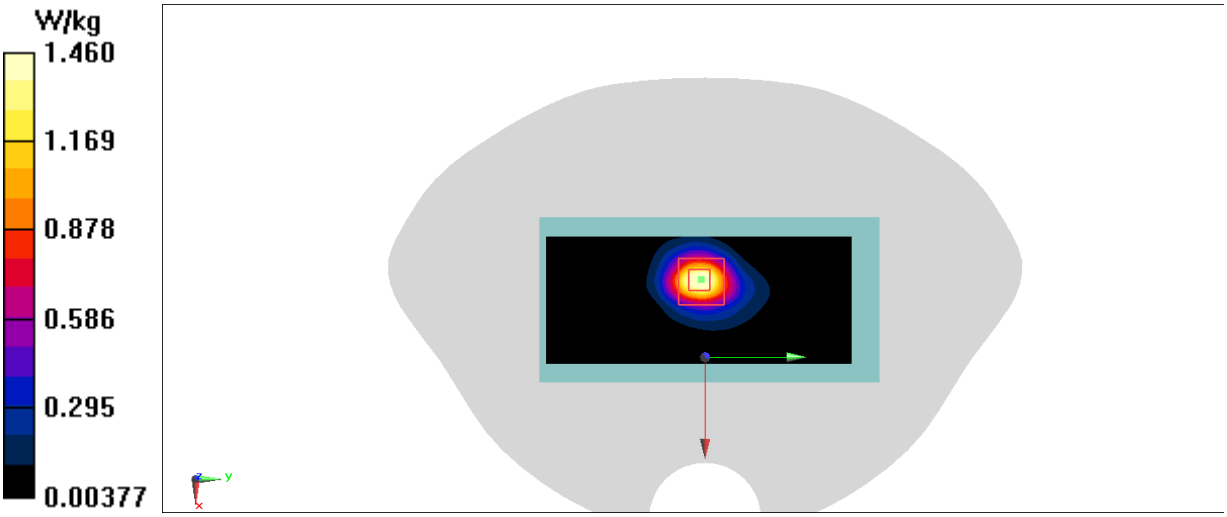


Fig A.22

LTE700-FDD12_CH23095 Left Cheek
Date: 9/15/2021
Electronics: DAE4 Sn1331
Medium: head 750 MHz
Medium parameters used: f = 707.5 MHz; σ = 0.857 S/m; ε_r = 44.965;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.457 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.322 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.596 W/kg
SAR(1 g) = 0.361 W/kg; SAR(10 g) = 0.249 W/kg
Maximum value of SAR (measured) = 0.500 W/kg

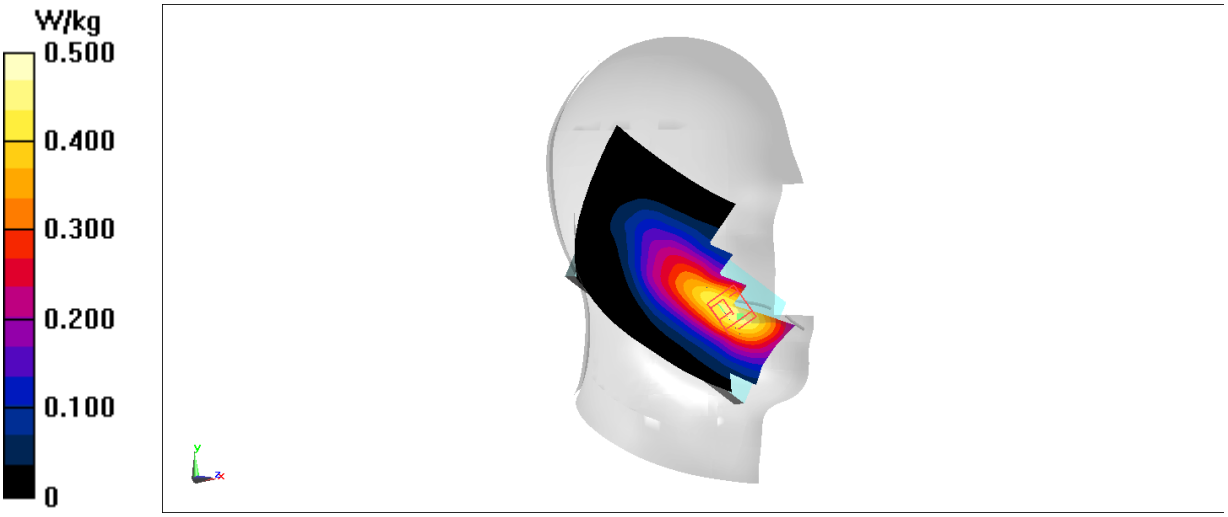


Fig A.23

LTE700-FDD12_CH23095 Rear 10mm
Date: 9/15/2021
Electronics: DAE4 Sn1331
Medium: head 750 MHz
Medium parameters used: f = 707.5 MHz; σ = 0.857 S/m; ε_r = 44.965;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.780 W/kg

Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.22 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.904 W/kg
SAR(1 g) = 0.612 W/kg; SAR(10 g) = 0.448 W/kg
Maximum value of SAR (measured) = 0.798 W/kg

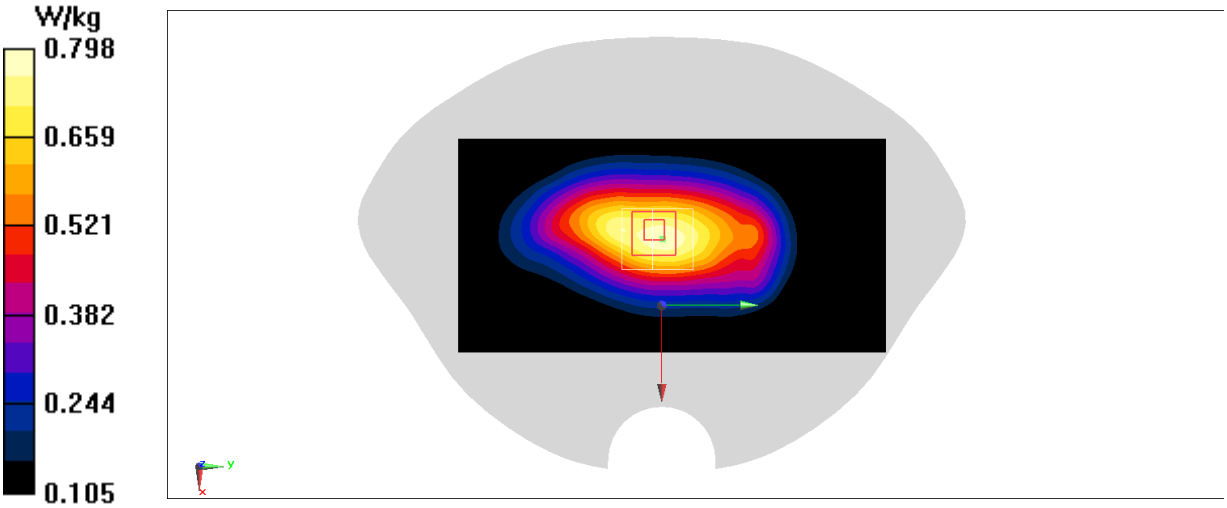


Fig A.24

LTE750-FDD13_CH23230 Left Cheek
Date: 9/15/2021
Electronics: DAE4 Sn1331
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.886 S/m; ε_r = 44.666; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.390 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.690 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.431 W/kg
SAR(1 g) = 0.315 W/kg; SAR(10 g) = 0.238 W/kg
Maximum value of SAR (measured) = 0.383 W/kg

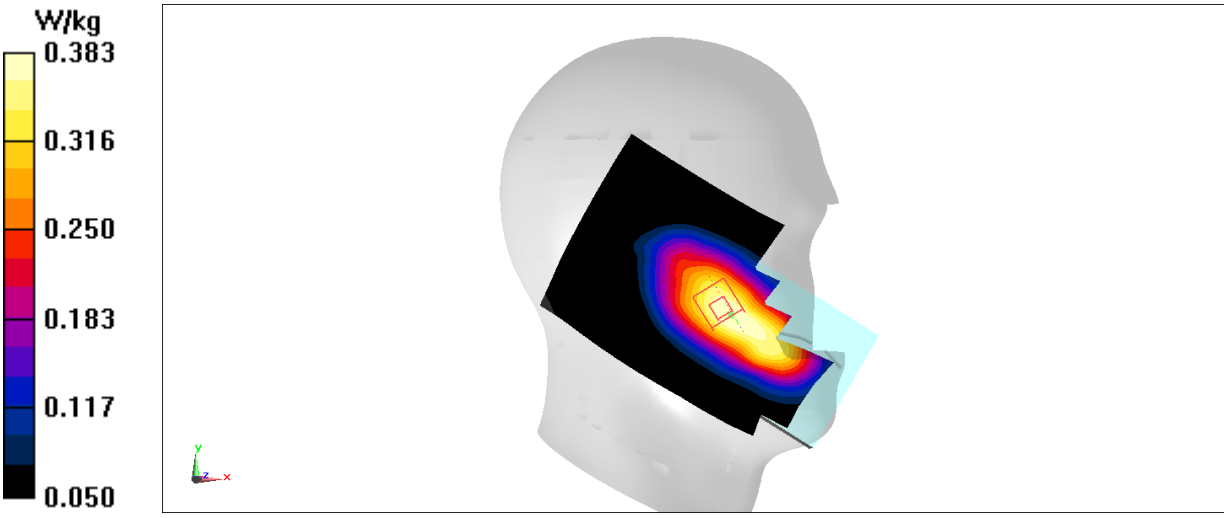


Fig A.25

LTE750-FDD13_CH23230 Rear 10mm
Date: 9/15/2021
Electronics: DAE4 Sn1331
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.886 S/m; ε_r = 44.666; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.794 W/kg

Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.49 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.913 W/kg
SAR(1 g) = 0.594 W/kg; SAR(10 g) = 0.411 W/kg

Maximum value of SAR (measured) = 0.785 W/kg

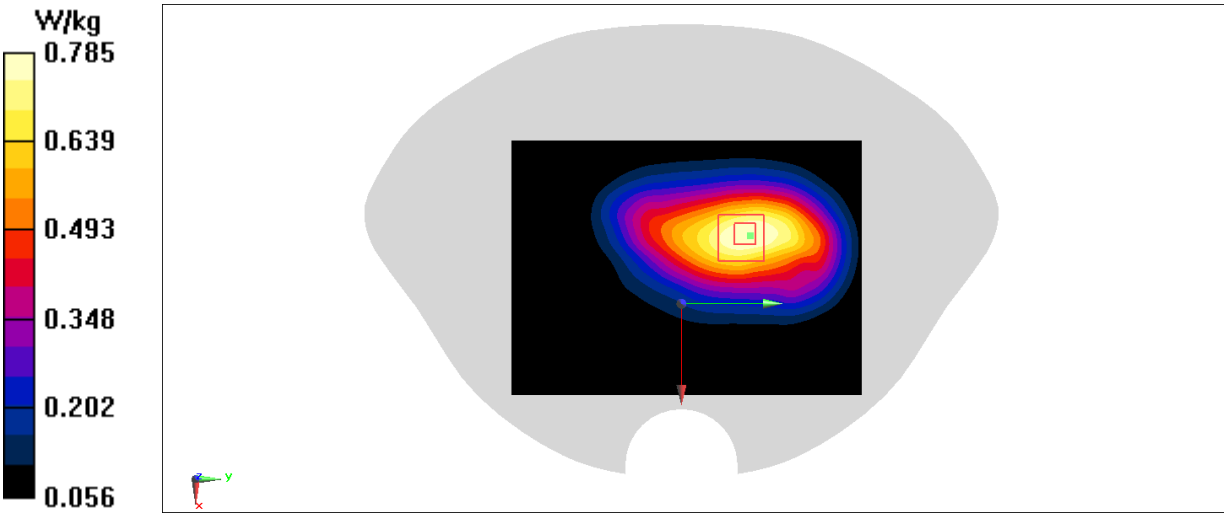


Fig A.26

LTE2500-TDD41 PC3_CH40620 Left Cheek
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 1.954 S/m; ε_r = 40.178;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-TDD41 2593 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 – SN7548 ConvF(7.11,7.11, 7.11)

Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.775 W/kg

Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.049 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.208 W/kg
Maximum value of SAR (measured) = 0.915 W/kg

