Registration
No.910917

TEST REPORT

FOR SAR TESTING

Report No.: SRTC2017-9004(F)-17070301(H)

Product Name: Mobile Phone

Product Model: Hisense L675 PRO

Applicant: Hisense International Co., Ltd.

Manufacturer: Hisense Communications Co., Ltd.

Specification: FCC Part 2.1093

IEEE Std 1528-2013

FCC RF Exposure KDB Procedures

FCC ID: 2ADOBL675PRO

The State Radio_monitoring_center Testing Center (SRTC)

15th Building, No.30, Shixing Street, Shijingshan District,

Beijing, P.R.China

Tel: 86-10-57996183 Fax: 86-10-57996388

Contents

1. GENERAL INFORMATION

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC).
The test results relate only to individual items of the samples which have been tested.

1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
Address:	No.80 Beilishi Road, Xicheng District
City:	Beijing
Country or Region:	P.R.China
Contacted person:	Liu Jia
Tel:	+86 10 5799 6183
Fax:	+86 10 5799 6388
Email:	liujiaf@srtc.org.cn

1.3 Applicant's details

Company:	Hisense International Co., Ltd.
Address:	Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China
City:	Qingdao
Country or Region:	P.R.China
Grantee Code:	2ADOB
Contacted person:	Zhang Kelin
Tel:	+86-532-55753242
Fax:	---
Email:	zhangkelin@hisense.com

1.4 Manufacturer's details

Company:	Hisense Communications Co., Ltd.
Address:	218 Qianwangang Road, Economic & Technological Development Zone, Qingdao, Shandong Province, P.R. China
City:	Qingdao
Country or Region:	P.R.China
Contacted person:	Li Xin
Tel:	+86-532-55755993
Fax:	---
Email:	linxin12@hisense.com

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2017.06.07
Testing Start Date:	2017.06.08
Testing End Date:	2017.07.05

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	24.0	30.0

Normal Supply Voltage (V d.c.):	3.80

2. DESCRIPTION OF THE DEVICE UNDER TEST

2.1 Final Equipment Build Status

Wireless Technology and Frequency Bands	GSM Band : GSM850/PCS1900 WCDMA Band: FDD2/4/5 LTE Band: FDD2/4/5/7 Wi-Fi Band: 2400MHz~2483.5MHz Bluetooth Band: 2400MHz~2483.5MHz
Mode	GSM ☒Voice (GMSK) ☒GPRS (GMSK) ☒EGPRS (GMSK/8PSK) WCDMA ☒UMTS Rel. 99 (Voice & Data) ☒HSDPA (Rel. 5) ☒HSUPA (Rel. 6) ☐HSPA+ (Rel.) ☐DC-HSDPA (Rel.) LTE ☒QPSK ☒16QAM Wi-Fi 2.4GHz ☒802.11b ☒802.11g ☒802.11n (20MHz) ☐802.11n (40MHz) Bluetooth ☒BR(GFSK) ☒EDR(π/4 DQPSK , 8-DPSK) ☒BLE(GFSK)
Duty Cycle	GSM Voice: 12.5%; GPRS: 12.5% (1 Slot), 25% (2 Slots), 37.5% (3 Slots), 50% (4 Slots) WCDMA: 100% Wi-Fi 802.11b/g/n: 100% Bluetooth: 32.25% (DH1), 66.68% (DH3), 77.52% (DH5)
GPRS Multi-Slot Class	☐Class 8 - One Up ☐Class 10 - Two Up ☒Class 12 - Four Up
Mobile Phone Capability	☐Class A - Mobile phones can be connected to both GPRS and GSM services simultaneously. ☒Class B - Mobile phones can be attached to both GPRS and GSM services, using one service at a time. ☐Class C - Mobile phones are attached to either GPRS or GSM voice service. You need to switch manually between services
DTM (Dual Transfer Mode)	Not Supported

2.2 Support Equipment

The following support equipment was used to exercise the DUT during testing:

State of sample	Production unit
Headset	PY-1309102-05KD45/ DONGGUAN HETONG INDUSTRIAL CO.,LTD
Batteries	Battery1 :LIW38238/TMB Battery2 :LIW38238/VEKEN
H/W Version S/W Version	V1.00 L1402.6.01.00.MX05
IMEI	863721030069527
Notes	As the information described above, there is only one model of the batteries manufactured by two different companies. The relevant tests have been performed in order to verify in which combination case the EUT would have the worst features. So all the tests shown in this test report are performed when the EUT exercised by the battery TMB.

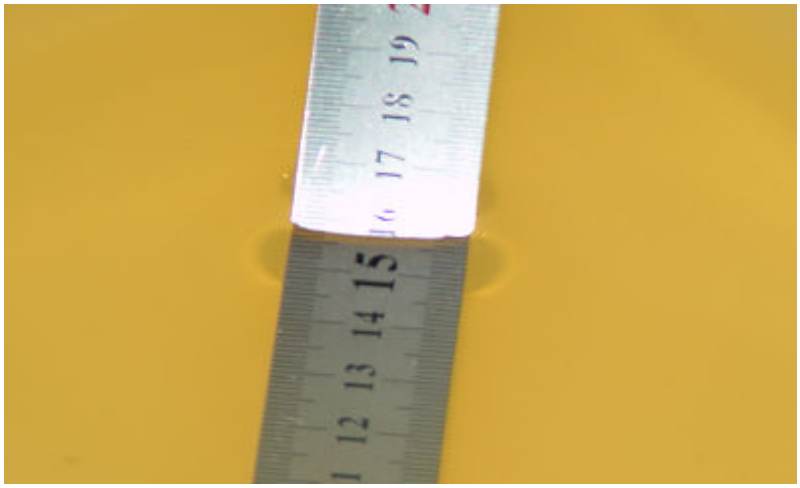
3. REFERENCE SPECIFICATION

Specification	Version	Title
Part 2.1093	Nov. 14, 2016	Radiofrequency radiation exposure evaluation: portable devices.
IEEE Std 1528	2013	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
IEEE Std 1528a	2005	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques Amendment 1: CAD File for Human Head Model (SAM Phantom)
KDB 447498 D01	v06	General RF Exposure Guidance
KDB 648474 D04	v01r03	Handset SAR
KDB 941225 D01	v03r01	3G SAR Procedures
KDB 941225 D06	v02r01	Hotspot Mode
KDB 248227 D01	v02r02	SAR meas for 802 11 a b g
KDB 865664 D01	v01r04	SAR Measurement 100 MHz to 6 GHz
KDB 865664 D02	v01r02	RF Exposure Reporting
KDB 941225 D05	v02r05	SAR for LTE Devices

4. TEST CONDITIONS

4.1 Picture to demonstrate the required liquid depth

The liquid depth in the used SAM phantoms



Liquid depth for SAR Measurement

4.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester. Communication between the device and the call tester was established by air link.
The device output power was set to maximum power level for all tests; a fully charged battery was used for every test sequence.
In all operating bands the measurements were performed on lowest, middle and highest channels.

4.3 SAR Measurement Set-up

The system is based on a high precision robot (working range greater than 0.9m), which positions the probes with a positional repeatability of better than ± 0.02mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length =300mm) to the data acquisition unit. A cell controller system contains the power supply, robot controller, teaches pendant (Joystick), and remote control, is used to drive the robot motors.
The PC consists of the Micron Pentium IV computer with Win7 system and SAR Measurement Software DASY5 Professional, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot.

A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler
(EOC). The EOC performs the conversion from the optical into digital electric signal of the DAEand transfers data to the PC plug-in card. The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines.
The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection
The robot uses its own controller with a built in VME-bus computer.

4.4 Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twin headed "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements of IEEE 1528 - 2013.
System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.
The SPEAG device holder (see Section 5.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.

4.5 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 - 2013 and FCC Supplement C to OET Bulletin 65. All tests were carried out using simulants whose dielectric parameters were within ± 5% of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.
The depth of the tissue simulant was 15.0 ± 0.5 cm measured from the ear reference point during system checking and device measurements.

4.5.1 Tissue Simulant Recipes

The following recipe(s) were used for Head and Body tissue stimulant(s):

835MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Water	41.45	52.50
Sugar	56.00	45.0
Nacl	1.45	1.40
Cellulose	1.00	1.00
Preventol	0.10	0.10

1900MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Water	44,45	70.17
DGBE	55.24	29.44
Nacl	0.31	0.39

2450MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Water	55.00	68.64
DGBE	45.00	31.37
Nacl	0.00	0.00

5GHz band

Ingredient	Head (% by weight)	Body (% by weight)
Water	65.52	---
Triton X-100	17.24	---
Diethylenglycol monohexylether	17.24	---

4.6 DESCRIPTION OF THE TEST PROCEDURE

4.6.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.

Device holder supplied by SPEAG

4.6.2 Test positions

4.6.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.
The positions used in the measurements were according to IEEE 1528 - 2013 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

4.6.2.2 Body Worn Configuration

The device was placed in the SPEAG holder below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance using a separate flat spacer that was removed before the start of the measurements. And the distance is 10mm.The device was oriented with its antenna facing the phantom since this orientation gives higher results.

4.6.3 Scan Procedure

First, area scans were used for determination of the field distribution and the approximate location of the local peak SAR values. The SAR distribution is scanned along the inside surface, at least for an area larger than the projection of the handset and antenna. The angle between the probe axis and the surface normal line is recommended but not required to be less than 30°. The SAR distribution is first measured on a 2-D coarse grid. The scan region should cover all areas that are exposed and encompassed by the projection of the handset. It is a 15 mm × 15 mm measurement grid used when two staggered one-dimensional cubic splines are used to estimate the maximum SAR location. Next, a zoom scan, a minimum of 7 x 7x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

4.6.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.
The interpolation, extrapolation and maximum search routines within DASY5 are all based on the modified Quadratic Shepard’s method (Robert J. Renka,”Multivariate Interpolation of Large Sets of Scattered Data”, University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).
The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.
In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

5 RESULT SUMMAR

The maximum reported SAR values for Head configuration and Body Worn configuration are given as follows. The device conforms to the requirements of the standard(s) when the maximum reported SAR value is less than or equal to the limit.

NOTE: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.

Exposure Posltion	Frequency Band	1g-SAR Reported Result (W/kg)	Highest 1g-SAR Reported Result (W/kg)		Limit (W/kg)/1g	Result
Head	GSM 850	0.322	**0.509**	**1.012**	1.6	PASS
	GSM 1900	0.269				
	WCDMA BAND 2	0.508				
	WCDMA BAND 4	0.509				
	WCDMA BAND 5	0.196				
	LTE Band 2	0.464				
	LTE Band 4	0.432				
	LTE Band 5	0.155				
	LTE Band 7	0.073				
Body	GSM 850	0.953	**1.012**			
	GSM 1900	0.981				
	WCDMA BAND 2	0.781				
	WCDMA BAND 4	1.012				
	WCDMA BAND 5	0.468				
	LTE Band 2	0.934				
	LTE Band 4	0.527				
	LTE Band 5	0.310				
	LTE Band 7	0.850				
Hotspot	GSM 850	0.858	**0.858**			
	GSM 1900	0.569				
	WCDMA BAND 2	0.738				
	WCDMA BAND 4	0.538				
	WCDMA BAND 5	0.159				
	LTE Band 2	0.396				
	LTE Band 4	0.392				
	LTE Band 5	0.352				
	LTE Band 7	0.600				

Simultaneous Transmission Summary

Exposure Position	Frequency Band	1g-SAR Result(W/kg)	Highest 1g-SAR Result(W/kg)		Limit (W/kg)/1g	Result
Head	GSM & Wi-Fi	0.739	0.926	1.429	1.6	PASS
	WCDMA & Wi-Fi	0.926				
	LTE& Wi-Fi	0.881				
	GSM & Bluetooth	0.355				
	WCDMA & Bluetooth	0.542				
	LTE& Bluetooth	0.497				
Body	GSM & Wi-Fi	1.398	1.429			
	WCDMA & Wi-Fi	1.429				
	LTE& Wi-Fi	1.351				
	GSM & Bluetooth	1.014				
	WCDMA & Bluetooth	1.045				
	LTE& Bluetooth	0.967				
Hotspot	GSM & Wi-Fi	1.275	1.275			
	WCDMA & Wi-Fi	1.155				
	LTE& Wi-Fi	1.017				
	GSM & Bluetooth	0.891				
	WCDMA & Bluetooth	0.771				
	LTE& Bluetooth	0.633				

This Test Report Is Issued by: Mr. Peng Zhen	Checked by: Ms. Liu Jia
Tested by: Mr. Li Bin	Issued date: 20170707

6 TEST RESULT

6.1 Manufacturing Tolerance

GSM

GSM 850			
Channel	Channel 128	Channel 189	Channel 251
Tolerance (dBm)	30.0~34.0	30.0~34.0	30.0~34.0
GSM 1900			
Channel	Channel 512	Channel 661	Channel 810
Tolerance (dBm)	27.0~31.0	27.0~31.0	27.0~31.0

GSM 850 GPRS				
Channel		128	189	251
1 Txslot	Tolerance (dBm)	30.0~34.0	30.0~34.0	30.0~34.0
2 Txslot	Tolerance (dBm)	28.0~32.0	28.0~32.0	28.0~32.0
3 Txslot	Tolerance (dBm)	27.0~31.0	27.0~31.0	27.0~31.0
4 Txslot	Tolerance (dBm)	25.0~29.0	25.0~29.0	25.0~29.0
GSM 850 EGPRS (GMSK)				
Channel		128	189	251
1 Txslot	Tolerance (dBm)	30.0~34.0	30.0~34.0	30.0~34.0
2 Txslot	Tolerance (dBm)	28.0~32.0	28.0~32.0	28.0~32.0
3 Txslot	Tolerance (dBm)	27.0~31.0	27.0~31.0	27.0~31.0
4 Txslot	Tolerance (dBm)	25.0~29.0	25.0~29.0	25.0~29.0

GSM 1900 GPRS				
Channel		512	661	810
1 Txslot	Tolerance (dBm)	27.0~31.0	27.0~31.0	27.0~31.0
2 Txslot	Tolerance (dBm)	26.0~30.0	26.0~30.0	26.0~30.0
3 Txslot	Tolerance (dBm)	24.0~28.0	24.0~28.0	24.0~28.0
4 Txslot	Tolerance (dBm)	22.0~26.0	22.0~26.0	22.0~26.0
GSM 1900 EGPRS (GMSK)				
Channel		512	661	810
1 Txslot	Tolerance (dBm)	27.0~31.0	27.0~31.0	27.0~31.0
2 Txslot	Tolerance (dBm)	26.0~30.0	26.0~30.0	26.0~30.0
3 Txslot	Tolerance (dBm)	24.0~28.0	24.0~28.0	24.0~28.0
4 Txslot	Tolerance (dBm)	22.0~26.0	22.0~26.0	22.0~26.0

WCDMA

WCDMA Band2			
Channel	9262	9400	9538
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
WCDMA Band4			
Channel	1312	1412	1513
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
WCDMA Band5			
Channel	4132	4183	4233
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

HSDPA Band2				
Channel		9262	9400	9538
Sub test 1	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 2	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 3	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 4	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
HSDPA Band4				
Channel		1312	1412	1513
Sub test 1	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 2	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 3	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 4	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
HSDPA Band5				
Channel		4132	4183	4233
Sub test 1	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 2	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 3	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 4	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0

HSUPA Band2				
Channel		9262	9400	9538
Sub test 1	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 2	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 3	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 4	Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0
Sub test 5	Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

HSUPA Band4				
Channel		1312	1412	1513
Sub test 1	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 2	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 3	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 4	Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0
Sub test 5	Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
HSUPA Band5				
Channel		4132	4183	4233
Sub test 1	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 2	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 3	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
Sub test 4	Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0
Sub test 5	Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Bluetooth

GFSK			
Channel	0	39	78
Tolerance (dBm)	-6.0~-2.0	-6.0~-2.0	-6.0~-2.0
π/4DQPSK			
Channel	0	39	78
Tolerance (dBm)	-6.0~-2.0	-6.0~-2.0	-6.0~-2.0
8DPSK			
Channel	0	39	78
Tolerance (dBm)	-6.0~-2.0	-6.0~-2.0	-6.0~-2.0

Bluetooth (BLE)

GFSK			
Channel	0	39	78
Tolerance (dBm)	-2.0~2.0	-2.0~2.0	-2.0~2.0

Wi-Fi(2.4GHz)

802.11b			
Channel	1	6	11
Tolerance (dBm)	9.0~13.0	9.0~13.0	9.0~13.0
802.11g			
Channel	1	6	11
Tolerance (dBm)	8.0~12.0	8.0~12.0	8.0~12.0
802.11n HT20			
Channel	1	6	11
Tolerance (dBm)	8.0~12.0	8.0~12.0	8.0~12.0

LTE

Band 2

20BW 100%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 50%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 1RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 100%RB			
Channel	Channel 18675	Channel 18900	Channel 19125
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 50%RB			
Channel	Channel 18675	Channel 18900	Channel 19125
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 1RB			
Channel	Channel 18675	Channel 18900	Channel 19125
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 18650	Channel 18900	Channel 19150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 50%RB			
Channel	Channel 18650	Channel 18900	Channel 19150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 1RB			
Channel	Channel 18650	Channel 18900	Channel 19150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 100%RB			
Channel	Channel 18625	Channel 18900	Channel 19175
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 50%RB			
Channel	Channel 18625	Channel 18900	Channel 19175
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 1RB			
Channel	Channel 18625	Channel 18900	Channel 19175
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 100%RB			
Channel	Channel 18615	Channel 18900	Channel 19185
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 50%RB			
Channel	Channel 18615	Channel 18900	Channel 19185
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 1RB			
Channel	Channel 18615	Channel 18900	Channel 19185
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 100%RB			
Channel	Channel 18607	Channel 18900	Channel 19193
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 50%RB			
Channel	Channel 18607	Channel 18900	Channel 19193
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 1RB			
Channel	Channel 18607	Channel 18900	Channel 19193
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 4

20BW 100%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 50%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 1RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 100%RB			
Channel	Channel 20250	Channel 20175	Channel 20325
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 50%RB			
Channel	Channel 20250	Channel 20175	Channel 20325
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 1RB			
Channel	Channel 20250	Channel 20175	Channel 20325
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 20000	Channel 20175	Channel 20350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 50%RB			
Channel	Channel 20000	Channel 20175	Channel 20350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 1RB			
Channel	Channel 20000	Channel 20175	Channel 20350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 100%RB			
Channel	Channel 19975	Channel 20175	Channel 20375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 50%RB			
Channel	Channel 19975	Channel 20175	Channel 20375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 1RB			
Channel	Channel 19975	Channel 20175	Channel 20375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 100%RB			
Channel	Channel 19965	Channel 20175	Channel 20385
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 50%RB			
Channel	Channel 19965	Channel 20175	Channel 20385
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 1RB			
Channel	Channel 19965	Channel 20175	Channel 20385
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 100%RB			
Channel	Channel 19957	Channel 20175	Channel 20393
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 50%RB			
Channel	Channel 19957	Channel 20175	Channel 20393
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 1RB			
Channel	Channel 19957	Channel 20175	Channel 20393
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 5

10BW 100%RB			
Channel	Channel 20000	Channel 20175	Channel 20350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 50%RB			
Channel	Channel 20000	Channel 20175	Channel 20350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 1RB			
Channel	Channel 20000	Channel 20175	Channel 20350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 100%RB			
Channel	Channel 19975	Channel 20175	Channel 20375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 50%RB			
Channel	Channel 19975	Channel 20175	Channel 20375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 1RB			
Channel	Channel 19975	Channel 20175	Channel 20375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 100%RB			
Channel	Channel 19965	Channel 20175	Channel 20385
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 50%RB			
Channel	Channel 19965	Channel 20175	Channel 20385
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
3BW 1RB			
Channel	Channel 19965	Channel 20175	Channel 20385
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 100%RB			
Channel	Channel 19957	Channel 20175	Channel 20393
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 50%RB			
Channel	Channel 19957	Channel 20175	Channel 20393
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
1.4BW 1RB			
Channel	Channel 19957	Channel 20175	Channel 20393
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band7

20BW 100%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 50%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 1RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 100%RB			
Channel	Channel 20825	Channel 21100	Channel 21375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 50%RB			
Channel	Channel 20825	Channel 21100	Channel 21375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
15BW 1RB			
Channel	Channel 20825	Channel 21100	Channel 21375
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 20800	Channel 21100	Channel 21400
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 50%RB			
Channel	Channel 20800	Channel 21100	Channel 21400
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 1RB			
Channel	Channel 20800	Channel 21100	Channel 21400
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 100%RB			
Channel	Channel 20775	Channel 21100	Channel 21425
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 50%RB			
Channel	Channel 20775	Channel 21100	Channel 21425
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
5BW 1RB			
Channel	Channel 20775	Channel 21100	Channel 21425
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

6.2 GSM Measurement result

GSM Measured Power

Mode	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
Measured Power(dBm)	32.91	32.94	32.92	29.97	29.98	29.91

GPRS Measured Power

Mode	GPRS850			GPRS1900		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	32.91	32.94	32.92	29.97	29.98	29.91
3Downlink2uplinkPower(dBm)	31.11	30.97	30.92	27.44	27.46	27.53
2Downlink3uplinkPower(dBm)	29.28	29.15	29.10	26.12	26.09	26.12
1Downlink4uplinkPower(dBm)	28.30	28.17	28.11	25.00	25.01	24.99

GPRS Averaged Power

Mode	GPRS850			GPRS1900		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	23.88	23.91	23.89	20.94	20.95	20.88
3Downlink2uplinkPower(dBm)	25.09	24.95	24.90	21.42	21.44	21.51
2Downlink3uplinkPower(dBm)	25.02	24.89	24.84	21.86	21.83	21.86
1Downlink4uplinkPower(dBm)	25.29	25.16	25.10	21.99	22.00	21.98

Division Factors (for Measured Power and Averaged Power):

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

1TX-slot (4Downlink1uplink) = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots(3Downlink2uplink) = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots (2Downlink3uplink)= 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots (1Downlink4uplink)= 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with 4Txslots (1Downlink4uplink) for GPRS.

