



SAR TEST REPORT

No. I17Z40029-SEM01

For

TCL Communication Ltd.

GSM Quad-band/CDMA/EVDO Tri-band/ HSPA-UMTS

Six-band/LTE 15 band mobile phone

Modelname: BBB100-3

With

Hardware Version: 05

Software Version: AAJ048

FCC ID: 2ACCJN017

Issued Date: 2017-3-16



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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.

Test Laboratory:

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT
No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China 100191
Tel: +86(0)10-62304633-2512, Fax: +86(0)10-62304633-2504
Email: cttl_terminals@catr.cn, website: www.chinattl.com



REPORT HISTORY

Report Number	Revision	Issue Date	Description
I17Z40029-SEM01	Rev.0	2017-3-16	Initial creation of test report

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1 Test Laboratory

1.1 Testing Location

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

1.2 Testing Environment

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

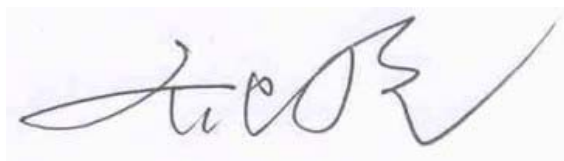
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	January 12, 2017
Testing End Date:	February 15, 2017

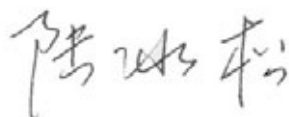
1.4 Signature



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

This EUT is a variant product and the report of original sample is No.I16Z42454-SEM01. According to the client request, we share the test results of original sample and do the spot check. Increase the value of CDMA BC0, CDMA BC1, CDMA BC10, LTE band25 and LTE band26. The results of spot check are presented in the annex I.

The maximum results of SAR found during testing for TCL Communication Ltd. GSM Quad-band/CDMA/EVDO Tri-band/ HSPA-UMTS Six-band/LTE 15 band mobile phone BBB100-3 are 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 antenna1	0.47	PCE
	GSM 850 antenna2	0.40	
	PCS 1900	0.24	
	UMTS FDD 5 antenna1	0.37	
	UMTS FDD 5 antenna2	0.36	
	UMTS FDD 4	0.52	
	UMTS FDD 2	0.37	
	LTE Band 2	0.45	
	LTE Band 4	0.35	
	LTE Band 5 antenna1	0.24	
	LTE Band 5 antenna2	0.22	
	LTE Band 7	0.18	
	LTE Band 12 antenna1	0.16	
	LTE Band 12 antenna2	0.20	
	LTE Band 13 antenna1	0.24	
	LTE Band 13 antenna2	0.23	
	LTE Band 30	0.22	
	LTE Band 41	0.08	
	CDMA BC0 antenna1	0.30	
	CDMA BC0 antenna2	0.32	
	CDMA BC1	0.41	
	CDMA BC10 antenna1	0.34	
	CDMA BC10 antenna2	0.14	
	LTE Band 25	0.14	
	LTE Band 26 antenna1	0.31	
	LTE Band 26 antenna2	0.27	
	WLAN 2.4 GHz	0.29	DTS
	WLAN 5 GHz	0.05	UNII

Exposure Configuration	Technology Band	Highest Reported SAR 1g(W/kg)	Equipment Class
Hotspot (Separation Distance 10mm)	GSM 850 antenna1	0.58	PCE
	GSM 850 antenna2	0.54	
	PCS 1900	1.21	
	UMTS FDD 5 antenna1	0.44	
	UMTS FDD 5 antenna2	0.34	
	UMTS FDD 4	1.07	
	UMTS FDD 2	1.27	
	LTE Band 2	1.31	
	LTE Band 4	1.14	
	LTE Band 5 antenna1	0.30	
	LTE Band 5 antenna2	0.32	
	LTE Band 7	1.12	
	LTE Band 12 antenna1	0.31	
	LTE Band 12 antenna2	0.31	
	LTE Band 13 antenna1	0.43	
	LTE Band 13 antenna2	0.29	
	LTE Band 30	1.21	
	LTE Band 41	1.17	
	CDMA BC0 antenna1	0.60	
	CDMA BC0 antenna2	0.49	
	CDMA BC1	1.10	
	CDMA BC10 antenna1	0.63	
	CDMA BC10 antenna2	0.20	
	LTE Band 25	1.11	
	LTE Band 26 antenna1	0.51	
	LTE Band 26 antenna2	0.43	
	WLAN 2.4 GHz	0.56	DTS
	WLAN 5 GHz	0.59	UNII

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 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: **1.31 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	Left hand, Touch cheek	0.47	0.29	0.76
	Right hand, Touch cheek	0.52	0.11	0.63
Highest reported SAR value for Body	Rear	0.88	0.59	1.47
	Bottom	1.31	/	1.31

Note1: we have evaluated and chose the highest value of both main antennae in the above table

Note2: we have evaluated and chose the highest value of WiFi 2.4G and 5G in the above table

Table 2.3: The sum of reported SAR values for main antenna and BT

	Position	Main antenna	BT	Sum
Maximum reported SAR value for Head	Right hand, Touch cheek	0.52	0.33 ^[1]	0.85
Maximum reported SAR value for Body	Rear	0.88	0.17 ^[1]	1.05
	Bottom	1.31	/	1.31

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

According to the above tables, the highest sum of reported SAR values is **1.47 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

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

Table 2.4: 0mm Reported SAR for phablet (10g)

Exposure Configuration	Technology Band	Highest Reported SAR 10g(W/kg)	Limit 10g (W/kg)
Hotspot (Separation Distance 0mm)	PCS 1900	2.44	4.0
	UMTS FDD 2	2.12	
	LTE Band 2	2.29	
	LTE Band 30	2.49	

3 Client Information

3.1 Applicant Information

Company Name:	TCL Communication Ltd.
Address/Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Country:	China
Contact Person:	Gong Zhizhou
E-mail:	zhizhou.gong@tcl.com
Telephone:	0086-21-31363544
Fax:	0086-21-61460602

3.2 Manufacturer Information

Company Name:	TCL Communication Ltd.
Address/Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Country:	China
Contact Person:	Gong Zhizhou
E-mail:	zhizhou.gong@tcl.com
Telephone:	0086-21-31363544
Fax:	0086-21-61460602

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

4.1 About EUT

Description:	GSM Quad-band/CDMA/EVDO Tri-band/ HSPA-UMTS Six-band/LTE 15 band mobile phone
Model name:	BBB100-3
Operating mode(s):	GSM 850/900/1800/1900, UMTS FDD 1/2/4/5/6/8, BT, Wi-Fi LTE Band 1/2/3/4/5/7/12/13/20/25/26/28/29/30/41 CDMA BC0/1/10
Tested Tx Frequency:	825 – 848.8 MHz (GSM 850)
	1850.2 – 1910 MHz (GSM 1900)
	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)
	1860 – 1900 MHz (LTE Band 2)
	1720 – 1745 MHz (LTE Band 4)
	824.7 – 848.3 MHz (LTE Band 5)
	2502.5 – 2567.5 MHz (LTE Band 7)
	699.7 – 715.3 MHz (LTE Band 12)
	779.5 –784.5 MHz (LTE Band 13)
	2307.5 – 2310 MHz (LTE Band 30)
	2498.5 – 2687.5 MHz (LTE Band41)
	2412 – 2462 MHz (Wi-Fi 2.4G)
	5150 - 5825 MHz (Wi-Fi 5G)
	824.7 - 848.31 MHz (CDMA BC0)
	1851.25 - 1908.75 MHz (CDMA BC1)
	817.9 - 823.1 MHz (CDMA BC10)
	1850.7 –1914.3 MHz (LTE Band 25)
	814.7 – 848.3 MHz (LTE Band 26)
GPRS/EGPRS Multislot Class:	12
GPRS capability Class:	A
Test device Production information:	Production unit
Device type:	Portable device
Antenna type:	Integrated antenna
Accessories/Body-worn configurations:	Headset
Hotspot mode:	Support
VoIP:	Support
Product Dimension:	L: 149.3mm W: 72.5mm overall diagonal: 166mm

4.2Internal Identification of EUT used during the test

EUT ID*	IMEI	HW	SW Version
EUT1	004402243182437	05	AAJ048
EUT2	004402243183906	05	AAJ048
EUT3	004402243183039	05	AAJ048
EUT4	004402243191990	05	AAJ048
EUT5	004402243191883	05	AAJ048
EUT6	004402243180936	05	AAJ048
EUT7	990004633032093	05	AAJ048
EUT8	990004633032291	05	AAJ048
EUT9	990004633032051	05	AAJ048
EUT10	990004633032333	05	AAJ048

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

Note: It is performed to test SAR with the EUT1&2&3&4&5 and conducted power with the EUT6.
It is performed to test Spot check with the EUT7&8&9 and conducted power with the EUT10.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	BAT-63108-003	CAC3440001C3	ATL
AE2	Battery	TLp034E1	CAC3440003C1	BYD
AE3	Headset	WH60	CCB0045L17C3	Lianchuang

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

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

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

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

5.2 Applicable Measurement Standards

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

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

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

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

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

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

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

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

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

6 Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

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

Where: C is the specific heat 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

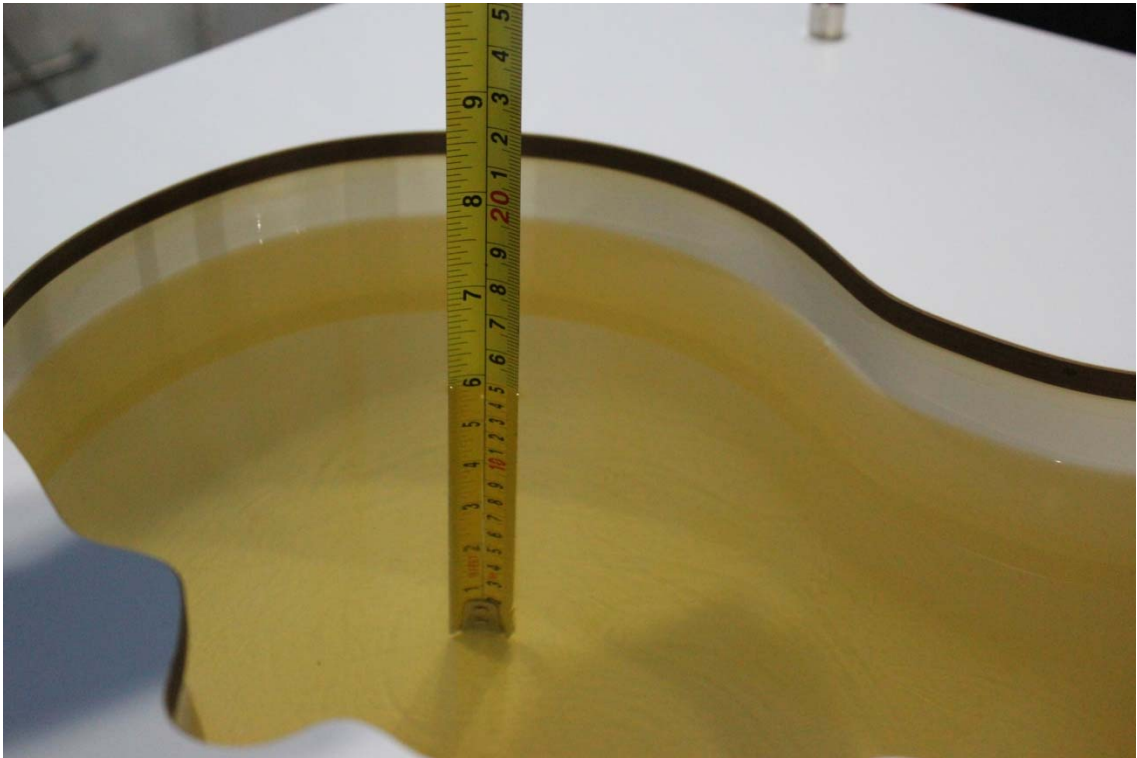
Frequency(MHz)	Liquid Type	Conductivity(σ)	$\pm 5\%$ Range	Permittivity(ϵ)	$\pm 5\%$ Range
750	Head	0.89	0.85~0.93	41.94	39.8~44.0
750	Body	0.96	0.91~1.01	55.5	52.7~58.3
835	Head	0.90	0.86~0.95	41.5	39.4~43.6
835	Body	0.97	0.92~1.02	55.2	52.4~58.0
1750	Head	1.37	1.30~1.44	40.08	38.1~42.1
1750	Body	1.49	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
2300	Head	1.67	1.59~1.75	39.47	37.5~41.4
2300	Body	1.85	1.76~1.94	52.8	50.2~55.4
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	37.1~41.0
2600	Body	2.16	2.05~2.27	52.5	49.9~55.1
5250	Head	4.71	4.47~4.95	35.93	34.1~37.7
5250	Body	5.36	5.09~5.63	48.9	46.5~51.3
5600	Head	5.07	4.82~5.32	35.53	33.8~37.3
5600	Body	5.77	5.48~6.06	48.5	46.1~50.9
5750	Head	5.22	4.96~5.48	35.36	33.6~37.1
5750	Body	5.94	5.64~6.24	48.3	45.9~50.7

7.2 Dielectric Performance

Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ϵ	Drift (%)	Conductivity σ (S/m)	Drift (%)
2017-1-12	Head	750 MHz	42.21	0.64	0.891	0.11
	Body	750 MHz	56.52	1.84	0.954	-0.63
2017-1-13	Head	835 MHz	41.56	0.14	0.913	1.44
	Body	835 MHz	56.11	1.65	0.971	0.10
2017-1-14	Head	1750 MHz	40.31	0.57	1.351	-1.39
	Body	1750 MHz	53.42	0.04	1.511	1.41
2017-1-15	Head	1900 MHz	40.81	2.03	1.421	1.50
	Body	1900 MHz	52.21	-2.05	1.517	-0.20
2017-1-18	Head	2300 MHz	39.01	-1.17	1.628	-2.51
	Body	2300 MHz	52.37	-0.81	1.803	-2.54
2017-1-16	Head	2450 MHz	38.41	-2.02	1.816	0.89
	Body	2450 MHz	51.89	-1.54	1.977	1.38
2017-1-17	Head	2600 MHz	37.99	-2.61	1.959	-0.05
	Body	2600 MHz	52.31	-0.36	2.151	-0.42
2017-2-13	Head	5250 MHz	36.28	0.97	4.726	0.34
	Body	5250 MHz	47.44	-2.99	5.259	-1.88
	Head	5600 MHz	35.73	0.56	5.199	2.54
	Body	5600 MHz	46.98	-3.13	5.708	-1.07
	Head	5825 MHz	35.38	0.06	5.414	3.72
	Body	5825 MHz	46.78	-3.15	5.992	0.88
2017-2-15	Head	835 MHz	41.26	-0.58	0.896	-0.44
	Body	835 MHz	56.21	1.83	0.961	-0.93

Note: The liquid temperature is 22.0°C



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



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



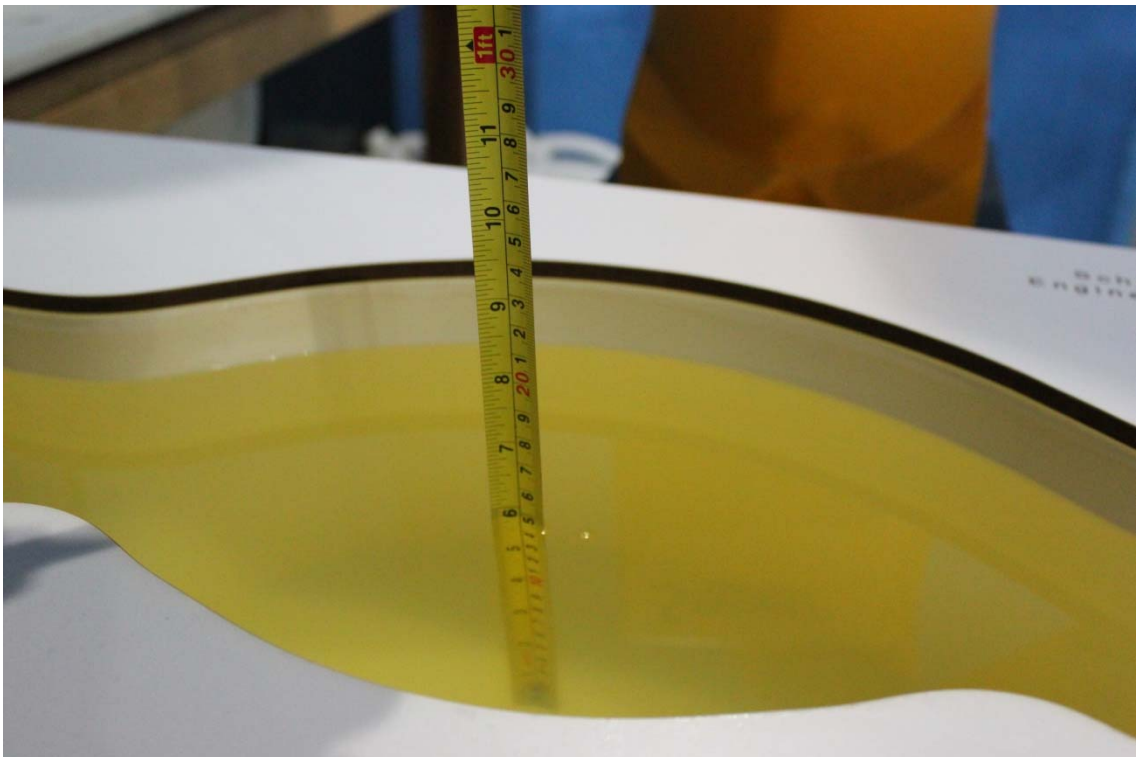
Picture 7-3 Liquid depth in the Head Phantom (835 MHz)



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



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



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



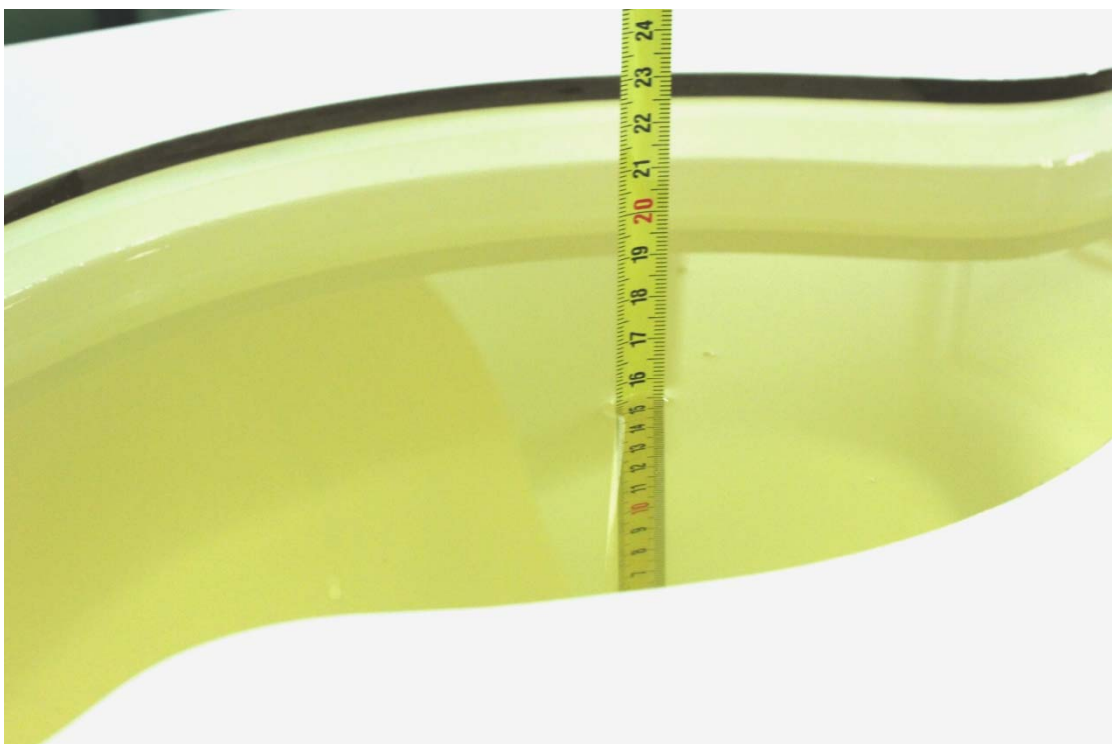
Picture 7-7 Liquid depth in the Head Phantom (1900 MHz)



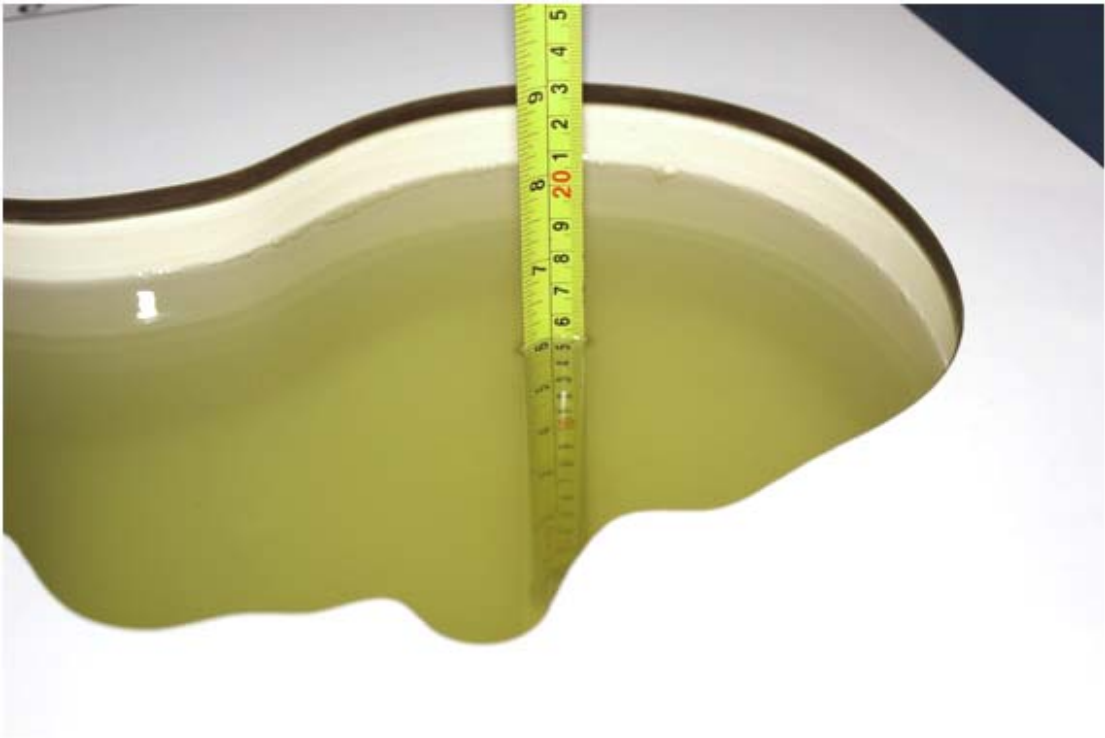
Picture 7-8 Liquid depth in the Flat Phantom (1900MHz)



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



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



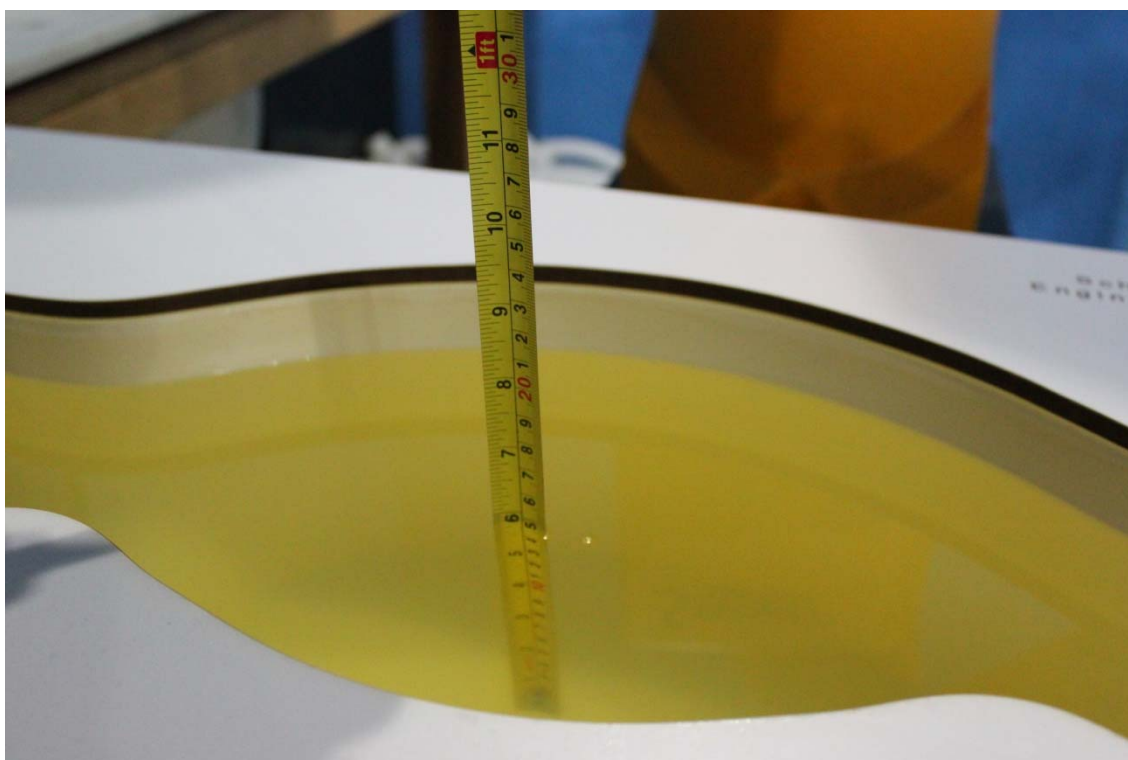
Picture 7-11 Liquid depth in the Head Phantom (2600 MHz Head)



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



Picture 7-13 Liquid depth in the Head Phantom (2300 MHz)



Picture 7-14 Liquid depth in the Flat Phantom (2300MHz)



Picture 7-15 Liquid depth in the Head Phantom (5GHz)

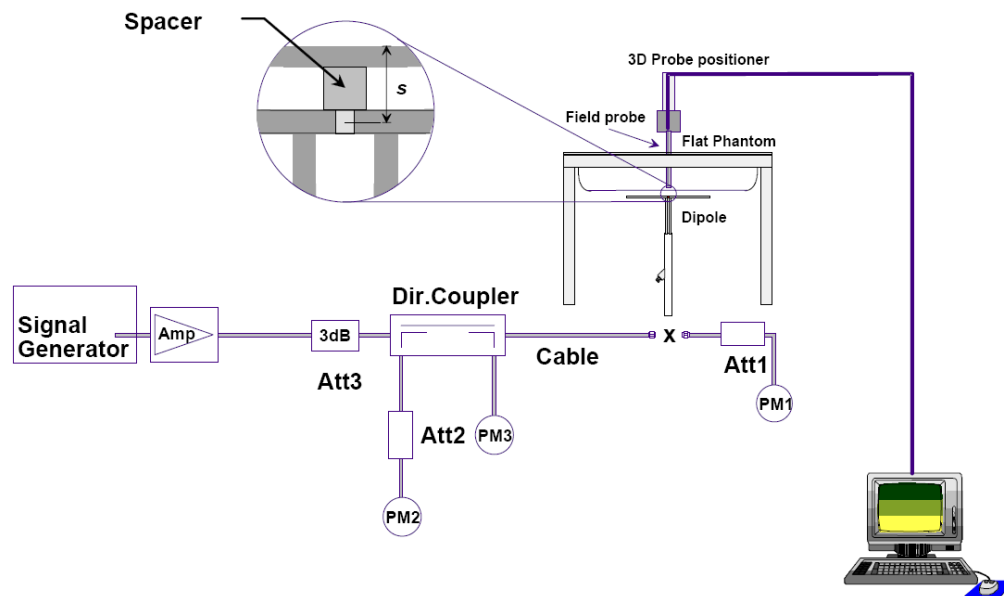


Picture 7-16 Liquid depth in the Flat Phantom (5GHz)

8 System verification

8.1 System Setup

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



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

8.2 System Verification

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

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

Table 8.1: System Verification of Head

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value(W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2017-1-12	750 MHz	5.46	8.33	5.24	8.12	-4.03%	-2.52%
2017-1-13	835 MHz	6.18	9.44	6.04	9.24	-2.27%	-2.12%
2017-1-14	1750 MHz	19.5	36.8	19.1	36.2	-1.95%	-1.63%
2017-1-15	1900 MHz	21.2	40.7	20.7	40.1	-2.26%	-1.52%
2017-1-18	2300 MHz	23.8	49.8	23.6	48.8	-0.67%	-2.01%
2017-1-16	2450 MHz	24.6	52.8	25.5	54.0	3.58%	2.35%
2017-1-17	2600 MHz	25.2	56.7	26.0	58.1	3.02%	2.43%
2017-2-13	5250 MHz	22.5	78.6	22.0	77.7	-2.22%	-1.15%
	5600 MHz	23.4	81.8	23.1	82.0	-1.28%	0.24%
	5750 MHz	22.7	79.8	22.7	81.2	0.00%	1.75%
2017-2-15	835 MHz	6.18	9.44	6.04	9.52	-2.27%	0.85%

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
2017-1-12	750 MHz	5.76	8.78	5.56	8.48	-3.47%	-3.42%
2017-1-13	835 MHz	6.36	9.69	6.20	9.44	-2.52%	-2.58%
2017-1-14	1750 MHz	19.6	37.0	19.84	37.72	1.22%	1.95%
2017-1-15	1900 MHz	21.3	40.1	21.68	41.28	1.78%	2.94%
2017-1-18	2300 MHz	23.3	48.1	23.44	48.80	0.60%	1.46%
2017-1-16	2450 MHz	24.1	51.2	24.96	52.88	3.57%	3.28%
2017-1-17	2600 MHz	24.8	55.3	25.68	57.64	3.55%	4.23%
2017-2-13	5250 MHz	21.2	75.6	21.30	75.40	0.47%	-0.26%
	5600 MHz	22.1	79.1	22.50	79.30	1.81%	0.25%
	5750 MHz	20.8	74.5	20.90	74.20	0.48%	-0.40%
2017-2-15	835 MHz	6.36	9.69	6.20	9.68	-2.52%	-0.10%

9 Measurement Procedures

9.1 Tests to be performed

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

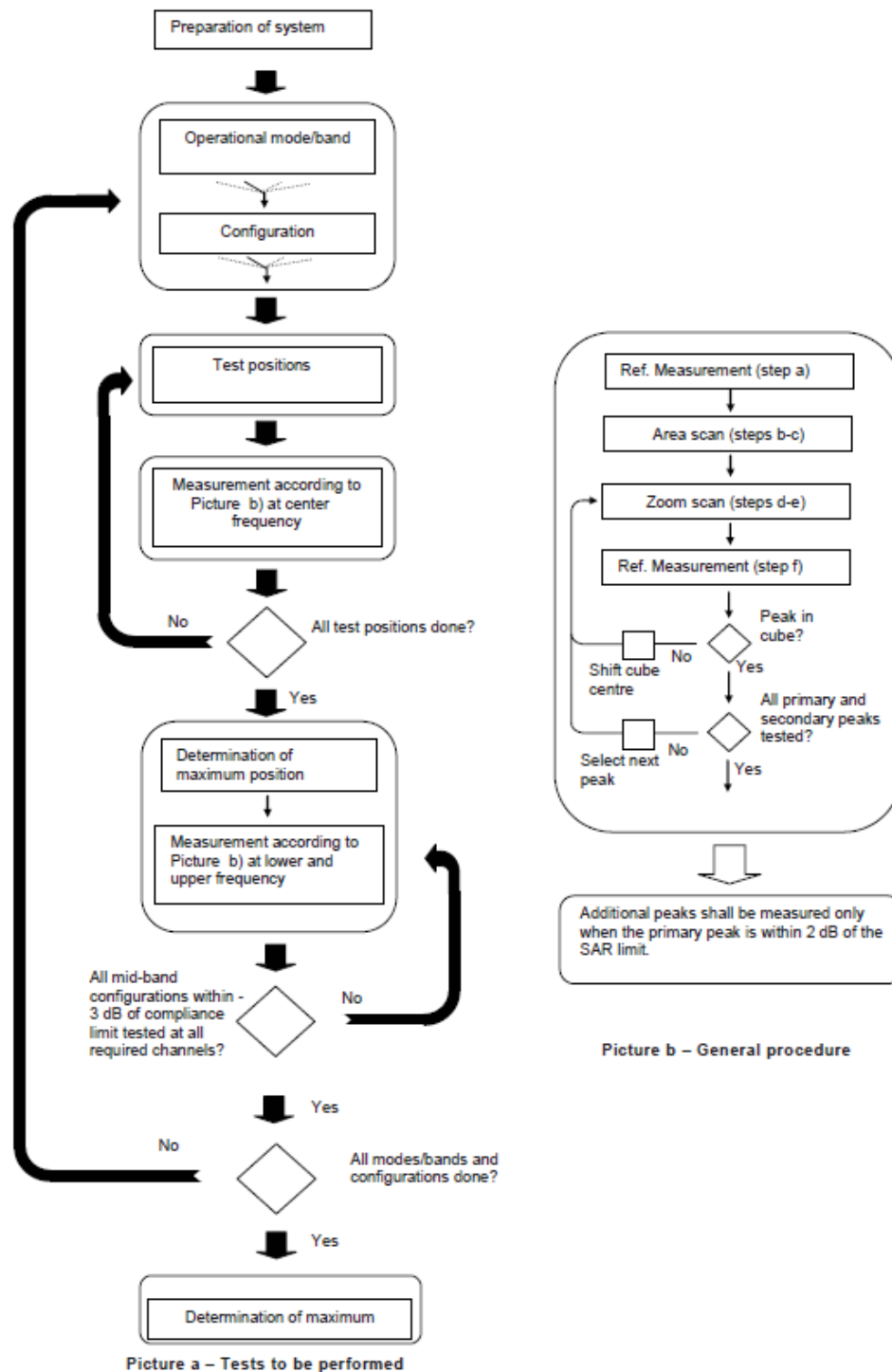
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

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

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

Step 2: For the condition providing highest peak spatial-average SAR determined in Step 1, perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is 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 9.1Block diagram of the tests to be performed

9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the

higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2003. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom} , Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
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.				

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	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	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 & Schwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.

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

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

1) QPSK with 1 RB allocation

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

2) QPSK with 50% RB allocation

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

3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 v02r05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05 v02r05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.

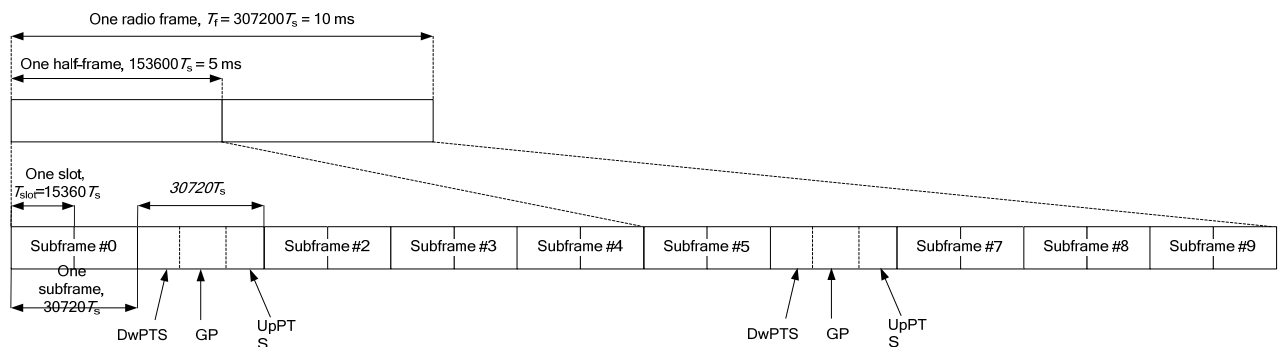


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

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

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

Table 9.2: Uplink-downlink configurations

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

Duty factor is calculated by:

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

$$= (30720 \cdot T_s * 6 + 5120 \cdot T_s * 2) / 307200 \cdot T_s$$

$$= 0.633$$

According to the KDB 447498 D01, SAR should be evaluated at more than 3 frequencies for devices supporting transmit bands wider than 100MHz. Oct.2014 FCC-TCB conference notes (Dec. 2014 rev.) specifies the 5 test channels to use for 3GPP band 41 SAR evaluation.

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-gSAR is ≤ 1.2 W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

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

10.2 Fast SAR Algorithms

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

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz) and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 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

There are two sets of tune-up power, Normal power and Low power, used for different use cases for GSM1900, W1700/1900 and LTE Band2/4/7/30. Normal power status is applied for head test of above bands. Low power status is applied for body/hotspot test of above bands. For other bands, Normal power status is applied for both head and body test.

For DTM multi-slot class mode, the device was linked with base station simulator (CMW500) and transmit maximum power on maximum number of TX slots, i.e. one CS timeslot, and additional PS timeslots (2 for DTM class 11) in one TDMA frame. CMW500 was used to setup the device operated under DTM mode for power measurement and SAR testing. For conducted power, the power of the burst for voice and the power of the bursts for data was reported separately in the table above, and the frame-average power is derived below to determine SAR testing.

$$\text{DTM frame average power (dBm)} = 10 \cdot \log[\sum (\text{power of each slot, in mW})/8]$$

Per KDB 941225 D01, considering the possibility of e.g. 3rd party VoIP operation for head and body-worn SAR test reduction for GSM, GPRS EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the EUT was set in GPRS for GSM850/1900 and retest on highest value point with DTM mode.

The device supports downlink Release 10 LTE Carrier Aggregation (CA) only. It supports a maximum of 2 carriers in the downlink. Other Release 10 features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications. According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

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.

Normal Power

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

GSM 850 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.54	31.51	31.50	33	-9.03	22.51	22.48	22.47
GSM 850 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.49	31.46	31.38	33	-9.03	22.46	22.43	22.35
2 Txslots	30.33	30.34	30.30	31.5	-6.02	24.31	24.32	24.28
3Txslots	28.98	28.99	28.97	30	-4.26	24.72	24.73	24.71
4 Txslots	27.66	27.69	27.64	29	-3.01	24.65	24.68	24.63
GSM 850 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.56	31.54	31.48	33	-9.03	22.53	22.51	22.45
2 Txslots	30.37	30.37	30.27	31.5	-6.02	24.35	24.35	24.25
3Txslots	29.00	28.99	28.99	30	-4.26	24.74	24.73	24.73
4 Txslots	27.70	27.73	27.72	29	-3.01	24.69	24.72	24.71
GSM 850 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	26.81	26.88	26.91	27.5	-9.03	17.78	17.85	17.88
2 Txslots	25.62	25.68	25.73	26.5	-6.02	19.60	19.66	19.71
3Txslots	23.89	23.98	24.00	25	-4.26	19.63	19.72	19.74
4 Txslots	22.27	22.36	22.40	23	-3.01	19.26	19.35	19.39
GSM 850 DTM11 (3Txslots)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
GSM(GMSK, 1Txslot)	28.50	28.45	28.33	29		24.09	24.03	23.92
GPRS(GMSK, 2Txslots)	28.28	28.20	28.11	29				
GSM 850 DTM11 (3Txslots)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
GSM(GMSK, 1Txslot)	28.80	28.70	28.56	29		21.51	21.43	21.32
GPRS(8PSK, 2Txslots)	22.71	22.68	22.64	23				

PCS1900 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.32	29.32	29.39	30.5	-9.03	20.29	20.29	20.36
PCS1900 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.29	29.30	29.35	30.5	-9.03	20.26	20.27	20.32
2 Txslots	28.38	28.25	28.02	29	-6.02	22.36	22.23	22.00
3Txslots	26.56	26.47	26.25	27	-4.26	22.30	22.21	21.99
4 Txslots	25.32	25.18	24.93	26	-3.01	22.31	22.17	21.92
PCS1900 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.23	29.27	29.30	30.5	-9.03	20.20	20.24	20.27
2 Txslots	28.27	28.17	28.02	29	-6.02	22.25	22.15	22.00
3Txslots	26.48	26.36	26.19	27	-4.26	22.22	22.10	21.93
4 Txslots	25.22	25.11	24.98	26	-3.01	22.21	22.10	21.97
PCS1900 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.81	25.68	25.66	26.5	-9.03	16.78	16.65	16.63
2 Txslots	24.62	24.54	24.50	25.5	-6.02	18.60	18.52	18.48
3Txslots	22.98	22.86	22.78	24	-4.26	18.72	18.60	18.52
4 Txslots	21.27	21.16	21.08	22.5	-3.01	18.26	18.15	18.07
PCS 1900 DTM11 (3Txslots)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
GSM(GMSK, 1Txslot)	25.65	25.30	25.05	26		21.23	21.02	20.69
GPRS(GMSK, 2Txslots)	25.40	25.27	24.90	26				
PCS 1900 DTM11 (3Txslots)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
GSM(GMSK, 1Txslot)	25.61	25.33	25.03	26		19.05	18.83	18.58
GPRS(8PSK, 2Txslots)	21.45	21.31	21.11	22				

NOTES:

1) Division Factors

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

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

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

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

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

According to the conducted power as above, the body measurements are performed with 3Txslots for GSM850.

Low Power

Table 11.1-2: The conducted power measurement results for GSM, GPRS and EGPRS

PCS1900 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.45	29.44	29.47	30.5	-9.03	20.42	20.41	20.44
PCS1900 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.14	29.09	28.86	30.5	-9.03	20.11	20.06	19.83
2 Txslots	25.97	25.86	25.63	26	-6.02	19.95	19.84	19.61
3Txslots	24.20	24.03	23.91	25	-4.26	19.94	19.77	19.65
4 Txslots	22.73	22.62	22.49	23	-3.01	19.72	19.61	19.48
PCS1900 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.42	29.38	29.06	30.5	-9.03	20.39	20.35	20.03
2 Txslots	26.00	25.95	25.77	26	-6.02	19.98	19.93	19.75
3Txslots	24.32	24.19	24.06	25	-4.26	20.06	19.93	19.80
4 Txslots	22.98	22.84	22.62	23	-3.01	19.97	19.83	19.61
PCS1900 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	26.45	26.32	26.24	27	-9.03	17.42	17.29	17.21
2 Txslots	25.26	25.14	25.06	26	-6.02	19.24	19.12	19.04
3Txslots	23.59	23.54	23.41	24	-4.26	19.33	19.28	19.15
4 Txslots	21.99	21.92	21.70	22	-3.01	18.98	18.91	18.69
PCS 1900 DTM11 (3Txslots)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
GSM(GMSK, 1Txslot)	24.38	24.30	24.11	25		20.09	19.92	19.81
GPRS(GMSK, 2Txslots)	24.33	24.12	24.05	25				
PCS 1900 DTM11 (3Txslots)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
GSM(GMSK, 1Txslot)	24.47	24.42	24.16	25		18.00	17.93	17.67
GPRS(8PSK, 2Txslots)	20.51	20.41	20.16	21				

NOTES:

1) Division Factors

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

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

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

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

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

According to the conducted power as above, the body measurements are performed with 1Txslots for PCS1900.

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	\	23.35	23.23	23.50	24
HSUPA	1	21.83	21.98	22.15	23
	2	19.81	20.00	20.12	21
	3	20.80	21.01	21.13	22
	4	19.80	20.01	20.12	21
	5	21.78	22.03	22.13	23
DC-HSDPA	1	21.94	21.89	22.00	22
	2	21.96	21.86	22.00	22
	3	21.92	21.87	21.98	22
	4	21.94	21.87	22.00	22
Item	band	FDDIV result			
	ARFCN	1312 (1712.4MHz)	1412 (1732.4MHz)	1513 (1752.6MHz)	
WCDMA	\	23.22	23.22	23.14	24
HSUPA	1	22.22	22.39	22.25	23
	2	20.20	20.37	20.23	21
	3	21.18	21.37	21.23	22
	4	20.17	20.38	20.24	21
	5	22.22	22.39	22.23	23
DC-HSDPA	1	21.85	21.82	21.85	22
	2	21.83	21.77	21.81	22
	3	21.81	21.79	21.82	22
	4	21.86	21.81	21.83	22
Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	\	23.76	23.72	23.93	24
HSUPA	1	22.52	22.51	22.48	23
	2	20.52	20.53	20.47	21
	3	21.52	21.50	21.48	22
	4	20.51	20.49	20.46	21
	5	22.50	22.51	22.47	23
DC-HSDPA	1	22.53	22.50	22.61	23
	2	22.54	22.51	22.58	23
	3	22.51	22.45	22.61	23
	4	22.52	22.44	22.60	23

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	\	20.95	21.00	20.91	21
HSUPA	1	19.86	20.00	19.95	20
	2	17.87	18.00	17.95	18
	3	18.86	18.99	18.95	19
	4	17.86	17.98	17.96	18
	5	19.85	19.97	19.95	20
DC-HSDPA	1	19.57	19.68	19.65	20
	2	19.58	19.66	19.61	20
	3	19.48	19.66	19.66	20
	4	19.51	19.64	19.64	20
Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	\	19.59	19.42	19.61	20
HSUPA	1	19.68	19.51	19.65	20
	2	17.56	17.50	17.65	18
	3	18.59	18.50	18.66	19
	4	17.60	17.49	17.66	18
	5	19.60	19.50	19.67	20
DC-HSDPA	1	19.35	19.20	19.42	20
	2	19.31	19.18	19.37	20
	3	19.29	19.15	19.39	20
	4	19.32	19.17	19.41	20

11.3 LTE Measurement result

Normal power

Table 11.3-1: The conducted Power for LTE

Band 2							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	1909.3	25	23.91	0	23.11	1
		1880	25	23.80	0	22.96	1
		1850.7	25	24.01	0	23.04	1
	1RB Middle (3)	1909.3	25	23.98	0	23.17	1
		1880	25	23.93	0	23.07	1
		1850.7	25	24.04	0	23.24	1
	1RB Low (0)	1909.3	25	23.93	0	23.11	1
		1880	25	23.93	0	23.06	1
		1850.7	25	24.04	0	23.06	1
	3RB High (3)	1909.3	25	23.93	0	23.14	1
		1880	25	23.98	0	23.13	1
		1850.7	25	23.91	0	23.16	1
	3RB Middle (1)	1909.3	25	23.95	0	23.17	1
		1880	25	23.98	0	23.20	1
		1850.7	25	24.06	0	23.11	1
	3RB Low (0)	1909.3	25	23.92	0	23.10	1
		1880	25	23.98	0	23.17	1
		1850.7	25	23.96	0	23.25	1
	6RB (0)	1909.3	25	22.95	1	21.94	2
		1880	25	22.96	1	21.95	2
		1850.7	25	23.02	1	21.94	2
3 MHz	1RB High (14)	1908.5	25	23.99	0	23.08	1
		1880	25	23.76	0	22.99	1
		1851.5	25	24.02	0	23.21	1
	1RB Middle (7)	1908.5	25	23.95	0	23.16	1
		1880	25	23.97	0	23.18	1
		1851.5	25	24.08	0	23.28	1
	1RB Low (0)	1908.5	25	24.01	0	23.18	1
		1880	25	24.00	0	23.15	1
		1851.5	25	24.07	0	23.27	1
	8RB High (7)	1908.5	25	22.95	1	22.09	2
		1880	25	22.87	1	22.00	2
		1851.5	25	23.09	1	22.12	2
	8RB Middle (4)	1908.5	25	22.98	1	22.15	2
		1880	25	22.94	1	22.07	2
		1851.5	25	23.08	1	22.14	2
	8RB Low (0)	1908.5	25	23.05	1	22.12	2
		1880	25	22.95	1	22.07	2
		1851.5	25	23.09	1	22.14	2

	15RB (0)	1908.5	25	22.97	1	22.04	2
		1880	25	22.94	1	22.02	2
		1851.5	25	23.05	1	22.12	2
5 MHz	1RB High (24)	1907.5	25	24.06	0	23.28	1
		1880	25	23.84	0	23.23	1
		1852.5	25	24.07	0	23.30	1
	1RB Middle (12)	1907.5	25	24.07	0	23.33	1
		1880	25	24.01	0	23.34	1
		1852.5	25	24.09	0	23.34	1
	1RB Low (0)	1907.5	25	24.24	0	23.52	1
		1880	25	24.02	0	23.25	1
		1852.5	25	24.24	0	23.40	1
	12RB High (13)	1907.5	25	22.99	1	22.18	2
		1880	25	22.89	1	22.08	2
		1852.5	25	23.05	1	22.15	2
	12RB Middle (6)	1907.5	25	23.01	1	22.17	2
		1880	25	22.99	1	22.12	2
		1852.5	25	23.03	1	22.22	2
	12RB Low (0)	1907.5	25	23.07	1	22.20	2
		1880	25	22.99	1	22.14	2
		1852.5	25	23.13	1	22.31	2
	25RB (0)	1907.5	25	23.05	1	22.13	2
		1880	25	22.95	1	22.03	2
		1852.5	25	23.12	1	22.15	2
10 MHz	1RB High (49)	1905	25	24.06	0	23.26	1
		1880	25	24.01	0	23.19	1
		1855	25	24.18	0	23.35	1
	1RB Middle (24)	1905	25	24.06	0	23.22	1
		1880	25	23.89	0	23.10	1
		1855	25	24.01	0	23.08	1
	1RB Low (0)	1905	25	24.10	0	23.25	1
		1880	25	24.03	0	23.18	1
		1855	25	24.15	0	23.32	1
	25RB High (25)	1905	25	23.01	1	22.09	2
		1880	25	22.83	1	21.91	2
		1855	25	22.96	1	21.99	2
	25RB Middle (12)	1905	25	23.00	1	22.05	2
		1880	25	22.94	1	22.01	2
		1855	25	22.89	1	21.91	2
	25RB Low (0)	1905	25	22.97	1	21.98	2
		1880	25	22.84	1	21.91	2
		1855	25	22.93	1	21.92	2
	50RB (0)	1905	25	23.07	1	22.10	2
		1880	25	22.96	1	22.03	2
		1855	25	23.00	1	21.94	2
15 MHz	1RB High (74)	1902.5	25	24.25	0	23.47	1
		1880	25	24.05	0	23.29	1
		1857.5	25	24.14	0	23.33	1

	1RB Middle (37)	1902.5	25	23.92	0	23.13	1
		1880	25	23.84	0	23.02	1
		1857.5	25	23.81	0	22.95	1
	1RB Low (0)	1902.5	25	24.24	0	23.40	1
		1880	25	24.05	0	23.25	1
		1857.5	25	24.18	0	23.41	1
	36RB High (38)	1902.5	25	22.98	1	22.06	2
		1880	25	22.83	1	21.89	2
		1857.5	25	22.99	1	22.01	2
	36RB Middle (19)	1902.5	25	23.04	1	22.11	2
		1880	25	22.85	1	21.93	2
		1857.5	25	23.00	1	22.07	2
	36RB Low (0)	1902.5	25	23.00	1	22.07	2
		1880	25	22.82	1	21.93	2
		1857.5	25	22.91	1	22.03	2
	75RB (0)	1902.5	25	23.06	1	22.15	2
		1880	25	22.87	1	21.92	2
		1857.5	25	23.01	1	21.96	2
20 MHz	1RB High (99)	1900	25	23.98	0	23.06	1
		1880	25	23.89	0	23.06	1
		1860	25	23.77	0	22.88	1
	1RB Middle (50)	1900	25	24.07	0	23.28	1
		1880	25	23.91	0	22.98	1
		1860	25	23.91	0	23.11	1
	1RB Low (0)	1900	25	24.12	0	23.30	1
		1880	25	24.02	0	23.22	1
		1860	25	24.08	0	23.20	1
	50RB High (50)	1900	25	23.01	1	22.08	2
		1880	25	22.85	1	21.85	2
		1860	25	22.80	1	21.83	2
	50RB Middle (25)	1900	25	23.10	1	22.21	2
		1880	25	22.97	1	21.97	2
		1860	25	22.89	1	21.90	2
	50RB Low (0)	1900	25	23.05	1	22.08	2
		1880	25	22.82	1	21.87	2
		1860	25	22.91	1	21.91	2
	100RB (0)	1900	25	23.12	1	22.08	2
		1880	25	22.86	1	21.90	2
		1860	25	22.86	1	21.83	2
Band 4							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	1754.3	24	23.54	0	22.67	1
		1732.5	24	23.55	0	22.69	1
		1710.7	24	23.49	0	22.67	1

