SAR TEST REPORT

No. I19Z60613-SEM05

For

TCL Communication Ltd.

HSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/CDMA Tri Band/LTE 9 Band Mobile Phone

Model Name: 4052W, 4052Z

With

Hardware Version: 04

Software Version: YWX9

FCC ID: 2ACCJN032

Issued Date: 2019-6-28

TESTING
NVLAP LAB CODE 600118-0

Note:

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

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

Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I19Z60613-SEM05	Rev.0	2019-6-22	Initial creation of test report
I19Z60613-SEM05	Rev.1	2019-6-28	Add result of BT on page 76 and page 123/124 Add “note” about the result of Bluetooth <0.01 on page 7. Update the Tune-up for CDMA B10-24dBm and LTEB12-23.5dBm.

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

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

1.2 Testing Environment

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

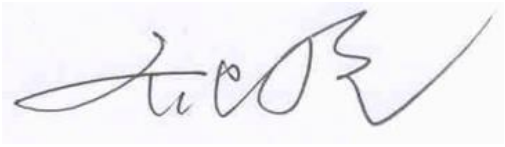
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	June 6, 2019
Testing End Date:	June 11, 2019

1.4 Signature

Lin Xiaojun

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)

Lu Bingsong

Deputy Director of the laboratory

(Approved this test report)

2 Statement of Compliance

The maximum results of SAR found during testing for TCL Communication Ltd. HSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/CDMA Tri Band/LTE 9 Band Mobile Phone 4052W, 4052Z is as follows:

Table 2.1: Highest Reported SAR (1g)

Exposure Configuration	Technology Band	Highest Reported SAR 1g (W/Kg)	Equipment Class
Head (Separation Distance 0mm)	GSM 850	0.65	PCE
	PCS 1900	0.46	
	UMTS FDD 5	0.78	
	UMTS FDD 4	0.76	
	UMTS FDD 2	1.05	
	BC 0	1.28	
	BC 1	0.94	
	BC 10	1.10	
	LTE Band 12	0.59	
	LTE Band 25	0.70	
	LTE Band 26	0.81	
	LTE Band 41 PC3	0.69	
	LTE Band 41 PC2	0.91	
	LTE Band 66	0.64	
	LTE Band 71	0.72	
	WLAN 2.4 GHz	0.30	DTS
Hotspot (Separation Distance 10mm)	GSM 850	0.39	PCE
	PCS 1900	0.55	
	UMTS FDD 5	0.66	
	UMTS FDD 4	0.94	
	UMTS FDD 2	1.05	
	BC 0	1.00	
	BC 1	1.01	
	BC 10	1.02	
	LTE Band 12	0.93	
	LTE Band 25	0.52	
	LTE Band 26	0.50	
	LTE Band 41 PC3	0.68	
	LTE Band 41 PC2	0.71	
	LTE Band 71	0.57	
	WLAN 2.4 GHz	0.39	DTS
Hotspot (Separation Distance 15mm)	LTE Band 66	1.16	PCE

The SAR values found for the Mobile Phone are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1g tissue according to the ANSI C95.1-1992.
For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 10/15mm 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**:** 1.28 **W/kg (1g).**

Table 2.2: The sum of reported SAR values for main antenna and WiFi

	Position	**Main antenna**	**WiFi**	**Sum**
Highest reported SAR value for Head	Right hand, Touch cheek	1.28	0.12	**1.40**
Highest reported SAR value for Head	Left hand, Touch cheek	0.93	0.30	**1.23**
Highest reported SAR value for Body	Rear	1.02	0.13	**1.15**
Highest reported SAR value for Body	Rear unfold	0.93	0.39	**1.32**
Highest reported SAR value for Body	Rear unfold 15mm	1.16	0.11	**1.27**

Note: The result of Bluetooth Head and Body is lower than 0.01

According to the above tables, the highest sum of reported SAR values is 1.40 **W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

3 Client Information

3.1 Applicant Information

Company Name	TCL Communication Ltd.
Company Address	7/F, Block F4, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052
Contact Person	Gong Zhizhou
Tel	0086-755-36611722
Fax	0086-755-36612000-81722
E-Mail	zhizhou.gong@tcl.com

3.2 Manufacturer Information

Company Name	TCL Communication Ltd.
Company Address	7/F, Block F4, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052
Contact Person	Gong Zhizhou
Tel	0086-755-36611722
Fax	0086-755-36612000-81722
E-Mail	zhizhou.gong@tcl.com

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

4.1 About EUT

Description:	HSUPA/HSDPA/UMTS Tri Band/GSM Quad Band/CDMA Tri Band/LTE 9 Band Mobile Phone
Model name:	4052W, 4052Z
Operating mode(s):	GSM 850/1900 WCDMA850/1700/1900 CDMA BC0/1/10 LTE B2/4/5/12/25/26/41/66/71, BT, WLAN
Tested Tx Frequency:	825 – 848.8 MHz (GSM 850)
	1850.2 – 1910 MHz (GSM 1900)
	824.7 - 848.31 MHz (CDMA BC0)
	1851.25 - 1908.75 MHz (CDMA BC1)
	817.9 - 823.1 MHz (CDMA BC10)
	826.4–846.6 MHz (WCDMA 850 Band V)
	1712.4 – 1752.6 MHz (WCDMA 1700 Band IV)
	1852.4–1907.6 MHz (WCDMA1900 Band II)
	699.7 – 715.3 MHz (LTE Band 12)
	1850.7 –1914.3 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)
GPRS/EGPRS Multislot Class:	12
Device type:	Portable device
Antenna type:	Integrated antenna
Hotspot mode:	Support

4.2 Internal Identification of EUT used during the test

EUT			
EUTID	IMEI	HW Version	SW Version
1	015490000004289	04	YWX9
2	015490000004313	04	YWX9
3	015490000200051	04	YWX9
4	015490000004487	04	YWX9

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

Note: It is performed to test SAR with the EUT1&2 and conducted power with the EUT3.

4.3 Internal Identification of AE used during the test

AE ID	Description	Model	SN	Manufacturer
AE1	Battery	LI-ION Battery, TLi013C1	CAB1350001C1	BYD

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

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

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

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

5.2 Applicable Measurement Standards

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

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

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

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

941225 D06 Hot Spot SAR v02r01: SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES.

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

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

KDB865664 D01SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

KDB865664 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

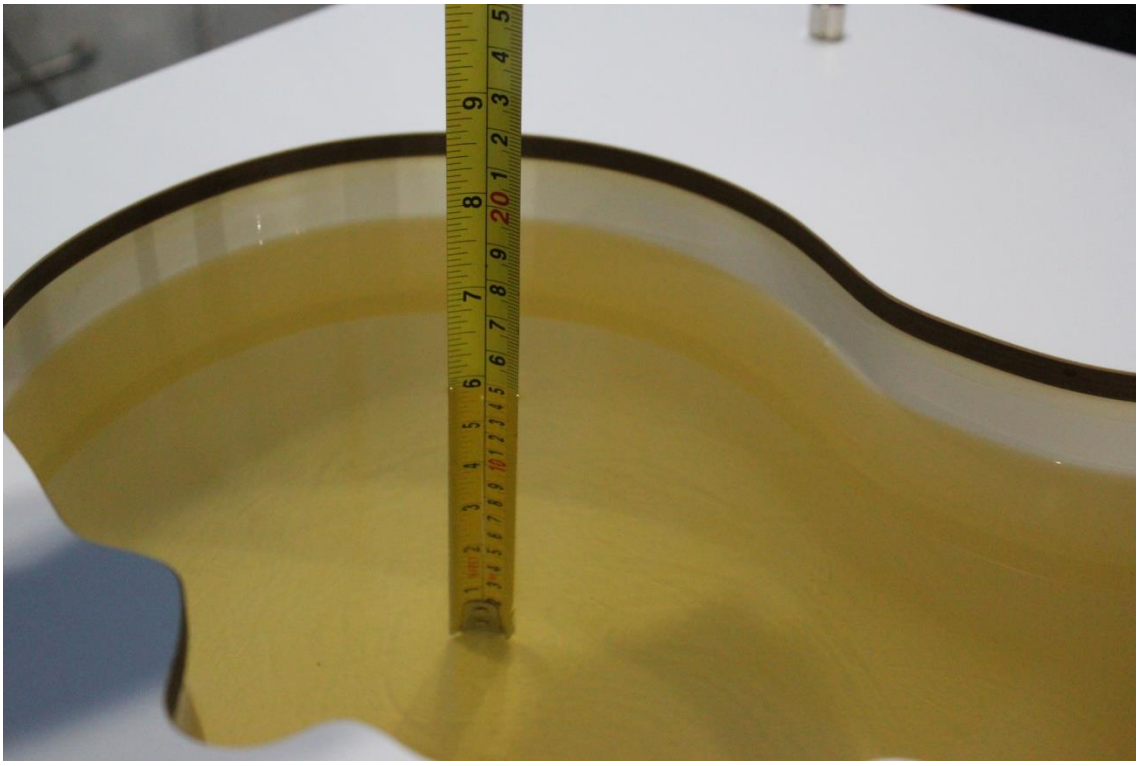
Table 7.1: Targets for tissue simulating liquid

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
750	Body	0.96	0.91～1.01	55.5	52.7～58.3
835	Head	0.90	0.86～0.95	41.5	39.4～43.6
835	Body	0.97	0.92～1.02	55.2	52.4～58.0
1750	Head	1.37	1.30～1.44	40.08	38.1～42.1
1750	Body	1.49	1.42～1.56	53.4	50.7～56.1
1900	Head	1.40	1.33～1.47	40.0	38.0～42.0
1900	Body	1.52	1.44～1.60	53.3	50.6～56.0
2450	Head	1.80	1.71～1.89	39.2	37.2～41.2
2450	Body	1.95	1.85～2.05	52.7	50.1～55.3
2600	Head	1.96	1.86～2.06	39.01	37.1～40.9
2600	Body	2.16	2.05～2.27	52.5	49.9～55.1

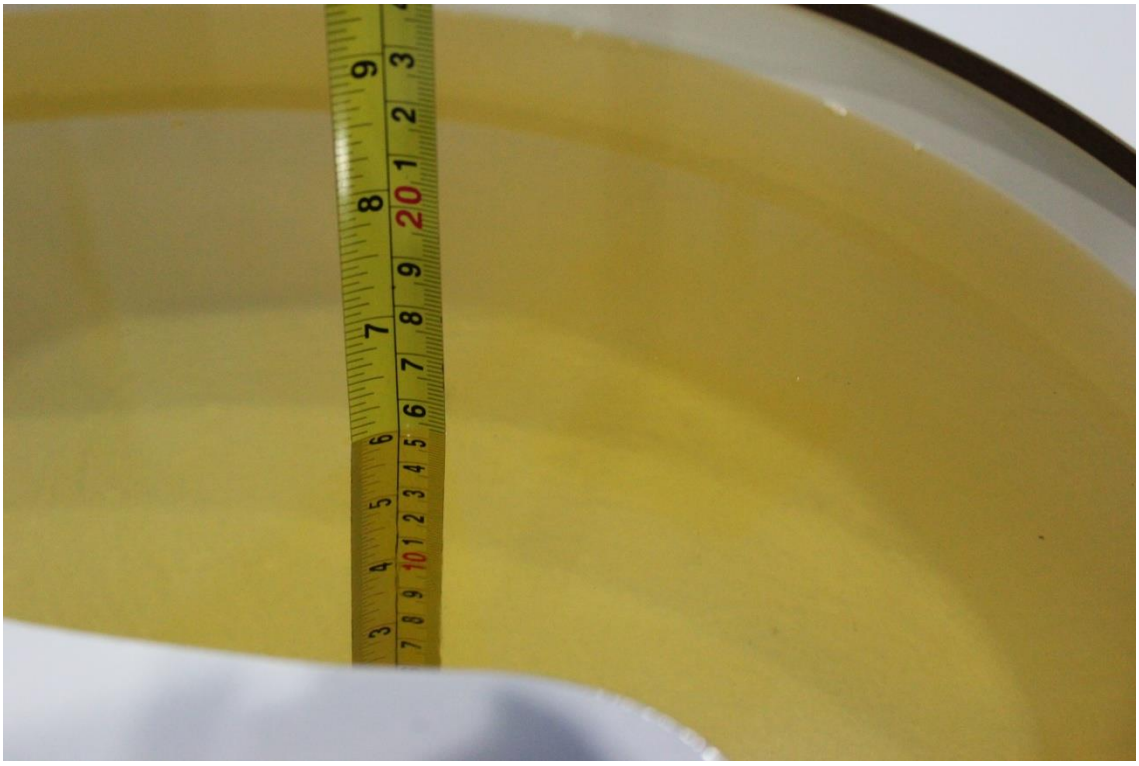
7.2 Dielectric Performance

Table 7.2: Dielectric Performance of Tissue Simulating Liquid

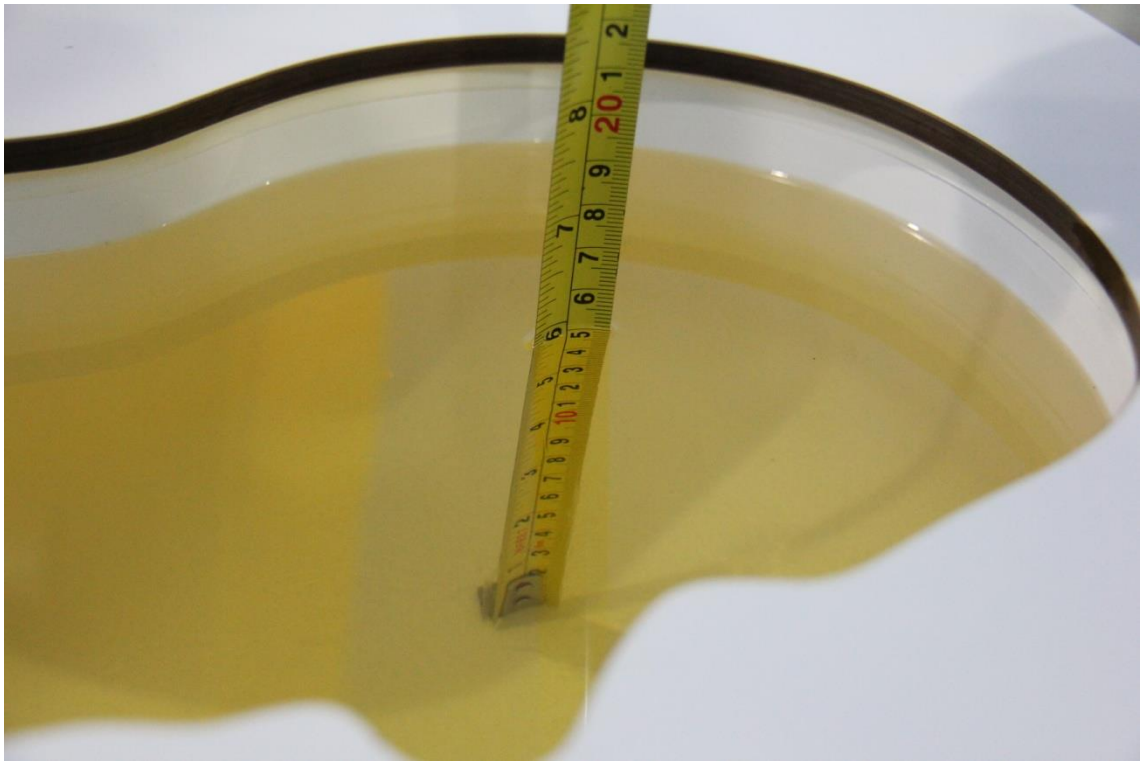
Measurement Date yyyy/mm/dd	Frequency	Type	Permittivity ε	Drift (%)	Conductivity σ (S/m)	Drift (%)
2019/6/6	750 MHz	Head	41.35	-1.41	0.888	-0.22
		Body	55.95	0.81	0.955	-0.52
2019/6/7	835 MHz	Head	41.1	-0.96	0.892	-0.89
		Body	54.29	-1.65	0.977	0.72
2019/6/8	1750 MHz	Head	40.82	1.85	1.377	0.51
		Body	52.58	-1.54	1.485	-0.34
2019/6/9	1900 MHz	Head	39.99	-0.02	1.428	2.00
		Body	53.11	-0.36	1.51	-0.66
2019/6/10	2450 MHz	Head	38.99	-0.54	1.78	-1.11
		Body	53.49	1.50	1.957	0.36
2019/6/11	2600 MHz	Head	39.06	0.13	1.925	-1.79
		Body	52.63	0.25	2.179	0.88



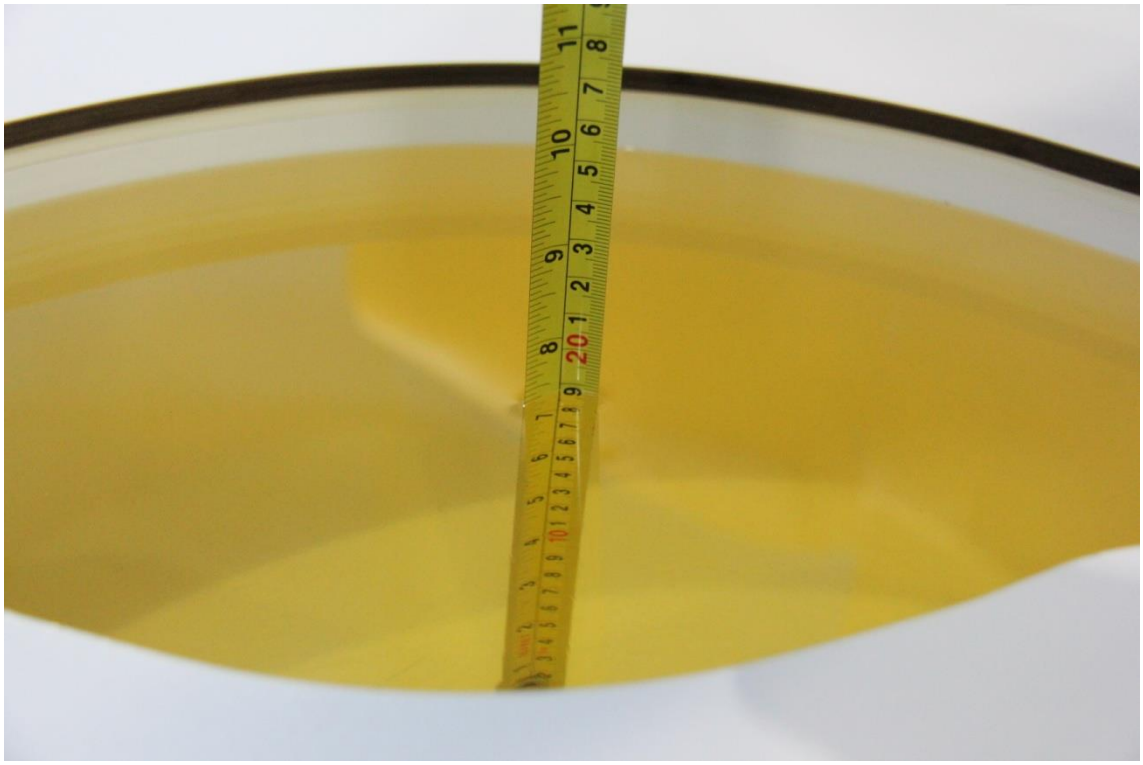
Picture 7-1 Liquid depth in the Head Phantom (750 MHz)



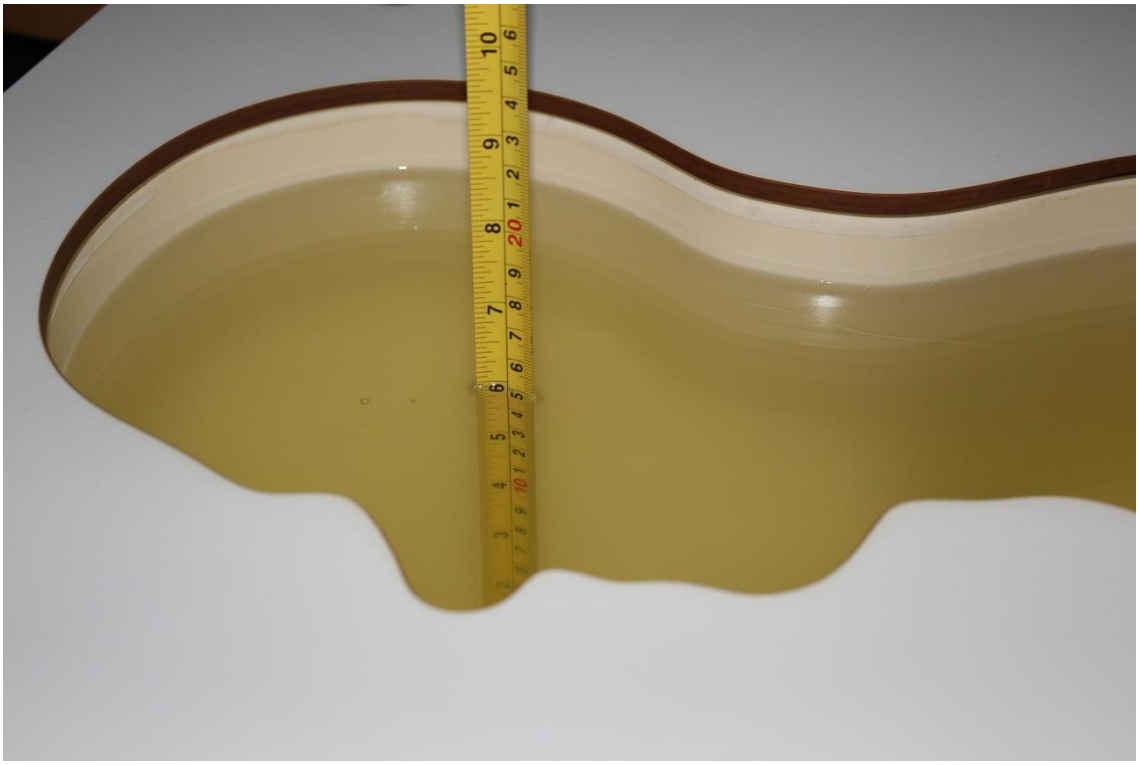
Picture 7-2 Liquid depth in the Flat Phantom (750 MHz)



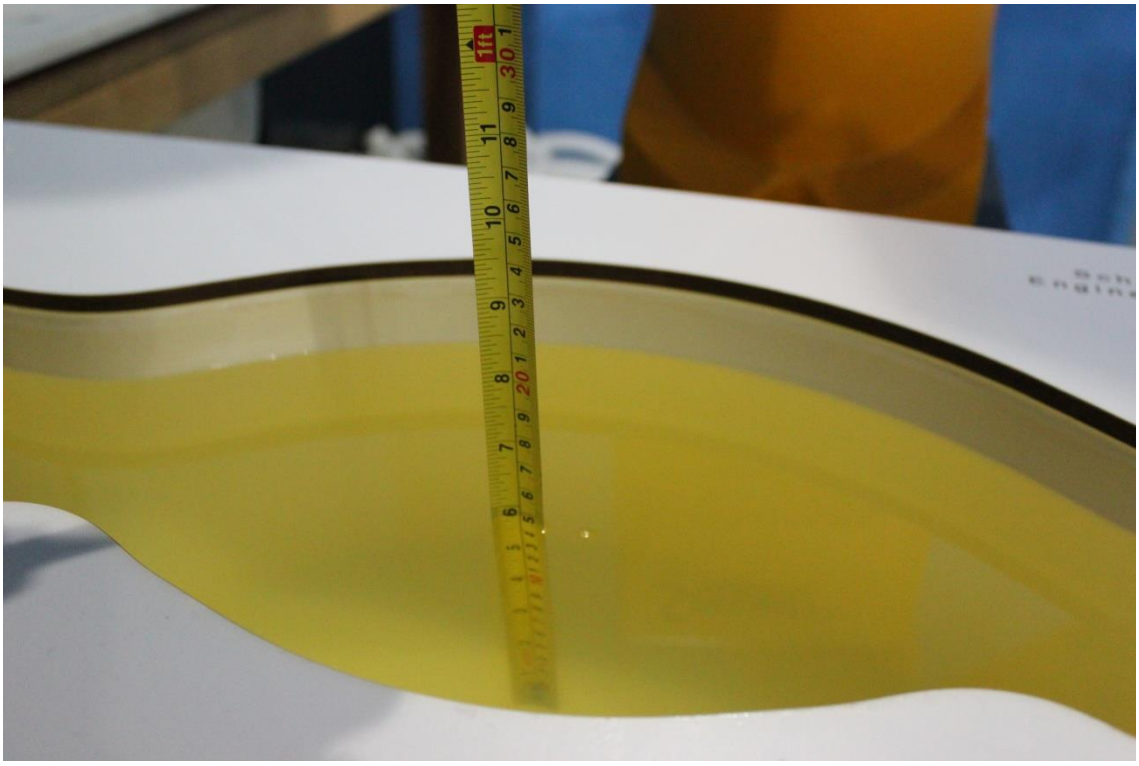
Picture 7-3 Liquid depth in the Head Phantom (835MHz)



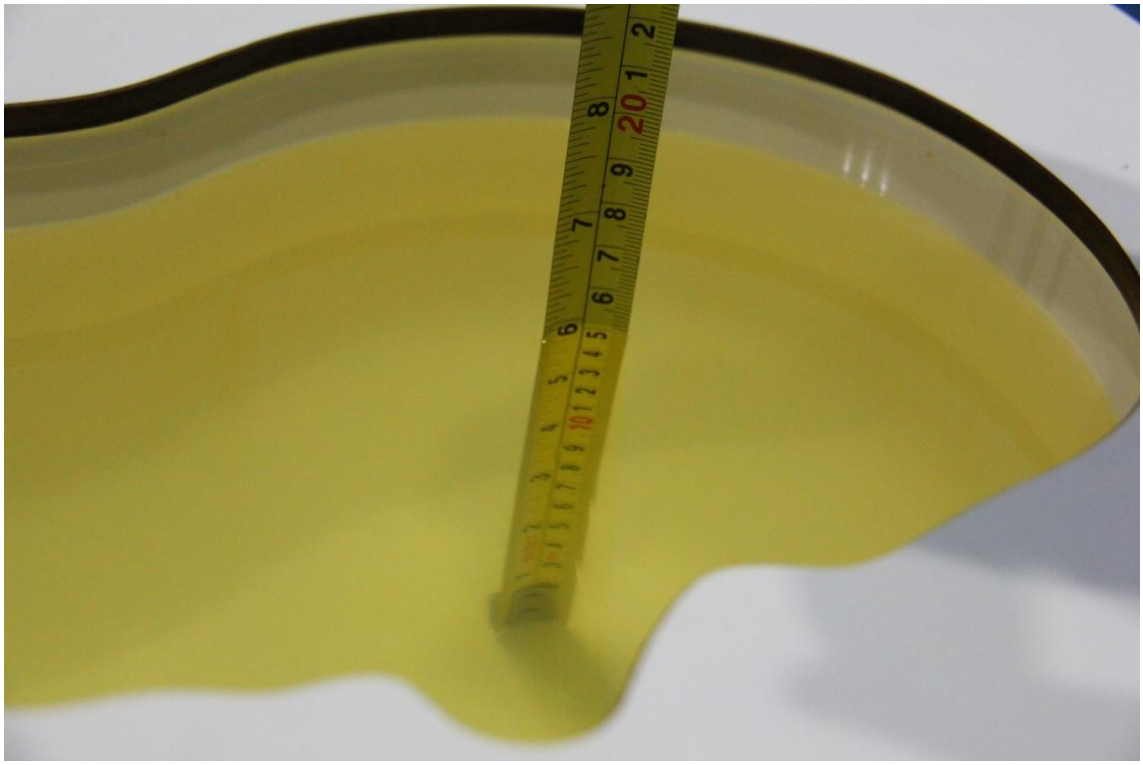
Picture 7-4 Liquid depth in the Flat Phantom (835MHz)



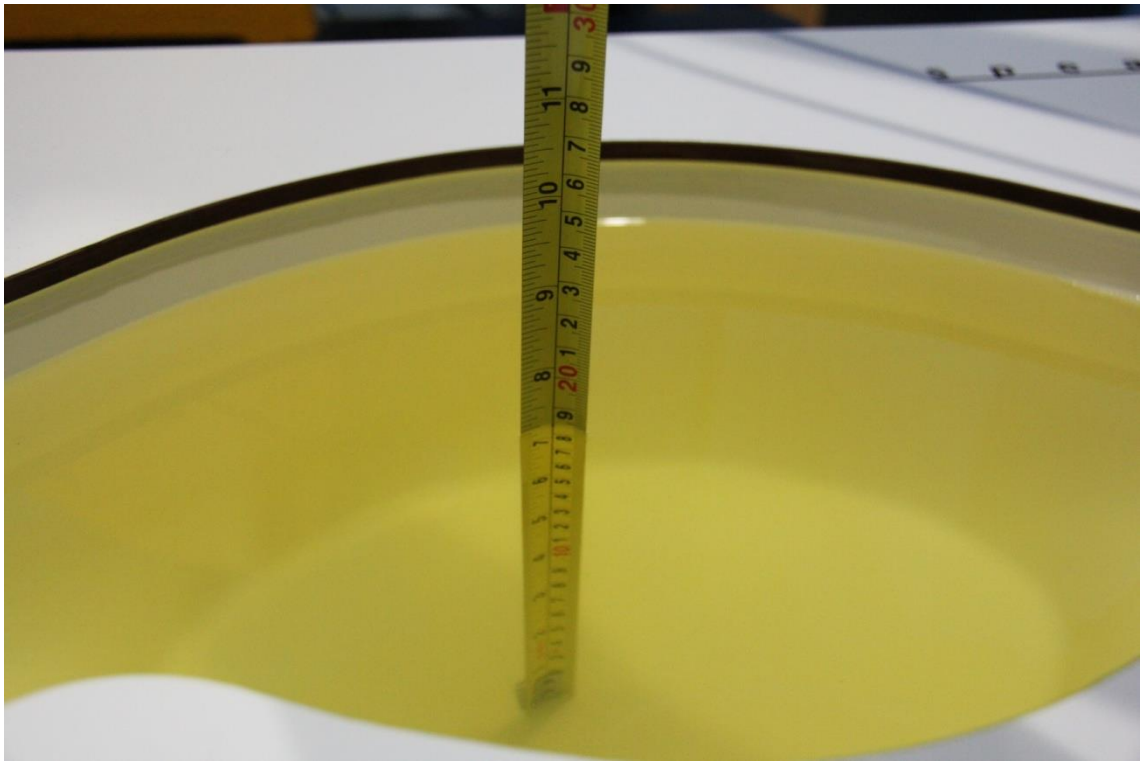
Picture 7-5 Liquid depth in the Head Phantom (1750 MHz)



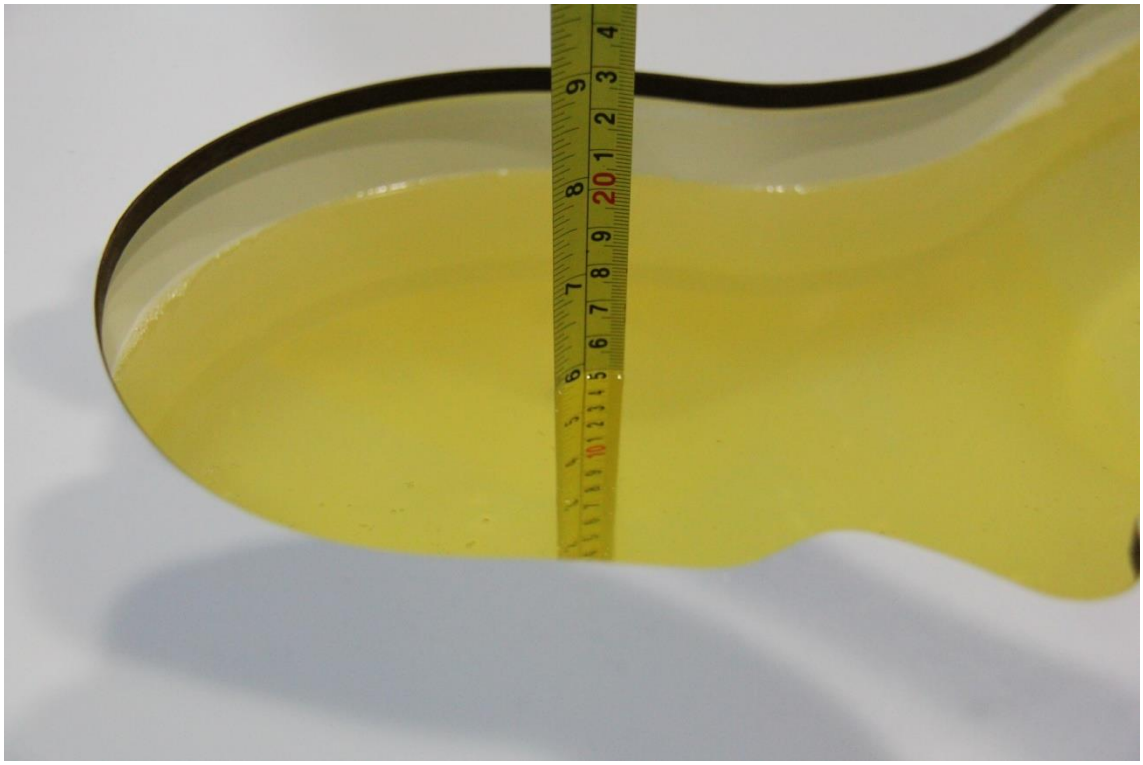
Picture 7-6 Liquid depth in the Flat Phantom (1750MHz)



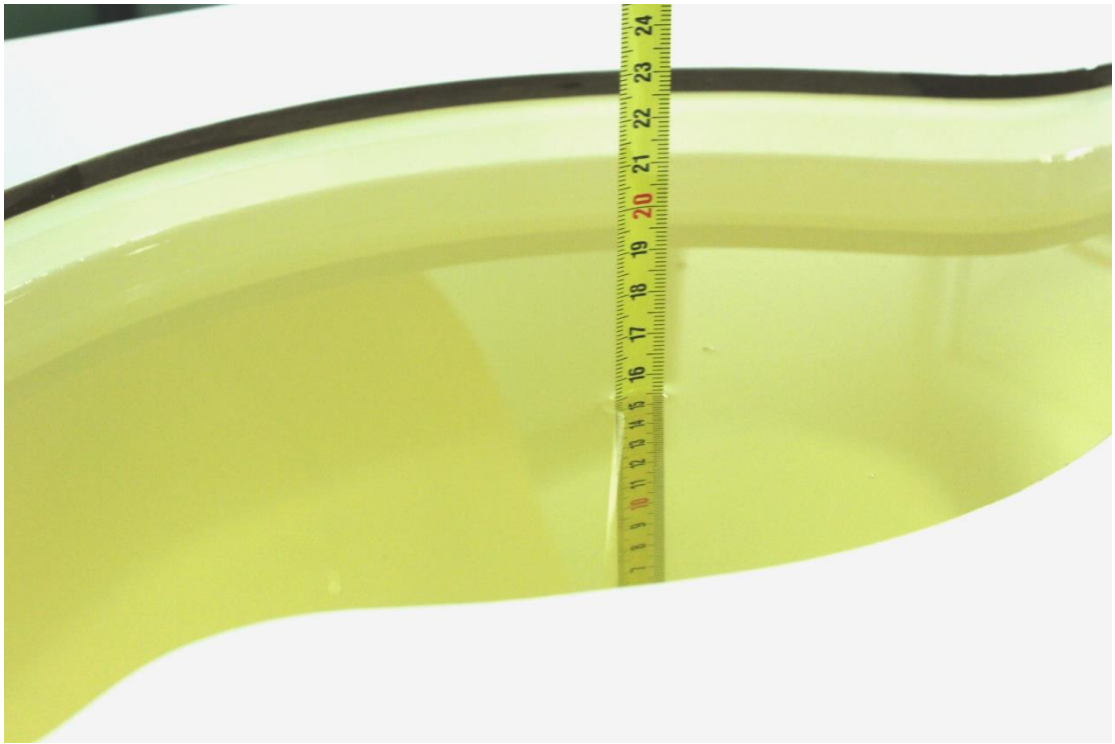
Picture 7-7 Liquid depth in the Head Phantom (1900 MHz)



Picture 7-8 Liquid depth in the Flat Phantom (1900MHz)

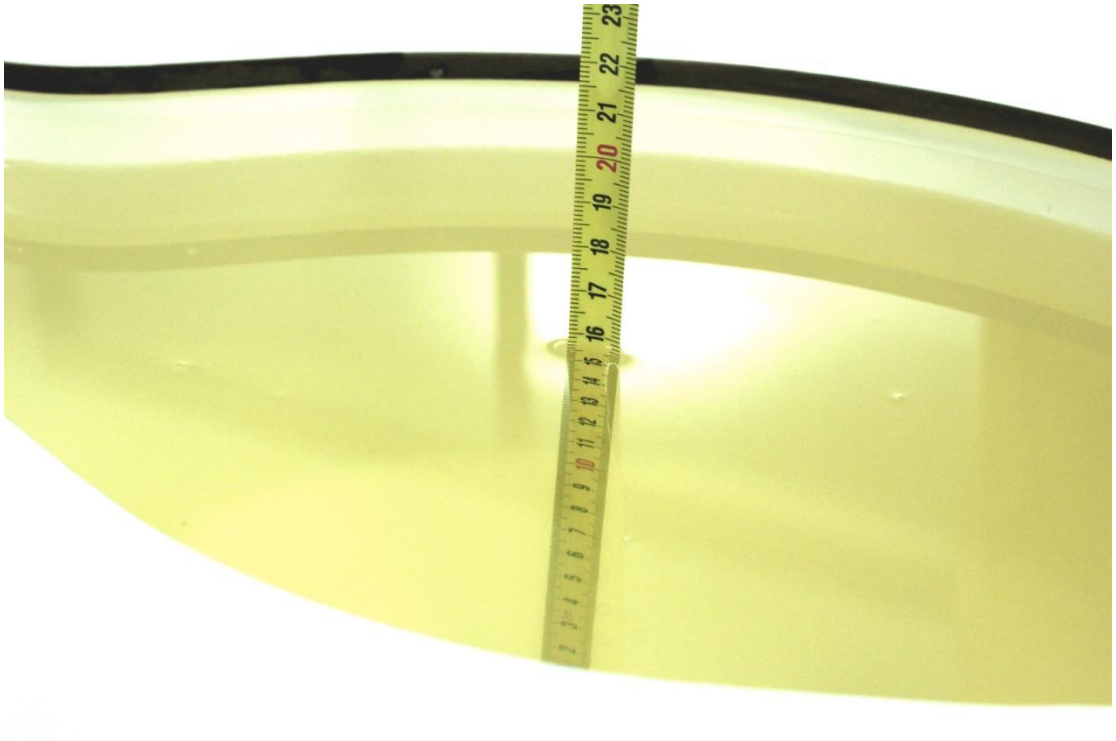


Picture 7-9 Liquid depth in the Head Phantom (2450MHz)