EGPRS Measured Power

Mode	EGPRS850 (GMSK) / EGPRS850 (8PSK)			EGPRS1900 (GMSK) / EGPRS1900 (8PSK)		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	32.91	32.94	32.92	29.97	29.98	29.91
	26.00	25.92	25.83	25.78	25.53	25.37
3Downlink2uplinkPower(dBm)	31.11	30.97	30.92	27.44	27.46	27.53
	25.31	25.82	25.56	25.41	25.12	25.19
2Downlink3uplinkPower(dBm)	29.28	29.15	29.10	26.12	26.09	26.12
	23.87	24.05	24.10	23.60	23.23	22.97
1Downlink4uplinkPower(dBm)	28.30	28.17	28.11	25.00	25.01	24.99
	21.68	21.63	21.66	20.65	20.48	20.80

EGPRS Averaged Power

Mode	EGPRS850 (GMSK) / EGPRS850 (8PSK)			EGPRS1900 (GMSK) / EGPRS1900 (8PSK)		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	23.88	23.91	23.89	20.94	20.95	20.88
	16.97	16.89	16.80	16.75	16.50	16.34
3Downlink2uplinkPower(dBm)	25.09	24.95	24.90	21.42	21.44	21.51
	19.29	19.80	19.54	19.39	19.10	19.17
2Downlink3uplinkPower(dBm)	25.02	24.89	24.84	21.86	21.83	21.86
	19.61	19.79	19.84	19.34	18.97	18.71
1Downlink4uplinkPower(dBm)	25.29	25.16	25.10	21.99	22.00	21.98
	18.67	18.62	18.65	17.64	17.47	17.79

Division Factors (for Measured Power and Averaged Power):

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

1TX-slot (4Downlink1uplink) = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots(3Downlink2uplink) = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots (2Downlink3uplink) = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots (1Downlink4uplink) = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with 4Txslots (1Downlink4uplink) for EGPRS (GMSK).

6.3 WCDMA Measurement result

The following procedures are according to FCC KDB Publication 941225 D01.
Release 99
The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

Measured Results

Mode	Band2			Band4		
Channel	9262	9400	9538	1312	1412	1513
Frequency(MHz)	1852.4	1880	1907.6	1712.4	1732.4	1752.6
RB test mode1+64kRMC(dBm)	22.55	22.52	22.55	22.31	22.28	22.31
RB test mode1+12.2kRMC(dBm)	22.62	22.65	22.61	22.38	22.41	22.37
RB test mode1+144kRMC(dBm)	22.57	22.56	22.58	22.33	22.32	22.34
RB test mode1+384kRMC(dBm)	22.50	22.54	22.58	22.26	22.30	22.34
AMR Voice test mode+12.2kRMC(dBm)	22.52	22.56	22.56	22.28	22.32	22.32

Mode	Band5		
Channel	4132	4183	4233
Frequency(MHz)	826.4	836.6	846.6
RB test mode1+64kRMC(dBm)	22.39	22.45	22.52
RB test mode1+12.2kRMC(dBm)	22.48	22.56	22.55
RB test mode1+144kRMC(dBm)	22.41	22.36	22.37
RB test mode1+384kRMC(dBm)	22.38	22.38	22.38
AMR Voice test mode+12.2kRMC(dBm)	22.37	22.34	22.33

HSDPA

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121.

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

Note1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} =8⇔A_{hs}=β_{hs}/β_c=30/15⇔β_{hs}=30/15*β_c.
Note2: CM=1 for β_c/β_d=12/15, β_{hs}/β_c=24/15.
Note3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to β_c=11/15 and β_d=15/15.

Measured Results

Mode	HSDPA Band 2			HSDPA Band 4		
Channel	9262	9400	9538	1312	1412	1513
Frequency(MHz)	1852.4	1880	1907.6	1712.4	1732.4	1752.6
sub-test1(dBm)	21.10	21.10	21.20	20.80	20.80	20.90
sub-test2(dBm)	21.10	21.10	21.20	20.80	20.80	20.90
sub-test3(dBm)	20.60	20.60	20.80	20.30	20.30	20.50
sub-test4(dBm)	20.60	20.60	20.70	20.30	20.30	20.40

Mode	HSDPA Band 5		
Channel	4132	4183	4233
Frequency(MHz)	826.4	836.6	846.6
sub-test1(dBm)	20.70	20.80	20.90
sub-test2(dBm)	20.80	20.80	20.90
sub-test3(dBm)	20.20	20.40	20.40
sub-test4(dBm)	20.30	20.40	20.40

HSPA (HSDPA & HSUPA)

The following 5 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	2.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	2.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	2.0	21	81

Note1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} =8⇔A_{hs}=β_{hs}/β_c=30/15⇔β_{hs}=30/15*β_c.
Note2: CM=1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH,DPCCH,HS-DPCCH,E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to β_c=10/15 and β_d=15/15.
Note4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to β_c=14/15 and β_d=15/15.
NOTE5: Testing UE using E-DPDCH Physical layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
NOTE6: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Measured Results

Mode	HSUPA Band 2			HSUPA Band 4		
Channel	9262	9400	9538	1312	1412	1513
Frequency(MHz)	1852.4	1880	1907.6	1712.4	1732.4	1752.6
sub-test1(dBm)	19.40	19.40	19.40	19.10	19.10	19.10
sub-test2(dBm)	19.30	19.30	19.40	19.00	19.00	19.10
sub-test3(dBm)	19.40	19.40	19.40	19.10	19.10	19.10
sub-test4(dBm)	18.80	18.80	18.90	18.50	18.50	18.60
sub-test5(dBm)	21.30	21.40	21.30	21.00	21.10	21.00

Mode	HSUPA Band 5		
Channel	4132	4183	4233
Frequency(MHz)	826.4	836.6	846.6
sub-test1(dBm)	19.00	19.10	18.50
sub-test2(dBm)	19.00	19.10	18.50
sub-test3(dBm)	19.00	19.10	18.60
sub-test4(dBm)	18.50	18.50	18.10
sub-test5(dBm)	20.90	20.50	21.00

UMTS SAR was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01.
HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.

6.4 LTE Measurement result

Band 2

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	1.4	18607	1850.7	QPSK	1	Low	21.37
						Mid	21.49
						High	21.32
					50%	Low	21.31
						Mid	21.02
						High	21.22
					100%	---	21.31
				16QAM	1	Low	21.21
						Mid	21.64
						High	21.19
					50%	Low	21.17
						Mid	21.90
						High	21.07
					100%	---	21.31
	3	18615	1851.5	QPSK	1	Low	21.09
						Mid	21.74
						High	21.10
					50%	Low	21.03
						Mid	21.10
						High	21.08
					100%	---	21.04
				16QAM	1	Low	21.95
						Mid	21.73
						High	21.92
					50%	Low	21.06
						Mid	21.12
						High	21.08
					100%	---	21.11

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	5	18625	1852.5	QPSK	1	Low	21.14
						Mid	21.75
						High	21.04
					50%	Low	21.07
						Mid	21.03
						High	21.09
					100%	---	21.99
				16QAM	1	Low	21.99
						Mid	21.75
						High	21.84
					50%	Low	21.05
						Mid	21.00
						High	21.03
					100%	---	21.01
	10	18650	1855	QPSK	1	Low	21.24
						Mid	21.25
						High	21.16
					50%	Low	21.06
						Mid	21.97
						High	21.03
					100%	---	21.99
				16QAM	1	Low	21.06
						Mid	21.31
						High	21.93
					50%	Low	21.09
						Mid	21.00
						High	21.03
					100%	---	20.96

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	15	18675	1857.5	QPSK	1	Low	21.30
						Mid	21.95
						High	21.18
					50%	Low	21.02
						Mid	21.98
						High	21.96
					100%	---	21.04
				16QAM	1	Low	21.10
						Mid	21.05
						High	21.98
					50%	Low	21.01
						Mid	20.97
						High	20.96
					100%	---	21.00
	20	18700	1860	QPSK	1	Low	22.50
						Mid	22.21
						High	22.17
					50%	Low	22.20
						Mid	21.96
						High	21.98
					100%	---	21.99
				16QAM	1	Low	21.12
						Mid	21.32
						High	21.94
					50%	Low	20.97
						Mid	20.95
						High	20.93
					100%	---	21.01

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	1.4	18900	1880	QPSK	1	Low	21.02
						Mid	21.11
						High	21.03
					50%	Low	21.80
						Mid	21.70
						High	21.88
					100%	---	21.92
				16QAM	1	Low	21.89
						Mid	21.28
						High	21.91
					50%	Low	21.89
						Mid	21.54
						High	21.78
					100%	---	20.97
	3	18900	1880	QPSK	1	Low	21.06
						Mid	21.50
						High	21.97
					50%	Low	21.93
						Mid	21.87
						High	21.88
					100%	---	21.88
				16QAM	1	Low	21.90
						Mid	21.76
						High	21.87
					50%	Low	20.98
						Mid	21.02
						High	21.03
					100%	---	20.96

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	5	18900	1880	QPSK	1	Low	21.06
						Mid	21.60
						High	21.97
					50%	Low	21.93
						Mid	21.87
						High	21.88
					100%	---	21.80
				16QAM	1	Low	21.94
						Mid	21.73
						High	21.85
					50%	Low	20.91
						Mid	20.87
						High	20.89
					100%	---	20.92
	10	18900	1880	QPSK	1	Low	21.15
						Mid	21.18
						High	21.07
					50%	Low	21.88
						Mid	21.86
						High	21.89
					100%	---	21.92
				16QAM	1	Low	21.97
						Mid	21.34
						High	21.91
					50%	Low	21.00
						Mid	20.95
						High	20.97
					100%	---	20.95

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	15	18900	1880	QPSK	1	Low	21.17
						Mid	21.85
						High	21.06
					50%	Low	21.97
						Mid	21.93
						High	21.92
					100%	---	21.92
				16QAM	1	Low	21.99
						Mid	21.01
						High	21.89
					50%	Low	20.97
						Mid	20.95
						High	20.96
					100%	---	20.96
	20	18900	1880	QPSK	1	Low	22.80
						Mid	22.07
						High	22.04
					50%	Low	22.50
						Mid	21.87
						High	21.88
					100%	---	21.88
				16QAM	1	Low	21.99
						Mid	21.28
						High	21.84
					50%	Low	20.92
						Mid	20.91
						High	20.88
					100%	---	20.95

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	1.4	19193	1909.3	QPSK	1	Low	21.83
						Mid	21.93
						High	21.83
					50%	Low	21.76
						Mid	21.50
						High	21.69
					100%	---	21.81
				16QAM	1	Low	21.67
						Mid	21.09
						High	21.69
					50%	Low	21.63
						Mid	21.37
						High	21.53
					100%	---	20.82
	3	19185	1908.5	QPSK	1	Low	21.72
						Mid	21.47
						High	21.78
					50%	Low	21.72
						Mid	21.79
						High	21.68
					100%	---	21.71
				16QAM	1	Low	21.59
						Mid	21.48
						High	21.62
					50%	Low	20.71
						Mid	20.83
						High	20.75
					100%	---	20.78

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	5	19175	1907.5	QPSK	1	Low	21.87
						Mid	21.49
						High	21.79
					50%	Low	21.81
						Mid	21.73
						High	21.79
					100%	---	21.70
				16QAM	1	Low	21.64
						Mid	21.50
						High	21.63
					50%	Low	20.77
						Mid	20.70
						High	20.76
					100%	---	20.73
	10	19150	1905	QPSK	1	Low	21.93
						Mid	21.97
						High	21.86
					50%	Low	21.85
						Mid	21.78
						High	21.79
					100%	---	21.71
				16QAM	1	Low	21.65
						Mid	21.03
						High	21.68
					50%	Low	20.82
						Mid	20.76
						High	20.77
					100%	---	20.68

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	15	19125	1902.5	QPSK	1	Low	21.99
						Mid	21.78
						High	21.90
					50%	Low	21.73
						Mid	21.66
						High	21.71
					100%	---	21.80
				16QAM	1	Low	21.78
						Mid	21.79
						High	21.73
					50%	Low	20.70
						Mid	20.63
						High	20.71
					100%	---	20.73
	20	19100	1900	QPSK	1	Low	22.20
						Mid	21.99
						High	21.90
					50%	Low	22.00
						Mid	21.74
						High	21.70
					100%	---	21.71
				16QAM	1	Low	21.88
						Mid	21.02
						High	21.66
					50%	Low	20.74
						Mid	20.68
						High	20.69
					100%	---	20.73

Band 4

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	1.4	19957	1710.7	QPSK	1	Low	21.47
						Mid	21.58
						High	21.45
					50%	Low	21.41
						Mid	21.10
						High	21.25
					100%	---	21.47
				16QAM	1	Low	21.31
						Mid	21.73
						High	21.31
					50%	Low	21.27
						Mid	20.99
						High	21.19
					100%	---	20.43
	3	19965	1711.5	QPSK	1	Low	21.36
						Mid	21.03
						High	21.41
					50%	Low	21.36
						Mid	21.43
						High	21.37
					100%	---	21.38
				16QAM	1	Low	21.26
						Mid	21.13
						High	21.26
					50%	Low	20.31
						Mid	20.39
						High	20.40
					100%	---	20.42

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	5	19975	1712.5	QPSK	1	Low	21.47
						Mid	21.10
						High	21.39
					50%	Low	21.39
						Mid	21.33
						High	21.38
					100%	---	21.27
				16QAM	1	Low	21.32
						Mid	21.18
						High	21.31
					50%	Low	20.32
						Mid	20.26
						High	20.30
					100%	---	20.28
	10	20000	1715	QPSK	1	Low	21.45
						Mid	21.51
						High	21.45
					50%	Low	21.32
						Mid	21.26
						High	21.31
					100%	---	21.29
				16QAM	1	Low	21.30
						Mid	21.68
						High	21.33
					50%	Low	20.32
						Mid	20.28
						High	20.26
					100%	---	20.25

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	15	20025	1717.5	QPSK	1	Low	21.43
						Mid	21.23
						High	21.49
					50%	Low	21.35
						Mid	21.31
						High	21.29
					100%	---	21.32
				16QAM	1	Low	21.33
						Mid	21.41
						High	21.36
					50%	Low	20.35
						Mid	20.36
						High	20.31
					100%	---	20.30
	20	20050	1720	QPSK	1	Low	21.80
						Mid	21.45
						High	21.46
					50%	Low	21.80
						Mid	21.31
						High	21.29
					100%	---	21.26
				16QAM	1	Low	21.35
						Mid	21.70
						High	21.31
					50%	Low	20.27
						Mid	20.26
						High	20.28
					100%	---	20.28

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	1.4	20175	1732.5	QPSK	1	Low	21.27
						Mid	21.39
						High	21.20
					50%	Low	21.21
						Mid	21.94
						High	21.10
					100%	---	21.23
				16QAM	1	Low	21.13
						Mid	21.54
						High	21.12
					50%	Low	21.08
						Mid	20.80
						High	20.99
					100%	---	20.21
	3	20175	1732.5	QPSK	1	Low	21.25
						Mid	21.85
						High	21.24
					50%	Low	21.20
						Mid	21.27
						High	21.25
					100%	---	21.20
				16QAM	1	Low	21.14
						Mid	21.96
						High	21.10
					50%	Low	20.21
						Mid	20.31
						High	20.25
					100%	---	20.26

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	5	20175	1732.5	QPSK	1	Low	21.31
						Mid	21.82
						High	21.23
					50%	Low	21.25
						Mid	21.14
						High	21.23
					100%	---	21.14
				16QAM	1	Low	21.19
						Mid	21.95
						High	21.07
					50%	Low	20.17
						Mid	20.10
						High	20.14
					100%	---	20.16
	10	20175	1732.5	QPSK	1	Low	21.40
						Mid	21.37
						High	21.31
					50%	Low	21.18
						Mid	21.11
						High	21.19
					100%	---	21.16
				16QAM	1	Low	21.26
						Mid	21.54
						High	21.12
					50%	Low	20.21
						Mid	20.14
						High	20.18
					100%	---	20.12

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	15	20175	1732.5	QPSK	1	Low	21.86
						Mid	21.06
						High	21.32
					50%	Low	21.18
						Mid	21.13
						High	21.14
					100%	---	21.16
				16QAM	1	Low	21.23
						Mid	21.22
						High	21.11
					50%	Low	20.14
						Mid	20.12
						High	20.09
					100%	---	20.14
	20	20175	1732.5	QPSK	1	Low	22.00
						Mid	21.36
						High	21.39
					50%	Low	22.00
						Mid	21.57
						High	21.58
					100%	---	21.54
				16QAM	1	Low	21.30
						Mid	21.52
						High	21.13
					50%	Low	20.18
						Mid	20.13
						High	20.09
					100%	---	20.19

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	1.4	20393	1754.3	QPSK	1	Low	21.38
						Mid	21.45
						High	21.37
					50%	Low	21.30
						Mid	21.02
						High	21.21
					100%	---	21.33
				16QAM	1	Low	21.25
						Mid	21.63
						High	21.23
					50%	Low	21.20
						Mid	20.88
						High	21.08
					100%	---	20.34
	3	20385	1753.5	QPSK	1	Low	21.37
						Mid	21.00
						High	21.40
					50%	Low	21.30
						Mid	21.34
						High	21.30
					100%	---	21.34
				16QAM	1	Low	21.27
						Mid	21.09
						High	21.26
					50%	Low	20.32
						Mid	20.39
						High	20.36
					100%	---	20.38

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	5	20375	1752.5	QPSK	1	Low	21.40
						Mid	21.99
						High	21.36
					50%	Low	21.38
						Mid	21.30
						High	21.29
					100%	---	21.20
				16QAM	1	Low	21.22
						Mid	21.09
						High	21.20
					50%	Low	20.27
						Mid	20.23
						High	20.25
					100%	---	20.26
	10	20350	1750	QPSK	1	Low	21.38
						Mid	21.46
						High	21.51
					50%	Low	21.23
						Mid	21.24
						High	21.23
					100%	---	21.25
				16QAM	1	Low	21.27
						Mid	21.62
						High	21.30
					50%	Low	20.29
						Mid	20.27
						High	20.33
					100%	---	20.26

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	15	20325	1747.5	QPSK	1	Low	21.73
						Mid	21.21
						High	21.53
					50%	Low	21.27
						Mid	21.25
						High	21.31
					100%	---	21.30
				16QAM	1	Low	21.21
						Mid	21.36
						High	21.37
					50%	Low	20.21
						Mid	20.23
						High	20.32
					100%	---	20.29
	20	20300	1745	QPSK	1	Low	21.50
						Mid	21.47
						High	21.50
					50%	Low	21.50
						Mid	21.29
						High	21.34
					100%	---	21.29
				16QAM	1	Low	21.25
						Mid	21.63
						High	21.34
					50%	Low	20.21
						Mid	20.23
						High	20.27
					100%	---	20.25

Band 5

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	1.4	20407	821.7	QPSK	1	Low	21.20
						Mid	21.20
						High	21.20
					50%	Low	21.20
						Mid	21.20
						High	21.20
					100%	---	21.20
				16QAM	1	Low	21.20
						Mid	21.20
						High	21.20
					50%	Low	21.20
						Mid	21.20
						High	21.10
					100%	---	21.10
	3	20415	825.5	QPSK	1	Low	21.30
						Mid	21.00
						High	21.00
					50%	Low	21.00
						Mid	21.00
						High	21.00
					100%	---	21.00
				16QAM	1	Low	21.00
						Mid	21.00
						High	21.00
					50%	Low	21.00
						Mid	21.00
						High	21.00
					100%	---	21.00