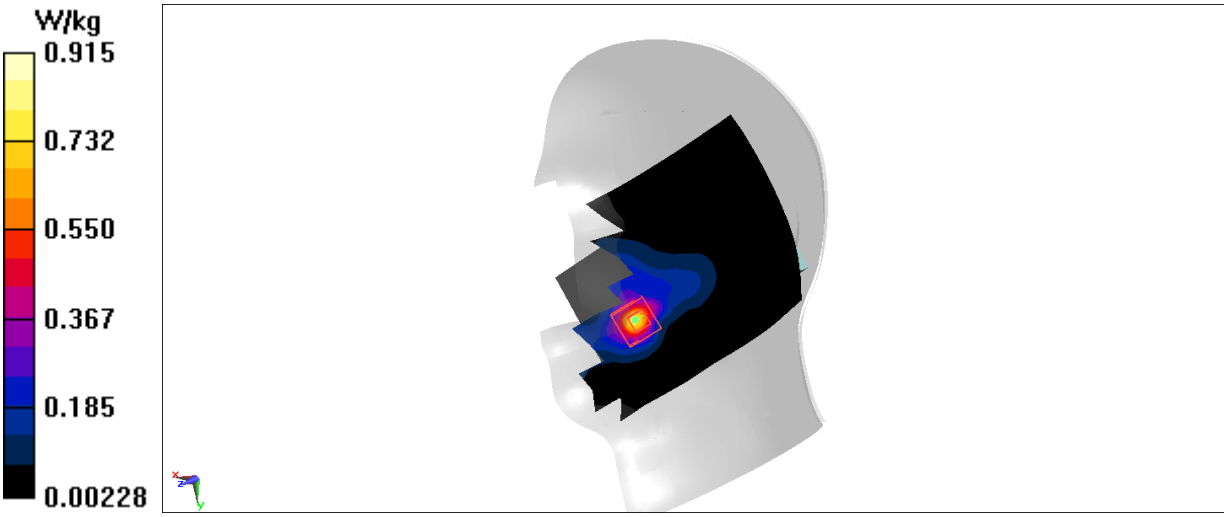


Fig A.27

LTE2500-TDD41 PC3_CH40620 Rear 15mm
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 1.954 S/m; ε_r = 40.178;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-TDD41 2593 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 – SN7548 ConvF(7.11,7.11, 7.11)

Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.793 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.36 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.992 W/kg
SAR(1 g) = 0.524 W/kg; SAR(10 g) = 0.284 W/kg

Maximum value of SAR (measured) = 0.814 W/kg

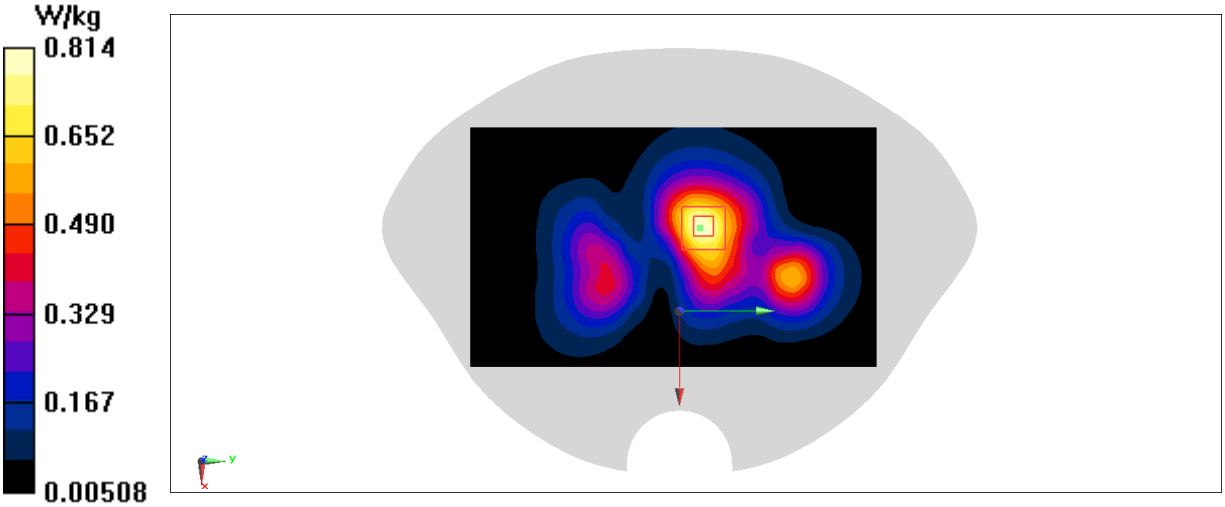


Fig A.28

LTE2500-TDD41 PC3_CH41055 Bottom 10mm
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2636.5 MHz; σ = 2.01 S/m; ε_r = 39.994;ρ = 1000 kg/m^3
Ambient Temperature: 22.9°C, Liquid Temperature: 22.5°C
Communication System: LTE2500-TDD41 2636.5 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 – SN7548 ConvF(7.11,7.11, 7.11)

Area Scan (91x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.60 W/kg

Zoom Scan (7x7x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.85 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 2.12 W/kg
SAR(1 g) = 0.964 W/kg; SAR(10 g) = 0.425 W/kg

Maximum value of SAR (measured) = 1.67 W/kg

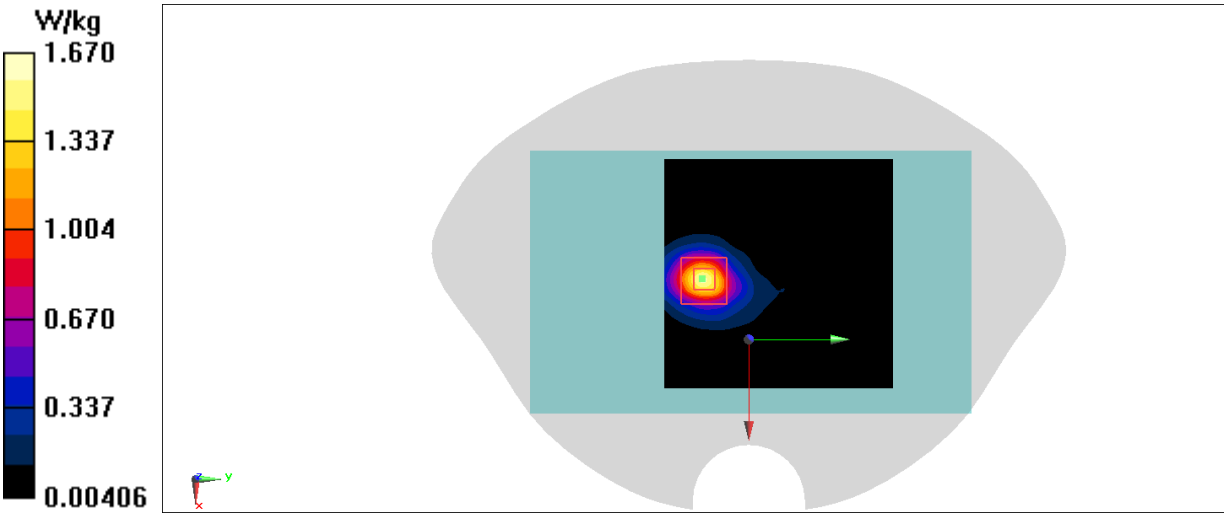


Fig A.29

LTE2500-TDD41 PC2_CH40620 Left Cheek
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 1.957 S/m; ε_r = 41.721; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-TDD41 2593 MHz Duty Cycle: 1: 2.37
Probe: EX3DV4 – SN7548 ConvF(7.11,7.11,7.11)

Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.921 W/kg

Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.507 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.572 W/kg; SAR(10 g) = 0.283 W/kg

Maximum value of SAR (measured) = 0.857 W/kg

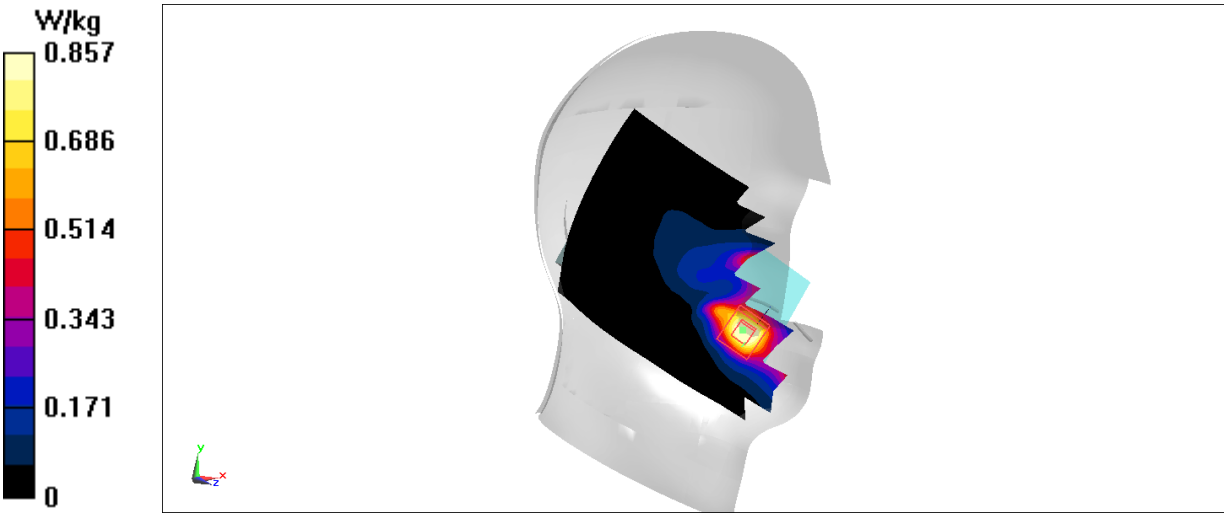


Fig A.30

LTE2500-TDD41 PC2_CH40620 Rear 15mm
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 1.957 S/m; ε_r = 41.721; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-TDD41 2593 MHz Duty Cycle: 1: 2.37
Probe: EX3DV4 – SN7548 ConvF(7.11,7.11,7.11)

Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 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 = 11.03 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.872 W/kg
SAR(1 g) = 0.466 W/kg; SAR(10 g) = 0.261 W/kg
Maximum value of SAR (measured) = 0.715 W/kg

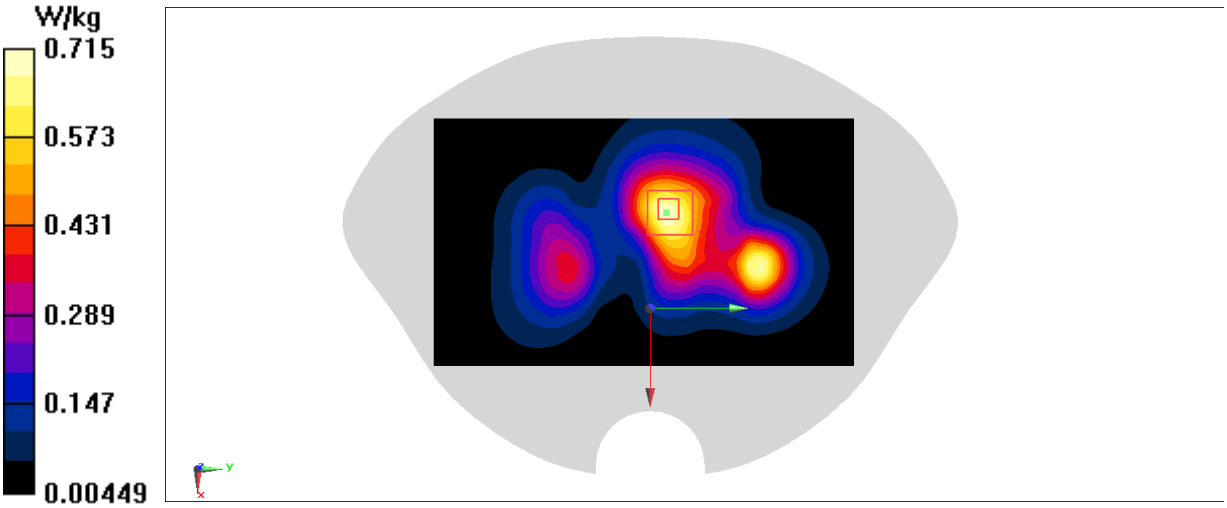


Fig A.31

LTE2500-TDD41 PC2_CH40620 Bottom 10mm
Date: 9/20/2021
Electronics: DAE4 Sn1331
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 1.957 S/m; ε_r = 41.721; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-TDD41 2593 MHz Duty Cycle: 1:2.37
Probe: EX3DV4 – SN7548 ConvF(7.11,7.11,7.11)