	1RB Middle (3)	1754.3	24	23.58	0	22.75	1
		1732.5	24	23.55	0	22.73	1
		1710.7	24	23.62	0	22.73	1
	1RB Low (0)	1754.3	24	23.52	0	22.76	1
		1732.5	24	23.48	0	22.70	1
		1710.7	24	23.63	0	22.66	1
	3RB High (3)	1754.3	24	23.46	0	22.66	1
		1732.5	24	23.49	0	22.58	1
		1710.7	24	23.43	0	22.69	1
	3RB Middle (1)	1754.3	24	23.48	0	22.69	1
		1732.5	24	23.53	0	22.73	1
		1710.7	24	23.54	0	22.67	1
	3RB Low (0)	1754.3	24	23.49	0	22.64	1
		1732.5	24	23.48	0	22.70	1
		1710.7	24	23.44	0	22.77	1
	6RB (0)	1754.3	24	22.46	1	21.49	2
		1732.5	24	22.48	1	21.50	2
		1710.7	24	22.56	1	21.45	2
3 MHz	1RB High (14)	1753.5	24	23.56	0	22.63	1
		1732.5	24	23.53	0	22.60	1
		1711.5	24	23.67	0	22.70	1
	1RB Middle (7)	1753.5	24	23.56	0	22.64	1
		1732.5	24	23.59	0	22.68	1
		1711.5	24	23.64	0	22.78	1
	1RB Low (0)	1753.5	24	23.58	0	22.68	1
		1732.5	24	23.62	0	22.72	1
		1711.5	24	23.68	0	22.76	1
	8RB High (7)	1753.5	24	22.61	1	21.59	2
		1732.5	24	22.56	1	21.52	2
		1711.5	24	22.69	1	21.63	2
	8RB Middle (4)	1753.5	24	22.66	1	21.65	2
		1732.5	24	22.64	1	21.57	2
		1711.5	24	22.78	1	21.69	2
	8RB Low (0)	1753.5	24	22.65	1	21.65	2
		1732.5	24	22.62	1	21.57	2
		1711.5	24	22.71	1	21.69	2
	15RB (0)	1753.5	24	22.53	1	21.54	2
		1732.5	24	22.52	1	21.51	2
		1711.5	24	22.59	1	21.62	2
5 MHz	1RB High (24)	1752.5	24	23.55	0	22.80	1
		1732.5	24	23.48	0	22.73	1
		1712.5	24	23.59	0	22.83	1
	1RB Middle (12)	1752.5	24	23.61	0	22.83	1
		1732.5	24	23.58	0	22.82	1
		1712.5	24	23.59	0	22.84	1
	1RB Low (0)	1752.5	24	23.68	0	22.88	1
		1732.5	24	23.61	0	22.75	1
		1712.5	24	23.66	0	22.85	1

	12RB High (13)	1752.5	24	22.54	1	21.60	2
		1732.5	24	22.52	1	21.58	2
		1712.5	24	22.58	1	21.63	2
	12RB Middle (6)	1752.5	24	22.59	1	21.62	2
		1732.5	24	22.55	1	21.58	2
		1712.5	24	22.61	1	21.68	2
	12RB Low (0)	1752.5	24	22.66	1	21.70	2
		1732.5	24	22.57	1	21.62	2
		1712.5	24	22.72	1	21.81	2
10 MHz	25RB (0)	1752.5	24	22.69	1	21.65	2
		1732.5	24	22.57	1	21.57	2
		1712.5	24	22.71	1	21.69	2
	1RB High (49)	1750	24	23.58	0	22.77	1
		1732.5	24	23.53	0	22.69	1
		1715	24	23.66	0	22.73	1
	1RB Middle (24)	1750	24	23.59	0	22.68	1
		1732.5	24	23.49	0	22.60	1
		1715	24	23.55	0	22.59	1
	1RB Low (0)	1750	24	23.63	0	22.73	1
		1732.5	24	23.58	0	22.66	1
		1715	24	23.71	0	22.81	1
	25RB High (25)	1750	24	22.62	1	21.51	2
		1732.5	24	22.54	1	21.49	2
		1715	24	22.69	1	21.55	2
	25RB Middle (12)	1750	24	22.61	1	21.63	2
		1732.5	24	22.48	1	21.52	2
		1715	24	22.56	1	21.59	2
	25RB Low (0)	1750	24	22.52	1	21.49	2
		1732.5	24	22.47	1	21.47	2
		1715	24	22.51	1	21.48	2
	50RB (0)	1750	24	22.59	1	21.62	2
		1732.5	24	22.46	1	21.55	2
		1715	24	22.52	1	21.48	2
15 MHz	1RB High (74)	1747.5	24	23.79	0	22.95	1
		1732.5	24	23.62	0	22.76	1
		1717.5	24	23.68	0	22.81	1
	1RB Middle (37)	1747.5	24	23.51	0	22.61	1
		1732.5	24	23.44	0	22.54	1
		1717.5	24	23.48	0	22.45	1
	1RB Low (0)	1747.5	24	23.75	0	22.90	1
		1732.5	24	23.61	0	22.75	1
		1717.5	24	23.71	0	22.91	1
	36RB High (38)	1747.5	24	22.53	1	21.58	2
		1732.5	24	22.45	1	21.49	2
		1717.5	24	22.49	1	21.55	2
	36RB Middle (19)	1747.5	24	22.54	1	21.61	2
		1732.5	24	22.42	1	21.51	2
		1717.5	24	22.51	1	21.57	2

	36RB Low (0)	1747.5	24	22.53	1	21.62	2
		1732.5	24	22.44	1	21.43	2
		1717.5	24	22.46	1	21.58	2
	75RB (0)	1747.5	24	22.56	1	21.65	2
		1732.5	24	22.41	1	21.42	2
		1717.5	24	22.51	1	21.47	2
20 MHz	1RB High (99)	1745	24	23.56	0	22.56	1
		1732.5	24	23.46	0	22.52	1
		1720	24	23.43	0	22.39	1
	1RB Middle (50)	1745	24	23.61	0	22.78	1
		1732.5	24	23.49	0	22.53	1
		1720	24	23.47	0	22.61	1
	1RB Low (0)	1745	24	23.62	0	22.89	1
		1732.5	24	23.55	0	22.81	1
		1720	24	23.58	0	22.77	1
	50RB High (50)	1745	24	22.61	1	21.58	2
		1732.5	24	22.49	1	21.35	2
		1720	24	22.46	1	21.33	2
	50RB Middle (25)	1745	24	22.60	1	21.71	2
		1732.5	24	22.49	1	21.58	2
		1720	24	22.44	1	21.55	2
	50RB Low (0)	1745	24	22.55	1	21.62	2
		1732.5	24	22.32	1	21.51	2
		1720	24	22.41	1	21.56	2
	100RB (0)	1745	24	22.62	1	21.66	2
		1732.5	24	22.36	1	21.57	2
		1720	24	22.36	1	21.62	2
Band 5							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	848.3	24	23.42	0	22.63	1
		836.5	24	23.25	0	22.28	1
		824.7	24	23.14	0	22.33	1
	1RB Middle (3)	848.3	24	23.40	0	22.78	1
		836.5	24	23.34	0	22.55	1
		824.7	24	23.28	0	22.26	1
	1RB Low (0)	848.3	24	23.47	0	22.62	1
		836.5	24	23.17	0	22.33	1
		824.7	24	23.23	0	22.29	1
	3RB High (3)	848.3	24	23.37	0	22.60	1
		836.5	24	23.48	0	22.75	1
		824.7	24	23.42	0	22.51	1
	3RB Middle (1)	848.3	24	23.44	0	22.61	1
		836.5	24	23.52	0	22.68	1
		824.7	24	23.40	0	22.70	1

	3RB Low (0)	848.3	24	23.43	0	22.62	1
		836.5	24	23.40	0	22.68	1
		824.7	24	23.48	0	22.78	1
	6RB (0)	848.3	24	22.48	1	21.34	2
		836.5	24	22.57	1	21.80	2
		824.7	24	22.56	1	21.73	2
3 MHz	1RB High (14)	847.5	24	23.49	0	22.59	1
		836.5	24	23.30	0	22.31	1
		825.5	24	23.29	0	22.60	1
	1RB Middle (7)	847.5	24	23.53	0	22.68	1
		836.5	24	23.36	0	22.29	1
		825.5	24	23.40	0	22.42	1
	1RB Low (0)	847.5	24	23.49	0	22.79	1
		836.5	24	23.22	0	22.55	1
		825.5	24	23.34	0	22.54	1
	8RB High (7)	847.5	24	22.53	1	21.59	2
		836.5	24	22.41	1	21.43	2
		825.5	24	22.37	1	21.36	2
	8RB Middle (4)	847.5	24	22.51	1	21.63	2
		836.5	24	22.34	1	21.42	2
		825.5	24	22.31	1	21.31	2
	8RB Low (0)	847.5	24	22.49	1	21.57	2
		836.5	24	22.32	1	21.39	2
		825.5	24	22.36	1	21.40	2
	15RB (0)	847.5	24	22.57	1	21.60	2
		836.5	24	22.35	1	21.27	2
		825.5	24	22.33	1	21.25	2
5 MHz	1RB High (24)	846.5	24	23.45	0	22.62	1
		836.5	24	23.28	0	22.47	1
		826.5	24	23.52	0	22.61	1
	1RB Middle (12)	846.5	24	23.48	0	22.76	1
		836.5	24	23.39	0	22.65	1
		826.5	24	23.34	0	22.49	1
	1RB Low (0)	846.5	24	23.56	0	22.78	1
		836.5	24	23.38	0	22.35	1
		826.5	24	23.32	0	22.38	1
	12RB High (13)	846.5	24	22.49	1	21.61	2
		836.5	24	22.41	1	21.43	2
		826.5	24	22.46	1	21.43	2
	12RB Middle (6)	846.5	24	22.52	1	21.63	2
		836.5	24	22.47	1	21.53	2
		826.5	24	22.42	1	21.44	2
	12RB Low (0)	846.5	24	22.52	1	21.66	2
		836.5	24	22.37	1	21.47	2
		826.5	24	22.45	1	21.42	2
	25RB (0)	846.5	24	22.45	1	21.52	2
		836.5	24	22.38	1	21.36	2
		826.5	24	22.37	1	21.27	2

10 MHz	1RB High (49)	844.0	24	23.66	0	22.90	1
		836.5	24	23.44	0	22.63	1
		829.0	24	23.70	0	22.87	1
	1RB Middle (24)	844.0	24	23.50	0	22.71	1
		836.5	24	23.30	0	22.49	1
		829.0	24	23.42	0	22.69	1
	1RB Low (0)	844.0	24	23.62	0	22.80	1
		836.5	24	23.50	0	22.81	1
		829.0	24	23.53	0	22.75	1
	25RB High (25)	844.0	24	22.62	1	21.58	2
		836.5	24	22.44	1	21.52	2
		829.0	24	22.50	1	21.56	2
	25RB Middle (12)	844.0	24	22.58	1	21.53	2
		836.5	24	22.44	1	21.45	2
		829.0	24	22.45	1	21.44	2
	25RB Low (0)	844.0	24	22.39	1	21.43	2
		836.5	24	22.41	1	21.49	2
		829.0	24	22.43	1	21.36	2
	50RB (0)	844.0	24	22.53	1	21.46	2
		836.5	24	22.44	1	21.48	2
		829.0	24	22.52	1	21.52	2
Band 7							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
5 MHz	1RB High (24)	2567.5	24	22.39	0	21.85	1
		2535	24	22.83	0	21.98	1
		2502.5	24	22.92	0	22.25	1
	1RB Middle (12)	2567.5	24	22.40	0	21.84	1
		2535	24	22.70	0	21.95	1
		2502.5	24	23.00	0	22.04	1
	1RB Low (0)	2567.5	24	22.54	0	21.65	1
		2535	24	22.90	0	22.01	1
		2502.5	24	22.89	0	22.12	1
	12RB High (13)	2567.5	24	21.45	1	20.52	2
		2535	24	21.66	1	20.71	2
		2502.5	24	21.75	1	20.84	2
	12RB Middle (6)	2567.5	24	21.40	1	20.50	2
		2535	24	21.53	1	20.68	2
		2502.5	24	21.65	1	20.75	2
	12RB Low (0)	2567.5	24	21.40	1	20.55	2
		2535	24	21.56	1	20.67	2
		2502.5	24	21.73	1	20.83	2
	25RB (0)	2567.5	24	21.39	1	20.39	2
		2535	24	21.61	1	20.62	2
		2502.5	24	21.68	1	20.71	2

10 MHz	1RB High (49)	2565	24	22.78	0	21.74	1
		2535	24	23.16	0	22.24	1
		2505	24	23.13	0	22.35	1
	1RB Middle (24)	2565	24	22.59	0	21.74	1
		2535	24	22.96	0	21.99	1
		2505	24	23.11	0	22.07	1
	1RB Low (0)	2565	24	22.94	0	22.13	1
		2535	24	23.19	0	22.34	1
		2505	24	23.27	0	22.47	1
	25RB High (25)	2565	24	21.60	1	20.69	2
		2535	24	22.03	1	21.06	2
		2505	24	21.93	1	20.96	2
	25RB Middle (12)	2565	24	21.71	1	20.74	2
		2535	24	22.02	1	21.07	2
		2505	24	22.01	1	21.11	2
	25RB Low (0)	2565	24	21.58	1	20.60	2
		2535	24	21.88	1	20.90	2
		2505	24	22.00	1	21.12	2
	50RB (0)	2565	24	21.70	1	20.72	2
		2535	24	21.93	1	20.95	2
		2505	24	21.99	1	21.00	2
15 MHz	1RB High (74)	2562.5	24	22.53	0	22.05	1
		2535	24	22.79	0	22.37	1
		2507.5	24	22.88	0	22.01	1
	1RB Middle (37)	2562.5	24	22.40	0	21.88	1
		2535	24	22.67	0	22.36	1
		2507.5	24	22.72	0	21.97	1
	1RB Low (0)	2562.5	24	22.70	0	22.09	1
		2535	24	23.11	0	22.42	1
		2507.5	24	23.05	0	22.17	1
	36RB High (38)	2562.5	24	21.45	1	20.53	2
		2535	24	21.75	1	20.87	2
		2507.5	24	21.82	1	20.90	2
	36RB Middle (19)	2562.5	24	21.55	1	20.63	2
		2535	24	21.85	1	20.92	2
		2507.5	24	21.87	1	20.93	2
	36RB Low (0)	2562.5	24	21.55	1	20.60	2
		2535	24	21.79	1	20.90	2
		2507.5	24	21.88	1	20.98	2
	75RB (0)	2562.5	24	21.56	1	20.57	2
		2535	24	21.80	1	20.83	2
		2507.5	24	21.90	1	20.85	2
20 MHz	1RB High (99)	2560	24	22.68	0	21.90	1
		2535	24	23.00	0	22.14	1
		2510	24	23.02	0	22.19	1
	1RB Middle (50)	2560	24	22.62	0	21.88	1
		2535	24	22.75	0	21.91	1
		2510	24	22.89	0	22.16	1

	1RB Low (0)	2560	24	22.53	0	21.58	1
		2535	24	23.03	0	22.23	1
		2510	24	22.92	0	22.18	1
	50RB High (50)	2560	24	21.51	1	20.66	2
		2535	24	21.86	1	20.88	2
		2510	24	21.86	1	20.94	2
	50RB Middle (25)	2560	24	21.54	1	20.58	2
		2535	24	21.77	1	20.77	2
		2510	24	21.89	1	20.81	2
	50RB Low (0)	2560	24	21.51	1	20.60	2
		2535	24	21.85	1	20.91	2
		2510	24	21.82	1	20.84	2
	100RB (0)	2560	24	21.70	1	20.62	2
		2535	24	21.76	1	20.82	2
		2510	24	21.93	1	20.92	2

Band 12							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	715.3	24	23.29	0	22.50	1
		707.5	24	23.29	0	22.35	1
		699.7	24	23.11	0	22.08	1
	1RB Middle (3)	715.3	24	23.18	0	22.47	1
		707.5	24	23.24	0	22.26	1
		699.7	24	23.18	0	22.35	1
	1RB Low (0)	715.3	24	23.10	0	22.34	1
		707.5	24	23.24	0	22.35	1
		699.7	24	23.24	0	22.42	1
	3RB High (3)	715.3	24	23.28	0	22.49	1
		707.5	24	23.18	0	22.29	1
		699.7	24	23.19	0	22.27	1
	3RB Middle (1)	715.3	24	23.24	0	22.48	1
		707.5	24	23.10	0	22.29	1
		699.7	24	23.43	0	22.69	1
	3RB Low (0)	715.3	24	23.25	0	22.46	1
		707.5	24	23.22	0	22.38	1
		699.7	24	23.36	0	22.25	1
	6RB (0)	715.3	24	22.26	1	21.09	2
		707.5	24	22.18	1	21.17	2
		699.7	24	22.23	1	21.26	2
3 MHz	1RB High (14)	714.5	24	23.26	0	22.44	1
		707.5	24	23.06	0	22.26	1
		700.5	24	23.10	0	22.13	1
	1RB Middle (7)	714.5	24	23.23	0	22.37	1
		707.5	24	23.28	0	22.43	1
		700.5	24	23.01	0	22.20	1

	1RB Low (0)	714.5	24	23.14	0	22.50	1
		707.5	24	23.31	0	22.38	1
		700.5	24	23.33	0	22.34	1
	8RB High (7)	714.5	24	22.39	1	21.30	2
		707.5	24	22.31	1	21.33	2
		700.5	24	22.21	1	21.30	2
	8RB Middle (4)	714.5	24	22.31	1	21.25	2
		707.5	24	22.35	1	21.37	2
		700.5	24	22.20	1	21.42	2
	8RB Low (0)	714.5	24	22.30	1	21.38	2
		707.5	24	22.30	1	21.38	2
		700.5	24	22.21	1	21.32	2
	15RB (0)	714.5	24	22.31	1	21.35	2
		707.5	24	22.30	1	21.34	2
		700.5	24	22.13	1	21.17	2
5 MHz	1RB High (24)	713.5	24	23.30	0	22.66	1
		707.5	24	23.20	0	22.59	1
		701.5	24	23.41	0	22.82	1
	1RB Middle (12)	713.5	24	23.20	0	22.79	1
		707.5	24	23.29	0	22.69	1
		701.5	24	23.29	0	22.89	1
	1RB Low (0)	713.5	24	23.21	0	22.57	1
		707.5	24	23.26	0	22.50	1
		701.5	24	23.47	0	22.72	1
	12RB High (13)	713.5	24	22.34	1	21.54	2
		707.5	24	22.20	1	21.39	2
		701.5	24	22.30	1	21.46	2
	12RB Middle (6)	713.5	24	22.36	1	21.48	2
		707.5	24	22.29	1	21.50	2
		701.5	24	22.21	1	21.60	2
	12RB Low (0)	713.5	24	22.31	1	21.38	2
		707.5	24	22.33	1	21.51	2
		701.5	24	22.27	1	21.44	2
	25RB (0)	713.5	24	22.29	1	21.31	2
		707.5	24	22.25	1	21.30	2
		701.5	24	22.34	1	21.57	2
10 MHz	1RB High (49)	711	24	22.82	0	22.11	1
		707.5	24	22.77	0	21.93	1
		704	24	22.88	0	22.05	1
	1RB Middle (24)	711	24	23.14	0	22.43	1
		707.5	24	23.30	0	22.56	1
		704	24	23.16	0	22.46	1
	1RB Low (0)	711	24	22.80	0	22.06	1
		707.5	24	22.75	0	22.01	1
		704	24	22.84	0	22.08	1
	25RB High (25)	711	24	22.08	1	21.21	2
		707.5	24	22.10	1	21.24	2
		704	24	22.26	1	21.27	2

	25RB Middle (12)	711	24	22.20	1	21.27	2
		707.5	24	22.28	1	21.34	2
		704	24	22.32	1	21.38	2
	25RB Low (0)	711	24	22.11	1	21.20	2
		707.5	24	22.30	1	21.21	2
		704	24	22.26	1	21.24	2
	50RB (0)	711	24	22.31	1	21.36	2
		707.5	24	22.15	1	21.16	2
		704	24	22.22	1	21.25	2

Band 13							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
5 MHz	1RB High (24)	784.5	24	23.41	0	22.61	1
		782	24	23.48	0	22.70	1
		779.5	24	23.40	0	22.68	1
	1RB Middle (12)	784.5	24	23.35	0	22.59	1
		782	24	23.49	0	22.57	1
		779.5	24	23.41	0	22.59	1
	1RB Low (0)	784.5	24	23.48	0	22.53	1
		782	24	23.30	0	22.57	1
		779.5	24	23.35	0	22.65	1
	12RB High (13)	784.5	24	22.28	1	21.52	2
		782	24	22.35	1	21.53	2
		779.5	24	22.34	1	21.57	2
	12RB Middle (6)	784.5	24	22.47	1	21.58	2
		782	24	22.41	1	21.57	2
		779.5	24	22.32	1	21.50	2
	12RB Low (0)	784.5	24	22.42	1	21.52	2
		782	24	22.34	1	21.52	2
		779.5	24	22.34	1	21.44	2
	25RB (0)	784.5	24	22.39	1	21.45	2
		782	24	22.33	1	21.44	2
		779.5	24	22.37	1	21.50	2
10 MHz	1RB High (49)	782	24	23.04	0	22.60	1
	1RB Middle (24)	782	24	23.40	0	22.89	1
	1RB Low (0)	782	24	23.06	0	22.60	1
	25RB High (25)	782	24	22.25	1	21.29	2
	25RB Middle (12)	782	24	22.41	1	21.36	2
	25RB Low (0)	782	24	22.28	1	21.24	2
	50RB (0)	782	24	22.24	1	21.24	2

Band 30							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
5 MHz	1RB High (24)	2312.5	24	23.62	0	22.94	1
		2310	24	23.69	0	22.79	1
		2307.5	24	23.62	0	22.75	1
	1RB Middle (12)	2312.5	24	23.54	0	22.88	1
		2310	24	23.68	0	22.92	1
		2307.5	24	23.75	0	22.98	1
	1RB Low (0)	2312.5	24	23.66	0	22.90	1
		2310	24	23.67	0	22.95	1
		2307.5	24	23.62	0	22.96	1
	12RB High (13)	2312.5	24	22.54	1	21.65	2
		2310	24	22.60	1	21.70	2
		2307.5	24	22.55	1	21.67	2
	12RB Middle (6)	2312.5	24	22.65	1	21.75	2
		2310	24	22.59	1	21.67	2
		2307.5	24	22.61	1	21.73	2
	12RB Low (0)	2312.5	24	22.61	1	21.80	2
		2310	24	22.61	1	21.77	2
		2307.5	24	22.68	1	21.80	2
	25RB (0)	2312.5	24	22.59	1	21.70	2
		2310	24	22.66	1	21.75	2
		2307.5	24	22.59	1	21.70	2
10 MHz	1RB High (49)	2310	24	24.00	0	22.96	1
	1RB Middle (24)	2310	24	23.69	0	22.93	1
	1RB Low (0)	2310	24	23.98	0	23.00	1
	25RB High (25)	2310	24	22.70	1	21.59	2
	25RB Middle (12)	2310	24	22.67	1	21.66	2
	25RB Low (0)	2310	24	22.60	1	21.62	2
	50RB (0)	2310	24	22.72	1	21.59	2

Band 41							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
5 MHz	1RB High (24)	2687.5	24	23.28	0	22.23	1
		2640.3	24	23.19	0	22.28	1
		2593	24	23.05	0	22.64	1
		2545.8	24	23.08	0	22.19	1
		2498.5	24	22.88	0	21.73	1
	1RB Middle (12)	2687.5	24	23.14	0	22.20	1
		2640.3	24	23.09	0	22.15	1
		2593	24	23.02	0	22.72	1
		2545.8	24	23.11	0	22.49	1
		2498.5	24	22.59	0	21.79	1
	1RB Low (0)	2687.5	24	23.38	0	22.10	1
		2640.3	24	23.44	0	22.14	1
		2593	24	23.07	0	22.66	1
		2545.8	24	23.01	0	22.21	1
		2498.5	24	22.86	0	21.93	1
	12RB High (13)	2687.5	24	22.08	1	20.77	2
		2640.3	24	22.10	1	20.71	2
		2593	24	22.02	1	20.82	2
		2545.8	24	22.21	1	21.97	2
		2498.5	24	22.05	1	21.13	2
	12RB Middle (6)	2687.5	24	22.15	1	21.21	2
		2640.3	24	22.17	1	21.75	2
		2593	24	21.92	1	20.81	2
		2545.8	24	22.20	1	21.33	2
		2498.5	24	21.99	1	20.97	2
	12RB Low (0)	2687.5	24	22.14	1	21.27	2
		2640.3	24	22.24	1	21.43	2
		2593	24	21.89	1	20.96	2
		2545.8	24	22.05	1	21.56	2
		2498.5	24	21.83	1	20.73	2
	25RB (0)	2687.5	24	22.03	1	20.85	2
		2640.3	24	22.07	1	20.64	2
		2593	24	22.03	1	21.03	2
		2545.8	24	22.51	1	21.49	2
		2498.5	24	21.84	1	20.85	2
10 MHz	1RB High (49)	2685	24	23.31	0	21.96	1
		2639	24	23.06	0	22.10	1
		2593	24	23.30	0	22.08	1

		2547	24	23.16	0	22.25	1
		2501	24	23.27	0	22.35	1
	1RB Middle (24)	2685	24	23.28	0	22.32	1
		2639	24	22.88	0	21.89	1
		2593	24	22.99	0	22.19	1
		2547	24	23.17	0	21.95	1
		2501	24	23.10	0	21.87	1
		2685	24	23.34	0	22.20	1
	1RB Low (0)	2639	24	23.15	0	22.13	1
		2593	24	23.30	0	21.74	1
		2547	24	23.05	0	22.02	1
		2501	24	23.08	0	21.86	1
		2685	24	22.05	1	21.04	2
	25RB High (25)	2639	24	21.82	1	20.81	2
		2593	24	22.05	1	21.01	2
		2547	24	22.01	1	20.83	2
		2501	24	22.16	1	21.03	2
		2685	24	21.92	1	20.90	2
	25RB Middle (12)	2639	24	21.80	1	20.81	2
		2593	24	22.03	1	20.90	2
		2547	24	21.84	1	20.75	2
		2501	24	22.00	1	20.98	2
		2685	24	21.86	1	20.83	2
	25RB Low (0)	2639	24	21.74	1	20.76	2
		2593	24	21.86	1	20.75	2
		2547	24	21.62	1	20.45	2
		2501	24	21.87	1	20.82	2
		2685	24	21.88	1	20.90	2
	50RB (0)	2639	24	21.84	1	20.83	2
		2593	24	21.91	1	20.92	2
		2547	24	21.94	1	20.77	2
		2501	24	22.03	1	20.88	2
		2682.5	24	22.89	0	22.02	1
15 MHz	1RB High (74)	2637.8	24	22.85	0	22.07	1
		2593	24	23.27	0	22.39	1
		2548.3	24	23.59	0	22.82	1
		2503.5	24	23.84	0	22.81	1
		2682.5	24	22.67	0	21.79	1
	1RB Middle (37)	2637.8	24	22.77	0	21.91	1
		2593	24	23.15	0	22.11	1
		2548.3	24	23.40	0	22.63	1
		2503.5	24	23.85	0	22.57	1
		2682.5	24	22.67	0	21.79	1

	1RB Low (0)	2682.5	24	23.29	0	21.74	1
		2637.8	24	22.99	0	21.96	1
		2593	24	23.30	0	22.22	1
		2548.3	24	23.56	0	22.75	1
		2503.5	24	23.85	0	22.60	1
	36RB High (38)	2682.5	24	21.84	1	20.79	2
		2637.8	24	21.73	1	20.71	2
		2593	24	22.13	1	21.18	2
		2548.3	24	22.55	1	21.51	2
		2503.5	24	22.57	1	21.63	2
	36RB Middle (19)	2682.5	24	21.76	1	20.77	2
		2637.8	24	21.62	1	20.69	2
		2593	24	22.25	1	21.08	2
		2548.3	24	22.50	1	21.41	2
		2503.5	24	22.55	1	21.58	2
	36RB Low (0)	2682.5	24	21.81	1	20.71	2
		2637.8	24	21.72	1	20.65	2
		2593	24	21.99	1	21.00	2
		2548.3	24	22.32	1	21.38	2
		2503.5	24	22.57	1	21.67	2
	75RB (0)	2682.5	24	21.92	1	20.80	2
		2637.8	24	21.86	1	20.79	2
		2593	24	22.04	1	20.99	2
		2548.3	24	22.34	1	21.43	2
		2503.5	24	22.63	1	21.58	2
20 MHz	1RB High (99)	2680	24	22.97	0	21.79	1
		2636.5	24	22.86	0	21.77	1
		2593	24	23.19	0	22.18	1
		2549.5	24	23.39	0	22.58	1
		2506	24	23.27	0	22.45	1
	1RB Middle (50)	2680	24	23.00	0	21.84	1
		2636.5	24	22.84	0	21.72	1
		2593	24	22.99	0	22.14	1
		2549.5	24	23.34	0	22.64	1
		2506	24	23.43	0	22.65	1
	1RB Low (0)	2680	24	22.70	0	21.77	1
		2636.5	24	22.74	0	21.67	1
		2593	24	23.17	0	21.93	1
		2549.5	24	23.31	0	22.63	1
		2506	24	23.39	0	22.49	1
	50RB High (50)	2680	24	21.67	1	20.66	2
		2636.5	24	21.67	1	20.62	2

		2593	24	21.93	1	20.93	2
		2549.5	24	22.42	1	21.43	2
		2506	24	22.65	1	21.59	2
	50RB Middle (25)	2680	24	21.67	1	20.75	2
		2636.5	24	21.59	1	20.72	2
		2593	24	21.99	1	21.01	2
		2549.5	24	22.38	1	21.39	2
		2506	24	22.55	1	21.61	2
	50RB Low (0)	2680	24	21.60	1	20.65	2
		2636.5	24	21.70	1	20.81	2
		2593	24	21.93	1	20.98	2
		2549.5	24	22.45	1	21.46	2
		2506	24	22.54	1	21.54	2
	100RB (0)	2680	24	21.61	1	20.64	2
		2636.5	24	21.66	1	20.67	2
		2593	24	21.95	1	20.94	2
		2549.5	24	22.36	1	21.39	2
		2506	24	22.50	1	21.52	2
Band 25							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	1914.3	24.5	23.93	0	23.07	1
		1882.5	24.5	23.62	0	22.64	1
		1850.7	24.5	23.69	0	22.92	1
	1RB Middle (3)	1914.3	24.5	23.94	0	23.22	1
		1882.5	24.5	23.61	0	22.79	1
		1850.7	24.5	23.65	0	22.83	1
	1RB Low (0)	1914.3	24.5	23.89	0	23.14	1
		1882.5	24.5	23.61	0	22.81	1
		1850.7	24.5	23.68	0	22.91	1
	3RB High (3)	1914.3	24.5	23.81	0	23.08	1
		1882.5	24.5	23.58	0	22.73	1
		1850.7	24.5	23.60	0	22.85	1
	3RB Middle (1)	1914.3	24.5	23.88	0	23.14	1
		1882.5	24.5	23.68	0	22.82	1
		1850.7	24.5	23.82	0	22.89	1
	3RB Low (0)	1914.3	24.5	23.98	0	23.10	1
		1882.5	24.5	23.66	0	22.83	1
		1850.7	24.5	23.77	0	22.89	1
	6RB (0)	1914.3	24.5	23.06	1	22.07	2
		1882.5	24.5	22.65	1	21.66	2

		1850.7	24.5	22.82	1	21.75	2
3 MHz	1RB High (14)	1913.5	24.5	23.89	0	23.04	1
		1882.5	24.5	23.61	0	22.73	1
		1851.5	24.5	23.68	0	22.88	1
	1RB Middle (7)	1913.5	24.5	24.03	0	23.12	1
		1882.5	24.5	23.54	0	22.85	1
		1851.5	24.5	23.75	0	23.10	1
	1RB Low (0)	1913.5	24.5	24.03	0	23.18	1
		1882.5	24.5	23.59	0	22.81	1
		1851.5	24.5	23.82	0	22.99	1
	8RB High (7)	1913.5	24.5	23.08	1	22.12	2
		1882.5	24.5	22.63	1	21.66	2
		1851.5	24.5	22.67	1	21.78	2
	8RB Middle (4)	1913.5	24.5	22.98	1	22.01	2
		1882.5	24.5	22.63	1	21.77	2
		1851.5	24.5	22.80	1	21.84	2
	8RB Low (0)	1913.5	24.5	23.00	1	21.97	2
		1882.5	24.5	22.68	1	21.78	2
		1851.5	24.5	22.76	1	21.85	2
	15RB (0)	1913.5	24.5	23.03	1	22.12	2
		1882.5	24.5	22.63	1	21.72	2
		1851.5	24.5	22.78	1	21.81	2
5 MHz	1RB High (24)	1912.5	24.5	23.90	0	23.27	1
		1882.5	24.5	23.66	0	22.79	1
		1852.5	24.5	23.72	0	22.95	1
	1RB Middle (12)	1912.5	24.5	23.87	0	23.19	1
		1882.5	24.5	23.64	0	22.87	1
		1852.5	24.5	23.89	0	22.97	1
	1RB Low (0)	1912.5	24.5	23.84	0	23.15	1
		1882.5	24.5	23.77	0	23.02	1
		1852.5	24.5	23.92	0	23.10	1
	12RB High (13)	1912.5	24.5	22.91	1	22.06	2
		1882.5	24.5	22.61	1	21.69	2
		1852.5	24.5	22.83	1	21.94	2
	12RB Middle (6)	1912.5	24.5	22.91	1	22.00	2
		1882.5	24.5	22.68	1	21.81	2
		1852.5	24.5	22.76	1	21.89	2
	12RB Low (0)	1912.5	24.5	22.85	1	22.00	2
		1882.5	24.5	22.65	1	21.82	2
		1852.5	24.5	22.83	1	21.97	2
	25RB (0)	1912.5	24.5	22.96	1	22.08	2
		1882.5	24.5	22.69	1	21.73	2

		1852.5	24.5	22.76	1	21.86	2
10 MHz	1RB High (49)	1910	24.5	23.89	0	23.12	1
		1882.5	24.5	23.66	0	22.87	1
		1855	24.5	23.72	0	22.96	1
	1RB Middle (24)	1910	24.5	23.68	0	22.89	1
		1882.5	24.5	23.64	0	22.78	1
		1855	24.5	23.53	0	22.86	1
	1RB Low (0)	1910	24.5	23.62	0	22.91	1
		1882.5	24.5	23.61	0	22.91	1
		1855	24.5	23.86	0	23.05	1
	25RB High (25)	1910	24.5	22.98	1	21.83	2
		1882.5	24.5	22.60	1	21.61	2
		1855	24.5	22.73	1	21.74	2
	25RB Middle (12)	1910	24.5	22.76	1	21.79	2
		1882.5	24.5	22.62	1	21.64	2
		1855	24.5	22.71	1	21.77	2
	25RB Low (0)	1910	24.5	22.61	1	21.69	2
		1882.5	24.5	22.64	1	21.66	2
		1855	24.5	22.72	1	21.75	2
	50RB (0)	1910	24.5	22.81	1	21.78	2
		1882.5	24.5	22.63	1	21.63	2
		1855	24.5	22.70	1	21.73	2
15 MHz	1RB High (74)	1907.5	24.5	23.85	0	23.18	1
		1882.5	24.5	23.91	0	23.03	1
		1857.5	24.5	24.01	0	23.25	1
	1RB Middle (37)	1907.5	24.5	23.96	0	23.00	1
		1882.5	24.5	23.68	0	23.01	1
		1857.5	24.5	23.88	0	23.01	1
	1RB Low (0)	1907.5	24.5	24.08	0	23.21	1
		1882.5	24.5	23.86	0	23.06	1
		1857.5	24.5	24.01	0	23.11	1
	36RB High (38)	1907.5	24.5	22.84	1	21.91	2
		1882.5	24.5	22.85	1	21.84	2
		1857.5	24.5	22.86	1	21.87	2
	36RB Middle (19)	1907.5	24.5	23.00	1	22.05	2
		1882.5	24.5	22.86	1	21.97	2
		1857.5	24.5	22.88	1	21.91	2
	36RB Low (0)	1907.5	24.5	22.89	1	21.98	2
		1882.5	24.5	22.90	1	21.90	2
		1857.5	24.5	22.79	1	21.86	2
	75RB (0)	1907.5	24.5	22.96	1	21.89	2
		1882.5	24.5	22.86	1	21.84	2
		1857.5	24.5	22.80	1	21.84	2

20 MHz	1RB High (99)	1905	24.5	23.55	0	22.84	1
		1882.5	24.5	23.56	0	22.83	1
		1860	24.5	23.84	0	22.86	1
	1RB Middle (50)	1905	24.5	23.92	0	23.16	1
		1882.5	24.5	23.91	0	23.24	1
		1860	24.5	23.85	0	23.23	1
	1RB Low (0)	1905	24.5	23.89	0	23.08	1
		1882.5	24.5	23.81	0	23.11	1
		1860	24.5	23.83	0	23.08	1
	50RB High (50)	1905	24.5	22.89	1	21.92	2
		1882.5	24.5	22.72	1	21.72	2
		1860	24.5	22.80	1	21.82	2
	50RB Middle (25)	1905	24.5	23.02	1	21.93	2
		1882.5	24.5	22.92	1	21.86	2
		1860	24.5	22.91	1	21.90	2
	50RB Low (0)	1905	24.5	22.93	1	22.00	2
		1882.5	24.5	22.85	1	21.90	2
		1860	24.5	22.84	1	21.84	2
	100RB (0)	1905	24.5	22.61	1	21.64	2
		1882.5	24.5	22.76	1	21.71	2
		1860	24.5	22.81	1	21.84	2
Band 26							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	848.3	24.5	23.55	0	22.72	1
		831.5	24.5	23.77	0	22.83	1
		814.7	24.5	23.63	0	22.75	1
	1RB Middle (3)	848.3	24.5	23.58	0	22.74	1
		831.5	24.5	23.79	0	22.89	1
		814.7	24.5	23.72	0	22.90	1
	1RB Low (0)	848.3	24.5	23.51	0	22.78	1
		831.5	24.5	23.68	0	22.77	1
		814.7	24.5	23.63	0	22.69	1
	3RB High (3)	848.3	24.5	23.60	0	22.73	1
		831.5	24.5	24.07	0	23.25	1
		814.7	24.5	23.68	0	22.84	1
	3RB Middle (1)	848.3	24.5	23.68	0	22.85	1
		831.5	24.5	24.09	0	23.31	1
		814.7	24.5	23.74	0	22.92	1
	3RB Low (0)	848.3	24.5	23.62	0	22.80	1
		831.5	24.5	23.93	0	23.15	1
		814.7	24.5	23.59	0	22.84	1
	6RB (0)	848.3	24.5	22.66	1	21.63	2
		831.5	24.5	23.12	1	22.30	2
		814.7	24.5	22.75	1	21.66	2

3 MHz	1RB High (14)	847.5	24.5	23.54	0	22.70	1
		831.5	24.5	23.89	0	23.06	1
		815.5	24.5	23.82	0	22.97	1
	1RB Middle (7)	847.5	24.5	23.69	0	22.95	1
		831.5	24.5	23.86	0	23.02	1
		815.5	24.5	23.88	0	23.11	1
	1RB Low (0)	847.5	24.5	23.75	0	22.91	1
		831.5	24.5	23.81	0	22.97	1
		815.5	24.5	23.77	0	22.94	1
	8RB High (7)	847.5	24.5	22.66	1	21.81	2
		831.5	24.5	22.87	1	21.90	2
		815.5	24.5	22.95	1	22.01	2
	8RB Middle (4)	847.5	24.5	22.76	1	21.80	2
		831.5	24.5	22.86	1	21.96	2
		815.5	24.5	22.98	1	22.04	2
	8RB Low (0)	847.5	24.5	22.76	1	21.82	2
		831.5	24.5	22.81	1	21.84	2
		815.5	24.5	22.90	1	21.97	2
	15RB (0)	847.5	24.5	22.72	1	21.78	2
		831.5	24.5	22.75	1	21.86	2
		815.5	24.5	22.92	1	22.02	2
5 MHz	1RB High (24)	846.5	24.5	23.64	0	22.98	1
		831.5	24.5	23.88	0	23.16	1
		816.5	24.5	23.85	0	23.15	1
	1RB Middle (12)	846.5	24.5	23.74	0	23.04	1
		831.5	24.5	23.84	0	23.13	1
		816.5	24.5	23.83	0	23.12	1
	1RB Low (0)	846.5	24.5	23.85	0	23.24	1
		831.5	24.5	23.78	0	23.13	1
		816.5	24.5	23.79	0	23.06	1
	12RB High (13)	846.5	24.5	22.72	1	21.89	2
		831.5	24.5	22.89	1	22.04	2
		816.5	24.5	22.90	1	21.96	2
	12RB Middle (6)	846.5	24.5	22.82	1	21.93	2
		831.5	24.5	22.79	1	21.90	2
		816.5	24.5	22.95	1	22.10	2
	12RB Low (0)	846.5	24.5	22.84	1	22.05	2
		831.5	24.5	22.94	1	22.06	2
		816.5	24.5	22.99	1	22.12	2
	25RB (0)	846.5	24.5	22.78	1	21.85	2
		831.5	24.5	22.99	1	22.05	2
		816.5	24.5	22.91	1	21.95	2

10 MHz	1RB High (49)	844	24.5	23.66	0	22.88	1
		831.5	24.5	23.88	0	23.03	1
		820	24.5	23.76	0	22.98	1
	1RB Middle (24)	844	24.5	23.71	0	22.93	1
		831.5	24.5	23.80	0	23.02	1
		820	24.5	23.71	0	22.93	1
	1RB Low (0)	844	24.5	23.72	0	22.90	1
		831.5	24.5	23.66	0	22.86	1
		820	24.5	23.76	0	22.99	1
	25RB High (25)	844	24.5	22.83	1	21.85	2
		831.5	24.5	22.88	1	21.98	2
		820	24.5	22.95	1	21.96	2
	25RB Middle (12)	844	24.5	22.92	1	21.87	2
		831.5	24.5	22.95	1	21.89	2
		820	24.5	22.97	1	21.96	2
	25RB Low (0)	844	24.5	22.87	1	21.87	2
		831.5	24.5	22.83	1	21.83	2
		820	24.5	22.81	1	21.86	2
	50RB (0)	844	24.5	22.82	1	21.85	2
		831.5	24.5	22.83	1	21.88	2
		820	24.5	22.84	1	21.92	2
15 MHz	1RB High (74)	841.5	24.5	23.23	0	22.76	1
		831.5	24.5	23.37	0	22.70	1
		822.5	24.5	23.42	0	22.62	1
	1RB Middle (37)	841.5	24.5	23.61	0	23.15	1
		831.5	24.5	23.67	0	22.87	1
		822.5	24.5	23.92	0	23.11	1
	1RB Low (0)	841.5	24.5	23.05	0	22.67	1
		831.5	24.5	23.11	0	22.30	1
		822.5	24.5	23.17	0	22.34	1
	36RB High (38)	841.5	24.5	22.52	1	21.59	2
		831.5	24.5	22.59	1	21.65	2
		822.5	24.5	22.70	1	21.76	2
	36RB Middle (19)	841.5	24.5	22.51	1	21.64	2
		831.5	24.5	22.62	1	21.72	2
		822.5	24.5	22.75	1	21.75	2
	36RB Low (0)	841.5	24.5	22.31	1	21.48	2
		831.5	24.5	22.37	1	21.51	2
		822.5	24.5	22.50	1	21.57	2
	75RB (0)	841.5	24.5	22.34	1	21.52	2
		831.5	24.5	22.44	1	21.57	2
		822.5	24.5	22.51	1	21.59	2

Low power

Table 11.3-2: The conducted Power for LTE

Band 2							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	1909.3	21	20.19	0	20.23	0
		1880	21	20.06	0	20.40	0
		1850.7	21	20.24	0	20.36	0
	1RB Middle (3)	1909.3	21	20.23	0	20.27	0
		1880	21	20.26	0	20.41	0
		1850.7	21	20.31	0	20.39	0
	1RB Low (0)	1909.3	21	20.22	0	20.21	0
		1880	21	20.22	0	20.30	0
		1850.7	21	20.29	0	20.45	0
	3RB High (3)	1909.3	21	20.21	0	20.25	0
		1880	21	20.17	0	20.35	0
		1850.7	21	20.30	0	20.49	0
	3RB Middle (1)	1909.3	21	20.27	0	20.31	0
		1880	21	20.25	0	20.12	0
		1850.7	21	20.33	0	20.46	0
	3RB Low (0)	1909.3	21	20.25	0	20.30	0
		1880	21	20.17	0	20.35	0
		1850.7	21	20.35	0	20.52	0
	6RB (0)	1909.3	21	20.27	0	20.48	0
		1880	21	20.19	0	20.50	0
		1850.7	21	20.36	0	20.35	0
3 MHz	1RB High (14)	1908.5	21	20.25	0	20.14	0
		1880	21	20.13	0	20.19	0
		1851.5	21	20.29	0	20.44	0
	1RB Middle (7)	1908.5	21	20.31	0	20.28	0
		1880	21	20.26	0	20.28	0
		1851.5	21	20.35	0	20.42	0
	1RB Low (0)	1908.5	21	20.34	0	20.20	0
		1880	21	20.29	0	20.21	0
		1851.5	21	20.36	0	20.37	0
	8RB High (7)	1908.5	21	20.28	0	20.22	0
		1880	21	20.20	0	20.16	0
		1851.5	21	20.34	0	20.23	0
	8RB Middle (4)	1908.5	21	20.32	0	20.40	0
		1880	21	20.25	0	20.36	0
		1851.5	21	20.34	0	20.27	0
	8RB Low (0)	1908.5	21	20.31	0	20.41	0
		1880	21	20.26	0	20.39	0
		1851.5	21	20.38	0	20.21	0
	15RB	1908.5	21	20.30	0	20.30	0

	(0)	1880	21	20.25	0	20.45	0
		1851.5	21	20.37	0	20.25	0
5 MHz	1RB High (24)	1907.5	21	20.30	0	20.35	0
		1880	21	20.15	0	20.49	0
		1852.5	21	20.29	0	20.31	0
	1RB Middle (12)	1907.5	21	20.34	0	20.12	0
		1880	21	20.29	0	20.46	0
		1852.5	21	20.33	0	20.30	0
	1RB Low (0)	1907.5	21	20.52	0	20.35	0
		1880	21	20.28	0	20.52	0
		1852.5	21	20.45	0	20.48	0
	12RB High (13)	1907.5	21	20.30	0	20.50	0
		1880	21	20.24	0	20.35	0
		1852.5	21	20.36	0	20.14	0
	12RB Middle (6)	1907.5	21	20.34	0	20.19	0
		1880	21	20.27	0	20.44	0
		1852.5	21	20.36	0	20.28	0
	12RB Low (0)	1907.5	21	20.37	0	20.28	0
		1880	21	20.35	0	20.42	0
		1852.5	21	20.41	0	20.20	0
	25RB (0)	1907.5	21	20.37	0	20.21	0
		1880	21	20.25	0	20.37	0
		1852.5	21	20.38	0	20.22	0
10 MHz	1RB High (49)	1905	21	20.58	0	20.16	0
		1880	21	20.33	0	20.23	0
		1855	21	20.44	0	20.40	0
	1RB Middle (24)	1905	21	20.49	0	20.36	0
		1880	21	20.24	0	20.27	0
		1855	21	20.23	0	20.41	0
	1RB Low (0)	1905	21	20.40	0	20.39	0
		1880	21	20.34	0	20.21	0
		1855	21	20.35	0	20.30	0
	25RB High (25)	1905	21	20.42	0	20.45	0
		1880	21	20.13	0	20.25	0
		1855	21	20.29	0	20.35	0
	25RB Middle (12)	1905	21	20.26	0	20.49	0
		1880	21	20.24	0	20.31	0
		1855	21	20.25	0	20.12	0
	25RB Low (0)	1905	21	20.30	0	20.46	0
		1880	21	20.17	0	20.30	0
		1855	21	20.31	0	20.35	0
	50RB (0)	1905	21	20.38	0	20.52	0
		1880	21	20.26	0	20.48	0
		1855	21	20.31	0	20.50	0
15 MHz	1RB High (74)	1902.5	21	20.62	0	20.35	0
		1880	21	20.36	0	20.14	0
		1857.5	21	20.44	0	20.19	0
	1RB	1902.5	21	20.24	0	20.44	0

	Middle (37)	1880	21	20.15	0	20.28	0
		1857.5	21	20.10	0	20.28	0
	1RB Low (0)	1902.5	21	20.50	0	20.42	0
		1880	21	20.36	0	20.20	0
		1857.5	21	20.51	0	20.21	0
	36RB High (38)	1902.5	21	20.38	0	20.37	0
		1880	21	20.10	0	20.22	0
		1857.5	21	20.31	0	20.16	0
	36RB Middle (19)	1902.5	21	20.30	0	20.23	0
		1880	21	20.18	0	20.40	0
		1857.5	21	20.34	0	20.36	0
	36RB Low (0)	1902.5	21	20.29	0	20.27	0
		1880	21	20.15	0	20.41	0
		1857.5	21	20.33	0	20.39	0
	75RB (0)	1902.5	21	20.39	0	20.21	0
		1880	21	20.21	0	20.30	0
		1857.5	21	20.28	0	20.45	0
20 MHz	1RB High (99)	1900	21	20.39	0	20.25	0
		1880	21	20.15	0	20.35	0
		1860	21	20.18	0	20.49	0
	1RB Middle (50)	1900	21	20.32	0	20.31	0
		1880	21	20.20	0	20.12	0
		1860	21	20.20	0	20.46	0
	1RB Low (0)	1900	21	20.42	0	20.30	0
		1880	21	20.39	0	20.35	0
		1860	21	20.31	0	20.52	0
	50RB High (50)	1900	21	20.33	0	20.48	0
		1880	21	20.23	0	20.50	0
		1860	21	20.23	0	20.35	0
	50RB Middle (25)	1900	21	20.38	0	20.14	0
		1880	21	20.36	0	20.19	0
		1860	21	20.34	0	20.44	0
	50RB Low (0)	1900	21	20.37	0	20.28	0
		1880	21	20.18	0	20.28	0
		1860	21	20.26	0	20.42	0
	100RB (0)	1900	21	20.43	0	20.20	0
		1880	21	20.15	0	20.21	0
		1860	21	20.15	0	20.37	0
Band 4							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	1754.3	22	21.42	0	21.63	0
		1732.5	22	21.32	0	21.53	0
		1710.7	22	21.43	0	21.51	0
	1RB	1754.3	22	21.46	0	21.67	0

