
TEST REPORT FOR SAR TESTING

Report No.: SRTC2018-9004(F)-18051502(H)

Product Name: Mobile Phone

Product Model: H1T1000

Applicant: RED Technologies LLC

Manufacturer: RED Technologies LLC

Specification: FCC Part 2.1093

IEEE Std 1528-2013

FCC RF Exposure KDB Procedures

FCC ID: 2AOYWH1T1000

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

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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:	15th Building, No.30 Shixing Street, Shijingshan District, Beijing P.R.China
City:	Beijing
Country or Region:	P.R.China
Contacted person:	Liu Jia
Tel:	+86 10 57996183
Fax:	+86 10 57996388
Email:	liujiaf@srtc.org.cn

1.3 Applicant's details

Company:	RED Technologies LLC
Address:	34 Parker, Irvine, California, United States
City:	Irvine
Country or Region:	United States
Grantee Code:	2AOYW
Contacted person:	Doug Kwon
Tel:	9492067900 ext 7794
Fax:	---
Email:	Doug.kwon@Red.com

1.4 Manufacturer's details

Company:	RED Technologies LLC
Address:	34 Parker, Irvine, California, United States
City:	Irvine
Country or Region:	United States
Contacted person:	Doug Kwon
Tel:	9492067900 ext 7794
Fax:	---
Email:	Doug.kwon@Red.com

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2018.03.07
Testing Start Date:	2018.03.09
Testing End Date:	2018.08.18

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	21.0-23.0	35.0-45.0

Normal Supply Voltage (V d.c.):	3.85
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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: 2/3/4/5/7/12/13/14/17/18/19/25/26/28/29(CA)/30/38/40/41/66 ☒ Bluetooth Band: 2.4GHz~2.4835GHz ☒ Wi-Fi Band: 2.4GHz 5GHz(U-NII-1,U-NII-3)
Mode	GSM ☒ Voice (GMSK) ☒ GPRS (GMSK) ☒ EGPRS (GMSK/8PSK) CDMA2000 ☒ 1x RTT ☒ EVDO WCDMA ☒ UMTS Rel. 99 (Voice & Data) ☒ HSDPA (Rel. 5) ☒ HSUPA (Rel. 6) ☒ HSPA+ (Rel.) ☒ DC-HSDPA (Rel.) Wi-Fi (802.11a/b/g/n) ☒ 802.11a ☒ 802.11b ☒ 802.11g ☒ 802.11n (20MHz) ☒ 802.11n (40MHz) ☒ 802.11ac (20MHz) ☒ 802.11ac (40MHz) ☒ 802.11ac (80MHz) Bluetooth ☒ BR(GFSK) ☒ EDR($\pi/4$ DQPSK , 8-DPSK) ☒ BLE(GFSK) LTE ☒ QPSK ☒ 16QAM ☐ 64QAM
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

Note: We don't need to consider LTE band3,18,19,28,29 (CA-downlink),40 in the report according to "LTE in FCC Bands and Services"

2.2 Support Equipment

The following support equipment was used to exercise the DUT during testing for **original product**:

State of sample	Normal
Headset	QZESDM1532001A00/KAN TSANG INDUSTRIAL CO.Ltd
Batteries	RED-A2H-4500/DONGGUAN DRN NEW ENERGY CO.,LTD
H/W Version S/W Version	DVT HiA1000.005ho.01.00.01d.403
IMEI	EUT1: 355929090008906/355929090002412 EUT2: 355929090009169/355929090002677
Notes	As the information described above, we use two test samples offered by the customer and there are two SIM card holders for each device. 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 use SIM card holder1 (Nano SIM card).

The following support equipment was used to exercise the DUT during testing for **variant product**:

State of sample	Normal
Headset	QZESDM1532001A00/KAN TSANG INDUSTRIAL CO.Ltd
Batteries	RED-A2H-4500/DONGGUAN DRN NEW ENERGY CO.,LTD
H/W Version S/W Version	DVT H1T1000.005ho.01.00.01d.403
IMEI	EUT1: 358242090000049/358242090000197 EUT2: 358242090000064/358242090000213
Notes	Compare with original product, variant product is different on the material of the cover and the version of software

3 REFERENCE SPECIFICATION

Specification	Version	Title
Part 2.1093	2018	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 GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 865664 D01	v01r04	SAR Measurement from 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 middle channel, and few of them were also performed on lowest 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 $\pm 0.02\text{mm}$. Special E-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 DAE and 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 $\pm 5\%$ 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 Stimulant Recipes

The following tissue stimulants were used for Head and Body test:

Name	Broadband tissue-equivalent liquid
Type for Head	HBBL600-6000V6 Head Simulating Liquid
Type for Body	MBBL600-6000V6 Body Simulating Liquid

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. There are 15 mm × 15 mm (equal or less than 2GHz), 12 mm × 12 mm (from 2GHz~3GHz) and 10mm x 10mm (above 5GHz) 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 SUMMARY

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.

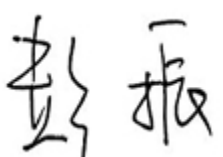
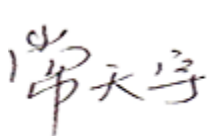
Note: If the variance is acceptable, we use the worst result between original and variant product. For example when the test result of variant product is better than the test data of original product, we keep the original data as final result {from report No.: SRTC2018-9004(F)-18030601(H) which FCC ID is 2AOYWH1A1000}. Otherwise the new test data were adopted as final result. But if the variance is not acceptable, we retest all the position for this frequency band.

Exposure Position	Frequency Band	1g-SAR Reported Result (W/kg)	Highest 1g-SAR Reported Result (W/kg)	Limit (W/kg)/1g	Result
Head	GSM 850	0.163	1.177	1.60	PASS
	GSM 1900	0.068			
	CDMA2000 BC0	0.120			
	CDMA2000 BC1	0.075			
	WCDMA Band 2	0.162			
	WCDMA Band 4	0.161			
	WCDMA Band 5	0.158			
	LTE Band 2	0.113			
	LTE Band 4	0.069			
	LTE Band 5	0.128			
	LTE Band 7	0.192			
	LTE Band 12	0.046			
	LTE Band 13	0.130			
	LTE Band 14	0.100			
	LTE Band 17	0.058			
	LTE Band 25	0.075			
	LTE Band 26	0.123			
	LTE Band 30	0.214			
	LTE Band 38	0.070			
	LTE Band 41	0.074			
	LTE Band 66	0.154			
	WLAN 2.4GHz Band	1.177			
	WLAN 5GHz Band	0.740			

Exposure Position	Frequency Band	1g-SAR Reported Result (W/kg)	Highest 1g-SAR Reported Result (W/kg)	Limit (W/kg)/1g	Result
Body&Edge (10mm Gap)	GSM 850	0.822	1.288	1.60	PASS
	GSM 1900	1.030			
	CDMA2000 BC0	0.475			
	CDMA2000 BC1	1.288			
	WCDMA Band 2	1.058			
	WCDMA Band 4	1.266			
	WCDMA Band 5	0.428			
	LTE Band 2	0.871			
	LTE Band 4	1.027			
	LTE Band 5	0.464			
	LTE Band 7	0.479			
	LTE Band 12	0.323			
	LTE Band 13	0.503			
	LTE Band 14	0.164			
	LTE Band 17	0.343			
	LTE Band 25	0.757			
	LTE Band 26	0.388			
	LTE Band 30	0.429			
	LTE Band 38	0.282			
	LTE Band 41	0.287			
	LTE Band 66	0.962			
	WLAN 2.4GHz Band	0.227			
	WLAN 5GHz Band	0.498			

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(2.4G/5G)	1.290	1.290	1.446	pass
	3G & Wi-Fi(2.4G/5G)	1.266			
	LTE& Wi-Fi(2.4G/5G)	1.254			
	GSM & Bluetooth	0.399			
	3G & Bluetooth	0.398			
	LTE& Bluetooth	0.450			
	GSM & Wi-Fi 5G& Bluetooth	1.089			
	3G & Wi-Fi 5G& Bluetooth	1.065			
	LTE & Wi-Fi 5G& Bluetooth	1.053			
Body (10mm Gap)	GSM & Wi-Fi(2.4G/5G)	1.320	1.446	1.60	pass
	3G & Wi-Fi(2.4G/5G)	1.288			
	LTE& Wi-Fi(2.4G/5G)	1.328			
	GSM & Bluetooth	1.148			
	3G & Bluetooth	1.406			
	LTE& Bluetooth	1.145			
	GSM & Wi-Fi 5G& Bluetooth	1.438			
	3G & Wi-Fi 5G& Bluetooth	1.406			
	LTE & Wi-Fi 5G& Bluetooth	1.446			

This Test Report Is Issued by: Mr. Peng Zhen 	Checked by: Mr. Li Bin 
Tested by: Mr. Chang Tianyu 	Issued date: 20180828

6 TEST RESULT

6.1 Manufacturing Tolerance

GSM

GSM 850			
Channel	Channel 128	Channel 189	Channel 251
Tolerance (dBm)	28.0~32.0	28.0~32.0	28.0~32.0
GSM 1900			
Channel	Channel 512	Channel 661	Channel 810
Tolerance (dBm)	24.0~28.0	24.0~28.0	24.0~28.0

GSM 850 GPRS				
Channel		128	189	251
1 Txslot	Tolerance (dBm)	29.0~33.0	29.0~33.0	29.0~33.0
2 Txslot	Tolerance (dBm)	28.0~32.0	28.0~32.0	28.0~32.0
3 Txslot	Tolerance (dBm)	26.0~30.0	26.0~30.0	26.0~30.0
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)	29.0~33.0	29.0~33.0	29.0~33.0
2 Txslot	Tolerance (dBm)	28.0~32.0	28.0~32.0	28.0~32.0
3 Txslot	Tolerance (dBm)	26.0~30.0	26.0~30.0	26.0~30.0
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)	24.0~28.0	24.0~28.0	24.0~28.0
2 Txslot	Tolerance (dBm)	24.0~28.0	24.0~28.0	24.0~28.0
3 Txslot	Tolerance (dBm)	22.0~26.0	22.0~26.0	22.0~26.0
4 Txslot	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0
GSM 1900 EGPRS (GMSK)				
Channel		512	661	810
1 Txslot	Tolerance (dBm)	24.0~28.0	24.0~28.0	24.0~28.0
2 Txslot	Tolerance (dBm)	24.0~28.0	24.0~28.0	24.0~28.0
3 Txslot	Tolerance (dBm)	22.0~26.0	22.0~26.0	22.0~26.0
4 Txslot	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0

CDMA2000

CDMA2000 BC0			
Channel	1013	384	777
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
CDMA2000 BC1			
Channel	25	600	1175
Tolerance (dBm)	17.5~21.5	17.5~21.5	17.5~21.5

WCDMA

WCDMA Band2			
Channel	9262	9400	9538
Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
WCDMA Band4			
Channel	1312	1412	1513
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
WCDMA Band5			
Channel	4132	4183	4233
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0

HSDPA Band2				
Channel		9262	9400	9538
Sub test 1	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 2	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 3	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 4	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
HSDPA Band4				
Channel		1312	1412	1513
Sub test 1	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 2	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 3	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 4	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
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)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 2	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 3	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 4	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 5	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
HSUPA Band4				
Channel		1312	1412	1513
Sub test 1	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 2	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 3	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 4	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
Sub test 5	Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
HSUPA Band5				
Channel		4132	4183	4233
Sub test 1	Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
Sub test 2	Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
Sub test 3	Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
Sub test 4	Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
Sub test 5	Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

HSPA+ Band2			
Channel	9262	9400	9538
Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
HSPA+ Band4			
Channel	1312	1412	1513
Tolerance (dBm)	18.0~21.0	18.0~21.0	18.0~21.0
HSPA+ Band5			
Channel	4132	4183	4233
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

Bluetooth

GFSK			
Channel	0	39	78
Tolerance (dBm)	3.5~7.5	3.5~7.5	3.5~7.5
π/4DQPSK			
Channel	0	39	78
Tolerance (dBm)	1.0~5.0	1.0~5.0	1.0~5.0
8DPSK			
Channel	0	39	78
Tolerance (dBm)	1.0~5.0	1.0~5.0	1.0~5.0

Bluetooth (BLE)

GFSK			
Channel	0	19	39
Tolerance (dBm)	-4.0~0.0	-4.0~0.0	-4.0~0.0

Wi-Fi (2.4GHz)

Antenna main

802.11b			
Channel	1	6	11
Tolerance (dBm)	13.0~17.0	13.0~17.0	13.0~17.0
802.11g			
Channel	1	6	11
Tolerance (dBm)	12.5~16.5	12.5~16.5	12.5~16.5
802.11n HT20			
Channel	1	6	11
Tolerance (dBm)	11.0~15.0	11.0~15.0	11.0~15.0
802.11n HT40			
Channel	3	6	9
Tolerance (dBm)	10.5~14.5	10.5~14.5	10.5~14.5

Antenna aux

802.11b			
Channel	1	6	11
Tolerance (dBm)	13.0~17.0	13.0~17.0	13.0~17.0
802.11g			
Channel	1	6	11
Tolerance (dBm)	12.5~16.5	12.5~16.5	12.5~16.5
802.11n HT20			
Channel	1	6	11
Tolerance (dBm)	11.0~15.0	11.0~15.0	11.0~15.0
802.11n HT40			
Channel	3	6	9
Tolerance (dBm)	10.5~14.5	10.5~14.5	10.5~14.5

MIMO

802.11n HT20			
Channel	1	6	11
Tolerance (dBm)	14.0~18.0	14.0~18.0	14.0~18.0
802.11n HT40			
Channel	3	6	9
Tolerance (dBm)	13.0~17.0	13.0~17.0	13.0~17.0

Wi-Fi 5GHz (U-NII-1)

Antenna main

802.11a	
Tolerance (dBm)	10.0~14.0
802.11n HT20	
Tolerance (dBm)	10.0~14.0
802.11n HT40	
Tolerance (dBm)	10.0~14.0
802.11ac HT20	
Tolerance (dBm)	10.0~14.0
802.11ac HT40	
Tolerance (dBm)	10.0~14.0
802.11ac HT80	
Tolerance (dBm)	9.0~13.0

Antenna aux

802.11a	
Tolerance (dBm)	8.0~12.0
802.11n HT20	
Tolerance (dBm)	8.0~12.0
802.11n HT40	
Tolerance (dBm)	7.0~11.0
802.11ac HT20	
Tolerance (dBm)	8.0~12.0
802.11ac HT40	
Tolerance (dBm)	7.0~11.0
802.11ac HT80	
Tolerance (dBm)	6.0~10.0

MIMO

802.11n HT20	
Tolerance (dBm)	12.0~16.0
802.11n HT40	
Tolerance (dBm)	11.0~15.0
802.11ac HT20	
Tolerance (dBm)	12.0~16.0
802.11ac HT40	
Tolerance (dBm)	12.0~16.0
802.11ac HT80	
Tolerance (dBm)	11.0~15.0

Wi-Fi 5GHz (U-NII-3)

Antenna main

802.11a	
Tolerance (dBm)	9.0~13.0
802.11n HT20	
Tolerance (dBm)	9.0~13.0
802.11n HT40	
Tolerance (dBm)	8.0~12.0
802.11ac HT20	
Tolerance (dBm)	9.0~13.0
802.11ac HT40	
Tolerance (dBm)	8.0~12.0
802.11ac HT80	
Tolerance (dBm)	7.0~11.0

Antenna aux

802.11a	
Tolerance (dBm)	7.0~11.0
802.11n HT20	
Tolerance (dBm)	7.0~11.0
802.11n HT40	
Tolerance (dBm)	6.0~10.0
802.11ac HT20	
Tolerance (dBm)	6.0~10.0
802.11ac HT40	
Tolerance (dBm)	6.0~10.0
802.11ac HT80	
Tolerance (dBm)	5.0~9.0

MIMO

802.11n HT20	
Tolerance (dBm)	11.0~15.0
802.11n HT40	
Tolerance (dBm)	10.0~14.0
802.11ac HT20	
Tolerance (dBm)	11.0~15.0
802.11ac HT40	
Tolerance (dBm)	10.0~14.0
802.11ac HT80	
Tolerance (dBm)	9.0~13.0

Band 2

20BW 100%RB			
Channel	Channel 19300	Channel 19575	Channel 19850
Tolerance (dBm)	16.0~20.0	16.0~20.0	16.0~20.0
20BW 50%RB			
Channel	Channel 19300	Channel 19575	Channel 19850
Tolerance (dBm)	16.0~20.0	16.0~20.0	16.0~20.0
20BW 1RB			
Channel	Channel 19300	Channel 19575	Channel 19850
Tolerance (dBm)	17.0~21.1	17.0~21.1	17.0~21.1

Band 4

20BW 100%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	16.0~20.0	16.0~20.0	16.0~20.0
20BW 50%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	16.0~20.0	16.0~20.0	16.0~20.0
20BW 1RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	17.0~21.1	17.0~21.1	17.0~21.1

Band 5

10BW 100%RB			
Channel	Channel	Channel	Channel
Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
10BW 50%RB			
Channel	Channel	Channel	Channel
Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
10BW 1RB			
Channel	Channel	Channel	Channel
Tolerance (dBm)	18.5~22.6	18.5~22.6	18.5~22.6

Band 7

20BW 100%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
20BW 50%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0
20BW 1RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.3	19.0~23.3	19.0~23.3

Band 12

10BW 100%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0
10BW 50%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0
10BW 1RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0

Band 13

10BW 100%RB	
Channel	Channel 23230
Tolerance (dBm)	18.0~22.0
10BW 50%RB	
Channel	Channel 23230
Tolerance (dBm)	18.0~22.0
10BW 1RB	
Channel	Channel 23230
Tolerance (dBm)	18.5~22.5

Band 14

10BW 100%RB	
Channel	Channel 23330
Tolerance (dBm)	18.0~22.0
10BW 50%RB	
Channel	Channel 23330
Tolerance (dBm)	18.0~22.0
10BW 1RB	
Channel	Channel 23330
Tolerance (dBm)	19.0~23.0

Band 17

10BW 100%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0
10BW 50%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0
10BW 1RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0

Band 25

20BW 100%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	15.0~19.0	15.0~19.0	15.0~19.0
20BW 50%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	15.0~19.0	15.0~19.0	15.0~19.0
20BW 1RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	16.0~20.2	16.0~20.2	16.0~20.2

Band 26

15BW 100%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	17.5~21.5	17.5~21.5	17.5~21.5
15BW 50%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	17.5~21.5	17.5~21.5	17.5~21.5
15BW 1RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

Band 30

10BW 100%RB	
Channel	Channel 27710
Tolerance (dBm)	18.5~22.5
10BW 50%RB	
Channel	Channel 27710
Tolerance (dBm)	18.5~22.5
10BW 1RB	
Channel	Channel 27710
Tolerance (dBm)	19.5~23.6

Band38

20BW 100%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 50%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 1RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.5~23.7	19.5~23.7	19.5~23.7

Band41

20BW 100%RB			
Channel	Channel 39750	Channel 40620	Channel 41490
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 50%RB			
Channel	Channel 39750	Channel 40620	Channel 41490
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 1RB			
Channel	Channel 39750	Channel 40620	Channel 41490
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0

Band66

20BW 100%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	16.0~20.0	16.0~20.0	16.0~20.0
20BW 50%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	16.0~20.0	16.0~20.0	16.0~20.0
20BW 1RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	17.0~21.0	17.0~21.0	17.0~21.0

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)	31.77	31.79	31.78	27.78	27.85	27.83

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)	32.27	32.15	31.99	27.84	27.88	27.93
3Downlink2uplinkPower(dBm)	31.32	31.24	31.13	27.07	26.69	26.75
2Downlink3uplinkPower(dBm)	29.89	29.75	29.54	25.68	25.53	25.57
1Downlink4uplinkPower(dBm)	28.48	28.47	28.36	24.32	24.16	24.32

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)	23.24	23.12	22.96	18.81	18.85	18.9
3Downlink2uplinkPower(dBm)	25.30	25.22	25.11	21.05	20.67	20.73
2Downlink3uplinkPower(dBm)	25.63	25.49	25.28	21.42	21.27	21.31
1Downlink4uplinkPower(dBm)	25.47	25.46	25.35	21.31	21.15	21.31

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 **3Txslots** (2Downlink3uplink) for GPRS.

EGPRS Measured Power

Mode	EGPRS850 (GMSK)			EGPRS1900 (GMSK)		
	EGPRS850 (8PSK)			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)	32.05	32.10	32.09	27.78	27.80	27.76
	26.78	26.56	26.58	24.36	24.13	24.21
3Downlink2uplinkPower(dBm)	31.19	31.10	30.91	27.08	26.68	26.75
	25.07	25.17	25.02	22.78	22.47	22.44
2Downlink3uplinkPower(dBm)	29.74	29.72	29.60	25.69	25.54	25.58
	23.95	23.85	23.74	21.47	21.69	21.76
1Downlink4uplinkPower(dBm)	28.55	28.43	28.30	24.32	24.21	24.36
	22.34	22.78	22.61	20.48	20.42	20.45

EGPRS Averaged Power

Mode	EGPRS850 (GMSK)			EGPRS1900 (GMSK)		
	EGPRS850 (8PSK)			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)	23.02	23.07	23.06	18.75	18.77	18.73
	17.75	17.53	17.55	15.33	15.10	15.18
3Downlink2uplinkPower(dBm)	25.17	25.08	24.89	21.06	20.66	20.73
	19.05	19.15	19.00	16.76	16.45	16.42
2Downlink3uplinkPower(dBm)	25.48	25.46	25.34	21.43	21.28	21.32
	19.69	19.59	19.48	17.21	17.43	17.5
1Downlink4uplinkPower(dBm)	25.54	25.42	25.29	21.31	21.20	21.35
	19.33	19.77	19.60	17.47	17.41	17.44

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 **3Txslots** (2Downlink3uplink) for EGPRS (GMSK).

6.3 CDMA2000 Measurement result

3G-CDMA Mode		Conducted Power (dBm)-BC0		
Radio Configuration (RC)	Service Option (SO)	CH 1013 (824.7MHz)	CH 384 (836.52MHz)	CH 777 (848.31MHz)
RC1	2(Loopback)	23.48	23.43	23.42
	55(Loopback)	23.46	23.46	23.46
RC2	9(Loopback)	23.42	23.43	23.47
	55(Loopback)	23.47	23.51	23.42
RC3	2(Loopback)	23.53	23.57	23.56
	55(Loopback)	23.47	23.52	23.48
RC4	2(Loopback)	23.42	23.48	23.42
	55(Loopback)	23.42	23.47	23.47
RC5	9(Loopback)	23.47	23.36	23.43
	55(Loopback)	23.51	23.47	23.45

3G-CDMA Mode		Conducted Power (dBm)-BC1		
Radio Configuration (RC)	Service Option (SO)	CH 25 (1851.25MHz)	CH 600 (1880.00MHz)	CH1175 (1908.75MHz)
RC1	2(Loopback)	21.25	21.31	21.24
	55(Loopback)	21.24	21.24	21.25
RC2	9(Loopback)	21.31	21.25	21.21
	55(Loopback)	21.26	21.26	21.22
RC3	2(Loopback)	21.41	21.44	21.45
	55(Loopback)	21.36	21.36	21.37
RC4	2(Loopback)	21.31	21.24	21.23
	55(Loopback)	21.24	21.27	21.25
RC5	9(Loopback)	21.26	21.31	21.24
	55(Loopback)	21.25	21.26	21.26

1X EVDO R0 BC0:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
824.70	1013	23.23
836.52	384	23.45
848.31	777	23.24

1X EVDO RA BC0:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
824.70	1013	23.24
836.52	384	23.26
848.31	777	23.27

1X EVDO R0 BC1:

Carrier frequency (MHz)	Channel No.	Bandwidth of 99% Power (kHz)
1851.25	25	21.32
1880.00	600	21.21
1908.75	1175	21.25

1X EVDO RA BC1:

Carrier frequency (MHz)	Channel No.	Bandwidth of 99% Power (kHz)
1851.25	25	21.24
1880.00	600	21.31
1908.75	1175	21.28

Head SAR

SAR for next to the ear head exposure is measured in **RC3** with the handset configured to transmit at full rate in **SO55**

Body-Worn Accessory SAR

Normally, Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled, but for this product doesn't support FCH only or FCH+SCHn mode due to unknown restriction. So we replace SAR measurement with RC3,SO55 as the primary mode(compare with RC1 SO55, RC3 SO55 mode with higher conducted power)

Handsets with built-in Ev-Do

For handsets with Ev-Do capabilities, the 3G SAR test reduction procedure is applied to Ev-Do Rev. 0 with 1x RTT RC3 as the primary mode to determine body-worn accessory test requirements, but for previous step (Body-Worn Accessory SAR),we don't test RC3 FCH only and the maximum SAR>1.2W/kg, So we choose to test another mode **EVDO R0 BC0**

6.4 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
	β_c/β_d	8/15

Measured Results

Mode	Band2			Band5		
Channel	9262	9400	9538	4132	4183	4233
Frequency(MHz)	1852.4	1880	1907.6	826.4	836.4	846.6
RB test mode1+64kRMC(dBm)	21.46	21.42	21.13	23.47	23.52	23.24
RB test mode1+12.2kRMC(dBm)	21.54	21.45	21.16	23.65	23.57	23.33
RB test mode1+144kRMC(dBm)	21.48	21.37	21.08	23.52	23.46	23.27
RB test mode1+384kRMC(dBm)	20.97	20.84	20.75	23.32	23.12	23.14
AMR Voice test mode+ 12.2kRMC	20.75	21.11	20.63	23.35	23.42	23.27

Mode	Band4		
Channel	1312	1412	1513
Frequency(MHz)	1712.4	1732.4	1752.6
RB test mode1+64kRMC(dBm)	22.02	22.07	21.88
RB test mode1+12.2kRMC(dBm)	22.09	22.11	21.97
RB test mode1+144kRMC(dBm)	21.97	21.95	21.90
RB test mode1+384kRMC(dBm)	21.66	21.82	21.81
AMR Voice test mode+12.2kRMC(dBm)	21.33	21.84	21.39

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	$\beta_{hs}^{(1)}$	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	15/18	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.

Note2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$.

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 $\beta_c = 11/15$ and $\beta_d = 15/15$.

Measured Results

Mode	HSDPA Band 2			HSDPA Band 5		
Channel	9262	9400	9538	4132	4183	4233
Frequency(MHz)	1852.4	1880	1907.6	826.4	836.4	846.6
sub-test1(dBm)	20.30	20.40	20.30	21.70	21.70	21.70
sub-test2(dBm)	20.20	20.20	20.30	21.70	21.80	21.80
sub-test3(dBm)	20.40	20.30	20.20	21.10	21.30	21.30
sub-test4(dBm)	20.40	20.30	20.40	21.30	21.30	21.30

Mode	HSDPA Band 4		
Channel	1312	1412	1513
Frequency(MHz)	1712.4	1732.4	1752.6
sub-test1(dBm)	20.80	20.90	20.80
sub-test2(dBm)	20.70	20.70	20.80
sub-test3(dBm)	20.90	20.80	20.70
sub-test4(dBm)	20.90	20.80	20.90

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 (S F)	β_c/β_d	$\beta_{hs}^{(1)}$	β_{ec}	β_{ed}	β_{ed} (S F)	β_{ed} (code s)	CM ⁽²⁾ (dB)	MP R (dB)	AG ⁽⁴⁾ Index	E-TF CI
1	11/15 (3)	15/15 (3)	64	11/15 (3)	22/15	209/25	1039/25	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	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	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 $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.

Note2: CM=1 for $\beta_c/\beta_d = 12/15, \beta_{hs}/\beta_c = 24/15$. 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 $\beta_c = 10/15$ and $\beta_d = 15/15$.

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 $\beta_c = 14/15$ and $\beta_d = 15/15$.

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 5		
Channel	9262	9400	9538	4132	4183	4233
Frequency (MHz)	1852.4	1880	1907.6	826.4	836.4	846.6
sub-test1 (dBm)	20.50	20.50	20.40	22.20	22.40	22.30
sub-test2 (dBm)	20.20	20.40	20.10	22.10	22.10	21.80
sub-test3 (dBm)	20.20	20.20	20.20	22.00	22.20	21.90
sub-test4 (dBm)	20.30	20.50	20.40	22.20	22.20	22.10
sub-test5 (dBm)	19.90	20.40	20.10	22.20	22.30	22.00

Mode	HSDPA Band 4		
Channel	1312	1312	1312
Frequency(MHz)	1712.4	1712.4	1712.4
sub-test1(dBm)	20.70	20.80	20.80
sub-test2(dBm)	20.30	20.50	20.20
sub-test3(dBm)	20.30	20.40	20.60
sub-test4(dBm)	20.40	20.70	20.90
sub-test5(dBm)	20.80	20.60	20.40

WCDMA band 2

HSPA+ Mode:

Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
1852.4	9262	20.24
1880.0	9400	20.21
1907.6	9538	20.16

WCDMA band5

HSPA+ Mode:

Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
826.4	4132	22.13
836.6	4183	22.34
846.6	4233	22.26

WCDMA band 4

HSPA+ Mode:

Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
1712.4	1312	20.81
1732.4	1412	20.84
1752.6	1513	20.75

UMTS SAR was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01.

HSPA,HSPA+ SAR was not required since the average output power was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.

6.5 LTE Measurement result

LTE Band 2

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1850.7	18607	1.4	1	0	19.6
				1	5	20.6
				3	2	20.6
				6	0	19.5
	1880	18900		1	0	20.5
				1	5	20.6
				3	2	20.6
				6	0	19.6
	1909.3	19193		1	0	20.6
				1	5	20.6
				3	2	20.7
				6	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1850.7	18607	1.4	1	0	19.6
				1	5	19.7
				3	2	19.8
				6	0	18.6
	1880	18900		1	0	19.7
				1	5	19.7
				3	2	19.5
				6	0	18.7
	1909.3	19193		1	0	19.7
				1	5	19.8
				3	2	19.7
				6	0	19.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1851.5	18615	3	1	0	20.7
				1	14	20.6
				8	4	19.6
				15	0	19.6
	1880	18900		1	0	20.6
				1	14	20.7
				8	4	19.7
				15	0	19.7
	1908.5	19185		1	0	20.7
				1	14	20.7
				8	4	19.7
				15	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1851.5	18615	3	1	0	20.2
				1	14	20.2
				8	4	18.9
				15	0	18.7
	1880	18900		1	0	19.9
				1	14	19.8
				8	4	18.6
				15	0	18.6
	1908.5	19185		1	0	19.9
				1	14	19.8
				8	4	18.8
				15	0	18.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1852.5	18625	5	1	0	20.8
				1	24	20.7
				12	6	19.7
				25	0	19.6
	1880	18900		1	0	20.6
				1	24	20.7
				12	6	19.7
				25	0	19.7
	1907.5	19175		1	0	20.7
				1	24	20.7
				12	6	19.7
				25	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1852.5	18625	5	1	0	19.7
				1	24	19.7
				12	6	18.7
				25	0	18.7
	1880	18900		1	0	20.0
				1	24	19.9
				12	6	18.8
				25	0	18.7
	1907.5	19175		1	0	19.8
				1	24	19.8
				12	6	18.7
				25	0	18.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1855	18650	10	1	0	20.9
				1	49	20.9
				24	12	19.7
				50	0	19.6
	1880	18900		1	0	20.8
				1	49	20.9
				24	12	19.7
				50	0	19.7
	1905	19150		1	0	20.8
				1	49	20.7
				24	12	19.7
				50	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1855	18650	10	1	0	20.4
				1	49	20.4
				24	12	18.7
				50	0	18.7
	1880	18900		1	0	20.1
				1	49	20.1
				24	12	18.7
				50	0	18.7
	1905	19150		1	0	19.8
				1	49	19.8
				24	12	18.7
				50	0	18.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1857.5	18675	15	1	0	20.8
				1	74	20.7
				40	18	19.7
				75	0	19.7
	1880	18900		1	0	20.8
				1	74	20.6
				40	18	19.7
				75	0	19.7
	1902.5	19125		1	0	20.9
				1	74	20.7
				40	18	19.7
				75	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1857.5	18675	15	1	0	20.4
				1	74	20.3
				40	18	18.7
				75	0	18.7
	1880	18900		1	0	20.0
				1	74	19.7
				40	18	18.8
				75	0	18.8
	1902.5	19125		1	0	20.4
				1	74	20.2
				40	18	18.7
				75	0	18.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1860	18700	20	1	0	21.0
				1	99	20.8
				50	25	19.8
				100	0	19.8
	1880	18900		1	0	21.0
				1	99	20.8
				50	25	19.6
				100	0	19.7
	1900	19100		1	0	21.0
				1	99	20.6
				50	25	19.7
				100	0	19.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1860	18700	20	1	0	20.3
				1	99	20.1
				50	25	18.8
				100	0	18.8
	1880	18900		1	0	20.3
				1	99	20.0
				50	25	18.7
				100	0	18.8
	1900	19100		1	0	20.6
				1	99	20.3
				50	25	18.8
				100	0	18.8

LTE Band 4

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1710.7	19957	1.4	1	0	20.6
				1	5	20.5
				3	2	20.5
				6	0	19.5
	1732.5	20175		1	0	20.4
				1	5	20.4
				3	2	20.4
				6	0	19.4
	1754.3	20393		1	0	20.8
				1	5	20.8
				3	2	17.7
				6	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1710.7	19957	1.4	1	0	19.6
				1	5	19.6
				3	2	19.8
				6	0	18.6
	1732.5	20175		1	0	19.5
				1	5	19.5
				3	2	19.4
				6	0	18.4
	1754.3	20393		1	0	19.8
				1	5	19.8
				3	2	19.9
				6	0	18.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1711.5	19965	3	1	0	20.7
				1	14	20.6
				8	4	19.6
				15	0	19.6
	1732.5	20175		1	0	20.6
				1	14	20.5
				8	4	19.7
				15	0	19.7
	1753.5	20385		1	0	20.5
				1	14	20.5
				8	4	19.5
				15	0	19.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1711.5	19965	3	1	0	19.9
				1	14	19.8
				8	4	18.6
				15	0	18.7
	1732.5	20175		1	0	20.2
				1	14	20.2
				8	4	18.8
				15	0	18.7
	1753.5	20385		1	0	19.6
				1	14	19.6
				8	4	18.4
				15	0	18.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1712.5	19975	5	1	0	20.7
				1	24	20.6
				12	6	19.6
				25	0	19.6
	1732.5	20175		1	0	20.6
				1	24	20.4
				12	6	19.5
				25	0	19.5
	1752.5	20375		1	0	18.1
				1	24	17.7
				12	6	19.7
				25	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1712.5	19975	5	1	0	19.6
				1	24	19.6
				12	6	18.6
				25	0	18.7
	1732.5	20175		1	0	19.8
				1	24	19.7
				12	6	18.6
				25	0	18.5
	1752.5	20375		1	0	19.9
				1	24	19.8
				12	6	18.6
				25	0	18.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1715	20000	10	1	0	20.7
				1	49	20.6
				24	12	19.7
				50	0	19.7
	1732.5	20175		1	0	20.6
				1	49	20.4
				24	12	19.4
				50	0	19.5
	1750	20350		1	0	20.9
				1	49	20.8
				24	12	19.7
				50	0	19.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1715	20000	10	1	0	20.3
				1	49	20.2
				24	12	18.7
				50	0	18.6
	1732.5	20175		1	0	19.6
				1	49	19.6
				24	12	18.5
				50	0	18.5
	1750	20350		1	0	19.9
				1	49	19.9
				24	12	18.7
				50	0	18.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1717.5	20025	15	1	0	20.9
				1	74	20.8
				40	18	19.8
				75	0	19.8
	1732.5	20175		1	0	20.8
				1	74	20.6
				40	18	19.6
				75	0	19.7
	1747.5	20325		1	0	20.8
				1	74	20.5
				40	18	19.5
				75	0	19.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1717.5	20025	15	1	0	20.5
				1	74	20.3
				40	18	18.9
				75	0	18.8
	1732.5	20175		1	0	20.4
				1	74	20.2
				40	18	18.7
				75	0	18.6
	1747.5	20325		1	0	19.9
				1	74	19.7
				40	18	18.6
				75	0	18.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1720	20050	20	1	0	21.0
				1	99	20.8
				50	25	19.8
				100	0	19.9
	1732.5	20175		1	0	20.9
				1	99	20.7
				50	25	19.6
				100	0	19.7
	1745	20300		1	0	20.7
				1	99	20.5
				50	25	19.5
				100	0	19.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1720	20050	20	1	0	20.2
				1	99	20.1
				50	25	18.7
				100	0	18.8
	1732.5	20175		1	0	20.1
				1	99	19.9
				50	25	18.6
				100	0	18.7
	1745	20300		1	0	20.3
				1	99	20.1
				50	25	18.5
				100	0	18.6

LTE Band 5

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	824.7	20407	1.4	1	0	22.5
				1	5	22.4
				3	2	22.5
				6	0	21.4
	836.5	20525		1	0	22.3
				1	5	22.3
				3	2	22.4
				6	0	21.3
	848.3	20643		1	0	22.1
				1	5	22.2
				3	2	22.2
				6	0	21.3

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	824.7	20407	1.4	1	0	21.5
				1	5	21.6
				3	2	21.5
				6	0	20.3
	836.5	20525		1	0	21.5
				1	5	21.4
				3	2	21.3
				6	0	20.4
	848.3	20643		1	0	21.4
				1	5	21.3
				3	2	21.3
				6	0	20.1

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	825.5	20415	3	1	0	22.5
				1	14	22.3
				8	4	21.4
				15	0	21.4
	836.5	20525		1	0	22.5
				1	14	22.3
				8	4	21.4
				15	0	21.4
	847.5	20635		1	0	22.3
				1	14	22.2
				8	4	21.3
				15	0	21.3

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	825.5	20415	3	1	0	21.9
				1	14	22.0
				8	4	20.5
				15	0	20.5
	836.5	20525		1	0	21.9
				1	14	22.0
				8	4	20.5
				15	0	20.5
	847.5	20635		1	0	21.5
				1	14	21.4
				8	4	20.3
				15	0	20.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	826.5	20425	5	1	0	22.5
				1	24	22.3
				12	6	21.4
				25	0	21.4
	836.5	20525		1	0	22.5
				1	24	22.5
				12	6	21.4
				25	0	21.4
	846.5	20625		1	0	22.4
				1	24	22.3
				12	6	21.3
				25	0	21.3

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	826.5	20425	5	1	0	21.4
				1	24	21.4
				12	6	20.4
				25	0	20.4
	836.5	20525		1	0	21.8
				1	24	21.7
				12	6	20.5
				25	0	20.4
	846.5	20625		1	0	21.5
				1	24	21.3
				12	6	20.3
				25	0	20.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	829	20450	10	1	0	22.5
				1	49	22.3
				24	12	21.4
				50	0	21.4
	836.5	20525		1	0	22.4
				1	49	22.5
				24	12	21.5
				50	0	21.5
	844	20600		1	0	22.5
				1	49	22.2
				24	12	21.4
				50	0	21.3

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	829	20450	10	1	0	22.0
				1	49	21.9
				24	12	20.5
				50	0	20.4
	836.5	20525		1	0	21.6
				1	49	21.6
				24	12	20.5
				50	0	20.5
	844	20600		1	0	21.6
				1	49	21.4
				24	12	20.3
				50	0	20.4

LTE Band 7

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2502.5	20775	5	1	0	22.9
				1	24	22.8
				12	6	21.9
				25	0	21.8
	2535	21100		1	0	23.1
				1	24	22.9
				12	6	22.0
				25	0	22.1
	2567.5	21425		1	0	23.0
				1	24	23.0
				12	6	22.0
				25	0	22.1

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2502.5	20775	5	1	0	21.9
				1	24	21.9
				12	6	20.8
				25	0	20.9
	2535	21100		1	0	22.0
				1	24	21.9
				12	6	20.9
				25	0	21.0
	2567.5	21425		1	0	22.3
				1	24	22.3
				12	6	21.1
				25	0	21.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2505	20800	10	1	0	22.8
				1	49	22.8
				24	12	22.0
				50	0	21.9
	2535	21100		1	0	23.1
				1	49	23.0
				24	12	22.0
				50	0	22.1
	2565	21400		1	0	23.0
				1	49	23.0
				24	12	22.0
				50	0	22.1

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2505	20800	10	1	0	22.5
				1	49	22.6
				24	12	21.1
				50	0	21.1
	2535	21100		1	0	22.2
				1	49	22.0
				24	12	21.1
				50	0	21.1
	2565	21400		1	0	22.2
				1	49	22.1
				24	12	21.0
				50	0	21.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2507.5	20825	15	1	0	23.0
				1	74	23.0
				40	18	22.1
				75	0	22.0
	2535	21100		1	0	23.2
				1	74	23.0
				40	18	22.0
				75	0	22.1
	2562.5	21375		1	0	22.9
				1	74	22.9
				40	18	22.0
				75	0	21.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2507.5	20825	15	1	0	22.6
				1	74	22.6
				40	18	21.1
				75	0	21.1
	2535	21100		1	0	22.3
				1	74	22.0
				40	18	20.9
				75	0	21.0
	2562.5	21375		1	0	22.5
				1	74	22.4
				40	18	20.9
				75	0	21.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2510	20850	20	1	0	22.9
				1	99	23.0
				50	25	21.9
				100	0	21.9
	2535	21100		1	0	23.2
				1	99	23.0
				50	25	21.9
				100	0	22.0
	2560	21350		1	0	22.9
				1	99	22.9
				50	25	21.9
				100	0	22.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2510	20850	20	1	0	22.4
				1	99	22.3
				50	25	20.9
				100	0	20.9
	2535	21100		1	0	22.4
				1	99	22.3
				50	25	20.9
				100	0	21.1
	2560	21350		1	0	22.5
				1	99	22.5
				50	25	21.0
				100	0	20.9

LTE Band 12

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	699.7	23017	1.4	1	0	22.0
				1	5	21.7
				3	2	21.8
				6	0	20.8
	707.5	23095		1	0	21.7
				1	5	21.6
				3	2	21.7
				6	0	20.7
	715.3	23173		1	0	21.6
				1	5	21.6
				3	2	21.7
				6	0	20.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	699.7	23017	1.4	1	0	20.9
				1	5	20.8
				3	2	20.8
				6	0	19.8
	707.5	23095		1	0	20.8
				1	5	20.8
				3	2	20.7
				6	0	19.8
	715.3	23173		1	0	20.8
				1	5	20.8
				3	2	20.7
				6	0	19.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	700.5	23025	3	1	0	21.9
				1	14	21.8
				8	4	20.9
				15	0	20.9
	707.5	23095		1	0	21.8
				1	14	21.9
				8	4	20.8
				15	0	20.8
	714.5	23165		1	0	21.8
				1	14	21.8
				8	4	20.8
				15	0	20.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	700.5	23025	3	1	0	21.5
				1	14	21.4
				8	4	20.1
				15	0	20.0
	707.5	23095		1	0	20.9
				1	14	20.9
				8	4	19.8
				15	0	19.8
	714.5	23165		1	0	21.0
				1	14	20.8
				8	4	19.8
				15	0	19.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	701.5	23035	5	1	0	22.0
				1	24	21.8
				12	6	20.9
				25	0	20.9
	707.5	23095		1	0	21.9
				1	24	21.8
				12	6	20.9
				25	0	20.9
	713.5	23155		1	0	21.8
				1	24	21.7
				12	6	20.8
				25	0	20.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	701.5	23035	5	1	0	20.9
				1	24	20.8
				12	6	19.9
				25	0	20.0
	707.5	23095		1	0	21.1
				1	24	21.1
				12	6	20.0
				25	0	19.8
	713.5	23155		1	0	20.9
				1	24	20.9
				12	6	19.8
				25	0	19.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	704	23060	10	1	0	21.9
				1	49	21.7
				24	12	20.8
				50	0	20.9
	707.5	23095		1	0	21.9
				1	49	21.9
				24	12	20.9
				50	0	20.9
	711	23130		1	0	21.8
				1	49	21.7
				24	12	20.9
				50	0	20.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	704	23060	10	1	0	21.5
				1	49	21.3
				24	12	19.9
				50	0	19.9
	707.5	23095		1	0	21.1
				1	49	21.0
				24	12	20.0
				50	0	19.9
	711	23130		1	0	21.0
				1	49	20.8
				24	12	19.9
				50	0	20.0

LTE Band 13

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	779.5	23205	5	1	0	22.1
				1	24	22.4
				12	6	21.4
				25	0	21.4
	782	23230		1	0	22.4
				1	24	22.5
				12	6	21.5
				25	0	21.4
	784.5	23255		1	0	22.4
				1	24	22.6
				12	6	21.5
				25	0	21.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	779.5	23205	5	1	0	21.3
				1	24	21.4
				12	6	20.4
				25	0	20.5
	782	23230		1	0	21.6
				1	24	21.8
				12	6	20.6
				25	0	20.5
	784.5	23255		1	0	21.5
				1	24	21.7
				12	6	20.6
				25	0	20.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	782	23230	10	1	0	22.3
				1	49	22.2
				24	12	21.6
				50	0	21.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	782	23230	10	1	0	21.9
				1	24	21.8
				12	6	20.6
				25	0	20.5

LTE Band 14

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	790.5	23305	5	1	0	21.8
				1	24	21.2
				12	6	21.2
				25	0	21.6
	793	23330		1	0	21.2
				1	24	21.2
				12	6	21.6
				25	0	21.8
	795.5	23355		1	0	21.2
				1	24	21.2
				12	6	21.6
				25	0	21.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	790.5	23305	5	1	0	20.8
				1	24	20.3
				12	6	20.4
				25	0	20.2
	793	23330		1	0	20.4
				1	24	20.2
				12	6	20.8
				25	0	20.3
	795.5	23355		1	0	20.4
				1	24	20.2
				12	6	20.8
				25	0	20.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	793	23330	10	1	0	22.6
				1	49	22.5
				24	12	21.6
				50	0	21.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	793	23330	10	1	0	22.2
				1	24	22.1
				12	6	20.7
				25	0	20.6

LTE Band 17

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	706.5	23755	5	1	0	22.0
				1	24	21.7
				12	6	20.8
				25	0	20.9
	710	23790		1	0	21.8
				1	24	21.9
				12	6	20.8
				25	0	20.9
	713.5	23825		1	0	21.8
				1	24	21.8
				12	6	20.9
				25	0	20.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	706.5	23755	5	1	0	20.9
				1	24	20.7
				12	6	19.8
				25	0	19.9
	710	23790		1	0	21.0
				1	24	21.1
				12	6	19.9
				25	0	19.9
	713.5	23825		1	0	20.9
				1	24	20.9
				12	6	19.9
				25	0	19.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	709	23780	10	1	0	21.8
				1	49	21.7
				24	12	20.8
				50	0	21.0
	710	23790		1	0	21.8
				1	49	21.8
				24	12	20.9
				50	0	20.9
	711	23800		1	0	21.8
				1	49	21.8
				24	12	20.9
				50	0	20.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	709	23780	10	1	0	21.4
				1	49	21.4
				24	12	19.9
				50	0	19.9
	710	23790		1	0	21.0
				1	49	21.0
				24	12	19.9
				50	0	19.9
	711	23800		1	0	20.8
				1	49	21.1
				24	12	19.9
				50	0	19.9

LTE Band 25

Test result:

Test Result						
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1850.7	26047	1.4	1	0	19.7
				1	5	19.7
				3	2	19.8
				6	0	18.8
	1882.5	26365		1	0	19.7
				1	5	19.8
				3	2	19.8
				6	0	18.8
	1914.3	26683		1	0	19.7
				1	5	19.5
				3	2	19.6
				6	0	18.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1850.7	26047	1.4	1	0	18.9
				1	5	18.9
				3	2	19.1
				6	0	17.8
	1882.5	26365		1	0	18.9
				1	5	18.9
				3	2	18.7
				6	0	17.8
	1914.3	26683		1	0	18.7
				1	5	18.6
				3	2	18.8
				6	0	17.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1851.5	26055	3	1	0	19.6
				1	14	19.6
				8	4	18.6
				15	0	18.6
	1882.5	26365		1	0	19.6
				1	14	19.7
				8	4	18.7
				15	0	18.6
	1913.5	26675		1	0	19.8
				1	14	19.8
				8	4	18.8
				15	0	18.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1851.5	26055	3	1	0	19.2
				1	14	19.2
				8	4	17.8
				15	0	17.7
	1882.5	26365		1	0	18.9
				1	14	18.8
				8	4	17.6
				15	0	17.6
	1913.5	26675		1	0	19.0
				1	14	19.0
				8	4	17.8
				15	0	17.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1852.5	26065	5	1	0	19.8
				1	24	19.6
				12	6	18.6
				25	0	18.7
	1882.5	26365		1	0	19.7
				1	24	19.6
				12	6	18.6
				25	0	18.6
	1912.5	26665		1	0	19.9
				1	24	19.9
				12	6	18.8
				25	0	18.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1852.5	26065	5	1	0	18.7
				1	24	18.6
				12	6	17.7
				25	0	17.7
	1882.5	26365		1	0	19.0
				1	24	18.9
				12	6	17.7
				25	0	17.7
	1912.5	26665		1	0	18.9
				1	24	18.9
				12	6	17.8
				25	0	17.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1855	26090	10	1	0	20.0
				1	49	19.8
				24	12	18.7
				50	0	18.7
	1882.5	26365		1	0	19.9
				1	49	19.9
				24	12	18.6
				50	0	18.8
	1910	26640		1	0	19.8
				1	49	19.8
				24	12	18.9
				50	0	18.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1855	26090	10	1	0	19.5
				1	49	19.5
				24	12	17.8
				50	0	17.7
	1882.5	26365		1	0	19.1
				1	49	19.0
				24	12	17.7
				50	0	17.7
	1910	26640		1	0	19.0
				1	49	19.0
				24	12	17.9
				50	0	17.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1857.5	26115	15	1	0	19.9
				1	74	19.7
				40	18	18.7
				75	0	18.8
	1882.5	26365		1	0	19.8
				1	74	19.6
				40	18	18.6
				75	0	18.7
	1907.5	26615		1	0	19.9
				1	74	19.9
				40	18	18.9
				75	0	18.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1857.5	26115	15	1	0	19.4
				1	74	19.3
				40	18	17.8
				75	0	17.8
	1882.5	26365		1	0	19.1
				1	74	18.8
				40	18	17.7
				75	0	17.7
	1907.5	26615		1	0	19.4
				1	74	19.4
				40	18	17.8
				75	0	17.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1860	26140	20	1	0	20.1
				1	99	19.9
				50	25	18.8
				100	0	18.8
	1882.5	26365		1	0	20.1
				1	99	19.8
				50	25	18.7
				100	0	18.7
	1905	26590		1	0	19.9
				1	99	19.8
				50	25	18.9
				100	0	19.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1860	26140	20	1	0	19.3
				1	99	19.2
				50	25	17.9
				100	0	17.9
	1882.5	26365		1	0	19.3
				1	99	19.0
				50	25	17.7
				100	0	17.8
	1905	26590		1	0	19.5
				1	99	19.5
				50	25	17.9
				100	0	18.0

