FCC SAR TEST REPORT

Application No.:	SUHR/2022/10006
Applicant:	SEUIC Technologies Co., Ltd.
Manufacturer:	SEUIC Technologies Co., Ltd.
Product Name:	Portable Data Collection Terminal
Model No.(EUT):	CRUISE2 5GA
Trade Mark:	CRUISE
FCC ID:	2AC68-CRUISE25GA
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2022-02-07
Date of Test:	2022-02-08 to 2022-03-09
Date of Issue:	2022-03-14
Test conclusion:	**PASS ***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Panta Sun

Panta Sun

Wireless Laboratory Manager

REVISION HISTORY

Report Number	Revision	Description	Issue Date
HR/2022/1000601	01	Original	2022-03-14

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TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)			
	Head	Body-worn	Hotspot	Product specific 10g SAR
GSM850	0.22	0.25	0.25	/
GSM1900	0.30	0.35	0.46	/
WCDMA Band II	0.45	0.80	0.80	/
WCDMA Band IV	0.31	0.52	0.52	/
WCDMA Band V	0.30	0.49	0.49	/
LTE Band 7	0.37	0.80	0.80	/
LTE Band 12/17	0.19	0.18	0.24	/
LTE Band 13	0.16	0.19	0.23	/
LTE Band 2/25	0.26	0.59	0.59	/
LTE Band 5/26	0.17	0.29	0.29	/
LTE Band 38/41	0.25	0.51	0.51	/
LTE Band 4/66	0.18	0.44	0.44	/
NR Band n2	0.31	0.63	0.63	/
NR Band n5	0.26	0.40	0.40	/
NR Band n41	0.97	1.16	1.16	/
NR Band n66	0.25	0.50	0.50	/
NR Band n71	0.10	0.13	0.13	/
NR Band n77/n78	1.14	0.73	0.73	/
WI-FI (2.4GHz)	0.10	0.11	0.11	/
WI-FI (5GHz)	0.23	0.66	0.38	1.00
BT	0.10	0.10	0.10	/
GSM850	0.22	0.25	0.25	/
SAR Limited(W/kg)	1.6			4.0
Maximum Simultaneous Transmission SAR (W/kg)				
Scenario	Head	Body-worn	Hotspot	Product specific 10g SAR
Sum SAR	1.38	1.46	1.19	1.00
SPLSR	N/A	N/A	N/A	N/A
SPLSR Limited	0.04			0.1

Note:
1) The Simultaneous transmission SAR is the same test position of the WWAN antenna + WiFi/BT antenna.
2) According to TCB workshop October,2014 RF Exposure Procedures Update (Overlapping Bands): SAR for LTE Band 2 (Frequency range:1850-1910 MHz)/ LTE Band 4 (Frequency range:1710-1755 MHz)/ LTE Band 5 (Frequency range:824-849 MHz)/LTE Band 17 (Frequency range:704-716 MHz)/LTE Band 38 (Frequency range:2570-2620 MHz)/n78 (Frequency range:3450-3550 MHz)/ n78 (Frequency range:3700-3800 MHz)/ is respectively covered by LTE Band 25 (Frequency range:1850-1915 MHz)/ LTE Band 66 (Frequency range:1710-1780 MHz)/ LTE Band 26 (Frequency range:814-849 MHz)/ LTE Band 12 (Frequency range:699-716 MHz)/LTE Band 41 (Frequency range:2496-2690 MHz)/n77 (Frequency range:3450-3550 MHz)/n77 (Frequency range:3700-3980 MHz) due to similar frequency range, same maximum tune up limit and same channel bandwidth.

Reviewed by

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Prepared by

Nick Hu

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1 General Information

1.1 Details of Client

Applicant:	SEUIC Technologies Co., Ltd.
Address:	NO.15 Xinghuo Road,Nanjing New & High Technology Industry Development Zone,210061,Nanjing City,Jiangsu Province,China
Manufacturer:	SEUIC Technologies Co., Ltd.
Address:	NO.15 Xinghuo Road,Nanjing New & High Technology Industry Development Zone,210061,Nanjing City,Jiangsu Province,China

1.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test Engineer:	Nature Shen, Leon Xu

1.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

• **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

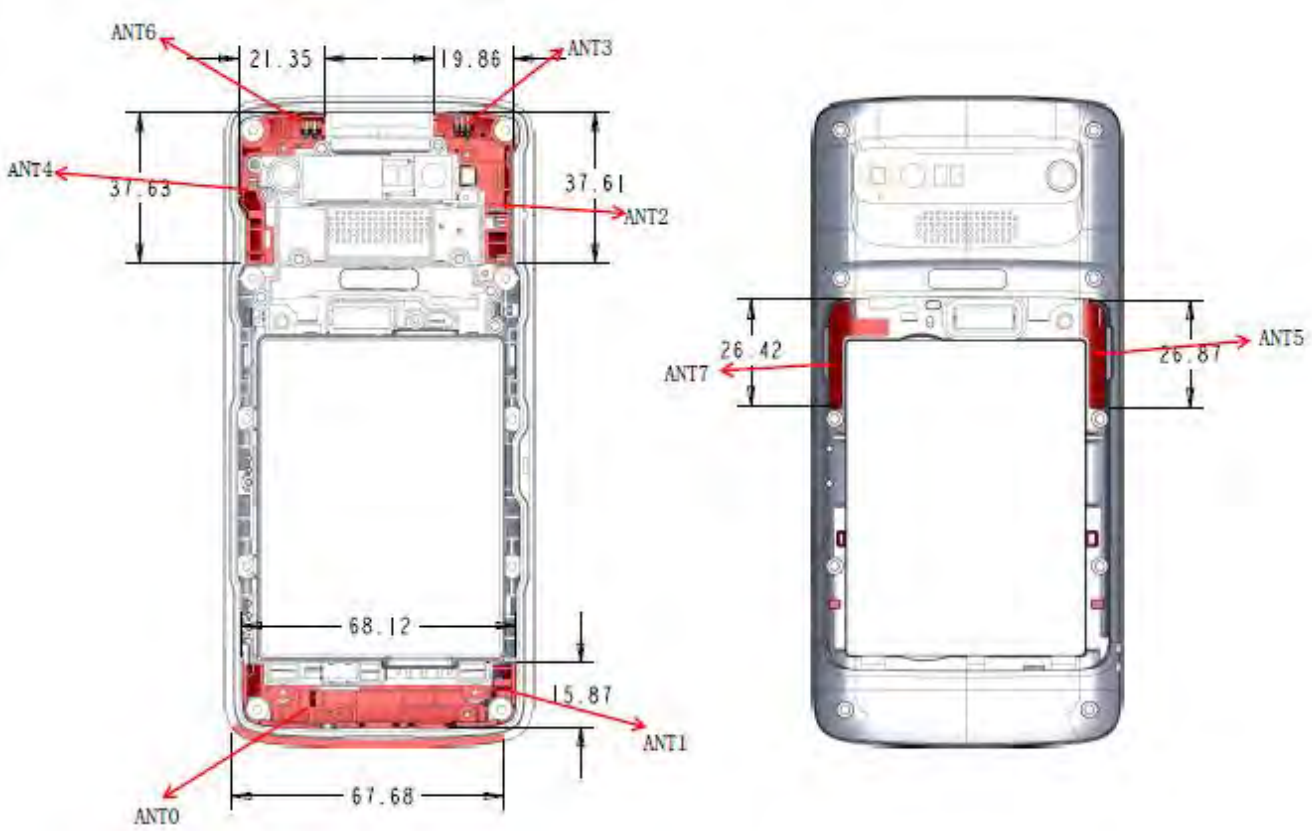
Test Firm Registration Number: 717327

1.4 General Description of EUT

Device Type :	portable device		
Exposure Category:	uncontrolled environment / general population		
Product Name:	Portable Data Collection Terminal		
Model No.(EUT):	CRUISE2 5GA		
FCC ID:	2AC68-CRUISE25GA		
Trade Mark:	CRUISE		
Product Phase:	Identical Prototype		
SN:	b60f0f4f/c5fa5b9a		
Hardware Version:	MC902A-4A_MB_PCBA_V1.01-A4A		
Software Version:	D740_V1.0.76		
Device Operating Configurations :			
Modulation Mode:	**GSM:** GMSK, 8PSK; **WCDMA:** QPSK; **LTE:** QPSK,16QAM,64QAM **5G NR:** DFT-s-OFDM (PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM), CP-OFDM (QPSK, 16QAM, 64QAM, 256QAM) **WIFI:** DSSS, OFDM, OFDMA; **BT:** GFSK, π/4DQPSK,8DPSK		
Device Class:	B		
GPRS Multi-slots Class:	12	EGPRS Multi-slots Class:	12
HSDPA UE Category:	24	HSUPA UE Category	8
DC-HSDPA UE Category:	24		
Power Class	4,tested with power level 5(GSM850)		
	1,tested with power level 0(GSM1900)		
	3, tested with power control “all 1”(WCDMA Band)		
	3, tested with power control Max Power(LTE Band)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	GSM850	824~849	869~894
	GSM1900	1850~1910	1930~1990
	WCDMA Band II	1850~1910	1930~1990
	WCDMA Band IV	1710~1755	2110~2155
	WCDMA Band V	824~849	869~894
	LTE Band 2	1850 ~1910	1930 ~1990
	LTE Band 4	1710~1755	2110~2155
	LTE Band 5	824~849	869-894
	LTE Band 7	2500~2570	2620~2690
	LTE Band 12	699~716	729~746
	LTE Band 13	777~787	746~756
	LTE Band 17	704~716	734~746
	LTE Band 25	1850~1915	1930~1995
	LTE Band 26	814~849	859~894
	LTE Band 66	1710~1780	2110~2200
	LTE Band 38	2570~2620	2570~2620
	LTE Band 41	2496~2690	2496~2690
	NR Band n2	1810~1910	1930~1990

	NR Band n5	824~849	869-894
	NR Band n66	1710~1780	2110~2200
	NR Band n71	663~698	617~652
	NR Band n41(Class 2/3)	2496~2690	2496~2690
	NR Band n77(Class 2/3)	3450~3550	3450~3550
		3700~3980	3700~3980
	NR Band n78 (Class 2/3)	3450~3550	3450~3550
		3700~3800	3700~3800
	Bluetooth	2400~2483.5	2400~2483.5
	Wi-Fi 2.4G	2402~2462	2402~2462
	Wi-Fi 5G	5150~5250	5150~5250
		5250~5350	5250~5350
		5470~5725	5470~5725
		5725~5850	5725~5850
RF Cable:	☒ Provided by the aplicant ☐ Provided by the laboratory		
Battery Information:	Model:	BT01740CRUISE	
	Normal Voltage:	+3.85V	
	Rated capacity:	5000mAh	
	Manufacturer:	DONGGUAN BOB ELECTRONICS CO.,LTD.	

1.4.1 DUT Antenna Locations (Back View)



ANT0	TX/PRX	GSM B2/3/5/8; WCDMA B2/4/5/8; LTEB2/4/5/7/8/12/13/17/25/26/66/38/39/41; NR N2/5/41/66/71
ANT4	DRX	GSM B2/3/5/8; WCDMA B2/4/5/8; LTEB2/4/5/7/8/12/13/17/25/26/66/38/39/41; NR N2/5/41/66/71
ANT6	TX/PRX	N77/78/79
ANT7	DRX	N77/78/79
ANT5	PMRX	N77/78/79/N41
ANT1	DM/RX	N77/78/79/N41
ANT2	WLAN TX	WIFI1+GPS L5
ANT3	WLAN TX	WIFI0+GPSL1

Note:
1) The test device is a smart phone. The overall diagonal dimension of this device is 170 mm. Per KDB 648474 D04, because the diagonal distance of this device is ≥160mm, so it is a phablet.
2) DIV Antenna does not support transmitter function.

According to the distance between 5G NR/LTE/WCDMA/GSM&WIFI&BT antennas and the sides of the EUT we can draw the conclusion that:

EUT Sides for SAR Testing							
Mode	Exposure Condition	Front	Back	Left	Right	Top	Bottom

Ant 0	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	Yes	No	Yes
Ant 6	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	No	Yes	No
Ant 2+3	Hotspot/Product specific 10g SAR	Yes	Yes	No	Yes	Yes	No

Table 1： EUT Sides for SAR Testing
Note: When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

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1.4.2 Power reduction specification

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation

1) A fixed level power reduction is applied for some frequency bands when handset operate "held to the ear" condition, the power reduction triggered by audio receiver detection. The audio receiver detection is used to determine head or body scenario.

The detailed power reduction information can be referred to Appendix E.

1.5 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01	3G SAR Measurement Procedures v03r01
KDB 941225 D05	SAR for LTE Devices v02r05
KDB 941225 D05A	LTE Rel.10 KDB Inquiry Sheet v01r02
KDB 941225 D06	Hotspot Mode SAR v02r01
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 648474 D04	Handset SAR v01r03
KDB 447498 D01	General RF Exposure Guidance v06
KDB 865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02
KDB 690783 D01	SAR Listings on Grants v01r03

1.6 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain*Trunk)	**1.60 mW/g**	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	**4.00 mW/g**	20.00 mW/g

Notes:

* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time

** The Spatial Average value of the SAR averaged over the whole body.

*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation.)

2 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

Table 2： The Ambient Conditions

3 SAR Measurements System Configuration

3.1 The SAR Measurement System

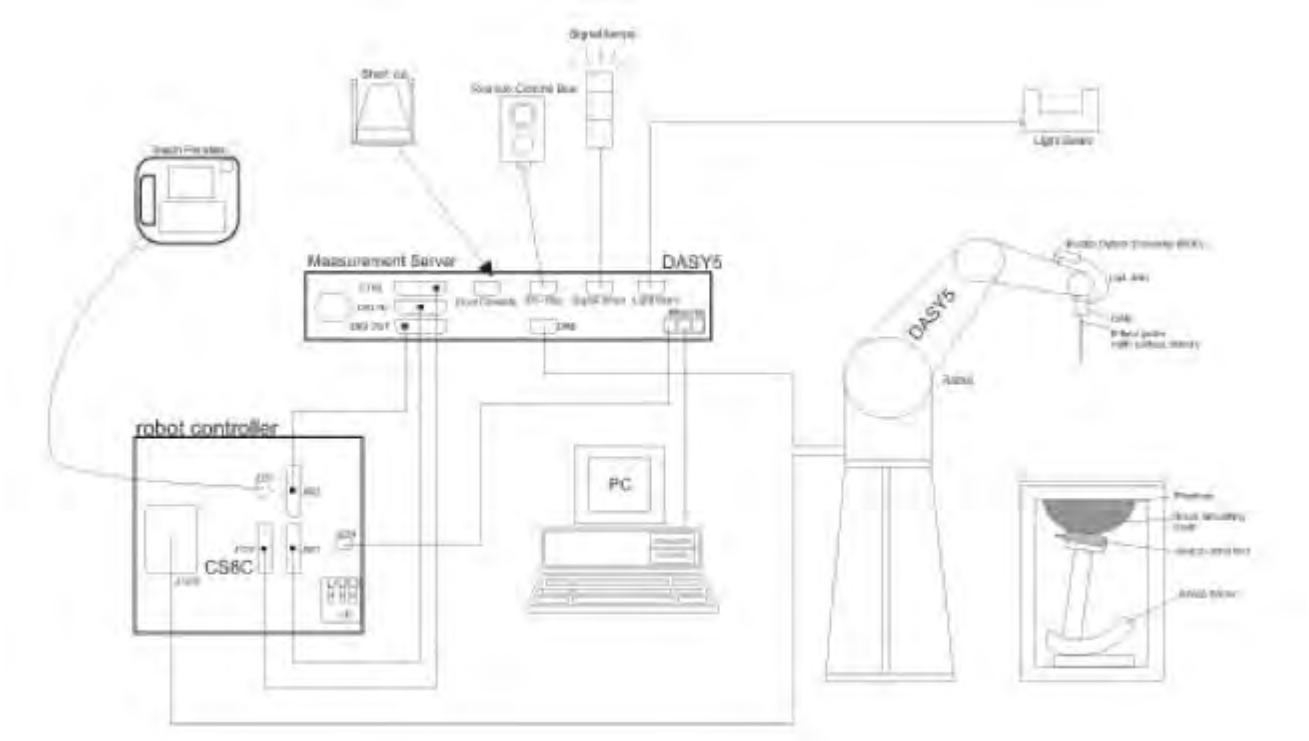
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY5 system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software .An arm extension for accommodation the data acquisition electronics (DAE).

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.



F-1. SAR Measurement System Configuration

- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 7.
- DASY5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validating the proper functioning of the system.

3.2 Isotropic E-field Probe EX3DV4

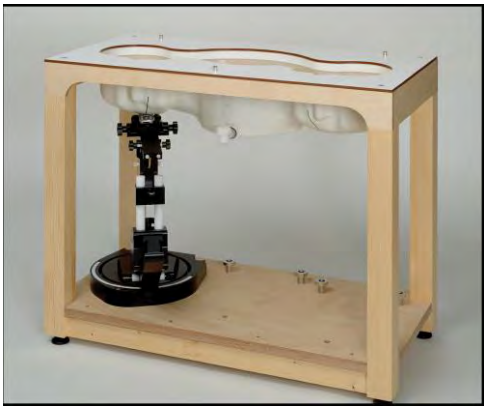
	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
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
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%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

3.3 Data Acquisition Electronics (DAE)

Model	DAE
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)
Input Offset Voltage	< 5µV (with auto zero)
Input Bias Current	< 50 f A
Dimensions	60 x 60 x 68 mm

3.4 SAM Twin Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet
Filling Volume	approx. 25 liters
Wooden Support	SPEAG standard phantom table



The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Twin SAM V5.0 has the same shell geometry and is manufactured from the same material as Twin SAM V4.0, but has reinforced top structure.

3.5 ELI Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2.0 ± 0.2 mm (bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	approx. 30 liters
Wooden Support	SPEAG standard phantom table

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.

ELI V5.0 has the same shell geometry and is manufactured from the same material as ELI4, but has reinforced top structure.

3.6 Device Holder for Transmitters

F-2. **Device Holder for Transmitters**

- The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centres for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
- The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

3.7 Measurement procedure

3.7.1 Scanning procedure

Step 1: Power reference measurement

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure.

Step 2: *Area scan*

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm or 12mm*12mm or 10mm*10mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: *Zoom scan*

Around this point, a volume of 32mm*32mm*30mm (f≤2GHz), 30mm*30mm*30mm (f for 2-3GHz) and 24mm*24mm*22mm (f for 5-6GHz) was assessed by measuring 5x5x7 points (f≤2GHz), 7x7x7 points (f for 2-3GHz) and 7x7x12 points (f for 5-6GHz). On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the centre of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification).The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points were interpolated to calculate the average. All neighbouring volumes were evaluated until no neighboring volume with a higher average value was found.

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std. 1528-2013.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Step 4: Power reference measurement (drift)

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The indicated drift is mainly the variation of the DUT's output power and should vary max. ± 5 %

3.7.2 Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DAE4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated. The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [m W/g], [m W/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

3.7.3 Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	Normi, ai0, ai1, ai2
	- Conversion factor	ConvFi
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	ε
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf / dcp_i$$

With Vi = compensated signal of channel i (i = x, y, z)
Ui = input signal of channel i (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp i = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:

$$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes:

$$H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1} f + a_{i2} f^2) / f$$

With Vi = compensated signal of channel i (i = x, y, z)
Normi = sensor sensitivity of channel I (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = electric field strength of channel i in V/m
Hi = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (Etot^2 \cdot \sigma) / (\varepsilon \cdot 1000)$$

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ= conductivity in [mho/m] or [Siemens/m]
ε= equivalent tissue density in g/cm3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = Etot^2{}_2 / 3770 \text{ or } \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with Ppwe = equivalent power density of a plane wave in mW/cm2
Etot = total electric field strength in V/m
Htot = total magnetic field strength in A/m

4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, 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. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

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

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

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

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

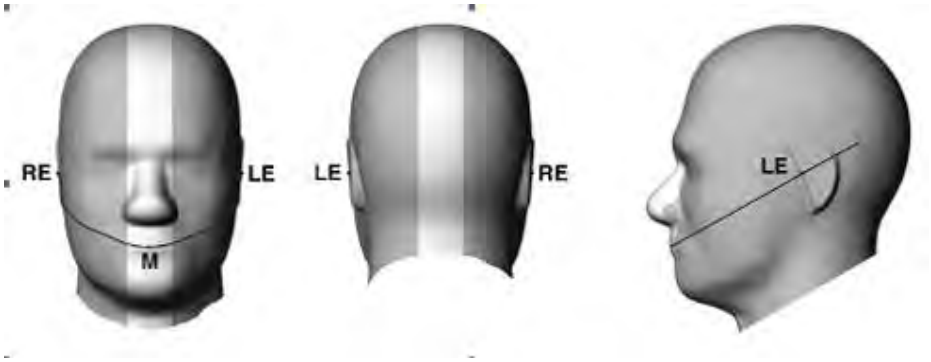
4.2 SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

5 Description of Test Position

5.1 Head Exposure Condition

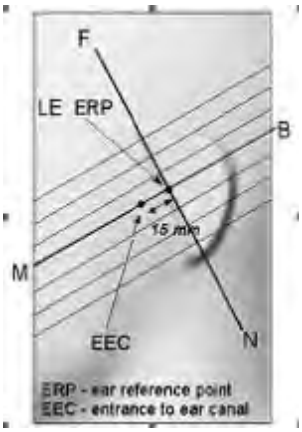
5.1.1 SAM Phantom Shape



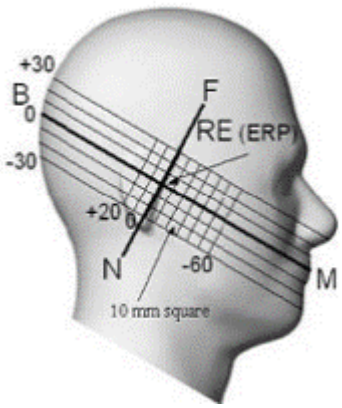
F-3. Front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup.

Note: The centre strip including the nose region has a different thickness tolerance.

F-4. Sagittally bisected phantom with extended perimeter (shown placed on its side as used for SAR measurements)

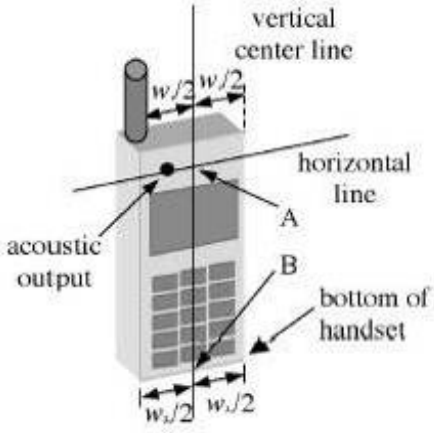


F-5. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

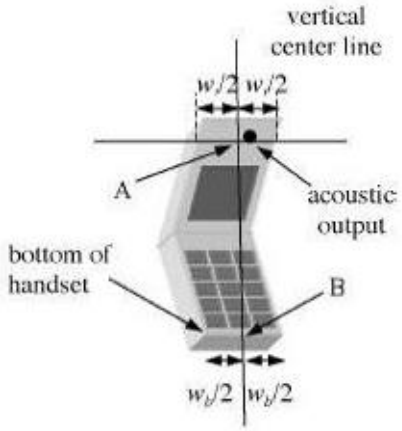


F-6. Side view of the phantom showing relevant markings and seven cross-sectional plane locations

5.1.2 EUT constructions



F-7. Handset vertical and horizontal reference lines-“fixed case”



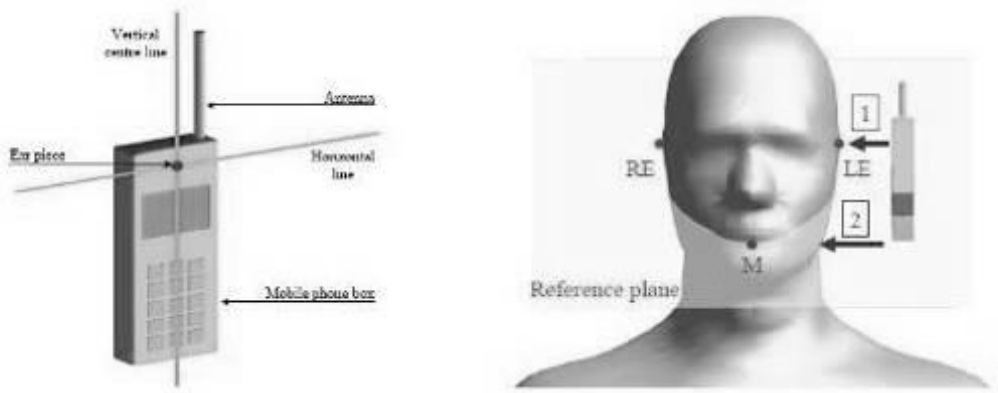
F-8. Handset vertical and horizontal reference lines-“clam-shell case”

5.1.3 Definition of the “cheek” position

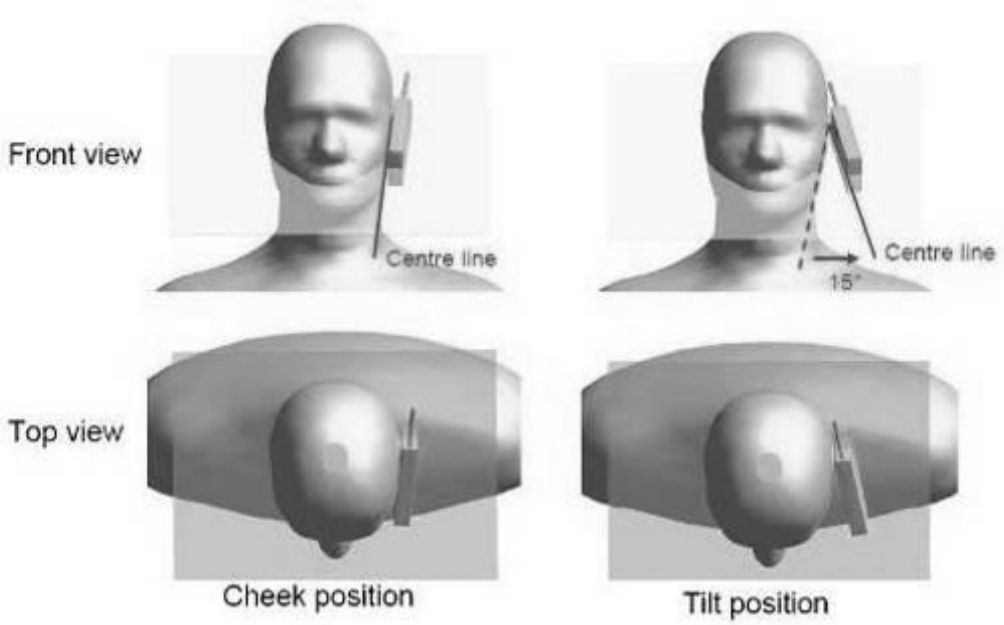
a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom ("initial position"). While maintaining the device in this plane, align the vertical centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the centre of the ear piece with the line RE-LE.
b) Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until telephone touches the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

5.1.4 Definition of the “tilted” position

a) Position the device in the “cheek” position described above;
b) While maintaining the device in the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.



F-9. **Definition of the reference lines and points, on the phone and on the phantom and initial position**



F-10. **“Cheek” and “tilt” positions of the mobile phone on the left side**

5.2 Body Exposure Condition

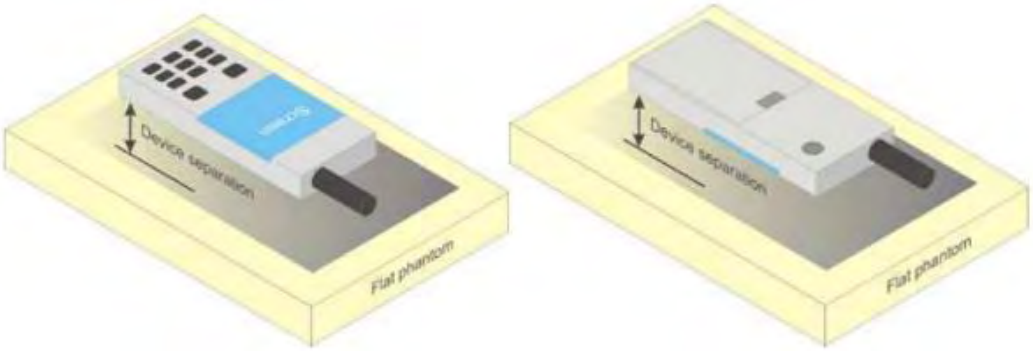
5.2.1 Body-worn accessory exposure conditions

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.



F-11. **Test positions for body-worn devices**

5.2.2 Wireless Router exposure conditions

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

5.3 Extremity exposure conditions

Per FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as “Phablet”.
The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
Due to the SAR result, all frequency bands not need to test with 0mm for the Product Specific 10-g SAR.