	Middle (3)	1732.5	22	21.43	0	21.62	0
		1710.7	22	21.46	0	21.56	0
	1RB Low (0)	1754.3	22	21.47	0	21.59	0
		1732.5	22	21.42	0	21.57	0
		1710.7	22	21.45	0	21.51	0
	3RB High (3)	1754.3	22	21.40	0	21.52	0
		1732.5	22	21.37	0	21.57	0
		1710.7	22	21.42	0	21.63	0
	3RB Middle (1)	1754.3	22	21.54	0	21.66	0
		1732.5	22	21.36	0	21.56	0
		1710.7	22	21.52	0	21.67	0
	3RB Low (0)	1754.3	22	21.43	0	21.62	0
		1732.5	22	21.36	0	21.57	0
		1710.7	22	21.47	0	21.65	0
	6RB (0)	1754.3	22	21.43	0	21.42	0
		1732.5	22	21.35	0	21.32	0
		1710.7	22	21.45	0	21.39	0
3 MHz	1RB High (14)	1753.5	22	21.43	0	21.67	0
		1732.5	22	21.25	0	21.43	0
		1711.5	22	21.46	0	21.68	0
	1RB Middle (7)	1753.5	22	21.46	0	21.66	0
		1732.5	22	21.42	0	21.63	0
		1711.5	22	21.56	0	21.73	0
	1RB Low (0)	1753.5	22	21.54	0	21.70	0
		1732.5	22	21.36	0	21.67	0
		1711.5	22	21.52	0	21.72	0
	8RB High (7)	1753.5	22	21.45	0	21.54	0
		1732.5	22	21.39	0	21.42	0
		1711.5	22	21.53	0	21.62	0
	8RB Middle (4)	1753.5	22	21.47	0	21.56	0
		1732.5	22	21.46	0	21.53	0
		1711.5	22	21.53	0	21.64	0
	8RB Low (0)	1753.5	22	21.47	0	21.57	0
		1732.5	22	21.42	0	21.55	0
		1711.5	22	21.58	0	21.61	0
	15RB (0)	1753.5	22	21.53	0	21.52	0
		1732.5	22	21.45	0	21.47	0
		1711.5	22	21.55	0	21.63	0
5 MHz	1RB High (24)	1752.5	22	21.47	0	21.86	0
		1732.5	22	21.25	0	21.55	0
		1712.5	22	21.43	0	21.74	0
	1RB Middle (12)	1752.5	22	21.44	0	21.77	0
		1732.5	22	21.36	0	21.76	0
		1712.5	22	21.54	0	21.86	0
	1RB Low (0)	1752.5	22	21.69	0	21.94	0
		1732.5	22	21.43	0	21.66	0
		1712.5	22	21.74	0	21.91	0
	12RB	1752.5	22	21.51	0	21.65	0

	High (13)	1732.5	22	21.36	0	21.52	0
		1712.5	22	21.49	0	21.64	0
	12RB Middle (6)	1752.5	22	21.51	0	21.63	0
		1732.5	22	21.44	0	21.53	0
		1712.5	22	21.48	0	21.63	0
	12RB Low (0)	1752.5	22	21.51	0	21.64	0
		1732.5	22	21.46	0	21.62	0
		1712.5	22	21.56	0	21.71	0
	25RB (0)	1752.5	22	21.53	0	21.55	0
		1732.5	22	21.34	0	21.46	0
		1712.5	22	21.49	0	21.54	0
10 MHz	1RB High (49)	1750	22	21.55	0	21.74	0
		1732.5	22	21.43	0	21.54	0
		1715	22	21.46	0	21.67	0
	1RB Middle (24)	1750	22	21.46	0	21.73	0
		1732.5	22	21.39	0	21.44	0
		1715	22	21.33	0	21.51	0
	1RB Low (0)	1750	22	21.54	0	21.74	0
		1732.5	22	21.53	0	21.55	0
		1715	22	21.45	0	21.63	0
	25RB High (25)	1750	22	21.49	0	21.52	0
		1732.5	22	21.35	0	21.37	0
		1715	22	21.42	0	21.43	0
	25RB Middle (12)	1750	22	21.45	0	21.53	0
		1732.5	22	21.42	0	21.43	0
		1715	22	21.37	0	21.40	0
	25RB Low (0)	1750	22	21.45	0	21.52	0
		1732.5	22	21.31	0	21.36	0
		1715	22	21.36	0	21.44	0
	50RB (0)	1750	22	21.51	0	21.55	0
		1732.5	22	21.44	0	21.42	0
		1715	22	21.46	0	21.47	0
15 MHz	1RB High (74)	1747.5	22	21.65	0	21.85	0
		1732.5	22	21.54	0	21.71	0
		1717.5	22	21.51	0	21.58	0
	1RB Middle (37)	1747.5	22	21.37	0	21.47	0
		1732.5	22	21.24	0	21.48	0
		1717.5	22	21.21	0	21.49	0
	1RB Low (0)	1747.5	22	21.58	0	21.71	0
		1732.5	22	21.53	0	21.55	0
		1717.5	22	21.58	0	21.74	0
	36RB High (38)	1747.5	22	21.49	0	21.55	0
		1732.5	22	21.26	0	21.36	0
		1717.5	22	21.45	0	21.42	0
	36RB Middle (19)	1747.5	22	21.47	0	21.57	0
		1732.5	22	21.33	0	21.34	0
		1717.5	22	21.45	0	21.54	0
	36RB	1747.5	22	21.49	0	21.50	0

	Low (0)	1732.5	22	21.32	0	21.35	0
		1717.5	22	21.40	0	21.45	0
	75RB (0)	1747.5	22	21.56	0	21.58	0
		1732.5	22	21.36	0	21.42	0
		1717.5	22	21.41	0	21.43	0
20 MHz	1RB High (99)	1745	22	21.43	0	21.53	0
		1732.5	22	21.33	0	21.26	0
		1720	22	21.13	0	21.36	0
	1RB Middle (50)	1745	22	21.42	0	21.52	0
		1732.5	22	21.28	0	21.53	0
		1720	22	21.32	0	21.55	0
	1RB Low (0)	1745	22	21.55	0	21.76	0
		1732.5	22	21.46	0	21.63	0
		1720	22	21.58	0	21.64	0
	50RB High (50)	1745	22	21.49	0	21.57	0
		1732.5	22	21.30	0	21.32	0
		1720	22	21.22	0	21.31	0
	50RB Middle (25)	1745	22	21.52	0	21.62	0
		1732.5	22	21.37	0	21.34	0
		1720	22	21.35	0	21.39	0
	50RB Low (0)	1745	22	21.48	0	21.48	0
		1732.5	22	21.26	0	21.32	0
		1720	22	21.38	0	21.44	0
	100RB (0)	1745	22	21.57	0	21.55	0
		1732.5	22	21.30	0	21.32	0
		1720	22	21.33	0	21.32	0
Band 7							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
5 MHz	1RB High (24)	2567.5	20	18.52	0	18.68	0
		2535	20	18.82	0	18.93	0
		2502.5	20	18.81	0	18.82	0
	1RB Middle (12)	2567.5	20	18.46	0	18.75	0
		2535	20	18.68	0	18.98	0
		2502.5	20	18.88	0	18.86	0
	1RB Low (0)	2567.5	20	18.57	0	18.84	0
		2535	20	18.77	0	19.00	0
		2502.5	20	18.81	0	18.91	0
	12RB High (13)	2567.5	20	18.42	0	18.52	0
		2535	20	18.58	0	18.75	0
		2502.5	20	18.74	0	18.82	0
	12RB Middle (6)	2567.5	20	18.40	0	18.56	0
		2535	20	18.60	0	18.76	0
		2502.5	20	18.67	0	18.78	0
	12RB	2567.5	20	18.47	0	18.59	0

	Low (0)	2535	20	18.60	0	18.73	0
		2502.5	20	18.76	0	18.93	0
	25RB (0)	2567.5	20	18.41	0	18.45	0
		2535	20	18.63	0	18.65	0
		2502.5	20	18.67	0	18.75	0
10 MHz	1RB High (49)	2565	20	18.64	0	18.63	0
		2535	20	18.84	0	18.95	0
		2505	20	18.84	0	18.95	0
	1RB Middle (24)	2565	20	18.49	0	18.57	0
		2535	20	18.59	0	18.76	0
		2505	20	18.70	0	18.86	0
	1RB Low (0)	2565	20	18.61	0	18.76	0
		2535	20	18.89	0	18.99	0
		2505	20	18.87	0	18.99	0
	25RB High (25)	2565	20	18.43	0	18.44	0
		2535	20	18.64	0	18.70	0
		2505	20	18.75	0	18.67	0
	25RB Middle (12)	2565	20	18.36	0	18.38	0
		2535	20	18.61	0	18.64	0
		2505	20	18.63	0	18.79	0
	25RB Low (0)	2565	20	18.43	0	18.45	0
		2535	20	18.54	0	18.59	0
		2505	20	18.72	0	18.76	0
	50RB (0)	2565	20	18.47	0	18.55	0
		2535	20	18.57	0	18.58	0
		2505	20	18.68	0	18.72	0
15 MHz	1RB High (74)	2562.5	20	19.34	0	19.60	0
		2535	20	19.75	0	19.88	0
		2507.5	20	19.73	0	19.92	0
	1RB Middle (37)	2562.5	20	19.26	0	19.36	0
		2535	20	19.66	0	19.70	0
		2507.5	20	19.68	0	19.76	0
	1RB Low (0)	2562.5	20	19.50	0	19.54	0
		2535	20	19.91	0	19.99	0
		2507.5	20	19.96	0	20.00	0
	36RB High (38)	2562.5	20	19.33	0	19.39	0
		2535	20	19.71	0	19.76	0
		2507.5	20	19.74	0	19.76	0
	36RB Middle (19)	2562.5	20	19.45	0	19.51	0
		2535	20	19.72	0	19.79	0
		2507.5	20	19.76	0	19.83	0
	36RB Low (0)	2562.5	20	19.42	0	19.47	0
		2535	20	19.69	0	19.75	0
		2507.5	20	19.85	0	19.79	0
	75RB (0)	2562.5	20	19.51	0	19.47	0
		2535	20	19.68	0	19.72	0
		2507.5	20	19.80	0	19.80	0
20 MHz	1RB High (99)	2560	20	19.61	0	19.58	0
		2535	20	19.82	0	19.96	0

	1RB Middle (50)	2510	20	19.84	0	19.90	0
		2560	20	19.35	0	19.54	0
		2535	20	19.70	0	19.89	0
	1RB Low (0)	2510	20	19.77	0	19.92	0
		2560	20	19.32	0	19.45	0
		2535	20	19.85	0	19.96	0
	50RB High (50)	2510	20	19.83	0	19.92	0
		2560	20	19.42	0	19.50	0
		2535	20	19.76	0	19.82	0
	50RB Middle (25)	2510	20	19.79	0	19.80	0
		2560	20	19.38	0	19.39	0
		2535	20	19.64	0	19.68	0
	50RB Low (0)	2510	20	19.72	0	19.68	0
		2560	20	19.41	0	19.41	0
		2535	20	19.71	0	19.76	0
	100RB (0)	2510	20	19.72	0	19.71	0
		2560	20	19.56	0	19.48	0
		2535	20	19.68	0	19.72	0
		2510	20	19.76	0	19.85	0

Band 30							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
5 MHz	1RB High (24)	2312.5	22	20.64	0	21.00	0
		2310	22	20.45	0	20.78	0
		2307.5	22	20.60	0	20.92	0
	1RB Middle (12)	2312.5	22	20.67	0	21.09	0
		2310	22	20.63	0	20.87	0
		2307.5	22	20.62	0	21.07	0
	1RB Low (0)	2312.5	22	20.84	0	21.18	0
		2310	22	20.85	0	20.87	0
		2307.5	22	20.78	0	20.94	0
	12RB High (13)	2312.5	22	20.65	0	20.80	0
		2310	22	20.67	0	20.81	0
		2307.5	22	20.58	0	20.76	0
	12RB Middle (6)	2312.5	22	20.73	0	20.82	0
		2310	22	20.66	0	20.80	0
		2307.5	22	20.69	0	20.83	0
	12RB Low (0)	2312.5	22	20.66	0	20.84	0
		2310	22	20.67	0	20.79	0
		2307.5	22	20.74	0	20.85	0
	25RB (0)	2312.5	22	20.67	0	20.72	0
		2310	22	20.73	0	20.88	0
		2307.5	22	20.64	0	20.57	0
10 MHz	1RB High (49)	2310	22	20.97	0	21.41	0

	1RB Middle (24)	2310	22	20.76	0	21.07	0
	1RB	2310	22	21.33	0	21.64	0
	25RB	2310	22	20.87	0	20.88	0
	25RB	2310	22	20.88	0	20.86	0
	25RB	2310	22	20.94	0	20.94	0
	50RB (0)	2310	22	21.06	0	20.91	0

Band 25							
Bandwidth (MHz)	RB allocation	Frequency (MHz)	Max. Target Power (dBm)	QPSK		16QAM	
	RB offset (Start RB)			Actual output power (dBm)	MPR	Actual output power (dBm)	MPR
1.4 MHz	1RB High (5)	1914.3	20	19.47	0	19.61	0
		1882.5	20	18.99	0	19.18	0
		1850.7	20	19.21	0	19.29	0
	1RB Middle (3)	1914.3	20	19.55	0	19.86	0
		1882.5	20	19.19	0	19.30	0
		1850.7	20	19.13	0	19.33	0
	1RB Low (0)	1914.3	20	19.48	0	19.77	0
		1882.5	20	19.18	0	19.27	0
		1850.7	20	19.19	0	19.22	0
	3RB High (3)	1914.3	20	19.37	0	19.55	0
		1882.5	20	18.95	0	19.10	0
		1850.7	20	19.12	0	19.22	0
	3RB Middle (1)	1914.3	20	19.43	0	19.50	0
		1882.5	20	19.08	0	19.17	0
		1850.7	20	19.24	0	19.33	0
	3RB Low (0)	1914.3	20	19.43	0	19.52	0
		1882.5	20	19.05	0	19.17	0
		1850.7	20	19.20	0	19.32	0
	6RB (0)	1914.3	20	19.51	0	19.71	0
		1882.5	20	19.09	0	19.29	0
		1850.7	20	19.31	0	19.49	0
3 MHz	1RB High (14)	1913.5	20	19.46	0	19.67	0
		1882.5	20	19.20	0	19.64	0
		1851.5	20	19.17	0	19.37	0
	1RB Middle (7)	1913.5	20	19.58	0	19.69	0
		1882.5	20	19.10	0	19.62	0
		1851.5	20	19.21	0	19.44	0
	1RB Low (0)	1913.5	20	19.58	0	19.69	0
		1882.5	20	19.14	0	19.65	0
		1851.5	20	19.28	0	19.48	0
	8RB High (7)	1913.5	20	19.48	0	19.69	0
		1882.5	20	19.02	0	19.21	0

	8RB Middle (4)	1851.5	20	19.18	0	19.32	0
		1913.5	20	19.75	0	19.67	0
		1882.5	20	19.12	0	19.28	0
		1851.5	20	19.25	0	19.34	0
	8RB Low (0)	1913.5	20	19.60	0	19.60	0
		1882.5	20	19.20	0	19.33	0
		1851.5	20	19.27	0	19.37	0
	15RB (0)	1913.5	20	19.41	0	19.67	0
		1882.5	20	19.14	0	19.22	0
		1851.5	20	19.24	0	19.28	0
5 MHz	1RB High (24)	1912.5	20	19.51	0	19.73	0
		1882.5	20	18.98	0	19.07	0
		1852.5	20	19.29	0	19.51	0
	1RB Middle (12)	1912.5	20	19.46	0	19.72	0
		1882.5	20	19.07	0	19.05	0
		1852.5	20	19.28	0	19.50	0
	1RB Low (0)	1912.5	20	19.40	0	19.74	0
		1882.5	20	19.25	0	19.16	0
		1852.5	20	19.44	0	19.75	0
	12RB High (13)	1912.5	20	19.57	0	19.72	0
		1882.5	20	19.11	0	19.15	0
		1852.5	20	19.28	0	19.39	0
	12RB Middle (6)	1912.5	20	19.42	0	19.43	0
		1882.5	20	19.17	0	19.28	0
		1852.5	20	19.24	0	19.30	0
	12RB Low (0)	1912.5	20	19.39	0	19.49	0
		1882.5	20	19.19	0	19.29	0
		1852.5	20	19.28	0	19.38	0
	25RB (0)	1912.5	20	19.54	0	19.45	0
		1882.5	20	19.21	0	19.24	0
		1852.5	20	19.24	0	19.27	0
10 MHz	1RB High (49)	1910	20	19.43	0	19.59	0
		1882.5	20	19.13	0	19.69	0
		1855	20	19.24	0	19.52	0
	1RB Middle (24)	1910	20	19.22	0	19.32	0
		1882.5	20	19.11	0	19.60	0
		1855	20	19.15	0	19.32	0
	1RB Low (0)	1910	20	19.30	0	19.39	0
		1882.5	20	19.19	0	19.76	0
		1855	20	19.32	0	19.50	0
	25RB High (25)	1910	20	19.40	0	19.59	0
		1882.5	20	19.08	0	19.10	0

	25RB Middle (12)	1855	20	19.19	0	19.21	0
		1910	20	19.29	0	19.31	0
		1882.5	20	19.13	0	19.18	0
		1855	20	19.22	0	19.22	0
	25RB Low (0)	1910	20	19.16	0	19.12	0
		1882.5	20	19.13	0	19.13	0
		1855	20	19.22	0	19.24	0
	50RB (0)	1910	20	19.30	0	19.30	0
		1882.5	20	19.10	0	19.12	0
		1855	20	19.15	0	19.17	0
15 MHz	1RB High (74)	1907.5	20	19.41	0	19.69	0
		1882.5	20	19.41	0	19.84	0
		1857.5	20	19.50	0	19.64	0
	1RB Middle (37)	1907.5	20	19.41	0	19.56	0
		1882.5	20	19.22	0	19.77	0
		1857.5	20	19.29	0	19.43	0
	1RB Low (0)	1907.5	20	19.57	0	19.74	0
		1882.5	20	19.37	0	19.82	0
		1857.5	20	19.38	0	19.57	0
	36RB High (38)	1907.5	20	19.43	0	19.42	0
		1882.5	20	19.37	0	19.35	0
		1857.5	20	19.32	0	19.28	0
	36RB Middle (19)	1907.5	20	19.55	0	19.58	0
		1882.5	20	19.39	0	19.40	0
		1857.5	20	19.37	0	19.35	0
	36RB Low (0)	1907.5	20	19.42	0	19.44	0
		1882.5	20	19.44	0	19.42	0
		1857.5	20	19.25	0	19.25	0
	75RB (0)	1907.5	20	19.48	0	19.49	0
		1882.5	20	19.38	0	19.33	0
		1857.5	20	19.27	0	19.26	0
20 MHz	1RB High (99)	1905	20	18.93	0	19.27	0
		1882.5	20	18.94	0	19.27	0
		1860	20	19.18	0	19.35	0
	1RB Middle (50)	1905	20	19.38	0	19.41	0
		1882.5	20	19.29	0	19.55	0
		1860	20	19.28	0	19.56	0
	1RB Low (0)	1905	20	19.36	0	19.51	0
		1882.5	20	19.23	0	19.60	0
		1860	20	19.16	0	19.52	0
	50RB High (50)	1905	20	19.34	0	19.39	0
		1882.5	20	19.23	0	19.25	0
		1860	20	19.31	0	19.32	0
	50RB Middle (25)	1905	20	19.55	0	19.56	0
		1882.5	20	19.40	0	19.41	0
		1860	20	19.34	0	19.37	0
	50RB Low (0)	1905	20	19.46	0	19.50	0
		1882.5	20	19.38	0	19.37	0
		1860	20	19.30	0	19.33	0
	100RB (0)	1905	20	19.47	0	19.50	0
		1882.5	20	19.22	0	19.32	0
		1860	20	19.30	0	19.32	0

The following conducted power measurement results of downlink LTE carrier aggregation are provided to quantify downlink only carrier aggregation SAR test exclusion per KDB 941225 D05A. Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

The conducted power measurement results of downlink LTE CA conducted power are as below
(Normal Power):

DL LTE CA Class	PCC								SCC			Power		
	PCC Band d	PCC Band Width (MHz)	PCC UL RB size	PCC UL RB offset	PCC DL RB size	PCC DL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC Band Width (MHz)	SCC DL Channel	Rel 8 LTE Tx Power (dBm)	Rel 10 DL LTE CA Tx Power (dBm)	Tune up
4A-4A	4	15	1	74	75	0	20325	2325	4	20	2050	23.79	23.41	24
5A-5A	5	10	1	25	50	0	20600	2600	5	10	2450	23.70	23.24	24
7C	7	15	1	0	75	0	20825	2825	7	15	2975	23.05	22.82	24
7B	7	15	1	0	75	0	20825	2825	7	5	2918	23.05	22.81	24
7A-7A	7	10	1	0	50	0	20800	2800	7	20	3350	23.27	22.44	24
2A-4A	2	15	1	74	75	0	19125	1125	4	20	2175	24.25	23.54	25
4A-2A	4	15	1	74	75	0	20325	2325	2	20	900	23.79	23.32	24
2A-5A	2	15	1	74	75	0	19125	1125	5	10	2525	24.25	23.42	25
5A-2A	5	10	1	25	50	0	20600	2600	2	20	900	23.70	23.28	24
2A-12A	2	15	1	74	75	0	19125	1125	12	10	5095	24.25	23.55	25
12A-2A	12	5	1	0	25	0	23035	5035	2	20	900	23.47	23.44	24
2A-13A	2	15	1	74	75	0	19125	1125	13	10	5230	24.25	23.58	25
13A-2A	13	10	1	24	50	0	23230	5230	2	20	900	23.40	23.36	24
2A-29A	2	15	1	74	75	0	19125	1125	29	10	9715	24.25	23.51	25
4A-5A	4	15	1	74	75	0	20325	2325	5	10	2525	23.79	23.33	24
5A-4A	5	10	1	25	50	0	20600	2600	4	20	2175	23.70	23.26	24
4A-7A	4	15	1	74	75	0	20325	2325	7	20	3100	23.79	23.35	24
7A-4A	7	10	1	0	50	0	20800	2800	4	20	2175	23.27	22.62	24
4A-12A	4	15	1	74	75	0	20325	2325	12	10	5095	23.79	23.37	24
12A-4A	12	5	1	0	25	0	23035	5035	4	20	2175	23.47	23.41	24
4A-13A	4	15	1	74	75	0	20325	2325	13	10	5230	23.79	23.32	24
13A-4A	13	10	1	24	50	0	23230	5230	4	20	2175	23.40	23.34	24
4A-29A	4	15	1	74	75	0	20325	2325	29	10	9715	23.79	23.34	24
5A-7A	5	10	1	25	50	0	20600	2600	7	20	3100	23.70	23.11	24
7A-5A	7	10	1	0	50	0	20800	2800	5	10	2525	23.27	22.41	24
2A-2A	2	15	1	74	75	0	19125	1125	2	20	900	24.25	23.57	25
2C	2	15	1	74	75	0	19125	1125	2	15	975	24.25	23.31	25
2A-30A	2	15	1	74	75	0	19125	1125	30	10	9820	24.25	23.75	25



30A-2A	30	10	1	49	50	0	27710	9820	2	20	900	24.00	23.26	24
4A-30A	4	15	1	74	75	0	20325	2325	30	10	9820	23.79	23.61	24
30A-4A	30	10	1	49	50	0	27710	9820	4	20	2175	24.00	23.32	24
5A-30A	5	10	1	25	50	0	20600	2600	30	10	9820	23.70	23.39	24
30A-5A	30	10	1	49	50	0	27710	9820	5	10	2525	24.00	23.30	24
12A-30A	12	5	1	0	25	0	23035	5035	30	10	9820	23.47	23.58	24
30A-12A	30	10	1	49	50	0	27710	9820	12	10	5095	24.00	23.41	24
25A-25A	25	15	1	0	75	0	26615	8615	25	20	8140	24.08	23.51	24.5
25A-26A	25	15	1	0	75	0	26615	8615	26	15	8865	24.08	23.75	24.5
26A-25A	26	1.4	1	1	3	0	26865	8865	25	20	8365	24.06	23.63	24.5
30A-29A	30	10	1	49	50	0	27710	9820	29	10	9715	24.00	23.42	24
41C	41	15	1	37	75	0	39725	2503.5	41	15	41512	23.85	23.56	24
41A-41A	41	15	1	37	75	0	39725	2503.5	41	20	41490	23.85	23.45	24

Note: Testing is not required in bands or modes not intended/allowed for US operation.

The conducted power measurement results of downlink LTE CA Conduted Power are as below
(Low Power):

DL LTE CA Class	PCC								SCC			Power		
	PCC Band d	PCC Band Width (MHz)	PCC UL RB size	PCC UL RB offset	PCC DL RB size	PCC DL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC Band Width (MHz)	SCC DL Channel	Rel 8 LTE Tx Power (dBm)	Rel 10 DL LTE CA Tx Power (dBm)	Tune up
4A-4A	4	5	1	0	25	0	19975	1975	4	20	2300	21.74	20.05	22
7C	7	15	1	0	75	0	20825	2825	7	15	2945	19.96	19.01	20
7B	7	15	1	0	75	0	20825	2825	7	5	2918	19.96	19.03	20
7A-7A	7	15	1	0	75	0	20825	2825	7	20	3350	19.96	18.98	20
2A-4A	2	15	1	74	75	0	19125	1125	4	20	2175	20.62	19.15	21
4A-2A	4	5	1	0	25	0	19975	1975	2	20	900	21.74	20.06	22
2A-5A	2	15	1	74	75	0	19125	1125	5	10	2525	20.62	19.21	21
2A-12A	2	15	1	74	75	0	19125	1125	12	10	5095	20.62	19.19	21
2A-13A	2	15	1	74	75	0	19125	1125	13	10	5230	20.62	19.11	21
2A-29A	2	15	1	74	75	0	19125	1125	29	10	9715	20.62	19.17	21
4A-5A	4	5	1	0	25	0	19975	1975	5	10	2525	21.74	20.13	22
4A-7A	4	5	1	0	25	0	19975	1975	7	20	3100	21.74	20.15	22
7A-4A	7	15	1	0	75	0	20825	2825	4	20	2175	19.96	19.06	20
4A-12A	4	5	1	0	25	0	19975	1975	12	10	5095	21.74	20.14	22
4A-13A	4	5	1	0	25	0	19975	1975	13	10	5230	21.74	20.16	22
4A-29A	4	5	1	0	25	0	19975	1975	29	10	9715	21.74	20.19	22
7A-5A	7	15	1	0	75	0	20825	2825	5	10	2525	19.96	19.01	20
30A-2A	30	10	1	0	50	0	27710	9820	2	20	900	21.33	20.46	22
30A-4A	30	10	1	0	50	0	27710	9820	4	20	2175	21.33	20.47	22
30A-5A	30	10	1	0	50	0	27710	9820	5	10	2525	21.33	20.59	22
30A-29A	30	10	1	0	50	0	27710	9820	29	10	9715	21.33	20.59	22

30A-12A	30	10	1	0	50	0	27710	9820	12	10	5095	21.33	20.61	22
25A-25A	25	15	1	0	75	0	26615	8615	25	20	8140	19.86	19.33	20
25A-26A	25	15	1	0	75	0	26615	8615	26	15	8865	19.86	19.4	20

Note: Testing is not required in bands or modes not intended/allowed for US operation.

11.4 CDMA Measurement result

Normal power

CDMA BC0	Conducted Power (dBm)			Tune up
	777 (848.31MHz)	384 (836.52MHz)	1013 (824.7MHz)	
SO55/RC3	24.33	24.41	24.33	25
SO55/RC1	24.17	24.21	24.32	25
SO32/RC3(FCH only)	24.15	24.02	24.32	25
SO32/RC3(FCH+SCH _n)	24.41	24.26	24.34	25
EVDO Rev.0	24.05	23.81	24.03	25
EVDO Rev.A	24.02	23.85	24.07	25
CDMA BC1	Conducted Power (dBm)			Tune up
	1175 (1908.75MHz)	600 (1880MHz)	25 (1851.25MHz)	
SO55/RC3	24.14	24.16	24.20	24.7
SO55/RC1	24.17	24.20	24.11	24.7
SO32/RC3(FCH only)	24.42	24.25	24.30	24.7
SO32/RC3(FCH+SCH _n)	24.04	24.20	24.10	24.7
EVDO Rev.0	23.88	24.07	23.93	24.7
EVDO Rev.A	23.80	23.98	23.89	24.7
CDMA BC10	Conducted Power (dBm)			Tune up
	684(823.10MHz)	580 (820.50MHz)	476(817.90MHz)	
SO55/RC3	24.40	24.22	24.50	25
SO55/RC1	24.20	24.13	24.43	25
SO32/RC3(FCH only)	24.17	24.24	24.22	25
SO32/RC3(FCH+SCH _n)	24.32	24.12	24.39	25
EVDO Rev.0	24.10	23.87	24.11	25
EVDO Rev.A	24.12	23.92	24.17	25

Lower power

CDMA BC1	Conducted Power (dBm)			Tune up
	1175 (1908.75MHz)	600 (1880MHz)	25 (1851.25MHz)	
SO55/RC3	19.31	19.44	19.03	20
SO55/RC1	19.10	19.50	19.05	20
SO32/RC3(FCH only)	19.64	19.53	19.51	20
SO32/RC3(FCH+SCH _n)	19.34	19.11	19.15	20
EVDO Rev.0	19.31	19.13	19.35	20
EVDO Rev.A	19.44	19.22	19.34	20

11.5 Wi-Fi and BT Measurement result

The output power of BT antenna is as following:

Mode	Conducted Power (dBm)			
	Channel 0 (2402MHz)	Channel 39 (2441MHz)	Channel 78(2480MHz)	Tune up
GFSK	7.96	8.69	7.78	9
EDR2M-4_DQPSK	7.78	8.52	7.65	9
EDR3M-8DPSK	7.00	7.72	6.91	8

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

802.11b (dBm)

Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
1	20.77	/	/	/
6	20.97	20.87	20.93	20.89
11	19.98	/	/	/
Tune up	21	21	21	21

802.11g (dBm)

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	19.68	/	/	/	/	/	/	/
6	19.81	19.78	19.76	19.75	19.71	18.46	17.60	16.58
11	18.95	/	/	/	/	/	/	/
Tune up	20	20	20	20	20	20	18	18

802.11n (dBm) - HT20 (2.4G)

Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
1	18.87	18.89	/	/	/	/	/	/
6	19.04	19.05	19.03	18.98	18.96	17.66	16.64	16.15
11	18.10	18.12	/	/	/	/	/	/
Tune up	20	20	20	20	20	18	18	18

802.11n (dBm) – HT40 (2.4G)

Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
3	19.50	19.46	19.45	19.38	19.35	17.89	16.90	16.28
6	19.43	/	/	/	/	/	/	/
9	19.24	/	/	/	/	/	/	/
Tune up	20	20	20	20	20	18	18	18

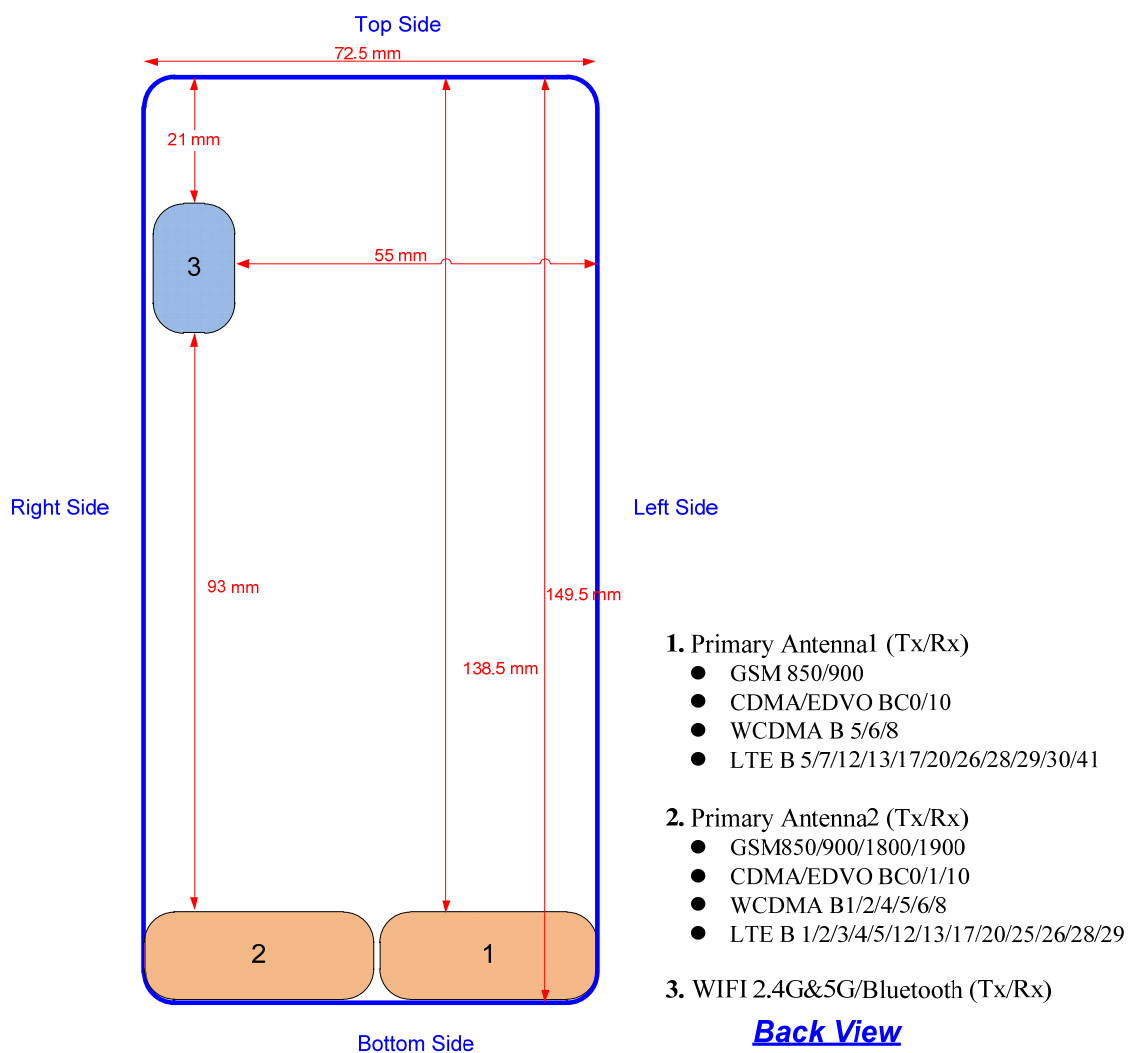
The Tune up and conducted power of Wi-Fi 5G are presented in section 14.5.

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	Top edge	Bottom edge
Primary antenna 1	Yes	Yes	Yes	Yes	No	Yes
Primary antenna 2	Yes	Yes	Yes	Yes	No	Yes
WLAN	Yes	Yes	No	Yes	Yes	No

12.4 Standalone SAR Test Exclusion Considerations

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

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0$$
 for 1-g SAR, where

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

Table 12.1: Standalone SAR test exclusion considerations

Band/Mode	F(GHz)	Position	SAR test exclusion threshold(mW)	RF output power		SAR test exclusion
				dBm	mW	
Bluetooth	2.441	Head	9.60	9	7.94	Yes
		Body	19.20	9	7.94	Yes
2.4GHz WLAN	2.45	Head	9.58	21	125.9	No
		Body	19.17	21	125.9	No

13 Evaluation of Simultaneous

Table 13.1: The sum of reported SAR values for main antenna and WiFi

	Position	Main antenna	WiFi	Sum
Highest reported SAR value for Head	Left hand, Touch cheek	0.47	0.29	0.76
	Right hand, Touch cheek	0.52	0.11	0.63
Highest reported SAR value for Body	Rear	0.88	0.59	1.47
	Bottom	1.31	/	1.31

Note1: we have evaluated and chose the highest value of both main antennae in the above table

Note2: we have evaluated and chose the highest value of WiFi 2.4G and 5G in the above table

Table 13.2: The sum of reported SAR values for main antenna and BT

	Position	Main antenna	BT	Sum
Maximum reported SAR value for Head	Right hand, Touch cheek	0.52	0.33 ^[1]	0.85
Maximum reported SAR value for Body	Rear	0.88	0.17 ^[1]	1.05
	Bottom	1.31	/	1.31

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

Table 13.3: Estimated SAR for Bluetooth

Mode/Band	F (GHz)	Position	Distance (mm)	Upper limit of power *		Estimated _{1g} (W/kg)
				dBm	mW	
Bluetooth	2.441	Head	5	9	7.94	0.33
Bluetooth	2.441	Body	10	9	7.94	0.17

* - Maximum possible output power declared by manufacturer

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation

distance,mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;

where x = 7.5 for 1-g SAR.

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

Conclusion:

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

14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom.

The distance is 10 mm and just applied to the condition of body worn accessory.

It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-gSAR 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:

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

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

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

There are two primary antennae in the EUT. Both antennae support GSM850, WCDMA850 and LTE Band5/12/13. So these bands are tested with antenna1 and antenna2 respectively.

Table 14.1: Duty Cycle

Mode	Duty Cycle
Speech for GSM850	1:2.67
Speech for GSM1900	1:4
GPRS&EGPRS for GSM850	1:2.67
GPRS&EGPRS for GSM1900	1:8.3
WCDMA<E FDD	1:1
LTE TDD	1:1.58
CDMA	1:1

14.1 The evaluation of multi-batteries

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

Table 14.1-1: The evaluation of multi-batteries for Head Test

Frequency		Mode/Band	Side	Test Position	Battery Type	SAR(1g)	Power Drift(dB)
MHz	Ch.					(W/kg)	
707.5	23095	LTE Band 12	Left	Touch	BAT-63108-003	0.139	0.04
707.5	23095	LTE Band 12	Left	Touch	TLp034E1	0.123	-0.16

Note: According to the values in the above table, the battery, BAT-63108-003, is the primary battery. We'll perform the head measurement with this battery and retest on highest value point with others.

Table 14.1-2: The evaluation of multi-batteries for Body Test

Frequency		Mode/Band	Test Position	Spacing (mm)	Battery Type	SAR(1g)	Power Drift(dB)
MHz	Ch.					(W/kg)	
707.5	23095	LTE Band 12	Left	10	BAT-63108-003	0.263	-0.07
707.5	23095	LTE Band 12	Left	10	TLp034E1	0.238	-0.08

Note: According to the values in the above table, the battery, BAT-63108-003, is the primary battery. We'll perform the body measurement with this battery and retest on highest value point with others.

14.2 SAR results for Fast SAR

Note:

B1: The battery of BAT-63108-003

B2: The battery of TLp034E1

H1: The headset of CCB0045A16C3

Table 14.2-1: SAR Values (GSM 850 MHz Band - Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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										
251	848.8	Left	Touch	Fig.1	28.98	30	0.265	0.34	0.369	0.47	0.02
190	836.6	Left	Touch	/	28.99	30	0.200	0.25	0.288	0.36	0.03
128	824.2	Left	Touch	/	28.97	30	0.150	0.19	0.209	0.26	-0.01
190	836.6	Left	Tilt	/	28.99	30	0.128	0.16	0.179	0.23	-0.04
190	836.6	Right	Touch	/	28.99	30	0.169	0.21	0.239	0.30	0.02
190	836.6	Right	Tilt	/	28.99	30	0.114	0.14	0.155	0.20	-0.03
251	848.8	Left	Touch	B2	28.98	30	0.249	0.31	0.331	0.42	0.03
251	848.8	Left	Touch	DTM	28.50	29	0.215	0.24	0.298	0.33	0.05

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

Table 14.2-2: SAR Values (GSM 850 MHz Band - Body) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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 (3)	Front	/	28.99	30	0.222	0.28	0.281	0.35	0.03
190	836.6	GPRS (3)	Rear	/	28.99	30	0.219	0.28	0.276	0.35	0.01
251	848.8	GPRS (3)	Left	Fig.2	28.98	30	0.312	0.39	0.455	0.58	-0.01
190	836.6	GPRS (3)	Left	/	28.99	30	0.247	0.31	0.341	0.43	0.08
128	824.2	GPRS (3)	Left	/	28.97	30	0.182	0.23	0.255	0.32	0.13
190	836.6	GPRS (3)	Right	/	28.99	30	0.178	0.22	0.245	0.31	0.02
190	836.6	GPRS (3)	Bottom	/	28.99	30	0.143	0.18	0.249	0.31	0.06
251	848.8	EGPRS (3)	Left	/	29.00	30	0.292	0.37	0.418	0.53	-0.08
251	848.8	GPRS (3)	Left	B2	28.98	30	0.308	0.39	0.449	0.57	0.14
251	848.8	DTM	Left	/	28.28	29	0.238	0.28	0.352	0.42	-0.03

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

Table 14.2-3: SAR Values (GSM 850 MHz Band - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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	Touch	/	28.99	30	0.173	0.22	0.228	0.29	0.05
190	836.6	Left	Tilt	/	28.99	30	0.101	0.13	0.127	0.16	-0.01
251	848.8	Right	Touch	Fig.3	28.98	30	0.238	0.30	0.316	0.40	-0.04
190	836.6	Right	Touch	/	28.99	30	0.207	0.26	0.272	0.34	0.08
128	824.2	Right	Touch	/	28.97	30	0.152	0.19	0.210	0.27	0.04
190	836.6	Right	Tilt	/	28.99	30	0.132	0.17	0.167	0.21	-0.02
251	848.8	Right	Touch	B2	28.98	30	0.218	0.28	0.286	0.36	0.17
251	848.8	Right	Touch	DTM	28.50	29	0.184	0.21	0.243	0.27	-0.09

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

Table 14.2-4: SAR Values (GSM 850 MHz Band - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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 (3)	Front	/	28.99	30	0.168	0.21	0.264	0.33	0.13
190	836.6	GPRS (3)	Rear	/	28.99	30	0.174	0.22	0.282	0.36	0.07
190	836.6	GPRS (3)	Left	/	28.99	30	0.124	0.16	0.178	0.22	0.06
251	848.8	GPRS (3)	Right	Fig.4	28.98	30	0.294	0.37	0.426	0.54	-0.13
190	836.6	GPRS (3)	Right	/	28.99	30	0.244	0.31	0.350	0.44	-0.06
128	824.2	GPRS (3)	Right	/	28.97	30	0.197	0.25	0.282	0.36	-0.01
190	836.6	GPRS (3)	Bottom	/	28.99	30	0.158	0.20	0.269	0.34	0.17
251	848.8	EGPRS (3)	Right	/	29.00	30	0.287	0.36	0.411	0.52	0.12
251	848.8	GPRS (3)	Right	B2	28.98	30	0.276	0.35	0.400	0.51	0.05
251	848.8	DTM	Right	/	28.28	29	0.286	0.34	0.414	0.49	0.08

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

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

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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										
661	1880	Left	Touch	/	28.25	29	0.080	0.10	0.121	0.14	0.04
661	1880	Left	Tilt	/	28.25	29	0.060	0.07	0.090	0.11	-0.01
810	1909.8	Right	Touch	/	28.38	29	0.091	0.10	0.145	0.17	-0.06
661	1880	Right	Touch	/	28.25	29	0.106	0.13	0.165	0.20	0.04
512	1850.2	Right	Touch	Fig.5	28.02	29	0.123	0.15	0.193	0.24	0.18
661	1880	Right	Tilt	/	28.25	29	0.046	0.05	0.067	0.08	-0.09
512	1850.2	Right	Touch	B2	28.02	29	0.111	0.14	0.177	0.22	0.03
512	1850.2	Right	Touch	DTM	25.05	26	0.115	0.14	0.190	0.24	0.11

Note: the head SAR of GSM1900 is tested with GPRS (2Txslots) mode because of VoIP.