Area Scan (51x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.974 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.09 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.532 W/kg; SAR(10 g) = 0.239 W/kg
Maximum value of SAR (measured) = 0.901 W/kg

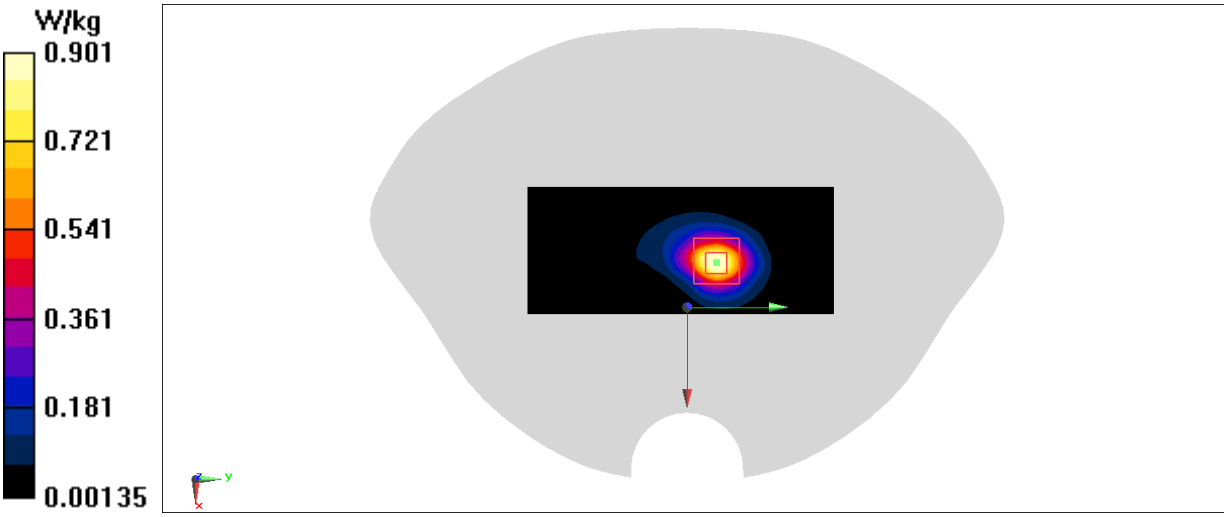


Fig A.32

LTE1700-FDD66_CH132072 Right Cheek
Date: 9/17/2021
Electronics: DAE4 Sn1331
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 1.349 S/m; ε_r = 42.196; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(8.14,8.14,8.14)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.622 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.9440 V/m; Power Drift = 5.26 dB
Peak SAR (extrapolated) = 0.643 W/kg
SAR(1 g) = 0.386 W/kg; SAR(10 g) = 0.232 W/kg
Maximum value of SAR (measured) = 0.550 W/kg

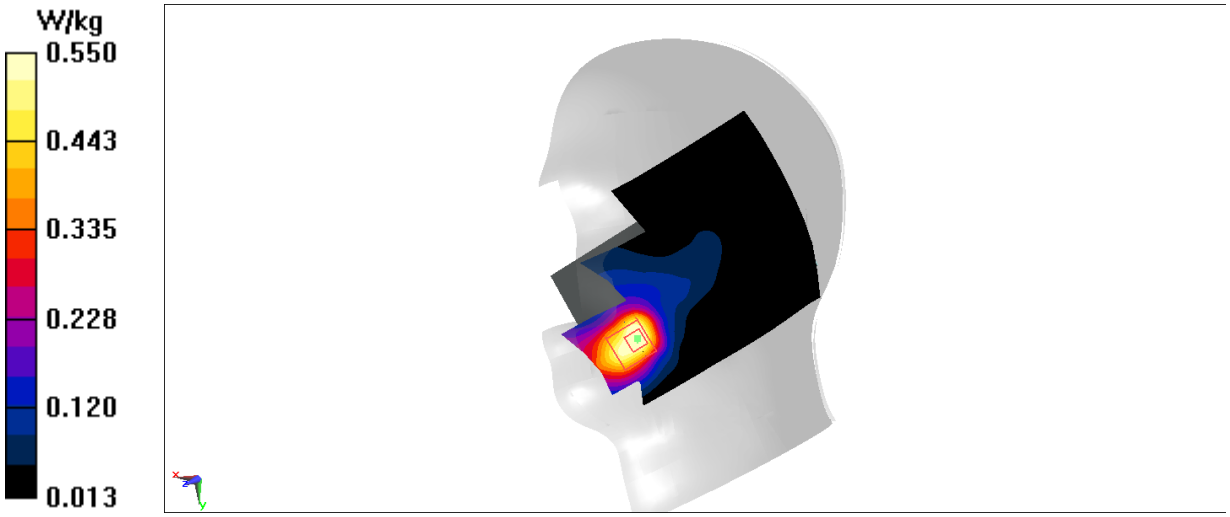


Fig A.33

LTE1700-FDD66_CH132322 Rear 15mm
Date: 9/17/2021
Electronics: DAE4 Sn1331
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 1.349 S/m; ε_r = 42.196; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(8.14,8.14,8.14)

Area Scan (81x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.43 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.28 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.985 W/kg; SAR(10 g) = 0.609 W/kg
Maximum value of SAR (measured) = 1.33 W/kg

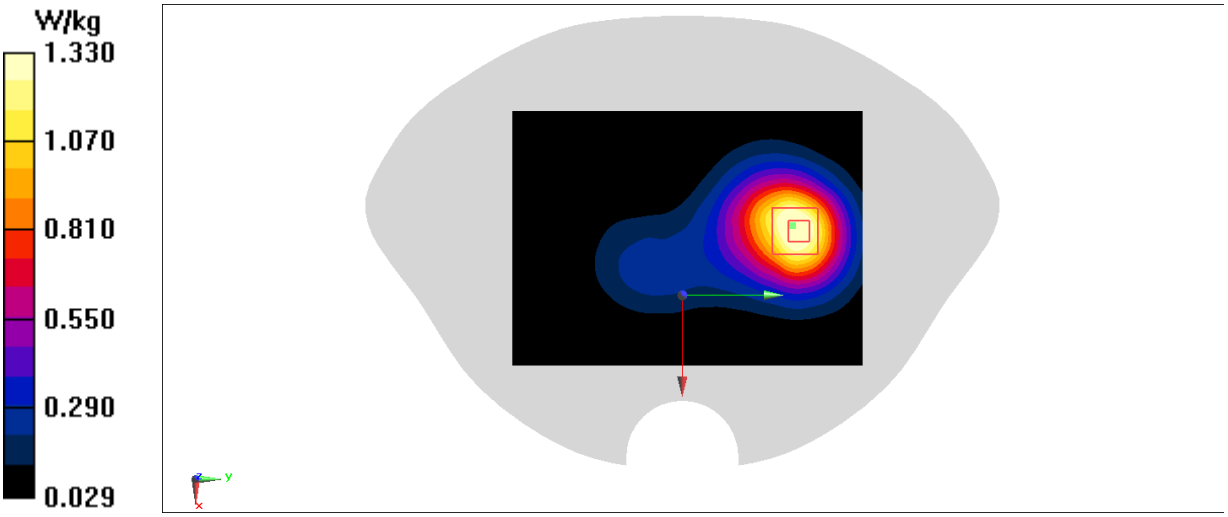


Fig A.34

LTE1700-FDD66_CH132322 Bottom 10mm
Date: 9/17/2021
Electronics: DAE4 Sn1331
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 1.349 S/m; ε_r = 42.196; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(8.14,8.14,8.14)

Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.46 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.324 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 0.882 W/kg; SAR(10 g) = 0.477 W/kg
Maximum value of SAR (measured) = 1.32 W/kg

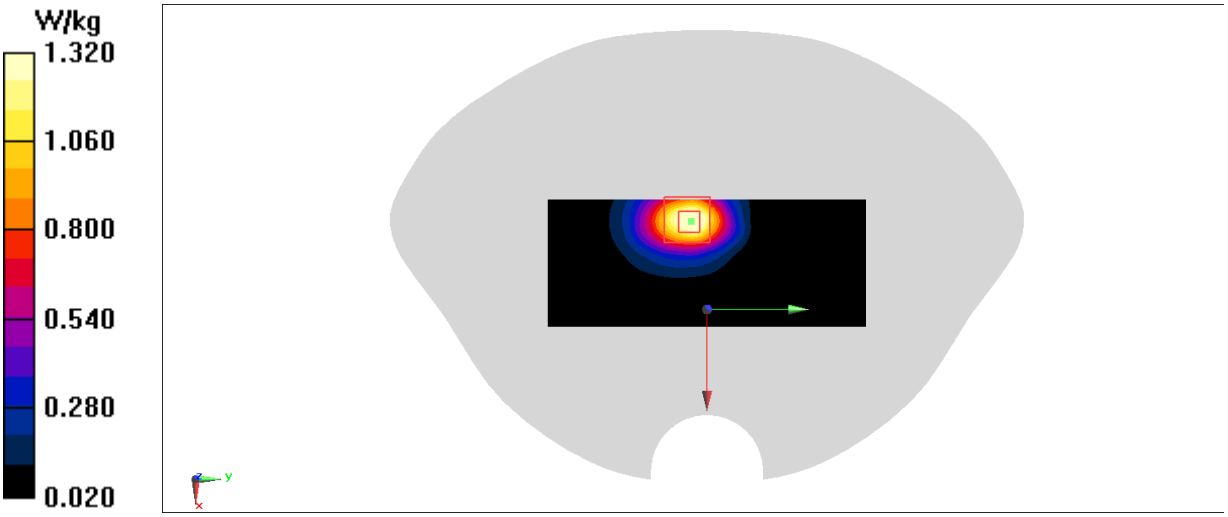


Fig A.35

LTE700-FDD71_CH133222 Left Cheek
Date: 9/15/2021
Electronics: DAE4 Sn1331
Medium: head 750 MHz
Medium parameters used: f = 673 MHz; σ = 0.843 S/m; ε_r = 45.106; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD71 673 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (81x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.512 W/kg

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.586 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.733 W/kg
SAR(1 g) = 0.387 W/kg; SAR(10 g) = 0.246 W/kg
Maximum value of SAR (measured) = 0.582 W/kg

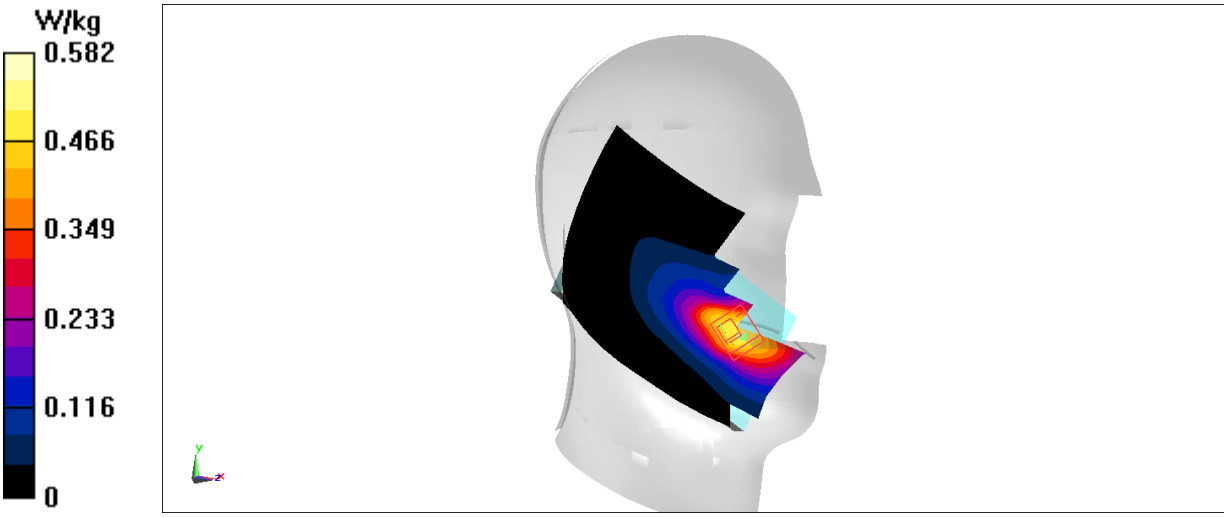


Fig A.36

LTE700-FDD71_CH133222 Rear unfold 10mm
Date: 9/15/2021
Electronics: DAE4 Sn1331
Medium: head 750 MHz
Medium parameters used: f = 673 MHz; σ = 0.843 S/m; ε_r = 45.106; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD71 673 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.577 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.90 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.707 W/kg
SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.344 W/kg
Maximum value of SAR (measured) = 0.610 W/kg