Picture 7-10 Liquid depth in the Flat Phantom (2450MHz)

Picture 7-11 Liquid depth in the Head Phantom (2600 MHz Head)

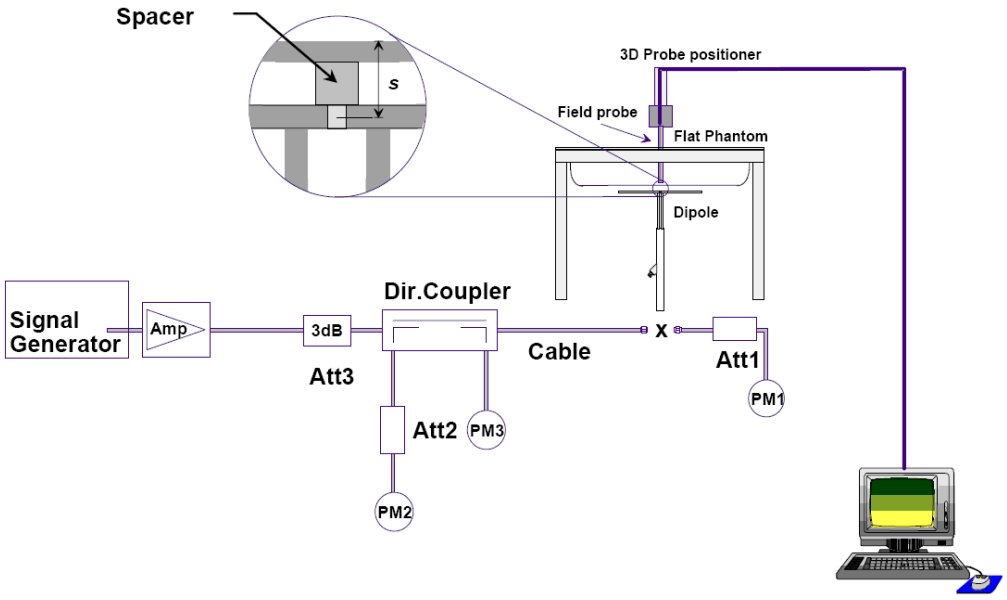


Picture 7-12 Liquid depth in the Flat Phantom (2600MHz)

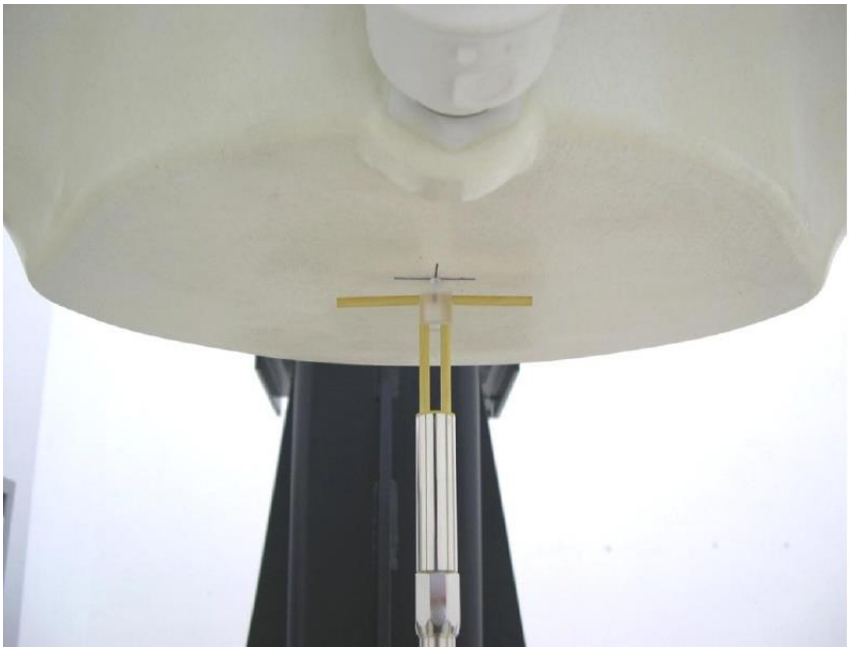
8 System verification

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
2019/6/6	750 MHz	5.34	8.20	5.41	8.36	1.31%	1.95%
2019/6/7	835 MHz	6.06	9.40	6.08	9.24	0.33%	-1.70%
2019/6/8	1750 MHz	18.9	35.9	19.4	36.8	2.86%	2.40%
2019/6/9	1900 MHz	21.3	40.4	21.3	40.0	0.09%	-0.99%
2019/6/10	2450 MHz	24.2	51.7	25	51.28	2.89%	-0.81%
2019/6/11	2600 MHz	24.9	55.4	25.68	56.76	2.81%	2.45%

Table 8.2: System Verification of Body

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
2019/6/6	750 MHz	5.68	8.63	5.60	8.56	-1.41%	-0.81%
2019/6/7	835 MHz	6.28	9.53	6.20	9.56	-1.27%	0.31%
2019/6/8	1750 MHz	19.3	36.4	19.72	37.45	2.18%	2.88%
2019/6/9	1900 MHz	21.4	40.4	21.40	40.80	0.00%	0.99%
2019/6/10	2450 MHz	24.1	51.3	23.68	49.95	-1.74%	-2.63%
2019/6/11	2600 MHz	24.5	54.1	24.56	55.36	0.24%	2.33%

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.

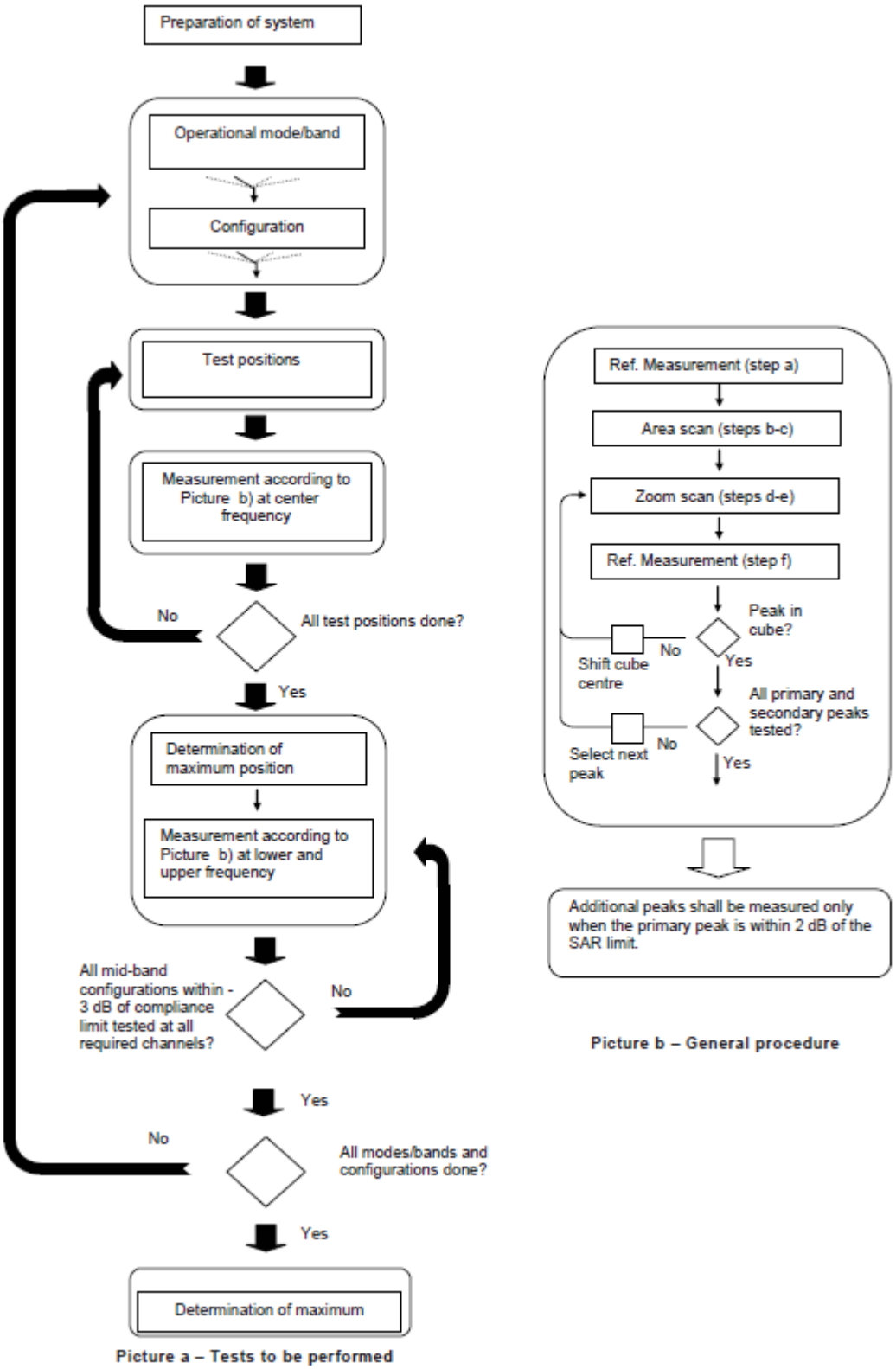
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the center of the transmit frequency band (f_c) for:

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 within 3 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 9.1 Block 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 1528-2013. 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.

9.5 Bluetooth & Wi-Fi Measurement Procedures for SAR

Normal network operating configurations are not suitable for measuring the SAR of 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.
Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

9.6 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section 14 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 v05, when the implementation is based the specific polynomial fit
algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-g SAR 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 55 wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm are 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

This product has two working power levels for Cellular CDMA_BC1 WCDMA1700/1900 LTEB25/B41PC2/B66 if hotspot function being enabled (AP ON), otherwise, it shall work in normal level (AP OFF).
WLAN shall work in low power level if audio receiver is active (Receiver ON), so we test the head SAR of WLAN with low power (Receiver ON) and test the body SAR with normal power (Receiver OFF).

11.1 GSM Measurement result

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

Table 11.1-1: The conducted power measurement results for GSM, GPRS and EGPRS

GSM 850	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	251	190	128			251	190	128
1 Txslot	33.12	33.01	33.16	33.50	/	/	/	/
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	251	190	128			251	190	128
1 Txslot	**33.24**	**33.07**	**33.23**	**33.50**	**-9.03**	**24.21**	**24.04**	**24.20**
2 Txslots	29.39	29.23	29.30	30.00	-6.02	23.37	23.21	23.28
3Txslots	27.73	27.61	27.66	28.50	-4.26	23.47	23.35	23.40
4 Txslots	26.48	26.38	26.54	27.50	-3.01	23.47	23.37	23.53
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	251	190	128			251	190	128
1 Txslot	**33.23**	**33.09**	**33.27**	**33.50**	**-9.03**	**24.20**	**24.06**	**24.24**
2 Txslots	29.34	29.27	29.28	30.00	-6.02	23.32	23.25	23.26
3Txslots	27.69	27.58	27.64	28.50	-4.26	23.43	23.32	23.38
4 Txslots	26.51	26.42	26.50	27.50	-3.01	23.50	23.41	23.49
GSM 850	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	251	190	128			251	190	128
1 Txslot	26.54	26.47	26.64	28.00	-9.03	17.51	17.44	17.61
2 Txslots	26.43	26.45	26.51	27.00	-6.02	20.41	20.43	20.49
3Txslots	24.88	24.89	24.96	25.50	-4.26	20.62	20.63	20.70
4 Txslots	23.37	23.38	23.45	24.50	-3.01	20.36	20.37	20.44
PCS1900	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
Speech (GMSK)	810	661	512			810	661	512
1 Txslot	30.06	30.00	29.80	31.00	/	/	/	/
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
GPRS (GMSK)	810	661	512			810	661	512
1 Txslot	**30.12**	**30.02**	**29.81**	**31.00**	**-9.03**	**21.09**	**20.99**	**20.78**
2 Txslots	26.72	26.66	26.34	28.00	-6.02	20.70	20.64	20.32

3Txslots	24.83	25.08	24.81	26.00	-4.26	20.57	20.82	20.55
4 Txslots	23.81	23.94	23.61	25.00	-3.01	20.80	20.93	20.60
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (GMSK)	810	661	512			810	661	512
1 Txslot	30.07	30.00	29.80	31.00	-9.03	21.04	20.97	20.77
2 Txslots	26.71	26.66	26.34	28.00	-6.02	20.69	20.64	20.32
3Txslots	24.84	25.09	24.82	26.00	-4.26	20.58	20.83	20.56
4 Txslots	23.81	23.94	23.61	25.00	-3.01	20.80	20.93	20.60
PCS1900	Measured Power (dBm)				calculation	Averaged Power (dBm)		
EGPRS (8PSK)	810	661	512			810	661	512
1 Txslot	26.36	26.28	26.15	27.00	-9.03	17.33	17.25	17.12
2 Txslots	25.32	25.25	25.11	26.00	-6.02	19.30	19.23	19.09
3Txslots	23.83	23.72	23.56	25.00	-4.26	19.57	19.46	19.30
4 Txslots	21.57	21.59	21.54	23.50	-3.01	18.56	18.58	18.53

NOTES:

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 1Txslot for 850MHz and 1900MHz GPRS&EGPRS.

11.2 WCDMA Measurement result

Normal power

Table 11.2-1: The conducted Power for WCDMA

Item	band	FDDV result			
	ARFCN	4132 (826.4MHz)	4182 (836.4MHz)	4233 (846.6MHz)	Tune up
WCDMA	\	22.91	23.06	23.05	24.00
HSUPA	1	21.47	21.71	21.89	23.00
	2	20.32	20.62	20.42	22.00
	3	20.62	20.96	20.86	21.00
	4	20.74	20.98	20.87	22.00
	5	21.93	22.18	22.08	23.50
DC-HSDPA	1	21.92	22.13	22.09	23.00
	2	21.94	22.12	22.14	23.00
	3	21.47	21.58	21.60	23.00
	4	21.48	21.61	21.59	23.00
Item	band	FDDIV result			
	ARFCN	1312 (1712.4MHz)	1412 (1732.4MHz)	1513 (1752.6MHz)	
WCDMA	\	23.31	23.27	23.34	24.00
HSUPA	1	21.92	21.91	21.98	23.00
	2	21.04	20.92	21.14	22.00
	3	20.85	20.94	21.05	22.00
	4	21.17	21.25	21.37	22.00
	5	22.34	22.37	22.39	23.50
DC-HSDPA	1	22.23	22.27	22.41	23.00
	2	22.29	22.35	22.47	23.00
	3	21.85	21.83	21.94	23.00
	4	21.84	21.82	21.95	23.00
Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	\	23.22	23.23	23.10	24.00
HSUPA	1	21.90	21.93	21.89	23.00
	2	21.10	21.06	20.96	23.00
	3	21.06	21.01	21.04	22.00
	4	21.42	21.35	21.33	22.00
	5	22.30	22.38	22.21	23.00
DC-HSDPA	1	22.21	22.17	22.14	23.00
	2	22.25	22.22	22.15	23.00
	3	21.79	21.78	21.66	23.00
	4	21.76	21.75	21.67	23.50

Low power

Table 11.2-2: The conducted Power for WCDMA

Item	band	FDDIV result			
	ARFCN	1312 (1712.4MHz)	1412 (1732.4MHz)	1513 (1752.6MHz)	
WCDMA	\	21.55	21.56	21.62	22
HSUPA	1	20.06	20.09	20.16	22
	2	19.47	19.37	19.43	21
	3	19.34	19.38	19.21	21
	4	19.70	19.74	19.77	21
	5	20.63	20.56	20.73	21
DC-HSDPA	1	20.71	20.76	20.82	22
	2	20.74	20.75	20.84	22
	3	20.26	20.24	20.32	22
	4	20.37	20.28	20.36	22
Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	\	20.53	20.50	20.56	21
HSUPA	1	19.25	19.11	19.14	21
	2	18.26	18.32	18.28	20
	3	18.25	18.23	18.26	20
	4	18.76	18.71	18.64	20
	5	19.53	19.48	19.37	20
DC-HSDPA	1	19.46	19.50	19.35	21
	2	19.44	19.48	19.34	21
	3	19.01	19.06	19.05	21
	4	19.02	19.07	19.06	21

Normal power

Table 11.2-3: The conducted Power for CDMA

CDMA BC0	Conducted Power (dBm)			TUNEUP
	777 (848.31MHz)	384 (836.52MHz)	1013 (824.7MHz)	
SO55/RC3	24.12	24.19	24.03	24.20
SO55/RC1	24.19	24.14	24.06	24.20
SO32/RC3(FCH only)	24.19	24.16	23.98	24.20
SO32/RC3(FCH+SCH$_n$)	24.17	24.11	23.96	24.20
CDMA BC1	Conducted Power (dBm)			
	1175 (1908.75MHz)	600 (1880MHz)	25 (1851.25MHz)	
SO55/RC3	24.04	23.98	23.92	24.50
SO55/RC1	24.23	24.15	24.08	24.50
SO32/RC3(FCH only)	23.98	24.02	23.90	24.50
SO32/RC3(FCH+SCH$_n$)	24.14	24.11	23.97	24.50
CDMA BC10	Conducted Power (dBm)			
	684 (823.1MHz)	580 (820.5MHz)	476(817.9MHz)	
SO55/RC3	23.78	23.69	23.66	24.00
SO55/RC1	23.81	23.75	23.71	24.00
SO32/RC3(FCH only)	23.74	23.67	23.65	24.00
SO32/RC3(FCH+SCH$_n$)	23.73	23.63	23.64	24.00

Low power

Table 11.2-4: The conducted Power for CDMA

CDMA BC1	Conducted Power (dBm)			
	1175 (1908.75MHz)	600 (1880MHz)	25 (1851.25MHz)	tuneup
SO55/RC3	22.20	22.19	22.01	22.5
SO55/RC1	22.31	22.23	22.11	22.5
SO32/RC3(FCH only)	22.19	22.15	22.10	22.5
SO32/RC3(FCH+SCH$_n$)	22.16	22.13	22.09	22.5

11.3 LTE Measurement result

Table 11.3-1: Tune up for LTE Normal power

Band	Tune up (dBm)	
	Normal power	Low power
Band 12	23.5	/
Band 25	24	22
Band 26	26	/
Band 41 PC3	24	/
Band 20	24.5	/
Band 28	24.5	22
Band 38	24.5	22.5
Band 40	24.5	22.5

Table 11.3-2: Maximum Power Reduction (MPR) for LTE Normal power

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

Normal power

LTEBAND12

Bandwidth (MHz)	RB allocation	Frequency (MHz)	Actual output power (dBm)	
	RB offset		QPSK	16QAM
1.4MHz	1RB-High (5)	715.3 (23173)	22.93	21.98
		707.5 (23095)	23.26	22.24
		699.7 (23017)	22.91	21.93
	1RB-Middle (3)	715.3 (23173)	22.81	21.96
		707.5 (23095)	22.79	21.58
		699.7 (23017)	22.63	21.95
	1RB-Low (0)	715.3 (23173)	23.14	21.94
		707.5 (23095)	23.17	21.91
		699.7 (23017)	23.05	21.81
	3RB-High (3)	715.3 (23173)	22.94	21.99
		707.5 (23095)	22.87	21.49
		699.7 (23017)	22.59	21.93
	3RB-Middle (1)	715.3 (23173)	23.10	21.97
		707.5 (23095)	22.92	21.54
		699.7 (23017)	22.73	21.98
	3RB-Low (0)	715.3 (23173)	23.04	22.02
		707.5 (23095)	23.08	21.79
		699.7 (23017)	22.72	22.09
	6RB (0)	715.3 (23173)	22.07	21.19
		707.5 (23095)	22.01	20.86
		699.7 (23017)	21.79	21.23

3MHz	1RB-High (14)	714.5 (23165)	23.04	21.62
		707.5 (23095)	23.16	21.70
		700.5 (23025)	22.97	21.86
	1RB-Middle (7)	714.5 (23165)	23.26	21.74
		707.5 (23095)	23.41	21.96
		700.5 (23025)	23.21	21.93
	1RB-Low (0)	714.5 (23165)	23.19	21.63
		707.5 (23095)	22.99	22.42
		700.5 (23025)	22.96	21.75
	8RB-High (7)	714.5 (23165)	22.11	21.14
		707.5 (23095)	22.19	21.20
		700.5 (23025)	21.86	21.10
	8RB-Middle (4)	714.5 (23165)	22.11	21.24
		707.5 (23095)	22.17	21.12
		700.5 (23025)	21.88	21.06
	8RB-Low (0)	714.5 (23165)	22.22	21.24
		707.5 (23095)	22.10	21.06
		700.5 (23025)	21.77	20.94
	15RB (0)	714.5 (23165)	22.08	21.19
		707.5 (23095)	22.09	21.18
		700.5 (23025)	21.89	20.81
5MHz	1RB-High (24)	713.5 (23155)	23.03	21.94
		707.5 (23095)	23.09	22.18
		701.5 (23035)	22.79	21.80
	1RB-Middle (12)	713.5 (23155)	23.47	21.61
		707.5 (23095)	23.38	22.33
		701.5 (23035)	23.03	21.88
	1RB-Low (0)	713.5 (23155)	23.18	21.29
		707.5 (23095)	23.05	22.04
		701.5 (23035)	22.82	21.36
	12RB-High (13)	713.5 (23155)	22.21	21.04
		707.5 (23095)	22.18	20.96
		701.5 (23035)	22.03	20.88
	12RB-Middle (6)	713.5 (23155)	22.21	21.11
		707.5 (23095)	22.22	21.01
		701.5 (23035)	22.08	20.96
	12RB-Low (0)	713.5 (23155)	22.18	21.18
		707.5 (23095)	22.15	20.88
		701.5 (23035)	21.97	20.85
	25RB (0)	713.5 (23155)	22.15	21.32
		707.5 (23095)	22.15	21.11
		701.5 (23035)	21.96	21.06

10MHz	1RB-High (49)	711 (23130)	22.98	22.15
		707.5 (23095)	23.08	21.85
		704 (23060)	23.05	22.13
	1RB-Middle (24)	711 (23130)	23.25	21.45
		707.5 (23095)	23.45	21.75
		704 (23060)	23.16	22.35
	1RB-Low (0)	711 (23130)	23.47	22.30
		707.5 (23095)	22.82	22.14
		704 (23060)	22.75	21.80
	25RB-High (25)	711 (23130)	22.02	21.19
		707.5 (23095)	22.16	21.21
		704 (23060)	22.06	21.10
	25RB-Middle (12)	711 (23130)	22.20	21.28
		707.5 (23095)	22.15	21.14
		704 (23060)	22.09	21.22
	25RB-Low (0)	711 (23130)	22.07	21.05
		707.5 (23095)	22.07	21.06
		704 (23060)	21.92	20.97
	50RB (0)	711 (23130)	22.15	21.21
		707.5 (23095)	22.12	21.19
		704 (23060)	21.88	20.87

LTEBAND25

Bandwidth (MHz)	RB allocation RB offset	Frequency (MHz)	Actual output power (dBm)	
			QPSK	16QAM
1.4MHz	1RB-High (5)	1914.3 (26683)	23.07	21.87
		1882.5 (26365)	23.01	22.08
		1850.7 (26047)	22.87	21.67
	1RB-Middle (3)	1914.3 (26683)	22.78	21.95
		1882.5 (26365)	22.91	22.08
		1850.7 (26047)	22.90	21.60
	1RB-Low (0)	1914.3 (26683)	23.10	22.28
		1882.5 (26365)	22.87	22.09
		1850.7 (26047)	22.55	21.74
	3RB-High (3)	1914.3 (26683)	22.56	21.89
		1882.5 (26365)	22.65	22.30
		1850.7 (26047)	22.65	21.77
	3RB-Middle (1)	1914.3 (26683)	22.96	22.01
		1882.5 (26365)	22.83	22.46
		1850.7 (26047)	22.69	21.47
	3RB-Low (0)	1914.3 (26683)	22.96	22.04
		1882.5 (26365)	22.88	22.51
		1850.7 (26047)	22.63	21.32
	6RB (0)	1914.3 (26683)	22.05	21.10
		1882.5 (26365)	22.03	21.57
		1850.7 (26047)	21.62	20.63

3MHz	1RB-High (14)	1913.5 (26675)	23.15	21.62
		1882.5 (26365)	23.13	22.10
		1851.5 (26055)	22.65	21.72
	1RB-Middle (7)	1913.5 (26675)	22.35	21.98
		1882.5 (26365)	22.56	22.24
		1851.5 (26055)	22.58	22.00
	1RB-Low (0)	1913.5 (26675)	22.24	21.69
		1882.5 (26365)	22.15	22.13
		1851.5 (26055)	22.10	21.87
	8RB-High (7)	1913.5 (26675)	22.36	20.99
		1882.5 (26365)	22.38	21.35
		1851.5 (26055)	22.61	21.14
	8RB-Middle (4)	1913.5 (26675)	22.07	21.30
		1882.5 (26365)	22.03	21.22
		1851.5 (26055)	21.55	21.14
	8RB-Low (0)	1913.5 (26675)	22.17	21.38
		1882.5 (26365)	22.01	21.18
		1851.5 (26055)	21.59	21.13
	15RB (0)	1913.5 (26675)	22.03	21.15
		1882.5 (26365)	22.09	21.11
		1851.5 (26055)	21.53	20.93
5MHz	1RB-High (24)	1912.5 (26665)	23.03	21.48
		1882.5 (26365)	23.22	22.11
		1852.5 (26065)	22.86	21.45
	1RB-Middle (12)	1912.5 (26665)	23.88	22.26
		1882.5 (26365)	23.20	21.66
		1852.5 (26065)	23.03	21.50
	1RB-Low (0)	1912.5 (26665)	23.09	21.95
		1882.5 (26365)	23.20	21.50
		1852.5 (26065)	22.80	21.30
	12RB-High (13)	1912.5 (26665)	22.16	21.25
		1882.5 (26365)	22.22	21.08
		1852.5 (26065)	21.86	20.61
	12RB-Middle (6)	1912.5 (26665)	22.23	21.44
		1882.5 (26365)	22.22	21.09
		1852.5 (26065)	21.82	20.64
	12RB-Low (0)	1912.5 (26665)	22.22	21.35
		1882.5 (26365)	22.15	21.03
		1852.5 (26065)	21.75	20.51
	25RB (0)	1912.5 (26665)	22.10	21.24
		1882.5 (26365)	22.18	21.11
		1852.5 (26065)	21.77	20.65

10MHz	1RB-High (49)	1910 (26640)	23.20	22.09
		1882.5 (26365)	23.04	22.28
		1855 (26090)	22.97	21.54
	1RB-Middle (24)	1910 (26640)	23.45	22.51
		1882.5 (26365)	23.15	22.99
		1855 (26090)	22.85	21.35
	1RB-Low (0)	1910 (26640)	22.34	21.89
		1882.5 (26365)	22.14	22.17
		1855 (26090)	22.16	22.08
	25RB-High (25)	1910 (26640)	22.18	21.43
		1882.5 (26365)	22.19	21.09
		1855 (26090)	21.82	21.10
	25RB-Middle (12)	1910 (26640)	22.20	21.30
		1882.5 (26365)	22.24	21.17
		1855 (26090)	21.67	20.81
	25RB-Low (0)	1910 (26640)	22.01	21.23
		1882.5 (26365)	22.08	21.08
		1855 (26090)	21.64	20.87
	50RB (0)	1910 (26640)	22.09	21.16
		1882.5 (26365)	22.10	21.29
		1855 (26090)	21.79	20.92
15MHz	1RB-High (74)	1907.5 (26615)	23.41	22.31
		1882.5 (26365)	23.01	22.49
		1857.5 (26115)	22.71	22.52
	1RB-Middle (37)	1907.5 (26615)	23.20	22.19
		1882.5 (26365)	23.13	22.47
		1857.5 (26115)	23.04	22.65
	1RB-Low (0)	1907.5 (26615)	23.15	22.32
		1882.5 (26365)	23.00	22.48
		1857.5 (26115)	22.82	22.39
	36RB-High (38)	1907.5 (26615)	22.10	21.19
		1882.5 (26365)	22.15	21.36
		1857.5 (26115)	21.86	20.94
	36RB-Middle (19)	1907.5 (26615)	22.09	21.19
		1882.5 (26365)	22.13	21.16
		1857.5 (26115)	21.88	20.96
	36RB-Low (0)	1907.5 (26615)	21.96	21.00
		1882.5 (26365)	22.03	21.27
		1857.5 (26115)	21.66	20.53
	75RB (0)	1907.5 (26615)	21.97	21.12
		1882.5 (26365)	22.11	21.24
		1857.5 (26115)	21.88	20.95

20MHz	1RB-High (99)	1905 (26590)	23.18	21.92
		1882.5 (26365)	23.50	22.18
		1860 (26140)	23.05	21.82
	1RB-Middle (50)	1905 (26590)	23.30	22.46
		1882.5 (26365)	23.64	22.39
		1860 (26140)	23.34	21.87
	1RB-Low (0)	1905 (26590)	23.19	22.13
		1882.5 (26365)	23.28	22.03
		1860 (26140)	22.62	21.37
	50RB-High (50)	1905 (26590)	22.28	21.13
		1882.5 (26365)	22.50	21.38
		1860 (26140)	22.08	21.21
	50RB-Middle (25)	1905 (26590)	22.43	21.54
		1882.5 (26365)	22.49	21.39
		1860 (26140)	22.07	21.33
	50RB-Low (0)	1905 (26590)	22.30	21.53
		1882.5 (26365)	22.36	21.24
		1860 (26140)	21.95	20.96
	100RB (0)	1905 (26590)	22.27	21.41
		1882.5 (26365)	22.42	21.34
		1860 (26140)	22.03	21.15

LTEBAND26

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Actual output power (dBm)	
	RB offset		QPSK	16QAM
1.4MHz	1RB-High (5)	848.3 (27033)	22.76	21.91
		831.5 (26865)	23.02	22.03
		814.7 (26697)	22.84	21.83
	1RB-Middle (3)	848.3 (27033)	22.91	21.92
		831.5 (26865)	23.14	22.15
		814.7 (26697)	23.00	21.83
	1RB-Low (0)	848.3 (27033)	22.96	21.86
		831.5 (26865)	23.00	22.11
		814.7 (26697)	22.95	21.82
	3RB-High (3)	848.3 (27033)	22.86	21.84
		831.5 (26865)	23.07	22.23
		814.7 (26697)	23.03	21.85
	3RB-Middle (1)	848.3 (27033)	22.93	21.86
		831.5 (26865)	23.02	22.23
		814.7 (26697)	23.00	21.99
	3RB-Low (0)	848.3 (27033)	22.89	21.95
		831.5 (26865)	23.39	22.05
		814.7 (26697)	22.90	21.90
	6RB (0)	848.3 (27033)	21.82	21.09
		831.5 (26865)	22.33	21.45
		814.7 (26697)	21.88	21.06

3MHz	1RB-High (14)	847.5 (27025)	22.86	21.84
		831.5 (26865)	23.19	22.17
		815.5 (26705)	23.15	22.05
	1RB-Middle (7)	847.5 (27025)	23.22	21.85
		831.5 (26865)	23.32	22.03
		815.5 (26705)	23.37	22.06
	1RB-Low (0)	847.5 (27025)	23.04	21.95
		831.5 (26865)	23.29	22.24
		815.5 (26705)	23.15	22.31
	8RB-High (7)	847.5 (27025)	21.70	21.04
		831.5 (26865)	22.39	21.34
		815.5 (26705)	22.04	21.50
	8RB-Middle (4)	847.5 (27025)	21.93	21.02
		831.5 (26865)	22.28	20.99
		815.5 (26705)	22.02	21.15
	8RB-Low (0)	847.5 (27025)	21.95	21.00
		831.5 (26865)	22.30	20.86
		815.5 (26705)	22.03	21.12
	15RB (0)	847.5 (27025)	21.85	20.85
		831.5 (26865)	22.35	21.02
		815.5 (26705)	22.05	21.09
5MHz	1RB-High (24)	846.5 (27015)	22.84	21.15
		831.5 (26865)	23.03	21.64
		816.5 (26715)	22.81	21.59
	1RB-Middle (12)	846.5 (27015)	22.88	22.08
		831.5 (26865)	22.59	21.85
		816.5 (26715)	22.86	21.72
	1RB-Low (0)	846.5 (27015)	22.94	21.39
		831.5 (26865)	22.97	21.68
		816.5 (26715)	23.14	21.49
	12RB-High (13)	846.5 (27015)	22.01	20.86
		831.5 (26865)	22.32	21.22
		816.5 (26715)	22.02	21.03
	12RB-Middle (6)	846.5 (27015)	22.00	21.06
		831.5 (26865)	22.34	21.25
		816.5 (26715)	22.19	21.29
	12RB-Low (0)	846.5 (27015)	21.93	21.12
		831.5 (26865)	22.25	21.14
		816.5 (26715)	21.94	21.15
	25RB (0)	846.5 (27015)	21.81	21.03
		831.5 (26865)	22.24	21.48
		816.5 (26715)	22.05	21.06

10MHz	1RB-High (49)	844 (26990)	22.69	21.59
		831.5 (26865)	22.98	22.46
		820 (26750)	23.37	22.63
	1RB-Middle (24)	844 (26990)	23.16	22.30
		831.5 (26865)	23.27	22.55
		820 (26750)	23.32	21.76
	1RB-Low (0)	844 (26990)	22.88	21.80
		831.5 (26865)	22.76	22.36
		820 (26750)	22.79	21.42
	25RB-High (25)	844 (26990)	22.06	21.07
		831.5 (26865)	22.21	21.17
		820 (26750)	22.05	21.19
	25RB-Middle (12)	844 (26990)	21.80	21.05
		831.5 (26865)	22.31	21.34
		820 (26750)	22.08	21.23
	25RB-Low (0)	844 (26990)	21.97	20.98
		831.5 (26865)	22.24	21.26
		820 (26750)	21.98	21.16
	50RB (0)	844 (26990)	22.07	20.86
		831.5 (26865)	22.40	21.24
		820 (26750)	22.00	21.05
15MHz	1RB-High (74)	841.5 (26965)	23.18	22.66
		831.5 (26865)	23.59	22.32
		822.5 (26775)	23.33	22.70
	1RB-Middle (37)	841.5 (26965)	23.37	22.93
		831.5 (26865)	23.59	22.97
		822.5 (26775)	23.39	22.50
	1RB-Low (0)	841.5 (26965)	23.48	22.84
		831.5 (26865)	23.56	22.70
		822.5 (26775)	23.15	22.59
	36RB-High (38)	841.5 (26965)	22.10	21.02
		831.5 (26865)	22.22	21.18
		822.5 (26775)	22.38	21.42
	36RB-Middle (19)	841.5 (26965)	22.00	21.09
		831.5 (26865)	22.36	21.36
		822.5 (26775)	22.39	21.42
	36RB-Low (0)	841.5 (26965)	22.01	20.95
		831.5 (26865)	22.31	21.10
		822.5 (26775)	22.08	21.10
	75RB (0)	841.5 (26965)	22.01	21.06
		831.5 (26865)	22.44	21.31
		822.5 (26775)	22.25	21.24