Table 14.2-6: SAR Values (GSM 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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	/	29.09	30.5	0.273	0.38	0.509	0.70	0.06
661	1880	GPRS (1)	Rear	/	29.09	30.5	0.281	0.39	0.539	0.75	0.09
661	1880	GPRS (1)	Left	/	29.09	30.5	0.036	0.05	0.075	0.10	-0.06
661	1880	GPRS (1)	Right	/	29.09	30.5	0.076	0.10	0.123	0.17	0.11
810	1909.8	GPRS (1)	Bottom	/	29.14	30.5	0.458	0.63	0.859	1.18	0.17
661	1880	GPRS (1)	Bottom	Fig.6	29.09	30.5	0.466	0.64	0.875	1.21	0.19
512	1850.2	GPRS (1)	Bottom	/	28.86	30.5	0.377	0.55	0.760	1.11	-0.11
661	1880	EGPRS (1)	Bottom	/	29.38	30.5	0.439	0.57	0.852	1.10	0.12
661	1880	GPRS (1)	Bottom	B2	29.09	30.5	0.434	0.60	0.843	1.17	0.04
661	1880	Speech	Bottom	H1	29.44	30.5	0.449	0.57	0.851	1.09	0.09
661	1880	DTM	Bottom	/	24.12	25	0.438	0.54	0.859	1.05	0.13

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

Table 14.2-7: SAR Values (WCDMA 850 MHz Band - Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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										
4233	846.6	Left	Touch	/	23.50	24	0.171	0.19	0.247	0.28	-0.12
4182	836.4	Left	Touch	/	23.23	24	0.190	0.23	0.275	0.33	0.08
4132	826.4	Left	Touch	Fig.7	23.35	24	0.240	0.28	0.321	0.37	-0.03
4182	836.4	Left	Tilt	/	23.23	24	0.129	0.15	0.181	0.22	0.06
4182	836.4	Right	Touch	/	23.23	24	0.154	0.18	0.227	0.27	-0.18
4182	836.4	Right	Tilt	/	23.23	24	0.112	0.13	0.158	0.19	0.02
4132	826.4	Left	Touch	B2	23.35	24	0.142	0.16	0.206	0.24	0.08

Table 14.2-8: SAR Values (WCDMA 850 MHz Band - Body) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
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	/	23.23	24	0.184	0.22	0.252	0.30	0.09
4182	836.4	Rear	/	23.23	24	0.145	0.17	0.243	0.29	0.11
4233	846.6	Left	Fig.8	23.50	24	0.267	0.30	0.394	0.44	0.05
4182	836.4	Left	/	23.23	24	0.229	0.27	0.355	0.42	0.04
4132	826.4	Left	/	23.35	24	0.176	0.20	0.272	0.32	0.02
4182	836.4	Right	/	23.23	24	0.140	0.17	0.216	0.26	0.16
4182	836.4	Bottom	/	23.23	24	0.112	0.13	0.215	0.26	0.03
4233	846.6	Left	B2	23.50	24	0.265	0.30	0.386	0.43	0.19

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

Table 14.2-9: SAR Values (WCDMA 850 MHz Band - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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	Touch	/	23.23	24	0.179	0.21	0.249	0.30	-0.08
4182	836.4	Left	Tilt	/	23.23	24	0.122	0.15	0.164	0.20	0.03
4233	846.6	Right	Touch	/	23.50	24	0.207	0.23	0.282	0.32	-0.01
4182	836.4	Right	Touch	Fig.9	23.23	24	0.218	0.26	0.301	0.36	-0.01
4132	826.4	Right	Touch	/	23.35	24	0.185	0.21	0.260	0.30	-0.06
4182	836.4	Right	Tilt	/	23.23	24	0.141	0.17	0.184	0.22	0.06
4182	836.4	Right	Touch	B2	23.23	24	0.148	0.18	0.193	0.23	0.02

Table 14.2-10: SAR Values (WCDMA 850 MHz Band - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
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	/	23.23	24	0.169	0.20	0.211	0.25	0.09
4182	836.4	Rear	/	23.23	24	0.151	0.18	0.233	0.28	-0.01
4182	836.4	Left	/	23.23	24	0.086	0.10	0.121	0.15	0.06
4233	846.6	Right	Fig.10	23.50	24	0.206	0.23	0.300	0.34	-0.02
4182	836.4	Right	/	23.23	24	0.177	0.21	0.252	0.30	0.16
4132	826.4	Right	/	23.35	24	0.161	0.19	0.231	0.27	0.17
4182	836.4	Bottom	/	23.23	24	0.122	0.15	0.202	0.24	0.05
4233	846.6	Right	B2	23.50	24	0.190	0.21	0.266	0.30	0.07

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

Table 14.2-11: SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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										
1637	1732.4	Left	Touch	/	23.22	24	0.173	0.21	0.262	0.31	-0.04
1637	1732.4	Left	Tilt	/	23.22	24	0.100	0.12	0.152	0.18	0.07
1738	1752.6	Right	Touch	/	23.14	24	0.257	0.31	0.411	0.50	0.01
1637	1732.4	Right	Touch	/	23.22	24	0.271	0.32	0.419	0.50	-0.04
1537	1712.4	Right	Touch	Fig.11	23.22	24	0.276	0.33	0.431	0.52	-0.02
1637	1732.4	Right	Tilt	/	23.22	24	0.089	0.11	0.131	0.16	-0.02
1537	1712.4	Right	Touch	B2	23.22	24	0.255	0.31	0.389	0.47	-0.02

Table 14.2-12: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
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									
1738	1752.6	Front	/	20.91	21	0.411	0.42	0.819	0.84	0.04
1637	1732.4	Front	/	21.00	21	0.412	0.41	0.820	0.82	0.02
1537	1712.4	Front	/	20.95	21	0.380	0.38	0.754	0.76	-0.05
1738	1752.6	Rear	/	20.91	21	0.429	0.44	0.855	0.87	-0.19
1637	1732.4	Rear	/	21.00	21	0.444	0.44	0.881	0.88	0.07
1537	1712.4	Rear	/	20.95	21	0.404	0.41	0.807	0.82	0.03
1637	1732.4	Left	/	21.00	21	0.035	0.04	0.062	0.06	0.06
1637	1732.4	Right	/	21.00	21	0.174	0.17	0.320	0.32	0.16
1738	1752.6	Bottom	Fig.12	20.91	21	0.536	0.55	1.05	1.07	0.01
1637	1732.4	Bottom	/	21.00	21	0.468	0.47	0.942	0.94	0.01
1537	1712.4	Bottom	/	20.95	21	0.410	0.41	0.818	0.83	-0.02
1738	1752.6	Bottom	B2	20.91	21	0.332	0.34	0.652	0.67	-0.06

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

Table 14.2-13: SAR Values(WCDMA 1900 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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										
9800	1880	Left	Touch	/	23.72	24	0.103	0.11	0.144	0.15	0.03
9800	1880	Left	Tilt	/	23.72	24	0.070	0.07	0.100	0.11	-0.04
9938	1907.6	Right	Touch	/	23.93	24	0.131	0.13	0.188	0.19	0.01
9800	1880	Right	Touch	/	23.72	24	0.129	0.14	0.211	0.23	0.06
9662	1852.4	Right	Touch	Fig.13	23.76	24	0.183	0.19	0.269	0.28	0.05
9800	1880	Right	Tilt	/	23.72	24	0.070	0.07	0.102	0.11	0.03
9662	1852.4	Right	Touch	B2	23.76	24	0.101	0.11	0.187	0.20	0.09

Table 14.2-14: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
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									
9800	1880	Front	/	19.42	20	0.349	0.40	0.669	0.76	-0.04
9938	1907.6	Rear	/	19.61	20	0.405	0.44	0.766	0.84	0.05
9800	1880	Rear	/	19.42	20	0.397	0.45	0.751	0.86	0.01
9662	1852.4	Rear	/	19.59	20	0.389	0.43	0.742	0.82	-0.04
9800	1880	Left	/	19.42	20	0.027	0.03	0.040	0.05	-0.05
9800	1880	Right	/	19.42	20	0.085	0.10	0.147	0.17	0.09
9938	1907.6	Bottom	Fig.14	19.61	20	0.598	0.65	1.16	1.27	-0.02
9800	1880	Bottom	/	19.42	20	0.573	0.65	1.11	1.27	-0.11
9662	1852.4	Bottom	/	19.59	20	0.591	0.65	1.13	1.24	-0.02
9938	1907.6	Bottom	B2	19.61	20	0.372	0.41	0.705	0.77	-0.05
9938	1907.6	Bottom	H1	19.61	20	0.583	0.64	1.07	1.17	0.12

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

Table 14.2-15: SAR Values (LTE Band2 - 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											
19100	1900	1RB_Low	Left	Touch	/	24.12	25	0.064	0.08	0.096	0.12	0.03
19100	1900	1RB_Low	Left	Tilt	/	24.12	25	0.042	0.05	0.070	0.09	0.01
19100	1900	1RB_Low	Right	Touch	Fig.15	24.12	25	0.123	0.15	0.178	0.22	0.14
19100	1900	1RB_Low	Right	Tilt	/	24.12	25	0.049	0.06	0.080	0.10	0.08
19100	1900	50RB_Mid	Left	Touch	/	23.10	24	0.063	0.08	0.097	0.12	0.07
19100	1900	50RB_Mid	Left	Tilt	/	23.10	24	0.047	0.06	0.077	0.09	0.04
19100	1900	50RB_Mid	Right	Touch	/	23.10	24	0.088	0.11	0.145	0.18	0.19
19100	1900	50RB_Mid	Right	Tilt	/	23.10	24	0.053	0.06	0.084	0.10	0.01
19100	1900	1RB_Low	Right	Touch	B2	24.12	25	0.092	0.11	0.133	0.16	0.07

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-16: SAR Values (LTE Band2 - 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										
19100	1900	1RB_Low	Front	/	20.42	21	0.292	0.33	0.558	0.64	0.06
19100	1900	1RB_Low	Rear	/	20.42	21	0.367	0.42	0.679	0.78	-0.02
19100	1900	1RB_Low	Left	/	20.42	21	0.025	0.03	0.037	0.04	0.14
19100	1900	1RB_Low	Right	/	20.42	21	0.078	0.09	0.135	0.15	0.09
19100	1900	1RB_Low	Bottom	Fig.16	20.42	21	0.590	0.67	1.15	1.31	0.04
18900	1880	1RB_Low	Bottom	/	20.39	21	0.580	0.67	1.12	1.29	0.05
18700	1860	1RB_Low	Bottom	/	20.31	21	0.566	0.66	1.08	1.26	-0.02
19100	1900	50RB_Mid	Front	/	20.38	21	0.303	0.35	0.581	0.67	-0.08
19100	1900	50RB_Mid	Rear	/	20.38	21	0.357	0.41	0.663	0.76	0.11
19100	1900	50RB_Mid	Left	/	20.38	21	0.027	0.03	0.039	0.04	0.17
19100	1900	50RB_Mid	Right	/	20.38	21	0.082	0.09	0.142	0.16	0.03
19100	1900	50RB_Mid	Bottom	/	20.38	21	0.583	0.67	1.12	1.29	0.01
18900	1880	50RB_Mid	Bottom	/	20.36	21	0.575	0.67	1.11	1.29	0.09
18700	1860	50RB_Mid	Bottom	/	20.34	21	0.565	0.66	1.10	1.28	0.12
19100	1900	100RB	Bottom	/	20.43	21	0.339	0.39	0.650	0.74	0.14
19100	1900	1RB_Low	Bottom	B2	20.42	21	0.425	0.49	0.805	0.92	-0.06
19100	1900	1RB_Low	Bottom	H1	20.42	21	0.579	0.66	1.12	1.28	0.04

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-17: SAR Values(LTE Band4 - 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											
20300	1745	1RB_Low	Left	Touch	/	23.62	24	0.152	0.17	0.226	0.25	-0.01
20300	1745	1RB_Low	Left	Tilt	/	23.62	24	0.082	0.09	0.122	0.13	0.04
20300	1745	1RB_Low	Right	Touch	Fig.17	23.62	24	0.212	0.23	0.320	0.35	0.04
20300	1745	1RB_Low	Right	Tilt	/	23.62	24	0.079	0.09	0.114	0.12	-0.06
20300	1745	50RB_High	Left	Touch	/	22.61	23	0.123	0.13	0.177	0.19	0.01
20300	1745	50RB_High	Left	Tilt	/	22.61	23	0.069	0.08	0.102	0.11	-0.03
20300	1745	50RB_High	Right	Touch	/	22.61	23	0.204	0.22	0.312	0.34	-0.02
20300	1745	50RB_High	Right	Tilt	/	22.61	23	0.070	0.08	0.098	0.11	0.02
20300	1745	1RB_Low	Right	Touch	B2	23.62	24	0.137	0.15	0.210	0.23	-0.09

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-18: SAR Values (LTE Band4 - 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										
20050	1720	1RB_Low	Front	/	21.58	22	0.357	0.39	0.667	0.73	0.07
20050	1720	1RB_Low	Rear	/	21.58	22	0.396	0.44	0.714	0.79	0.12
20050	1720	1RB_Low	Left	/	21.58	22	0.027	0.03	0.044	0.05	-0.05
20050	1720	1RB_Low	Right	/	21.58	22	0.167	0.18	0.275	0.30	0.11
20300	1745	1RB_Low	Bottom	/	21.55	22	0.493	0.55	0.968	1.07	-0.14
20175	1732.5	1RB_Low	Bottom	/	21.46	22	0.505	0.57	0.994	1.13	0.04
20050	1720	1RB_Low	Bottom	/	21.58	22	0.509	0.56	0.959	1.06	0.03
20300	1745	50RB_Mid	Front	/	21.52	22	0.378	0.42	0.711	0.79	-0.06
20300	1745	50RB_Mid	Rear	/	21.52	22	0.411	0.46	0.743	0.83	0.08
20175	1732.5	50RB_Mid	Rear	/	21.37	22	0.419	0.48	0.744	0.86	0.09
20050	1720	50RB_Low	Rear	/	21.38	22	0.417	0.48	0.741	0.85	-0.02
20300	1745	50RB_Mid	Left	/	21.52	22	0.037	0.04	0.060	0.07	-0.13
20300	1745	50RB_Mid	Right	/	21.52	22	0.165	0.18	0.275	0.31	0.16
20300	1745	50RB_Mid	Bottom	/	21.52	22	0.512	0.57	0.977	1.09	0.14
20175	1732.5	50RB_Mid	Bottom	/	21.37	22	0.490	0.57	0.959	1.11	-0.07
20050	1720	50RB_Low	Bottom	/	21.38	22	0.511	0.59	0.974	1.12	0.07
20300	1745	100RB	Rear	/	21.57	22	0.445	0.49	0.790	0.87	-0.11
20300	1745	100RB	Bottom	Fig.18	21.57	22	0.524	0.58	1.03	1.14	0.08
20300	1745	100RB	Bottom	B2	21.57	22	0.421	0.46	0.832	0.92	-0.13

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-19: SAR Values (LTE Band5 - Head) – antenna1

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20450	829	1RB_High	Left	Touch	/	23.70	24	0.105	0.11	0.151	0.16	-0.09
20450	829	1RB_High	Left	Tilt	/	23.70	24	0.065	0.07	0.092	0.10	0.02
20450	829	1RB_High	Right	Touch	/	23.70	24	0.083	0.09	0.124	0.13	-0.10
20450	829	1RB_High	Right	Tilt	/	23.70	24	0.061	0.07	0.086	0.09	-0.09
20600	844	25RB_High	Left	Touch	Fig.19	22.62	23	0.167	0.18	0.224	0.24	0.16
20600	844	25RB_High	Left	Tilt	/	22.62	23	0.097	0.11	0.137	0.15	0.11
20600	844	25RB_High	Right	Touch	/	22.62	23	0.115	0.13	0.172	0.19	0.07
20600	844	25RB_High	Right	Tilt	/	22.62	23	0.097	0.11	0.138	0.15	0.12
20600	844	25RB_High	Left	Touch	B2	22.62	23	0.127	0.14	0.167	0.18	0.03

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-20: SAR Values (LTE Band5 - Body) – antenna1

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20450	829	1RB_High	Front	/	23.70	24	0.119	0.13	0.164	0.18	0.04
20450	829	1RB_High	Rear	/	23.70	24	0.118	0.13	0.162	0.17	0.02
20450	829	1RB_High	Left	/	23.70	24	0.146	0.16	0.210	0.23	0.04
20450	829	1RB_High	Right	/	23.70	24	0.079	0.08	0.123	0.13	0.08
20450	829	1RB_High	Bottom	/	23.70	24	0.064	0.07	0.120	0.13	-0.08
20600	844	25RB_High	Front	/	22.62	23	0.132	0.14	0.182	0.20	0.03
20600	844	25RB_High	Rear	/	22.62	23	0.139	0.15	0.192	0.21	0.12
20600	844	25RB_High	Left	Fig.20	22.62	23	0.187	0.20	0.276	0.30	0.02
20600	844	25RB_High	Right	/	22.62	23	0.108	0.12	0.169	0.18	0.01
20600	844	25RB_High	Bottom	/	22.62	23	0.086	0.09	0.158	0.17	0.06
20600	844	25RB_High	Left	B2	22.62	23	0.145	0.16	0.210	0.23	-0.06

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-21: SAR Values (LTE Band5 - Head) – antenna2

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20450	829	1RB_High	Left	Touch	Fig.21	23.70	24	0.159	0.17	0.209	0.22	0.05
20450	829	1RB_High	Left	Tilt	/	23.70	24	0.089	0.10	0.111	0.12	-0.01
20450	829	1RB_High	Right	Touch	/	23.70	24	0.107	0.11	0.139	0.15	0.02
20450	829	1RB_High	Right	Tilt	/	23.70	24	0.046	0.05	0.057	0.06	0.05
20600	844	25RB_High	Left	Touch	/	22.62	23	0.090	0.10	0.117	0.13	-0.08
20600	844	25RB_High	Left	Tilt	/	22.62	23	0.074	0.08	0.096	0.10	-0.02
20600	844	25RB_High	Right	Touch	/	22.62	23	0.089	0.10	0.116	0.13	-0.01
20600	844	25RB_High	Right	Tilt	/	22.62	23	0.035	0.04	0.044	0.05	0.06
20450	829	1RB_High	Left	Touch	B2	23.70	24	0.147	0.16	0.186	0.20	-0.04

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-22: SAR Values (LTE Band5 - Body) – antenna2

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20450	829	1RB_High	Front	/	23.70	24	0.115	0.12	0.172	0.18	0.08
20450	829	1RB_High	Rear	/	23.70	24	0.113	0.12	0.165	0.18	0.16
20450	829	1RB_High	Left	/	23.70	24	0.067	0.07	0.090	0.10	0.04
20450	829	1RB_High	Right	/	23.70	24	0.151	0.16	0.210	0.23	-0.04
20450	829	1RB_High	Bottom	Fig.22	23.70	24	0.177	0.19	0.297	0.32	0.04
20600	844	25RB_High	Front	/	22.62	23	0.103	0.11	0.158	0.17	0.11
20600	844	25RB_High	Rear	/	22.62	23	0.097	0.11	0.149	0.16	0.14
20600	844	25RB_High	Left	/	22.62	23	0.050	0.05	0.069	0.08	0.02
20600	844	25RB_High	Right	/	22.62	23	0.105	0.11	0.148	0.16	0.04
20600	844	25RB_High	Bottom	/	22.62	23	0.153	0.17	0.249	0.27	0.11
20450	829	1RB_High	Bottom	B2	23.70	24	0.163	0.17	0.269	0.29	0.14

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-23: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
21100	2535	1RB_Low	Left	Touch	/	23.03	24	0.039	0.05	0.073	0.09	0.12
21100	2535	1RB_Low	Left	Tilt	/	23.03	24	0.025	0.03	0.042	0.05	0.06
21100	2535	1RB_Low	Right	Touch	Fig.23	23.03	24	0.078	0.10	0.146	0.18	0.12
21100	2535	1RB_Low	Right	Tilt	/	23.03	24	0.023	0.03	0.040	0.05	0.02
20850	2510	50RB_Mid	Left	Touch	/	21.89	23	0.031	0.04	0.058	0.07	0.11
20850	2510	50RB_Mid	Left	Tilt	/	21.89	23	0.020	0.03	0.034	0.04	0.09
20850	2510	50RB_Mid	Right	Touch	/	21.89	23	0.054	0.07	0.105	0.14	0.06
20850	2510	50RB_Mid	Right	Tilt	/	21.89	23	0.015	0.02	0.025	0.03	0.02
21100	2535	1RB_Low	Right	Touch	B2	23.03	24	0.070	0.09	0.137	0.17	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-24: SAR Values (LTE Band7 - 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										
21100	2535	1RB_Low	Front	/	19.85	20	0.267	0.28	0.550	0.57	0.10
21100	2535	1RB_Low	Rear	/	19.85	20	0.218	0.23	0.475	0.49	0.08
21100	2535	1RB_Low	Left	/	19.85	20	0.058	0.06	0.108	0.11	0.13
21100	2535	1RB_Low	Right	/	19.85	20	0.035	0.04	0.063	0.06	0.06
21350	2560	1RB_High	Bottom	/	19.61	20	0.417	0.46	0.908	0.99	-0.04
21100	2535	1RB_Low	Bottom	Fig.18	19.85	20	0.502	0.52	1.08	1.12	-0.07
20850	2510	1RB_High	Bottom	/	19.84	20	0.492	0.51	1.06	1.10	0.01
20850	2510	50RB_High	Front	/	19.79	20	0.248	0.26	0.512	0.54	0.16
20850	2510	50RB_High	Rear	/	19.79	20	0.222	0.23	0.477	0.50	0.02
20850	2510	50RB_High	Left	/	19.79	20	0.057	0.06	0.107	0.11	0.08
20850	2510	50RB_High	Right	/	19.79	20	0.034	0.04	0.058	0.06	0.11
21350	2560	50RB_High	Bottom	/	19.42	20	0.427	0.49	0.934	1.07	-0.02
21100	2535	50RB_High	Bottom	/	19.76	20	0.485	0.51	1.04	1.10	-0.06
20850	2510	50RB_High	Bottom	/	19.79	20	0.492	0.52	1.05	1.10	0.09
20850	2510	100RB	Bottom	/	19.76	20	0.492	0.52	1.05	1.10	-0.01
21100	2535	1RB_Low	Bottom	B2	19.85	20	0.407	0.42	0.868	0.90	-0.07

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-25: SAR Values (LTE Band12 - Head) – antenna1

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											
23095	707.5	1RB_Mid	Left	Touch	Fig.25	23.30	24	0.109	0.13	0.139	0.16	0.04
23095	707.5	1RB_Mid	Left	Tilt	/	23.30	24	0.082	0.10	0.105	0.12	0.02
23095	707.5	1RB_Mid	Right	Touch	/	23.30	24	0.080	0.09	0.103	0.12	-0.06
23095	707.5	1RB_Mid	Right	Tilt	/	23.30	24	0.077	0.09	0.099	0.12	-0.03
23060	704	25RB_Mid	Left	Touch	/	22.32	23	0.081	0.09	0.105	0.12	-0.08
23060	704	25RB_Mid	Left	Tilt	/	22.32	23	0.067	0.08	0.084	0.10	0.07
23060	704	25RB_Mid	Right	Touch	/	22.32	23	0.071	0.08	0.092	0.11	0.09
23060	704	25RB_Mid	Right	Tilt	/	22.32	23	0.062	0.07	0.081	0.09	-0.12
23095	707.5	1RB_Mid	Left	Touch	B2	23.30	24	0.096	0.11	0.123	0.14	-0.16

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-26: SAR Values (LTE Band12 - Body) – antenna1

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										
23095	707.5	1RB_Mid	Front	/	23.30	24	0.134	0.16	0.170	0.20	0.04
23095	707.5	1RB_Mid	Rear	/	23.30	24	0.134	0.16	0.169	0.20	0.01
23095	707.5	1RB_Mid	Left	Fig.26	23.30	24	0.189	0.22	0.263	0.31	-0.07
23095	707.5	1RB_Mid	Right	/	23.30	24	0.096	0.11	0.135	0.16	0.07
23095	707.5	1RB_Mid	Bottom	/	23.30	24	0.059	0.07	0.101	0.12	0.04
23060	704	25RB_Mid	Front	/	22.32	23	0.120	0.14	0.151	0.18	-0.02
23060	704	25RB_Mid	Rear	/	22.32	23	0.125	0.15	0.157	0.18	0.12
23060	704	25RB_Mid	Left	/	22.32	23	0.157	0.18	0.219	0.26	0.04
23060	704	25RB_Mid	Right	/	22.32	23	0.082	0.10	0.116	0.14	0.08
23060	704	25RB_Mid	Bottom	/	22.32	23	0.050	0.06	0.086	0.10	-0.06
23095	707.5	1RB_Mid	Left	B2	23.30	24	0.164	0.19	0.238	0.28	-0.08

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-27: SAR Values (LTE Band12 - Head) – antenna2

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											
23095	707.5	1RB_Mid	Left	Touch	Fig.27	23.30	24	0.135	0.16	0.174	0.20	0.08
23095	707.5	1RB_Mid	Left	Tilt	/	23.30	24	0.095	0.11	0.150	0.18	-0.04
23095	707.5	1RB_Mid	Right	Touch	/	23.30	24	0.101	0.12	0.134	0.16	0.02
23095	707.5	1RB_Mid	Right	Tilt	/	23.30	24	0.068	0.08	0.088	0.10	0.04
23060	704	25RB_Mid	Left	Touch	/	22.32	23	0.092	0.11	0.142	0.17	0.01
23060	704	25RB_Mid	Left	Tilt	/	22.32	23	0.075	0.09	0.129	0.15	-0.07
23060	704	25RB_Mid	Right	Touch	/	22.32	23	0.082	0.10	0.107	0.13	0.05
23060	704	25RB_Mid	Right	Tilt	/	22.32	23	0.054	0.06	0.071	0.08	0.03
23095	707.5	1RB_Mid	Left	Touch	B2	23.30	24	0.099	0.12	0.127	0.15	0.08

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-28: SAR Values (LTE Band12 - Body) – antenna2

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										
23095	707.5	1RB_Mid	Front	/	23.30	24	0.090	0.11	0.132	0.15	0.18
23095	707.5	1RB_Mid	Rear	/	23.30	24	0.104	0.12	0.138	0.16	0.05
23095	707.5	1RB_Mid	Left	/	23.30	24	0.080	0.09	0.114	0.13	-0.03
23095	707.5	1RB_Mid	Right	Fig.28	23.30	24	0.189	0.22	0.266	0.31	0.18
23095	707.5	1RB_Mid	Bottom	/	23.30	24	0.065	0.08	0.110	0.13	-0.04
23060	704	25RB_Mid	Front	/	22.32	23	0.085	0.10	0.107	0.13	0.09
23060	704	25RB_Mid	Rear	/	22.32	23	0.083	0.10	0.104	0.12	0.11
23060	704	25RB_Mid	Left	/	22.32	23	0.064	0.07	0.091	0.11	0.06
23060	704	25RB_Mid	Right	/	22.32	23	0.138	0.16	0.196	0.23	-0.12
23060	704	25RB_Mid	Bottom	/	22.32	23	0.048	0.06	0.083	0.10	0.19
23095	707.5	1RB_Mid	Right	B2	23.30	24	0.167	0.20	0.234	0.27	0.06

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-29: SAR Values (LTE Band13 - Head) – antenna1

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											
23230	782	1RB_Mid	Left	Touch	Fig.29	23.40	24	0.161	0.18	0.210	0.24	0.15
23230	782	1RB_Mid	Left	Tilt	/	23.40	24	0.105	0.12	0.134	0.15	-0.04
23230	782	1RB_Mid	Right	Touch	/	23.40	24	0.113	0.13	0.151	0.17	0.05
23230	782	1RB_Mid	Right	Tilt	/	23.40	24	0.095	0.11	0.124	0.14	0.01
23230	782	25RB_Mid	Left	Touch	/	22.41	23	0.112	0.13	0.147	0.17	0.11
23230	782	25RB_Mid	Left	Tilt	/	22.41	23	0.086	0.10	0.108	0.12	0.06
23230	782	25RB_Mid	Right	Touch	/	22.41	23	0.095	0.11	0.127	0.15	-0.14
23230	782	25RB_Mid	Right	Tilt	/	22.41	23	0.085	0.10	0.107	0.12	-0.13
23230	782	1RB_Mid	Left	Touch	B2	23.40	24	0.143	0.16	0.189	0.22	0.18

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-30: SAR Values (LTE Band13 - Body) – antenna1

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										
23230	782	1RB_Mid	Front	/	23.40	24	0.192	0.22	0.243	0.28	0.04
23230	782	1RB_Mid	Rear	/	23.40	24	0.192	0.22	0.246	0.28	0.01
23230	782	1RB_Mid	Left	Fig.30	23.40	24	0.259	0.30	0.372	0.43	0.02
23230	782	1RB_Mid	Right	/	23.40	24	0.128	0.15	0.181	0.21	0.06
23230	782	1RB_Mid	Bottom	/	23.40	24	0.093	0.11	0.167	0.19	-0.09
23230	782	25RB_Mid	Front	/	22.41	23	0.177	0.20	0.226	0.26	0.14
23230	782	25RB_Mid	Rear	/	22.41	23	0.169	0.19	0.212	0.24	0.19
23230	782	25RB_Mid	Left	/	22.41	23	0.186	0.21	0.263	0.30	0.08
23230	782	25RB_Mid	Right	/	22.41	23	0.106	0.12	0.150	0.17	0.04
23230	782	25RB_Mid	Bottom	/	22.41	23	0.078	0.09	0.138	0.16	0.02
23230	782	1RB_Mid	Left	B2	23.40	24	0.209	0.24	0.298	0.34	-0.02

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-31: SAR Values (LTE Band13 - Head) – antenna2

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											
23230	782	1RB_Mid	Left	Touch	Fig.31	23.40	24	0.154	0.18	0.204	0.23	-0.09
23230	782	1RB_Mid	Left	Tilt	/	23.40	24	0.119	0.14	0.150	0.17	0.02
23230	782	1RB_Mid	Right	Touch	/	23.40	24	0.150	0.17	0.195	0.22	0.03
23230	782	1RB_Mid	Right	Tilt	/	23.40	24	0.086	0.10	0.109	0.13	0.07
23230	782	25RB_Mid	Left	Touch	/	22.41	23	0.123	0.14	0.161	0.18	0.08
23230	782	25RB_Mid	Left	Tilt	/	22.41	23	0.074	0.08	0.093	0.11	0.09
23230	782	25RB_Mid	Right	Touch	/	22.41	23	0.090	0.10	0.120	0.14	0.09
23230	782	25RB_Mid	Right	Tilt	/	22.41	23	0.071	0.08	0.091	0.10	0.05
23230	782	1RB_Mid	Left	Touch	B2	23.40	24	0.153	0.18	0.198	0.23	0.06

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-32: SAR Values (LTE Band13 - Body) – antenna2

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										
23230	782	1RB_Mid	Front	/	23.40	24	0.126	0.15	0.142	0.16	0.06
23230	782	1RB_Mid	Rear	/	23.40	24	0.121	0.14	0.136	0.16	0.10
23230	782	1RB_Mid	Left	/	23.40	24	0.088	0.10	0.112	0.13	-0.19
23230	782	1RB_Mid	Right	Fig.32	23.40	24	0.198	0.23	0.250	0.29	0.15
23230	782	1RB_Mid	Bottom	/	23.40	24	0.091	0.10	0.135	0.16	0.01
23230	782	25RB_Mid	Front	/	22.41	23	0.105	0.12	0.118	0.14	0.05
23230	782	25RB_Mid	Rear	/	22.41	23	0.101	0.12	0.115	0.13	-0.14
23230	782	25RB_Mid	Left	/	22.41	23	0.067	0.08	0.086	0.10	0.01
23230	782	25RB_Mid	Right	/	22.41	23	0.131	0.15	0.167	0.19	0.19
23230	782	25RB_Mid	Bottom	/	22.41	23	0.072	0.08	0.110	0.13	0.10
23230	782	1RB_Mid	Right	B2	23.40	24	0.158	0.18	0.199	0.23	0.06

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-33: SAR Values (LTE Band30 - 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											
27710	2310	1RB_High	Left	Touch	/	24.00	24	0.033	0.03	0.066	0.07	0.02
27710	2310	1RB_High	Left	Tilt	/	24.00	24	0.015	0.02	0.026	0.03	0.07
27710	2310	1RB_High	Right	Touch	Fig.33	24.00	24	0.071	0.07	0.131	0.13	0.11
27710	2310	1RB_High	Right	Tilt	/	24.00	24	0.021	0.02	0.037	0.04	-0.04
27710	2310	25RB_High	Left	Touch	/	22.70	23	0.029	0.03	0.057	0.06	0.18
27710	2310	25RB_High	Left	Tilt	/	22.70	23	0.012	0.01	0.020	0.02	0.19
27710	2310	25RB_High	Right	Touch	/	22.70	23	0.055	0.06	0.102	0.11	0.09
27710	2310	25RB_High	Right	Tilt	/	22.70	23	0.014	0.01	0.034	0.04	0.02
27710	2310	1RB_High	Right	Touch	B2	24.00	24	0.043	0.04	0.082	0.08	0.17

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-34: SAR Values (LTE Band30 - Body)

Ambient Temperature: 22.9℃						Liquid Temperature: 22.5℃					
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										
27710	2310	1RB_Low	Front	/	21.33	22	0.238	0.28	0.463	0.54	0.09
27710	2310	1RB_Low	Rear	/	21.33	22	0.258	0.30	0.515	0.60	0.10
27710	2310	1RB_Low	Left	/	21.33	22	0.065	0.08	0.108	0.13	0.04
27710	2310	1RB_Low	Right	/	21.33	22	0.034	0.04	0.055	0.06	0.02
27710	2310	1RB_Low	Bottom	Fig.34	21.33	22	0.508	0.59	1.04	1.21	-0.14
27710	2310	25RB_Low	Front	/	21.14	22	0.227	0.28	0.442	0.54	0.18
27710	2310	25RB_Low	Rear	/	21.14	22	0.241	0.29	0.482	0.59	0.12
27710	2310	25RB_Low	Left	/	21.14	22	0.062	0.08	0.105	0.13	-0.09
27710	2310	25RB_Low	Right	/	21.14	22	0.032	0.04	0.052	0.06	-0.01
27710	2310	25RB_Low	Bottom	/	21.14	22	0.477	0.58	0.980	1.19	0.06
27710	2310	50RB	Bottom	/	21.06	22	0.474	0.59	0.965	1.20	0.15
27710	2310	1RB_Low	Bottom	B2	21.33	22	0.474	0.55	0.957	1.12	0.02
27710	2310	1RB_Low	Bottom	H1	21.33	22	0.471	0.55	0.928	1.08	0.09

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-35: SAR Values (LTE Band41 - 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											
39750	2506	1RB_Mid	Left	Touch	/	23.43	24	0.020	0.02	0.038	0.04	0.04
39750	2506	1RB_Mid	Left	Tilt	/	23.43	24	0.012	0.01	0.020	0.02	0.11
39750	2506	1RB_Mid	Right	Touch	Fig.35	23.43	24	0.038	0.04	0.074	0.08	0.06
39750	2506	1RB_Mid	Right	Tilt	/	23.43	24	0.010	0.01	0.018	0.02	0.13
39750	2506	50RB_High	Left	Touch	/	22.65	23	0.014	0.02	0.027	0.03	0.11
39750	2506	50RB_High	Left	Tilt	/	22.65	23	0.009	0.01	0.015	0.02	0.09
39750	2506	50RB_High	Right	Touch	/	22.65	23	0.028	0.03	0.053	0.06	0.02
39750	2506	50RB_High	Right	Tilt	/	22.65	23	0.007	0.01	0.013	0.01	0.08
39750	2506	1RB_Mid	Right	Touch	B2	23.43	24	0.034	0.04	0.064	0.07	0.06

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-36: SAR Values (LTE Band41 - Body)

Ambient Temperature: 22.9℃						Liquid Temperature: 22.5℃					
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										
39750	2506	1RB_Mid	Front	/	23.43	24	0.209	0.24	0.417	0.48	0.06
39750	2506	1RB_Mid	Rear	/	23.43	24	0.196	0.22	0.391	0.45	0.12
39750	2506	1RB_Mid	Left	/	23.43	24	0.044	0.05	0.076	0.09	0.02
39750	2506	1RB_Mid	Right	/	23.43	24	0.028	0.03	0.049	0.06	0.09
41490	2680	1RB_Mid	Bottom	/	23.00	24	0.288	0.36	0.598	0.75	0.11
41055	2636.5	1RB_High	Bottom	/	22.86	24	0.340	0.44	0.704	0.92	0.14
40620	2593	1RB_High	Bottom	/	23.19	24	0.345	0.42	0.633	0.76	0.02
40185	2549.5	1RB_High	Bottom	/	23.39	24	0.347	0.40	0.776	0.89	0.10
39750	2506	1RB_Mid	Bottom	Fig.36	23.43	24	0.473	0.54	1.03	1.17	-0.09
39750	2506	50RB_High	Front	/	22.65	23	0.162	0.18	0.323	0.35	0.09
39750	2506	50RB_High	Rear	/	22.65	23	0.153	0.17	0.306	0.33	0.07
39750	2506	50RB_High	Left	/	22.65	23	0.038	0.04	0.065	0.07	-0.13
39750	2506	50RB_High	Right	/	22.65	23	0.022	0.02	0.039	0.04	0.04
39750	2506	50RB_High	Bottom	/	22.65	23	0.262	0.28	0.557	0.60	-0.08
39750	2506	100RB	Bottom	/	22.50	23	0.329	0.37	0.676	0.76	0.11
39750	2506	1RB_Mid	Bottom	B2	23.43	24	0.389	0.44	0.839	0.96	-0.08

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-37: SAR Values (LTE band25 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1905	26590	1RB_Mid	Left	Touch	/	23.92	24.5	0.062	0.07	0.090	0.10	-0.04
1905	26590	1RB_Mid	Left	Tilt	/	23.92	24.5	0.037	0.04	0.057	0.07	0.06
1905	26590	1RB_Mid	Right	Touch	/	23.92	24.5	0.081	0.09	0.118	0.13	0.01
1905	26590	1RB_Mid	Right	Tilt	/	23.92	24.5	0.043	0.05	0.066	0.08	-0.01
1905	26590	50RB_Mid	Left	Touch	/	23.02	23.5	0.058	0.06	0.086	0.10	-0.01
1905	26590	50RB_Mid	Left	Tilt	/	23.02	23.5	0.036	0.04	0.056	0.06	0.02
1905	26590	50RB_Mid	Right	Touch	Fig.37	23.02	23.5	0.084	0.09	0.128	0.14	0.08
1905	26590	50RB_Mid	Right	Tilt	/	23.02	23.5	0.014	0.02	0.061	0.07	0.06
1905	26590	50RB_Mid	Right	Touch	B2	23.02	23.5	0.056	0.06	0.089	0.10	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-38: SAR Values (LTE band25 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1905	26590	1RB_Mid	Front	/	19.38	20	0.321	0.37	0.618	0.71	0.04
1905	26590	1RB_Mid	Rear	/	19.38	20	0.359	0.41	0.678	0.78	-0.09
1905	26590	1RB_Mid	Left	/	19.38	20	0.032	0.04	0.051	0.06	0.11
1905	26590	1RB_Mid	Right	/	19.38	20	0.09	0.10	0.161	0.19	0.07
1905	26590	1RB_Mid	Bottom	/	19.38	20	0.49	0.56	0.943	1.09	-0.13
1882.5	26365	1RB_Mid	Bottom	/	19.29	20	0.468	0.55	0.897	1.06	0.08
1860	26140	1RB_Mid	Bottom	/	19.28	20	0.424	0.50	0.817	0.96	0.02
1905	26590	50RB_Mid	Front	/	19.55	20	0.301	0.33	0.584	0.65	0.18
1905	26590	50RB_Mid	Rear	/	19.55	20	0.355	0.39	0.67	0.74	-0.11
1905	26590	50RB_Mid	Left	/	19.55	20	0.033	0.04	0.052	0.06	0.14
1905	26590	50RB_Mid	Right	/	19.55	20	0.09	0.10	0.157	0.17	0.10
1905	26590	50RB_Mid	Bottom	Fig.38	19.55	20	0.52	0.58	1.00	1.11	-0.15
1882.5	26365	50RB_Mid	Bottom	/	19.40	20	0.435	0.50	0.838	0.96	0.07
1860	26140	50RB_Mid	Bottom	/	19.38	20	0.46	0.53	0.88	1.02	0.04
1905	26590	100RB	Bottom	/	19.47	20	0.391	0.44	0.783	0.88	0.12
1905	26590	50RB_Mid	Bottom	B2	19.55	20	0.466	0.52	0.889	0.99	0.06

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-39: SAR Values (LTE band26 - Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
822.5	26775	1RB_Mid	Left	Touch	Fig.39	23.92	24.5	0.192	0.22	0.268	0.31	0.01
822.5	26775	1RB_Mid	Left	Tilt	/	23.92	24.5	0.125	0.14	0.168	0.19	0.04
822.5	26775	1RB_Mid	Right	Touch	/	23.92	24.5	0.105	0.12	0.143	0.16	-0.09
822.5	26775	1RB_Mid	Right	Tilt	/	23.92	24.5	0.122	0.14	0.166	0.19	-0.01
822.5	26775	36RB_Mid	Left	Touch	/	22.75	23.5	0.151	0.18	0.212	0.25	0.05
822.5	26775	36RB_Mid	Left	Tilt	/	22.75	23.5	0.106	0.13	0.145	0.17	-0.02
822.5	26775	36RB_Mid	Right	Touch	/	22.75	23.5	0.085	0.10	0.114	0.14	-0.01
822.5	26775	36RB_Mid	Right	Tilt	/	22.75	23.5	0.104	0.12	0.143	0.17	-0.02
822.5	26775	1RB_Mid	Left	Touch	B2	23.92	24.5	0.172	0.20	0.249	0.28	0.01

Note1: The LTE mode is QPSK_15MHz.

Table 14.2-40: SAR Values (LTE band26 - Body) – antenna1

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
822.5	26775	1RB_Mid	Front	/	23.92	24.5	0.244	0.28	0.304	0.35	0.04
822.5	26775	1RB_Mid	Rear	/	23.92	24.5	0.195	0.22	0.297	0.34	0.11
822.5	26775	1RB_Mid	Left	Fig.40	23.92	24.5	0.311	0.36	0.45	0.51	-0.02
822.5	26775	1RB_Mid	Right	/	23.92	24.5	0.176	0.20	0.252	0.29	0.08
822.5	26775	1RB_Mid	Bottom	/	23.92	24.5	0.176	0.20	0.309	0.35	0.13
822.5	26775	36RB_Mid	Front	/	22.75	23.5	0.201	0.24	0.251	0.30	0.06
822.5	26775	36RB_Mid	Rear	/	22.75	23.5	0.155	0.18	0.237	0.28	-0.04
822.5	26775	36RB_Mid	Left	/	22.75	23.5	0.255	0.30	0.366	0.43	-0.07
822.5	26775	36RB_Mid	Right	/	22.75	23.5	0.144	0.17	0.206	0.24	0.01
822.5	26775	36RB_Mid	Bottom	/	22.75	23.5	0.148	0.18	0.259	0.31	0.16
822.5	26775	1RB_Mid	Left	B2	23.92	24.5	0.283	0.32	0.419	0.48	0.02

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.2-41: SAR Values (LTE band26 - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
822.5	26775	1RB_Mid	Left	Touch	/	23.92	24.5	0.139	0.16	0.179	0.20	-0.04
822.5	26775	1RB_Mid	Left	Tilt	/	23.92	24.5	0.090	0.10	0.113	0.13	0.08
822.5	26775	1RB_Mid	Right	Touch	Fig.41	23.92	24.5	0.179	0.20	0.234	0.27	-0.04
822.5	26775	1RB_Mid	Right	Tilt	/	23.92	24.5	0.108	0.12	0.138	0.16	0.03
822.5	26775	36RB_Mid	Left	Touch	/	22.75	23.5	0.117	0.14	0.151	0.18	0.07
822.5	26775	36RB_Mid	Left	Tilt	/	22.75	23.5	0.072	0.09	0.09	0.11	-0.07
822.5	26775	36RB_Mid	Right	Touch	/	22.75	23.5	0.139	0.17	0.181	0.22	0.01
822.5	26775	36RB_Mid	Right	Tilt	/	22.75	23.5	0.093	0.11	0.117	0.14	0.03
822.5	26775	1RB_Mid	Right	Touch	B2	23.92	24.5	0.164	0.19	0.214	0.24	0.02

Note1: The LTE mode is QPSK_15MHz.

Table 14.2-42: SAR Values (LTE band26 - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
822.5	26775	1RB_Mid	Front	/	23.92	24.5	0.149	0.17	0.232	0.27	0.08
822.5	26775	1RB_Mid	Rear	/	23.92	24.5	0.158	0.18	0.248	0.28	0.11
822.5	26775	1RB_Mid	Left	/	23.92	24.5	0.121	0.14	0.176	0.20	-0.02
822.5	26775	1RB_Mid	Right	Fig.42	23.92	24.5	0.257	0.29	0.372	0.43	0.03
822.5	26775	1RB_Mid	Bottom	/	23.92	24.5	0.204	0.23	0.351	0.40	0.09
822.5	26775	36RB_Mid	Front	/	22.75	23.5	0.121	0.14	0.188	0.22	0.16
822.5	26775	36RB_Mid	Rear	/	22.75	23.5	0.129	0.15	0.203	0.24	0.04
822.5	26775	36RB_Mid	Left	/	22.75	23.5	0.098	0.12	0.143	0.17	-0.04
822.5	26775	36RB_Mid	Right	/	22.75	23.5	0.192	0.23	0.283	0.34	0.04
822.5	26775	36RB_Mid	Bottom	/	22.75	23.5	0.175	0.21	0.265	0.31	0.11
822.5	26775	1RB_Mid	Right	B2	23.92	24.5	0.187	0.21	0.342	0.39	0.14

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.2-43: SAR Values (CDMA BC0- Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
848.31	777	Left	Touch	/	24.33	25	0.152	0.18	0.211	0.25	0.04
836.52	384	Left	Touch	/	24.41	25	0.163	0.19	0.226	0.26	-0.01
824.7	1013	Left	Touch	Fig.43	24.33	25	0.183	0.21	0.259	0.30	-0.02
836.52	384	Left	Tilt	/	24.41	25	0.116	0.13	0.155	0.18	0.08
836.52	384	Right	Touch	/	24.41	25	0.148	0.17	0.204	0.23	-0.01
836.52	384	Right	Tilt	/	24.41	25	0.109	0.12	0.146	0.17	-0.07
824.7	1013	Left	Touch	B2	24.33	25	0.169	0.20	0.235	0.27	0.05

Table 14.2-44: SAR Values (CDMA BC0 - Body) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
836.52	384	Front	/	24.02	25	0.258	0.32	0.339	0.42	0.07
836.52	384	Rear	/	24.02	25	0.271	0.34	0.354	0.44	0.11
848.31	777	Left	Fig.44	24.15	25	0.339	0.41	0.494	0.60	-0.05
836.52	384	Left	/	24.02	25	0.309	0.39	0.463	0.58	-0.04
824.7	1013	Left	/	24.32	25	0.301	0.35	0.448	0.52	0.18
836.52	384	Right	/	24.02	25	0.182	0.23	0.274	0.34	0.19
836.52	384	Bottom	/	24.02	25	0.195	0.24	0.345	0.43	0.09
848.31	777	Left	B2	24.15	25	0.296	0.36	0.443	0.54	0.02

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

Table 14.2-45: SAR Values (CDMA BC0 - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
836.52	384	Left	Touch	/	24.41	25	0.156	0.18	0.214	0.25	0.04
836.52	384	Left	Touch	/	24.41	25	0.113	0.13	0.151	0.17	0.03
848.31	777	Right	Touch	Fig.45	24.33	25	0.192	0.22	0.271	0.32	0.09
836.52	384	Right	Touch	/	24.41	25	0.175	0.20	0.246	0.28	-0.07
824.7	1013	Right	Touch	/	24.33	25	0.114	0.13	0.158	0.18	-0.02
836.52	384	Right	Tilt	/	24.41	25	0.107	0.12	0.147	0.17	0.01
848.31	777	Right	Touch	B2	24.33	25	0.161	0.19	0.223	0.26	-0.04

Table 14.2-46: SAR Values (CDMA BC0 - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
836.52	384	Front	/	24.02	25	0.165	0.21	0.255	0.32	0.06
836.52	384	Rear	/	24.02	25	0.187	0.23	0.301	0.38	0.12
836.52	384	Left	/	24.02	25	0.098	0.12	0.141	0.18	0.02
836.52	384	Right	/	24.02	25	0.206	0.26	0.299	0.37	0.09
848.31	777	Bottom	Fig.46	24.15	25	0.242	0.29	0.399	0.49	-0.11
836.52	384	Bottom	/	24.02	25	0.213	0.27	0.361	0.45	0.01
824.7	1013	Bottom	/	24.32	25	0.141	0.16	0.232	0.27	0.14
848.31	777	Bottom	B2	24.15	25	0.218	0.27	0.37	0.45	0.02

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

Table 14.2-47: SAR Values (CDMA BC1- Head)

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1880	600	Left	Touch	/	24.16	24.7	0.123	0.14	0.180	0.20	0.06
1880	600	Left	Tilt	/	24.16	24.7	0.085	0.10	0.131	0.15	-0.04
1908.75	1175	Right	Touch	/	24.14	24.7	0.208	0.24	0.314	0.36	-0.01
1880	600	Right	Touch	/	24.16	24.7	0.212	0.24	0.323	0.37	-0.01
1851.25	25	Right	Touch	Fig.47	24.20	24.7	0.240	0.27	0.369	0.41	0.03
1880	600	Right	Tilt	/	24.16	24.7	0.067	0.08	0.099	0.11	0.07
1851.25	25	Right	Touch	B2	24.20	24.7	0.228	0.26	0.331	0.37	0.04

Table 14.2-48: SAR Values (CDMA BC1- Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
1880	600	Front	/	19.53	20	0.314	0.35	0.58	0.65	0.08
1880	600	Rear	/	19.53	20	0.34	0.38	0.606	0.68	0.02
1880	600	Left	/	19.53	20	0.024	0.03	0.038	0.04	0.09
1880	600	Right	/	19.53	20	0.118	0.13	0.201	0.22	-0.03
1908.75	1175	Bottom	Fig.48	19.64	20	0.528	0.57	1.01	1.10	0.04
1880	600	Bottom	/	19.53	20	0.463	0.52	0.881	0.98	0.06
1851.25	25	Bottom	/	19.51	20	0.38	0.43	0.726	0.81	-0.09
1908.75	1175	Bottom	B2	19.64	20	0.508	0.55	0.889	0.97	0.01

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

Table 14.2-49: SAR Values (CDMA BC10- Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
823.1	684	Left	Touch	Fig.49	24.40	25	0.21	0.24	0.294	0.34	0.12
820.5	580	Left	Touch	/	24.22	25	0.206	0.25	0.278	0.33	0.05
817.9	476	Left	Touch	/	24.50	25	0.199	0.22	0.278	0.31	-0.03
820.5	580	Left	Tilt	/	24.22	25	0.177	0.21	0.243	0.29	-0.06
820.5	580	Right	Touch	/	24.22	25	0.154	0.18	0.220	0.26	-0.01
820.5	580	Right	Tilt	/	24.22	25	0.164	0.20	0.222	0.27	0.04
823.1	684	Left	Touch	B2	24.40	25	0.184	0.21	0.263	0.30	-0.01

Table 14.2-50: SAR Values (CDMA BC10 - Body) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
820.5	580	Front	/	24.24	25	0.273	0.33	0.344	0.41	0.18
820.5	580	Rear	/	24.24	25	0.281	0.33	0.352	0.42	0.12
823.1	684	Left	/	24.17	25	0.328	0.40	0.477	0.58	-0.09
820.5	580	Left	/	24.24	25	0.328	0.39	0.474	0.56	-0.01
817.9	476	Left	Fig.50	24.22	25	0.362	0.43	0.523	0.63	-0.06
820.5	580	Right	/	24.24	25	0.206	0.25	0.298	0.35	0.09
820.5	580	Bottom	/	24.24	25	0.231	0.28	0.389	0.46	0.15
817.9	476	Left	B2	24.22	25	0.349	0.42	0.494	0.59	0.02

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

Table 14.2-51: SAR Values (CDMA BC10 - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
823.1	684	Left	Touch	/	24.40	25	0.058	0.07	0.083	0.10	-0.07
820.5	580	Left	Touch	Fig.51	24.22	25	0.081	0.10	0.115	0.14	0.1
817.9	476	Left	Touch	/	24.50	25	0.069	0.08	0.097	0.11	0.04
820.5	580	Left	Tilt	/	24.22	25	0.069	0.08	0.095	0.11	-0.09
820.5	580	Right	Touch	/	24.22	25	0.077	0.09	0.108	0.13	-0.08
820.5	580	Right	Tilt	/	24.22	25	0.052	0.06	0.073	0.09	0.04
820.5	580	Left	Touch	B2	24.22	25	0.055	0.07	0.079	0.09	-0.07

Table 14.2-52: SAR Values (CDMA BC10 - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
820.5	580	Front	/	24.24	25	0.102	0.12	0.127	0.15	0.14
820.5	580	Rear	/	24.24	25	0.091	0.11	0.146	0.17	0.02
820.5	580	Left	/	24.24	25	0.052	0.06	0.072	0.09	0.10
820.5	580	Right	/	24.24	25	0.097	0.12	0.135	0.16	-0.09
823.1	684	Bottom	Fig.52	24.17	25	0.101	0.12	0.169	0.20	-0.03
820.5	580	Bottom	/	24.24	25	0.101	0.12	0.160	0.19	-0.16
817.9	476	Bottom	/	24.22	25	0.099	0.12	0.161	0.19	-0.06
823.1	684	Bottom	B2	24.17	25	0.096	0.12	0.161	0.19	0.09

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

14.3 SAR results for Standard procedure

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

Table 14.3-1: SAR Values (GSM 850 MHz Band - Head) – antenna1

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C											
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										
251	848.8	Left	Touch	Fig.1	28.98	30	0.265	0.34	0.369	0.47	0.02

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

Table 14.3-2: SAR Values (GSM 850 MHz Band - Body) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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										
251	848.8	GPRS (3)	Left	Fig.2	28.98	30	0.312	0.39	0.455	0.58	-0.01

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

Table 14.3-3: SAR Values (GSM 850 MHz Band - Head) – antenna2

Ambient Temperature: 22.9 °C												Liquid Temperature: 22.5°C			
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														
251	848.8	Right	Touch	Fig.3	28.98	30	0.238	0.30	0.316	0.40	-0.04				

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

Table 14.3-4: SAR Values (GSM 850 MHz Band - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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										
251	848.8	GPRS (3)	Right	Fig.4	28.98	30	0.294	0.37	0.426	0.54	-0.13

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

Table 14.3-5: SAR Values (GSM 1900 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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										
512	1850.2	Right	Touch	Fig.5	28.02	29	0.123	0.15	0.193	0.24	0.18

Note: the head SAR of GSM1900 is tested with GPRS (2Txslots) mode because of VoIP.

Table 14.3-6: SAR Values (GSM 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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)	Bottom	Fig.6	29.09	30.5	0.466	0.64	0.875	1.21	0.19

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

Table 14.3-7: SAR Values (WCDMA 850 MHz Band - Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
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										
4132	826.4	Left	Touch	Fig.7	23.35	24	0.240	0.28	0.321	0.37	-0.03

Table 14.3-8: SAR Values (WCDMA 850 MHz Band - Body) – antenna1

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No./N ote	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
4233	846.6	Left	Fig.8	23.50	24	0.267	0.30	0.394	0.44	0.05

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

Table 14.3-9: SAR Values (WCDMA 850 MHz Band - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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	Right	Touch	Fig.9	23.23	24	0.218	0.26	0.301	0.36	-0.01

Table 14.3-10: SAR Values (WCDMA 850 MHz Band - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
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									
4233	846.6	Right	Fig.10	23.50	24	0.206	0.23	0.300	0.34	-0.02

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

Table 14.3-11: SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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										
1537	1712.4	Right	Touch	Fig.11	23.22	24	0.276	0.33	0.431	0.52	-0.02

Table 14.3-12: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
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									
1738	1752.6	Bottom	Fig.12	20.91	21	0.536	0.55	1.05	1.07	0.01

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

Table 14.3-13: SAR Values(WCDMA 1900 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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										
9662	1852.4	Right	Touch	Fig.13	23.76	24	0.183	0.19	0.269	0.28	0.05

Table 14.3-14: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
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									
9938	1907.6	Bottom	Fig.14	19.61	20	0.598	0.65	1.16	1.27	-0.02

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

Table 14.3-15: SAR Values (LTE Band2 - 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											
19100	1900	1RB_Low	Right	Touch	Fig.15	24.12	25	0.123	0.15	0.178	0.22	0.14

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-16: SAR Values (LTE Band2 - 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										
19100	1900	1RB_Low	Bottom	Fig.16	20.42	21	0.590	0.67	1.15	1.31	0.04

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-17: SAR Values(LTE Band4 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed 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)	Powe r Drift (dB)
Ch.	MHz											
20300	1745	1RB_Low	Right	Touch	Fig.17	23.62	24	0.212	0.23	0.320	0.35	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-18: SAR Values (LTE Band4 - 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										
20300	1745	100RB	Bottom	Fig.18	21.57	22	0.524	0.58	1.03	1.14	0.08

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-19: SAR Values (LTE Band5 - Head) – antenna1

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20600	844	25RB_High	Left	Touch	Fig.19	22.62	23	0.167	0.18	0.224	0.24	0.16

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-20: SAR Values (LTE Band5 - Body) – antenna1

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20600	844	25RB_High	Left	Fig.20	22.62	23	0.187	0.20	0.276	0.30	0.02

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-21: SAR Values (LTE Band5 - Head) – antenna2

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C												
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20450	829	1RB_High	Left	Touch	Fig.21	23.70	24	0.159	0.17	0.209	0.22	0.05

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-22: SAR Values (LTE Band5 - Body) – antenna2

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20450	829	1RB_High	Bottom	Fig.22	23.70	24	0.177	0.19	0.297	0.32	0.04

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-23: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
21100	2535	1RB_Low	Right	Touch	Fig.23	23.03	24	0.078	0.10	0.146	0.18	0.12

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-24: SAR Values (LTE Band7 - 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										
21100	2535	1RB_Low	Bottom	Fig.18	19.85	20	0.502	0.52	1.08	1.12	-0.07

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-25: SAR Values (LTE Band12 - Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23095	707.5	1RB_Mid	Left	Touch	Fig.25	23.30	24	0.109	0.13	0.139	0.16	0.04

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-26: SAR Values (LTE Band12 - Body) – antenna1

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										
23095	707.5	1RB_Mid	Left	Fig.26	23.30	24	0.189	0.22	0.263	0.31	-0.07

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-27: SAR Values (LTE Band12 - Head) – antenna2

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											
23095	707.5	1RB_Mid	Left	Touch	Fig.27	23.30	24	0.135	0.16	0.174	0.20	0.08

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-28: SAR Values (LTE Band12 - Body) – antenna1

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										
23095	707.5	1RB_Mid	Right	Fig.28	23.30	24	0.189	0.22	0.266	0.31	0.18

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-29: SAR Values (LTE Band13 - Head) – antenna1

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											
23230	782	1RB_Mid	Left	Touch	Fig.29	23.40	24	0.161	0.18	0.210	0.24	0.15

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-30: SAR Values (LTE Band13 - Body) – antenna1

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										
23230	782	1RB_Mid	Left	Fig.30	23.40	24	0.259	0.30	0.372	0.43	0.02

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-31: SAR Values (LTE Band13 - Head) – antenna2

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											
23230	782	1RB_Mid	Left	Touch	Fig.31	23.40	24	0.154	0.18	0.204	0.23	-0.09

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-32: SAR Values (LTE Band13 - Body) – antenna2

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										
23230	782	1RB_Mid	Right	Fig.32	23.40	24	0.198	0.23	0.250	0.29	0.15

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-33: SAR Values (LTE Band30 - 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											
27710	2310	1RB_High	Right	Touch	Fig.33	24.00	24	0.071	0.07	0.131	0.13	0.11

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-34: SAR Values (LTE Band30 - 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										
27710	2310	1RB_Low	Bottom	Fig.34	21.33	22	0.508	0.59	1.04	1.21	-0.14

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-35: SAR Values (LTE Band41 - 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											
39750	2506	1RB_Mid	Right	Touch	Fig.35	23.43	24	0.038	0.04	0.074	0.08	0.06

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-36: SAR Values (LTE Band41 - 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										
39750	2506	1RB_Mid	Bottom	Fig.36	23.43	24	0.473	0.54	1.03	1.17	-0.09

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-37: SAR Values (LTE band25 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1905	26590	50RB_Mid	Right	Touch	Fig.37	23.02	23.5	0.084	0.09	0.128	0.14	0.08

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-38: SAR Values (LTE band25 - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5 °C											
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1905	26590	50RB_Mid	Bottom	Fig.38	19.55	20	0.52	0.58	1.00	1.11	-0.15

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-39: SAR Values (LTE band26 - Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
822.5	26775	1RB_Mid	Left	Touch	Fig.39	23.92	24.5	0.192	0.22	0.268	0.31	0.01

Note1: The LTE mode is QPSK_15MHz.