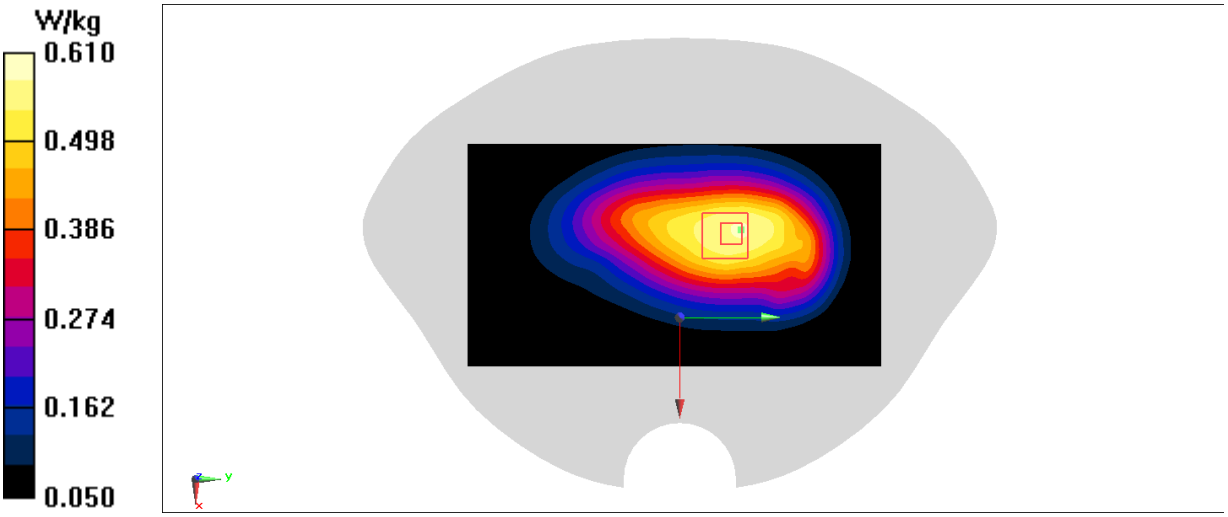


Fig A.37

WLAN2450_CH6 Left Cheek
Date: 9/19/2021
Electronics: DAE4 Sn1331
Medium: head 2450 MHz
Medium parameters used: f = 2437 MHz; σ = 1.818 S/m; ε_r = 40.512;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WLAN2450 2437 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.35,7.35,7.35)

Area Scan (101x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.813 W/kg

Zoom Scan (7x7x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.481 W/kg; SAR(10 g) = 0.208 W/kg
Maximum value of SAR (measured) = 0.777 W/kg

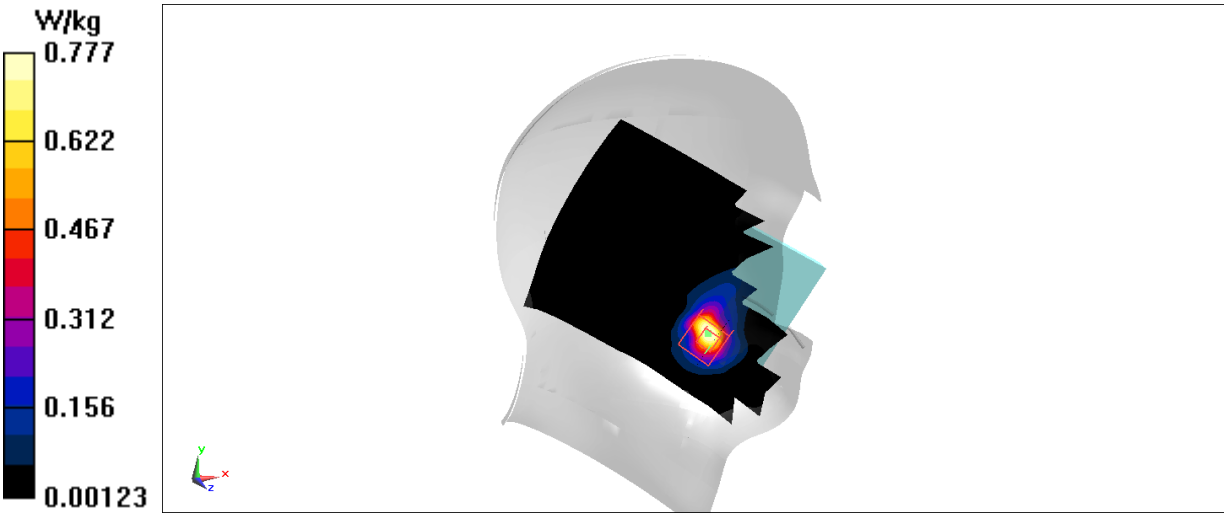


Fig A.38

WLAN2450_CH6 Rear 10mm
Date: 9/19/2021
Electronics: DAE4 Sn1331
Medium: head 2450 MHz
Medium parameters used: f = 2437 MHz; σ = 1.818 S/m; ε_r = 40.512;ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WLAN2450 2437 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.35,7.35,7.35)

Area Scan (91x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.04 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.080 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.562 W/kg; SAR(10 g) = 0.250 W/kg
Maximum value of SAR (measured) = 0.953 W/kg

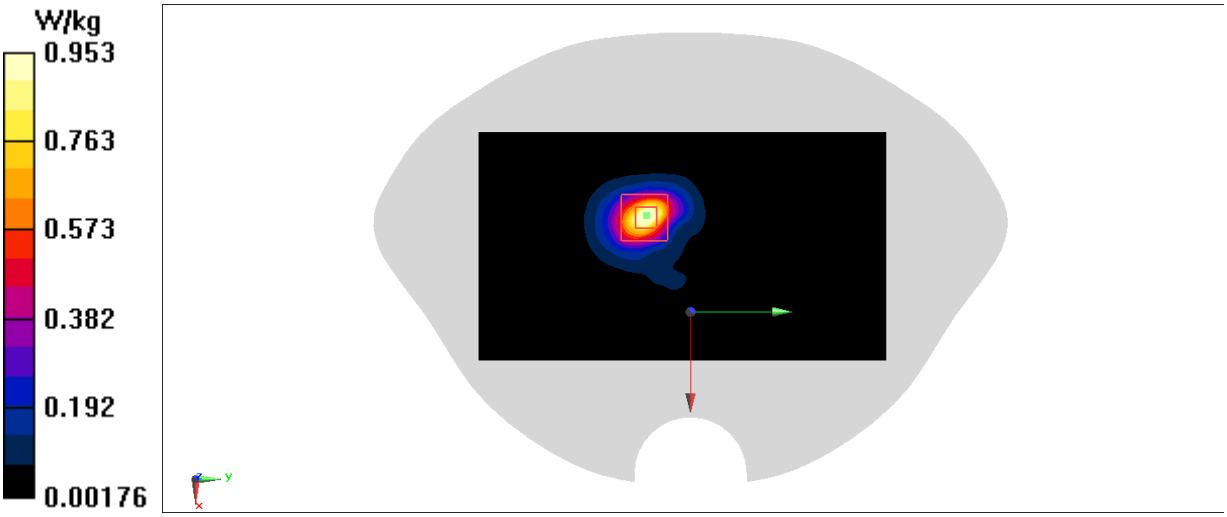
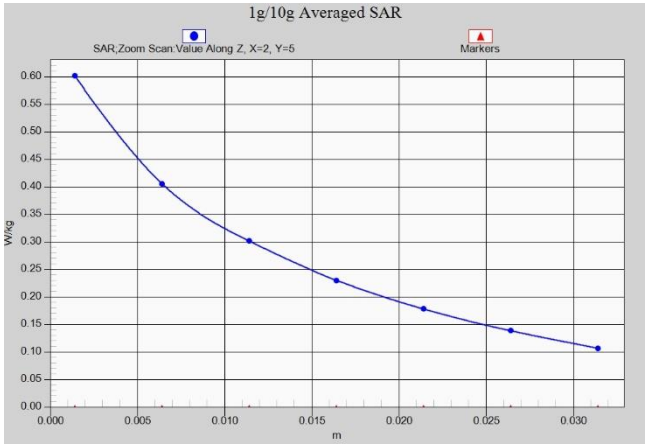
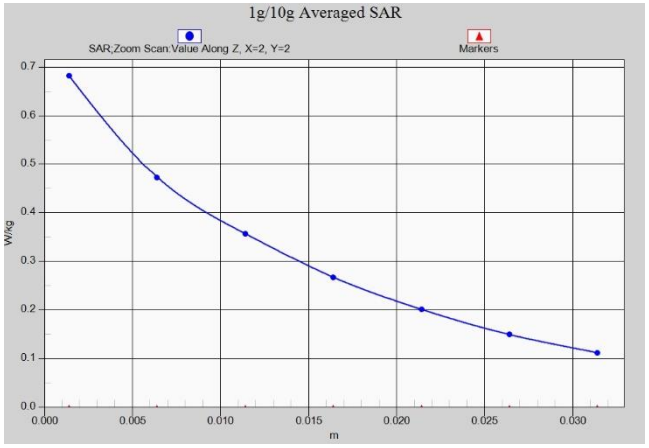


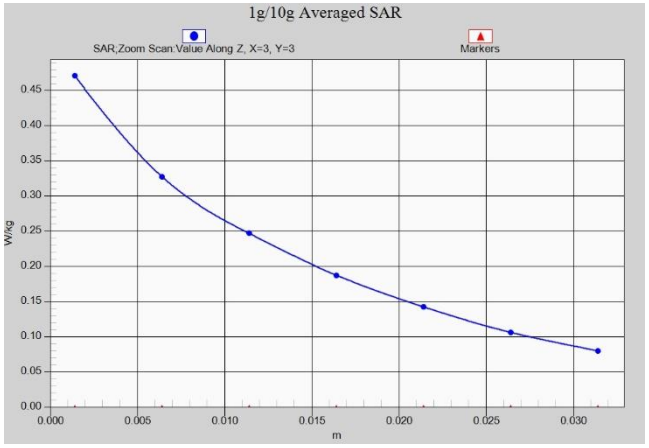
Fig A.39



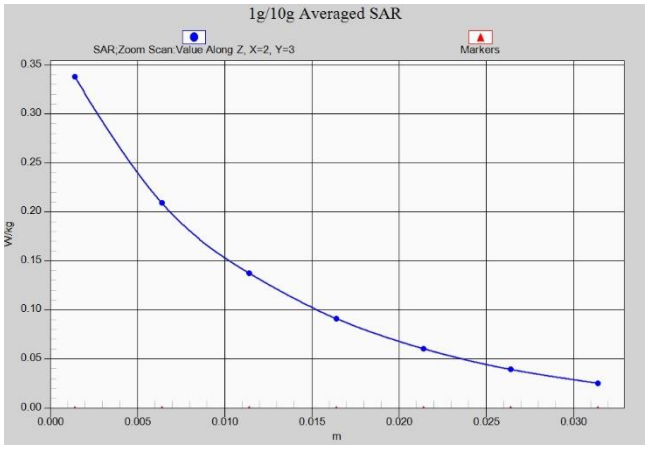
Z-Scan at power reference point (GSM850)