6 SAR System Verification Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands：

Ingredients (% by weight)	Frequency (MHz)				
	450	700-900	1750-2000	2300-2500	2500-2700
Water	38.56	40.30	55.24	55.00	54.92
Salt (NaCl)	3.95	1.38	0.31	0.2	0.23
Sucrose	56.32	57.90	0	0	0
HEC	0.98	0.24	0	0	0
Bactericide	0.19	0.18	0	0	0
Tween	0	0	44.45	44.80	44.85
Salt: 99⁺% Pure Sodium Chloride Water: De-ionized, 16 MΩ⁺ resistivity Tween: Polyoxyethylene (20) sorbitan monolaurate			Sucrose: 98⁺% Pure Sucrose HEC: Hydroxyethyl Cellulose		
HSL5GHz is composed of the following ingredients： Water：50-65% Mineral oil：10-30% Emulsifiers：8-25% Sodium salt：0-1.5%					

Table 3： Recipe of Tissue Simulate Liquid

6.1.2 Measurement for Tissue Simulate Liquid

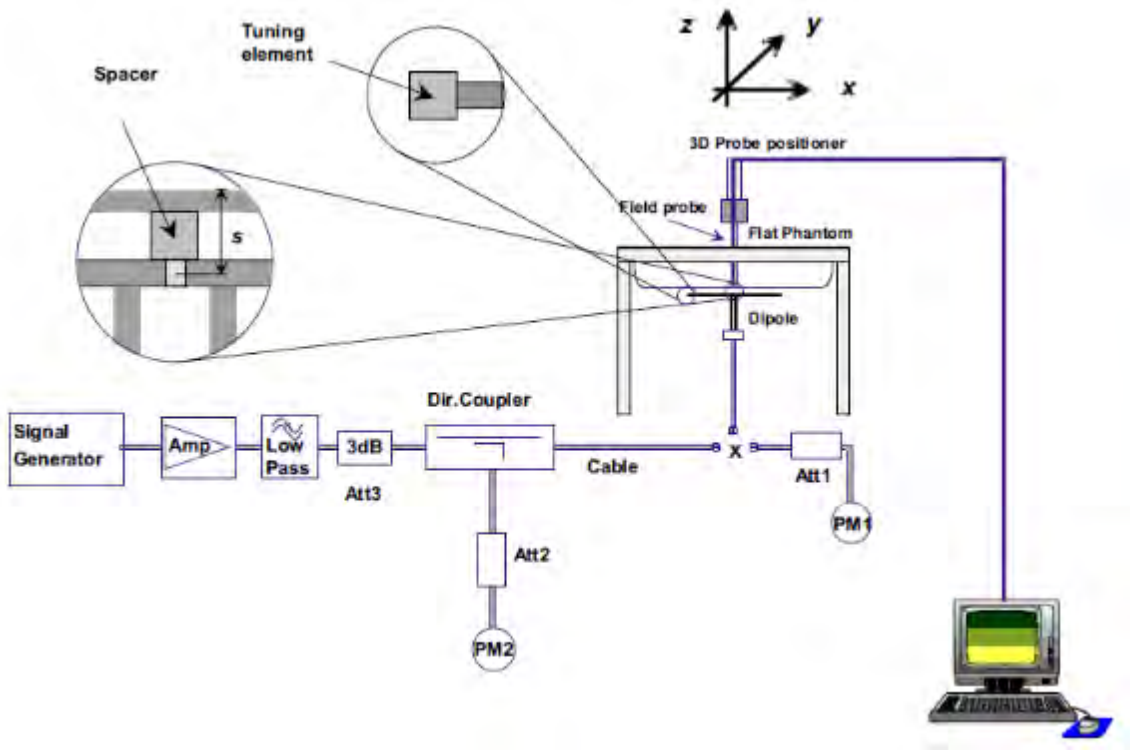
The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Tissue Type	Measured Frequency (MHz)	Target Tissue (±5%)		Measured Tissue		Liquid Temp.(°C)	Measured Date
		ε_r	σ(S/m)	ε_r	σ(S/m)		
750 Head	750	41.9 (39.81~44)	0.89 (0.85~0.94)	41.660	0.867	22.4	2022/2/14
750 Head	750	41.9 (39.81~44)	0.89 (0.85~0.94)	41.649	0.865	22.3	2022/2/18
750 Head	750	41.9 (39.81~44)	0.89 (0.85~0.94)	41.436	0.864	22.3	2022/3/9
835 Head	835	41.5 (39.43~43.58)	0.90 (0.86~0.95)	41.624	0.894	22.1	2022/2/9
835 Head	835	41.5 (39.43~43.58)	0.90 (0.86~0.95)	41.623	0.884	22.2	2022/2/15
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	38.758	1.332	22.4	2022/2/12
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	39.077	1.367	22.5	2022/2/17
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	40.086	1.402	22.3	2022/2/11
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	38.783	1.398	22.6	2022/2/13
2450 Head	2450	39.20 (37.24~41.16)	1.80 (1.71~1.89)	39.690	1.799	22.5	2022/2/21
2600 Head	2600	39.0 (37.05~40.95)	1.96 (1.86~2.06)	39.401	2.008	22.3	2022/2/8
2600 Head	2600	39.0 (37.05~40.95)	1.96 (1.86~2.06)	39.412	2.015	22.2	2022/2/19
3500 Head	3500	37.9 (36.01~39.8)	2.91 (2.76~3.06)	38.270	2.983	22.4	2022/3/3
3900 Head	3900	37.5 (35.63~39.38)	3.32 (3.15~3.49)	37.015	3.451	22.5	2022/3/4
5250Head	5250	35.9 (34.11~37.70)	4.66 (4.47~4.95)	36.838	4.882	22.3	2022/2/26
5600 Head	5600	35.5 (33.73~37.30)	5.07 (4.82~5.32)	35.970	5.276	22.2	2022/2/27
5750 Head	5750	35.4 (33.63~37.17)	5.22 (4.96~5.48)	35.789	5.474	22.4	2022/2/28

Table 4： Measurement result of Tissue electric parameters

6.2 SAR System Check

The microwave circuit arrangement for system Check is sketched in F-12. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15±0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-12. the microwave circuit arrangement used for SAR system check

6.2.1 Justification for Extended SAR Dipole Calibrations

1) Referring to KDB865664 D01 requirements for dipole calibration, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) Return-loss is within 10% of calibrated measurement;
d) Impedance is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

6.2.2 Summary System Check Result(s)

Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V3	Head	2.26	1.49	9.04	5.96	8.39 (7.55~9.23)	5.63 (5.07~6.19)	22.4	2022/2/14
D750V3	Head	2.26	1.48	9.04	5.92	8.39 (7.55~9.23)	5.63 (5.07~6.19)	22.3	2022/2/18
D750V3	Head	2.07	1.36	8.28	5.44	8.39 (7.55~9.23)	5.63 (5.07~6.19)	22.3	2022/3/9
D835V2	Head	2.22	1.45	8.88	5.80	9.64 (8.68~10.60)	6.29 (5.66~6.92)	22.1	2022/2/9
D835V2	Head	2.19	1.44	8.76	5.76	9.64 (8.68~10.60)	6.29 (5.66~6.92)	22.2	2022/2/15
D1750V2	Head	8.72	4.62	34.88	18.48	36.3 (32.67~39.93)	19.2 (17.28~21.12)	22.4	2022/2/12
D1750V2	Head	8.94	4.74	35.76	18.96	36.3 (32.67~39.93)	19.2 (17.28~21.12)	22.5	2022/2/17
D1900V2	Head	9.66	4.94	38.64	19.76	39.3 (35.37~43.23)	20.2 (18.18~22.22)	22.3	2022/2/11
D1900V2	Head	9.63	4.93	38.52	19.72	39.3 (35.37~43.23)	20.2 (18.18~22.22)	22.6	2022/2/13
D2450V2	Head	12.80	5.86	51.20	23.44	51.9 (46.71~57.09)	23.8 (21.42~26.18)	22.5	2022/2/21
D2600V2	Head	12.90	5.76	51.60	23.04	56.8 (51.12~62.48)	24.9 (22.41~27.39)	22.3	2022/2/8
D2600V2	Head	12.90	5.79	51.60	23.16	56.8 (51.12~62.48)	24.9 (22.41~27.39)	22.2	2022/2/19
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D3500V2	Head(3.5GHz)	6.55	2.46	65.50	24.60	66.5 (59.85~73.15)	25.1 (22.59~27.61)	22.4	2022/3/3
D3900V2	Head(3.9GHz)	7.48	2.68	74.80	26.80	71.1 (63.99~78.21)	24.6 (22.14~27.06)	22.5	2022/3/4
D5GHzV2	Head(5.25GHz)	7.50	2.15	75.00	21.50	75.2 (67.68~82.72)	21.5 (19.35~23.65)	22.3	2022/2/26
	Head(5.6GHz)	8.76	2.43	87.60	24.30	80.0 (72.0~88.0)	22.7 (20.43~24.97)	22.2	2022/2/27
	Head(5.75GHz)	8.23	2.34	82.30	23.40	78.7 (70.83~86.57)	22.3 (20.07~24.53)	22.4	2022/2/28

Table 5： SAR System Check Result

6.2.3 Detailed System Check Results

Please see the Appendix A

7 Test Configuration

7.1 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

7.2 Operation Configurations

7.2.1 GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a base station by air link. Using CMW500 the power lever is set to “5”and “0” in SAR of GSM 850 and GSM 1900. The tests in the band of GSM 850 and GSM 1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 33 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 33 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode

7.2.2 WCDMA Test Configuration

1）. Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1's" for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

2）. Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure

3）. Body SAR

SAR for body configurations is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreaing code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

4）. HSDPA / HSUPA / DC-HSDPA

According to KDB 941225 D01v03, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA

a) HSDPA

HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) are set according to values indicated in the following table The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	βc	Bd	βd(SF)	βc/βd	βhs	CM(dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: △ACK, △NACK and △CQI= 8 Ahs = βhs/βc=30/15 βhs=30/15*βc
Note2:For the HS-DPCCH power mask requirement test in clause 5.2C,5.7A,and the Error Vector Magnitude(EVM) with HS-DPCCH test in clause 5.13.1.A,and HSDPA EVM with phase discontinuity in clause 5.13.1AA, △ACK and △NACK= 8 (Ahs=30/15) with βhs=30/15*βc,and △CQI=
7 (Ahs=24/15) with βhs=24/15*βc.
Note3: CM=1 forβc/βd =12/15, βhs/βc=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

Parameter	Value
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI"s
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

Table 6： settings of required H-Set 1 QPSK acc. to 3GPP 34.121

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	MaximumH S-DSCH Transport BlockBits/HS-DSCH TTI	Total Soft Channel Bits
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600
16	15	1	27952	345600

Table 7： HSDPA UE category

b) HSUPA

Due to inner loop power control requirements in HSUPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSUPA should be configured according to the values indicated below as well as other applicable procedures described in the „WCDMA Handset" and „Release 5 HSUPA Data Device" sections of 3G device.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ec} (SF)	β_{ed} (code)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	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	0.0	21	81

Note 1: Δ ACK, Δ NACK and Δ CQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note 2: 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.

Note 3 : 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 signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$.

Note 4 : 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 signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$.

Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.

Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Table 8： Subtests for UMTS Release 6 HSUPA

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Speading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	10	2SF2&2SF4	11484	5.76
	4	4	2		20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF4	22996	?
	4	4	10		20000	?
NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM.(TS25.306-7.3.0).						

Table 9： HSUPA UE category

c) DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a Second serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.
The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0.
A summary of these settings are illustrated below:
Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table E.5.0: Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH _Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13.
The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.
The measurements were performed with a Fixed Reference Channel (FRC) H-Set 12 with QPSK.

Parameter	Value
Nominal average inf. bit rate	60 kbit/s
Inter-TTI Distance	1 TTI's
Number of HARQ Processes	6 Processes
Information Bit Payload	120 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	960 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	3200 SMLs
Coding Rate	0.15
Number of Physical Channel Codes	1

Table 10： settings of required H-Set 12 QPSK acc. to 3GPP 34.121

Note:
1. The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table above.
2. Maximum number of transmission is limited to 1,i.e.,retransmission is not allowed. The redundancy and constellation version 0 shall be used.

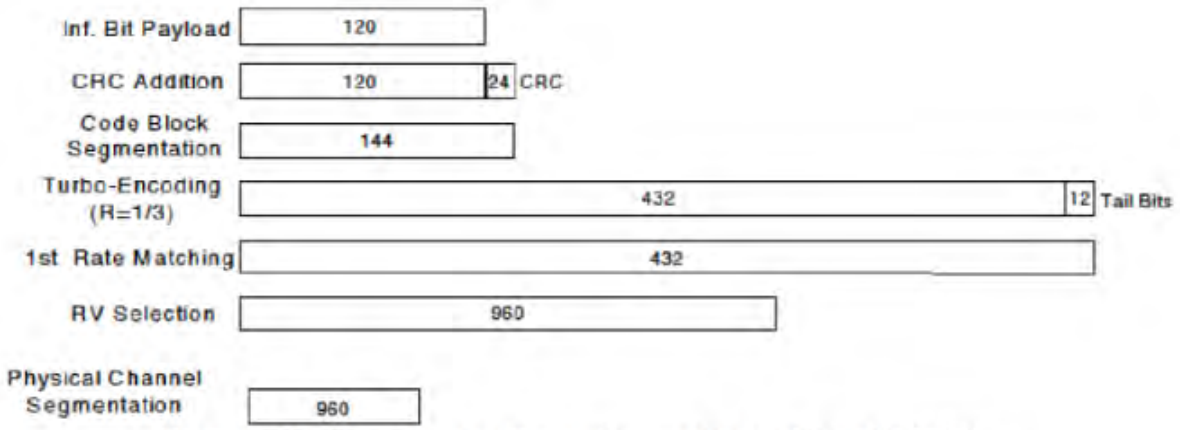


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 5 procedures. A summary of subtest settings are illustrated below:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	CM(dB)(2)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ ACK, Δ NACK and Δ CQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note 2: CM=1 for β_c/β_d= 12/15, β_{hs}/β_c = 24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 3: 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 signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15

Up commands are set continuously to set the UE to Max power.

Note:

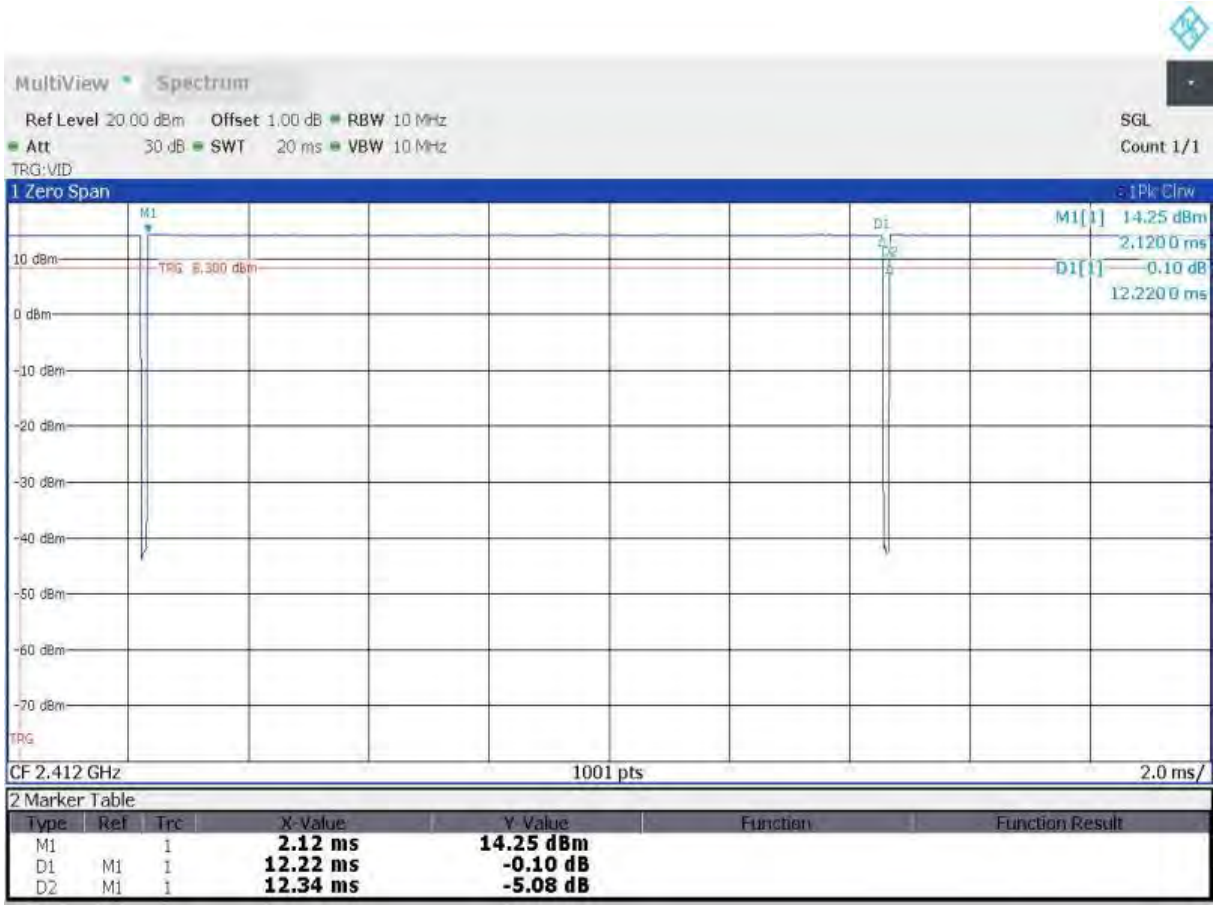
1. The Dual Carriers transmission only applies to HSDPA physical channels
2. The Dual Carriers belong to the same Node and are on adjacent carriers.
3. The Dual Carriers do not support MIMO to serve UEs configured for dual cell operation
4. The Dual Carriers operate in the same frequency band.
5. The device doesn't support the modulation of 16QAM in uplink but 64QAM in downlink for DC-HSDPA mode.
6. The device doesn't support carrier aggregation for it just can operate in Release 8.

7.2.3 WiFi Test Configuration

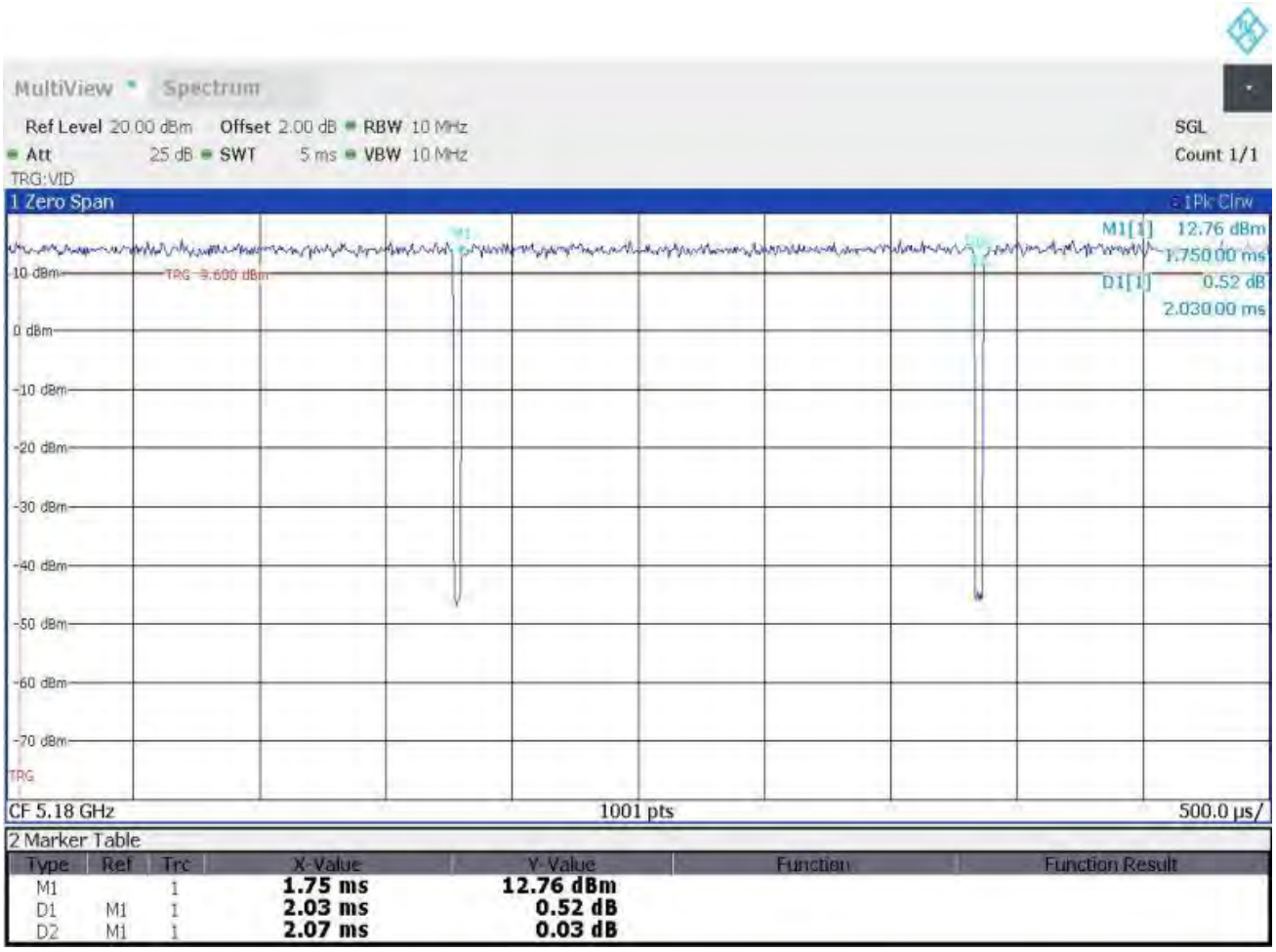
A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

7.2.3.1 Duty cycle

Wi-Fi 2.4GHz 802.11b MIMO:
Duty cycle=12.22/12.34=99.03%



Wi-Fi 5GHz 802.11a MIMO:
Duty cycle=2.03/2.07=98.07%



7.2.3.2 Initial Test Position SAR Test Reduction Procedure

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:

1）. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
2）. When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
3）. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

7.2.3.3 Initial Test Configuration Procedures

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required. SAR test reduction for subsequent highest output test channels is determined according to *reported* SAR of the initial test configuration.
For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.
When the *reported* SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

7.2.3.4 Subsequent Test Configuration Procedures

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.

1）. When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated

band and exposure configuration.

2）. When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.

3）. The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.

a) SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.

b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.

4）. SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:

a) replace “subsequent test configuration” with “next subsequent test configuration” (i.e., subsequent next highest specified maximum output power configuration)

b) replace “initial test configuration” with “all tested higher output power configurations”

7.2.3.5 2.4 GHz WiFi SAR Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions. When SAR measurement is required for an OFDM configuration, the initial test configuration, subsequent test configuration and initial test position procedures are applied. The SAR test exclusion requirements for 802.11g/n OFDM configurations are described in following.

- **802.11b DSSS SAR Test Requirements**

SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1）. When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2）. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

- **2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3, including sub-sections). SAR is not required for the following 2.4 GHz OFDM conditions.

1）. When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.

2）. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

- **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

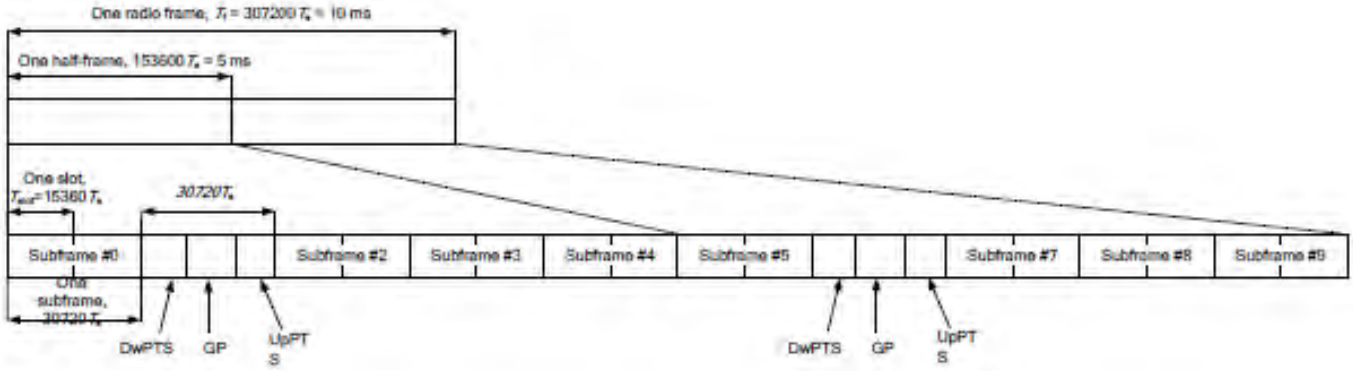
7.2.4 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The Anritsu MT8820C was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

TDD LTE test consideration

For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.
SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7.
LTE TDD Band support 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Frame structure type 2:



Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

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

Uplink-downlink configurations.

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

Calculated Duty Cycle=[Extended cyclic prefix in uplink x (Ts) x # of S + # of U]/10ms

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-point Periodicity	Subframe Number										Calculated Duty Cycle (%)
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.67
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.67
6	5 ms	D	S	U	U	U	D	S	U	U	D	53.33

A) Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

C) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

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

2) QPSK with 50% RB allocation

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

3) QPSK with 100% RB allocation

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

4) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

E) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

7.2.5 NR Band Test Configuration

1. NR Band n2/n5/n66/n71/n41/n77/n78 support SA mode and n2/n5/n66/n71 support NSA mode. LTE+NR Band operations are possible only with LTE under EN-DC mode and the operations are possible as following table:

Band/Antenna		LTE Band 2	LTE Band 5	LTE Band 12	LTE Band 66
		Ant0	Ant0	Ant0	Ant0
n2	Ant0		√	√	
n5	Ant0	√			√
n66	Ant0		√	√	
n71	Ant0	√	√	√	√

2. The general information supported by the NR band is as following table:

Band			n5	n7	n38	n41	n77	n78
Modulation	DFT-s-OFDM	PI/2 BPSK	Yes	Yes	Yes	Yes	Yes	Yes
		QPSK	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes
	CP-OFDM	QPSK	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes
Duty Cycle			100%	100%	100%	100%	100%	100%

Band	SCS	Bandwidth												
		5Mhz	10Mhz	15Mhz	20Mhz	25Mhz	30Mhz	40Mhz	50Mhz	60Mhz	70Mhz	80Mhz	90Mhz	100Mhz
n2	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n5	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n66	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n71	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n41	15KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	Yes	N/A	N/A	Yes	N/A	Yes	N/A	Yes	N/A	Yes
n77	15KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Yes	N/A	Yes	Yes	Yes
n78	15KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Yes	N/A	Yes	Yes	Yes

3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest SCS and largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller SCS/bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device

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4. MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS 38.101-1 Section 6.2.2 under Table 6.2.2 -1.

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	PI/2 BPSK	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		
NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability powerBoosting-pi2BPSK and if the IE powerBoostPi2BPSK is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26dBm.				
NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE powerBoostPi2BPSK is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.				

5. For FDD NR Band operation does not have the fixed UL/DL frame structure, but during the transmitting/ receiving it can be operated in the slot structure of 100% UL duty cycle, we are proposing the conservative way to evaluate SAR at 100% duty cycle. For the purpose of test NR Band standalone SAR, and also test SAR level at 100% TX duty cycle.

6. For 5G NR Sub6GHz SISO Mode, SAR Test plan as below:

1) For 5G NR NSA mode with the same UL EN_DC combination but different DL EN_DC combinations, eg: EN-DC configuration: UL DC_7A_n5 (UL two bands) with DL DC_7C_n5 (DL two bands)

a) The UL EN-DC configuration, including the Tx antenna configuration, RF path, the channel bandwidth and other operating parameters are the same.

b) The maximum output power, including tolerance, for the UL EN-DC configuration with DL two or more bands must be ≤ the same UL EN-DC configuration with DL two bands only to qualify for the SAR test exclusion.

7. For EN-DC SAR, as the existing SAR test system cannot test the multiple different frequency bands simultaneous Transmission SAR at the same time, we suggest that the conservative “max + max” multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink EN-DC SAR from standalone SAR test results of each LTE and NR EN-DC component band and the conservative “max + max” multi-Tx method to combine the scaled SAR value from each EN-DC component band as the inter-band Uplink EN-DC SAR. All Simultaneous Transmission Scenarios will be evaluated independently in the final SAR report.

8. When the reported SAR for and EN DC configuration is greater than 1.2 W/kg, EN DC SAR is also required for other NR based test channels.

9. EN DC SAR is also required for standalone NR configurations greater than 1.2 W/kg when scaled to the EN DC power level.

8 Test Result

8.1 Measurement of RF conducted Power

The detailed conducted power table can refer to Appendix E.

Note:

1）. For GSM SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

No. of timeslots	1	2	3	4
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.075
Time based avg. power compared to slotted avg. power	-9.19	-6.18	-4.42	-3.17

2）. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:
Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8

3）. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used

4）. According to FCC guidance, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.

5）. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs.

6）. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05.

7）. Conducted power measurement results of downlink LTE carrier aggregation are provided to quantify downlink only carrier aggregation SAR test exclusion per KDB 941225 D05A.Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive, therefore SAR evaluation with downlink carrier aggregation can be excluded.
The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V15.4.0. The detailed conducted power measurement results of downlink LTE CA are provided in the SAR report per 3GPP TS 36.521-1 V14.4.0. According to KDB 941225 D05A, the downlink only carrier aggregation conditions for this device can be excluded from SAR testing.
The conducted power measurement results of downlink LTE CA Conducted Power are as Appendix E conducted RF output power, so the downlink only carrier aggregation conditions for this device can be excluded from SAR testing

8）. For conducted power of WIFI must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band. For each transmission mode configuration, power must be measured for the highest and lowest channels; and at the mid-band channel(s) when there are at least 3 channels. For configurations with multiple mid-band channels, due to an even number of channels, both channels should be measured. Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.

1) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.
2) When the same highest maximum output power is specified for multiple largest channel bandwidth configurations with the same lowest order modulation or lowest order modulation and lowest data rate, power measurement is required for all equivalent 802.11 configurations with the same maximum output power.

9）. The conducted power of BT is measured with RMS detector. BT DH5 Duty Cycle=2.88/3.75=76.8%

8.2 Measurement of SAR Data

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per KDB447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

3) Maximum bandwidth does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WiFi 2.4G:

1) When the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ⩽ 1.2 W/kg, SAR test for the other 802.11 modes are not required.

WiFi 5G:

1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. As the highest reported SAR for a test configuration is ⩽ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration.

2) For Wi-Fi 5G, U-NII-2A (5250-5350 MHz) and U-NII-2C (5470-5725 MHz) bands does not support hotspot function.

3) When the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ⩽ 1.2 W/kg, SAR test for the other 802.11 modes are not required.

8.2.1 SAR Result of GSM850

Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	GPRS 4TS	190/836.6	1:2.075	0.121	0.08	26.24	27.50	1.337	0.162	22.1
Left tilted	GPRS 4TS	190/836.6	1:2.075	0.084	0.03	26.24	27.50	1.337	0.112	22.1
Right cheek	GPRS 4TS	190/836.6	1:2.075	0.164	0.03	26.24	27.50	1.337	**0.219**	22.1
Right tilted	GPRS 4TS	190/836.6	1:2.075	0.084	0.16	26.24	27.50	1.337	0.112	22.1
Body worn Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.190	-0.08	26.24	27.50	1.337	**0.254**	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.130	0.13	26.24	27.50	1.337	0.174	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.190	-0.08	26.24	27.50	1.337	**0.254**	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.130	0.13	26.24	27.50	1.337	0.174	22.1
Left side	GPRS 4TS	190/836.6	1:2.075	0.112	0.05	26.24	27.50	1.337	0.150	22.1
Rightt side	GPRS 4TS	190/836.6	1:2.075	0.103	0.02	26.24	27.50	1.337	0.138	22.1
Bottom side	GPRS 4TS	190/836.6	1:2.075	0.120	0.10	26.24	27.50	1.337	0.160	22.1

Table 11： SAR of GSM850 for Head and Body

8.2.2 SAR Result of GSM1900

Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	GPRS 4TS	661/1880	1:2.075	0.206	0.04	23.41	25.00	1.442	**0.297**	22.3
Left tilted	GPRS 4TS	661/1880	1:2.075	0.085	0.06	23.41	25.00	1.442	0.122	22.3
Right cheek	GPRS 4TS	661/1880	1:2.075	0.053	0.06	23.41	25.00	1.442	0.076	22.3
Right tilted	GPRS 4TS	661/1880	1:2.075	0.049	0.09	23.41	25.00	1.442	0.071	22.3
Body worn Test data(Separate 10mm)										
Front side	GPRS 4TS	661/1880	1:2.075	0.181	0.14	23.41	25.00	1.442	0.261	22.3
Back side	GPRS 4TS	661/1880	1:2.075	0.239	-0.08	23.41	25.00	1.442	**0.345**	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	661/1880	1:2.075	0.181	0.14	23.41	25.00	1.442	0.261	22.3
Back side	GPRS 4TS	661/1880	1:2.075	0.239	-0.08	23.41	25.00	1.442	0.345	22.3
Left side	GPRS 4TS	661/1880	1:2.075	0.321	0.08	23.41	25.00	1.442	**0.463**	22.3
Rightt side	GPRS 4TS	661/1880	1:2.075	0.030	0.07	23.41	25.00	1.442	0.044	22.3
Bottom side	GPRS 4TS	661/1880	1:2.075	0.134	0.08	23.41	25.00	1.442	0.193	22.3

Table 12： SAR of GSM1900 for Head and Body.

8.2.3 SAR Result of WCDMA Band II

Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	9400/1880	1:1	0.399	-0.03	22.95	23.50	1.135	**0.453**	22.3
Left tilted	RMC	9400/1880	1:1	0.159	-0.03	22.95	23.50	1.135	0.180	22.3
Right cheek	RMC	9400/1880	1:1	0.148	0.12	22.95	23.50	1.135	0.168	22.3
Right tilted	RMC	9400/1880	1:1	0.185	0.15	22.95	23.50	1.135	0.210	22.3
Body worn Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.385	-0.09	22.95	23.50	1.135	0.437	22.3
Back side	RMC	9400/1880	1:1	0.702	-0.01	22.95	23.50	1.135	**0.797**	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.385	-0.09	22.95	23.50	1.135	0.437	22.3
Back side	RMC	9400/1880	1:1	0.702	-0.01	22.95	23.50	1.135	**0.797**	22.3
Left side	RMC	9400/1880	1:1	0.499	0.13	22.95	23.50	1.135	0.566	22.3
Rightt side	RMC	9400/1880	1:1	0.114	0.04	22.95	23.50	1.135	0.129	22.3
Bottom side	RMC	9400/1880	1:1	0.399	0.11	22.95	23.50	1.135	0.453	22.3

Table 13： SAR of WCDMA Band II for Head and Body.

8.2.4 SAR Result of WCDMA Band IV

Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	1412/1732.4	1:1	0.282	-0.06	23.04	23.50	1.112	**0.314**	22.4
Left tilted	RMC	1412/1732.4	1:1	0.109	0.08	23.04	23.50	1.112	0.121	22.4
Right cheek	RMC	1412/1732.4	1:1	0.100	0.13	23.04	23.50	1.112	0.111	22.4
Right tilted	RMC	1412/1732.4	1:1	0.131	0.12	23.04	23.50	1.112	0.146	22.4
Body worn Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.284	0.01	23.04	23.50	1.112	0.316	22.4
Back side	RMC	1412/1732.4	1:1	0.465	0.08	23.04	23.50	1.112	**0.517**	22.4
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.284	0.01	23.04	23.50	1.112	0.316	22.4
Back side	RMC	1412/1732.4	1:1	0.465	0.08	23.04	23.50	1.112	**0.517**	22.4
Left side	RMC	1412/1732.4	1:1	0.412	0.04	23.04	23.50	1.112	0.458	22.4
Rightt side	RMC	1412/1732.4	1:1	0.124	0.07	23.04	23.50	1.112	0.138	22.4
Bottom side	RMC	1412/1732.4	1:1	0.440	0.03	23.04	23.50	1.112	0.489	22.4

Table 14：SAR of WCDMA Band IV for Head and Body.