LTEBAND41 PC3

Bandwidth (MHz)	RB allocation RB offset	Frequency (MHz)	Actual output power (dBm) QPSK	 16QAM
5MHz	1RB-High (24)	2687.5 (41565)	23.17	22.31
		2640.3(41093)	23.19	22.37
		2593 (40620)	23.63	22.33
		2545.8(40148)	23.57	22.70
		2498.5 (39675)	23.15	22.47
	1RB-Middle (12)	2687.5 (41565)	23.48	22.57
		2640.3(41093)	23.60	22.60
		2593 (40620)	23.73	22.52
		2545.8(40148)	22.95	22.71
		2498.5 (39675)	23.80	22.78
	1RB-Low (0)	2687.5 (41565)	22.99	22.46
		2640.3(41093)	23.15	22.35
		2593 (40620)	23.43	22.02
		2545.8(40148)	23.79	22.50
		2498.5 (39675)	23.63	22.50
	12RB-High (13)	2687.5 (41565)	22.11	21.08
		2640.3(41093)	22.51	21.34
		2593 (40620)	22.92	21.56
		2545.8(40148)	22.97	21.88
		2498.5 (39675)	22.30	21.32
	12RB-Middle (6)	2687.5 (41565)	22.24	21.12
		2640.3(41093)	22.33	21.28
		2593 (40620)	22.93	21.59
		2545.8(40148)	22.80	21.64
		2498.5 (39675)	22.50	21.41
	12RB-Low (0)	2687.5 (41565)	22.16	20.95
		2640.3(41093)	22.49	21.31
		2593 (40620)	22.94	21.47
		2545.8(40148)	22.76	21.84
		2498.5 (39675)	22.36	21.28
	25RB (0)	2687.5 (41565)	22.13	21.08
		2640.3(41093)	22.53	21.15
		2593 (40620)	22.93	21.57
		2545.8(40148)	22.79	21.64
		2498.5 (39675)	22.34	21.13
10MHz	1RB-High (49)	2685 (41540)	23.22	21.49
		2639(41080)	23.14	22.59
		2593 (40620)	23.30	22.61
		2547(40160)	23.79	22.38
		2501 (39700)	23.30	22.26
	1RB-Middle (24)	2685 (41540)	23.27	21.82
		2639(41080)	23.51	22.99
		2593 (40620)	23.73	22.91
		2547(40160)	23.76	22.51
		2501 (39700)	23.54	22.95
	1RB-Low (0)	2685 (41540)	23.01	21.58
		2639(41080)	23.20	22.49
		2593 (40620)	23.60	22.97
		2547(40160)	23.70	22.14
		2501 (39700)	23.20	22.95
	25RB-High (25)	2685 (41540)	22.26	21.34
		2639(41080)	22.47	21.40
		2593 (40620)	22.98	21.81
		2547(40160)	22.99	21.73
		2501 (39700)	22.60	21.69
	25RB-Middle (12)	2685 (41540)	22.48	21.48
		2639(41080)	22.52	21.39
		2593 (40620)	22.93	21.82
		2547(40160)	22.98	21.85
		2501 (39700)	22.41	21.50
	25RB-Low (0)	2685 (41540)	22.19	21.11
		2639(41080)	22.35	21.30
		2593 (40620)	22.70	21.80
		2547(40160)	22.92	21.77
		2501 (39700)	22.24	21.13
	50RB (0)	2685 (41540)	22.34	21.13
		2639(41080)	22.37	21.27
		2593 (40620)	22.64	21.42
		2547(40160)	22.81	21.79
		2501 (39700)	22.48	21.22

15MHz	1RB-High (74)	2682.5 (41515)	23.02	22.62
		2637.8(41068)	23.08	22.39
		2593 (40620)	23.50	22.27
		2548.3(40173)	23.53	22.67
		2503.5 (39725)	23.26	22.32
	1RB-Middle (37)	2682.5 (41515)	23.38	22.93
		2637.8(41068)	23.39	22.76
		2593 (40620)	23.58	22.03
		2548.3(40173)	23.70	22.94
		2503.5 (39725)	23.27	22.59
	1RB-Low (0)	2682.5 (41515)	23.15	22.85
		2637.8(41068)	23.13	22.60
		2593 (40620)	23.44	22.16
		2548.3(40173)	23.47	22.98
		2503.5 (39725)	23.13	22.31
	36RB-High (38)	2682.5 (41515)	22.35	21.30
		2637.8(41068)	22.39	21.46
		2593 (40620)	22.75	21.76
		2548.3(40173)	22.55	21.96
		2503.5 (39725)	22.38	21.39
	36RB-Middle (19)	2682.5 (41515)	22.44	21.23
		2637.8(41068)	22.37	21.57
		2593 (40620)	22.64	21.60
		2548.3(40173)	22.60	21.96
		2503.5 (39725)	22.41	21.28
	36RB-Low (0)	2682.5 (41515)	22.12	21.33
		2637.8(41068)	22.11	21.27
		2593 (40620)	22.42	21.65
		2548.3(40173)	22.57	21.61
		2503.5 (39725)	22.12	21.14
	75RB (0)	2682.5 (41515)	22.22	20.99
		2637.8(41068)	22.16	21.26
		2593 (40620)	22.63	21.56
		2548.3(40173)	22.55	21.83
		2503.5 (39725)	22.20	21.18
20MHz	1RB-High (99)	2680 (41490)	23.08	22.14
		2636.5(41055)	23.09	22.13
		2593 (40620)	23.43	22.52
		2549.5(40185)	23.19	22.51
		2506 (39750)	23.43	22.26
	1RB-Middle (50)	2680 (41490)	23.64	22.61
		2636.5(41055)	23.70	22.35
		2593 (40620)	23.90	22.74
		2549.5(40185)	23.98	22.84
		2506 (39750)	23.69	22.35
	1RB-Low (0)	2680 (41490)	22.91	22.02
		2636.5(41055)	23.17	22.03
		2593 (40620)	23.84	22.35
		2549.5(40185)	23.30	22.29
		2506 (39750)	23.23	22.01
	50RB-High (50)	2680 (41490)	22.32	21.39
		2636.5(41055)	22.28	21.33
		2593 (40620)	22.61	21.77
		2549.5(40185)	22.58	21.73
		2506 (39750)	22.37	21.31
	50RB-Middle (25)	2680 (41490)	22.54	21.28
		2636.5(41055)	22.52	21.40
		2593 (40620)	22.80	21.62
		2549.5(40185)	22.82	21.63
		2506 (39750)	22.42	21.29
	50RB-Low (0)	2680 (41490)	22.19	21.05
		2636.5(41055)	22.15	21.19
		2593 (40620)	22.53	21.39
		2549.5(40185)	22.51	21.45
		2506 (39750)	22.25	21.24
	100RB (0)	2680 (41490)	22.16	21.09
		2636.5(41055)	22.21	21.39
		2593 (40620)	22.53	21.49
		2549.5(40185)	22.60	21.45
		2506 (39750)	22.11	21.11

LTEBAND41 PC2

Bandwidth (MHz)	RB allocation RB offset	Frequency (MHz)	Actual output power (dBm)	
			QPSK	16QAM
5MHz	1RB-High (24)	2687.5 (41565)	25.89	24.81
		2640.3(41093)	25.71	24.85
		2593 (40620)	25.99	24.68
		2545.8(40148)	26.30	25.16
		2498.5 (39675)	25.48	24.93
	1RB-Middle (12)	2687.5 (41565)	26.20	25.19
		2640.3(41093)	26.03	24.98
		2593 (40620)	26.46	24.88
		2545.8(40148)	26.62	25.64
		2498.5 (39675)	26.36	24.97
	1RB-Low (0)	2687.5 (41565)	26.01	24.59
		2640.3(41093)	25.97	24.84
		2593 (40620)	26.30	24.80
		2545.8(40148)	26.25	25.14
		2498.5 (39675)	25.93	24.94
	12RB-High (13)	2687.5 (41565)	24.81	23.92
		2640.3(41093)	24.95	24.04
		2593 (40620)	25.30	24.18
		2545.8(40148)	25.48	24.60
		2498.5 (39675)	24.97	24.10
	12RB-Middle (6)	2687.5 (41565)	24.93	24.13
		2640.3(41093)	25.05	24.25
		2593 (40620)	25.32	24.12
		2545.8(40148)	25.44	24.56
		2498.5 (39675)	25.07	24.20
	12RB-Low (0)	2687.5 (41565)	24.85	24.04
		2640.3(41093)	24.93	24.15
		2593 (40620)	25.33	24.31
		2545.8(40148)	25.54	24.46
		2498.5 (39675)	24.93	24.06
	25RB (0)	2687.5 (41565)	24.90	23.94
		2640.3(41093)	24.96	24.01
		2593 (40620)	25.31	24.44
		2545.8(40148)	25.49	24.35
		2498.5 (39675)	24.98	23.94
10MHz	1RB-High (49)	2685 (41540)	25.83	24.38
		2639(41080)	25.65	25.69
		2593 (40620)	26.21	25.85
		2547(40160)	26.44	24.86
		2501 (39700)	25.76	25.96
	1RB-Middle (24)	2685 (41540)	25.90	24.23
		2639(41080)	26.06	25.91
		2593 (40620)	26.29	25.90
		2547(40160)	26.50	24.82
		2501 (39700)	25.82	25.87
	1RB-Low (0)	2685 (41540)	25.88	24.22
		2639(41080)	25.83	25.73
		2593 (40620)	26.19	25.80
		2547(40160)	26.53	24.74
		2501 (39700)	25.79	25.78
	25RB-High (25)	2685 (41540)	25.14	23.82
		2639(41080)	25.14	24.08
		2593 (40620)	25.58	24.55
		2547(40160)	25.64	24.48
		2501 (39700)	25.30	24.13
	25RB-Middle (12)	2685 (41540)	24.91	23.98
		2639(41080)	25.08	24.21
		2593 (40620)	25.53	24.53
		2547(40160)	25.46	24.44
		2501 (39700)	25.06	24.05
	25RB-Low (0)	2685 (41540)	24.88	23.95
		2639(41080)	25.01	24.14
		2593 (40620)	25.33	24.60
		2547(40160)	25.40	24.33
		2501 (39700)	24.98	23.92
	50RB (0)	2685 (41540)	24.85	23.96
		2639(41080)	25.12	24.17
		2593 (40620)	25.40	24.25
		2547(40160)	25.46	24.49
		2501 (39700)	25.04	24.00

15MHz	1RB-High (74)	2682.5 (41515)	25.47	25.02
		2637.8(41068)	25.74	25.23
		2593 (40620)	26.28	24.87
		2548.3(40173)	25.99	25.59
		2503.5 (39725)	25.54	25.38
	1RB-Middle (37)	2682.5 (41515)	25.68	25.12
		2637.8(41068)	25.76	25.33
		2593 (40620)	26.33	24.75
		2548.3(40173)	26.14	25.66
		2503.5 (39725)	25.79	25.46
	1RB-Low (0)	2682.5 (41515)	25.75	25.19
		2637.8(41068)	25.84	25.61
		2593 (40620)	26.20	24.89
		2548.3(40173)	26.12	25.44
		2503.5 (39725)	25.54	25.30
	36RB-High (38)	2682.5 (41515)	24.79	23.85
		2637.8(41068)	24.78	24.02
		2593 (40620)	25.32	24.33
		2548.3(40173)	25.43	24.35
		2503.5 (39725)	24.79	23.78
	36RB-Middle (19)	2682.5 (41515)	24.76	23.92
		2637.8(41068)	24.90	24.06
		2593 (40620)	25.29	24.30
		2548.3(40173)	25.39	24.32
		2503.5 (39725)	24.93	23.99
	36RB-Low (0)	2682.5 (41515)	24.70	23.85
		2637.8(41068)	24.79	24.02
		2593 (40620)	25.24	24.43
		2548.3(40173)	25.30	24.16
		2503.5 (39725)	24.66	23.75
	75RB (0)	2682.5 (41515)	24.67	24.01
		2637.8(41068)	24.64	24.00
		2593 (40620)	25.22	24.41
		2548.3(40173)	25.29	24.41
		2503.5 (39725)	24.51	24.03
20MHz	1RB-High (99)	2680 (41490)	26.28	25.09
		2636.5(41055)	26.29	24.46
		2593 (40620)	26.30	25.58
		2549.5(40185)	26.48	25.59
		2506 (39750)	26.37	25.16
	1RB-Middle (50)	2680 (41490)	26.75	25.52
		2636.5(41055)	26.62	25.11
		2593 (40620)	26.61	25.54
		2549.5(40185)	26.95	25.59
		2506 (39750)	26.56	25.27
	1RB-Low (0)	2680 (41490)	26.16	24.69
		2636.5(41055)	26.61	24.71
		2593 (40620)	26.18	24.93
		2549.5(40185)	26.55	24.72
		2506 (39750)	26.17	24.53
	50RB-High (50)	2680 (41490)	25.36	24.29
		2636.5(41055)	25.37	24.29
		2593 (40620)	25.83	24.70
		2549.5(40185)	25.57	24.65
		2506 (39750)	25.39	24.26
	50RB-Middle (25)	2680 (41490)	25.13	24.28
		2636.5(41055)	25.51	24.45
		2593 (40620)	25.56	24.62
		2549.5(40185)	25.52	24.64
		2506 (39750)	25.22	24.34
	50RB-Low (0)	2680 (41490)	25.18	24.31
		2636.5(41055)	25.29	24.30
		2593 (40620)	25.58	24.66
		2549.5(40185)	25.53	24.69
		2506 (39750)	25.30	24.27
	100RB (0)	2680 (41490)	25.78	24.25
		2636.5(41055)	25.33	24.26
		2593 (40620)	25.48	24.60
		2549.5(40185)	25.70	24.56
		2506 (39750)	25.47	24.22

LTEBAND66

Bandwidth (MHz)	RB allocation	Frequency (MHz)	Actual output power (dBm)	
	RB offset		QPSK	16QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	22.65	21.89
		1745 (132322)	23.03	21.92
		1710.7 (131979)	23.11	22.15
	1RB-Middle (3)	1779.3 (132665)	23.05	21.97
		1745 (132322)	23.04	21.96
		1710.7 (131979)	23.19	22.26
	1RB-Low (0)	1779.3 (132665)	22.73	21.94
		1745 (132322)	23.03	21.87
		1710.7 (131979)	23.31	22.20
	3RB-High (3)	1779.3 (132665)	22.84	22.01
		1745 (132322)	22.95	21.83
		1710.7 (131979)	23.11	22.11
	3RB-Middle (1)	1779.3 (132665)	22.66	21.94
		1745 (132322)	22.83	21.92
		1710.7 (131979)	23.09	22.14
	3RB-Low (0)	1779.3 (132665)	22.62	21.95
		1745 (132322)	22.78	21.88
		1710.7 (131979)	23.01	22.09
	6RB (0)	1779.3 (132665)	21.68	20.94
		1745 (132322)	21.81	20.86
		1710.7 (131979)	21.99	21.01
3MHz	1RB-High (14)	1778.5 (132657)	22.84	21.53
		1745 (132322)	22.94	21.84
		1711.5 (131987)	22.94	21.74
	1RB-Middle (7)	1778.5 (132657)	22.90	21.79
		1745 (132322)	23.00	22.18
		1711.5 (131987)	23.16	21.89
	1RB-Low (0)	1778.5 (132657)	22.79	21.84
		1745 (132322)	22.73	22.00
		1711.5 (131987)	22.91	21.76
	8RB-High (7)	1778.5 (132657)	21.80	21.01
		1745 (132322)	21.82	21.23
		1711.5 (131987)	22.09	21.03
	8RB-Middle (4)	1778.5 (132657)	21.81	20.67
		1745 (132322)	21.98	20.93
		1711.5 (131987)	22.13	21.11
	8RB-Low (0)	1778.5 (132657)	21.79	20.78
		1745 (132322)	22.00	20.98
		1711.5 (131987)	22.10	21.08
	15RB (0)	1778.5 (132657)	21.67	20.84
		1745 (132322)	21.93	20.84
		1711.5 (131987)	22.07	21.03

5MHz	1RB-High (24)	1777.5 (132647)	22.77	21.24
		1745 (132322)	22.69	21.37
		1712.5 (131997)	22.84	21.51
	1RB-Middle (12)	1777.5 (132647)	23.26	21.32
		1745 (132322)	23.14	21.48
		1712.5 (131997)	23.50	21.61
	1RB-Low (0)	1777.5 (132647)	22.92	21.29
		1745 (132322)	22.75	21.56
		1712.5 (131997)	23.02	21.57
	12RB-High (13)	1777.5 (132647)	21.77	20.85
		1745 (132322)	21.74	20.76
		1712.5 (131997)	21.94	21.02
	12RB-Middle (6)	1777.5 (132647)	21.90	21.06
		1745 (132322)	21.89	20.91
		1712.5 (131997)	22.13	21.13
	12RB-Low (0)	1777.5 (132647)	21.88	21.04
		1745 (132322)	21.89	20.93
		1712.5 (131997)	22.10	21.19
	25RB (0)	1777.5 (132647)	21.69	20.69
		1745 (132322)	21.75	20.87
		1712.5 (131997)	21.98	20.89
10MHz	1RB-High (49)	1775 (132622)	22.91	21.64
		1745 (132322)	22.78	21.48
		1715 (132022)	22.83	21.88
	1RB-Middle (24)	1775 (132622)	23.13	22.37
		1745 (132322)	23.20	21.66
		1715 (132022)	23.16	22.40
	1RB-Low (0)	1775 (132622)	22.98	21.85
		1745 (132322)	22.88	21.82
		1715 (132022)	23.12	21.97
	25RB-High (25)	1775 (132622)	21.74	20.82
		1745 (132322)	21.84	20.85
		1715 (132022)	22.03	21.10
	25RB-Middle (12)	1775 (132622)	21.78	20.97
		1745 (132322)	21.98	21.01
		1715 (132022)	22.19	21.26
	25RB-Low (0)	1775 (132622)	21.77	20.80
		1745 (132322)	21.98	21.12
		1715 (132022)	22.15	21.22
	50RB (0)	1775 (132622)	21.71	20.64
		1745 (132322)	21.83	20.84
		1715 (132022)	22.00	21.00

15MHz	1RB-High (74)	1772.5 (132597)	22.86	21.57
		1745 (132322)	22.71	21.10
		1717.5 (132047)	22.95	22.56
	1RB-Middle (37)	1772.5 (132597)	22.76	22.43
		1745 (132322)	22.98	22.19
		1717.5 (132047)	22.93	22.59
	1RB-Low (0)	1772.5 (132597)	22.70	21.61
		1745 (132322)	22.92	21.37
		1717.5 (132047)	23.09	22.60
	36RB-High (38)	1772.5 (132597)	21.77	20.80
		1745 (132322)	21.72	20.92
		1717.5 (132047)	21.89	20.75
	36RB-Middle (19)	1772.5 (132597)	21.76	20.69
		1745 (132322)	21.82	20.97
		1717.5 (132047)	21.95	21.06
	36RB-Low (0)	1772.5 (132597)	21.67	20.55
		1745 (132322)	21.80	20.92
		1717.5 (132047)	21.99	21.12
	75RB (0)	1772.5 (132597)	21.73	20.69
		1745 (132322)	21.69	20.86
		1717.5 (132047)	21.97	21.03
20MHz	1RB-High (99)	1770 (132572)	23.03	21.82
		1745 (132322)	23.01	21.35
		1720 (132072)	22.68	21.57
	1RB-Middle (50)	1770 (132572)	23.71	21.69
		1745 (132322)	23.53	21.93
		1720 (132072)	23.32	21.81
	1RB-Low (0)	1770 (132572)	22.98	21.49
		1745 (132322)	23.25	21.85
		1720 (132072)	22.93	21.65
	50RB-High (50)	1770 (132572)	21.94	21.11
		1745 (132322)	21.98	21.05
		1720 (132072)	22.05	21.21
	50RB-Middle (25)	1770 (132572)	21.96	21.01
		1745 (132322)	22.09	21.12
		1720 (132072)	22.11	21.28
	50RB-Low (0)	1770 (132572)	21.81	21.08
		1745 (132322)	22.07	21.13
		1720 (132072)	22.27	21.42
	100RB (0)	1770 (132572)	21.96	21.02
		1745 (132322)	21.94	21.05
		1720 (132072)	22.11	21.17

LTEBAND71

Bandwidth (MHz)	RB allocation	Frequency (MHz)	Actual output power (dBm)	
	RB offset		QPSK	16QAM
5MHz	1RB-High (24)	695.5 (133447)	22.78	21.78
		680.5 (133297)	22.75	21.61
		665.5 (133147)	23.11	21.58
	1RB-Middle (12)	695.5 (133447)	23.11	21.67
		680.5 (133297)	23.12	21.97
		665.5 (133147)	23.39	21.67
	1RB-Low (0)	695.5 (133447)	22.70	21.46
		680.5 (133297)	23.05	21.52
		665.5 (133147)	22.89	21.23
	12RB-High (13)	695.5 (133447)	21.87	20.85
		680.5 (133297)	21.88	20.69
		665.5 (133147)	21.94	21.01
	12RB-Middle (6)	695.5 (133447)	21.96	20.92
		680.5 (133297)	22.02	21.10
		665.5 (133147)	21.87	21.03
	12RB-Low (0)	695.5 (133447)	21.93	20.91
		680.5 (133297)	21.98	21.05
		665.5 (133147)	22.05	21.20
	25RB (0)	695.5 (133447)	21.86	20.87
		680.5 (133297)	21.91	20.91
		665.5 (133147)	21.99	21.33
10MHz	1RB-High (49)	693 (132422)	22.72	22.06
		680.5 (133297)	22.83	21.72
		668 (133172)	23.03	22.09
	1RB-Middle (24)	693 (132422)	23.20	22.01
		680.5 (133297)	23.17	22.20
		668 (133172)	23.22	22.23
	1RB-Low (0)	693 (132422)	22.78	21.98
		680.5 (133297)	22.93	21.93
		668 (133172)	23.00	22.02
	25RB-High (25)	693 (132422)	22.00	21.17
		680.5 (133297)	21.84	21.25
		668 (133172)	21.97	21.04
	25RB-Middle (12)	693 (132422)	21.98	21.25
		680.5 (133297)	21.98	21.22
		668 (133172)	22.02	21.10
	25RB-Low (0)	693 (132422)	21.87	21.07
		680.5 (133297)	21.98	21.24
		668 (133172)	22.09	20.91
	50RB (0)	693 (132422)	21.98	21.05
		680.5 (133297)	21.85	20.91
		668 (133172)	21.81	20.73

15MHz	1RB-High (74)	690.5 (133397)	23.25	22.07
		680.5 (133297)	22.91	22.38
		670.5 (133197)	23.03	21.91
	1RB-Middle (37)	690.5 (133397)	23.40	22.69
		680.5 (133297)	23.12	22.71
		670.5 (133197)	23.01	22.92
	1RB-Low (0)	690.5 (133397)	23.38	22.28
		680.5 (133297)	23.24	22.54
		670.5 (133197)	23.10	22.74
	36RB-High (38)	690.5 (133397)	22.19	21.23
		680.5 (133297)	22.14	21.15
		670.5 (133197)	22.31	21.30
	36RB-Middle (19)	690.5 (133397)	22.24	21.27
		680.5 (133297)	22.24	21.35
		670.5 (133197)	22.23	21.19
	36RB-Low (0)	690.5 (133397)	22.07	21.19
		680.5 (133297)	22.16	21.49
		670.5 (133197)	22.15	21.12
	75RB (0)	690.5 (133397)	22.02	21.13
		680.5 (133297)	22.11	21.05
		670.5 (133197)	22.21	21.31
20MHz	1RB-High (99)	688 (133372)	22.97	21.94
		683 (133322)	22.68	21.40
		673 (133222)	22.66	21.36
	1RB-Middle (50)	688 (133372)	23.23	22.16
		683 (133322)	23.12	21.73
		673 (133222)	23.08	21.74
	1RB-Low (0)	688 (133372)	22.75	21.66
		683 (133322)	22.71	21.66
		673 (133222)	22.47	21.38
	50RB-High (50)	688 (133372)	22.04	20.92
		683 (133322)	21.93	20.85
		673 (133222)	22.01	21.03
	50RB-Middle (25)	688 (133372)	21.89	21.08
		683 (133322)	22.02	20.94
		673 (133222)	22.12	21.23
	50RB-Low (0)	688 (133372)	21.93	20.84
		683 (133322)	21.93	20.87
		673 (133222)	22.08	21.11
	100RB (0)	688 (133372)	21.94	20.97
		683 (133322)	21.93	20.89
		673 (133222)	21.98	21.02

Low power

LTEBAND25

Bandwidth (MHz)	RB allocation	Frequency (MHz)	Actual output power (dBm)	
	RB offset		QPSK	16QAM
1.4MHz	1RB-High (5)	1914.3 (26683)	21.03	21.00
		1882.5 (26365)	21.13	21.12
		1850.7 (26047)	20.74	21.33
	1RB-Middle (3)	1914.3 (26683)	21.36	21.14
		1882.5 (26365)	21.35	21.17
		1850.7 (26047)	21.03	21.40
	1RB-Low (0)	1914.3 (26683)	21.14	21.10
		1882.5 (26365)	21.06	21.07
		1850.7 (26047)	20.85	21.40
	3RB-High (3)	1914.3 (26683)	21.12	21.02
		1882.5 (26365)	21.27	21.14
		1850.7 (26047)	21.03	21.08
	3RB-Middle (1)	1914.3 (26683)	21.14	21.30
		1882.5 (26365)	21.25	21.16
		1850.7 (26047)	21.03	21.04
	3RB-Low (0)	1914.3 (26683)	21.08	21.30
		1882.5 (26365)	21.19	21.12
		1850.7 (26047)	21.05	21.05
	6RB (0)	1914.3 (26683)	21.01	21.19
		1882.5 (26365)	21.18	21.23
		1850.7 (26047)	21.05	21.02
3MHz	1RB-High (14)	1913.5 (26675)	21.16	21.13
		1882.5 (26365)	21.26	21.06
		1851.5 (26055)	21.08	21.06
	1RB-Middle (7)	1913.5 (26675)	21.04	21.02
		1882.5 (26365)	21.33	21.12
		1851.5 (26055)	21.06	21.05
	1RB-Low (0)	1913.5 (26675)	21.28	21.05
		1882.5 (26365)	21.26	21.01
		1851.5 (26055)	20.98	20.89
	8RB-High (7)	1913.5 (26675)	21.15	21.13
		1882.5 (26365)	21.24	21.38
		1851.5 (26055)	21.07	20.88
	8RB-Middle (4)	1913.5 (26675)	21.26	21.18
		1882.5 (26365)	21.23	21.33
		1851.5 (26055)	21.04	21.08
	8RB-Low (0)	1913.5 (26675)	21.33	21.26
		1882.5 (26365)	21.16	21.21
		1851.5 (26055)	21.03	21.05
	15RB (0)	1913.5 (26675)	21.20	21.06
		1882.5 (26365)	21.26	21.30
		1851.5 (26055)	21.06	21.05

5MHz	1RB-High (24)	1912.5 (26665)	21.03	21.01
		1882.5 (26365)	21.26	21.04
		1852.5 (26065)	21.01	21.02
	1RB-Middle (12)	1912.5 (26665)	21.51	21.02
		1882.5 (26365)	21.35	21.11
		1852.5 (26065)	21.09	21.02
	1RB-Low (0)	1912.5 (26665)	21.15	20.71
		1882.5 (26365)	21.10	20.77
		1852.5 (26065)	20.81	20.52
	12RB-High (13)	1912.5 (26665)	21.21	21.19
		1882.5 (26365)	21.30	21.17
		1852.5 (26065)	21.08	20.90
	12RB-Middle (6)	1912.5 (26665)	21.36	21.36
		1882.5 (26365)	21.31	21.08
		1852.5 (26065)	21.03	21.02
	12RB-Low (0)	1912.5 (26665)	21.28	21.38
		1882.5 (26365)	21.23	21.02
		1852.5 (26065)	21.07	21.09
	25RB (0)	1912.5 (26665)	21.24	21.33
		1882.5 (26365)	21.27	21.08
		1852.5 (26065)	21.02	21.06
10MHz	1RB-High (49)	1910 (26640)	21.08	21.20
		1882.5 (26365)	21.41	21.41
		1855 (26090)	21.07	21.35
	1RB-Middle (24)	1910 (26640)	21.30	21.37
		1882.5 (26365)	21.47	21.74
		1855 (26090)	21.13	20.78
	1RB-Low (0)	1910 (26640)	21.01	21.07
		1882.5 (26365)	21.40	21.33
		1855 (26090)	21.05	21.11
	25RB-High (25)	1910 (26640)	21.24	21.39
		1882.5 (26365)	21.23	21.26
		1855 (26090)	21.02	21.18
	25RB-Middle (12)	1910 (26640)	21.31	21.50
		1882.5 (26365)	21.32	21.36
		1855 (26090)	21.02	21.08
	25RB-Low (0)	1910 (26640)	21.16	21.27
		1882.5 (26365)	21.23	21.16
		1855 (26090)	21.08	21.07
	50RB (0)	1910 (26640)	21.23	21.18
		1882.5 (26365)	21.28	21.20
		1855 (26090)	21.05	21.10

15MHz	1RB-High (74)	1907.5 (26615)	21.37	21.01
		1882.5 (26365)	21.23	21.41
		1857.5 (26115)	21.19	21.09
	1RB-Middle (37)	1907.5 (26615)	21.37	21.63
		1882.5 (26365)	21.47	21.87
		1857.5 (26115)	21.16	21.66
	1RB-Low (0)	1907.5 (26615)	21.36	21.54
		1882.5 (26365)	21.12	21.30
		1857.5 (26115)	21.05	21.01
	36RB-High (38)	1907.5 (26615)	21.38	21.32
		1882.5 (26365)	21.33	21.35
		1857.5 (26115)	21.10	21.16
	36RB-Middle (19)	1907.5 (26615)	21.35	21.38
		1882.5 (26365)	21.39	21.44
		1857.5 (26115)	21.07	21.07
	36RB-Low (0)	1907.5 (26615)	21.26	21.27
		1882.5 (26365)	21.23	21.11
		1857.5 (26115)	21.08	21.05
	75RB (0)	1907.5 (26615)	21.26	21.23
		1882.5 (26365)	21.30	21.30
		1857.5 (26115)	21.04	21.06
20MHz	1RB-High (99)	1905 (26590)	21.57	20.93
		1882.5 (26365)	21.01	20.78
		1860 (26140)	21.00	20.71
	1RB-Middle (50)	1905 (26590)	21.80	21.28
		1882.5 (26365)	21.25	21.05
		1860 (26140)	21.22	21.01
	1RB-Low (0)	1905 (26590)	21.58	20.85
		1882.5 (26365)	21.00	20.52
		1860 (26140)	20.85	20.46
	50RB-High (50)	1905 (26590)	21.30	21.14
		1882.5 (26365)	21.35	21.24
		1860 (26140)	21.17	21.09
	50RB-Middle (25)	1905 (26590)	21.34	21.45
		1882.5 (26365)	21.31	21.32
		1860 (26140)	21.08	21.18
	50RB-Low (0)	1905 (26590)	21.30	21.49
		1882.5 (26365)	21.25	21.25
		1860 (26140)	21.00	21.01
	100RB (0)	1905 (26590)	21.28	21.39
		1882.5 (26365)	21.33	21.36
		1860 (26140)	21.08	21.10

LTEBAND41 PC2

Bandwidth (MHz)	RB allocation	Frequency (MHz)	Actual output power (dBm)	
	RB offset		QPSK	16QAM
5MHz	1RB-High (24)	2687.5 (41565)	23.07	23.08
		2640.3(41093)	23.04	23.05
		2593 (40620)	23.26	23.32
		2545.8(40148)	23.49	23.41
		2498.5 (39675)	23.01	23.05
	1RB-Middle (12)	2687.5 (41565)	23.57	23.01
		2640.3(41093)	23.53	23.04
		2593 (40620)	23.46	23.44
		2545.8(40148)	23.85	23.23
		2498.5 (39675)	23.50	23.01
	1RB-Low (0)	2687.5 (41565)	23.18	23.08
		2640.3(41093)	23.22	23.01
		2593 (40620)	23.38	23.31
		2545.8(40148)	23.49	23.41
		2498.5 (39675)	23.09	23.06
	12RB-High (13)	2687.5 (41565)	23.06	23.09
		2640.3(41093)	23.13	23.05
		2593 (40620)	23.48	23.26
		2545.8(40148)	23.50	23.42
		2498.5 (39675)	23.18	23.08
	12RB-Middle (6)	2687.5 (41565)	23.13	23.21
		2640.3(41093)	23.14	23.19
		2593 (40620)	23.43	23.38
		2545.8(40148)	23.41	23.52
		2498.5 (39675)	23.36	23.15
	12RB-Low (0)	2687.5 (41565)	23.13	23.11
		2640.3(41093)	23.12	23.06
		2593 (40620)	23.41	23.38
		2545.8(40148)	23.42	23.50
		2498.5 (39675)	23.21	23.20
	25RB (0)	2687.5 (41565)	23.00	23.11
		2640.3(41093)	23.11	23.13
		2593 (40620)	23.48	23.37
		2545.8(40148)	23.48	23.51
		2498.5 (39675)	23.23	23.07
10MHz	1RB-High (49)	2685 (41540)	23.20	22.39
		2639(41080)	23.23	23.50
		2593 (40620)	23.55	23.46
		2547(40160)	23.48	23.07
		2501 (39700)	23.25	23.01
	1RB-Middle (24)	2685 (41540)	23.29	23.47
		2639(41080)	23.34	23.67
		2593 (40620)	23.69	23.66
		2547(40160)	23.54	23.29
		2501 (39700)	23.60	23.68
	1RB-Low (0)	2685 (41540)	23.08	23.12
		2639(41080)	23.15	23.37
		2593 (40620)	23.50	23.49
		2547(40160)	23.57	23.09
		2501 (39700)	23.24	23.57
	25RB-High (25)	2685 (41540)	23.10	23.09
		2639(41080)	23.06	23.02
		2593 (40620)	23.32	23.57
		2547(40160)	23.54	23.54
		2501 (39700)	23.38	23.28
	25RB-Middle (12)	2685 (41540)	23.05	23.12
		2639(41080)	23.17	23.07
		2593 (40620)	23.32	23.37
		2547(40160)	23.44	23.50
		2501 (39700)	23.18	23.17
	25RB-Low (0)	2685 (41540)	23.04	23.07
		2639(41080)	23.06	23.01
		2593 (40620)	23.38	23.49
		2547(40160)	23.45	23.36
		2501 (39700)	23.13	23.07
	50RB (0)	2685 (41540)	23.05	23.08
		2639(41080)	23.05	23.10
		2593 (40620)	23.32	23.48
		2547(40160)	23.49	23.44
		2501 (39700)	23.20	23.24

15MHz	1RB-High (74)	2682.5 (41515)	23.16	23.03
		2637.8(41068)	23.03	23.09
		2593 (40620)	23.50	23.46
		2548.3(40173)	23.56	23.09
		2503.5 (39725)	23.31	23.32
	1RB-Middle (37)	2682.5 (41515)	23.18	23.11
		2637.8(41068)	23.40	23.56
		2593 (40620)	23.58	23.57
		2548.3(40173)	23.57	23.08
		2503.5 (39725)	23.57	23.51
	1RB-Low (0)	2682.5 (41515)	23.14	23.05
		2637.8(41068)	23.38	23.43
		2593 (40620)	23.50	23.45
		2548.3(40173)	23.49	23.06
		2503.5 (39725)	23.27	23.18
	36RB-High (38)	2682.5 (41515)	23.13	23.09
		2637.8(41068)	23.14	23.03
		2593 (40620)	23.51	23.48
		2548.3(40173)	23.55	23.48
		2503.5 (39725)	23.38	23.08
	36RB-Middle (19)	2682.5 (41515)	23.09	23.23
		2637.8(41068)	23.19	23.15
		2593 (40620)	23.48	23.54
		2548.3(40173)	23.50	23.54
		2503.5 (39725)	23.35	23.18
	36RB-Low (0)	2682.5 (41515)	23.11	23.16
		2637.8(41068)	23.16	23.14
		2593 (40620)	23.52	23.47
		2548.3(40173)	23.56	23.50
		2503.5 (39725)	23.09	23.04
	75RB (0)	2682.5 (41515)	23.09	23.16
		2637.8(41068)	23.21	23.25
		2593 (40620)	23.51	23.47
		2548.3(40173)	23.42	23.46
		2503.5 (39725)	23.18	23.16
20MHz	1RB-High (99)	2680 (41490)	23.01	23.44
		2636.5(41055)	23.12	23.13
		2593 (40620)	23.50	23.12
		2549.5(40185)	23.28	23.57
		2506 (39750)	23.28	23.19
	1RB-Middle (50)	2680 (41490)	23.35	23.58
		2636.5(41055)	23.63	23.12
		2593 (40620)	23.66	23.13
		2549.5(40185)	23.85	23.59
		2506 (39750)	23.35	23.48
	1RB-Low (0)	2680 (41490)	23.16	23.53
		2636.5(41055)	23.33	23.28
		2593 (40620)	23.34	23.28
		2549.5(40185)	23.20	23.69
		2506 (39750)	23.05	23.25
	50RB-High (50)	2680 (41490)	23.03	23.15
		2636.5(41055)	23.12	23.30
		2593 (40620)	23.40	23.48
		2549.5(40185)	23.45	23.55
		2506 (39750)	23.13	23.13
	50RB-Middle (25)	2680 (41490)	23.11	23.34
		2636.5(41055)	23.24	23.41
		2593 (40620)	23.50	23.49
		2549.5(40185)	23.67	23.59
		2506 (39750)	23.18	23.17
	50RB-Low (0)	2680 (41490)	23.15	23.17
		2636.5(41055)	23.21	23.31
		2593 (40620)	23.53	23.43
		2549.5(40185)	23.62	23.45
		2506 (39750)	23.19	23.10
	100RB (0)	2680 (41490)	23.18	23.11
		2636.5(41055)	23.15	23.23
		2593 (40620)	23.50	23.41
		2549.5(40185)	23.59	23.45
		2506 (39750)	23.15	23.06

LTEBAND66

Bandwidth (MHz)	RB allocation RB offset	Frequency (MHz)	Actual output power (dBm)	
			QPSK	16QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	20.69	20.78
		1745 (132322)	20.75	20.91
		1710.7 (131979)	21.13	20.82
	1RB-Middle (3)	1779.3 (132665)	20.78	20.84
		1745 (132322)	20.80	20.72
		1710.7 (131979)	21.22	21.04
	1RB-Low (0)	1779.3 (132665)	20.76	20.79
		1745 (132322)	20.85	20.72
		1710.7 (131979)	20.93	20.73
	3RB-High (3)	1779.3 (132665)	20.68	20.88
		1745 (132322)	20.65	20.58
		1710.7 (131979)	20.80	20.96
	3RB-Middle (1)	1779.3 (132665)	20.78	20.99
		1745 (132322)	20.72	20.65
		1710.7 (131979)	21.12	21.12
	3RB-Low (0)	1779.3 (132665)	20.75	20.96
		1745 (132322)	20.69	20.62
		1710.7 (131979)	20.79	21.08
	6RB (0)	1779.3 (132665)	20.67	20.83
		1745 (132322)	20.82	20.69
		1710.7 (131979)	21.03	20.88
3MHz	1RB-High (14)	1778.5 (132657)	20.86	20.36
		1745 (132322)	20.85	20.49
		1711.5 (131987)	20.93	21.36
	1RB-Middle (7)	1778.5 (132657)	21.16	20.49
		1745 (132322)	20.96	20.72
		1711.5 (131987)	21.13	21.31
	1RB-Low (0)	1778.5 (132657)	20.95	20.46
		1745 (132322)	20.96	20.68
		1711.5 (131987)	21.22	21.27
	8RB-High (7)	1778.5 (132657)	20.74	20.82
		1745 (132322)	20.81	20.59
		1711.5 (131987)	20.85	21.07
	8RB-Middle (4)	1778.5 (132657)	20.86	20.70
		1745 (132322)	20.87	20.56
		1711.5 (131987)	20.89	21.14
	8RB-Low (0)	1778.5 (132657)	20.87	20.79
		1745 (132322)	20.90	20.60
		1711.5 (131987)	21.13	21.14
	15RB (0)	1778.5 (132657)	20.74	20.88
		1745 (132322)	20.83	20.83
		1711.5 (131987)	21.08	21.18

5MHz	1RB-High (24)	1777.5 (132647)	20.76	20.54
		1745 (132322)	20.86	20.40
		1712.5 (131997)	20.95	20.86
	1RB-Middle (12)	1777.5 (132647)	21.07	20.44
		1745 (132322)	21.14	20.49
		1712.5 (131997)	21.32	21.06
	1RB-Low (0)	1777.5 (132647)	20.67	20.29
		1745 (132322)	20.92	20.64
		1712.5 (131997)	21.10	20.85
	12RB-High (13)	1777.5 (132647)	20.80	20.89
		1745 (132322)	20.94	20.89
		1712.5 (131997)	21.09	21.12
	12RB-Middle (6)	1777.5 (132647)	20.90	21.08
		1745 (132322)	21.05	20.98
		1712.5 (131997)	21.25	21.28
	12RB-Low (0)	1777.5 (132647)	20.92	21.21
		1745 (132322)	21.03	21.05
		1712.5 (131997)	21.18	21.23
	25RB (0)	1777.5 (132647)	20.80	21.03
		1745 (132322)	20.88	21.03
		1712.5 (131997)	21.17	21.12
10MHz	1RB-High (49)	1775 (132622)	20.95	20.35
		1745 (132322)	20.94	20.68
		1715 (132022)	21.01	21.05
	1RB-Middle (24)	1775 (132622)	21.05	20.56
		1745 (132322)	20.98	21.08
		1715 (132022)	21.49	21.32
	1RB-Low (0)	1775 (132622)	20.85	20.21
		1745 (132322)	21.17	21.04
		1715 (132022)	21.26	21.19
	25RB-High (25)	1775 (132622)	20.68	20.77
		1745 (132322)	20.82	20.99
		1715 (132022)	21.09	21.04
	25RB-Middle (12)	1775 (132622)	20.79	20.96
		1745 (132322)	20.87	21.13
		1715 (132022)	21.10	21.23
	25RB-Low (0)	1775 (132622)	20.72	21.05
		1745 (132322)	20.93	21.01
		1715 (132022)	21.02	21.16
	50RB (0)	1775 (132622)	20.80	20.82
		1745 (132322)	20.86	20.90
		1715 (132022)	21.02	21.16

15MHz	1RB-High (74)	1772.5 (132597)	21.07	20.95
		1745 (132322)	20.84	21.37
		1717.5 (132047)	20.98	21.81
	1RB-Middle (37)	1772.5 (132597)	21.29	21.55
		1745 (132322)	21.02	21.31
		1717.5 (132047)	21.41	22.06
	1RB-Low (0)	1772.5 (132597)	21.11	20.96
		1745 (132322)	21.03	20.78
		1717.5 (132047)	21.40	21.86
	36RB-High (38)	1772.5 (132597)	20.93	21.03
		1745 (132322)	20.92	21.08
		1717.5 (132047)	21.06	20.98
	36RB-Middle (19)	1772.5 (132597)	20.91	20.00
		1745 (132322)	21.03	21.23
		1717.5 (132047)	21.23	21.09
	36RB-Low (0)	1772.5 (132597)	20.88	20.89
		1745 (132322)	21.07	21.28
		1717.5 (132047)	21.16	21.03
	75RB (0)	1772.5 (132597)	20.93	20.92
		1745 (132322)	20.91	21.00
		1717.5 (132047)	20.85	21.21
20MHz	1RB-High (99)	1770 (132572)	20.70	20.65
		1745 (132322)	20.59	20.78
		1720 (132072)	20.44	20.88
	1RB-Middle (50)	1770 (132572)	20.84	20.80
		1745 (132322)	20.95	20.91
		1720 (132072)	20.81	20.78
	1RB-Low (0)	1770 (132572)	20.69	20.12
		1745 (132322)	20.58	20.73
		1720 (132072)	20.63	20.50
	50RB-High (50)	1770 (132572)	20.74	20.74
		1745 (132322)	20.73	20.68
		1720 (132072)	20.84	20.81
	50RB-Middle (25)	1770 (132572)	20.73	20.58
		1745 (132322)	20.77	20.90
		1720 (132072)	20.97	21.09
	50RB-Low (0)	1770 (132572)	20.71	20.60
		1745 (132322)	20.81	20.97
		1720 (132072)	20.94	21.12
	100RB (0)	1770 (132572)	20.68	20.77
		1745 (132322)	20.77	20.76
		1720 (132072)	20.83	20.96

11.4 Wi-Fi and BT Measurement result

The output power of BT antenna is as following:
The maximum output power of BT is 11.54dBm and the tune up is 12dBm.