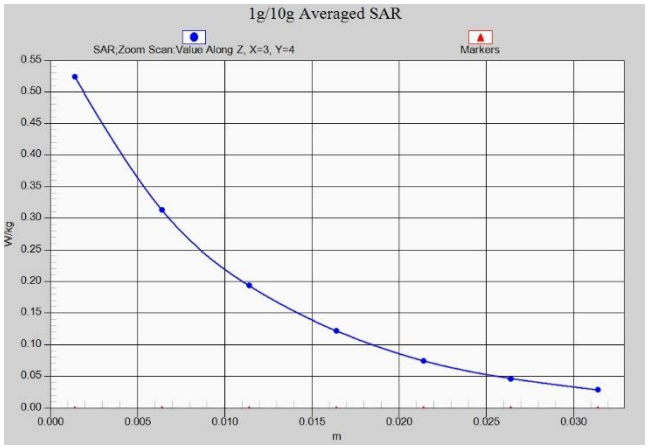
Z-Scan at power reference point (GSM850)



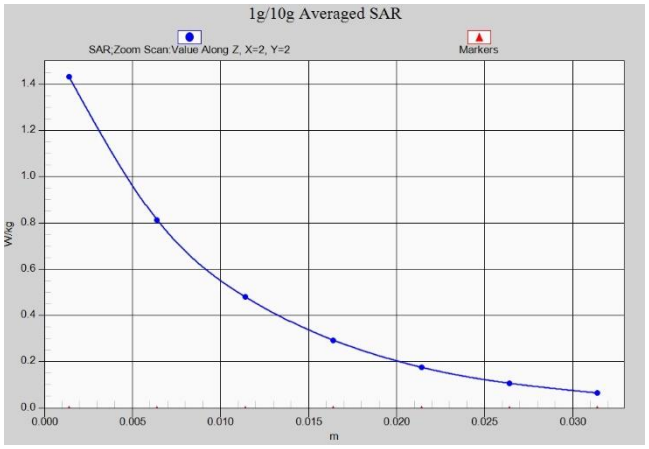
Z-Scan at power reference point (GSM850)



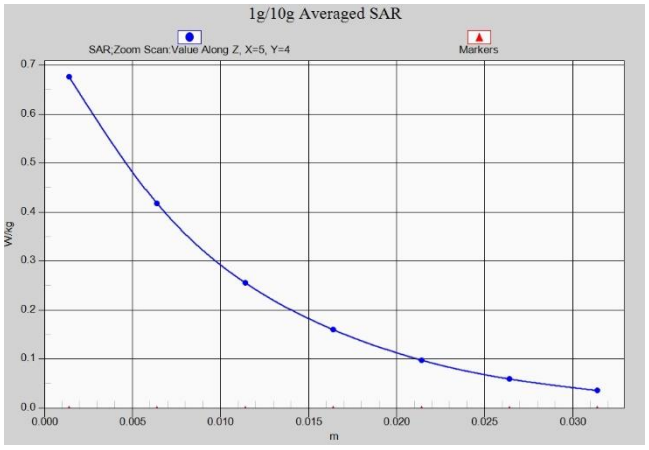
Z-Scan at power reference point (GSM1900)



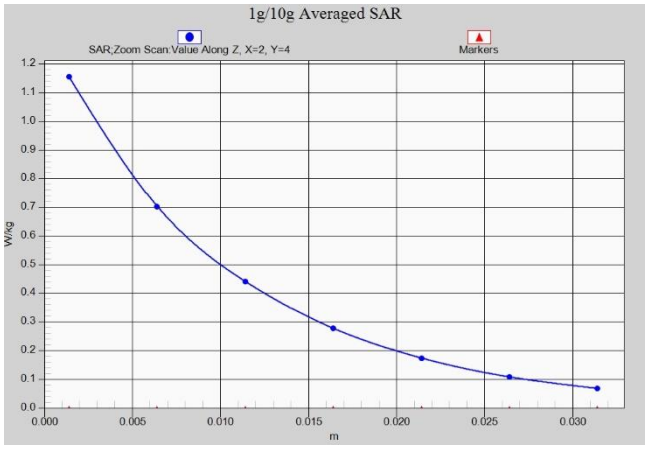
Z-Scan at power reference point (GSM1900)



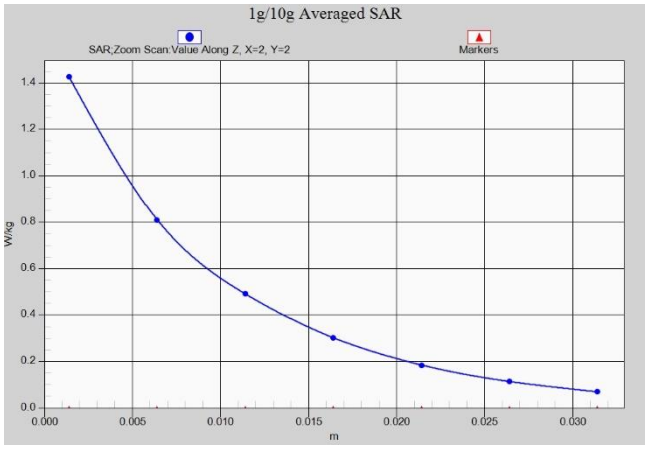
Z-Scan at power reference point (GSM1900)



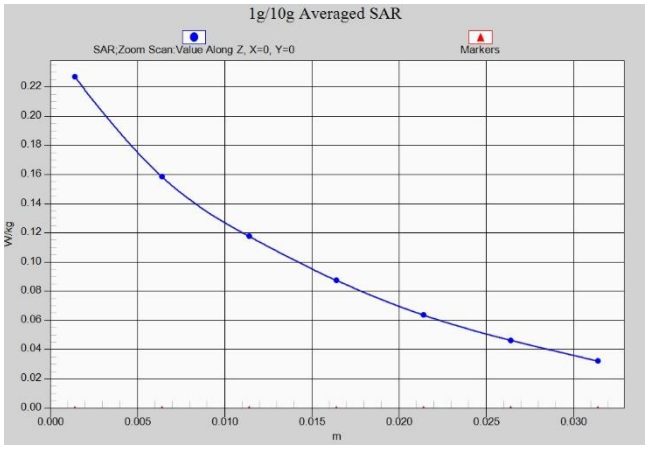
Z-Scan at power reference point (WCDMA1900)



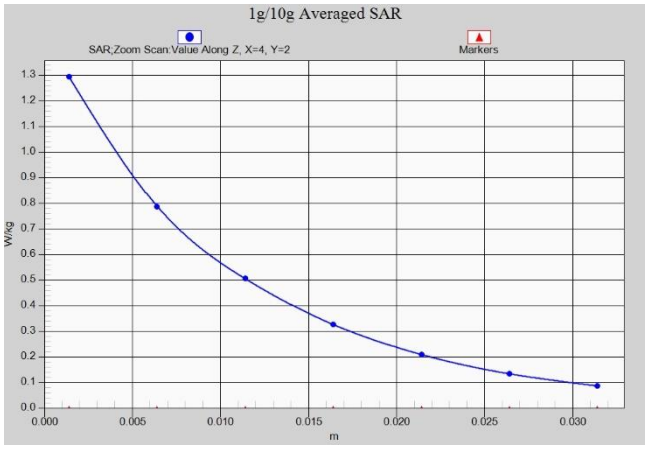
Z-Scan at power reference point (WCDMA1900)



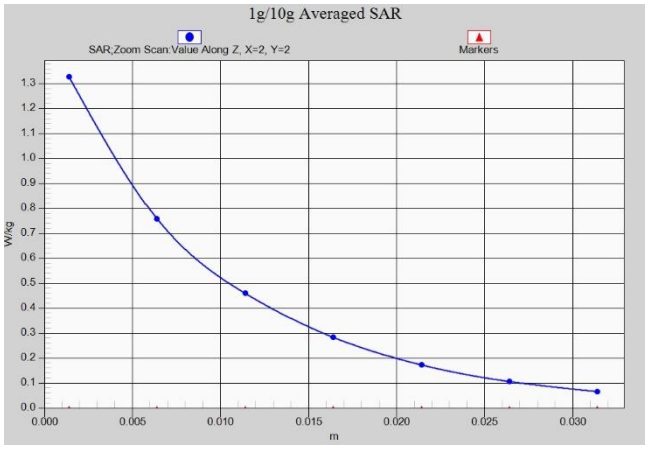
Z-Scan at power reference point (WCDMA1900)



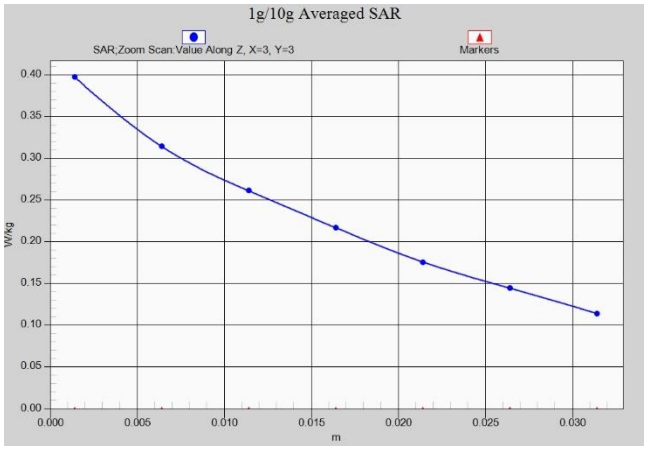
Z-Scan at power reference point (WCDMA1700)



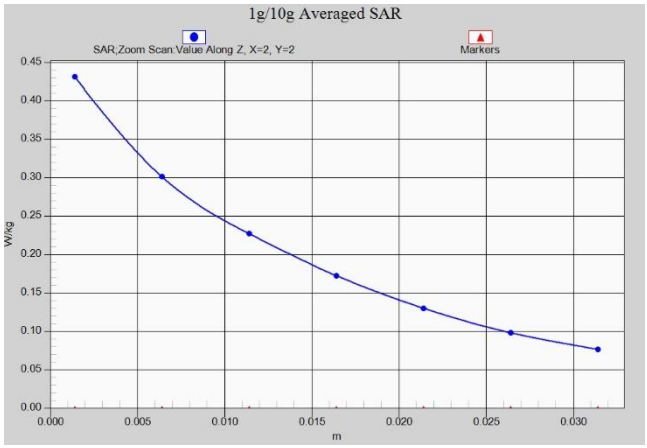
Z-Scan at power reference point (WCDMA1700)



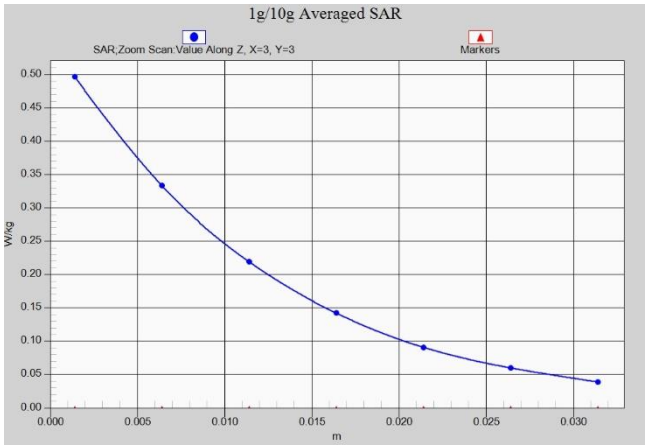
Z-Scan at power reference point (WCDMA1700)



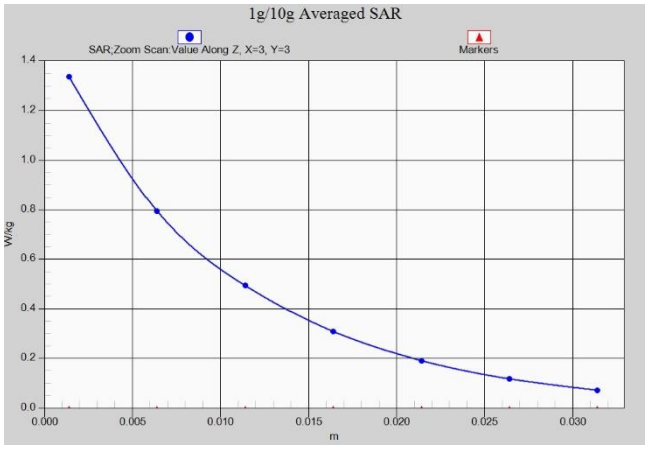
Z-Scan at power reference point (WCDMA850)