8.2.5 SAR Result of WCDMA Band V

Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	4182/836.4	1:1	0.187	0.07	23.35	24.00	1.161	0.217	22.1
Left tilted	RMC	4182/836.4	1:1	0.117	0.15	23.35	24.00	1.161	0.136	22.1
Right cheek	RMC	4182/836.4	1:1	0.257	0.04	23.35	24.00	1.161	**0.298**	22.1
Right tilted	RMC	4182/836.4	1:1	0.138	0.10	23.35	24.00	1.161	0.160	22.1
Body worn Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.418	-0.04	23.35	24.00	1.161	**0.485**	22.1
Back side	RMC	4182/836.4	1:1	0.278	0.06	23.35	24.00	1.161	0.323	22.1
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.418	-0.04	23.35	24.00	1.161	**0.485**	22.1
Back side	RMC	4182/836.4	1:1	0.278	0.06	23.35	24.00	1.161	0.323	22.1
Left side	RMC	4182/836.4	1:1	0.172	0.01	23.35	24.00	1.161	0.200	22.1
Rightt side	RMC	4182/836.4	1:1	0.321	0.05	23.35	24.00	1.161	0.373	22.1
Bottom side	RMC	4182/836.4	1:1	0.192	-0.16	23.35	24.00	1.161	0.223	22.1

Table 15： SAR of WCDMA Band V for Head and Body.

8.2.6 SAR Result of LTE Band 7

Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	21100/2535	1:1	0.364	0.06	22.94	23.00	1.014	**0.369**	22.3
Left tilted	20	QPSK 1_0	21100/2535	1:1	0.097	0.13	22.94	23.00	1.014	0.099	22.3
Right cheek	20	QPSK 1_0	21100/2535	1:1	0.169	0.06	22.94	23.00	1.014	0.171	22.3
Right tilted	20	QPSK 1_0	21100/2535	1:1	0.113	0.02	22.94	23.00	1.014	0.115	22.3
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	21100/2535	1:1	0.310	0.09	22.85	23.00	1.035	0.321	22.3
Left tilted	20	QPSK 50_0	21100/2535	1:1	0.084	0.08	22.85	23.00	1.035	0.087	22.3
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.145	0.11	22.85	23.00	1.035	0.150	22.3
Right tilted	20	QPSK 50_0	21100/2535	1:1	0.120	0.02	22.85	23.00	1.035	0.124	22.3
Body worn Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.788	0.05	22.94	23.00	1.014	**0.799**	22.3
Back side	20	QPSK 1_0	21100/2535	1:1	0.487	-0.07	22.94	23.00	1.014	0.494	22.3
Body worn Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.674	0.02	22.85	23.00	1.035	0.698	22.3
Back side	20	QPSK 50_0	21100/2535	1:1	0.448	0.04	22.85	23.00	1.035	0.464	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.788	0.05	22.94	23.00	1.014	**0.799**	22.3
Back side	20	QPSK 1_0	21100/2535	1:1	0.487	-0.07	22.94	23.00	1.014	0.494	22.3
Left side	20	QPSK 1_0	21100/2535	1:1	0.577	0.02	22.94	23.00	1.014	0.585	22.3
Rightt side	20	QPSK 1_0	21100/2535	1:1	0.070	0.03	22.94	23.00	1.014	0.071	22.3
Bottom side	20	QPSK 1_0	21100/2535	1:1	0.191	-0.06	22.94	23.00	1.014	0.194	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.674	0.02	22.85	23.00	1.035	0.698	22.3
Back side	20	QPSK 50_0	21100/2535	1:1	0.448	0.04	22.85	23.00	1.035	0.464	22.3
Left side	20	QPSK 50_0	21100/2535	1:1	0.458	0.07	22.85	23.00	1.035	0.474	22.3
Rightt side	20	QPSK 50_0	21100/2535	1:1	0.057	0.02	22.85	23.00	1.035	0.059	22.3
Bottom side	20	QPSK 50_0	21100/2535	1:1	0.147	0.11	22.85	23.00	1.035	0.152	22.3

Table 16：SAR of LTE Band 7 for Head and Body.

8.2.7 SAR Result of LTE Band 12

Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	10	QPSK 1_0	23095/707.5	1:1	0.171	-0.08	22.98	23.00	1.005	0.172	22.3
Left tilted	10	QPSK 1_0	23095/707.5	1:1	0.096	0.09	22.98	23.00	1.005	0.097	22.3
Right cheek	10	QPSK 1_0	23095/707.5	1:1	0.185	0.07	22.98	23.00	1.005	**0.186**	22.3
Right tilted	10	QPSK 1_0	23095/707.5	1:1	0.093	0.12	22.98	23.00	1.005	0.094	22.3
Head Test Data(50%RB)											
Left cheek	10	QPSK 25_0	23095/707.5	1:1	0.156	0.06	22.94	23.00	1.014	0.158	22.3
Left tilted	10	QPSK 25_0	23095/707.5	1:1	0.087	0.09	22.94	23.00	1.014	0.089	22.3
Right cheek	10	QPSK 25_0	23095/707.5	1:1	0.167	0.04	22.94	23.00	1.014	0.169	22.3
Right tilted	10	QPSK 25_0	23095/707.5	1:1	0.084	0.06	22.94	23.00	1.014	0.086	22.3
Body worn Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.181	0.05	22.98	23.00	1.005	**0.182**	22.3
Back side	10	QPSK 1_0	23095/707.5	1:1	0.138	0.07	22.98	23.00	1.005	0.139	22.3
Body worn Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.132	0.04	22.94	23.00	1.014	0.134	22.3
Back side	10	QPSK 25_0	23095/707.5	1:1	0.119	0.05	22.94	23.00	1.014	0.121	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.181	0.05	22.98	23.00	1.005	0.182	22.3
Back side	10	QPSK 1_0	23095/707.5	1:1	0.138	0.07	22.98	23.00	1.005	0.139	22.3
Left side	10	QPSK 1_0	23095/707.5	1:1	0.143	0.04	22.98	23.00	1.005	0.144	22.3
Rightt side	10	QPSK 1_0	23095/707.5	1:1	0.238	-0.01	22.98	23.00	1.005	**0.239**	22.3
Bottom side	10	QPSK 1_0	23095/707.5	1:1	0.059	-0.02	22.98	23.00	1.005	0.059	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.132	0.04	22.94	23.00	1.014	0.134	22.3
Back side	10	QPSK 25_0	23095/707.5	1:1	0.119	0.05	22.94	23.00	1.014	0.121	22.3
Left side	10	QPSK 25_0	23095/707.5	1:1	0.129	0.02	22.94	23.00	1.014	0.131	22.3
Rightt side	10	QPSK 25_0	23095/707.5	1:1	0.217	-0.01	22.94	23.00	1.014	0.220	22.3
Bottom side	10	QPSK 25_0	23095/707.5	1:1	0.053	-0.09	22.94	23.00	1.014	0.054	22.3

Table 17：SAR of LTE Band 12 for Head and Body.

8.2.8 SAR Result of LTE Band 13

Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	10	QPSK 1_0	23230/782	1:1	0.129	0.04	22.93	23.00	1.016	0.131	22.3
Left tilted	10	QPSK 1_0	23230/782	1:1	0.028	0.05	22.93	23.00	1.016	0.028	22.3
Right cheek	10	QPSK 1_0	23230/782	1:1	0.154	0.07	22.93	23.00	1.016	**0.157**	22.3
Right tilted	10	QPSK 1_0	23230/782	1:1	0.037	0.02	22.93	23.00	1.016	0.037	22.3
Head Test Data(50%RB)											
Left cheek	10	QPSK 25_0	23230/782	1:1	0.102	0.12	21.85	22.00	1.035	0.106	22.3
Left tilted	10	QPSK 25_0	23230/782	1:1	0.067	0.09	21.85	22.00	1.035	0.070	22.3
Right cheek	10	QPSK 25_0	23230/782	1:1	0.119	0.19	21.85	22.00	1.035	0.123	22.3
Right tilted	10	QPSK 25_0	23230/782	1:1	0.030	0.15	21.85	22.00	1.035	0.031	22.3
Body worn Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23230/782	1:1	0.187	-0.070	22.93	23.00	1.016	**0.190**	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.166	-0.020	22.93	23.00	1.016	0.169	22.3
Body worn Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23230/782	1:1	0.173	0.03	21.85	22.00	1.035	0.179	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.132	0.06	21.85	22.00	1.035	0.137	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23230/782	1:1	0.187	-0.070	22.93	23.00	1.016	0.190	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.166	-0.020	22.93	23.00	1.016	0.169	22.3
Left side	10	QPSK 1_0	23230/782	1:1	0.127	0.130	22.93	23.00	1.016	0.129	22.3
Rightt side	10	QPSK 1_0	23230/782	1:1	0.223	-0.040	22.93	23.00	1.016	**0.227**	22.3
Bottom side	10	QPSK 1_0	23230/782	1:1	0.108	0.050	22.93	23.00	1.016	0.110	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23230/782	1:1	0.173	0.03	21.85	22.00	1.035	0.179	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.132	0.06	21.85	22.00	1.035	0.137	22.3
Left side	10	QPSK 25_0	23230/782	1:1	0.103	0.13	21.85	22.00	1.035	0.107	22.3
Rightt side	10	QPSK 25_0	23230/782	1:1	0.181	-0.05	21.85	22.00	1.035	0.187	22.3
Bottom side	10	QPSK 25_0	23230/782	1:1	0.088	0.02	21.85	22.00	1.035	0.091	22.3

Table 18：SAR of LTE Band 13 for Head and Body.

8.2.9 SAR Result of LTE Band 25

Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	26140/1860	1:1	0.251	0.07	22.81	23.00	1.045	**0.262**	22.6
Left tilted	20	QPSK 1_0	26140/1860	1:1	0.109	0.07	22.81	23.00	1.045	0.114	22.6
Right cheek	20	QPSK 1_0	26140/1860	1:1	0.123	0.08	22.81	23.00	1.045	0.129	22.6
Right tilted	20	QPSK 1_0	26140/1860	1:1	0.117	0.12	22.81	23.00	1.045	0.122	22.6
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	26140/1860	1:1	0.210	0.05	22.22	23.00	1.197	0.251	22.6
Left tilted	20	QPSK 50_0	26140/1860	1:1	0.096	0.07	22.22	23.00	1.197	0.115	22.6
Right cheek	20	QPSK 50_0	26140/1860	1:1	0.106	0.11	22.22	23.00	1.197	0.127	22.6
Right tilted	20	QPSK 50_0	26140/1860	1:1	0.104	0.07	22.22	23.00	1.197	0.124	22.6
Body worn Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	26140/1860	1:1	0.368	0.15	22.81	23.00	1.045	0.384	22.6
Back side	20	QPSK 1_0	26140/1860	1:1	0.568	0.05	22.81	23.00	1.045	**0.593**	22.6
Body worn Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	26140/1860	1:1	0.304	0.18	22.32	23.00	1.169	0.356	22.6
Back side	20	QPSK 50_0	26140/1860	1:1	0.499	0.09	22.32	23.00	1.169	0.584	22.6
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	26140/1860	1:1	0.368	0.15	22.81	23.00	1.045	0.384	22.6
Back side	20	QPSK 1_0	26140/1860	1:1	0.568	0.05	22.81	23.00	1.045	**0.593**	22.6
Left side	20	QPSK 1_0	26140/1860	1:1	0.480	0.04	22.81	23.00	1.045	0.501	22.6
Rightt side	20	QPSK 1_0	26140/1860	1:1	0.078	0.04	22.81	23.00	1.045	0.082	22.6
Bottom side	20	QPSK 1_0	26140/1860	1:1	0.328	0.09	22.81	23.00	1.045	0.343	22.6
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	26140/1860	1:1	0.304	0.18	22.32	23.00	1.169	0.356	22.6
Back side	20	QPSK 50_0	26140/1860	1:1	0.499	0.09	22.32	23.00	1.169	0.584	22.6
Left side	20	QPSK 50_0	26140/1860	1:1	0.422	0.12	22.32	23.00	1.169	0.494	22.6
Rightt side	20	QPSK 50_0	26140/1860	1:1	0.079	0.01	22.32	23.00	1.169	0.092	22.6
Bottom side	20	QPSK 50_0	26140/1860	1:1	0.311	0.12	22.32	23.00	1.169	0.364	22.6

Table 19：SAR of LTE Band 25 for Head and Body.

8.2.10SAR Result of LTE Band 26

Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	15	QPSK 1_0	26865/831.5	1:1	0.154	0.04	22.98	23.00	1.005	0.155	22.1
Left tilted	15	QPSK 1_0	26865/831.5	1:1	0.088	0.01	22.98	23.00	1.005	0.088	22.1
Right cheek	15	QPSK 1_0	26865/831.5	1:1	0.164	0.10	22.98	23.00	1.005	**0.165**	22.1
Right tilted	15	QPSK 1_0	26865/831.5	1:1	0.081	0.03	22.98	23.00	1.005	0.081	22.1
Head Test Data(50%RB)											
Left cheek	15	QPSK 36_0	26865/831.5	1:1	0.093	0.15	22.79	23.00	1.050	0.098	22.1
Left tilted	15	QPSK 36_0	26865/831.5	1:1	0.077	0.04	22.79	23.00	1.050	0.080	22.1
Right cheek	15	QPSK 36_0	26865/831.5	1:1	0.147	-0.15	22.79	23.00	1.050	0.154	22.1
Right tilted	15	QPSK 36_0	26865/831.5	1:1	0.082	0.14	22.79	23.00	1.050	0.086	22.1
Body worn Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.290	-0.090	22.98	23.00	1.005	**0.291**	22.1
Back side	15	QPSK 1_0	26865/831.5	1:1	0.233	0.050	22.98	23.00	1.005	0.234	22.1
Body worn Test data(Separate 10mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.245	-0.01	22.79	23.00	1.050	0.257	22.1
Back side	15	QPSK 36_0	26865/831.5	1:1	0.221	0.11	22.79	23.00	1.050	0.232	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.290	-0.090	22.98	23.00	1.005	**0.291**	22.1
Back side	15	QPSK 1_0	26865/831.5	1:1	0.233	0.050	22.98	23.00	1.005	0.234	22.1
Left side	15	QPSK 1_0	26865/831.5	1:1	0.142	-0.030	22.98	23.00	1.005	0.143	22.1
Rightt side	15	QPSK 1_0	26865/831.5	1:1	0.248	0.010	22.98	23.00	1.005	0.249	22.1
Bottom side	15	QPSK 1_0	26865/831.5	1:1	0.124	0.030	22.98	23.00	1.005	0.125	22.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.245	-0.01	22.79	23.00	1.050	0.257	22.1
Back side	15	QPSK 36_0	26865/831.5	1:1	0.221	0.11	22.79	23.00	1.050	0.232	22.1
Left side	15	QPSK 36_0	26865/831.5	1:1	0.118	-0.01	22.79	23.00	1.050	0.124	22.1
Rightt side	15	QPSK 36_0	26865/831.5	1:1	0.219	0.12	22.79	23.00	1.050	0.230	22.1
Bottom side	15	QPSK 36_0	26865/831.5	1:1	0.117	-0.01	22.79	23.00	1.050	0.123	22.1

Table 20： SAR of LTE Band 26 for Head and Body.

8.2.11SAR Result of LTE Band 66

Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	132322/1745	1:1	0.173	0.02	22.94	23.00	1.014	**0.175**	22.5
Left tilted	20	QPSK 1_0	132322/1745	1:1	0.046	0.03	22.94	23.00	1.014	0.046	22.5
Right cheek	20	QPSK 1_0	132322/1745	1:1	0.099	0.18	22.94	23.00	1.014	0.100	22.5
Right tilted	20	QPSK 1_0	132322/1745	1:1	0.091	0.03	22.94	23.00	1.014	0.093	22.5
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	132322/1745	1:1	0.157	0.02	21.99	22.00	1.002	0.157	22.5
Left tilted	20	QPSK 50_0	132322/1745	1:1	0.044	0.09	21.99	22.00	1.002	0.044	22.5
Right cheek	20	QPSK 50_0	132322/1745	1:1	0.077	0.11	21.99	22.00	1.002	0.077	22.5
Right tilted	20	QPSK 50_0	132322/1745	1:1	0.087	0.02	21.99	22.00	1.002	0.087	22.5
Body worn Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.243	0.160	22.94	23.00	1.014	0.246	22.5
Back side	20	QPSK 1_0	132322/1745	1:1	0.433	0.140	22.94	23.00	1.014	**0.439**	22.5
Body worn Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.230	0.06	21.99	22.00	1.002	0.231	22.5
Back side	20	QPSK 50_0	132322/1745	1:1	0.420	0.09	21.99	22.00	1.002	0.421	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.243	0.160	22.94	23.00	1.014	0.246	22.5
Back side	20	QPSK 1_0	132322/1745	1:1	0.433	0.140	22.94	23.00	1.014	**0.439**	22.5
Left side	20	QPSK 1_0	132322/1745	1:1	0.369	0.040	22.94	23.00	1.014	0.374	22.5
Rightt side	20	QPSK 1_0	132322/1745	1:1	0.105	0.070	22.94	23.00	1.014	0.106	22.5
Bottom side	20	QPSK 1_0	132322/1745	1:1	0.403	-0.100	22.94	23.00	1.014	0.409	22.5
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.230	0.06	21.99	22.00	1.002	0.231	22.5
Back side	20	QPSK 50_0	132322/1745	1:1	0.420	0.09	21.99	22.00	1.002	0.421	22.5
Left side	20	QPSK 50_0	132322/1745	1:1	0.357	0.09	21.99	22.00	1.002	0.358	22.5
Rightt side	20	QPSK 50_0	132322/1745	1:1	0.102	0.07	21.99	22.00	1.002	0.102	22.5
Bottom side	20	QPSK 50_0	132322/1745	1:1	0.383	0.10	21.99	22.00	1.002	0.384	22.5

Table 21：SAR of LTE Band 66 for Head and Body.

8.2.12SAR Result of LTE Band 41

Ant0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	40620/2593	1:1.58	0.171	0.00	23.43	25.00	1.435	**0.245**	22.2
Left tilted	20	QPSK 1_0	40620/2593	1:1.58	0.087	0.02	23.43	25.00	1.435	0.124	22.2
Right cheek	20	QPSK 1_0	40620/2593	1:1.58	0.079	0.13	23.43	25.00	1.435	0.114	22.2
Right tilted	20	QPSK 1_0	40620/2593	1:1.58	0.084	0.09	23.43	25.00	1.435	0.121	22.2
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	40620/2593	1:1.58	0.139	0.05	22.93	24.00	1.279	0.178	22.2
Left tilted	20	QPSK 50_0	40620/2593	1:1.58	0.052	0.11	22.93	24.00	1.279	0.067	22.2
Right cheek	20	QPSK 50_0	40620/2593	1:1.58	0.075	0.03	22.93	24.00	1.279	0.096	22.2
Right tilted	20	QPSK 50_0	40620/2593	1:1.58	0.073	0.02	22.93	24.00	1.279	0.094	22.2
Body worn Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	40620/2593	1:1.58	0.358	0.09	23.43	25.00	1.435	**0.514**	22.2
Back side	20	QPSK 1_0	40620/2593	1:1.58	0.218	0.04	23.43	25.00	1.435	0.313	22.2
Body worn Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.329	0.11	22.93	24.00	1.279	0.421	22.2
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.337	0.06	22.93	24.00	1.279	0.431	22.2
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	40620/2593	1:1.58	0.358	0.09	23.43	25.00	1.435	**0.514**	22.2
Back side	20	QPSK 1_0	40620/2593	1:1.58	0.218	0.04	23.43	25.00	1.435	0.313	22.2
Left side	20	QPSK 1_0	40620/2593	1:1.58	0.303	0.02	23.43	25.00	1.435	0.435	22.2
Rightt side	20	QPSK 1_0	40620/2593	1:1.58	0.037	0.07	23.43	25.00	1.435	0.054	22.2
Bottom side	20	QPSK 1_0	40620/2593	1:1.58	0.133	0.08	23.43	25.00	1.435	0.191	22.2
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.329	0.11	22.93	24.00	1.279	0.421	22.2
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.337	0.06	22.93	24.00	1.279	0.431	22.2
Left side	20	QPSK 50_0	40620/2593	1:1.58	0.264	0.08	22.93	24.00	1.279	0.338	22.2
Rightt side	20	QPSK 50_0	40620/2593	1:1.58	0.030	0.02	22.93	24.00	1.279	0.039	22.2
Bottom side	20	QPSK 50_0	40620/2593	1:1.58	0.121	0.06	22.93	24.00	1.279	0.155	22.2

Table 22：SAR of LTE Band 41 for Head and Body.

8.2.13SAR Result of NR n2

Ant0 Test Record										
Test position	BW.	Modulation	Test ch./Freq.	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data(1RB)										
Left cheek	20	QPSK 1_1	376000/1880	0.244	0.01	23.84	24.00	1.038	0.253	22.6
Left tilted	20	QPSK 1_1	376000/1880	0.117	0.03	23.84	24.00	1.038	0.121	22.6
Right cheek	20	QPSK 1_1	376000/1880	0.134	0.03	23.84	24.00	1.038	0.139	22.6
Right tilted	20	QPSK 1_1	376000/1880	0.119	0.04	23.84	24.00	1.038	0.123	22.6
Head Test data(50%RB)										
Left cheek	20	QPSK 50_28	376000/1880	0.291	0.17	23.78	24.00	1.052	**0.306**	22.6
Left tilted	20	QPSK 50_28	376000/1880	0.124	0.05	23.78	24.00	1.052	0.130	22.6
Right cheek	20	QPSK 50_28	376000/1880	0.094	0.04	23.78	24.00	1.052	0.099	22.6
Right tilted	20	QPSK 50_28	376000/1880	0.124	0.01	23.78	24.00	1.052	0.130	22.6
Body worn Test data(Separate 10mm 1RB)										
Front side	20	QPSK 1_1	376000/1880	0.394	0.08	23.84	24.00	1.038	0.409	22.6
Back side	20	QPSK 1_1	376000/1880	0.611	0.10	23.84	24.00	1.038	**0.634**	22.6
Body worn Test data(Separate 10mm 50%RB)										
Front side	20	QPSK 50_28	376000/1880	0.238	0.01	23.78	24.00	1.052	0.250	22.6
Back side	20	QPSK 50_28	376000/1880	0.574	0.11	23.78	24.00	1.052	0.604	22.6
Hotspot Test data(Separate 10mm 1RB)										
Front side	20	QPSK 1_1	376000/1880	0.394	0.08	23.84	24.00	1.038	0.409	22.6
Back side	20	QPSK 1_1	376000/1880	0.611	0.10	23.84	24.00	1.038	**0.634**	22.6
Left side	20	QPSK 1_1	376000/1880	0.440	0.20	23.84	24.00	1.038	0.457	22.6
Rightt side	20	QPSK 1_1	376000/1880	0.096	0.01	23.84	24.00	1.038	0.099	22.6
Bottom side	20	QPSK 1_1	376000/1880	0.324	0.09	23.84	24.00	1.038	0.336	22.6
Hotspot Test data (Separate 10mm 50%RB)										
Front side	20	QPSK 50_28	376000/1880	0.238	0.01	23.78	24.00	1.052	0.250	22.6
Back side	20	QPSK 50_28	376000/1880	0.574	0.11	23.78	24.00	1.052	0.604	22.6
Left side	20	QPSK 50_28	376000/1880	0.420	0.03	23.78	24.00	1.052	0.442	22.6
Rightt side	20	QPSK 50_28	376000/1880	0.087	0.19	23.78	24.00	1.052	0.091	22.6
Bottom side	20	QPSK 50_28	376000/1880	0.317	0.09	23.78	24.00	1.052	0.333	22.6

Table 23： SAR of NR n2 for Head and Body.

8.2.14SAR Result of 5G NR n5

Ant0 Test Record										
Test position	BW.	Modulation	Test ch./Freq.	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data(1RB)										
Left cheek	20	QPSK 1_1	167800/839	0.181	-0.01	23.97	24.00	1.007	0.182	22.2
Left tilted	20	QPSK 1_1	167800/839	0.108	0.02	23.97	24.00	1.007	0.109	22.2
Right cheek	20	QPSK 1_1	167800/839	0.217	0.14	23.97	24.00	1.007	0.219	22.2
Right tilted	20	QPSK 1_1	167800/839	0.104	0.06	23.97	24.00	1.007	0.105	22.2
Head Test data(50%RB)										
Left cheek	20	QPSK 50_28	167800/839	0.177	-0.01	23.96	24.00	1.009	0.179	22.2
Left tilted	20	QPSK 50_28	167800/839	0.111	0.02	23.96	24.00	1.009	0.112	22.2
Right cheek	20	QPSK 50_28	167800/839	0.257	0.14	23.96	24.00	1.009	**0.259**	22.2
Right tilted	20	QPSK 50_28	167800/839	0.114	0.03	23.96	24.00	1.009	0.115	22.2
Body worn Test data(Separate 10mm 1RB)										
Front side	20	QPSK 1_1	167800/839	0.271	-0.07	23.97	24.00	1.007	0.273	22.2
Back side	20	QPSK 1_1	167800/839	0.269	0.11	23.97	24.00	1.007	0.271	22.2
Body worn Test data(Separate 10mm 50%RB)										
Front side	20	QPSK 50_28	167800/839	0.395	0.03	23.96	24.00	1.009	**0.399**	22.2
Back side	20	QPSK 50_28	167800/839	0.283	0.04	23.96	24.00	1.009	0.286	22.2
Hotspot Test data(Separate 10mm 1RB)										
Front side	20	QPSK 1_1	167800/839	0.271	-0.07	23.97	24.00	1.007	0.273	22.2
Back side	20	QPSK 1_1	167800/839	0.269	0.11	23.97	24.00	1.007	0.271	22.2
Left side	20	QPSK 1_1	167800/839	0.144	0.05	23.97	24.00	1.007	0.145	22.2
Rightt side	20	QPSK 1_1	167800/839	0.260	0.06	23.97	24.00	1.007	0.262	22.2
Bottom side	20	QPSK 1_1	167800/839	0.161	-0.16	23.97	24.00	1.007	0.162	22.2
Hotspot Test data (Separate 10mm 50%RB)										
Front side	20	QPSK 50_28	167800/839	0.395	0.03	23.96	24.00	1.009	**0.399**	22.2
Back side	20	QPSK 50_28	167800/839	0.283	0.04	23.96	24.00	1.009	0.286	22.2
Left side	20	QPSK 50_28	167800/839	0.110	0.06	23.96	24.00	1.009	0.111	22.2
Rightt side	20	QPSK 50_28	167800/839	0.263	0.03	23.96	24.00	1.009	0.265	22.2
Bottom side	20	QPSK 50_28	167800/839	0.179	0.06	23.96	24.00	1.009	0.181	22.2

Table 24： SAR of 5G NR n5 for Head and Body.

8.2.1 SAR Result of 5G NR n66

Ant0 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data(1RB)											
Left cheek	20	QPSK 1_1	344000/1720	1:1	0.222	0.05	23.95	24.00	1.012	0.225	22.5
Left tilted	20	QPSK 1_1	344000/1720	1:1	0.103	0.11	23.95	24.00	1.012	0.104	22.5
Right cheek	20	QPSK 1_1	344000/1720	1:1	0.091	0.07	23.95	24.00	1.012	0.092	22.5
Right tilted	20	QPSK 1_1	344000/1720	1:1	0.110	0.05	23.95	24.00	1.012	0.111	22.5
Head Test data(50%RB)											
Left cheek	20	QPSK 50_28	344000/1720	1:1	0.248	0.02	23.89	24.00	1.026	**0.254**	22.5
Left tilted	20	QPSK 50_28	344000/1720	1:1	0.102	0.04	23.89	24.00	1.026	0.105	22.5
Right cheek	20	QPSK 50_28	344000/1720	1:1	0.092	0.02	23.89	24.00	1.026	0.094	22.5
Right tilted	20	QPSK 50_28	344000/1720	1:1	0.116	0.01	23.89	24.00	1.026	0.119	22.5
Body worn Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	344000/1720	1:1	0.269	0.11	23.95	24.00	1.012	0.272	22.5
Back side	20	QPSK 1_1	344000/1720	1:1	0.496	0.05	23.95	24.00	1.012	**0.502**	22.5
Body worn Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	344000/1720	1:1	0.270	0.04	23.89	24.00	1.026	0.277	22.5
Back side	20	QPSK 50_28	344000/1720	1:1	0.455	0.08	23.89	24.00	1.026	0.467	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	344000/1720	1:1	0.269	0.11	23.95	24.00	1.012	0.272	22.5
Back side	20	QPSK 1_1	344000/1720	1:1	0.496	0.05	23.95	24.00	1.012	**0.502**	22.5
Left side	20	QPSK 1_1	344000/1720	1:1	0.333	0.04	23.95	24.00	1.012	0.337	22.5
Rightt side	20	QPSK 1_1	344000/1720	1:1	0.070	0.06	23.95	24.00	1.012	0.071	22.5
Bottom side	20	QPSK 1_1	344000/1720	1:1	0.435	0.20	23.95	24.00	1.012	0.440	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	344000/1720	1:1	0.270	0.04	23.89	24.00	1.026	0.277	22.5
Back side	20	QPSK 50_28	344000/1720	1:1	0.455	0.08	23.89	24.00	1.026	0.467	22.5
Left side	20	QPSK 50_28	344000/1720	1:1	0.366	0.10	23.89	24.00	1.026	0.375	22.5
Rightt side	20	QPSK 50_28	344000/1720	1:1	0.102	0.11	23.89	24.00	1.026	0.105	22.5
Bottom side	20	QPSK 50_28	344000/1720	1:1	0.395	-0.05	23.89	24.00	1.026	0.405	22.5

Table 25： SAR of 5G NR n66 for Head and Body.

8.2.2 SAR Result of 5G NR n71

Ant0 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data(1RB)											
Left cheek	20	QPSK 1_1	134600/673	1:1	0.097	0.09	23.92	24.00	1.019	**0.099**	22.3
Left tilted	20	QPSK 1_1	134600/673	1:1	0.045	0.03	23.92	24.00	1.019	0.046	22.3
Right cheek	20	QPSK 1_1	134600/673	1:1	0.090	0.09	23.92	24.00	1.019	0.092	22.3
Right tilted	20	QPSK 1_1	134600/673	1:1	0.040	0.05	23.92	24.00	1.019	0.040	22.3
Head Test data(50%RB)											
Left cheek	20	QPSK 50_28	134600/673	1:1	0.075	0.02	23.91	24.00	1.021	0.077	22.3
Left tilted	20	QPSK 50_28	134600/673	1:1	0.039	0.07	23.91	24.00	1.021	0.040	22.3
Right cheek	20	QPSK 50_28	134600/673	1:1	0.069	0.06	23.91	24.00	1.021	0.070	22.3
Right tilted	20	QPSK 50_28	134600/673	1:1	0.034	-0.06	23.91	24.00	1.021	0.034	22.3
Body worn Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	134600/673	1:1	0.073	-0.06	23.92	24.00	1.019	0.074	22.3
Back side	20	QPSK 1_1	134600/673	1:1	0.129	0.08	23.92	24.00	1.019	**0.131**	22.3
Body worn Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	134600/673	1:1	0.087	0.11	23.91	24.00	1.021	0.089	22.3
Back side	20	QPSK 50_28	134600/673	1:1	0.084	0.09	23.91	24.00	1.021	0.086	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	134600/673	1:1	0.073	-0.06	23.92	24.00	1.019	0.074	22.3
Back side	20	QPSK 1_1	134600/673	1:1	0.129	0.08	23.92	24.00	1.019	**0.131**	22.3
Left side	20	QPSK 1_1	134600/673	1:1	0.097	0.09	23.92	24.00	1.019	0.099	22.3
Rightt side	20	QPSK 1_1	134600/673	1:1	0.099	0.09	23.92	24.00	1.019	0.101	22.3
Bottom side	20	QPSK 1_1	134600/673	1:1	0.023	-0.20	23.92	24.00	1.019	0.023	22.3
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	134600/673	1:1	0.087	0.11	23.91	24.00	1.021	0.089	22.3
Back side	20	QPSK 50_28	134600/673	1:1	0.084	0.09	23.91	24.00	1.021	0.086	22.3
Left side	20	QPSK 50_28	134600/673	1:1	0.100	-0.01	23.91	24.00	1.021	0.102	22.3
Rightt side	20	QPSK 50_28	134600/673	1:1	0.111	0.02	23.91	24.00	1.021	0.113	22.3
Bottom side	20	QPSK 50_28	134600/673	1:1	0.026	-0.09	23.91	24.00	1.021	0.026	22.3

Table 26： SAR of 5G NR n71for Head and Body.