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

Table 11.4-2 WLAN 2.4G Low Power

802.11b	Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
WLAN2450	11(2462MHz)	/	/	16.40	/
	6(2437(MHz)	17.13	17.05	17.24	17.00
	1(2412MHz)	/	/	16.44	/
tuneup		**17.50**	**17.50**	**17.50**	**17.50**

802.11g	Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
WLAN2450	11(2462MHz)	14.93	/	/	/	/	/	/	/
	6(2437(MHz)	15.39	15.37	15.38	15.36	15.33	15.31	15.29	15.28
	1(2412MHz)	14.78	/	/	/	/	/	/	/
tuneup		**15.50**	**15.50**	**15.50**	**15.50**	**15.50**	**15.50**	**15.50**	**15.50**
802.11n-20MHz	Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
WLAN2450	11(2462MHz)	14.97	/	/	/	/	/	/	/
	6(2437(MHz)	15.38	15.36	15.35	15.32	15.30	15.29	15.28	14.30
	1(2412MHz)	14.82	/	/	/	/	/	/	/
tuneup		**15.50**	**15.50**	**15.50**	**15.50**	**15.50**	**15.50**	**15.50**	**15.50**

Table 11.4-3 WLAN 2.4G Normal Power

802.11b	Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
WLAN2450	11(2462MHz)	/	/	18.22	/
	6(2437(MHz)	18.70	18.64	18.88	18.77
	1(2412MHz)	/	/	18.37	/
tuneup		**19.00**	**19.00**	**19.00**	**19.00**

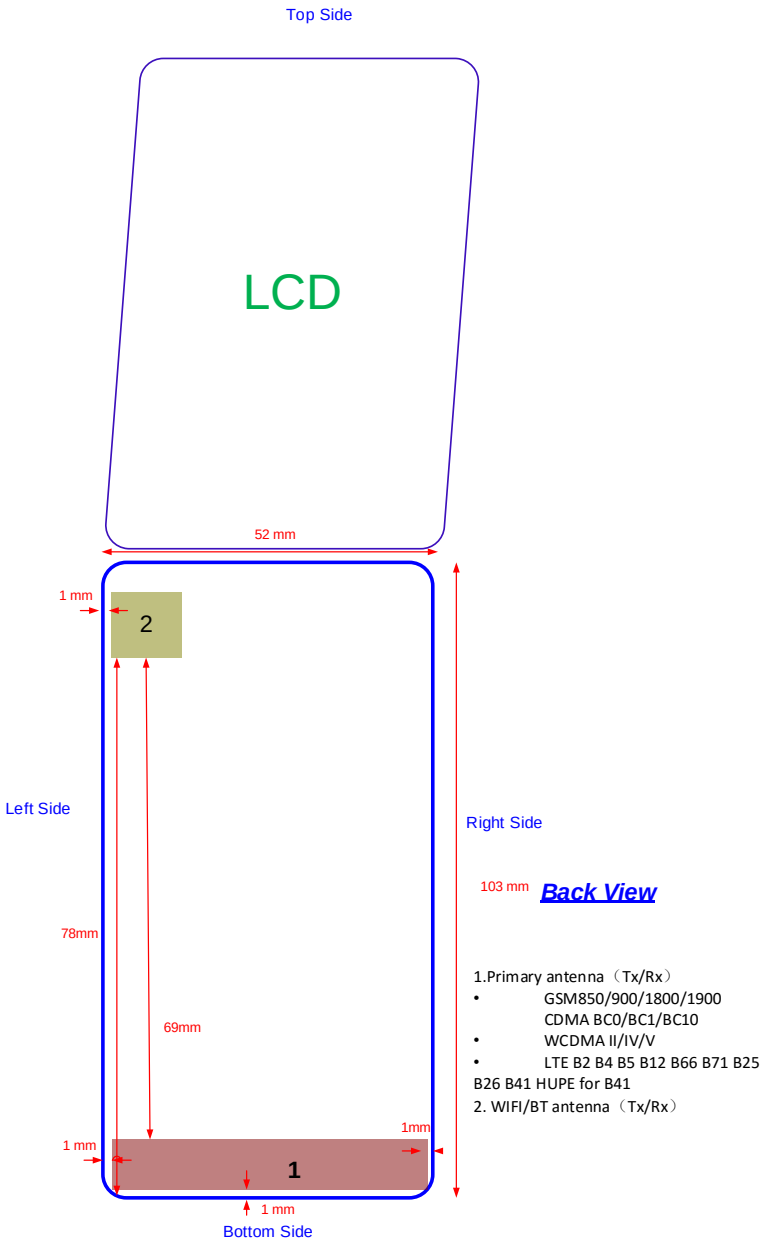
802.11g	Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
WLAN2450	11(2462MHz)	16.72	/	/	/	/	/	/	/
	6(2437(MHz)	17.13	17.06	17.08	17.07	17.04	17.04	17.02	16.14
	1(2412MHz)	16.65	/	/	/	/	/	/	/
tuneup		**17.50**	**17.50**	**17.50**	**17.50**	**17.50**	**17.50**	**17.50**	**17.50**
802.11n-20MHz	Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
WLAN2450	11(2462MHz)	16.82	/	/	/	/	/	/	/
	6(2437(MHz)	17.11	17.06	17.08	17.05	17.06	16.60	15.82	14.29
	1(2412MHz)	16.65	/	/	/	/	/	/	/
tuneup		**17.50**	**17.50**	**17.50**	**17.50**	**17.50**	**17.50**	**16.00**	**16.00**

12 Simultaneous TX SAR Considerations

12.1 Introduction

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

12.2 Transmit Antenna Separation Distances



Picture 12.1 Antenna Locations

12.3 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR v01, 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	Rear unfold	Bottom edge	Top
Main antenna	Yes	Yes	Yes	Yes	Yes	Yes	No
WLAN	Yes	Yes	No	Yes	Yes	Yes	Yes

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	9.6	**12**	15.8	No
		Body	19.2	**12**	15.8	No
2.4GHz WLAN 802.11 b	2.45	Head	9.58	**11**	12.59	No
		Body	19.17	**15**	31.6	No

Note: The result of Bluetooth Head and Body is lower than 0.01

13 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.

Mode	Duty Cycle
Speech for GSM850/1900	1:8.3
GPRS&EGPRS for GSM850/1900	1:8.3
WCDMA&FDD-LTE	1:1
TDD-LTE	1:1.58

13.1 SAR results

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./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	Left	Cheek	/	33.01	33.50	0.253	**0.28**	0.439	**0.49**	0.09
190	836.6	Left	Tilt	/	33.01	33.50	0.113	**0.13**	0.150	**0.17**	0.05
251	848.8	Right	Cheek	/	33.12	33.50	0.373	**0.41**	0.600	**0.65**	-0.04
190	836.6	Right	Cheek	/	33.01	33.50	0.272	**0.30**	0.446	**0.50**	-0.02
128	824.2	Right	Cheek	Fig.1	33.16	33.50	0.388	**0.42**	0.605	**0.65**	0.03
190	836.6	Right	Tilt	/	33.01	33.50	0.111	**0.12**	0.146	**0.16**	-0.09

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

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	GPRS (1)	Front	/	33.07	33.50	0.062	**0.07**	0.096	**0.11**	0.00
251	848.8	GPRS (1)	Rear	Fig.2	33.24	33.50	0.222	**0.24**	0.370	**0.39**	0.06
190	836.6	GPRS (1)	Rear	/	33.07	33.50	0.221	**0.24**	0.346	**0.38**	0.05
128	824.2	GPRS (1)	Rear	/	33.23	33.50	0.196	**0.21**	0.339	**0.36**	0.05
190	836.6	GPRS (1)	Left	/	33.07	33.50	0.062	**0.07**	0.105	**0.12**	0.10
190	836.6	GPRS (1)	Right	/	33.07	33.50	0.132	**0.15**	0.224	**0.25**	0.10
190	836.6	GPRS (1)	Bottom	/	33.07	33.50	0.025	**0.03**	0.053	**0.06**	-0.02
190	836.6	GPRS (1)	Rear unfold	/	33.24	33.50	0.102	**0.11**	0.175	**0.19**	0.11
251	848.8	EGPRS (1)	Rear unfold	/	33.23	33.50	0.213	**0.23**	0.358	**0.38**	0.06

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

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

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
810	1909.8	Left	Cheek	/	30.06	31.00	0.181	**0.22**	0.300	**0.37**	-0.07
661	1880	Left	Cheek	/	30.00	31.00	0.180	**0.23**	0.311	**0.39**	0.03
512	1850.2	Left	Cheek	Fig.3	29.80	31.00	0.218	**0.29**	0.350	**0.46**	-0.09
661	1880	Left	Tilt	/	30.00	31.00	0.024	**0.03**	0.042	**0.05**	0.12
661	1880	Right	Cheek	/	30.00	31.00	0.108	**0.14**	0.221	**0.28**	0.03
661	1880	Right	Tilt	/	30.00	31.00	0.021	**0.03**	0.040	**0.05**	0.01

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

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
661	1880	GPRS(1)	Front	/	30.02	31.00	0.071	**0.09**	0.123	**0.15**	0.11
661	1880	GPRS(1)	Rear	/	30.02	31.00	0.203	**0.25**	0.343	**0.43**	0.04
661	1880	GPRS(1)	Left	/	30.02	31.00	0.065	**0.08**	0.116	**0.15**	-0.11
661	1880	GPRS(1)	Right	/	30.02	31.00	0.030	**0.04**	0.051	**0.06**	-0.01
661	1880	GPRS(1)	Bottom	/	30.02	31.00	0.077	**0.10**	0.134	**0.17**	-0.10
661	1880	GPRS(1)	Rear unfold	/	30.02	31.00	0.218	**0.27**	0.366	**0.46**	-0.08
810	1909.8	GPRS(1)	Rear unfold	/	30.12	31.00	0.216	**0.26**	0.349	**0.43**	0.08
512	1850.2	GPRS(1)	Rear unfold	Fig.4	29.81	31.00	0.251	**0.33**	0.415	**0.55**	0.10
512	1850.2	EGPRS(1)	Rear unfold	/	29.80	31.00	0.250	**0.33**	0.413	**0.54**	0.11

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

Table 14.1-5: SAR Values (WCDMA 850 MHz Band - Head)

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(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
4182	836.4	Left	Cheek	/	23.06	24.00	0.244	**0.30**	0.422	**0.52**	-0.05
4182	836.4	Left	Tilt	/	23.06	24.00	0.140	**0.17**	0.182	**0.23**	0.00
4233	846.6	Right	Cheek	/	22.91	24.00	0.346	**0.44**	0.536	**0.69**	-0.01
4182	836.4	Right	Cheek	/	23.06	24.00	0.331	**0.41**	0.514	**0.64**	0.04
4132	826.4	Right	Cheek	Fig.5	23.05	24.00	0.404	**0.50**	0.625	**0.78**	0.07
4182	836.4	Right	Tilt	/	23.06	24.00	0.137	**0.17**	0.184	**0.23**	0.04

Table 14.1-6: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
4182	836.4	Front	/	23.06	24.00	0.110	**0.14**	0.147	**0.18**	0.01
4233	846.6	Rear	/	22.91	24.00	0.318	**0.41**	0.449	**0.58**	-0.05
4182	836.4	Rear	/	23.06	24.00	0.326	**0.40**	0.469	**0.58**	0.12
4132	826.4	Rear	Fig.6	23.05	24.00	0.365	**0.45**	0.530	**0.66**	0.03
4182	836.4	Left	/	23.06	24.00	0.105	**0.13**	0.153	**0.19**	-0.11
4182	836.4	Right	/	23.06	24.00	0.200	**0.25**	0.294	**0.37**	-0.04

4182	836.4	Bottom	/	23.06	24.00	0.040	**0.05**	0.071	**0.09**	0.02
4182	836.4	Rear unfold	/	23.06	24.00	0.195	**0.24**	0.283	**0.35**	0.03

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

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

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
1513	1752.6	Left	Cheek	/	23.31	24.00	0.390	**0.46**	0.627	**0.73**	-0.05
1412	1732.4	Left	Cheek	/	23.27	24.00	0.298	**0.35**	0.448	**0.53**	0.01
1312	1712.4	Left	Cheek	Fig.7	23.34	24.00	0.412	**0.48**	0.655	**0.76**	0.09
1412	1732.4	Left	Tilt	/	23.27	24.00	0.043	**0.05**	0.068	**0.08**	-0.09
1412	1732.4	Right	Cheek	/	23.27	24.00	0.103	**0.12**	0.184	**0.22**	0.11
1412	1732.4	Right	Tilt	/	23.27	24.00	0.025	**0.03**	0.036	**0.04**	0.03

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

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
1412	1732.5	Front	/	21.56	22.00	0.166	**0.18**	0.253	**0.28**	0.08
1513	1752.6	Rear	/	21.55	22.00	0.496	**0.55**	0.838	**0.93**	-0.05
1412	1732.5	Rear	/	21.56	22.00	0.509	**0.56**	0.842	**0.93**	-0.10
1312	1712.4	Rear	Fig.8	21.62	22.00	0.514	**0.56**	0.861	**0.94**	0.18
1412	1732.5	Left	/	21.56	22.00	0.168	**0.19**	0.267	**0.30**	-0.08
1412	1732.5	Right	/	21.56	22.00	0.103	**0.11**	0.163	**0.18**	0.04
1412	1732.5	Bottom	/	21.56	22.00	0.279	**0.31**	0.493	**0.55**	0.04
1513	1752.6	Rear unfold	/	21.55	22.00	0.491	**0.54**	0.814	**0.90**	-0.12
1412	1732.5	Rear unfold	/	21.56	22.00	0.485	**0.54**	0.813	**0.90**	0.12
1312	1712.4	Rear unfold	/	21.62	22.00	0.485	**0.53**	0.802	**0.88**	-0.10
1412	1732.5	Front	Note2	23.27	24.00	0.129	**0.15**	0.196	**0.23**	0.05
1412	1732.5	Rear	Note2	23.27	24.00	0.372	**0.44**	0.617	**0.73**	-0.12
1412	1732.5	Rear unfold	Note2	23.27	24.00	0.379	**0.45**	0.617	**0.73**	-0.11

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

Note2: The distance between the EUT and the phantom bottom is 15mm.

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

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(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
9538	1907.6	Left	Cheek	/	23.22	24.00	0.362	**0.43**	0.612	**0.73**	0.10
9400	1880	Left	Cheek	/	23.23	24.00	0.377	**0.45**	0.599	**0.72**	0.00
9262	1852.4	Left	Cheek	Fig.9	23.10	24.00	0.511	**0.63**	0.850	**1.05**	0.01
9400	1880	Left	Tilt	/	23.23	24.00	0.056	**0.07**	0.088	**0.11**	0.01
9400	1880	Right	Cheek	/	23.23	24.00	0.115	**0.14**	0.211	**0.25**	0.04
9400	1880	Right	Tilt	/	23.23	24.00	0.034	**0.04**	0.051	**0.06**	0.04

Table 14.1-10: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9400	1880	Front	/	20.50	21	0.124	**0.14**	0.205	**0.23**	-0.12
9400	1880	Rear	/	20.50	21	0.454	**0.51**	0.780	**0.87**	0.12
9400	1880	Left	/	20.50	21	0.125	**0.14**	0.218	**0.24**	-0.10
9400	1880	Right	/	20.50	21	0.050	**0.06**	0.085	**0.10**	0.01
9400	1880	Bottom	/	20.50	21	0.167	**0.19**	0.282	**0.32**	-0.05
9400	1880	Rearunfold	/	20.50	21	0.449	**0.50**	0.752	**0.84**	0.09
9400	1880	Front	Note2	23.23	24.00	0.165	**0.20**	0.265	**0.32**	-0.10
9538	1907.6	Rear	Note2	23.22	24.00	0.508	**0.61**	0.859	**1.03**	-0.05
9400	1880	Rear	Note2/ Fig.10	23.23	24.00	0.519	**0.62**	0.878	**1.05**	0.01
9262	1852.4	Rear	Note2	23.10	24.00	0.505	**0.62**	0.843	**1.04**	-0.05
9400	1880	Rear unfold	Note2	23.23	24.00	0.488	**0.58**	0.785	**0.94**	0.00

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

Note2: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-11: SAR Values (CDMA BC0 Band - Head)

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(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
384	836.52	Left	Cheek	/	24.19	24.20	0.572	**0.57**	0.858	**0.86**	0.08
384	836.52	Left	Tilt	/	24.19	24.20	0.308	**0.31**	0.414	**0.41**	0.10
777	848.31	Right	Cheek	/	24.12	24.20	0.674	**0.69**	1.090	**1.11**	-0.07
384	836.52	Right	Cheek	/	24.19	24.20	0.737	**0.74**	1.140	**1.14**	0.11
1013	824.7	Right	Cheek	Fig.11	24.03	24.20	0.762	**0.79**	1.230	**1.28**	-0.02
384	836.52	Right	Tilt	/	24.19	24.20	0.307	**0.31**	0.414	**0.41**	0.05

Table 14.1-12: SAR Values (CDMA BC0 Band - Body)

Ambient Temperature: 22.9 ºC					Liquid Temperature: 22.5ºC					
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
384	836.52	Front	/	24.16	24.20	0.239	**0.24**	0.323	**0.33**	0.00
777	848.31	Rear	/	24.19	24.20	0.353	**0.35**	0.504	**0.51**	0.05
384	836.52	Rear	/	24.16	24.20	0.643	**0.65**	0.951	**0.96**	0.02
1013	824.7	Rear	Fig.12	23.98	24.20	0.662	**0.70**	0.955	**1.00**	0.04
384	836.52	Left	/	24.16	24.20	0.206	**0.21**	0.309	**0.31**	-0.04
384	836.52	Right	/	24.16	24.20	0.388	**0.39**	0.575	**0.58**	0.03
384	836.52	Bottom	/	24.16	24.20	0.076	**0.08**	0.128	**0.13**	0.09
384	836.52	Rear unfold	/	24.16	24.20	0.383	**0.39**	0.562	**0.57**	0.04

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

Table 14.1-13: SAR Values (CDMA BC1 Band - Head)

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(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
1175	1908.75	Left	Cheek	/	24.04	24.50	0.410	**0.46**	0.676	**0.75**	0.03
600	1880	Left	Cheek	Fig.13	23.98	24.50	0.510	**0.57**	0.833	**0.94**	0.09
25	1851.25	Left	Cheek	/	23.92	24.50	0.451	**0.52**	0.737	**0.84**	-0.11
600	1880	Left	Tilt	/	23.98	24.50	0.087	**0.10**	0.128	**0.14**	0.00
600	1880	Right	Cheek	/	23.98	24.50	0.295	**0.33**	0.485	**0.55**	-0.18
600	1880	Right	Tilt	/	23.98	24.50	0.051	**0.06**	0.077	**0.09**	0.02

Table 14.1-14: SAR Values (CDMA BC1 Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
600	1880	Front	/	22.19	22.5	0.145	0.16	0.235	0.25	0.09
1175	1908.75	Rear	Fig.14	22.20	22.5	0.564	0.60	0.944	1.01	-0.11
600	1880	Rear	/	22.19	22.5	0.486	0.52	0.833	0.90	-0.07
25	1851.25	Rear	/	22.01	22.5	0.502	0.56	0.833	0.93	-0.12
600	1880	Left	/	22.19	22.5	0.128	0.14	0.221	0.24	-0.03
600	1880	Right	/	22.19	22.5	0.061	0.07	0.100	0.11	0.10
600	1880	Bottom	/	22.19	22.5	0.205	0.22	0.350	0.38	-0.09
1175	1908.75	Rear unfold	/	22.20	22.5	0.578	0.62	0.929	1.00	0.06
600	1880	Rear unfold	/	22.19	22.5	0.559	0.60	0.915	0.98	0.07
25	1851.25	Rear unfold	/	22.01	22.5	0.556	0.62	0.900	1.01	-0.05
600	1880	Front	Note2	22.15	22.5	0.055	0.06	0.089	0.10	-0.03
600	1880	Rear	Note2	22.15	22.5	0.477	0.52	0.804	0.87	0.08
600	1880	Rear unfold	Note2	22.15	22.5	0.445	0.48	0.754	0.82	0.08

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

Note2: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-15: SAR Values (CDMA BC10 Band - Head)

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(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
580	820.5	Left	Cheek	/	23.69	24.00	0.509	**0.55**	0.771	**0.83**	0.03
580	820.5	Left	Tilt	/	23.69	24.00	0.269	**0.29**	0.368	**0.40**	0.08
684	823.1	Right	Cheek	Fig.15	23.78	24.00	0.640	**0.67**	1.050	**1.10**	0.01
580	820.5	Right	Cheek	/	23.69	24.00	0.619	**0.66**	0.977	**1.05**	-0.10
476	817.9	Right	Cheek	/	23.66	24.00	0.639	**0.69**	1.001	**1.08**	0.07
580	820.5	Right	Tilt	/	23.69	24.00	0.265	**0.28**	0.363	**0.39**	-0.05

Table 14.1-16: SAR Values (CDMA BC10 Band - Body)

Ambient Temperature: 22.9 ºC					Liquid Temperature: 22.5ºC					
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
580	820.5	Front	/	23.67	24.00	0.229	**0.25**	0.303	**0.33**	-0.02
684	823.1	Rear	/	23.74	24.00	0.608	**0.65**	0.892	**0.95**	-0.03
580	820.5	Rear	/	23.67	24.00	0.609	**0.66**	0.882	**0.95**	0.01
476	817.9	Rear	Fig.16	23.65	24.00	0.637	**0.69**	0.937	**1.02**	-0.07
580	820.5	Left	/	23.67	24.00	0.211	**0.23**	0.312	**0.34**	-0.12
580	820.5	Right	/	23.67	24.00	0.351	**0.38**	0.508	**0.55**	-0.03
580	820.5	Bottom	/	23.67	24.00	0.072	**0.08**	0.121	**0.13**	0.10
580	820.5	Rear unfold	/	23.67	24.00	0.414	**0.45**	0.591	**0.64**	-0.05

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

Table 14.1-17: SAR Values (LTE Band12 - Head)

Ambient Temperature: 22.9 ºC						Liquid Temperature: 22.5ºC						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23130	711	1RB-Low	Left	Cheek	/	23.47	23.50	0.196	**0.20**	0.377	**0.38**	0.07
23130	711	1RB-Low	Left	Tilt	/	23.47	23.50	0.152	**0.15**	0.209	**0.21**	-0.11
23130	711	1RB-Low	Right	Cheek	Fig.17	23.47	23.50	0.387	**0.39**	0.583	**0.59**	0.04
23130	711	1RB-Low	Right	Tilt	/	23.47	23.50	0.098	**0.10**	0.132	**0.13**	0.01
23130	711	25RB-Mid	Left	Cheek	/	22.20	22.50	0.149	**0.16**	0.286	**0.31**	-0.05
23130	711	25RB-Mid	Left	Tilt	/	22.20	22.50	0.125	**0.13**	0.171	**0.18**	0.06
23130	711	25RB-Mid	Right	Cheek	/	22.20	22.50	0.325	**0.35**	0.489	**0.52**	0.00
23130	711	25RB-Mid	Right	Tilt	/	22.20	22.50	0.090	**0.10**	0.121	**0.13**	0.01

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-18: SAR Values (LTE Band12 - Body)

Ambient Temperature: 22.9 ºC						Liquid Temperature: 22.5ºC					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23130	711	1RB-Low	Front	/	23.47	23.50	0.167	**0.17**	0.219	**0.22**	0.12
23130	711	1RB-Low	Rear	/	23.47	23.50	0.609	**0.61**	0.848	**0.85**	0.01
23095	707.5	1RB-Mid	Rear	/	23.45	23.50	0.567	**0.57**	0.784	**0.79**	-0.09
23060	704	1RB-Mid	Rear	/	23.16	23.50	0.575	**0.62**	0.792	**0.86**	0.06
23130	711	1RB-Low	Left	/	23.47	23.50	0.242	**0.24**	0.340	**0.34**	0.04

23130	711	1RB-Low	Right	/	23.47	23.50	0.240	**0.24**	0.340	**0.34**	-0.05
23130	711	1RB-Low	Bottom	/	23.47	23.50	0.065	**0.07**	0.106	**0.11**	0.08
23130	711	1RB-Low	Rear unfold	Fig.18	23.47	23.50	0.660	**0.67**	0.919	**0.93**	-0.17
23095	707.5	1RB-Mid	Rear unfold	/	23.45	23.50	0.610	**0.62**	0.847	**0.86**	-0.04
23060	704	1RB-Mid	Rear unfold	/	23.16	23.50	0.599	**0.65**	0.834	**0.90**	0.01
23130	711	25RB-Mid	Front	/	22.20	22.50	0.135	**0.14**	0.176	**0.19**	-0.09
23130	711	25RB-Mid	Rear	/	22.20	22.50	0.474	**0.51**	0.661	**0.71**	0.09
23130	711	25RB-Mid	Left	/	22.20	22.50	0.192	**0.21**	0.268	**0.29**	0.01
23130	711	25RB-Mid	Right	/	22.20	22.50	0.180	**0.19**	0.256	**0.27**	-0.03
23130	711	25RB-Mid	Bottom	/	22.20	22.50	0.052	**0.06**	0.084	**0.09**	-0.03
23130	711	25RB-Mid	Rear unfold	/	22.20	22.50	0.488	**0.52**	0.681	**0.73**	0.08
23095	707.5	25RB-High	Rear unfold	/	22.16	22.50	0.493	**0.53**	0.692	**0.75**	0.03
23060	704	25RB-Mid	Rear unfold	/	22.09	22.50	0.500	**0.55**	0.713	**0.78**	0.08
23130	711	50RB	Rear	/	22.15	22.50	0.456	**0.49**	0.633	**0.69**	0.07
23130	711	50RB	Rear unfold	/	22.15	22.50	0.481	**0.52**	0.665	**0.72**	0.03

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-19: SAR Values (LTE Band25 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
26365	1882.5	1RB-Mid	Left	Cheek	Fig.19	23.64	24.00	0.393	**0.43**	0.641	**0.70**	-0.09
26365	1882.5	1RB-Mid	Left	Tilt	/	23.64	24.00	0.062	**0.07**	0.092	**0.10**	-0.06
26365	1882.5	1RB-Mid	Right	Cheek	/	23.64	24.00	0.356	**0.39**	0.602	**0.65**	0.05
26365	1882.5	1RB-Mid	Right	Tilt	/	23.64	24.00	0.044	**0.05**	0.065	**0.07**	0.06
26365	1882.5	50RB-High	Left	Cheek	/	22.50	23.00	0.293	**0.33**	0.480	**0.54**	0.04
26365	1882.5	50RB-High	Left	Tilt	/	22.50	23.00	0.050	**0.06**	0.072	**0.08**	0.02
26365	1882.5	50RB-High	Right	Cheek	/	22.50	23.00	0.255	**0.29**	0.431	**0.48**	-0.06
26365	1882.5	50RB-High	Right	Tilt	/	22.50	23.00	0.034	**0.04**	0.050	**0.06**	0.10

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-20: SAR Values (LTE Band25 - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
26365	1882.5	1RB-Mid	Front	/	21.80	22.00	0.072	**0.08**	0.114	**0.12**	-0.03
26365	1882.5	1RB-Mid	Rear	/	21.80	22.00	0.290	**0.30**	0.491	**0.51**	-0.03
26365	1882.5	1RB-Mid	Left	/	21.80	22.00	0.075	**0.08**	0.129	**0.14**	0.08
26365	1882.5	1RB-Mid	Right	/	21.80	22.00	0.035	**0.04**	0.060	**0.06**	0.03
26365	1882.5	1RB-Mid	Bottom	/	21.80	22.00	0.099	**0.10**	0.173	**0.18**	0.08
26365	1882.5	1RB-Mid	Rear unfold	Fig.20	21.80	22.00	0.295	**0.31**	0.494	**0.52**	0.05
26365	1882.5	50RB-High	Front	/	21.35	22.00	0.074	**0.09**	0.123	**0.14**	-0.02
26365	1882.5	50RB-High	Rear	/	21.35	22.00	0.271	**0.31**	0.440	**0.51**	-0.07
26365	1882.5	50RB-High	Left	/	21.35	22.00	0.067	**0.08**	0.115	**0.13**	0.12
26365	1882.5	50RB-High	Right	/	21.35	22.00	0.032	**0.04**	0.058	**0.07**	0.07
26365	1882.5	50RB-High	Bottom	/	21.35	22.00	0.096	**0.11**	0.168	**0.20**	0.07
26365	1882.5	50RB-High	Rear unfold	/	21.35	22.00	0.278	**0.32**	0.440	**0.51**	0.11
26365	1882.5	1RB-Mid	Front	Note3	23.64	24	0.092	**0.10**	0.153	**0.17**	0.15
26365	1882.5	1RB-Mid	Rear	Note3	23.64	24	0.290	**0.31**	0.483	**0.52**	-0.07
26365	1882.5	1RB-Mid	Rear unfold	Note3	23.64	24	0.276	**0.30**	0.443	**0.48**	-0.02
26365	1882.5	50RB-High	Front	Note3	22.50	23.00	0.050	**0.06**	0.083	**0.09**	-0.07
26365	1882.5	50RB-High	Rear	Note3	22.50	23.00	0.205	**0.23**	0.340	**0.38**	0.12
26365	1882.5	50RB-High	Rear unfold	Note3	22.50	23.00	0.204	**0.23**	0.335	**0.38**	0.07

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

Note2: The LTE mode is QPSK_20MHz.

Note3: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-21: SAR Values (LTE Band26 - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC												
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
26865	831.5	1RB-High	Left	Cheek	/	23.59	24.00	0.341	**0.37**	0.527	**0.58**	-0.01
26865	831.5	1RB-High	Left	Tilt	/	23.59	24.00	0.207	**0.23**	0.279	**0.31**	-0.05
26965	841.5	1RB-Low	Right	Cheek	/	23.48	24.00	0.393	**0.44**	0.605	**0.68**	-0.08
26865	831.5	1RB-High	Right	Cheek	Fig.21	23.59	24.00	0.477	**0.52**	0.735	**0.81**	0.04
26775	822.5	1RB-Mid	Right	Cheek	/	23.39	24.00	0.391	**0.45**	0.599	**0.69**	0.01
26865	831.5	1RB-High	Right	Tilt	/	23.59	24.00	0.232	**0.25**	0.295	**0.32**	-0.10
26775	822.5	36RB-Mid	Left	Cheek	/	22.39	23.00	0.347	**0.40**	0.515	**0.59**	-0.02
26775	822.5	36RB-Mid	Left	Tilt	/	22.39	23.00	0.179	**0.21**	0.239	**0.27**	0.10
26775	822.5	36RB-Mid	Right	Cheek	/	22.39	23.00	0.272	**0.31**	0.417	**0.48**	-0.04
26775	822.5	36RB-Mid	Right	Tilt	/	22.39	23.00	0.166	**0.19**	0.226	**0.26**	-0.01
26865	831.5	75RB	Right	Cheek	/	22.44	23.00	0.305	**0.35**	0.484	**0.55**	0.13

Note1: The LTE mode is QPSK_15MHz.