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	5	29425	826.5	QPSK	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.30
						Mid	21.30
						High	21.30
					50%	Low	21.30
						Mid	21.30
						High	21.20
					100%	---	21.20
	10	20450	829	QPSK	1	Low	22.00
						Mid	21.20
						High	21.10
					50%	Low	22.00
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	1.4	20525	836.5	QPSK	1	Low	21.20
						Mid	21.10
						High	21.10
					50%	Low	21.20
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.20
						Mid	21.20
						High	21.20
					50%	Low	21.20
						Mid	21.20
						High	21.20
					100%	---	21.20
	3	20525	836.5	QPSK	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	5	20525	836.5	QPSK	1	Low	21.30
						Mid	21.30
						High	21.30
					50%	Low	21.30
						Mid	21.30
						High	21.30
					100%	---	21.30
				16QAM	1	Low	21.50
						Mid	21.50
						High	21.50
					50%	Low	21.40
						Mid	21.40
						High	21.40
					100%	---	21.40
	10	20525	836.5	QPSK	1	Low	22.20
						Mid	21.20
						High	21.10
					50%	Low	22.30
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.00
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.00
						High	21.10
					100%	---	21.10

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	1.4	20643	848.3	QPSK	1	Low	21.50
						Mid	21.00
						High	21.60
					50%	Low	21.00
						Mid	21.10
						High	21.00
					100%	---	21.00
				16QAM	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10
	3	20635	847.5	QPSK	1	Low	21.00
						Mid	21.50
						High	21.60
					50%	Low	21.00
						Mid	21.70
						High	21.70
					100%	---	21.10
				16QAM	1	Low	21.00
						Mid	21.00
						High	21.00
					50%	Low	21.00
						Mid	21.00
						High	21.00
					100%	---	21.00

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	5	20625	846.5	QPSK	1	Low	21.20
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.20
						Mid	21.20
						High	21.20
					50%	Low	21.20
						Mid	21.20
						High	21.20
					100%	---	21.20
	10	20600	844	QPSK	1	Low	21.80
						Mid	21.10
						High	21.10
					50%	Low	22.00
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.00
						High	21.10
					100%	---	21.10

Band 7

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	5	20775	2502.5	QPSK	1	Low	21.40
						Mid	21.30
						High	21.40
					50%	Low	21.40
						Mid	21.30
						High	21.30
					100%	---	21.30
				16QAM	1	Low	20.60
						Mid	20.60
						High	21.10
					50%	Low	20.60
						Mid	20.50
						High	20.90
					100%	---	20.60
	10	20800	2505	QPSK	1	Low	21.20
						Mid	21.20
						High	21.20
					50%	Low	21.20
						Mid	21.20
						High	21.20
					100%	---	21.10
				16QAM	1	Low	21.20
						Mid	21.20
						High	21.20
					50%	Low	21.20
						Mid	21.20
						High	21.20
					100%	---	21.10

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Low Range	15	20825	2507.5	QPSK	1	Low	21.70
						Mid	21.70
						High	21.70
					50%	Low	21.70
						Mid	21.70
						High	21.70
					100%	---	21.70
				16QAM	1	Low	20.60
						Mid	20.80
						High	20.60
					50%	Low	21.40
						Mid	21.30
						High	21.30
					100%	---	21.40
	20	20850	2510	QPSK	1	Low	21.60
						Mid	21.60
						High	21.60
					50%	Low	21.40
						Mid	21.00
						High	21.00
					100%	---	21.80
				16QAM	1	Low	21.30
						Mid	21.30
						High	21.20
					50%	Low	21.30
						Mid	21.30
						High	21.30
					100%	---	21.30

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	5	21100	2535	QPSK	1	Low	21.50
						Mid	21.50
						High	21.50
					50%	Low	21.50
						Mid	21.50
						High	21.50
					100%	---	21.50
				16QAM	1	Low	20.80
						Mid	20.80
						High	20.60
					50%	Low	20.60
						Mid	20.80
						High	20.60
					100%	---	20.50
	10	21100	2535	QPSK	1	Low	21.70
						Mid	21.70
						High	21.70
					50%	Low	21.90
						Mid	21.00
						High	21.00
					100%	---	21.90
				16QAM	1	Low	21.00
						Mid	21.00
						High	21.00
					50%	Low	21.00
						Mid	21.10
						High	21.10
					100%	---	21.10

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
Mid Range	15	21100	2535	QPSK	1	Low	21.30
						Mid	21.20
						High	21.20
					50%	Low	21.30
						Mid	21.40
						High	21.20
					100%	---	21.10
				16QAM	1	Low	21.00
						Mid	21.00
						High	21.00
					50%	Low	21.00
						Mid	21.00
						High	21.10
					100%	---	21.10
	20	21100	2535	QPSK	1	Low	21.40
						Mid	21.30
						High	21.30
					50%	Low	21.50
						Mid	21.30
						High	21.30
					100%	---	21.10
				16QAM	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	5	21425	2567.5	QPSK	1	Low	21.10
						Mid	21.10
						High	21.10
					50%	Low	21.10
						Mid	21.10
						High	21.10
					100%	---	21.10
				16QAM	1	Low	21.30
						Mid	21.30
						High	21.30
					50%	Low	21.30
						Mid	21.20
						High	21.20
					100%	---	21.20
	10	21400	2565	QPSK	1	Low	21.80
						Mid	21.80
						High	21.80
					50%	Low	21.70
						Mid	21.70
						High	21.70
					100%	---	21.70
				16QAM	1	Low	21.70
						Mid	21.70
						High	21.70
					50%	Low	21.70
						Mid	21.80
						High	21.70
					100%	---	21.60

Test Frequency ID	Bandwidth (MHz)	NUL	Frequency of Uplink(MHz)	Modulation	RB Size	RB Offset	Test results (dBm)
High Range	15	21375	2562.5	QPSK	1	Low	21.30
						Mid	21.40
						High	21.40
					50%	Low	21.40
						Mid	21.40
						High	21.40
					100%	---	21.30
				16QAM	1	Low	21.40
						Mid	21.40
						High	21.40
					50%	Low	21.40
						Mid	21.40
						High	21.40
					100%	---	21.30
	20	21350	2560	QPSK	1	Low	21.00
						Mid	21.00
						High	21.00
					50%	Low	21.00
						Mid	21.00
						High	21.00
					100%	---	21.90
				16QAM	1	Low	21.30
						Mid	21.30
						High	21.30
					50%	Low	21.30
						Mid	21.30
						High	21.30
					100%	---	21.30

6.5 Bluetooth Measurement result

Modulation type	Test Result (dBm)		
	2402MHz(Ch0)	2441MHz(Ch39)	2480MHz(Ch78)
GFSK	-3.45	-4.58	-5.19
π/4DQPSK	-3.27	-4.39	-5.36
8DPSK	-3.11	-4.59	-5.89
GFSK(BLE)	2402MHz(Ch0)	2440MHz(Ch19)	2480MHz(Ch39)
	1.31	1.14	1.18

Modulation type	Test Result (mW)		
	2402MHz(Ch0)	2441MHz(Ch39)	2480MHz(Ch78)
GFSK	0.45	0.35	0.30
π/4DQPSK	0.47	0.36	0.29
8DPSK	0.49	0.35	0.26
GFSK(BLE)	2402MHz(Ch0)	2440MHz(Ch19)	2480MHz(Ch39)
	1.35	1.30	1.31

6.6 Wi-Fi Measurement result

Modulation type		Average power output (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462MHz (Ch11)
11b	1 Mbps	12.03	12.16	12.12
	2 Mbps	11.98	11.85	11.89
	5.5 Mbps	11.83	11.72	11.67
	11 Mbps	11.76	11.69	11.52
11g	6 Mbps	10.98	11.12	11.03
	9 Mbps	10.83	11.02	10.93
	12 Mbps	10.72	10.93	10.88
	18 Mbps	10.66	10.82	10.75
	24 Mbps	10.53	10.71	10.69
	36 Mbps	10.47	10.49	10.48
	48 Mbps	10.38	10.35	10.36
	54 Mbps	10.32	10.26	10.18
11n HT20	6.5 Mbps	10.81	10.92	10.85
	13 Mbps	10.72	10.73	10.72
	19.5 Mbps	10.64	10.48	10.53
	26 Mbps	10.52	10.27	10.39
	39 Mbps	10.44	10.04	10.27
	52 Mbps	10.12	9.89	10.17
	58.5 Mbps	9.63	9.72	9.92
	65 Mbps	9.22	9.42	9.71

Modulation type		Average power output (mW)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462MHz (Ch11)
11b	1 Mbps	15.96	16.44	16.29
	2 Mbps	15.78	15.31	15.45
	5.5 Mbps	15.24	14.86	14.69
	11 Mbps	15.00	14.76	14.19
11g	6 Mbps	12.53	12.94	12.68
	9 Mbps	12.11	12.65	12.39
	12 Mbps	11.80	12.39	12.25
	18 Mbps	11.64	12.08	11.89
	24 Mbps	11.30	11.78	11.72
	36 Mbps	11.14	11.19	11.17
	48 Mbps	10.91	10.84	10.86
	54 Mbps	10.76	10.62	10.42
11n HT20	6.5 Mbps	12.05	12.36	12.16
	13 Mbps	11.80	11.83	11.80
	19.5 Mbps	11.59	11.17	11.30
	26 Mbps	11.27	10.64	10.94
	39 Mbps	11.07	10.09	10.64
	52 Mbps	10.28	9.75	10.40
	58.5 Mbps	9.18	9.38	9.82
	65 Mbps	8.36	8.75	9.35

6.7 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.

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

According to the KDB447498 4.3.1 (1)

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

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

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

This is equivalent to [(max. power of channel, including tune-up tolerance, mW)/(60/√f(GHz) mW)]·[20 mm/(min.test separation distance, mm)] ≤ 1.0 for 1-g SAR; also see Appendix A for approximate exclusion threshold values at selected frequencies and distances.

According to the KDB447498 appendix A

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

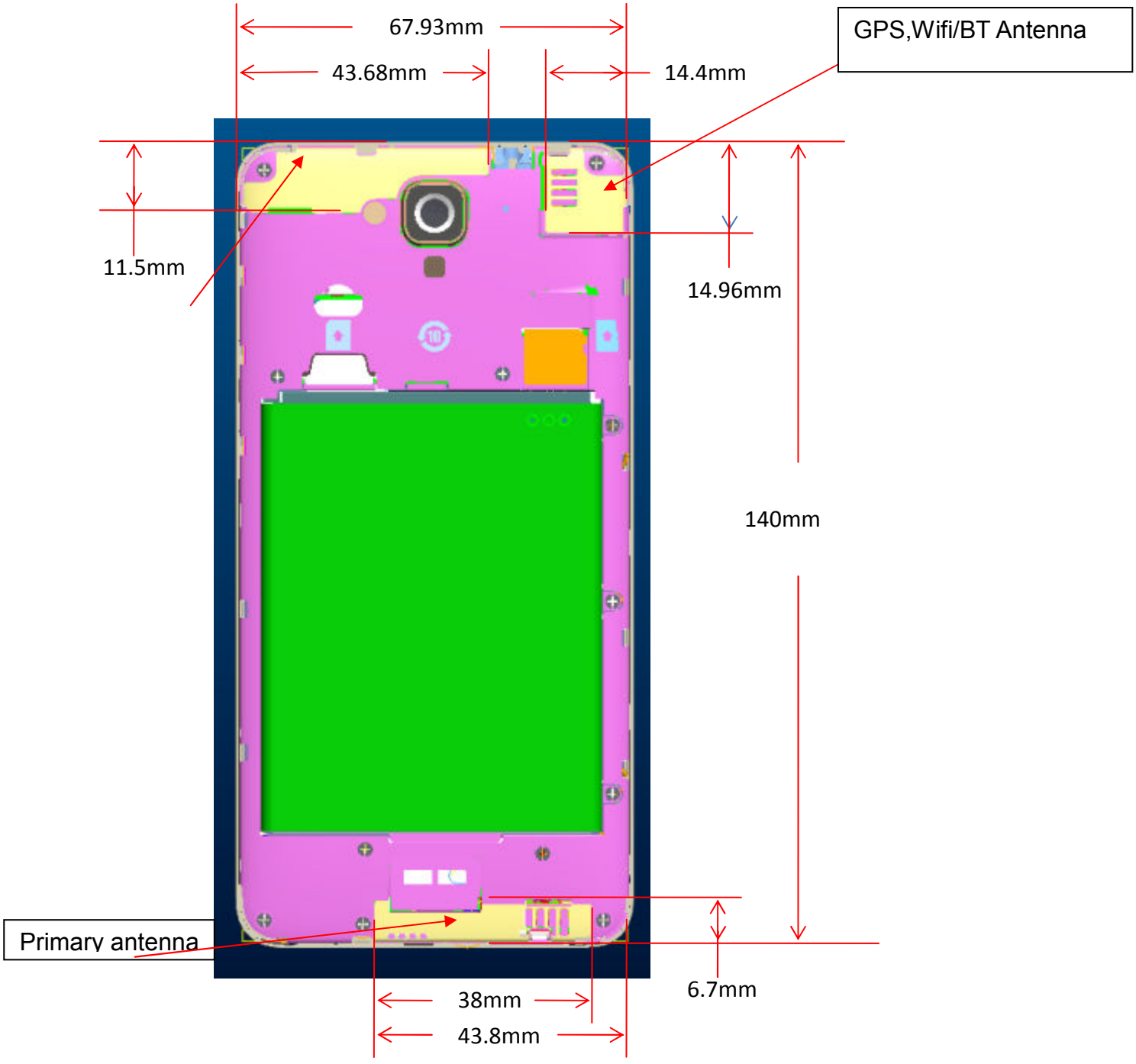
MHz	5	10	15	20	25	mm
150	39	77	116	155	194	*SAR Test Exclusion Threshold* (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

Summary of Transmitters

Band/Mode	Max.RF output power (mW)	SAR test exclusion Threshold (mW)	SAR Required
(2.4~2.4835)GHz Bluetooth	1.35	19	No
(2.4~2.4835)GHz WLAN	16.44	19	No

6.8 RF exposure conditions

Refer to the follow picture“Antenna Locations & Separation Distances” for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.



6.8.1 Head Exposure Conditions

For WWAN,

Test Configurations	SAR Required	Note
Left Touch	yes	/
Left Tilt (15°)	yes	/
Right Touch	yes	/
Right Tilt (15°)	yes	/

6.8.2 Body-worn Accessory Exposure conditions

For WWAN

Test Configurations	SAR Required	Note
Rear	yes	/
Front	yes	/

For WiFi

Test Configurations	SAR Required	Note
Rear	yes	/
Front	yes	/

6.8.3 Hotspot Exposure Conditions

For WWAN

Test Configurations	Antenna-to-edge/surface	SAR Required
Rear	<25 mm	Yes
Front	<25 mm	Yes
Edge 1	135 mm	No
Edge 2	0 mm	Yes
Edge 3	25 mm	Yes
Edge 4	7 mm	Yes

For Wi-Fi

Test Configurations	Antenna-to-edge/surface	SAR Required
Rear	<25 mm	Yes
Front	<25 mm	Yes
Edge 1	0 mm	Yes
Edge 2	124 mm	No
Edge 3	53 mm	No
Edge 4	0 mm	Yes

6.9 System Checking

The manufacturer calibrates the probes annully. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyser. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system checking results (dielectric parameters and SAR values) are given in the table below.

Date Tested	System dipole	T.S. Liquid	SAR measured (normalized to 1W)		Target (Ref.Value)	Delta (%)	Tolerance (%)
2017.05.02	D835V2	Head	1g	9.36	9.24	1.30	±10
2017.05.02	D835V2	Body	1g	9.32	9.38	0.64	±10
2017.05.03	D1900V2	Head	1g	39.28	39.40	0.30	±10
2017.05.03	D1900V2	Body	1g	39.36	39.50	0.35	±10
2017.05.04	D2450V2	Head	1g	52.48	52.70	0.42	±10
2017.05.04	D2450V2	Body	1g	51.72	51.90	0.35	±10

Plots of the system checking scans are given in Appendix A.

Tissue Simulants used in the Measurements

For the measurement of the following parameters the SPEAG DAKS-3.5 dielectric parameter probe is used, representing the open-ended coaxial probe measurement procedure.

Date Tested	Freq.(MHz)	Liquid parameters	measured	Target	Delta(%)	Tolerance(%)
2017.05.02	Head 835	εr	42.11	41.50	1.47	±5
		σ[S/m]	0.91	0.90	1.11	±5
2017.05.02	Body 835	εr	53.85	55.20	2.45	±5
		σ[S/m]	0.98	0.97	1.03	±5
2017.05.03	Head 1900	εr	40.84	40.00	2.10	±5
		σ[S/m]	1.41	1.40	0.71	±5
2017.05.03	Body 1900	εr	52.18	53.30	2.10	±5
		σ[S/m]	1.53	1.52	0.66	±5
2017.05.04	Head 2450	εr	39.21	39.20	0.03	±5
		σ[S/m]	1.79	1.80	0.56	±5
2017.05.04	Body 2450	εr	52.04	52.70	1.25	±5
		σ[S/m]	1.97	1.95	1.03	±5

6.10 SAR TEST RESULT

In order to determine the largest value of the peak spatial-average SAR of a handset, all device positions, configurations, and operational modes should be tested for each frequency band according to Steps 1 to 3 below.

Step 1: The tests should be performed at the channel that is closest to the center of the transmit frequency band.
a) All device positions (cheek and tilt, for both left and right sides of the SAM phantom),
b) All configurations for each device position in a), e.g., antenna extended and retracted, and
c) All operational modes for each device position in item a) and configuration in item b) in each frequency band, e.g., analog and digital, If more than three frequencies need to be tested (i.e., Nc > 3), then all frequencies, configurations and modes shall be tested for all of the above test conditions.
Step 2: For the condition providing the highest peak spatial-average SAR determined in Step 1 for each frequency, perform all tests at all other test frequency channels, e.g., 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 should be tested as well.
Step 3: Examine all data to determine the largest value of the peak.
Note:
1. Per KDB 447498 D01v05, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
Scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
Reported SAR (W/kg) = Measured SAR (W/kg)* Scaling Factor
2. Per KDB 447498 D01v05, for each exposure position, if the highest output channel reported SAR ≤0.8W/kg, other channels SAR testing are not necessary.
3. In the report the test position “Mobile phone screen Towards Ground” abbreviated as “TG”, and “Mobile phone screen Towards Phantom” abbreviated as “TP”.