8.2.3 SAR Result of 5G NR n41

Ant0 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data(1RB)											
Left cheek	100	QPSK 1_1	518598/2592.99	1:1	0.819	0.03	26.26	27.00	1.186	**0.971**	22.2
Left cheek repeat	100	QPSK 1_1	518598/2592.99	1:1	0.798	0.02	26.26	27.00	1.186	0.946	22.2
Left tilted	100	QPSK 1_1	518598/2592.99	1:1	0.171	0.04	26.26	27.00	1.186	0.203	22.2
Right cheek	100	QPSK 1_1	518598/2592.99	1:1	0.333	0.07	26.26	27.00	1.186	0.395	22.2
Right tilted	100	QPSK 1_1	518598/2592.99	1:1	0.259	0.06	26.26	27.00	1.186	0.307	22.2
Head Test data(50%RB)											
Left cheek	100	QPSK 135_69	518598/2592.99	1:1	0.520	0.11	26.22	27.00	1.197	0.622	22.2
Left tilted	100	QPSK 135_69	518598/2592.99	1:1	0.135	0.08	26.22	27.00	1.197	0.162	22.2
Right cheek	100	QPSK 135_69	518598/2592.99	1:1	0.222	0.05	26.22	27.00	1.197	0.266	22.2
Right tilted	100	QPSK 135_69	518598/2592.99	1:1	0.202	0.04	26.22	27.00	1.197	0.242	22.2
Head Test data(100%RB)											
Left cheek	100	QPSK 270_0	518598/2592.99	1:1	0.518	0.02	25.97	27.00	1.268	0.657	22.2
Body worn Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.974	0.09	26.26	27.00	1.186	**1.155**	22.2
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.623	0.08	26.26	27.00	1.186	0.739	22.2
Body worn Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.934	0.07	26.22	27.00	1.197	1.118	22.2
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.617	0.03	26.22	27.00	1.197	0.738	22.2
Body-worn Test data(Separate 10mm 100%RB)											
Front side	100	QPSK 270_0	518598/2592.99	1:1	0.859	0.02	25.97	27.00	1.268	1.089	Front side
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.974	0.09	26.26	27.00	1.186	**1.155**	22.2
Front side repeat	100	QPSK 1_1	518598/2592.99	1:1	0.924	0.07	26.26	27.00	1.186	1.096	22.2
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.623	0.08	26.26	27.00	1.186	0.739	22.2
Left side	100	QPSK 1_1	518598/2592.99	1:1	0.840	0.07	26.26	27.00	1.186	0.996	22.2
Rightt side	100	QPSK 1_1	518598/2592.99	1:1	0.081	0.07	26.26	27.00	1.186	0.096	22.2
Bottom side	100	QPSK 1_1	518598/2592.99	1:1	0.354	0.02	26.26	27.00	1.186	0.420	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.934	0.07	26.22	27.00	1.197	1.118	22.2
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.617	0.03	26.22	27.00	1.197	0.738	22.2
Left side	100	QPSK 135_69	518598/2592.99	1:1	0.642	0.04	26.22	27.00	1.197	0.768	22.2
Rightt side	100	QPSK 135_69	518598/2592.99	1:1	0.113	0.07	26.22	27.00	1.197	0.135	22.2
Bottom side	100	QPSK 135_69	518598/2592.99	1:1	0.229	0.03	26.22	27.00	1.197	0.274	22.2

Table 27： SAR of 5G NR n71for Head and Body.
Note: The power of class2 is larger than that of class3, so only the class2 was tested and class3 is not required.

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Left cheek	518598/2592.99	0.819	0.798	1.026	N/A	N/A
Front side	518598/2592.99	0.974	0.924	1.054	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

8.2.4 SAR Result of 5G NR n77

Ant6 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data(1RB)											
Left cheek	100	QPSK 1_1	633334/3500	1:1	0.072	0.09	20.56	21.00	1.107	0.080	22.4
Left tilted	100	QPSK 1_1	633334/3500	1:1	0.195	0.01	20.56	21.00	1.107	0.216	22.4
Right cheek	100	QPSK 1_1	633334/3500	1:1	0.495	0.05	20.56	21.00	1.107	0.548	22.4
Right tilted	100	QPSK 1_1	633334/3500	1:1	0.578	-0.07	20.56	21.00	1.107	**0.640**	22.4
Head Test data(50%RB)											
Left cheek	100	QPSK 135_69	633334/3500	1:1	0.037	0.11	20.19	21.00	1.205	0.044	22.4
Left tilted	100	QPSK 135_69	633334/3500	1:1	0.188	0.16	20.19	21.00	1.205	0.227	22.4
Right cheek	100	QPSK 135_69	633334/3500	1:1	0.337	0.08	20.19	21.00	1.205	0.406	22.4
Right tilted	100	QPSK 135_69	633334/3500	1:1	0.266	0.01	20.19	21.00	1.205	0.321	22.4
Body worn Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	633334/3500	1:1	0.422	0.01	25.63	27.00	1.371	0.579	22.4
Back side	100	QPSK 1_1	633334/3500	1:1	0.495	0.09	25.63	27.00	1.371	**0.679**	22.4
Body worn Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	633334/3500	1:1	0.426	0.05	25.40	27.00	1.445	0.616	22.4
Back side	100	QPSK 135_69	633334/3500	1:1	0.417	0.05	25.40	27.00	1.445	0.603	22.4
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	633334/3500	1:1	0.422	0.01	25.63	27.00	1.371	0.579	22.4
Back side	100	QPSK 1_1	633334/3500	1:1	0.495	0.09	25.63	27.00	1.371	0.679	22.4
Left side	100	QPSK 1_1	633334/3500	1:1	0.229	0.02	25.63	27.00	1.371	0.314	22.4
Top side	100	QPSK 1_1	633334/3500	1:1	0.466	0.03	25.63	27.00	1.371	0.639	22.4
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	633334/3500	1:1	0.426	0.05	25.40	27.00	1.445	0.616	22.4
Back side	100	QPSK 135_69	633334/3500	1:1	0.417	0.05	25.40	27.00	1.445	0.603	22.4
Left side	100	QPSK 135_69	633334/3500	1:1	0.265	0.07	25.40	27.00	1.445	0.383	22.4
Top side	100	QPSK 135_69	633334/3500	1:1	0.507	0.10	25.40	27.00	1.445	**0.733**	22.4

Table 28：SAR of 5G NR n77(3450MHz-3550MHz) for Head and Body.
Note: The power of class2 is larger than that of class3, so only the class2 was tested and class3 is not required.

Ant6 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data(1RB)											
Left cheek	100	QPSK 1_1	656000/3840	1:1	0.507	0.03	20.84	21.00	1.038	0.526	22.5
Left tilted	100	QPSK 1_1	656000/3840	1:1	0.460	0.08	20.84	21.00	1.038	0.477	22.5
Right cheek	100	QPSK 1_1	656000/3840	1:1	1.100	-0.05	20.84	21.00	1.038	**1.141**	22.5
Right cheek repeat	100	QPSK 1_1	656000/3840	1:1	1.070	0.02	20.84	21.00	1.038	1.110	22.5
Right tilted	100	QPSK 1_1	656000/3840	1:1	0.629	0.01	20.84	21.00	1.038	0.653	22.5
Head Test data(50%RB)											
Left cheek	100	QPSK 135_69	656000/3840	1:1	0.449	0.20	20.59	21.00	1.099	0.493	22.5
Left tilted	100	QPSK 135_69	656000/3840	1:1	0.459	0.08	20.59	21.00	1.259	0.578	22.5
Right cheek	100	QPSK 135_69	656000/3840	1:1	0.913	0.15	20.59	21.00	1.099	1.003	22.5
Right tilted	100	QPSK 135_69	656000/3840	1:1	0.551	0.03	20.59	21.00	1.099	0.606	22.5
Head Test data(100%RB)											
Right cheek	100	QPSK 270_0	656000/3840	1:1	0.824	0.06	20.62	21.00	1.091	0.899	22.5
Body worn Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	656000/3840	1:1	0.396	0.01	26.60	27.00	1.096	**0.434**	22.5
Back side	100	QPSK 1_1	656000/3840	1:1	0.305	0.08	26.60	27.00	1.096	0.334	22.5
Body worn Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	656000/3840	1:1	0.247	0.13	26.48	27.00	1.127	0.278	22.5
Back side	100	QPSK 135_69	656000/3840	1:1	0.290	-0.08	26.48	27.00	1.127	0.327	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	656000/3840	1:1	0.396	0.01	26.60	27.00	1.096	0.434	22.5
Back side	100	QPSK 1_1	656000/3840	1:1	0.305	0.08	26.60	27.00	1.096	0.334	22.5
Left side	100	QPSK 1_1	656000/3840	1:1	0.309	0.07	26.60	27.00	1.096	0.339	22.5
Top side	100	QPSK 1_1	656000/3840	1:1	0.573	-0.13	26.60	27.00	1.096	**0.628**	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	656000/3840	1:1	0.247	0.13	26.48	27.00	1.127	0.278	22.5
Back side	100	QPSK 135_69	656000/3840	1:1	0.290	-0.08	26.48	27.00	1.127	0.327	22.5
Left side	100	QPSK 135_69	656000/3840	1:1	0.154	0.13	26.48	27.00	1.127	0.174	22.5
Top side	100	QPSK 135_69	656000/3840	1:1	0.316	0.16	26.48	27.00	1.127	0.356	22.5

Table 29： SAR of 5G NR n77(3700MHz-3980 MHz) for Head and Body.
Note:The power of class2 is larger than that of class3, so only the class2 was tested and class3 is not required.

Test Position	Channel/ Frequency	Measured SAR (1g)	1st Repeated	Ratio	2nd Repeated	3rd Repeated
	(MHz)		SAR (1g)		SAR (1g)	SAR (1g)
Right cheek	656000/3840	1.100	1.070	1.028037383	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

8.2.5 SAR Result of WIFI 2.4G

(Ant2+Ant3)MIMO Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data											
Left cheek	802.11b	1/2412	99.03%	1.010	0.055	0.06	13.62	15.00	1.374	0.076	22.5
Left tilted	802.11b	1/2412	99.03%	1.010	0.054	0.03	13.62	15.00	1.374	0.075	22.5
Right cheek	802.11b	1/2412	99.03%	1.010	0.054	0.04	13.62	15.00	1.374	0.075	22.5
Right tilted	802.11b	1/2412	99.03%	1.010	0.038	0.11	13.62	15.00	1.374	0.053	22.5
Body worn Test data(Separate 10mm)											
Front side	802.11b	1/2412	99.03%	1.010	0.025	0.08	13.62	15.00	1.374	0.034	22.5
Back side	802.11b	1/2412	99.03%	1.010	0.082	-0.09	13.62	15.00	1.374	0.114	22.5
Hotspot Test data (Separate 10mm)											
Front side	802.11b	1/2412	99.03%	1.010	0.025	0.08	13.62	15.00	1.374	0.034	22.5
Back side	802.11b	1/2412	99.03%	1.010	0.082	-0.09	13.62	15.00	1.374	0.114	22.5
Rightt side	802.11b	1/2412	99.03%	1.010	0.038	0.08	13.62	15.00	1.374	0.053	22.5
Top side	802.11b	1/2412	99.03%	1.010	0.017	0.07	13.62	15.00	1.374	0.024	22.5

Table 30：SAR of WIFI 2.4G for Head and Body.

Note:

1) As the 802.11b highest reported SAR is smaller than 1.2 W/kg , and the tune-up of the other 802.11 modes are not higher than 802.11b,therefore the adjusted SAR is ≤ 1.2 W/kg for other 802.11 modes, SAR test for the other 802.11 modes are not required.

8.2.1 SAR Result of WIFI 5G

(Ant2+Ant3)MIMO Test Record 2											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data of U-NII-2A											
Left cheek	802.11n HT40	62/5310	95.88%	1.043	0.058	0.02	14.46	15.50	1.271	0.077	22.3
Left tilted	802.11n HT40	62/5310	95.88%	1.043	0.090	0.06	14.46	15.50	1.271	0.119	22.3
Right cheek	802.11n HT40	62/5310	95.88%	1.043	0.086	0.06	14.46	15.50	1.271	0.114	22.3
Right tilted	802.11n HT40	62/5310	95.88%	1.043	0.097	0.05	14.46	15.50	1.271	0.129	22.3
Head Test data of U-NII-2C											
Left cheek	802.11n HT40	110/5550	95.88%	1.043	0.057	0.01	14.20	15.50	1.349	0.080	22.2
Left tilted	802.11n HT40	110/5550	95.88%	1.043	0.038	0.09	14.20	15.50	1.349	0.053	22.2
Right cheek	802.11n HT40	110/5550	95.88%	1.043	0.043	0.12	14.20	15.50	1.349	0.060	22.2
Right tilted	802.11n HT40	110/5550	95.88%	1.043	0.110	0.19	14.20	15.50	1.349	0.155	22.2
Head Test data of U-NII-3											
Left cheek	802.11n HT40	151/5755	95.88%	1.043	0.154	0.20	13.95	15.50	1.429	0.230	22.4
Left tilted	802.11n HT40	151/5755	95.88%	1.043	0.095	-0.10	13.95	15.50	1.429	0.141	22.4
Right cheek	802.11n HT40	151/5755	95.88%	1.043	0.156	0.08	13.95	15.50	1.429	0.232	22.4
Right tilted	802.11n HT40	151/5755	95.88%	1.043	0.156	-0.09	13.95	15.50	1.429	0.232	22.4
Body worn Test data of U-NII-2A (Separate 10mm)											
Front side	802.11n HT40	62/5310	95.88%	1.043	0.169	0.03	14.46	15.50	1.271	0.224	22.3
Back side	802.11n HT40	62/5310	95.88%	1.043	0.494	0.08	14.46	15.50	1.271	0.655	22.3
Body worn Test data of U-NII-2C(Separate 10mm)											
Front side	802.11n HT40	110/5550	95.88%	1.043	0.033	0.02	14.20	15.50	1.349	0.046	22.3
Back side	802.11n HT40	110/5550	95.88%	1.043	0.194	0.07	14.20	15.50	1.349	0.273	22.3
Body worn Test data of U-NII-3(Separate 10mm)											
Front side	802.11n HT40	151/5755	95.88%	1.043	0.013	-0.11	13.95	15.50	1.429	0.020	22.4
Back side	802.11n HT40	151/5755	95.88%	1.043	0.193	0.07	13.95	15.50	1.429	0.288	22.4
Hotspot Test data of U-NII-1(Separate 10mm)											
Front side	802.11n HT40	46/5230	95.88%	1.043	0.002	0.09	14.14	15.50	1.368	0.003	22.3
Back side	802.11n HT40	46/5230	95.88%	1.043	0.269	0.05	14.14	15.50	1.368	0.384	22.3
Rightt side	802.11n HT40	46/5230	95.88%	1.043	0.100	-0.03	14.14	15.50	1.368	0.142	22.3
Top side	802.11n HT40	46/5230	95.88%	1.043	0.123	-0.06	14.14	15.50	1.368	0.175	22.3
Hotspot Test data of U-NII-3 (Separate 10mm)											
Front side	802.11n HT40	151/5755	95.88%	1.043	0.013	-0.11	13.95	15.50	1.429	0.020	22.4
Back side	802.11n HT40	151/5755	95.88%	1.043	0.193	0.07	13.95	15.50	1.429	0.288	22.4
Rightt side	802.11n HT40	151/5755	95.88%	1.043	0.070	-0.05	13.95	15.50	1.429	0.105	22.4
Top side	802.11n HT40	151/5755	95.88%	1.043	0.123	0.02	13.95	15.50	1.429	0.183	22.4
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 10-g (W/kg)	Liquid Temp.(℃)
Product specific 10gSAR Test data of U-NII-2A(Separate 0mm)											
Front side	802.11n HT40	62/5310	95.88%	1.043	0.152	0.05	14.46	15.50	1.271	0.201	22.3
Back side	802.11n HT40	62/5310	95.88%	1.043	0.740	0.03	14.46	15.50	1.271	0.981	22.3
Rightt side	802.11n HT40	62/5310	95.88%	1.043	0.486	0.05	14.46	15.50	1.271	0.644	22.3
Top side	802.11n HT40	62/5310	95.88%	1.043	0.757	0.07	14.46	15.50	1.271	1.003	22.3
Product specific 10gSAR Test data of U-NII-2C(Separate 0mm)											

Front side	802.11n HT40	110/5550	95.88%	1.043	0.024	0.05	14.20	15.50	1.349	0.034	22.2
Back side	802.11n HT40	110/5550	95.88%	1.043	0.264	-0.08	14.20	15.50	1.349	0.371	22.2
Rightt side	802.11n HT40	110/5550	95.88%	1.043	0.090	-0.01	14.20	15.50	1.349	0.127	22.2
Top side	802.11n HT40	110/5550	95.88%	1.043	0.143	-0.03	14.20	15.50	1.349	0.201	22.2

Table 31：SAR of WIFI 5G for Head and Body.
Note:

1) As the 802.11a highest reported SAR is smaller than 1.2 W/kg , and the tune-up of the other 802.11 modes are not higher than 802.11a,therefore the adjusted SAR is ≤ 1.2 W/kg for other 802.11 modes, SAR test for the other 802.11 modes are not required. For Product specific 10gSAR the highest reported SAR is smaller than 3.0 W/kg, SAR test for the other 802.11 modes are also not required.

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8.2.2 SAR Result of BT

Ant3 Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data											
Left cheek	DH5	39/2441	76.80%	1.302	0.016	-0.07	6.96	8.00	1.271	0.026	22.5
Left tilted	DH5	39/2441	76.80%	1.302	0.009	0.03	6.96	8.00	1.271	0.014	22.5
Right cheek	DH5	39/2441	76.80%	1.302	0.006	0.02	6.96	8.00	1.271	0.010	22.5
Right tilted	DH5	39/2441	76.80%	1.302	0.008	0.05	6.96	8.00	1.271	0.013	22.5
Body worn Test data(Separate 10mm)											
Front side	DH5	39/2441	76.80%	1.302	0.003	0.06	6.96	8.00	1.271	0.005	22.5
Back side	DH5	39/2441	76.80%	1.302	0.003	0.00	6.96	8.00	1.271	0.005	22.5
Hotspot Test data (Separate 10mm)											
Front side	DH5	39/2441	76.80%	1.302	0.003	0.06	6.96	8.00	1.271	0.005	22.5
Back side	DH5	39/2441	76.80%	1.302	0.003	0.00	6.96	8.00	1.271	0.005	22.5
Rightt side	DH5	39/2441	76.80%	1.302	0.002	0.03	6.96	8.00	1.271	0.003	22.5
Top side	DH5	39/2441	76.80%	1.302	0.002	0.05	6.96	8.00	1.271	0.003	22.5

Table 32：SAR of BT for Head and Body.

8.3 Multiple Transmitter Evaluation

8.3.1 Simultaneous SAR SAR test evaluation

- **Simultaneous Transmission Possibilities**

NO	Simultaneous Tx Combination	Head	Body-worn	Hotspot	Product Specific 10-g (0mm)
1	WWAN + WIFI 5G MIMO + BT	Y	Y	Y	Y
2	WWAN + WIFI 2.4G MIMO	Y	Y	Y	Y

Note: BT= BT ANT3

8.3.2 Simultaneous Transmission SAR Summation Scenario

Simultaneous Transmission SAR Summation Scenario for WLAN Head:

LTE Band (EN_DC)	Exposure position	LTE Band 5 Ant0	FR1 n2 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_5A_n2A	Left cheek	0.155	0.306	0.076	0.230	0.026	0.537	0.717
	Left tilted	0.088	0.130	0.075	0.141	0.014	0.293	0.373
	Right cheek	0.165	0.139	0.075	0.232	0.010	0.379	0.546
	Right tilted	0.086	0.130	0.053	0.232	0.013	0.269	0.461

LTE Band (EN_DC)	Exposure position	LTE Band 12 Ant0	FR1 n2 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_12A_n2A	Left cheek	0.172	0.306	0.076	0.230	0.026	0.554	0.734
	Left tilted	0.097	0.130	0.075	0.141	0.014	0.302	0.382
	Right cheek	0.186	0.139	0.075	0.232	0.010	0.400	0.567
	Right tilted	0.094	0.130	0.053	0.232	0.013	0.277	0.469

LTE Band (EN_DC)	Exposure position	LTE Band 2 Ant0	FR1 n5 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3		
		1	2	3	4	5	1+2+3	1+2+4+5
DC_2A_n5A	Left cheek	0.262	0.182	0.076	0.230	0.026	0.520	0.700
	Left tilted	0.115	0.112	0.075	0.141	0.014	0.302	0.382
	Right cheek	0.129	0.259	0.075	0.232	0.010	0.463	0.630
	Right tilted	0.124	0.115	0.053	0.232	0.013	0.292	0.484

LTE Band (EN_DC)	Exposure position	LTE Band 66 Ant0	FR1 n5 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_66A_n5A	Left cheek	0.175	0.182	0.076	0.230	0.026	0.433	0.613
	Left tilted	0.046	0.112	0.075	0.141	0.014	0.233	0.313
	Right cheek	0.100	0.259	0.075	0.232	0.010	0.434	0.601
	Right tilted	0.093	0.115	0.053	0.232	0.013	0.261	0.453

LTE Band (EN_DC)	Exposure position	LTE Band 5 Ant0	FR1 n66 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_5A_n66A	Left cheek	0.155	0.225	0.076	0.230	0.026	0.456	0.636
	Left tilted	0.088	0.105	0.075	0.141	0.014	0.268	0.348
	Right cheek	0.165	0.094	0.075	0.232	0.010	0.334	0.501
	Right tilted	0.086	0.119	0.053	0.232	0.013	0.258	0.450

LTE Band (EN_DC)	Exposure position	LTE Band 12 Ant0	FR1 n66 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_12A_n66A	Left cheek	0.172	0.225	0.076	0.230	0.026	0.473	0.653
	Left tilted	0.097	0.105	0.075	0.141	0.014	0.277	0.357
	Right cheek	0.186	0.094	0.075	0.232	0.010	0.355	0.522
	Right tilted	0.094	0.119	0.053	0.232	0.013	0.266	0.458

LTE Band (EN_DC)	Exposure position	LTE Band 2 Ant0	FR1 n71 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_2A_n71A	Left cheek	0.262	0.099	0.076	0.230	0.026	0.437	0.617
	Left tilted	0.115	0.046	0.075	0.141	0.014	0.236	0.316
	Right cheek	0.129	0.092	0.075	0.232	0.010	0.296	0.463
	Right tilted	0.124	0.040	0.053	0.232	0.013	0.217	0.409

LTE Band (EN_DC)	Exposure position	LTE Band 66 Ant0	FR1 n71 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_66A_n71A	Left cheek	0.175	0.099	0.076	0.230	0.026	0.350	0.530
	Left tilted	0.046	0.046	0.075	0.141	0.014	0.167	0.247
	Right cheek	0.100	0.092	0.075	0.232	0.010	0.267	0.434
	Right tilted	0.093	0.040	0.053	0.232	0.013	0.186	0.378

Test position		SARmax (W/kg)				Summed SAR	
		Main Ant0	WiFi 2.4G MIMO	WiFi 5G MIMO	BT		
		1	2	3	4	1+2	1+3+4
GSM850 Ant 0	Left cheek	0.162	0.076	0.230	0.026	0.238	0.418
	Left tilted	0.112	0.075	0.141	0.014	0.187	0.267
	Right cheek	0.219	0.075	0.232	0.010	0.294	0.461
	Right tilted	0.112	0.053	0.232	0.013	0.165	0.357
GSM1900 Ant 0	Left cheek	0.297	0.076	0.230	0.026	0.373	0.553
	Left tilted	0.122	0.075	0.141	0.014	0.197	0.277
	Right cheek	0.076	0.075	0.232	0.010	0.151	0.318
	Right tilted	0.071	0.053	0.232	0.013	0.124	0.316

WCDMA II Ant 0	Left cheek	0.453	0.076	0.230	0.026	0.529	0.709
	Left tilted	0.180	0.075	0.141	0.014	0.255	0.335
	Right cheek	0.168	0.075	0.232	0.010	0.243	0.410
	Right tilted	0.210	0.053	0.232	0.013	0.263	0.455
WCDMA IV Ant 0	Left cheek	0.314	0.076	0.230	0.026	0.390	0.570
	Left tilted	0.121	0.075	0.141	0.014	0.196	0.276
	Right cheek	0.111	0.075	0.232	0.010	0.186	0.353
	Right tilted	0.146	0.053	0.232	0.013	0.199	0.391
WCDMA V Ant 0	Left cheek	0.217	0.076	0.230	0.026	0.293	0.473
	Left tilted	0.136	0.075	0.141	0.014	0.211	0.291
	Right cheek	0.298	0.075	0.232	0.010	0.373	0.540
	Right tilted	0.160	0.053	0.232	0.013	0.213	0.405
LTE Band 7 Ant 0	Left cheek	0.369	0.076	0.230	0.026	0.445	0.625
	Left tilted	0.099	0.075	0.141	0.014	0.174	0.254
	Right cheek	0.171	0.075	0.232	0.010	0.246	0.413
	Right tilted	0.124	0.053	0.232	0.013	0.177	0.369
LTE Band 12 Ant 0	Left cheek	0.172	0.076	0.230	0.026	0.248	0.428
	Left tilted	0.097	0.075	0.141	0.014	0.172	0.252
	Right cheek	0.186	0.075	0.232	0.010	0.261	0.428
	Right tilted	0.094	0.053	0.232	0.013	0.147	0.339
LTE Band 13 Ant 0	Left cheek	0.131	0.076	0.230	0.026	0.207	0.387
	Left tilted	0.070	0.075	0.141	0.014	0.145	0.225
	Right cheek	0.157	0.075	0.232	0.010	0.232	0.399
	Right tilted	0.037	0.053	0.232	0.013	0.090	0.282
LTE Band 25 Ant 0	Left cheek	0.262	0.076	0.230	0.026	0.338	0.518
	Left tilted	0.115	0.075	0.141	0.014	0.190	0.270
	Right cheek	0.129	0.075	0.232	0.010	0.204	0.371
	Right tilted	0.124	0.053	0.232	0.013	0.177	0.369
LTE Band 26 Ant 0	Left cheek	0.155	0.076	0.230	0.026	0.231	0.411
	Left tilted	0.088	0.075	0.141	0.014	0.163	0.243
	Right cheek	0.165	0.075	0.232	0.010	0.240	0.407
	Right tilted	0.086	0.053	0.232	0.013	0.139	0.331
LTE Band 66 Ant 0	Left cheek	0.175	0.076	0.230	0.026	0.251	0.431
	Left tilted	0.046	0.075	0.141	0.014	0.121	0.201
	Right cheek	0.100	0.075	0.232	0.010	0.175	0.342
	Right tilted	0.093	0.053	0.232	0.013	0.146	0.338
LTE Band 41 Ant 0	Left cheek	0.245	0.076	0.230	0.026	0.321	0.501
	Left tilted	0.124	0.075	0.141	0.014	0.199	0.279
	Right cheek	0.114	0.075	0.232	0.010	0.189	0.356
	Right tilted	0.121	0.053	0.232	0.013	0.174	0.366
FR1 n2 Ant 0	Left cheek	0.306	0.076	0.230	0.026	0.382	0.562
	Left tilted	0.130	0.075	0.141	0.014	0.205	0.285
	Right cheek	0.139	0.075	0.232	0.010	0.214	0.381
	Right tilted	0.130	0.053	0.232	0.013	0.183	0.375
FR1 n5 Ant 0	Left cheek	0.182	0.076	0.230	0.026	0.258	0.438
	Left tilted	0.112	0.075	0.141	0.014	0.187	0.267
	Right cheek	0.259	0.075	0.232	0.010	0.334	0.501
	Right tilted	0.115	0.053	0.232	0.013	0.168	0.360
FR1 n41 Ant 0	Left cheek	0.971	0.076	0.230	0.026	1.047	1.227
	Left tilted	0.203	0.075	0.141	0.014	0.278	0.358
	Right cheek	0.395	0.075	0.232	0.010	0.470	0.637
	Right tilted	0.307	0.053	0.232	0.013	0.360	0.552
FR1 n66 Ant 0	Left cheek	0.254	0.076	0.230	0.026	0.330	0.510
	Left tilted	0.105	0.075	0.141	0.014	0.180	0.260
	Right cheek	0.094	0.075	0.232	0.010	0.169	0.336
	Right tilted	0.119	0.053	0.232	0.013	0.172	0.364

FR1 n71 Ant 0	Left cheek	0.099	0.076	0.230	0.026	0.175	0.355
	Left tilted	0.046	0.075	0.141	0.014	0.121	0.201
	Right cheek	0.092	0.075	0.232	0.010	0.167	0.334
	Right tilted	0.040	0.053	0.232	0.013	0.093	0.285
FR1 n77 Part27Q Ant 6	Left cheek	0.080	0.076	0.230	0.026	0.156	0.336
	Left tilted	0.227	0.075	0.141	0.014	0.302	0.382
	Right cheek	0.548	0.075	0.232	0.010	0.623	0.790
	Right tilted	0.640	0.053	0.232	0.013	0.693	0.885
FR1 n77 Ant 6	Left cheek	0.526	0.076	0.230	0.026	0.602	0.782
	Left tilted	0.578	0.075	0.141	0.014	0.653	0.733
	Right cheek	1.141	0.075	0.232	0.010	1.216	1.383
	Right tilted	0.653	0.053	0.232	0.013	0.706	0.898

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Simultaneous Transmission SAR Summation Scenario for WLAN Body:
Body-worn:

LTE Band (EN_DC)	Exposure position	LTE Band 5 Ant0	FR1 n2 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_5A_n2A	Front side	0.291	0.409	0.034	0.224	0.005	0.734	0.929
	Back side	0.234	0.634	0.114	0.655	0.005	0.982	1.528

LTE Band (EN_DC)	Exposure position	LTE Band 12 Ant0	FR1 n2 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_12A_n2A	Front side	0.182	0.409	0.034	0.224	0.005	0.625	0.820
	Back side	0.139	0.634	0.114	0.655	0.005	0.887	1.433

LTE Band (EN_DC)	Exposure position	LTE Band 2 Ant0	FR1 n5 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_2A_n5A	Front side	0.384	0.399	0.034	0.224	0.005	0.817	1.012
	Back side	0.597	0.286	0.114	0.655	0.005	0.997	1.543

LTE Band (EN_DC)	Exposure position	LTE Band 66 Ant0	FR1 n5 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_66A_n5A	Front side	0.246	0.399	0.034	0.224	0.005	0.679	0.874
	Back side	0.439	0.286	0.114	0.655	0.005	0.839	1.385

LTE Band (EN_DC)	Exposure position	LTE Band 5 Ant0	FR1 n66 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_5A_n66A	Front side	0.291	0.277	0.034	0.224	0.005	0.602	0.797
	Back side	0.234	0.502	0.114	0.655	0.005	0.850	1.396

LTE Band (EN_DC)	Exposure position	LTE Band 12 Ant0	FR1 n66 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_12A_n66A	Front side	0.182	0.277	0.034	0.224	0.005	0.493	0.688
	Back side	0.139	0.502	0.114	0.655	0.005	0.755	1.301

LTE Band (EN_DC)	Exposure position	LTE Band 2 Ant0	FR1 n71 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_2A_n71A	Front side	0.384	0.089	0.034	0.224	0.005	0.507	0.702
	Back side	0.597	0.131	0.114	0.655	0.005	0.842	1.388

LTE Band (EN_DC)	Exposure position	LTE Band 66 Ant0	FR1 n71 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_66A_n71A	Front side	0.246	0.089	0.034	0.224	0.005	0.369	0.564
	Back side	0.439	0.131	0.114	0.655	0.005	0.684	1.230