Table 14.1-22: SAR Values (LTE Band26 - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
26865	831.5	1RB-high	Front	/	23.59	24.00	0.103	**0.11**	0.142	**0.16**	0.11
26865	831.5	1RB-high	Rear	Fig.20	23.59	24.00	0.308	**0.34**	0.453	**0.50**	0.15
26865	831.5	1RB-high	Left	/	23.59	24.00	0.095	**0.10**	0.146	**0.16**	-0.07
26865	831.5	1RB-high	Right	/	23.59	24.00	0.183	**0.20**	0.276	**0.30**	-0.02
26865	831.5	1RB-high	Bottom	/	23.59	24.00	0.042	**0.05**	0.074	**0.08**	-0.07
26865	831.5	1RB-high	Rear unfold	/	23.59	24.00	0.180	**0.20**	0.283	**0.31**	0.12
26775	822.5	36RB-Mid	Front	/	22.39	23.00	0.096	**0.11**	0.135	**0.16**	-0.03
26775	822.5	36RB-Mid	Rear	/	22.39	23.00	0.254	**0.29**	0.378	**0.43**	-0.07
26775	822.5	36RB-Mid	Left	/	22.39	23.00	0.096	**0.11**	0.149	**0.17**	-0.01
26775	822.5	36RB-Mid	Right	/	22.39	23.00	0.166	**0.19**	0.249	**0.29**	0.03
26775	822.5	36RB-Mid	Bottom	/	22.39	23.00	0.034	**0.04**	0.058	**0.07**	0.02
26775	822.5	36RB-Mid	Rear unfold	/	22.39	23.00	0.186	**0.21**	0.279	**0.32**	0.03

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.1-23: SAR Values (LTE Band41 PC3 - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC												
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
40185	2549.5	1RB-Mid	Left	Cheek	Fig.23	23.98	24.00	0.323	**0.32**	0.691	**0.69**	-0.12
40185	2549.5	1RB-Mid	Left	Tilt	/	23.98	24.00	0.031	**0.03**	0.059	**0.06**	-0.03
40185	2549.5	1RB-Mid	Right	Cheek	/	23.98	24.00	0.159	**0.16**	0.344	**0.35**	-0.01
40185	2549.5	1RB-Mid	Right	Tilt	/	23.98	24.00	0.028	**0.03**	0.061	**0.06**	-0.12
40620	2593	50RB-High	Left	Cheek	/	22.82	23.00	0.254	**0.26**	0.529	**0.55**	-0.11
40620	2593	50RB-High	Left	Tilt	/	22.82	23.00	0.041	**0.04**	0.078	**0.08**	0.08
40620	2593	50RB-High	Right	Cheek	/	22.82	23.00	0.089	**0.09**	0.199	**0.21**	-0.11
40620	2593	50RB-High	Right	Tilt	/	22.82	23.00	0.031	**0.03**	0.061	**0.06**	0.08

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-24: SAR Values (LTE Band41 PC3- Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
40185	2549.5	1RB-Mid	Front	Body	/	25.20	24.00	0.053	**0.04**	0.095	**0.07**
40185	2549.5	1RB-Mid	Rear	Body	/	24.64	24.00	0.229	**0.20**	0.444	**0.38**
40185	2549.5	1RB-Mid	Left	Body	/	24.67	24.00	0.174	**0.15**	0.318	**0.27**
40185	2549.5	1RB-Mid	Right	Body	/	24.91	24.00	0.027	**0.02**	0.050	**0.04**
40185	2549.5	1RB-Mid	Bottom	Body	Fig.24	24.91	24.00	0.397	**0.32**	0.838	**0.68**
40185	2549.5	1RB-Mid	Rear unfold	Body	/	25.20	24.00	0.343	**0.26**	0.705	**0.53**
40185	2549.5	50RB-Mid	Front	Body	/	24.95	23.00	0.040	**0.03**	0.073	**0.05**
40185	2549.5	50RB-Mid	Rear	Body	/	24.93	23.00	0.177	**0.11**	0.342	**0.22**
40185	2549.5	50RB-Mid	Left	Body	/	24.93	23.00	0.134	**0.09**	0.244	**0.16**
40185	2549.5	50RB-Mid	Right	Body	/	24.93	23.00	0.021	**0.01**	0.041	**0.03**
40185	2549.5	50RB-Mid	Bottom	Body	/	24.79	23.00	0.218	**0.14**	0.490	**0.32**
40185	2549.5	50RB-Mid	Rear unfold	Body	/	24.79	23.00	0.264	**0.18**	0.545	**0.36**

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-25: SAR Values (LTE Band41 PC2- Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC												
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
41490	2680	1RB-Mid	Left	Cheek		26.12	27.00	0.289	**0.21**	0.604	**0.74**	0.07
41055	2636.5	1RB-Mid	Left	Cheek	/	26.62	27.00	0.356	**0.26**	0.744	**0.81**	0.12
40620	2593	1RB-Mid	Left	Cheek	/	26.61	27.00	0.428	**0.32**	0.809	**0.89**	-0.03
39750	2506	1RB-Mid	Left	Cheek	/	26.56	27.00	0.319	**0.24**	0.758	**0.84**	0.04
40185	2549.5	1RB-Mid	Left	Cheek	Fig.25	26.95	27.00	0.436	**0.32**	0.897	**0.91**	-0.04
40185	2549.5	1RB-Mid	Left	Tilt	/	26.95	27.00	0.042	**0.04**	0.077	**0.08**	0.11
40185	2549.5	1RB-Mid	Right	Cheek	/	26.95	27.00	0.215	**0.22**	0.447	**0.45**	0.04
40185	2549.5	1RB-Mid	Right	Tilt	/	26.95	27.00	0.038	**0.04**	0.079	**0.08**	-0.11
40620	2593	50RB-High	Left	Cheek	/	25.83	26.00	0.343	**0.36**	0.687	**0.71**	-0.10
40620	2593	50RB-High	Left	Tilt	/	25.83	26.00	0.055	**0.06**	0.101	**0.10**	-0.04
40620	2593	50RB-High	Right	Cheek	/	25.83	26.00	0.120	**0.12**	0.258	**0.27**	0.06
40620	2593	50RB-High	Right	Tilt	/	25.83	26.00	0.042	**0.04**	0.079	**0.08**	0.03
40185	2549.5	100RB	Left	Cheek	/	26.15	26.00	0.356	**0.34**	0.714	**0.69**	0.00

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-26: SAR Values (LTE Band41 PC2- Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
40185	2549.5	1RB-Mid	Front	/	23.85	24.00	0.060	**0.06**	0.099	**0.10**	0.08
40185	2549.5	1RB-Mid	Rear	/	23.85	24.00	0.258	**0.27**	0.464	**0.48**	-0.01
40185	2549.5	1RB-Mid	Left	/	23.85	24.00	0.196	**0.20**	0.332	**0.34**	-0.08
40185	2549.5	1RB-Mid	Right	/	23.85	24.00	0.030	**0.03**	0.052	**0.05**	-0.11
40185	2549.5	1RB-Mid	Bottom	Fig.26	23.85	24.00	0.331	**0.34**	0.689	**0.71**	-0.06
40185	2549.5	1RB-Mid	Rear unfold	/	23.85	24.00	0.259	**0.27**	0.516	**0.53**	-0.05
40185	2549.5	50RB-Mid	Front	/	23.67	24.00	0.045	**0.05**	0.076	**0.08**	-0.03
40185	2549.5	50RB-Mid	Rear	/	23.67	24.00	0.199	**0.21**	0.358	**0.39**	-0.05
40185	2549.5	50RB-Mid	Left	/	23.67	24.00	0.151	**0.16**	0.255	**0.27**	0.02
40185	2549.5	50RB-Mid	Right	/	23.67	24.00	0.024	**0.03**	0.043	**0.05**	-0.09
40185	2549.5	50RB-Mid	Bottom	/	23.67	24.00	0.245	**0.26**	0.512	**0.55**	-0.06
40185	2549.5	50RB-Mid	Rear unfold	/	23.67	24.00	0.199	**0.21**	0.399	**0.43**	0.02
40185	2549.5	1RB-Mid	Front	Note3	26.95	27.00	0.062	**0.06**	0.101	**0.10**	0.06
40185	2549.5	1RB-Mid	Rear	Note3	26.95	27.00	0.290	**0.29**	0.533	**0.54**	0.01
40185	2549.5	1RB-Mid	Rear unfold	Note3	26.95	27.00	0.293	**0.30**	0.540	**0.55**	-0.13

40620	2593	50RB-Mid	Front	Note3	25.83	26.00	0.063	**0.07**	0.132	**0.14**	-0.10
40620	2593	50RB-Mid	Rear	Note3	25.83	26.00	0.215	**0.22**	0.400	**0.42**	0.07
40620	2593	50RB-Mid	Rear unfold	Note3	25.83	26.00	0.212	**0.22**	0.378	**0.39**	-0.04

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

Note2: The LTE mode is QPSK_20MHz.

Note3: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-27: SAR Values (LTE Band66- Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
132572	1770	1RB-Mid	Left	Cheek	Fig.27	23.71	24.00	0.397	**0.42**	0.598	**0.64**	-0.04
132572	1770	1RB-Mid	Left	Tilt	/	23.71	24.00	0.092	**0.10**	0.130	**0.14**	-0.08
132572	1770	1RB-Mid	Right	Cheek	/	23.71	24.00	0.325	**0.35**	0.513	**0.55**	-0.12
132572	1770	1RB-Mid	Right	Tilt	/	23.71	24.00	0.058	**0.06**	0.090	**0.10**	0.09
132072	1720	50RB-Low	Left	Cheek	/	22.27	23.00	0.341	**0.40**	0.503	**0.59**	0.00
132072	1720	50RB-Low	Left	Tilt	/	22.27	23.00	0.064	**0.08**	0.094	**0.11**	-0.09
132072	1720	50RB-Low	Right	Cheek	/	22.27	23.00	0.262	**0.31**	0.413	**0.49**	-0.07
132072	1720	50RB-Low	Right	Tilt	/	22.27	23.00	0.038	**0.04**	0.056	**0.07**	-0.11

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-28: SAR Values (LTE Band66- Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
132322	1745	1RB-Mid	Front	/	20.95	22.00	0.164	**0.21**	0.256	**0.33**	0.07
132572	1770	1RB-Mid	Rear	/	20.84	22.00	0.505	**0.66**	0.821	**1.07**	-0.03
132322	1745	1RB-Mid	Rear	/	20.95	22.00	0.516	**0.66**	0.851	**1.08**	-0.14
132072	1720	1RB-Mid	Rear	/	20.81	22.00	0.439	**0.58**	0.721	**0.95**	0.03
132322	1745	1RB-Mid	Left	/	20.95	22.00	0.182	**0.23**	0.298	**0.38**	0.05
132322	1745	1RB-Mid	Right	/	21.95	22.00	0.060	**0.06**	0.095	**0.10**	0.01
132322	1745	1RB-Mid	Bottom	/	21.95	22.00	0.228	**0.23**	0.402	**0.41**	0.08
132322	1745	1RB-Mid	Rear unfold	/	21.95	22.00	0.493	**0.50**	0.803	**0.81**	0.04
132072	1720	50RB-Mid	Front	/	20.97	22.00	0.146	**0.19**	0.228	**0.29**	-0.09
132572	1770	50RB-High	Rear	/	20.74	22.00	0.489	**0.65**	0.822	**1.10**	0.07
132322	1745	50RB-Low	Rear	/	20.81	22.00	0.483	**0.64**	0.811	**1.07**	-0.03
132072	1720	50RB-Mid	Rear	/	20.97	22.00	0.468	**0.59**	0.788	**1.00**	0.03
132072	1720	50RB-Mid	Left	/	20.97	22.00	0.158	**0.20**	0.255	**0.32**	-0.02

132072	1720	50RB-Mid	Right	/	20.97	22.00	0.043	**0.05**	0.073	**0.09**	0.13
132072	1720	50RB-Mid	Bottom	/	20.97	22.00	0.252	**0.32**	0.446	**0.57**	-0.05
132572	1770	50RB-High	Rear unfold	/	20.74	22.00	0.435	**0.58**	0.686	**0.92**	-0.02
132322	1745	50RB-Low	Rear unfold	/	20.81	22.00	0.438	**0.58**	0.706	**0.93**	-0.12
132072	1720	50RB-Mid	Rear unfold	/	20.97	22.00	0.498	**0.63**	0.818	**1.04**	-0.07
132072	1720	100RB	Rear	/	20.83	22.00	0.493	**0.64**	0.811	**1.06**	0.07
132072	1720	100RB	Rear unfold	/	20.83	22.00	0.483	**0.63**	0.788	**1.03**	-0.01
132572	1770	1RB-Mid	Front	note3	23.53	24.00	0.136	**0.15**	0.220	**0.25**	-0.01
132572	1770	1RB-Mid	Rear	note3	23.53	24.00	0.580	**0.65**	0.996	**1.11**	0.10
132322	1745	1RB-Mid	Rear	note3	23.74	24.00	0.585	**0.62**	0.997	**1.06**	0.05
132072	1720	1RB-Mid	Rear	note3	23.32	24.00	0.581	**0.68**	0.971	**1.14**	-0.11
132572	1770	1RB-Mid	Rear unfold	note3	23.53	24.00	0.634	**0.71**	1.030	**1.15**	0.11
132322	1745	1RB-Mid	Rear unfold	note3/Fig.28	23.74	24.00	0.665	**0.71**	1.090	**1.16**	0.17
132072	1720	1RB-Mid	Rear unfold	note3	23.32	24.00	0.605	**0.71**	0.976	**1.14**	-0.09
132072	1720	50RB-low	Front	note3	22.27	23.00	0.134	**0.16**	0.215	**0.25**	0.09
132572	1770	50RB-Mid	Rear	note3	21.96	23.00	0.349	**0.44**	0.601	**0.76**	-0.08
132322	1745	50RB-Mid	Rear	note3	22.09	23.00	0.353	**0.44**	0.607	**0.75**	0.13
132072	1720	50RB-low	Rear	note3	22.27	23.00	0.475	**0.56**	0.817	**0.97**	0.01
132572	1770	50RB-Mid	Rear unfold	note3	21.96	23.00	0.411	**0.52**	0.668	**0.85**	-0.04
132322	1745	50RB-Mid	Rear unfold	note3	22.09	23.00	0.425	**0.52**	0.689	**0.85**	0.12
132072	1720	50RB-low	Rear unfold	note3	22.27	23.00	0.479	**0.57**	0.801	**0.95**	-0.04
132072	1720	100RB	Rear	note3	22.11	23.00	0.423	**0.52**	0.711	**0.87**	0.08
132072	1720	100RB	Rear unfold	note3	22.11	23.00	0.442	**0.54**	0.729	**0.89**	-0.07

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

Note2: The LTE mode is QPSK_20MHz.

Note3: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-29: SAR Values (LTE Band71- Head)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃												
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
133372	688	1RB-Mid	Left	Cheek	/	23.23	24.00	0.323	**0.39**	0.567	**0.68**	0.01
133372	688	1RB-Mid	Left	Tilt	/	23.23	24.00	0.123	**0.15**	0.159	**0.19**	0.05
133372	688	1RB-Mid	Right	Cheek	Fig.29	23.23	24.00	0.370	**0.44**	0.604	**0.72**	-0.09
133372	688	1RB-Mid	Right	Tilt	/	23.23	24.00	0.115	**0.14**	0.147	**0.18**	0.10
133222	673	50RB-Mid	Left	Cheek	/	22.12	23.00	0.200	**0.24**	0.354	**0.43**	-0.02
133222	673	50RB-Mid	Left	Tilt	/	22.12	23.00	0.067	**0.08**	0.085	**0.10**	0.01
133222	673	50RB-Mid	Right	Cheek	/	22.12	23.00	0.248	**0.30**	0.398	**0.49**	-0.06

133222	673	50RB-Mid	Right	Tilt	/	22.12	23.00	0.063	**0.08**	0.079	**0.10**	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-30: SAR Values (LTE Band71- Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
133372	688	1RB-Mid	Front	/	23.23	24.00	0.078	**0.09**	0.107	**0.13**	0.08
133372	688	1RB-Mid	Rear	Fig.30	23.23	24.00	0.324	**0.39**	0.479	**0.57**	-0.04
133372	688	1RB-Mid	Left	/	23.23	24.00	0.106	**0.13**	0.159	**0.19**	-0.02
133372	688	1RB-Mid	Right	/	23.23	24.00	0.104	**0.12**	0.151	**0.18**	-0.06
133372	688	1RB-Mid	Bottom	/	23.23	24.00	0.035	**0.04**	0.056	**0.07**	-0.06
133372	688	1RB-Mid	Rear unfold	/	23.23	24.00	0.314	**0.38**	0.446	**0.53**	0.12
133222	673	50RB-Mid	Front	/	22.12	23.00	0.059	**0.07**	0.081	**0.10**	0.07
133222	673	50RB-Mid	Rear	/	22.12	23.00	0.190	**0.23**	0.286	**0.35**	0.04
133222	673	50RB-Mid	Left	/	22.12	23.00	0.065	**0.08**	0.098	**0.12**	-0.03
133222	673	50RB-Mid	Right	/	22.12	23.00	0.076	**0.09**	0.113	**0.14**	-0.04
133222	673	50RB-Mid	Bottom	/	22.12	23.00	0.024	**0.03**	0.039	**0.05**	0.02
133222	673	50RB-Mid	Rear unfold	/	22.12	23.00	0.208	**0.25**	0.300	**0.37**	0.07

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-31: SAR Values (BT - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
39	2441	Left	Cheek	Fig.31	11.54	12	<0.01	<0.01	<0.01	<0.01	/
78	2441	Left	Cheek	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
0	2441	Left	Cheek	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
78	2480	Left	Tilt	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
39	2402	Right	Cheek	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
39	2441	Right	Tilt	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/

Table 14.1-32: SAR Values (BT - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
39	2441	Front	Fig.32	11.54	12	<0.01	<0.01	<0.01	<0.01	/
0	2402	Front	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
78	2480	Front	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
39	2441	Rear	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
39	2441	Left	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
39	2441	Right	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
39	2441	Bottom	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/
39	2441	Rear unfold	/	11.54	12	<0.01	<0.01	<0.01	<0.01	/

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

14.2 SAR results for Standard procedure

Frequency Band	Channel Number	Frequency (MHz)	Phantom position L/R/F	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Power Drift
GSM850	128	824.2	Right Check	Fig.1	33.16	33.50	0.388	0.42	0.605	0.65	0.03
GSM850	251	848.8	Rear	Fig.2	33.24	33.50	0.222	0.24	0.370	0.39	0.06
GSM1900	512	1850.2	Left Check	Fig.3	29.80	31.00	0.218	0.29	0.350	0.46	-0.09
GSM1900	512	1850.2	Rear unfold	Fig.4	29.81	31.00	0.251	0.33	0.415	0.55	0.10
WCDMA 850	4132	826.4	Right Check	Fig.5	23.05	24.00	0.404	0.50	0.625	0.78	0.07
WCDMA 850	4132	826.4	Rear	Fig.6	23.05	24.00	0.365	0.45	0.530	0.66	0.03
WCDMA1700	1312	1712.4	Left Check	Fig.7	23.34	24.00	0.412	0.48	0.655	0.76	0.09
WCDMA1700	1312	1712.4	Rear	Fig.8	21.62	22.00	0.514	0.56	0.861	0.94	0.18
WCDMA1900	9262	1852.4	Left Check	Fig.9	23.10	24.00	0.511	0.63	0.850	1.05	0.01
WCDMA1900	9400	1880	Rear	Fig.10	23.23	24.00	0.519	0.62	0.878	1.05	0.01
BCO	1013	824.7	Right Check	Fig.11	24.03	24.20	0.762	0.79	1.230	1.28	-0.02
BCO	1013	824.7	Rear	Fig.12	23.98	24.20	0.662	0.70	0.955	1.00	0.04
BC1	600	1880	Left Check	Fig.13	23.98	24.50	0.510	0.57	0.833	0.94	0.09
BC1	1175	1908.75	Rear	Fig.14	22.20	22.50	0.564	0.60	0.944	1.01	-0.11
BC10	684	823.1	Right Check	Fig.15	23.78	24.00	0.640	0.67	1.050	1.10	0.01
BC10	476	817.9	Rear	Fig.16	23.65	24.00	0.637	0.69	0.937	1.02	-0.07
LTE Band12	23130	711	Right Check	Fig.17	23.47	23.50	0.387	0.39	0.583	0.59	0.04
LTE Band12	23130	711	Rear unfold	Fig.18	23.47	23.50	0.660	0.67	0.919	0.93	-0.17
LTE Band25	26365	1882.5	Left Check	Fig.19	23.64	24.00	0.393	0.43	0.641	0.70	-0.09
LTE Band25	26365	1882.5	Rear unfold	Fig.20	21.80	22.00	0.295	0.31	0.494	0.52	0.05
LTE Band26	26865	831.5	Right Check	Fig.21	23.59	24.00	0.477	0.52	0.735	0.81	0.04
LTE Band26	26865	831.5	Rear	Fig.22	23.59	24.00	0.308	0.34	0.453	0.50	0.15
LTE Band41	40185	2549.5	Left Check	Fig.23	23.98	24.00	0.323	0.32	0.691	0.69	-0.12
LTE Band41	40185	2549.5	Bottom	Fig.24	24.91	24.00	0.397	0.32	0.838	0.68	0.06
LTE Band41	40185	2549.5	Left Check	Fig.25	26.95	27.00	0.436	0.32	0.897	0.91	-0.04
LTE Band41	40185	2549.5	Bottom	Fig.26	23.85	24.00	0.331	0.34	0.689	0.71	-0.06
LTE Band66	132572	1770	Left Check	Fig.27	23.71	24.00	0.397	0.42	0.598	0.64	-0.04
LTE Band66	132322	1745	Rear unfold	Fig.28	23.74	24.00	0.665	0.71	1.090	1.16	0.17
LTE Band71	133372	688	Right Check	Fig.29	23.23	24.00	0.370	0.44	0.604	0.72	-0.09
LTE Band71	133372	688	Rear	Fig.30	23.23	24.00	0.324	0.39	0.479	0.57	-0.04
WLAN	6	2437	Left Check	Fig.31	17.24	17.50	0.137	0.15	0.281	0.30	0.1
WLAN	6	2437	Rear unfold	Fig.32	18.88	19.00	0.198	0.20	0.378	0.39	0.03

13.2 14.3 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 14.3-1: SAR Values (WLAN - Head)– 802.11b (Fast 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(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Left	Cheek	/	17.24	**17.50**	0.155	**0.16**	0.310	**0.33**	0.08
2437	6	Left	Tilt	/	17.24	**17.50**	0.020	**0.02**	0.037	**0.04**	-0.01
2437	6	Right	Cheek	/	17.24	**17.50**	0.091	**0.10**	0.181	**0.19**	0.05
2437	6	Right	Tilt	/	17.24	**17.50**	0.021	**0.02**	0.039	**0.04**	-0.08
2437	6	Left	Cheek	/	17.24	**17.50**	0.155	**0.16**	0.310	**0.33**	0.08

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

Table 14.3-2: 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(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Left	Cheek	Fig.31	17.24	**17.50**	0.137	**0.15**	0.281	**0.30**	0.1
2437	6	Right	Cheek	/	17.24	**17.50**	0.074	**0.08**	0.111	**0.12**	-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 14.3-3: 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)
MHz	Ch.						
2437	6	Left	Cheek	100%	100%	**0.30**	**0.30**

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

Body Evaluation

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

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC								
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Front	/	18.88	**19.00**	0.026	**0.03**	0.051	**0.05**	0.11
2437	6	Rear	/	18.88	**19.00**	0.132	**0.14**	0.275	**0.28**	0.08
2437	6	Right	/	18.88	**19.00**	0.076	**0.08**	0.168	**0.17**	-0.05
2437	6	Left	/	18.88	**19.00**	0.023	**0.02**	0.049	**0.05**	0.09
2437	6	Top	/	18.88	**19.00**	0.043	**0.04**	0.097	**0.10**	-0.07
2437	6	Bottom	/	18.88	**19.00**	0.040	**0.04**	0.093	**0.10**	0.08
2437	6	Rear unfold	/	18.88	**19.00**	0.210	**0.22**	0.400	**0.41**	-0.1

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

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

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC								
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Rear unfold	Fig.32	18.88	**19.00**	0.198	**0.20**	0.378	**0.39**	0.03
2437	6	Rear unfold		18.88	**19.00**	0.059	**0.06**	0.103	**0.11**	0.15
2437	6	Rear		18.88	**19.00**	0.070	**0.07**	0.126	**0.13**	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.

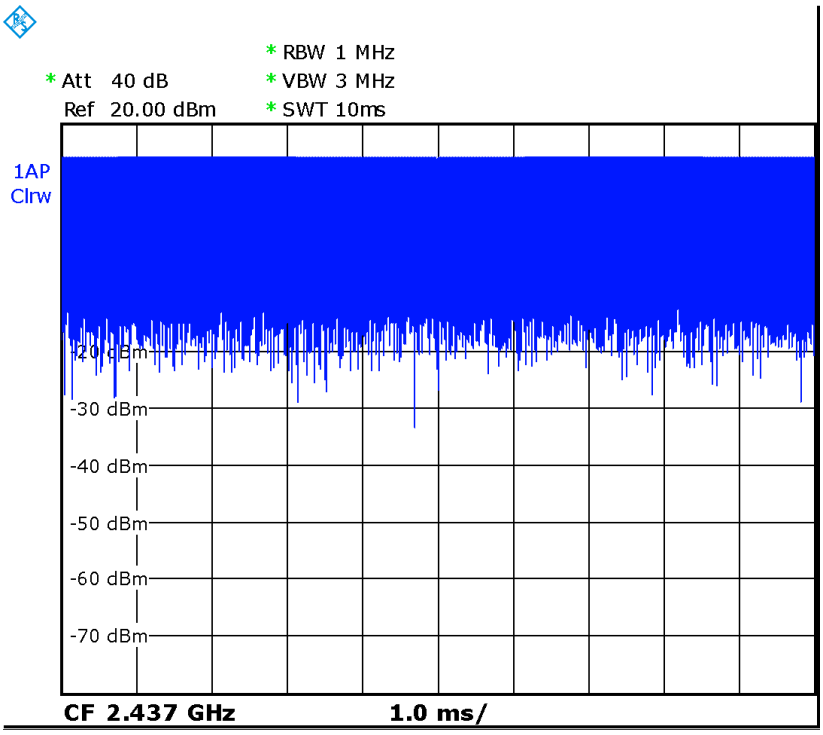
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg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

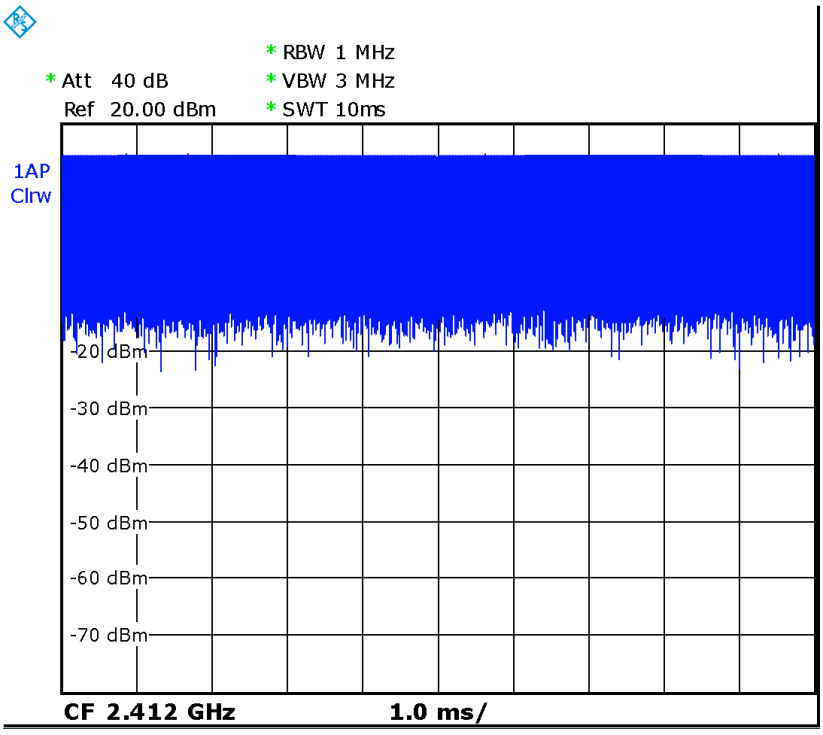
Table 14.3-6: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC				
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.					
2437	6	Rear unfold	100%	100%	**0.39**	**0.39**

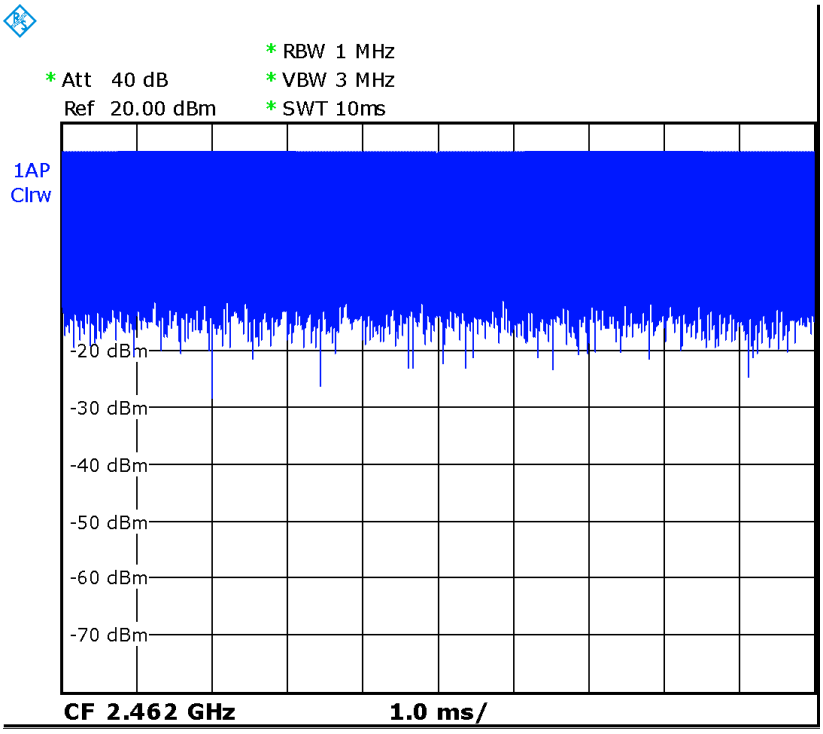
SAR is not required for OFDM because the 802.11b adjusted SAR ≤ 1.2 W/kg.



Picture 14.1 Duty factor plot CH6



Picture 14.2 Duty factor plot CH1



Picture 14.3 Duty factor plot CH11

14 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; steps 2) 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 ≥ 1.45 W/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 14.1: 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	10	0.838	0.830	1.01	/
1412	1732.5	Rear	10	0.842	0.839	1.00	/
1312	1712.4	Rear	10	0.861	0.858	1.00	/
1513	1752.6	Rear unfold	10	0.814	0.808	1.01	/
1412	1732.5	Rear unfold	10	0.813	0.809	1.00	/
1312	1712.4	Rear unfold	10	0.802	0.795	1.01	/

Table 14.2: SAR Measurement Variability for Head W1900 (1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
9262	1852.4	Left check	0.85	0.84	1.01	/

Table 14.3: SAR Measurement Variability for Body W1900 (1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
9538	1907.6	Rear	0.859	0.845	1.02	/
9400	1880	Rear	0.878	0.861	1.02	/
9262	1852.4	Rear	0.843	0.841	1.00	/

Table 14.4: SAR Measurement Variability for Head CDMA BC0 (1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
777	848.31	Right Check	1.11	1.09	1.03	/
384	836.52	Right Check	1.14	1.14	1.06	/
1013	824.7	Right Check	1.28	1.23	1.06	/

Table 14.5: SAR Measurement Variability for Body CDMA BC0 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
384	836.52	Rear	10	0.951	0.942	1.01	/
1013	824.7	Rear	10	0.955	0.945	1.01	/

Table 14.6: SAR Measurement Variability for Head CDMA BC1 (1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
600	1880	Left check	0.833	0.829	1.00	/

Table 14.7: SAR Measurement Variability for Body CDMA BC1 (1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
1175	1908.75	Rear	0.85	0.82	1.04	/
600	1880	Rear	0.87	0.82	1.06	/
25	1851.25	Rear	0.89	0.83	1.07	/
600	1880	Rear unfold	0.82	0.79	1.04	/

Table 14.8: SAR Measurement Variability for Head CDMA BC10 (1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
684	823.1	Right Check	1.24	1.19	1.04	/
580	820.5	Right Check	1.18	1.11	1.06	/
476	817.9	Right Check	1.21	1.19	1.02	/

Table 14.9: SAR Measurement Variability for Body CDMA BC10 (1g)

Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz					
684	823.1	Rear	1.06	1.01	1.05	/
580	820.5	Rear	1.07	1.02	1.05	/
476	817.9	Rear	1.14	1.09	1.05	/

Table 14.10: SAR Measurement Variability for Head LTE B12 (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							
23130	711	1RB-Low	Rear	10	0.96	0.93	1.03	/
23095	707.5	1RB-Mid	Rear	10	0.89	0.85	1.05	/
23060	704	1RB-Mid	Rear	10	0.96	0.93	1.03	/
23130	711	1RB-Low	Rear unfold	10	1.04	1.00	1.04	/
23095	707.5	1RB-Mid	Rear unfold	10	0.96	0.91	1.05	/
23060	704	1RB-Mid	Rear unfold	10	1.01	0.98	1.03	/
23130	711	25RB-Mid	Rear unfold	10	0.82	0.80	1.03	/
23095	707.5	25RB-High	Rear unfold	10	0.84	0.81	1.04	/
23060	704	25RB-Mid	Rear unfold	10	0.88	0.84	1.05	/
23130	711	50RB	Rear unfold	10	0.81	0.78	1.04	/

Table 14.11: SAR Measurement Variability for Head LTE B41PC2 (1g)

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
41055	2636.5	1RB-Mid	Left check	0.81	0.79	1.03	/
40620	2593	1RB-Mid	Left check	0.89	0.85	1.05	/
39750	2506	1RB-Mid	Left check	0.84	0.83	1.01	/
40185	2549.5	1RB-Mid	Left check	0.91	0.87	1.05	/

Table 14.12: 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							
132572	1770	1RB-Mid	Rear	10mm	0.821	0.817	1.00	/
132322	1745	1RB-Mid	Rear	10mm	0.851	0.848	1.00	/
132322	1745	1RB-Mid	Rear unfold	10mm	0.803	0.795	1.01	/
132572	1770	50RB-High	Rear	10mm	0.822	0.819	1.00	/
132322	1745	50RB-Low	Rear	10mm	0.811	0.807	1.00	/
132072	1720	50RB-Mid	Rear unfold	10mm	0.818	0.816	1.00	/
132072	1720	100RB	Rear	10mm	0.811	0.805	1.01	/
132572	1770	1RB-Mid	Rear	15mm	0.996	0.989	1.01	/
132322	1745	1RB-Mid	Rear	15mm	0.997	0.980	1.02	/
132072	1720	1RB-Mid	Rear	15mm	0.971	0.965	1.01	/
132572	1770	1RB-Mid	Rear unfold	15mm	1.030	1.00	1.03	/
132322	1745	1RB-Mid	Rear unfold	15mm	1.090	1.05	1.04	/
132072	1720	1RB-Mid	Rear unfold	15mm	0.976	0.970	1.01	/
132072	1720	50RB-low	Rear	15mm	0.817	0.810	1.01	/
132072	1720	50RB-low	Rear unfold	15mm	0.801	0.794	1.01	/

15 Measurement Uncertainty

15.1 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	

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

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

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

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

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

19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

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

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

16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						27.0	26.8	

16 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	N5239A	MY55491241	June 15, 2018	One year
02	Power meter	NRVD	102083	Octomber 24, 2018	One year
03	Power sensor	NRV-Z5	100542		
04	Signal Generator	E4438C	MY49070393	January 4, 2019	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	149646	Octomber 22, 2018	One year
07	E-field Probe	SPEAG EX3DV4	7514	August 27,2018	One year
08	DAE	SPEAG DAE4	1525	September 18, 2018	One year
09	Dipole Validation Kit	SPEAG D750V3	1017	July 23,2018	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 23, 2018	One year
11	Dipole Validation Kit	SPEAG D1750V2	1003	July 20, 2018	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 24,2018	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 24, 2018	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 26,2018	One year

END OF REPORT BODY

ANNEX A Graph Results

GSM850_CH128 Right Cheek
Date: 6/8/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 824.2 MHz; σ = 0.905 mho/m; εr = 41.08; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: GSM850 824.2 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.753 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.516 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.605 W/kg; SAR(10 g) = 0.388 W/kg
Maximum value of SAR (measured) = 0.782 W/kg

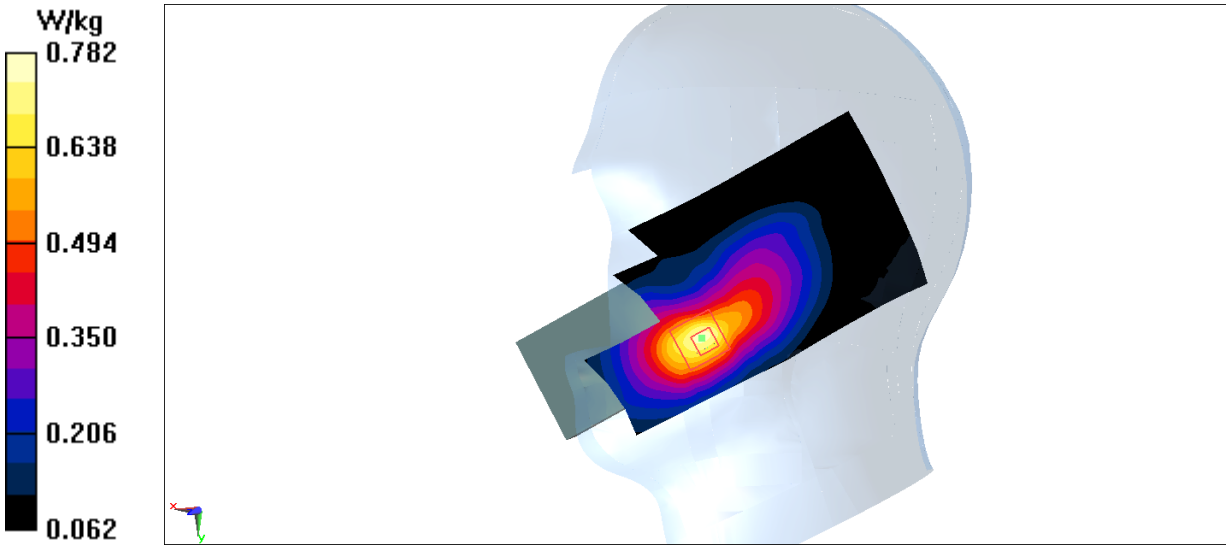


Fig A.1

GSM850_CH251 Rear
Date: 6/8/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 848.8 MHz; σ = 0.979 mho/m; εr = 54.29; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: GSM850 848.8 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.53 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.624 W/kg
SAR(1 g) = 0.370 W/kg; SAR(10 g) = 0.222 W/kg
Maximum value of SAR (measured) = 0.498 W/kg