LTE Band 26

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	814.7	26697	1.4	1	0	22.2
				1	5	22.1
				3	2	22.1
				6	0	21.1
	831.5	26865		1	0	22.0
				1	5	22.1
				3	2	22.1
				6	0	21.1
	848.3	27033		1	0	21.8
				1	5	21.8
				3	2	21.9
				6	0	20.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	814.7	26697	1.4	1	0	21.1
				1	5	21.2
				3	2	21.4
				6	0	20.2
	831.5	26865		1	0	21.2
				1	5	21.2
				3	2	21.0
				6	0	20.1
	848.3	27033		1	0	21.0
				1	5	21.0
				3	2	21.1
				6	0	19.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	815.5	26705	3	1	0	22.3
				1	14	22.1
				8	4	21.2
				15	0	21.3
	831.5	26865		1	0	22.1
				1	14	22.2
				8	4	21.2
				15	0	21.1
	847.5	27025		1	0	22.0
				1	14	21.9
				8	4	21.0
				15	0	21.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	815.5	26705	3	1	0	21.9
				1	14	21.8
				8	4	20.4
				15	0	20.3
	831.5	26865		1	0	21.3
				1	14	21.3
				8	4	20.1
				15	0	20.2
	847.5	27025		1	0	21.1
				1	14	21.1
				8	4	20.0
				15	0	20.1

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	816.5	26715	5	1	0	22.4
				1	24	22.2
				12	6	21.2
				25	0	21.2
	831.5	26865		1	0	22.2
				1	24	22.2
				12	6	21.1
				25	0	21.2
	846.5	27015		1	0	22.0
				1	24	22.0
				12	6	21.0
				25	0	21.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	816.5	26715	5	1	0	21.3
				1	24	21.2
				12	6	20.2
				25	0	20.3
	831.5	26865		1	0	21.5
				1	24	21.4
				12	6	20.2
				25	0	20.2
	846.5	27015		1	0	21.1
				1	24	21.0
				12	6	20.0
				25	0	20.1

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	819	26740	10	1	0	22.3
				1	49	22.1
				24	12	21.2
				50	0	21.2
	831.5	26865		1	0	22.1
				1	49	22.1
				24	12	21.2
				50	0	21.2
	844	26990		1	0	22.2
				1	49	22.0
				24	12	21.0
				50	0	21.1

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	819	26740	10	1	0	21.8
				1	49	21.7
				24	12	20.3
				50	0	20.2
	831.5	26865		1	0	21.3
				1	49	21.3
				24	12	20.2
				50	0	20.2
	844	26990		1	0	21.3
				1	49	21.1
				24	12	20.0
				50	0	20.1

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	821.5	26765	15	1	0	22.3
				1	74	22.0
				40	18	21.2
				75	0	21.2
	831.5	26865		1	0	22.2
				1	74	22.1
				40	18	21.2
				75	0	21.2
	841.5	26965		1	0	22.2
				1	74	21.9
				40	18	21.1
				75	0	21.0

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	821.5	26765	15	1	0	21.9
				1	74	21.7
				40	18	20.2
				75	0	20.2
	831.5	26865		1	0	21.4
				1	74	21.3
				40	18	20.3
				75	0	20.2
	841.5	26965		1	0	21.7
				1	74	21.4
				40	18	20.1
				75	0	20.1

LTE Band 30

Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2307.5	27685	5	1	0	23.5
				1	24	23.4
				12	6	22.4
				25	0	22.6
	2310	27710		1	0	23.5
				1	24	23.4
				12	6	22.4
				25	0	22.5
	2312.5	27735		1	0	23.5
				1	24	23.4
				12	6	22.4
				25	0	22.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2307.5	27685	5	1	0	22.8
				1	24	22.7
				12	6	21.5
				25	0	21.6
	2310	27710		1	0	22.5
				1	24	22.5
				12	6	21.4
				25	0	21.5
	2312.5	27735		1	0	22.4
				1	24	22.4
				12	6	21.5
				25	0	21.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2310	27710	10	1	0	23.5
				1	49	23.3
				24	12	22.4
				50	0	22.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2310	27710	10	1	0	23.2
				1	24	23.0
				12	6	21.5
				25	0	21.5

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Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2572.5	37775	5	1	0	23.4
				1	24	23.4
				12	6	22.4
				25	0	22.4
	2595	38000		1	0	23.5
				1	24	23.5
				12	6	22.4
				25	0	22.5
	2617.5	38225		1	0	23.4
				1	24	23.4
				12	6	22.7
				25	0	22.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2572.5	37775	5	1	0	22.5
				1	24	22.4
				12	6	21.5
				25	0	21.4
	2595	38000		1	0	22.3
				1	24	22.4
				12	6	21.4
				25	0	21.5
	2617.5	38225		1	0	22.7
				1	24	22.6
				12	6	21.8
				25	0	21.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2575	37800	10	1	0	23.5
				1	49	23.2
				24	12	22.4
				50	0	22.5
	2595	38000		1	0	23.5
				1	49	23.5
				24	12	22.5
				50	0	22.5
	2615	38200		1	0	23.5
				1	49	22.7
				24	12	22.8
				50	0	22.7

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2575	37800	10	1	0	22.4
				1	49	22.3
				24	12	21.4
				50	0	21.4
	2595	38000		1	0	22.2
				1	49	22.3
				24	12	21.5
				50	0	23.7
	2615	38200		1	0	22.7
				1	49	22.7
				24	12	21.9
				50	0	21.9

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2577.5	37825	15	1	0	22.5
				1	74	22.4
				40	18	22.5
				75	0	22.6
	2595	38000		1	0	23.8
				1	74	22.9
				40	18	22.8
				75	0	22.7
	2612.5	38175		1	0	22.7
				1	74	22.4
				40	18	22.5
				75	0	22.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2577.5	37825	15	1	0	22.5
				1	74	22.5
				40	18	21.5
				75	0	21.5
	2595	38000		1	0	22.6
				1	74	22.6
				40	18	21.8
				75	0	21.7
	2612.5	38175		1	0	22.6
				1	74	22.3
				40	18	21.4
				75	0	21.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2580	37850	20	1	0	23.4
				1	99	22.9
				50	25	22.4
				100	0	22.5
	2595	38000		1	0	23.5
				1	99	23.5
				50	25	22.6
				100	0	22.6
	2610	38150		1	0	23.5
				1	99	23.4
				50	25	22.9
				100	0	22.8

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2580	37850	20	1	0	22.7
				1	99	22.7
				50	25	22.0
				100	0	22.9
	2595	38000		1	0	22.4
				1	99	22.4
				50	25	21.5
				100	0	21.6
	2610	38150		1	0	22.8
				1	99	23.0
				50	25	21.8
				100	0	21.8

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Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2498.5	39675	5	1	0	23.3
				1	24	23.1
				12	6	22.1
				25	0	22.1
	2593	40620		1	0	23.5
				1	24	23.5
				12	6	22.5
				25	0	22.5
	2687.5	41565		1	0	23.5
				1	24	23.4
				12	6	22.4
				25	0	22.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2498.5	39675	5	1	0	22.1
				1	24	22.0
				12	6	21.1
				25	0	21.1
	2593	40620		1	0	22.2
				1	24	22.3
				12	6	21.5
				25	0	21.5
	2687.5	41565		1	0	22.6
				1	24	22.5
				12	6	21.5
				25	0	21.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2501	39700	10	1	0	23.0
				1	49	23.1
				24	12	22.1
				50	0	22.1
	2593	40620		1	0	23.5
				1	49	23.6
				24	12	22.6
				50	0	22.6
	2685	41540		1	0	23.6
				1	49	23.5
				24	12	22.6
				50	0	22.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2501	39700	10	1	0	22.1
				1	49	22.0
				24	12	21.1
				50	0	21.1
	2593	40620		1	0	22.3
				1	49	22.4
				24	12	21.6
				50	0	21.6
	2685	41540		1	0	22.6
				1	49	22.4
				24	12	21.7
				50	0	21.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2503.5	39725	15	1	0	23.2
				1	74	23.2
				40	18	22.2
				75	0	22.2
	2593	40620		1	0	23.6
				1	74	23.6
				40	18	22.6
				75	0	22.6
	2682.5	41515		1	0	23.7
				1	74	23.5
				40	18	22.6
				75	0	22.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2503.5	39725	15	1	0	22.2
				1	74	22.2
				40	18	21.2
				75	0	21.2
	2593	40620		1	0	22.4
				1	74	22.3
				40	18	21.5
				75	0	21.6
	2682.5	41515		1	0	22.8
				1	74	22.6
				40	18	21.6
				75	0	21.6

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2506	39750	20	1	0	23.3
				1	99	23.4
				50	25	22.3
				100	0	22.3
	2593	40620		1	0	23.6
				1	99	23.5
				50	25	22.6
				100	0	22.5
	2680	41490		1	0	23.8
				1	99	23.5
				50	25	22.6
				100	0	23.3

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	2506	39750	20	1	0	22.1
				1	99	22.1
				50	25	21.2
				100	0	21.2
	2593	40620		1	0	22.5
				1	99	22.5
				50	25	21.6
				100	0	21.6
	2680	41490		1	0	22.9
				1	99	22.6
				50	25	21.7
				100	0	21.7

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Test result:

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1710.7	131979	1.4	1	0	20.6
				1	5	20.6
				3	2	20.6
				6	0	19.6
	1745	132322		1	0	20.4
				1	5	20.3
				3	2	20.4
				6	0	19.4
	1779.3	132665		1	0	20.4
				1	5	20.3
				3	2	20.4
				6	0	19.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1710.7	131979	1.4	1	0	19.8
				1	5	20.0
				3	2	19.7
				6	0	18.7
	1745	132322		1	0	19.9
				1	5	19.8
				3	2	19.5
				6	0	18.5
	1779.3	132665		1	0	19.8
				1	5	19.8
				3	2	19.4
				6	0	18.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1711.5	131987	3	1	0	20.7
				1	14	20.6
				8	4	19.7
				15	0	19.6
	1745	132322		1	0	20.5
				1	14	20.4
				8	4	19.5
				15	0	19.5
	1778.5	132657		1	0	20.4
				1	14	20.4
				8	4	19.4
				15	0	19.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1711.5	131987	3	1	0	20.0
				1	14	20.1
				8	4	18.8
				15	0	18.7
	1745	132322		1	0	19.4
				1	14	19.5
				8	4	18.5
				15	0	18.4
	1778.5	132657		1	0	19.9
				1	14	19.9
				8	4	18.4
				15	0	18.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1712.5	131997	5	1	0	20.7
				1	24	20.7
				12	6	19.7
				25	0	19.7
	1745	132322		1	0	20.5
				1	24	20.5
				12	6	19.5
				25	0	19.4
	1777.5	132647		1	0	20.5
				1	24	20.4
				12	6	19.4
				25	0	19.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1712.5	131997	5	1	0	20.2
				1	24	20.1
				12	6	18.7
				25	0	18.7
	1745	132322		1	0	20.0
				1	24	20.0
				12	6	18.5
				25	0	18.5
	1777.5	132647		1	0	19.9
				1	24	19.9
				12	6	18.4
				25	0	18.4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1715	132022	10	1	0	20.8
				1	49	20.6
				24	12	19.7
				50	0	19.6
	1745	132322		1	0	20.5
				1	49	20.5
				24	12	19.5
				50	0	19.5
	1775	132622		1	0	20.5
				1	49	20.4
				24	12	19.5
				50	0	19.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1715	132022	10	1	0	19.6
				1	49	19.6
				24	12	18.6
				50	0	18.7
	1745	132322		1	0	20.0
				1	49	20.0
				24	12	18.5
				50	0	18.5
	1775	132622		1	0	20.0
				1	49	19.8
				24	12	18.5
				50	0	18.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1717.5	132047	15	1	0	20.7
				1	74	20.5
				40	18	19.6
				75	0	19.7
	1745	132322		1	0	20.7
				1	74	20.5
				40	18	19.5
				75	0	19.5
	1772.5	132597		1	0	20.6
				1	74	20.4
				40	18	19.5
				75	0	19.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1717.5	132047	15	1	0	19.8
				1	74	19.6
				40	18	18.6
				75	0	18.6
	1745	132322		1	0	20.3
				1	74	20.0
				40	18	18.6
				75	0	18.5
	1772.5	132597		1	0	19.8
				1	74	19.6
				40	18	18.5
				75	0	18.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	1720	132072	20	1	0	20.8
				1	99	20.6
				50	25	19.6
				100	0	19.7
	1745	132322		1	0	20.8
				1	99	20.4
				50	25	19.4
				100	0	19.6
	1770	132572		1	0	20.6
				1	99	20.4
				50	25	19.5
				100	0	19.5

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
16QAM	1720	132072	20	1	0	19.7
				1	99	19.4
				50	25	18.7
				100	0	18.6
	1745	132322		1	0	20.4
				1	99	20.0
				50	25	18.5
				100	0	18.6
	1770	132572		1	0	20.1
				1	99	19.9
				50	25	18.5
				100	0	18.5

6.6 Bluetooth Measurement result

Modulation type	Test Result (dBm)		
	2402MHz(Ch0)	2441MHz(Ch39)	2480MHz(Ch78)
GFSK	7.48	7.19	7.50
$\pi/4$ DQPSK	4.97	4.87	5.28
8DPSK	4.82	4.25	5.32
GFSK(BLE)	2402MHz(Ch0)	2440MHz(Ch19)	2480MHz(Ch39)
	-1.39	-1.95	-1.07

6.7 Wi-Fi Measurement result

WIFI 2.4G

(SISO Ant0)

Modulation type		Average power output (dBm)		
		2412MHz	2437MHz	2462MHz
11b	1 Mbps	16.56	16.59	16.74
	2 Mbps	16.48	16.48	16.68
	5.5 Mbps	16.39	16.42	16.62
	11 Mbps	16.29	16.36	16.54
11g	6 Mbps	15.65	15.83	16.03
	9 Mbps	15.56	15.45	15.89
	12 Mbps	15.45	15.35	15.68
	18 Mbps	15.12	15.12	15.52
	24 Mbps	14.87	14.67	15.46
	36 Mbps	14.45	14.38	14.56
	48 Mbps	13.78	13.89	14.21
	54 Mbps	13.66	13.72	13.82
11n HT20	6.5 Mbps	14.65	14.77	14.89
	13 Mbps	14.43	14.45	14.54
	19.5 Mbps	14.23	14.37	14.37
	26 Mbps	14.12	14.13	14.23
	39 Mbps	14.01	13.87	13.69
	52 Mbps	13.78	13.46	13.34
	58.5 Mbps	13.23	13.12	13.12
	65 Mbps	12.55	12.67	12.79
Modulation type		Average power output (dBm)		
		2422MHz	2437MHz	2452MHz
11n HT40	13.5 Mbps	14.12	14.08	14.14
	27 Mbps	13.88	13.97	14.01
	40.5 Mbps	13.67	13.87	13.89
	54 Mbps	13.45	13.64	13.78
	81 Mbps	13.39	13.37	13.54
	108 Mbps	13.32	13.32	13.42
	121.5 Mbps	13.24	13.24	13.25
	135 Mbps	13.08	13.11	13.12

(SISO Ant1)

Modulation type		Average power output (dBm)		
		2412MHz	2437MHz	2462MHz
11b	1 Mbps	16.53	16.52	16.74
	2 Mbps	16.43	16.47	16.68
	5.5 Mbps	16.34	16.41	16.54
	11 Mbps	16.24	16.35	16.47
11g	6 Mbps	15.63	15.82	16.02
	9 Mbps	15.35	15.52	15.71
	12 Mbps	15.07	15.22	15.39
	18 Mbps	14.79	14.92	15.08
	24 Mbps	14.52	14.62	14.76
	36 Mbps	14.22	14.32	14.45
	48 Mbps	13.94	14.02	14.13
	54 Mbps	13.66	13.72	13.82
11n HT20	6.5 Mbps	14.64	14.74	14.86
	13 Mbps	14.48	14.38	14.55
	19.5 Mbps	14.32	14.08	14.23
	26 Mbps	14.16	13.79	13.92
	39 Mbps	14.01	13.52	13.61
	52 Mbps	13.85	13.21	13.32
	58.5 Mbps	13.69	12.91	12.98
	65 Mbps	12.53	12.62	12.76
Modulation type		Average power output (dBm)		
		2422MHz	2437MHz	2452MHz
11n HT40	13.5 Mbps	14.14	14.05	14.12
	27 Mbps	13.99	13.92	13.98
	40.5 Mbps	13.85	13.79	13.84
	54 Mbps	13.72	13.66	13.72
	81 Mbps	13.55	13.52	13.57
	108 Mbps	13.42	13.39	13.43
	121.5 Mbps	13.26	13.26	13.29
	135 Mbps	13.11	13.13	13.15

(MIMO Ant0+Ant1)

Modulation type		Average power output (dBm)		
		2412MHz	2437MHz	2462MHz
11n HT20 MIMO Ant0	6.5 Mbps	14.72	14.86	14.95
	13 Mbps	14.38	14.50	14.59
	19.5 Mbps	14.03	14.14	14.24
	26 Mbps	13.69	13.78	13.88
	39 Mbps	13.35	13.42	13.52
	52 Mbps	13.01	13.06	13.16
	58.5 Mbps	12.66	12.70	12.81
	65 Mbps	12.32	12.34	12.45
11n HT20 MIMO Ant1	6.5 Mbps	14.38	14.25	14.16
	13 Mbps	14.04	13.93	13.87
	19.5 Mbps	13.69	13.61	13.57
	26 Mbps	13.35	13.29	13.28
	39 Mbps	13.01	12.98	12.99
	52 Mbps	12.67	12.66	12.70
	58.5 Mbps	12.32	12.34	12.40
	65 Mbps	11.98	12.02	12.11
11n HT20 MIMO Ant0+Ant1	6.5 Mbps	17.56	17.58	17.58
	13 Mbps	17.22	17.23	17.26
	19.5 Mbps	16.87	16.89	16.93
	26 Mbps	16.53	16.55	16.60
	39 Mbps	16.19	16.22	16.27
	52 Mbps	15.85	15.87	15.95
	58.5 Mbps	15.50	15.53	15.62
	65 Mbps	15.16	15.19	15.29

(MIMO Ant0+Ant1)

Modulation type		Average power output (dBm)		
		2422MHz	2437MHz	2452MHz
11n HT40 MIMO Ant0	13.5 Mbps	14.13	14.06	14.16
	27 Mbps	13.65	13.59	13.68
	40.5 Mbps	13.18	13.13	13.21
	54 Mbps	12.70	12.66	12.73
	81 Mbps	12.22	12.19	12.26
	108 Mbps	11.74	11.72	11.78
	121.5 Mbps	11.27	11.26	11.31
	135 Mbps	10.79	10.78	10.83
11n HT40 MIMO Ant1	13.5 Mbps	13.27	13.54	13.42
	27 Mbps	12.81	13.08	12.97
	40.5 Mbps	12.35	12.63	12.52
	54 Mbps	11.89	12.17	12.07
	81 Mbps	11.43	11.71	11.63
	108 Mbps	10.97	11.25	11.18
	121.5 Mbps	10.51	10.80	10.73
	135 Mbps	10.05	10.34	10.28
11n HT40 MIMO Ant0+Ant1	13.5 Mbps	16.73	16.82	16.82
	27 Mbps	16.26	16.35	16.35
	40.5 Mbps	15.80	15.90	15.89
	54 Mbps	15.32	15.43	15.42
	81 Mbps	14.85	14.97	14.97
	108 Mbps	14.38	14.50	14.50
	121.5 Mbps	13.92	14.05	14.04
	135 Mbps	13.45	13.58	13.57

WIFI 5G

U-NII-1(SISO Ant0)

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5180 MHz	5200 MHz	5240MHz		
802.11a	6	13.82	13.98	13.92	24.0	pass
	9	13.43	13.57	13.56	24.0	pass
	12	13.04	13.16	13.15	24.0	pass
	18	12.65	12.75	12.73	24.0	pass
	24	12.25	12.35	12.31	24.0	pass
	36	11.86	11.94	11.89	24.0	pass
	48	11.47	11.53	11.48	24.0	pass
	54	11.08	11.12	11.06	24.0	pass
802.11n (HT20)	6.5	13.78	13.89	13.87	24.0	pass
	13	13.40	13.49	13.48	24.0	pass
	19.5	13.02	13.09	13.08	24.0	pass
	26	12.64	12.69	12.67	24.0	pass
	39	12.26	12.29	12.26	24.0	pass
	52	11.88	11.89	11.85	24.0	pass
	58.5	11.50	11.49	11.45	24.0	pass
	65	11.12	11.09	11.04	24.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5190 MHz	5230 MHz			
802.11n (HT40)	13.5	13.05	13.12	24.0	pass	
	27	12.67	12.73	24.0	pass	
	40.5	12.29	12.33	24.0	pass	
	54	11.91	11.94	24.0	pass	
	81	11.53	11.54	24.0	pass	
	108	11.15	11.15	24.0	pass	
	121.5	10.77	10.75	24.0	pass	
	135	10.39	10.36	24.0	pass	

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5180 MHz	5200 MHz	5240MHz		
802.11ac (HT20)	6.5	13.78	13.84	13.83	24.0	pass
	13	13.45	13.50	13.50	24.0	pass
	19.5	13.12	13.17	13.15	24.0	pass
	26	12.79	12.83	12.81	24.0	pass
	39	12.46	12.49	12.46	24.0	pass
	52	12.13	12.15	12.12	24.0	pass
	58.5	11.80	11.82	11.77	24.0	pass
	65	11.47	11.48	11.43	24.0	pass
	78	11.14	11.15	11.08	24.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5190 MHz	5230 MHz			
802.11ac (HT40)	13.5	13.15	13.14	24.0	pass	
	27	12.83	12.84	24.0	pass	
	40.5	12.50	12.52	24.0	pass	
	54	12.18	12.21	24.0	pass	
	81	11.85	11.89	24.0	pass	
	108	11.53	11.58	24.0	pass	
	121.5	11.20	11.26	24.0	pass	
	135	10.88	10.95	24.0	pass	
	162	10.55	10.63	24.0	pass	
	180	10.23	10.32	24.0	pass	
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5210 MHz				
802.11ac (HT80)	29.3	12.42		24.0	pass	
	58.5	12.08		24.0	pass	
	87.8	11.73		24.0	pass	
	117	11.39		24.0	pass	
	175.5	11.05		24.0	pass	
	234	10.70		24.0	pass	
	263.3	10.36		24.0	pass	
	292.5	10.02		24.0	pass	
	351	9.67		24.0	pass	
	390	9.33		24.0	pass	

U-NII-1 (SISO Ant1)

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5180 MHz	5200 MHz	5240MHz		
802.11a	6	11.15	11.23	11.31	24.0	pass
	9	10.93	10.99	11.07	24.0	pass
	12	10.70	10.76	10.83	24.0	pass
	18	10.48	10.52	10.59	24.0	pass
	24	10.25	10.29	10.35	24.0	pass
	36	10.03	10.05	10.11	24.0	pass
	48	9.80	9.82	9.87	24.0	pass
	54	9.58	9.57	9.63	24.0	pass
802.11n (HT20)	6.5	11.06	11.12	11.11	24.0	pass
	13	10.83	10.88	10.88	24.0	pass
	19.5	10.59	10.64	10.66	24.0	pass
	26	10.36	10.40	10.43	24.0	pass
	39	10.12	10.17	10.21	24.0	pass
	52	9.89	9.93	9.98	24.0	pass
	58.5	9.65	9.69	9.76	24.0	pass
	65	9.42	9.45	9.53	24.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5190 MHz	5230 MHz			
802.11n (HT40)	13.5	10.24	10.25	24.0	pass	
	27	9.91	9.93	24.0	pass	
	40.5	9.59	9.62	24.0	pass	
	54	9.26	9.30	24.0	pass	
	81	8.94	8.98	24.0	pass	
	108	8.61	8.66	24.0	pass	
	121.5	8.29	8.35	24.0	pass	
	135	7.96	8.03	24.0	pass	

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5180 MHz	5200 MHz	5240MHz		
802.11ac (HT20)	6.5	11.12	11.15	11.23	24.0	pass
	13	10.90	10.91	10.98	24.0	pass
	19.5	10.69	10.70	10.73	24.0	pass
	26	10.47	10.49	10.48	24.0	pass
	39	10.26	10.29	10.24	24.0	pass
	52	10.04	10.08	9.99	24.0	pass
	58.5	9.82	9.87	9.74	24.0	pass
	65	9.61	9.66	9.49	24.0	pass
	78	9.39	9.45	9.24	24.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5190 MHz	5230 MHz			
802.11ac (HT40)	13.5	10.29	10.32	24.0	pass	
	27	9.98	10.01	24.0	pass	
	40.5	9.66	9.70	24.0	pass	
	54	9.35	9.39	24.0	pass	
	81	9.03	9.08	24.0	pass	
	108	8.72	8.77	24.0	pass	
	121.5	8.40	8.46	24.0	pass	
	135	8.09	8.15	24.0	pass	
	162	7.77	7.84	24.0	pass	
	180	7.46	7.53	24.0	pass	
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5210 MHz				
802.11ac (HT80)	29.3	9.23		24.0	pass	
	58.5	8.90		24.0	pass	
	87.8	8.58		24.0	pass	
	117	8.25		24.0	pass	
	175.5	7.92		24.0	pass	
	234	7.60		24.0	pass	
	263.3	7.27		24.0	pass	
	292.5	6.94		24.0	pass	
	351	6.62		24.0	pass	
	390	6.29		24.0	pass	

U-NII-1 (MIMO Ant0+Ant1)

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5180 MHz	5200 MHz	5240MHz		
802.11n (HT20) Ant0	6.5	13.78	13.43	13.69	24.0	pass
	13	13.40	13.11	13.33	24.0	pass
	19.5	13.03	12.78	12.96	24.0	pass
	26	12.65	12.46	12.60	24.0	pass
	39	12.28	12.14	12.23	24.0	pass
	52	11.90	11.82	11.87	24.0	pass
	58.5	11.53	11.49	11.50	24.0	pass
	65	11.15	11.17	11.14	24.0	pass
802.11n (HT20) Ant1	6.5	11.23	11.24	11.27	24.0	pass
	13	10.96	10.99	11.02	24.0	pass
	19.5	10.70	10.73	10.77	24.0	pass
	26	10.43	10.48	10.52	24.0	pass
	39	10.16	10.22	10.28	24.0	pass
	52	9.89	9.97	10.03	24.0	pass
	58.5	9.63	9.71	9.78	24.0	pass
	65	9.56	9.46	9.53	24.0	pass
802.11n (HT20) Ant0+Ant1	6.5	15.70	15.48	15.66	24.0	pass
	13	15.36	15.19	15.34	24.0	pass
	19.5	15.03	14.89	15.01	24.0	pass
	26	14.69	14.59	14.69	24.0	pass
	39	14.36	14.30	14.37	24.0	pass
	52	14.02	14.00	14.06	24.0	pass
	58.5	13.69	13.70	13.73	24.0	pass
	65	13.44	13.41	13.42	24.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)						Limit(dBm)	Conclusion
		Ant0 Meas Power		Ant1 Meas Power		Total Corr'd Power			
		5190 MHz	5230 MHz	5190 MHz	5230 MHz	5190 MHz	5230 MHz		
802.11n (HT40)	13.5	13.07	13.08	10.33	10.36	14.92	14.94	24.0	pass
	27	12.73	12.76	10.00	10.03	14.59	14.62	24.0	pass
	40.5	12.40	12.44	9.67	9.70	14.26	14.29	24.0	pass
	54	12.06	12.12	9.34	9.37	13.92	13.97	24.0	pass
	81	11.73	11.80	9.01	9.03	13.59	13.64	24.0	pass
	108	11.39	11.48	8.68	8.70	13.25	13.32	24.0	pass
	121.5	11.06	11.16	8.35	8.37	12.92	13.00	24.0	pass
	135	10.72	10.84	8.02	8.04	12.59	12.67	24.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5180 MHz	5200 MHz	5240MHz		
802.11ac (HT20) Ant0	6.5	13.65	13.68	13.59	24.0	pass
	13	13.38	13.39	13.31	24.0	pass
	19.5	13.11	13.11	13.03	24.0	pass
	26	12.83	12.82	12.75	24.0	pass
	39	12.56	12.53	12.47	24.0	pass
	52	12.29	12.24	12.18	24.0	pass
	58.5	12.02	11.96	11.90	24.0	pass
	65	11.74	11.67	11.62	24.0	pass
	78	11.47	11.38	11.34	24.0	pass
802.11ac (HT20) Ant1	6.5	11.12	11.23	11.16	24.0	pass
	13	10.90	10.98	11.08	24.0	pass
	19.5	10.68	10.74	10.82	24.0	pass
	26	10.46	10.49	10.55	24.0	pass
	39	10.25	10.24	10.29	24.0	pass
	52	10.03	9.99	10.03	24.0	pass
	58.5	9.81	9.75	9.77	24.0	pass
	65	9.59	9.50	9.50	24.0	pass
	78	9.37	9.25	9.24	24.0	pass
802.11ac (HT20) Ant0+Ant1	6.5	15.58	15.64	15.55	24.0	pass
	13	15.32	15.36	15.35	24.0	pass
	19.5	15.07	15.10	15.07	24.0	pass
	26	14.82	14.82	14.80	24.0	pass
	39	14.57	14.54	14.53	24.0	pass
	52	14.32	14.27	14.25	24.0	pass
	58.5	14.06	14.00	13.97	24.0	pass
	65	13.81	13.73	13.70	24.0	pass
	78	13.56	13.45	13.43	24.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)						Limit(dBm)	Conclusion
		Ant0 Meas Power		Ant1 Meas Power		Total Corr'd Power			
		5190 MHz	5230 MHz	5190 MHz	5230 MHz	5190 MHz	5230 MHz		
802.11ac (HT40)	13.5	13.98	13.84	10.31	10.42	15.53	15.47	24.0	pass
	27	13.58	13.46	10.00	10.09	15.16	15.10	24.0	pass
	40.5	13.18	13.08	9.69	9.77	14.79	14.74	24.0	pass
	54	12.77	12.70	9.38	9.44	14.41	14.38	24.0	pass
	81	12.37	12.32	9.07	9.11	14.04	14.02	24.0	pass
	108	11.97	11.94	8.75	8.79	13.66	13.65	24.0	pass
	121.5	11.57	11.56	8.44	8.46	13.29	13.29	24.0	pass
	135	11.16	11.18	8.13	8.13	12.91	12.93	24.0	pass
	162	10.76	10.80	7.82	7.81	12.54	12.57	24.0	pass
	180	10.36	10.42	7.51	7.48	12.18	12.20	24.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		Ant0 Meas Power	Ant1 Meas Power	Total Corr'd Power		
		5210 MHz	5210 MHz	5210 MHz		
802.11ac (HT80)	29.3	12.45	9.35	14.18	24.0	pass
	58.5	12.08	9.03	13.83	24.0	pass
	87.8	11.71	8.71	13.47	24.0	pass
	117	11.34	8.39	13.12	24.0	pass
	175.5	10.97	8.07	12.77	24.0	pass
	234	10.60	7.74	12.41	24.0	pass
	263.3	10.23	7.42	12.06	24.0	pass
	292.5	9.86	7.10	11.71	24.0	pass
	351	9.49	6.78	11.35	24.0	pass
	390	9.12	6.46	11.00	24.0	pass

U-NII-3 (SISO Ant0)

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5745MHz	5785MHz	5825MHz		
802.11a	6	12.89	12.96	12.87	30.0	pass
	9	12.47	12.50	12.43	30.0	pass
	12	12.22	12.25	12.20	30.0	pass
	18	11.97	12.00	11.96	30.0	pass
	24	11.72	11.75	11.72	30.0	pass
	36	11.47	11.50	11.48	30.0	pass
	48	11.22	11.25	11.25	30.0	pass
	54	10.97	11.00	11.01	30.0	pass
802.11n (HT20)	6.5	12.63	12.57	12.48	30.0	pass
	13	12.40	12.31	12.22	30.0	pass
	19.5	12.14	12.05	11.97	30.0	pass
	26	11.87	11.79	11.71	30.0	pass
	39	11.61	11.54	11.45	30.0	pass
	52	11.34	11.28	11.19	30.0	pass
	58.5	11.08	11.02	10.94	30.0	pass
	65	10.81	10.76	10.68	30.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5755 MHz	5795 MHz			
802.11n (HT40)	13.5	11.65	11.62	30.0	pass	
	27	11.32	11.32	30.0	pass	
	40.5	10.99	10.98	30.0	pass	
	54	10.66	10.65	30.0	pass	
	81	10.34	10.31	30.0	pass	
	108	10.01	9.98	30.0	pass	
	121.5	9.68	9.64	30.0	pass	
	135	9.35	9.31	30.0	pass	

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5745MHz	5785MHz	5825MHz		
802.11ac (HT20)	6.5	12.59	12.62	12.58	30.0	pass
	13	12.37	12.40	12.36	30.0	pass
	19.5	12.15	12.17	12.13	30.0	pass
	26	11.93	11.95	11.91	30.0	pass
	39	11.71	11.73	11.69	30.0	pass
	52	11.49	11.50	11.46	30.0	pass
	58.5	11.27	11.28	11.24	30.0	pass
	65	11.05	11.05	11.01	30.0	pass
	78	10.83	10.84	10.79	30.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5755 MHz	5795 MHz			
802.11ac (HT40)	13.5	11.65	11.60	30.0	pass	
	27	11.35	11.34	30.0	pass	
	40.5	11.06	11.04	30.0	pass	
	54	10.76	10.73	30.0	pass	
	81	10.46	10.42	30.0	pass	
	108	10.17	10.12	30.0	pass	
	121.5	9.87	9.81	30.0	pass	
	135	9.57	9.50	30.0	pass	
	162	9.28	9.20	30.0	pass	
	180	8.98	8.89	30.0	pass	
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5775 MHz				
802.11ac (HT80)	29.3	10.94		30.0	pass	
	58.5	10.62		30.0	pass	
	87.8	10.30		30.0	pass	
	117	9.98		30.0	pass	
	175.5	9.66		30.0	pass	
	234	9.34		30.0	pass	
	263.3	9.02		30.0	pass	
	292.5	8.70		30.0	pass	
	351	8.38		30.0	pass	
	390	8.06		30.0	pass	

U-NII-3 (SISO Ant1)

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5745MHz	5785MHz	5825MHz		
802.11a	6	10.12	10.14	10.15	30.0	pass
	9	9.91	9.94	9.93	30.0	pass
	12	9.71	9.73	9.72	30.0	pass
	18	9.50	9.53	9.50	30.0	pass
	24	9.30	9.33	9.28	30.0	pass
	36	9.09	9.13	9.06	30.0	pass
	48	8.89	8.92	8.85	30.0	pass
	54	8.68	8.72	8.63	30.0	pass
802.11n (HT20)	6.5	9.89	10.01	9.97	30.0	pass
	13	9.70	9.79	9.77	30.0	pass
	19.5	9.50	9.57	9.57	30.0	pass
	26	9.31	9.35	9.37	30.0	pass
	39	9.12	9.13	9.16	30.0	pass
	52	8.93	8.91	8.96	30.0	pass
	58.5	8.73	8.69	8.76	30.0	pass
	65	8.54	8.47	8.56	30.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5755 MHz	5795 MHz			
802.11n (HT40)	13.5	9.26	9.31	30.0	pass	
	27	8.93	8.97	30.0	pass	
	40.5	8.61	8.63	30.0	pass	
	54	8.28	8.29	30.0	pass	
	81	7.96	7.96	30.0	pass	
	108	7.63	7.62	30.0	pass	
	121.5	7.31	7.28	30.0	pass	
	135	6.98	6.94	30.0	pass	

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5745MHz	5785MHz	5825MHz		
802.11ac (HT20)	6.5	9.98	9.89	9.96	30.0	pass
	13	9.78	9.69	9.76	30.0	pass
	19.5	9.58	9.50	9.57	30.0	pass
	26	9.38	9.30	9.37	30.0	pass
	39	9.18	9.11	9.18	30.0	pass
	52	8.98	8.91	8.98	30.0	pass
	58.5	8.78	8.71	8.78	30.0	pass
	65	8.58	8.52	8.59	30.0	pass
	78	8.38	8.32	8.39	30.0	pass
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5755 MHz	5795 MHz			
802.11ac (HT40)	13.5	9.22	9.24	30.0	pass	
	27	8.93	8.95	30.0	pass	
	40.5	8.63	8.66	30.0	pass	
	54	8.34	8.37	30.0	pass	
	81	8.04	8.08	30.0	pass	
	108	7.75	7.80	30.0	pass	
	121.5	7.45	7.51	30.0	pass	
	135	7.16	7.22	30.0	pass	
	162	6.86	6.93	30.0	pass	
	180	6.57	6.64	30.0	pass	
Test Mode	Data Rate (Mbps)	Average Power(dBm)		Limit(dBm)	Conclusion	
		5775 MHz				
802.11ac (HT80)	29.3	8.53		30.0	pass	
	58.5	8.16		30.0	pass	
	87.8	7.80		30.0	pass	
	117	7.43		30.0	pass	
	175.5	7.07		30.0	pass	
	234	6.70		30.0	pass	
	263.3	6.33		30.0	pass	
	292.5	5.97		30.0	pass	
	351	5.60		30.0	pass	
	390	5.60		30.0	pass	

U-NII-3 (MIMO Ant0+Ant1)

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5745MHz	5785MHz	5825MHz		
802.11n (HT20) Ant0	6.5	12.57	12.47	12.48	30.0	pass
	13	12.34	12.24	12.25	30.0	pass
	19.5	12.11	12.01	12.03	30.0	pass
	26	11.88	11.78	11.81	30.0	pass
	39	11.65	11.56	11.59	30.0	pass
	52	11.42	11.33	11.37	30.0	pass
	58.5	11.19	11.10	11.15	30.0	pass
	65	10.96	10.87	10.93	30.0	pass
802.11n (HT20) Ant1	6.5	10.01	10.03	10.05	30.0	pass
	13	9.81	9.81	9.83	30.0	pass
	19.5	9.62	9.60	9.60	30.0	pass
	26	9.42	9.38	9.38	30.0	pass
	39	9.23	9.17	9.15	30.0	pass
	52	9.03	8.95	8.93	30.0	pass
	58.5	8.84	8.74	8.70	30.0	pass
	65	8.64	8.52	8.48	30.0	pass
802.11n (HT20) Ant0+Ant1	6.5	14.49	14.43	14.44	30.0	pass
	13	14.27	14.20	14.22	30.0	pass
	19.5	14.05	13.98	13.99	30.0	pass
	26	13.83	13.75	13.77	30.0	pass
	39	13.62	13.54	13.55	30.0	pass
	52	13.40	13.31	13.33	30.0	pass
	58.5	13.18	13.09	13.11	30.0	pass
	65	12.96	12.86	12.89	30.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)						Limit(dBm)	Conclusion
		Ant0 Meas Power		Ant1 Meas Power		Total Corr'd Power			
		5755 MHz	5795 MHz	5755 MHz	5795 MHz	5755 MHz	5795 MHz		
802.11n (HT40)	13.5	11.62	11.58	9.42	9.38	13.67	13.63	30.0	pass
	27	11.29	11.25	9.09	9.06	13.34	13.30	30.0	pass
	40.5	10.96	10.92	8.75	8.74	13.00	12.98	30.0	pass
	54	10.63	10.59	8.42	8.42	12.67	12.65	30.0	pass
	81	10.30	10.27	8.09	8.09	12.34	12.33	30.0	pass
	108	9.97	9.94	7.76	7.77	12.01	12.00	30.0	pass
	121.5	9.64	9.61	7.42	7.45	11.68	11.67	30.0	pass
	135	9.31	9.28	7.09	7.13	11.35	11.35	30.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		5745MHz	5785MHz	5825MHz		
802.11ac (HT20) Ant0	6.5	12.46	12.52	12.48	30.0	pass
	13	12.25	12.29	12.25	30.0	pass
	19.5	12.04	12.05	12.02	30.0	pass
	26	11.82	11.82	11.79	30.0	pass
	39	11.61	11.59	11.57	30.0	pass
	52	11.40	11.35	11.34	30.0	pass
	58.5	11.19	11.12	11.11	30.0	pass
	65	10.97	10.88	10.88	30.0	pass
	78	10.76	10.65	10.68	30.0	pass
802.11ac (HT20) Ant1	6.5	10.02	10.12	10.04	30.0	pass
	13	9.84	9.93	9.86	30.0	pass
	19.5	9.65	9.75	9.67	30.0	pass
	26	9.47	9.56	9.49	30.0	pass
	39	9.28	9.38	9.31	30.0	pass
	52	9.10	9.19	9.12	30.0	pass
	58.5	8.91	9.00	8.94	30.0	pass
	65	8.73	8.82	8.75	30.0	pass
	78	8.54	8.63	8.57	30.0	pass
802.11ac (HT20) Ant0+Ant1	6.5	14.42	14.49	14.44	30.0	pass
	13	14.22	14.28	14.23	30.0	pass
	19.5	14.02	14.06	14.01	30.0	pass
	26	13.81	13.85	13.80	30.0	pass
	39	13.61	13.63	13.60	30.0	pass
	52	13.41	13.41	13.38	30.0	pass
	58.5	13.21	13.20	13.17	30.0	pass
	65	13.00	12.98	12.95	30.0	pass
	78	12.80	12.77	12.76	30.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)						Limit(dBm)	Conclusion
		Ant0 Meas Power		Ant1 Meas Power		Total Corr'd Power			
		5755 MHz	5795 MHz	5755 MHz	5795 MHz	5755 MHz	5795 MHz		
802.11ac (HT40)	13.5	11.49	11.48	9.22	9.31	13.51	13.54	30.0	pass
	27	11.20	11.19	8.94	9.00	13.23	13.24	30.0	pass
	40.5	10.91	10.90	8.65	8.69	12.94	12.94	30.0	pass
	54	10.62	10.60	8.37	8.39	12.65	12.64	30.0	pass
	81	10.33	10.30	8.09	8.08	12.36	12.34	30.0	pass
	108	10.05	10.01	7.80	7.77	12.08	12.04	30.0	pass
	121.5	9.76	9.71	7.52	7.46	11.79	11.74	30.0	pass
	135	9.47	9.41	7.24	7.16	11.51	11.44	30.0	pass
	162	9.18	9.12	6.95	6.85	11.22	11.14	30.0	pass
	180	8.89	8.93	6.67	6.54	10.93	10.91	30.0	pass

Test Mode	Data Rate (Mbps)	Average Power(dBm)			Limit(dBm)	Conclusion
		Ant0 Meas Power	Ant1 Meas Power	Total Corr'd Power		
		5775 MHz	5775 MHz	5775 MHz		
802.11ac (HT80)	29.3	10.85	8.52	12.85	30.0	pass
	58.5	10.52	8.19	12.52	30.0	pass
	87.8	10.20	7.87	12.20	30.0	pass
	117	9.87	7.54	11.87	30.0	pass
	175.5	9.55	7.22	11.55	30.0	pass
	234	9.22	6.89	11.22	30.0	pass
	263.3	8.90	6.57	10.90	30.0	pass
	292.5	8.57	6.24	10.57	30.0	pass
	351	8.25	5.92	10.25	30.0	pass
	390	7.92	5.59	9.92	30.0	pass

6.8 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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} \text{ (GHz)}] \leq 3.0$ 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 $[(\text{max. power of channel, including tune-up tolerance, mW}) / (60 / \sqrt{f} \text{ (GHz) mW})] \cdot [20 \text{ mm} / (\text{min. test separation distance, mm})] \leq 1.0$ 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	

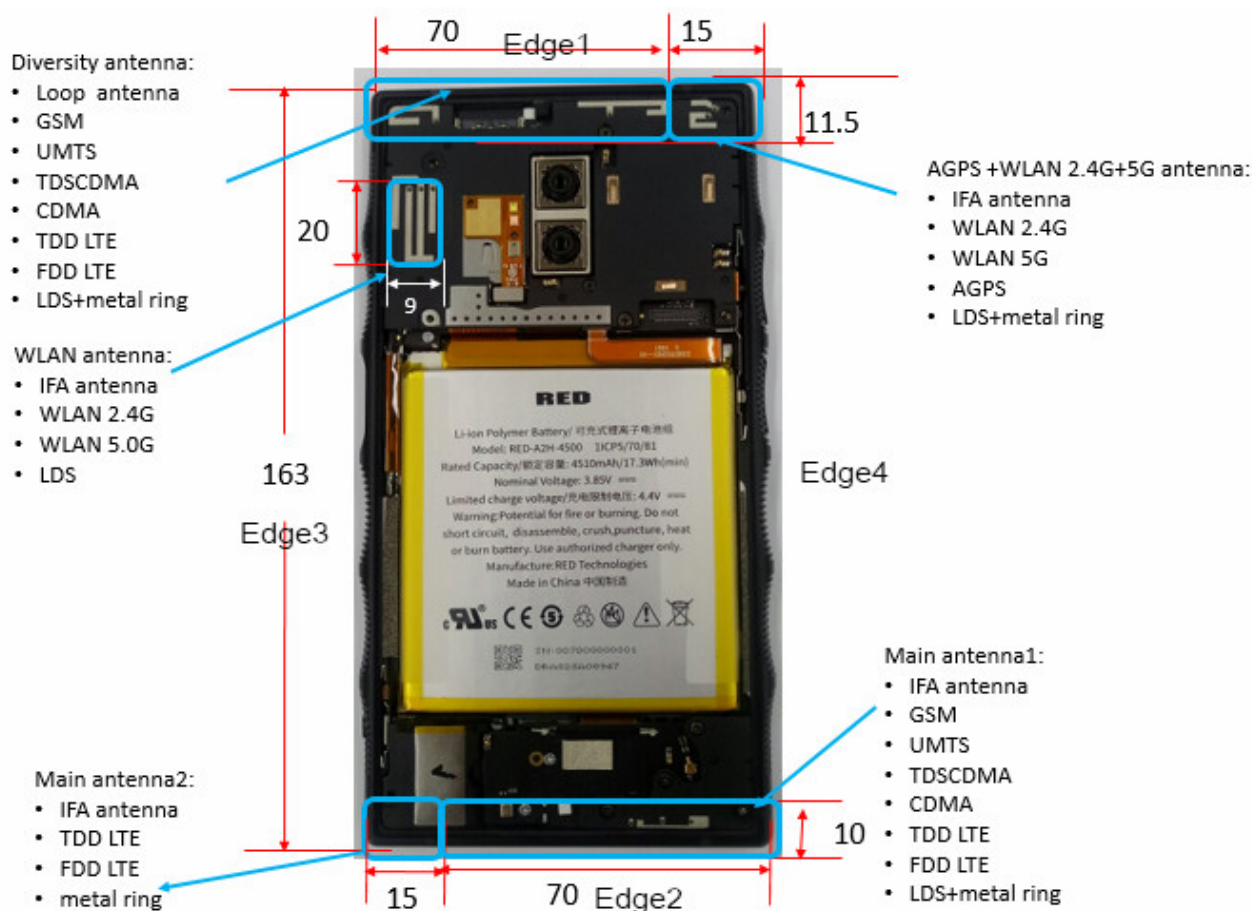
Summary of Transmitters

Band/Mode	Position	Max.RF output power (mW)	SAR test exclusion Threshold (mW)	SAR Required
(2.4~2.4835)GHz Bluetooth	Head	5.6	10	No
	Body	5.6	19	No
(2.4~2.4835)GHz Wifi_Ant main	Head	45.60	10	Yes
	Body	45.60	19	Yes
(2.4~2.4835)GHz Wifi_Ant aux	Head	44.87	10	Yes
	Body	44.87	19	Yes
(5.15~5.25)GHz Wifi_Ant main	Head	25.0	10	Yes
	Body	25.0	19	Yes
(5.15~5.25)GHz Wifi_Ant aux	Head	13.5	10	Yes
	Body	13.5	19	No
(5.725~5.85)GHz Wifi_Ant main	Head	19.8	10	Yes
	Body	19.8	19	Yes
(5.725~5.85)GHz Wifi_Ant aux	Head	10.4	10	Yes
	Body	10.4	19	No

Note: We notice that some conditions do not need to test such as body position for (5.725~5.85)GHz Wifi_Ant aux .we consider that if we just test SAR value in head position but estimate SAR value in body positon, the results are not reasonable and reliable, so we test all the mode describe above expect BT mode.

6.9 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.



6.9.1 Head Exposure Conditions For WWAN

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

6.9.2 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	/

6.9.3 Hotspot Exposure Conditions For WWAN main antenna 1

Test Configurations	Antenna-to-edge/surface	SAR Required
Rear	<25 mm	Yes
Front	<25 mm	Yes
Edge 1	153 mm	No
Edge 2	0 mm	Yes
Edge 3	15 mm	Yes
Edge 4	0 mm	Yes

Note: main antenna 1 support GSM850/1900,WCDMA Band 2/4/5,
LTE Band 2/3/4/5/12/13/14/17/18/19/25/26/28/66

For WWAN main antenna 2

Test Configurations	Antenna-to-edge/surface	SAR Required
Rear	<25 mm	Yes
Front	<25 mm	Yes
Edge 1	153 mm	No
Edge 2	0 mm	Yes
Edge 3	0 mm	Yes
Edge 4	70 mm	No

Note1: Main antenna 1 support : GSM850/1900 ,WCDMA Band 2/4/5,CDMA2000 BC0/BC1;
LTE Band 2/3/4/5/12/13/14/17/18/19/25/26/28/66.

Main antenna 2 support : LTE 7/30/38/41.

Note2: For main antenna 2, we also test edge4,cause we find SAR value in edge4 is sometimes higher than the SAR value in edge3 .

Note3: In position "Rear" and "Front" ,we do not need to test hotspot mode cause we find in hotspot mode SAR value (use power reduction technology) is lower than normal condition, and we already consider these two position in body worn exposure test.

For Wi-Fi

Antenna in right side on the top (ANT Main)

Test Configurations	Antenna-to-edge/surface	SAR Required
Rear	<25 mm	Yes
Front	<25 mm	Yes
Edge 1	0 mm	Yes
Edge 2	151.5 mm	No
Edge 3	70 mm	No
Edge 4	0 mm	Yes

Antenna in left side on the top (ANT Aux)

Test Configurations	Antenna-to-edge/surface	SAR Required
Rear	<25 mm	Yes
Front	<25 mm	Yes
Edge 1	16.5 mm	Yes
Edge 2	126.5 mm	No
Edge 3	3 mm	Yes
Edge 4	70 mm	No

Note: For MIMO, we test edge 1,3and 4 in each WIFI frequency bands.