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Test position		SARmax (W/kg)				Summed SAR	
		Main Ant0	WiFi 2.4G MIMO	WiFi 5G MIMO	BT		
		1	2	3	4	1+2	1+3+4
GSM850 Ant 0	Front side	0.254	0.034	0.224	0.005	0.288	0.483
	Back side	0.174	0.114	0.655	0.005	0.288	0.834
GSM1900 Ant 0	Front side	0.261	0.034	0.224	0.005	0.295	0.490
	Back side	0.345	0.114	0.655	0.005	0.459	1.005
WCDMA II Ant 0	Front side	0.437	0.034	0.224	0.005	0.471	0.666
	Back side	0.797	0.114	0.655	0.005	0.911	1.457
WCDMA IV Ant 0	Front side	0.316	0.034	0.224	0.005	0.350	0.545
	Back side	0.517	0.114	0.655	0.005	0.631	1.177
WCDMA V Ant 0	Front side	0.485	0.034	0.224	0.005	0.519	0.714
	Back side	0.323	0.114	0.655	0.005	0.437	0.983
LTE Band 7 Ant 0	Front side	0.799	0.034	0.224	0.005	0.833	1.028
	Back side	0.494	0.114	0.655	0.005	0.608	1.154
LTE Band 12 Ant 0	Front side	0.182	0.034	0.224	0.005	0.216	0.411
	Back side	0.139	0.114	0.655	0.005	0.253	0.799
LTE Band 13 Ant 0	Front side	0.192	0.034	0.224	0.005	0.226	0.421
	Back side	0.169	0.114	0.655	0.005	0.283	0.829
LTE Band 25 Ant 0	Front side	0.384	0.034	0.224	0.005	0.418	0.613
	Back side	0.593	0.114	0.655	0.005	0.707	1.253
LTE Band 26 Ant 0	Front side	0.291	0.034	0.224	0.005	0.325	0.520
	Back side	0.234	0.114	0.655	0.005	0.348	0.894
LTE Band 66 Ant 0	Front side	0.246	0.034	0.224	0.005	0.280	0.475
	Back side	0.439	0.114	0.655	0.005	0.553	1.099
LTE Band 41 Ant 0	Front side	0.514	0.034	0.224	0.005	0.548	0.743
	Back side	0.431	0.114	0.655	0.005	0.545	1.091
FR1 n2 Ant 0	Front side	0.409	0.034	0.224	0.005	0.443	0.638
	Back side	0.634	0.114	0.655	0.005	0.748	1.294
FR1 n5 Ant 0	Front side	0.399	0.034	0.224	0.005	0.433	0.628
	Back side	0.286	0.114	0.655	0.005	0.400	0.946
FR1 n41 Ant 0	Front side	1.155	0.034	0.224	0.005	1.189	1.384
	Back side	0.739	0.114	0.655	0.005	0.853	1.399
FR1 n66 Ant 0	Front side	0.277	0.034	0.224	0.005	0.311	0.506
	Back side	0.502	0.114	0.655	0.005	0.616	1.162
FR1 n71 Ant 0	Front side	0.089	0.034	0.224	0.005	0.123	0.318
	Back side	0.131	0.114	0.655	0.005	0.245	0.791
FR1 n77 Part27Q Ant 6	Front side	0.616	0.034	0.224	0.005	0.650	0.845
	Back side	0.679	0.114	0.655	0.005	0.793	1.339
FR1 n77 Ant 6	Front side	0.492	0.034	0.224	0.005	0.526	0.721
	Back side	0.334	0.114	0.655	0.005	0.448	0.994

Hotspot:

LTE Band (EN_DC)	Exposure position	LTE Band 5 Ant0	FR1 n2 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_5A_n2A	Front side	0.291	0.409	0.034	0.020	0.005	0.734	0.725
	Back side	0.234	0.634	0.114	0.384	0.005	0.982	1.257
	Left side	0.143	0.457	/	/	/	0.600	0.600
	Right side	0.249	0.099	0.053	0.142	0.003	0.401	0.493
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.125	0.336	/	/	/	0.461	0.461

LTE Band (EN_DC)	Exposure position	LTE Band 12 Ant0	FR1 n2 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_12A_n2A	Front side	0.182	0.409	0.034	0.020	0.005	0.625	0.616
	Back side	0.139	0.634	0.114	0.384	0.005	0.887	1.162
	Left side	0.144	0.457	/	/	/	0.601	0.601
	Right side	0.239	0.099	0.053	0.142	0.003	0.391	0.483
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.059	0.336	/	/	/	0.395	0.395

LTE Band (EN_DC)	Exposure position	LTE Band 2 Ant0	FR1 n5 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_2A_n5A	Front side	0.384	0.399	0.034	0.020	0.005	0.817	0.808
	Back side	0.597	0.286	0.114	0.384	0.005	0.997	1.272
	Left side	0.505	0.145	/	/	/	0.650	0.650
	Right side	0.094	0.265	0.053	0.142	0.003	0.412	0.504
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.372	0.181	/	/	/	0.553	0.553

LTE Band (EN_DC)	Exposure position	LTE Band 66 Ant0	FR1 n5 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_66A_n5A	Front side	0.246	0.399	0.034	0.020	0.005	0.679	0.670
	Back side	0.439	0.286	0.114	0.384	0.005	0.839	1.114
	Left side	0.374	0.145	/	/	/	0.519	0.519
	Right side	0.106	0.265	0.053	0.142	0.003	0.424	0.516
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.409	0.181	/	/	/	0.590	0.590

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LTE Band (EN_DC)	Exposure position	LTE Band 5 Ant0	FR1 n66 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_5A_n66A	Front side	0.291	0.277	0.034	0.020	0.005	0.602	0.593
	Back side	0.234	0.502	0.114	0.384	0.005	0.850	1.125
	Left side	0.143	0.375	/	/	/	0.518	0.518
	Right side	0.249	0.105	0.053	0.142	0.003	0.407	0.499
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.125	0.440	/	/	/	0.565	0.565

LTE Band (EN_DC)	Exposure position	LTE Band 12 Ant0	FR1 n66 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_12A_n66A	Front side	0.182	0.277	0.034	0.020	0.005	0.493	0.484
	Back side	0.139	0.502	0.114	0.384	0.005	0.755	1.030
	Left side	0.144	0.375	/	/	/	0.519	0.519
	Right side	0.239	0.105	0.053	0.142	0.003	0.397	0.489
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.059	0.440	/	/	/	0.499	0.499

LTE Band (EN_DC)	Exposure position	LTE Band 2 Ant0	FR1 n71 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_2A_n71A	Front side	0.384	0.089	0.034	0.020	0.005	0.507	0.498
	Back side	0.597	0.131	0.114	0.384	0.005	0.842	1.117
	Left side	0.505	0.102	/	/	/	0.607	0.607
	Right side	0.094	0.113	0.053	0.142	0.003	0.260	0.352
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.372	0.026	/	/	/	0.398	0.398

LTE Band (EN_DC)	Exposure position	LTE Band 66 Ant0	FR1 n71 Ant0	WiFi 2.4G (Ant2+3)	WiFi 5G (Ant2+3)	BT Ant3	Summed SAR	
		1	2	3	4	5	1+2+3	1+2+4+5
DC_66A_n71A	Front side	0.246	0.089	0.034	0.020	0.005	0.369	0.360
	Back side	0.439	0.131	0.114	0.384	0.005	0.684	0.959
	Left side	0.374	0.102	/	/	/	0.476	0.476
	Right side	0.106	0.113	0.053	0.142	0.003	0.272	0.364
	Top side	/	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.409	0.026	/	/	/	0.435	0.435

Test position		SARmax (W/kg)				Summed SAR	
		Main Ant0	WiFi 2.4G MIMO	WiFi 5G MIMO	BT		
		1	2	3	4	1+2	1+3+4
GSM850 Ant 0	Front side	0.254	0.034	0.020	0.005	0.288	0.279
	Back side	0.174	0.114	0.384	0.005	0.288	0.563
	Left side	0.150	/	/	/	0.150	0.150
	Right side	0.138	0.053	0.142	0.003	0.191	0.283
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.160	/	/	/	0.160	0.160
GSM1900 Ant 0	Front side	0.261	0.034	0.020	0.005	0.295	0.286
	Back side	0.345	0.114	0.384	0.005	0.459	0.734
	Left side	0.463	/	/	/	0.463	0.463
	Right side	0.044	0.053	0.142	0.003	0.097	0.189
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.193	/	/	/	0.193	0.193
WCDMA II Ant 0	Front side	0.437	0.034	0.020	0.005	0.471	0.462
	Back side	0.797	0.114	0.384	0.005	0.911	1.186
	Left side	0.566	/	/	/	0.566	0.566
	Right side	0.129	0.053	0.142	0.003	0.182	0.274
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.453	/	/	/	0.453	0.453
WCDMA IV Ant 0	Front side	0.316	0.034	0.020	0.005	0.350	0.341
	Back side	0.517	0.114	0.384	0.005	0.631	0.906
	Left side	0.458	/	/	/	0.458	0.458
	Right side	0.138	0.053	0.142	0.003	0.191	0.283
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.489	/	/	/	0.489	0.489
WCDMA V Ant 0	Front side	0.485	0.034	0.020	0.005	0.519	0.510
	Back side	0.323	0.114	0.384	0.005	0.437	0.712
	Left side	0.200	/	/	/	0.200	0.200
	Right side	0.373	0.053	0.142	0.003	0.426	0.518
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.223	/	/	/	0.223	0.223
LTE Band 7 Ant 0	Front side	0.799	0.034	0.020	0.005	0.833	0.824
	Back side	0.494	0.114	0.384	0.005	0.608	0.883
	Left side	0.585	/	/	/	0.585	0.585
	Right side	0.071	0.053	0.142	0.003	0.124	0.216
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.194	/	/	/	0.194	0.194
LTE Band 12 Ant 0	Front side	0.182	0.034	0.020	0.005	0.216	0.207
	Back side	0.139	0.114	0.384	0.005	0.253	0.528
	Left side	0.144	/	/	/	0.144	0.144
	Right side	0.239	0.053	0.142	0.003	0.292	0.384
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.059	/	/	/	0.059	0.059
LTE Band 13 Ant 0	Front side	0.192	0.034	0.020	0.005	0.226	0.217
	Back side	0.169	0.114	0.384	0.005	0.283	0.558
	Left side	0.129	/	/	/	0.129	0.129
	Right side	0.227	0.053	0.142	0.003	0.280	0.372
	Top side	0.110	0.024	0.183	0.003	0.134	0.296
	Bottom side	/	/	/	/	0.000	0.000
LTE Band 25 Ant 0	Front side	0.384	0.034	0.020	0.005	0.418	0.409
	Back side	0.593	0.114	0.384	0.005	0.707	0.982

	Left side	0.501	/	/	/	0.501	0.501
	Right side	0.092	0.053	0.142	0.003	0.145	0.237
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.364	/	/	/	0.364	0.364
LTE Band 26 Ant 0	Front side	0.291	0.034	0.020	0.005	0.325	0.316
	Back side	0.234	0.114	0.384	0.005	0.348	0.623
	Left side	0.143	/	/	/	0.143	0.143
	Right side	0.249	0.053	0.142	0.003	0.302	0.394
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.125	/	/	/	0.125	0.125
LTE Band 66 Ant 0	Front side	0.246	0.034	0.020	0.005	0.280	0.271
	Back side	0.439	0.114	0.384	0.005	0.553	0.828
	Left side	0.374	/	/	/	0.374	0.374
	Right side	0.106	0.053	0.142	0.003	0.159	0.251
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.409	/	/	/	0.409	0.409
LTE Band 41 Ant 0	Front side	0.514	0.034	0.020	0.005	0.548	0.539
	Back side	0.431	0.114	0.384	0.005	0.545	0.820
	Left side	0.435	/	/	/	0.435	0.435
	Right side	0.054	0.053	0.142	0.003	0.107	0.199
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.191	/	/	/	0.191	0.191
FR1 n2 Ant 0	Front side	0.409	0.034	0.020	0.005	0.443	0.434
	Back side	0.634	0.114	0.384	0.005	0.748	1.023
	Left side	0.457	/	/	/	0.457	0.457
	Right side	0.099	0.053	0.142	0.003	0.152	0.244
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.336	/	/	/	0.336	0.336
FR1 n5 Ant 0	Front side	0.399	0.034	0.020	0.005	0.433	0.424
	Back side	0.286	0.114	0.384	0.005	0.400	0.675
	Left side	0.145	/	/	/	0.145	0.145
	Right side	0.265	0.053	0.142	0.003	0.318	0.410
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.181	/	/	/	0.181	0.181
FR1 n41 Ant 0	Front side	1.155	0.034	0.020	0.005	1.189	1.180
	Back side	0.739	0.114	0.384	0.005	0.853	1.128
	Left side	0.996	/	/	/	0.996	0.996
	Right side	0.135	0.053	0.142	0.003	0.188	0.280
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.420	/	/	/	0.420	0.420
FR1 n66 Ant 0	Front side	0.277	0.034	0.020	0.005	0.311	0.302
	Back side	0.502	0.114	0.384	0.005	0.616	0.891
	Left side	0.375	/	/	/	0.375	0.375
	Right side	0.105	0.053	0.142	0.003	0.158	0.250
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.440	/	/	/	0.440	0.440
FR1 n71 Ant 0	Front side	0.089	0.034	0.020	0.005	0.123	0.114
	Back side	0.131	0.114	0.384	0.005	0.245	0.520
	Left side	0.102	/	/	/	0.102	0.102
	Right side	0.113	0.053	0.142	0.003	0.166	0.258
	Top side	/	0.024	0.183	0.003	0.024	0.186
	Bottom side	0.026	/	/	/	0.026	0.026
FR1 n77 Part27Q Ant 6	Front side	0.616	0.034	0.020	0.005	0.650	0.641
	Back side	0.679	0.114	0.384	0.005	0.793	1.068
	Left side	0.383	/	/	/	0.383	0.383
	Right side	/	0.053	0.142	0.003	0.053	0.145

	Top side	0.733	0.024	0.183	0.003	0.757	0.919
	Bottom side	/	/	/	/	/	/
FR1 n77 Ant 6	Front side	0.492	0.034	0.020	0.005	0.526	0.517
	Back side	0.334	0.114	0.384	0.005	0.448	0.723
	Left side	0.339	/	/	/	0.339	0.339
	Right side	0.000	0.053	0.142	0.003	0.053	0.145
	Top side	0.628	0.024	0.183	0.003	0.652	0.814
	Bottom side	/	/	/	/	/	/

9 Equipment list

Test Platform	SPEAG DASY5 Professional
Description	SAR Test System (Frequency range 300MHz-6GHz)
Software Reference	DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Hardware Reference

	Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	Twin Phantom	SPEAG	SAM2	1563	NCR	NCR
☒	Twin Phantom	SPEAG	SAM3	1912	NCR	NCR
☒	Twin Phantom	SPEAG	SAM5	1481	NCR	NCR
☒	Twin Phantom	SPEAG	SAM6	1824	NCR	NCR
☒	DAE	SPEAG	DAE4	1428	2021-04-09	2022-04-08
☒	DAE	SPEAG	DAE4	1327	2021-11-05	2022-11-04
☒	DAE	SPEAG	DAE4	1324	2021-06-22	2022-06-21
☒	DAE	SPEAG	DAE4	1374	2021-11-05	2022-11-04
☒	E-Field Probe	SPEAG	EX3DV4	3962	2021-04-26	2022-04-25
☒	E-Field Probe	SPEAG	EX3DV4	7620	2021-08-24	2022-08-23
☒	E-Field Probe	SPEAG	EX3DV4	3789	2021-08-12	2022-08-11
☒	E-Field Probe	SPEAG	EX3DV4	3982	2021-12-29	2022-12-28
☒	Validation Kits	SPEAG	D750V3	1160	2019-05-22	2024-09-07
☒	Validation Kits	SPEAG	D835V2	4d256	2020-04-15	2023-04-14
☒	Validation Kits	SPEAG	D1750V2	1105	2020-08-29	2023-08-28
☒	Validation Kits	SPEAG	D1900V2	5d114	2020-08-27	2023-08-26
☒	Validation Kits	SPEAG	D2450V2	1038	2020-04-08	2023-04-07
☒	Validation Kits	SPEAG	D2600V2	1180	2021-05-12	2024-05-11
☒	Validation Kits	SPEAG	D3500V2	1124	2021-05-17	2024-05-16
☒	Validation Kits	SPEAG	D3900V2	1071	2021-05-20	2024-05-19
☒	Validation Kits	SPEAG	D5GHzV2	1313	2022-01-25	2025-01-24
☒	Dielectric parameter probes	SPEAG	DAKS-3.5	0005	2021-07-15	2022-07-14
☒	Vector Network Analyzer and Vector Reflectometer	SPEAG	DAKS_VNA R140	0140913	2021-07-22	2022-07-21
☒	Universal Radio Communication Tester	R&S	CMW500	111637	2021-09-29	2022-09-28

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☒	Radio Communication Analyzer	Anritsu	MT8820C	6201010267	2021-04-01	2022-03-31
☒	RF Bi-Directional Coupler	Agilent	86205-60001	MY31400031	NCR	NCR
☒	Signal Generator	R&S	SMR20	100379	2021-12-04	2022-12-03
☒	Preamplifier	Qiji	YX28980933	202104001	NCR	NCR
☒	Power Meter	Aglient	E4419B	6843318103	2021-06-08	2022-06-07
☒	Power Sensor	Aglient	E9301A	MY41496508	2021-09-09	2022-09-08
☒	Power Sensor	Aglient	E9301H	MY41495605	2021-06-08	2022-06-07
☒	Attenuator	SHX	TS2-3dB	30704	NCR	NCR
☒	Coaxial low pass filter	Mini-Circuits	VLF-2500(+)	NA	NCR	NCR
☒	Coaxial low pass filter	Microlab Fxr	LA-F13	NA	NCR	NCR
☒	DC POWER SUPPLY	SAKO	SK1730SL5A	NA	NCR	NCR
☒	Speed reading thermometer	LKM	DTM3000	SUW201-30-01	2021-10-09	2022-10-08
☒	Humidity and Temperature Indicator	MingGao	MingGao	NA	2021-06-16	2022-06-15

Note: All the equipments are within the valid period when the tests are performed.

10 Calibration certificate

Please see the Appendix C

11 Photographs

Please see the Appendix D

Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs

Appendix E: Conducted RF Output Power

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Appendix A

Detailed System Check Results

1. System Performance Check
System Performance Check 750 MHz Head
System Performance Check 835 MHz Head
System Performance Check 1750 MHz Head
System Performance Check 1900 MHz Head
System Performance Check 2450 MHz Head
System Performance Check 2600 MHz Head
System Performance Check 3500 MHz Head
System Performance Check 3700 MHz Head
System Performance Check 3900 MHz Head
System Performance Check 5250 MHz Head
System Performance Check 5600 MHz Head
System Performance Check 5750 MHz Head

Date: 2022-02-14

Test Laboratory: SGS-SAR Lab

System Performance Check 750 MHz Head

DUT: D750V3; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1

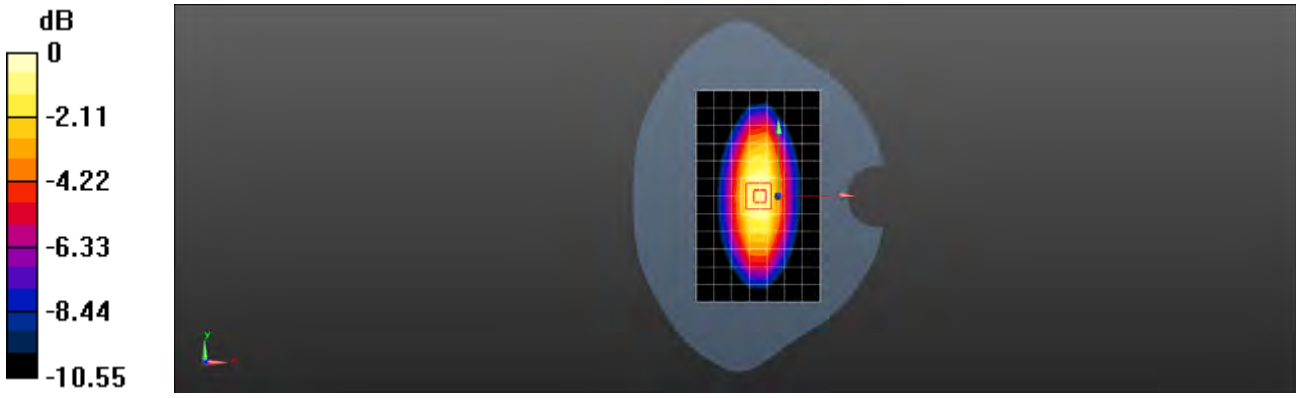
Medium: HSL750;Medium parameters used: f = 750 MHz; σ = 0.867 S/m; ε_r = 41.66; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=15mm, Pin=250mW/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.72 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.56 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.61 W/kg
SAR(1 g) = 2.26 W/kg; SAR(10 g) = 1.49 W/kg
Maximum value of SAR (measured) = 3.13 W/kg



0 dB = 3.13 W/kg = 4.96 dBW/kg

Date: 2022-02-18

Test Laboratory: SGS-SAR Lab

System Performance Check 750 MHz Head

DUT: D750V3; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1

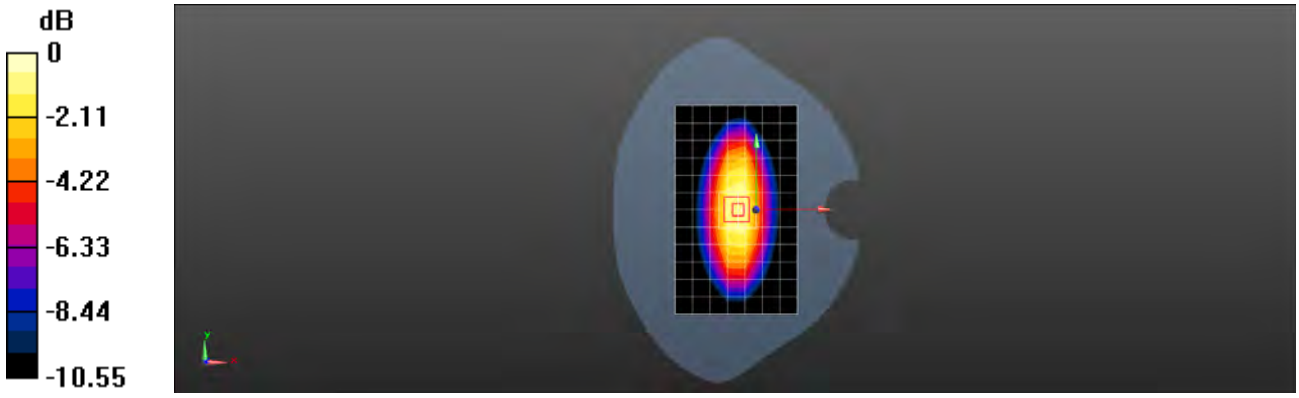
Medium: HSL750;Medium parameters used: f = 750 MHz; σ = 0.865 S/m; ε_r = 41.649; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=15mm, Pin=250mW/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.71 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.56 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.26 W/kg; SAR(10 g) = 1.48 W/kg
Maximum value of SAR (measured) = 3.12 W/kg



0 dB = 3.12 W/kg = 4.94 dBW/kg

Date: 2022-03-09

Test Laboratory: SGS-SAR Lab

System Performance Check 750 MHz Head

DUT: D750V3; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1

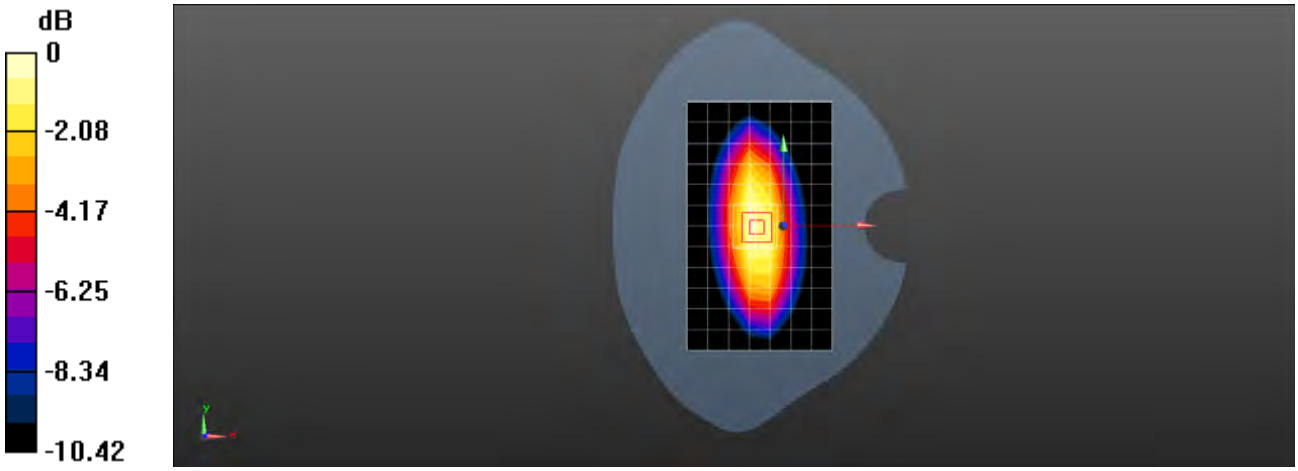
Medium: HSL750;Medium parameters used: f = 750 MHz; σ = 0.864 S/m; ε_r = 41.436; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=15mm, Pin=250mW/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.57 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 50.18 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 3.24 W/kg
SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.36 W/kg
Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.47 dBW/kg

Date: 2022-02-09

Test Laboratory: SGS-SAR Lab

System Performance Check 835 MHz Head

DUT: D835V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1

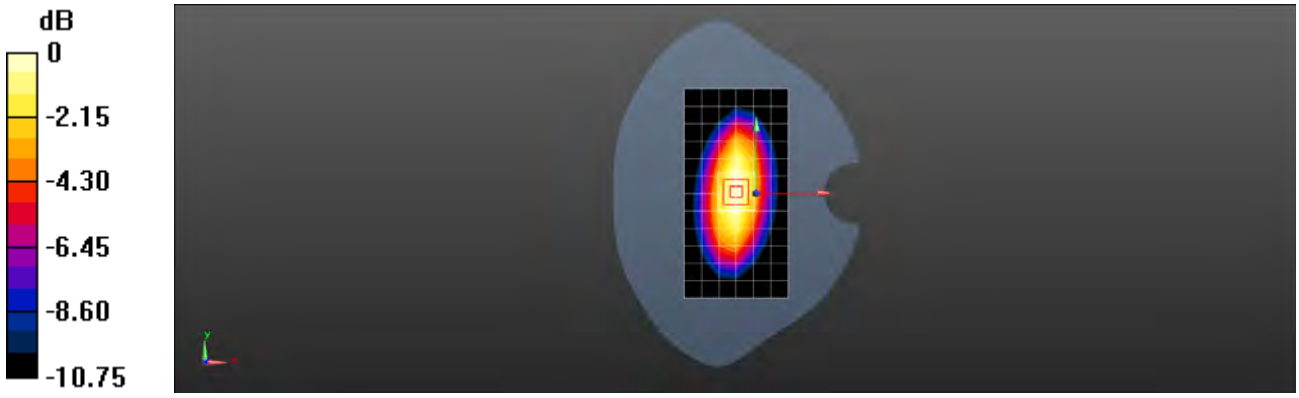
Medium: HSL835;Medium parameters used: f = 835 MHz; σ = 0.894 S/m; ε_r = 41.624; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=15mm, Pin=250mW/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.99 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.40 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.35 W/kg
SAR(1 g) = 2.22 W/kg; SAR(10 g) = 1.45 W/kg
Maximum value of SAR (measured) = 2.83 W/kg



0 dB = 2.83 W/kg = 4.52 dBW/kg

Date: 2022-02-15

Test Laboratory: SGS-SAR Lab

System Performance Check 835 MHz Head

DUT: D835V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1

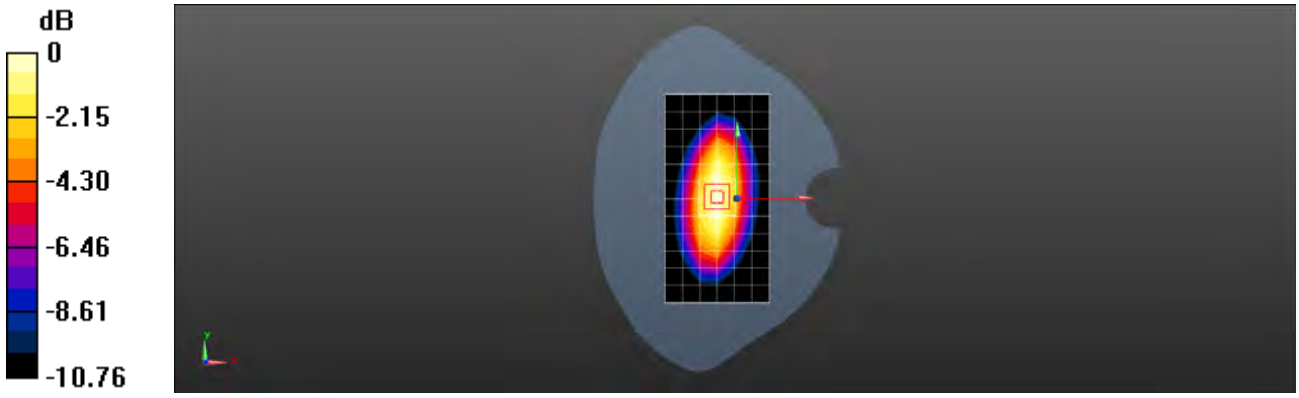
Medium: HSL835;Medium parameters used: f = 835 MHz; σ = 0.884 S/m; ε_r = 41.623; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=15mm, Pin=250mW/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.95 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.40 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.32 W/kg
SAR(1 g) = 2.19 W/kg; SAR(10 g) = 1.44 W/kg
Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.47 dBW/kg

Date: 2022-02-12

Test Laboratory: SGS-SAR Lab

System Performance Check 1750 MHz Head

DUT: D1750V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1

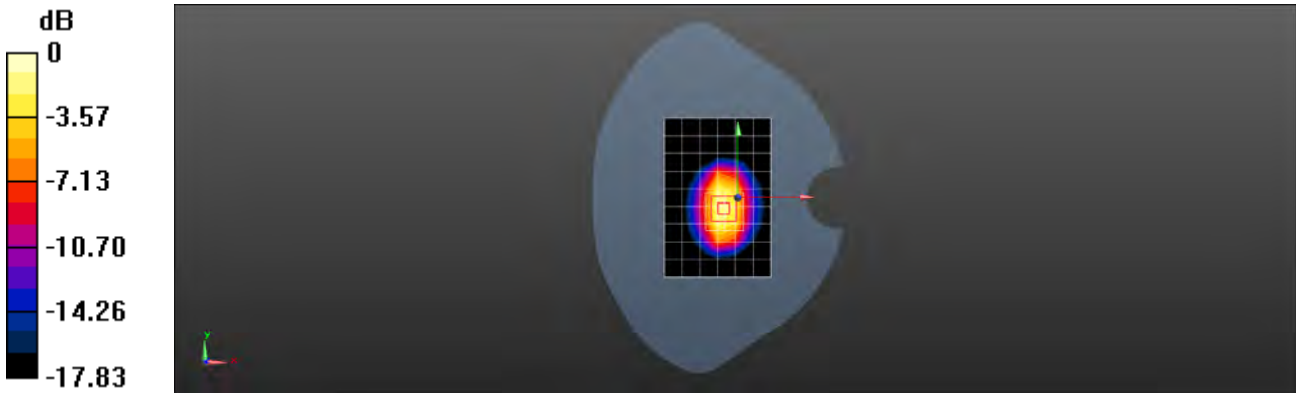
Medium: HSL1750;Medium parameters used: f = 1750 MHz; σ = 1.332 S/m; ε_r = 38.758; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=250mW/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.9 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 74.44 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 15.9 W/kg
SAR(1 g) = 8.72 W/kg; SAR(10 g) = 4.62 W/kg
Maximum value of SAR (measured) = 13.3 W/kg



0 dB = 13.3 W/kg = 11.24 dBW/kg

Date: 2022-02-17

Test Laboratory: SGS-SAR Lab

System Performance Check 1750 MHz Head

DUT: D1750V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1

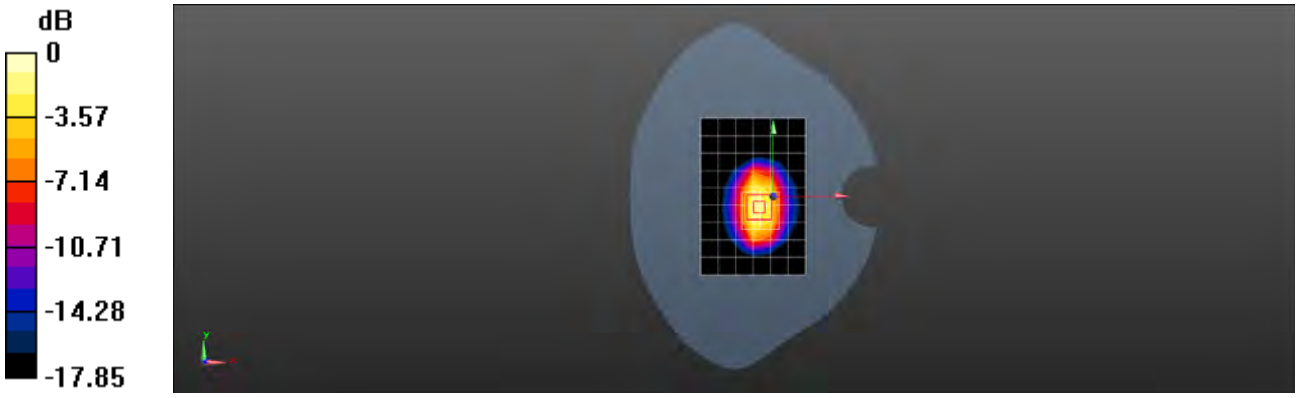
Medium: HSL1750;Medium parameters used: f = 1750 MHz; σ = 1.367 S/m; ε_r = 39.077; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=250mW/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 11.2 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 74.44 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 16.3 W/kg
SAR(1 g) = 8.94 W/kg; SAR(10 g) = 4.74 W/kg
Maximum value of SAR (measured) = 13.7 W/kg