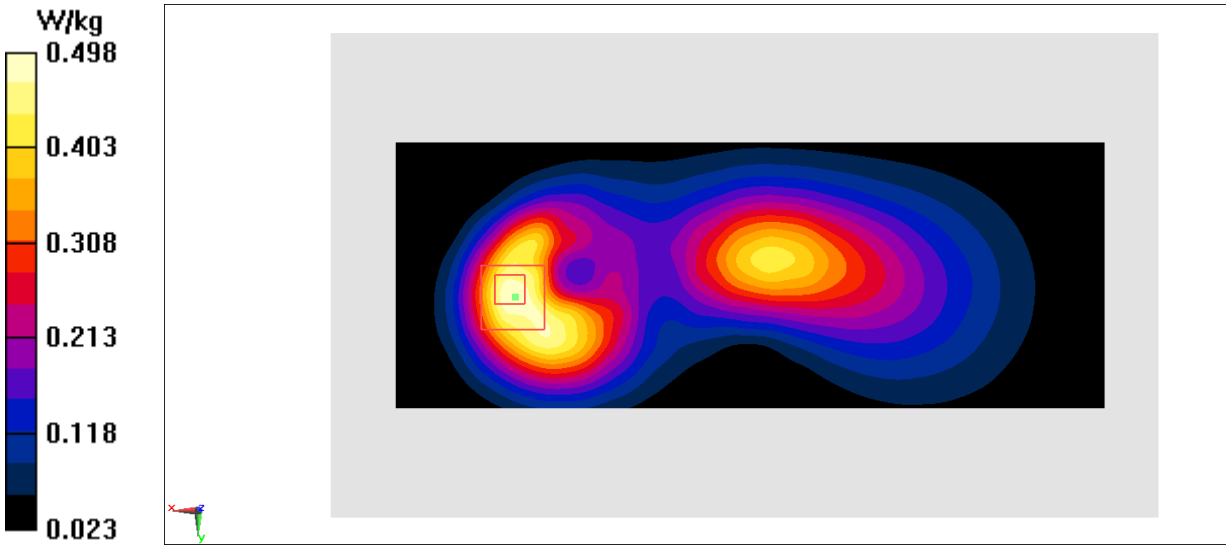


Fig A.2

PCS1900_CH512 Left Cheek
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.409 mho/m; εr = 40.01; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 – SN7514 ConvF(7.73,7.73,7.73)

Area Scan (71x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.423 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.285 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.522 W/kg
SAR(1 g) = 0.350 W/kg; SAR(10 g) = 0.218 W/kg
Maximum value of SAR (measured) = 0.432 W/kg

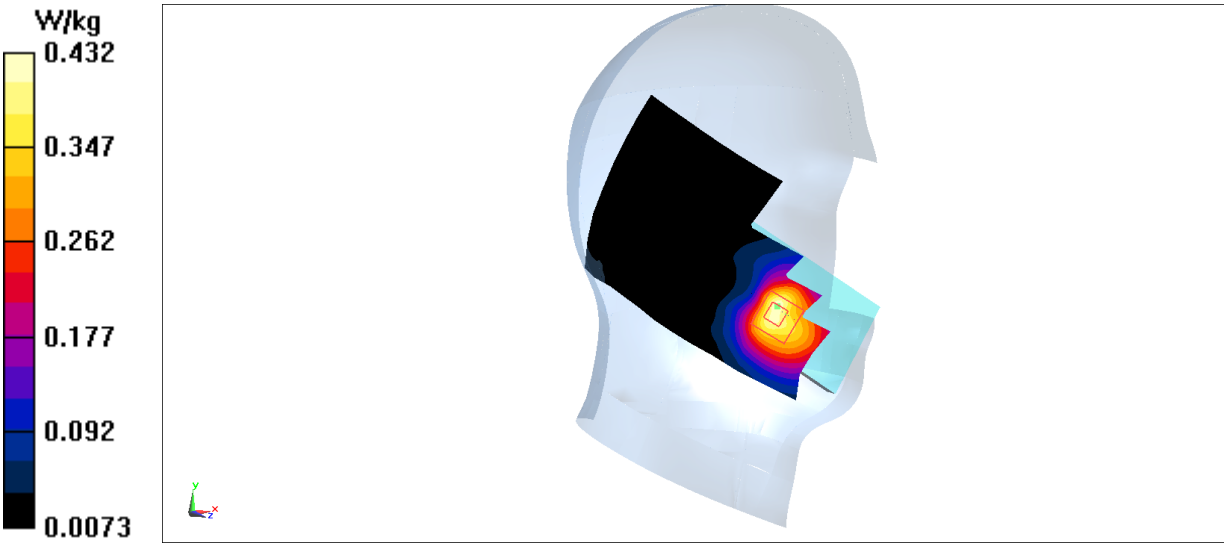


Fig A.3

PCS1900_CH512 Rear unfold edge
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.462 mho/m; εr = 53.17; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 – SN7514 ConvF(7.53,7.53,7.53)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.571 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.164 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.668 W/kg
SAR(1 g) = 0.415 W/kg; SAR(10 g) = 0.251 W/kg
Maximum value of SAR (measured) = 0.547 W/kg

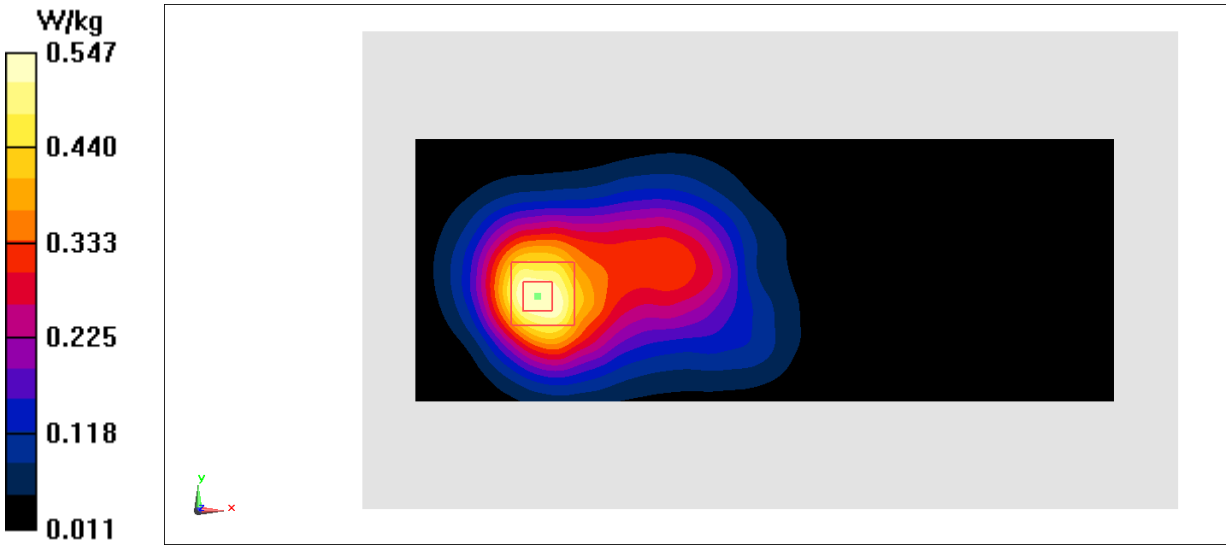


Fig A.4

WCDMA850-BV_CH4132 Right Cheek
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.892 mho/m; εr = 41.1; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 826.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.769 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.842 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.404 W/kg
Maximum value of SAR (measured) = 0.799 W/kg

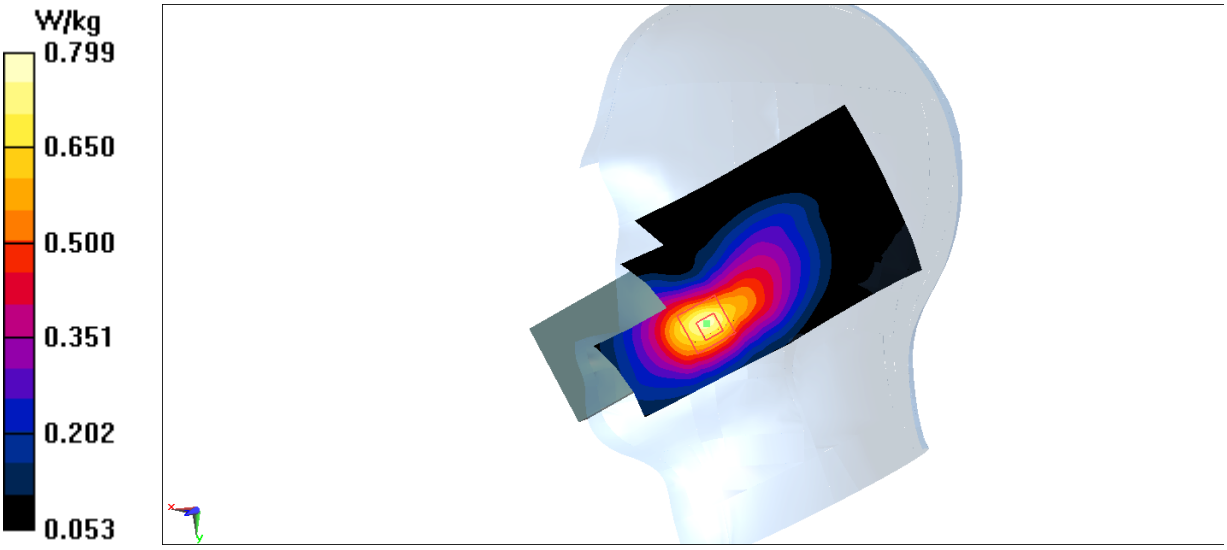


Fig A.5

WCDMA850-BV_CH4132 Rear
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.977 mho/m; εr = 54.29; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 826.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.669 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.65 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.741 W/kg
SAR(1 g) = 0.530 W/kg; SAR(10 g) = 0.365 W/kg
Maximum value of SAR (measured) = 0.645 W/kg

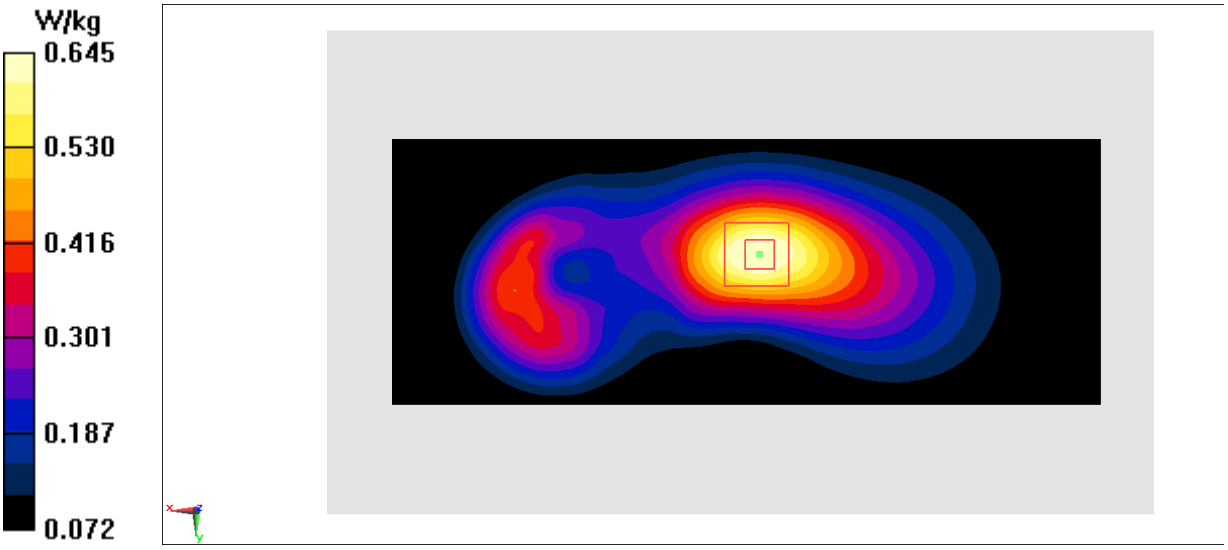


Fig A.6

WCDMA1700-BIV_CH1312 Left Cheek
Date: 6/8/2019
Electronics: DAE4 Sn1525
Medium: Head 1750 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.38 mho/m; εr = 40.82; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1700-BIV 1712.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(8.10,8.10,8.10)

Area Scan (71x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.750 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.158 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.655 W/kg; SAR(10 g) = 0.412 W/kg
Maximum value of SAR (measured) = 0.884 W/kg

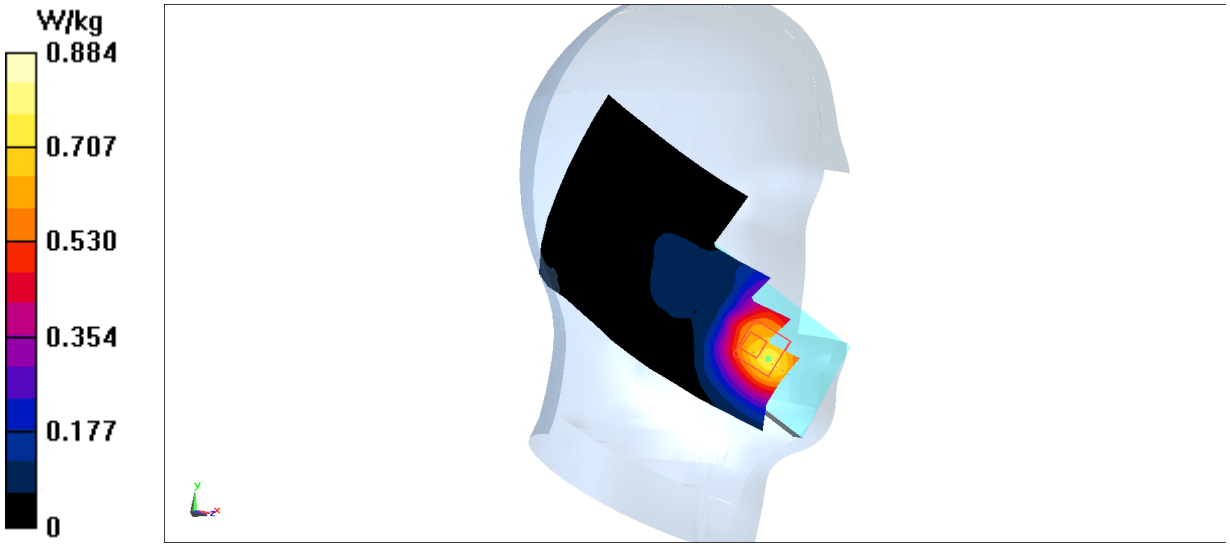


Fig A.7

WCDMA1700-BIV_CH1312 Bottom edge
Date: 6/8/2019
Electronics: DAE4 Sn1525
Medium: Head 1750 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.468 mho/m; εr = 52.6; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1700-BIV 1712.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.82,7.82,7.82)

Area Scan (101x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 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 = 10.76 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.861 W/kg; SAR(10 g) = 0.514 W/kg
Maximum value of SAR (measured) = 1.11 W/kg

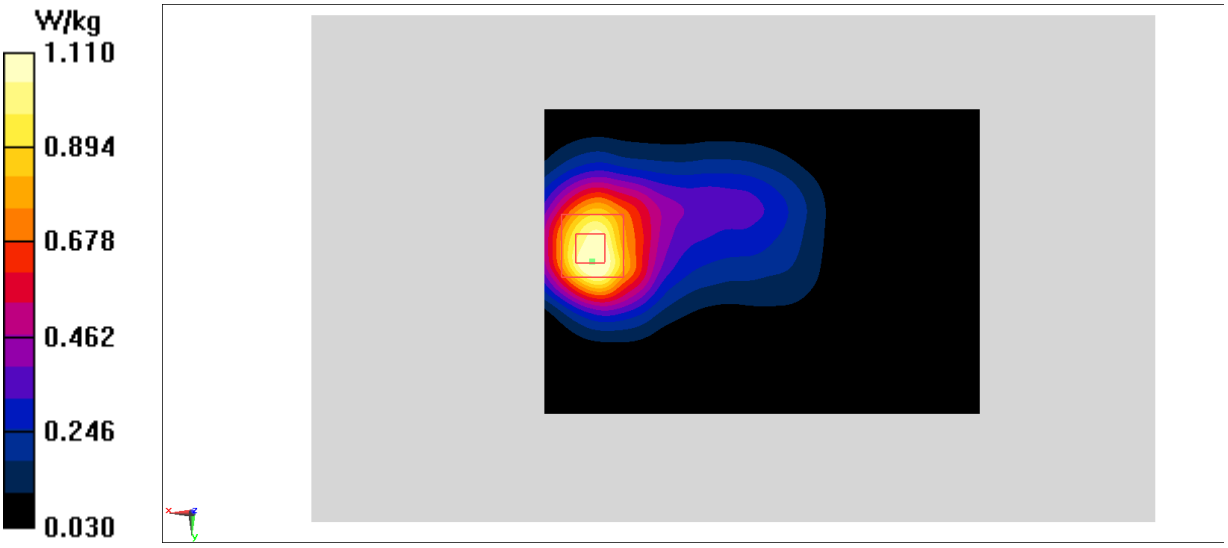


Fig A.8

WCDMA1900-BII_CH9262 Left Cheek
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.436 mho/m; εr = 39.98; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.73,7.73,7.73)

Area Scan (71x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.317 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.850 W/kg; SAR(10 g) = 0.511 W/kg
Maximum value of SAR (measured) = 1.10 W/kg

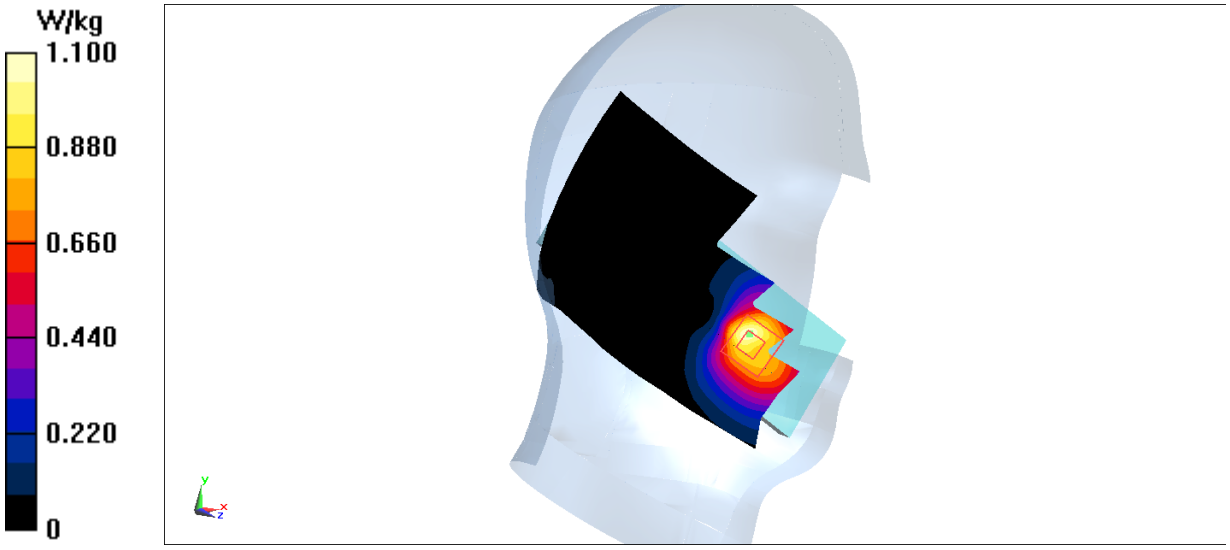


Fig A.9

WCDMA1900-BII_CH9262 Bottom edge
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.464 mho/m; εr = 53.17; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.53,7.53,7.53)

Area Scan (161x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.24 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.29 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.878 W/kg; SAR(10 g) = 0.519 W/kg
Maximum value of SAR (measured) = 1.25 W/kg

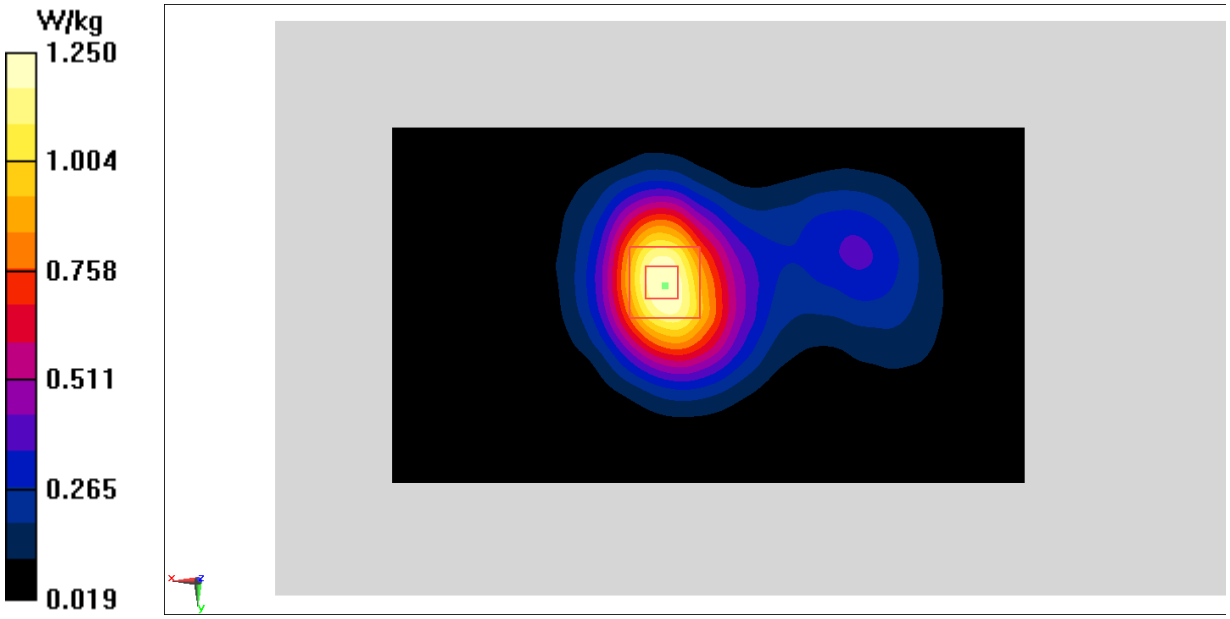


Fig A.10

CDMAB_BC0_CH1013 Right Cheek
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 824.7 MHz; σ = 0.893 mho/m; εr = 41.4; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 826.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

Area Scan (71x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.52 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.337 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.762 W/kg
Maximum value of SAR (measured) = 1.61 W/kg

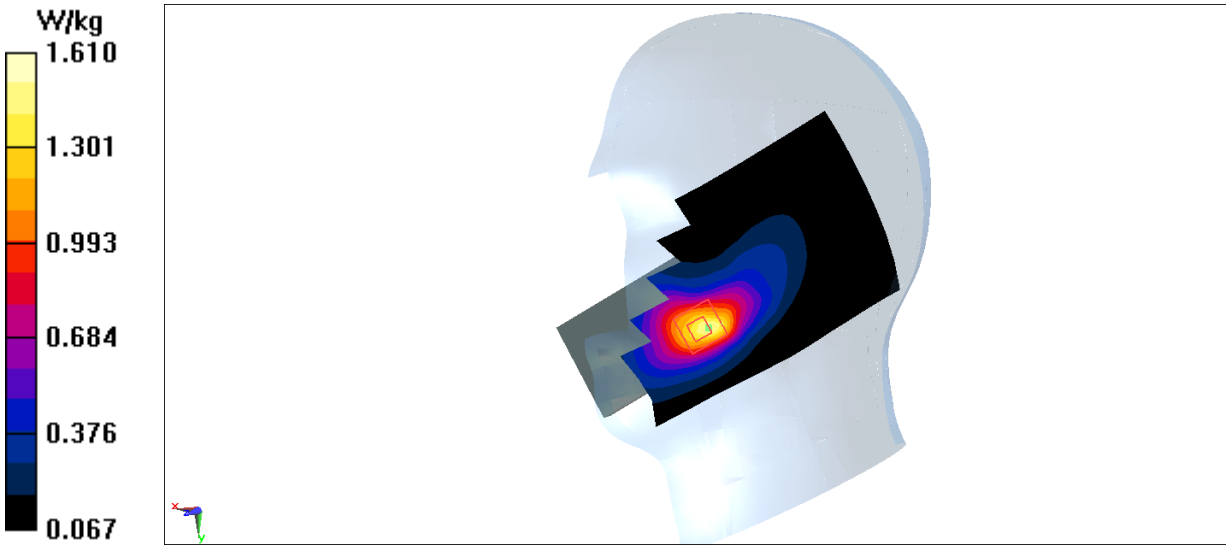


Fig A.11

CDMA_BC0_CH1013 Rear
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 824.7 MHz; σ = 0.975 mho/m; εr = 54.30; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 826.4 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

Area Scan (111x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.54 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.40 W/kg
SAR(1 g) = 0.955 W/kg; SAR(10 g) = 0.662 W/kg
Maximum value of SAR (measured) = 1.17 W/kg

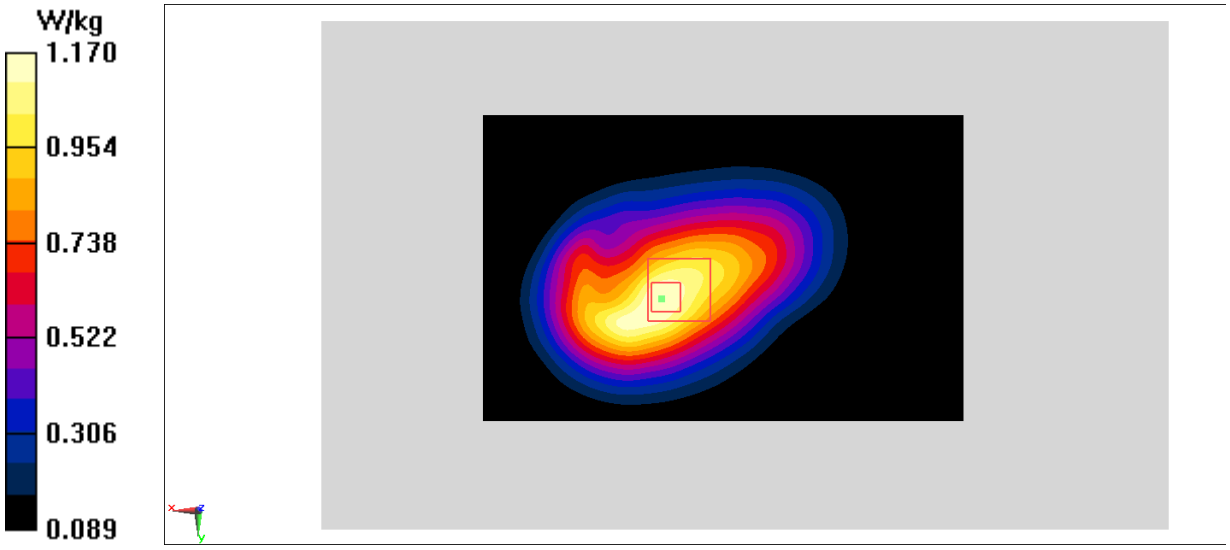


Fig A.12

CDMA-BC1_CH600 Left Cheek
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.437 mho/m; εr = 39.95; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1900-BII 1880 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.73,7.73,7.73)

Area Scan (61x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.13 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.226 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.833 W/kg; SAR(10 g) = 0.510 W/kg
Maximum value of SAR (measured) = 1.08 W/kg

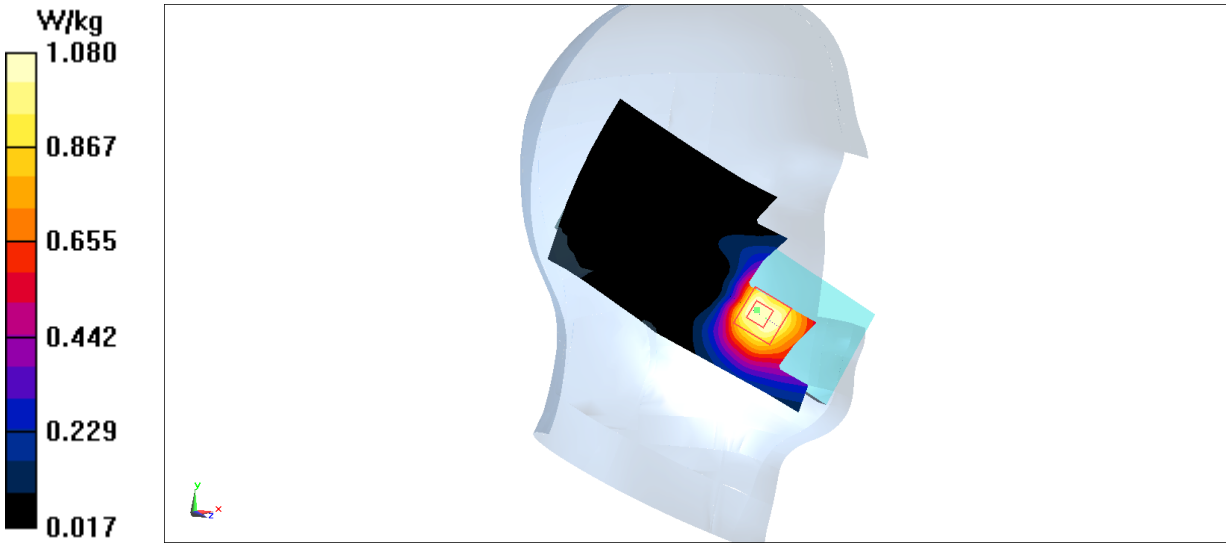


Fig A.13

CDMA_BC1_CH1175 Bottom edge
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1908.75 MHz; σ = 1.462 mho/m; εr = 53.19; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1900-BII 1908.75 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.53,7.53,7.53)

Area Scan (101x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.28 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.39 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.50 W/kg
SAR(1 g) = 0.944 W/kg; SAR(10 g) = 0.564 W/kg
Maximum value of SAR (measured) = 1.22 W/kg

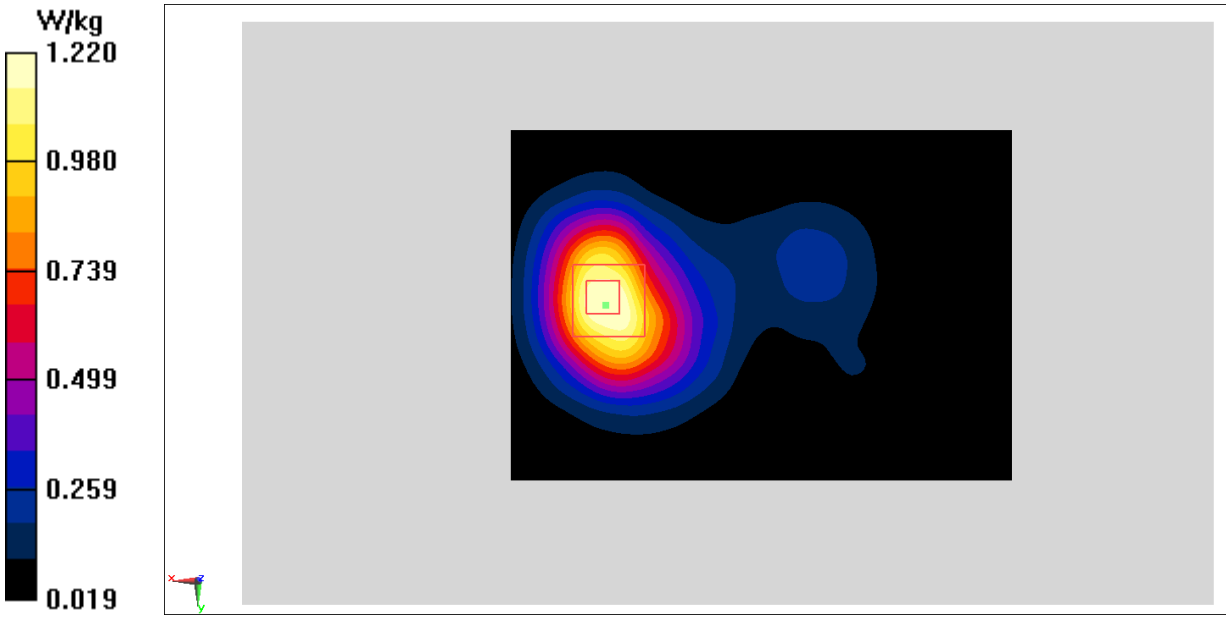


Fig A.14

CDMA_BC10_CH684 Right Cheek
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 823.1 MHz; σ = 0.894 mho/m; εr = 41.1; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 823.1 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

Area Scan (61x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.54 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.940 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.640 W/kg
Maximum value of SAR (measured) = 1.51 W/kg

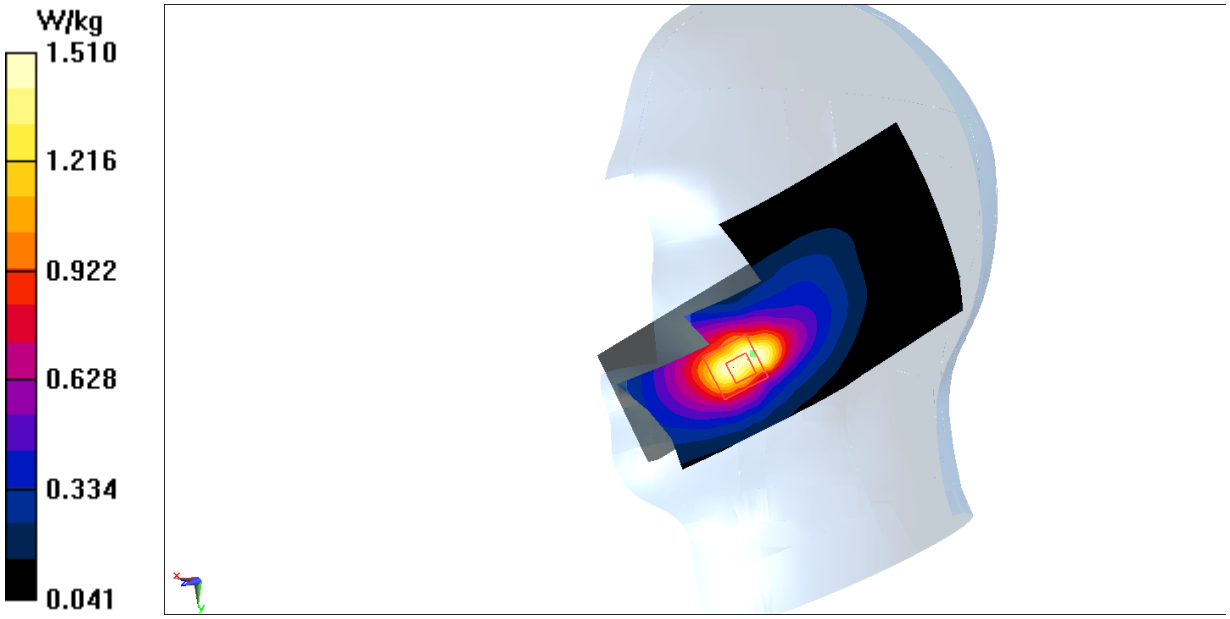


Fig A.15

CDMA_BC10_CH476 Rear
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 817.9 MHz; σ = 0.979 mho/m; εr = 54.31; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 817.9 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

Area Scan (111x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.13 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.44 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.937 W/kg; SAR(10 g) = 0.637 W/kg
Maximum value of SAR (measured) = 1.18 W/kg

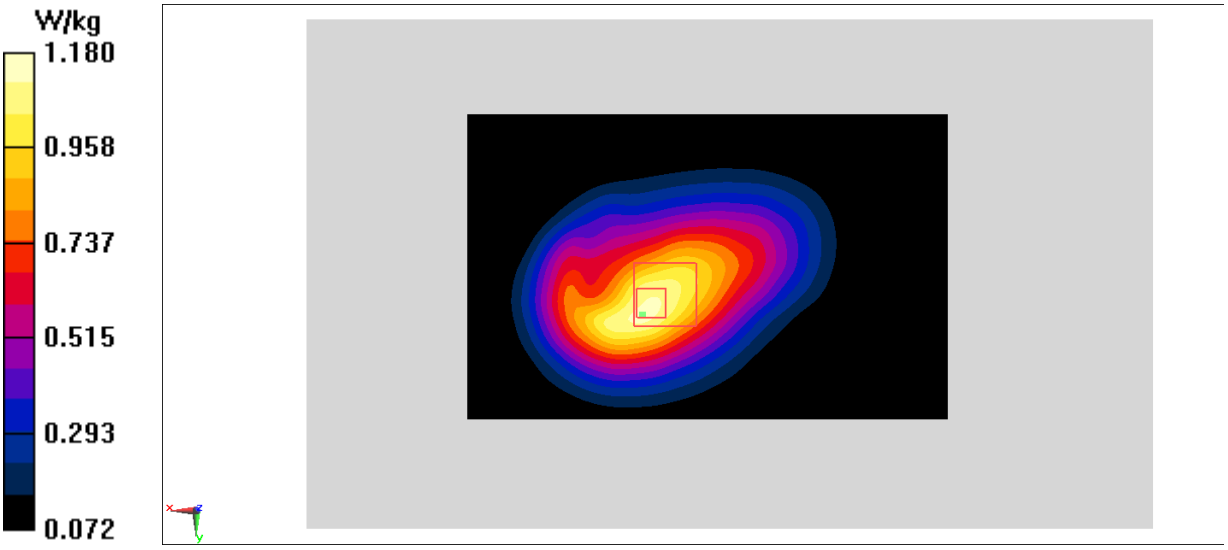


Fig A.16

LTE700-FDD12_CH23130 Right Cheek
Date: 6/6/2019
Electronics: DAE4 Sn1525
Medium: Head 750 MHz
Medium parameters used: f = 711 MHz; σ = 0.844 mho/m; εr = 41.41; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE700-FDD12 711 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.690 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.014 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.983 W/kg
SAR(1 g) = 0.583 W/kg; SAR(10 g) = 0.387 W/kg
Maximum value of SAR (measured) = 0.780 W/kg