The measured and reported Head/body SAR values for the test device are tabulated below:

Mode: GSM 850

fL(MHz)=824.2MHz fM(MHz)=836.5MHz fH(MHz)= 848.8MHz

SAR Values（Head，850MHz Band）

Limit of SAR (W/kg) : <1.6W/kg (1g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Left cheek	GSM	L	32.91	34	1.29	---	---
		M	32.94	34	1.28	0.076	0.098
		H	32.92	34	1.28	---	---
Left Tilted		L	32.91	34	1.29	---	---
		M	32.94	34	1.28	0.028	0.036
		H	32.92	34	1.28	---	---
Right cheek		L	32.91	34	1.29	---	---
		M	32.94	34	1.28	0.252	0.322
		H	32.92	34	1.28	---	---
Right Tilted		L	32.91	34	1.29	---	---
		M	32.94	34	1.28	0.128	0.163
		H	32.92	34	1.28	---	---

Mode: GSM850 (GSM/GPRS)

fL(MHz)=824.2MHz fM(MHz)=836.5MHz fH(MHz)= 848.8MHz

SAR Values（body，850MHz Band

Limit of SAR (W/kg) : <1.6W/kg (1g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1 g Average	1g Average
TG	GSM With headset	L	32.91	34	1.29	---	---
		M	32.94	34	1.28	0.420	0.536
		H	32.92	34	1.28	---	---
	GPRS	L	28.30	29	1.17	---	---
		M	28.17	29	1.21	0.783	0.948
		H	28.11	29	1.23	---	---
	EGPRS	L	28.30	29	1.17	---	---
		M	28.17	29	1.21	0.787	0.953
		M(retest)	28.17	29	1.21	0.779	0.943
		H	28.11	29	1.23	---	---
TP	GSM With headset	L	32.91	34	1.29	---	---
		M	32.94	34	1.28	0.367	0.468
		H	32.92	34	1.28	---	---
	GPRS	L	28.30	29	1.17	---	---
		M	28.17	29	1.21	0.702	0.850
		H	28.11	29	1.23	---	---
	EGPRS	L	28.30	29	1.17	---	---
		M	28.17	29	1.21	0.705	0.853
		H	28.11	29	1.23	---	---
Hotspot EDGE 2	EGPRS	L	28.30	29	1.17	---	---
		M	28.17	29	1.21	0.382	0.462
		H	28.11	29	1.23	---	---
Hotspot EDGE 3		L	28.30	29	1.17	---	---
		M	28.17	29	1.21	0.709	0.858
		H	28.11	29	1.23	---	---
Hotspot EDGE 4		L	28.30	29	1.17	---	---
		M	28.17	29	1.21	0.343	0.415
		H	28.11	29	1.23	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: GSM1900

fL(MHz)=1850.2MHz fM(MHz)=1880.0MHz fH(MHz)=1909.8MHz

SAR Values（Head，1900MHz Band）

Limit of SAR (W/kg) : <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Left cheek	GSM	L	29.97	31	1.27	---	---
		M	29.98	31	1.26	0.213	0.269
		H	29.91	31	1.29	---	---
Left Tilted		L	29.97	31	1.27	---	---
		M	29.98	31	1.26	0.069	0.087
		H	29.91	31	1.29	---	---
Right cheek		L	29.97	31	1.27	---	---
		M	29.98	31	1.26	0.155	0.196
		H	29.91	31	1.29	---	---
Right Tilted		L	29.97	31	1.27	---	---
		M	29.98	31	1.26	0.056	0.071
		H	29.91	31	1.29	---	---

Mode: GSM1900 (GSM/GPRS)

fL(MHz)=1850.2MHz fM(MHz)=1880.0MHz fH(MHz)=1909.8MHz

SAR Values（body，1900MHz Band）

Limit of SAR (W/kg) :<1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1 g Average	1g Average
TG	GSM With headset	L	29.97	31	1.27	---	---
		M	29.98	31	1.26	0.523	0.661
		H	29.91	31	1.29	---	---
	GPRS	L	25.00	26	1.26	---	---
		M	25.01	26	1.26	0.757	0.951
		H	24.99	26	1.26	---	---
	EGPRS	L	25.00	26	1.26	---	---
		M	25.01	26	1.26	0.781	0.981
		M(retest)	25.01	26	1.26	0.760	0.958
		H	24.99	26	1.26	---	---
TP	GSM With headset	L	29.97	31	1.27	---	---
		M	29.98	31	1.26	0.213	0.269
		H	29.91	31	1.29	---	---
	GPRS	L	25.00	26	1.26	---	---
		M	25.01	26	1.26	0.418	0.525
		H	24.99	26	1.26	---	---
	EGPRS	L	25.00	26	1.26	---	---
		M	25.01	26	1.26	0.488	0.613
		H	24.99	26	1.26	---	---
Hotspot EDGE 2	EGPRS	L	25.00	26	1.26	---	---
		M	25.01	26	1.26	0.453	0.569
		H	24.99	26	1.26	---	---
Hotspot EDGE 3		L	25.00	26	1.26	---	---
		M	25.01	26	1.26	0.116	0.146
		H	24.99	26	1.26	---	---
Hotspot EDGE 4		L	25.00	26	1.26	---	---
		M	25.01	26	1.26	0.168	0.211
		H	24.99	26	1.26	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: WCDMA BAND2
fL(MHz)=1852.4MHz fM(MHz)=1880MHz fH(MHz)= 1907.6MHz
SAR Values（Head，WCDMA BAND2）
Limit of SAR (W/kg):<1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1 g Average	1g Average
Left cheek	VOICE	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.372	0.508
		H	22.61	24	1.38	---	---
Left Tilted		L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.126	0.172
		H	22.61	24	1.38	---	---
Right cheek		L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.250	0.341
		H	22.61	24	1.38	---	---
Right Tilted		L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.087	0.118
		H	22.61	24	1.38	---	---

Mode: WCDMA BAND2

fL(MHz)=1852.4MHz fM(MHz)=1880MHz fH(MHz)= 1907.6MHz

SAR Values（body，WCDMA BAND2）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	VOICE	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.572	0.781
		M(retest)	22.65	24	1.36	0.533	0.725
		H	22.61	24	1.38	---	---
	DATA	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.568	0.775
		H	22.61	24	1.38	---	---
TP	VOICE	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.454	0.620
		H	22.61	24	1.38	---	---
	DATA	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.418	0.570
		H	22.61	24	1.38	---	---
Hotspot EDGE2	DATA	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.541	0.738
		H	22.61	24	1.38	---	---
Hotspot EDGE3	DATA	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.080	0.109
		H	22.61	24	1.38	---	---
Hotspot EDGE4	DATA	L	22.62	24	1.37	---	---
		M	22.65	24	1.36	0.382	0.521
		H	22.61	24	1.38	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: WCDMA BAND4

fL(MHz)=1712.4MHz fM(MHz)=1732.4MHz fH(MHz)= 1752.6MHz

SAR Values（Head，WCDMA BAND4）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	VOICE	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.353	0.509
		H	22.37	24	1.46	---	---
Left Tilted		L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.200	0.288
		H	22.37	24	1.46	---	---
Right cheek		L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.246	0.355
		H	22.37	24	1.46	---	---
Right Tilted		L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.170	0.245
		H	22.37	24	1.46	---	---

Mode: WCDMA BAND4

fL(MHz)=1712.4MHz fM(MHz)=1732.4MHz fH(MHz)= 1752.6MHz

SAR Values（body，WCDMA BAND4）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	VOICE	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.662	0.955
		H	22.37	24	1.46	---	---
	DATA	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.702	1.012
		M(retest)	22.41	24	1.44	0.611	0.880
		H	22.37	24	1.46	---	---
TP	VOICE	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.380	0.548
		H	22.37	24	1.46	---	---
	DATA	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.402	0.580
		H	22.37	24	1.46	---	---
Hotspot EDGE2	DATA	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.373	0.538
		H	22.37	24	1.46	---	---
Hotspot EDGE3	DATA	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.130	0.187
		H	22.37	24	1.46	---	---
Hotspot EDGE4	DATA	L	22.38	24	1.45	---	---
		M	22.41	24	1.44	0.186	0.268
		H	22.37	24	1.46	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: WCDMA BAND5

fL(MHz)=826.4MHz fM(MHz)=836.6MHz fH(MHz)= 846.6MHz

SAR Values（Head，WCDMA BAND5）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	VOCIE	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.135	0.188
		H	22.55	24	1.40	---	---
Left Tilted		L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.065	0.091
		H	22.55	24	1.40	---	---
Right cheek		L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.141	0.196
		H	22.55	24	1.40	---	---
Right Tilted		L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.098	0.137
		H	22.55	24	1.40	---	---

Mode: WCDMA BAND5

fL(MHz)=826.4MHz fM(MHz)=836.6MHz fH(MHz)= 846.6MHz

SAR Values（body，WCDMA BAND5）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	VOICE	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.336	0.468
		M(retest)	22.56	24	1.39	0.249	0.346
		H	22.55	24	1.40	---	---
	DATA	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.335	0.467
		H	22.55	24	1.40	---	---
TP	VOICE	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.280	0.390
		H	22.55	24	1.40	---	---
	DATA	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.330	0.460
		H	22.55	24	1.40	---	---
Hotspot EDGE2	DATA	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.011	0.016
		H	22.55	24	1.40	---	---
Hotspot EDGE3	DATA	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.114	0.159
		H	22.55	24	1.40	---	---
Hotspot EDGE4	DATA	L	22.48	24	1.42	---	---
		M	22.56	24	1.39	0.107	0.149
		H	22.55	24	1.40	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: LTE BAND2- 20BW-1RB

fL(MHz)=1860MHz fM(MHz)=1880MHz fH(MHz)= 1900MHz

SAR Values（Head，LTE BAND2）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	20 BW 1RB	L	22.50	23	1.12	0.327	0.367
		M	22.80	23	1.05	0.443	0.464
		H	22.20	23	1.20	0.333	0.400
Left Tilted		L	22.50	23	1.12	---	---
		M	22.80	23	1.05	0.107	0.112
		H	22.20	23	1.20	---	---
Right cheek		L	22.50	23	1.12	---	---
		M	22.80	23	1.05	0.189	0.198
		H	22.20	23	1.20	---	---
Right Tilted		L	22.50	23	1.12	---	---
		M	22.80	23	1.05	0.075	0.079
		H	22.20	23	1.20	---	---

Mode: LTE BAND2- 20BW-1RB

fL(MHz)=1860MHz fM(MHz)=1880MHz fH(MHz)= 1900MHz

SAR Values（body，LTE BAND2）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	20 BW 1RB	L	22.50	23	1.12	0.708	0.794
		M	22.80	23	1.05	0.795	0.832
		M(retest)	22.80	23	1.05	0.678	0.712
		H	22.20	23	1.20	0.777	0.934
TP	20 BW 1RB	L	22.50	23	1.12	---	---
		M	22.80	23	1.05	0.472	0.494
		H	22.20	23	1.20	---	---
Hotspot EDGE 2	20 BW 1RB	L	22.50	23	1.12	---	---
		M	22.80	23	1.05	0.378	0.396
		H	22.20	23	1.20	---	---
Hotspot EDGE 3		L	22.50	23	1.12	---	---
		M	22.80	23	1.05	0.043	0.045
		H	22.20	23	1.20	---	---
Hotspot EDGE 4		L	22.50	23	1.12	---	---
		M	22.80	23	1.05	0.301	0.315
		H	22.20	23	1.20	---	---

Note: Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: LTE BAND2- 20BW-50%RB

fL(MHz)=1860MHz fM(MHz)=1880MHz fH(MHz)= 1900MHz

SAR Values（Head，LTE BAND2）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	20 BW 50%RB	L	22.20	23	1.20	---	---
		M	22.50	23	1.12	0.397	0.445
		H	22.00	23	1.26	---	---
Left Tilted		L	22.20	23	1.20	---	---
		M	22.50	23	1.12	0.096	0.108
		H	22.00	23	1.26	---	---
Right cheek		L	22.20	23	1.20	---	---
		M	22.50	23	1.12	0.147	0.165
		H	22.00	23	1.26	---	---
Right Tilted		L	22.20	23	1.20	---	---
		M	22.50	23	1.12	0.067	0.075
		H	22.00	23	1.26	---	---

Mode: LTE BAND2- 20BW-50%RB

fL(MHz)=1860MHz fM(MHz)=1880MHz fH(MHz)= 1900MHz

SAR Values（body，LTE BAND2）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	20 BW 50%RB	L	22.20	23	1.20	---	---
		M	22.50	23	1.12	0.646	0.725
		H	22.00	23	1.26	---	---
TP	20 BW 50%RB	L	22.20	23	1.20	---	---
		M	22.50	23	1.12	0.382	0.429
		H	22.00	23	1.26	---	---
Hotspot EDGE 2	20 BW 50%RB	L	22.20	23	1.20	---	---
		M	22.50	23	1.12	---	---
		H	22.00	23	1.26	---	---
Hotspot EDGE 3		L	22.20	23	1.20	---	---
		M	22.50	23	1.12	---	---
		H	22.00	23	1.26	---	---
Hotspot EDGE 4		L	22.20	23	1.20	---	---
		M	22.50	23	1.12	---	---
		H	22.00	23	1.26	---	---

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

Mode: LTE BAND4- 20BW-1RB

fL(MHz)=1720.0MHz fM(MHz)=1732.5MHz fH(MHz)= 1745.0Mhz

SAR Values（Head，LTE BAND4）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	20BW 1RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.343	0.432
		H	21.50	1.50	1.41	---	---
Left Tilted		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.169	0.213
		H	21.50	1.50	1.41	---	---
Right cheek		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.170	0.214
		H	21.50	1.50	1.41	---	---
Right Tilted		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.138	0.174
		H	21.50	1.50	1.41	---	---

Mode: LTE BAND4- 20BW-1RB

fL(MHz)=1720.0MHz fM(MHz)=1732.5MHz fH(MHz)= 1745.0MHz

SAR Values（body，LTE BAND4）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	20 BW 1RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.200	0.252
		H	21.50	1.50	1.41	---	---
TP	20 BW 1RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.340	0.428
		H	21.50	1.50	1.41	---	---
Hotspot EDGE 2	20 BW 1RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	---	---
		H	21.50	1.50	1.41	---	---
Hotspot EDGE 3		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	---	---
		H	21.50	1.50	1.41	---	---
Hotspot EDGE 4		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	---	---
		H	21.50	1.50	1.41	---	---

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

Mode: LTE BAND4- 20BW-50%RB

fL(MHz)=1720 MHz fM(MHz)=1732.5MHz fH(MHz)= 1745MHz

SAR Values（Head，LTE BAND4）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	20 BW 50%RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.280	0.352
		H	21.50	1.50	1.41	---	---
Left Tilted		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.136	0.171
		H	21.50	1.50	1.41	---	---
Right cheek		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.148	0.186
		H	21.50	1.50	1.41	---	---
Right Tilted		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.118	0.149
		H	21.50	1.50	1.41	---	---

Mode: LTE BAND4- 20BW-50%RB

fL(MHz)=1720 MHz fM(MHz)=1732.5MHz fH(MHz)= 1745MHz

SAR Values（body，LTE BAND4）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

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

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	20 BW 50%RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.419	0.527
		M(retest)	22.00	1.00	1.26	0.288	0.363
		H	21.50	1.50	1.41	---	---
TP	20 BW 50%RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.272	0.342
		H	21.50	1.50	1.41	---	---
Hotspot EDGE 2	20 BW 50%RB	L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.311	0.392
		H	21.50	1.50	1.41	---	---
Hotspot EDGE 3		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.116	0.146
		H	21.50	1.50	1.41	---	---
Hotspot EDGE 4		L	21.80	1.20	1.32	---	---
		M	22.00	1.00	1.26	0.153	0.193
		H	21.50	1.50	1.41	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).

Mode: LTE BAND5- 10BW-1RB

fL(MHz)=829 MHz fM(MHz)=836.5MHz fH(MHz)= 844MHz

SAR Values（Head，LTE BAND5）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	10 BW 1RB	L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.102	0.123
		H	21.80	23	1.32	---	---
Left Tilted		L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.069	0.083
		H	21.80	23	1.32	---	---
Right cheek		L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.129	0.155
		H	21.80	23	1.32	---	---
Right Tilted		L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.074	0.088
		H	21.80	23	1.32	---	---

Mode: LTE BAND5- 10BW-1RB

fL(MHz)=829 MHz fM(MHz)=836.5MHz fH(MHz)= 844MHz

SAR Values（Head，LTE BAND5）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	10 BW 1RB	L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.258	0.310
		H	21.80	23	1.32	---	---
TP	10 BW 1RB	L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.167	0.201
		H	21.80	23	1.32	---	---
Hotspot EDGE 2	10 BW 1RB	L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.125	0.150
		H	21.80	23	1.32	---	---
Hotspot EDGE 3		L	22.00	23	1.26	---	---
		M	22.20	23	1.20	0.293	0.352
		M(retest)	22.20	23	1.20	0.271	0.325
		H	21.80	23	1.32	---	---
Hotspot EDGE 4		L	22.00	23	1.26	---	0.000
		M	22.20	23	1.20	0.062	0.075
		H	21.80	23	1.32	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: LTE BAND5- 10BW-50%RB

fL(MHz)=829 MHz fM(MHz)=836.5MHz fH(MHz)= 844MHz

SAR Values（Head，LTE BAND5）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	10 BW 50%RB	L	22.00	23	1.26	---	---
		M	22.30	23	1.17	0.102	0.120
		H	22.00	23	1.26	---	---
Left Tilted		L	22.00	23	1.26	---	---
		M	22.30	23	1.17	0.059	0.069
		H	22.00	23	1.26	---	---
Right cheek		L	22.00	23	1.26	---	---
		M	22.30	23	1.17	0.099	0.116
		H	22.00	23	1.26	---	---
Right Tilted		L	22.00	23	1.26	---	---
		M	22.30	23	1.17	0.054	0.064
		H	22.00	23	1.26	---	---

Mode: LTE BAND5- 10BW-50%RB

fL(MHz)=829 MHz fM(MHz)=836.5MHz fH(MHz)= 844MHz

SAR Values（Head，LTE BAND5）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	10 BW 50%RB	L	22.00	23	1.26	---	---
		M	22.30	23	1.17	0.174	0.204
		H	22.00	23	1.26	---	---
TP	10 BW 50%RB	L	22.00	23	1.26	---	---
		M	22.30	23	1.17	0.145	0.170
		H	22.00	23	1.26	---	---
Hotspot EDGE 2	10 BW 50%RB	L	22.00	23	1.26	---	---
		M	22.30	23	1.17	---	---
		H	22.00	23	1.26	---	---
Hotspot EDGE 3		L	22.00	23	1.26	---	---
		M	22.30	23	1.17	---	---
		H	22.00	23	1.26	---	---
Hotspot EDGE 4		L	22.00	23	1.26	---	---
		M	22.30	23	1.17	---	---
		H	22.00	23	1.26	---	---

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

Mode: LTE BAND7- 20BW-1RB

fL(MHz)=2510 MHz fM(MHz)=2535MHz fH(MHz)= 2560MHz

SAR Values（Head，LTE BAND7）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	20 BW 1RB	L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.064	0.073
		H	22.00	23	1.26	---	---
Left Tilted		L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.027	0.031
		H	22.00	23	1.26	---	---
Right cheek		L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.034	0.039
		H	22.00	23	1.26	---	---
Right Tilted		L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.030	0.034
		H	22.00	23	1.26	---	---

Mode: LTE BAND7- 20BW-1RB

fL(MHz)=2510 MHz fM(MHz)=2535MHz fH(MHz)= 2560MHz

SAR Values（body，LTE BAND7）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	20 BW 1RB	L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.740	0.850
		M(retest)	22.40	23	1.15	0.691	0.795
		H	22.00	23	1.26	---	---
TP	20 BW 1 RB	L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.322	0.370
		H	22.00	23	1.26	---	---
Hotspot EDGE 2	20 BW 1RB	L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.523	0.600
		H	22.00	23	1.26	---	---
Hotspot EDGE 3		L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.050	0.057
		H	22.00	23	1.26	---	---
Hotspot EDGE 4		L	21.60	23	1.38	---	---
		M	22.40	23	1.15	0.019	0.021
		H	22.00	23	1.26	---	---

Note: The test result of variation product is better than the original test data. So the original test data retain and adopted as the final test result.
M is the original test data, M(retest) is the new test data(variation).
The distance between the EUT and the phantom bottom is 10mm.

Mode: LTE BAND7- 20BW-50%RB

fL(MHz)=2510 MHz fM(MHz)=2535MHz fH(MHz)= 2560MHz

SAR Values（Head，LTE BAND7）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-uplimit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
Left cheek	20 BW 50%RB	L	21.40	23	1.45	---	---
		M	22.50	23	1.12	0.057	0.064
		H	22.00	23	1.26	---	---
Left Tilted		L	21.40	23	1.45	---	---
		M	22.50	23	1.12	0.020	0.022
		H	22.00	23	1.26	---	---
Right cheek		L	21.40	23	1.45	---	---
		M	22.50	23	1.12	0.029	0.033
		H	22.00	23	1.26	---	---
Right Tilted		L	21.40	23	1.45	---	---
		M	22.50	23	1.12	0.035	0.039
		H	22.00	23	1.26	---	---

Mode: LTE BAND7- 20BW-50%RB

fL(MHz)=2510 MHz fM(MHz)=2535MHz fH(MHz)= 2560MHz

SAR Values（body，LTE BAND7）

Limit of SAR (W/kg): <1.6W/kg(1g Average)

Test Case		CH	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1 g Average	1g Average
TG	20 BW 50%RB	L	21.40	23	1.45	---	---
		M	22.50	23	1.12	0.613	0.688
		H	22.00	23	1.26	---	---
TP	20 BW 50%RB	L	21.40	23	1.45	---	---
		M	22.50	23	1.12	0.270	0.303
		H	22.00	23	1.26	---	---
Hotspot EDGE 2	20 BW 50%RB	L	21.40	23	1.45	---	---
		M	22.50	23	1.12	---	---
		H	22.00	23	1.26	---	---
Hotspot EDGE 3		L	21.40	23	1.45	---	---
		M	22.50	23	1.12	---	---
		H	22.00	23	1.26	---	---
Hotspot EDGE 4		L	21.40	23	1.45	---	---
		M	22.50	23	1.12	---	---
		H	22.00	23	1.26	---	---

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

6.11 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.
The following procedures are applied to determine if repeated measurements are required.
1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

6.11.1 The Highest Measured SAR configuration in Each Frequency Band

Frequency band(MHz)	Air interface	Head(w/kg)	Body(w/kg)
850	GSM850 WCDMA BAND5 LTE BAND5	<0.8	<0.8
1700	WCDMA BAND4 LTE BAND4	<0.8	<0.8
1900	GSM1900 WCDMA BAND2 LTE BAND2	<0.8	<0.8
2450	WiFi 802.11b/g/n LTE BAND7	<0.8	<0.8

6.12 Simultaneous Transmission SAR Analysis

The sum of SAR values for GSM & WiFi

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
GSM	0.322	0.981
WiFi	0.417	0.417
Sum	**0.739**	**1.398**
Note	**GSM850+WIFI RIGHT cheek**	**EGPRS1900+WIFI TG**

According to the above tables, the sum of SAR values for GSM and WiFi < 1.6W/kg. So simultaneous transmission SAR are not required for WiFi transmitter.