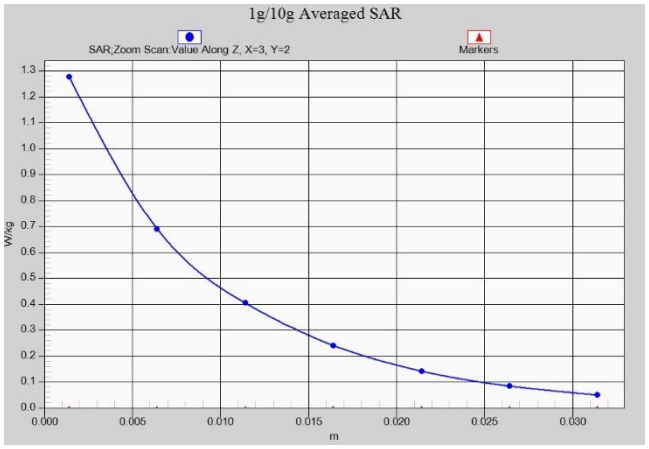
Z-Scan at power reference point (WCDMA850)



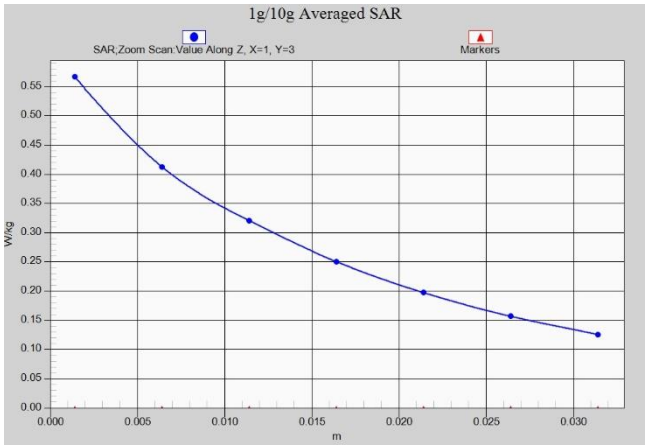
Z-Scan at power reference point (LTEB2)



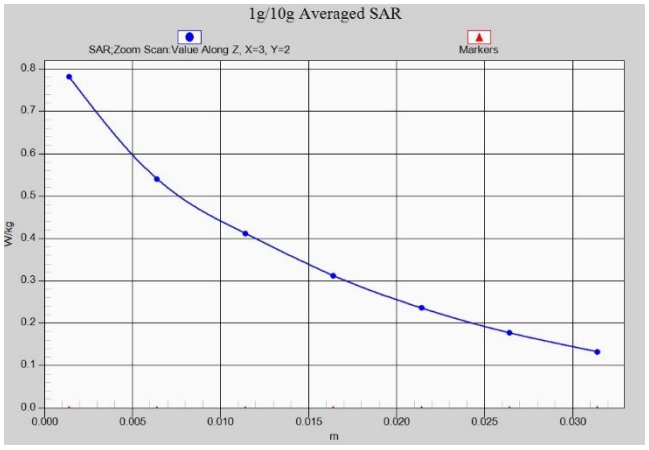
Z-Scan at power reference point (LTEB2)



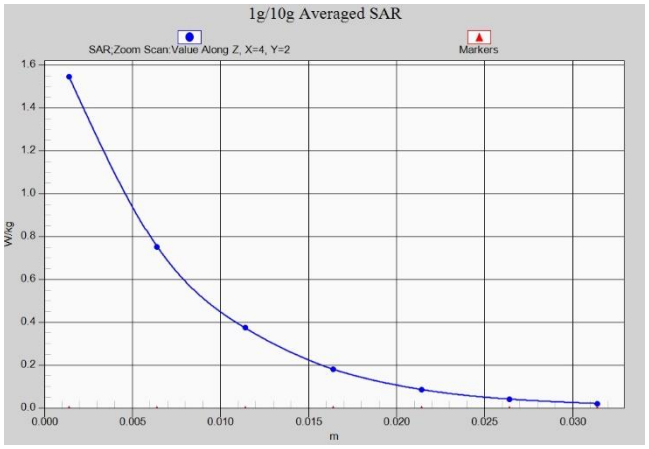
Z-Scan at power reference point (LTEB2)



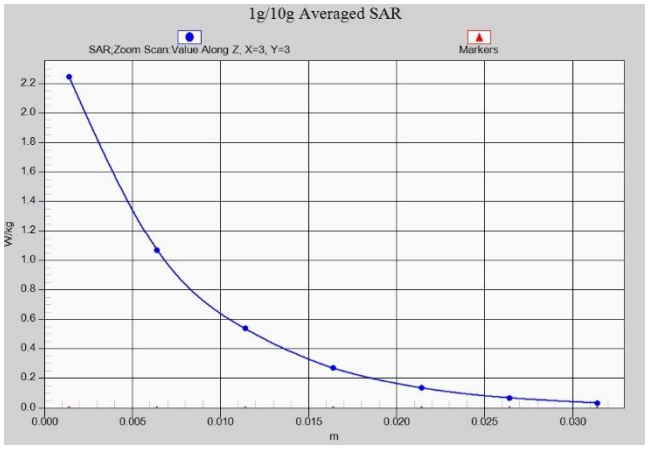
Z-Scan at power reference point (LTEB5)



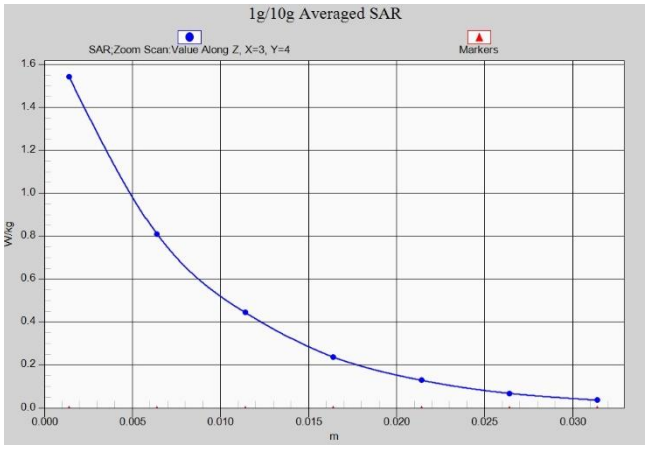
Z-Scan at power reference point (LTEB5)



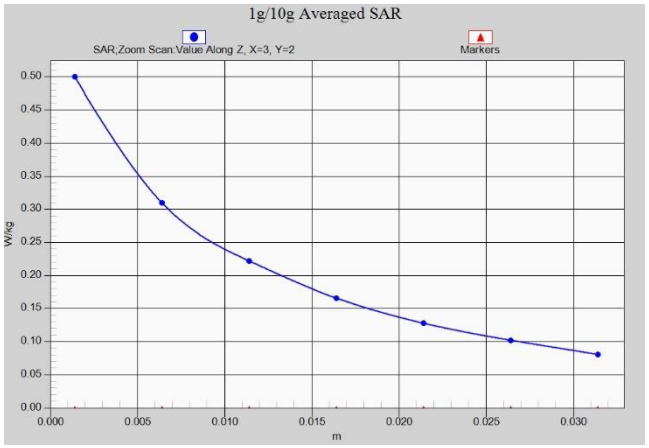
Z-Scan at power reference point (LTEB7)



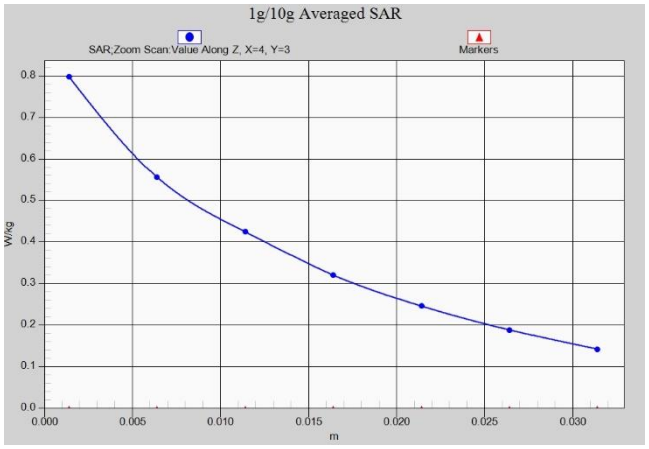
Z-Scan at power reference point (LTEB7)



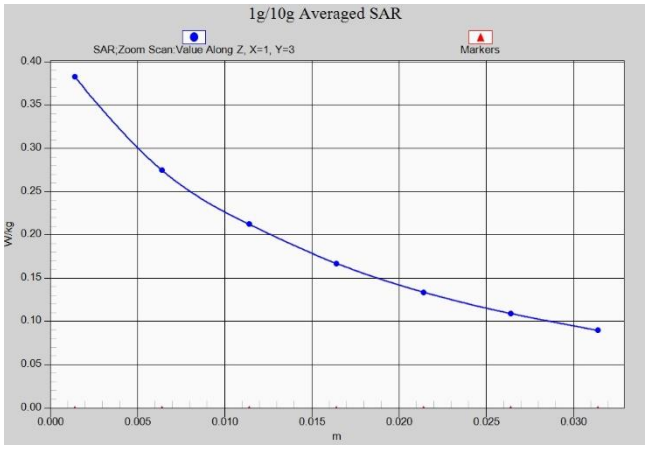
Z-Scan at power reference point (LTEB7)



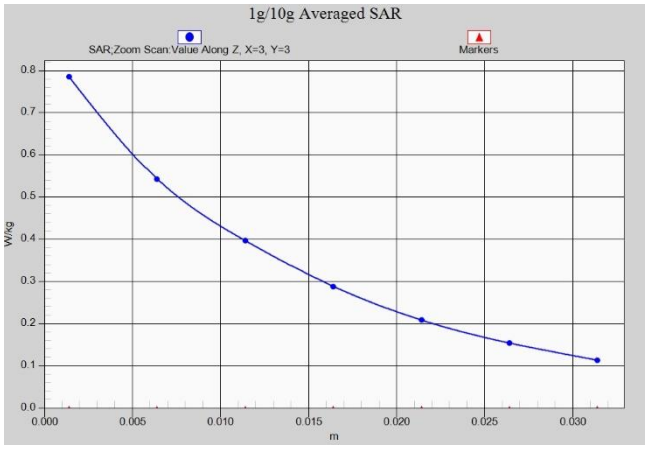
Z-Scan at power reference point (LTEB12)



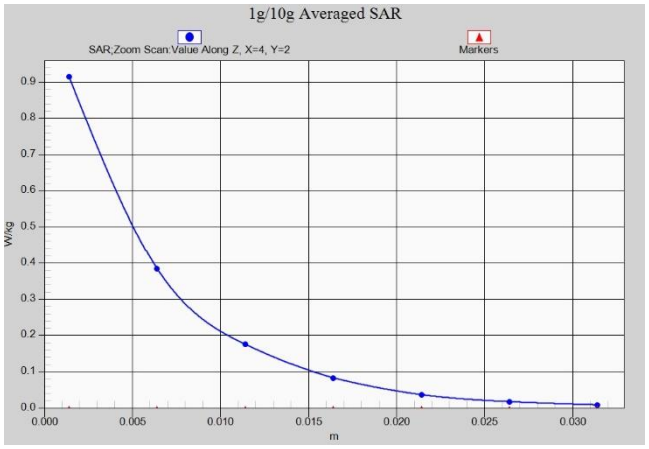
Z-Scan at power reference point (LTEB12)



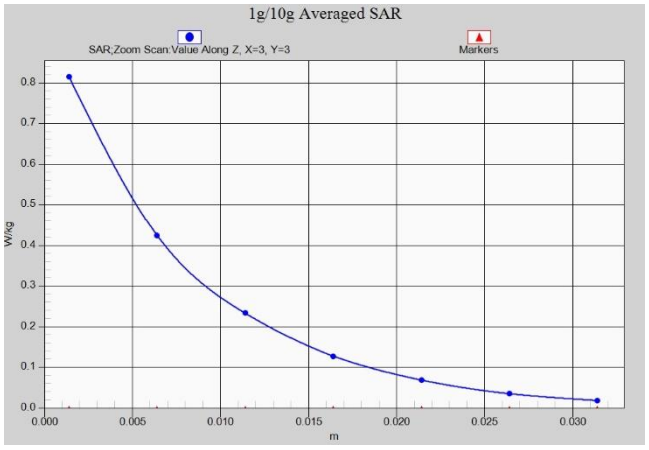
Z-Scan at power reference point (LTEB13)