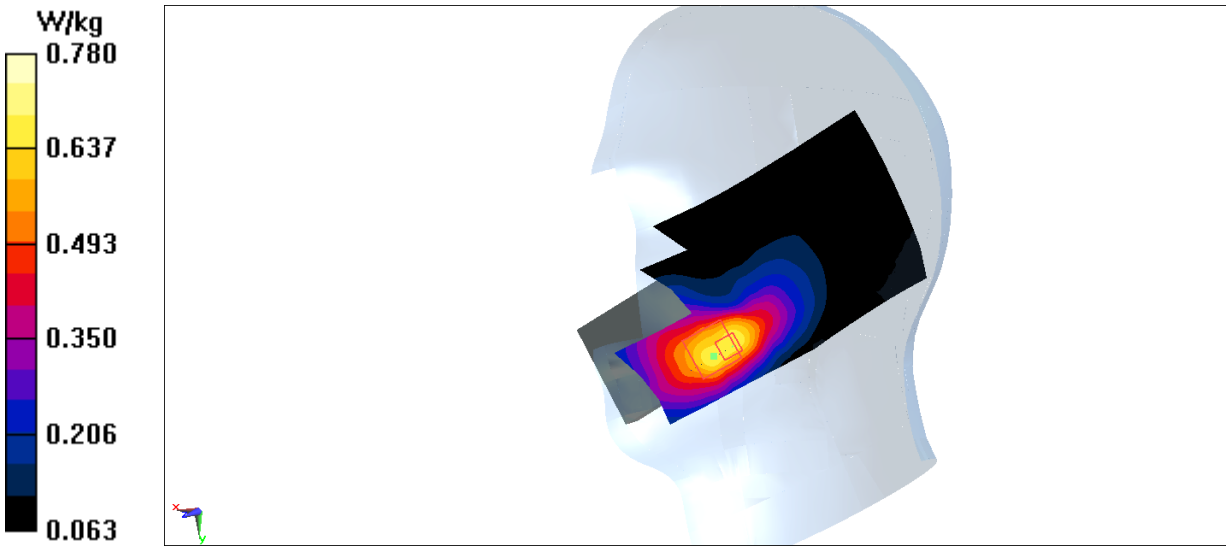


Fig A.17

LTE700-FDD12_CH23130 Rear
Date: 6/6/2019
Electronics: DAE4 Sn1525
Medium: Head 750 MHz
Medium parameters used: f = 711 MHz; σ = 0.911 mho/m; εr = 56.01; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE700-FDD12 711 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.68,9.68,9.68)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.11 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.14 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.660 W/kg
Maximum value of SAR (measured) = 1.09 W/kg

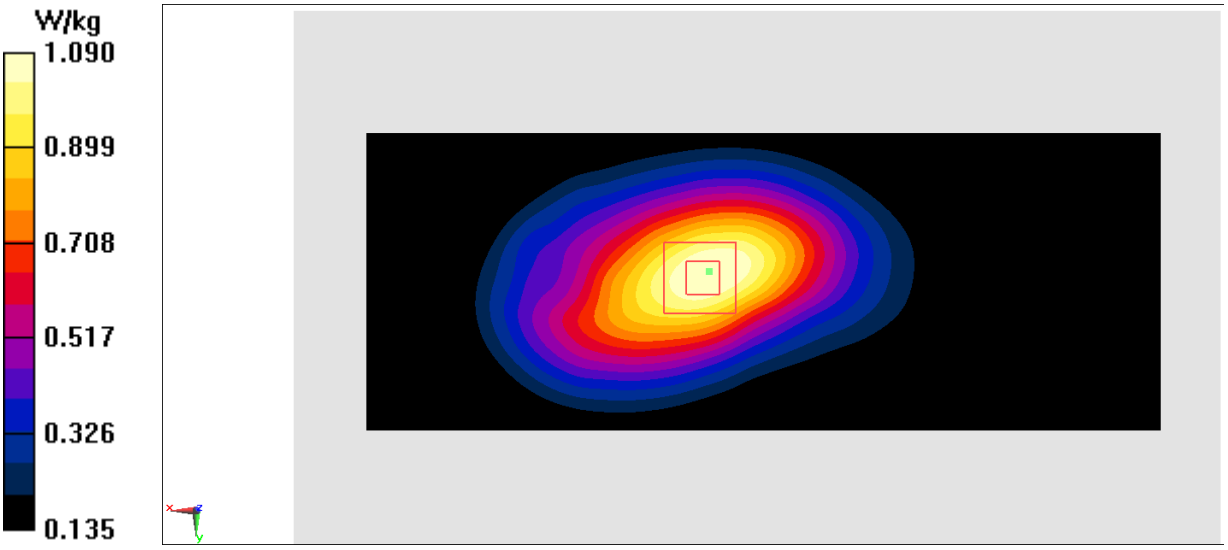


Fig A.18

LTEBand25_CH26365 Left Cheek
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1882.5 MHz; σ = 1.434 mho/m; εr = 39.97; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1900-BII 1882.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.73,7.73,7.73)

Area Scan (71x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.827 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.979 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.988 W/kg
SAR(1 g) = 0.641 W/kg; SAR(10 g) = 0.393 W/kg
Maximum value of SAR (measured) = 0.793 W/kg

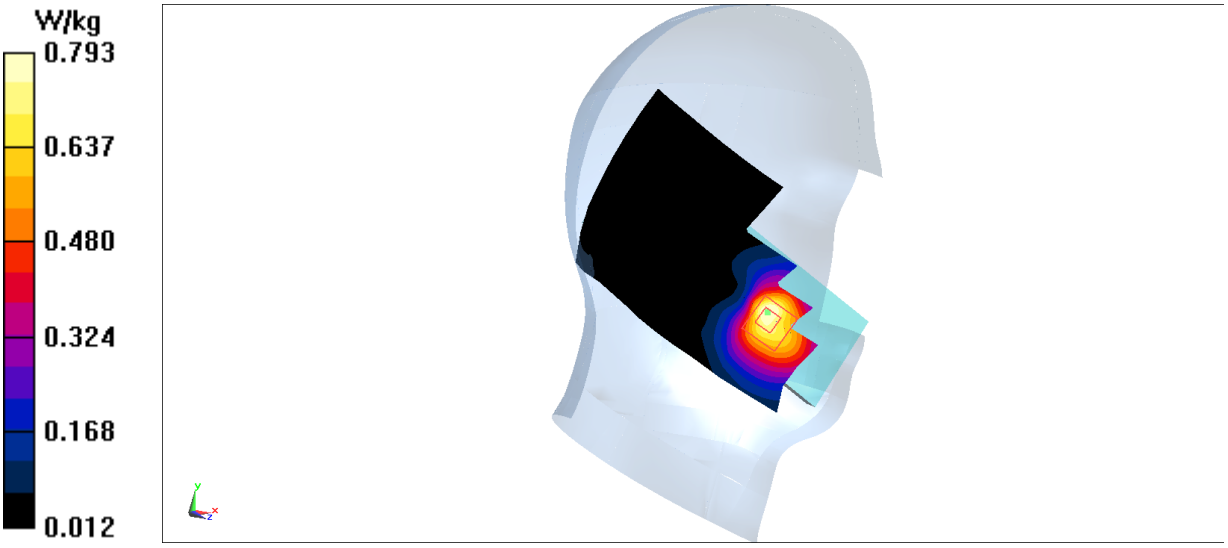


Fig A.19

LTEBand25_CH26365 Bottom edge
Date: 6/9/2019
Electronics: DAE4 Sn1525
Medium: Head 1900 MHz
Medium parameters used: f = 1882.5 MHz; σ = 1.465 mho/m; εr = 53.14; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1900-BII 1882.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.53,7.53,7.53)

Area Scan (161x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.667 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.06 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.842 W/kg
SAR(1 g) = 0.494 W/kg; SAR(10 g) = 0.295 W/kg
Maximum value of SAR (measured) = 0.705 W/kg

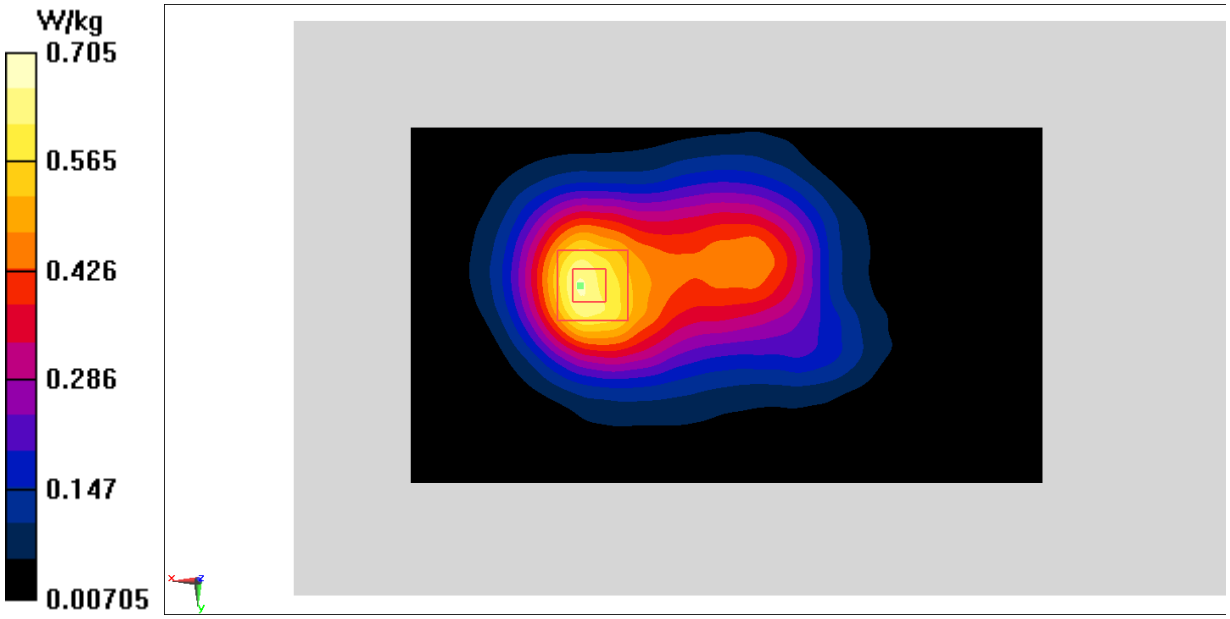


Fig A.20

LTEBand26_CH26865 Right Cheek
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 831.5 MHz; σ = 0.899 mho/m; εr = 41.0; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 831.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.09,9.09,9.09)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.919 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.279 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.753 W/kg; SAR(10 g) = 0.477 W/kg
Maximum value of SAR (measured) = 1.01 W/kg

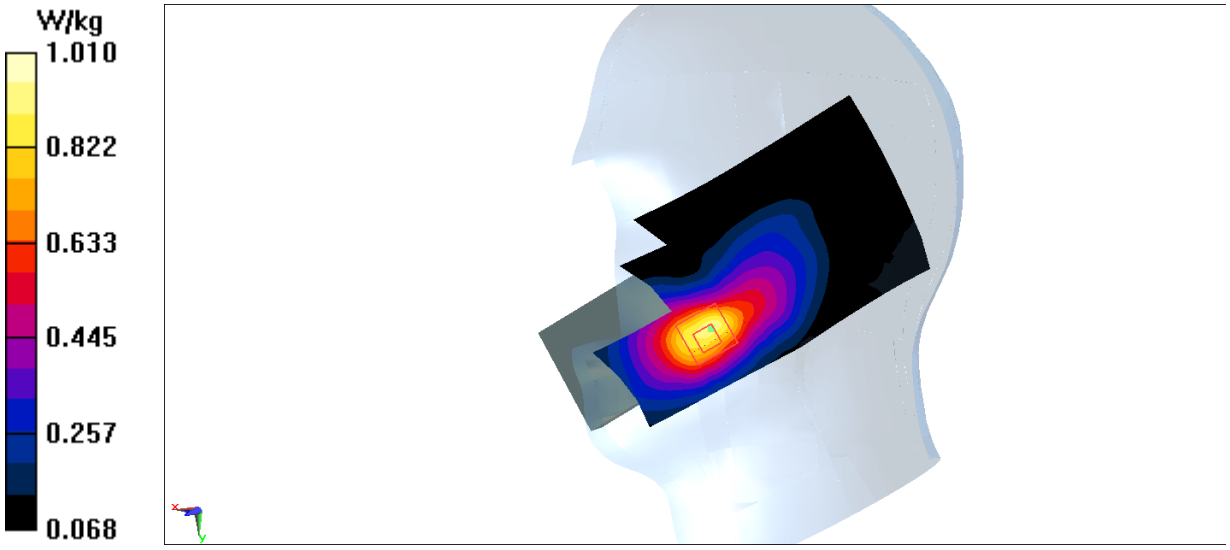


Fig A.21

LTEBand26_CH26865 Rear
Date: 6/7/2019
Electronics: DAE4 Sn1525
Medium: Head 835 MHz
Medium parameters used: f = 831.5 MHz; σ = 0.977 mho/m; εr = 54.32; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA850-BV 831.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.575 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.79 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.657 W/kg
SAR(1 g) = 0.453 W/kg; SAR(10 g) = 0.308 W/kg
Maximum value of SAR (measured) = 0.575 W/kg

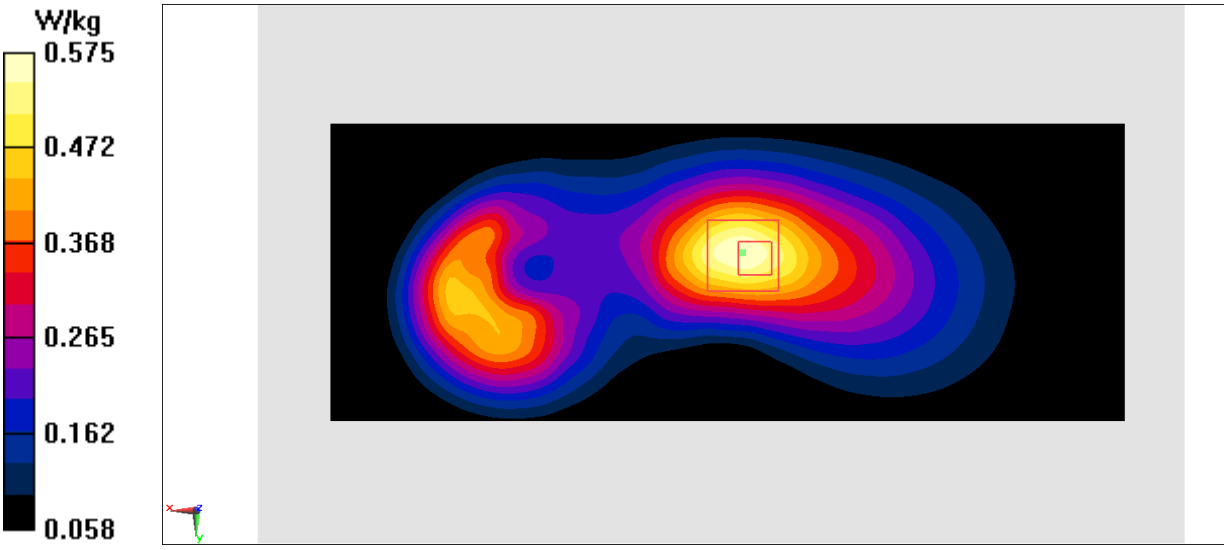


Fig A.22

LTEBand41_CH40185 Left Cheek
Date: 6/11/2019
Electronics: DAE4 Sn1525
Medium: Head 2600 MHz
Medium parameters used: f = 2549.5 MHz; σ = 1.887 mho/m; εr = 39.11; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE2500-FDD7 2549.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.06,7.06,7.06)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.919 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.813 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.691 W/kg; SAR(10 g) = 0.323 W/kg
Maximum value of SAR (measured) = 1.01 W/kg

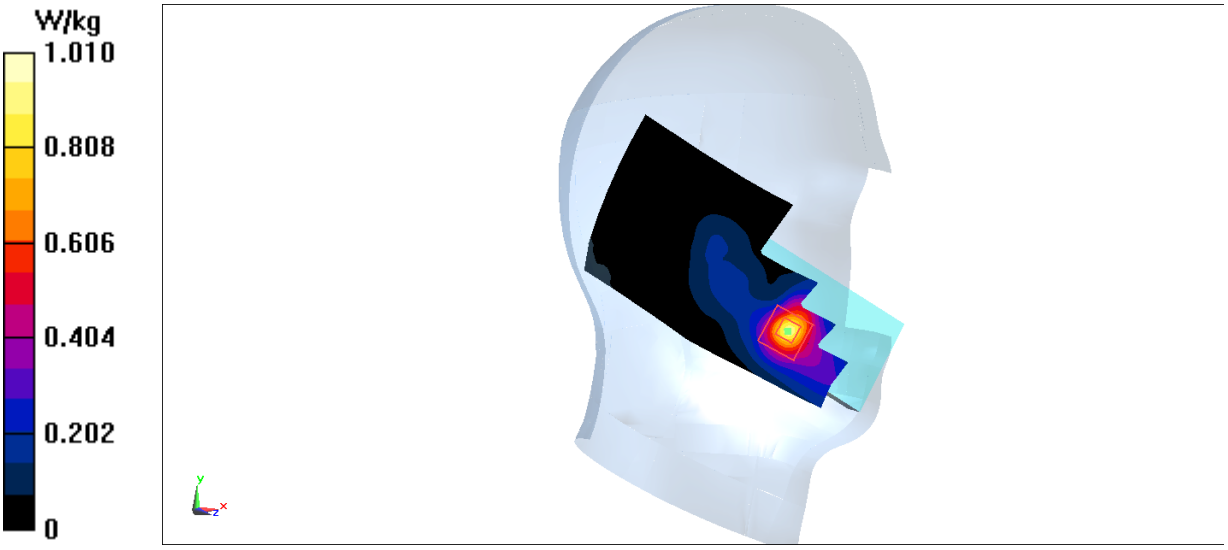


Fig A.23

LTEband41_CH40185 Bottom
Date: 6/11/2019
Electronics: DAE4 Sn1525
Medium: Head 2600 MHz
Medium parameters used: f = 2549.5 MHz; σ = 2.138 mho/m; εr = 52.67; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE2500-FDD7 2549.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(7.84,7.84,7.84)

Area Scan (101x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.257 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.63 W/kg
SAR(1 g) = 0.838 W/kg; SAR(10 g) = 0.397 W/kg
Maximum value of SAR (measured) = 1.17 W/kg

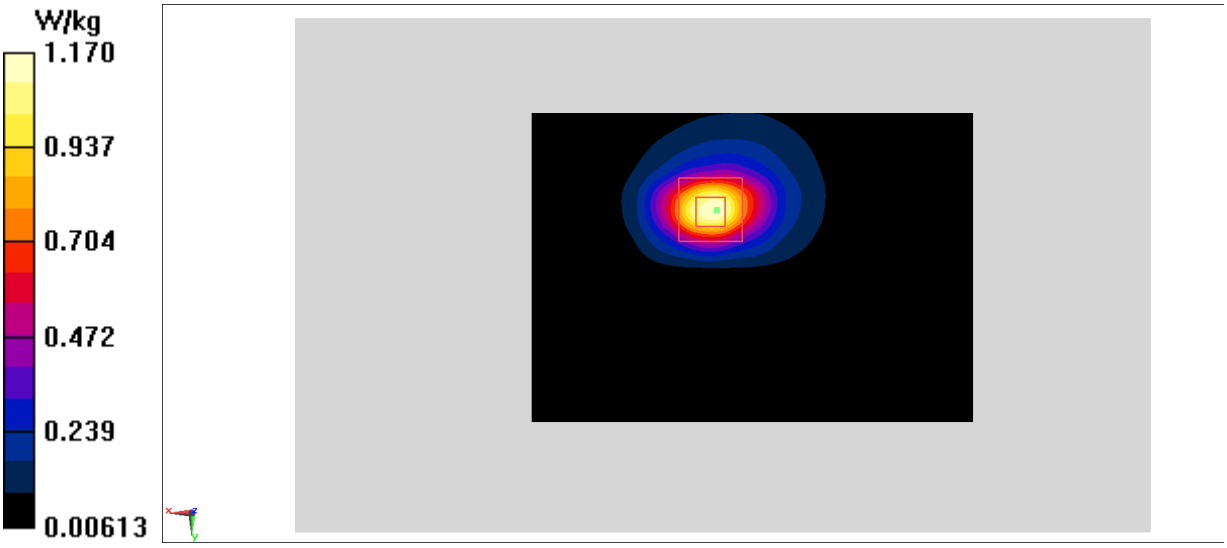


Fig A.24

LTEBand41_CH40185 Left Cheek
Date: 6/11/2019
Electronics: DAE4 Sn1525
Medium: Head 2600 MHz
Medium parameters used: f = 2549.5 MHz; σ = 1.887 mho/m; εr = 39.11; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE2500-FDD7 2549.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.06,7.06,7.06)

Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.22 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.868 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 0.897 W/kg; SAR(10 g) = 0.436 W/kg
Maximum value of SAR (measured) = 1.33 W/kg

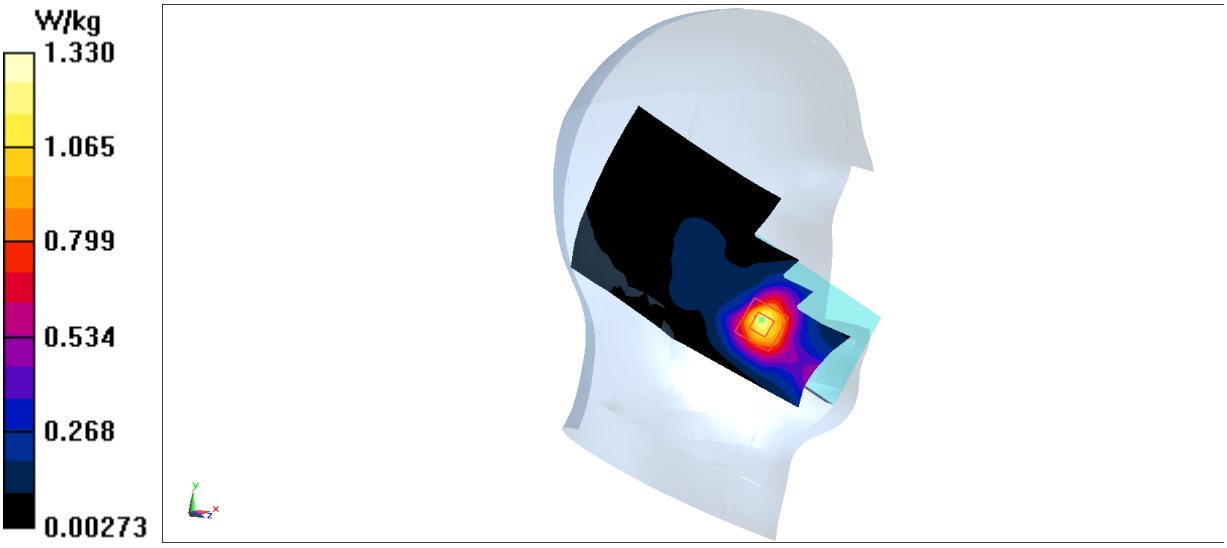


Fig A.25

LTEband41_CH40185 Bottom
Date: 6/11/2019
Electronics: DAE4 Sn1525
Medium: Head 2600 MHz
Medium parameters used: f = 2549.5 MHz; σ = 2.138 mho/m; εr = 52.67; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE2500-FDD7 2549.5 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(7.84,7.84,7.84)

Area Scan (131x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.24 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.20 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.689 W/kg; SAR(10 g) = 0.331 W/kg
Maximum value of SAR (measured) = 1.09 W/kg

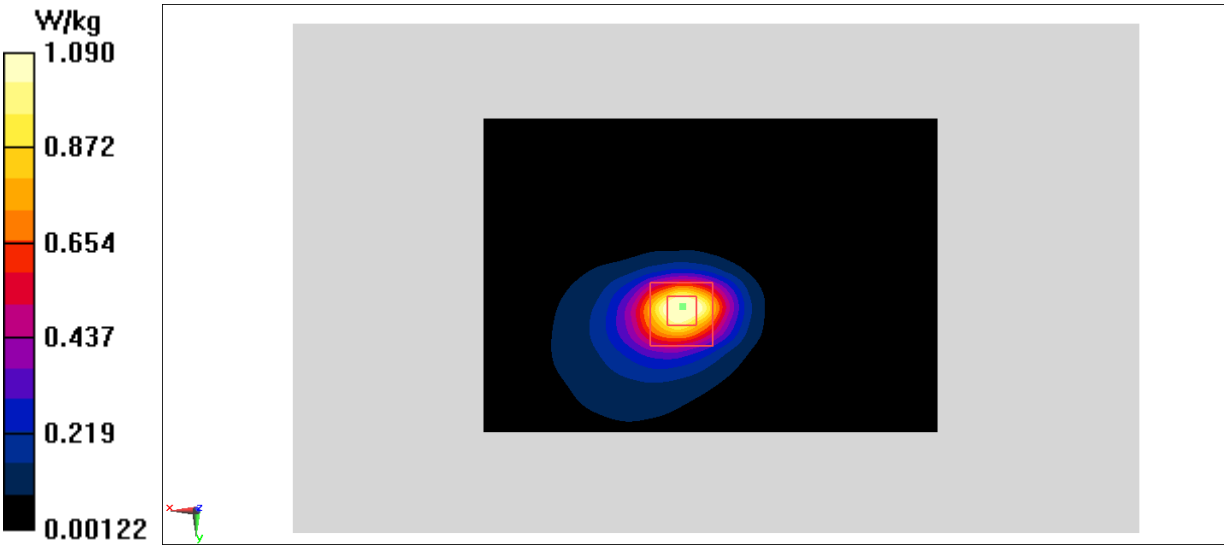


Fig A.24

LTEBand66_CH132572 Left Cheek
Date: 6/8/2019
Electronics: DAE4 Sn1525
Medium: Head 1750 MHz
Medium parameters used: f = 1770 MHz; σ = 1.44 mho/m; εr = 40.78; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1700-BIV 1770 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(8.10,8.10,8.10)

Area Scan (71x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.743 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.705 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.891 W/kg
SAR(1 g) = 0.598 W/kg; SAR(10 g) = 0.397 W/kg
Maximum value of SAR (measured) = 0.731 W/kg

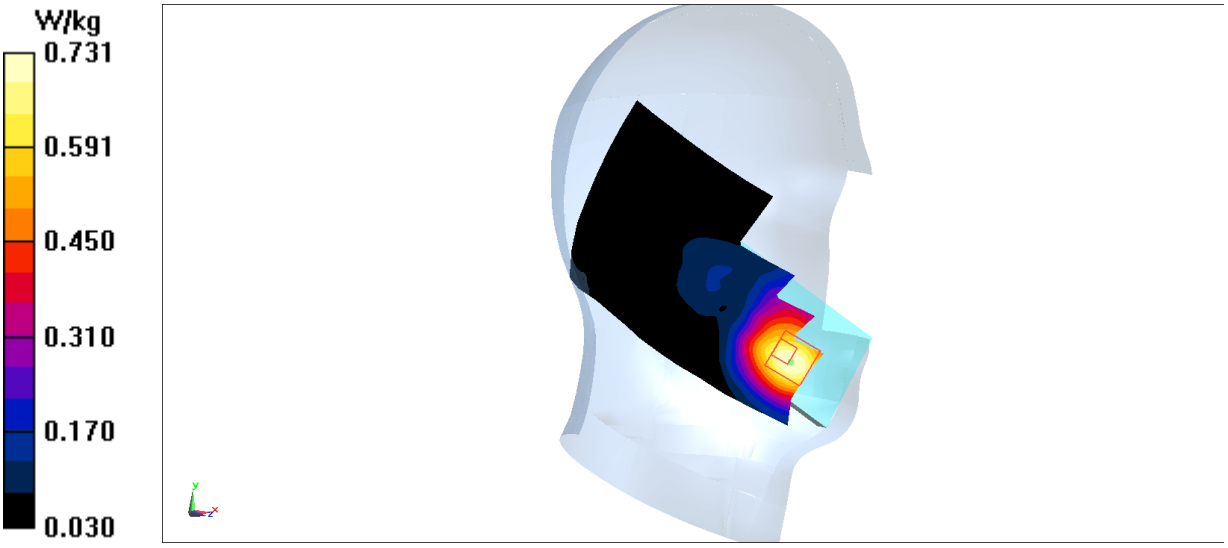


Fig A.25

LTEBand66_CH132322 Rear unfold edge
Date: 6/8/2019
Electronics: DAE4 Sn1525
Medium: Head 1750 MHz
Medium parameters used: f = 1745 MHz; σ = 1.471 mho/m; εr = 52.55; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: WCDMA1700-BIV 1745 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.82,7.82,7.82)

Area Scan (61x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.39 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.229 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.665 W/kg
Maximum value of SAR (measured) = 1.39 W/kg

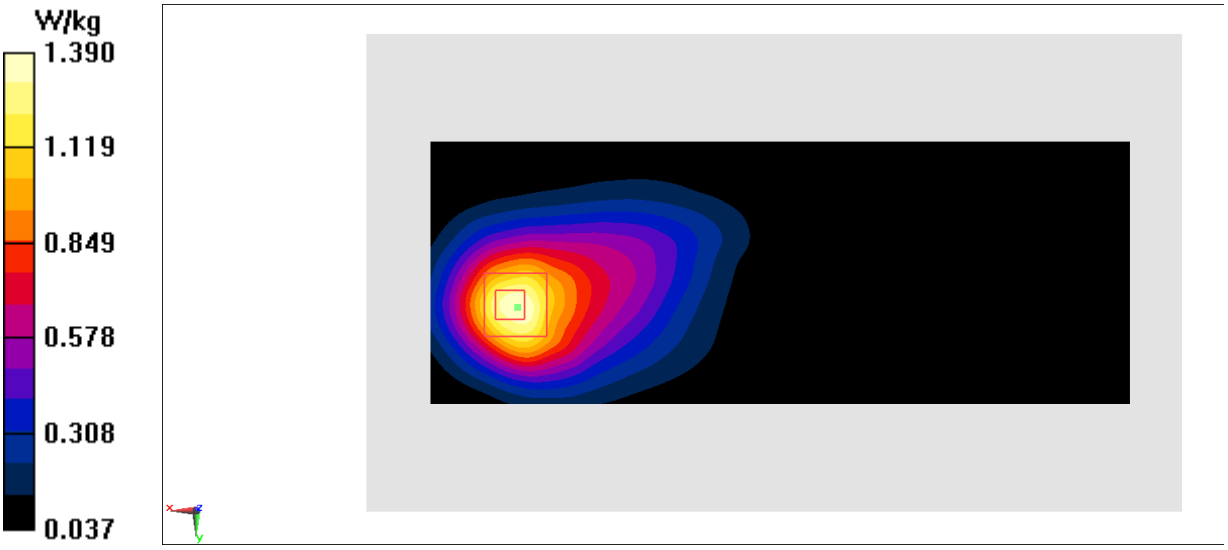


Fig A.26

LTEBand71_CH133372 Right Cheek
Date: 6/6/2019
Electronics: DAE4 Sn1525
Medium: Head 750 MHz
Medium parameters used: f = 688 MHz; σ = 0.847 mho/m; εr = 41.45; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE700-FDD12 688 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.47,9.47,9.47)

Area Scan (71x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.930 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.287 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.604 W/kg; SAR(10 g) = 0.370 W/kg
Maximum value of SAR (measured) = 0.870 W/kg

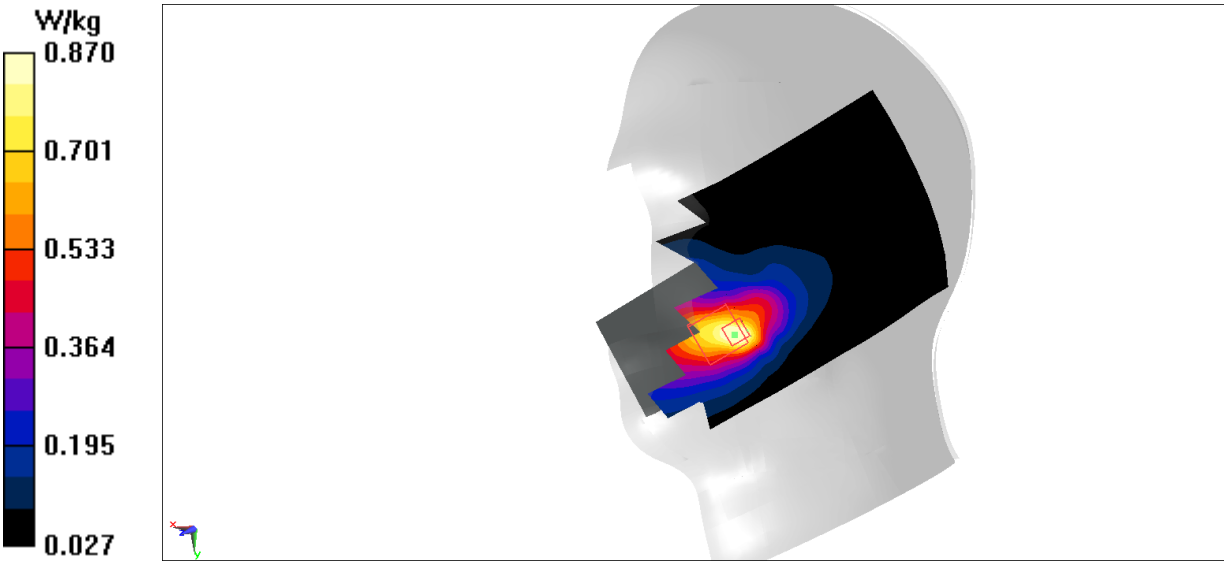


Fig A.27

LTEBand71_CH133372 Rear
Date: 6/6/2019
Electronics: DAE4 Sn1525
Medium: Head 750 MHz
Medium parameters used: f = 688 MHz; σ = 0.908 mho/m; εr = 56.10; ρ = 1000 kg/m^3
Ambient Temperature: 22.2ºC, Liquid Temperature: 22.1ºC
Communication System: LTE700-FDD12 688 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(9.68,9.68,9.68)

Area Scan (111x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.575 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.49 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.729 W/kg
SAR(1 g) = 0.479 W/kg; SAR(10 g) = 0.324 W/kg
Maximum value of SAR (measured) = 0.603 W/kg

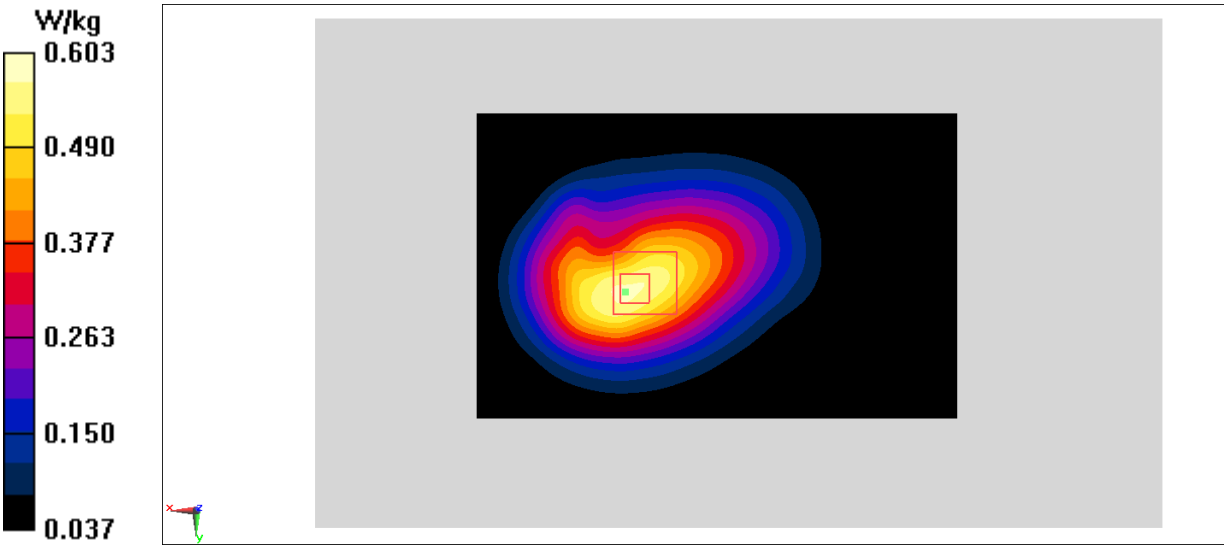


Fig A.28

WLAN2450_CH6 Left Cheek
Date: 6/10/2019
Electronics: DAE4 Sn1525
Medium: head 2450 MHz
Medium parameters used: f = 2437 MHz; σ = 1.779 mho/m; εr = 39.89; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2437 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(6.95,6.95,6.95)

Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.486 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.719 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.643 W/kg
SAR(1 g) = 0.281 W/kg; SAR(10 g) = 0.137 W/kg
Maximum value of SAR (measured) = 0.525 W/kg