The sum of SAR values for WCDMA & WiFi

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
WCDMA	0.509	1.012
WiFi	0.417	0.417
Sum	**0.926**	**1.429**
Note	**WCDMA BAND4+WIFI Left cheek**	**WCDMA BAND4+WIFI TG**

According to the above tables, the sum of SAR values for GSM and WiFi < 1.6W/kg. So simultaneous transmission SAR are not required for WiFi transmitter.

The sum of SAR values for LTE & WiFi

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
LTE	0.464	0.934
WiFi	0.417	0.417
Sum	0.881	**1.351**
Note	**LTE BAND2+WIFI Left cheek**	**LTE BAND2+WIFI TG**

According to the above tables, the sum of SAR values for LTE and WiFi < 1.6W/kg. So simultaneous transmission SAR are not required for WiFi transmitter.

According to the formula (KDB447498 4.3.2) the Bluetooth SAR as follow:
[(max.power of channel, including tune-up tolerance,mw)/(min.test separation distance,mm)]
[√f(GHz)/x] W/kg for test separation distances≦50mm.
Head:
min. test separation distance = 5mm
Body:
min. test separation distance = 10mm
Where x=7.5 for 1-g SAR, and x=18.75 for 10-g SAR.

The sum of SAR values for GSM & Bluetooth

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
GSM	0.322	0.981
Bluetooth	0.033	0.033
Sum	**0.355**	**1.014**
Note	**GSM850+BT Right cheek**	**GSM1900+BT TG**

According to the above tables, the sum of SAR values for GSM and Bluetooth ＜1.6W/kg. So simultaneous transmission SAR are not required for Bluetooth transmitter.

The sum of SAR values for WCDMA & Bluetooth

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
WCDMA	0.509	1.012
Bluetooth	0.033	0.033
Sum	**0.542**	**1.045**
Note	**WCDMA BAND4+WIFI Left cheek**	**WCDMA BAND4+WIFI TG**

According to the above tables, the sum of SAR values for GSM and Bluetooth ＜1.6W/kg. So simultaneous transmission SAR are not required for Bluetooth transmitter.

The sum of SAR values for LTE & Bluetooth

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
LTE	0.464	0.934
Bluetooth	0.033	0.033
Sum	**0.497**	**0.967**
Note	**LTE BAND2+WIFI Left cheek**	**LTE BAND2+WIFI TG**

According to the above tables, the sum of SAR values for LTE and Bluetooth ＜1.6W/kg. So simultaneous transmission SAR are not required for Bluetooth transmitter.

7 MEASUREMENT UNCERTAINTY

DASY5 Uncertainty Budget								
Error description	Uncertainty value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std.Unc (1g).	Std.Unc. (10g)	(vi) Veff
Measurement system								
Probe calibration	±6.0%	N	1	1	1	±6.0%	±6.0%	∞
Axial isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System detection limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF ambient noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF ambient reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max.SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test Sample Related								
Device holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Power drift	±5.0%	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Setup								
Phantom uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid conductivity (target.)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid conductivity (mea.)	±2.5%	R	$\sqrt{3}$	0.64	0.43	±0.9%	±0.6%	∞
Liquid Permittivity (target.)	±5.0%	R	$\sqrt{3}$	0.60	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (mea.)	±2.5%	R	$\sqrt{3}$	0.60	0.49	±0.9%	±0.7%	∞
Combined std. Uncertainty						±10.9%	±10.7%	387
Expanded STD Uncertainty						**±21.7%**	**±21.4%**	

8 TEST EQUIPMENTS

The measurements were performed using an automated near-field scanning system, DASY5, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the 'advanced extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

Test Equipment	Model	Serial Number	Calibration date	Calibration Due data
DAE	DAE4	720	2016.10.31	2017.10.30
DAE	DAE4	546	2016.08.22	2017.08.21
Dosimetric E-field Probe	EX3DV4	3708	2016.11.10	2017.11.09
Dosimetric E-field Probe	ES3DV3	3127	2016.08.29	2017.08.28
Dipole Validation Kit	D835V2	4d023	2016.10.24	2017.10.23
Dipole Validation Kit	D1800V2	2d084	2016.08.19	2017.08.18
Dipole Validation Kit	D1900V2	5d113	2016.10.31	2017.10.30
Dipole Validation Kit	D2450V2	738	2016.10.25	2017.10.24

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration Due data
Signal Generator	E4428C	MY45280865	2016.08.20	2017.08.19
Signal Generator	SML 03	103514	2016.08.20	2017.08.19
Power meter	E4417A	MY45101182	2016.08.20	2017.08.19
Power Sensor	E4412A	MY41502214	2016.08.20	2017.08.19
Power Sensor	E4412A	MY41502130	2016.08.20	2017.08.19
Power meter	E4417A	MY45101004	2016.08.20	2017.08.19
Power Sensor	E9300B	MY41496001	2016.08.20	2017.08.19
Power Sensor	E9300B	MY41496003	2016.08.20	2017.08.19
Communication Tester	8960	GB43194054	2016.08.20	2017.08.19
Communication Tester	CMU200	114666	2016.08.20	2017.08.19
Vector Network Analyzer	VNA R140	0011213	2016.08.20	2017.08.19
Dielectric Parameter Probe	DAKS-3.5	1042	2016.08.20	2017.08.19

Detailed information of Isotropic E-field Probe Type ES3DV3

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Calibration certificate in Appendix C
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Optical Surface Detection	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Dynamic Range	5 μW/g to > 100 W/kg; Linearity: ± 0.2 dB
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

Detailed information of Isotropic E-field Probe Type EX3DV4

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Calibration certificate in Appendix C
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Optical Surface Detection	± 0.3 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Dynamic Range	10 μW/g to > 100 W/kg Linearity: ± 0.2 dB (noise: typically < 1 μW/g)
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

ANNEX A – TEST PLOTS

Please refer to the attachment.

ANNEX B – RELEVANT PAGES FROM CALIBRATION REPORTS

Please refer to the attachment.

ANNEX C – PHOTOGRAPH

Please refer to the attachment.

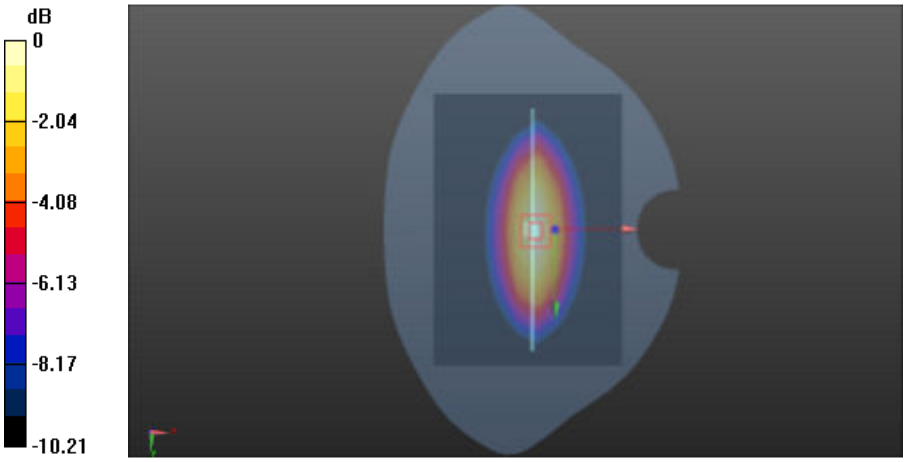
ANNEX A – TEST PLOTS

SYSTEM CHECKING SCANS	835MHz Head

Communication System: UID 0, CW (0); Frequency: 835 MHz
Medium parameters used (extrapolated): f = 835 MHz; σ = 0.909 S/m; ε_r = 42.108; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard:DASY5 (IEEE 1528-2013)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(5.97, 5.97, 5.97); Calibrated: 8/21/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 8/19/2015
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)
  System Performance Check at Frequencies 835MHz Head/d=15mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (10x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 2.98 W/kg
  System Performance Check at Frequencies 835MHz Head/d=15mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 54.113 V/m; Power Drift = -0.05 dB
  Peak SAR (extrapolated) = 3.55 W/kg
  SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.53 W/kg
  Maximum value of SAR (measured) = 2.98 W/kg

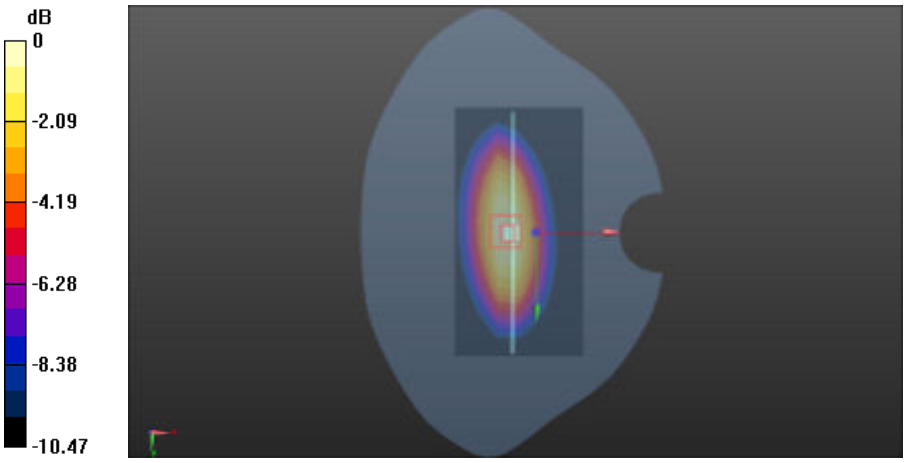


SYSTEM CHECKING SCANS	835MHz Flat

Communication System: UID 0, CW (0); Frequency: 835 MHz
Medium parameters used (extrapolated): f = 835 MHz; σ = 0.978 S/m; ε_r = 53.846; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE 1528-2013)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(5.88, 5.88, 5.88); Calibrated: 8/21/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = -18.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 8/19/2015
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)
  System Performance Check at Frequencies 835MHz Flat/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 2.55 W/kg
  System Performance Check at Frequencies 835MHz Flat/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 53.044 V/m; Power Drift = -0.01 dB
  Peak SAR (extrapolated) = 3.54 W/kg
  SAR(1 g) = 2.33 W/kg; SAR(10 g) = 1.53 W/kg
  Maximum value of SAR (measured) = 2.87 W/kg

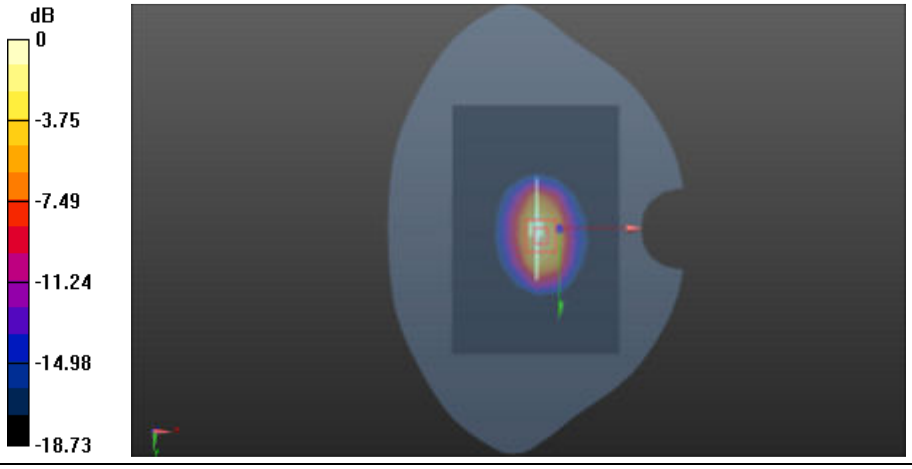


SYSTEM CHECKING SCANS	1900MHz Head

Communication System: UID 0, CW (0); Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.41 S/m; ε_r = 40.84; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard:DASY5 (IEEE 1528-2013)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.94, 4.94, 4.94); Calibrated: 8/21/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 8/19/2015
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)
  System Performance Check at Frequencies 1900MHz Head/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Area Scan (9x12x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 14.0 W/kg
  System Performance Check at Frequencies 1900MHz Head/d=10mm, Pin=250mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 95.996 V/m; Power Drift = 0.05 dB
  Peak SAR (extrapolated) = 20.8 W/kg
  SAR(1 g) = 9.82 W/kg; SAR(10 g) = 5.47 W/kg
  Maximum value of SAR (measured) = 15.9 W/kg

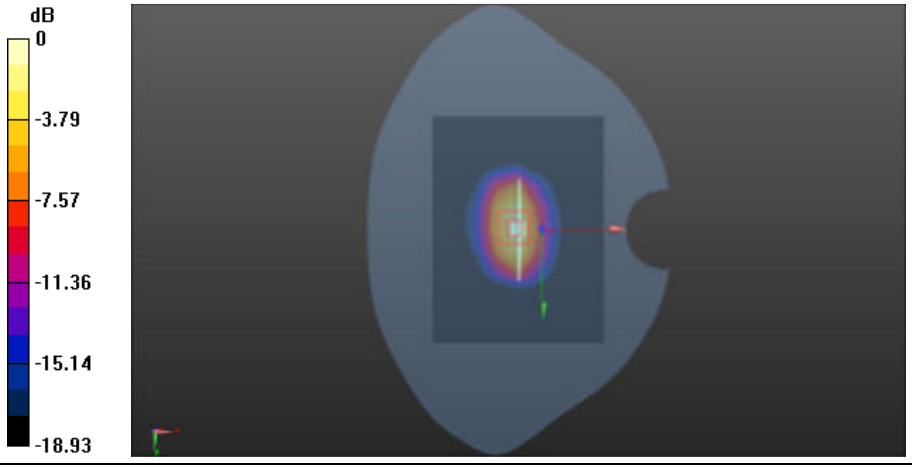


SYSTEM CHECKING SCANS	1900MHz Flat

Communication System: UID 0, CW (0); Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.53 S/m; ε_r = 52.184; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard:DASY5 (IEEE 1528-2013)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.67, 4.67, 4.67); Calibrated: 8/21/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 8/19/2015
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)
  System Performance Check at Frequencies 1900MHz Flat/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 14.7 W/kg
  System Performance Check at Frequencies 1900MHz Flat/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 91.541 V/m; Power Drift = 0.01 dB
  Peak SAR (extrapolated) = 19.2 W/kg
  SAR(1 g) = 9.84 W/kg; SAR(10 g) = 5.64 W/kg
  Maximum value of SAR (measured) = 14.5 W/kg

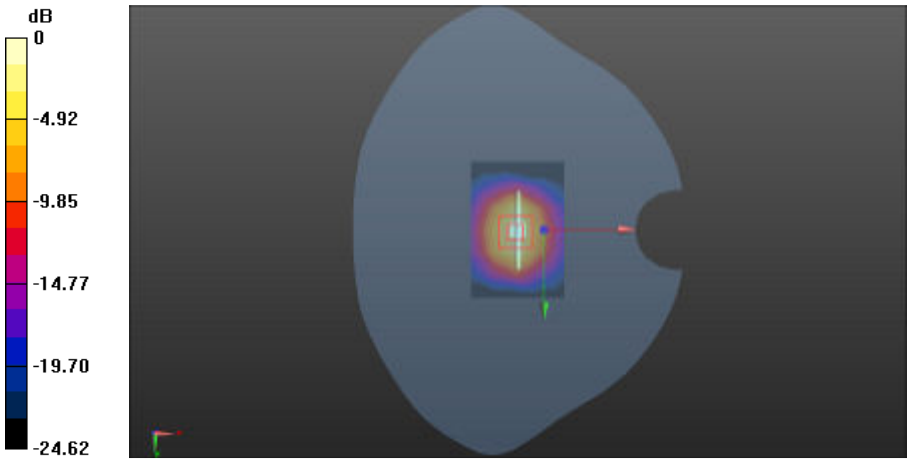


SYSTEM CHECKING SCANS	2450 MHz Head

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.79 S/m; ε_r = 39.208; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.35, 4.35, 4.35); Calibrated: 2015/8/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn546; Calibrated: 2015/8/19
- Phantom: SAM 1659; Type: QD000P40CD; Serial: TP:1659
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)
  System Performance Check at Frequencies 2450MHz Head/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 17.1 W/kg
  System Performance Check at Frequencies 2450MHz Head/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 102.2 V/m; Power Drift = -0.02 dB
  Peak SAR (extrapolated) = 28.8 W/kg
  SAR(1 g) = 13.12 W/kg; SAR(10 g) = 5.92 W/kg
  Maximum value of SAR (measured) = 17.0 W/kg

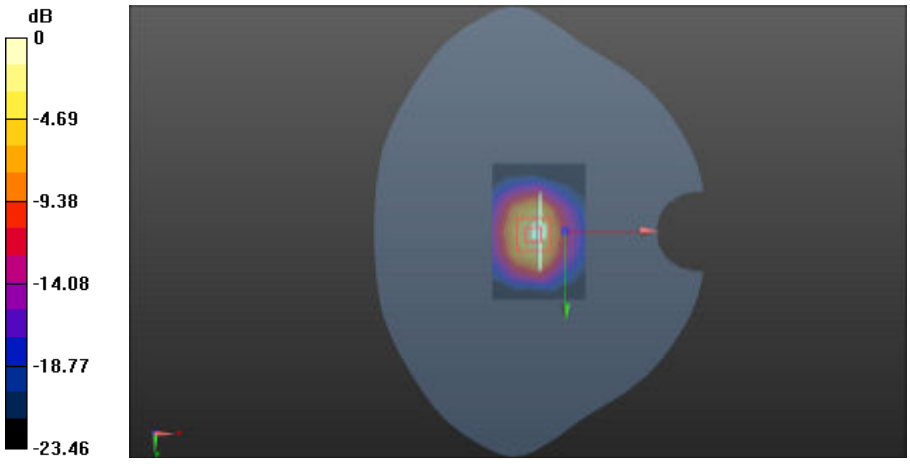


SYSTEM CHECKING SCANS	2450MHz Flat

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.965 S/m; ε_r = 52.042; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.19, 4.19, 4.19); Calibrated: 2015/8/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn546; Calibrated: 2015/8/19
- Phantom: SAM 1659; Type: QD000P40CD; Serial: TP:1659
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)
  System Performance Check at Frequencies 2450MHz Flat/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 17.1 W/kg
  System Performance Check at Frequencies 2450MHz Flat/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 104.3 V/m; Power Drift = -0.01 dB
  Peak SAR (extrapolated) = 28.0 W/kg
  SAR(1 g) = 12.93 W/kg; SAR(10 g) = 5.78 W/kg
  Maximum value of SAR (measured) = 17.4 W/kg



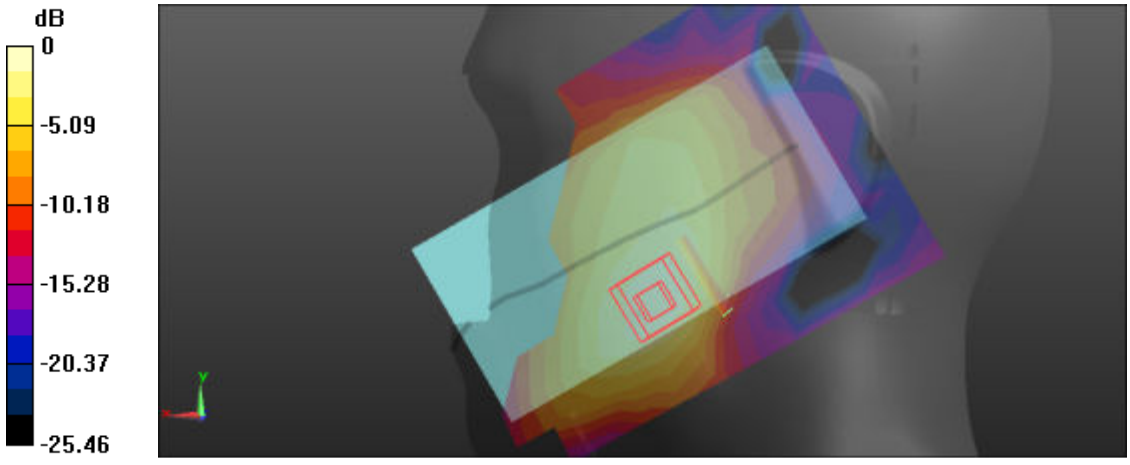
GSM (850MHz/Head)

Left Side	Cheek

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.89 S/m; ε_r = 41.478; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.05, 9.05, 9.05); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section Left HSL 850/850GSM HSL touch M/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.0699 W/kg
  Head-Section Left HSL 850/850GSM HSL touch M/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 2.323 V/m; Power Drift = 0.05 dB
  Peak SAR (extrapolated) = 0.144 W/kg
  SAR(1 g) = 0.076 W/kg; SAR(10 g) = 0.042 W/kg
  Maximum value of SAR (measured) = 0.0834 W/kg