0 dB = 13.7 W/kg = 11.37 dBW/kg

Date: 2022-02-11

Test Laboratory: SGS-SAR Lab

System Performance Check 1900 MHz Head

DUT: D1900V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1

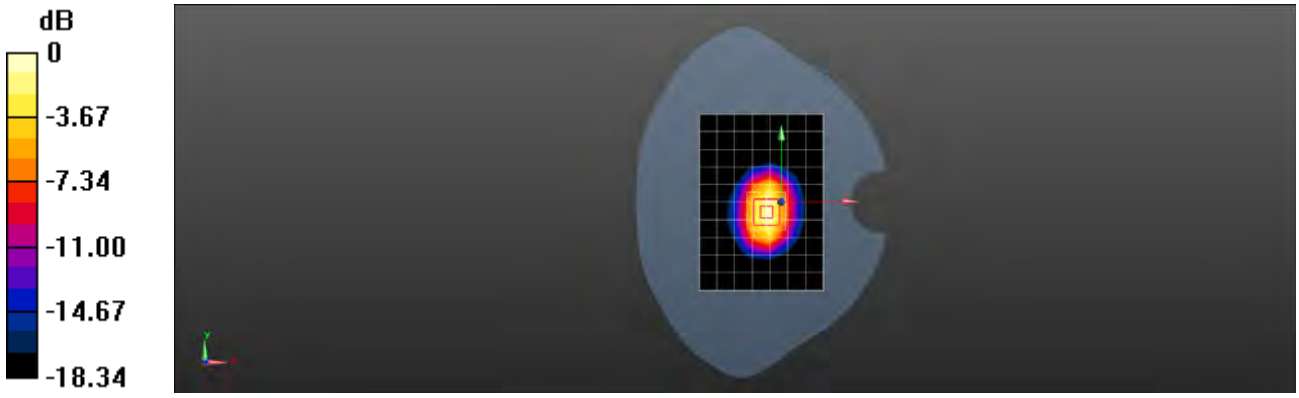
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.402 S/m; ε_r = 40.086; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=250mW/Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.49 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 77.65 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 18.3 W/kg
SAR(1 g) = 9.66 W/kg; SAR(10 g) = 4.94 W/kg
Maximum value of SAR (measured) = 10.9 W/kg



0 dB = 10.9 W/kg = 10.37 dBW/kg

Date: 2022-02-13

Test Laboratory: SGS-SAR Lab

System Performance Check 1900 MHz Head

DUT: D1900V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1

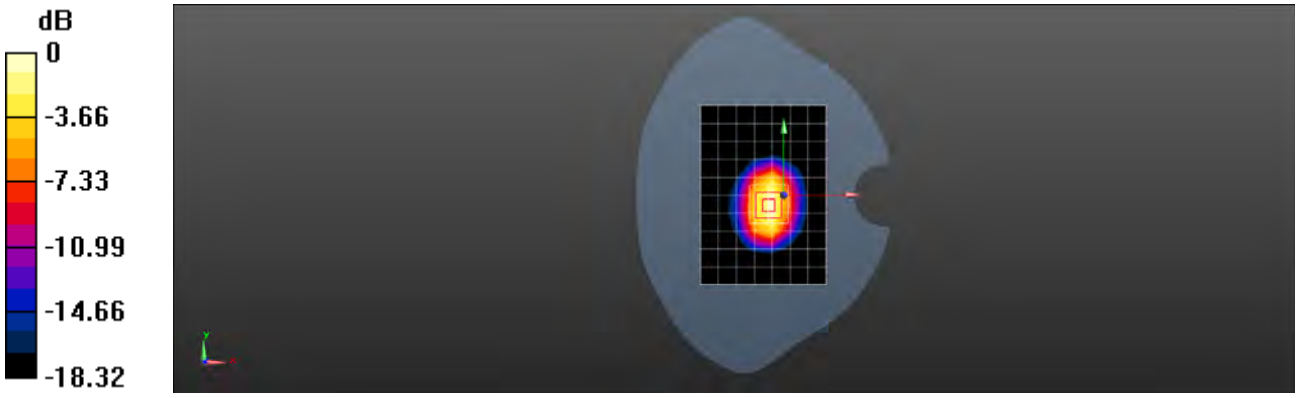
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.398 S/m; ε_r = 38.783; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=250mW/Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.46 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 77.65 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 9.63 W/kg; SAR(10 g) = 4.93 W/kg
Maximum value of SAR (measured) = 10.8 W/kg



0 dB = 10.8 W/kg = 10.33 dBW/kg

Date: 2022-02-08

Test Laboratory: SGS-SAR Lab

System Performance Check 2600MHz Head

DUT: Diople; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1

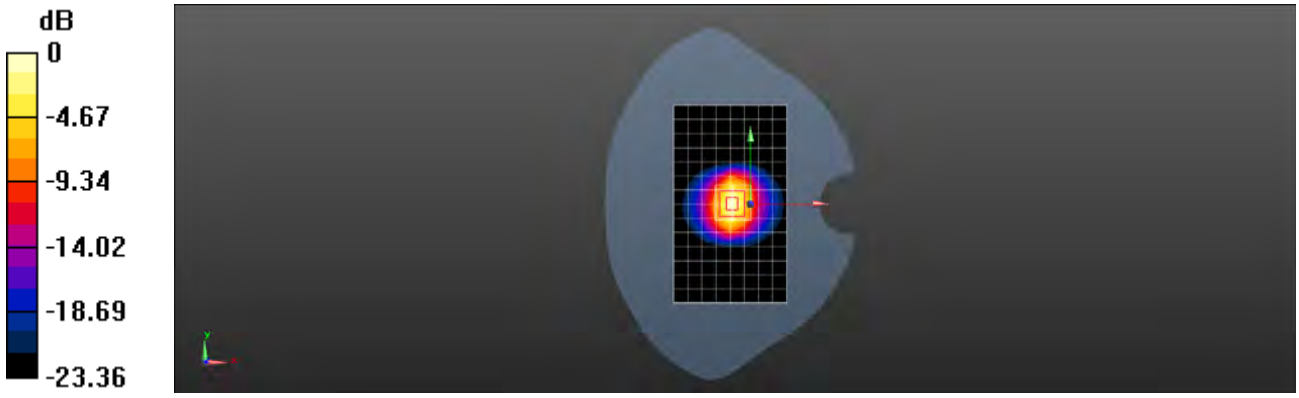
Medium: HSL2600;Medium parameters used: f = 2600 MHz; σ = 2.008 S/m; ε_r = 39.401; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=250mW/Area Scan (9x15x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 21.1 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.35 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 26.9 W/kg
SAR(1 g) = 12.9 W/kg; SAR(10 g) = 5.76 W/kg
Maximum value of SAR (measured) = 21.8 W/kg



0 dB = 21.8 W/kg = 13.38 dBW/kg

Date: 2022-02-19

Test Laboratory: SGS-SAR Lab

System Performance Check 2600MHz Head

DUT: Diople; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1

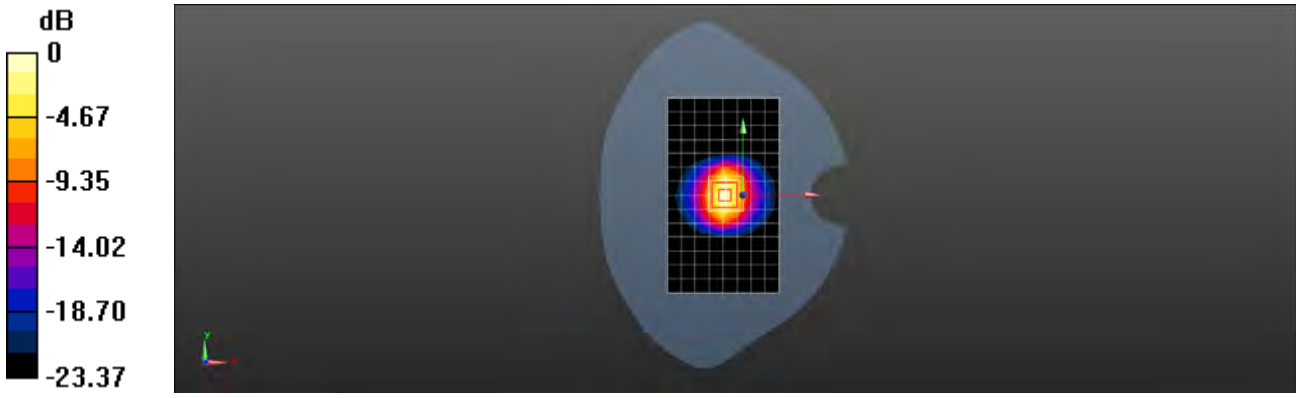
Medium: HSL2600;Medium parameters used: f = 2600 MHz; σ = 2.015 S/m; ε_r = 39.412; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=250mW/Area Scan (9x15x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 21.1 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.35 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 27.0 W/kg
SAR(1 g) = 12.9 W/kg; SAR(10 g) = 5.79 W/kg
Maximum value of SAR (measured) = 21.9 W/kg



0 dB = 21.9 W/kg = 13.40 dBW/kg

Date: 2022-03-03

Test Laboratory: SGS-SAR Lab

System Performance Check 3500MHz Head

DUT: D3500V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 3500 MHz;Duty Cycle: 1:1

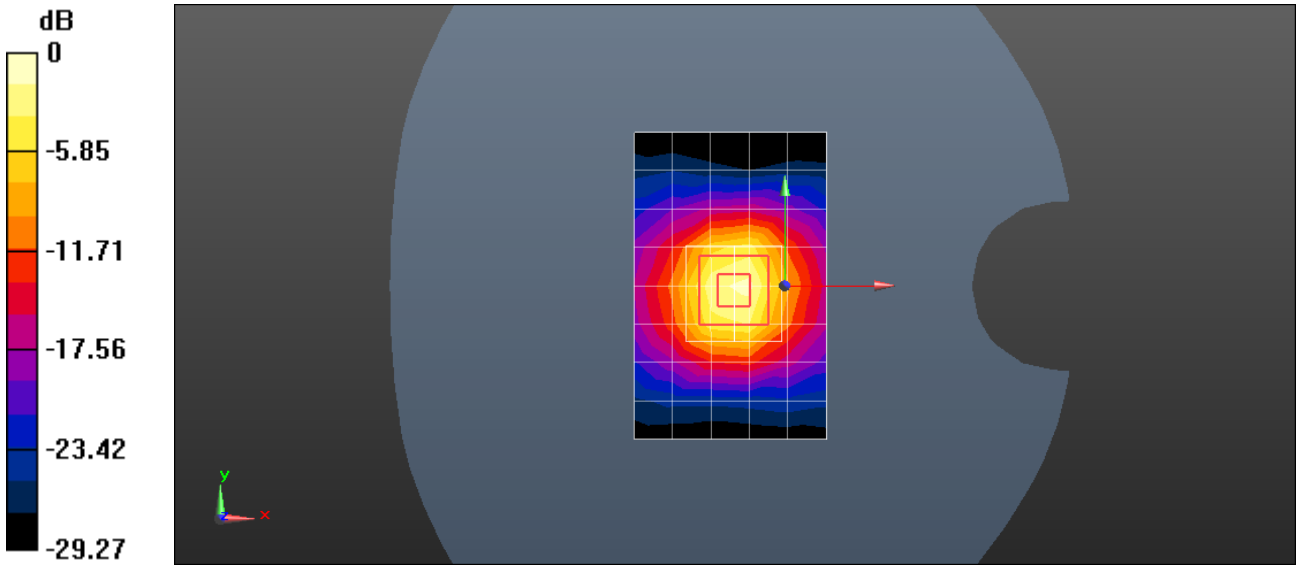
Medium: HSL3500;Medium parameters used: f = 3500 MHz; σ = 2.983 S/m; ε_r = 38.27; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(7.05, 7.05, 7.05); Calibrated: 2021-04-26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1324; Calibrated: 2021-06-22
- Phantom: SAM 2; Type: SAM; Serial: TP:1563
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=100mW/Area Scan (6x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 9.66 W/kg

Body/d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 51.01 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 6.55 W/kg; SAR(10 g) = 2.46 W/kg
Maximum value of SAR (measured) = 12.7 W/kg



0 dB = 12.7 W/kg = 11.04 dBW/kg

Date: 2022-03-04

Test Laboratory: SGS-SAR Lab

System Performance Check 3900MHz Head

DUT: D3900V2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 3900 MHz;Duty Cycle: 1:1

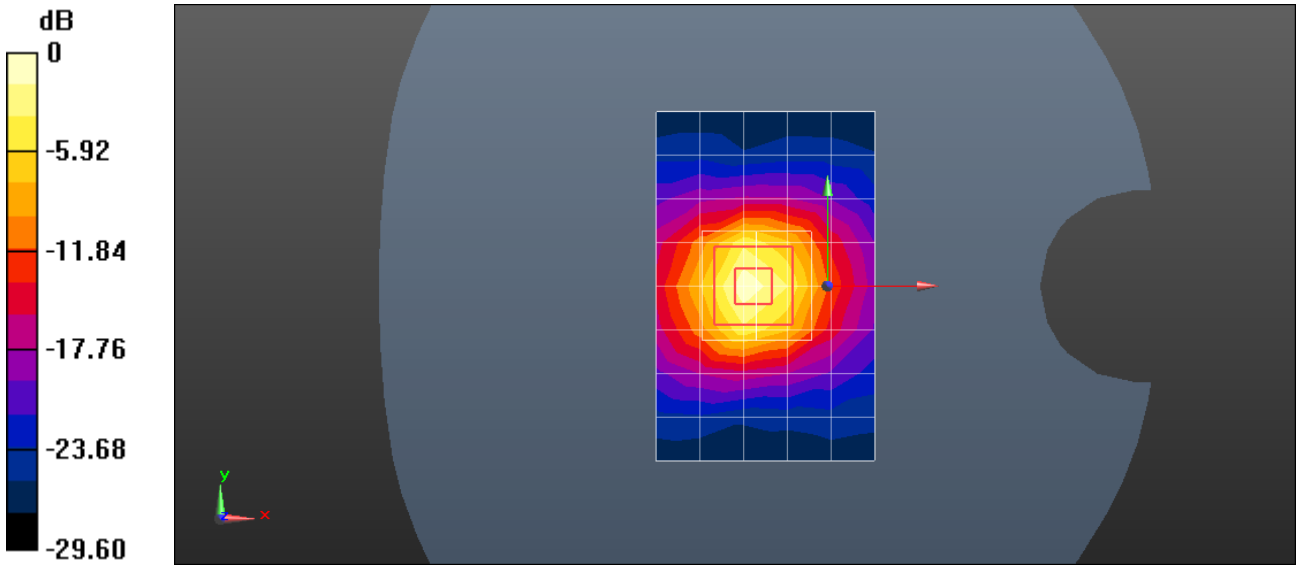
Medium: HSL3900;Medium parameters used: f = 3900 MHz; σ = 3.451 S/m; ε_r = 37.015; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(6.46, 6.46, 6.46); Calibrated: 2021-04-26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1324; Calibrated: 2021-06-22
- Phantom: SAM 2; Type: SAM; Serial: TP:1563
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=100mW/Area Scan (6x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 13.6 W/kg

Body/d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.12 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 19.3 W/kg
SAR(1 g) = 7.48 W/kg; SAR(10 g) = 2.68 W/kg
Maximum value of SAR (measured) = 14.6 W/kg



0 dB = 14.6 W/kg = 11.64 dBW/kg

Date: 2022-02-21

Test Laboratory: SGS-SAR Lab

System Performance Check 2450MHz Head

DUT: D2450V2; Type: Dipole

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1

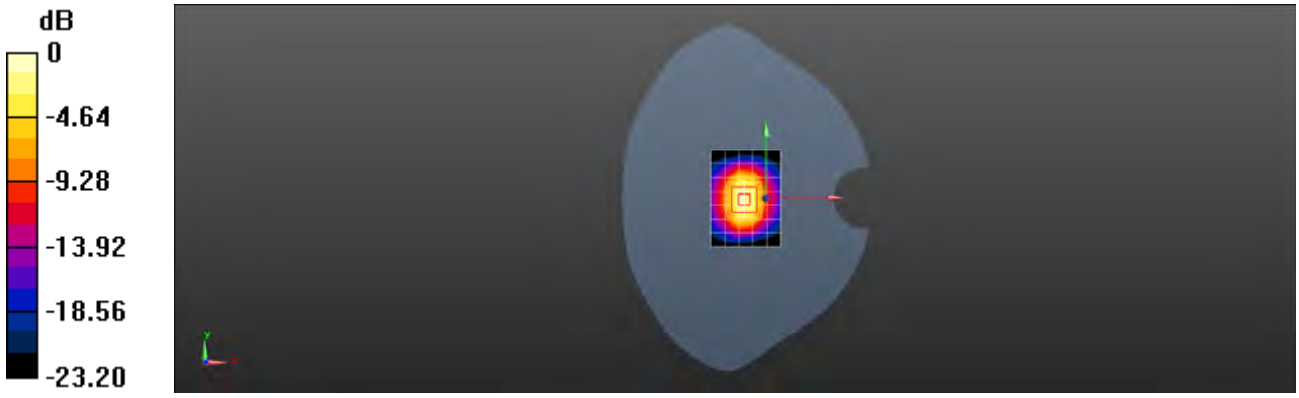
Medium: HSL2450;Medium parameters used: f = 2450 MHz; σ = 1.799 S/m; ε_r = 38.69; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.29, 8.29, 8.29); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=250mW/Area Scan (6x8x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 17.2 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.87 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 27.4 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.86 W/kg
Maximum value of SAR (measured) = 22.0 W/kg



0 dB = 22.0 W/kg = 13.42 dBW/kg

Date: 2022-02-26

Test Laboratory: SGS-SAR Lab

System Performance Check 5.25GHz Head

DUT: D5GHzV2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1

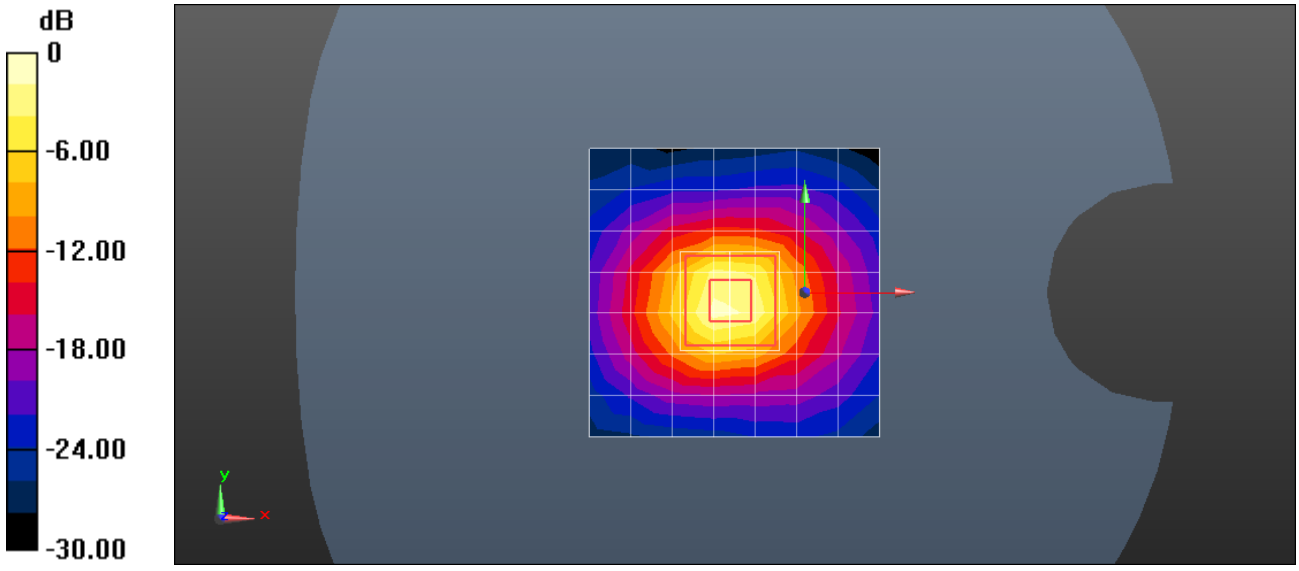
Medium: HSL5000;Medium parameters used: f = 5250 MHz; σ = 4.882 S/m; ε_r = 36.838; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(5.51, 5.51, 5.51); Calibrated: 2021-04-26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1324; Calibrated: 2021-06-22
- Phantom: SAM 2; Type: SAM; Serial: TP:1563
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=100mW/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.3 W/kg

Body/d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.74 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 34.8 W/kg
SAR(1 g) = 7.5 W/kg; SAR(10 g) = 2.15 W/kg
Maximum value of SAR (measured) = 20.3 W/kg



0 dB = 20.3 W/kg = 13.07 dBW/kg

Date: 2022-02-27

Test Laboratory: SGS-SAR Lab

System Performance Check 5.6GHz Head

DUT: D5GHzV2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1

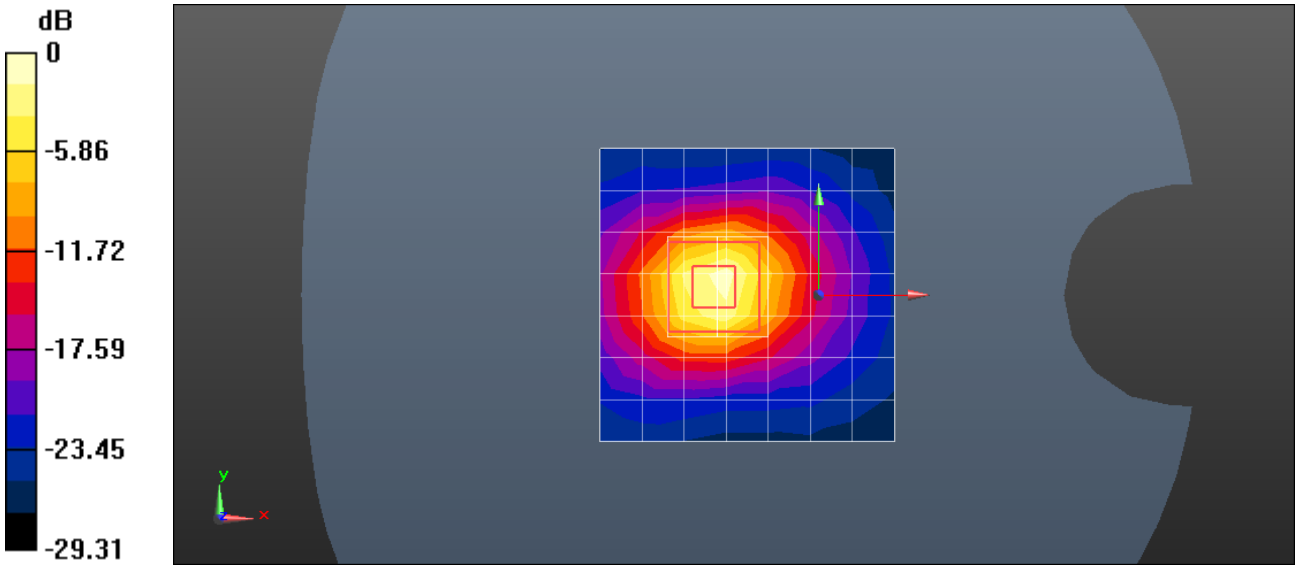
Medium: HSL5000;Medium parameters used: f = 5600 MHz; σ = 5.276 S/m; ε_r = 35.97; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(4.81, 4.81, 4.81); Calibrated: 2021-04-26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1324; Calibrated: 2021-06-22
- Phantom: SAM 2; Type: SAM; Serial: TP:1563
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=100mW/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 18.8 W/kg

Body/d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 49.86 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 37.9 W/kg
SAR(1 g) = 8.76 W/kg; SAR(10 g) = 2.43 W/kg
Maximum value of SAR (measured) = 22.7 W/kg



0 dB = 22.7 W/kg = 13.56 dBW/kg

Date: 2022-02-28

Test Laboratory: SGS-SAR Lab

System Performance Check 5.75GHz Head

DUT: D5GHzV2; Type: Dipole

Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1

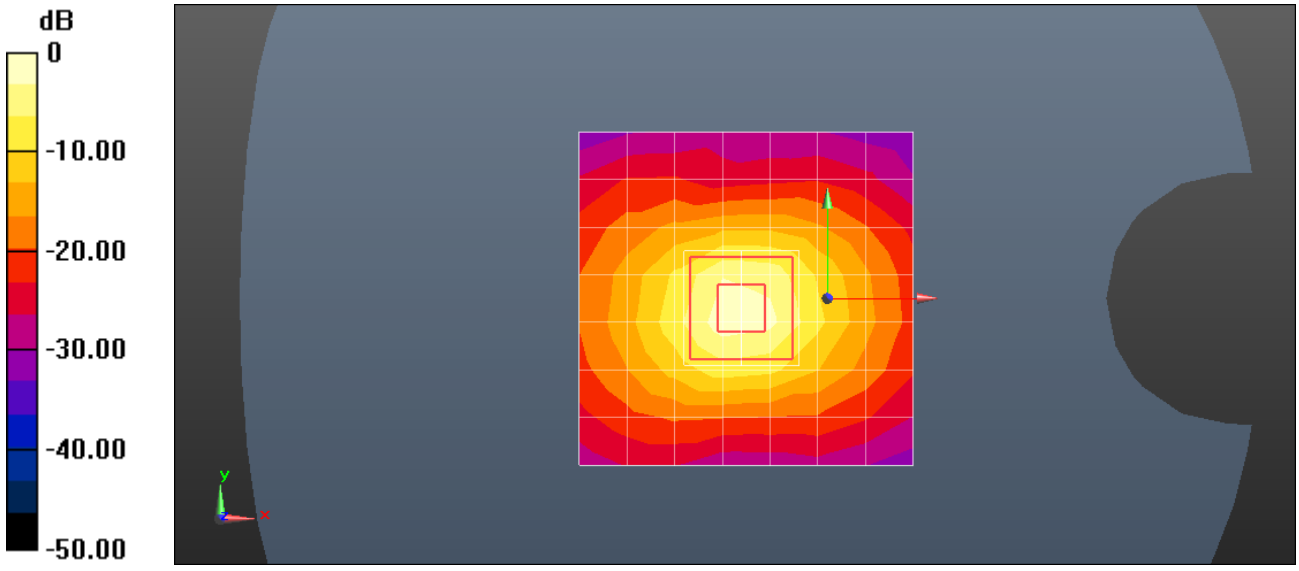
Medium: HSL5000;Medium parameters used: f = 5750 MHz; σ = 5.474 S/m; ε_r = 35.789; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(4.9, 4.9, 4.9); Calibrated: 2021-04-26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1324; Calibrated: 2021-06-22
- Phantom: SAM 2; Type: SAM; Serial: TP:1563
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Body/d=10mm, Pin=100mW/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 17.2 W/kg

Body/d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.44 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 41.5 W/kg
SAR(1 g) = 8.23 W/kg; SAR(10 g) = 2.34 W/kg
Maximum value of SAR (measured) = 23.1 W/kg



0 dB = 23.1 W/kg = 13.64 dBW/kg

Appendix B
Detailed Test Results

1. GSM
GSM850 for Head & Body
GSM1900 for Head & Body
2. WCDMA
WCDMA Band II for Head & Body
WCDMA Band IV for Head & Body
WCDMA Band V for Head & Body
3. LTE
LTE Band 7 for Head & Body
LTE Band 12 for Head & Body
LTE Band 13 for Head & Body
LTE Band 25 for Head & Body
LTE Band 26 for Head & Body
LTE Band 41 for Head & Body
LTE Band 66 for Head & Body
4. NR
NR Band n2 for Head & Body
NR Band n5 for Head & Body
NR Band n41 for Head & Body
NR Band n66 for Head & Body
NR Band n71 for Head & Body
NR Band n77 Part27Q for Head & Body
NR Band n77 for Head & Body
5. WIFI
WIFI 2.4G for Head & Body
WIFI 5G for Head & Body
6. BT
BT for Head & Body

Date: 2022-02-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA GSM 850 GPRS 4TS 190CH Right cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.075

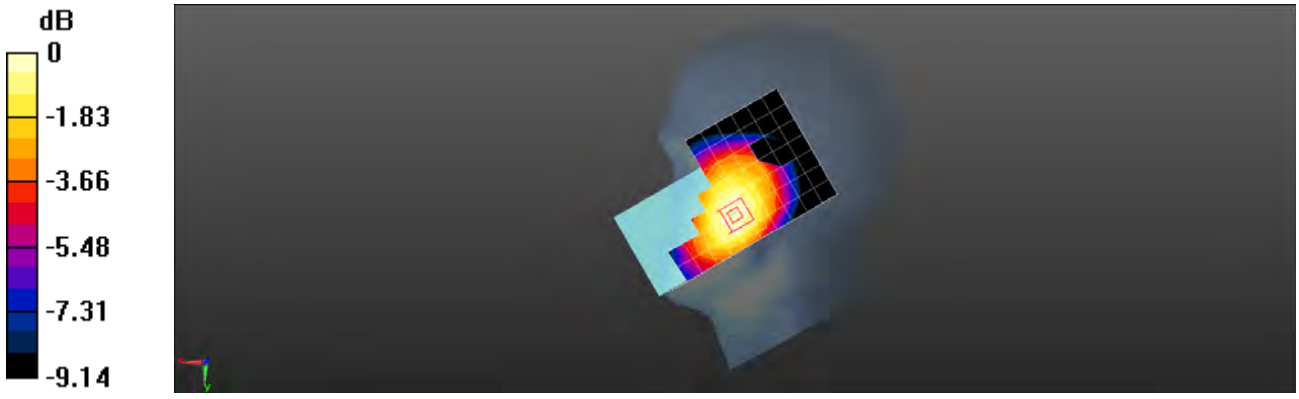
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.889 S/m; ε_r = 41.671; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.193 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.176 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.210 W/kg
SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.128 W/kg
Maximum value of SAR (measured) = 0.193 W/kg



0 dB = 0.193 W/kg = -7.14 dBW/kg

Date: 2022-02-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA GSM 850 GPRS 4TS 190CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.075

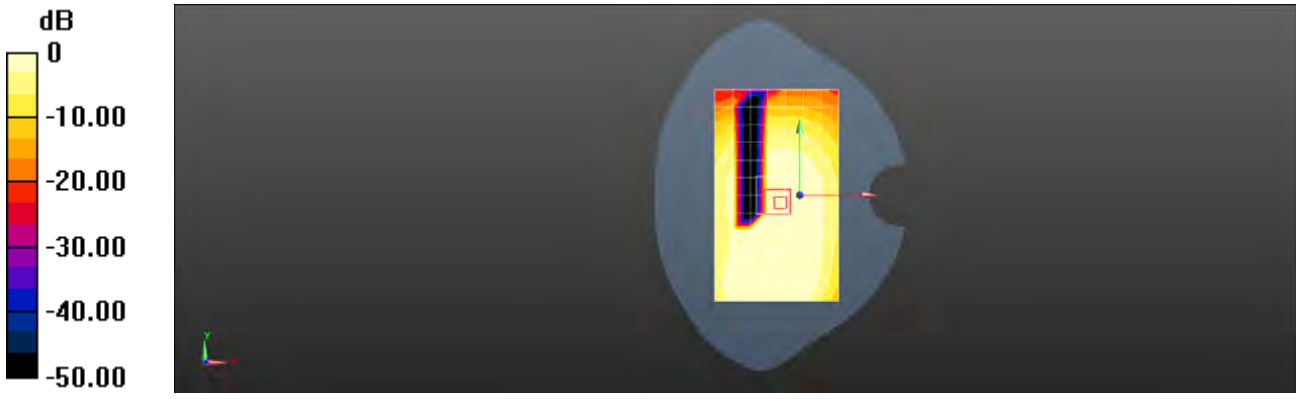
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.889 S/m; ε_r = 41.671; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.336 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.58 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.265 W/kg
SAR(1 g) = 0.190 W/kg; SAR(10 g) = 0.138 W/kg
Maximum value of SAR (measured) = 0.220 W/kg