6.10 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 except D5GHzV2 used 10mW, 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 (%)
2018/3/9	D750V3	Head	1g	8.44	8.26	2.18	±10
2018/3/12	D750V3	Head	1g	8.72	8.26	5.57	±10
2018/3/18	D835V2	Head	1g	9.44	9.37	0.75	±10
2018/3/19	D835V2	Head	1g	9.40	9.37	0.32	±10
2018/7/16	D835V2	Head	1g	9.16	9.37	-2.24	±10
2018/7/15	D1800V2	Head	1g	38.28	38.90	-1.59	±10
2018/3/16	D1800V2	Head	1g	37.84	38.90	-2.72	±10
2018/8/17	D2000V2	Head	1g	38.60	40.30	-4.22	±10
2018/4/19	D2000V2	Head	1g	41.20	40.30	2.23	±10
2018/4/20	D2450V2	Head	1g	54.40	52.40	3.82	±10
2018/4/22	D2450V2	Head	1g	54.80	52.40	4.58	±10
2018/4/28	D2450V2	Head	1g	51.20	52.40	-2.29	±10
2018/4/26	D5GHzV2 (5.2GHz)	Head	1g	78.70	77.60	1.42	±10
2018/4/27	D5GHzV2 (5.8GHz)	Head	1g	77.50	78.70	-1.52	±10

Date Tested	System dipole	T.S. Liquid	SAR measured (normalized to 1W)		Target (Ref.Value)	Delta (%)	Tolerance (%)
2018/3/10	D750V3	Body	1g	8.24	8.26	-0.24	±10
2018/3/11	D750V3	Body	1g	8.72	8.26	5.57	±10
2018/3/17	D835V2	Body	1g	9.48	9.47	1.17	±10
2018/3/16	D835V2	Body	1g	9.36	9.47	-0.11	±10
2018/7/16	D835V2	Body	1g	9.12	9.47	-2.67	±10
2018/7/15	D1800V2	Body	1g	38.20	39.0	-1.80	±10
2018/4/18	D1800V2	Body	1g	38.68	39.0	-0.57	±10
2018/8/18	D2000V2	Body	1g	37.96	40.30	-5.81	±10
2018/4/22	D2000V2	Body	1g	38.84	40.30	-3.62	±10
2018/4/20	D2450V2	Body	1g	52.80	52.30	0.76	±10
2018/4/24	D2450V2	Body	1g	52.00	52.30	-0.76	±10
2018/5/2	D2450V2	Body	1g	53.20	52.30	1.53	±10
2018/4/28	D5GHzV2 (5.2GHz)	Body	1g	73.00	75.40	-5.93	±10
2018/4/27	D5GHzV2 (5.8GHz)	Body	1g	75.00	77.50	-4.70	±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(%)
2018/3/9	Head 750	ϵ_r	42.068	41.90	0.40	± 5
		$\sigma[\text{S/m}]$	0.917	0.89	3.03	± 5
2018/3/12	Head 750	ϵ_r	42.153	41.90	0.60	± 5
		$\sigma[\text{S/m}]$	0.922	0.89	3.60	± 5
2018/3/18	Head 835	ϵ_r	42.529	41.50	2.48	± 5
		$\sigma[\text{S/m}]$	0.912	0.90	1.33	± 5
2018/3/19	Head 835	ϵ_r	40.217	41.50	-3.09	± 5
		$\sigma[\text{S/m}]$	0.908	0.90	0.89	± 5
2018/7/16	Head 835	ϵ_r	41.114	41.50	-0.93	± 5
		$\sigma[\text{S/m}]$	0.915	0.90	1.67	± 5
2018/7/15	Head 1800	ϵ_r	38.905	40.00	-2.74	± 5
		$\sigma[\text{S/m}]$	1.409	1.40	0.64	± 5
2018/3/16	Head 1800	ϵ_r	40.607	40.00	1.52	± 5
		$\sigma[\text{S/m}]$	1.411	1.40	0.79	± 5
2018/8/17	Head 2000	ϵ_r	39.815	40.00	-0.46	± 5
		$\sigma[\text{S/m}]$	1.435	1.40	2.50	± 5
2018/4/19	Head 2000	ϵ_r	39.815	40.00	-0.46	± 5
		$\sigma[\text{S/m}]$	1.384	1.40	-1.14	± 5
2018/4/20	Head 2450	ϵ_r	38.145	39.20	-2.69	± 5
		$\sigma[\text{S/m}]$	1.873	1.80	4.06	± 5
2018/4/22	Head 2450	ϵ_r	39.517	39.20	0.81	± 5
		$\sigma[\text{S/m}]$	1.881	1.80	4.50	± 5
2018/4/28	Head 2450	ϵ_r	39.583	39.20	0.98	± 5
		$\sigma[\text{S/m}]$	1.833	1.80	1.83	± 5
2018/4/26	Head 5200	ϵ_r	36.853	36.00	2.37	± 5
		$\sigma[\text{S/m}]$	4.483	4.66	-3.80	± 5
2018/4/27	Head 5800	ϵ_r	36.334	35.30	2.93	± 5
		$\sigma[\text{S/m}]$	5.185	5.27	-1.61	± 5

Date Tested	Freq.(MHz)	Liquid parameters	measured	Target	Delta(%)	Tolerance(%)
2018/3/10	Body 750	ϵ_r	53.279	55.50	-4.00	± 5
		σ [S/m]	0.976	0.96	1.67	± 5
2018/3/11	Body 750	ϵ_r	54.321	55.50	-2.12	± 5
		σ [S/m]	0.954	0.96	-0.63	± 5
2018/3/17	Body 835	ϵ_r	54.541	55.20	-1.19	± 5
		σ [S/m]	0.975	0.97	0.52	± 5
2018/3/16	Body 835	ϵ_r	55.036	55.20	-0.30	± 5
		σ [S/m]	0.971	0.97	0.10	± 5
2018/7/16	Body 835	ϵ_r	56.196	55.20	1.80	± 5
		σ [S/m]	0.966	0.97	-0.41	± 5
2018/7/15	Body 1800	ϵ_r	52.879	53.30	-0.79	± 5
		σ [S/m]	1.523	1.52	0.20	± 5
2018/4/18	Body 1800	ϵ_r	51.717	53.30	-2.97	± 5
		σ [S/m]	1.542	1.52	1.45	± 5
2018/8/18	Body 2000	ϵ_r	52.557	53.30	-1.39	± 5
		σ [S/m]	1.546	1.52	1.71	± 5
2018/4/22	Body 2000	ϵ_r	52.596	53.30	-1.32	± 5
		σ [S/m]	1.586	1.52	4.34	± 5
2018/4/20	Body 2450	ϵ_r	50.795	52.70	-3.61	± 5
		σ [S/m]	1.926	1.95	-1.23	± 5
2018/4/24	Body 2450	ϵ_r	51.927	52.70	-1.47	± 5
		σ [S/m]	2.004	1.95	2.77	± 5
2018/5/2	Body 2450	ϵ_r	51.046	52.70	-3.14	± 5
		σ [S/m]	2.027	1.95	3.95	± 5
2018/4/28	Body 5200	ϵ_r	49.035	49.00	0.07	± 5
		σ [S/m]	5.355	5.30	1.04	± 5
2018/4/27	Body 5800	ϵ_r	47.36	48.20	-1.74	± 5
		σ [S/m]	6.11	6.00	1.83	± 5

6.11 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., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing 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 D01v06, 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 D01v06, for each exposure position, if the highest output channel reported SAR ≤ 0.8 W/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".
4. The distance between the EUT and the phantom bottom is 10mm.

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

Mode: GSM 850

f_L(MHz)=824.2MHz

f_M(MHz)=836.5MHz

f_H(MHz)= 848.8MHz

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
TP	EGPRS	L	29.74	30.00	1.06	---	---
		M(original)	29.72	30.00	1.07	0.251	0.269
		M(variant)	29.72	30.00	1.07	0.768	0.822
		H	29.60	30.00	1.10	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, but we find the variance is not acceptable, so we retest all the position in this frequency band, and all the new data showing below adopted as final result.

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	31.77	32.00	1.05	---	---
		M	31.79	32.00	1.05	0.155	0.163
		H	31.78	32.00	1.05	---	---
Left Tilted		L	31.77	32.00	1.05	---	---
		M	31.79	32.00	1.05	0.092	0.097
		H	31.78	32.00	1.05	---	---
Right cheek		L	31.77	32.00	1.05	---	---
		M	31.79	32.00	1.05	0.142	0.149
		H	31.78	32.00	1.05	---	---
Right Tilted		L	31.77	32.00	1.05	---	---
		M	31.79	32.00	1.05	0.108	0.113
		H	31.77	32.00	1.05	---	---

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					1g Average	1g Average
TG	GSM With headset	L	31.77	32.00	1.05	---	---
		M	31.79	32.00	1.05	0.347	0.364
		H	31.78	32.00	1.05	---	---
	GPRS	L	29.89	30.00	1.03	---	---
		M	29.75	30.00	1.06	0.740	0.784
		H	29.54	30.00	1.11	---	---
	EGPRS	L	29.74	30.00	1.06	---	---
		M	29.72	30.00	1.07	0.768	0.822
		H	29.60	30.00	1.10	---	---
TP	GSM With headset	L	31.77	32.00	1.05	---	---
		M	31.79	32.00	1.05	0.386	0.405
		H	31.78	32.00	1.05	---	---
	GPRS	L	29.89	30.00	1.03	---	---
		M	29.75	30.00	1.06	0.629	0.667
		H	29.54	30.00	1.11	---	---
	EGPRS	L	29.74	30.00	1.06	---	---
		M	29.72	30.00	1.07	0.686	0.734
		H	29.60	30.00	1.10	---	---
Hotspot EDGE 2	GPRS	L	29.89	30.00	1.03	---	---
		M	29.75	30.00	1.06	0.428	0.454
		H	29.54	30.00	1.11	---	---
Hotspot EDGE 3		L	29.89	30.00	1.03	---	---
		M	29.75	30.00	1.06	0.144	0.153
		H	29.54	30.00	1.11	---	---
Hotspot EDGE 4		L	29.89	30.00	1.03	---	---
		M	29.75	30.00	1.06	0.151	0.160
		H	29.54	30.00	1.11	---	---

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	27.78	28.00	1.05	---	---
		M	27.85	28.00	1.04	0.045	0.047
		H	27.83	28.00	1.04	---	---
Left Tilted		L	27.78	28.00	1.05	---	---
		M	27.85	28.00	1.04	0.022	0.023
		H	27.83	28.00	1.04	---	---
Right cheek		L	27.78	28.00	1.05	---	---
		M(original)	27.85	28.00	1.04	0.055	0.057
		M(variant)	27.85	28.00	1.04	0.065	0.068
		H	27.83	28.00	1.04	---	---
Right Tilted		L	27.78	28.00	1.05	---	---
		M	27.85	28.00	1.04	0.025	0.026
		H	27.83	28.00	1.04	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: GSM1900 (GSM/GPRS/EGPRS)

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					1g Average	1g Average
TG	GSM With headset	L	27.78	28.00	1.05	---	---
		M	27.85	28.00	1.04	0.292	0.304
		H	27.83	28.00	1.04	---	---
	GPRS	L	25.68	26.00	1.08	---	---
		M	25.53	26.00	1.11	0.436	0.484
		H	25.57	26.00	1.10	---	---
	EGPRS	L	25.69	26.00	1.07	---	---
		M	25.54	26.00	1.11	0.446	0.495
		H	25.58	26.00	1.10	---	---
TP	GSM With headset	L	27.78	28.00	1.05	---	---
		M	27.85	28.00	1.04	0.315	0.328
		H	27.83	28.00	1.04	---	---
	GPRS	L	25.68	26.00	1.08	---	---
		M	25.53	26.00	1.11	0.448	0.497
		H	25.57	26.00	1.10	---	---
	EGPRS	L	25.69	26.00	1.07	---	---
		M	25.54	26.00	1.11	0.555	0.616
		H	25.58	26.00	1.10	---	---
Hotspot EDGE 2	EGPRS	L	25.69	26.00	1.07	---	---
		M(original)	25.54	26.00	1.11	0.709	0.787
		M(variant)	25.54	26.00	1.11	0.928	1.030
		H	25.58	26.00	1.10	---	---
Hotspot EDGE 3		L	25.69	26.00	1.07	---	---
		M	25.54	26.00	1.11	0.041	0.046
		H	25.58	26.00	1.10	---	---
Hotspot EDGE 4		L	25.69	26.00	1.07	---	---
		M	25.54	26.00	1.11	0.064	0.071
		H	25.58	26.00	1.10	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data .

Mode: CDMA2000 BC0

fL (MHz)= 824.7MHz fM (MHz)= 836.52 MHz fH (MHz)= 848.31MHz

SAR Values (Head, CDMA2000 BC0)

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	RC3 S055	L	23.47	24.00	1.13	---	---
		M(original)	23.52	24.00	1.12	0.049	0.055
		M(variant)	23.52	24.00	1.12	0.107	0.120
H		23.48	24.00	1.13	---	---	
Left Tilted		L	23.47	24.00	1.13	---	---
		M	23.52	24.00	1.12	0.025	0.028
		H	23.48	24.00	1.13	---	---
Right cheek		L	23.47	24.00	1.13	---	---
		M	23.52	24.00	1.12	0.045	0.050
		H	23.48	24.00	1.13	---	---
Right Tilted		L	23.47	24.00	1.13	---	---
		M	23.52	24.00	1.12	0.022	0.025
		H	23.48	24.00	1.13	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: CDMA2000 BC0

fL (MHz)= 824.7MHz fM (MHz)= 836.52 MHz fH (MHz)= 848.31MHz

SAR Values (Body, CDMA2000 BC0)

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
TG	RC3 S055	L	23.47	24.00	1.13	---	---
		M	23.52	24.00	1.12	0.217	0.243
		H	23.48	24.00	1.13	---	---
	Ev-Do Rev. 0	L	23.23	24.00	1.19	---	---
		M(original)	23.45	24.00	1.14	0.275	0.314
		M(variant)	23.45	24.00	1.14	0.417	0.475
		H	23.24	24.00	1.19	---	---
TP	RC3 S055	L	23.47	24.00	1.13	---	---
		M	23.52	24.00	1.12	0.208	0.233
		H	23.48	24.00	1.13	---	---
	Ev-Do Rev. 0	L	23.23	24.00	1.19	---	---
		M	23.45	24.00	1.14	0.239	0.272
		H	23.24	24.00	1.19	---	---
Hotspot EDGE2	Ev-Do Rev. 0	L	23.23	24.00	1.19	---	---
		M	23.45	24.00	1.14	0.152	0.173
		H	23.24	24.00	1.19	---	---
Hotspot EDGE3		L	23.23	24.00	1.19	---	---
		M	23.45	24.00	1.14	0.098	0.112
		H	23.24	24.00	1.19	---	---
Hotspot EDGE4		L	23.23	24.00	1.19	---	---
		M	23.45	24.00	1.14	0.068	0.078
		H	23.24	24.00	1.19	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data .

Mode: CDMA2000 BC1

Note: As describe before, we decrease the conducted power in order the SAR value meet the compliance, so we retest all the position with different mode for CDMA2000 BC1

fL (MHz)= 1851.25MHz fM (MHz)= 1880.00 MHz fH (MHz)= 1908.75MHz

SAR Values (Head, CDMA2000 BC1)

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	RC3 S055	L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.064	0.066
		H	21.37	21.50	1.03	---	---
Left Tilted		L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.032	0.033
		H	21.37	21.50	1.03	---	---
Right cheek		L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.073	0.075
		H	21.37	21.50	1.03	---	---
Right Tilted		L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.040	0.041
		H	21.37	21.50	1.03	---	---

Mode: CDMA2000 BC1

fL (MHz)= 1851.25MHz fM (MHz)= 1880.00 MHz fH (MHz)= 1908.75MHz

SAR Values (Body, CDMA2000 BC1)

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
TG	RC3 S055	L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.608	0.626
		H	21.37	21.50	1.03	---	---
	Ev-Do Rev. 0	L	21.32	21.50	1.04	---	---
		M	21.21	21.50	1.07	0.498	0.533
		H	21.25	21.50	1.06	---	---
TP	RC3 S055	L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.786	0.810
		H	21.37	21.50	1.03	---	---
	Ev-Do Rev. 0	L	21.32	21.50	1.04	---	---
		M	21.21	21.50	1.07	0.691	0.739
		H	21.25	21.50	1.06	---	---
Hotspot EDGE2	RC3 S055	L1	21.36	21.50	1.03	1.180	1.215
		M1	21.36	21.50	1.03	1.250	1.288
		H1	21.37	21.50	1.03	1.130	1.164
		L2	21.36	21.50	1.03	1.170	1.208
		M2	21.36	21.50	1.03	1.240	1.281
		H2	21.37	21.50	1.03	1.130	1.164
Hotspot EDGE3		L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.138	0.142
		H	21.37	21.50	1.03	---	---
Hotspot EDGE4		L	21.36	21.50	1.03	---	---
		M	21.36	21.50	1.03	0.121	0.125
		H	21.37	21.50	1.03	---	---

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					1g Average	1g Average
Left cheek	VOICE	L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.134	0.153
		H	21.16	22.00	1.21	---	---
Left Tilted		L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.054	0.061
		H	21.16	22.00	1.21	---	---
Right cheek		L	21.54	22.00	1.11	---	---
		M(original)	21.45	22.00	1.14	0.142	0.162
		M(variant)	21.45	22.00	1.14	0.004	0.005
		H	21.16	22.00	1.21	---	---
Right Tilted		L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.069	0.078
		H	21.16	22.00	1.21	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, then we notice that the value is much more smaller than previous product, and we also check the other point in head position, the truth is the variant product is much more smaller than original product, so we keep original data showing above and adopted as final result cause the variant product do not have any risk in head position.

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					1g Average	1g Average
TG	VOICE	L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.504	0.575
		H	21.16	22.00	1.21	---	---
	DATA	L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.600	0.684
		H	21.16	22.00	1.21	---	---
TP	VOICE	L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.646	0.736
		H	21.16	22.00	1.21	---	---
	DATA	L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.663	0.756
		H	21.16	22.00	1.21	---	---
Hotspot EDGE2	DATA	L	21.54	22.00	1.11	---	---
		M(original)	21.45	22.00	1.14	0.742	0.846
		M1(variant)	21.45	22.00	1.14	0.928	1.058
		H	21.16	22.00	1.21	---	---
Hotspot EDGE3		L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.056	0.064
		H	21.16	22.00	1.21	---	---
Hotspot EDGE4		L	21.54	22.00	1.11	---	---
		M	21.45	22.00	1.14	0.092	0.105
		H	21.16	22.00	1.21	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

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
Hotspot EDGE2	DATA	L1(variant)	21.54	22.00	1.11	0.913	1.013
		L2(variant)	21.54	22.00	1.11	0.909	1.009
		M2(variant)	21.45	22.00	1.14	0.922	1.051
		H1(variant)	21.16	22.00	1.21	0.825	0.998
		H2(variant)	21.16	22.00	1.21	0.823	0.996

Mode: WCDMA BAND4

fL (MHz)=1712.4MHz fM (MHz)=1732.6MHz 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					1g Average	1g Average
Left cheek	VOICE	L	22.09	22.50	1.10	---	---
		M(original)	22.11	22.50	1.09	0.148	0.161
		M(variant)	22.11	22.50	1.09	0.127	0.138
H		21.97	22.50	1.13	---	---	
Left Tilted		L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.055	0.060
		H	21.97	22.50	1.13	---	---
Right cheek		L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.100	0.109
		H	21.97	22.50	1.13	---	---
Right Tilted		L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.082	0.089
		H	21.97	22.50	1.13	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result.

Mode: WCDMA BAND4

fL (MHz)=1712.4MHz fM (MHz)=1732.6MHz 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					1g Average	1g Average
TG	VOICE	L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.459	0.500
		H	21.97	22.50	1.13	---	---
	DATA	L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.498	0.543
		H	21.97	22.50	1.13	---	---
TP	VOICE	L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.620	0.676
		H	21.97	22.50	1.13	---	---
	DATA	L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.641	0.699
		H	21.97	22.50	1.13	---	---
Hotspot EDGE2	DATA	L	22.09	22.50	1.10	0.773	0.850
		M1	22.11	22.50	1.09	0.913	0.995
		H1	21.97	22.50	1.13	1.040	1.175
		M2	22.11	22.50	1.09	0.954	1.040
		H2(original)	21.97	22.50	1.13	1.040	1.175
		H(variant)	21.97	22.50	1.13	1.120	1.266
Hotspot EDGE3		L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.110	0.120
		H	21.97	22.50	1.13	---	---
Hotspot EDGE4		L	22.09	22.50	1.10	---	---
		M	22.11	22.50	1.09	0.232	0.253
		H	21.97	22.50	1.13	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: WCDMA BAND5

fL (MHz)=826.4MHz fM (MHz)=836.4MHz 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-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1g Average	1g Average
Left cheek	VOICE	L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.051	0.056
		H	23.33	24.00	1.17	---	---
Left Tilted		L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.027	0.029
		H	23.33	24.00	1.17	---	---
Right cheek		L	23.65	24.00	1.08	---	---
		M(original)	23.57	24.00	1.10	0.054	0.060
		M(variant)	23.57	24.00	1.10	0.144	0.158
		H	23.33	24.00	1.17	---	---
Right Tilted		L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.027	0.030
		H	23.33	24.00	1.17	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable and do not have risk, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: WCDMA BAND5

fL (MHz)=826.4MHz fM (MHz)=836.4MHz 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					1g Average	1g Average
TG	VOICE	L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.329	0.362
		H	23.33	24.00	1.17	---	---
	DATA	L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.314	0.345
		H	23.33	24.00	1.17	---	---
TP	VOICE	L	23.65	24.00	1.08	---	---
		M(original)	23.57	24.00	1.10	0.338	0.372
		M(variant)	23.57	24.00	1.10	0.389	0.428
		H	23.33	24.00	1.17	---	---
	DATA	L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.285	0.314
		H	23.33	24.00	1.17	---	---
Hotspot EDGE2	DATA	L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.139	0.153
		H	23.33	24.00	1.17	---	---
Hotspot EDGE3		L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.061	0.067
		H	23.33	24.00	1.17	---	---
Hotspot EDGE4		L	23.65	24.00	1.08	---	---
		M	23.57	24.00	1.10	0.053	0.058
		H	23.33	24.00	1.17	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE Band 2-20BW-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-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1g Average	1g Average
Left cheek	20BW 1RB	L	21.0	21.10	1.02	---	---
		M(original)	21.0	21.10	1.02	0.111	0.113
		M(variant)	21.0	21.10	1.02	0.085	0.087
H		21.0	21.10	1.02	---	---	
Left Tilted		L	21.0	21.10	1.02	---	---
		M	21.0	21.10	1.02	0.040	0.041
		H	21.0	21.10	1.02	---	---
Right cheek		L	21.0	21.10	1.02	---	---
		M	21.0	21.10	1.02	0.104	0.106
		H	21.0	21.10	1.02	---	---
Right Tilted		L	21.0	21.10	1.02	---	---
		M	21.0	21.10	1.02	0.038	0.039
		H	21.0	21.10	1.02	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result.

Mode: LTE Band 2-20BW-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					1g Average	1g Average
TG	20BW 1RB	L	21.0	21.10	1.02	---	---
		M	21.0	21.10	1.02	0.550	0.561
		H	21.0	21.10	1.02	---	---
TP		L	21.0	21.10	1.02	---	---
		M	21.0	21.10	1.02	0.641	0.654
		H	21.0	21.10	1.02	---	---
Hotspot EDGE 2		L	21.0	21.10	1.02	---	---
		M(original)	21.0	21.10	1.02	0.779	0.795
		M1(variant)	21.0	21.10	1.02	0.854	0.871
Hotspot EDGE 3		H	21.0	21.10	1.02	---	---
		L	21.0	21.10	1.02	---	---
		M	21.0	21.10	1.02	0.073	0.074
Hotspot EDGE 4		H	21.0	21.10	1.02	---	---
		L	21.0	21.10	1.02	---	---
		M	21.0	21.10	1.02	0.100	0.102
			H	21.0	21.10	1.02	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

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
Hotspot EDGE 2	20BW 1RB	L(variant)	21.0	21.10	1.02	0.721	0.735
		M2(variant)	21.0	21.10	1.02	0.849	0.866
		H(variant)	21.0	21.10	1.02	0.736	0.751
	20BW 50%RB	M(variant)	19.6	21.10	1.41	0.591	0.833
	20BW 100RB	M(variant)	19.7	21.10	1.38	0.582	0.803

Mode: LTE Band 2-20BW-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					1g Average	1g Average
Left cheek	20BW 50%RB	L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.086	0.121
		H	19.7	21.10	1.38	---	---
Left Tilted		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.031	0.044
		H	19.7	21.10	1.38	---	---
Right cheek		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.066	0.092
		H	19.7	21.10	1.38	---	---
Right Tilted		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.040	0.056
		H	19.7	21.10	1.38	---	---

Mode: LTE Band 2-20BW-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					1g Average	1g Average
TG	20BW 50%RB	L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.423	0.596
		H	19.7	21.10	1.38	---	---
TP		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.492	0.694
		H	19.7	21.10	1.38	---	---

Mode: LTE BAND4- 20BW-1RB

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

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
Hotspot EDGE 2	20BW 1RB	L	21.0	21.10	1.02	---	---
		M(original)	20.9	21.10	1.05	0.792	0.832
		M(variant)	20.9	21.10	1.05	0.978	1.027
		H	20.7	21.10	1.10	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable but SAR value is higher than 0.8w/kg may be have risk , so we retest all the position in this frequency band, and all the new data showing below adopted as final result.

SAR Values (Head, 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					1g Average	1g Average
Left cheek	20BW 1RB	L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.066	0.069
		H	20.7	21.10	1.10	---	---
Left Tilted		L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.034	0.036
		H	20.7	21.10	1.10	---	---
Right cheek		L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.065	0.068
		H	20.7	21.10	1.10	---	---
Right Tilted		L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.033	0.035
		H	20.7	21.10	1.10	---	---

Mode: LTE BAND4- 20BW-1RB

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

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					1g Average	1g Average
TG	20BW 1RB	L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.790	0.830
		H	20.7	21.10	1.10	---	---
TP		L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.747	0.784
		H	20.7	21.10	1.10	---	---
Hotspot EDGE 2		L	21.0	21.10	1.02	0.747	0.762
		M1	20.9	21.10	1.05	0.978	1.027
		M2	20.9	21.10	1.05	0.977	1.026
		H	20.7	21.10	1.10	0.758	0.834
Hotspot EDGE 3		L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.047	0.049
		H	20.7	21.10	1.10	---	---
Hotspot EDGE 4		L	21.0	21.10	1.02	---	---
		M	20.9	21.10	1.05	0.107	0.112
		H	20.7	21.10	1.10	---	---

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
Hotspot EDGE 2	20BW 50%RB	M(variant)	19.6	21.10	1.41	0.656	0.925
	20BW 100RB	M(variant)	19.7	21.10	1.38	0.642	0.886

Note: Normally we should test low channel with higher conducted power, but the largest SAR value in mid channel from previous table, so we perform SAR measurement with 50%RB and full RB allocation in middle channel.

Mode: LTE BAND4- 20BW-50%RB

fL(MHz)=1720MHz 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-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
Position	mode					1g Average	1g Average
Left cheek	20BW 50%RB	L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.052	0.057
		H	19.5	21.10	1.45	---	---
Left Tilted		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.027	0.030
		H	19.5	21.10	1.45	---	---
Right cheek		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.052	0.057
		H	19.5	21.10	1.45	---	---
Right Tilted		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.027	0.030
		H	19.5	21.10	1.45	---	---

Mode: LTE BAND4- 20BW-50%RB

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

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					1g Average	1g Average
TG	20BW 50%RB	L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.629	0.692
		H	19.5	21.10	1.45	---	---
TP		L	19.8	21.10	1.35	---	---
		M	19.6	21.10	1.41	0.672	0.739
		H	19.5	21.10	1.45	---	---

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					1g Average	1g Average
Left cheek	10BW 1RB	L	22.5	22.60	1.02	---	---
		M(original)	22.4	22.60	1.05	0.024	0.025
		M(variant)	22.4	22.60	1.05	0.122	0.128
H		22.5	22.60	1.02	---	---	
Left Tilted		L	22.5	22.60	1.02	---	---
		M	22.4	22.60	1.05	0.010	0.011
Right cheek		H	22.5	22.60	1.02	---	---
		L	22.5	22.60	1.02	---	---
		M	22.4	22.60	1.05	0.016	0.017
Right Tilted		H	22.5	22.60	1.02	---	---
		L	22.5	22.60	1.02	---	---
		M	22.4	22.60	1.05	0.014	0.014
		H	22.5	22.60	1.02	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable and do not have risk, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND5- 10BW-1RB

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

SAR Values (Body, 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					1g Average	1g Average
TG	10BW 1RB	L	22.5	22.60	1.02	---	---
		M	22.4	22.60	1.05	0.169	0.177
		H	22.5	22.60	1.02	---	---
TP		L	22.5	22.60	1.02	---	---
		M(original)	22.4	22.60	1.05	0.200	0.210
		M(variant)	22.4	22.60	1.05	0.442	0.464
		H	22.5	22.60	1.02	---	---
Hotspot EDGE 2		L	22.5	22.60	1.02	---	---
		M	22.4	22.60	1.05	0.110	0.116
		H	22.5	22.60	1.02	---	---
Hotspot EDGE 3		L	22.5	22.60	1.02	---	---
		M	22.4	22.60	1.05	0.063	0.067
		H	22.5	22.60	1.02	---	---
Hotspot EDGE 4		L	22.5	22.60	1.02	---	---
		M	22.4	22.60	1.05	0.038	0.040
		H	22.5	22.60	1.02	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

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					1g Average	1g Average
Left cheek	10BW 50%RB	L	21.4	22.60	1.32	---	---
		M	21.5	22.60	1.29	0.020	0.026
		H	21.4	22.60	1.32	---	---
Left Tilted		L	21.4	22.60	1.32	---	---
		M	21.5	22.60	1.29	0.007	0.009
		H	21.4	22.60	1.32	---	---
Right cheek		L	21.4	22.60	1.32	---	---
		M	21.5	22.60	1.29	0.014	0.018
		H	21.4	22.60	1.32	---	---
Right Tilted		L	21.4	22.60	1.32	---	---
		M	21.5	22.60	1.29	0.010	0.013
		H	21.4	22.60	1.32	---	---

Mode: LTE BAND5- 10BW-50%RB

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

SAR Values (Body, 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					1g Average	1g Average
TG	10BW 50%RB	L	21.4	22.60	1.32	---	---
		M	21.5	22.60	1.29	0.143	0.184
		H	21.4	22.60	1.32	---	---
TP		L	21.4	22.60	1.32	---	---
		M	21.5	22.60	1.29	0.163	0.210
		H	21.4	22.60	1.32	---	---

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					1g Average	1g Average
Left cheek	20BW 1RB	L	22.9	23.30	1.10	---	---
		M	23.2	23.30	1.02	0.072	0.074
		H	22.9	23.30	1.10	---	---
Left Tilted		L	22.9	23.30	1.10	---	---
		M	23.2	23.30	1.02	0.100	0.102
		H	22.9	23.30	1.10	---	---
Right cheek		L	22.9	23.30	1.10	---	---
		M(original)	23.2	23.30	1.02	0.188	0.192
		M(variant)	23.2	23.30	1.02	0.088	0.090
		H	22.9	23.30	1.10	---	---
Right Tilted		L	22.9	23.30	1.10	---	---
		M	23.2	23.30	1.02	0.069	0.070
		H	22.9	23.30	1.10	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result.

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	20BW 1RB	L	22.9	23.30	1.10	---	---
		M(original)	23.2	23.30	1.02	0.329	0.336
		M(variant)	23.2	23.30	1.02	0.470	0.479
H		22.9	23.30	1.10	---	---	
TP		L	22.9	23.30	1.10	---	---
		M	23.2	23.30	1.02	0.315	0.321
		H	22.9	23.30	1.10	---	---
Hotspot EDGE 2		L	22.9	23.30	1.10	---	---
		M	23.2	23.30	1.02	0.070	0.072
		H	22.9	23.30	1.10	---	---
Hotspot EDGE 3		L	22.9	23.30	1.10	---	---
		M	23.2	23.30	1.02	0.321	0.327
		H	22.9	23.30	1.10	---	---
Hotspot EDGE 4		L	22.9	23.30	1.10	---	---
		M	23.2	23.30	1.02	0.008	0.008
		H	22.9	23.30	1.10	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

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	20BW 50%RB	L	21.9	23.30	1.38	---	---
		M	21.9	23.30	1.38	0.053	0.073
		H	21.9	23.30	1.38	---	---
Left Tilted		L	21.9	23.30	1.38	---	---
		M	21.9	23.30	1.38	0.081	0.112
		H	21.9	23.30	1.38	---	---
Right cheek		L	21.9	23.30	1.38	---	---
		M	21.9	23.30	1.38	0.143	0.197
		H	21.9	23.30	1.38	---	---
Right Tilted		L	21.9	23.30	1.38	---	---
		M	21.9	23.30	1.38	0.016	0.022
		H	21.9	23.30	1.38	---	---

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					1g Average	1g Average
TG	20BW 50%RB	L	21.9	23.30	1.38	---	---
		M	21.9	23.30	1.38	0.253	0.349
		H	21.9	23.30	1.38	---	---
TP		L	21.9	23.30	1.38	---	---
		M	21.9	23.30	1.38	0.245	0.338
		H	21.9	23.30	1.38	---	---

Mode: LTE BAND12- 10BW-1RB

fL (MHz)= 704MHz fM (MHz)= 707.5MHz fH (MHz)= 711MHz

SAR Values(Head, LTE BAND12)

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					1g Average	1g Average
Left cheek	10BW 1RB	L	21.9	22.00	1.02	---	---
		M	21.9	22.00	1.02	0.024	0.024
		H	21.8	22.00	1.05	---	---
Left Tilted		L	21.9	22.00	1.02	---	---
		M	21.9	22.00	1.02	0.009	0.009
		H	21.8	22.00	1.05	---	---
Right cheek		L	21.9	22.00	1.02	---	---
		M(original)	21.9	22.00	1.02	0.024	0.025
		M(variant)	21.9	22.00	1.02	0.045	0.046
		H	21.8	22.00	1.05	---	---
Right Tilted		L	21.9	22.00	1.02	---	---
		M	21.9	22.00	1.02	0.008	0.008
		H	21.8	22.00	1.05	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND12- 10BW-1RB

fL (MHz)= 704MHz fM (MHz)= 707.5MHz fH (MHz)= 711MHz

SAR Values(Body, LTE BAND12)

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
TG	10BW 1RB	L	21.9	22.00	1.02	---	---
		M(original)	21.9	22.00	1.02	0.140	0.143
		M(variant)	21.9	22.00	1.02	0.317	0.323
TP		H	21.8	22.00	1.05	---	---
		L	21.9	22.00	1.02	---	---
		M	21.9	22.00	1.02	0.118	0.120
Hotspot EDGE 2		H	21.8	22.00	1.05	---	---
		L	21.9	22.00	1.02	---	---
		M	21.9	22.00	1.02	0.099	0.101
Hotspot EDGE 3		H	21.8	22.00	1.05	---	---
		L	21.9	22.00	1.02	---	---
		M	21.9	22.00	1.02	0.042	0.043
Hotspot EDGE 4		H	21.8	22.00	1.05	---	---
		L	21.9	22.00	1.02	---	---
		M	21.9	22.00	1.02	0.033	0.033
		H	21.8	22.00	1.05	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND12- 10BW-50%RB

fL (MHz)= 704MHz fM (MHz)= 707.5MHz fH (MHz)= 711MHz

SAR Values(Head, LTE BAND12)

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	10BW 50%RB	L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.018	0.023
		H	20.9	22.00	1.29	---	---
Left Tilted		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.007	0.009
		H	20.9	22.00	1.29	---	---
Right cheek		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.019	0.024
		H	20.9	22.00	1.29	---	---
Right Tilted		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.006	0.008
		H	20.9	22.00	1.29	---	---

Mode: LTE BAND12- 10BW-50%RB

fL (MHz)= 704MHz fM (MHz)= 707.5MHz fH (MHz)= 711MHz

SAR Values(Body, LTE BAND12)

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
TG	10BW 50%RB	L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.110	0.142
		H	20.9	22.00	1.29	---	---
TP		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.092	0.119
		H	20.9	22.00	1.29	---	---

Mode: LTE BAND13- 10BW-1RB

fM (MHz)= 782MHz

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
TG	10BW 1RB	M(original)	22.3	22.50	1.05	0.133	0.140
TG	10BW 1RB	M(variant)	22.3	22.50	1.05	0.409	0.429

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, but we find the variance is not acceptable, so we retest all the position in this frequency band, and all the new data showing below adopted as final result.

SAR Values(Head, LTE BAND13)

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	10BW 1RB	M	22.3	22.50	1.05	0.072	0.076
Left Tilted		M	22.3	22.50	1.05	0.058	0.061
Right cheek		M	22.3	22.50	1.05	0.124	0.130
Right Tilted		M	22.3	22.50	1.05	0.055	0.058

Mode: LTE BAND13- 10BW-1RB

fM (MHz)= 782MHz

SAR Values(Body, LTE BAND13)

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
TG	10BW 1RB	M	22.3	22.50	1.05	0.409	0.429
TP		M	22.3	22.50	1.05	0.479	0.503
Hotspot EDGE 2		M	22.3	22.50	1.05	0.262	0.275
Hotspot EDGE 3		M	22.3	22.50	1.05	0.029	0.030
Hotspot EDGE 4		M	22.3	22.50	1.05	0.104	0.109

Mode: LTE BAND13- 10BW-50%RB

fM (MHz)= 782MHz

SAR Values(Head, LTE BAND13)

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	10BW 50%RB	M	21.6	22.50	1.23	0.057	0.063
Left Tilted		M	21.6	22.50	1.23	0.046	0.051
Right cheek		M	21.6	22.50	1.23	0.100	0.110
Right Tilted		M	21.6	22.50	1.23	0.044	0.048

Mode: LTE BAND13- 10BW-50%RB

fM (MHz)= 782MHz

SAR Values(Body, LTE BAND13)

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
TG	10BW 50%RB	M	21.6	22.50	1.23	0.327	0.360
TP		M	21.6	22.50	1.23	0.385	0.424

Mode: LTE BAND14- 10BW-1RB

fM (MHz)= 793MHz

SAR Values(Head, LTE BAND14)

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					1g Average	1g Average
Left cheek	10BW 1RB	M(original)	22.6	23.00	1.10	0.024	0.026
		M(variant)	22.6	23.00	1.10	0.091	0.100
Left Tilted		M	22.6	23.00	1.10	0.008	0.009
Right cheek		M	22.6	23.00	1.10	0.016	0.018
Right Tilted		M	22.6	23.00	1.10	0.007	0.008

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND14- 10BW-1RB

fM (MHz)= 793MHz

SAR Values(Body, LTE BAND14)

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
TG	10BW 1RB	M(original)	22.6	23.00	1.10	0.128	0.141
		M(variant)	22.6	23.00	1.10	0.149	0.164
TP		M	22.6	23.00	1.10	0.122	0.134
Hotspot EDGE 2		M	22.6	23.00	1.10	0.105	0.116
Hotspot EDGE 3		M	22.6	23.00	1.10	0.024	0.026
Hotspot EDGE 4		M	22.6	23.00	1.10	0.036	0.040

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND14- 10BW-50%RB

fM (MHz)= 793MHz

SAR Values(Head, LTE BAND14)

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	10BW 50%RB	M	21.6	23.00	1.38	0.017	0.023
Left Tilted		M	21.6	23.00	1.38	0.008	0.011
Right cheek		M	21.6	23.00	1.38	0.016	0.022
Right Tilted		M	21.6	23.00	1.38	0.006	0.008

Mode: LTE BAND14- 10BW-50%RB

fM (MHz)= 793MHz

SAR Values(Body, LTE BAND14)

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
TG	10BW 50%RB	M	21.6	23.00	1.38	0.104	0.144
TP		M	21.6	23.00	1.38	0.099	0.137

Mode: LTE BAND17- 10BW-1RB

fL (MHz)= 709MHz fM (MHz)= 710MHz fH (MHz)= 711MHz

SAR Values(Head, LTE BAND17)

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					1g Average	1g Average
Left cheek	10BW 1RB	L	21.8	22.00	1.05	---	---
		M(original)	21.8	22.00	1.05	0.029	0.031
		M(variant)	21.8	22.00	1.05	0.055	0.058
Left Tilted		H	21.8	22.00	1.05	---	---
		L	21.8	22.00	1.05	---	---
		M	21.8	22.00	1.05	0.008	0.009
Right cheek		H	21.8	22.00	1.05	---	---
		L	21.8	22.00	1.05	---	---
		M	21.8	22.00	1.05	0.022	0.023
Right Tilted		H	21.8	22.00	1.05	---	---
		L	21.8	22.00	1.05	---	---
		M	21.8	22.00	1.05	0.009	0.009
	H	21.8	22.00	1.05	---	---	

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND17- 10BW-1RB

fL (MHz)= 709MHz fM (MHz)= 710MHz fH (MHz)= 711MHz

SAR Values(Body, LTE BAND17)

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
TG	10BW 1RB	L	21.8	22.00	1.05	---	---
		M(original)	21.8	22.00	1.05	0.135	0.142
		M(variant)	21.8	22.00	1.05	0.327	0.343
TP		H	21.8	22.00	1.05	---	---
		L	21.8	22.00	1.05	---	---
		M	21.8	22.00	1.05	0.112	0.118
Hotspot EDGE 2		H	21.8	22.00	1.05	---	---
		L	21.8	22.00	1.05	---	---
		M	21.8	22.00	1.05	0.098	0.102
Hotspot EDGE 3		H	21.8	22.00	1.05	---	---
		L	21.8	22.00	1.05	---	---
		M	21.8	22.00	1.05	0.039	0.041
Hotspot EDGE 4		H	21.8	22.00	1.05	---	---
		L	21.8	22.00	1.05	---	---
		M	21.8	22.00	1.05	0.032	0.034
		H	21.8	22.00	1.05	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND17- 10BW-50%RB

fL (MHz)= 709MHz fM (MHz)= 710MHz fH (MHz)= 711MHz

SAR Values(Head, LTE BAND17)

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	10BW 50%RB	L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.022	0.028
		H	20.9	22.00	1.29	---	---
Left Tilted		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.006	0.008
		H	20.9	22.00	1.29	---	---
Right cheek		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.022	0.029
		H	20.9	22.00	1.29	---	---
Right Tilted		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.007	0.009
		H	20.9	22.00	1.29	---	---

Mode: LTE BAND17- 10BW-50%RB

fL (MHz)= 709MHz fM (MHz)= 710MHz fH (MHz)= 711MHz

SAR Values(Body, LTE BAND17)

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
TG	10BW 50%RB	L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.107	0.138
		H	20.9	22.00	1.29	---	---
TP		L	20.8	22.00	1.32	---	---
		M	20.9	22.00	1.29	0.090	0.116
		H	20.9	22.00	1.29	---	---

Mode: LTE BAND25- 20BW-1RB

fL (MHz)= 1860 MHz

fM (MHz)= 1882.5MHz

fH (MHz)= 1905MHz

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
TP	20BW 1RB	L	20.1	20.20	1.02	---	---
		M(original)	20.1	20.20	1.02	0.764	0.779
		M(variant)	20.1	20.20	1.02	0.283	0.289
		H	19.9	20.20	1.07	---	---
Hotspot EDGE 2		L	20.1	20.20	1.02	---	---
		M(original)	20.1	20.20	1.02	0.762	0.777
		M(variant)	20.1	20.20	1.02	0.742	0.757
		H	19.9	20.20	1.07	---	---

Note: we keep the variant product with the same conducted power as original product and then check 2 worst points in body position, but we find the variance is not acceptable for the "TP" position, we consider that thermal spot changed. so we retest all the position in this frequency band, and all the new data showing below adopted as final result.

SAR Values (Head, LTE BAND25)

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					1g Average	1g Average
Left cheek	20BW 1RB	L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.074	0.075
		H	19.9	20.20	1.07	---	---
Left Tilted		L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.033	0.034
		H	19.9	20.20	1.07	---	---
Right cheek		L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.038	0.039
		H	19.9	20.20	1.07	---	---
Right Tilted		L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.029	0.030
		H	19.9	20.20	1.07	---	---

Mode: LTE BAND25- 20BW-1RB

fL (MHz)= 1860 MHz fM (MHz)= 1882.5MHz fH (MHz)= 1905MHz

SAR Values(Body, LTE BAND25)

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	20BW 1RB	L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.302	0.308
		H	19.9	20.20	1.07	---	---
TP		L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.283	0.289
		H	19.9	20.20	1.07	---	---
Hotspot EDGE 2		L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.742	0.757
		H	19.9	20.20	1.07	---	---
Hotspot EDGE 3		L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.156	0.159
		H	19.9	20.20	1.07	---	---
Hotspot EDGE 4		L	20.1	20.20	1.02	---	---
		M	20.1	20.20	1.02	0.049	0.050
		H	19.9	20.20	1.07	---	---

Mode: LTE BAND25- 20BW-50%RB

fL (MHz)= 1860 MHz fM (MHz)= 1882.5MHz fH (MHz)= 1905MHz

SAR Values(Head, LTE BAND25)

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 50%RB	L	18.8	20.20	1.38	---	---
		M	18.7	20.20	1.41	0.053	0.057
		H	18.9	20.20	1.35	---	---
Left Tilted		L	18.8	20.20	1.38	---	---
		M	18.7	20.20	1.41	0.024	0.026
		H	18.9	20.20	1.35	---	---
Right cheek		L	18.8	20.20	1.38	---	---
		M	18.7	20.20	1.41	0.028	0.030
		H	18.9	20.20	1.35	---	---
Right Tilted		L	18.8	20.20	1.38	---	---
		M	18.7	20.20	1.41	0.025	0.027
		H	18.9	20.20	1.35	---	---

Mode: LTE BAND25- 20BW-50%RB

fL (MHz)= 1860 MHz fM (MHz)= 1882.5MHz fH (MHz)= 1905MHz

SAR Values(Head, LTE BAND25)

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
TG	20BW 50%RB	L	18.8	20.20	1.38	---	---
		M	18.7	20.20	1.41	0.221	0.236
		H	18.9	20.20	1.35	---	---
TP		L	18.8	20.20	1.38	---	---
		M	18.7	20.20	1.41	0.237	0.254
		H	18.9	20.20	1.35	---	---

Mode: LTE BAND26- 15BW-1RB

fL (MHz)= 821.5 MHz fM (MHz)= 831.5MHz fH (MHz)= 841.5MHz

SAR Values(Head, LTE BAND26)

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					1g Average	1g Average
Left cheek	15BW 1RB	L	22.3	22.50	1.05	---	---
		M	22.2	22.50	1.07	0.036	0.038
		H	22.2	22.50	1.07	---	---
Left Tilted		L	22.3	22.50	1.05	---	---
		M	22.2	22.50	1.07	0.032	0.035
		H	22.2	22.50	1.07	---	---
Right cheek		L	22.3	22.50	1.05	---	---
		M(original)	22.2	22.50	1.07	0.049	0.052
		M(variant)	22.2	22.50	1.07	0.115	0.123
		H	22.2	22.50	1.07	---	---
Right Tilted		L	22.3	22.50	1.05	---	---
		M	22.2	22.50	1.07	0.030	0.032
	H	22.2	22.50	1.07	---	---	

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND26- 15BW-1RB

fL (MHz)= 821.5 MHz fM (MHz)= 831.5MHz fH (MHz)= 841.5MHz

SAR Values(Body, LTE BAND26)

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	15BW 1RB	L	22.3	22.50	1.05	---	---
		M(original)	22.2	22.50	1.07	0.306	0.327
		M(variant)	22.2	22.50	1.07	0.363	0.388
		H	22.2	22.50	1.07	---	---
TP		L	22.3	22.50	1.05	---	---
		M	22.2	22.50	1.07	0.297	0.318
		H	22.2	22.50	1.07	---	---
Hotspot EDGE 2		L	22.3	22.50	1.05	---	---
		M	22.2	22.50	1.07	0.127	0.136
		H	22.2	22.50	1.07	---	---
Hotspot EDGE 3		L	22.3	22.50	1.05	---	---
		M	22.2	22.50	1.07	0.013	0.014
		H	22.2	22.50	1.07	---	---
Hotspot EDGE 4		L	22.3	22.50	1.05	---	---
		M	22.2	22.50	1.07	0.042	0.045
		H	22.2	22.50	1.07	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND26- 15BW-50%RB

fL (MHz)= 821.5 MHz fM (MHz)= 831.5MHz fH (MHz)= 841.5MHz

SAR Values(Head, LTE BAND26)

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	15BW 50%RB	L	21.2	22.50	1.35	---	---
		M	21.2	22.50	1.35	0.029	0.039
		H	21.1	22.50	1.38	---	---
Left Tilted		L	21.2	22.50	1.35	---	---
		M	21.2	22.50	1.35	0.027	0.036
		H	21.1	22.50	1.38	---	---
Right cheek		L	21.2	22.50	1.35	---	---
		M	21.2	22.50	1.35	0.041	0.055
		H	21.1	22.50	1.38	---	---
Right Tilted		L	21.2	22.50	1.35	---	---
		M	21.2	22.50	1.35	0.025	0.033
		H	21.1	22.50	1.38	---	---

Mode: LTE BAND26- 15BW-50%RB

fL (MHz)= 821.5 MHz fM (MHz)= 831.5MHz fH (MHz)= 841.5MHz

SAR Values(Head, LTE BAND26)

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
TG	15BW 50%RB	L	21.2	22.50	1.35	---	---
		M	21.2	22.50	1.35	0.235	0.317
		H	21.1	22.50	1.38	---	---
TP		L	21.2	22.50	1.35	---	---
		M	21.2	22.50	1.35	0.230	0.311
		H	21.1	22.50	1.38	---	---

Mode: LTE BAND30- 10BW-1RB

fM (MHz)= 2310 MHz

SAR Values(Head, LTE BAND30)

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					1g Average	1g Average
Left cheek	10BW 1RB	M	23.5	23.60	1.02	0.072	0.074
Left Tilted		M	23.5	23.60	1.02	0.114	0.116
Right cheek		M(original)	23.5	23.60	1.02	0.210	0.214
		M(variant)	23.5	23.60	1.02	0.203	0.207
Right Tilted		M	23.5	23.60	1.02	0.076	0.077

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result.

Mode: LTE BAND30- 10BW-1RB

fM (MHz)= 2310 MHz

SAR Values (Body, LTE BAND30)

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
TG	10BW 1RB	M	23.5	23.60	1.02	0.357	0.364
TP		M(original)	23.5	23.60	1.02	0.421	0.429
TP		M(variant)	23.5	23.60	1.02	0.355	0.362
Hotspot EDGE 2		M	23.5	23.60	1.02	0.108	0.110
Hotspot EDGE 3		M	23.5	23.60	1.02	0.358	0.365
Hotspot EDGE 4		M	23.5	23.60	1.02	0.012	0.013

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result.