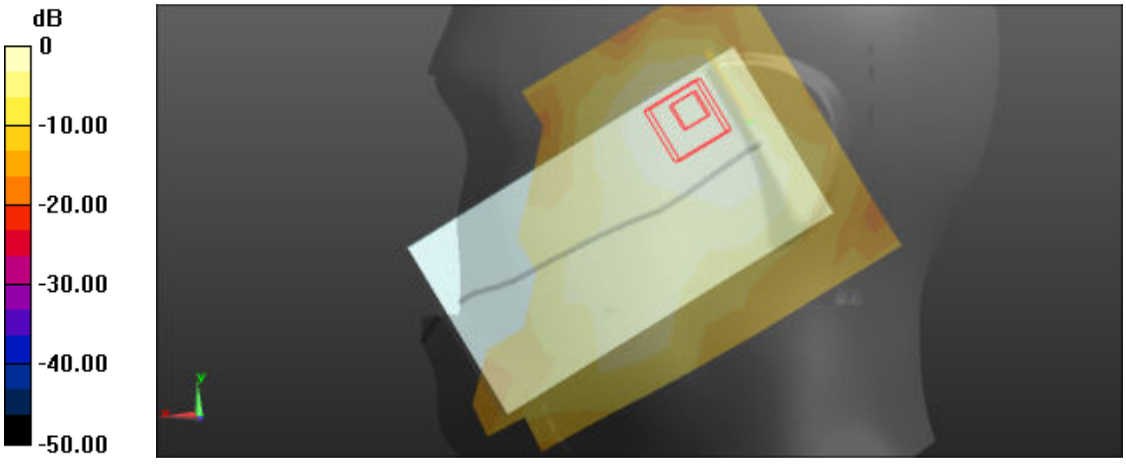
0 dB = 0.0834 W/kg = -10.79 dBW/kg

Left Side	Tilt

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.89 S/m; ε_r = 41.478; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.05, 9.05, 9.05); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section Left HSL 850/850GSM HSL tilt M/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.0265 W/kg
  Head-Section Left HSL 850/850GSM HSL tilt M/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 4.598 V/m; Power Drift = -0.18 dB
  Peak SAR (extrapolated) = 0.0510 W/kg
  SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.016 W/kg
  Maximum value of SAR (measured) = 0.0303 W/kg



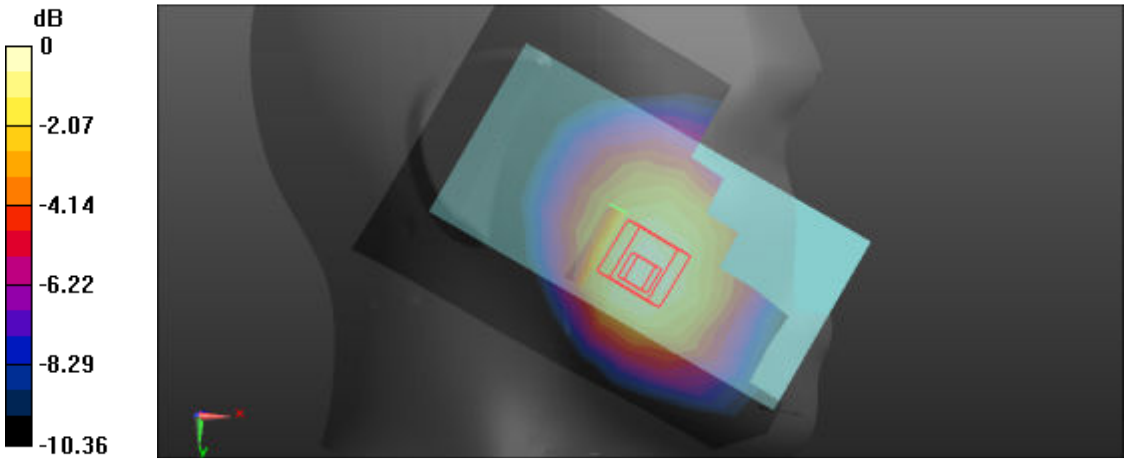
0 dB = 0.0303 W/kg = -15.19 dBW/kg

Right Side	Cheek

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.89 S/m; ε_r = 41.478; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.05, 9.05, 9.05); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section Right HSL 850/850GSM HSL touch M/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.258 W/kg
  Head-Section Right HSL 850/850GSM HSL touch M/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 3.684 V/m; Power Drift = -0.12 dB
  Peak SAR (extrapolated) = 0.334 W/kg
  SAR(1 g) = 0.252 W/kg; SAR(10 g) = 0.191 W/kg
  Maximum value of SAR (measured) = 0.265 W/kg



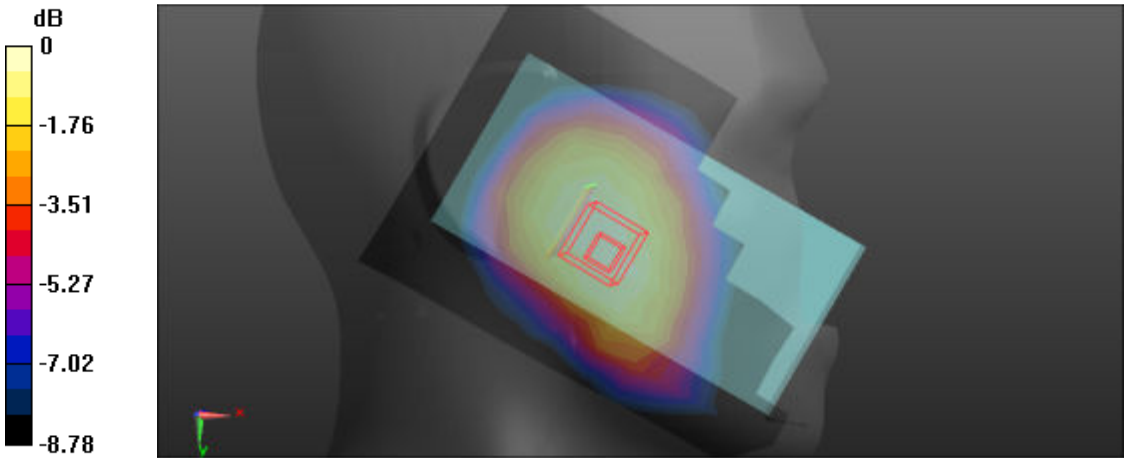
0 dB = 0.265 W/kg = -5.77 dBW/kg

Right Side	Tilt

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.89 S/m; ε_r = 41.478; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.05, 9.05, 9.05); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section Right HSL 850/850GSM HSL tilt M/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.134 W/kg
  Head-Section Right HSL 850/850GSM HSL tilt M/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 7.250 V/m; Power Drift = -0.17 dB
  Peak SAR (extrapolated) = 0.156 W/kg
  SAR(1 g) = 0.128 W/kg; SAR(10 g) = 0.101 W/kg



0 dB = 0.134 W/kg = -8.73 dBW/kg

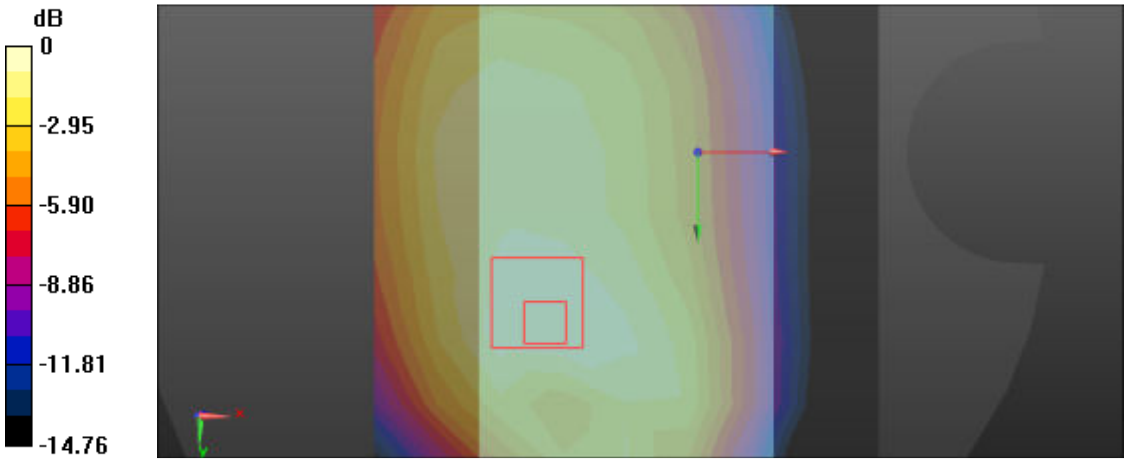
GSM with headset (850MHz/Flat)

FLAT	Towards phantom

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) **Flat-Section MSL 850 TP/850GSM TP M 10mm/Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.378 W/kg
  Flat-Section MSL 850 TP/850GSM TP M 10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 15.66 V/m; Power Drift = -0.00 dB
  Peak SAR (extrapolated) = 0.536 W/kg
  SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.259 W/kg
  Maximum value of SAR (measured) = 0.392 W/kg



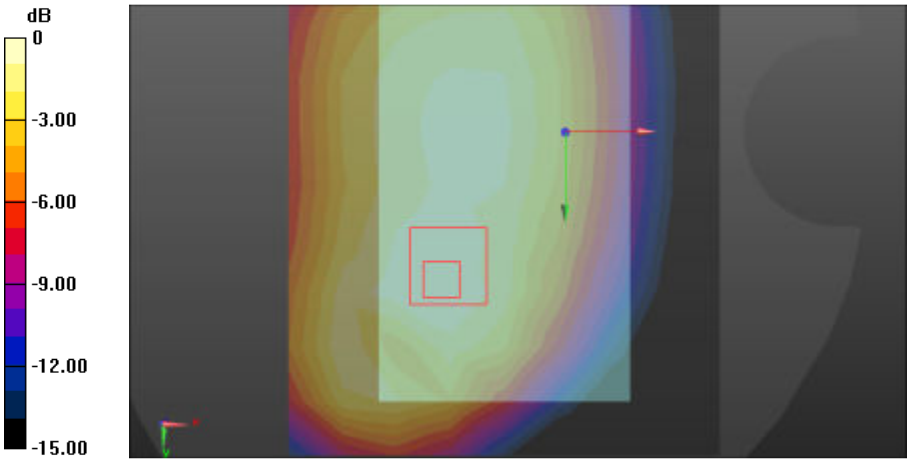
0 dB = 0.392 W/kg = -4.07 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 850 TG/850GSM TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.447 W/kg
  Flat-Section MSL 850 TG/850GSM TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 19.99 V/m; Power Drift = -0.06 dB
  Peak SAR (extrapolated) = 0.591 W/kg
  SAR(1 g) = 0.420 W/kg; SAR(10 g) = 0.298 W/kg
  Maximum value of SAR (measured) = 0.448 W/kg



0 dB = 0.448 W/kg = -3.49 dBW/kg

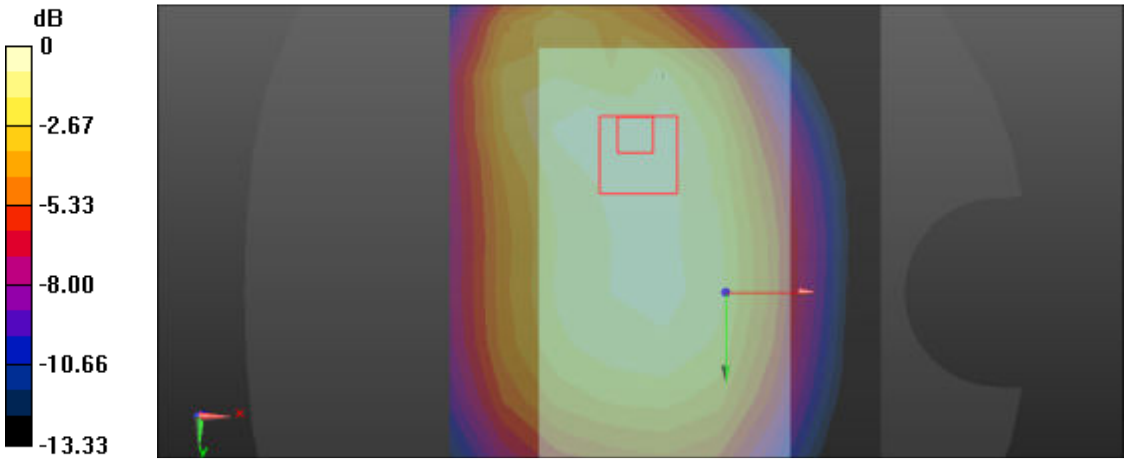
GSM (850MHz with GPRS/Flat)

FLAT	Towards phantom

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 850 TP/850GPRS TP M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.723 W/kg
  Flat-Section MSL 850 TP/850GPRS TP M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 26.20 V/m; Power Drift = -0.02 dB
  Peak SAR (extrapolated) = 0.983 W/kg
  SAR(1 g) = 0.702 W/kg; SAR(10 g) = 0.503 W/kg
  Maximum value of SAR (measured) = 0.743 W/kg



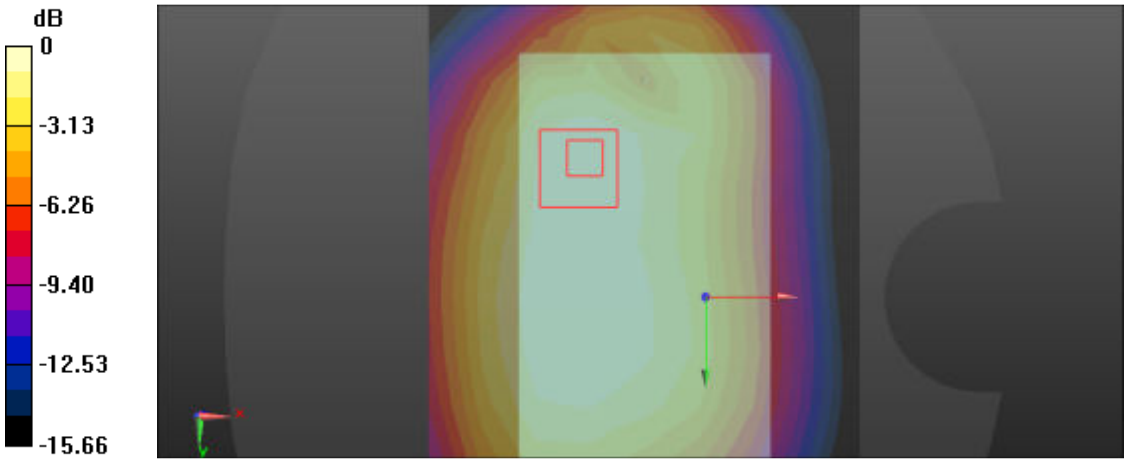
0 dB = 0.743 W/kg = -1.29 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 850 TG/850GPRS TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.821 W/kg
  Flat-Section MSL 850 TG/850GPRS TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 27.07 V/m; Power Drift = -0.00 dB
  Peak SAR (extrapolated) = 1.06 W/kg
  SAR(1 g) = 0.783 W/kg; SAR(10 g) = 0.563 W/kg
  Maximum value of SAR (measured) = 0.833 W/kg



0 dB = 0.833 W/kg = -0.79 dBW/kg

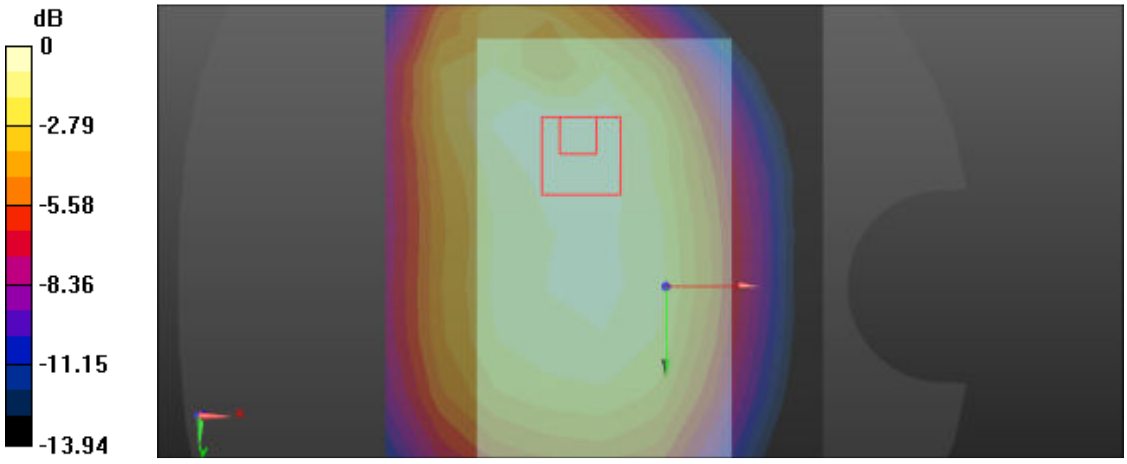
GSM (850MHz with EGPRS/Flat)

FLAT	Towards phantom

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 850 TP/850EDGE TP M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.709 W/kg
  Flat-Section MSL 850 TP/850EDGE TP M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 26.06 V/m; Power Drift = -0.02 dB
  Peak SAR (extrapolated) = 0.975 W/kg
  SAR(1 g) = 0.705 W/kg; SAR(10 g) = 0.504 W/kg
  Maximum value of SAR (measured) = 0.747 W/kg



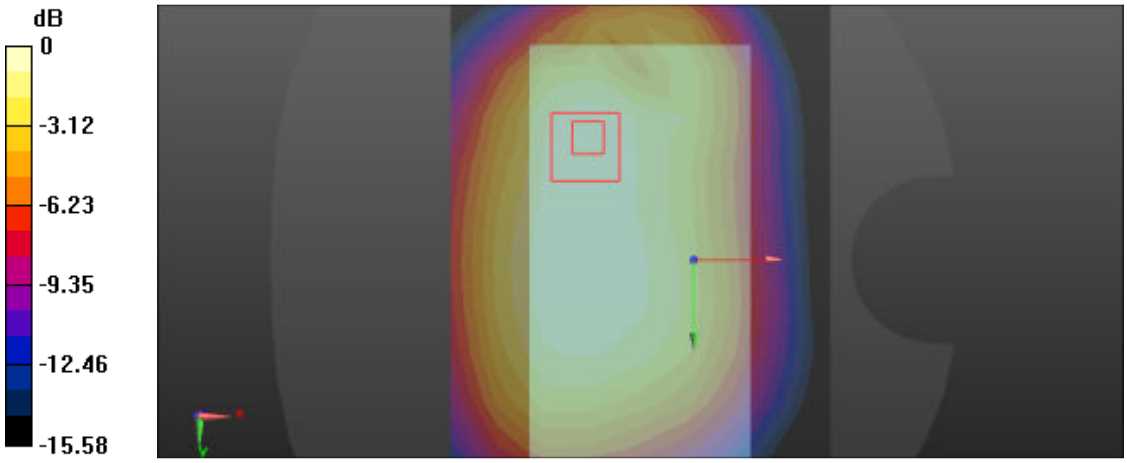
0 dB = 0.747 W/kg = -1.27 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 850 TG/850EGPRS TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.829 W/kg
  Flat-Section MSL 850 TG/850EGPRS TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 27.01 V/m; Power Drift = 0.06 dB
  Peak SAR (extrapolated) = 1.08 W/kg
  SAR(1 g) = 0.787 W/kg; SAR(10 g) = 0.565 W/kg
  Maximum value of SAR (measured) = 0.837 W/kg



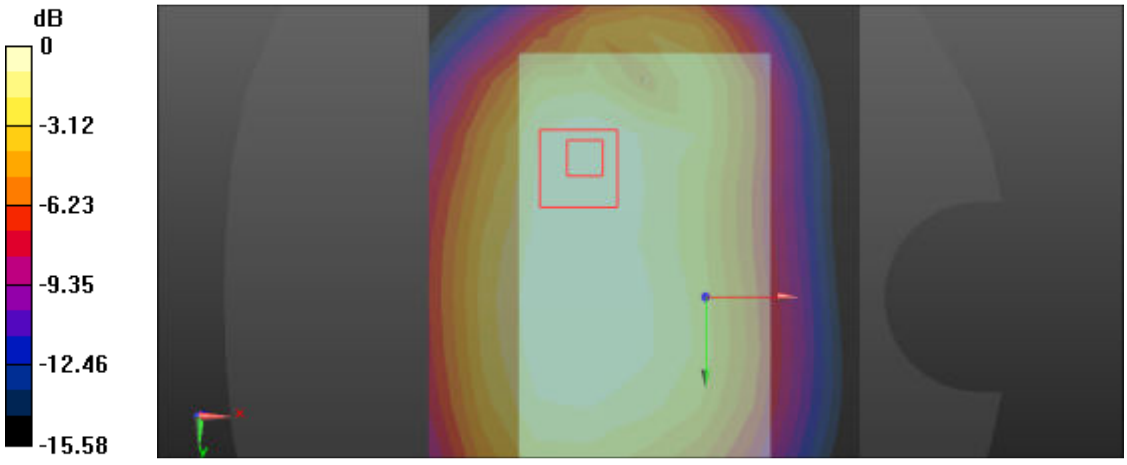
0 dB = 0.837 W/kg = -0.77 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 850 TG/850EGPRS TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.801 W/kg
  Flat-Section MSL 850 TG/850EGPRS TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 25.29 V/m; Power Drift = 0.17 dB
  Peak SAR (extrapolated) = 0.98 W/kg
  SAR(1 g) = 0.779 W/kg; SAR(10 g) = 0.492 W/kg
  Maximum value of SAR (measured) = 0.758 W/kg