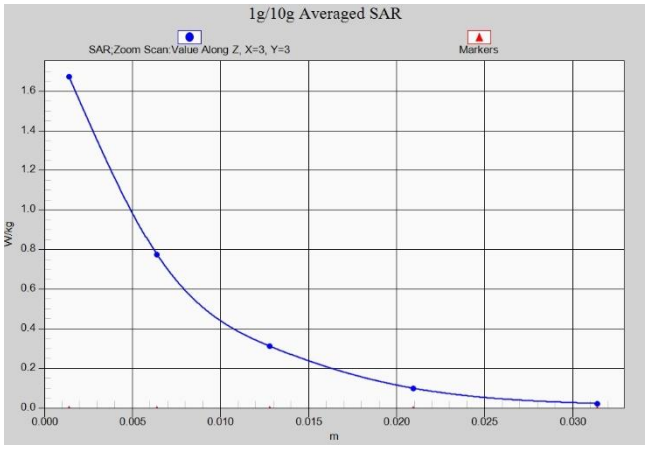
Z-Scan at power reference point (LTEB13)



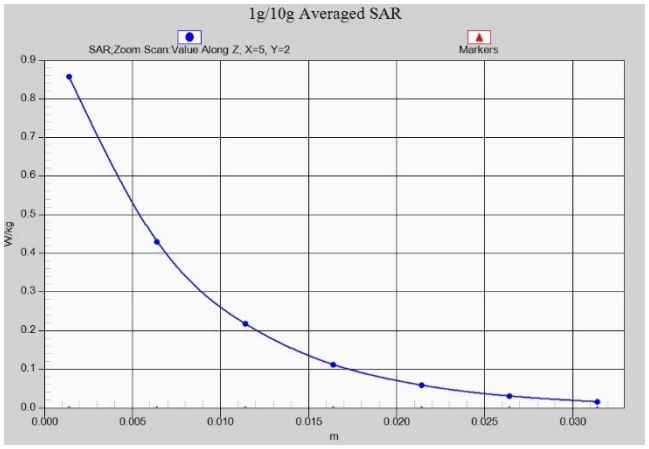
Z-Scan at power reference point (LTEB41 PC3)



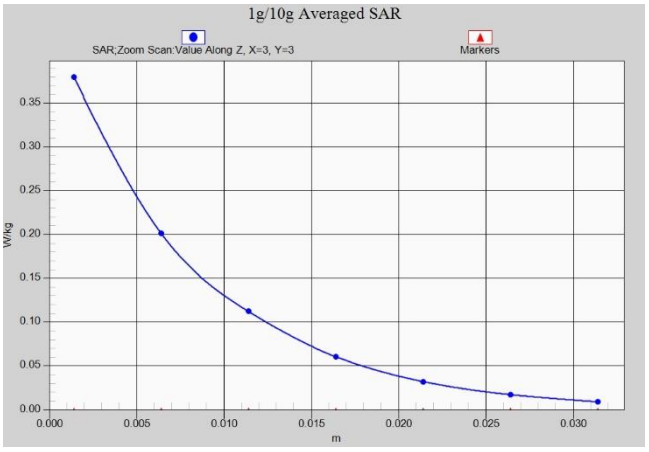
Z-Scan at power reference point (LTEB41 PC3)



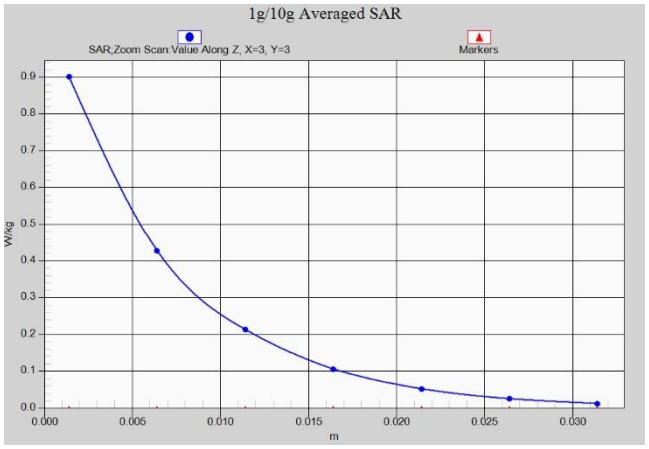
Z-Scan at power reference point (LTEB41 PC3)



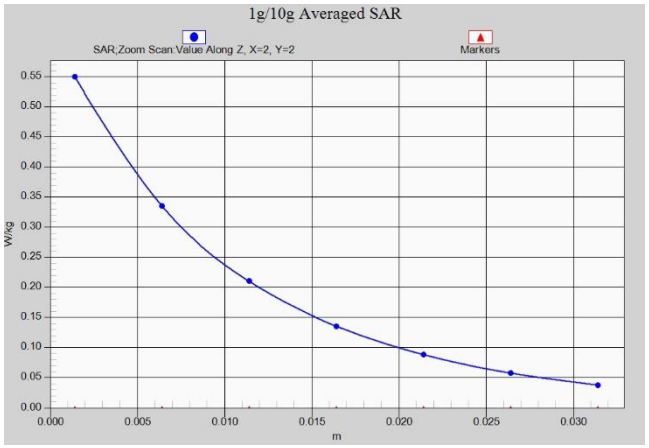
Z-Scan at power reference point (LTEB41 PC2)



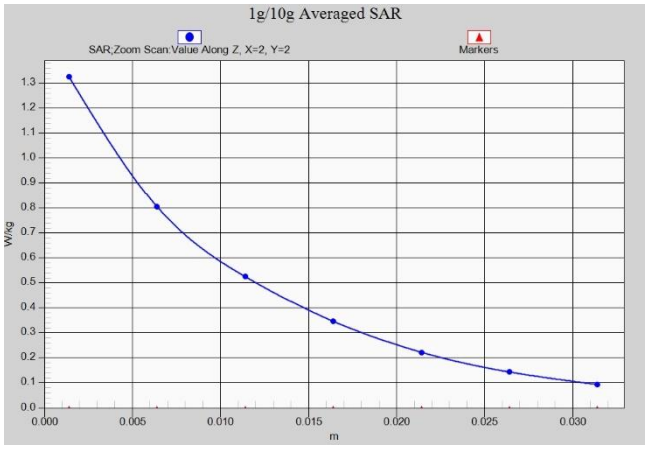
Z-Scan at power reference point (LTEB41 PC2)



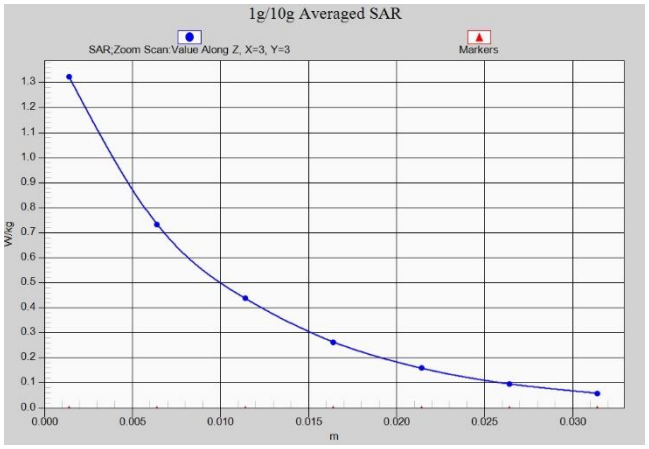
Z-Scan at power reference point (LTEB41 PC2)



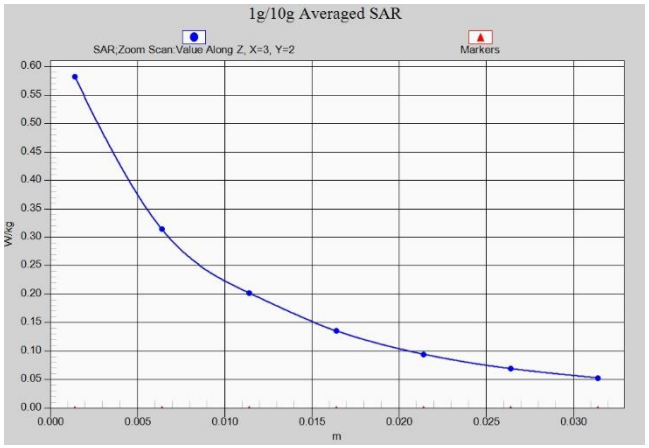
Z-Scan at power reference point (LTEB66)



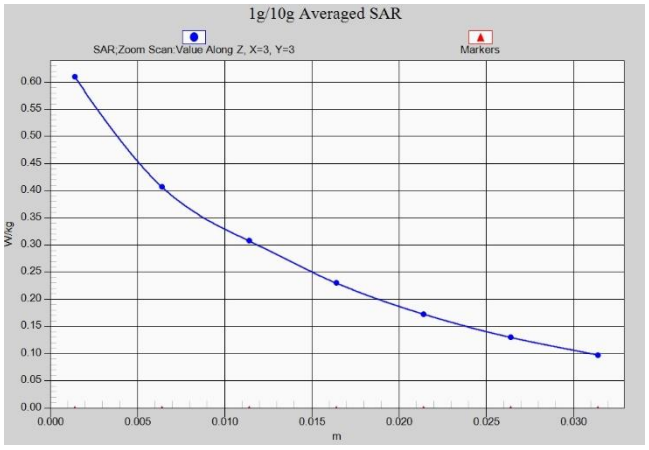
Z-Scan at power reference point (LTEB66)



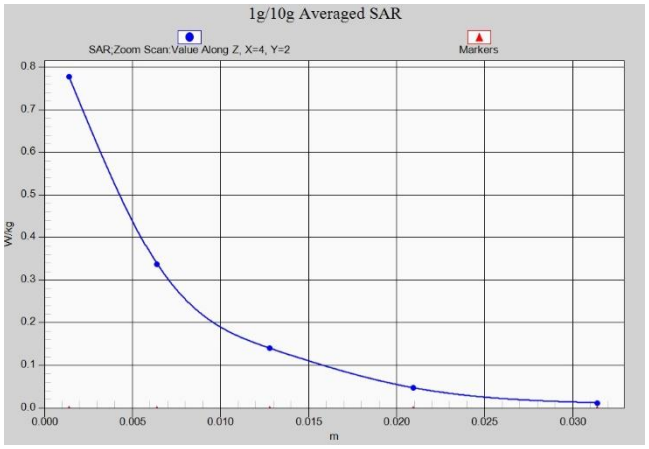
Z-Scan at power reference point (LTEB66)



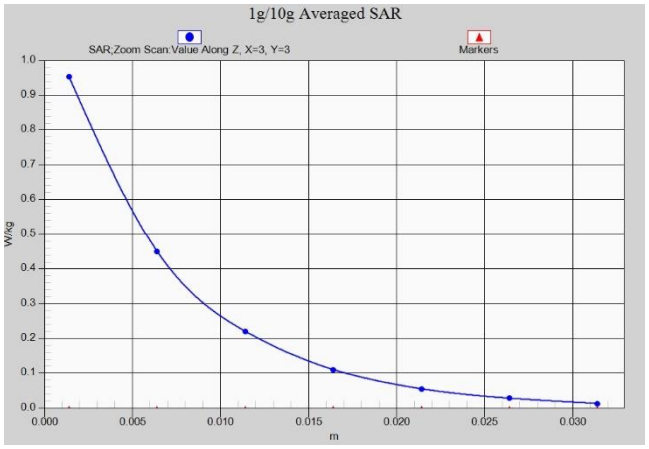
Z-Scan at power reference point (LTEB71)



Z-Scan at power reference point (LTEB71)