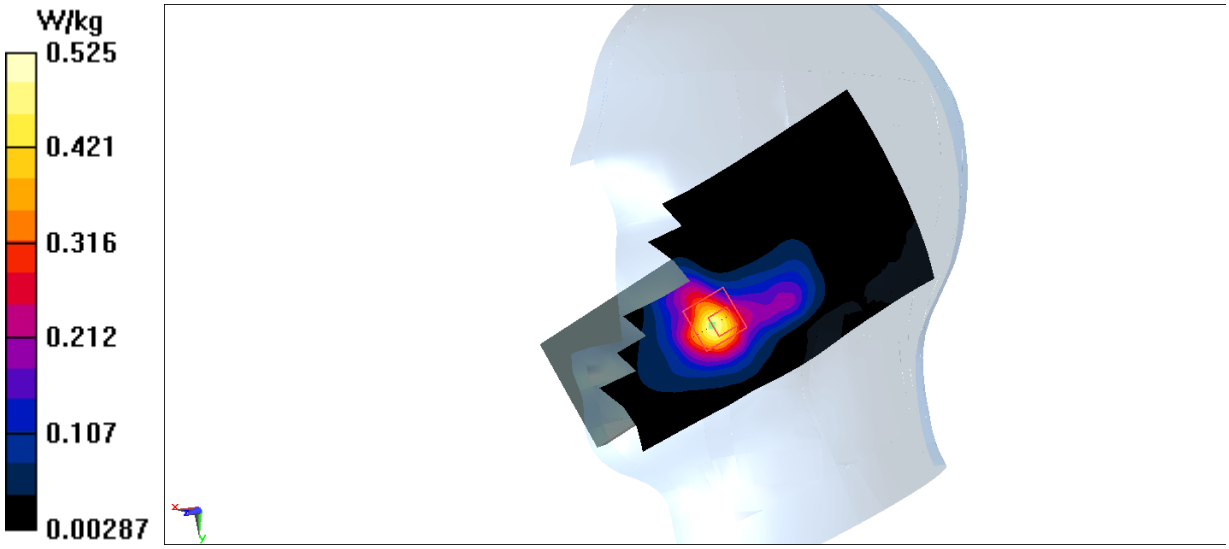


Fig A.29

WLAN2450_CH6 Rear unfold
Date: 6/10/2019
Electronics: DAE4 Sn1525
Medium: body 2450 MHz
Medium parameters used: f = 2437 MHz; σ = 1.940 mho/m; εr = 52.21; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.13,7.13,7.13)

Area Scan (161x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.595 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.46 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.731 W/kg
SAR(1 g) = 0.378 W/kg; SAR(10 g) = 0.198 W/kg
Maximum value of SAR (measured) = 0.592 W/kg

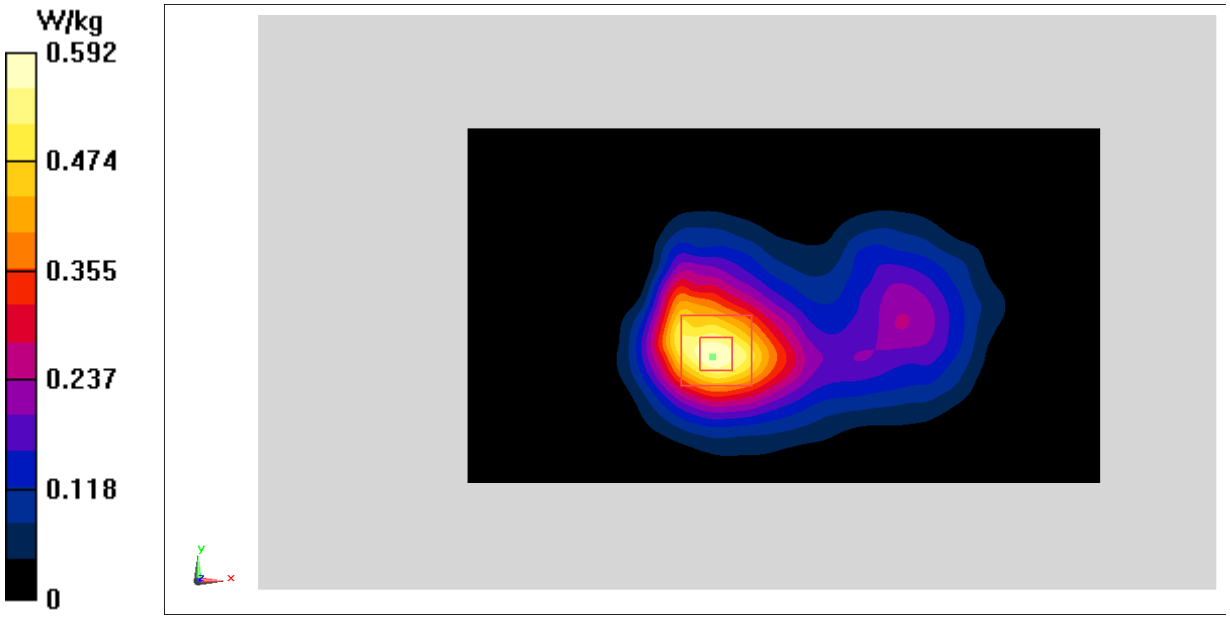


Fig A.30

BT_CH39 Left Cheek
Date: 6/10/2019
Electronics: DAE4 Sn1525
Medium: head 2450 MHz
Medium parameters used: f =2441 MHz; σ = 1.775 mho/m; εr = 39.90; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2441 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(6.95,6.95,6.95)

Area Scan (71x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0128 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.584 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.0260 W/kg
SAR(1 g) = 0.000765 W/kg; SAR(10 g) = 0.000187 W/kg
Maximum value of SAR (measured) = 0.00732 W/kg

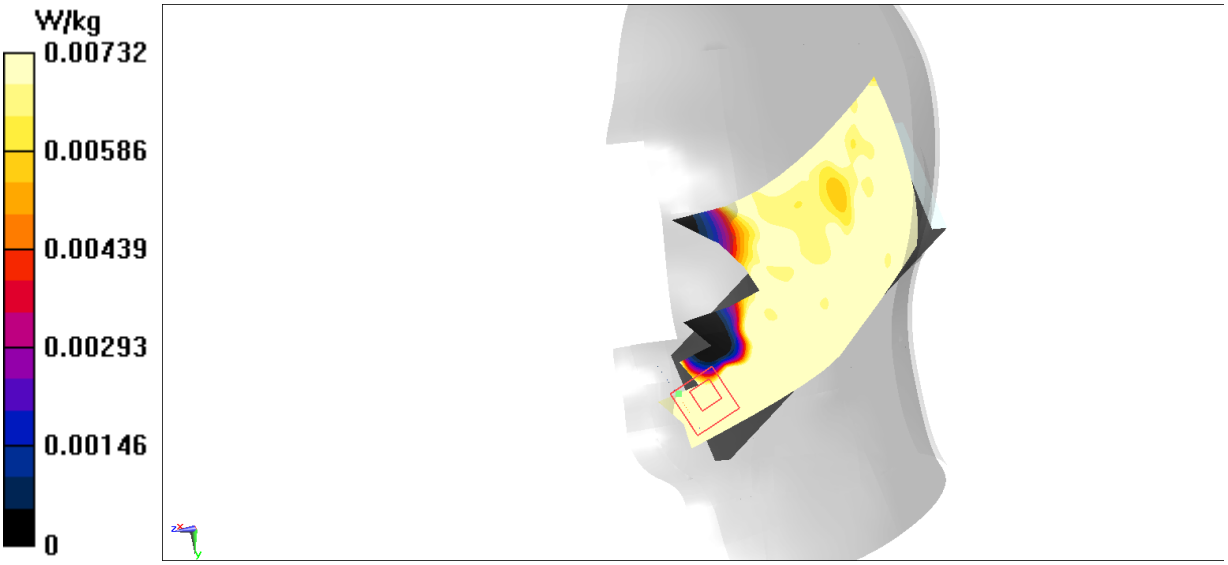


Fig A.31

BT_CH39 Front Edge
Date: 6/10/2019
Electronics: DAE4 Sn1525
Medium: body 2450 MHz
Medium parameters used: f = 2441 MHz; σ = 1.936 mho/m; εr = 52.24; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2441 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7514 ConvF(7.13,7.13,7.13)

Area Scan (161x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0152 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.9600 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.00669 W/kg
SAR(1 g) = 0.00077 W/kg; SAR(10 g) = 0.000161 W/kg
Maximum value of SAR (measured) = 0.00356 W/kg

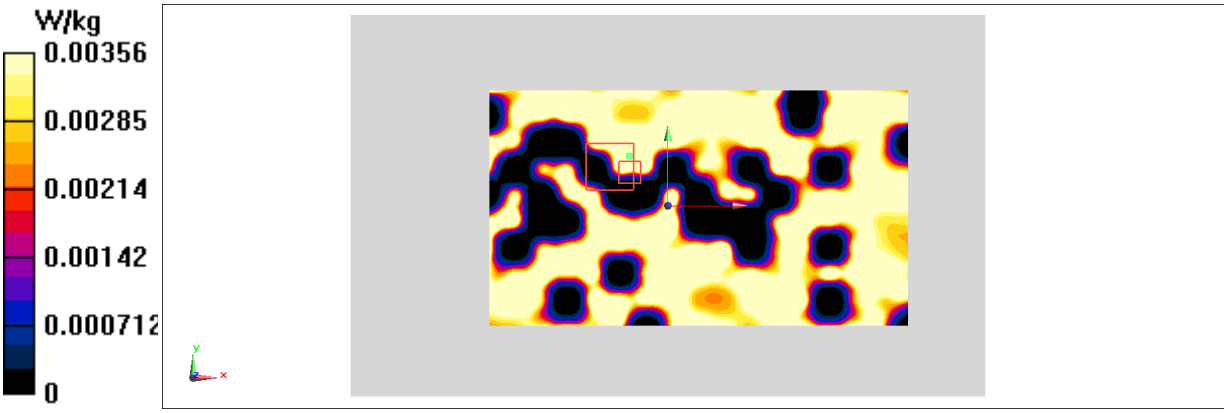


Fig A.32

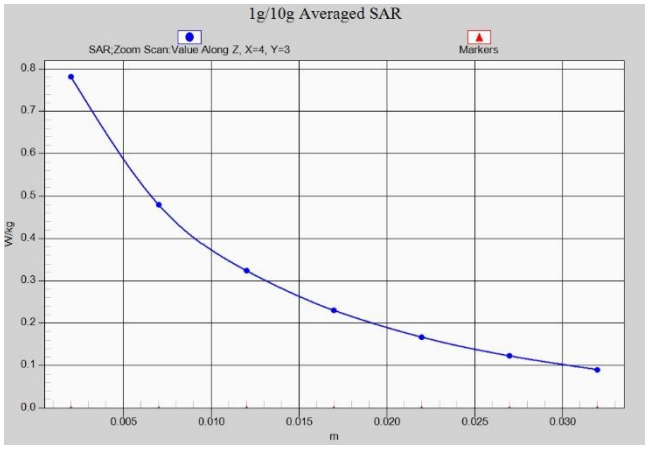


Fig.A.1- 1 Z-Scan at power reference point (GSM850)

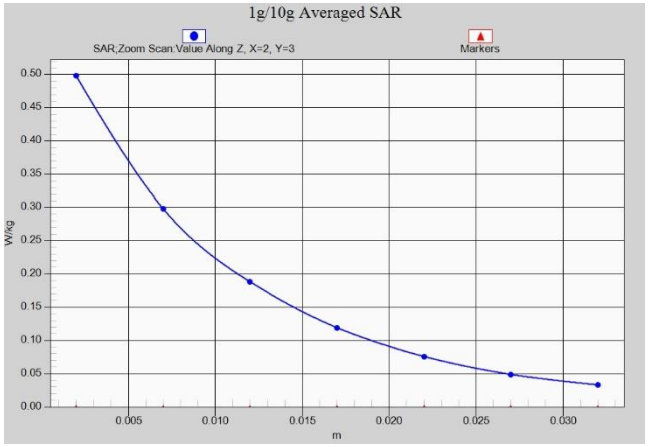


Fig.A.1- 2 Z-Scan at power reference point (GSM850)

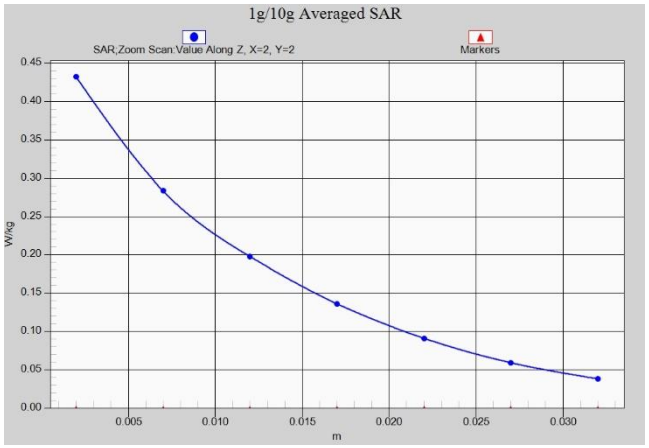


Fig.A.1- 3 Z-Scan at power reference point (PCS1900)

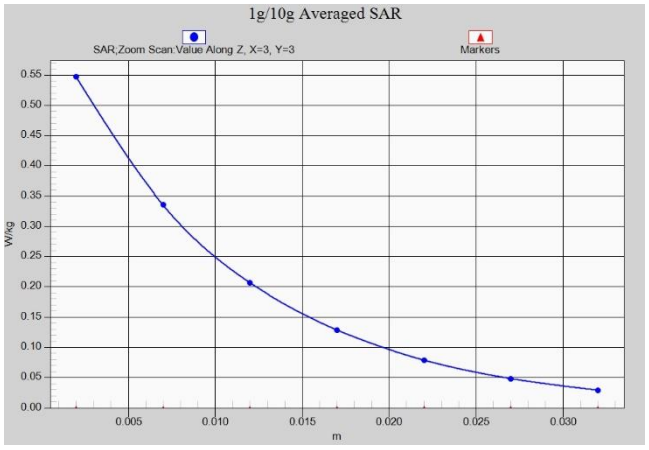


Fig.A.1- 4 Z-Scan at power reference point (PCS1900)

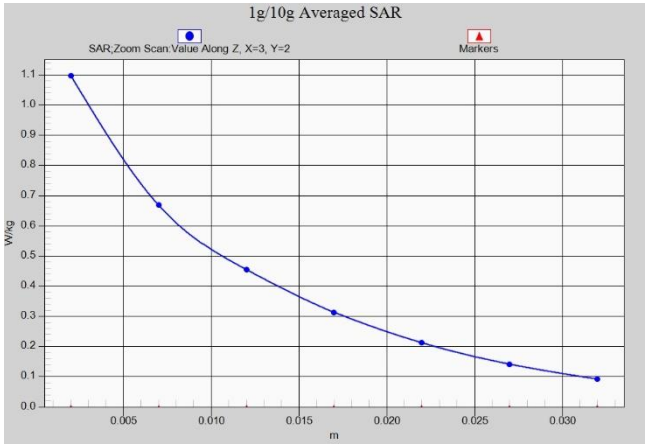


Fig.A.1- 5 Z-Scan at power reference point (W1900)

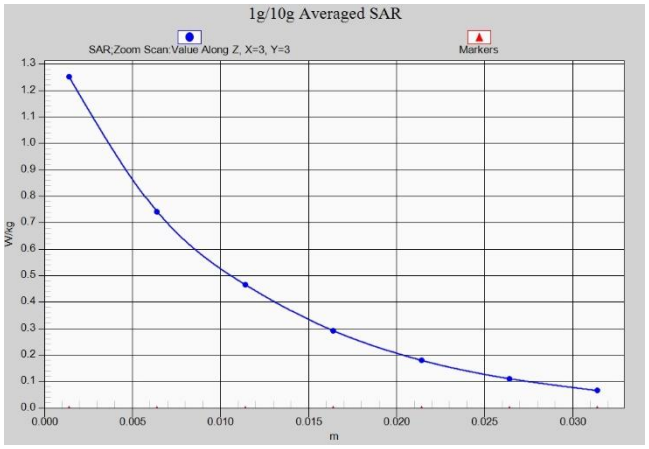


Fig.A.1- 6 Z-Scan at power reference point (W1900)

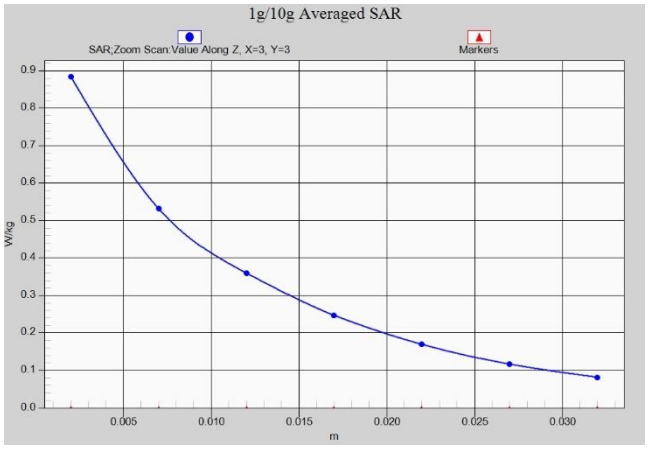


Fig.A.1- 7 Z-Scan at power reference point (W1700)

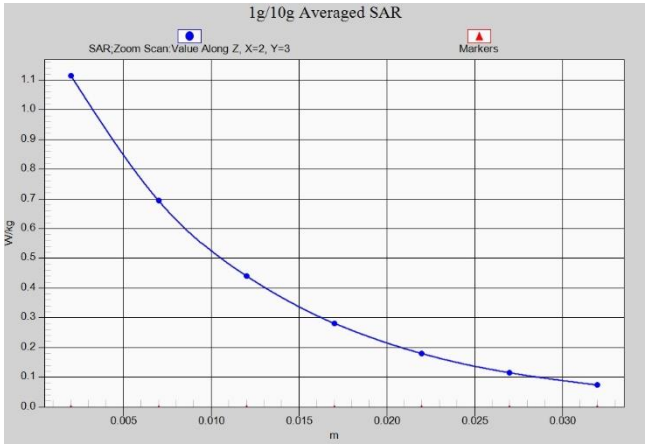


Fig.A.1- 8 Z-Scan at power reference point (W1700)

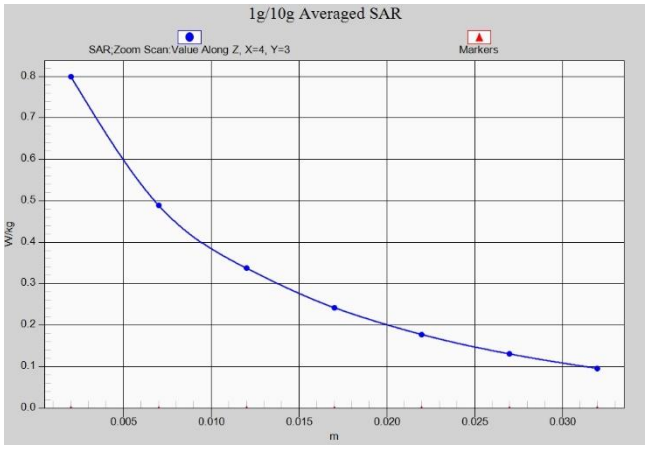


Fig.A.1- 9 Z-Scan at power reference point (W850)

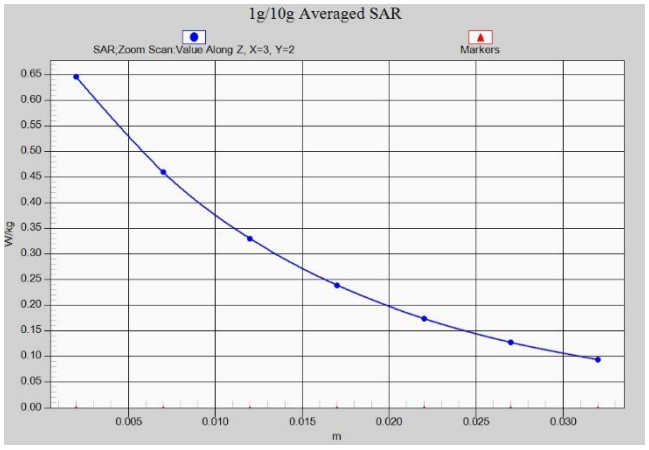


Fig.A.1- 10 Z-Scan at power reference point (W850)

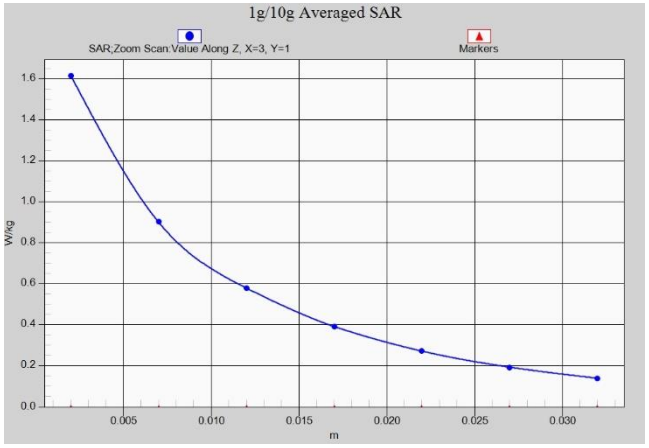


Fig.A.1- 11 Z-Scan at power reference point (CDMABC0)

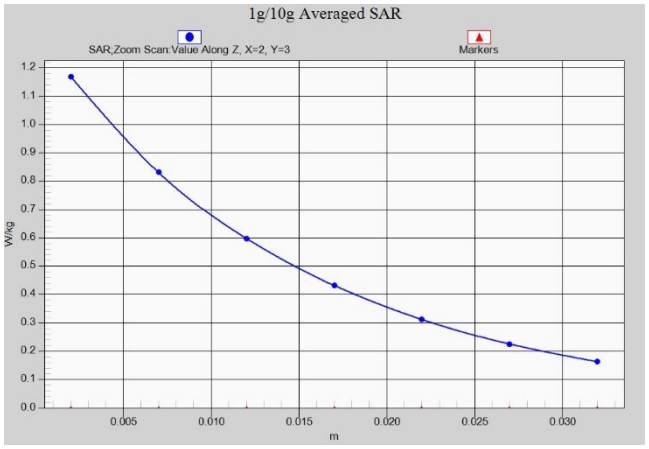


Fig.A.1- 12 Z-Scan at power reference point (CDMABC0)

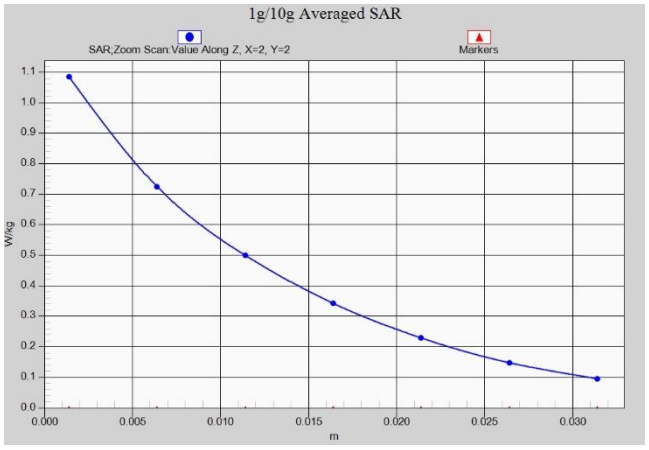


Fig.A.1- 13 Z-Scan at power reference point (CDMABC1)

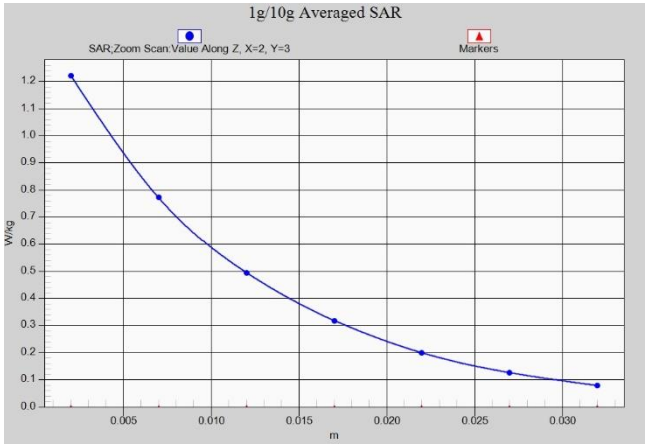


Fig.A.1- 14 Z-Scan at power reference point (CDMABC1)

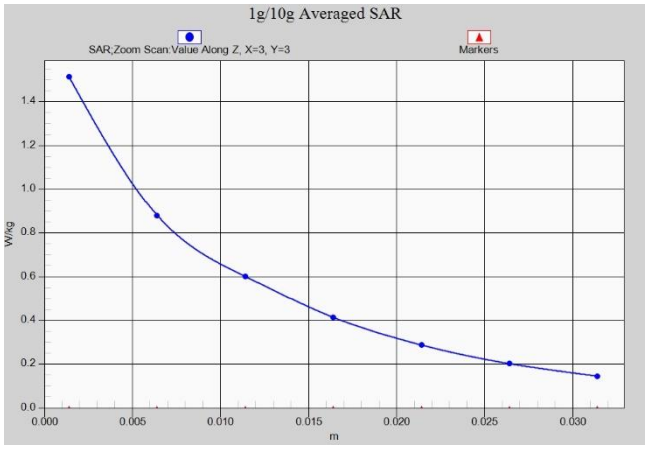


Fig.A.1- 15 Z-Scan at power reference point (CDMABC10)

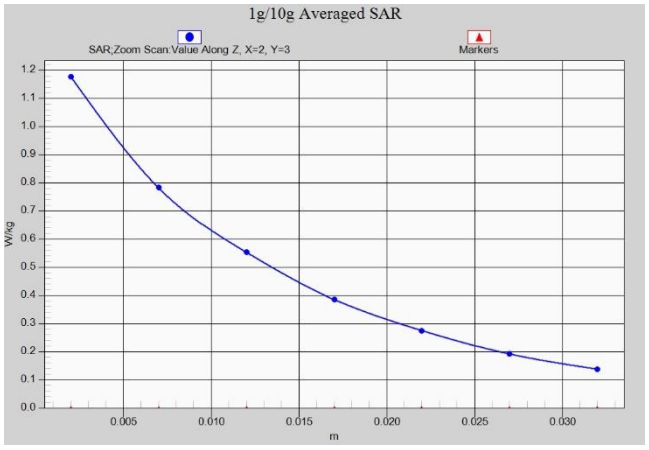


Fig.A.1- 16 Z-Scan at power reference point (CDMABC10)

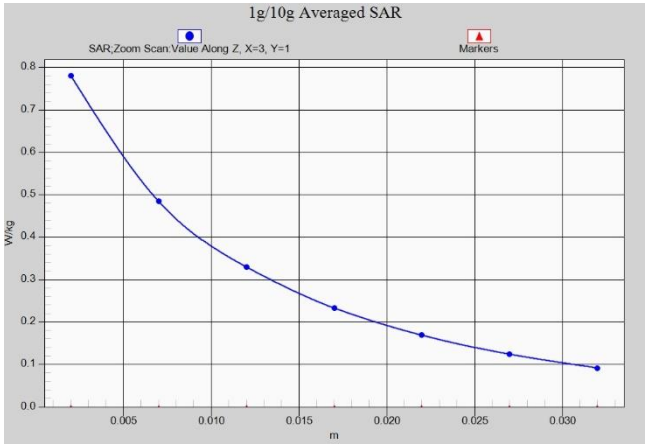


Fig.A.1- 17 Z-Scan at power reference point (LTE band12)

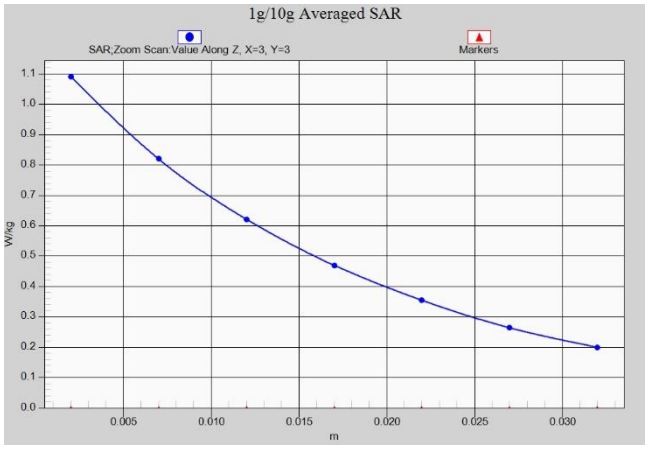


Fig.A.1- 18 Z-Scan at power reference point (LTE band12)

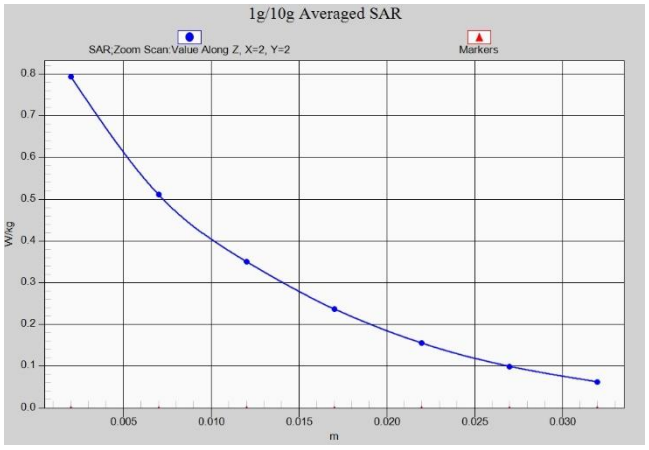


Fig.A.1- 19 Z-Scan at power reference point (LTE band25)

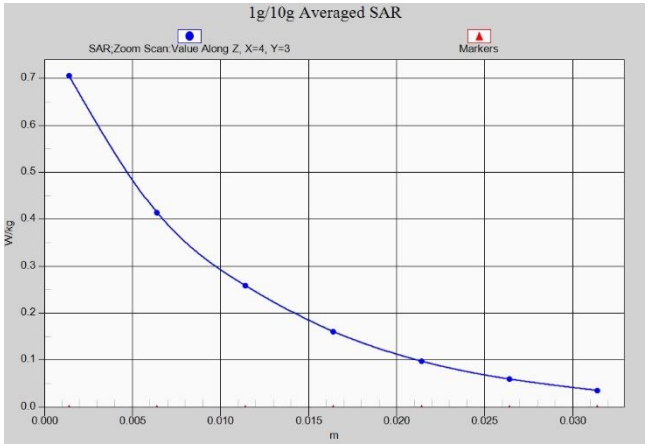


Fig.A.1- 20 Z-Scan at power reference point (LTE band25)

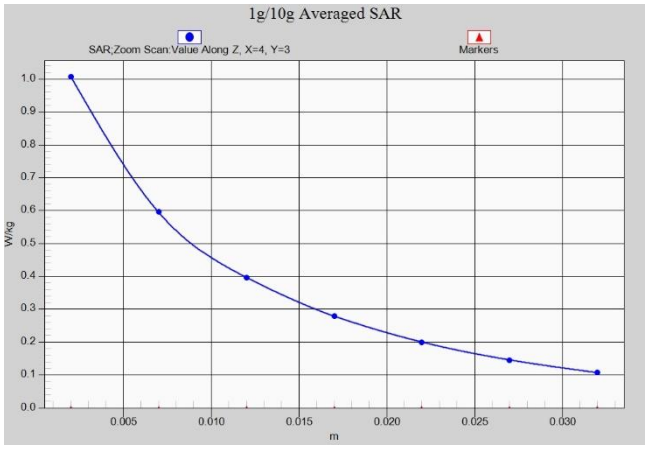


Fig.A.1- 21 Z-Scan at power reference point (LTE band26)

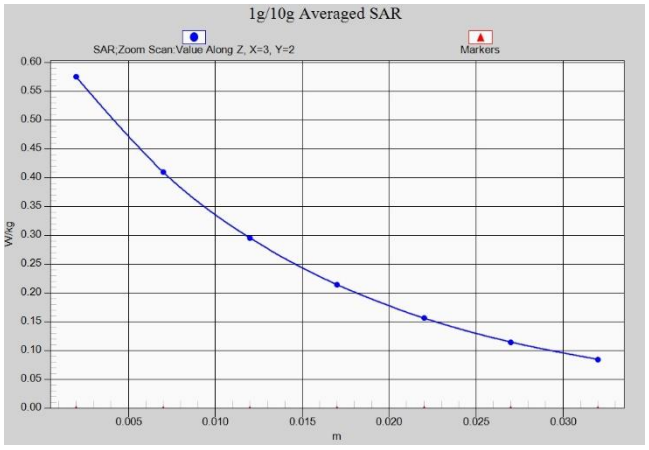


Fig.A.1- 22 Z-Scan at power reference point (LTE band26)

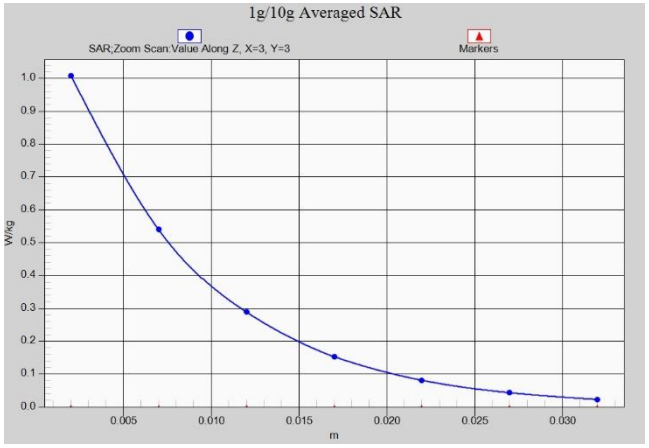


Fig.A.1- 23 Z-Scan at power reference point (LTE band41PC3)

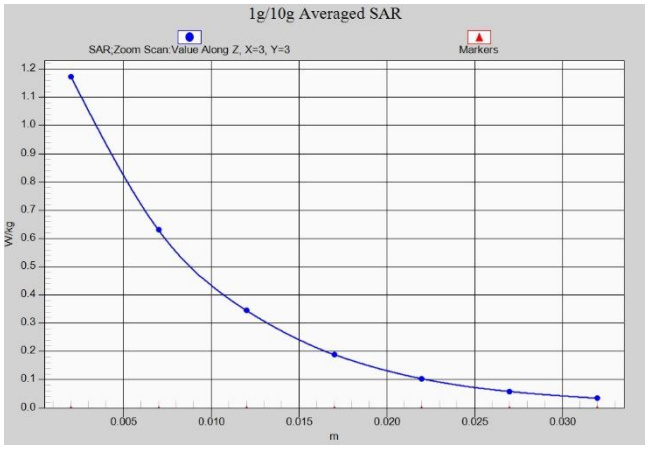


Fig.A.1- 24 Z-Scan at power reference point (LTE band41)

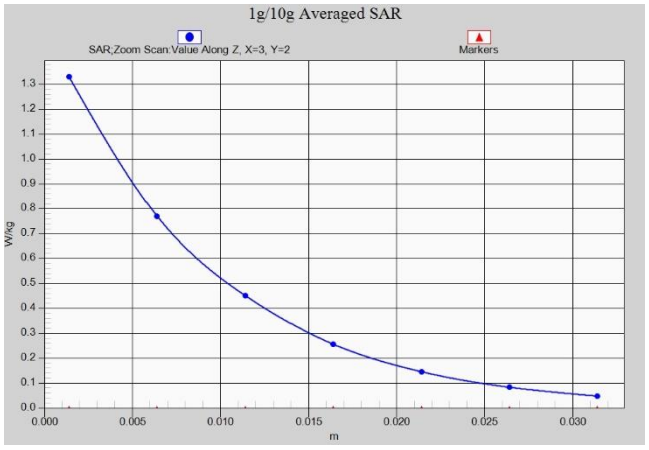


Fig.A.1- 25 Z-Scan at power reference point (LTE band41PC2)

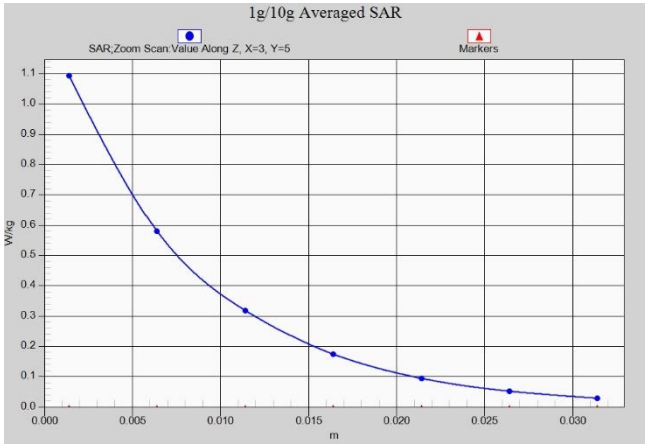


Fig.A.1-26 Z-Scan at power reference point (LTE band41PC2)

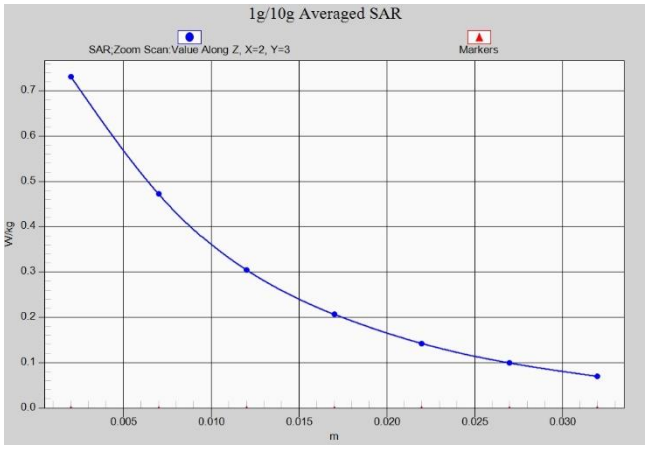


Fig.A.1-27 Z-Scan at power reference point (LTE band66)