Mode: LTE BAND30- 10BW-50%RB

fM (MHz)= 2310 MHz

SAR Values(Head, LTE BAND30)

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	10BW 50%RB	M	22.4	23.60	1.32	0.067	0.088
Left Tilted		M	22.4	23.60	1.32	0.087	0.115
Right cheek		M	22.4	23.60	1.32	0.167	0.220
Right Tilted		M	22.4	23.60	1.32	0.061	0.080

Mode: LTE BAND30- 10BW-50%RB

fM (MHz)= 2310 MHz

SAR Values (Body, LTE BAND30)

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
TG	10BW 50%RB	M	22.4	23.60	1.32	0.279	0.368
TP		M	22.4	23.60	1.32	0.339	0.447

Mode: LTE BAND38- 20BW-1RB

fL (MHz)= 2580 MHz fM (MHz)= 2595MHz fH (MHz)= 2610MHz

SAR Values(Head, LTE BAND38)

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					1g Average	1g Average
Left cheek	20BW 1RB	L	23.4	23.70	1.07	---	---
		M	23.5	23.70	1.05	0.020	0.021
		H	23.6	23.70	1.02	---	---
Left Tilted		L	23.4	23.70	1.07	---	---
		M	23.5	23.70	1.05	0.025	0.027
		H	23.6	23.70	1.02	---	---
Right cheek		L	23.4	23.70	1.07	---	---
		M(original)	23.5	23.70	1.05	0.067	0.070
		M(variant)	23.5	23.70	1.05	0.014	0.015
		H	23.6	23.70	1.02	---	---
Right Tilted		L	23.4	23.70	1.07	---	---
		M	23.5	23.70	1.05	0.020	0.021
		H	23.6	23.70	1.02	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result

Mode: LTE BAND38- 20BW-1RB

fL (MHz)= 2580 MHz fM (MHz)= 2595MHz fH (MHz)= 2610MHz

SAR Values(Body, LTE BAND38)

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	20BW 1RB	L	23.4	23.70	1.07	---	---
		M	23.5	23.70	1.05	0.125	0.131
		H	23.6	23.70	1.02	---	---
TP		L	23.4	23.70	1.07	---	---
		M	23.5	23.70	1.05	0.096	0.100
		H	23.6	23.70	1.02	---	---
Hotspot EDGE 2		L	23.4	23.70	1.07	---	---
		M	23.5	23.70	1.05	0.051	0.054
		H	23.6	23.70	1.02	---	---
Hotspot EDGE 3		L	23.4	23.70	1.07	---	---
		M(original)	23.5	23.70	1.05	0.164	0.172
		M(variant)	23.5	23.70	1.05	0.269	0.282
Hotspot EDGE 4		H	23.6	23.70	1.02	---	---
		L	23.4	23.70	1.07	---	---
		M	23.5	23.70	1.05	0.008	0.008
		H	23.6	23.70	1.02	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND38- 20BW-50%RB

fL (MHz)= 2580 MHz fM (MHz)= 2595MHz fH (MHz)= 2610MHz

SAR Values(Head, LTE BAND38)

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 50%RB	L	22.4	23.70	1.35	---	---
		M	22.6	23.70	1.29	0.016	0.020
		H	22.9	23.70	1.20	---	---
Left Tilted		L	22.4	23.70	1.35	---	---
		M	22.6	23.70	1.29	0.021	0.027
		H	22.9	23.70	1.20	---	---
Right cheek		L	22.4	23.70	1.35	---	---
		M	22.6	23.70	1.29	0.052	0.067
		H	22.9	23.70	1.20	---	---
Right Tilted		L	22.4	23.70	1.35	---	---
		M	22.6	23.70	1.29	0.015	0.019
		H	22.9	23.70	1.20	---	---

Mode: LTE BAND38- 20BW-50%RB

fL (MHz)= 2580 MHz fM (MHz)= 2595MHz fH (MHz)= 2610MHz

SAR Values(Head, LTE BAND38)

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
TG	20BW 50%RB	L	22.4	23.70	1.35	---	---
		M	22.6	23.70	1.29	0.098	0.126
		H	22.9	23.70	1.20	---	---
TP		L	22.4	23.70	1.35	---	---
		M	22.6	23.70	1.29	0.075	0.097
		H	22.9	23.70	1.20	---	---

Mode: LTE BAND41- 20BW-1RB

fL (MHz)= 2506 MHz fM (MHz)= 2593MHz fH (MHz)= 2680MHz

SAR Values(Head, LTE BAND41)

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					1g Average	1g Average
Left cheek	20BW 1RB	L	23.3	24.00	1.17	---	---
		M	23.6	24.00	1.10	0.020	0.022
		H	23.8	24.00	1.05	---	---
Left Tilted		L	23.3	24.00	1.17	---	---
		M	23.6	24.00	1.10	0.024	0.027
		H	23.8	24.00	1.05	---	---
Right cheek		L	23.3	24.00	1.17	---	---
		M(original)	23.6	24.00	1.10	0.068	0.074
		M(variant)	23.6	24.00	1.10	0.012	0.013
		H	23.8	24.00	1.05	---	---
Right Tilted		L	23.3	24.00	1.17	---	---
		M	23.6	24.00	1.10	0.020	0.022
		H	23.8	24.00	1.05	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND41- 20BW-1RB

fL (MHz)= 2506 MHz fM (MHz)= 2593MHz fH (MHz)= 2680MHz

SAR Values(Body, LTE BAND41)

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	20BW 1RB	L	23.3	24.00	1.17	---	---
		M	23.6	24.00	1.10	0.131	0.144
		H	23.8	24.00	1.05	---	---
TP		L	23.3	24.00	1.17	---	---
		M	23.6	24.00	1.10	0.097	0.107
		H	23.8	24.00	1.05	---	---
Hotspot EDGE 2		L	23.3	24.00	1.17	---	---
		M	23.6	24.00	1.10	0.047	0.052
		H	23.8	24.00	1.05	---	---
Hotspot EDGE 3		L	23.3	24.00	1.17	---	---
		M(original)	23.6	24.00	1.10	0.163	0.179
		M(variant)	23.6	24.00	1.10	0.261	0.287
Hotspot EDGE 4		H	23.8	24.00	1.05	---	---
		L	23.3	24.00	1.17	---	---
		M	23.6	24.00	1.10	0.009	0.009
		H	23.8	24.00	1.05	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

Mode: LTE BAND41- 20BW-50%RB

fL (MHz)= 2506 MHz fM (MHz)= 2593MHz fH (MHz)= 2680MHz

SAR Values(Head, LTE BAND41)

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 50%RB	L	22.3	24.00	1.48	---	---
		M	22.6	24.00	1.38	0.018	0.025
		H	22.6	24.00	1.38	---	---
Left Tilted		L	22.3	24.00	1.48	---	---
		M	22.6	24.00	1.38	0.019	0.026
		H	22.6	24.00	1.38	---	---
Right cheek		L	22.3	24.00	1.48	---	---
		M	22.6	24.00	1.38	0.052	0.071
		H	22.6	24.00	1.38	---	---
Right Tilted		L	22.3	24.00	1.48	---	---
		M	22.6	24.00	1.38	0.014	0.020
		H	22.6	24.00	1.38	---	---

Mode: LTE BAND41- 20BW-50%RB

fL (MHz)= 2506 MHz fM (MHz)= 2593MHz fH (MHz)= 2680MHz

SAR Values(Head, LTE BAND41)

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
TG	20BW 50%RB	L	22.3	24.00	1.48	---	---
		M	22.6	24.00	1.38	0.102	0.141
		H	22.6	24.00	1.38	---	---
TP		L	22.3	24.00	1.48	---	---
		M	22.6	24.00	1.38	0.076	0.105
		H	22.6	24.00	1.38	---	---

Mode: LTE BAND66- 20BW-1RB

fL (MHz)= 1720 MHz fM (MHz)= 1745MHz fH (MHz)= 1770MHz

SAR Values(Head, LTE BAND66)

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					1g Average	1g Average
Left cheek	20BW 1RB	L	20.8	21.00	1.05	---	---
		M(original)	20.8	21.00	1.05	0.147	0.154
		M(variant)	20.8	21.00	1.05	0.125	0.131
H		20.6	21.00	1.10	---	---	
Left Tilted		L	20.8	21.00	1.05	---	---
		M	20.8	21.00	1.05	0.043	0.045
		H	20.6	21.00	1.10	---	---
Right cheek		L	20.8	21.00	1.05	---	---
		M	20.8	21.00	1.05	0.067	0.070
		H	20.6	21.00	1.10	---	---
Right Tilted		L	20.8	21.00	1.05	---	---
		M	20.8	21.00	1.05	0.052	0.054
		H	20.6	21.00	1.10	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result.

Mode: LTE BAND66- 20BW-1RB

fL (MHz)= 1720 MHz fM (MHz)= 1745MHz fH (MHz)= 1770MHz

SAR Values(Body, LTE BAND66)

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	20BW 1RB	L	20.8	21.00	1.05	---	---
		M	20.8	21.00	1.05	0.598	0.628
		H	20.6	21.00	1.10	---	---
TP		L	20.8	21.00	1.05	---	---
		M	20.8	21.00	1.05	0.770	0.809
		H	20.6	21.00	1.10	---	---
Hotspot EDGE 2		L	20.8	21.00	1.05	---	---
		M(original)	20.8	21.00	1.05	0.784	0.823
		M1(variant)	20.8	21.00	1.05	0.916	0.962
Hotspot EDGE 3		H	20.6	21.00	1.10	---	---
		L	20.8	21.00	1.05	---	---
		M	20.8	21.00	1.05	0.098	0.103
Hotspot EDGE 4		H	20.6	21.00	1.10	---	---
		L	20.8	21.00	1.05	---	---
		M	20.8	21.00	1.05	0.140	0.147
		H	20.6	21.00	1.10	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

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
Hotspot EDGE 2	20BW 1RB	L1(variant)	20.8	21.00	1.05	0.883	0.927
		L2(variant)	20.8	21.00	1.05	0.886	0.930
		M2(variant)	20.8	21.00	1.05	0.911	0.957
		H1(variant)	20.6	21.00	1.10	0.852	0.937
		H2(variant)	20.6	21.00	1.10	0.851	0.936
	20BW 50%RB	M(variant)	19.4	21.00	1.45	0.612	0.887
	20BW 100RB	M(variant)	19.4	21.00	1.45	0.617	0.895

Mode: LTE BAND66- 20BW-50%RB

fL (MHz)= 1720 MHz fM (MHz)= 1745MHz fH (MHz)= 1770MHz

SAR Values(Head, LTE BAND66)

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 50%RB	L	19.6	21.00	1.38	---	---
		M	19.4	21.00	1.45	0.115	0.167
		H	19.5	21.00	1.41	---	---
Left Tilted		L	19.6	21.00	1.38	---	---
		M	19.4	21.00	1.45	0.036	0.052
		H	19.5	21.00	1.41	---	---
Right cheek		L	19.6	21.00	1.38	---	---
		M	19.4	21.00	1.45	0.056	0.081
		H	19.5	21.00	1.41	---	---
Right Tilted		L	19.6	21.00	1.38	---	---
		M	19.4	21.00	1.45	0.039	0.057
		H	19.5	21.00	1.41	---	---

Mode: LTE BAND66- 20BW-50%RB

fL (MHz)= 1720 MHz fM (MHz)= 1745MHz fH (MHz)= 1770MHz

SAR Values(Head, LTE BAND66)

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
TG	20BW 50%RB	L	19.6	21.00	1.38	---	---
		M	19.4	21.00	1.45	0.470	0.682
		H	19.5	21.00	1.41	---	---
TP		L	19.6	21.00	1.38	---	---
		M	19.4	21.00	1.45	0.604	0.876
		H	19.5	21.00	1.41	---	---

Mode: Wi-Fi 2.4GHz

Antenna1

fL (MHz)=2412MHz fM (MHz)=2437MHz fH (MHz)= 2462MHz

Note: As describe before, we decrease the conducted power for Chain0 (WIFI Antenna1) in order the SAR value meet the compliance, so we retest all the position.

SAR Values (Wi-Fi 802.11b)

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					1g Average	1g Average
Left cheek	802.11b	L	16.56	17.00	1.11	---	---
		M	16.59	17.00	1.10	0.337	0.253
		H	16.74	17.00	1.06	---	---
Left Tilted		L	16.56	17.00	1.11	---	---
		M	16.59	17.00	1.10	0.451	0.304
		H	16.74	17.00	1.06	---	---
Right cheek		L	16.56	17.00	1.11	---	---
		M	16.59	17.00	1.10	0.508	0.705
		H	16.74	17.00	1.06	---	---
Right Tilted		L1	16.56	17.00	1.11	1.060	1.177
		M1	16.59	17.00	1.10	0.964	1.060
		H1	16.74	17.00	1.06	0.968	1.026
		L2	16.56	17.00	1.11	1.060	1.173
		M2	16.59	17.00	1.10	0.962	1.057
		H2	16.74	17.00	1.06	0.968	1.028

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
TG	802.11b	L	16.56	17.00	1.11	---	---
		M	16.59	17.00	1.10	0.161	0.177
		H	16.74	17.00	1.06	---	---
TP		L	16.56	17.00	1.11	---	---
		M	16.59	17.00	1.10	0.082	0.090
		H	16.74	17.00	1.06	---	---
Hotspot EDGE1		L	16.56	17.00	1.11	---	---
		M	16.59	17.00	1.10	0.206	0.227
		H	16.74	17.00	1.06	---	---
Hotspot EDGE4		L	16.56	17.00	1.11	---	---
		M	16.59	17.00	1.10	0.074	0.081
		H	16.74	17.00	1.06	---	---

Antenna2

fL (MHz)=2412MHz fM (MHz)=2437MHz fH (MHz)= 2462MHz

Note we decrease the conducted power for Chain1 (WIFI Antenna2) as well, so we retest all the position.

SAR Values (Wi-Fi 802.11b)

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					1g Average	1g Average
Left cheek	802.11b	L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.005	0.006
		H	16.74	17.00	1.06	---	---
Left Tilted		L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.014	0.016
		H	16.74	17.00	1.06	---	---
Right cheek		L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.003	0.003
		H	16.74	17.00	1.06	---	---
Right Tilted		L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.010	0.011
		H	16.74	17.00	1.06	---	---

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
TG	802.11b	L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.035	0.039
		H	16.74	17.00	1.06	---	---
TP		L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.004	0.004
		H	16.74	17.00	1.06	---	---
Hotspot EDGE1		L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.006	0.007
		H	16.74	17.00	1.06	---	---
Hotspot EDGE3		L	16.53	17.00	1.11	---	---
		M	16.52	17.00	1.12	0.010	0.011
		H	16.74	17.00	1.06	---	---

MIMO

fL (MHz)=2412MHz fM (MHz)=2437MHz fH (MHz)= 2462MHz

Note: As describe before, the conducted power of Chain0 and Chain1 changed. in order the SAR value meet the compliance, so we retest all the position for MIMO.

SAR Values (Wi-Fi 802.11n HT20)

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					1g Average	1g Average
Left cheek	802.11n HT20	L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.256	0.282
		H	17.58	18.00	1.10	---	---
Left Tilted		L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.412	0.453
		H	17.58	18.00	1.10	---	---
Right cheek		L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.495	0.545
		H	17.58	18.00	1.10	---	---
Right Tilted		L1	17.56	18.00	1.11	1.010	1.121
		M1	17.58	18.00	1.10	1.040	1.144
		H1	17.58	18.00	1.10	0.967	1.064
		L2	17.56	18.00	1.11	1.020	1.129
		M2	17.58	18.00	1.10	1.050	1.157
		H2	17.58	18.00	1.10	0.975	1.074

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
TG	802.11n HT20	L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.141	0.155
		H	17.58	18.00	1.10	---	---
TP		L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.082	0.090
		H	17.58	18.00	1.10	---	---
Hotspot EDGE1		L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.206	0.227
		H	17.58	18.00	1.10	---	---
Hotspot EDGE3		L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.038	0.042
		H	17.58	18.00	1.10	---	---
Hotspot EDGE4		L	17.56	18.00	1.11	---	---
		M	17.58	18.00	1.10	0.054	0.060
		H	17.58	18.00	1.10	---	---

Mode: Wi-Fi 5GHz (U-NII-1)

Antenna1

fL (MHz)=5180MHz fM (MHz)=5200MHz fH (MHz)= 5240MHz

SAR Values (Wi-Fi 802.11a)

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					1g Average	1g Average
Left cheek	802.11a	L	13.82	14.00	1.04	---	---
		M	13.98	14.00	1.00	0.184	0.184
		H	13.92	14.00	1.02	---	---
Left Tilted		L	13.82	14.00	1.04	---	---
		M	13.98	14.00	1.00	0.183	0.183
		H	13.92	14.00	1.02	---	---
Right cheek		L	13.82	14.00	1.04	---	---
		M	13.98	14.00	1.00	0.347	0.347
		H	13.92	14.00	1.02	---	---
Right Tilted		L	13.82	14.00	1.04	---	---
		M(original)	13.98	14.00	1.00	0.404	0.404
		M(variant)	13.98	14.00	1.00	0.251	0.251
		H	13.92	14.00	1.02	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result.

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
TG	802.11a	L	13.82	14.00	1.04	---	---
		M(original)	13.98	14.00	1.00	0.368	0.368
		M(variant)	13.98	14.00	1.00	0.094	0.094
		H	13.92	14.00	1.02	---	---
TP		L	13.82	14.00	1.04	---	---
		M	13.98	14.00	1.00	0.032	0.032
		H	13.92	14.00	1.02	---	---
		M	13.82	14.00	1.04	---	---
Hotspot EDGE1		H	13.98	14.00	1.00	0.075	0.075
		L	13.92	14.00	1.02	---	---
		M	13.82	14.00	1.04	---	---
Hotspot EDGE4		H	13.98	14.00	1.00	0.368	0.368
		L	13.82	14.00	1.04	---	---
		M	13.98	14.00	1.00	0.103	0.103
		H	13.92	14.00	1.02	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the new test data is much smaller than original data, and do not have any risk, we also check other position to make sure the thermal spot not changed. so we keep original data showing above and adopted as final result.

Antenna2

fL (MHz)=5180MHz fM (MHz)=5200MHz fH (MHz)= 5240MHz
SAR Values (Wi-Fi 802.11a)
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					1g Average	1g Average
Left cheek	802.11a	L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.038	0.071
		H	11.31	14.00	1.86	---	---
Left Tilted		L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.026	0.049
		H	11.31	14.00	1.86	---	---
Right cheek		L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.002	0.004
		H	11.31	14.00	1.86	---	---
Right Tilted		L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.004	0.007
		H	11.31	14.00	1.86	---	---

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
TG	802.11a	L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.013	0.024
		H	11.31	14.00	1.86	---	---
TP		L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.008	0.016
		H	11.31	14.00	1.86	---	---
Hotspot EDGE1		L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.016	0.031
		H	11.31	14.00	1.86	---	---
Hotspot EDGE3		L	11.15	14.00	1.93	---	---
		M	11.23	14.00	1.89	0.014	0.027
		H	11.31	14.00	1.86	---	---

MIMO

fL (MHz)=5180MHz fM (MHz)=5200MHz fH (MHz)= 5240MHz
SAR Values (Wi-Fi 802.11n)
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					1g Average	1g Average
Left cheek	802.11n(HT20)	L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.093	0.105
		H	15.66	16.00	1.08	---	---
Left Tilted		L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.073	0.083
		H	15.66	16.00	1.08	---	---
Right cheek		L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.286	0.323
		H	15.66	16.00	1.08	---	---
Right Tilted		L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.276	0.312
		H	15.66	16.00	1.08	---	---

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
TG	802.11n(HT20)	L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.325	0.367
		H	15.66	16.00	1.08	---	---
TP		L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.023	0.026
		H	15.66	16.00	1.08	---	---
Hotspot EDGE1		L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.041	0.046
		H	15.66	16.00	1.08	---	---
Hotspot EDGE3		L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.019	0.022
		H	15.66	16.00	1.08	---	---
Hotspot EDGE4		L	15.70	16.00	1.07	---	---
		M	15.48	16.00	1.13	0.085	0.096
		H	15.66	16.00	1.08	---	---

Mode: Wi-Fi 5GHz (U-NII-3)

Antenna1

fL (MHz)=5745MHz fM (MHz)=5785MHz fH (MHz)= 5825MHz

SAR Values (Wi-Fi 802.11a)

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					1g Average	1g Average
Left cheek	802.11a	L	12.89	13.00	1.03	---	---
		M	12.96	13.00	1.01	0.312	0.315
		H	12.87	13.00	1.03	---	---
Left Tilted		L	12.89	13.00	1.03	---	---
		M	12.96	13.00	1.01	0.410	0.414
		H	12.87	13.00	1.03	---	---
Right cheek		L	12.89	13.00	1.03	---	---
		M	12.96	13.00	1.01	0.591	0.597
		H	12.87	13.00	1.03	---	---
Right Tilted		L	12.89	13.00	1.03	0.679	0.699
		M(original)	12.96	13.00	1.01	0.733	0.740
		M(variant)	12.96	13.00	1.01	0.388	0.392
	H	12.87	13.00	1.03	0.655	0.675	

Note: we keep the variant product with the same conducted power as original product and then check the worst point in head position, the variance is acceptable, so we keep original data showing above and adopted as final result expect the worst position use new data.

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
TG	802.11a	L	12.89	13.00	1.03	---	---
		M(original)	12.96	13.00	1.01	0.493	0.498
		M(variant)	12.96	13.00	1.01	0.039	0.039
H		12.87	13.00	1.03	---	---	
TP		L	12.89	13.00	1.03	---	---
		M	12.96	13.00	1.01	0.166	0.168
		H	12.87	13.00	1.03	---	---
Hotspot EDGE1		L	12.89	13.00	1.03	---	---
		M	12.96	13.00	1.01	0.236	0.238
		H	12.87	13.00	1.03	---	---
Hotspot EDGE4		L	12.89	13.00	1.03	---	---
		M	12.96	13.00	1.01	0.051	0.052
		H	12.87	13.00	1.03	---	---

Note: we keep the variant product with the same conducted power as original product and then check the worst point in body position, the new test data is much smaller than original data, and do not have any risk, we also check other position to make sure the thermal spot not changed. so we keep original data showing above and adopted as final result.

Antenna2

fL (MHz)=5745MHz fM (MHz)=5785MHz fH (MHz)= 5825MHz
SAR Values (Wi-Fi 802.11a)
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					1g Average	1g Average
Left cheek	802.11a	L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.002	0.003
		H	10.15	10.50	1.08	---	---
Left Tilted		L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.003	0.003
		H	10.15	10.50	1.08	---	---
Right cheek		L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.001	0.001
		H	10.15	10.50	1.08	---	---
Right Tilted		L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.002	0.002
		H	10.15	10.50	1.08	---	---

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
TG	802.11a	L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.071	0.077
		H	10.15	10.50	1.08	---	---
TP		L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.025	0.027
		H	10.15	10.50	1.08	---	---
Hotspot EDGE1		L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.011	0.012
		H	10.15	10.50	1.08	---	---
Hotspot EDGE3		L	10.12	10.50	1.09	---	---
		M	10.14	10.50	1.09	0.018	0.019
		H	10.15	10.50	1.08	---	---

MIMO

fL (MHz)=5745MHz fM (MHz)=5785MHz fH (MHz)= 5825MHz
SAR Values (Wi-Fi 802.11n)
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					1g Average	1g Average
Left cheek	802.11n(HT20)	L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.392	0.447
		H	14.44	15.00	1.14	---	---
Left Tilted		L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.344	0.392
		H	14.44	15.00	1.14	---	---
Right cheek		L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.406	0.463
		H	14.44	15.00	1.14	---	---
Right Tilted		L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.318	0.363
		H	14.44	15.00	1.14	---	---

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
TG	802.11n(HT20)	L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.387	0.441
		H	14.44	15.00	1.14	---	---
TP		L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.059	0.067
		H	14.44	15.00	1.14	---	---
Hotspot EDGE1		L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.071	0.081
		H	14.44	15.00	1.14	---	---
Hotspot EDGE3		L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.017	0.019
		H	14.44	15.00	1.14	---	---
Hotspot EDGE4		L	14.49	15.00	1.12	---	---
		M	14.43	15.00	1.14	0.043	0.049
		H	14.44	15.00	1.14	---	---

6.12 SAR Measurement Variability

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

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

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

The Highest Reported SAR configuration in Each Frequency Band

Frequency band(MHz)	Air interface	Head(w/kg)	Body(w/kg)
750	LTE Band 12/13/14/17	<0.8	<0.8
850	GSM 850 CDMA2000 BC0 WCDMA Band 5 LTE Band 5/26	<0.8	>0.8
1700/1800/1900	GSM 1900 CDMA2000 BC1 WCDMA Band 2/4 LTE Band 2/4/25/66	<0.8	>0.8
From 2GHz to 3GHz	LTE Band 7/30/38/41 WIFI 2.4G	>0.8	<0.8
Above 5GHz	WIFI 5GHz(U-NII-1) WIFI 5GHz(U-NII-3)	<0.8	<0.8

6.13 Simultaneous Transmission SAR Analysis

License antenna 1 and antenna2(WWAN) support different bands, so they can't transmit simultaneously, for unlicensed antenna1 and antenna2 (WLAN) could transmit simultaneously ,and we took following status into consideration according to the reality use condition.

The sum of SAR values for GSM & WiFi (2.4G&5G)

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
GSM	0.113	0.822
WiFi	1.177	0.498
Sum	1.290	1.320
Note	GSM850+WIFI 2.4G RIGHT tilt	GSM850+WIFI 5G 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 3G & WiFi(2.4G&5G)

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
WCDMA or CDMA2000	0.089	1.288
WiFi	1.177	---
Sum	1.266	1.288
Note	WCDMA BAND4+WIFI 2.4G RIGHT cheek	CDMA BC1+WIFI EDGE2(HOTSPOT)

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

Note: We didn't test the edge2 for WIFI antennas, because the distance between the WIFI antenna and edge 2 is much larger than 25mm, refer to SAR value of other edges and antenna's position for WIFI, the SAR value of edge2 must be very small, the Simultaneous Transmission do not have risk, and we don't take it into consideration.

The sum of SAR values for LTE & WiFi(2.4G&5G)

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
LTE	0.077	0.830
WiFi	1.177	0.498
Sum	1.254	1.328
Note	LTE BAND30+WIFI 2.4G RIGHT cheek	LTE BAND4+WIFI 5G 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:

$$\left[\frac{\text{max.power of channel, including tune-up tolerance,mw}}{(\text{min.test separation distance,mm})} \right] \sqrt{f(\text{GHz})/x} \text{ W/kg for test separation distances } \leq 50\text{mm}.$$

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.

Estimated SAR Bluetooth

Mode	Position	F(GHz)	Distance(mm)	Estimated
Bluetooth	Head	2.480	5	0.236
	Body	2.480	10	0.118

The sum of SAR values for GSM & Bluetooth

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
GSM	0.163	1.030
Bluetooth	0.236	0.118
Sum	0.399	1.148
Note	GSM850+BT LEFT cheek	GSM850+BT EDGE2(HOTSPOT)

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

The sum of SAR values for 3G & Bluetooth

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
WCDMA or CDMA2000	0.162	1.288
Bluetooth	0.236	0.118
Sum	0.398	1.406
Note	WCDMA BAND2+BT RIGHT cheek	CDMA BC1+ BT EDGE2(HOTSPOT)

According to the above tables, the sum of SAR values for WCDMA and Bluetooth $<1.6\text{W/kg}$. 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	0.214	1.027
Bluetooth	0.236	0.118
Sum	0.450	1.145
Note	LTE BAND30+BT RIGHT cheek	LTE BAND4+BT EDGE2(HOTSPOT)

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

The sum of SAR values for GSM & WiFi 5GHz & BT

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
GSM	0.113	0.822
WiFi	0.740	0.498
Bluetooth	0.236	0.118
Sum	1.089	1.438
Note	GSM1900+WIFI5GHz +BT RIGHT tilt	GSM850+WIFI5GHz +BT TG

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

The sum of SAR values for 3G & WiFi 5GHz & BT

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
WCDMA or CDMA2000	0.089	1.288
WiFi	0.740	---*
Bluetooth	0.236	0.118
Sum	1.065	1.406
Note	WCDMA BAND4+WIFI5GHz RIGHT tilt	CDMA BC1+ WIIFI +BT EDGE2(HOTSPOT)

According to the above tables, the sum of SAR values for WCDMA, WiFi and BT $< 1.6\text{W/kg}$. So simultaneous transmission SAR are not required for WiFi transmitter.

The sum of SAR values for LTE & WiFi 5GHz & BT

	MAXIMUM SAR VALUE FOR HEAD	MAXIMUM SAR VALUE FOR BODY
LTE	0.077	0.830
WiFi	0.740	0.498
Bluetooth	0.236	0.118
Sum	1.053	1.446
Note	LTE BAND30+WIFI5GHz RIGHT tilt	LTE BAND4+WIFI5GHz +BT TG

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

Summary:

Mode1: GSM/WCDMA/LTE+MAX OF WIFI (2.4GHz&5GHz)

Mode2: GSM/WCDMA/LTE+BT2.4GHz

Mode3: GSM/WCDMA/LTE+BT2.4GHz+WIFI5GHz

Note1: WIFI include SISO and MIMO, but WIFI 2.4GHz and WIFI 5GHz can't transmit simultaneously in each unlicensed antenna.

Note2: WIFI 2.4GHz and BT2.4GHz can't transmit simultaneously.

Note *: We didn't test the edge2 for WIFI antennas, because the distance between the WIFI antenna and edge 2 is much larger than 25mm, refer to SAR value of other edges and antenna's position for WIFI, the SAR value of edge2 must be very small, the Simultaneous Transmission do not have risk, and we don't take it into consideration.

7 MEASUREMENT UNCERTAINTY

(0.3 - 3 GHz range)								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
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 %	∞
Modulation Response ^m	±2.4 %	R	$\sqrt{3}$	1	1	±1.4 %	±1.4 %	∞
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.	±2.0 %	R	$\sqrt{3}$	1	1	±1.2 %	±1.2 %	∞
Test Sample Related								
Device Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	145
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Power Drift	±5.0 %	R	$\sqrt{3}$	1	1	±2.9 %	±2.9 %	∞
Power Scaling ^p	±0 %	R	$\sqrt{3}$	1	1	±0.0 %	±0.0 %	∞
Phantom and Setup								
Phantom Uncertainty	±6.1 %	R	$\sqrt{3}$	1	1	±3.5 %	±3.5 %	∞
SAR correction	±1.9 %	R	$\sqrt{3}$	1	0.84	±1.1 %	±0.9 %	∞
Liquid Conductivity (mea.) ^{DAK}	±2.5 %	R	$\sqrt{3}$	0.78	0.71	±1.1 %	±1.0 %	∞
Liquid Permittivity (mea.) ^{DAK}	±2.5 %	R	$\sqrt{3}$	0.26	0.26	±0.3 %	±0.4 %	∞
Temp. unc. - Conductivity ^{BB}	±3.4 %	R	$\sqrt{3}$	0.78	0.71	±1.5 %	±1.4 %	∞
Temp. unc. - Permittivity ^{BB}	±0.4 %	R	$\sqrt{3}$	0.23	0.26	±0.1 %	±0.1 %	∞
Combined Std. Uncertainty						±11.2 %	±11.1 %	361
Expanded STD Uncertainty						±22.3 %	±22.2 %	

(3 - 6 GHz range)								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_1) 1g	(c_2) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±6.55 %	N	1	1	1	±6.55 %	±6.55 %	∞
Axial Isotropy	±4.7 %	R	√3	0.7	0.7	±1.9 %	±1.9 %	∞
Hemispherical Isotropy	±9.6 %	R	√3	0.7	0.7	±3.9 %	±3.9 %	∞
Boundary Effects	±2.0 %	R	√3	1	1	±1.2 %	±1.2 %	∞
Linearity	±4.7 %	R	√3	1	1	±2.7 %	±2.7 %	∞
System Detection Limits	±1.0 %	R	√3	1	1	±0.6 %	±0.6 %	∞
Modulation Response ^m	±2.4 %	R	√3	1	1	±1.4 %	±1.4 %	∞
Readout Electronics	±0.3 %	N	1	1	1	±0.3 %	±0.3 %	∞
Response Time	±0.8 %	R	√3	1	1	±0.5 %	±0.5 %	∞
Integration Time	±2.6 %	R	√3	1	1	±1.5 %	±1.5 %	∞
RF Ambient Noise	±3.0 %	R	√3	1	1	±1.7 %	±1.7 %	∞
RF Ambient Reflections	±3.0 %	R	√3	1	1	±1.7 %	±1.7 %	∞
Probe Positioner	±0.8 %	R	√3	1	1	±0.5 %	±0.5 %	∞
Probe Positioning	±6.7 %	R	√3	1	1	±3.9 %	±3.9 %	∞
Max. SAR Eval.	±4.0 %	R	√3	1	1	±2.3 %	±2.3 %	∞
Test Sample Related								
Device Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	145
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Power Drift	±5.0 %	R	√3	1	1	±2.9 %	±2.9 %	∞
Power Scaling ^p	±0 %	R	√3	1	1	±0.0 %	±0.0 %	∞
Phantom and Setup								
Phantom Uncertainty	±6.6 %	R	√3	1	1	±3.8 %	±3.8 %	∞
SAR correction	±1.9 %	R	√3	1	0.84	±1.1 %	±0.9 %	∞
Liquid Conductivity (mea.) ^{DAK}	±2.5 %	R	√3	0.78	0.71	±1.1 %	±1.0 %	∞
Liquid Permittivity (mea.) ^{DAK}	±2.5 %	R	√3	0.26	0.26	±0.3 %	±0.4 %	∞
Temp. unc. - Conductivity ^{BB}	±3.4 %	R	√3	0.78	0.71	±1.5 %	±1.4 %	∞
Temp. unc. - Permittivity ^{BB}	±0.4 %	R	√3	0.23	0.26	±0.1 %	±0.1 %	∞
Combined Std. Uncertainty						±12.3 %	±12.2 %	748
Expanded STD Uncertainty						±24.6 %	±24.5 %	

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	546	2017.09.15	2018.09.14
DAE	DAE4	720	2017.10.24	2018.10.23
Dosimetric E-field Probe	EX3DV4	3127	2017.10.13	2018.10.12
Dosimetric E-field Probe	EX3DV4	3708	2017.11.07	2018.11.06
Dipole Validation Kit	D750V3	1101	2017.09.13	2018.09.12
Dipole Validation Kit	D835V2	4d023	2017.09.13	2018.09.12
Dipole Validation Kit	D1800V2	2d084	2017.09.15	2018.09.14
Dipole Validation Kit	D2000V2	1009	2018.02.01	2019.01.31
Dipole Validation Kit	D2450V2	738	2017.09.18	2018.09.17
Dipole Validation Kit	D5GHzV2	1079	2017.09.25	2018.09.24

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration Due data
Signal Generator	E4428C	MY45280865	2017.08.20	2018.08.19
Signal Generator	SML 03	103514	2017.08.20	2018.08.19
Power meter	E4417A	MY45101182	2017.08.20	2018.08.19
Power Sensor	E4412A	MY41502214	2017.08.20	2018.08.19
Power Sensor	E4412A	MY41502130	2017.08.20	2018.08.19
Power meter	E4417A	MY45101004	2017.08.20	2018.08.19
Power Sensor	E9300B	MY41496001	2017.08.20	2018.08.19
Power Sensor	E9300B	MY41496003	2017.08.20	2018.08.19
Communication Tester	8960	GB43194054	2017.08.20	2018.08.19
Communication Tester	CMU200	114666	2017.08.20	2018.08.19
Communication Tester	MT8820C	6201300660	2017.08.20	2018.08.19
Vector Network Analyzer	VNA R140	0011213	2017.10.17	2018.10.16
Dielectric Parameter Probe	DAKS-3.5	1042	2017.10.17	2018.10.16

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 μ W/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 μ W/g to > 100 W/kg Linearity: ± 0.2 dB (noise: typically < 1 μ W/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.

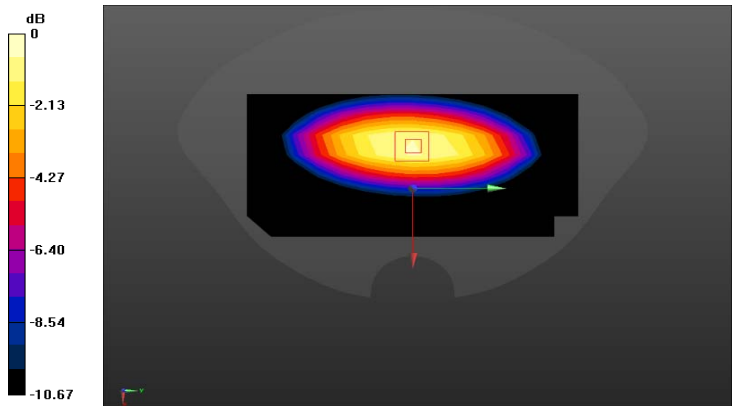
Note: We only display the worst SAR value in each band for head and body position if we retest it. Otherwise we list the data of original and variant product for each band.

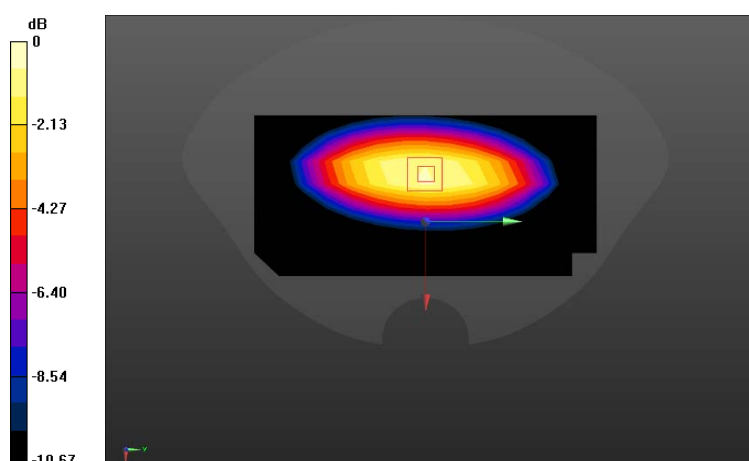
ANNEX B – RELEVANT PAGES FROM CALIBRATION REPORTS

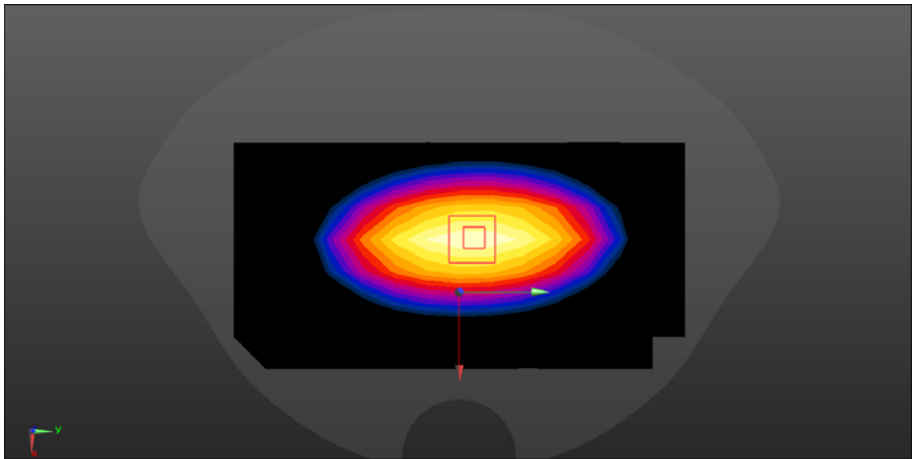
Please refer to the attachment.

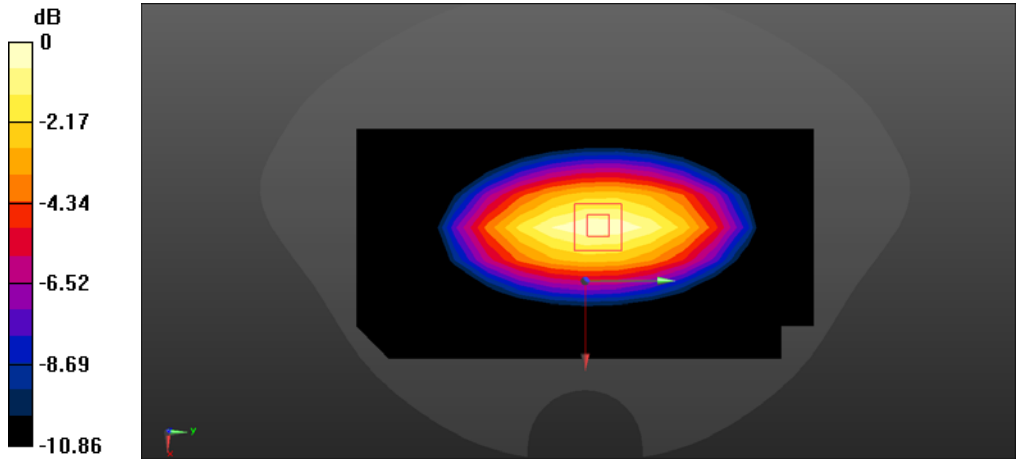
ANNEX A – TEST PLOTS

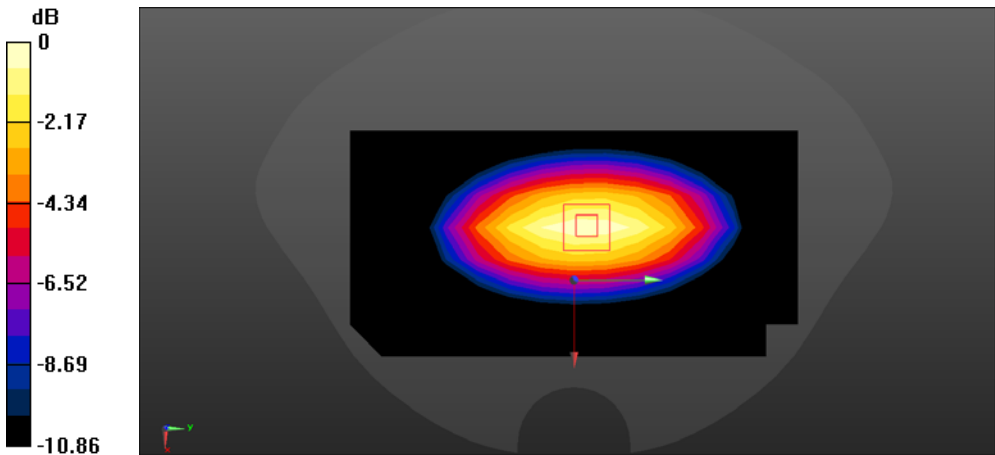
Head liquid

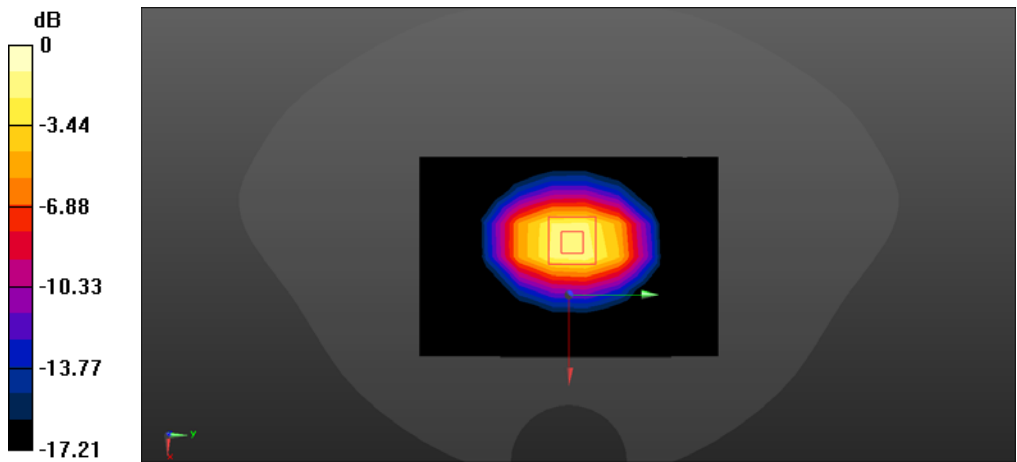
System check	750MHz
Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz; Communication System PAR: 0 dB Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.917 \text{ S/m}$; $\epsilon_r = 42.068$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.16 W/kg System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 41.00 V/m; Power Drift = 0.13 dB Peak SAR (extrapolated) = 3.26 W/kg SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.37 W/kg Maximum value of SAR (measured) = 2.49 W/kg  0 dB = 2.49 W/kg = 3.96 dBW/kg	

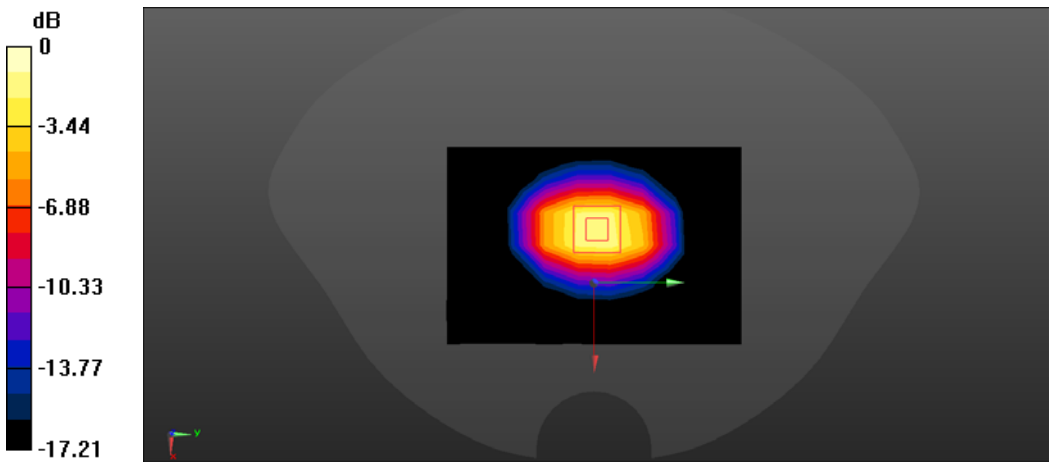
System check	750MHz
Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz; Communication System PAR: 0 dB Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.922 \text{ S/m}$; $\epsilon_r = 42.153$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.27 W/kg System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 44.32 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 4.11 W/kg SAR(1 g) = 2.18 W/kg; SAR(10 g) = 1.43 W/kg Maximum value of SAR (measured) = 2.55 W/kg  0 dB = $2.55 \text{ W/kg} = 4.07 \text{ dBW/kg}$	

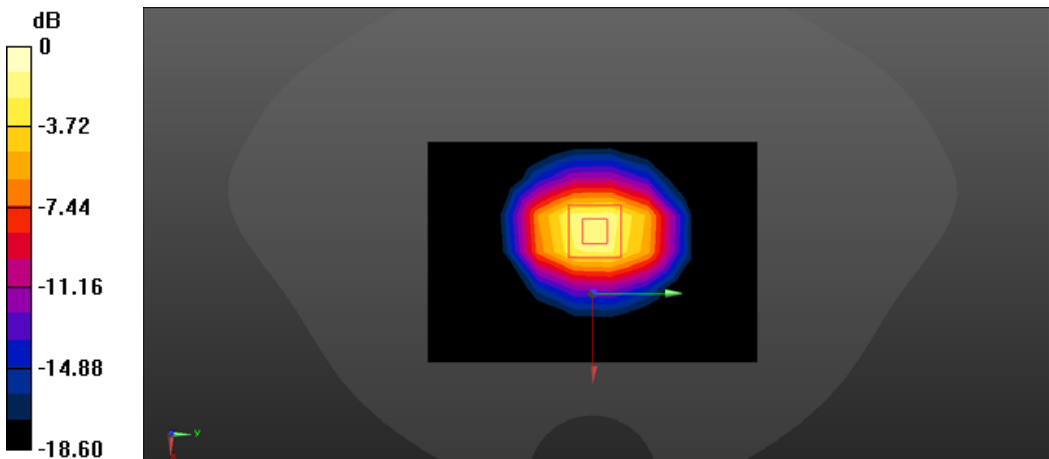
System check	835MHz
Communication System: UID 0, CW (0); Frequency: 835 MHz Medium parameters used (interpolated): $f = 835 \text{ MHz}$; $\sigma = 0.912 \text{ S/m}$; $\epsilon_r = 42.529$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 835/835/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.75 W/kg Configuration 835/835/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 51.68 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 3.58 W/kg SAR(1 g) = 2.36 W/kg; SAR(10 g) = 1.53 W/kg Maximum value of SAR (measured) = 2.78 W/kg dB 0 -2.16 -4.32 -6.47 -8.63 -10.79  0 dB = 2.78 W/kg = 4.44 dBW/kg	

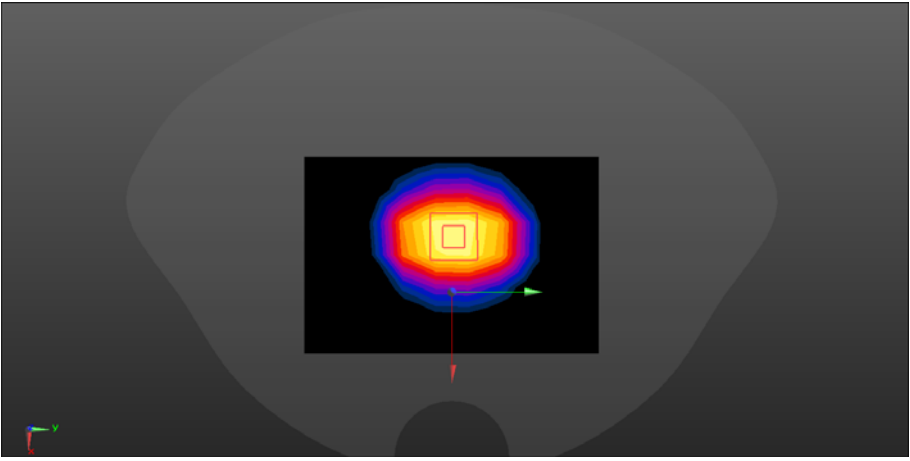
System check	835MHz
Communication System: UID 0, CW (0); Frequency: 835 MHz Medium parameters used (interpolated): $f = 835 \text{ MHz}$; $\sigma = 0.908 \text{ S/m}$; $\epsilon_r = 40.217$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 835/835/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.72 W/kg Configuration 835/835/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 50.67 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 3.58 W/kg SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.52 W/kg Maximum value of SAR (measured) = 2.74 W/kg	
 0 dB = 2.74 W/kg = 4.41 dBW/kg	

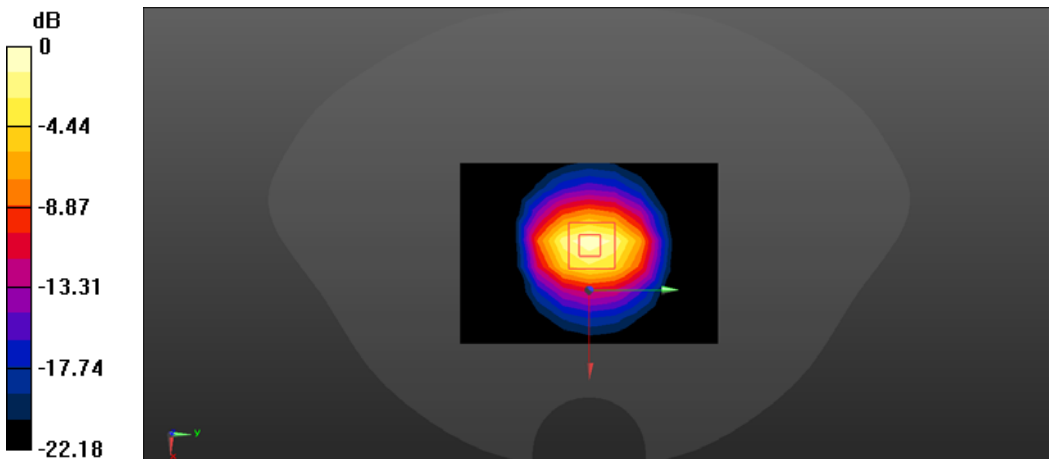
System check	835MHz
Communication System: UID 0, CW (0); Frequency: 835 MHz Medium parameters used (interpolated): $f = 835 \text{ MHz}$; $\sigma = 0.915 \text{ S/m}$; $\epsilon_r = 41.114$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 835/835/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.87 W/kg Configuration 835/835/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 52.13 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 3.66 W/kg SAR(1 g) = 2.29 W/kg; SAR(10 g) = 1.55 W/kg Maximum value of SAR (measured) = 2.67 W/kg	
 0 dB = 2.67 W/kg = 4.27 dBW/kg	