0 dB = 0.220 W/kg = -6.58 dBW/kg

Date: 2022-02-11

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA GSM 1900 GPRS 4TS 661CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 1880 MHz;DutyCycle: 1:2.075

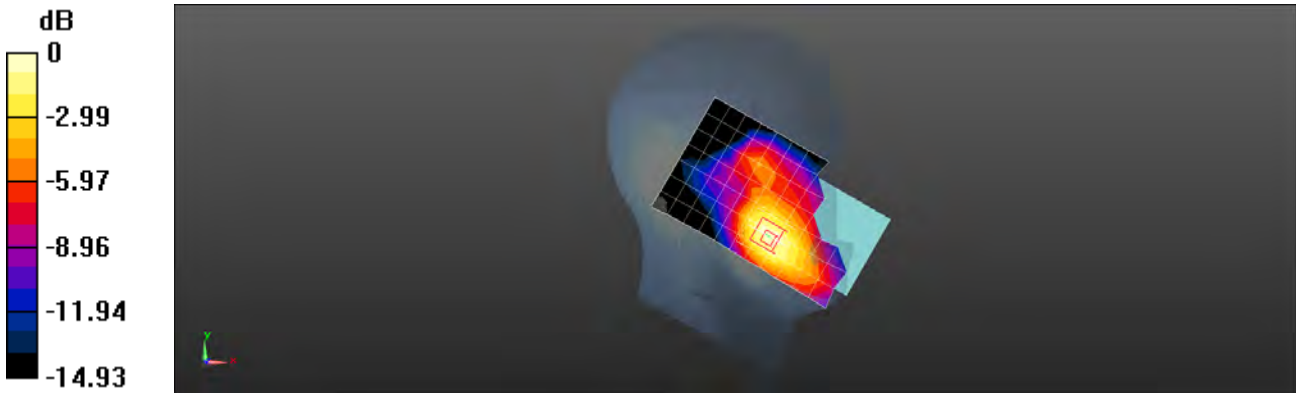
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; ε_r = 40.08; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.243 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.165 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.327 W/kg
SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.129 W/kg
Maximum value of SAR (measured) = 0.278 W/kg



0 dB = 0.278 W/kg = -5.56 dBW/kg

Date: 2022-02-11

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA GSM 1900 GPRS 4TS 661CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 1880 MHz;DutyCycle: 1:2.075

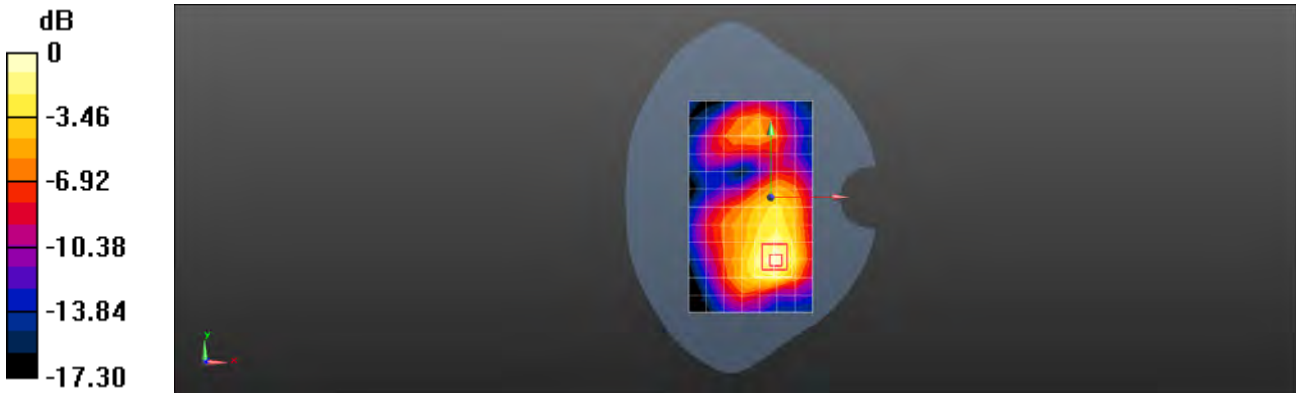
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; ε_r = 40.08; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.349 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.884 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.412 W/kg
SAR(1 g) = 0.239 W/kg; SAR(10 g) = 0.136 W/kg
Maximum value of SAR (measured) = 0.346 W/kg



0 dB = 0.346 W/kg = -4.61 dBW/kg

Date: 2022-02-11

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA GSM 1900 GPRS 4TS 661CH Left side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 1880 MHz;DutyCycle: 1:2.075

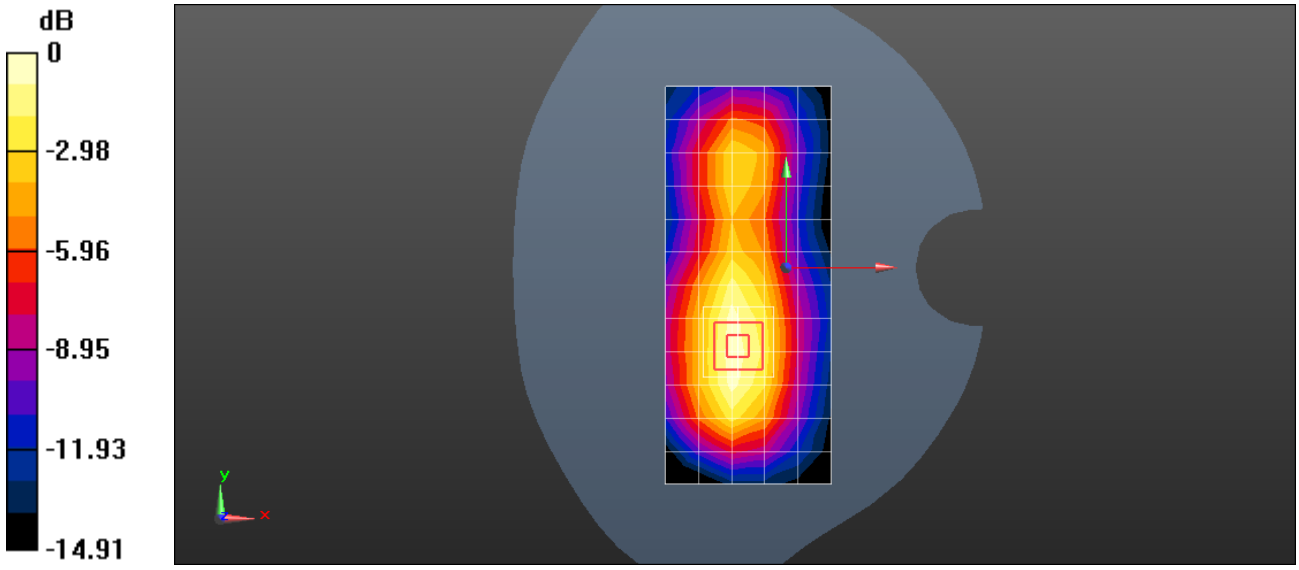
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; ε_r = 40.08; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (6x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.437 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.89 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.541 W/kg
SAR(1 g) = 0.321 W/kg; SAR(10 g) = 0.192 W/kg
Maximum value of SAR (measured) = 0.462 W/kg



0 dB = 0.462 W/kg = -3.35 dBW/kg

Date: 2022-02-11

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA WCDMA Band II 9400CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

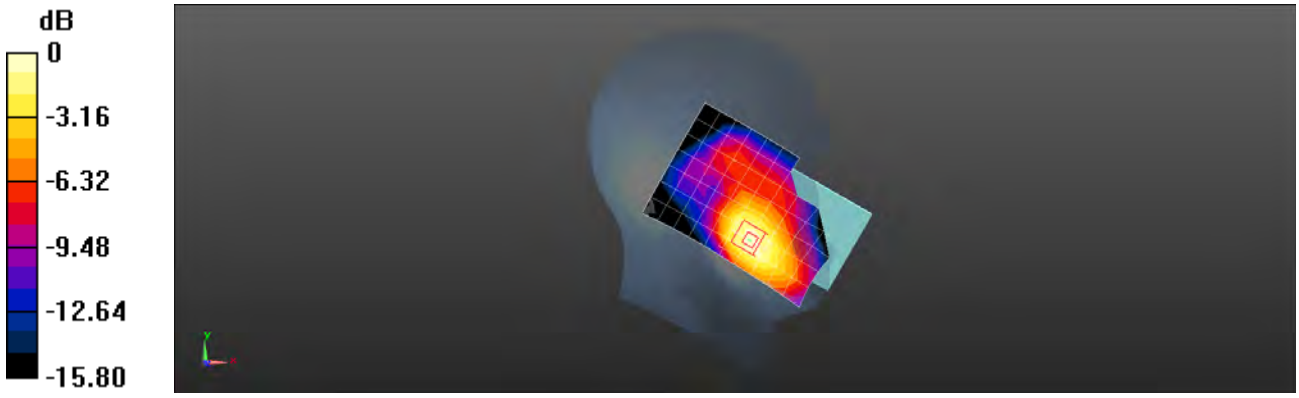
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; ε_r = 40.08; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.473 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.447 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.618 W/kg
SAR(1 g) = 0.399 W/kg; SAR(10 g) = 0.252 W/kg
Maximum value of SAR (measured) = 0.547 W/kg



0 dB = 0.547 W/kg = -2.62 dBW/kg

Date: 2022-02-11

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA WCDMA Band II 9400CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

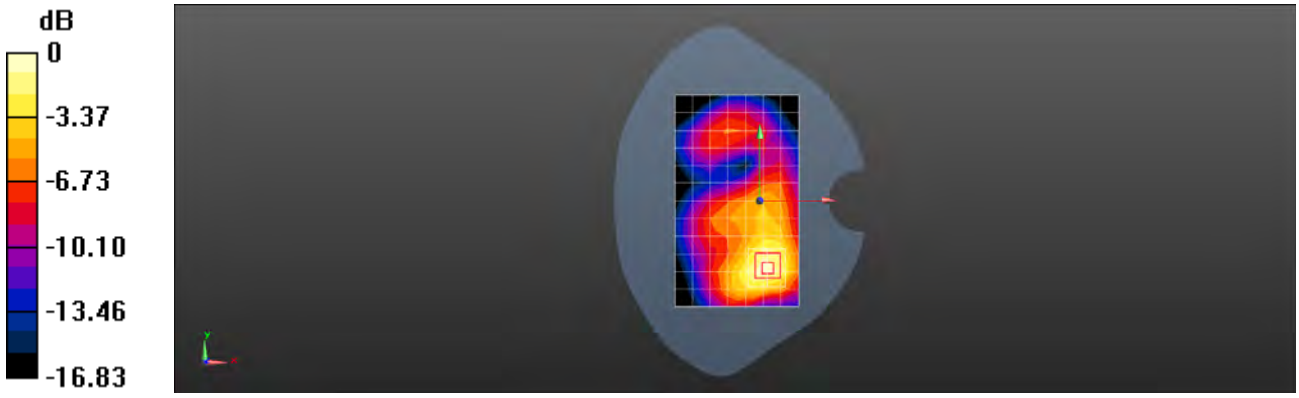
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; ε_r = 40.08; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.06 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.36 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.702 W/kg; SAR(10 g) = 0.443 W/kg
Maximum value of SAR (measured) = 1.11 W/kg



0 dB = 1.11 W/kg = 0.45 dBW/kg

Date: 2022-02-12

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA WCDMA Band IV 1412CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, WCDMA (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1

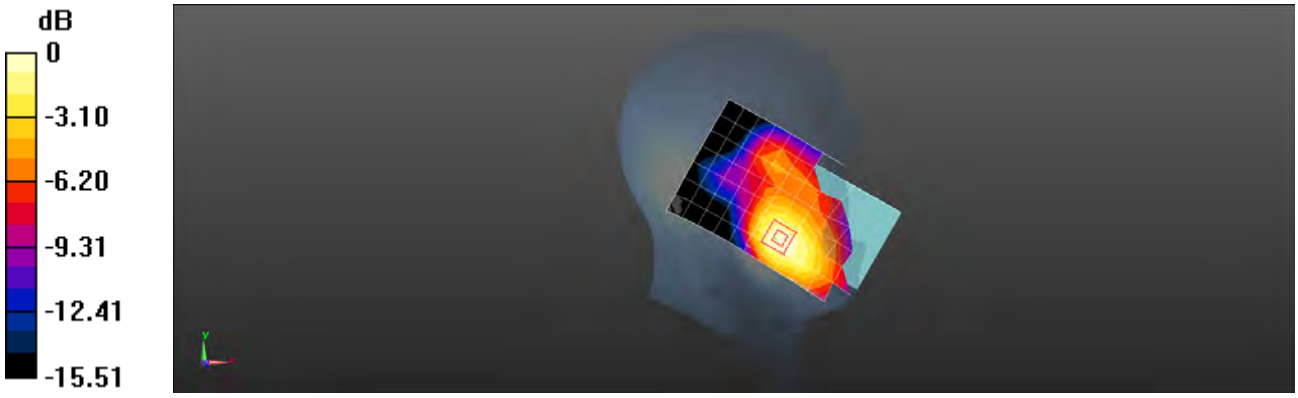
Medium: HSL1750;Medium parameters used: f = 1732.4 MHz; σ = 1.317 S/m; ε_r = 38.842;ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.323 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.387 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.420 W/kg
SAR(1 g) = 0.282 W/kg; SAR(10 g) = 0.188 W/kg
Maximum value of SAR (measured) = 0.370 W/kg



0 dB = 0.370 W/kg = -4.32 dBW/kg

Date: 2022-02-12

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA WCDMA Band IV 1412CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, WCDMA (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1

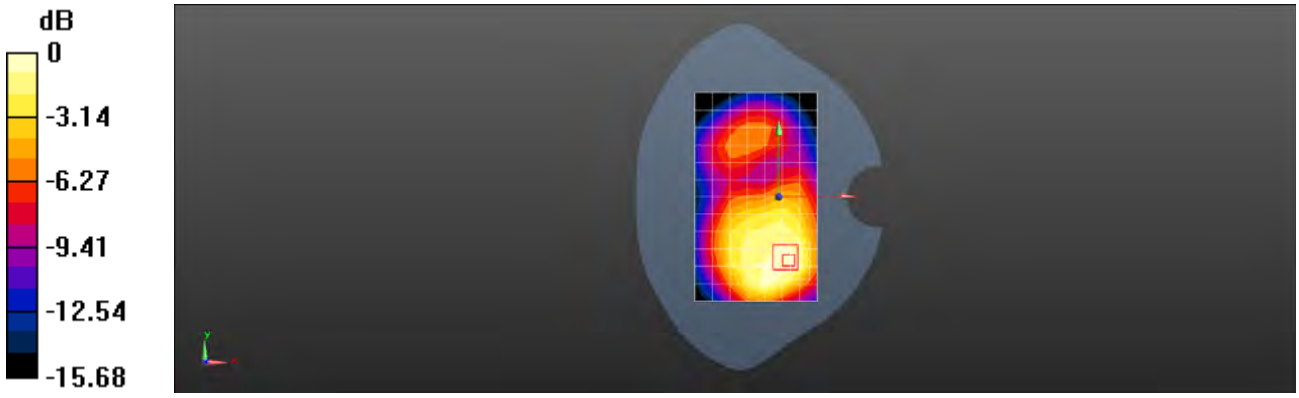
Medium: HSL1750;Medium parameters used: f = 1732.4 MHz; σ = 1.317 S/m; ε_r = 38.842;ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.612 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.35 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.761 W/kg
SAR(1 g) = 0.465 W/kg; SAR(10 g) = 0.291 W/kg
Maximum value of SAR (measured) = 0.652 W/kg



0 dB = 0.652 W/kg = -1.86 dBW/kg

Date: 2022-02-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA WCDMA Band V 4182CH Right cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, WCDMA (0); Frequency: 836.4 MHz;Duty Cycle: 1:1

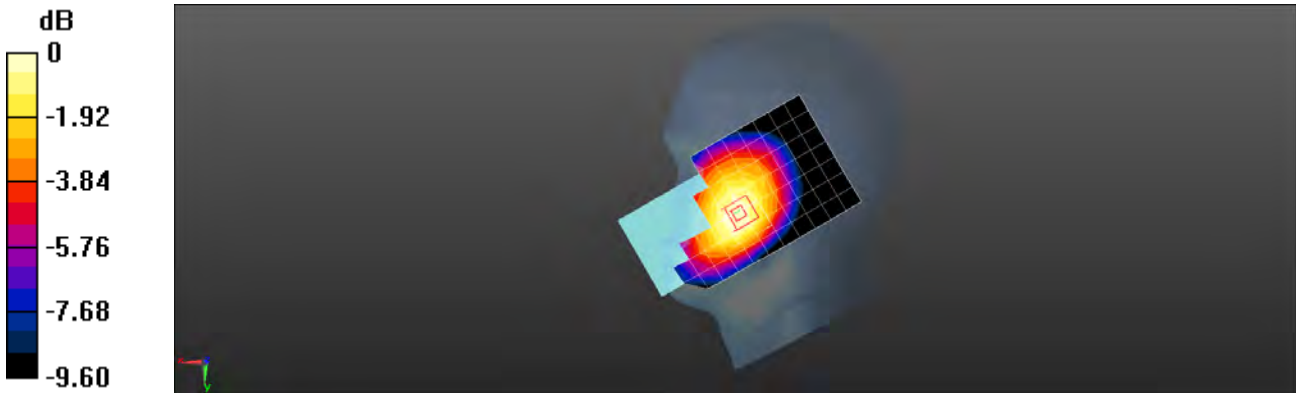
Medium: HSL835;Medium parameters used: f = 836.4 MHz; σ = 0.889 S/m; ε_r = 41.813; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.295 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.030 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.332 W/kg
SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.198 W/kg
Maximum value of SAR (measured) = 0.304 W/kg



0 dB = 0.304 W/kg = -5.17 dBW/kg

Date: 2022-02-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA WCDMA Band V 4182CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, WCDMA (0); Frequency: 836.4 MHz;Duty Cycle: 1:1

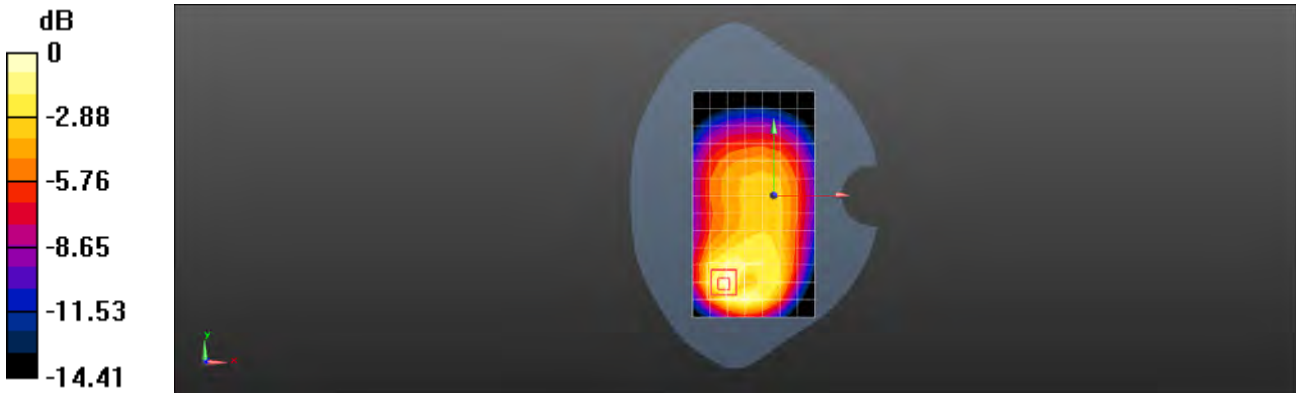
Medium: HSL835;Medium parameters used: f = 836.4 MHz; σ = 0.889 S/m; ε_r = 41.813; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.608 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.88 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.796 W/kg
SAR(1 g) = 0.418 W/kg; SAR(10 g) = 0.240 W/kg
Maximum value of SAR (measured) = 0.625 W/kg



0 dB = 0.625 W/kg = -2.04 dBW/kg

Date: 2022-02-08

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 7 20M QPSK 1RB0 21100CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 20MHz (0); Frequency: 2535 MHz;Duty Cycle: 1:1

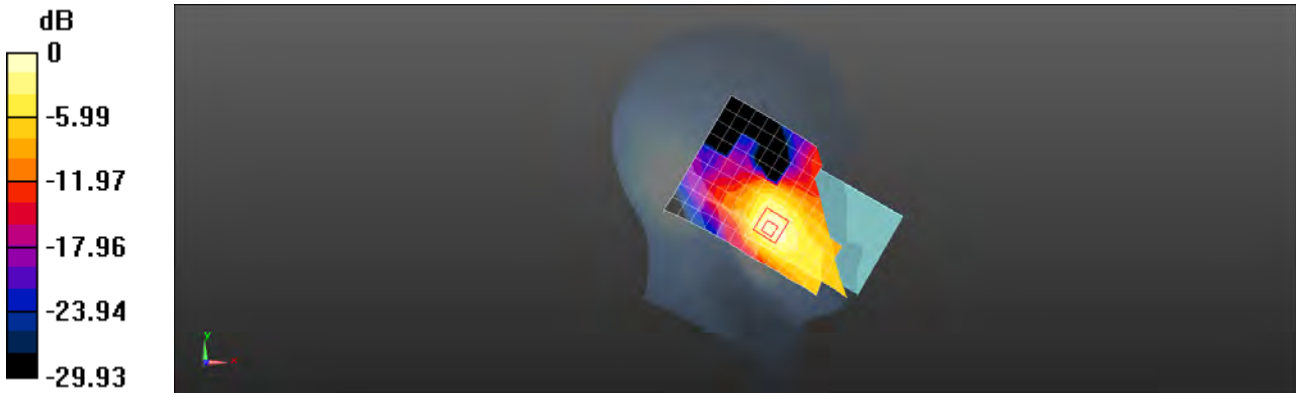
Medium: HSL2600;Medium parameters used: f = 2535 MHz; σ = 1.929 S/m; ε_r = 39.641; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.521 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.640 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.743 W/kg
SAR(1 g) = 0.364 W/kg; SAR(10 g) = 0.185 W/kg
Maximum value of SAR (measured) = 0.589 W/kg



0 dB = 0.589 W/kg = -2.30 dBW/kg

Date: 2022-02-08

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 7 20M QPSK 1RB0 21100CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 20MHz (0); Frequency: 2535 MHz;Duty Cycle: 1:1

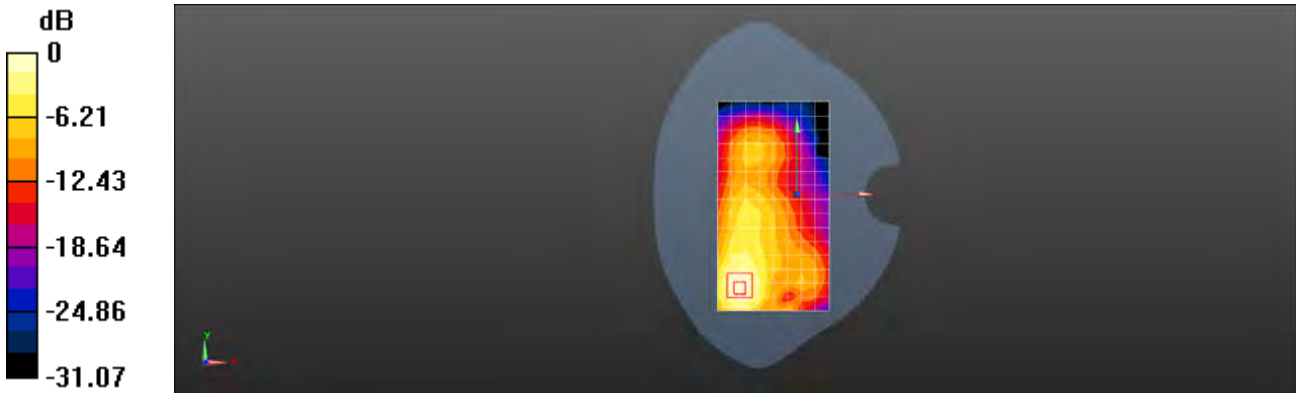
Medium: HSL2600;Medium parameters used: f = 2535 MHz; σ = 1.929 S/m; ε_r = 39.641; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.11 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.218 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 0.788 W/kg; SAR(10 g) = 0.385 W/kg
Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.28 W/kg = 1.07 dBW/kg

Date: 2022-02-14

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 12 10M QPSK 1RB0 23095CH Right cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 10MHZ (0); Frequency: 707.5 MHz;Duty Cycle: 1:1

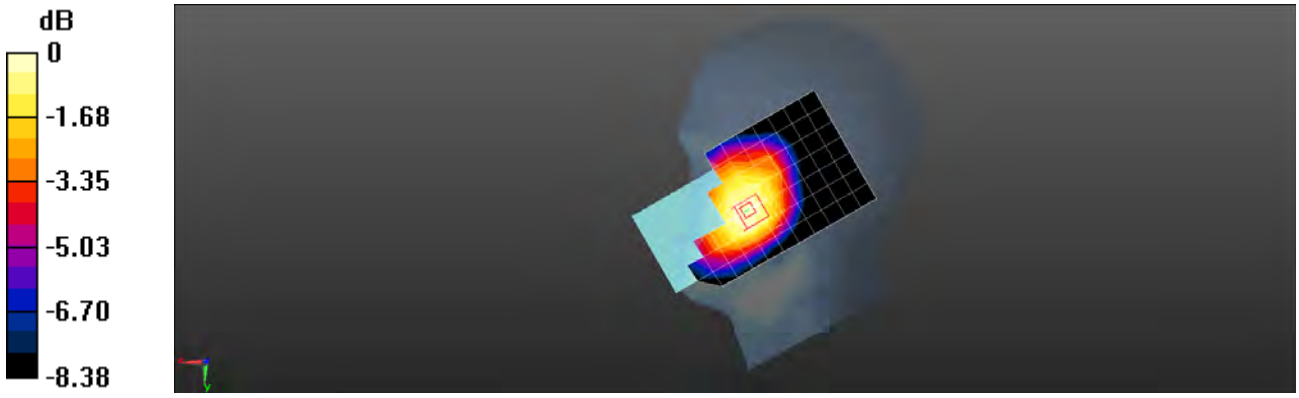
Medium: HSL750;Medium parameters used: f = 707.5 MHz; σ = 0.862 S/m; ε_r = 42.559; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.212 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.814 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.230 W/kg
SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.147 W/kg
Maximum value of SAR (measured) = 0.213 W/kg



0 dB = 0.213 W/kg = -6.72 dBW/kg

Date: 2022-02-14

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 12 10M QPSK 1RB0 23095CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 10MHZ (0); Frequency: 707.5 MHz;Duty Cycle: 1:1

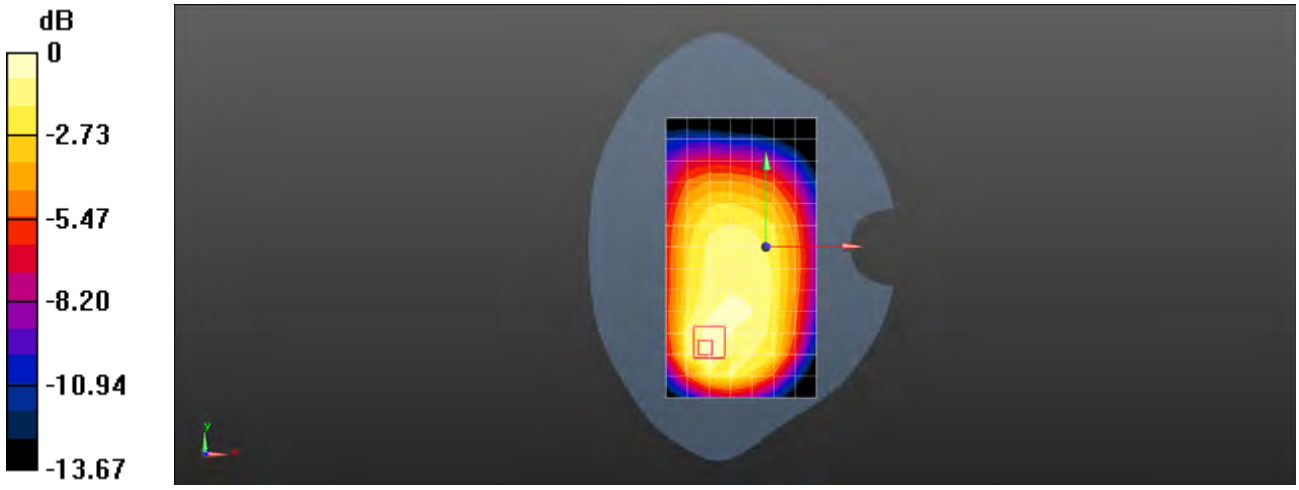
Medium: HSL750;Medium parameters used: f = 707.5 MHz; σ = 0.862 S/m; ε_r = 42.559; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.255 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.99 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.313 W/kg
SAR(1 g) = 0.181 W/kg; SAR(10 g) = 0.117 W/kg
Maximum value of SAR (measured) = 0.257 W/kg



0 dB = 0.257 W/kg = -5.90 dBW/kg

Date: 2022-02-14

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 12 10M QPSK 1RB0 23095CH Right side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 10MHZ (0); Frequency: 707.5 MHz;Duty Cycle: 1:1

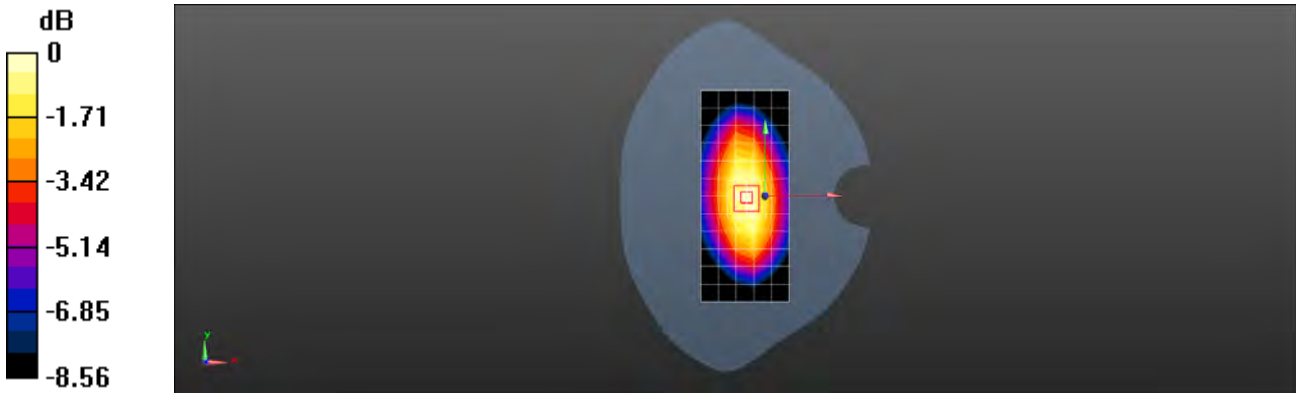
Medium: HSL750;Medium parameters used: f = 707.5 MHz; σ = 0.862 S/m; ε_r = 42.559; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (6x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.283 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.06 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.342 W/kg
SAR(1 g) = 0.238 W/kg; SAR(10 g) = 0.170 W/kg
Maximum value of SAR (measured) = 0.305 W/kg



0 dB = 0.305 W/kg = -5.16 dBW/kg

Date: 2022-03-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 13 10M QPSK 1RB0 23230CH Right cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 10MHZ (0); Frequency: 782 MHz;Duty Cycle: 1:1

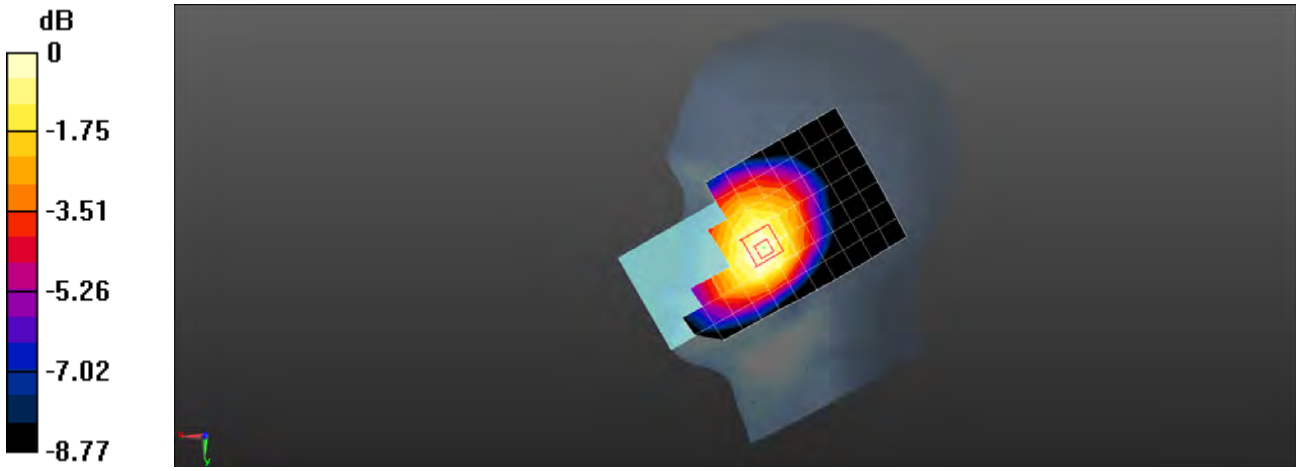
Medium: HSL750;Medium parameters used: f = 782 MHz; σ = 0.88 S/m; ε_r = 41.173; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.184 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.085 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.200 W/kg
SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.120 W/kg
Maximum value of SAR (measured) = 0.182 W/kg