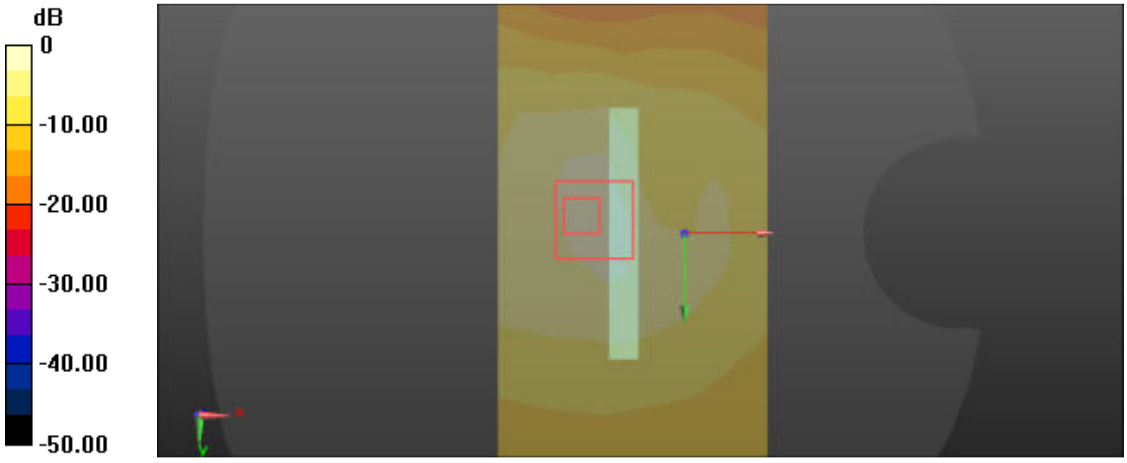
0 dB = 0.743 W/kg = -1.29 dBW/kg

FLAT	EDGE2

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL GSM850 HOT/850EGPRS TP H edge 2/Area Scan (6x15x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.320 W/kg
  Flat-Section MSL GSM850 HOT/850EGPRS TP H edge 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 14.86 V/m; Power Drift = -0.04 dB
  Peak SAR (extrapolated) = 0.750 W/kg
  SAR(1 g) = 0.382 W/kg; SAR(10 g) = 0.189 W/kg
  Maximum value of SAR (measured) = 0.435 W/kg



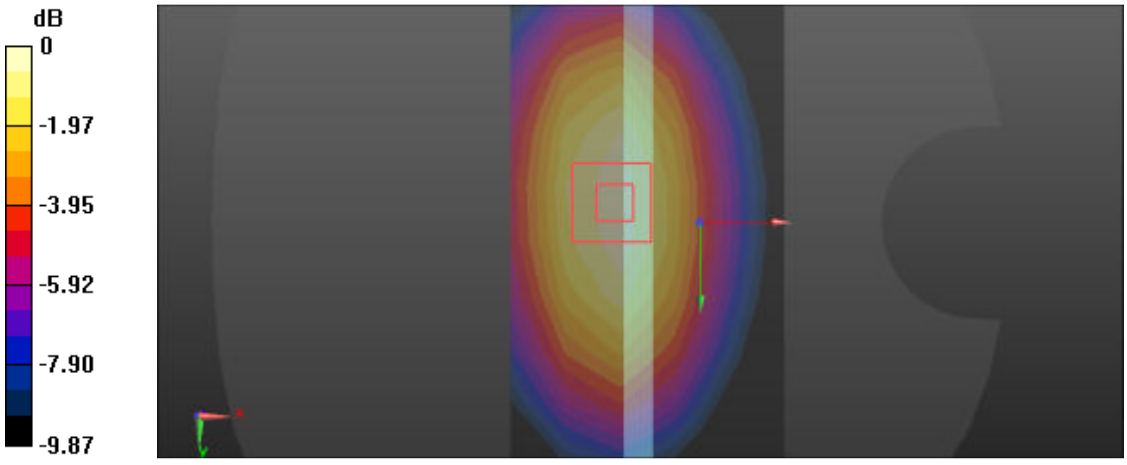
0 dB = 0.435 W/kg = -3.62 dBW/kg

FLAT	EDGE3

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL GSM850 HOT/850EGPRS TP H edge 3/Area Scan (6x15x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.750 W/kg
  Flat-Section MSL GSM850 HOT/850EGPRS TP H edge 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 26.89 V/m; Power Drift = -0.02 dB
  Peak SAR (extrapolated) = 1.05 W/kg
  SAR(1 g) = 0.709 W/kg; SAR(10 g) = 0.480 W/kg
  Maximum value of SAR (measured) = 0.757 W/kg



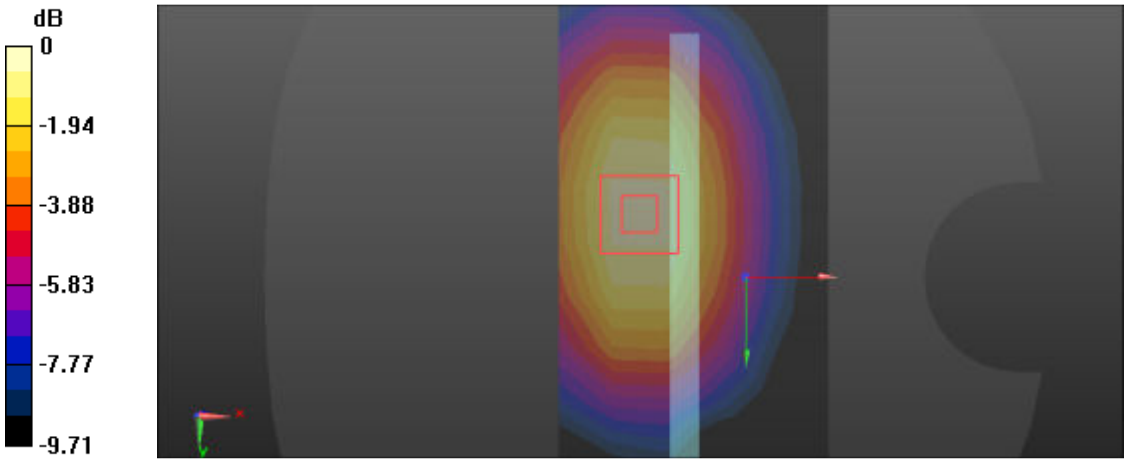
0 dB = 0.757 W/kg = -1.21 dBW/kg

FLAT	EDGE4

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz;Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 S/m; ε_r = 55.858; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(9.1, 9.1, 9.1); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL GSM850 HOT/850EGPRS TP H edge 4/Area Scan (6x15x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.325 W/kg
  Flat-Section MSL GSM850 HOT/850EGPRS TP H edge 4/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 16.00 V/m; Power Drift = 0.07 dB
  Peak SAR (extrapolated) = 0.504 W/kg
  SAR(1 g) = 0.343 W/kg; SAR(10 g) = 0.233 W/kg
  Maximum value of SAR (measured) = 0.366 W/kg



0 dB = 0.366 W/kg = -4.37 dBW/kg

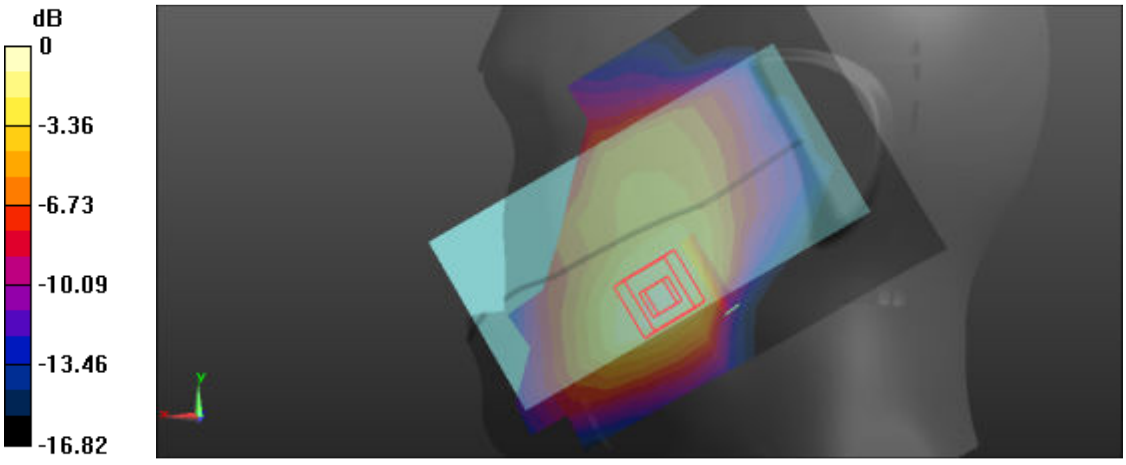
GSM (1900MHz/Head)

Left Side	Cheek

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section HSL 1900 LEFT/1900GSM HSL touch M/Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.202 W/kg
  Head-Section HSL 1900 LEFT/1900GSM HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 2.793 V/m; Power Drift = 0.12 dB
  Peak SAR (extrapolated) = 0.318 W/kg
  SAR(1 g) = 0.213 W/kg; SAR(10 g) = 0.136 W/kg
  Maximum value of SAR (measured) = 0.232 W/kg



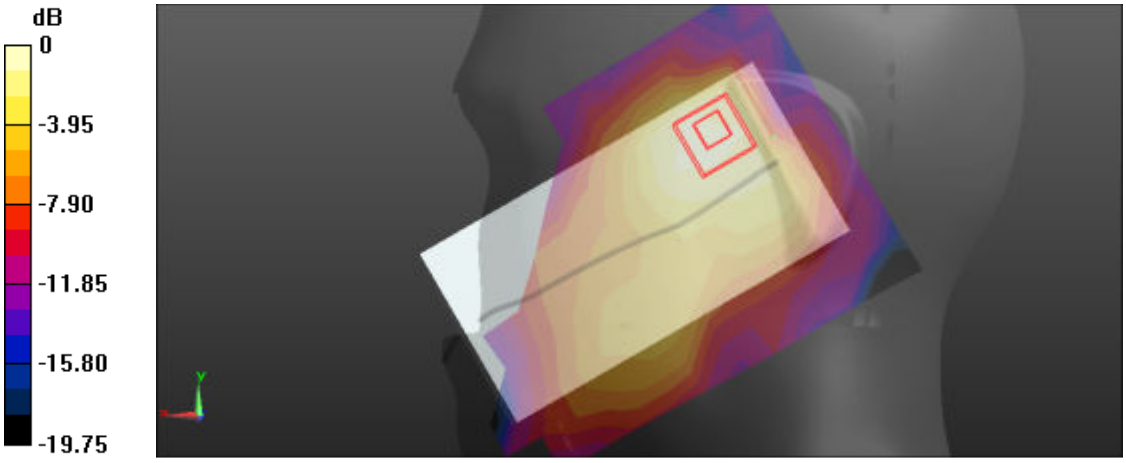
0 dB = 0.232 W/kg = -6.35 dBW/kg

Left Side	Tilt

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section HSL 1900 LEFT/1900GSM HSL tilt M/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.0635 W/kg
  Head-Section HSL 1900 LEFT/1900GSM HSL tilt M/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 4.909 V/m; Power Drift = -0.20 dB
  Peak SAR (extrapolated) = 0.0950 W/kg
  SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.045 W/kg
  Maximum value of SAR (measured) = 0.0740 W/kg



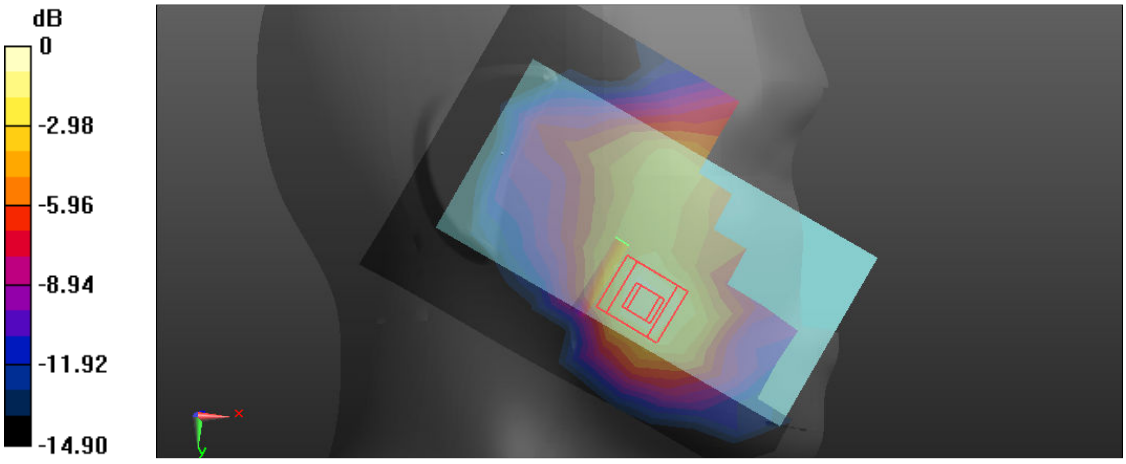
0 dB = 0.0740 W/kg = -11.31 dBW/kg

Right Side	Cheek

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section HSL 1900 RIGHT/1900GSM HSL touch M/Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.146 W/kg
  Head-Section HSL 1900 RIGHT/1900GSM HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 3.643 V/m; Power Drift = 0.12 dB
  Peak SAR (extrapolated) = 0.226 W/kg
  SAR(1 g) = 0.155 W/kg; SAR(10 g) = 0.099 W/kg
  Maximum value of SAR (measured) = 0.172 W/kg



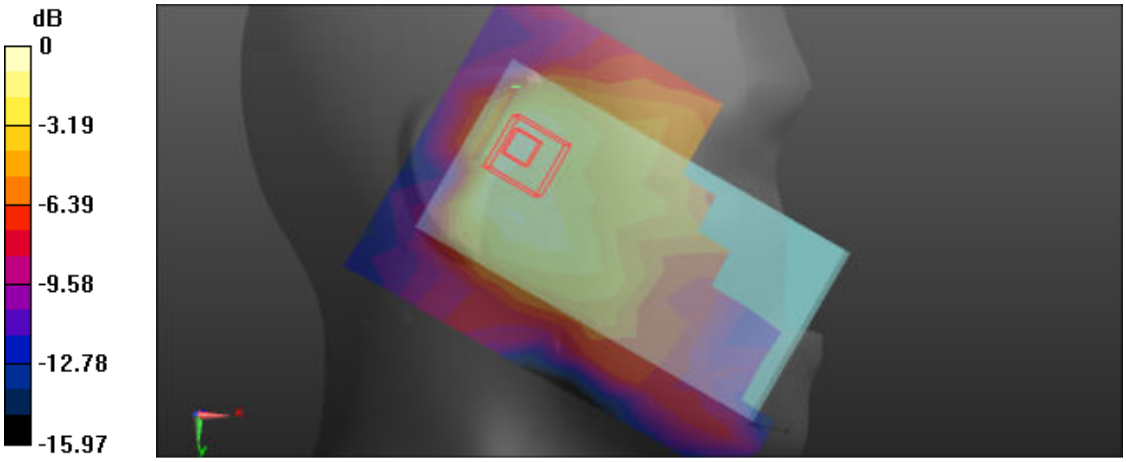
0 dB = 0.172 W/kg = -7.64 dBW/kg

Right Side	Tilt

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section HSL 1900 RIGHT/1900GSM HSL tilt M/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.0536 W/kg
  Head-Section HSL 1900 RIGHT/1900GSM HSL tilt M/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 5.462 V/m; Power Drift = -0.15 dB
  Peak SAR (extrapolated) = 0.0890 W/kg
  SAR(1 g) = 0.056 W/kg; SAR(10 g) = 0.036 W/kg
  Maximum value of SAR (measured) = 0.0604 W/kg



0 dB = 0.0604 W/kg = -12.19 dBW/kg

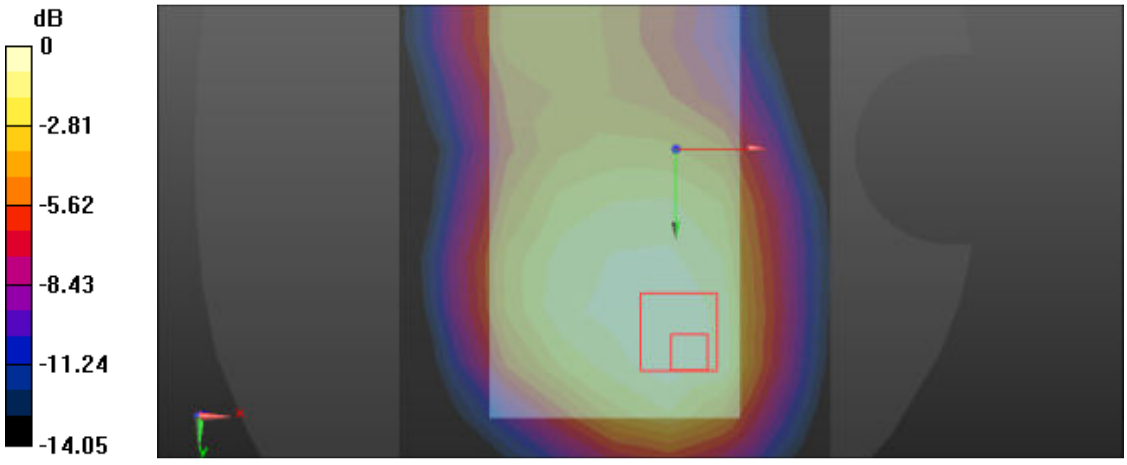
GSM with headset (1900MHz/Flat)

FLAT	Towards phantom

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 TP/1900GSM TP M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.218 W/kg
  Flat-Section MSL 1900 TP/1900GSM TP M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 8.398 V/m; Power Drift = 0.04 dB
  Peak SAR (extrapolated) = 0.338 W/kg
  SAR(1 g) = 0.213 W/kg; SAR(10 g) = 0.138 W/kg
  Maximum value of SAR (measured) = 0.227 W/kg



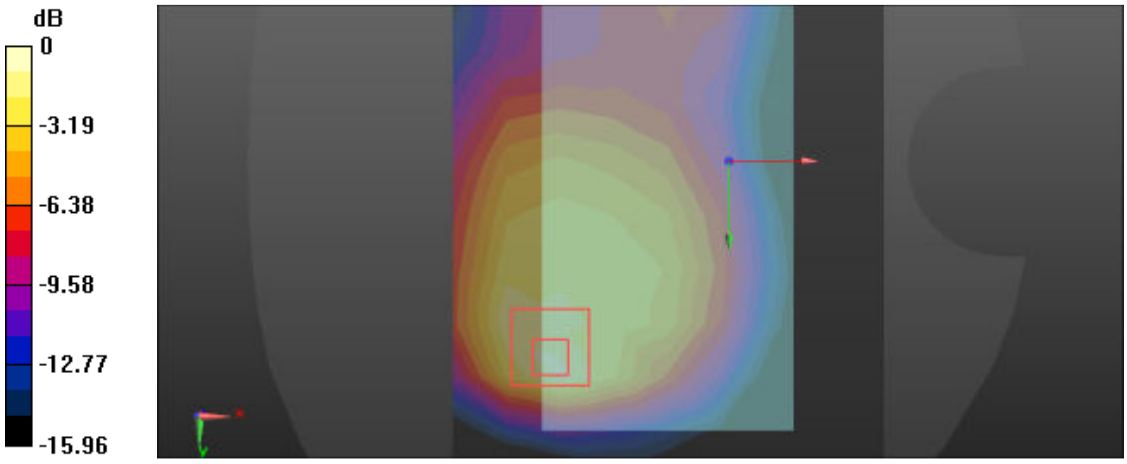
0 dB = 0.227 W/kg = -6.44 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.79, 7.79, 7.79); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 TG/1900GSM TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.505 W/kg
  Flat-Section MSL 1900 TG/1900GSM TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 9.683 V/m; Power Drift = 0.12 dB
  Peak SAR (extrapolated) = 0.878 W/kg
  SAR(1 g) = 0.523 W/kg; SAR(10 g) = 0.302 W/kg
  Maximum value of SAR (measured) = 0.582 W/kg