Table 14.3-40: SAR Values (LTE band26 - Body) – antenna1

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
822.5	26775	1RB_Mid	Left	Fig.40	23.92	24.5	0.311	0.36	0.45	0.51	-0.02

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.3-41: SAR Values (LTE band26 - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
822.5	26775	1RB_Mid	Right	Touch	Fig.41	23.92	24.5	0.179	0.20	0.234	0.27	-0.04

Note1: The LTE mode is QPSK_15MHz.

Table 14.3-42: SAR Values (LTE band26 - Body) – antenna2

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
822.5	26775	1RB_Mid	Right	Fig.42	23.92	24.5	0.257	0.29	0.372	0.43	0.03

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.3-43: SAR Values (CDMA BC0- Head) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
824.7	1013	Left	Touch	Fig.43	24.33	25	0.183	0.21	0.259	0.30	-0.02

Table 14.3-44: SAR Values (CDMA BC0 - Body) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
848.31	777	Left	Fig.44	24.15	25	0.339	0.41	0.494	0.60	-0.05

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

Table 14.3-45: SAR Values (CDMA BC0 - Head) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
824.7	1013	Left	Touch	Fig.45	24.33	25	0.192	0.22	0.271	0.32	0.09

Table 14.3-46: SAR Values (CDMA BC0 - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
848.31	777	Bottom	Fig.46	24.15	25	0.242	0.29	0.399	0.49	-0.11

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

Table 14.3-47: SAR Values (CDMA BC1- Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1880	600	Right	Touch	Fig.47	24.16	24.7	0.212	0.24	0.323	0.37	-0.01

Table 14.3-48: SAR Values (CDMA BC1- Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
1908.75	1175	Bottom	Fig.48	19.64	20	0.528	0.57	1.01	1.10	0.04

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

Table 14.3-49: SAR Values (CDMA BC10- Head) – antenna1

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
823.1	684	Left	Touch	Fig.49	24.40	25	0.21	0.24	0.294	0.34	0.12

Table 14.3-50: SAR Values (CDMA BC10 - Body) – antenna1

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
817.9	476	Left	Fig.50	24.22	25	0.362	0.43	0.523	0.63	-0.06

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

Table 14.3-51: SAR Values (CDMA BC10 - Head) – antenna2

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
820.5	580	Left	Touch	Fig.51	24.22	25	0.081	0.10	0.115	0.14	0.1

Table 14.3-52: SAR Values (CDMA BC10 - Body) – antenna2

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
823.1	684	Bottom	Fig.52	24.17	25	0.101	0.12	0.169	0.20	-0.03

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

14.4 WLAN Evaluation

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

Head Evaluation

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

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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	Touch	/	20.97	21	0.122	0.12	0.234	0.24	0.09
2437	6	Left	Tilt	/	20.97	21	0.050	0.05	0.094	0.09	0.05
2437	6	Right	Touch	/	20.97	21	0.059	0.06	0.114	0.11	0.07
2437	6	Right	Tilt	/	20.97	21	0.039	0.04	0.084	0.08	0.04
2437	6	Left	Touch	B2	20.97	21	0.085	0.09	0.157	0.16	0.01

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

Table 14.4-2: SAR Values (WLAN - Head)– 802.11b 1Mbps (Full SAR)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
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	Touch	Fig.53	20.97	21	0.138	0.14	0.285	0.29	0.09

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 $\leq$ 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 $\leq$ 1.2 W/kg or all required channels are tested.

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

Table 14.4-3: SAR Values (WLAN - Head) – 802.11b 1Mbps (Scaled Reported SAR)

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C		
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	Touch	98.75%	100%	0.29	0.29
2437	6	Right	Touch	98.75%	100%	0.11	0.11

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

Body Evaluation

Table 14.4-4: SAR Values(WLAN - Body)– 802.11b 1Mbps (Fast SAR)

Ambient Temperature: 22.9°C						Liquid Temperature: 22.5°C				
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	/	20.97	21	0.020	0.02	0.036	0.04	0.00
2437	6	Rear	/	20.97	21	0.209	0.21	0.431	0.43	0.13
2437	6	Right	/	20.97	21	0.064	0.06	0.122	0.12	-0.11
2437	6	Top	/	20.97	21	0.017	0.02	0.029	0.03	0.11
2437	6	Rear	B2	20.97	21	0.112	0.11	0.240	0.24	0.13

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

Table 14.4-5: SAR Values(WLAN - Body)– 802.11b 1Mbps (Full SAR)

Ambient Temperature: 22.9°C					Liquid Temperature: 22.5°C					
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	Fig.54	20.97	21	0.246	0.25	0.548	0.55	0.13
2437	6	Right	/	20.97	21	0.069	0.07	0.133	0.13	-0.11

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

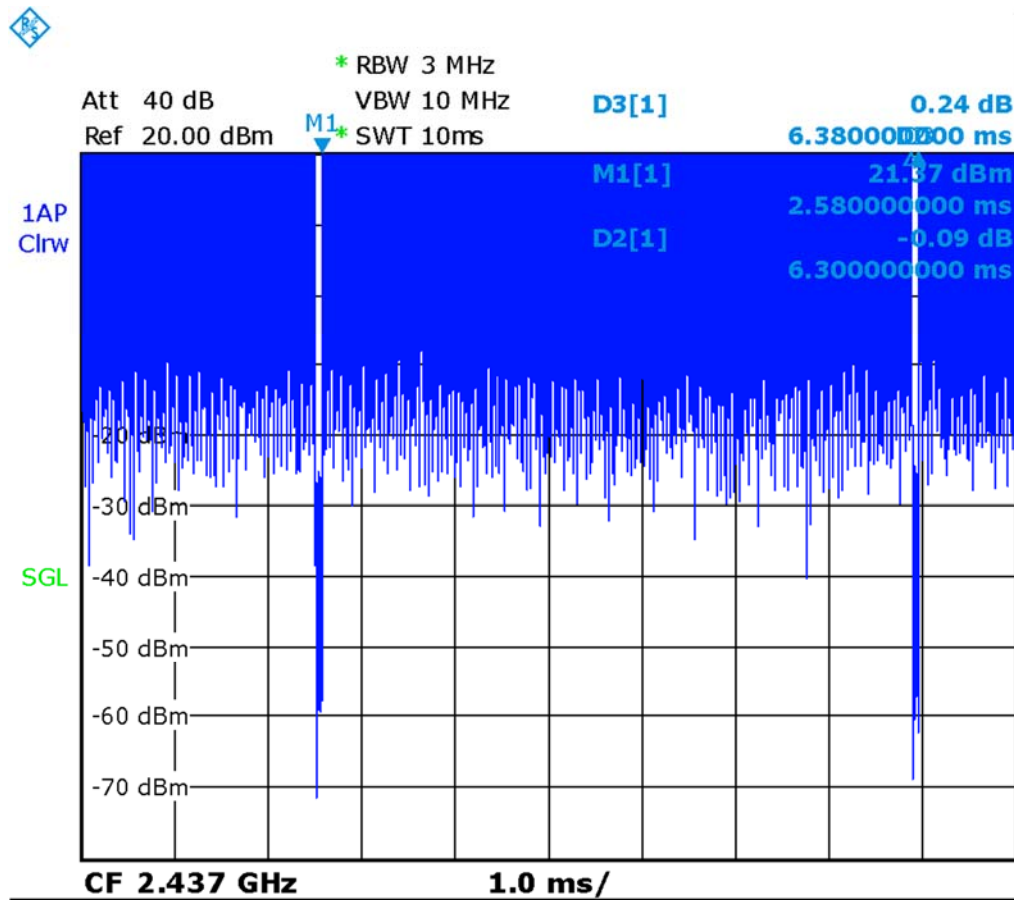
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg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

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

Table 14.4-6: SAR Values (WLAN - Body) – 802.11b 1Mbps (Scaled Reported SAR)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C		
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	98.75%	100%	0.55	0.56

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



Picture 14.1 Duty factor plot

14.5 WLAN Evaluation For 5G

Table 14.5-1: OFDM mode specified maximum output power of WLAN antenna

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

X: maximum(conducted) output power(mW), including tolerance, specified for production units

Table 14.5-2: Maximum output power specified of WLAN antenna

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	79		79	63	79	63	79	
U-NII-2A	100		100	63	100	63	79	
U-NII-2C	79		79	79	79	79	79	
U-NII-3	32		32	25	32	32	32	
§ 15.247 (5.8 GHz)								

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

Table 14.5-3: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 77/75/69/66	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 67/72/78/85	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 75/68/62/62 116/132/136/140/144 64/56/49/44/42	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/165 25/25/26/25/24	149/153/157/161 /165 Lower power	151/159 Lower power	149/153/157/161 /165 Lower power	151/159 Lower power	155 Lower power

- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.5-4: Reported SAR of initial test configuration for Head

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 U-NII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.04	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140/144 0.02	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 0.05	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

U-NII-1 and U-NII-2A bands have the same specified maximum output and tolerance; SAR is measured for U-NII-2A band first. Adjusted SAR of U-NII-2A band is $\leq 1.2\text{W/kg}$, SAR is not required for U-NII-1 band.

Table 14.5-5: Reported SAR of initial test configuration for Body

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 U-NII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.59	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140/144 0.30	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 0.41	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

U-NII-1 and U-NII-2A bands have the same specified maximum output and tolerance; SAR is measured for U-NII-2A band first. Adjusted SAR of U-NII-2A band is $\leq 1.2\text{W/kg}$, SAR is not required for U-NII-1 band.

Table 14.5-6: SAR Values (WLAN - Head) – 802.11a 6Mbps

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
5320	64	Left	Touch	/	19.27	20	0.011	0.01	0.032	0.04	0.03
5320	64	Left	Tilt	/	19.27	20	0.010	0.01	0.027	0.03	0.00
5320	64	Right	Touch	/	19.27	20	0.003	<0.01	0.012	0.01	0.00
5320	64	Right	Tilt	/	19.27	20	0.009	0.01	0.029	0.03	0.07
5500	100	Left	Touch	/	18.77	19	0.005	0.01	0.017	0.02	0.00
5500	100	Left	Tilt	/	18.77	19	0	<0.01	0.006	0.01	0.06
5500	100	Right	Touch	/	18.77	19	0	<0.01	0.003	<0.01	0.00
5500	100	Right	Tilt	/	18.77	19	0	<0.01	0.004	<0.01	0.00
5785	157	Left	Touch	Fig.55	14.12	15	0.013	0.02	0.038	0.05	0.00
5785	157	Left	Tilt	/	14.12	15	0.004	0.01	0.017	0.02	0.00
5785	157	Right	Touch	/	14.12	15	0	<0.01	0	<0.01	0.00
5785	157	Right	Tilt	/	14.12	15	0	<0.01	0.003	<0.01	0.05
5785	157	Left	Touch	B2	14.12	15	0.003	<0.01	0.014	0.02	0.08

Table 14.5-7: SAR Values (WLAN - Body) – 802.11a 6Mbps

Frequency		Test Position	D (mm)	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
5320	64	Front	10	/	19.27	20	0.003	<0.01	0.012	0.01	0.08
5320	64	Rear	10	Fig.56	19.27	20	0.182	0.22	0.489	0.58	0.05
5320	64	Right	10	/	19.27	20	0.064	0.08	0.153	0.18	0.01
5320	64	Top	10	/	19.27	20	0.025	0.03	0.058	0.07	0.00
5500	100	Front	10	/	18.77	19	0	<0.01	0	<0.01	0.06
5500	100	Rear	10	/	18.77	19	0.097	0.10	0.272	0.29	0.07
5500	100	Right	10	/	18.77	19	0.040	0.04	0.097	0.10	0.04
5500	100	Top	10	/	18.77	19	0.014	0.01	0.037	0.04	0.04
5785	157	Front	10	/	14.12	15	0	<0.01	0	<0.01	0.00
5785	157	Rear	10	/	14.12	15	0.108	0.13	0.327	0.40	0.02
5785	157	Right	10	/	14.12	15	0.058	0.07	0.151	0.18	0.09
5785	157	Top	10	/	14.12	15	0.009	0.01	0.030	0.04	0.00
5320	64	Rear	10	B2	19.27	20	0.158	0.19	0.394	0.47	0.04

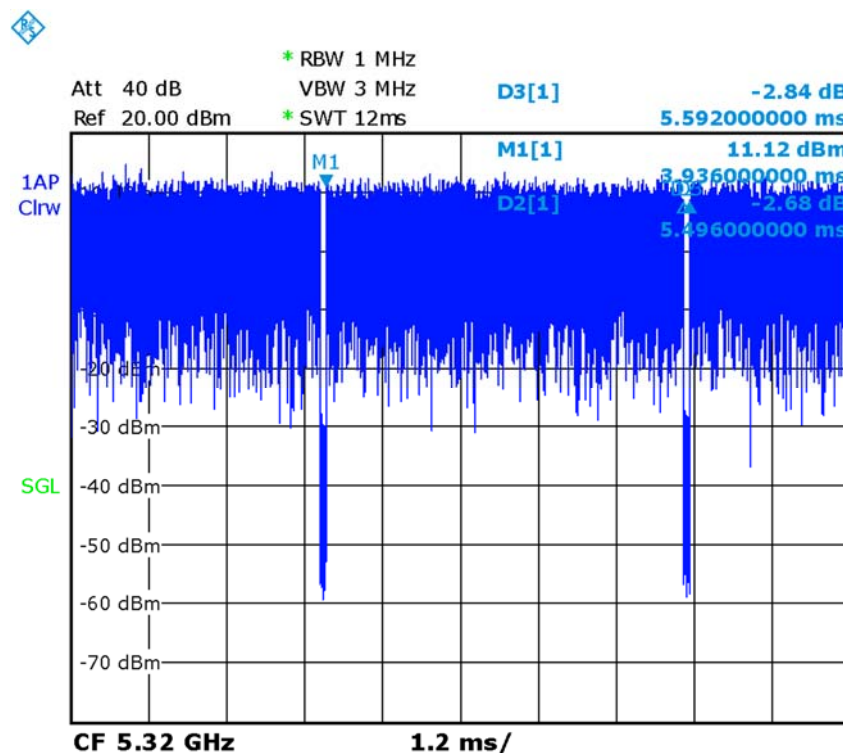
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.5-8: SAR Values (WLAN - Head) – 802.11a 6Mbps (Scaled Reported SAR)

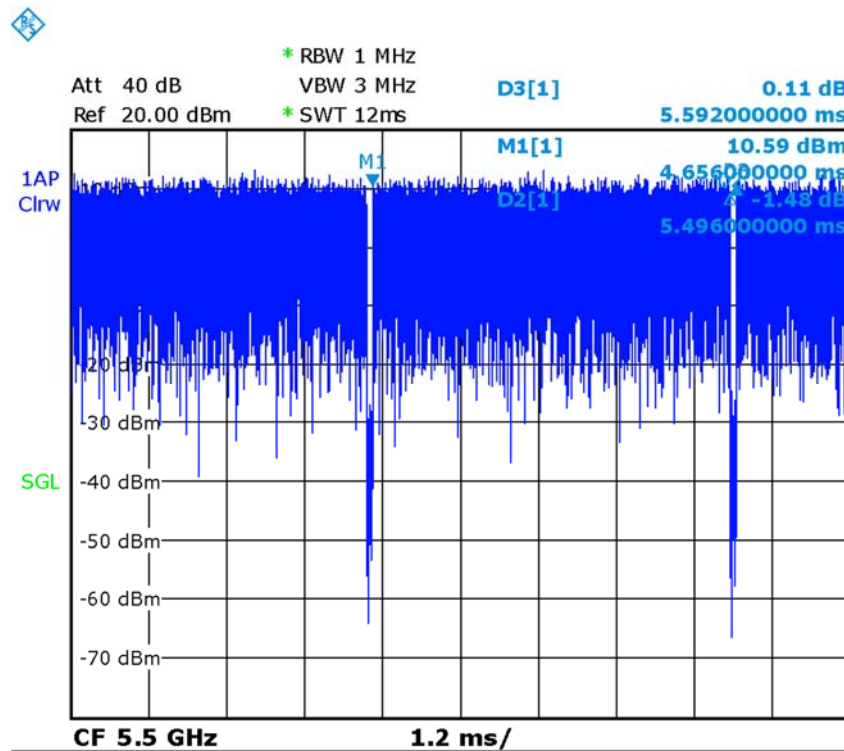
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5320	64	Left	Touch	98.28%	100%	0.04	0.04
5500	100	Left	Touch	98.28%	100%	0.02	0.02
5785	157	Left	Touch	98.28%	100%	0.05	0.05

Table 14.5-9: SAR Values (WLAN - Body) – 802.11a 6Mbps (Scaled Reported SAR)

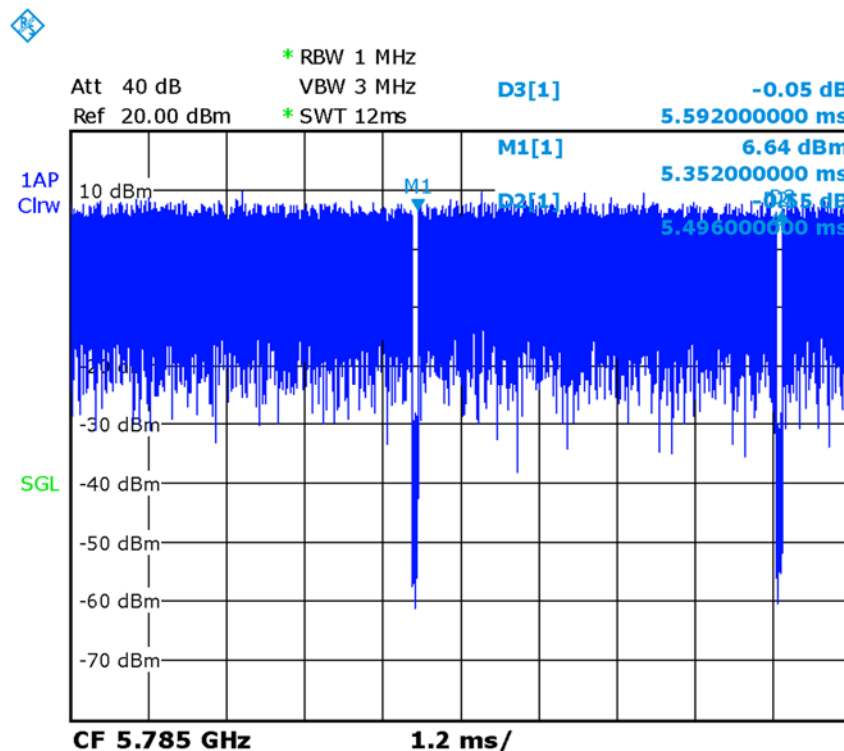
Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5320	64	Rear	10	98.28%	100%	0.58	0.59
5500	100	Rear	10	98.28%	100%	0.29	0.30
5785	157	Rear	10	98.28%	100%	0.40	0.41



Picture 14.2 The plot of duty factor for U-NII-2A



Picture 14.3 The plot of duty factor for U-NII-2C



Picture 14.4 The plot of duty factor for U-NII-3

15 SAR Measurement Variability

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

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

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; 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 ($\sim 10\%$ from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Table 15.1: SAR Measurement Variability for Body PCS1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
661	1880	Bottom	10	0.875	0.869	1.01	/

Table 15.2: SAR Measurement Variability for Body W1700 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
1738	1752.6	Bottom	10	1.05	1.04	1.01	/

Table 15.3: SAR Measurement Variability for Body W1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
9800	1880	Bottom	10	1.16	1.12	1.04	/

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

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
19100	1900	1RB_Low	Bottom	10	1.15	1.14	1.01	/

Table 15.5: SAR Measurement Variability for Body LTE B4 (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							
20300	1745	100RB	Bottom	10	1.03	1.03	1.00	/

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

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
21110	2535	1RB_Low	Bottom	10	1.08	1.06	1.02	/

Table 15.7: SAR Measurement Variability for Body LTE B30 (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							
27710	2310	1RB_Low	Bottom	10	1.04	1.03	1.01	/

Table 15.8: SAR Measurement Variability for Body LTE B41 (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							
39750	2506	1RB_Mid	Bottom	10	1.03	1.01	1.02	/

Table 15.9: SAR Measurement Variability for Body LTE B25 (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							
26590	1905	50RB_Mid	Bottom	10	1.00	1.01	1.00	/

Table 15.10: SAR Measurement Variability for Body CDMA BC1 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
1175	1908.75	Bottom	10	1.01	1.01	1.00	/

16 Measurement Uncertainty

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

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

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

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	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	4.0	R	$\sqrt{3}$	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	$\sqrt{3}$	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	B	5.0	R	$\sqrt{3}$	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	

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	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	

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	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	A	3.4	N	1	1	1	3.4	3.4	5

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

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	January 13, 2017	One year
02	Power meter	NRVD	102196	March 03,2016	One year
03	Power sensor	NRV-Z5	100596		
04	Signal Generator	E4438C	MY49071430	January 13,2017	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	E5515C	MY50263375	January 16, 2017	One year
07	BTS	CMW500	129942	March 03, 2016	One year
08	E-field Probe	SPEAG EX3DV4	7307	February19, 2016	One year
09	DAE	SPEAG DAE4	1331	January 19, 2017	One year
10	Dipole Validation Kit	SPEAG D750V3	1017	July 20,2016	One year
11	Dipole Validation Kit	SPEAG D835V2	4d069	July 20,2016	One year
12	Dipole Validation Kit	SPEAG D1750V2	1003	July 21,2016	One year
13	Dipole Validation Kit	SPEAG D1900V2	5d101	July 28,2016	One year
14	Dipole Validation Kit	SPEAG D2300V2	1018	July 25,2016	One year
15	Dipole Validation Kit	SPEAG D2450V2	853	July 25,2016	One year
16	Dipole Validation Kit	SPEAG D2600V2	1012	July 25,2016	One year
17	Dipole Validation Kit	SPEAG D5GHZV2	1060	July 27,2016	One year

END OF REPORT BODY

ANNEX A Graph Results

850 Left Cheek High – antenna1

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.917$ mho/m; $\epsilon_r = 41.52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4 – SN7307 ConvF(10.01, 10.01, 10.01)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.384 W/kg

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

Reference Value = 7.125 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.545 W/kg

SAR(1 g) = 0.369 W/kg; SAR(10 g) = 0.265 W/kg

Maximum value of SAR (measured) = 0.373 W/kg

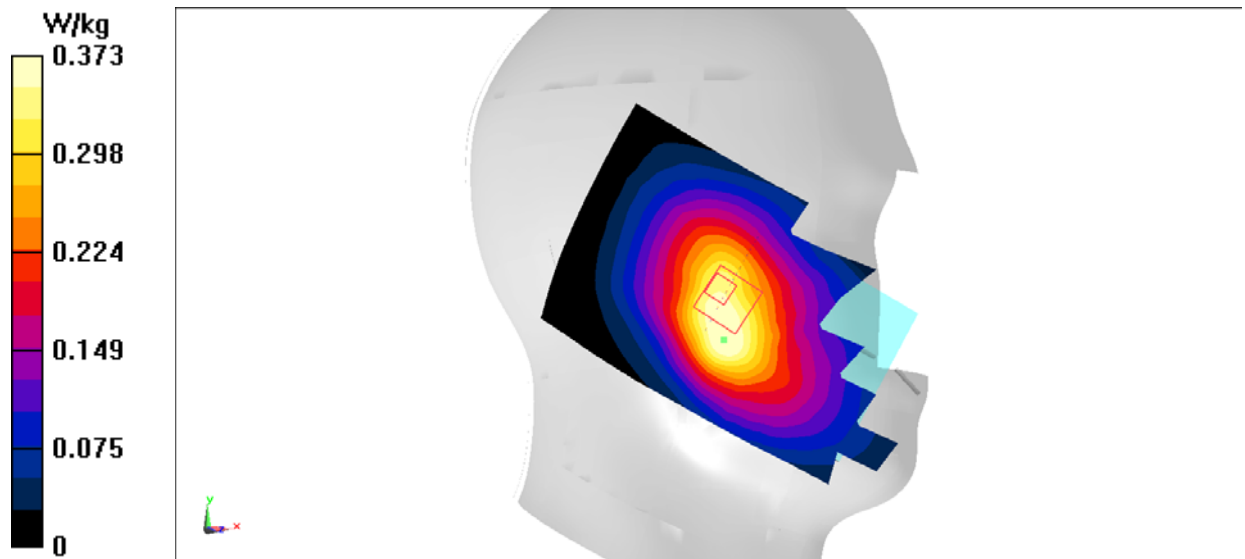


Fig.1 850MHz

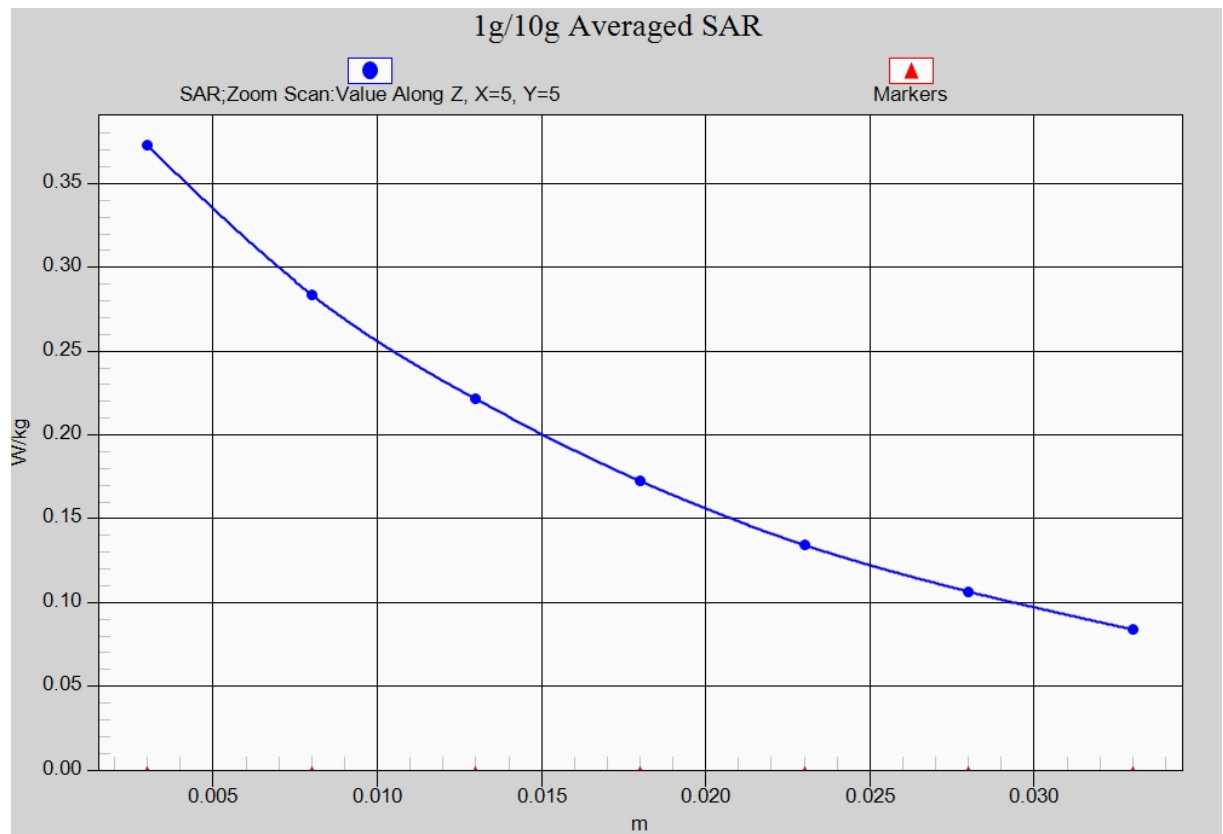


Fig. 1-1 Z-Scan at power reference point (850 MHz)

850 Body Left High – antenna1

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 56.07$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4 – SN7307 ConvF(9.83, 9.83, 9.83)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.518 W/kg

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

Reference Value = 21.63 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.641 W/kg

SAR(1 g) = 0.455 W/kg; SAR(10 g) = 0.312 W/kg

Maximum value of SAR (measured) = 0.485 W/kg

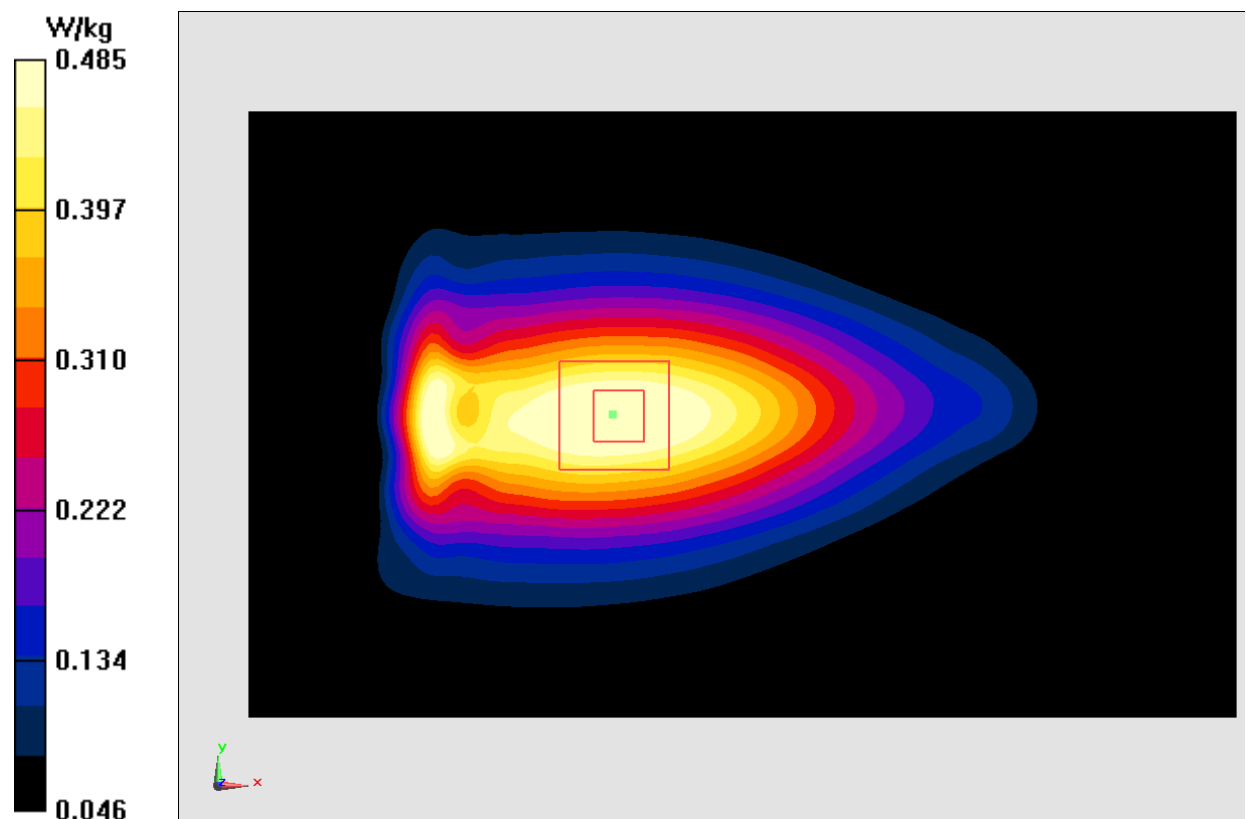


Fig.2 850 MHz

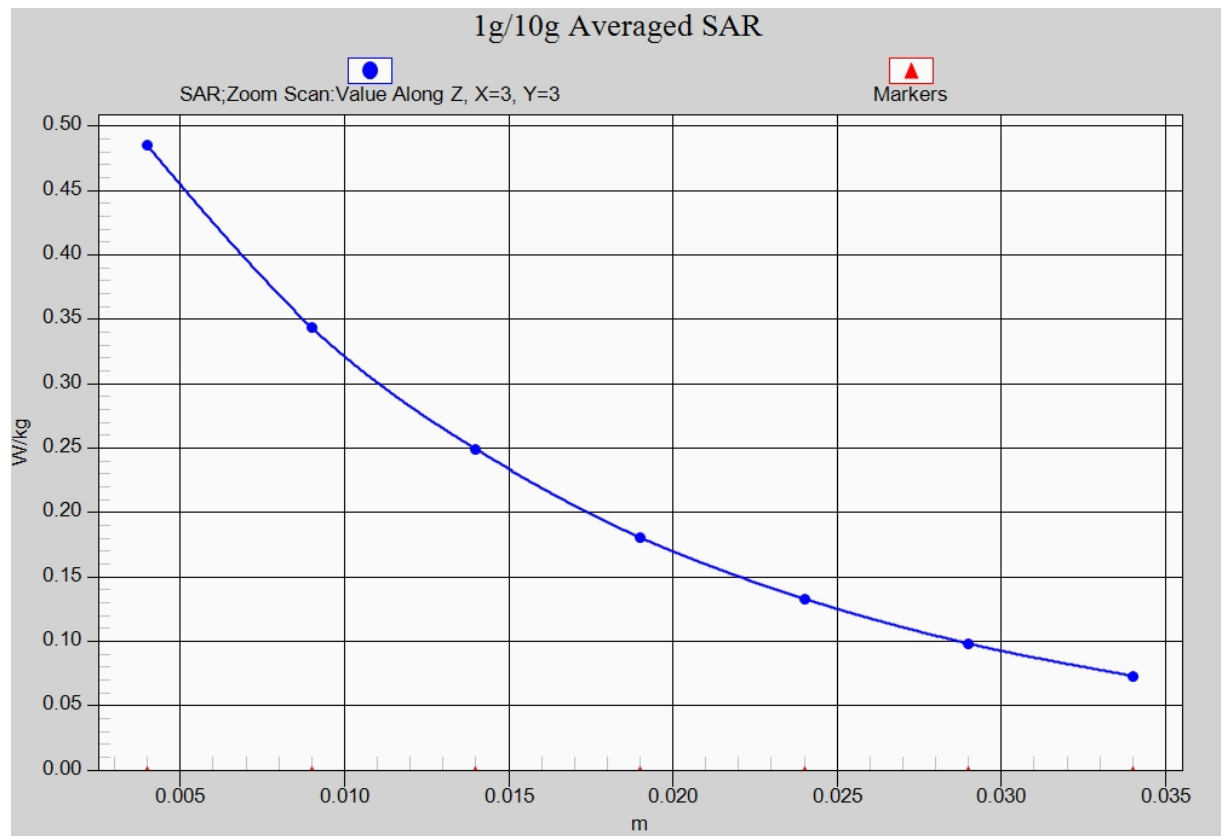


Fig. 2-1 Z-Scan at power reference point (850 MHz)

850 Right Cheek High – antenna2

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.917$ mho/m; $\epsilon_r = 41.52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4 – SN7307 ConvF(10.01, 10.01, 10.01)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.346 W/kg

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

Reference Value = 7.170 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.414 W/kg

SAR(1 g) = 0.316 W/kg; SAR(10 g) = 0.238 W/kg

Maximum value of SAR (measured) = 0.352 W/kg

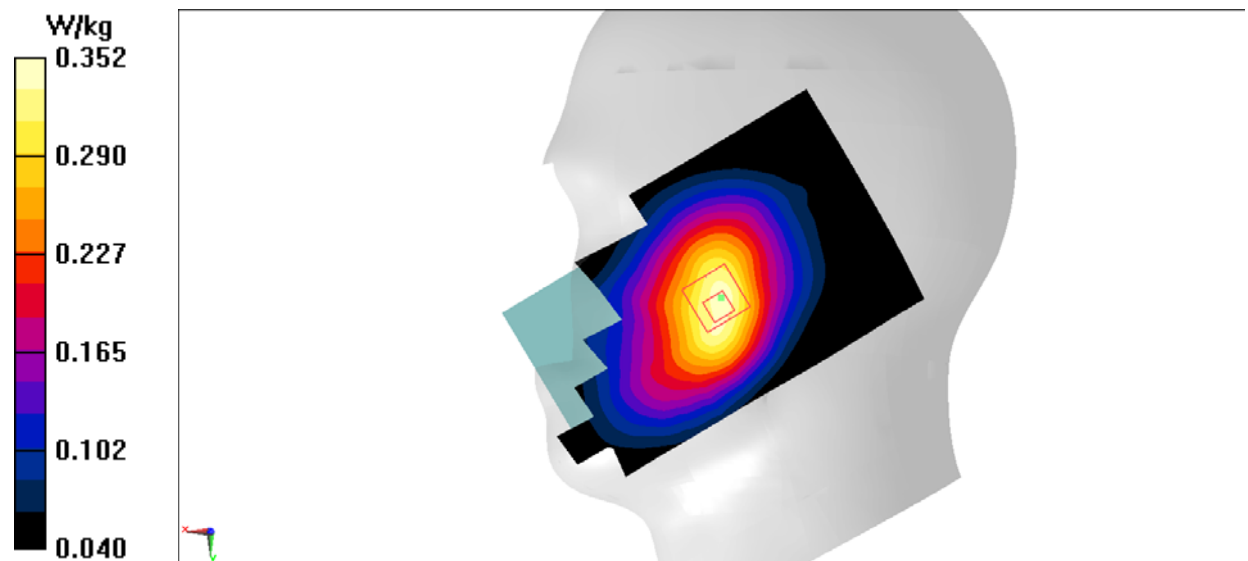


Fig.3 850MHz

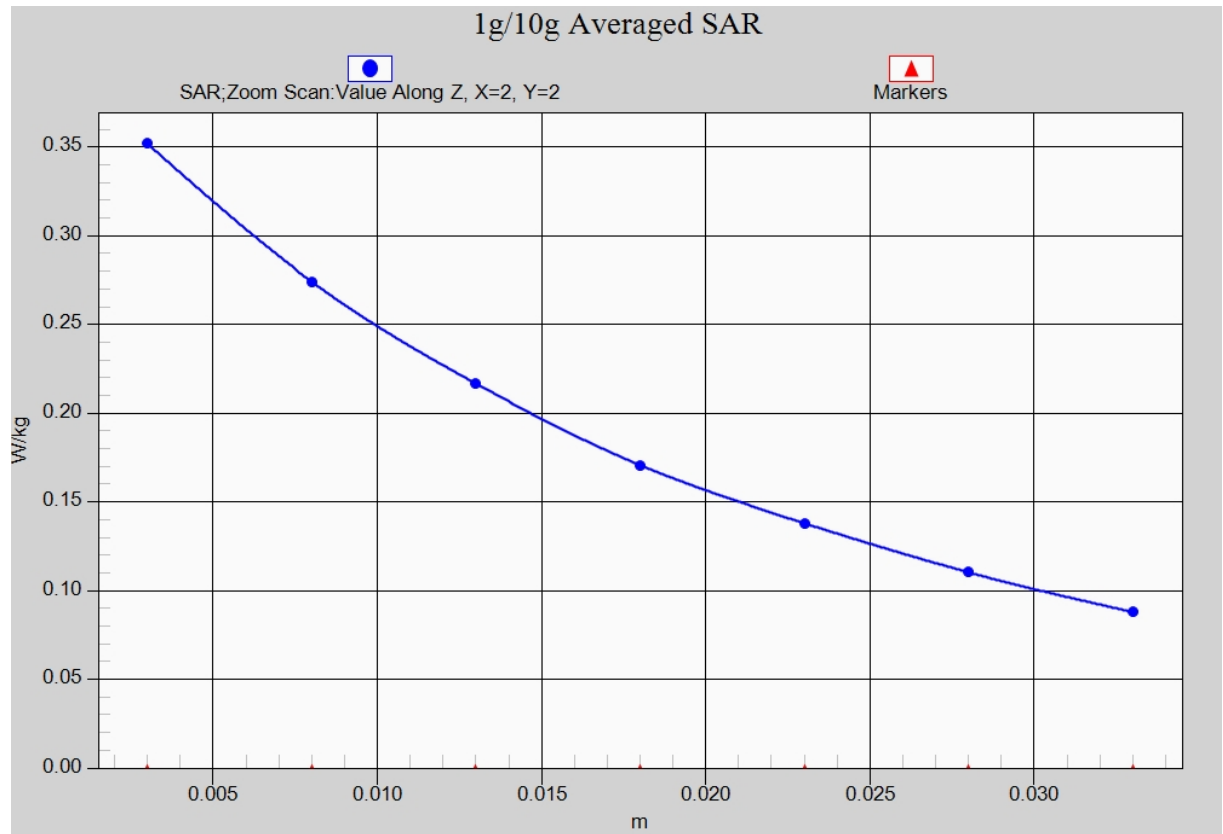


Fig. 3-1 Z-Scan at power reference point (850 MHz)

850 Body Right High – antenna2

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 56.07$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2.67

Probe: EX3DV4 – SN7307 ConvF(9.83, 9.83, 9.83)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.492 W/kg

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

Reference Value = 21.30 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.608 W/kg

SAR(1 g) = 0.426 W/kg; SAR(10 g) = 0.294 W/kg

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

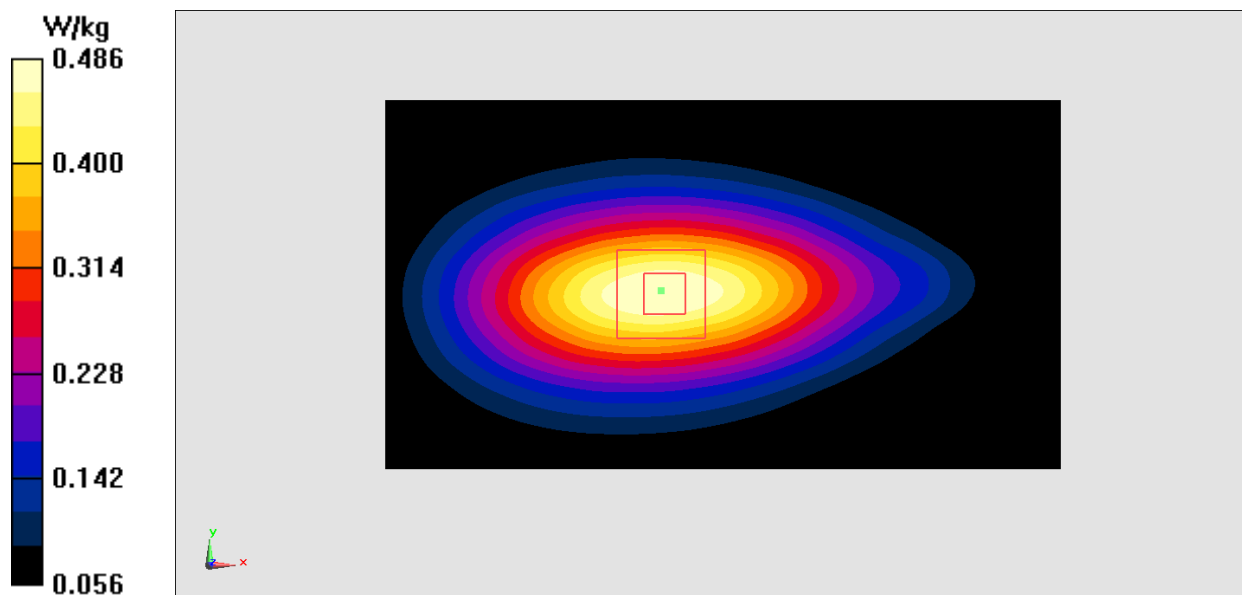


Fig.4 850 MHz

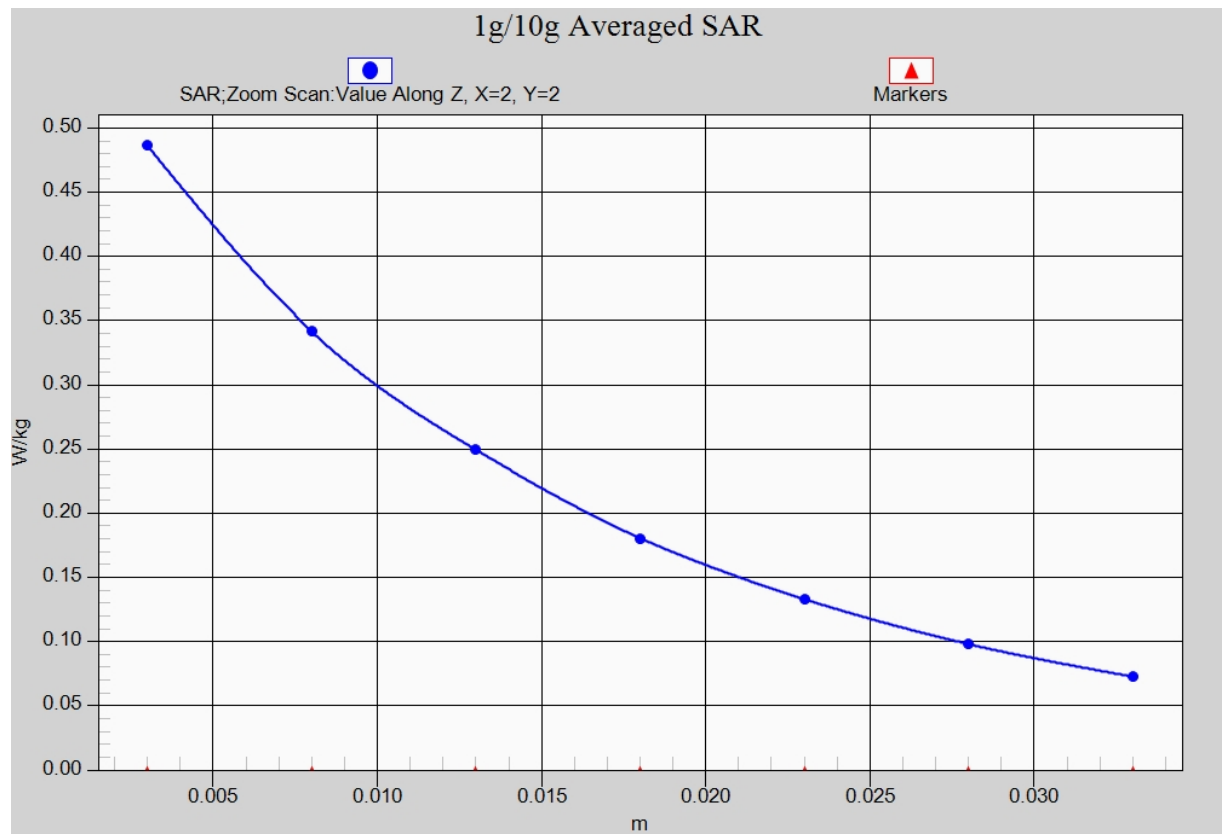


Fig. 4-1 Z-Scan at power reference point (850 MHz)

1900 Right Cheek Low

Date: 2017-1-15

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.409$ mho/m; $\epsilon_r = 40.86$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GRPS Frequency: 1850.2 MHz Duty Cycle: 1:4

Probe: EX3DV4– SN7307 ConvF(8.10, 8.10, 8.10)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.301 W/kg

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

Reference Value = 4.262 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.193 W/kg; SAR(10 g) = 0.123 W/kg