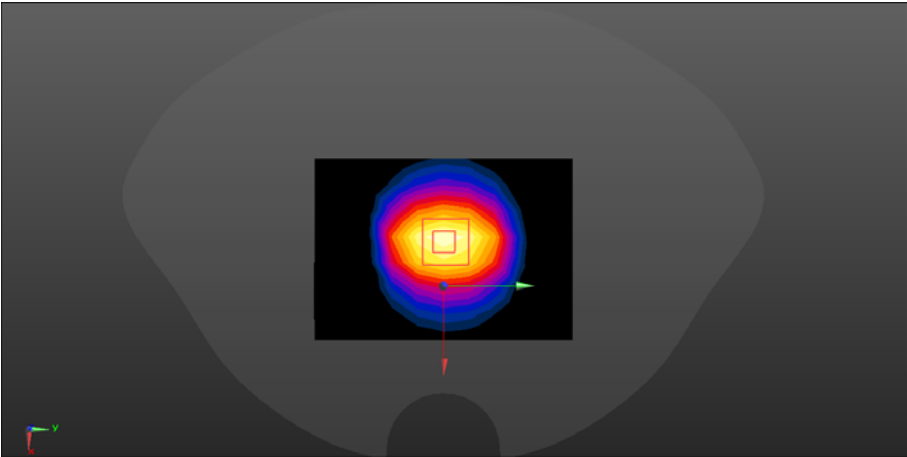
System check	1800MHz
Communication System: UID 0, CW (0); Frequency: 1800 MHz Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.409 \text{ S/m}$; $\epsilon_r = 38.905$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 1800/1800/Area Scan (7x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 8.57 W/kg Configuration 1800/1800/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 80.04 V/m; Power Drift = 0.11 dB Peak SAR (extrapolated) = 17.7 W/kg SAR(1 g) = 9.57 W/kg; SAR(10 g) = 5.02 W/kg Maximum value of SAR (measured) = 12.2 W/kg	
 0 dB = 12.2 W/kg = 10.86 dBW/kg	

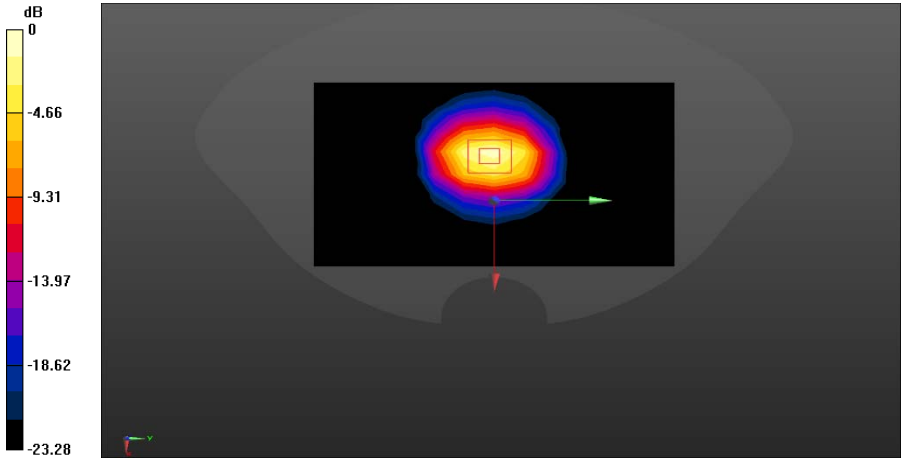
System check	1800MHz
Communication System: UID 0, CW (0); Frequency: 1800 MHz Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.411 \text{ S/m}$; $\epsilon_r = 40.607$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 1800/1800/Area Scan (7x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 8.31 W/kg Configuration 1800/1800/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 76.60 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 17.5 W/kg SAR(1 g) = 9.46 W/kg; SAR(10 g) = 4.96 W/kg Maximum value of SAR (measured) = 12.1 W/kg	
 0 dB = 12.1 W/kg = 10.83 dBW/kg	

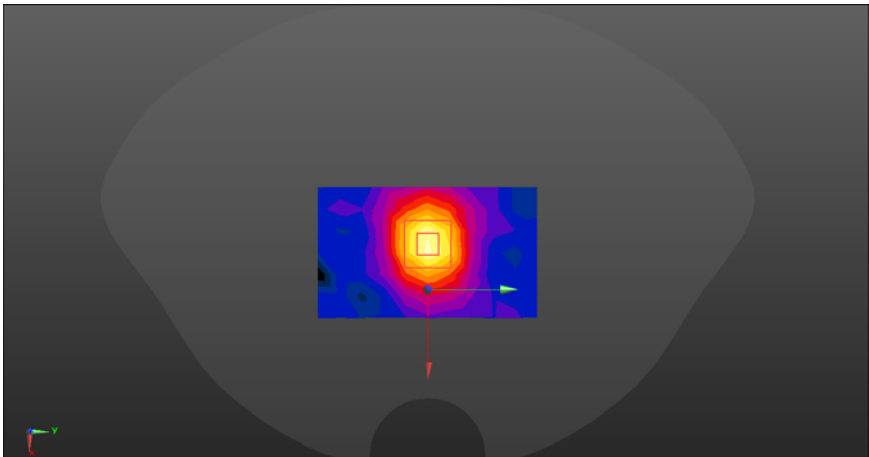
System check	2000MHz
Communication System: UID 0, CW (0); Frequency: 2000 MHz Medium parameters used: $f = 2000 \text{ MHz}$; $\sigma = 1.435 \text{ S/m}$; $\epsilon_r = 39.815$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.8, 7.8, 7.8); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 2000/2000/Area Scan (7x10x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 8.40 W/kg Configuration 2000/2000/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 76.73 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 18.7 W/kg SAR(1 g) = 9.65 W/kg; SAR(10 g) = 4.86 W/kg Maximum value of SAR (measured) = 12.5 W/kg  0 dB = 12.5 W/kg = 10.97 dBW/kg	

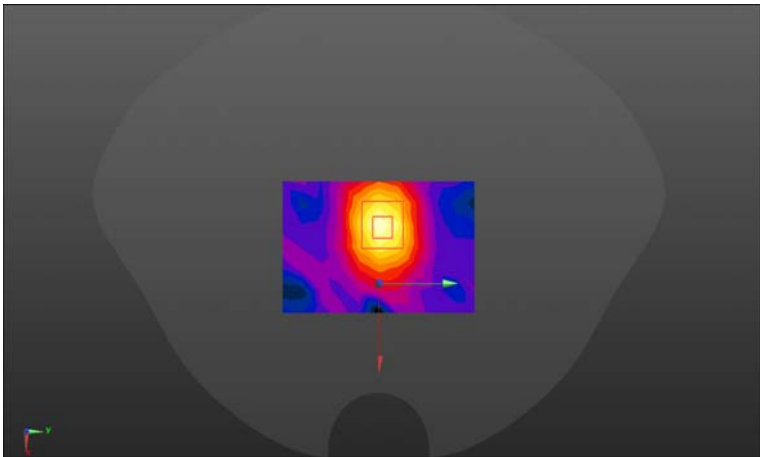
System check	2000MHz
Communication System: UID 0, CW (0); Frequency: 2000 MHz Medium parameters used: $f = 2000 \text{ MHz}$; $\sigma = 1.384 \text{ S/m}$; $\epsilon_r = 40.245$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.8, 7.8, 7.8); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 2000/2000/Area Scan (7x10x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 8.96 W/kg Configuration 2000/2000/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 74.32 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 19.9 W/kg SAR(1 g) = 10.3 W/kg; SAR(10 g) = 5.21 W/kg Maximum value of SAR (measured) = 13.3 W/kg dB 0 -3.71 -7.42 -11.13 -14.84 -18.55  0 dB = 13.3 W/kg = 11.24 dBW/kg	

System check	2450MHz
Communication System: UID 0, CW (0); Frequency: 2450 MHz Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.873 \text{ S/m}$; $\epsilon_r = 38.145$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.19, 7.19, 7.19); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) System Performance Check at Frequencies 2450 MHz/2450/Area Scan (8x11x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$ Maximum value of SAR (measured) = 21.2 W/kg System Performance Check at Frequencies 2450 MHz/2450/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 109.3 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 28.2 W/kg SAR(1 g) = 13.6 W/kg; SAR(10 g) = 6.34 W/kg Maximum value of SAR (measured) = 23.0 W/kg  0 dB = 23.0 W/kg = 13.62 dBW/kg	

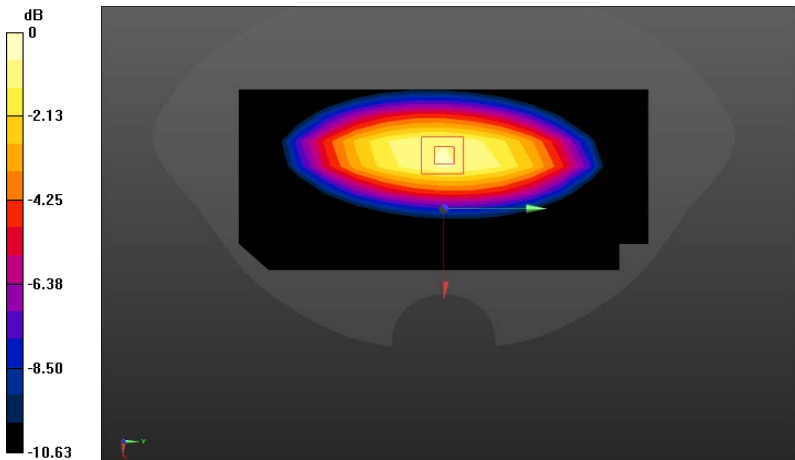
System check	2450MHz
Communication System: UID 0, CW (0); Frequency: 2450 MHz Medium parameters used: $f = 2450$ MHz; $\sigma = 1.881$ S/m; $\epsilon_r = 39.517$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.19, 7.19, 7.19); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) System Performance Check at Frequencies 2450 MHz/2450/Area Scan (8x11x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 21.8 W/kg System Performance Check at Frequencies 2450 MHz/2450/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 108.8 V/m; Power Drift = 0.12 dB Peak SAR (extrapolated) = 28.8 W/kg SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.33 W/kg Maximum value of SAR (measured) = 23.3 W/kg dB 0 -4.46 -8.92 -13.39 -17.85 -22.31  0 dB = 23.3 W/kg = 13.67 dBW/kg	

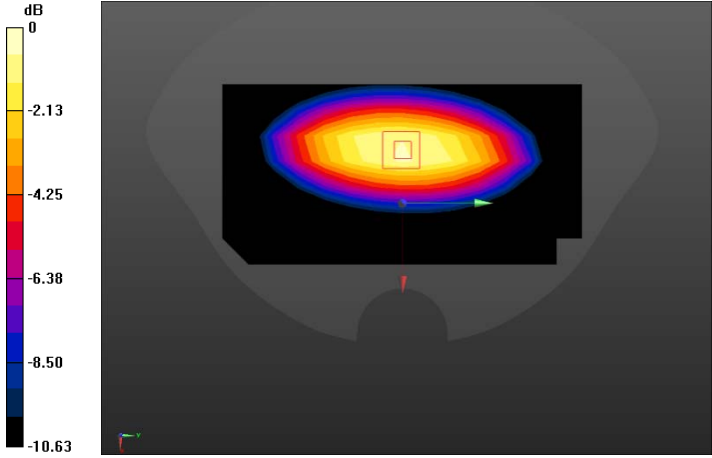
System check	2450MHz
Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Communication System PAR: 0 dB Medium parameters used: $f = 2450$ MHz; $\sigma = 1.833$ S/m; $\epsilon_r = 39.583$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.58, 4.58, 4.58); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) System Performance Check at Frequencies 2450MHz Head/d=10mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Area Scan (9x13x1): Measurement grid: $dx=10$mm, $dy=10$mm Maximum value of SAR (measured) = 21.87 W/kg System Performance Check at Frequencies 2450MHz Head/d=10mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 98.95 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 27.9 W/kg SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.96 W/kg Maximum value of SAR (measured) = 12.56 W/kg  0 dB = 12.56 W/kg = 10.99 dBW/kg	

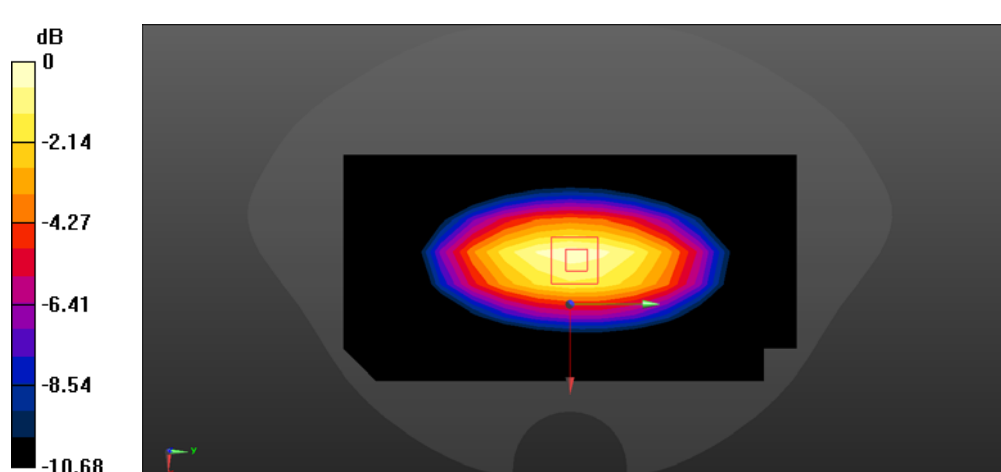
System check	5200MHz
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5200 MHz Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 4.483 \text{ S/m}$; $\epsilon_r = 36.853$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(5.64, 5.64, 5.64); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration/5200/Area Scan (7x11x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 1.55 W/kg Configuration/5200/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 19.30 V/m; Power Drift = 0.18 dB Peak SAR (extrapolated) = 3.21 W/kg SAR(1 g) = 0.787 W/kg; SAR(10 g) = 0.234 W/kg Maximum value of SAR (measured) = 1.97 W/kg dB 0 -5.43 -10.87 -16.30 -21.73 -27.17  0 dB = 1.97 W/kg = 2.94 dBW/kg	

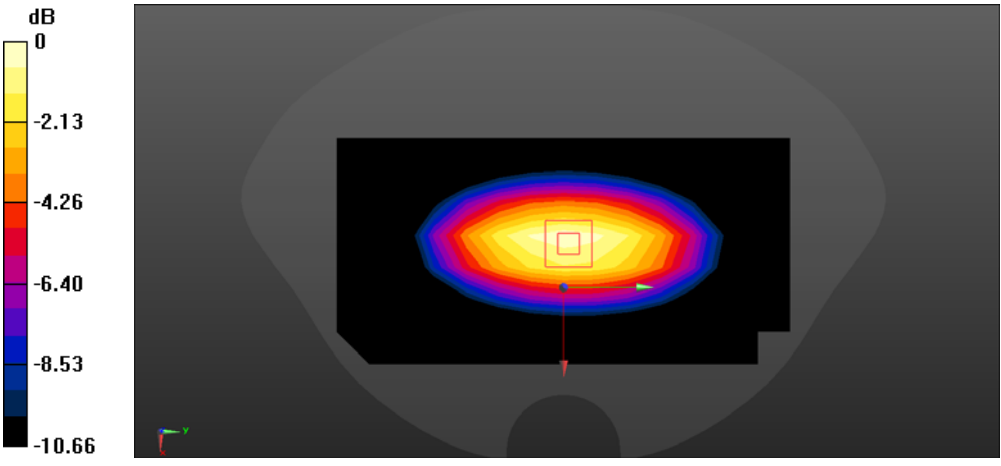
System check	5800MHz
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5800 MHz Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 5.185 \text{ S/m}$; $\epsilon_r = 36.334$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(5.03, 5.03, 5.03); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration/5800/Area Scan (7x11x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 1.97 W/kg Configuration/5800/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 13.10 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 3.51 W/kg SAR(1 g) = 0.775 W/kg; SAR(10 g) = 0.226 W/kg Maximum value of SAR (measured) = 2.01 W/kg dB 0 -6.09 -12.19 -18.28 -24.38 -30.47  0 dB = 2.01 W/kg = 3.03 dBW/kg	

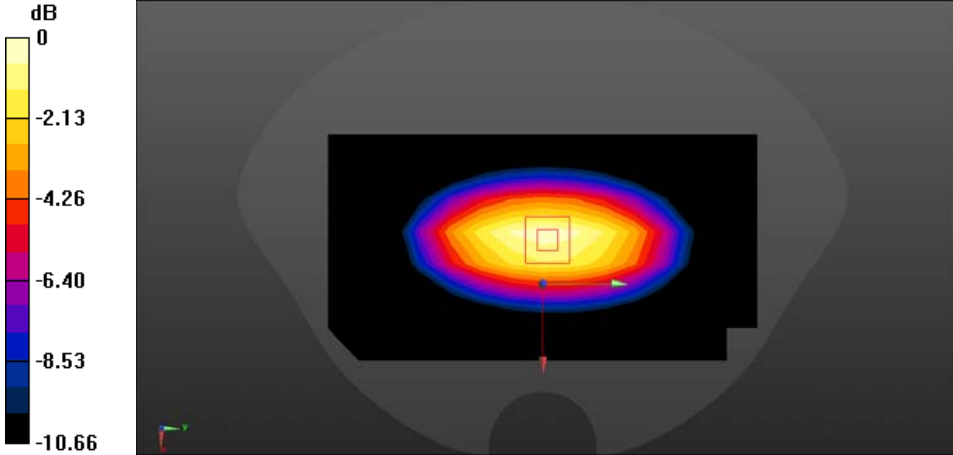
Body liquid

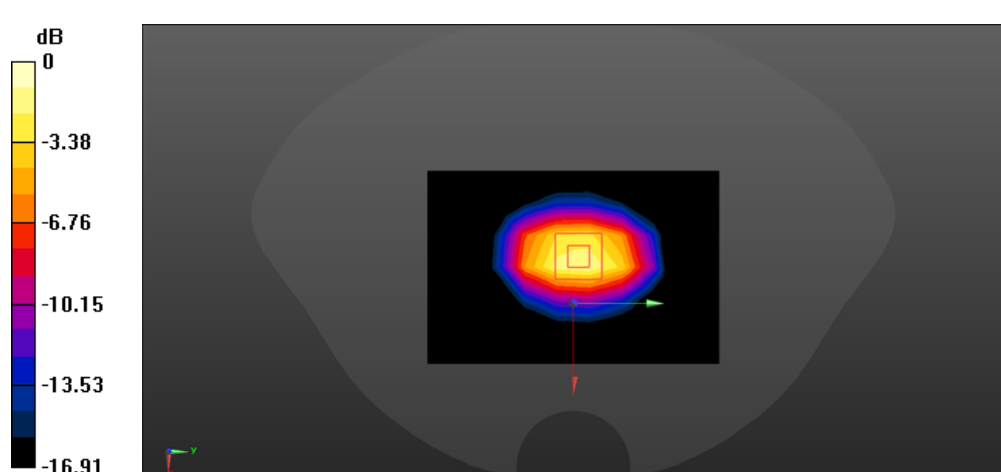
System check	750MHz
Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz; Communication System PAR: 0 dB Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.976 \text{ S/m}$; $\epsilon_r = 53.279$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.31 W/kg System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 41.26 V/m; Power Drift = 0.13 dB Peak SAR (extrapolated) = 3.45 W/kg SAR(1 g) = 2.06 W/kg; SAR(10 g) = 1.47 W/kg Maximum value of SAR (measured) = 2.66 W/kg	
 0 dB = 2.66 W/kg = 4.25 dBW/kg	

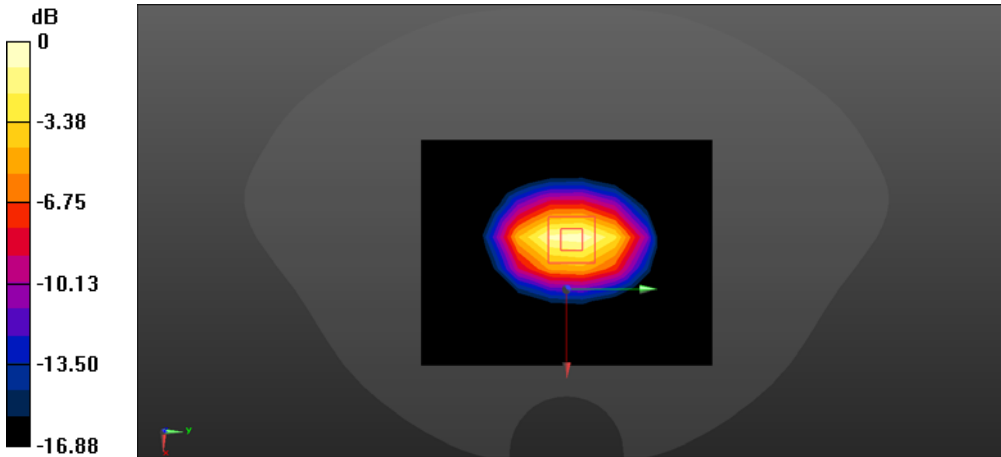
System check	750MHz
Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz; Communication System PAR: 0 dB Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.954 \text{ S/m}$; $\epsilon_r = 54.321$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.12 W/kg System Performance Check at Frequencies 750MHz/d=15mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 39.88 V/m; Power Drift = 0.13 dB Peak SAR (extrapolated) = 3.24 W/kg SAR(1 g) = 2.18 W/kg; SAR(10 g) = 1.35 W/kg Maximum value of SAR (measured) = 2.51 W/kg  0 dB = 2.51 W/kg = 4.00 dBW/kg	

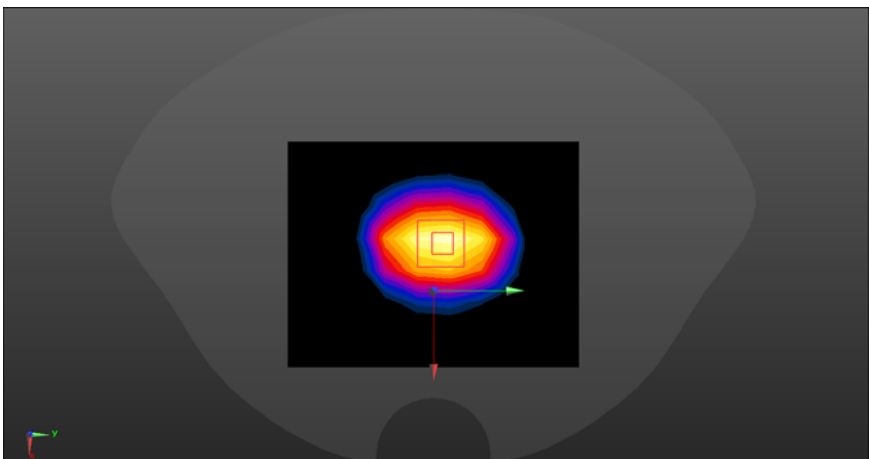
System check	835MHz
Communication System: UID 0, CW (0); Frequency: 835 MHz Medium parameters used (interpolated): $f = 835$ MHz; $\sigma = 0.975$ S/m; $\epsilon_r = 54.541$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 835/835/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 2.63 W/kg Configuration 835/835/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 52.70 V/m; Power Drift = 0.06 dB Peak SAR (extrapolated) = 3.54 W/kg SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.54 W/kg Maximum value of SAR (measured) = 2.77 W/kg	
 0 dB = 2.77 W/kg = 4.42 dBW/kg	

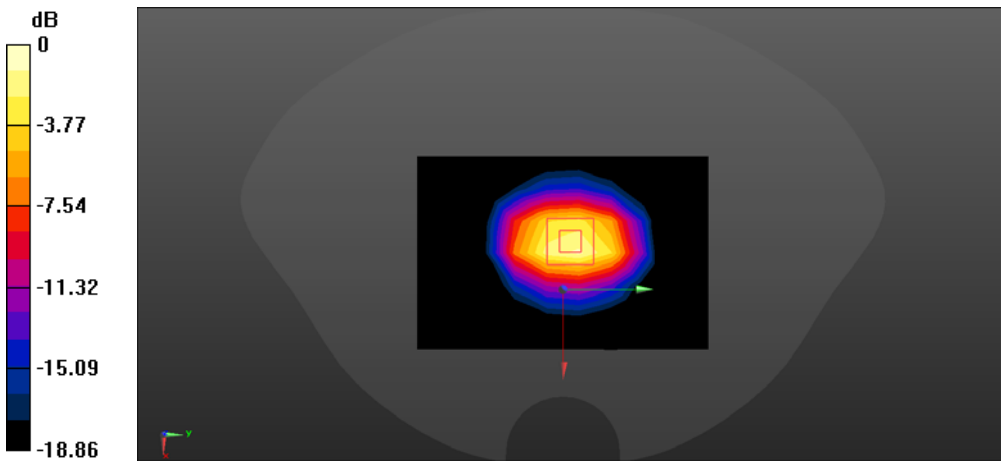
System check	835MHz
Communication System: UID 0, CW (0); Frequency: 835 MHz Medium parameters used (interpolated): $f = 835 \text{ MHz}$; $\sigma = 0.971 \text{ S/m}$; $\epsilon_r = 55.036$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 835/835/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.63 W/kg Configuration 835/835/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 53.21 V/m; Power Drift = -0.07 dB Peak SAR (extrapolated) = 3.50 W/kg SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.52 W/kg Maximum value of SAR (measured) = 2.74 W/kg	
 0 dB = 2.74 W/kg = 4.38 dBW/kg	

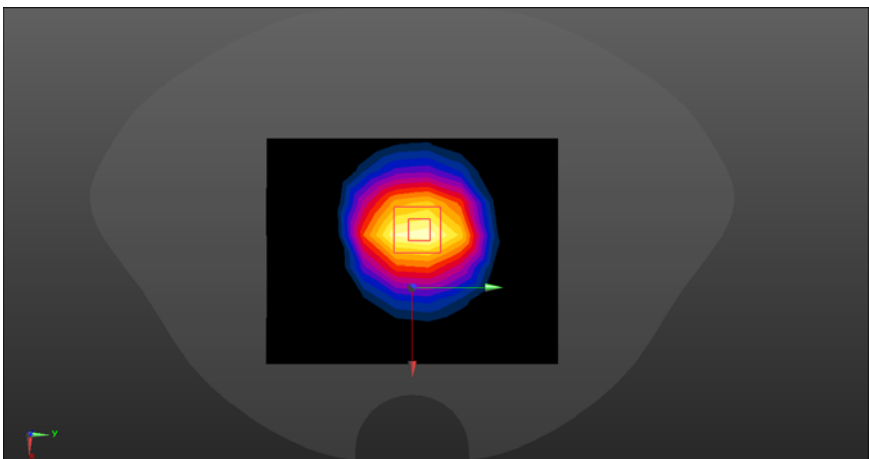
System check	835MHz
Communication System: UID 0, CW (0); Frequency: 835 MHz Medium parameters used (interpolated): $f = 835 \text{ MHz}$; $\sigma = 0.966 \text{ S/m}$; $\epsilon_r = 56.196$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 835/835/Area Scan (8x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 2.57 W/kg Configuration 835/835/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 51.34 V/m; Power Drift = 0.12 dB Peak SAR (extrapolated) = 3.26 W/kg SAR(1 g) = 2.28 W/kg; SAR(10 g) = 1.49 W/kg Maximum value of SAR (measured) = 2.58 W/kg	
 0 dB = 2.58 W/kg = 4.11 dBW/kg	

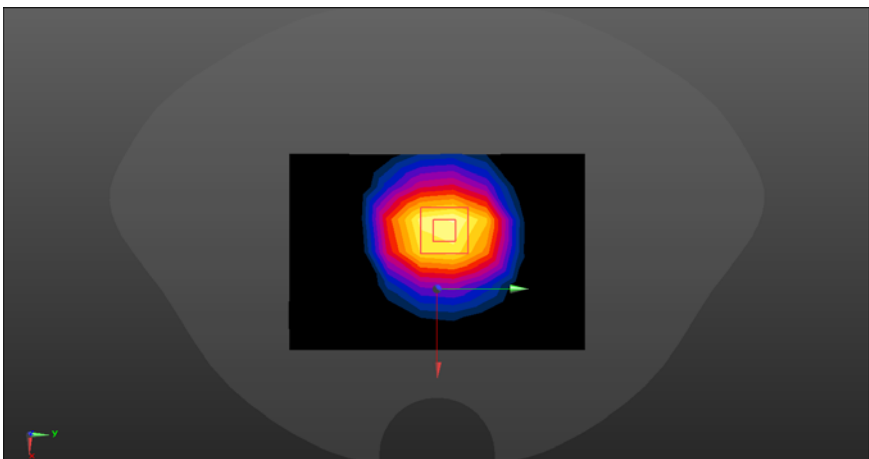
System check	1800MHz
Communication System: UID 0, CW (0); Frequency: 1800 MHz Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.523 \text{ S/m}$; $\epsilon_r = 52.879$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 1800/1800/Area Scan (7x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 9.43 W/kg Configuration 1800/1800/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 80.19 V/m; Power Drift = 0.19 dB Peak SAR (extrapolated) = 17.5 W/kg SAR(1 g) = 9.55 W/kg; SAR(10 g) = 4.98 W/kg Maximum value of SAR (measured) = 12.2 W/kg	
 0 dB = 12.2 W/kg = 10.86 dBW/kg	

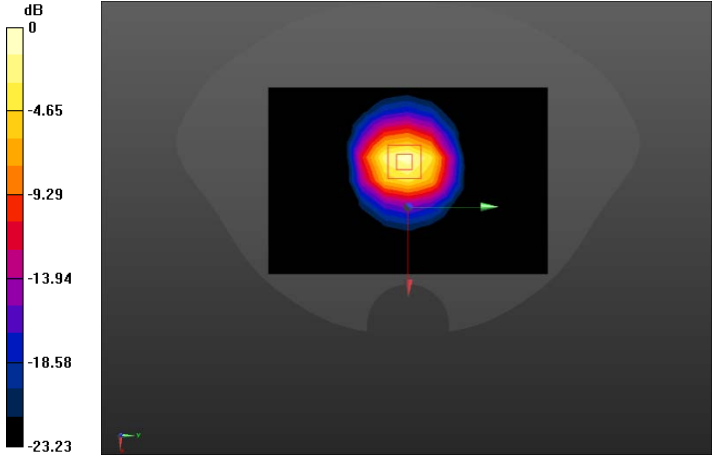
System check	1800MHz
Communication System: UID 0, CW (0); Frequency: 1800 MHz Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.542 \text{ S/m}$; $\epsilon_r = 51.717$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 1800/1800/Area Scan (8x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 11.5 W/kg Configuration 1800/1800/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 80.17 V/m; Power Drift = 0.15 dB Peak SAR (extrapolated) = 17.8 W/kg SAR(1 g) = 9.67 W/kg; SAR(10 g) = 5.03 W/kg Maximum value of SAR (measured) = 12.4 W/kg  0 dB = 12.4 W/kg = 10.93 dBW/kg	

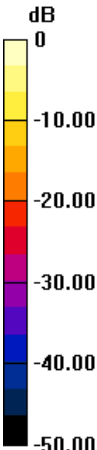
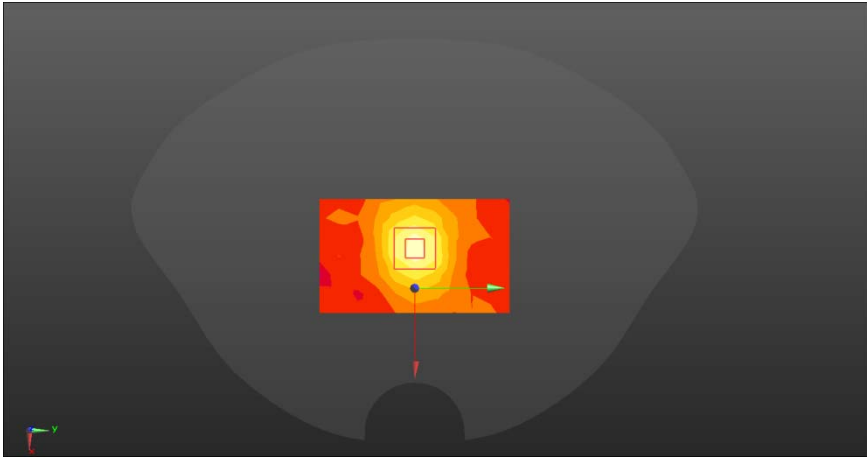
System check	2000MHz
Communication System: UID 0, CW (0); Frequency: 2000 MHz Medium parameters used: $f = 2000 \text{ MHz}$; $\sigma = 1.546 \text{ S/m}$; $\epsilon_r = 52.557$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.76, 7.76, 7.76); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 2000/2000/Area Scan (8x10x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$ Maximum value of SAR (measured) = 11.1 W/kg Configuration 2000/2000/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 78.14 V/m; Power Drift = 0.05 dB Peak SAR (extrapolated) = 17.8 W/kg SAR(1 g) = 9.49 W/kg; SAR(10 g) = 4.78 W/kg Maximum value of SAR (measured) = 12.1 W/kg dB 0 -3.72 -7.44 -11.16 -14.88 -18.60  0 dB = 12.1 W/kg = 10.83 dBW/kg	

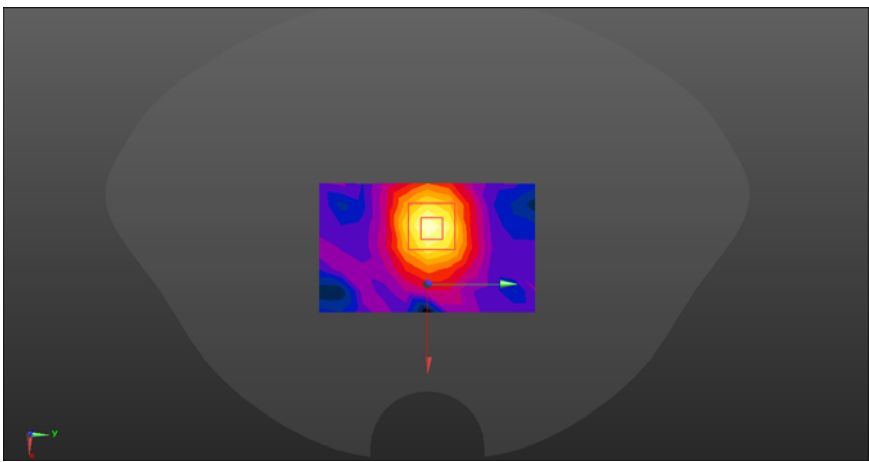
System check	2000MHz
Communication System: UID 0, CW (0); Frequency: 2000 MHz Medium parameters used: $f = 2000 \text{ MHz}$; $\sigma = 1.586 \text{ S/m}$; $\epsilon_r = 52.596$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.76, 7.76, 7.76); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration 2000/2000/Area Scan (7x10x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$ Maximum value of SAR (measured) = 10.0 W/kg Configuration 2000/2000/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 79.83 V/m; Power Drift = 0.16 dB Peak SAR (extrapolated) = 18.3 W/kg SAR(1 g) = 9.71 W/kg; SAR(10 g) = 4.87 W/kg Maximum value of SAR (measured) = 12.4 W/kg  0 dB = 12.4 W/kg = 10.93 dBW/kg	

System check	2450MHz
Communication System: UID 0, CW (0); Frequency: 2450 MHz Medium parameters used: $f = 2450$ MHz; $\sigma = 1.926$ S/m; $\epsilon_r = 50.795$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.3, 7.3, 7.3); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) System Performance Check at Frequencies 2450 MHz/2450/Area Scan (8x10x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 15.9 W/kg System Performance Check at Frequencies 2450 MHz/2450/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 62.46 V/m; Power Drift = 0.12 dB Peak SAR (extrapolated) = 27.5 W/kg SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.09 W/kg Maximum value of SAR (measured) = 17.3 W/kg dB 0 -4.48 -8.96 -13.43 -17.91 -22.39  0 dB = 17.3 W/kg = 12.38 dBW/kg	

System check	2450MHz
Communication System: UID 0, CW (0); Frequency: 2450 MHz Medium parameters used: $f = 2450$ MHz; $\sigma = 2.004$ S/m; $\epsilon_r = 51.927$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.3, 7.3, 7.3); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) System Performance Check at Frequencies 2450 MHz/2450/Area Scan (7x10x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 12.9 W/kg System Performance Check at Frequencies 2450 MHz/2450/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 60.67 V/m; Power Drift = 0.16 dB Peak SAR (extrapolated) = 27.1 W/kg SAR(1 g) = 13 W/kg; SAR(10 g) = 5.94 W/kg Maximum value of SAR (measured) = 17.2 W/kg dB 0 -4.51 -9.01 -13.52 -18.02 -22.53  0 dB = 17.2 W/kg = 12.36 dBW/kg	

System check	2450MHz
Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Communication System PAR: 0 dB Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 2.027 \text{ S/m}$; $\epsilon_r = 51.046$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.28, 4.28, 4.28); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) System Performance Check at Frequencies 2450MHz Head/d=10mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Area Scan (9x13x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$ Maximum value of SAR (measured) = 13.4 W/kg System Performance Check at Frequencies 2450MHz Head/d=10mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 62.29 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 29.3 W/kg SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.13 W/kg Maximum value of SAR (measured) = 18.9 W/kg  0 dB = 18.9 W/kg = 12.76 dBW/kg	

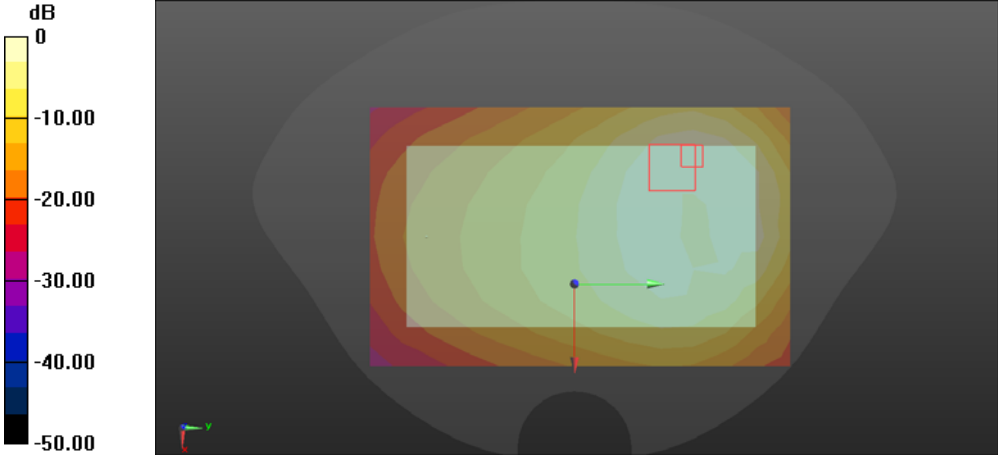
System check	5200MHz
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5200 MHz Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.355 \text{ S/m}$; $\epsilon_r = 49.035$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(4.79, 4.79, 4.79); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration/5200/Area Scan (7x11x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 1.47 W/kg Configuration/5200/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $d5=5\text{mm}$ Reference Value = 11.12 V/m; Power Drift = 0.08 dB Peak SAR (extrapolated) = 3.29 W/kg SAR(1 g) = 0.73 W/kg; SAR(10 g) = 0.206 W/kg Maximum value of SAR (measured) = 2.11 W/kg dB  0 -10.00 -20.00 -30.00 -40.00 -50.00  0 dB = 2.11 W/kg = 3.24 dBW/kg	

System check	5800MHz
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5800 MHz Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 6.11 \text{ S/m}$; $\epsilon_r = 47.36$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(4.19, 4.19, 4.19); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Configuration/5800/Area Scan (7x11x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 2.12 W/kg Configuration/5800/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 11.35 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 3.39 W/kg SAR(1 g) = 0.75 W/kg; SAR(10 g) = 0.226 W/kg Maximum value of SAR (measured) = 2.46 W/kg dB 0 -6.09 -12.19 -18.28 -24.38 -30.47  0 dB = 2.46 W/kg = 3.91 dBW/kg	

GSM 850MHz

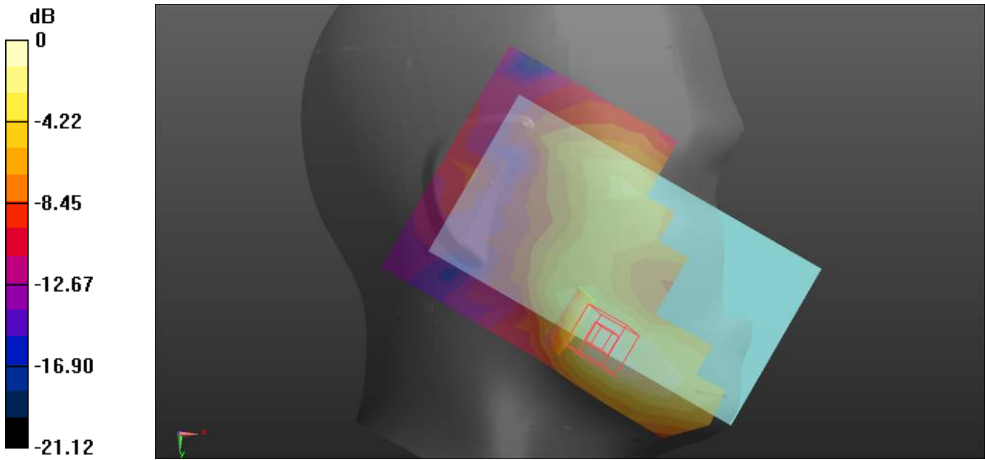
Variant product

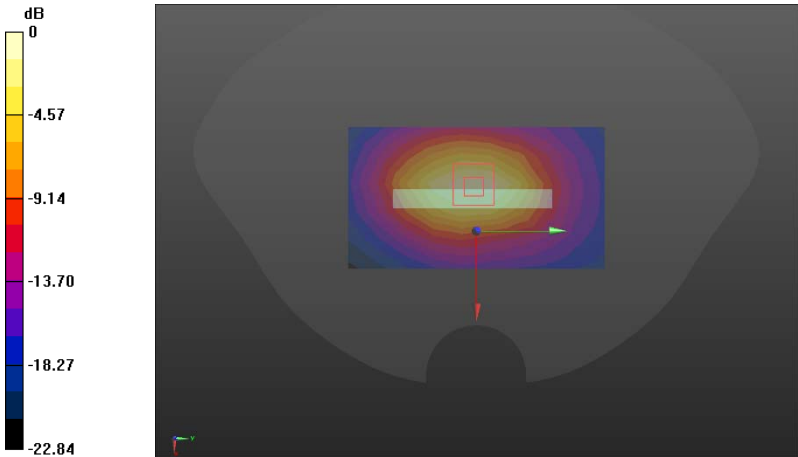
Left Side	Cheek
Communication System: UID 0, Generic GSM (0); Frequency: 836.6 MHz Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 42.52$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - 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 (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.414 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 = 4.707 V/m; Power Drift = -0.09 dB Peak SAR (extrapolated) = 0.390 W/kg SAR(1 g) = 0.155 W/kg; SAR(10 g) = 0.105 W/kg Maximum value of SAR (measured) = 0.344 W/kg dB 0 -2.40 -4.80 -7.21 -9.61 -12.01 0 dB = 0.344 W/kg = -4.63 dBW/kg	

FLAT	Towards ground
Communication System: UID 0, Generic GSM (0); Frequency: 836.6 MHz Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 55.195$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL GSM850 TG/EGPRS850 TG M 10mm/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.853 W/kg Flat-Section MSL GSM850 TG/EGPRS850 TG M 10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 14.33 V/m; Power Drift = -0.10 dB Peak SAR (extrapolated) = 1.94 W/kg SAR(1 g) = 0.768 W/kg; SAR(10 g) = 0.435 W/kg Maximum value of SAR (measured) = 0.899 W/kg  0 dB = 0.899 W/kg = -0.46 dBW/kg	

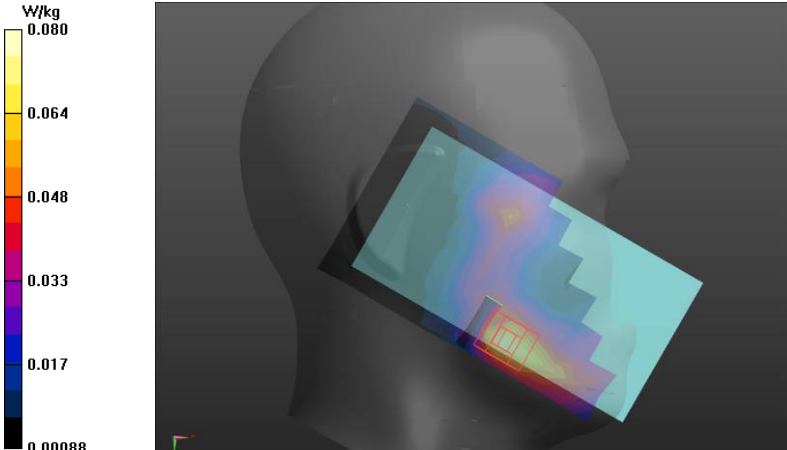
GSM 1900MHz

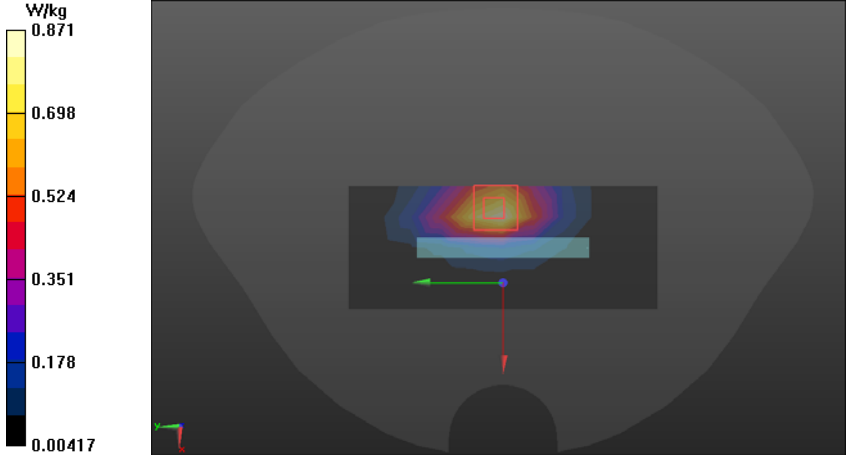
Original product

Right Side	Cheek
Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.465$ S/m; $\epsilon_r = 40.422$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL 1900/1900GSM HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0678 W/kg Head-Section Right HSL 1900/1900GSM HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 2.226 V/m; Power Drift = -0.08 dB Peak SAR (extrapolated) = 0.0870 W/kg SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.034 W/kg Maximum value of SAR (measured) = 0.0742 W/kg  0 dB = 0.0742 W/kg = -11.30 dBW/kg	

FLAT	EDGE2
Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 52.717$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section GSM HOT/GSM1900 EDGE2/Area Scan (6x10x1): - Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.700 W/kg Flat-Section GSM HOT/GSM1900 EDGE2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 19.88 V/m; Power Drift = 0.10 dB Peak SAR (extrapolated) = 2.06 W/kg SAR(1 g) = 0.709 W/kg; SAR(10 g) = 0.368 W/kg Maximum value of SAR (measured) = 0.762 W/kg	
 0 dB = 0.762 W/kg = -1.18 dBW/kg	

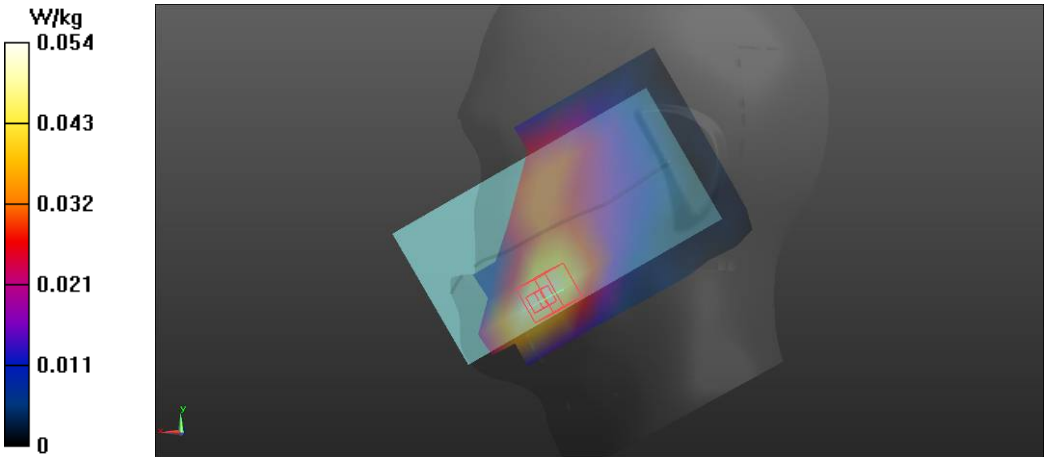
Variant product

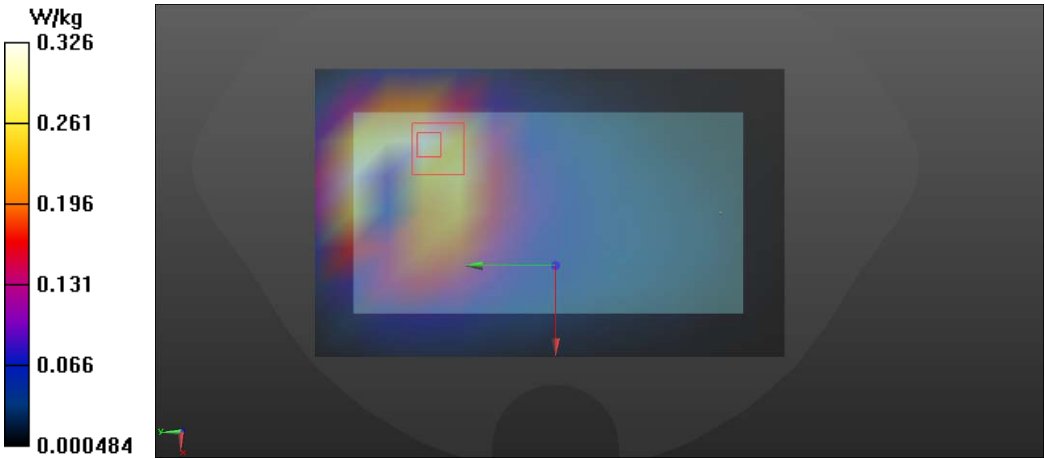
Right Side	Cheek
Communication System: UID 10021 - DAC, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017, ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Right HSL/1900GSM HSL touch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0772 W/kg Head-Section Right HSL/1900GSM HSL touch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 1.345 V/m; Power Drift = -0.12 dB Peak SAR (extrapolated) = 0.104 W/kg SAR(1 g) = 0.065 W/kg; SAR(10 g) = 0.039 W/kg Maximum value of SAR (measured) = 0.0802 W/kg	
	