0 dB = 0.582 W/kg = -2.35 dBW/kg

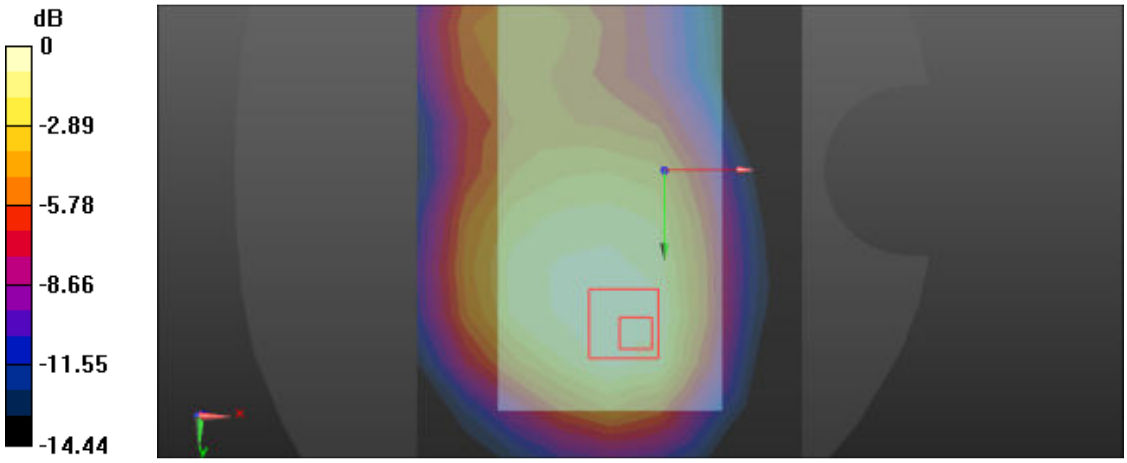
GSM (1900MHz with GPRS/Flat)

FLAT	Towards phantom

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 TP/1900GPRS TP M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.396 W/kg
  Flat-Section MSL 1900 TP/1900GPRS TP M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 12.61 V/m; Power Drift = 0.04 dB
  Peak SAR (extrapolated) = 0.668 W/kg
  SAR(1 g) = 0.418 W/kg; SAR(10 g) = 0.269 W/kg
  Maximum value of SAR (measured) = 0.451 W/kg



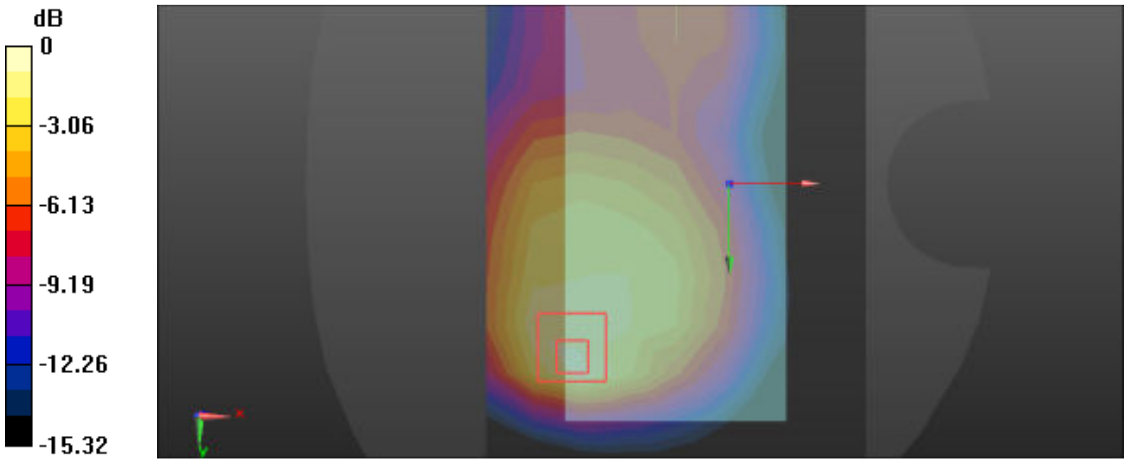
0 dB = 0.451 W/kg = -3.46 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.79, 7.79, 7.79); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 TG/1900GPRS TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.730 W/kg
  Flat-Section MSL 1900 TG/1900GPRS TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 12.59 V/m; Power Drift = 0.06 dB
  Peak SAR (extrapolated) = 1.25 W/kg
  SAR(1 g) = 0.757 W/kg; SAR(10 g) = 0.450 W/kg
  Maximum value of SAR (measured) = 0.833 W/kg



0 dB = 0.833 W/kg = -0.79 dBW/kg

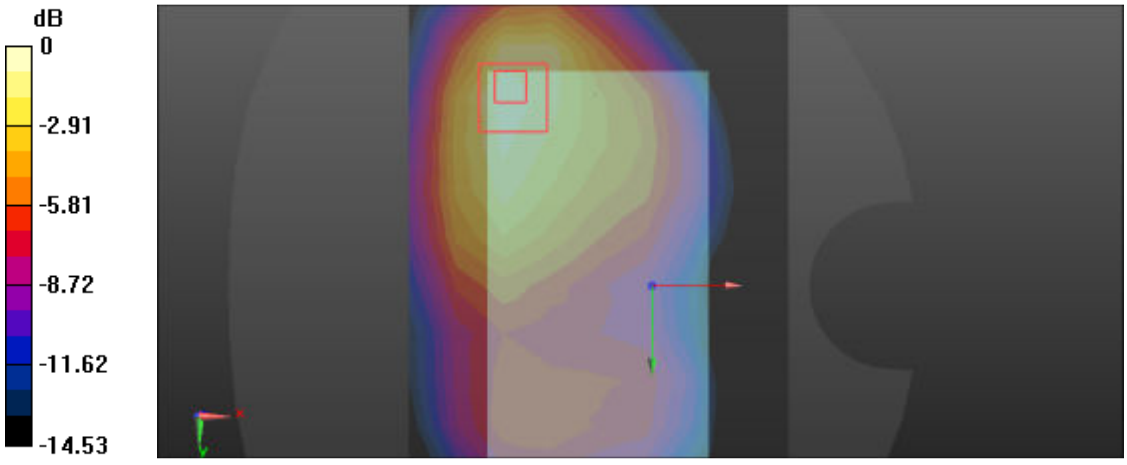
GSM (1900MHz with EGPRS/Flat)

FLAT	Towards phantom

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 TP/1900EDGE TP M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.522 W/kg
  Flat-Section MSL 1900 TP/1900EDGE TP M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 8.130 V/m; Power Drift = 0.09 dB
  Peak SAR (extrapolated) = 0.820 W/kg
  SAR(1 g) = 0.488 W/kg; SAR(10 g) = 0.294 W/kg
  Maximum value of SAR (measured) = 0.532 W/kg



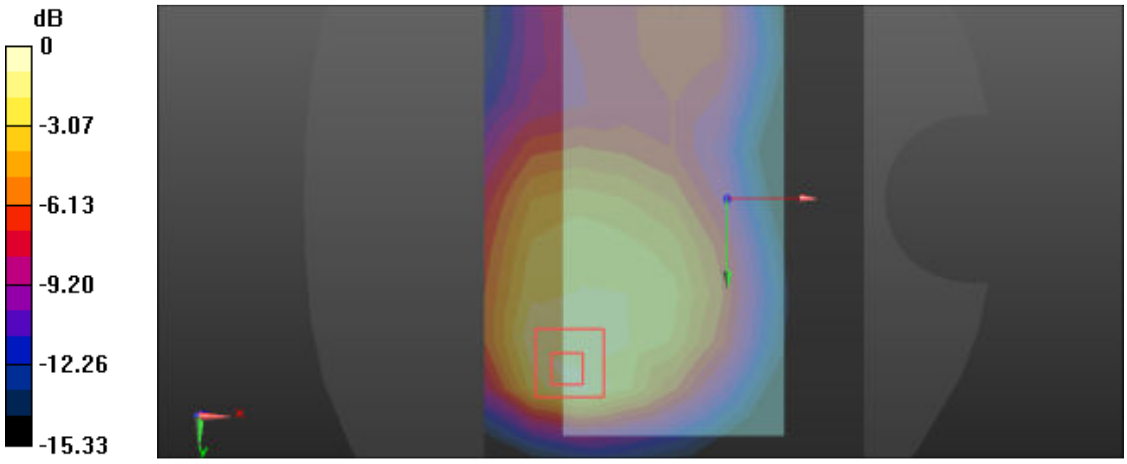
0 dB = 0.532 W/kg = -2.74 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.79, 7.79, 7.79); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 TG/1900EGPRS TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.748 W/kg
  Flat-Section MSL 1900 TG/1900EGPRS TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 12.69 V/m; Power Drift = 0.12 dB
  Peak SAR (extrapolated) = 1.30 W/kg
  SAR(1 g) = 0.781 W/kg; SAR(10 g) = 0.462 W/kg
  Maximum value of SAR (measured) = 0.860 W/kg



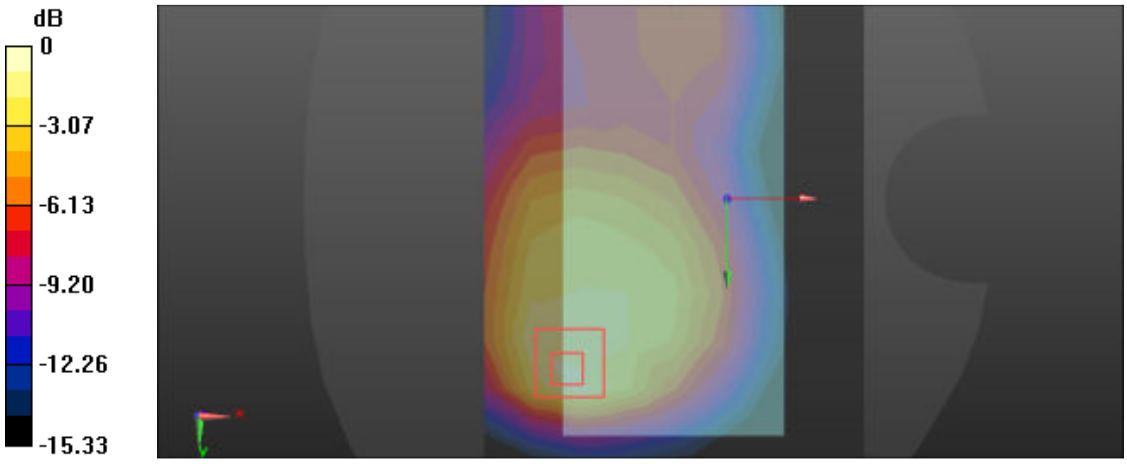
0 dB = 0.860 W/kg = -0.66 dBW/kg

FLAT	Towards ground

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.79, 7.79, 7.79); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 TG/1900EGPRS TG M 10mm/Area Scan (9x13x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.631 W/kg
  Flat-Section MSL 1900 TG/1900EGPRS TG M 10mm/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 11.53 V/m; Power Drift = 0.13 dB
  Peak SAR (extrapolated) = 1.25 W/kg
  SAR(1 g) = 0.760 W/kg; SAR(10 g) = 0.398 W/kg
  Maximum value of SAR (measured) = 0.739 W/kg



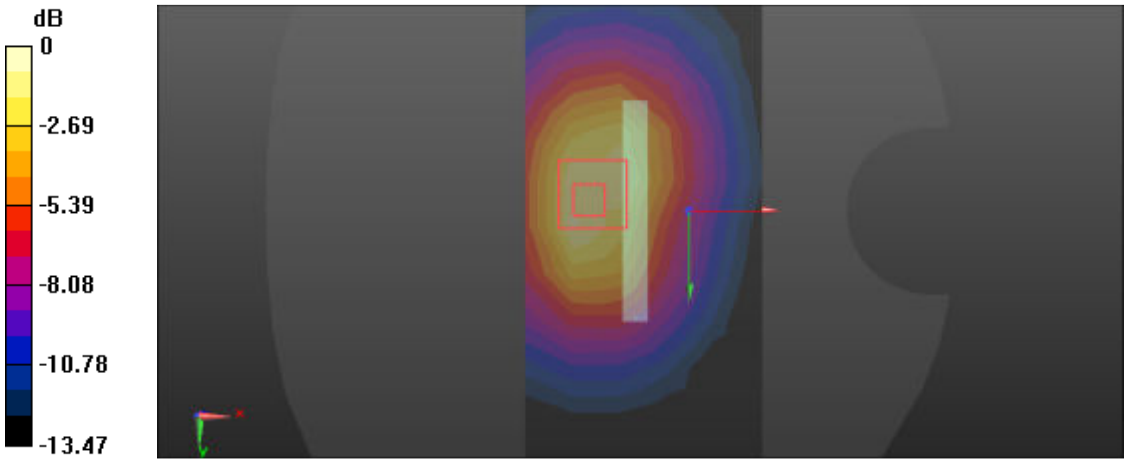
0 dB = 0.451 W/kg = -3.46 dBW/kg

FLAT	EDGE2

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.79, 7.79, 7.79); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 HOTSPOT/1900EGPRS TP H edge 2/Area Scan (6x15x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.419 W/kg
  Flat-Section MSL 1900 HOTSPOT/1900EGPRS TP H edge 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 12.32 V/m; Power Drift = 0.12 dB
  Peak SAR (extrapolated) = 0.716 W/kg
  SAR(1 g) = 0.453 W/kg; SAR(10 g) = 0.273 W/kg
  Maximum value of SAR (measured) = 0.497 W/kg



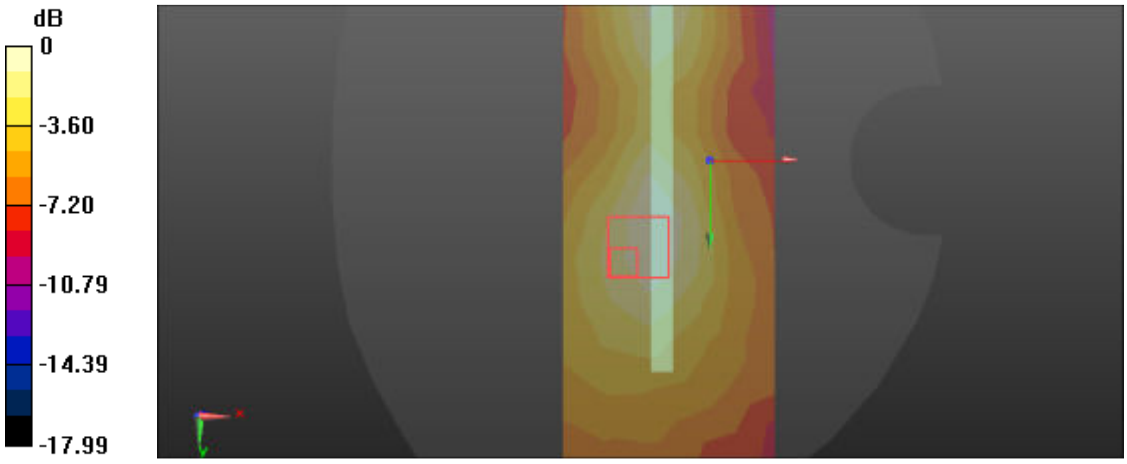
0 dB = 0.497 W/kg = -3.04 dBW/kg

FLAT	EDGE3

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.79, 7.79, 7.79); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 HOTSPOT/1900EGPRS TP H edge 3/Area Scan (6x15x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.135 W/kg
  Flat-Section MSL 1900 HOTSPOT/1900EGPRS TP H edge 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 7.485 V/m; Power Drift = -0.01 dB
  Peak SAR (extrapolated) = 0.182 W/kg
  SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.064 W/kg
  Maximum value of SAR (measured) = 0.131 W/kg



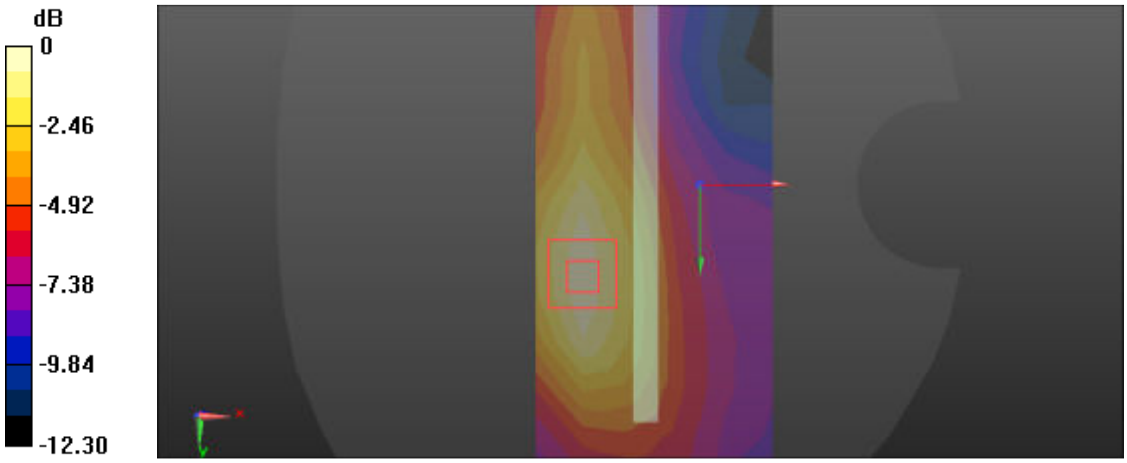
0 dB = 0.131 W/kg = -8.83 dBW/kg

FLAT	EDGE4

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz;Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.79, 7.79, 7.79); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Flat-Section MSL 1900 HOTSPOT/1900EGPRS TP H edge 4/Area Scan (6x15x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.178 W/kg
  Flat-Section MSL 1900 HOTSPOT/1900EGPRS TP H edge 4/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 6.377 V/m; Power Drift = 0.17 dB
  Peak SAR (extrapolated) = 0.252 W/kg
  SAR(1 g) = 0.168 W/kg; SAR(10 g) = 0.107 W/kg
  Maximum value of SAR (measured) = 0.182 W/kg



0 dB = 0.182 W/kg = -7.40 dBW/kg

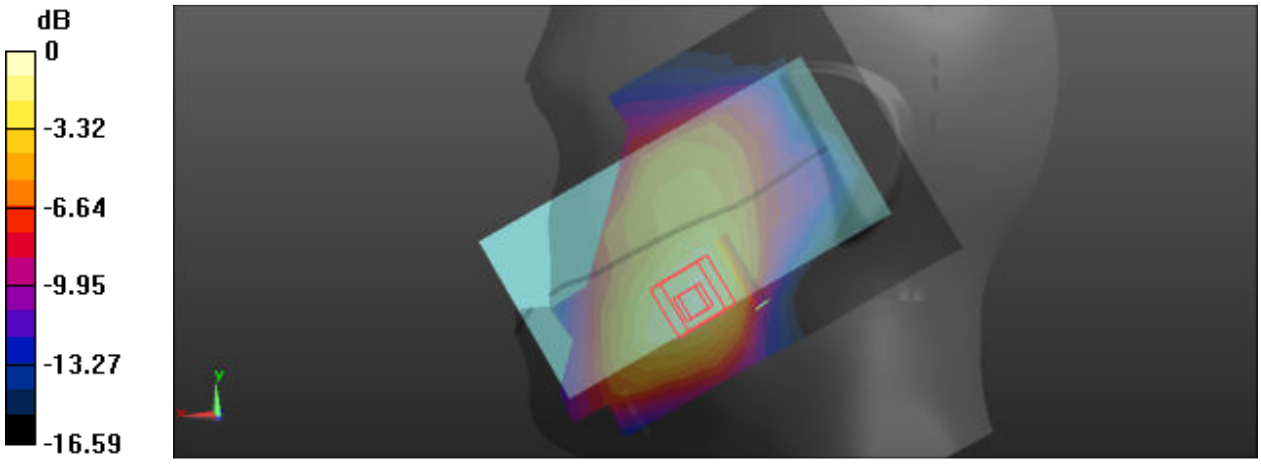
WCDMA Band 2

Left Side	Cheek

Communication System: UID 0, band 2 (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 S/m; ε_r = 39.74; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3708; ConvF(7.84, 7.84, 7.84); Calibrated: 2016/11/10;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2016/10/31
- Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)
  Head-Section HSL wcdma band2 Left/wcdma band2 HSL touch M/Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.392 W/kg
  Head-Section HSL wcdma band2 Left/wcdma band2 HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 4.210 V/m; Power Drift = 0.22 dB
  Peak SAR (extrapolated) = 0.599 W/kg
  SAR(1 g) = 0.372 W/kg; SAR(10 g) = 0.225 W/kg
  Maximum value of SAR (measured) = 0.404 W/kg



0 dB = 0.404 W/kg = -3.94 dBW/kg