Maximum value of SAR (measured) = 0.224 W/kg

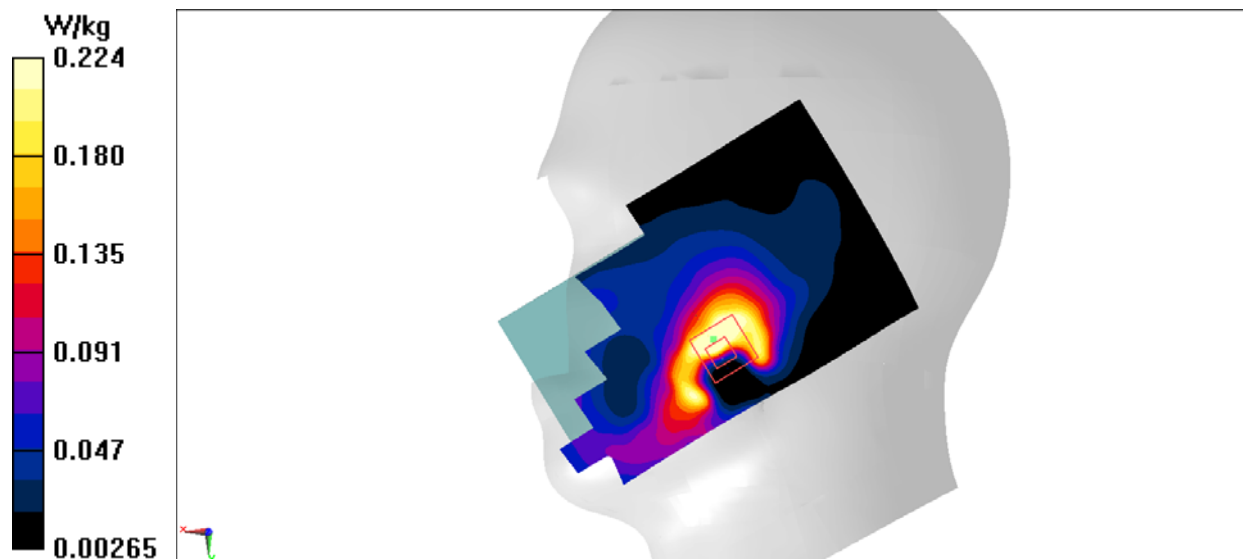


Fig.5 1900 MHz

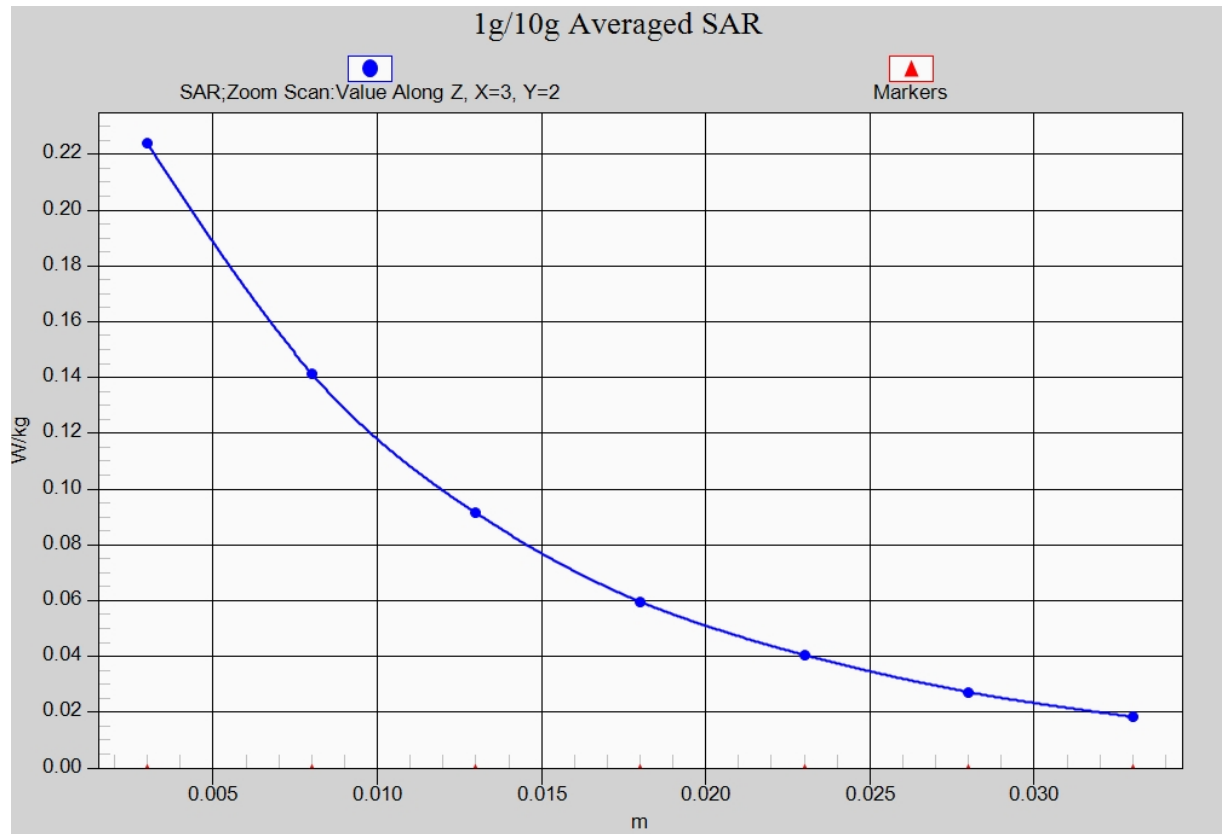


Fig. 5-1 Z-Scan at power reference point (1900 MHz)

1900 Body Bottom Middle

Date: 2017-1-15

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.535$ mho/m; $\epsilon_r = 52.23$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: EX3DV4– SN7307 ConvF(7.67, 7.67, 7.67)

Area Scan (111x61x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.14 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 22.76 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.875 W/kg; SAR(10 g) = 0.466 W/kg

Maximum value of SAR (measured) = 1.10 W/kg

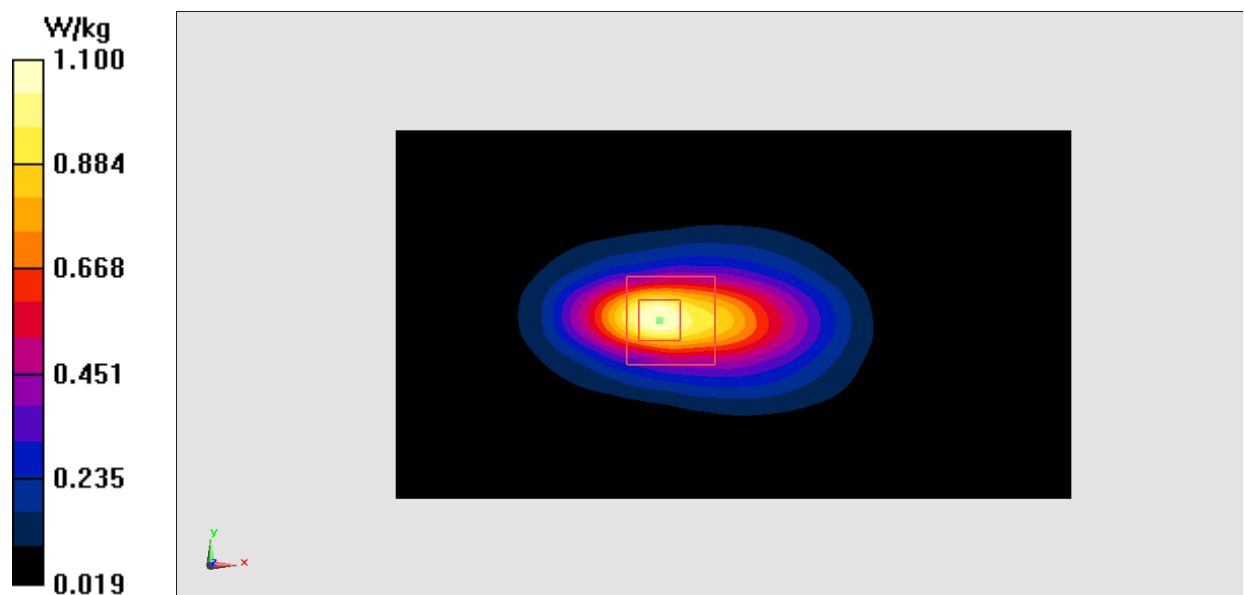


Fig.6 1900 MHz

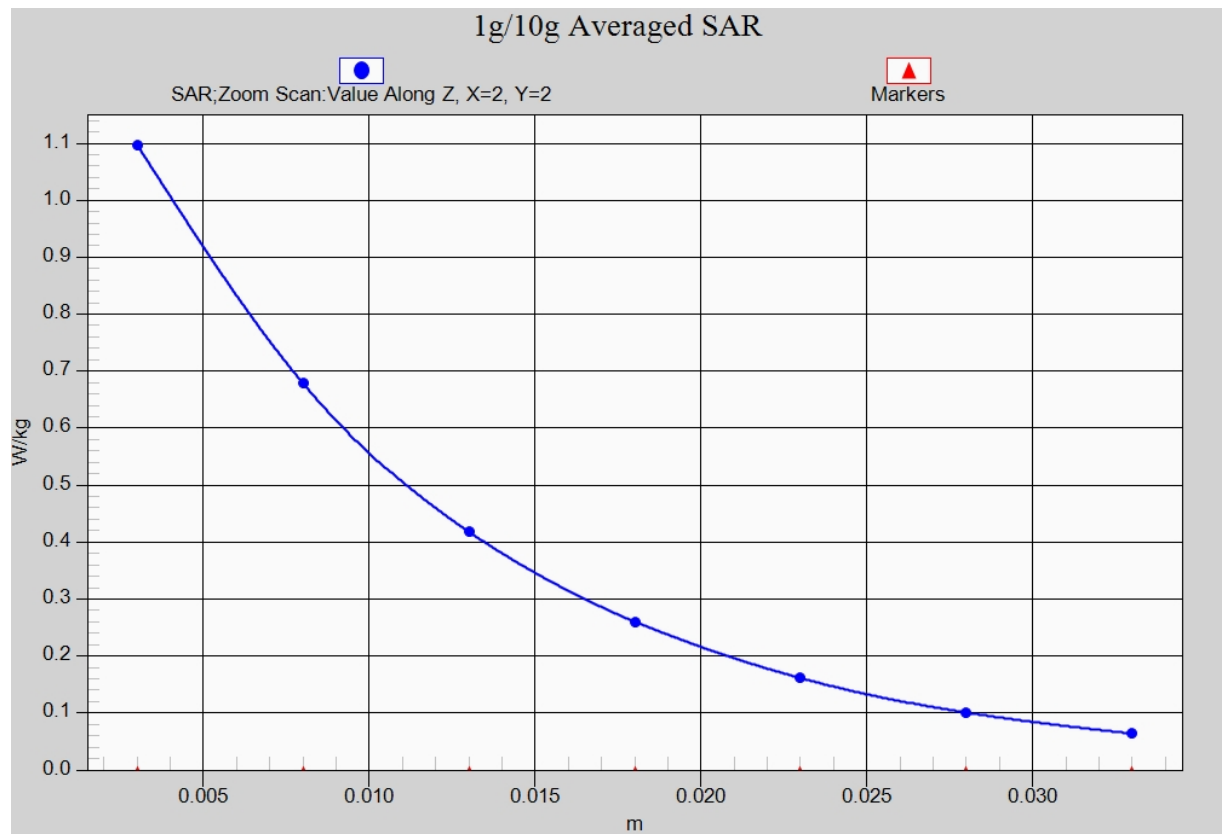


Fig. 6-1 Z-Scan at power reference point (1900 MHz)

WCDMA 850 Left Cheek Low – antenna1

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.896$ mho/m; $\epsilon_r = 41.765$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA; Frequency: 826.4 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN7307ConvF(10.01, 10.01, 10.01)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.363 W/kg

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

Reference Value = 7.746 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.420 W/kg

SAR(1 g) = 0.321 W/kg; SAR(10 g) = 0.240 W/kg

Maximum value of SAR (measured) = 0.350 W/kg

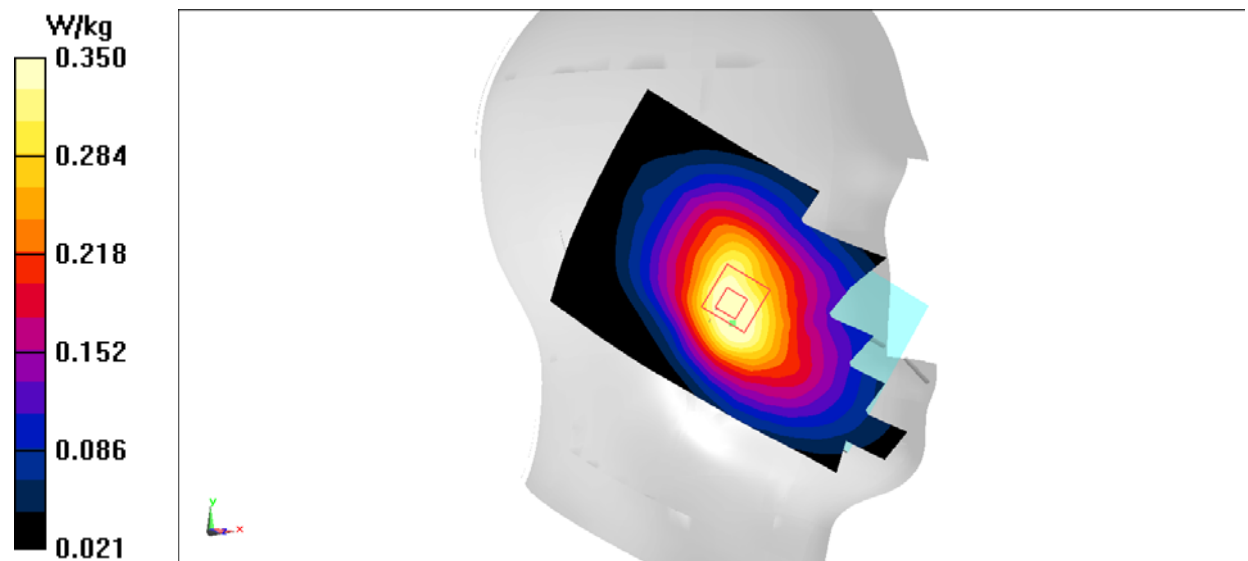


Fig.7 WCDMA 850

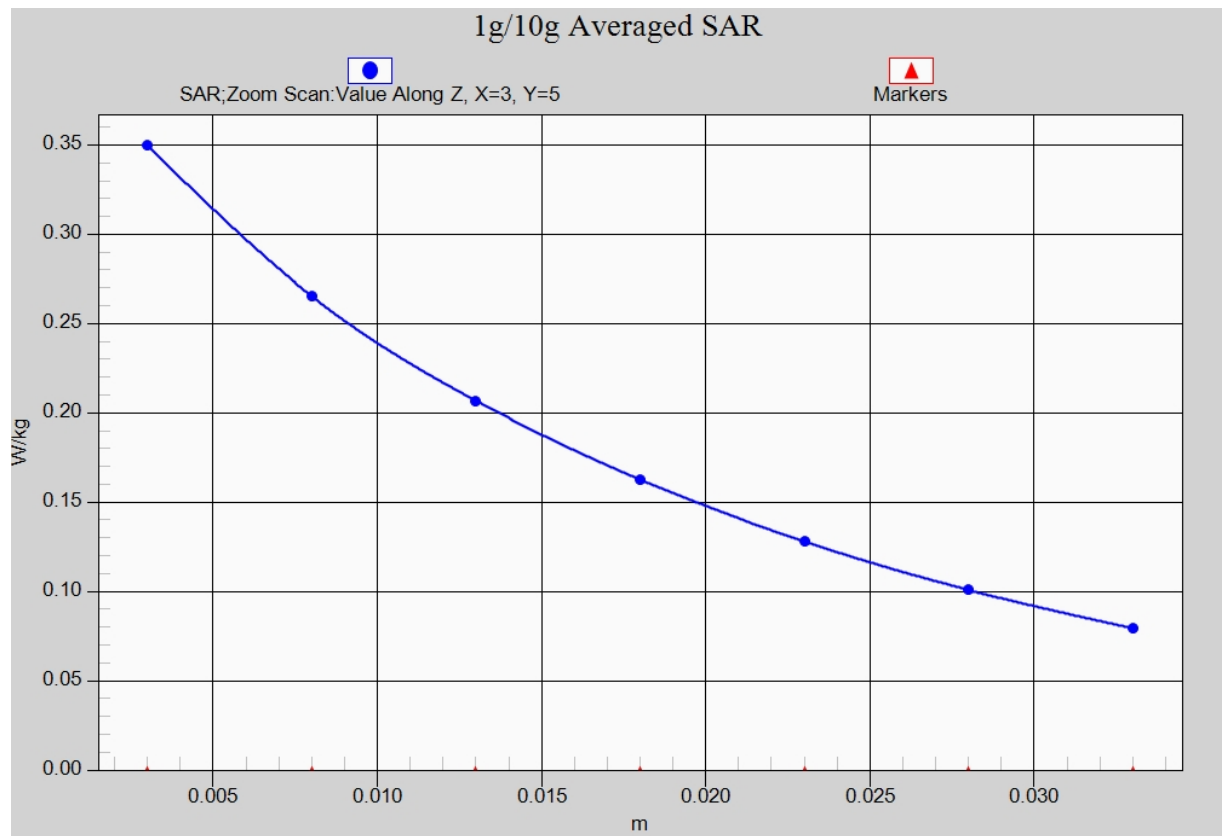


Fig. 7-1 Z-Scan at power reference point (850 MHz)

WCDMA 850 Body Left High – antenna1

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.973$ mho/m; $\epsilon_r = 56.076$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(9.83, 9.83, 9.83)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.455 W/kg

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

Reference Value = 17.10 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.574 W/kg

SAR(1 g) = 0.394 W/kg; SAR(10 g) = 0.267 W/kg

Maximum value of SAR (measured) = 0.457 W/kg

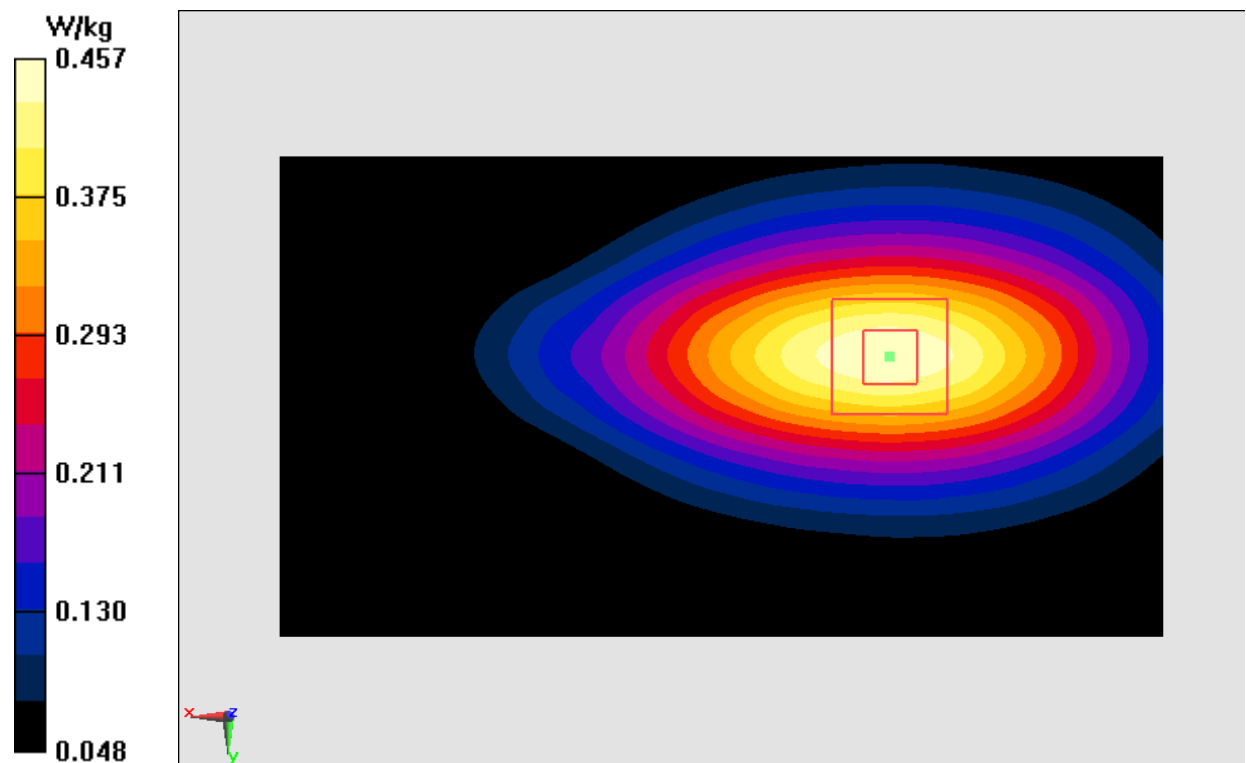


Fig.8 WCDMA 850

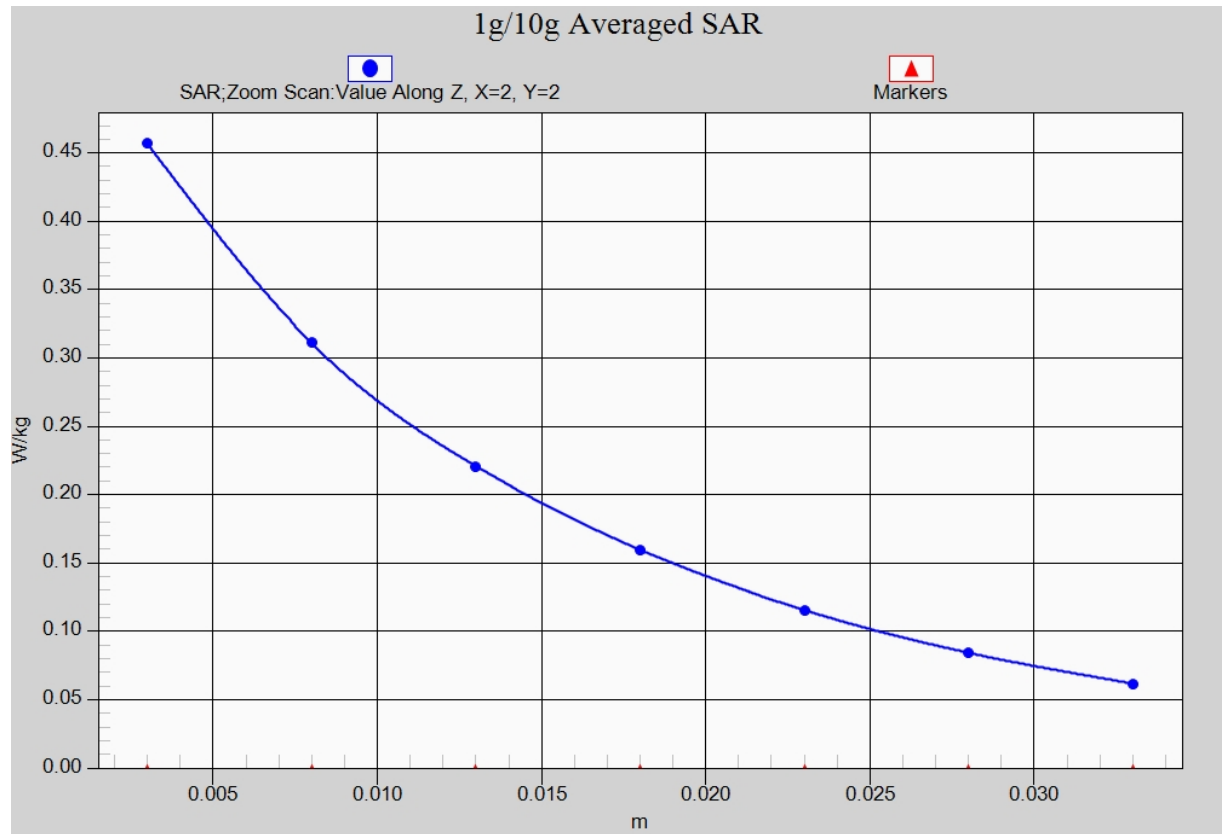


Fig. 8-1 Z-Scan at power reference point (WCDMA850)

WCDMA 850 Right Cheek Middle – antenna2

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.926$ mho/m; $\epsilon_r = 42.115$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA; Frequency: 836.4 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN7307ConvF(10.01, 10.01, 10.01)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.303 W/kg

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

Reference Value = 7.770 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.425 W/kg

SAR(1 g) = 0.301 W/kg; SAR(10 g) = 0.218 W/kg

Maximum value of SAR (measured) = 0.310 W/kg

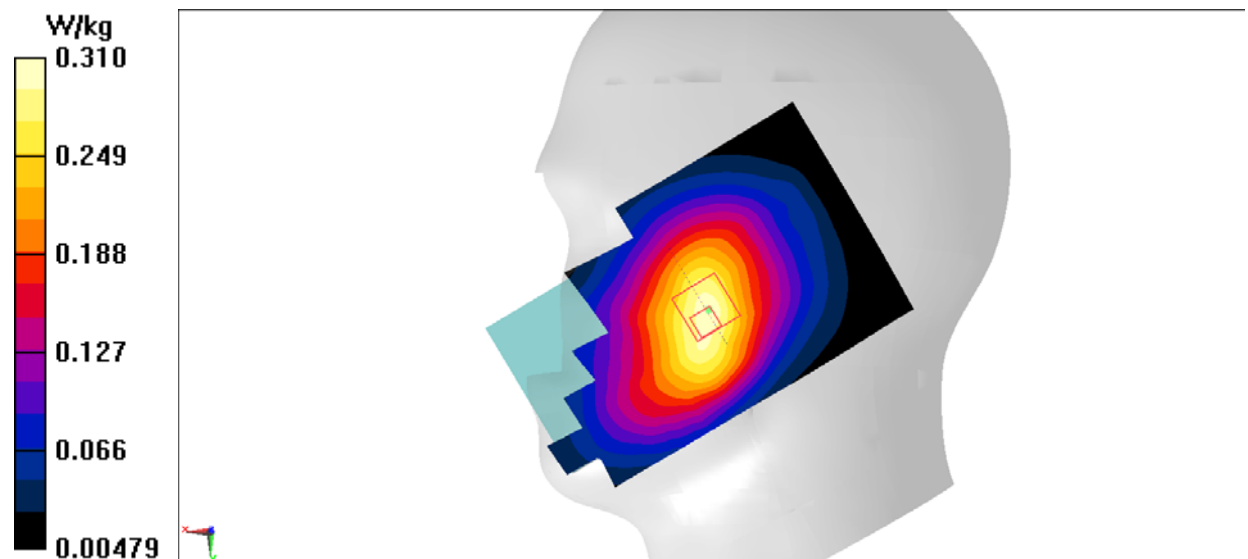


Fig.9 WCDMA 850

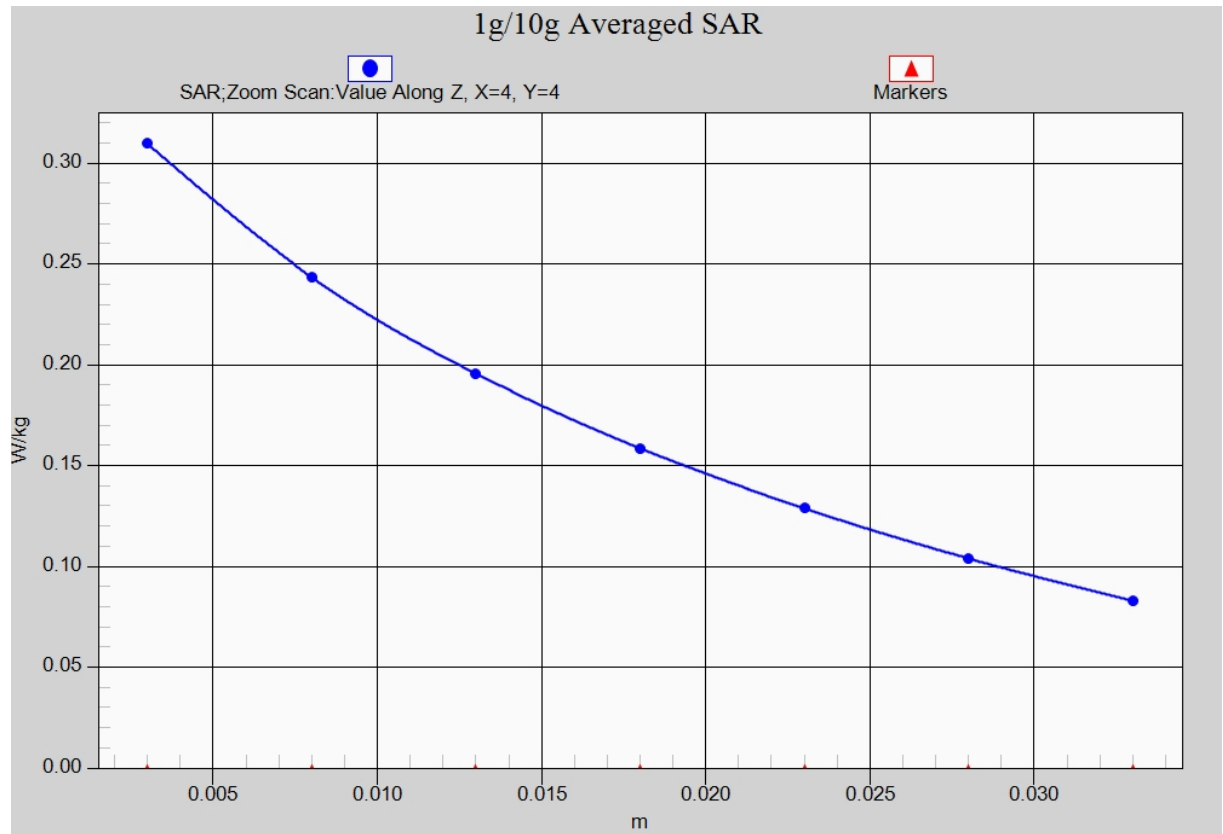


Fig. 9-1 Z-Scan at power reference point (850 MHz)

WCDMA 850 Body Right High – antenna2

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.973$ mho/m; $\epsilon_r = 56.076$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(9.83, 9.83, 9.83)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.347 W/kg

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

Reference Value = 17.66 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.427 W/kg

SAR(1 g) = 0.300 W/kg; SAR(10 g) = 0.206 W/kg

Maximum value of SAR (measured) = 0.345 W/kg

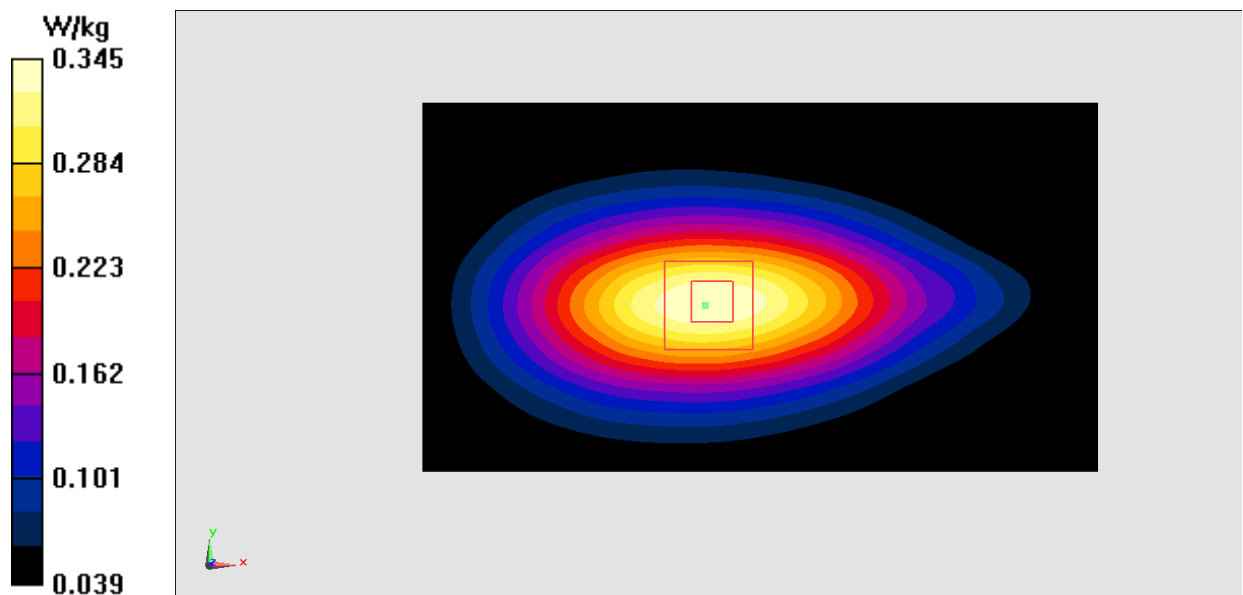


Fig.10 WCDMA 850

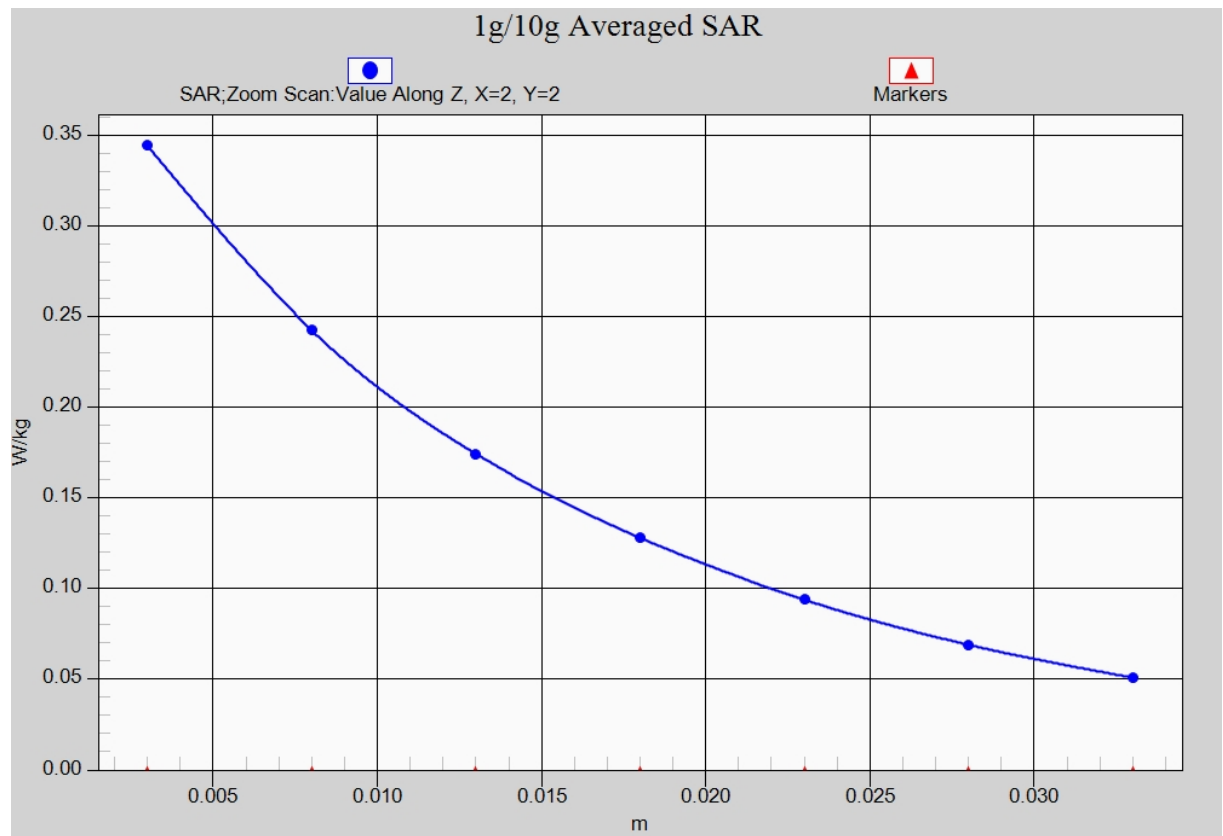


Fig. 10-1 Z-Scan at power reference point (WCDMA850)

WCDMA 1700 Right Cheek Low

Date: 2017-1-14

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.3$ mho/m; $\epsilon_r = 40.577$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA 1750 Frequency: 1712.4 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(8.37, 8.37, 8.37)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.529 W/kg

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

Reference Value = 5.132 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.655 W/kg

SAR(1 g) = 0.431 W/kg; SAR(10 g) = 0.276 W/kg

Maximum value of SAR (measured) = 0.496 W/kg

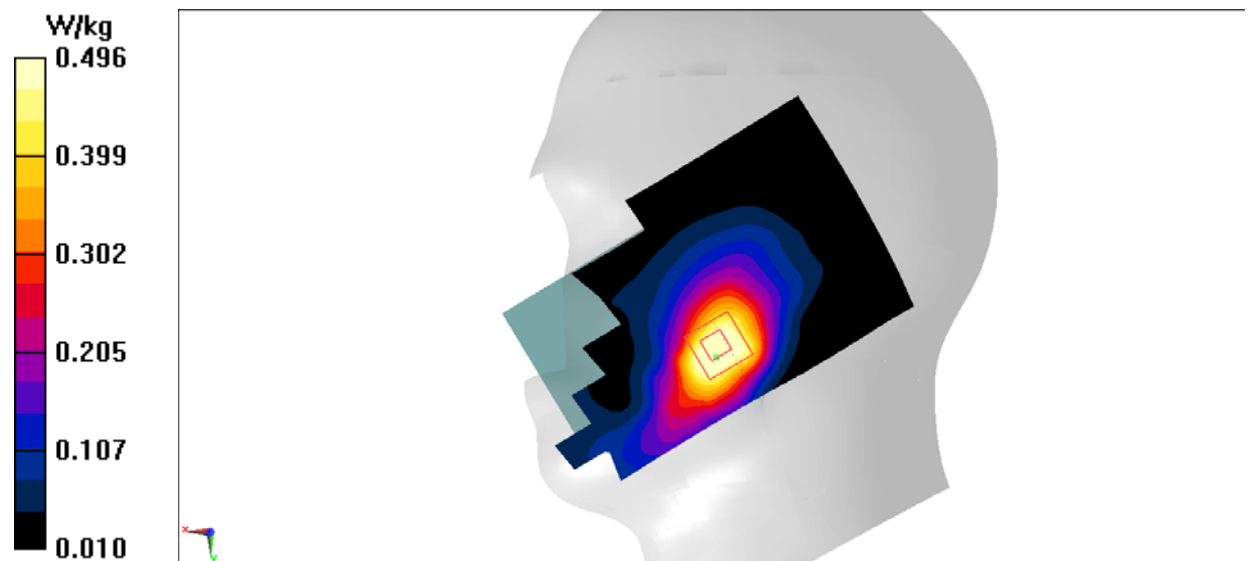


Fig.11 WCDMA1700

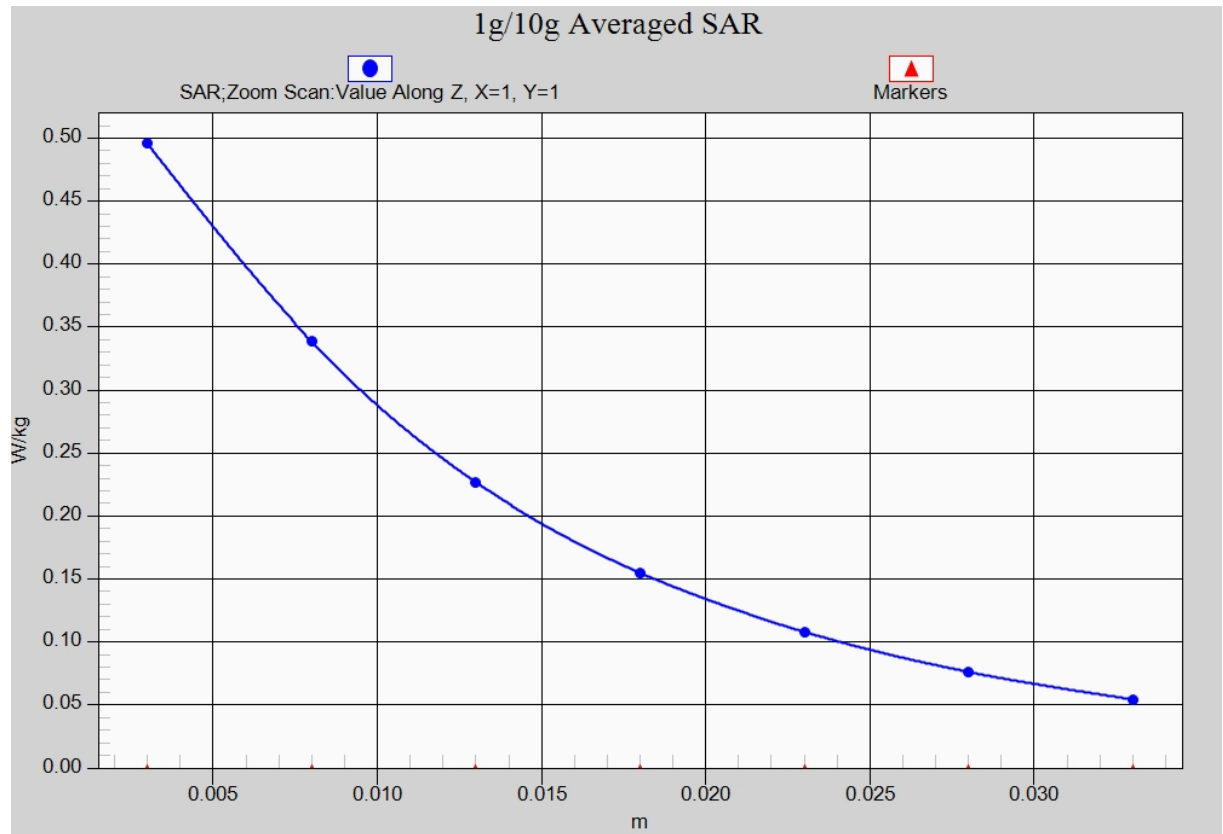


Fig. 11-1 Z-Scan at power reference point (WCDMA1700)

WCDMA 1700 Body Bottom High

Date: 2017-1-14

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1752.6$ MHz; $\sigma = 1.514$ mho/m; $\epsilon_r = 53.418$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA 1900 Frequency: 1752.6 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(8.18, 8.18, 8.18)

Area Scan (121x71x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.38 W/kg

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

Reference Value = 21.08 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.90 W/kg

SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.536 W/kg

Maximum value of SAR (measured) = 1.19 W/kg

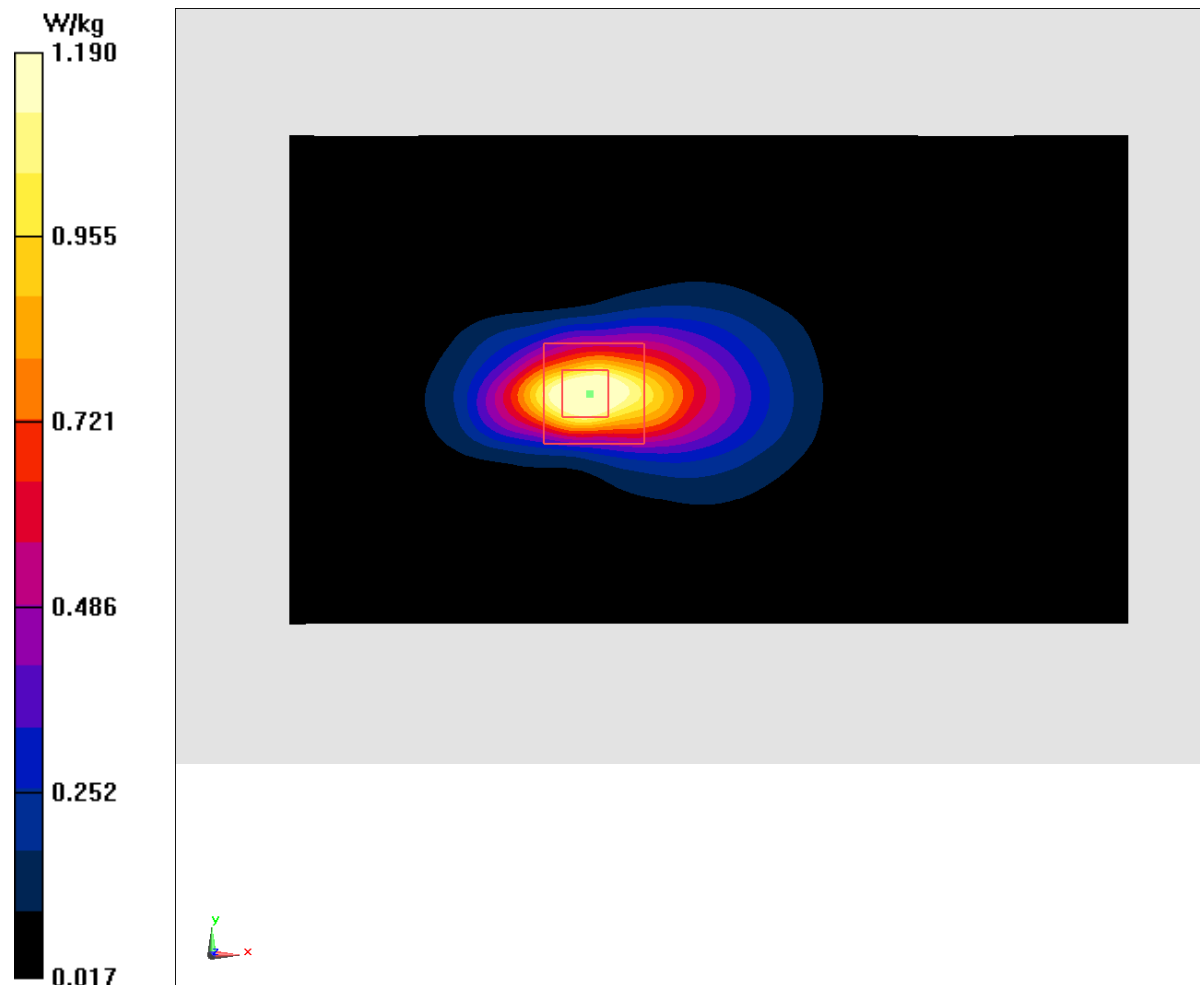


Fig.12 WCDMA1700

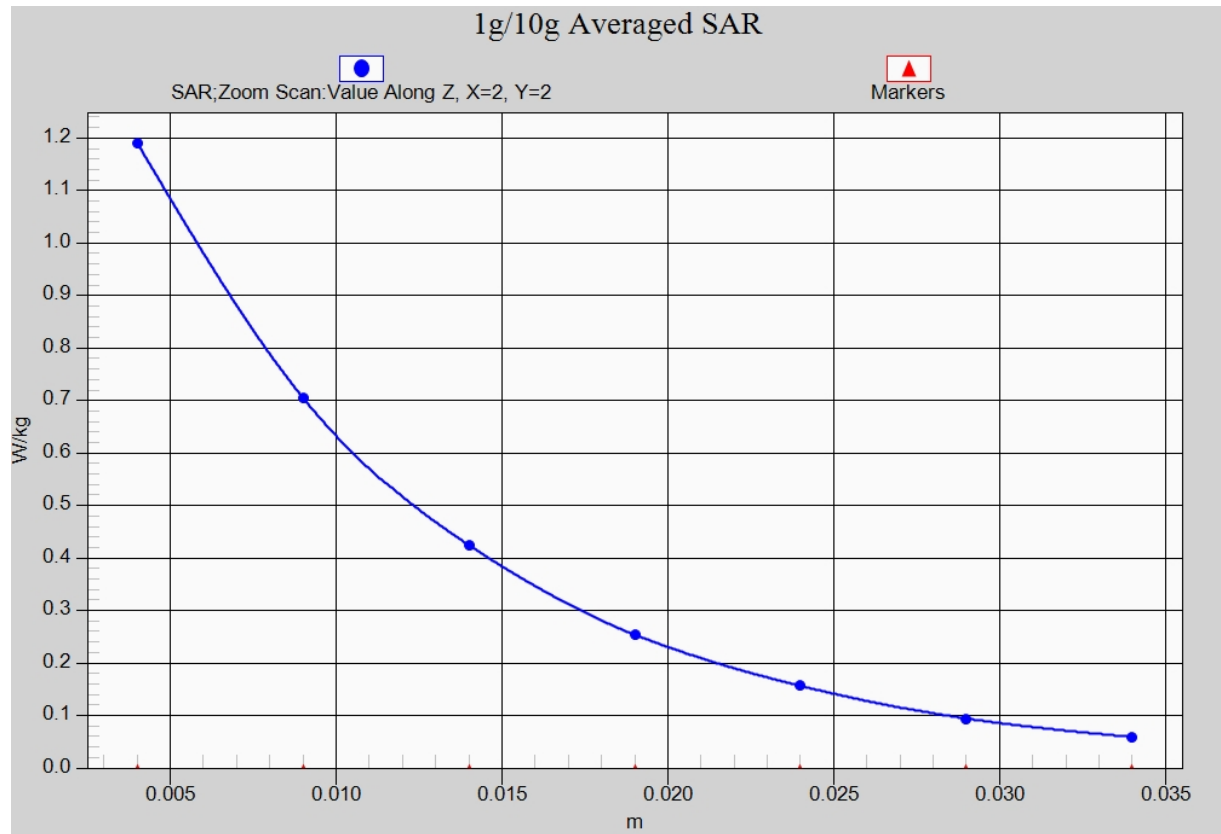


Fig. 12-1 Z-Scan at power reference point (WCDMA1700)

WCDMA 1900 Right Cheek Low

Date: 2017-1-15

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.432$ mho/m; $\epsilon_r = 41.276$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(8.10, 8.10, 8.10)

Area Scan (81x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.307 W/kg

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

Reference Value = 7.624 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.391 W/kg

SAR(1 g) = 0.269 W/kg; SAR(10 g) = 0.183 W/kg

Maximum value of SAR (measured) = 0.305 W/kg

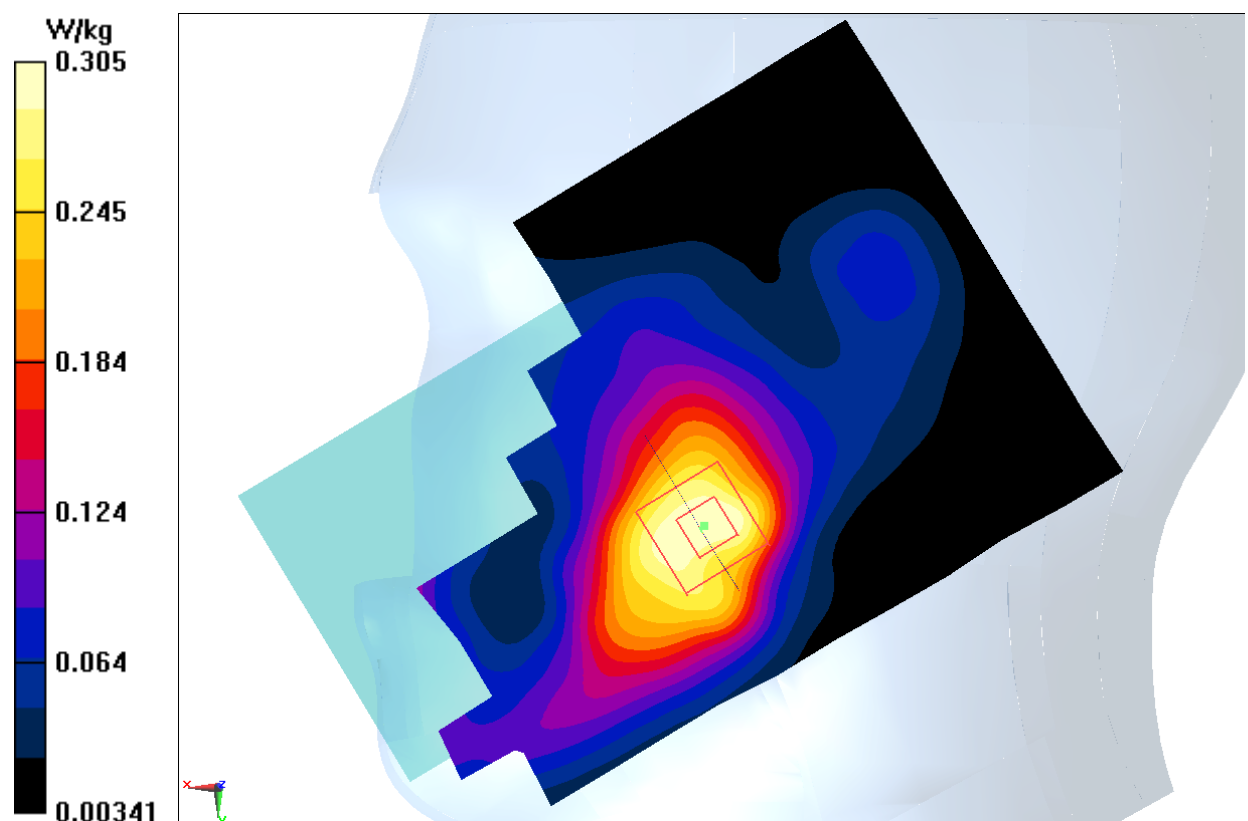


Fig.13 WCDMA1900

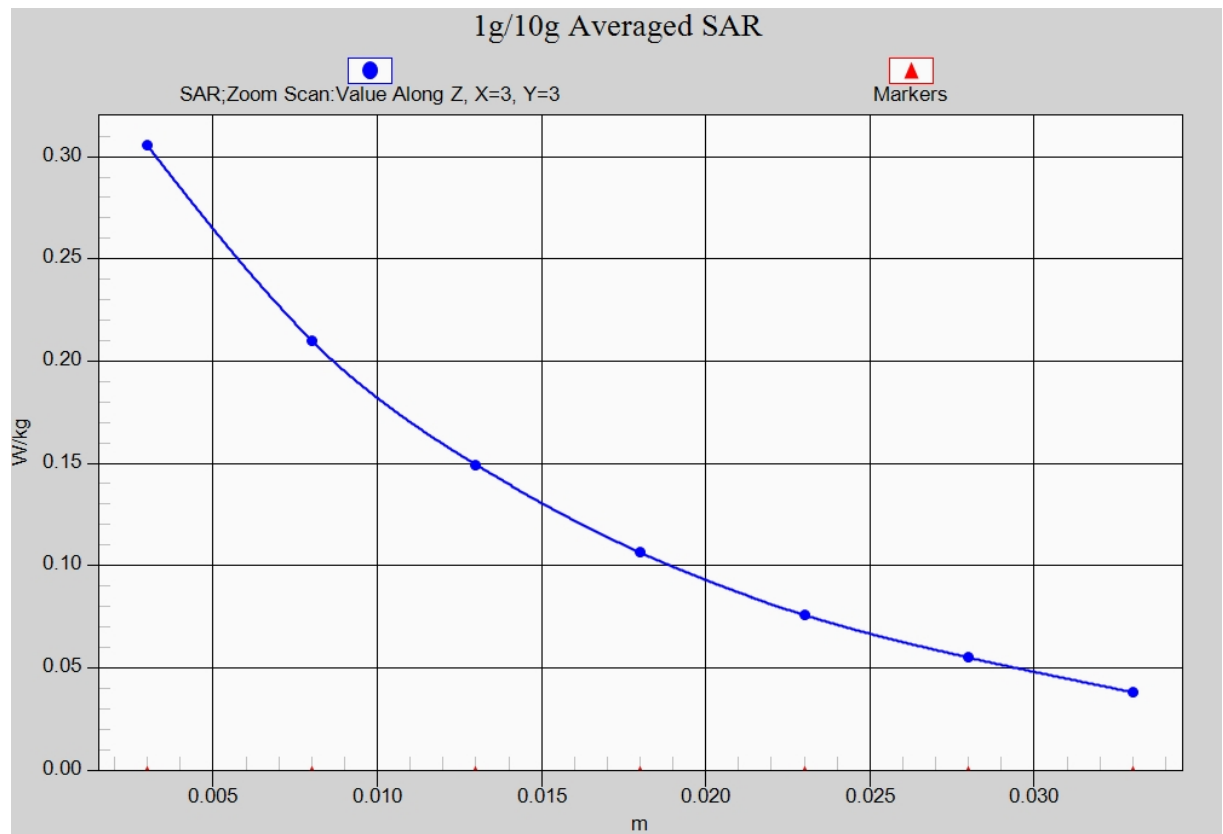


Fig. 13-1 Z-Scan at power reference point (WCDMA1900)