FLAT	EDGE2
Communication System: UID 0, Generic GSM (0); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.526$ S/m; $\epsilon_r = 53.291$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration 4/GSM1900 M edge 2 #3/Area Scan (5x11x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.871 W/kg Configuration 4/GSM1900 M edge 2 #3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 11.23 V/m; Power Drift = 0.19 dB Peak SAR (extrapolated) = 1.47 W/kg SAR(1 g) = 0.928 W/kg; SAR(10 g) = 0.449 W/kg Maximum value of SAR (measured) = 1.04 W/kg	
	

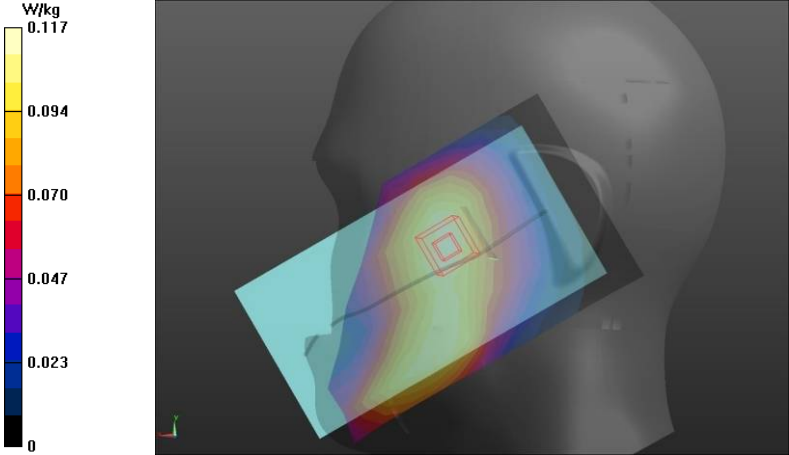
CDMA BC0

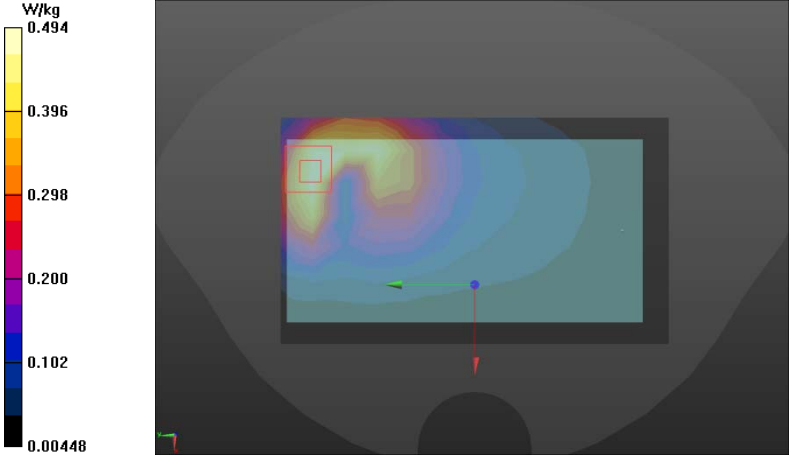
Original product

Left Side	Cheek
Communication System: UID 0, CDMA (0); Frequency: 836.52 MHz Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.905$ S/m; $\epsilon_r = 41.528$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 2017/11/7; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 1.0, 31.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) CDMA2000 850 LEFT/CDMA2000 850 LC/Area Scan (9x14x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.0535 W/kg CDMA2000 850 LEFT/CDMA2000 850 LC/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 2.937 V/m; Power Drift = -0.01 dB Peak SAR (extrapolated) = 0.0670 W/kg SAR(1 g) = 0.049 W/kg; SAR(10 g) = 0.035 W/kg Maximum value of SAR (measured) = 0.0559 W/kg	
	

FLAT(Ev-Do Rev. 0)	Towards ground
Communication System: UID 0, CDMA (0); Frequency: 836.52 MHz Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 1.012$ S/m; $\epsilon_r = 53.002$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 2017/11/7; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -4.0, 31.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) CDMA850 TG/CDMA850 TG evdo/Area Scan (9x14x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.326 W/kg CDMA850 TG/CDMA850 TG evdo/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 8.064 V/m; Power Drift = 0.12 dB Peak SAR (extrapolated) = 0.429 W/kg SAR(1 g) = 0.275 W/kg; SAR(10 g) = 0.173 W/kg	
	

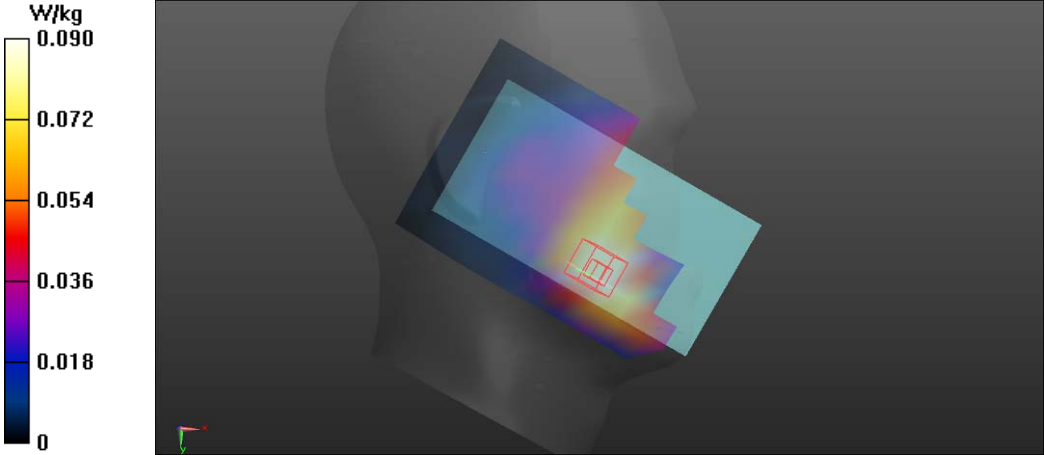
Variant product

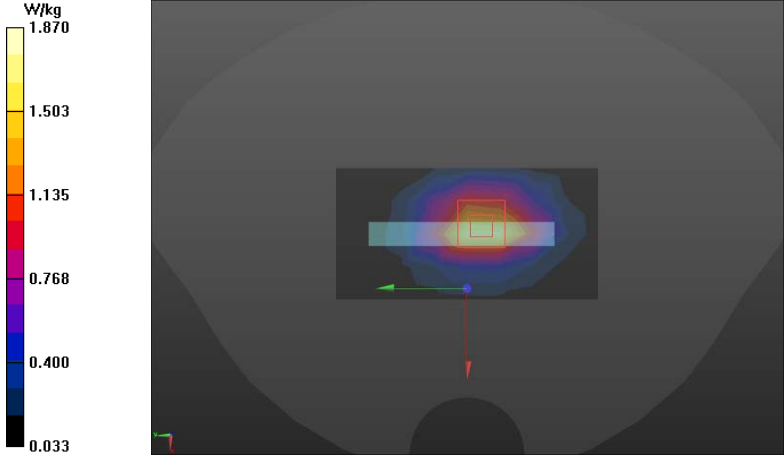
Left Side	Cheek
Communication System: UID 0, cdma 835 (0); Frequency: 836.52 MHz Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.905$ S/m; $\epsilon_r = 41.528$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017, ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Left HSL/CDMA2000 BC0 HSL touch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.117 W/kg Head-Section Left HSL/CDMA2000 BC0 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=6mm, dy=6mm, dz=5mm Reference Value = 4.827 V/m; Power Drift = -0.02 dB Peak SAR (extrapolated) = 0.140 W/kg SAR(1 g) = 0.107 W/kg; SAR(10 g) = 0.080 W/kg Maximum value of SAR (measured) = 0.117 W/kg 	

FLAT(Ev-Do Rev. 0)	Towards ground
Communication System: UID 0, cdma 835 (0); Frequency: 836.52 MHz Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.975$ S/m; $\epsilon_r = 54.535$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017, ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Flat-Section MSL TG/CDMA2000 BC0 TG M 10mm M/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.494 W/kg Flat-Section MSL TG/CDMA2000 BC0 TG M 10mm M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 10.53 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 0.700 W/kg SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.243 W/kg Maximum value of SAR (measured) = 0.503 W/kg	
	

CDMA BC1

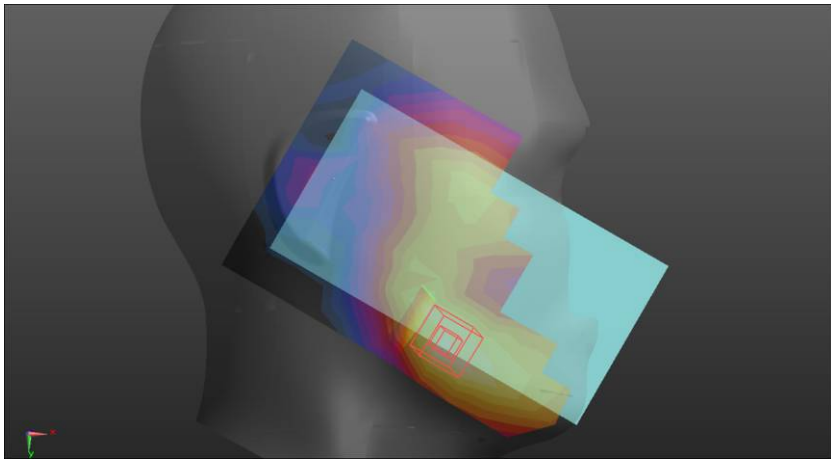
Variant product

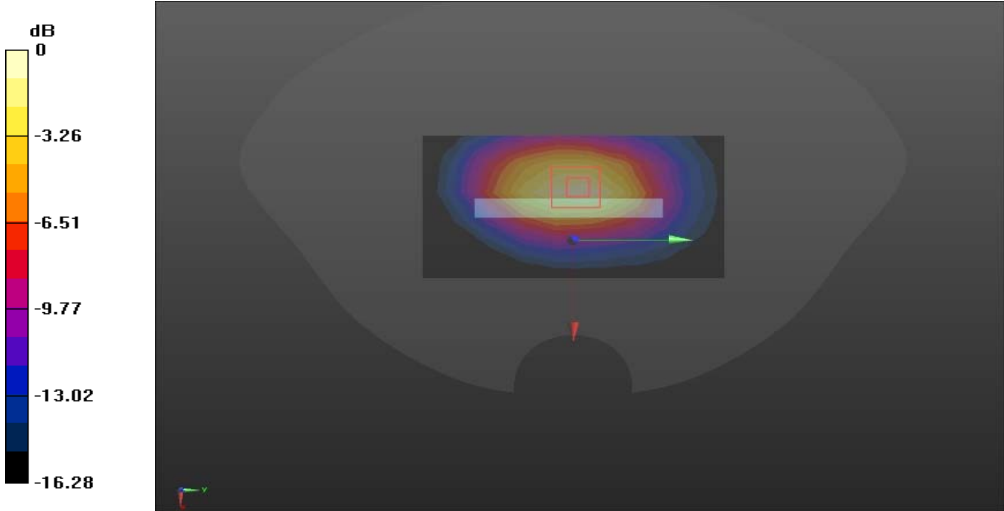
Right Side	Cheek
Communication System: UID 0, cdma 2000 1900 (0); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 2017/11/7; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -4.0, 31.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) CDMA2000 1900 RIGHT/CDMA2000 1900 RC/Area Scan (9x14x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.0905 W/kg CDMA2000 1900 RIGHT/CDMA2000 1900 RC/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 2.975 V/m; Power Drift = -0.10 dB Peak SAR (extrapolated) = 0.107 W/kg SAR(1 g) = 0.073 W/kg; SAR(10 g) = 0.033 W/kg Maximum value of SAR (measured) = 0.0933 W/kg	
	

FLAT	EDGE2
Communication System: UID 0, cdma 2000 1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:1 Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 52.717$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017, ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Flat-Section MSL HOT/CDMA2000 BC1 edge 2 M RC3 SO55/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.70 W/kg Flat-Section MSL HOT/CDMA2000 BC1 edge 2 M RC3 SO55/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 35.10 V/m; Power Drift = -0.04 dB Peak SAR (extrapolated) = 2.23 W/kg SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.691 W/kg Maximum value of SAR (measured) = 1.87 W/kg	
 The figure displays a color scale for SAR values in W/kg, ranging from 0.033 (dark blue) to 1.870 (yellow). To the right of the scale is a heatmap visualization of the measurement area, showing a central region of high SAR intensity (yellow/orange) surrounded by lower intensity areas (blue/green). A small rectangular region is highlighted in the center of the heatmap, corresponding to the area of interest for the SAR measurements.	

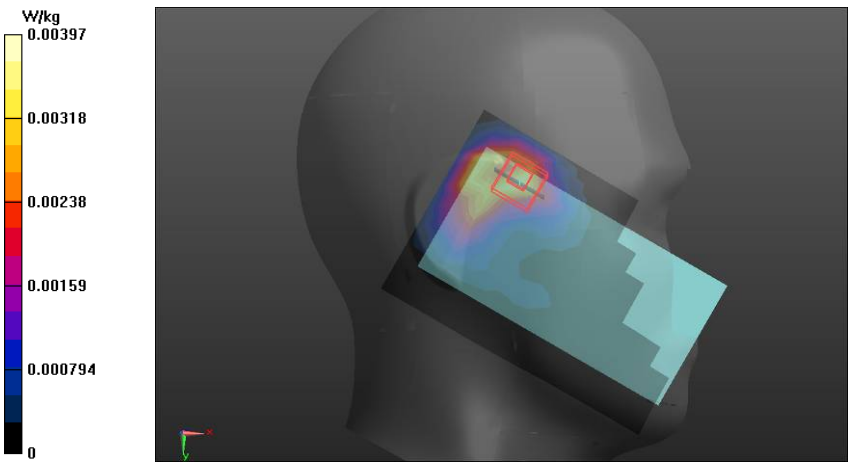
WCDMA Band 2

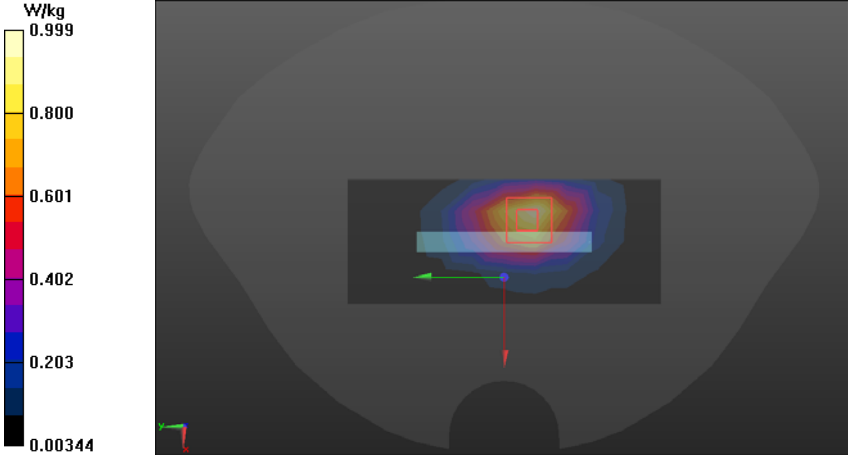
Original product

Right Side	Cheek
Communication System: UID 0, band 2 (0); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.465$ S/m; $\epsilon_r = 40.422$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL Wband2/Wband2 HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.173 W/kg Head-Section Right HSL Wband2/Wband2 HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 2.855 V/m; Power Drift = -0.01 dB Peak SAR (extrapolated) = 0.222 W/kg SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.086 W/kg Maximum value of SAR (measured) = 0.194 W/kg dB 0 -3.54 -7.07 -10.61 -14.14 -17.68  0 dB = 0.194 W/kg = -7.12 dBW/kg	

FLAT	EDGE2
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1880 MHz.95434 Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 52.717$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) HOT/WCDMA BAND2 EDGE2 data/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.868 W/kg Flat-Section WCDMA HOT/WCDMA BAND2 EDGE2 data/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 18.96 V/m; Power Drift = 0.16 dB Peak SAR (extrapolated) = 1.25 W/kg SAR(1 g) = 0.742 W/kg; SAR(10 g) = 0.416 W/kg Maximum value of SAR (measured) = 0.914 W/kg	
 0 dB = 0.914 W/kg = -0.39 dBW/kg	

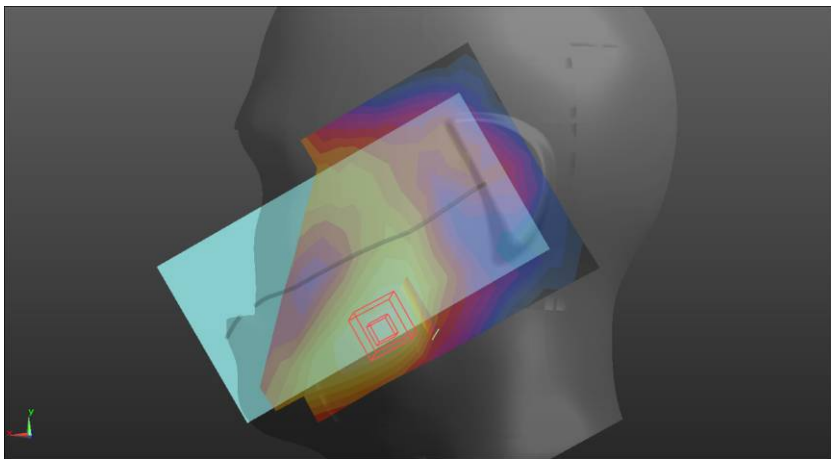
Variant product

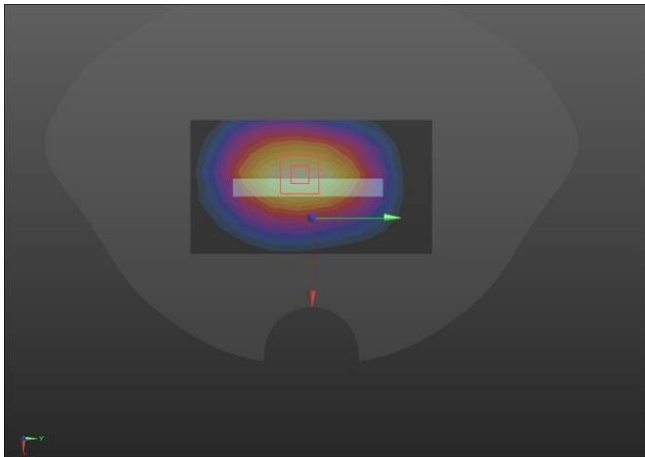
Right Side	Cheek
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017, ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Right HSL/WCDMA2 HSL touch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.112 W/kg Head-Section Right HSL/WCDMA2 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=6mm, dy=6mm, dz=5mm Reference Value = 2.758 V/m; Power Drift = 0.00 dB Peak SAR (extrapolated) = 0.0100 W/kg SAR(1 g) = 0.00355 W/kg; SAR(10 g) = 0.0011 W/kg Maximum value of SAR (measured) = 0.00397 W/kg	
	

FLAT	EDGE2
Communication System: UID 0, WCDMA band 02 (0); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880 \text{ MHz}$; $\sigma = 1.526 \text{ S/m}$; $\epsilon_r = 53.291$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration 4/WCDMA BAND2 M edge 2 #2/Area Scan (5x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.999 W/kg Configuration 4/WCDMA BAND2 M edge 2 #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 20.53 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 1.60 W/kg SAR(1 g) = 0.928 W/kg; SAR(10 g) = 0.514 W/kg Maximum value of SAR (measured) = 1.16 W/kg	
	

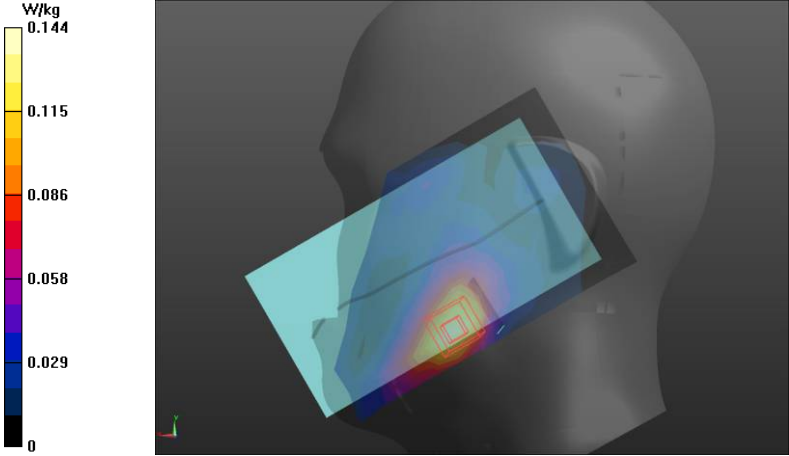
WCDMA Band 4

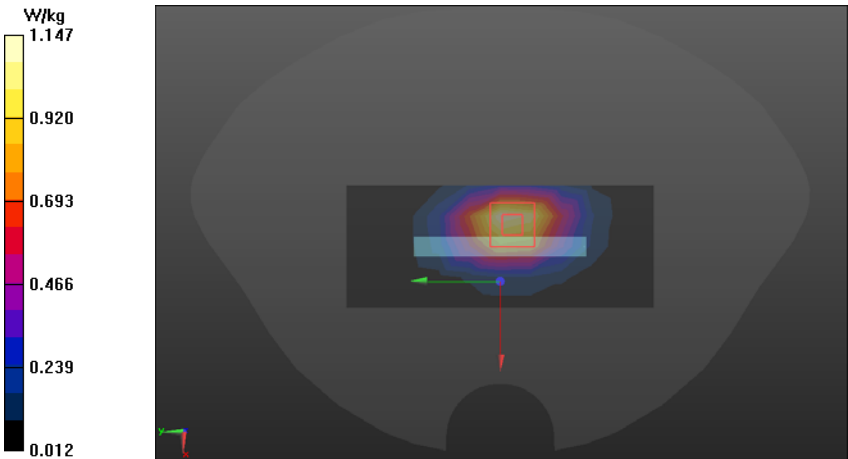
Original product

Left Side	Cheek
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1732.6 MHz.95434 Medium parameters used (interpolated): $f = 1732.6$ MHz; $\sigma = 1.363$ S/m; $\epsilon_r = 40.678$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Left HSL Wband4/Wband4 HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.156 W/kg Head-Section Left HSL Wband4/Wband4 HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 4.685 V/m; Power Drift = -0.15 dB Peak SAR (extrapolated) = 0.226 W/kg SAR(1 g) = 0.148 W/kg; SAR(10 g) = 0.093 W/kg Maximum value of SAR (measured) = 0.200 W/kg dB 0 -3.80 -7.60 -11.41 -15.21 -19.01  0 dB = 0.200 W/kg = -6.99 dBW/kg	

FLAT	EDGE2
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1752.6 MHz.95434 Medium parameters used (interpolated): $f = 1732.6$ MHz; $\sigma = 1.363$ S/m; $\epsilon_r = 40.678$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section WCDMA HOT/WCDMA BAND4 EDGE2 DATA H/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.26 W/kg Flat-Section WCDMA HOT/WCDMA BAND4 EDGE2 DATA H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 26.87 V/m; Power Drift = -0.13 dB Peak SAR (extrapolated) = 1.71 W/kg SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.597 W/kg dB 0 -3.15 -6.30 -9.44 -12.59 -15.74  0 dB = 1.26 W/kg = 1.00 dBW/kg	

Variant product

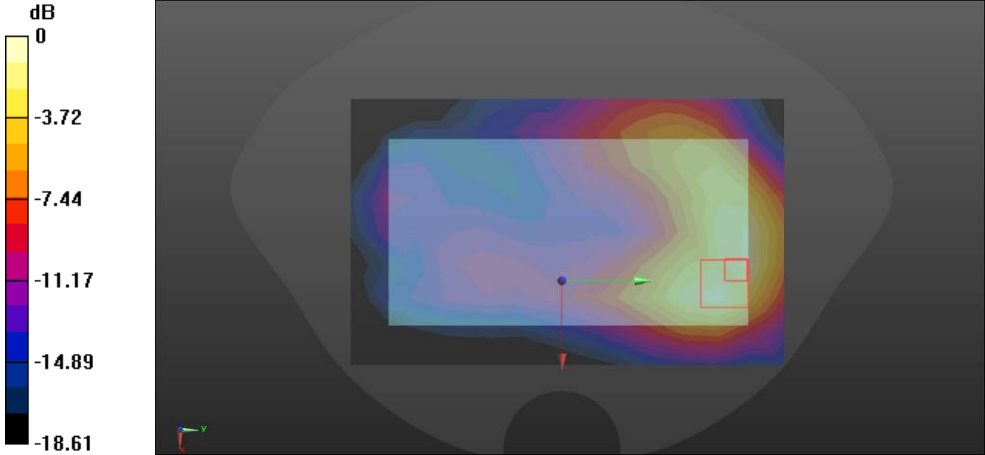
Left Side	Cheek
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1732.6 MHz Medium parameters used (interpolated): $f = 1732.6$ MHz; $\sigma = 1.376$ S/m; $\epsilon_r = 40.07$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017, ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Left HSL/WCDMA4 HSL touch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.144 W/kg Head-Section Left HSL/WCDMA4 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=6mm, dy=6mm, dz=5mm Reference Value = 5.054 V/m; Power Drift = -0.12 dB Peak SAR (extrapolated) = 0.191 W/kg SAR(1 g) = 0.127 W/kg; SAR(10 g) = 0.078 W/kg. Maximum value of SAR (measured) = 0.151 W/kg 	

FLAT	EDGE2
Communication System: UID 0, WCDMA band 04 (0); Frequency: 1752.6 MHz Medium parameters used (interpolated): $f = 1752.6 \text{ MHz}$; $\sigma = 1.49 \text{ S/m}$; $\epsilon_r = 53.401$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration 4/WCDMA BAND4 H edge 2 #2/Area Scan (5x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 1.15 W/kg Configuration 4/WCDMA BAND4 H edge 2 #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 24.23 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 1.94 W/kg SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.622 W/kg Maximum value of SAR (measured) = 1.39 W/kg	
	

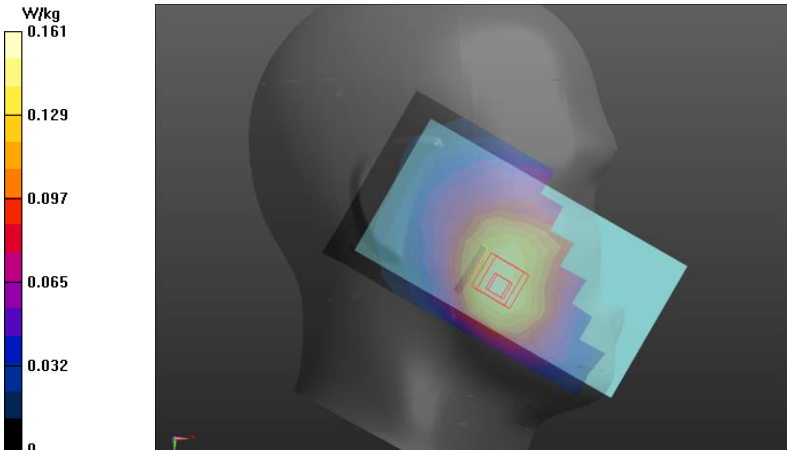
WCDMA Band 5

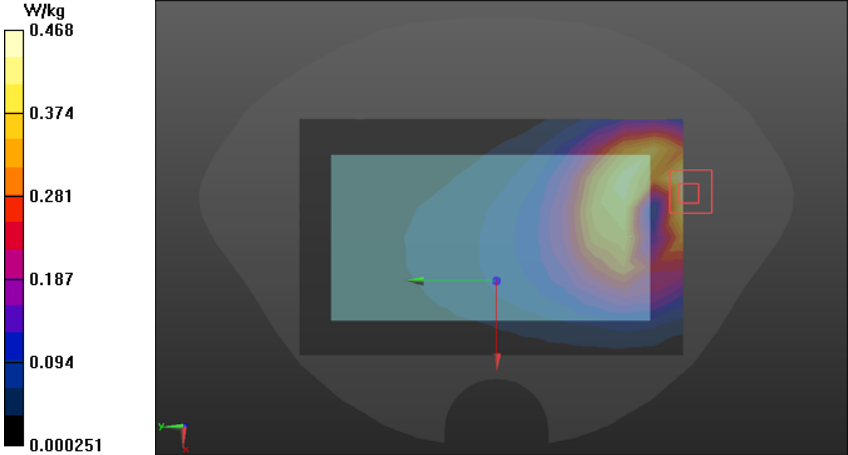
Original product

Right Side	Cheek
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 836.6 MHz.95434 Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 42.52$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL Wband5/Wband5 HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0633 W/kg Head-Section Right HSL Wband5/Wband5 HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.149 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 0.0710 W/kg SAR(1 g) = 0.054 W/kg; SAR(10 g) = 0.042 W/kg Maximum value of SAR (measured) = 0.0647 W/kg dB 0 -2.13 -4.26 -6.39 -8.52 -10.65 0 dB = 0.0647 W/kg = -11.89 dBW/kg	

FLAT(VIOCE)	Towards phantom
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 836.6 MHz.95434 Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 54.535$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL Wband5 TP/WCDMA BAND5 VOICE TP M 10mm/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.487 W/kg Flat-Section MSL Wband5 TP/WCDMA BAND5 VOICE TP M 10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 5.500 V/m; Power Drift = 0.06 dB Peak SAR (extrapolated) = 0.614 W/kg SAR(1 g) = 0.338 W/kg; SAR(10 g) = 0.187 W/kg Maximum value of SAR (measured) = 0.516 W/kg	
 0 dB = 0.516 W/kg = -2.87 dBW/kg	

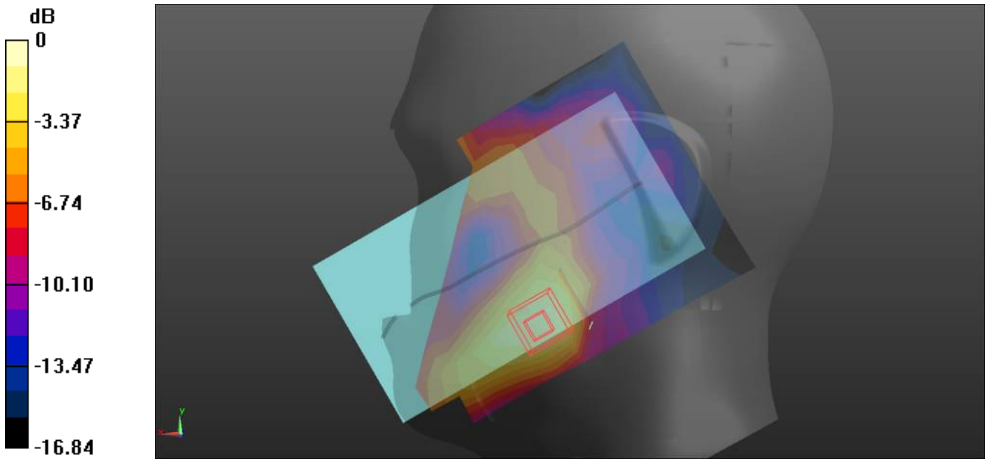
Variant product

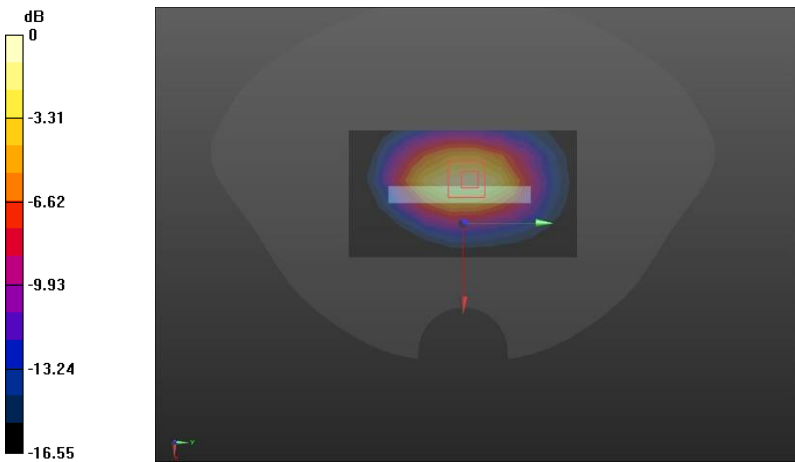
Right Side	Cheek
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 836.6 MHz Medium parameters used (interpolated): $f = 836.6 \text{ MHz}$; $\sigma = 0.905 \text{ S/m}$; $\epsilon_r = 41.528$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017, ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Right HSL/WCDMA5 HSL touch/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.161 W/kg Head-Section Right HSL/WCDMA5 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=6\text{mm}$, $dy=6\text{mm}$, $dz=5\text{mm}$ Reference Value = 5.481 V/m; Power Drift = 0.18 dB Peak SAR (extrapolated) = 0.180 W/kg SAR(1 g) = 0.144 W/kg; SAR(10 g) = 0.110 W/kg Maximum value of SAR (measured) = 0.157 W/kg	
	

FLAT(VIOCE)	Towards phantom
Communication System: UID 0, wcdma band5 (0); Frequency: 836.6 MHz Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 55.195$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) TP&TG/WCDMA BAND 5 TP M #2/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.468 W/kg TP&TG/WCDMA BAND 5 TP M #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 9.114 V/m; Power Drift = -0.06 dB Peak SAR (extrapolated) = 0.623 W/kg SAR(1 g) = 0.389 W/kg; SAR(10 g) = 0.232 W/kg Maximum value of SAR (measured) = 0.470 W/kg	
	

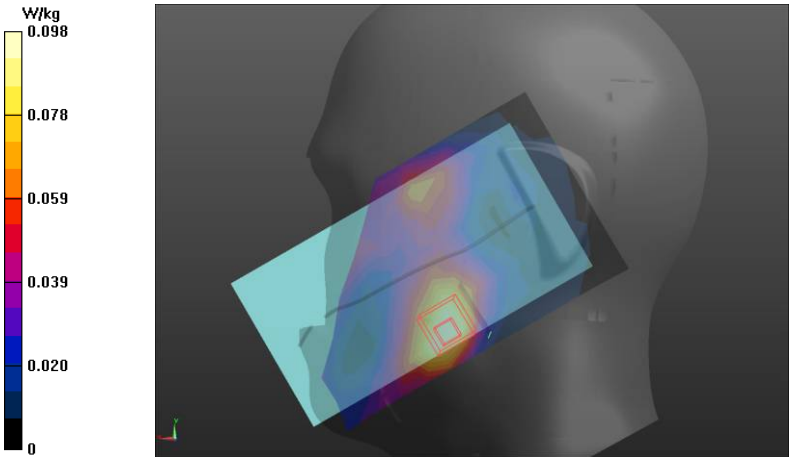
LTE Band2 20BW\

Original product

Left Side	Cheek
Communication System: UID 0, LTE band 02 (0); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.465$ S/m; $\epsilon_r = 40.422$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Left HSL LTE band2/LTE band2 20MHz 1RB HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.123 W/kg Head-Section Left HSL LTE band2/LTE band2 20MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.281 V/m; Power Drift = 0.16 dB Peak SAR (extrapolated) = 0.182 W/kg SAR(1 g) = 0.111 W/kg; SAR(10 g) = 0.068 W/kg Maximum value of SAR (measured) = 0.153 W/kg	
 0 dB = 0.153 W/kg = -8.15 dBW/kg	

FLAT	EDGE2
Communication System: UID 0, LTE band 02 (0); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 52.717$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section LTE HOT/LTE BAND2 EDGE2/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.951 W/kg Flat-Section LTE HOT/LTE BAND2 EDGE2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 20.64 V/m; Power Drift = 0.10 dB Peak SAR (extrapolated) = 1.31 W/kg SAR(1 g) = 0.779 W/kg; SAR(10 g) = 0.434 W/kg  0 dB = 0.951 W/kg = -0.22 dBW/kg	

Variant product

Left Side	Cheek
Communication System: UID 0, LTE BAND2 (0); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017, ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Left HSL/LTE2 HSL touch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0977 W/kg Head-Section Left HSL/LTE2 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=6mm, dy=6mm, dz=5mm Reference Value = 4.051 V/m; Power Drift = 0.05 dB Peak SAR (extrapolated) = 0.129 W/kg SAR(1 g) = 0.085 W/kg; SAR(10 g) = 0.054 W/kg Maximum value of SAR (measured) = 0.0992 W/kg 	

FLAT	EDGE2
Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1880 MHz Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.526$ S/m; $\epsilon_r = 53.291$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration 4/LTE BAND2 1RB M edge 2 #2/Area Scan (5x11x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.845 W/kg Configuration 4/LTE BAND2 1RB M edge 2 #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 21.83 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 1.42 W/kg SAR(1 g) = 0.854 W/kg; SAR(10 g) = 0.477 W/kg Maximum value of SAR (measured) = 1.05 W/kg	

LTE Band4 20BW

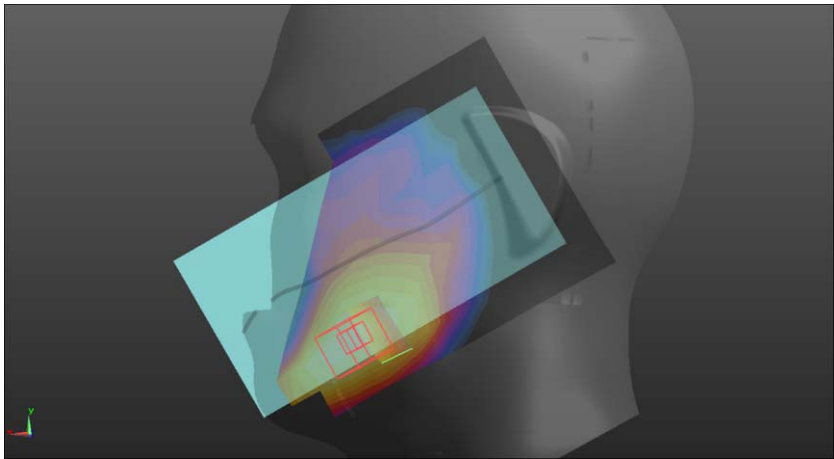
Variant product

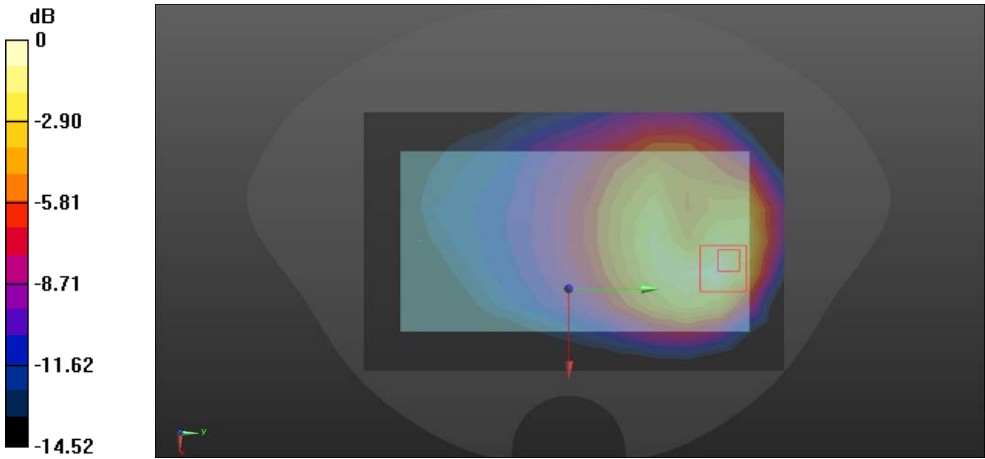
Left Side	Cheek
Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1732.5 MHz Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.363$ S/m; $\epsilon_r = 40.678$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(5.06, 5.06, 5.06); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Left LTE BAND4/LTE BAND4 LC 1RB/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0772 W/kg Head-Section Left LTE BAND4/LTE BAND4 LC 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.510 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 0.108 W/kg SAR(1 g) = 0.066 W/kg; SAR(10 g) = 0.041 W/kg Maximum value of SAR (measured) = 0.0786 W/kg dB 0 -3.35 -6.69 -10.04 -13.38 -16.73 0 dB = 0.0786 W/kg = -11.05 dBW/kg	

FLAT	EDGE2
Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1732.5 MHz Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.477$ S/m; $\epsilon_r = 53.46$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE BAND4 HOT/LTE BAND4 M2 edge 2/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.01 W/kg Flat-Section MSL LTE BAND4 HOT/LTE BAND4 M2 edge 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 21.42 V/m; Power Drift = 0.00 dB Peak SAR (extrapolated) = 1.69 W/kg SAR(1 g) = 0.978 W/kg; SAR(10 g) = 0.548 W/kg Maximum value of SAR (measured) = 1.21 W/kg dB 0 -3.31 -6.62 -9.92 -13.23 -16.54 0 dB = 1.21 W/kg = 0.83 dBW/kg	

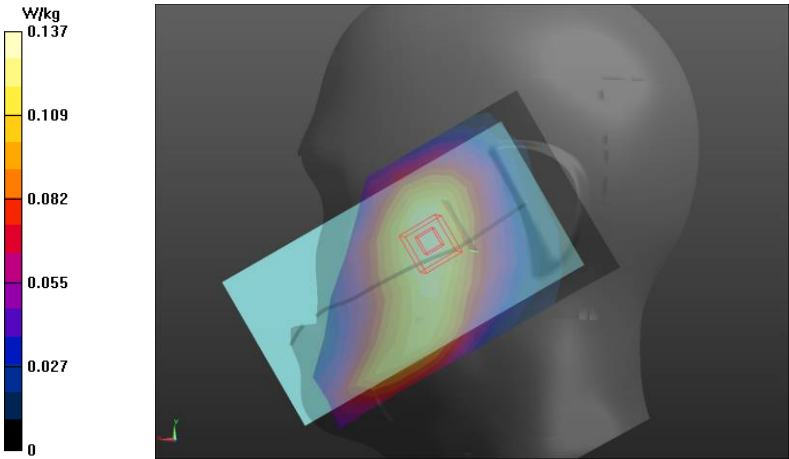
LTE Band5 10BW

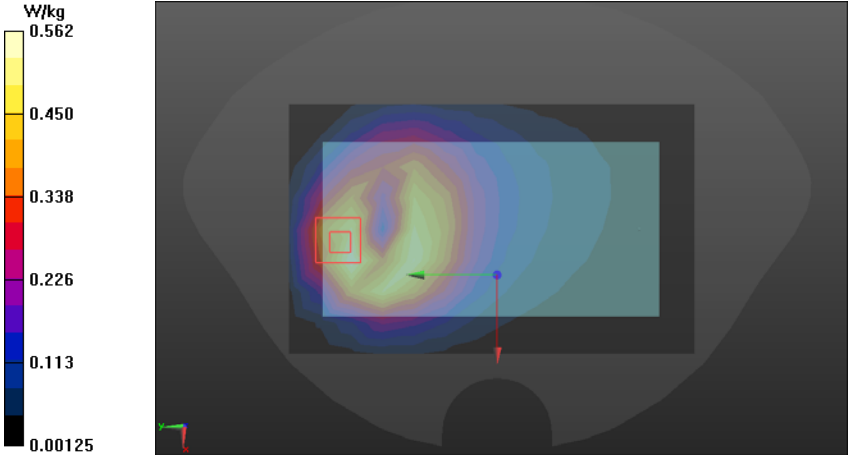
Original product

Left Side	Cheek
Communication System: UID 0, LTE Band 05 (0); Frequency: 836.5 MHz Medium parameters used (interpolated): $f = 836.5 \text{ MHz}$; $\sigma = 0.913 \text{ S/m}$; $\epsilon_r = 42.521$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Left HSL LTE band5/LTE band5 10MHz 1RB HSL touch M/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.0287 W/kg Head-Section Left HSL LTE band5/LTE band5 10MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 0.8090 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 0.0330 W/kg SAR(1 g) = 0.024 W/kg; SAR(10 g) = 0.018 W/kg Maximum value of SAR (measured) = 0.0294 W/kg dB 0 -1.94 -3.88 -5.82 -7.76 -9.70  0 dB = 0.0294 W/kg = -15.32 dBW/kg	

FLAT	Towards phantom
Communication System: UID 0, LTE Band 05 (0); Frequency: 836.5 MHz Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.975$ S/m; $\epsilon_r = 54.535$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE band5 TP/LTE band5 TP M 1RB/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.286 W/kg Flat-Section MSL LTE band5 TP/LTE band5 TP M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 7.155 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 0.355 W/kg SAR(1 g) = 0.200 W/kg; SAR(10 g) = 0.118 W/kg Maximum value of SAR (measured) = 0.292 W/kg  0 dB = 0.292 W/kg = -5.35 dBW/kg	

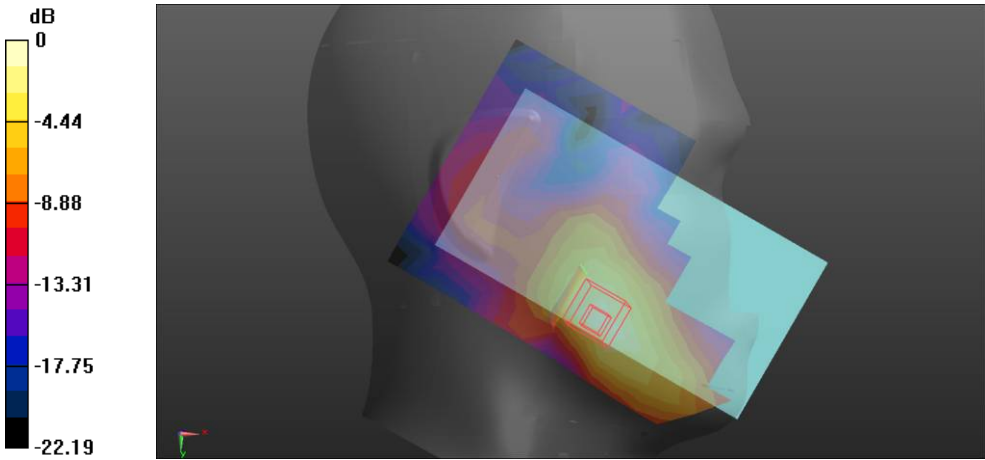
Variant product

Left Side	Cheek
Communication System: UID 0, LTE BAND5 (0); Frequency: 836.5 MHz Medium parameters used (interpolated): $f = 836.5 \text{ MHz}$; $\sigma = 0.905 \text{ S/m}$; $\epsilon_r = 41.528$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017, ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Left HSL/LTE5 HSL touch/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.137 W/kg Head-Section Left HSL/LTE5 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=6\text{mm}$, $dy=6\text{mm}$, $dz=5\text{mm}$ Reference Value = 4.760 V/m; Power Drift = 0.16 dB Peak SAR (extrapolated) = 0.155 W/kg SAR(1 g) = 0.122 W/kg; SAR(10 g) = 0.092 W/kg Maximum value of SAR (measured) = 0.134 W/kg	
	

FLAT	Towards phantom
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 836.5 MHz Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 55.195$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) TP&TG/LTE BAND 5 TP 1RB M #2/Area Scan (9x14x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.562 W/kg TP&TG/LTE BAND 5 TP 1RB M #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 12.68 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 0.837 W/kg SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.307 W/kg Maximum value of SAR (measured) = 0.633 W/kg 	

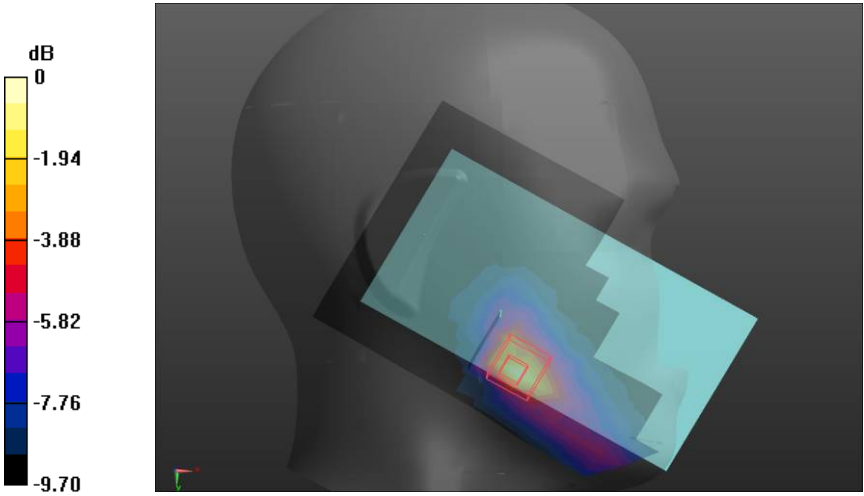
LTE Band 7 20BW

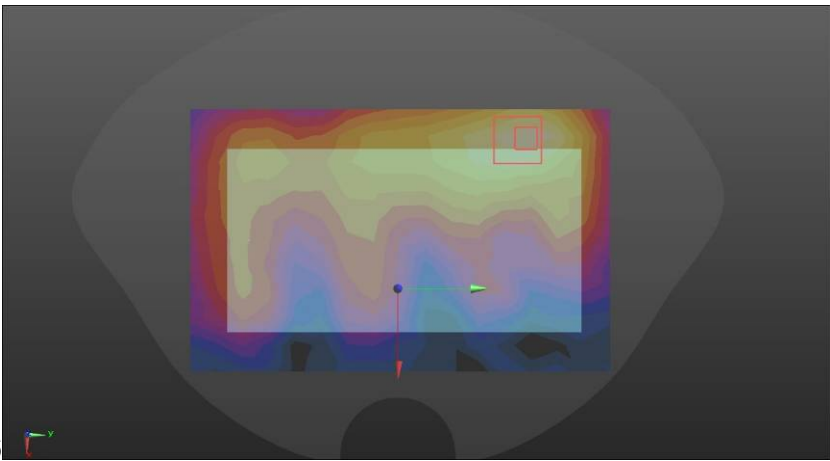
Original product

Right Side	Cheek
Communication System: UID 0, LTE band 07 (0); Frequency: 2535 MHz Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 1.951$ S/m; $\epsilon_r = 39.388$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.19, 7.19, 7.19); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL LTE band7/LTE band7 20MHz 1RB HSL touch M/Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.272 W/kg Head-Section Right HSL LTE band7/LTE band7 20MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 2.773 V/m; Power Drift = 0.07 dB Peak SAR (extrapolated) = 0.335 W/kg SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.102 W/kg Maximum value of SAR (measured) = 0.276 W/kg  0 dB = 0.276 W/kg = -5.59 dBW/kg	