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



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

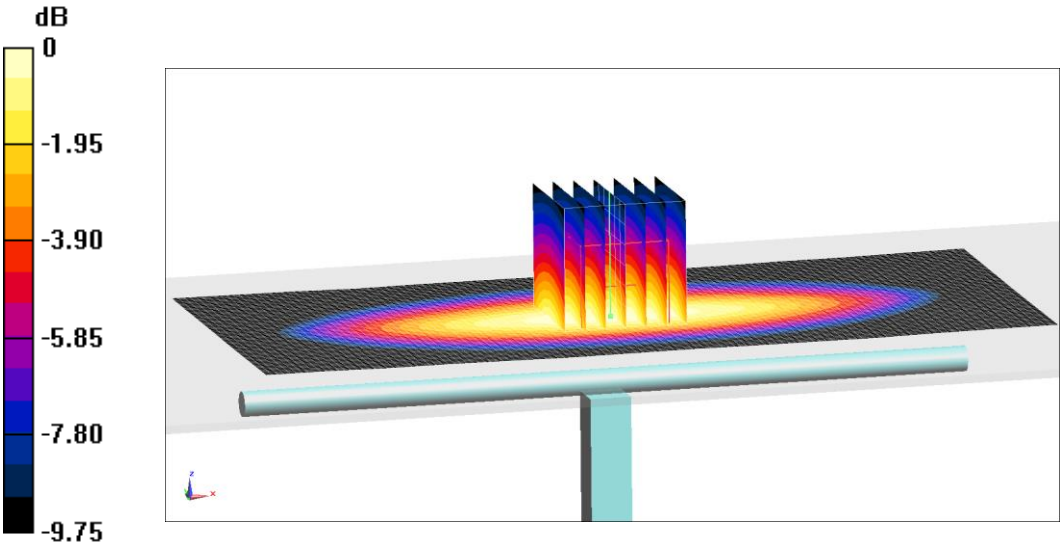
ANNEX B System Verification Results

750 MHz

Date: 9/15/2021
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 750 MHz; σ =0.8281 mho/m; ε_r = 43.88; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: CW Frequency: 750 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 60.43 V/m; Power Drift = 0.02
Fast SAR: SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.4 W/kg
Maximum value of SAR (interpolated) = 2.78 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =60.43 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.29 W/kg
SAR(1 g) = 2.13 W/kg; SAR(10 g) = 1.42 W/kg
Maximum value of SAR (measured) = 2.9 W/kg



0 dB = 2.9 W/kg = 4.62 dB W/kg

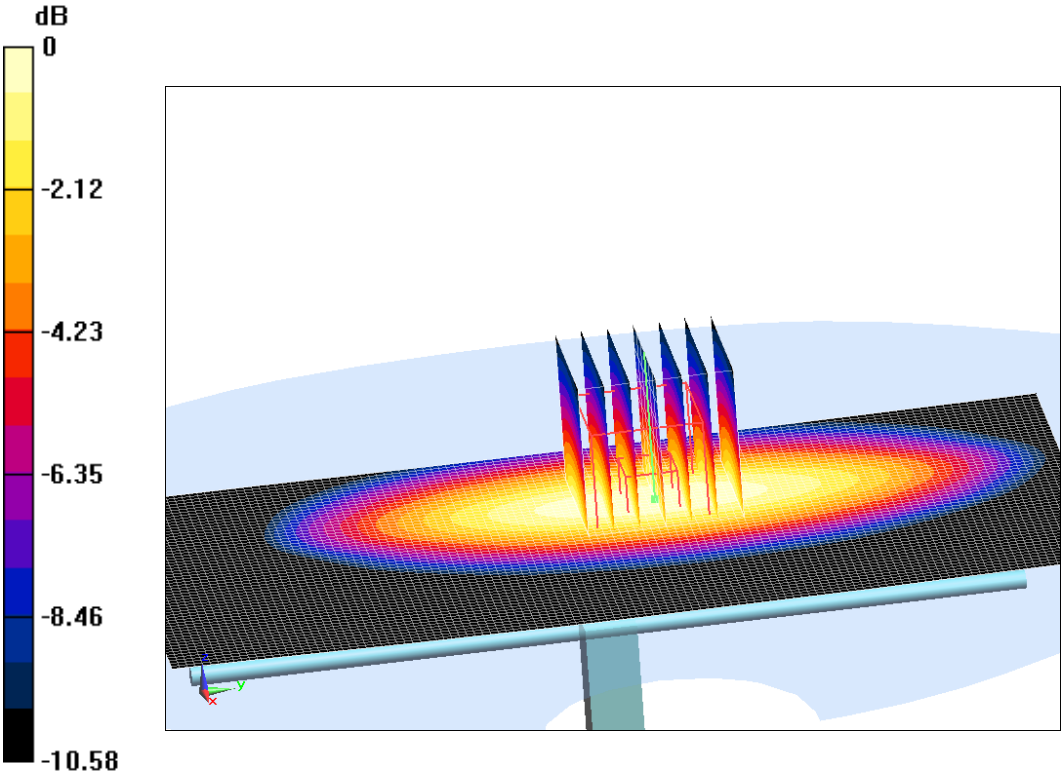
Fig.B.1 validation 750 MHz 250mW

835 MHz

Date: 9/16/2021
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 835 MHz; σ =0.8613 mho/m; ε_r = 43.59; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 63.55 V/m; Power Drift = -0.1
Fast SAR: SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.53 W/kg
Maximum value of SAR (interpolated) = 3.16 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =63.55 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 3.59 W/kg
SAR(1 g) = 2.48 W/kg; SAR(10 g) = 1.56 W/kg
Maximum value of SAR (measured) = 3.29 W/kg



0 dB = 3.29 W/kg = 5.17 dB W/kg

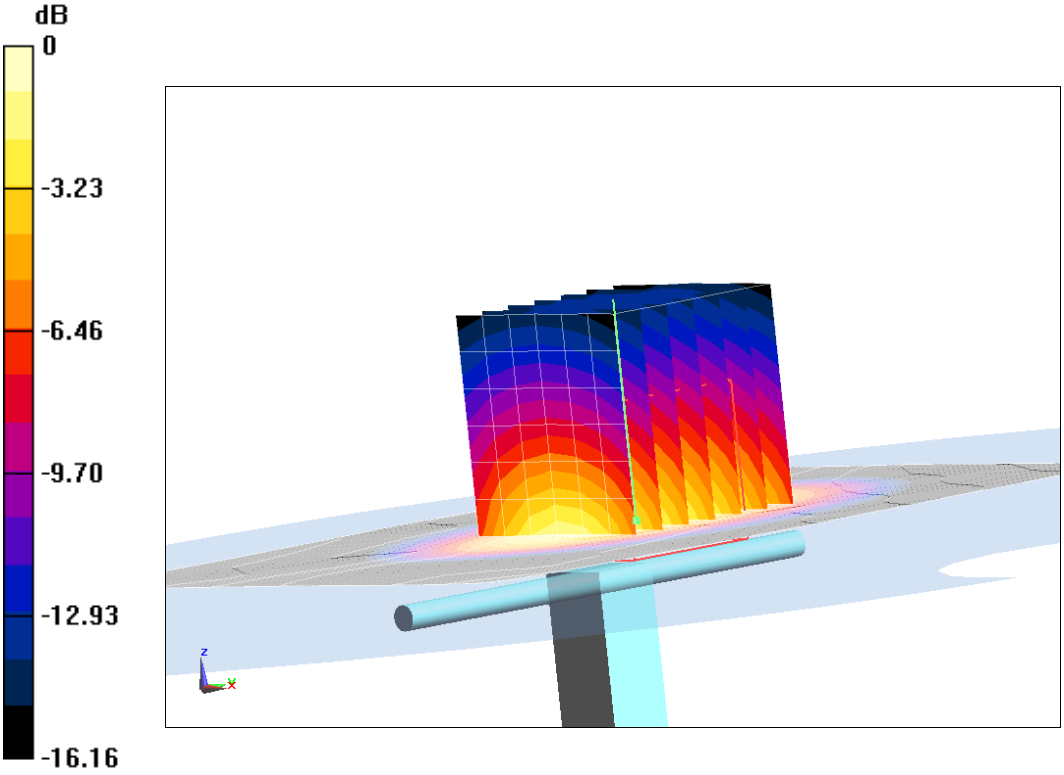
Fig.B.2 validation 835 MHz 250mW

1750 MHz

Date: 9/17/2021
Electronics: DAE4 Sn1331
Medium: Head 1750 MHz
Medium parameters used: f = 1750 MHz; σ =1.331 mho/m; ε_r = 41.45; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(8.14,8.14,8.14)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 106.74 V/m; Power Drift = -0.02
Fast SAR: SAR(1 g) = 9.21 W/kg; SAR(10 g) = 4.83 W/kg
Maximum value of SAR (interpolated) = 14.29 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =106.74 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 16.95 W/kg
SAR(1 g) = 9.13 W/kg; SAR(10 g) = 4.84 W/kg
Maximum value of SAR (measured) = 13.92 W/kg



0 dB = 13.92 W/kg = 11.44 dB W/kg

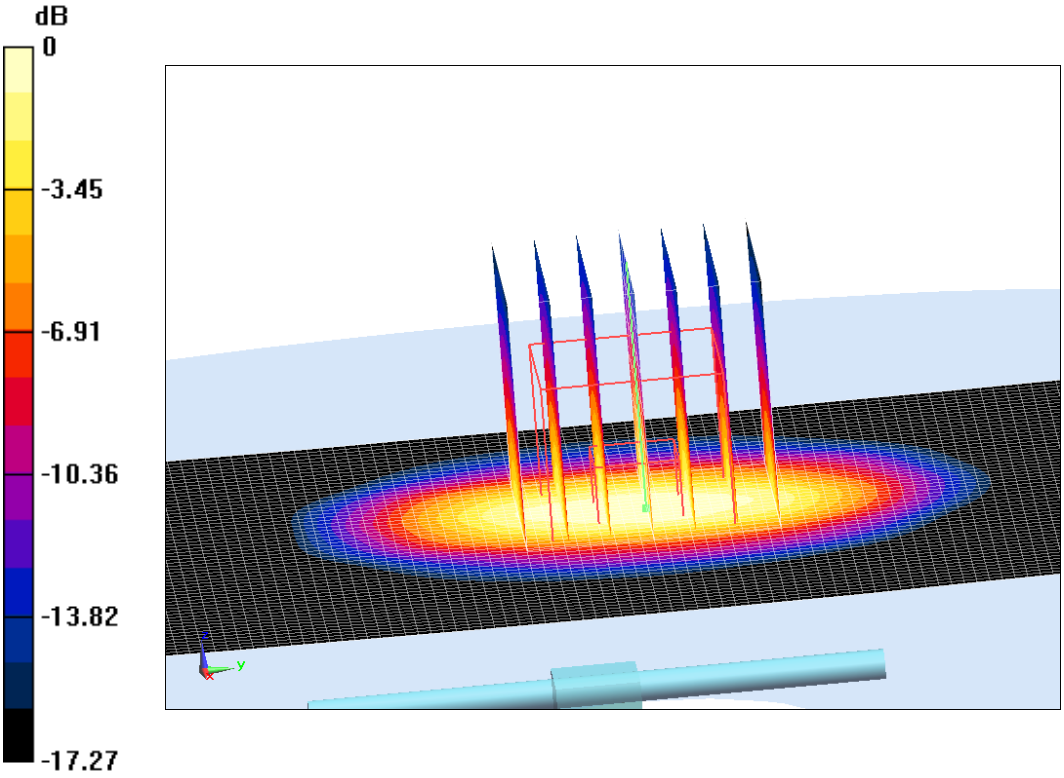
Fig.B.3 validation 1750 MHz 250mW

1900 MHz

Date: 9/18/2021
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ =1.421 mho/m; ε_r = 41.27; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 110.03 V/m; Power Drift = 0.06
Fast SAR: SAR(1 g) = 9.84 W/kg; SAR(10 g) = 5.12 W/kg
Maximum value of SAR (interpolated) = 15.25 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =110.03 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 18.49 W/kg
SAR(1 g) = 9.93 W/kg; SAR(10 g) = 5.08 W/kg
Maximum value of SAR (measured) = 15.28 W/kg



0 dB = 15.28 W/kg = 11.84 dB W/kg

Fig.B.4 validation 1900 MHz 250mW

2450 MHz

Date: 9/19/2021
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 2450 MHz; σ =1.83 mho/m; ε_r = 40.49; ρ = 1000 kg/m^3
Ambient Temperature: 22.9ºC Liquid Temperature: 22.5ºC
Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7548 ConvF(7.35,7.35,7.35)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 117.64 V/m; Power Drift = 0.01
Fast SAR: SAR(1 g) = 13.33 W/kg; SAR(10 g) = 6.03 W/kg
Maximum value of SAR (interpolated) = 21.72 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =117.64 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 25.72 W/kg
SAR(1 g) = 13.27 W/kg; SAR(10 g) = 6.1 W/kg
Maximum value of SAR (measured) = 21.74 W/kg