WCDMA 1900 Body Bottom High

Date: 2017-1-15

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.551$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(7.67, 7.67, 7.67)

Area Scan (111x61x1): 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 = 25.50 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.09 W/kg

SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.598 W/kg

Maximum value of SAR (measured) = 1.43 W/kg

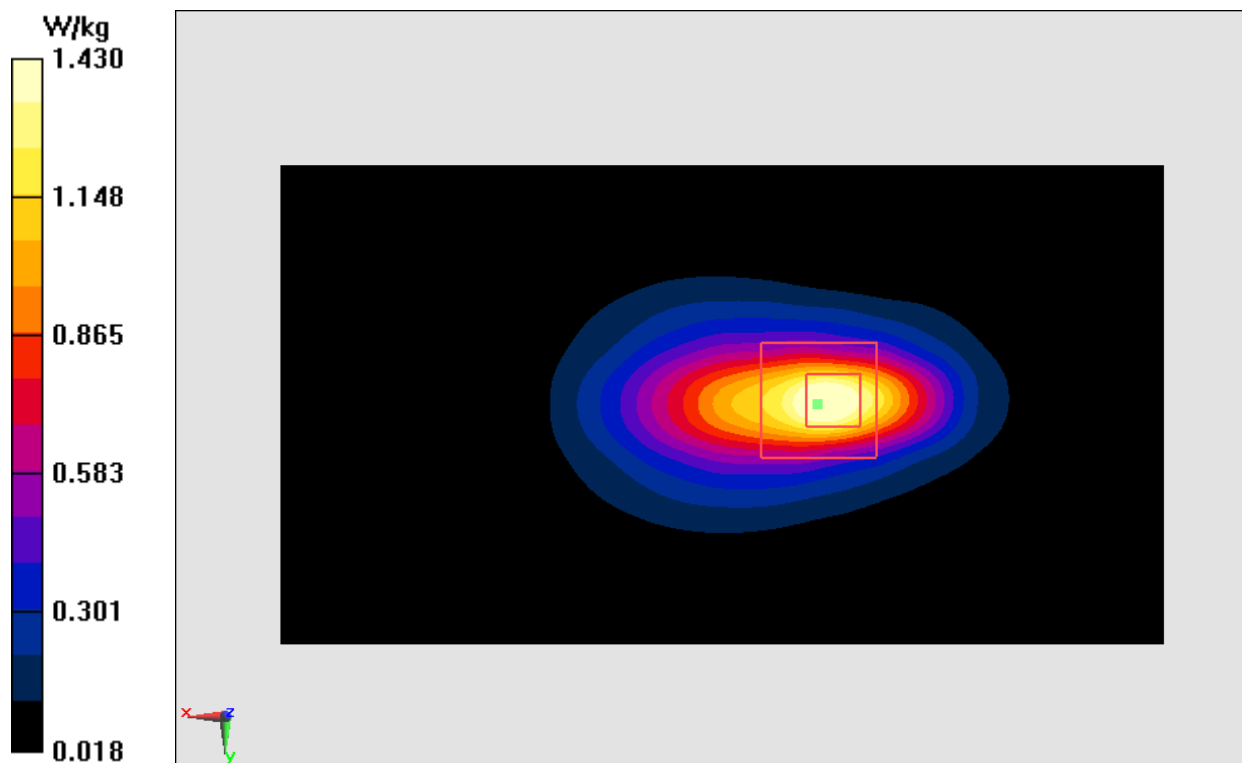


Fig.14 WCDMA1900

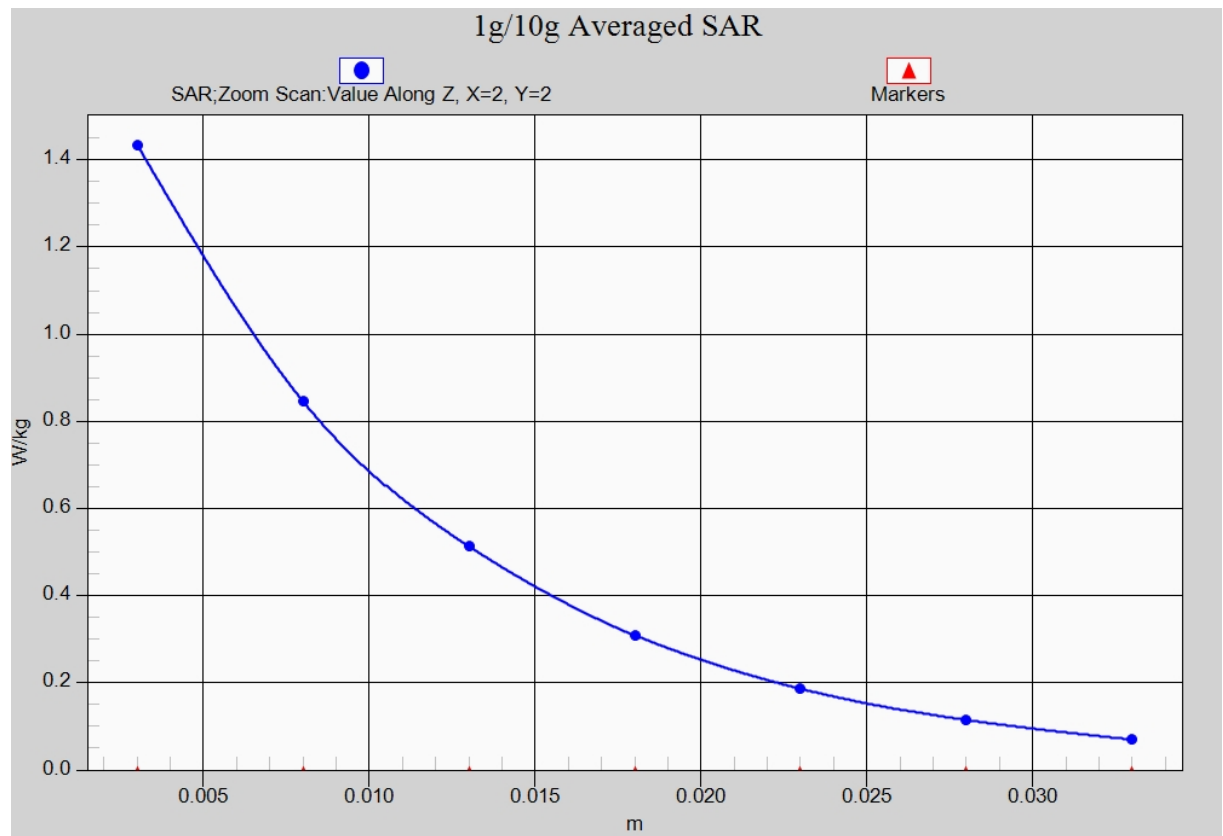


Fig. 14-1 Z-Scan at power reference point (WCDMA1900)

LTE Band2 Right Cheek High with QPSK_20M_1RB_Low

Date: 2017-1-15

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.421$ mho/m; $\epsilon_r = 40.81$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band2 Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(8.10, 8.10, 8.10)

Area Scan (81x131x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.204 W/kg

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

Reference Value = 7.581 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.279 W/kg

SAR(1 g) = 0.178 W/kg; SAR(10 g) = 0.123 W/kg

Maximum value of SAR (measured) = 0.208 W/kg

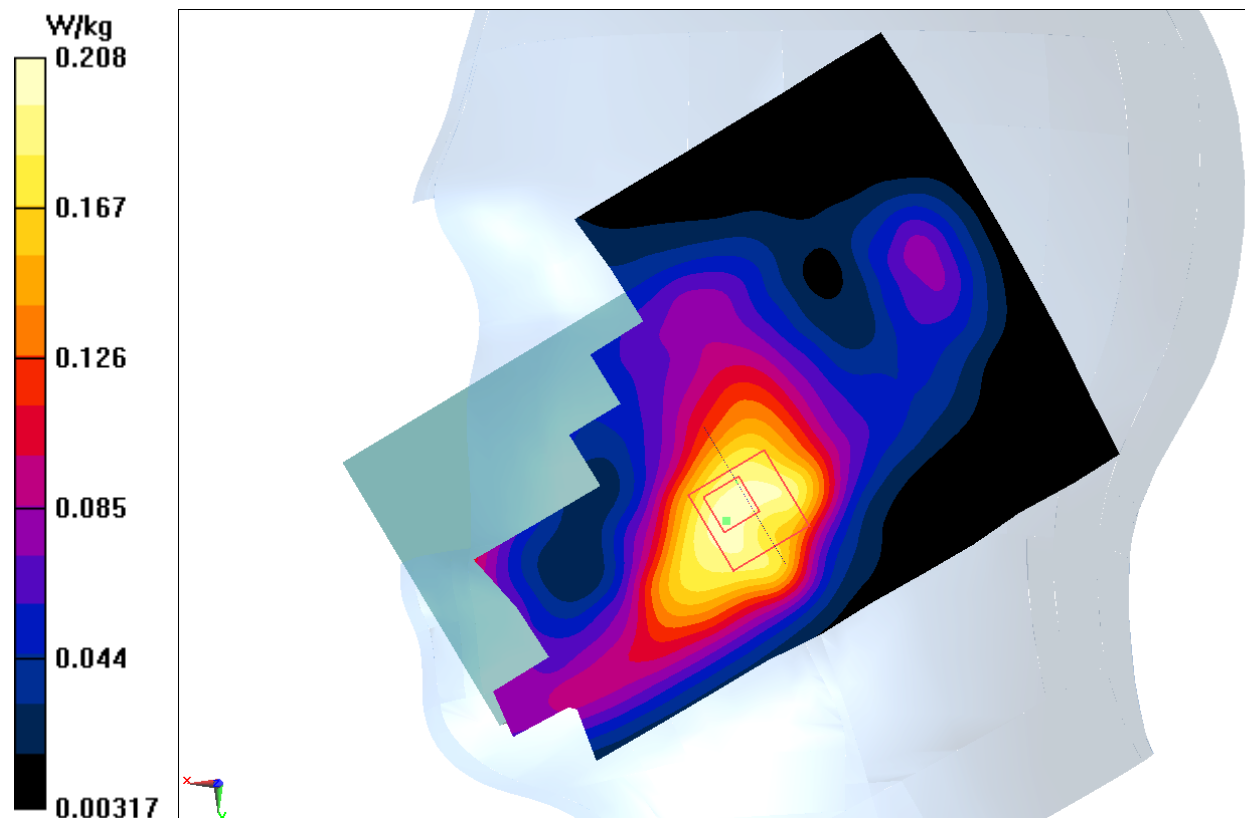


Fig.15 LTE Band2

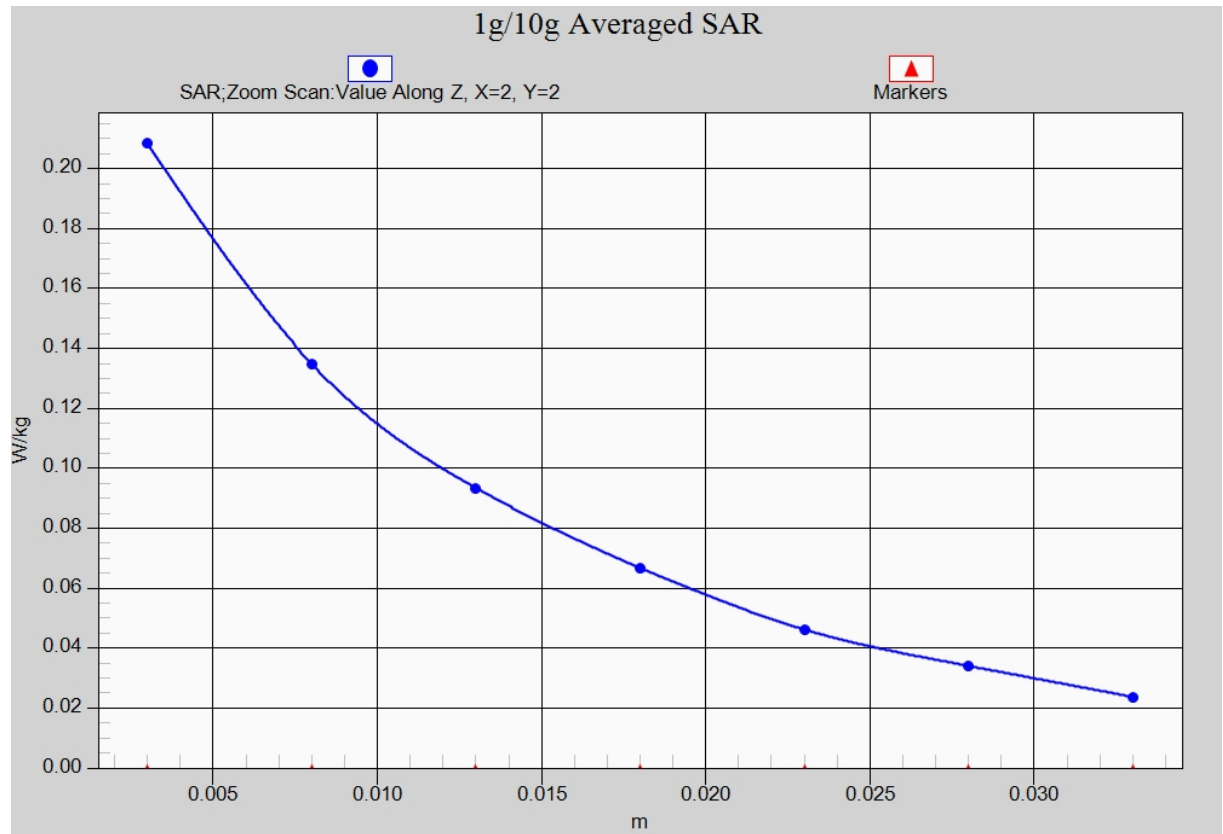


Fig. 15-1 Z-Scan at power reference point (LTE Band2)

LTE Band2 Body Bottom High with QPSK_20M_1RB_Low

Date: 2017-1-15

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.517$ mho/m; $\epsilon_r = 52.21$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band2 Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(7.67, 7.67, 7.67)

Area Scan (111x61x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.56 W/kg

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

Reference Value = 24.95 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.590 W/kg

Maximum value of SAR (measured) = 1.42 W/kg

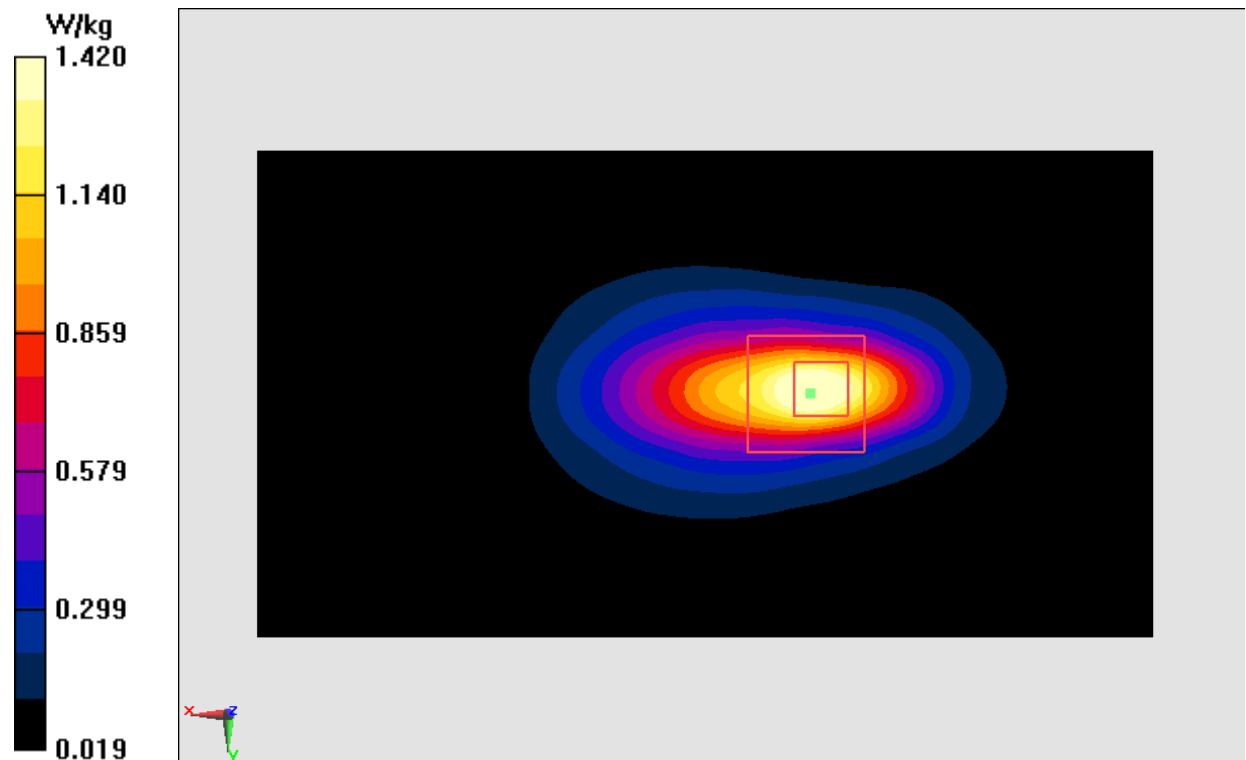


Fig.16 LTE Band2

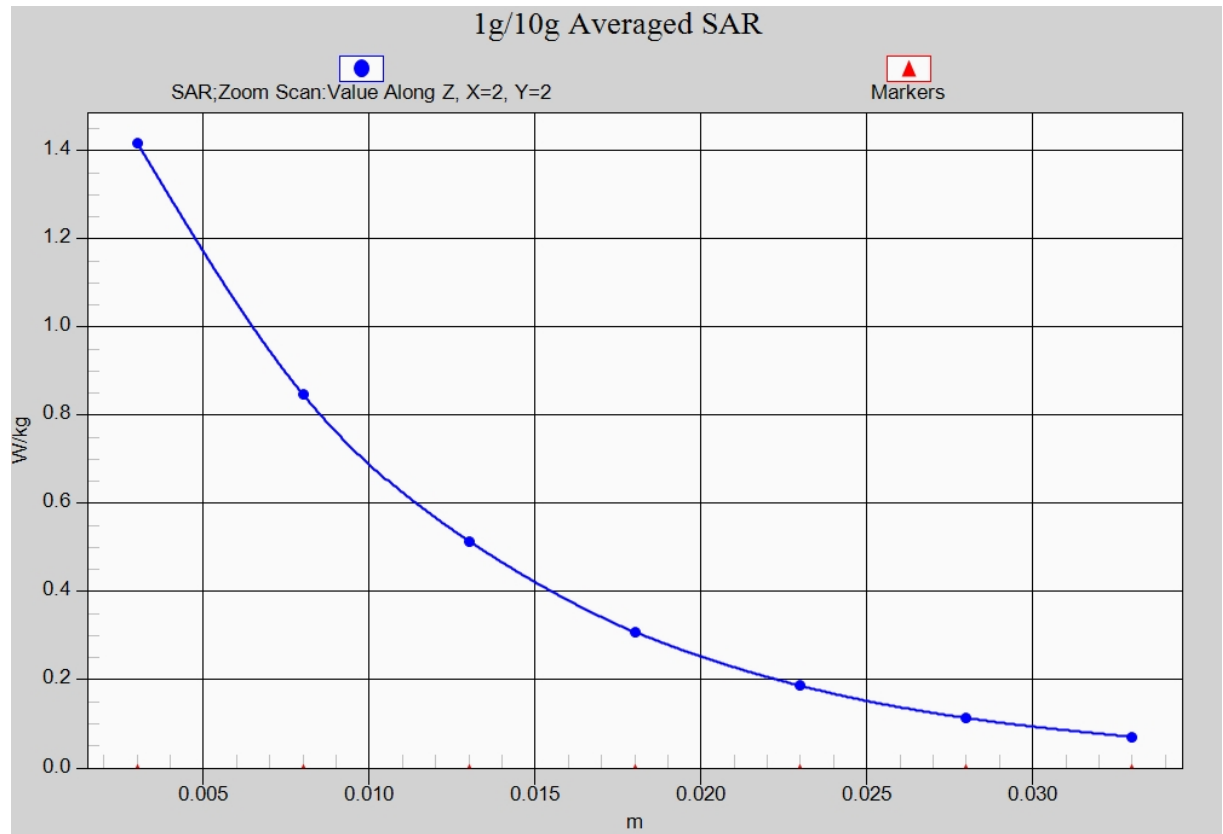


Fig. 16-1 Z-Scan at power reference point (LTE Band2)

LTE Band4 Right Cheek High with QPSK_20M_1RB_Low

Date: 2017-1-14

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used $f = 1745$ MHz; $\sigma = 1.329$ mho/m; $\epsilon_r = 40.287$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band4 Frequency: 1745MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.37, 8.37, 8.37)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.461 W/kg

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

Reference Value = 4.143 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.484 W/kg

SAR(1 g) = 0.320 W/kg; SAR(10 g) = 0.212 W/kg

Maximum value of SAR (measured) = 0.369 W/kg

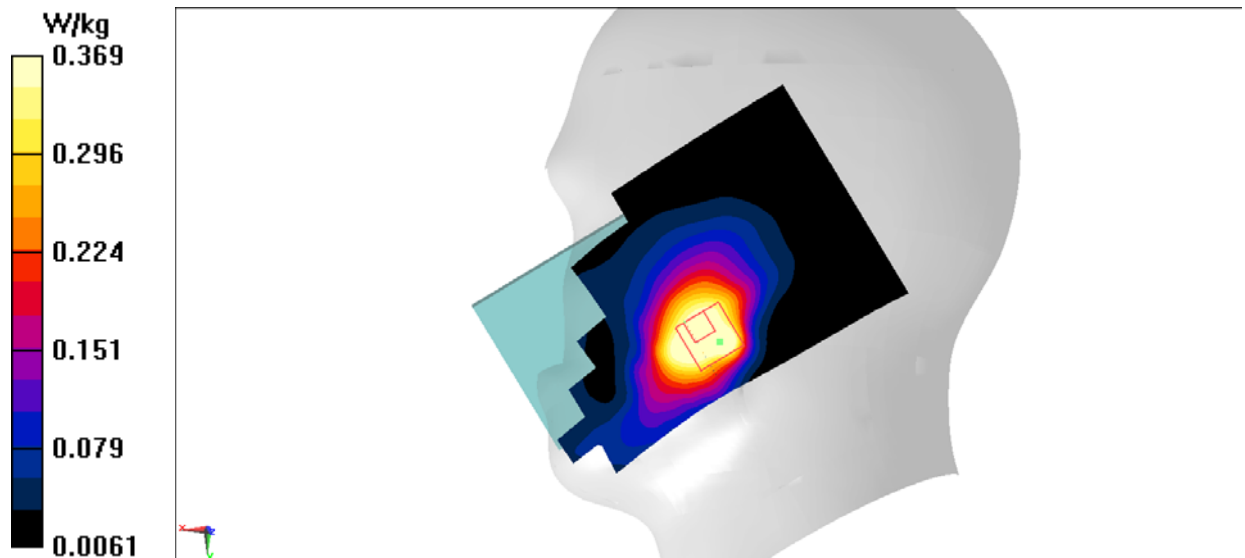


Fig.17 LTE Band4

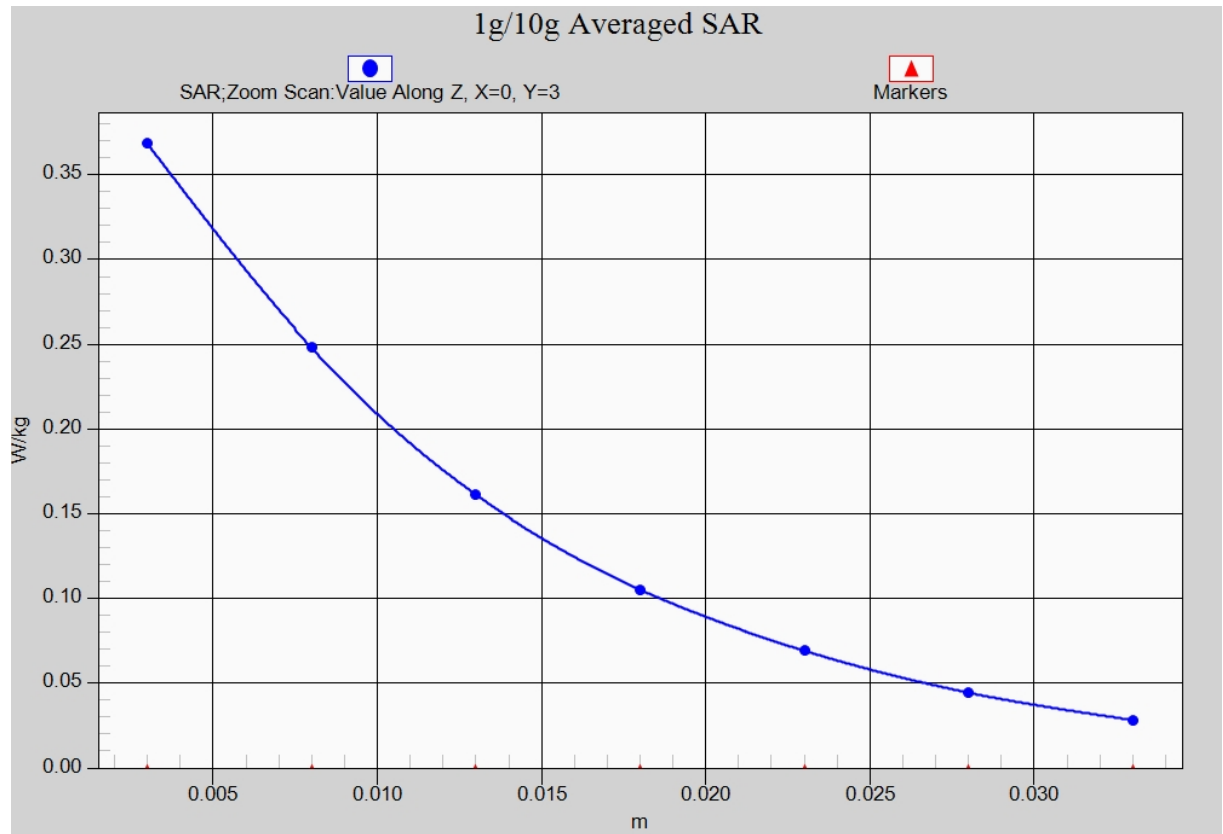


Fig. 17-1 Z-Scan at power reference point (LTE Band4)

LTE Band4 Body Bottom High with QPSK_20M_100RB

Date: 2017-1-14

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.526$ mho/m; $\epsilon_r = 53.329$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band4 Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.18, 8.18, 8.18)

Area Scan (111x61x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.38 W/kg

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

Reference Value = 21.47 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.84 W/kg

SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.524 W/kg

Maximum value of SAR (measured) = 1.31 W/kg

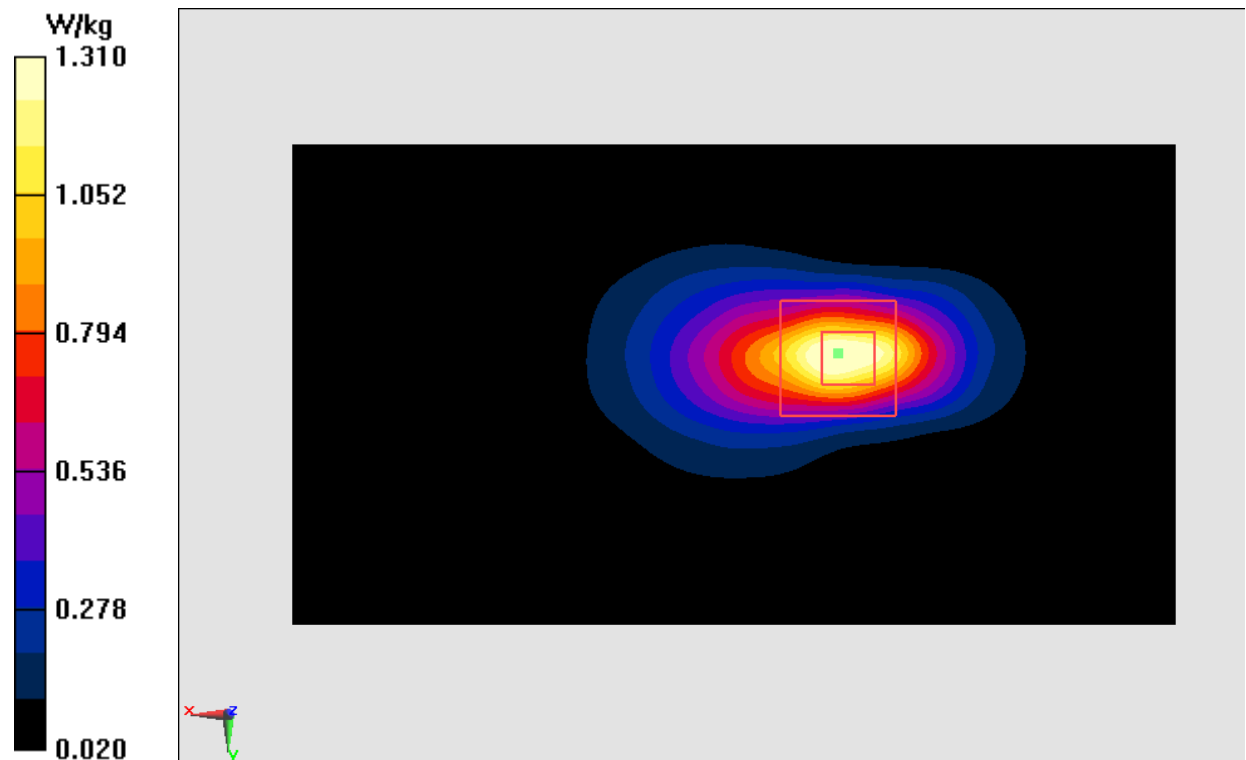


Fig.18 LTE Band4

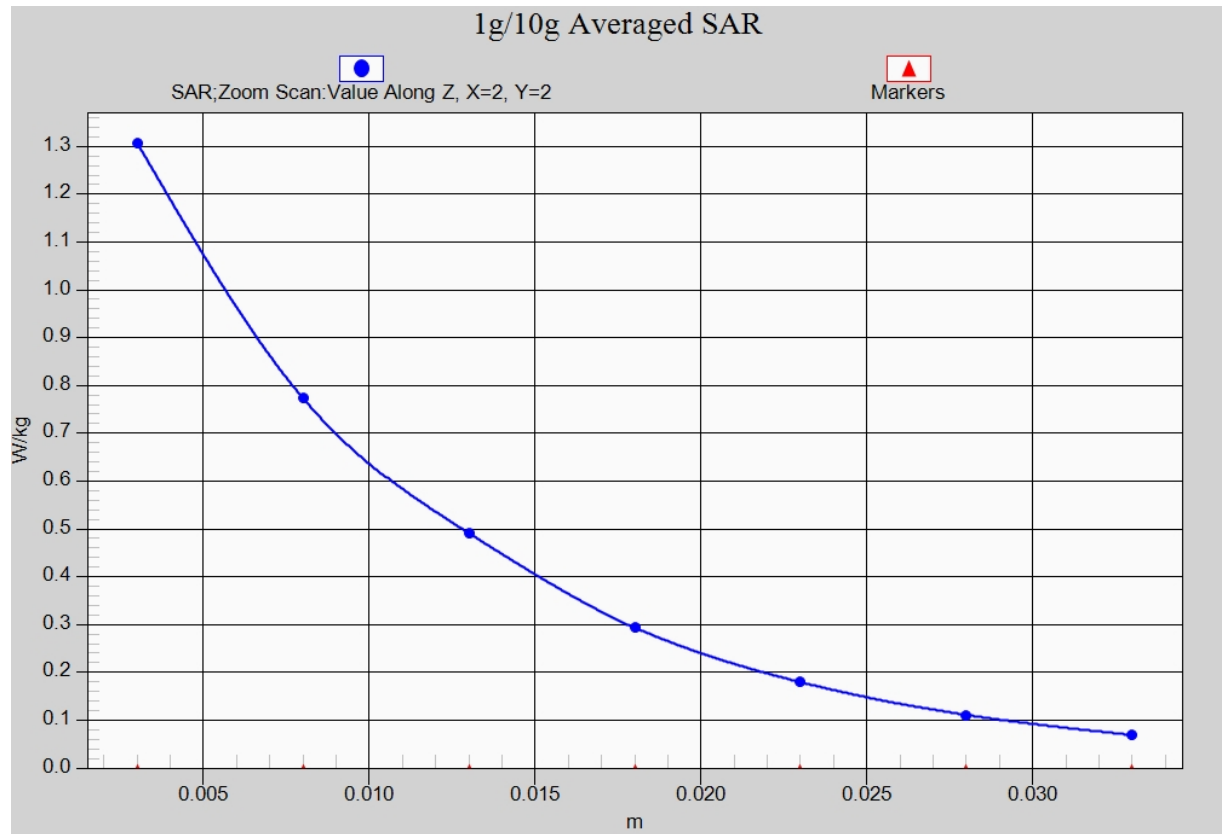


Fig. 18-1 Z-Scan at power reference point (LTE Band4)

LTE Band5 Left Cheek High with QPSK_10M_25RB_High – antenna1

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 844$ MHz; $\sigma = 0.923$ mho/m; $\epsilon_r = 41.431$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band5 Frequency: 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7307 ConvF(10.01, 10.01, 10.01)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.244 W/kg

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

Reference Value = 6.130 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.296 W/kg

SAR(1 g) = 0.224 W/kg; SAR(10 g) = 0.167 W/kg

Maximum value of SAR (measured) = 0.247 W/kg

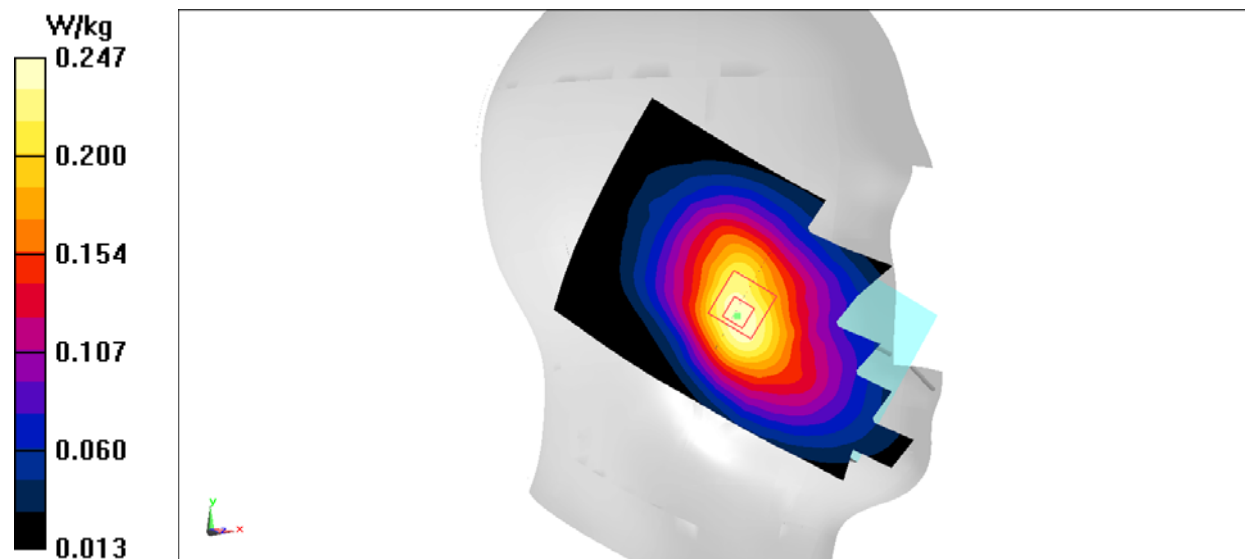


Fig.19 LTE Band5

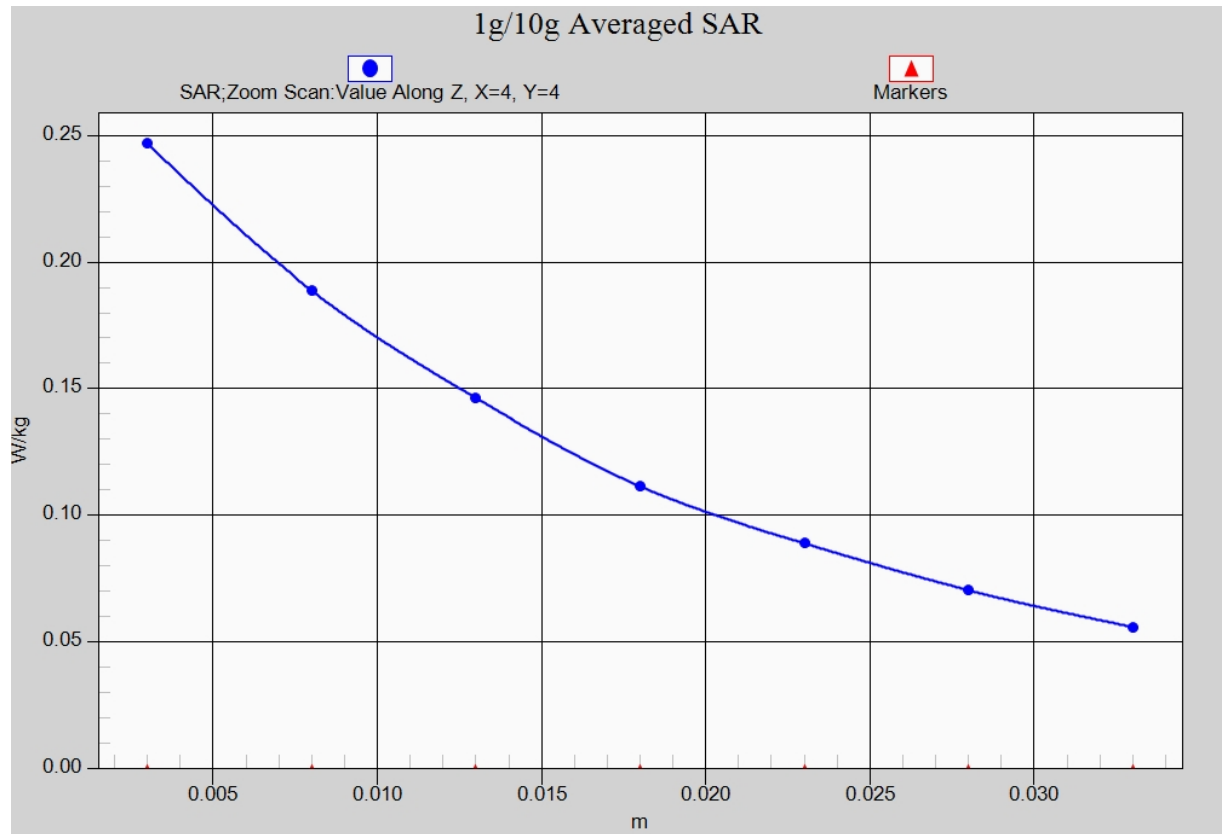


Fig. 19-1 Z-Scan at power reference point (LTE Band5)

LTE Band5 Body Left High with QPSK_10M_25RB_High – antenna1

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 844$ MHz; $\sigma = 1.028$ mho/m; $\epsilon_r = 55.734$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band5 Frequency: 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7307 ConvF(9.83, 9.83, 9.83)

Area Scan (131x81x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.309 W/kg

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

Reference Value = 16.25 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.401 W/kg

SAR(1 g) = 0.276 W/kg; SAR(10 g) = 0.187 W/kg

Maximum value of SAR (measured) = 0.298 W/kg

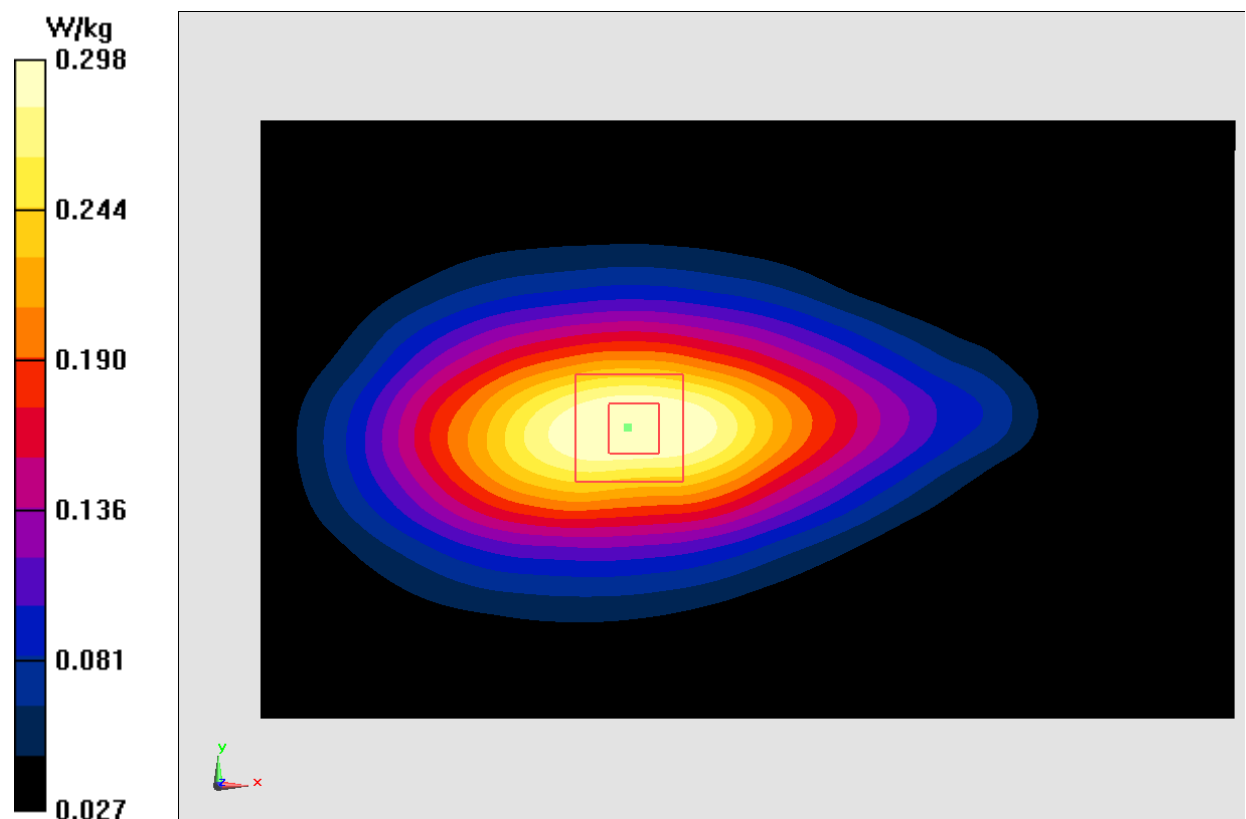


Fig.20 LTE Band5

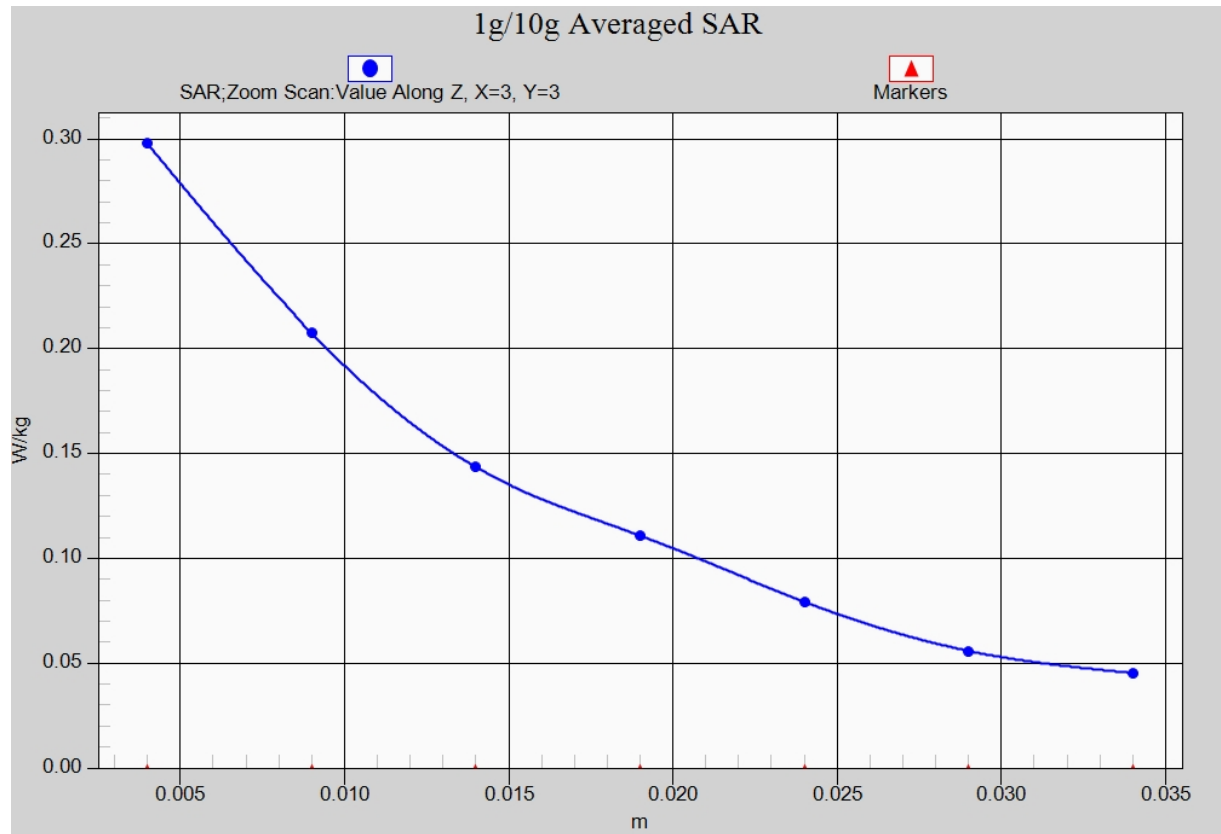


Fig. 20-1 Z-Scan at power reference point (LTE Band5)

LTE Band5 Left Cheek Low with QPSK_10M_1RB_High – antenna2

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 829$ MHz; $\sigma = 0.909$ mho/m; $\epsilon_r = 41.651$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7307 ConvF(10.01, 10.01, 10.01)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.222 W/kg

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

Reference Value = 4.327 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.272 W/kg