FLAT	Towards ground
Communication System: UID 0, LTE band 07 (0); Frequency: 2535 MHz Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 2.142$ S/m; $\epsilon_r = 51.783$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708 ;ConvF(7.3, 7.3, 7.3); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE band7 TG/LTE band7 TG M 1RB/Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.475 W/kg Flat-Section MSL LTE band7 TG/LTE band7 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 6.453 V/m; Power Drift = 0.03 dB Peak SAR (extrapolated) = 0.661 W/kg SAR(1 g) = 0.329 W/kg; SAR(10 g) = 0.169 W/kg Maximum value of SAR (measured) = 0.529 W/kg dB 0 -4.36 -8.72 -13.09 -17.45 -21.81 0 dB = 0.529 W/kg = -2.77 dBW/kg	

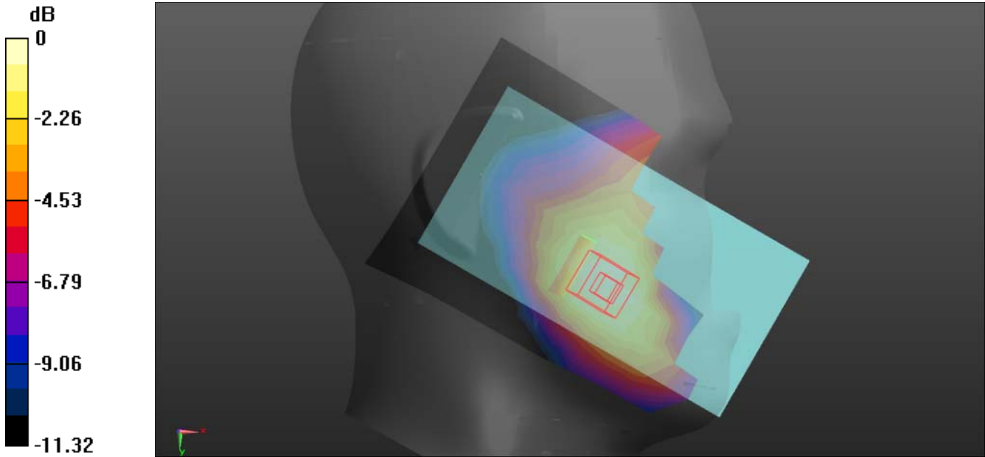
Variant product

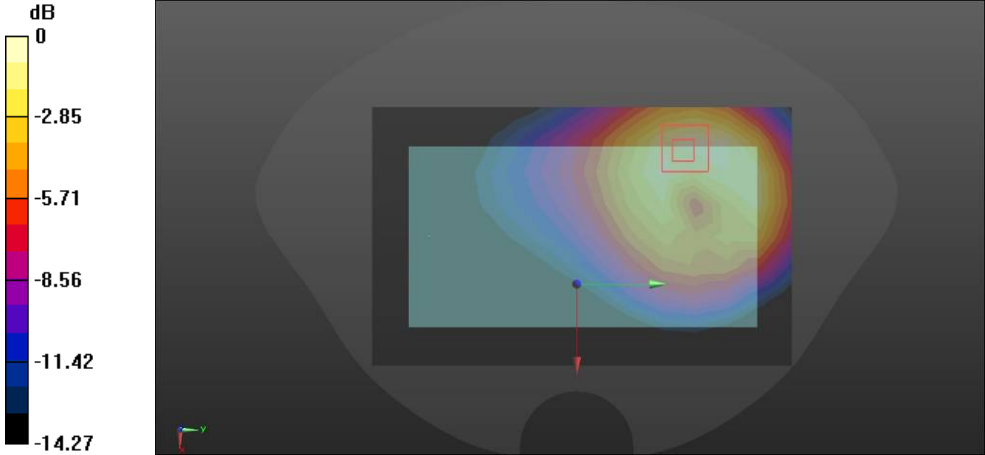
Right Side	Cheek
Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 2535 MHz Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 1.951$ S/m; $\epsilon_r = 39.388$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.32, 4.32, 4.32); Calibrated: 10/11/2017, ConvF(4.32, 4.32, 4.32); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.11 (7437) Head-Section right LTE BAND7/LTE BAND7 RC 1RB/Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.210 W/kg Head-Section right LTE BAND7/LTE BAND7 RC 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 1.764 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 0.272 W/kg SAR(1 g) = 0.088 W/kg; SAR(10 g) = 0.036 W/kg Maximum value of SAR (measured) = 0.206 W/kg  0 dB = 0.206 W/kg = -6.86 dBW/kg	

FLAT	Towards phantom
Communication System: UID 0, LTE band 07 (0); Frequency: 2535 MHz Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 2.142$ S/m; $\epsilon_r = 51.783$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.3, 7.3, 7.3); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE band7 TG/LTE band7 TG M 1RB/Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.511 W/kg Flat-Section MSL LTE band7 TG/LTE band7 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 4.570 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 0.629 W/kg SAR(1 g) = 0.470 W/kg; SAR(10 g) = 0.260 W/kg Maximum value of SAR (measured) = 0.512 W/kg dB 0 -4.83 -9.66 -14.48 -19.31 -24.14  0 dB = 0.512 W/kg = -2.91 dBW/kg	

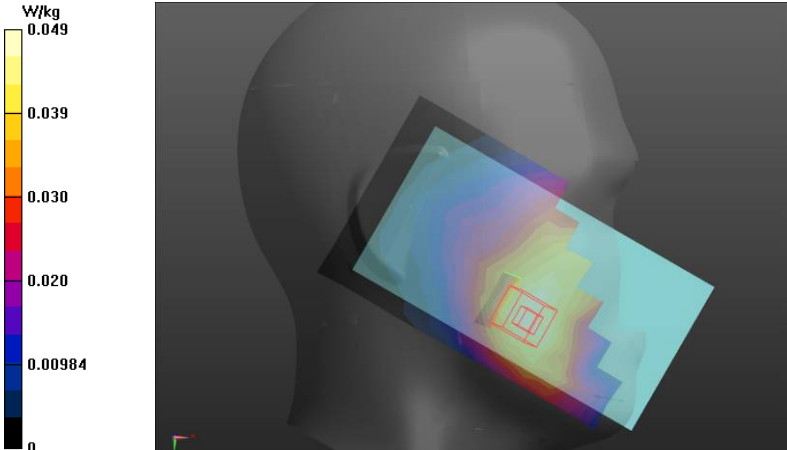
LTE Band12 10BW

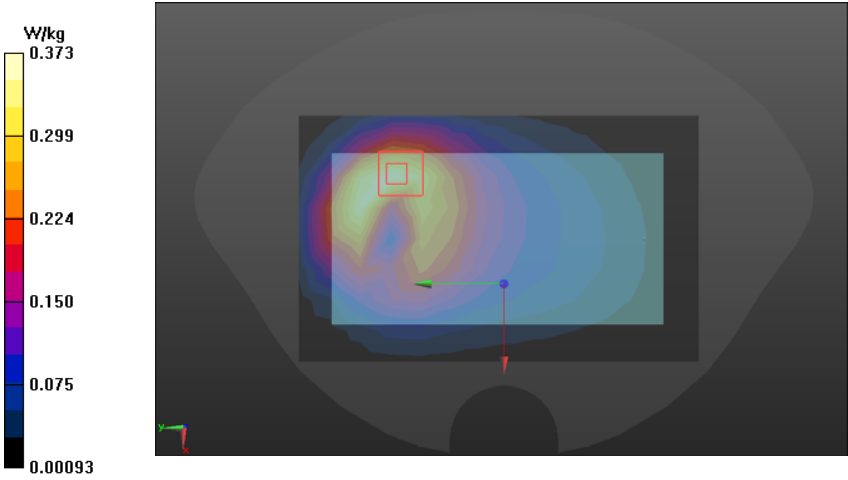
Original product

Right Side	Cheek
Communication System: UID 0, LTE Band 12 (0); Frequency: 707.5 MHz Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.887$ S/m; $\epsilon_r = 42.115$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 Right HSL LTE band12/LTE band12 10MHz 1RB HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0269 W/kg Head-Section Right HSL LTE band12/LTE band12 10MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 1.553 V/m; Power Drift = 0.05 dB Peak SAR (extrapolated) = 0.0310 W/kg SAR(1 g) = 0.024 W/kg; SAR(10 g) = 0.018 W/kg Maximum value of SAR (measured) = 0.0267 W/kg  0 dB = 0.0267 W/kg = -15.73 dBW/kg	

FLAT	Towards ground
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 707.5 MHz Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.965$ S/m; $\epsilon_r = 53.446$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 LTE band12 TG/LTE band12 TG M 1RB/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.156 W/kg Flat-Section MSL LTE band12 TG/LTE band12 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 4.036 V/m; Power Drift = 0.10 dB Peak SAR (extrapolated) = 0.220 W/kg SAR(1 g) = 0.140 W/kg; SAR(10 g) = 0.087 W/kg Maximum value of SAR (measured) = 0.164 W/kg  0 dB = 0.164 W/kg = -7.85 dBW/kg	

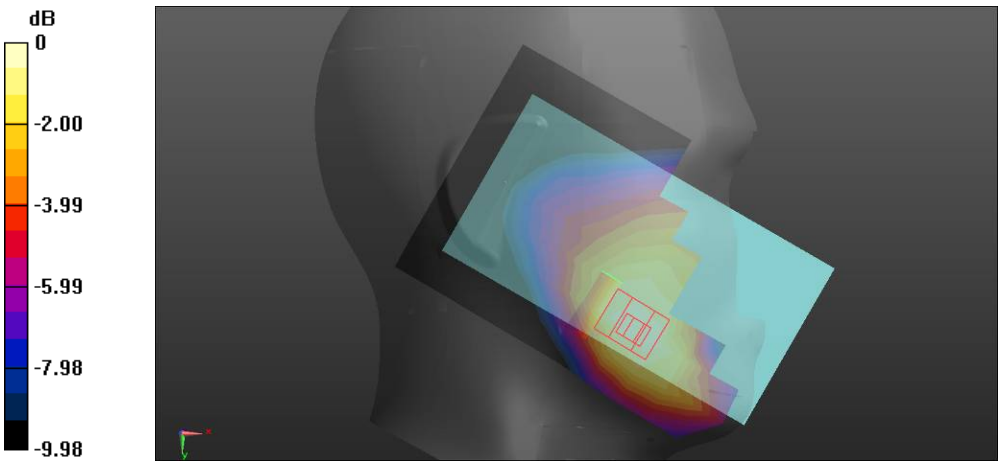
Variant product

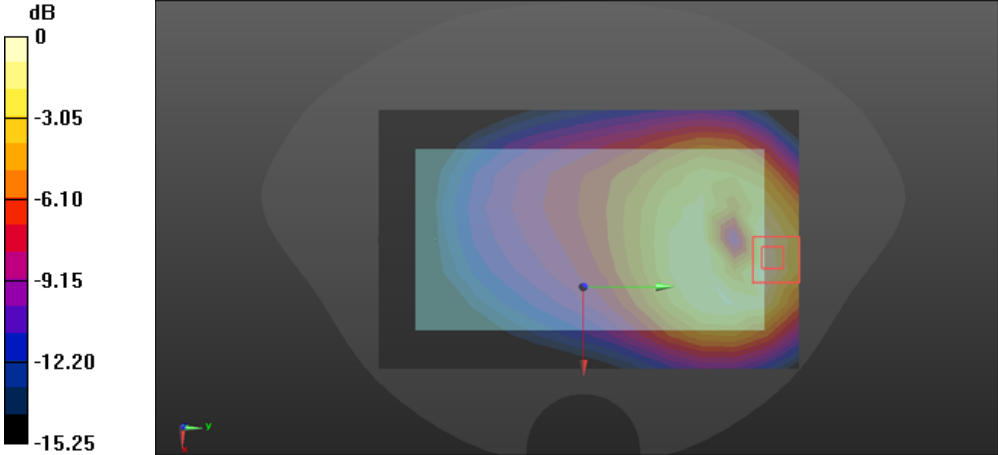
Right Side	Cheek
Communication System: UID 0, LTE BAND12 (0); Frequency: 707.5 MHz Medium parameters used (interpolated): $f = 707.5 \text{ MHz}$; $\sigma = 0.887 \text{ S/m}$; $\epsilon_r = 42.115$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 10/11/2017, ConvF(6.26, 6.26, 6.26); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 9/15/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) 3127 right/LTE12 HSL touch/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.0492 W/kg 3127 right/LTE12 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=6\text{mm}$, $dy=6\text{mm}$, $dz=5\text{mm}$ Reference Value = 2.552 V/m; Power Drift = 0.80 dB Peak SAR (extrapolated) = 0.0560 W/kg SAR(1 g) = 0.045 W/kg; SAR(10 g) = 0.035 W/kg Maximum value of SAR (measured) = 0.0494 W/kg	
	

FLAT	Towards ground
Communication System: UID 0, LTE Band 12 (0); Frequency: 707.5 MHz Medium parameters used (interpolated): $f = 707.5 \text{ MHz}$; $\sigma = 0.955 \text{ S/m}$; $\epsilon_r = 55.657$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASy5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) TG&TP OVER2G/LTE BAND 12 TG M #2/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.373 W/kg TG&TP OVER2G/LTE BAND 12 TG M #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 11.40 V/m; Power Drift = 0.03 dB Peak SAR (extrapolated) = 0.530 W/kg SAR(1 g) = 0.317 W/kg; SAR(10 g) = 0.197 W/kg Maximum value of SAR (measured) = 0.378 W/kg	
	

LTE Band 13 10BW

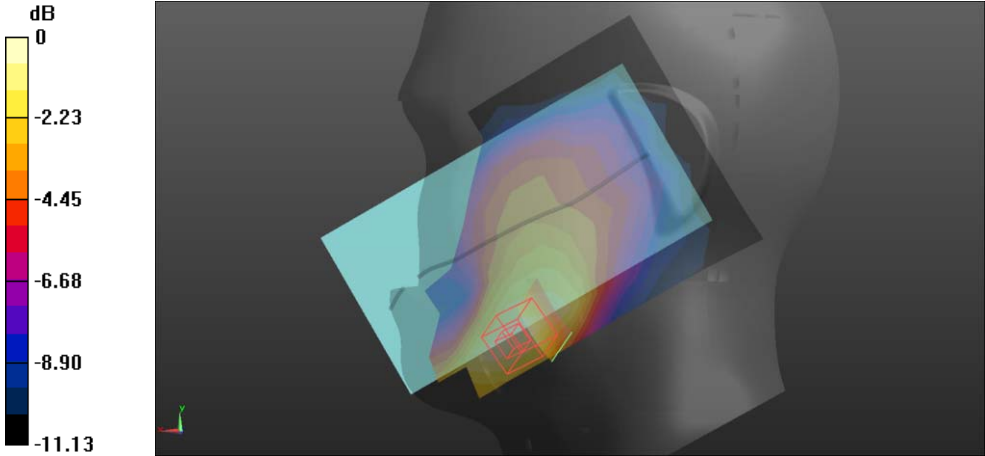
Variant product

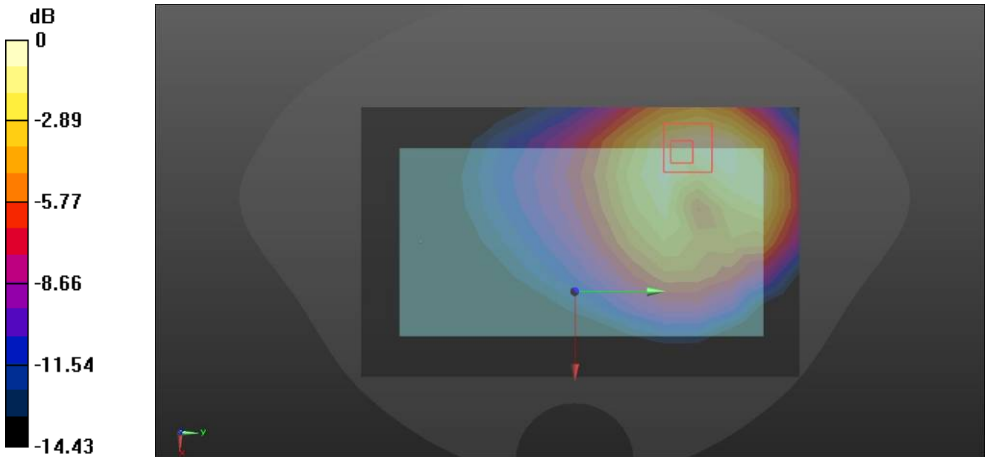
Right Side	Cheek
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 782 MHz Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.893 \text{ S/m}$; $\epsilon_r = 42.764$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section right LTE BAND13/LTE BAND13 RC 1RB/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.133 W/kg Head-Section right LTE BAND13/LTE BAND13 RC 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 3.776 V/m; Power Drift = -0.10 dB Peak SAR (extrapolated) = 0.157 W/kg SAR(1 g) = 0.124 W/kg; SAR(10 g) = 0.094 W/kg Maximum value of SAR (measured) = 0.136 W/kg  0 dB = 0.136 W/kg = -8.66 dBW/kg	

FLAT	Towards phantom
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 782 MHz Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.962 \text{ S/m}$; $\epsilon_r = 55.384$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE BAND13 TP/LTE ABND13 TP M 10mm 1RB/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.575 W/kg Flat-Section MSL LTE BAND13 TP/LTE ABND13 TP M 10mm 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 10.84 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 0.812 W/kg SAR(1 g) = 0.479 W/kg; SAR(10 g) = 0.276 W/kg Maximum value of SAR (measured) = 0.571 W/kg	
 0 dB = 0.571 W/kg = -2.43 dBW/kg	

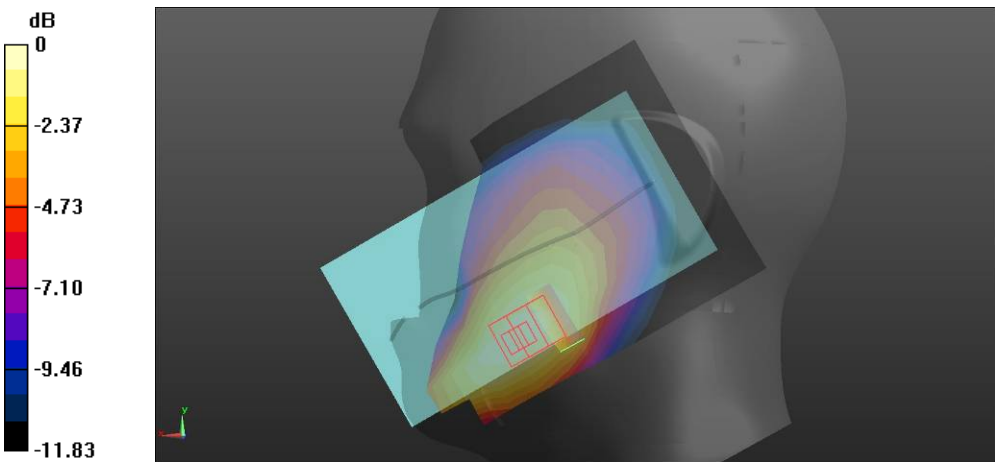
LTE Band 14 10BW

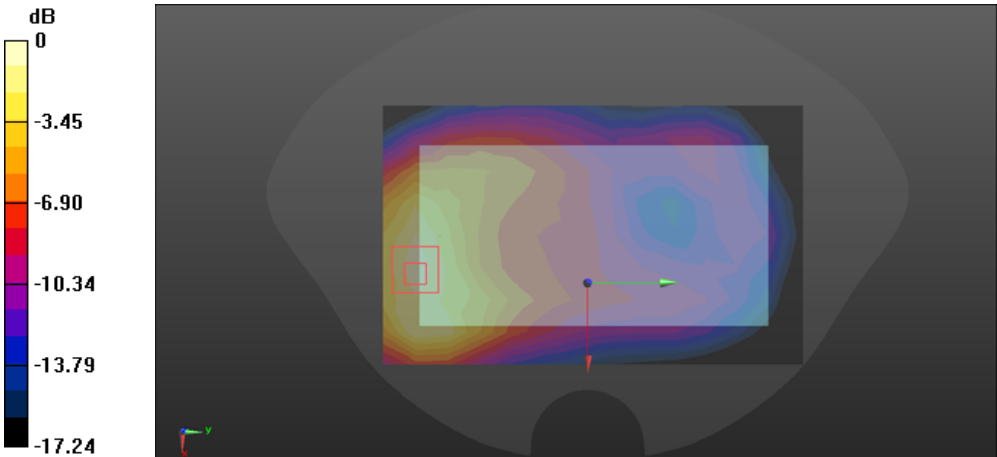
Original product

Left Side	Cheek
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 793 MHz Medium parameters used (interpolated): $f = 793$ MHz; $\sigma = 0.894$ S/m; $\epsilon_r = 41.647$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 Left HSL LTE band14/LTE band14 10MHz 1RB HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0263 W/kg Head-Section Left HSL LTE band14/LTE band14 10MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 1.960 V/m; Power Drift = 0.07 dB Peak SAR (extrapolated) = 0.0330 W/kg SAR(1 g) = 0.024 W/kg; SAR(10 g) = 0.017 W/kg Maximum value of SAR (measured) = 0.0268 W/kg  0 dB = 0.0268 W/kg = -15.72 dBW/kg	

FLAT	Towards ground
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 793 MHz Medium parameters used (interpolated): $f = 793 \text{ MHz}$; $\sigma = 0.994 \text{ S/m}$; $\epsilon_r = 53.261$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 LTE band14 TG/LTE band14 TG M 1RB/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.144 W/kg Flat-Section MSL LTE band14 TG/LTE band14 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 4.287 V/m; Power Drift = 0.11 dB Peak SAR (extrapolated) = 0.199 W/kg SAR(1 g) = 0.128 W/kg; SAR(10 g) = 0.079 W/kg Maximum value of SAR (measured) = 0.150 W/kg  0 dB = 0.150 W/kg = -8.24 dBW/kg	

Variant product

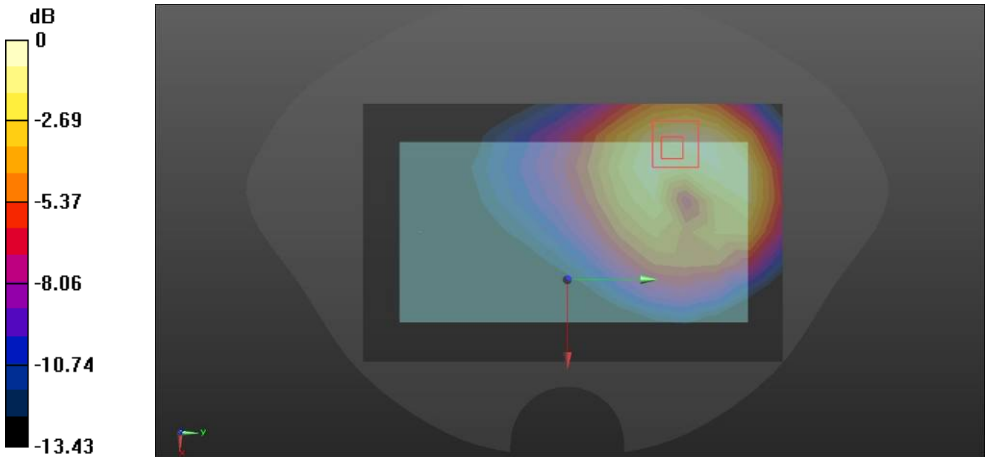
Left Side	Cheek
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 793 MHz Medium parameters used (interpolated): $f = 793$ MHz; $\sigma = 0.898$ S/m; $\epsilon_r = 42.747$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Left LTE BAND14/LTE BAND14 M 1RB LC/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.102 W/kg Head-Section Left LTE BAND14/LTE BAND14 M 1RB LC/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.668 V/m; Power Drift = 0.10 dB Peak SAR (extrapolated) = 0.122 W/kg SAR(1 g) = 0.091 W/kg; SAR(10 g) = 0.066 W/kg Maximum value of SAR (measured) = 0.103 W/kg  0 dB = 0.103 W/kg = -9.87 dBW/kg	

FLAT	Towards Ground
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 793 MHz Medium parameters used (interpolated): $f = 793 \text{ MHz}$; $\sigma = 0.964 \text{ S/m}$; $\epsilon_r = 55.345$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE BAND14 TG/LTE BAND14 TG M 10mm 1RB/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.175 W/kg Flat-Section MSL LTE BAND14 TG/LTE BAND14 TG M 10mm 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 5.198 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 0.250 W/kg SAR(1 g) = 0.149 W/kg; SAR(10 g) = 0.086 W/kg Maximum value of SAR (measured) = 0.183 W/kg  0 dB = 0.183 W/kg = -7.38 dBW/kg	

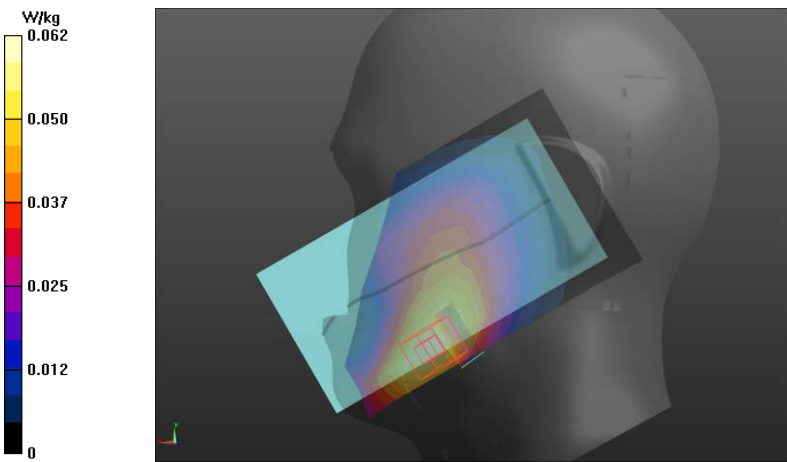
LTE Band 17 10BW

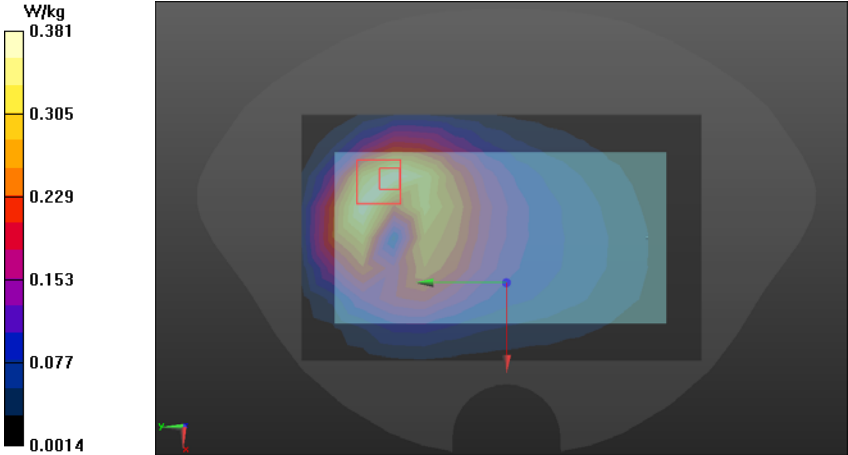
Original product

Left Side	Cheek
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 710 MHz Medium parameters used (interpolated): $f = 710$ MHz; $\sigma = 0.887$ S/m; $\epsilon_r = 42.102$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 Left HSL LTE band17/LTE band17 10MHz 1RB HSL touch M/Area Scan (9x14x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.0325 W/kg Head-Section Left HSL LTE band17/LTE band17 10MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 1.740 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 0.0420 W/kg SAR(1 g) = 0.029 W/kg; SAR(10 g) = 0.020 W/kg Maximum value of SAR (measured) = 0.0340 W/kg dB 0 -2.88 -5.76 -8.64 -11.52 -14.40 0 dB = 0.0340 W/kg = -14.69 dBW/kg	

FLAT	Towards ground
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 710 MHz Medium parameters used (interpolated): $f = 710 \text{ MHz}$; $\sigma = 0.966 \text{ S/m}$; $\epsilon_r = 53.436$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 LTE band17 TG/LTE band17 TG M 1RB/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.150 W/kg Flat-Section MSL LTE band17 TG/LTE band17 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 4.174 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 0.211 W/kg SAR(1 g) = 0.135 W/kg; SAR(10 g) = 0.085 W/kg Maximum value of SAR (measured) = 0.158 W/kg  0 dB = 0.158 W/kg = -8.01 dBW/kg	

Variant product

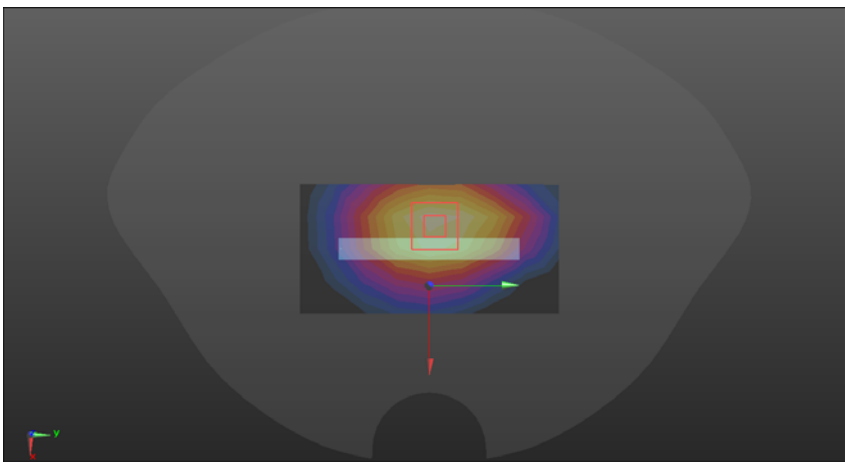
Left Side	Cheek
Communication System: UID 0, LTE BAND17 (0); Frequency: 710 MHz Medium parameters used (interpolated): $f = 710 \text{ MHz}$; $\sigma = 0.887 \text{ S/m}$; $\epsilon_r = 42.102$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.26, 6.26, 6.26); Calibrated: 10/11/2017, ConvF(6.26, 6.26, 6.26); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 9/15/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) 3127 left/LTE17 HSL touch/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.0624 W/kg 3127 left/LTE17 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=6\text{mm}$, $dy=6\text{mm}$, $dz=5\text{mm}$ Reference Value = 2.471 V/m; Power Drift = 0.08 dB Peak SAR (extrapolated) = 0.0730 W/kg SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.040 W/kg Maximum value of SAR (measured) = 0.0617 W/kg	
	

FLAT	Towards ground
Communication System: UID 0, LTE Band 17 (0); Frequency: 710 MHz Medium parameters used (interpolated): $f = 710 \text{ MHz}$; $\sigma = 0.955 \text{ S/m}$; $\epsilon_r = 55.648$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.18, 6.18, 6.18); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) TG&TP OVER2G/LTE BAND 17 TG M #2 2/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.381 W/kg TG&TP OVER2G/LTE BAND 17 TG M #2 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 11.72 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 0.555 W/kg SAR(1 g) = 0.327 W/kg; SAR(10 g) = 0.197 W/kg Maximum value of SAR (measured) = 0.393 W/kg	
	

LTE Band 25 20BW

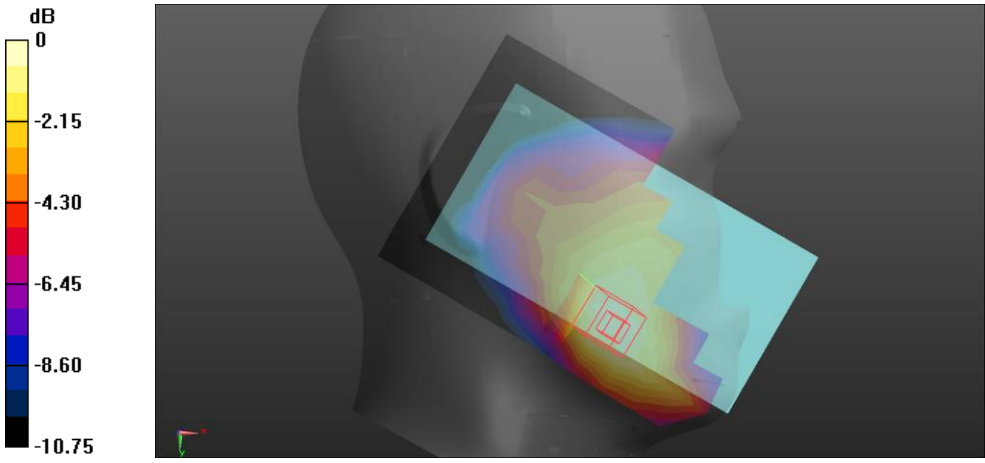
Variant product

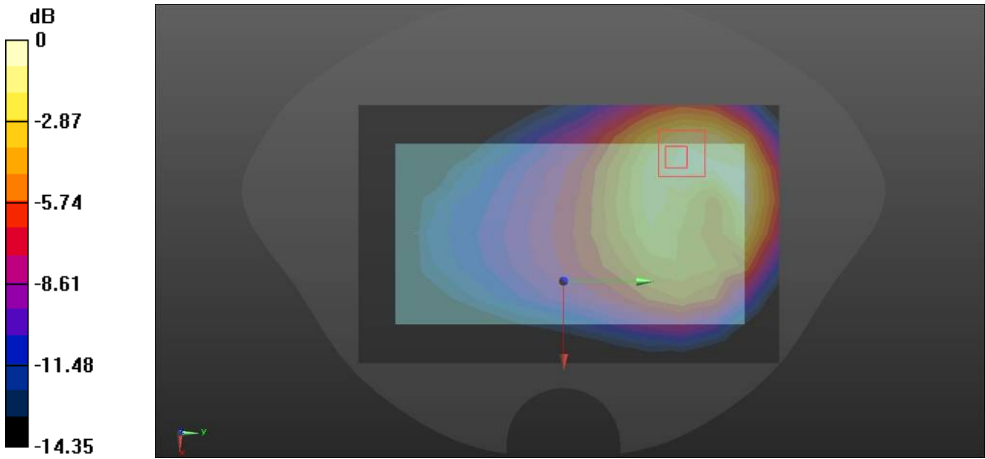
Left Side	Cheek
Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1882.5 MHz Medium parameters used (interpolated): $f = 1882.5$ MHz; $\sigma = 1.467$ S/m; $\epsilon_r = 40.417$; $\rho = 1000$ kg/m³ Phantom section: Left Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(5.06, 5.06, 5.06); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Left LTE BAND25/LTE BAND25 M 1RB LC/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0769 W/kg Head-Section Left LTE BAND25/LTE BAND25 M 1RB LC/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.279 V/m; Power Drift = -0.10 dB Peak SAR (extrapolated) = 0.121 W/kg SAR(1 g) = 0.074 W/kg; SAR(10 g) = 0.045 W/kg Maximum value of SAR (measured) = 0.0885 W/kg dB 0 -3.12 -6.24 -9.37 -12.49 -15.61 0 dB = 0.0885 W/kg = -10.53 dBW/kg	

FLAT	EDGE2
Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1882.5 MHz Medium parameters used (interpolated): $f = 1882.5$ MHz; $\sigma = 1.526$ S/m; $\epsilon_r = 53.292$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE BAND25 HOT/LTE BAND25 M1 edge 2/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.821 W/kg Flat-Section MSL LTE BAND25 HOT/LTE BAND25 M1 edge 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 20.51 V/m; Power Drift = 0.19 dB Peak SAR (extrapolated) = 1.25 W/kg SAR(1 g) = 0.742 W/kg; SAR(10 g) = 0.420 W/kg Maximum value of SAR (measured) = 0.908 W/kg dB 0 -3.35 -6.69 -10.04 -13.38 -16.73  0 dB = 0.908 W/kg = -0.42 dBW/kg	

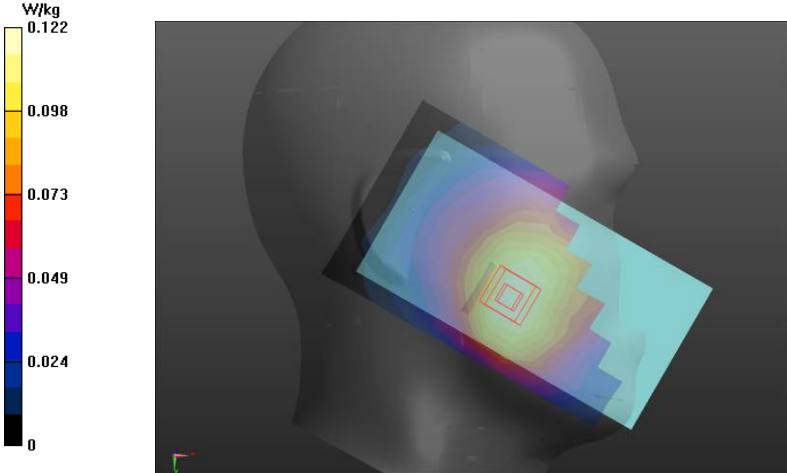
LTE Band 26 15BW

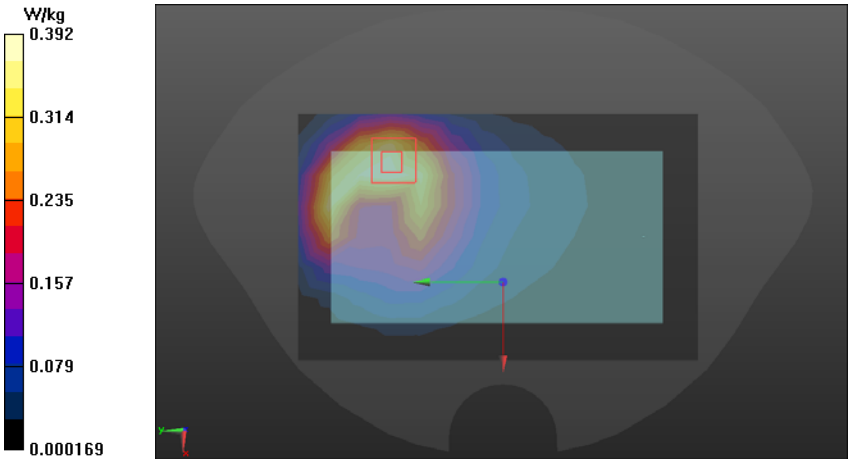
Original product

Right Side	Cheek
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz Medium parameters used (interpolated): $f = 831.5$ MHz; $\sigma = 0.911$ S/m; $\epsilon_r = 42.55$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL LTE band26/LTE band26 1RB HSL touch M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.0545 W/kg Head-Section Right HSL LTE band26/LTE band26 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.305 V/m; Power Drift = -0.08 dB Peak SAR (extrapolated) = 0.0620 W/kg SAR(1 g) = 0.049 W/kg; SAR(10 g) = 0.038 W/kg Maximum value of SAR (measured) = 0.0572 W/kg	
 0 dB = 0.0572 W/kg = -12.43 dBW/kg	

FLAT	Towards ground
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz Medium parameters used (interpolated): $f = 831.5$ MHz; $\sigma = 0.973$ S/m; $\epsilon_r = 54.554$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.16, 9.16, 9.16); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE band26 TG/LTE band26 TG M 1RB/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.408 W/kg Flat-Section MSL LTE band26 TG/LTE band26 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 9.624 V/m; Power Drift = -0.06 dB Peak SAR (extrapolated) = 0.544 W/kg SAR(1 g) = 0.306 W/kg; SAR(10 g) = 0.190 W/kg Maximum value of SAR (measured) = 0.450 W/kg  0 dB = 0.450 W/kg = -3.47 dBW/kg	

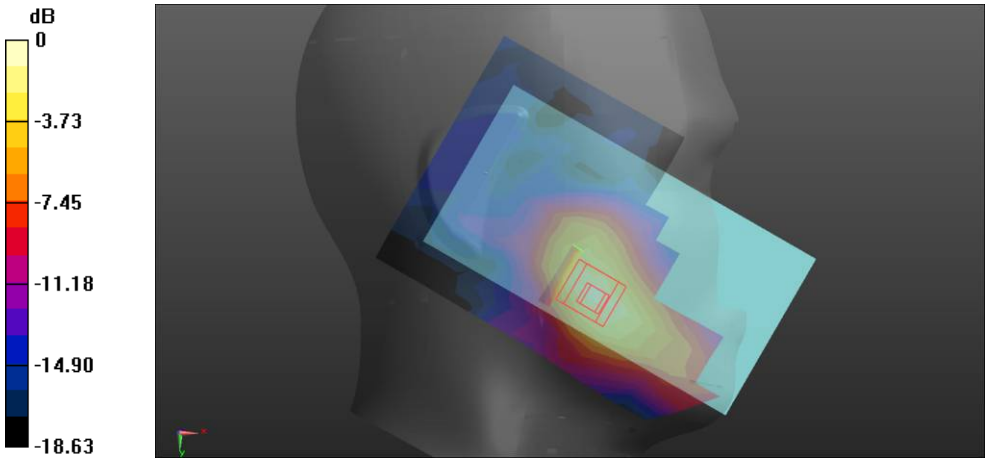
Variant product

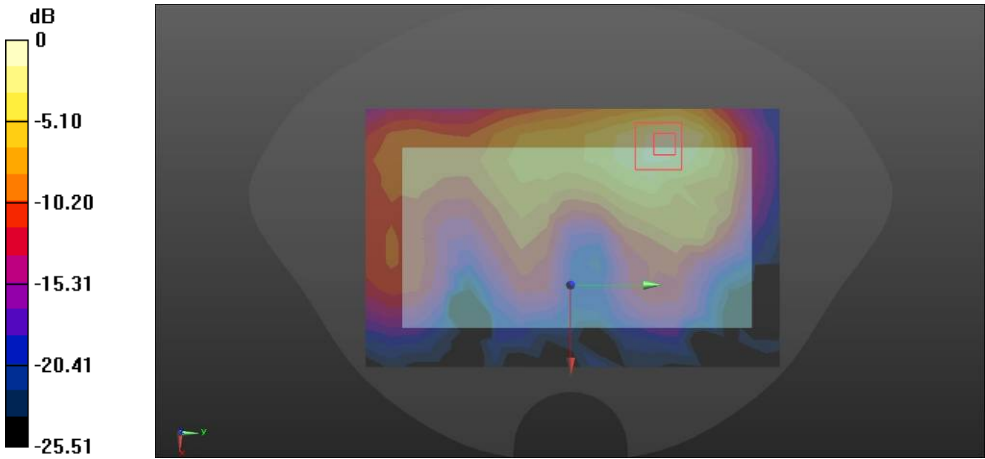
Right Side	Cheek
Communication System: UID 0, LTE BAND26 (0); Frequency: 831.5 MHz Medium parameters used (interpolated): $f = 831.5$ MHz; $\sigma = 0.904$ S/m; $\epsilon_r = 41.539$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017, ConvF(9.07, 9.07, 9.07); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Right HSL/LTE26 HSL touch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.122 W/kg Head-Section Right HSL/LTE26 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=6mm, dy=6mm, dz=5mm Reference Value = 5.327 V/m; Power Drift = 0.13 dB Peak SAR (extrapolated) = 0.144 W/kg SAR(1 g) = 0.115 W/kg; SAR(10 g) = 0.088 W/kg Maximum value of SAR (measured) = 0.126 W/kg	
	

FLAT	Towards ground
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz Medium parameters used (interpolated): $f = 831.5 \text{ MHz}$; $\sigma = 0.974 \text{ S/m}$; $\epsilon_r = 55.212$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) TP&TG/LTE BAND 26 TP 1RB M #2/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.392 W/kg TP&TG/LTE BAND 26 TP 1RB M #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 7.829 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 0.587 W/kg SAR(1 g) = 0.363 W/kg; SAR(10 g) = 0.222 W/kg Maximum value of SAR (measured) = 0.435 W/kg	
	

LTE Band30 10BW

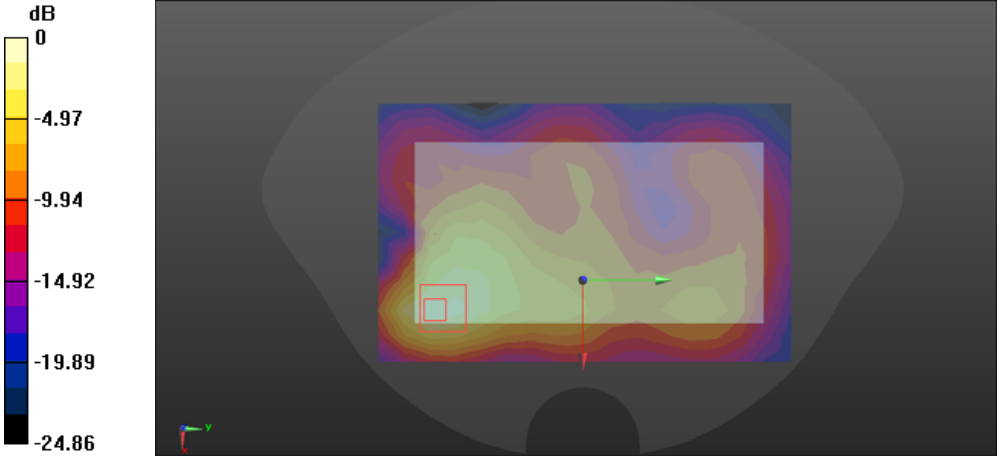
Original product

Right Side	Cheek
Communication System: UID 0, LTE band30 (0); Frequency: 2310 MHz Medium parameters used (interpolated): $f = 2310$ MHz; $\sigma = 1.778$ S/m; $\epsilon_r = 47.784$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.3, 7.3, 7.3); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL LTE band30/LTE band30 10MHz 1RB HSL touch M/Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.306 W/kg Head-Section Right HSL LTE band30/LTE band30 10MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 2.645 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 0.392 W/kg SAR(1 g) = 0.210 W/kg; SAR(10 g) = 0.114 W/kg Maximum value of SAR (measured) = 0.314 W/kg	
 0 dB = 0.314 W/kg = -5.03 dBW/kg	

FLAT	Towards phantom
Communication System: UID 0, LTE band30 (0); Frequency: 2310 MHz Medium parameters used (interpolated): $f = 2310$ MHz; $\sigma = 1.925$ S/m; $\epsilon_r = 52.164$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.3, 7.3, 7.3); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE band30 TP/LTE band30 TP M 1RB/Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.560 W/kg Flat-Section MSL LTE band30 TP/LTE band30 TP M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 2.233 V/m; Power Drift = 0.07 dB Peak SAR (extrapolated) = 0.824 W/kg SAR(1 g) = 0.421 W/kg; SAR(10 g) = 0.214 W/kg Maximum value of SAR (measured) = 0.672 W/kg  0 dB = 0.672 W/kg = -1.73 dBW/kg	

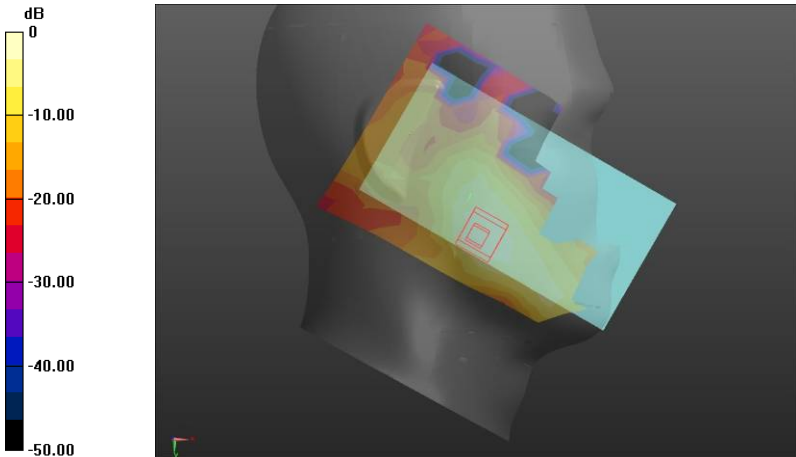
Variant product

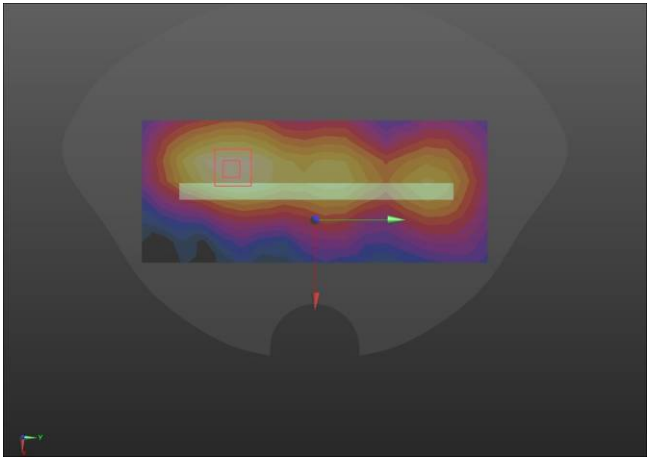
Right Side	Cheek
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 2310 MHz Medium parameters used (interpolated): $f = 2310$ MHz; $\sigma = 1.762$ S/m; $\epsilon_r = 39.784$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.71, 4.71, 4.71); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section right LTE BAND30/LTE BAND30 M 1RB RC/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.261 W/kg Head-Section right LTE BAND30/LTE BAND30 M 1RB RC/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.846 V/m; Power Drift = 0.10 dB Peak SAR (extrapolated) = 0.392 W/kg SAR(1 g) = 0.203 W/kg; SAR(10 g) = 0.106 W/kg Maximum value of SAR (measured) = 0.252 W/kg dB 0 -3.75 -7.50 -11.25 -15.00 -18.75 0 dB = 0.252 W/kg = -5.99 dBW/kg	

FLAT	Towards phantom
Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 2310 MHz Medium parameters used (interpolated): $f = 2310$ MHz; $\sigma = 1.78$ S/m; $\epsilon_r = 52.884$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.43, 4.43, 4.43); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL LTE BAND30 TG/LTE BAND30 TP M 10mm 1RB/Area Scan (11x17x1): Measurement grid: $dx=12$mm, $dy=12$mm Maximum value of SAR (measured) = 0.458 W/kg Flat-Section MSL LTE BAND30 TG/LTE BAND30 TP M 10mm 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 5.867 V/m; Power Drift = -0.08 dB Peak SAR (extrapolated) = 0.719 W/kg SAR(1 g) = 0.355 W/kg; SAR(10 g) = 0.176 W/kg Maximum value of SAR (measured) = 0.461 W/kg  0 dB = 0.461 W/kg = -3.36 dBW/kg	