SAR(1 g) = 0.209 W/kg; SAR(10 g) = 0.159 W/kg

Maximum value of SAR (measured) = 0.229 W/kg

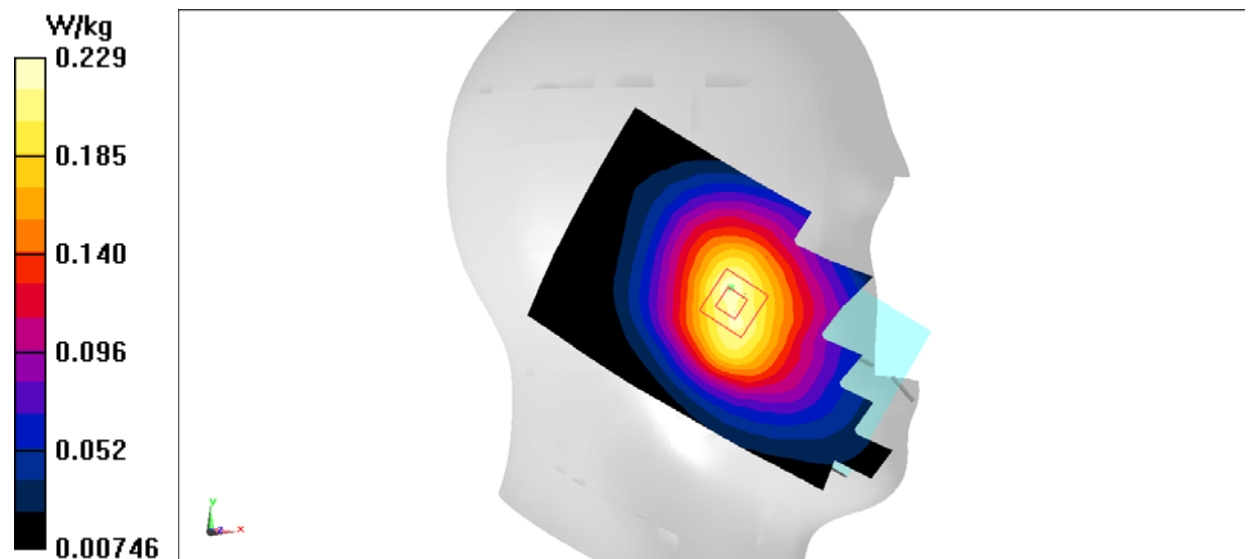


Fig.21 LTE Band5

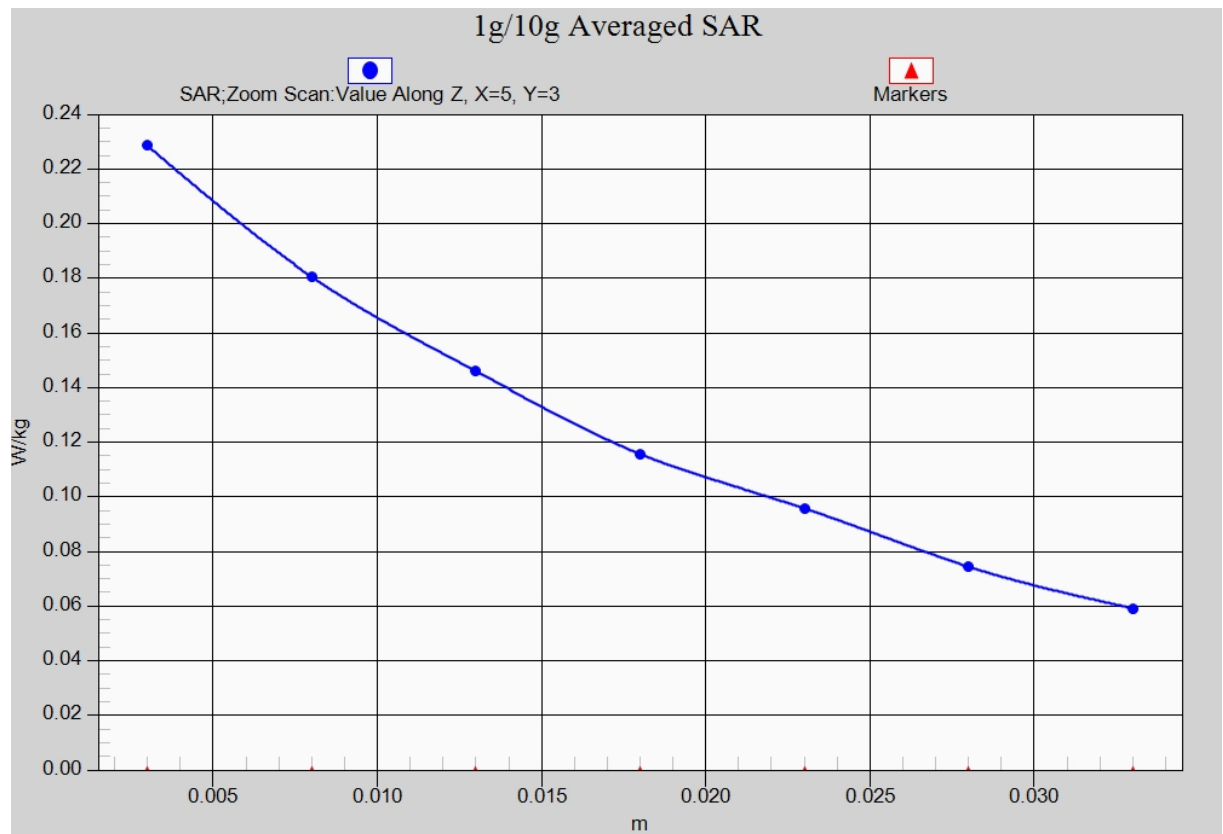


Fig. 21-1 Z-Scan at power reference point (LTE Band5)

LTE Band5 Body Bottom Low with QPSK_10M_1RB_High – antenna2

Date: 2017-1-13

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 829$ MHz; $\sigma = 1.015$ mho/m; $\epsilon_r = 55.894$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7307 ConvF(9.83, 9.83, 9.83)

Area Scan (111x61x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.388 W/kg

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

Reference Value = 17.66 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.507 W/kg

SAR(1 g) = 0.297 W/kg; SAR(10 g) = 0.177 W/kg

Maximum value of SAR (measured) = 0.367 W/kg

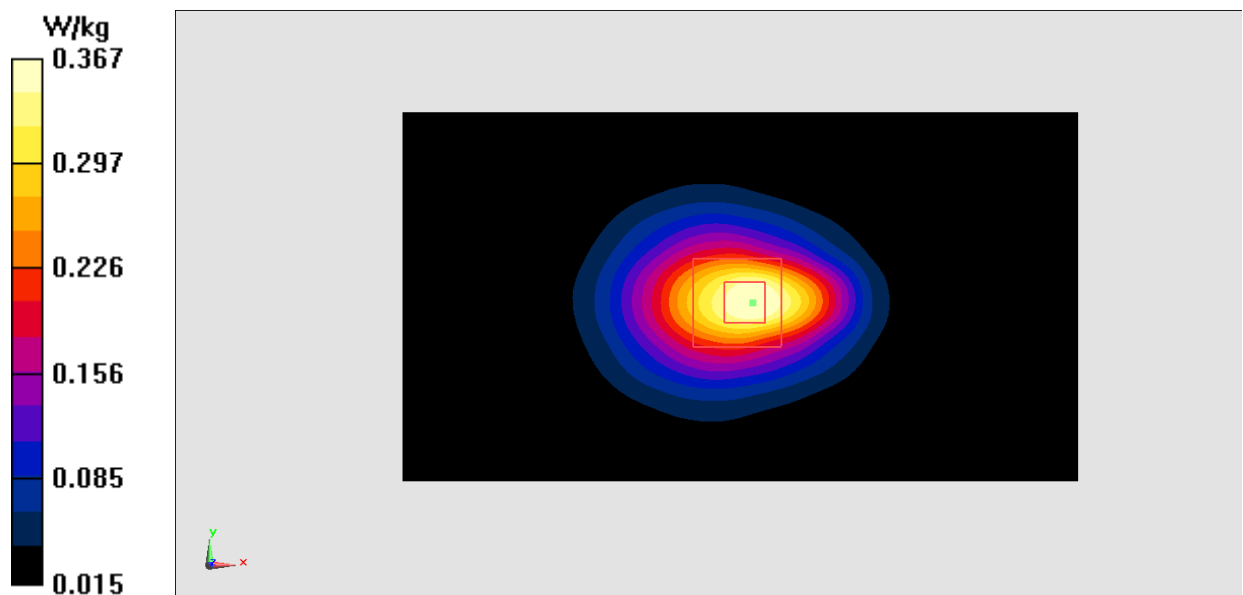


Fig.22 LTE Band5

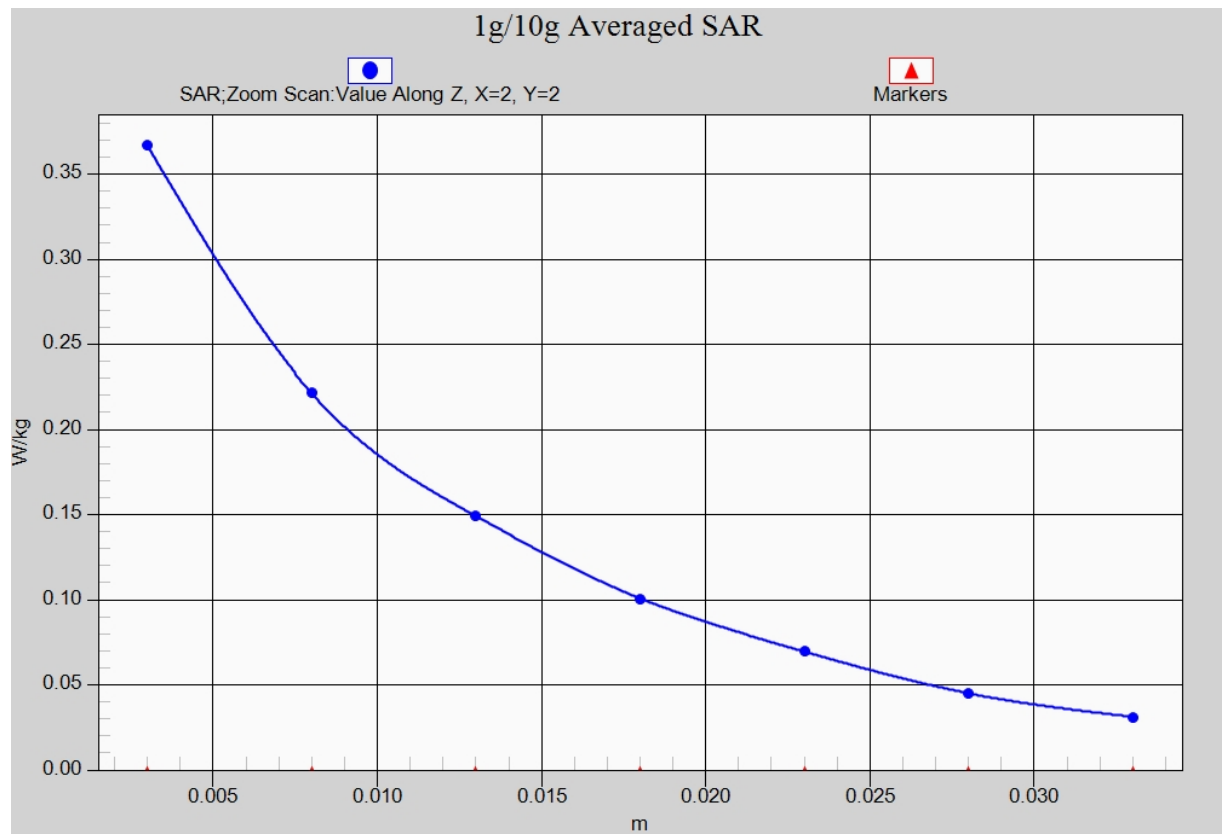


Fig. 22-1 Z-Scan at power reference point (LTE Band5)

LTE Band7 Right Cheek Middle with QPSK_20M_1RB_Low

Date: 2017-1-17

Electronics: DAE4 Sn1331

Medium: Head2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 1.956$ mho/m; $\epsilon_r = 37.92$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band7 Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(7.21, 7.21, 7.21)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.185 W/kg

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

Reference Value = 3.368 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.264 W/kg

SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.078 W/kg

Maximum value of SAR (measured) = 0.178 W/kg

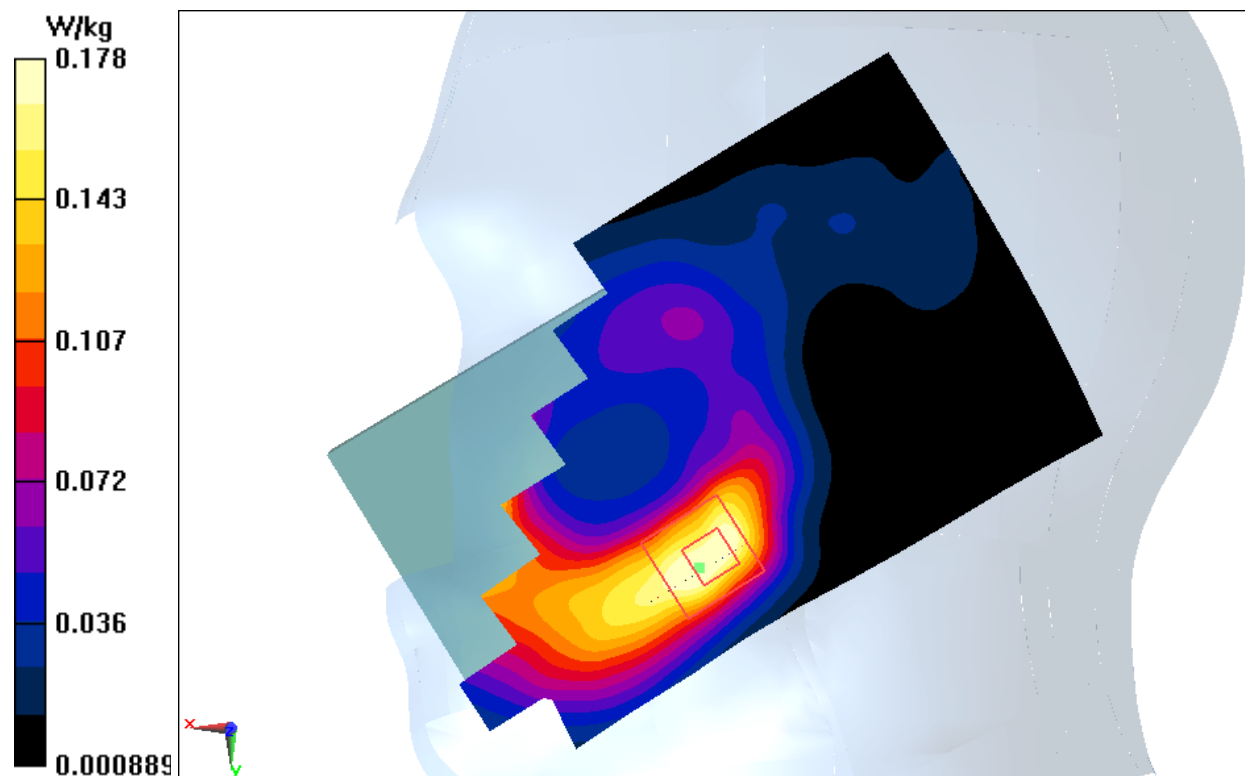


Fig.23 LTE Band7

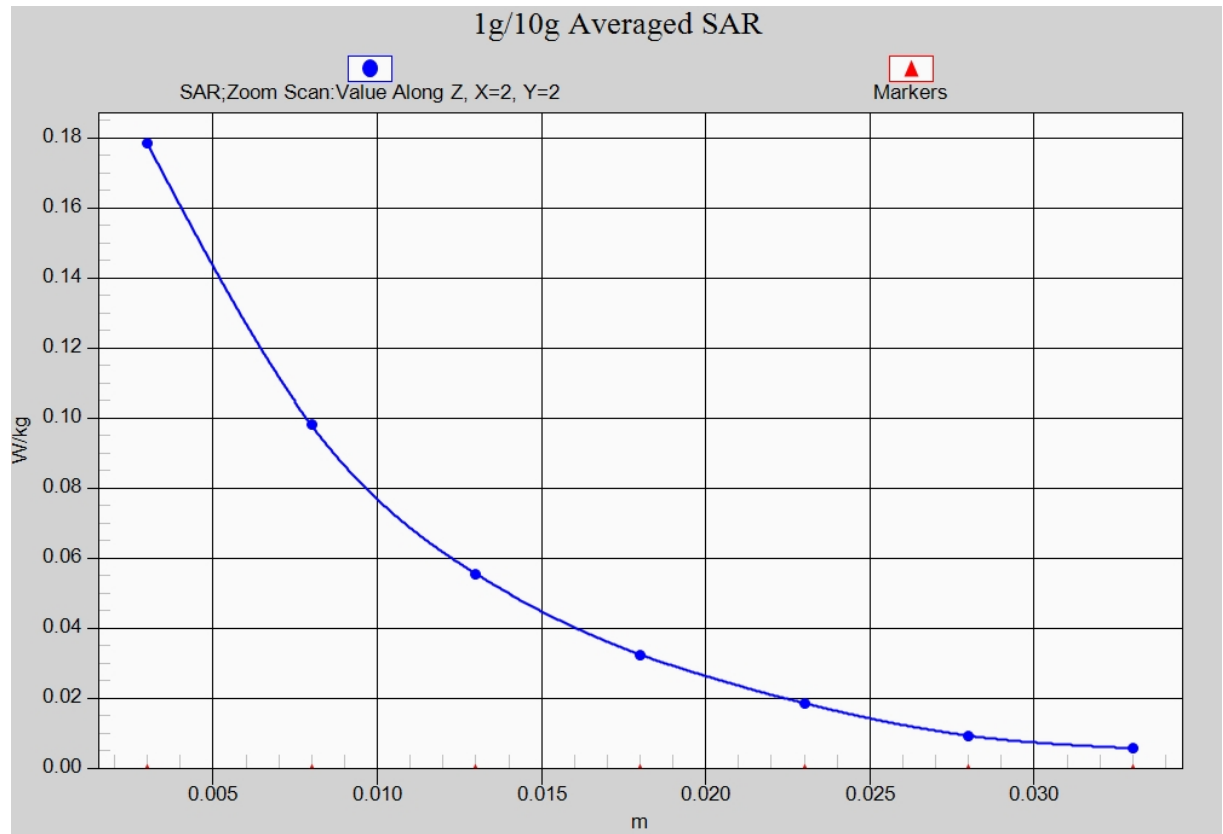


Fig. 23-1 Z-Scan at power reference point (LTE Band7)

LTE Band7 Body Bottom Middle with QPSK_20M_1RB_Low

Date: 2017-1-17

Electronics: DAE4 Sn1331

Medium: Body2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 2.129$ mho/m; $\epsilon_r = 52.31$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band7 Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(7.03, 7.03, 7.03)

Area Scan (111x61x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.34 W/kg

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

Reference Value = 20.12 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 2.19 W/kg

SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.502 W/kg

Maximum value of SAR (measured) = 1.41 W/kg

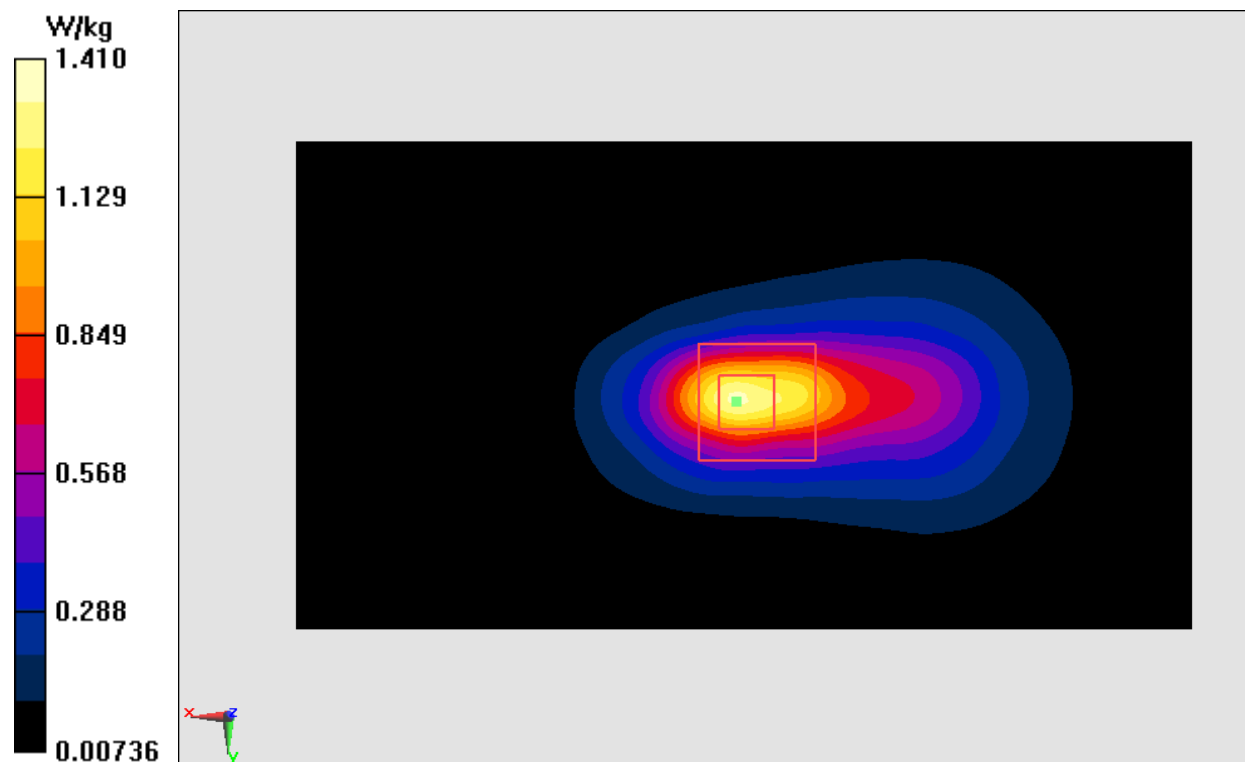


Fig.24 LTE Band7

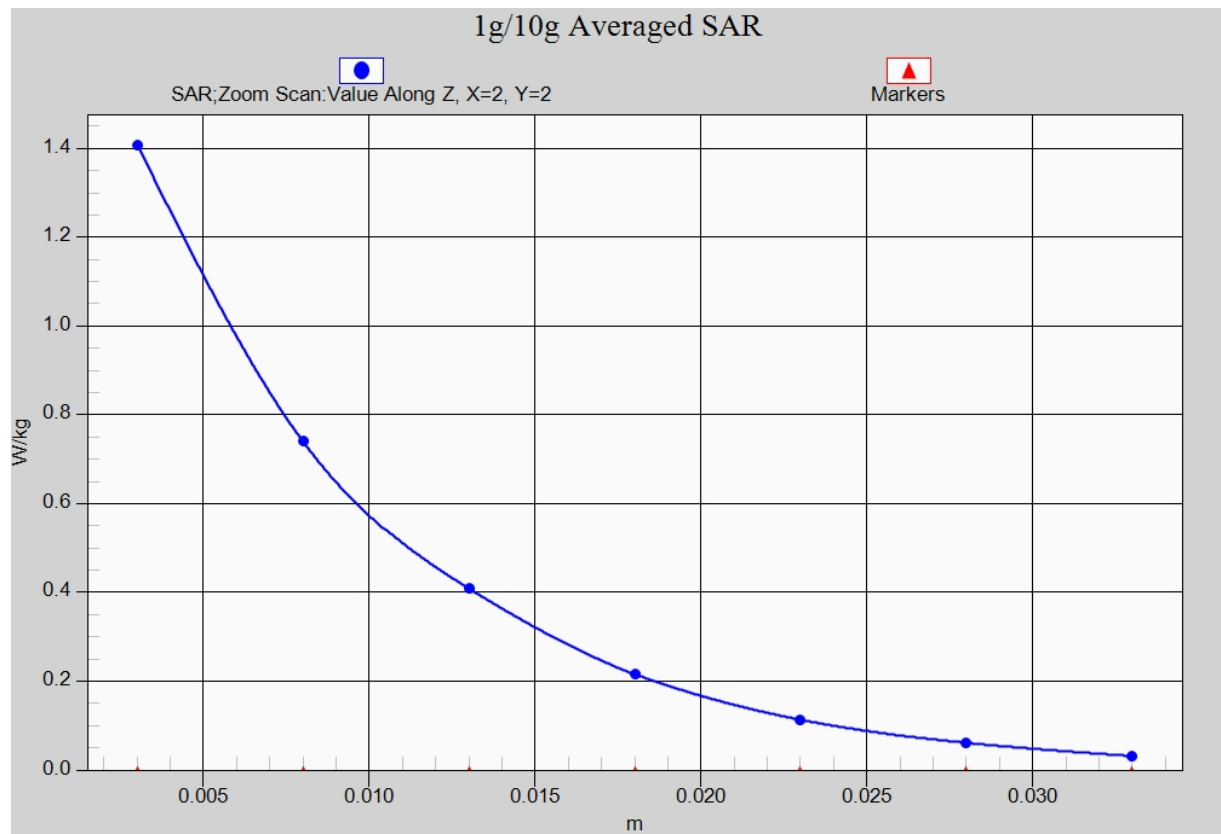


Fig. 24-1 Z-Scan at power reference point (LTE Band7)

LTE Band12 Left Cheek Middle with QPSK_10M_1RB_Middle – antenna1

Date: 2017-1-12

Electronics: DAE4 Sn1331

Medium: Head750 MHz

Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.866$ mho/m; $\epsilon_r = 42.15$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band12Frequency: 707.5 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(10.47,10.47, 10.47)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.145 W/kg

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

Reference Value = 5.959 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.175 W/kg

SAR(1 g) = 0.139 W/kg; SAR(10 g) = 0.109 W/kg

Maximum value of SAR (measured) = 0.152 W/kg

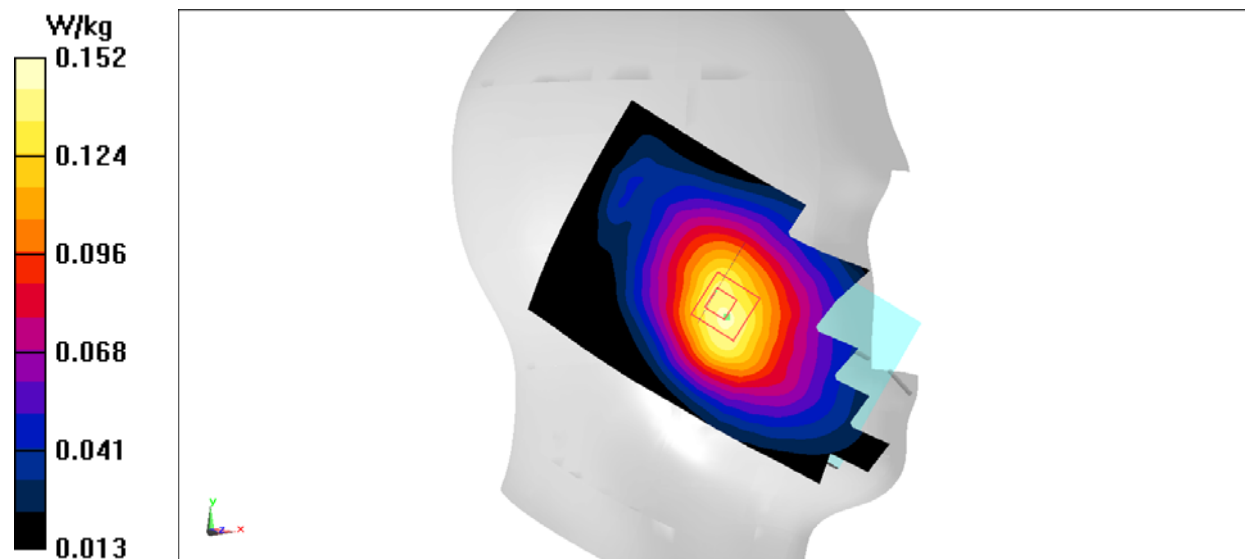


Fig.25 LTE Band12

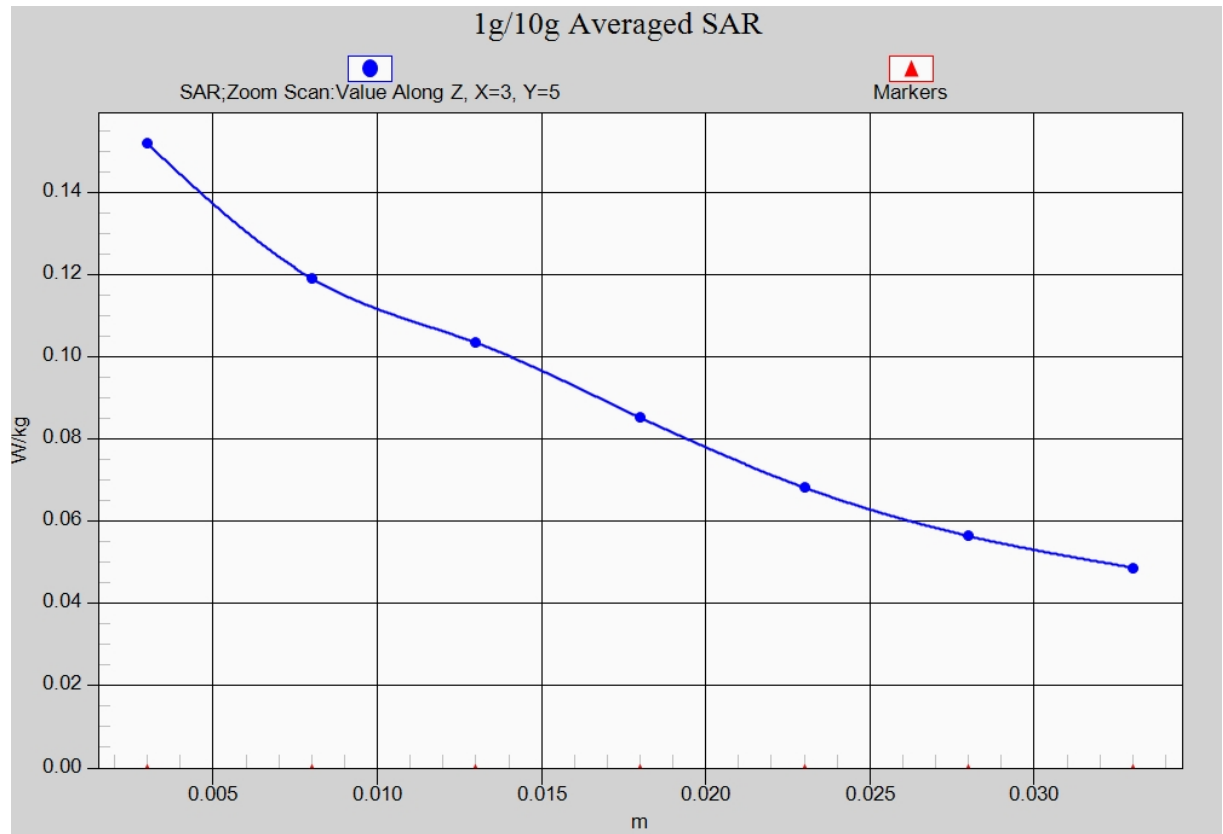


Fig. 25-1 Z-Scan at power reference point (LTE Band12)

LTE Band12 Body Left Middle with QPSK_10M_1RB_Middle – antenna1

Date: 2017-1-12

Electronics: DAE4 Sn1331

Medium: Body750 MHz

Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.942$ mho/m; $\epsilon_r = 56.57$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band12Frequency: 707.5 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(9.93, 9.93, 9.93)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.298 W/kg

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

Reference Value = 19.16 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.359 W/kg

SAR(1 g) = 0.263 W/kg; SAR(10 g) = 0.189 W/kg

Maximum value of SAR (measured) = 0.281 W/kg

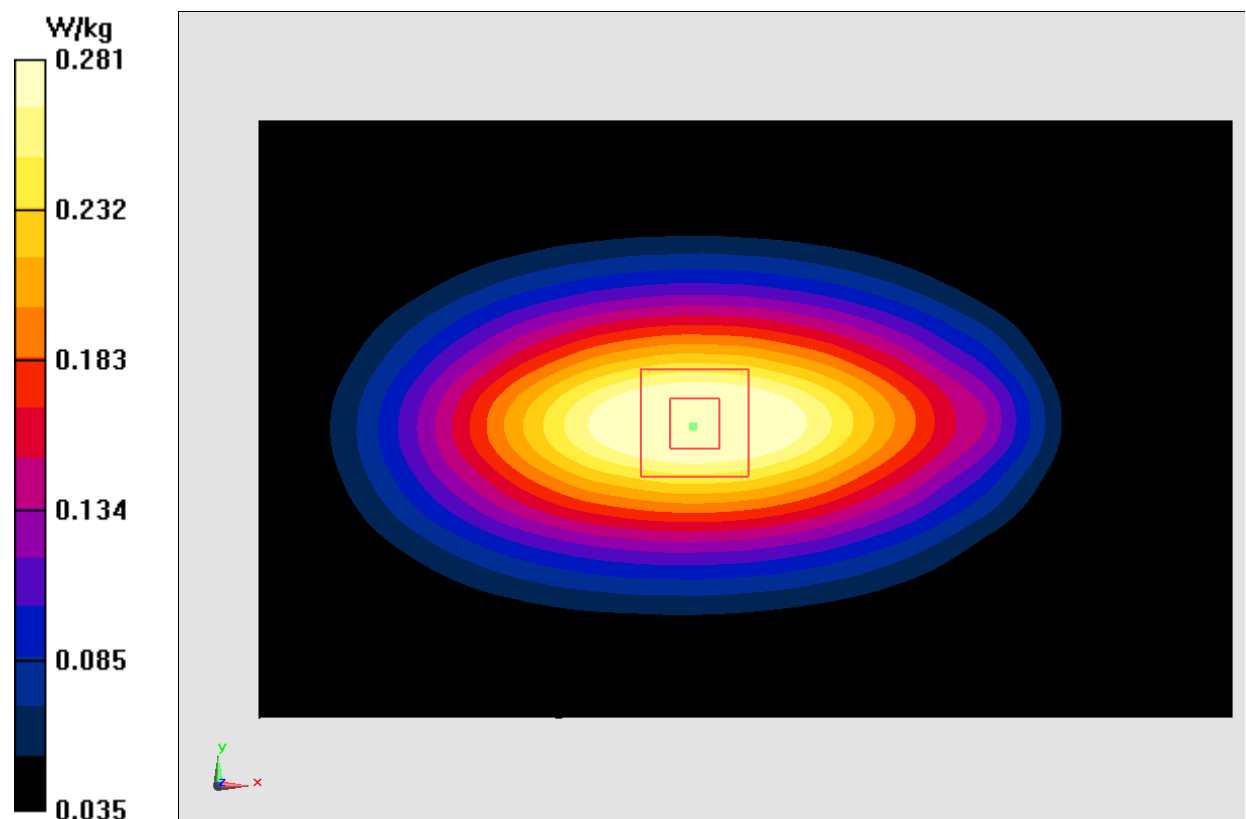


Fig.26 LTE Band12

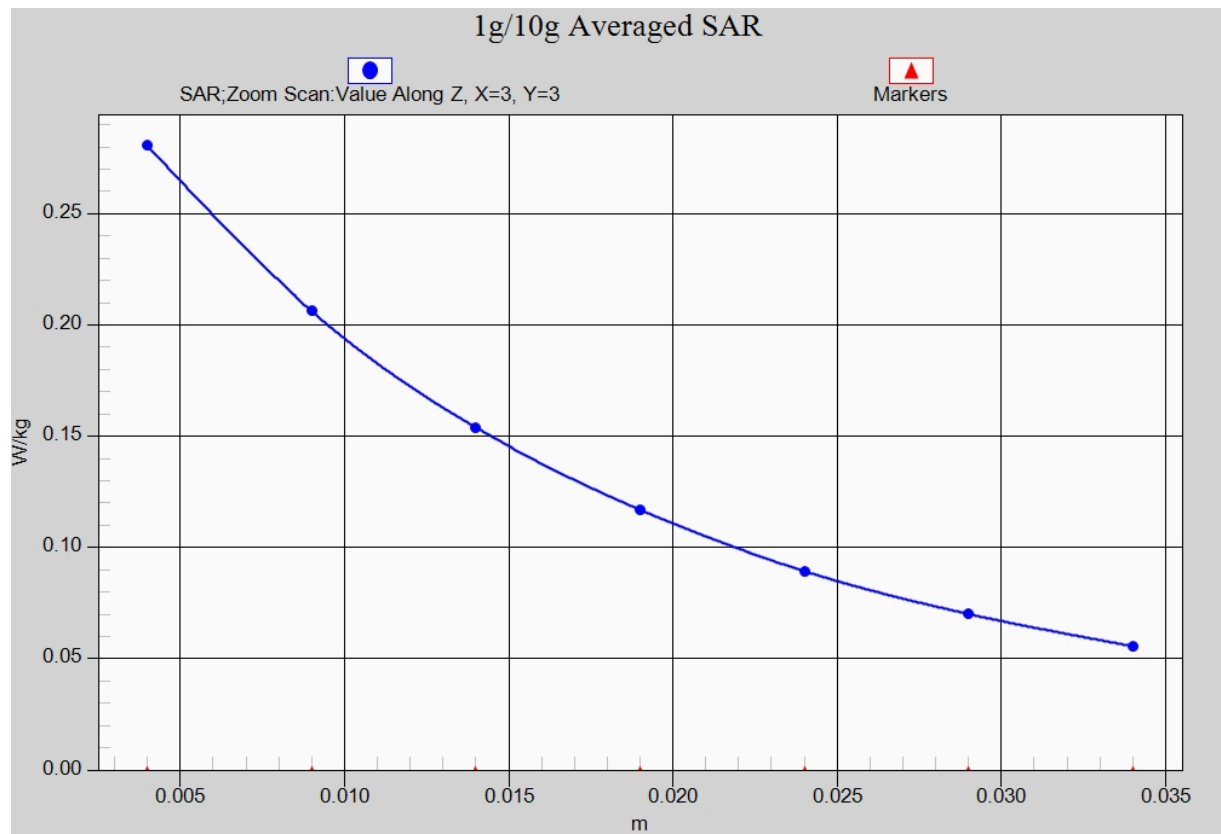


Fig. 26-1 Z-Scan at power reference point (LTE Band12)

LTE Band12 Left Cheek Middle with QPSK_10M_1RB_Middle – antenna2

Date: 2017-1-12

Electronics: DAE4 Sn1331

Medium: Head750 MHz

Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.866$ mho/m; $\epsilon_r = 42.15$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band12Frequency: 707.5 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(10.47,10.47, 10.47)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.182 W/kg

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

Reference Value = 4.320 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.209 W/kg

SAR(1 g) = 0.174 W/kg; SAR(10 g) = 0.135 W/kg

Maximum value of SAR (measured) = 0.187 W/kg

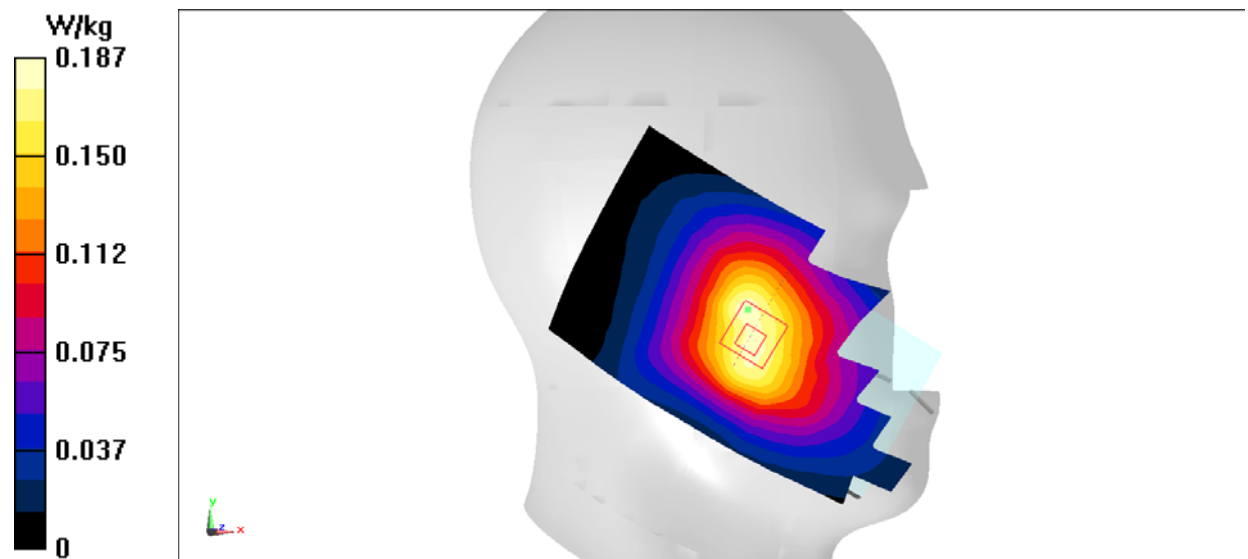


Fig.27 LTE Band12

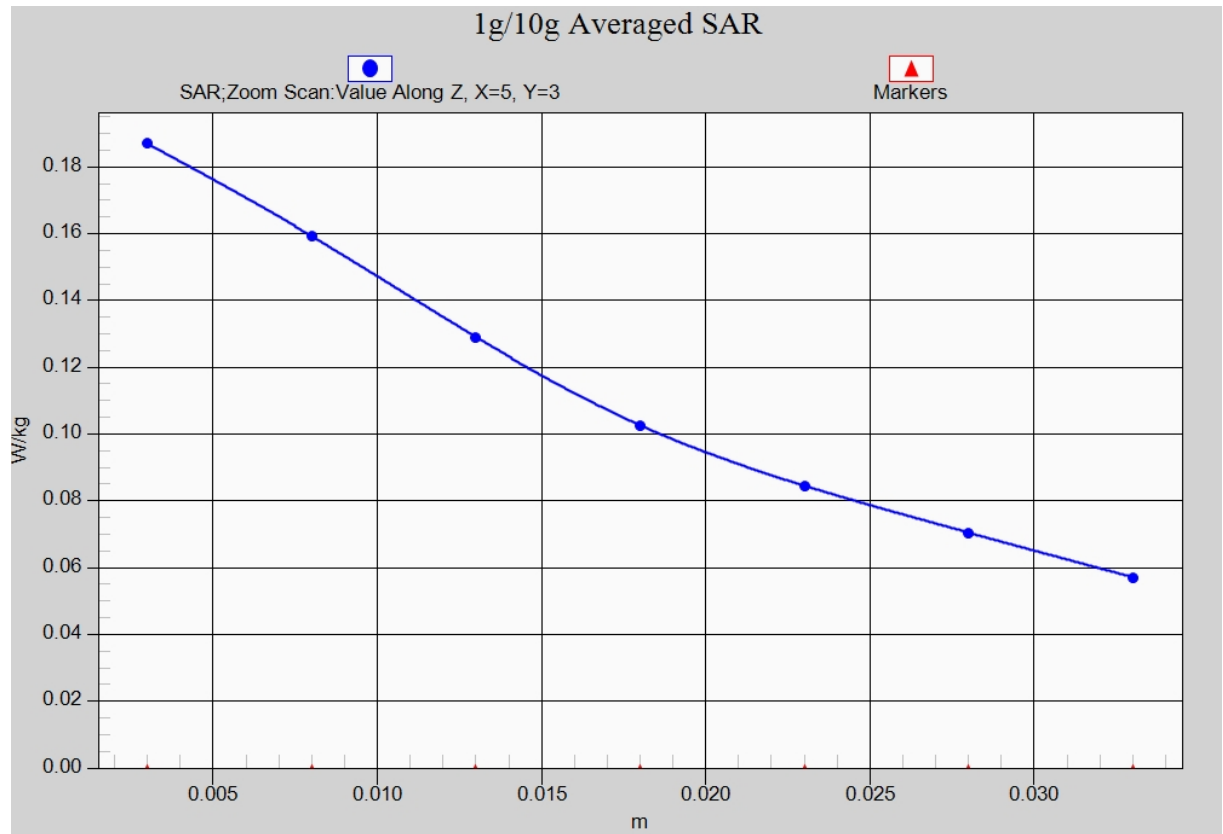


Fig. 27-1 Z-Scan at power reference point (LTE Band12)

LTE Band12 Body Right Middle with QPSK_10M_1RB_Middle – antenna2

Date: 2017-1-12

Electronics: DAE4 Sn1331

Medium: Body750 MHz

Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.942$ mho/m; $\epsilon_r = 56.57$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band12Frequency: 707.5 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(9.93, 9.93, 9.93)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.297 W/kg

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

Reference Value = 17.70 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.377 W/kg

SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.189 W/kg

Maximum value of SAR (measured) = 0.305 W/kg

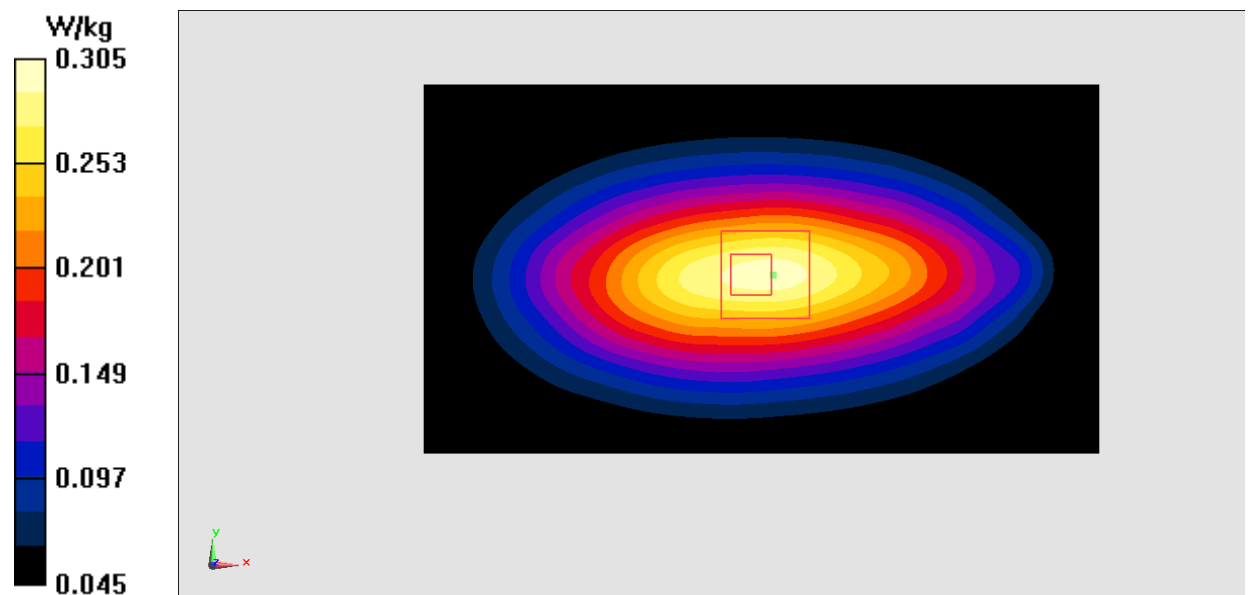


Fig.28 LTE Band12

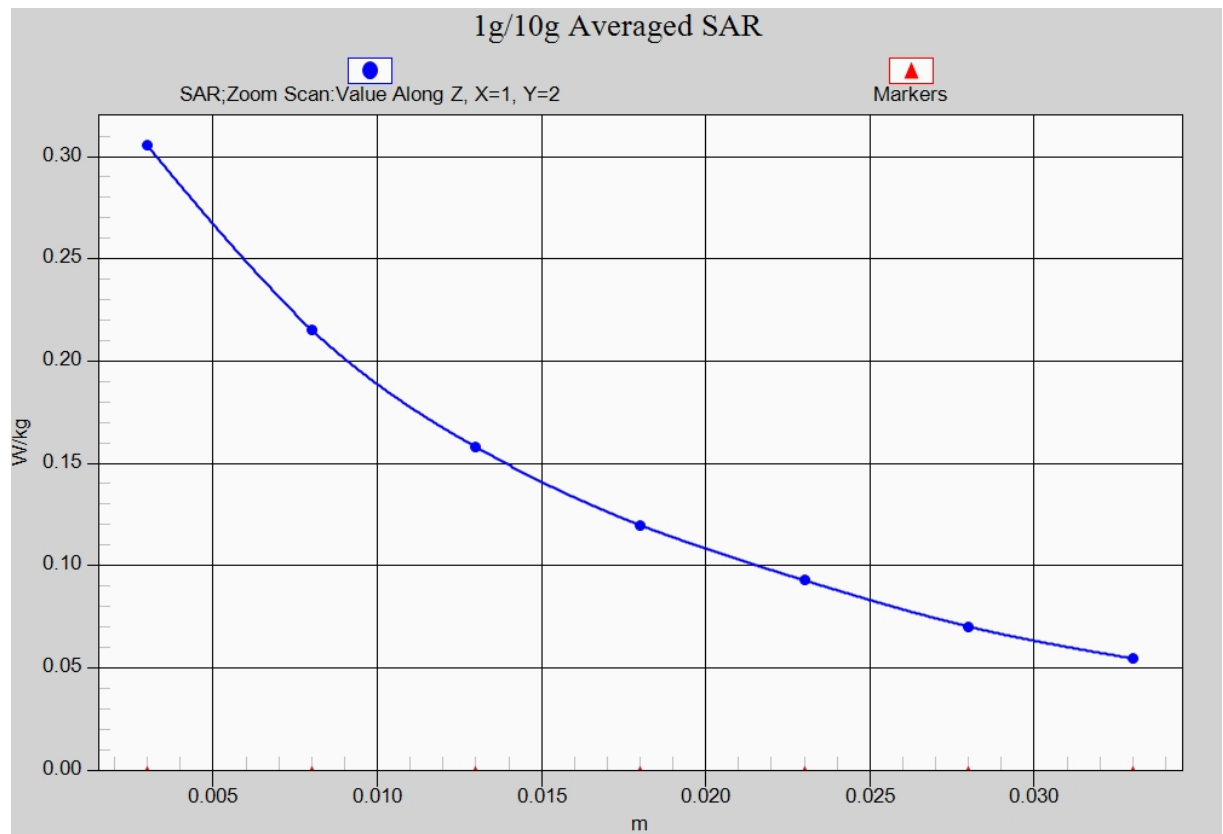


Fig. 28-1 Z-Scan at power reference point (LTE Band12)

LTE Band13 Left Cheek with QPSK_10M_1RB_Middle – antenna1

Date: 2017-1-12

Electronics: DAE4 Sn1331

Medium: Head750 MHz

Medium parameters used (interpolated): $f = 782$ MHz; $\sigma = 0.904$ mho/m; $\epsilon_r = 42.18$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band13 Frequency: 782 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(10.47, 10.47, 10.47)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.225 W/kg

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

Reference Value = 6.178 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.266 W/kg

SAR(1 g) = 0.210 W/kg; SAR(10 g) = 0.161 W/kg

Maximum value of SAR (measured) = 0.227 W/kg

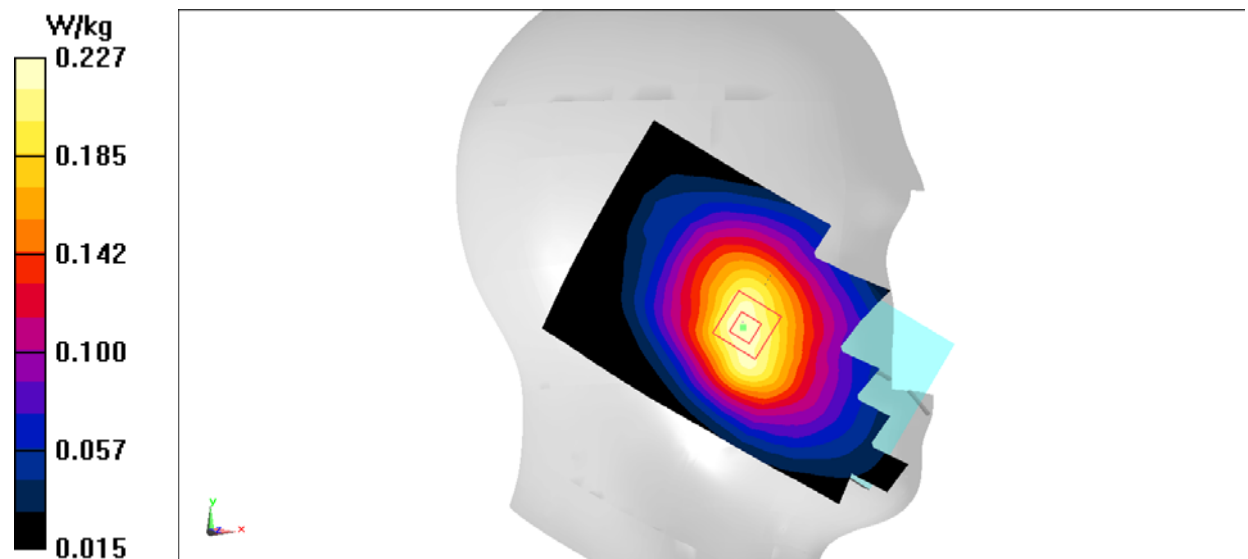


Fig.29 LTE Band13