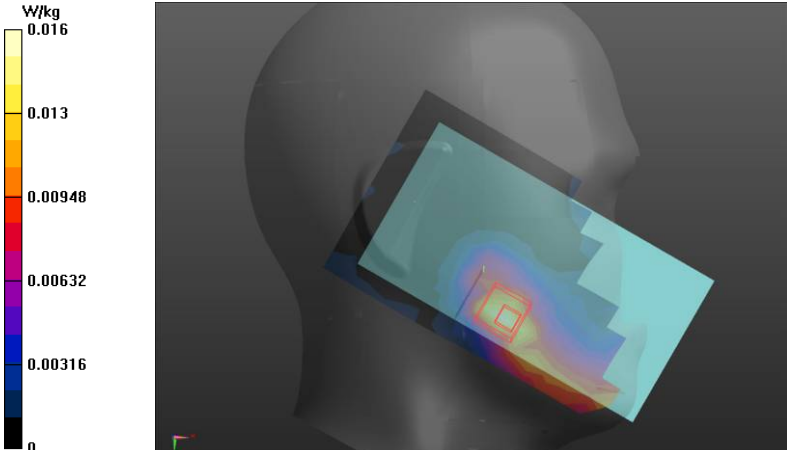
LTE Band 38 20BW

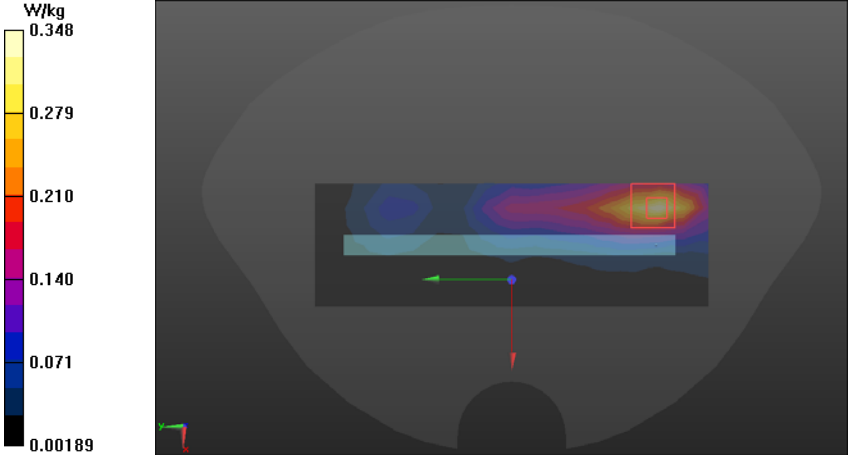
Original product

Right Side	Cheek
Communication System: UID 0, LTE Band 38 (0); Communication System Band: LTE Band 38; Frequency: 2595 MHz; Communication System PAR: 0 dB.12202e-005 Medium parameters used (interpolated): $f = 2595$ MHz; $\sigma = 1.954$ S/m; $\epsilon_r = 39.006$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.32, 4.32, 4.32); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1660; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Head-Section Right HSL LTE band38/LTE band38 20MHz 1RB HSL touch M/Area Scan (11x17x1): Measurement grid: $dx=12$mm, $dy=12$mm Maximum value of SAR (measured) = 0.0716 W/kg Head-Section Right HSL LTE band38/LTE band38 20MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 0.8610 V/m; Power Drift = 0.09 dB Peak SAR (extrapolated) = 0.122 W/kg SAR(1 g) = 0.067 W/kg; SAR(10 g) = 0.034 W/kg Maximum value of SAR (measured) = 0.0829 W/kg  0 dB = 0.0829 W/kg = -10.81 dBW/kg	

FLAT	EDGE3
Communication System: UID 0, LTE Band 38 (0); Communication System Band: LTE Band 38; Frequency: 2595 MHz; Communication System PAR: 0 dB.12202e-005 Medium parameters used (interpolated): $f = 2595$ MHz; $\sigma = 2.166$ S/m; $\epsilon_r = 49.927$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.07, 4.07, 4.07); Calibrated: 2017/10/11; - Modulation Compensation: - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - Phantom: 1659; Type: QD 000 P40 CD; Serial: xxxx - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Flat-Section LTE BAND38 HOT/LTE BAND38 EDGE 3/Area Scan (8x18x1): Measurement grid: $dx=12$mm, $dy=12$mm Maximum value of SAR (measured) = 0.186 W/kg Flat-Section LTE BAND38 HOT/LTE BAND38 EDGE 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 5.200 V/m; Power Drift = 0.18 dB Peak SAR (extrapolated) = 0.325 W/kg SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.082 W/kg Maximum value of SAR (measured) = 0.210 W/kg dB 0 -5.16 -10.32 -15.49 -20.65 -25.81  0 dB = 0.210 W/kg = -6.78 dBW/kg	

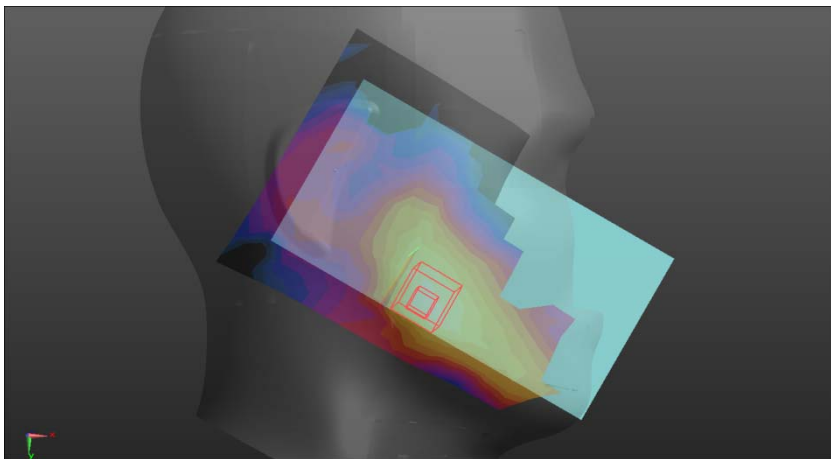
Variant product

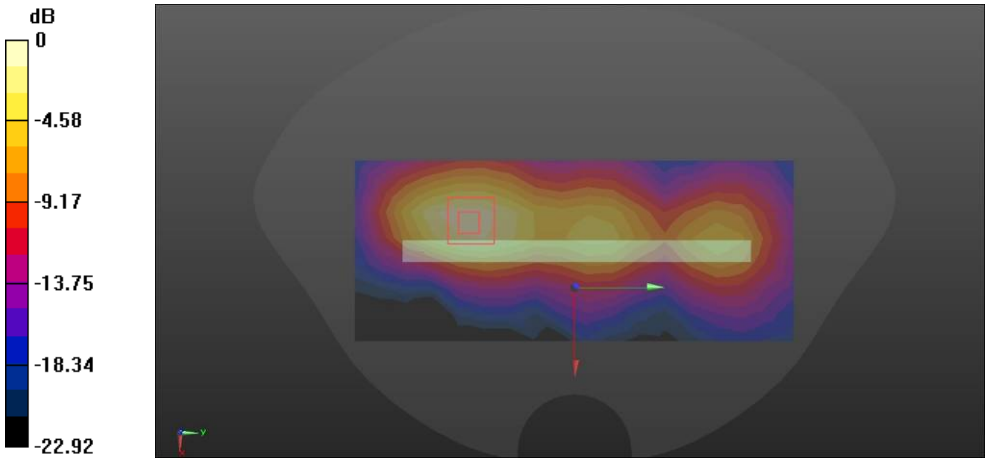
Right Side	Cheek
Communication System: UID 0, LTE BAND38 (0); Frequency: 2595 MHz Medium parameters used (interpolated): $f = 2595$ MHz; $\sigma = 1.954$ S/m; $\epsilon_r = 39.006$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.32, 4.32, 4.32); Calibrated: 10/11/2017, ConvF(4.32, 4.32, 4.32); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 9/15/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) 3127 right/LTE38 HSL touch/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.0158 W/kg 3127 right/LTE38 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=6mm, dy=6mm, dz=5mm Reference Value = 0.3810 V/m; Power Drift = 0.04dB Peak SAR (extrapolated) = 0.0300 W/kg SAR(1 g) = 0.014 W/kg; SAR(10 g) = 0.00721 W/kg Maximum value of SAR (measured) = 0.0181 W/kg	
	

FLAT	EDGE3
Communication System: UID 0, LTE Band 38 (0); Frequency: 2595 MHz Medium parameters used (interpolated): $f = 2595$ MHz; $\sigma = 2.153$ S/m; $\epsilon_r = 52.516$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.07, 4.07, 4.07); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration 5/LTE BAND38 M edge 3/Area Scan (6x17x1): Measurement grid: $dx=12$mm, $dy=12$mm Maximum value of SAR (measured) = 0.348 W/kg Configuration 5/LTE BAND38 M edge 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 4.940 V/m; Power Drift = 0.15dB Peak SAR (extrapolated) = 0.542 W/kg SAR(1 g) = 0.269 W/kg; SAR(10 g) = 0.133 W/kg Maximum value of SAR (measured) = 0.349 W/kg 	

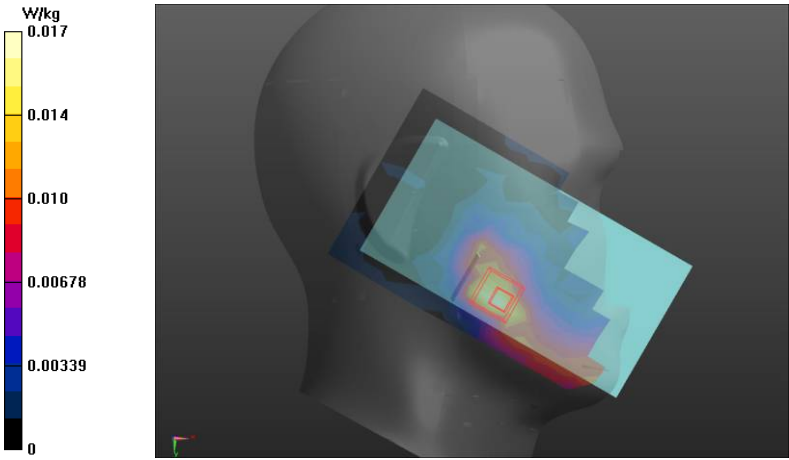
LTE Band41 20BW

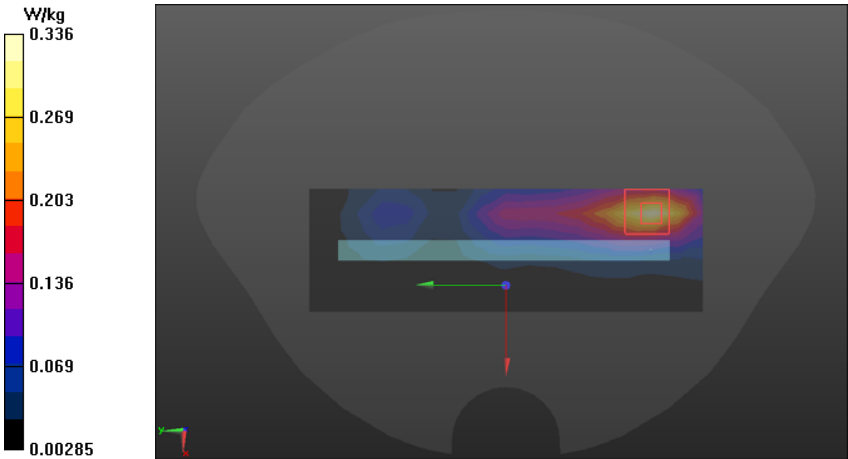
Original product

Right Side	Cheek
Communication System: UID 0, LTE Band 41 (0); Frequency: 2593 MHz Medium parameters used (interpolated): $f = 2593$ MHz; $\sigma = 1.952$ S/m; $\epsilon_r = 39.009$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.32, 4.32, 4.32); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 Right HSL LTE band41/LTE band41 20MHz 1RB HSL touch M/Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.0710 W/kg Head-Section Right HSL LTE band41/LTE band41 20MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 1.243 V/m; Power Drift = 0.02 dB Peak SAR (extrapolated) = 0.130 W/kg SAR(1 g) = 0.068 W/kg; SAR(10 g) = 0.033 W/kg Maximum value of SAR (measured) = 0.0906 W/kg dB 0 -5.18 -10.35 -15.53 -20.70 -25.88  0 dB = 0.0906 W/kg = -10.43 dBW/kg	

FLAT	EDGE3
Communication System: UID 0, LTE Band 41 (0); Frequency: 2593 MHz Medium parameters used (interpolated): $f = 2593 \text{ MHz}$; $\sigma = 2.164 \text{ S/m}$; $\epsilon_r = 49.932$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.07, 4.07, 4.07); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 2017/9/15 - 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 LTE BAND41 HOT/LTE BAND41 EDGE 3/Area Scan (8x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$ Maximum value of SAR (measured) = 0.184 W/kg Flat-Section LTE BAND41 HOT/LTE BAND41 EDGE 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 5.346 V/m; Power Drift = 0.06 dB Peak SAR (extrapolated) = 0.326 W/kg SAR(1 g) = 0.163 W/kg; SAR(10 g) = 0.082 W/kg Maximum value of SAR (measured) = 0.208 W/kg  0 dB = 0.208 W/kg = -6.82 dBW/kg	

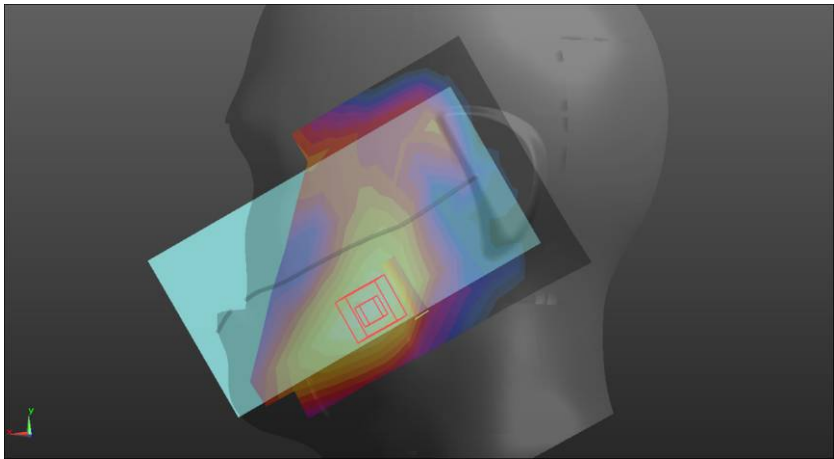
Variant product

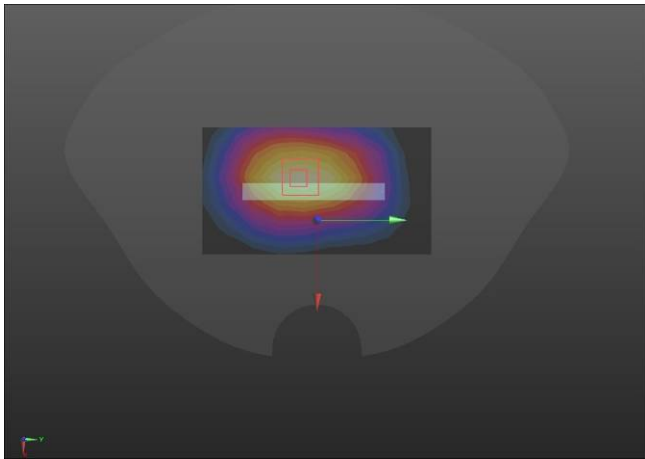
Right Side	Cheek
Communication System: UID 0, LTE BAND41 (0); Frequency: 2593 MHz Medium parameters used (interpolated): $f = 2593$ MHz; $\sigma = 1.952$ S/m; $\epsilon_r = 39.009$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.32, 4.32, 4.32); Calibrated: 10/11/2017, ConvF(4.32, 4.32, 4.32); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn546; Calibrated: 9/15/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) 3127 right/LTE41 HSL touch/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm Maximum value of SAR (measured) = 0.0170 W/kg 3127 right/LTE41 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=6mm, dy=6mm, dz=5mm Reference Value = 0.1550 V/m; Power Drift = 0.16 dB Peak SAR (extrapolated) = 0.0240 W/kg SAR(1 g) = 0.012 W/kg; SAR(10 g) = 0.00611 W/kg Maximum value of SAR (measured) = 0.0162 W/kg	
	

FLAT	EDGE3
Communication System: UID 0, LTE band 41 (0); Frequency: 2593 MHz Medium parameters used (interpolated): $f = 2593$ MHz; $\sigma = 2.15$ S/m; $\epsilon_r = 52.519$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.07, 4.07, 4.07); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration 5/LTE BAND41 M edge 3/Area Scan (6x17x1): Measurement grid: $dx=12$mm, $dy=12$mm Maximum value of SAR (measured) = 0.336 W/kg Configuration 5/LTE BAND41 M edge 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 5.044 V/m; Power Drift = 0.09 dB Peak SAR (extrapolated) = 0.523 W/kg SAR(1 g) = 0.261 W/kg; SAR(10 g) = 0.130 W/kg Maximum value of SAR (measured) = 0.337 W/kg 	

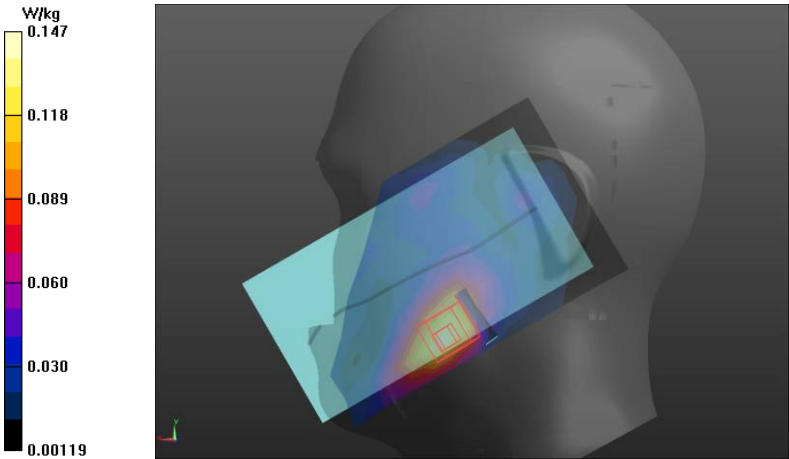
LTE Band 66 20BW

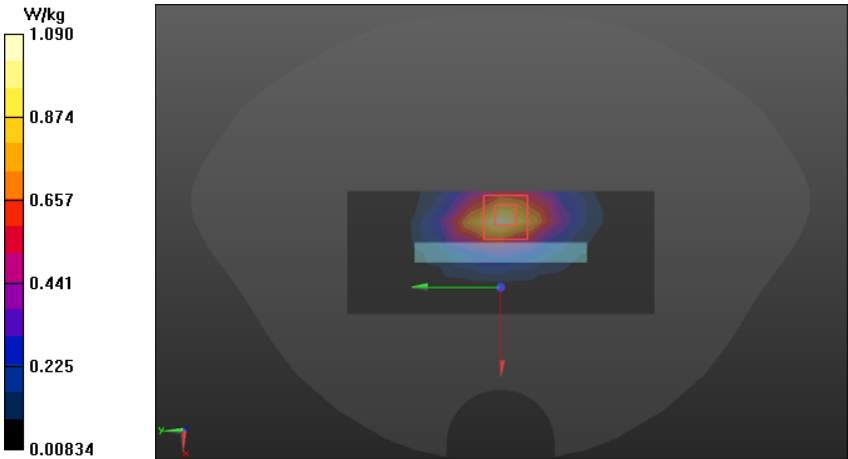
Original product

Left Side	Cheek
Communication System: UID 0, lte band 66 (0); Frequency: 1745 MHz Medium parameters used (interpolated): $f = 1745 \text{ MHz}$; $\sigma = 1.371 \text{ S/m}$; $\epsilon_r = 40.673$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Left HSL LTE band66 20MHz 1RB HSL touch M/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.194 W/kg Head-Section Left HSL LTE band66 20MHz 1RB HSL touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 3.060 V/m; Power Drift = 0.08 dB Peak SAR (extrapolated) = 0.243 W/kg SAR(1 g) = 0.147 W/kg; SAR(10 g) = 0.090 W/kg Maximum value of SAR (measured) = 0.204 W/kg dB 0 -3.43 -6.87 -10.30 -13.74 -17.17  0 dB = 0.204 W/kg = -6.90 dBW/kg	

FLAT	EDGE2
Communication System: UID 0, lte band 66 (0); Frequency: 1745 MHz Medium parameters used (interpolated): $f = 1745$ MHz; $\sigma = 1.477$ S/m; $\epsilon_r = 52.93$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.7, 7.7, 7.7); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section LTE HOT/LTE BAND66 EDGE2/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.930 W/kg Flat-Section LTE HOT/LTE BAND66 EDGE2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 20.66 V/m; Power Drift = 0.18 dB Peak SAR (extrapolated) = 1.27 W/kg SAR(1 g) = 0.784 W/kg; SAR(10 g) = 0.446 W/kg Maximum value of SAR (measured) = 0.947 W/kg dB 0 -3.39 -6.77 -10.16 -13.54 -16.93  0 dB = 0.947 W/kg = -0.24 dBW/kg	

Variant product

Left Side	Cheek
Communication System: UID 0, LTE BAND66 (0); Frequency: 1745 MHz Medium parameters used (interpolated): $f = 1745 \text{ MHz}$; $\sigma = 1.383 \text{ S/m}$; $\epsilon_r = 40.047$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017, ConvF(7.77, 7.77, 7.77); Calibrated: 11/7/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Head-Section Left HSL/LTE66 HSL touch/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.146 W/kg Head-Section Left HSL/LTE66 HSL touch/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=6\text{mm}$, $dy=6\text{mm}$, $dz=5\text{mm}$ Reference Value = 5.852 V/m; Power Drift = 0.14 dB Peak SAR (extrapolated) = 0.187 W/kg SAR(1 g) = 0.125 W/kg; SAR(10 g) = 0.079 W/kg Maximum value of SAR (measured) = 0.147 W/kg	
	

FLAT	EDGE2
Communication System: UID 0, lte band 66 (0); Frequency: 1745 MHz Medium parameters used (interpolated): $f = 1745$ MHz; $\sigma = 1.485$ S/m; $\epsilon_r = 53.422$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 2017/10/11; - Sensor-Surface: 3mm (Mechanical Surface Detection), $z = -3.0, 32.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration 4/LTE BAND66 1RB M edge 2 #2/Area Scan (5x11x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 1.09 W/kg Configuration 4/LTE BAND66 1RB M edge 2 #2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 15.92 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 1.58 W/kg SAR(1 g) = 0.916 W/kg; SAR(10 g) = 0.514 W/kg Maximum value of SAR (measured) = 1.14 W/kg 	

WLAN 2.4GHz

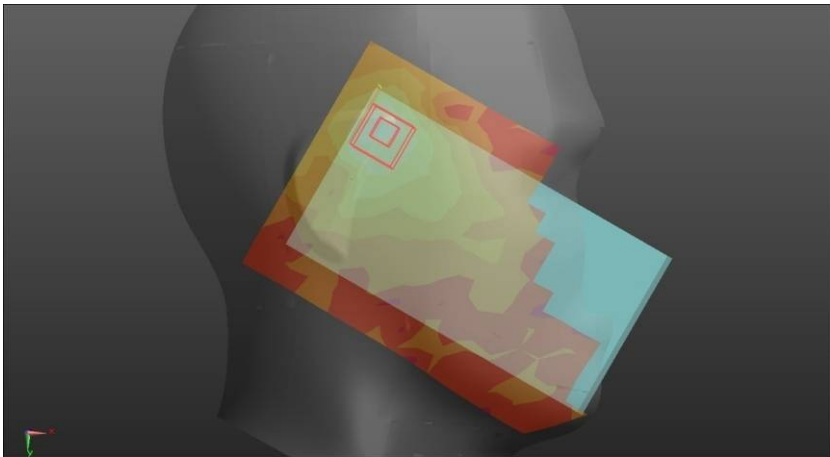
Variant product

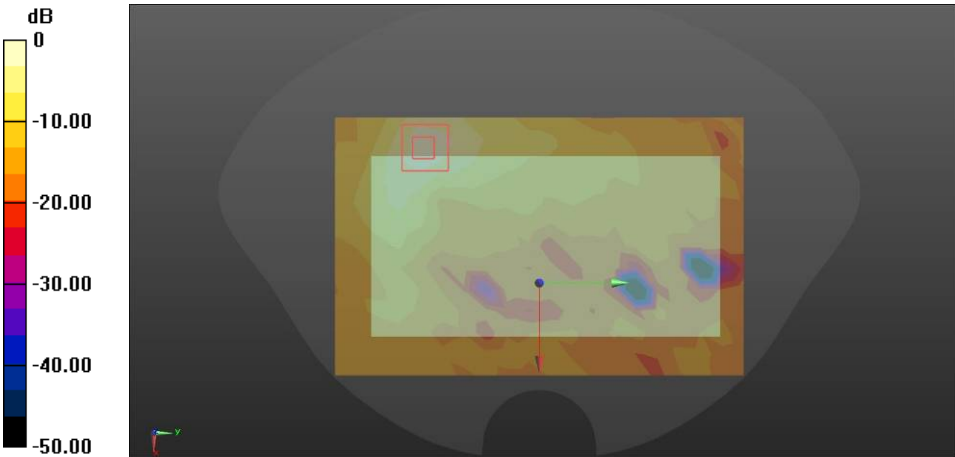
Right Side	Tilt
Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps); Frequency: 2412 MHz Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.891$ S/m; $\epsilon_r = 39.494$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.58, 4.58, 4.58); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section right WIFI 2.4G ANT0/WIFI 2.4G ANT0 RT/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.31 W/kg Head-Section right WIFI 2.4G ANT0/WIFI 2.4G ANT0 RT/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 7.990 V/m; Power Drift = 0.07 dB Peak SAR (extrapolated) = 2.46 W/kg SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.479 W/kg Maximum value of SAR (measured) = 1.40 W/kg dB 0 -5.24 -10.48 -15.73 -20.97 -26.21 0 dB = 1.40 W/kg = 1.46 dBW/kg	

FLAT	EDGE1
Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps); Frequency: 2437 MHz Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.933$ S/m; $\epsilon_r = 52.717$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: ES3DV3 - SN3127; ConvF(4.28, 4.28, 4.28); Calibrated: 10/11/2017; - Sensor-Surface: 3mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL WIFI 2.4G HOT/WIFI 2.4 ANT0 M edge 1/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.223 W/kg Flat-Section MSL WIFI 2.4G HOT/WIFI 2.4 ANT0 M edge 1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 7.185 V/m; Power Drift = 0.08 dB Peak SAR (extrapolated) = 0.370 W/kg SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.103 W/kg Maximum value of SAR (measured) = 0.260 W/kg dB 0 -4.82 -9.64 -14.45 -19.27 -24.09 0 dB = 0.260 W/kg = -5.85 dBW/kg	

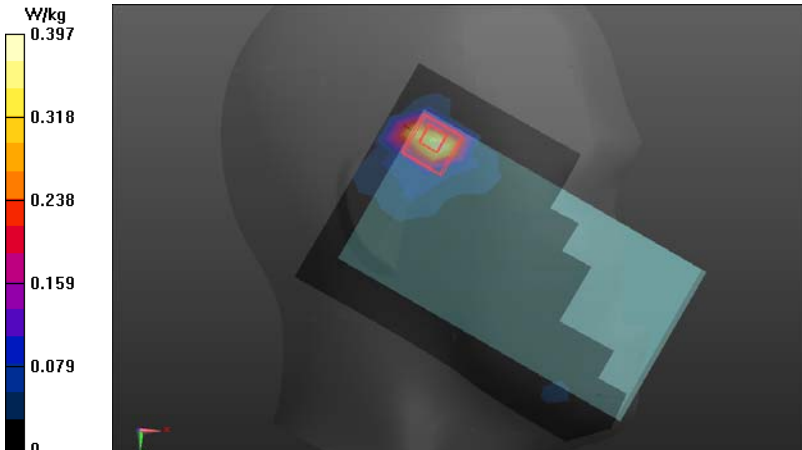
WLAN 5GHz (5.15GHz-5.25GHz)

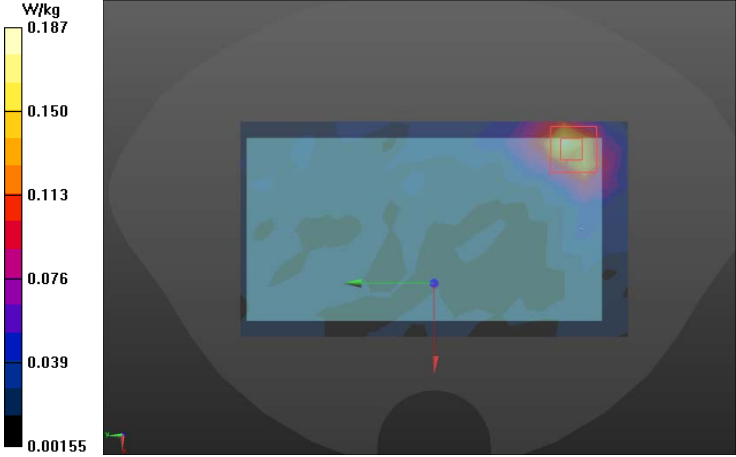
Original product

Right Side	Tilt
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5200 MHz Medium parameters used: $f = 5200$ MHz; $\sigma = 4.483$ S/m; $\epsilon_r = 36.853$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(5.64, 5.64, 5.64); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL WIFI 5G ant1/WIFI 5200 ant1 RT/Area Scan (13x20x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.03 W/kg Head-Section Right HSL WIFI 5G ant1/WIFI 5200 ant1 RT/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 4.860 V/m; Power Drift = 0.00 dB Peak SAR (extrapolated) = 2.03 W/kg SAR(1 g) = 0.404 W/kg; SAR(10 g) = 0.128 W/kg Maximum value of SAR (measured) = 1.12 W/kg dB 0 -10.00 -20.00 -30.00 -40.00 -50.00  0 dB = 1.12 W/kg = 0.49 dBW/kg	

FLAT	Towards ground
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5200 MHz Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.355 \text{ S/m}$; $\epsilon_r = 49.035$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(4.79, 4.79, 4.79); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL WIFI 5G ant1 TG&TP/WIFI 5200 ant1 TG/Area Scan (13x20x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 0.737 W/kg Flat-Section MSL WIFI 5G ant1 TG&TP/WIFI 5200 ant1 TG/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 1.981 V/m; Power Drift = -0.06 dB Peak SAR (extrapolated) = 1.33 W/kg SAR(1 g) = 0.368 W/kg; SAR(10 g) = 0.130 W/kg Maximum value of SAR (measured) = 0.829 W/kg  0 dB = 0.829 W/kg = -0.81 dBW/kg	

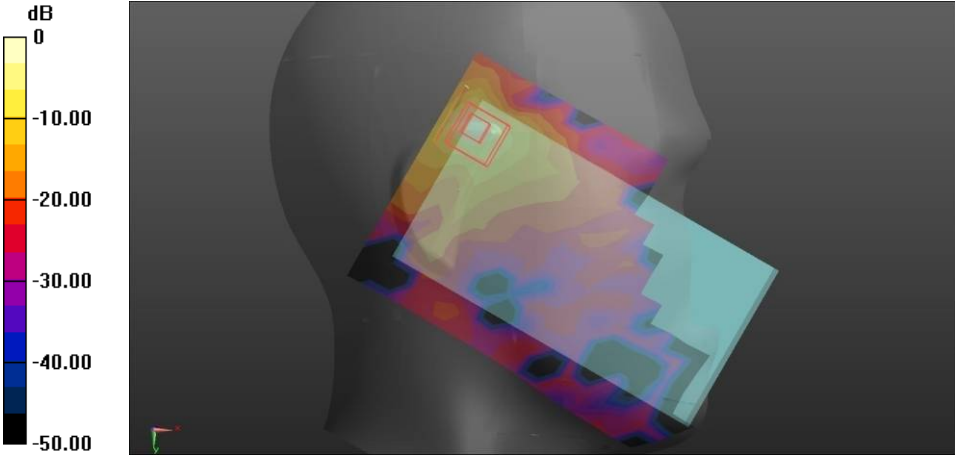
Variant product

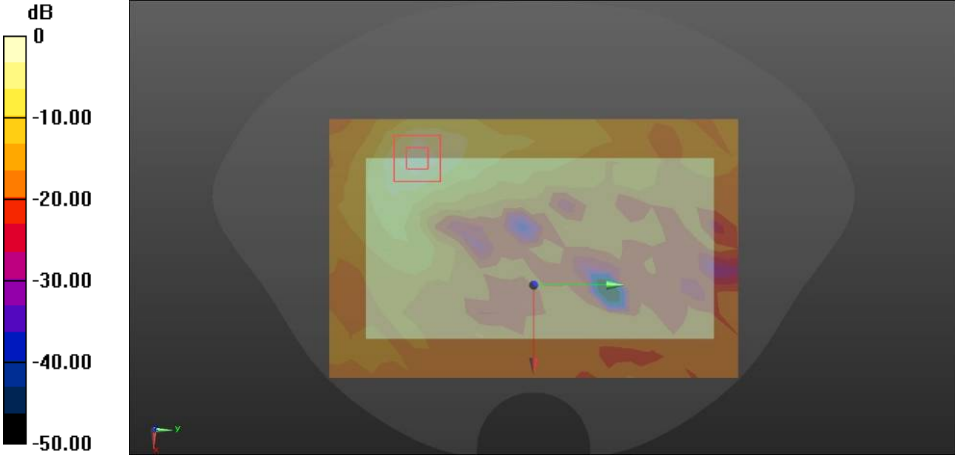
Right Side	Tilt
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5200 MHz Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 4.66 \text{ S/m}$; $\epsilon_r = 36$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: EX3DV4 - SN3708; ConvF(5.74, 5.74, 5.74); Calibrated: 2017/11/7; - Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration/WIFI 11A 5200 HSL tilt M #2 TX=15/Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (measured) = 0.397 W/kg Configuration/WIFI 11A 5200 HSL tilt M #2 TX=15/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 2.691 V/m; Power Drift = -0.16dB Peak SAR (extrapolated) = 1.33 W/kg SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.055 W/kg Maximum value of SAR (measured) = 0.733 W/kg	
	

FLAT	Towards ground
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5200 MHz Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.229 \text{ S/m}$; $\epsilon_r = 46.856$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(4.79, 4.79, 4.79); Calibrated: 11/7/2017, ConvF(4.79, 4.79, 4.79); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Flat-Section MSL TG/WIFI5200 BC0 TG M 10mm M/Area Scan (11x19x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (measured) = 0.187 W/kg Flat-Section MSL TG/WIFI5200 BC0 TG M 10mm M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 1.584 V/m; Power Drift = -0.11 dB Peak SAR (extrapolated) = 0.391 W/kg SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.038 W/kg Maximum value of SAR (measured) = 0.203 W/kg 	

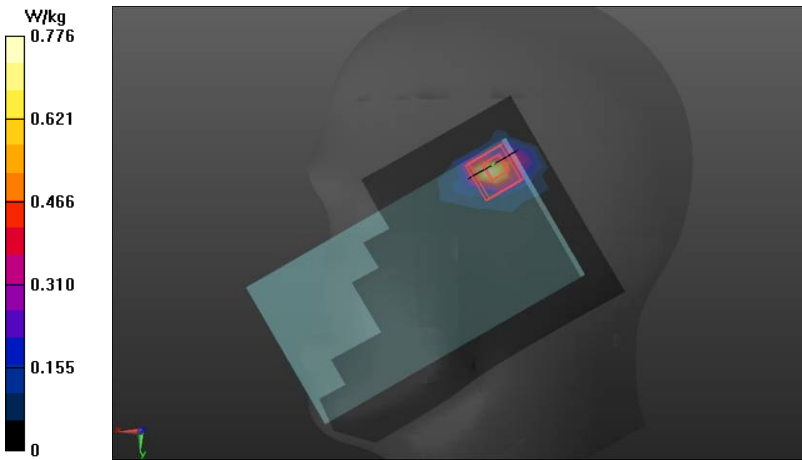
WLAN 5GHz (5.725GHz-5.85GHz)

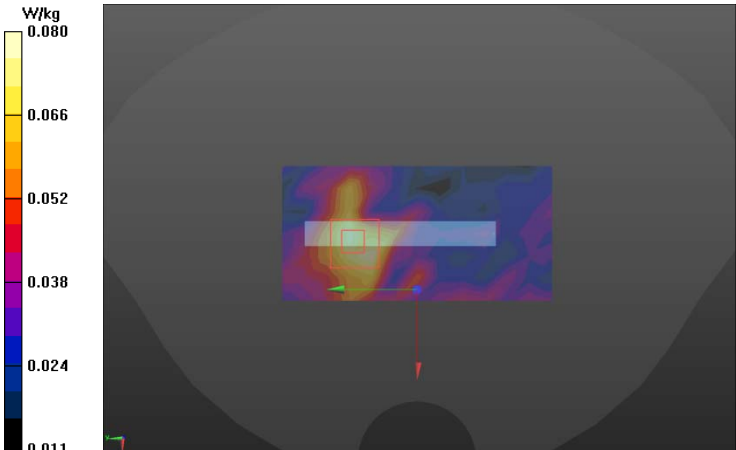
Original product

Right Side	Tilt
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5785 MHz Medium parameters used (interpolated): $f = 5785$ MHz; $\sigma = 5.255$ S/m; $\epsilon_r = 35.315$; $\rho = 1000$ kg/m³ Phantom section: Right Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(5.03, 5.03, 5.03); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Head-Section Right HSL WIFI 5G ant1/WIFI 5785 ant1 RT 15/Area Scan (13x20x1): Measurement grid: $dx=10$mm, $dy=10$mm Maximum value of SAR (measured) = 1.84 W/kg Head-Section Right HSL WIFI 5G ant1/WIFI 5785 ant1 RT 15/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 5.007 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 4.47 W/kg SAR(1 g) = 0.733 W/kg; SAR(10 g) = 0.179 W/kg Maximum value of SAR (measured) = 2.47 W/kg	
 0 dB = 2.47 W/kg = 3.93 dBW/kg	

FLAT	Towards ground
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5785 MHz Medium parameters used (interpolated): $f = 5785$ MHz; $\sigma = 5.984$ S/m; $\epsilon_r = 48.221$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(4.19, 4.19, 4.19); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560 - Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373) Flat-Section MSL WIFI 5G ant1 TG&TP/WIFI 5785 ant1 TG #7 powe 15/Area Scan (13x20x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 1.13 W/kg Flat-Section MSL WIFI 5G ant1 TG&TP/WIFI 5785 ant1 TG #7 powe 15/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 1.400 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 1.92 W/kg SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.158 W/kg Maximum value of SAR (measured) = 1.24 W/kg  0 dB = 1.24 W/kg = 0.93 dBW	

Variant product

Right Side	Tilt
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5785 MHz Medium parameters used (interpolated): $f = 5785$ MHz; $\sigma = 5.255$ S/m; $\epsilon_r = 35.315$; $\rho = 1000$ kg/m³ Phantom section: Right Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY Configuration: - Probe: EX3DV4 - SN3708; ConvF(5.03, 5.03, 5.03); Calibrated: 2017/11/7; - Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$ - Electronics: DAE4 Sn720; Calibrated: 2017/10/23 - Phantom: Twin-SAM 1559; Type: QD 000 P40 CD; Serial: 1559 - DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373) Configuration/WIFI 11A 5785 HSL tilt M #2 TX=15/Area Scan (9x14x1): Measurement grid: $dx=15$mm, $dy=15$mm Maximum value of SAR (measured) = 0.776 W/kg Configuration/WIFI 11A 5785 HSL tilt M #2 TX=15/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$mm, $dy=5$mm, $dz=5$mm Reference Value = 1.553 V/m; Power Drift = -0.02 dB Peak SAR (extrapolated) = 2.27 W/kg SAR(1 g) = 0.388 W/kg; SAR(10 g) = 0.090 W/kg Maximum value of SAR (measured) = 1.29 W/kg	
 The figure displays a color scale for SAR values in W/kg, ranging from 0 (black) to 0.776 (yellow). The scale includes intermediate values: 0.155, 0.310, 0.466, and 0.621. To the right of the scale is a 3D visualization of a human head phantom. A specific area on the top of the head is highlighted with a color gradient corresponding to the SAR scale, indicating the measured SAR distribution during the scan.	

FLAT	Towards ground
Communication System: UID 10062 - CAB, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps); Frequency: 5785 MHz Medium parameters used (interpolated): $f = 5785$ MHz; $\sigma = 6.168$ S/m; $\epsilon_r = 46.267$; $\rho = 1000$ kg/m³ Phantom section: Flat Section DASY5 Configuration: - Probe: EX3DV4 - SN3708; ConvF(4.19, 4.19, 4.19); Calibrated: 11/7/2017, ConvF(4.19, 4.19, 4.19); Calibrated: 11/7/2017; - Sensor-Surface: 1.4mm (Mechanical Surface Detection) - Electronics: DAE4 Sn720; Calibrated: 10/23/2017 - Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: xxxx - Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437) Flat-Section MSL HOT/WIFI5785 edge 1 M/Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.0799 W/kg Flat-Section MSL HOT/WIFI5785 edge 1 M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 3.658 V/m; Power Drift = -0.09 dB Peak SAR (extrapolated) = 0.108 W/kg SAR(1 g) = 0.039 W/kg; SAR(10 g) = 0.020 W/kg Maximum value of SAR (measured) = 0.0731 W/kg 	

ANNEX B – RELEVANT PAGES FROM CALIBRATION REPORTS

DAE4 Sn:546

TTL In Collaboration with **speaq** CALIBRATION LABORATORY
Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cti@chinaatl.com Http://www.chinaatl.cn

Client: **SRTC** Certificate No: **Z17-97141**

CALIBRATION CERTIFICATE

Object: **DAE4 - SN: 546**

Calibration Procedure(s): **FF-Z11-002-01**
Calibration Procedure for the Data Acquisition Electronics (DAEx)

Calibration date: **September 15, 2017**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility; environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by: Certificate No.)	Scheduled Calibration
Process Calibrator 753	1971018	27-Jun-17 (CTTL No J17X05859)	June-18

Calibrated by: **Yu Zongying** SAR Test Engineer *[Signature]*

Reviewed by: **Lin Hao** SAR Test Engineer *[Signature]*

Approved by: **Qi Danyuan** SAR Project Leader *[Signature]*

Issued: September 18, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z17-97141

Page 1 of 3

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Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cti@chinaatl.com Http://www.chinaatl.cn

Glossary:
DAE: data acquisition electronics
Connector angle: information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters:

- **DC Voltage Measurement:** Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- **Connector angle:** The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The report provide only calibration results for DAE, it does not contain other performance test results.

Certificate No: Z17-97141

Page 2 of 3

TTL In Collaboration with **speaq** CALIBRATION LABORATORY
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Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cti@chinaatl.com Http://www.chinaatl.cn

DC Voltage Measurement
A/D Converter Resolution nominal
High Range: 1LSB = 6.1μV, full range = -100...+300 mV
Low Range: 1LSB = 61nV, full range = -1...+3mV
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	405.337 ± 0.15% (k=2)	404.085 ± 0.15% (k=2)	404.215 ± 0.15% (k=2)
Low Range	3.98726 ± 0.7% (k=2)	3.95731 ± 0.7% (k=2)	3.97839 ± 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	236.5° ± 1°
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Certificate No: Z17-97141

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DAE4 Sn:720

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Address: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-42394633-2218 Fax: +86-10-42394633-2209
E-mail: csl@ttsa.com.cn Http://www.ttsa.com.cn

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CNAS L6576

Client: **SRTC** Certificate No: **Z17-97215**

CALIBRATION CERTIFICATE

Object: **DAE4 - SN: 720**

Calibration Procedure(s): **FF-Z11-002-Q1
Calibration Procedure for the Data Acquisition Electronics (DAEx)**

Calibration date: **October 24, 2017**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(23±2)°C and humidity<70%.

Calibration Equipment used (M&E critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Process Calibrator 753	18710-8	27-Jun-17 (CTTL, No.J17X05665)	June-18

Calibrated by:	Name	Function	Signature
	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Danyuan	SAR Project Leader	

Issued: October 26, 2017
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Certificate No: Z17-97215

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Address: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-42394633-2218 Fax: +86-10-42394633-2209
E-mail: csl@ttsa.com.cn Http://www.ttsa.com.cn

Glossary:
DAE: data acquisition electronics
Connector angle: information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters:

- **DC Voltage Measurement:** Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- **Connector angle:** The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The report provide only calibration results for DAE, it does not contain other performance test results.

Certificate No: Z17-97215

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E-mail: csl@ttsa.com.cn Http://www.ttsa.com.cn

DC Voltage Measurement

A/D - Converter Resolution nominal
High Range: 1LSB = 6.1μV, full range = -100...+300 mV
Low Range: 1LSB = 61nV, full range = -1...+3mV
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	403.363 ± 0.15% (k=2)	404.822 ± 0.15% (k=2)	403.251 ± 0.15% (k=2)
Low Range	3.95425 ± 0.7% (k=2)	3.96301 ± 0.7% (k=2)	3.95640 ± 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	
	24.5° ± 1°

Certificate No: Z17-97215

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ES3DV3 Sn:3127

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Add: No.51 Xueyan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cti@chinaetl.com <http://www.chinaetl.com>

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CALIBRATION
CNAS L0570

Client: **SRTC** Certificate No: **Z17-97142**

CALIBRATION CERTIFICATE

Object: **ES3DV3 - SN:3127**

Calibration Procedure(s): **FF-Z11-004-01**
Calibration Procedures for Dosimetric E-field Probes

Calibration date: **October 11, 2017**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	27-Jun-17 (CTTL No.J17X05857)	Jun-18
Power sensor NRP-Z91	101547	27-Jun-17 (CTTL No.J17X05857)	Jun-18
Power sensor NRP-Z91	101548	27-Jun-17 (CTTL No.J17X05857)	Jun-18
Reference10dBAttenuator	18N50W-10dB	13-Mar-16(CTTL No.J16X01547)	Mar-18
Reference20dBAttenuator	18N50W-20dB	13-Mar-16(CTTL No.J16X01548)	Mar-18
Reference Probe EX3D/V4	SN 7433	26-Sep-16(SPEAG, No EX3-7433_Sep16)	Sep-17
DAE4	SN 549	13-Dec-16(SPEAG, No DAE4-549_Dec16)	Dec -17

Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGeneratorMG3700A	6201052605	27-Jun-17 (CTTL No.J17X05858)	Jun-18
Network Analyzer E5071C	MY46110673	13-Jan-17 (CTTL No.J17X020285)	Jan -18

Calibrated by: **Yu Zongying** SAR Test Engineer *[Signature]*

Reviewed by: **Lin Hao** SAR Test Engineer *[Signature]*

Approved by: **Qi Danyuan** SAR Project Leader *[Signature]*

Issued: October 12, 2017

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Add: No.51 Xueyan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cti@chinaetl.com <http://www.chinaetl.com>

Glossary:

TSL: tissue simulating liquid
NORMx,y,z: sensitivity in free space
ConvF: sensitivity in TSL / NORMx,y,z
DCP: diode compression point
CF: crest factor (1/duty_cycle) of the RF signal
A,B,C,D: modulation dependent linearization parameters
Φ: rotation around probe axis
Polarization θ: θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i
θ=0 is normal to probe axis
Connector Angle: information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013.
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016.
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010.
d) KOB 955664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization θ=0 (fs900MHz in TEM-cell; >1800MHz: waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the j^2 -field uncertainty inside TSL (see below ConvF).
- NORMM(x,y,z) = NORMx,y,z * frequency response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- Ak,y,z; Bk,y,z; Ck,y,z; VRx,y,z; A,B,C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for fs600MHz) and inside waveguide using analytical field distributions based on power measurements for f>800MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from 50MHz to 100MHz.
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

Certificate No: Z17-97142

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Probe ES3DV3

SN: 3127

Calibrated: October 11, 2017

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system)

Certificate No: Z17-97142

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DASY/EASY – Parameters of Probe: ES3DV3 - SN: 3127

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm(μV/(V/m) ²) ^A	1.28	1.29	1.22	±10.0%
DCP(mV) ^B	103.2	105.3	105.1	

Modulation Calibration Parameters

UID	Communication System Name	A dB	B dB/μV	C	D dB	VR mV	Unc ^C (k=2)
0	CW	X 0.0	0.0	1.0	0.00	282.3	±2.5%
		Y 0.0	0.0	1.0		280.9	
		Z 0.0	0.0	1.0		275.1	

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X, Y, Z do not affect the E²-field uncertainty inside TSL (see Page 5 and Page 6).
^B Numerical linearization parameter; uncertainty not required.
^C Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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ES3DV3 Sn:3127



DASY/EASY – Parameters of Probe: ES3DV3 - SN: 3127

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz] ¹	Relative Permittivity ²	Conductivity (S/m) ³	ConvF X	ConvF Y	ConvF Z	Alpha ⁴	Depth ⁵ (mm)	Unc. (k=2)
750	41.9	0.89	6.26	6.26	6.26	0.60	1.20	±12.1%
900	41.5	0.97	6.15	6.15	6.15	0.37	1.62	±12.1%
1810	40.0	1.40	5.06	5.06	5.06	0.67	1.23	±12.1%
2000	40.0	1.40	4.88	4.88	4.88	0.67	1.23	±12.1%
2300	39.5	1.67	4.71	4.71	4.71	0.90	1.06	±12.1%
2450	39.2	1.80	4.58	4.58	4.58	0.90	1.10	±12.1%
2600	39.0	1.96	4.32	4.32	4.32	0.90	1.09	±12.1%

¹ Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ±110 MHz.

² At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

³ Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Certificate No: Z17-97142

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DASY/EASY – Parameters of Probe: ES3DV3 - SN: 3127

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz] ¹	Relative Permittivity ²	Conductivity (S/m) ³	ConvF X	ConvF Y	ConvF Z	Alpha ⁴	Depth ⁵ (mm)	Unc. (k=2)
750	55.5	0.96	6.18	6.18	6.18	0.45	1.45	±12.1%
900	55.0	1.06	6.06	6.06	6.06	0.46	1.48	±12.1%
1810	53.3	1.52	4.83	4.83	4.83	0.65	1.29	±12.1%
2000	53.3	1.52	4.69	4.69	4.69	0.44	1.69	±12.1%
2300	52.9	1.81	4.43	4.43	4.43	0.90	1.15	±12.1%
2450	52.7	1.95	4.28	4.28	4.28	0.72	1.34	±12.1%
2600	52.5	2.16	4.07	4.07	4.07	0.90	1.16	±12.1%

¹ Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ±110 MHz.

² At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

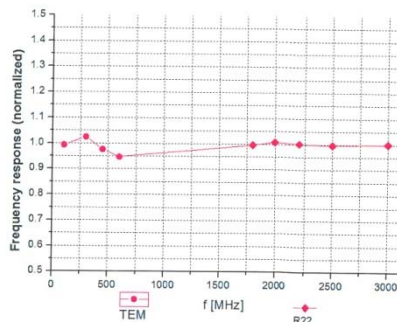
³ Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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Frequency Response of E-Field (TEM-Cell: If110 EXX, Waveguide: R22)



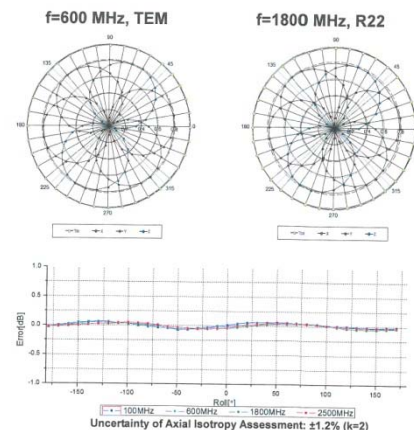
Uncertainty of Frequency Response of E-field: ±7.4% (k=2)

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Receiving Pattern (Φ, θ=0°)



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