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

Date: 2022-03-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 13 10M QPSK 1RB0 23230CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 10MHZ (0); Frequency: 782 MHz;Duty Cycle: 1:1

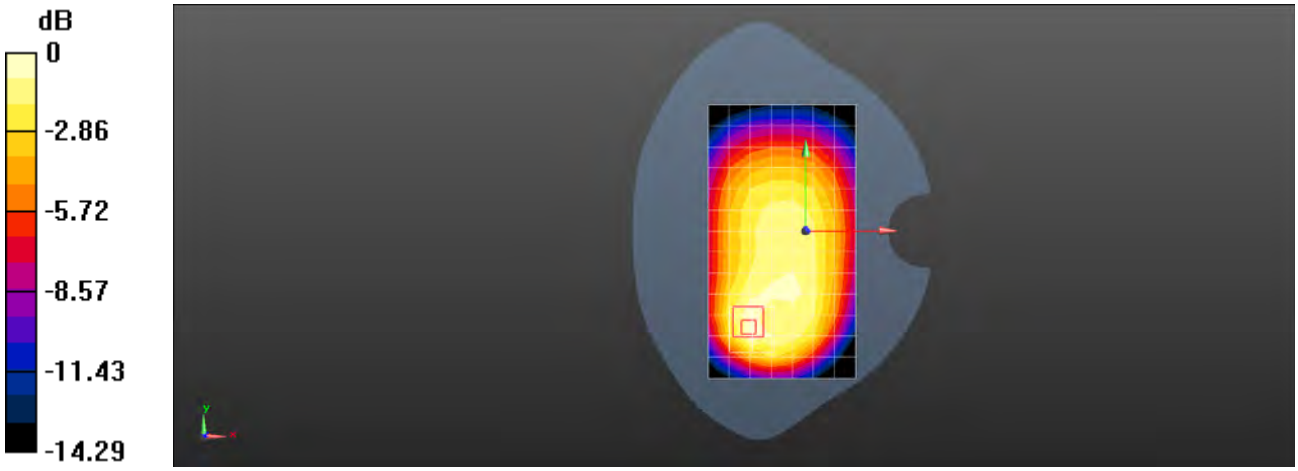
Medium: HSL750;Medium parameters used: f = 782 MHz; σ = 0.88 S/m; ε_r = 41.173; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.279 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.99 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.341 W/kg
SAR(1 g) = 0.187 W/kg; SAR(10 g) = 0.112 W/kg
Maximum value of SAR (measured) = 0.279 W/kg



0 dB = 0.279 W/kg = -5.54 dBW/kg

Date: 2022-03-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 13 10M QPSK 1RB0 23230CH Right side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 10MHZ (0); Frequency: 782 MHz;Duty Cycle: 1:1

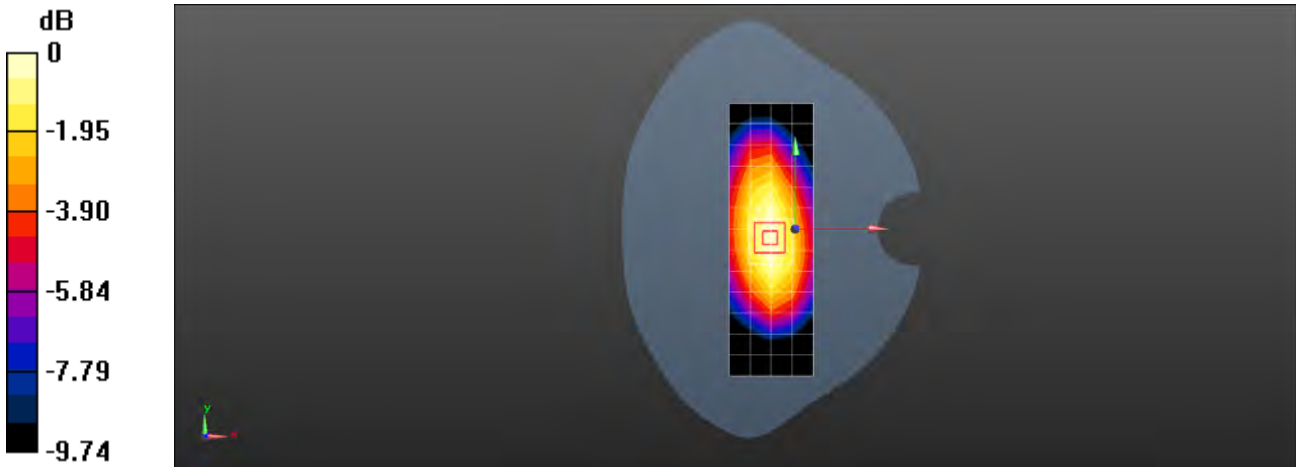
Medium: HSL750;Medium parameters used: f = 782 MHz; σ = 0.88 S/m; ε_r = 41.173; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (5x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.295 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.15 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.333 W/kg
SAR(1 g) = 0.223 W/kg; SAR(10 g) = 0.154 W/kg
Maximum value of SAR (measured) = 0.293 W/kg



0 dB = 0.293 W/kg = -5.33 dBW/kg

Date: 2022-02-13

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 25 20M QPSK 1RB0 26140CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 20MHz (0); Frequency: 1860 MHz;Duty Cycle: 1:1

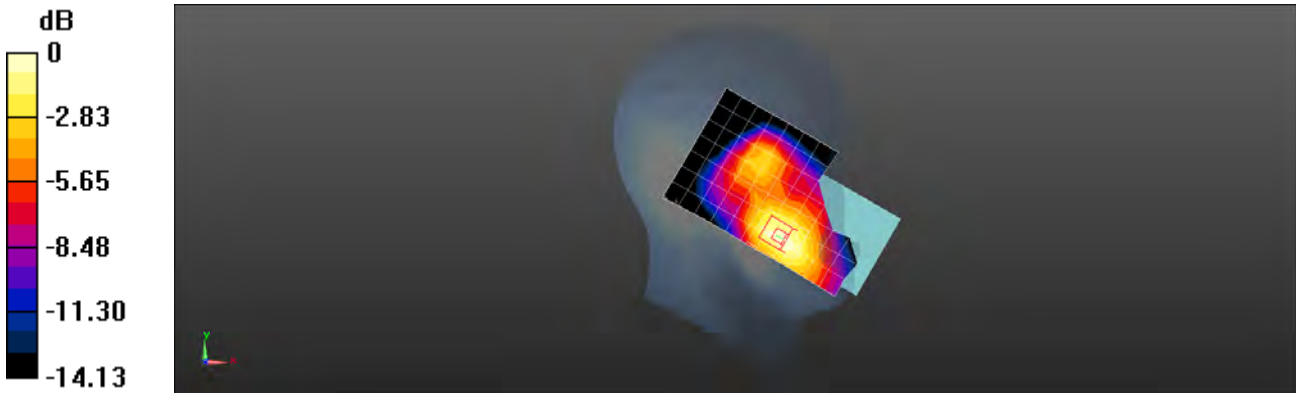
Medium: HSL1900;Medium parameters used: f = 1860 MHz; σ = 1.358 S/m; ε_r = 38.935; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.333 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.260 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.376 W/kg
SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.162 W/kg
Maximum value of SAR (measured) = 0.334 W/kg



0 dB = 0.334 W/kg = -4.76 dBW/kg

Date: 2022-02-13

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 25 20M QPSK 1RB0 26140CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 20MHz (0); Frequency: 1860 MHz;Duty Cycle: 1:1

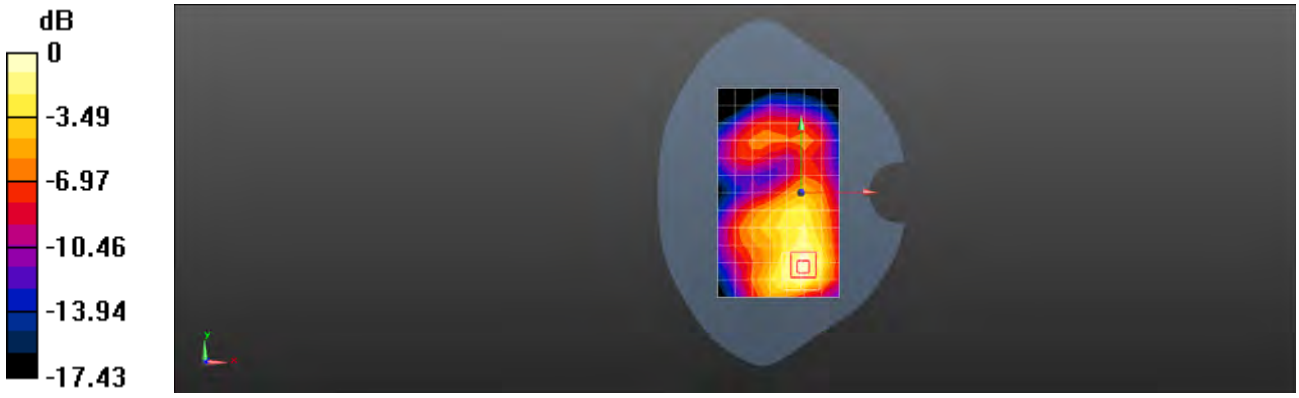
Medium: HSL1900;Medium parameters used: f = 1860 MHz; σ = 1.358 S/m; ε_r = 38.935; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.765 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.508 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.942 W/kg
SAR(1 g) = 0.568 W/kg; SAR(10 g) = 0.334 W/kg
Maximum value of SAR (measured) = 0.797 W/kg



0 dB = 0.797 W/kg = -0.99 dBW/kg

Date: 2022-02-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 26 15M QPSK 1RB0 26865CH Right cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 15MHz (0); Frequency: 831.5 MHz;Duty Cycle: 1:1

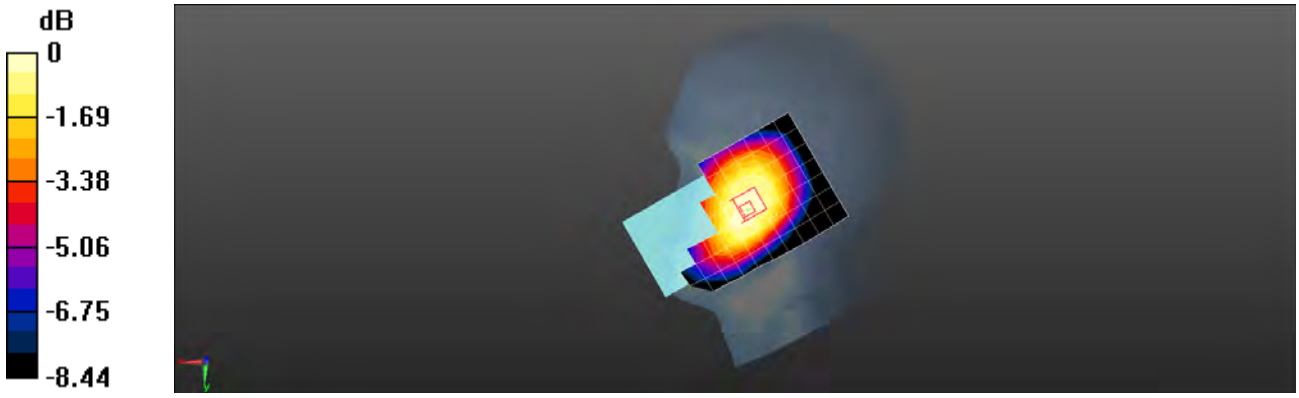
Medium: HSL835;Medium parameters used: f = 831.5 MHz; σ = 0.891 S/m; ε_r = 41.81; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.188 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.671 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.199 W/kg
SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.132 W/kg
Maximum value of SAR (measured) = 0.187 W/kg



0 dB = 0.187 W/kg = -7.28 dBW/kg

Date: 2022-02-09

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 26 15M QPSK 1RB0 26865CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 15MHz (0); Frequency: 831.5 MHz;Duty Cycle: 1:1

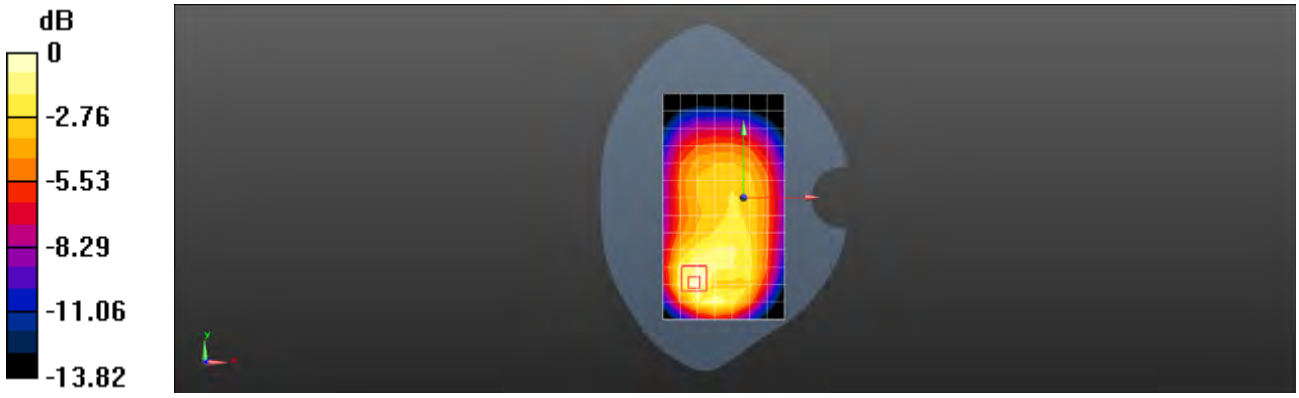
Medium: HSL835;Medium parameters used: f = 831.5 MHz; σ = 0.891 S/m; ε_r = 41.81; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.421 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.73 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.507 W/kg
SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.175 W/kg
Maximum value of SAR (measured) = 0.421 W/kg



0 dB = 0.421 W/kg = -3.76 dBW/kg

Date: 2022-02-19

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 41 20M QPSK 1RB0 40620CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-TDD BW 20MHz (0); Frequency: 2593 MHz;Duty Cycle: 1:1.57906

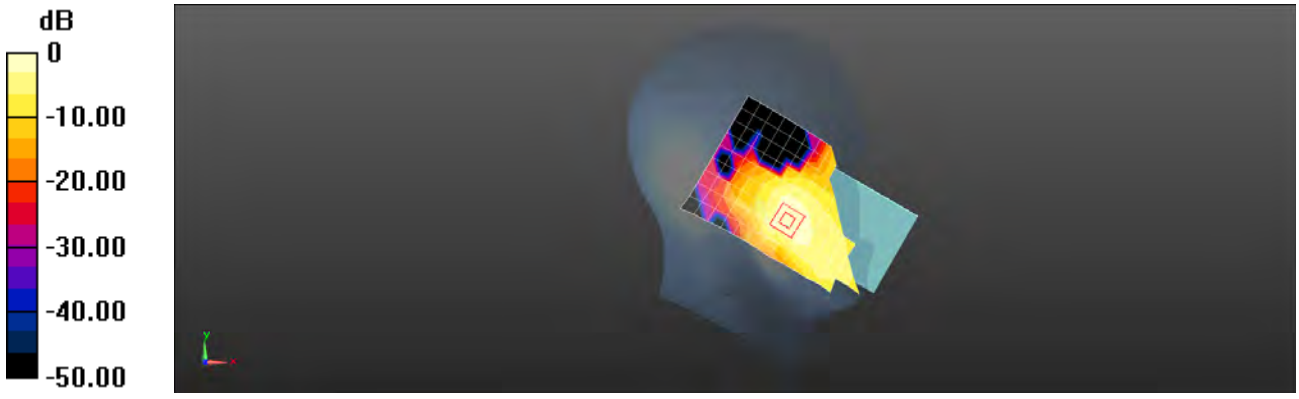
Medium: HSL2600;Medium parameters used: f = 2593 MHz; σ = 2.006 S/m; ε_r = 39.456; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.243 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.356 W/kg
SAR(1 g) = 0.171 W/kg; SAR(10 g) = 0.087 W/kg
Maximum value of SAR (measured) = 0.282 W/kg



0 dB = 0.282 W/kg = -5.50 dBW/kg

Date: 2022-02-19

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 41 20M QPSK 1RB0 40620CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-TDD BW 20MHz (0); Frequency: 2593 MHz;Duty Cycle: 1:1.57906

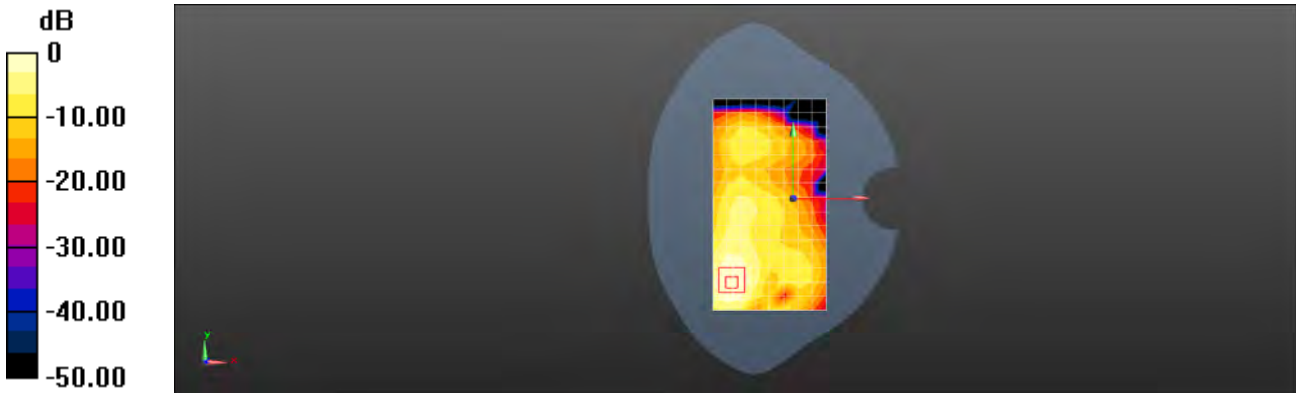
Medium: HSL2600;Medium parameters used: f = 2593 MHz; σ = 2.006 S/m; ε_r = 39.456; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.554 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.927 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.736 W/kg
SAR(1 g) = 0.358 W/kg; SAR(10 g) = 0.174 W/kg
Maximum value of SAR (measured) = 0.589 W/kg



0 dB = 0.589 W/kg = -2.30 dBW/kg

Date: 2022-02-17

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 66 20M QPSK 1RB0 132322CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 20MHz (0); Frequency: 1745 MHz;Duty Cycle: 1:1

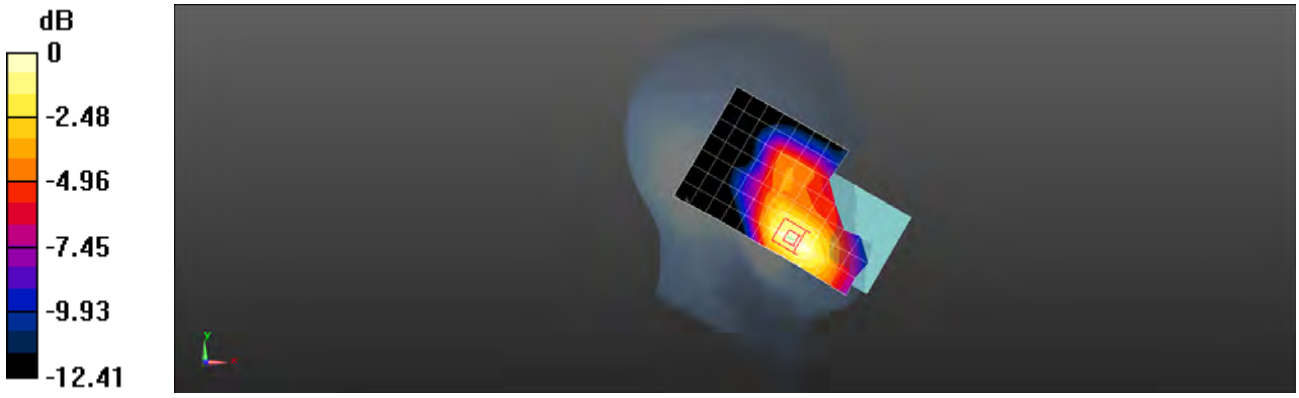
Medium: HSL1750;Medium parameters used: f = 1745 MHz; σ = 1.364 S/m; ε_r = 39.106; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.232 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.926 V/m; Power Drift = 0.02dB
Peak SAR (extrapolated) = 0.260 W/kg
SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.115 W/kg
Maximum value of SAR (measured) = 0.230 W/kg



0 dB = 0.230 W/kg = -6.38 dBW/kg

Date: 2022-02-17

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA LTE Band 66 20M QPSK 1RB0 132322CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, LTE-FDD BW 20MHz (0); Frequency: 1745 MHz;Duty Cycle: 1:1

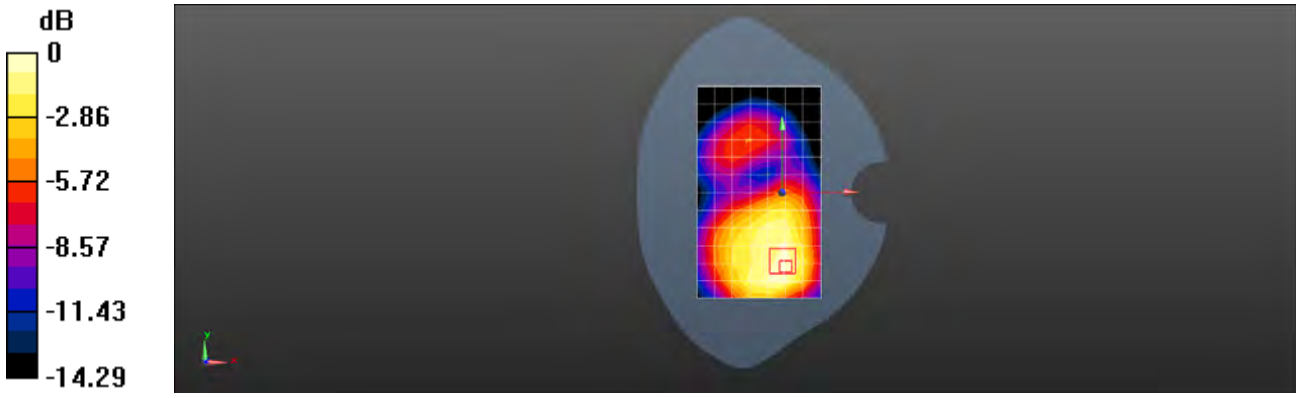
Medium: HSL1750;Medium parameters used: f = 1745 MHz; σ = 1.364 S/m; ε_r = 39.106; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.589 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.936 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.703 W/kg
SAR(1 g) = 0.433 W/kg; SAR(10 g) = 0.271 W/kg
Maximum value of SAR (measured) = 0.592 W/kg



0 dB = 0.592 W/kg = -2.28 dBW/kg

Date: 2022-02-13

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N2 QPSK 50RB25 376000CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 1880 MHz;Duty Cycle: 1:1

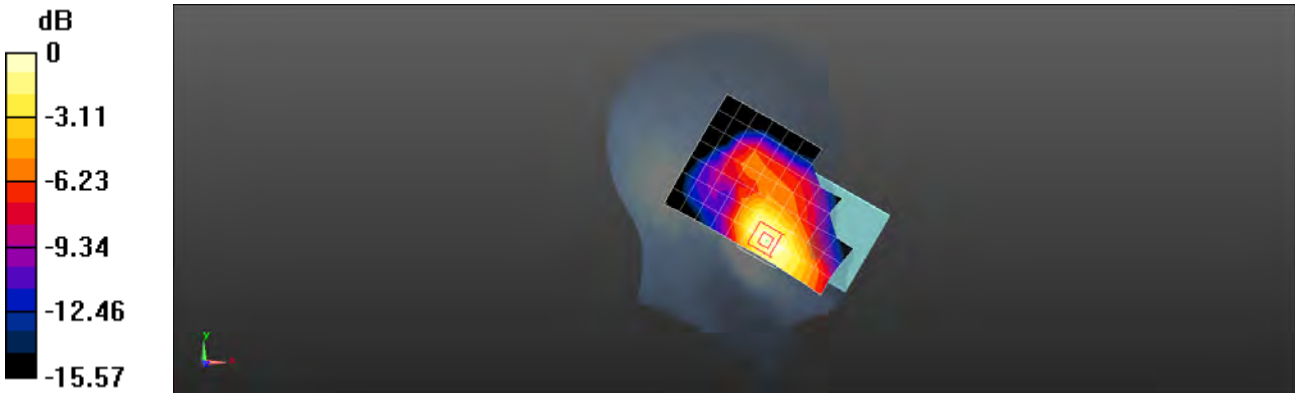
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.377 S/m; ε_r = 38.863; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.380 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.662 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.291 W/kg; SAR(10 g) = 0.187 W/kg
Maximum value of SAR (measured) = 0.390 W/kg



0 dB = 0.390 W/kg = -4.09 dBW/kg

Date: 2022-02-13

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N2 QPSK 1RB1 376000CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 1880 MHz;Duty Cycle: 1:1

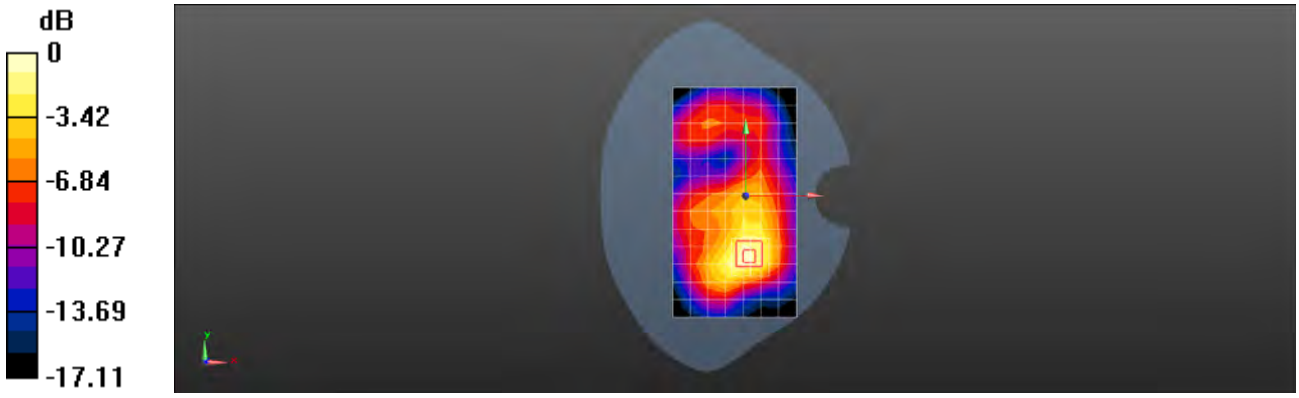
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.377 S/m; ε_r = 38.863; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.67, 8.67, 8.67); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.770 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.86 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.611 W/kg; SAR(10 g) = 0.353 W/kg
Maximum value of SAR (measured) = 0.884 W/kg



0 dB = 0.884 W/kg = -0.54 dBW/kg

Date: 2022-02-15

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N5 QPSK 50RB25 167800CH Right cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 839 MHz;Duty Cycle: 1:1

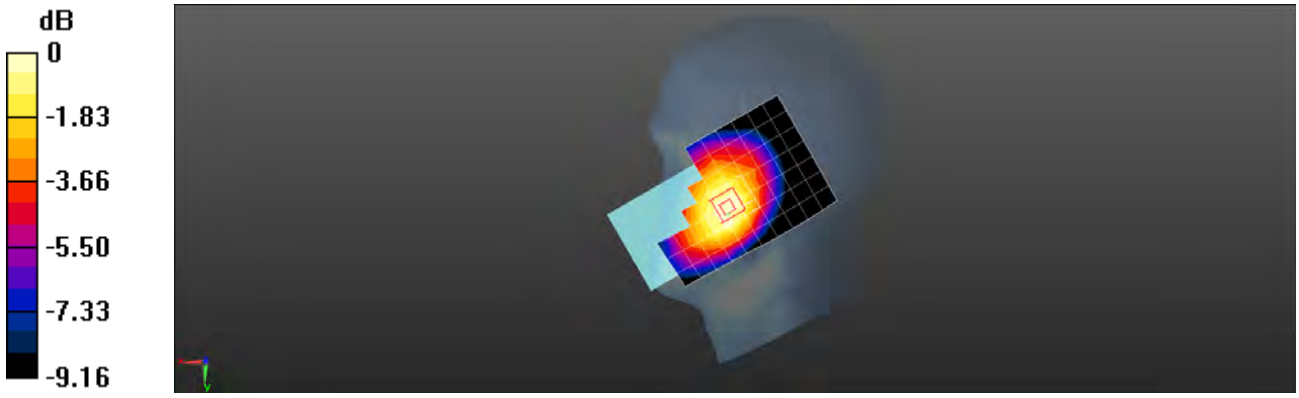
Medium: HSL835;Medium parameters used: f = 839 MHz; σ = 0.888 S/m; ε_r = 41.709; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.301 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.268 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.337 W/kg
SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.196 W/kg
Maximum value of SAR (measured) = 0.307 W/kg



0 dB = 0.307 W/kg = -5.13 dBW/kg

Date: 2022-02-15

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N5 QPSK 50RB25 167800CH Front side 10mm Ant0

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 839 MHz;Duty Cycle: 1:1

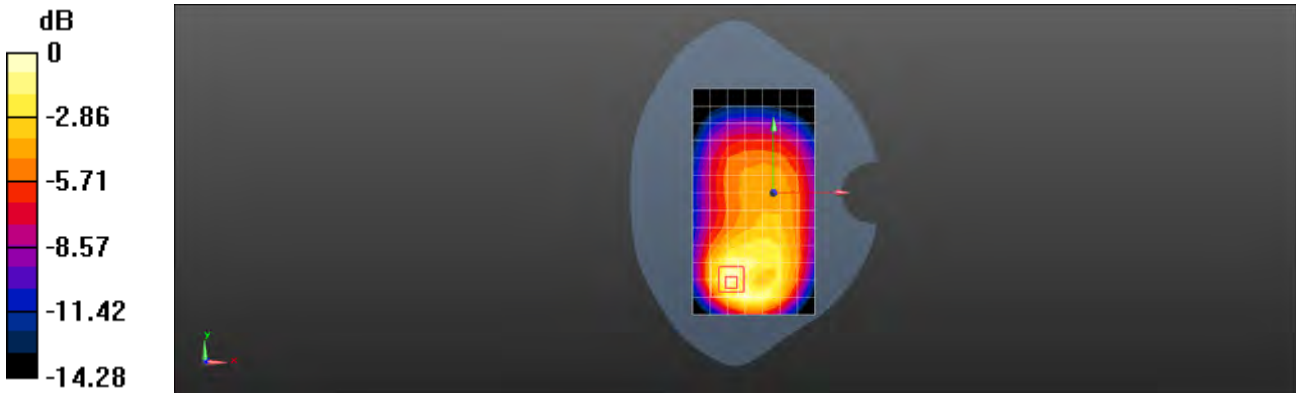
Medium: HSL835;Medium parameters used: f = 839 MHz; σ = 0.888 S/m; ε_r = 41.709; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.54, 8.54, 8.54); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.566 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.76 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.726 W/kg
SAR(1 g) = 0.395 W/kg; SAR(10 g) = 0.231 W/kg
Maximum value of SAR (measured) = 0.580 W/kg



0 dB = 0.580 W/kg = -2.37 dBW/kg

Date: 2022-02-19

Test Laboratory: SGS-SAR Lab

CRUISE2 5G NR N41 100M QPSK 1RB1 518598CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 2592.99 MHz;Duty Cycle: 1:1

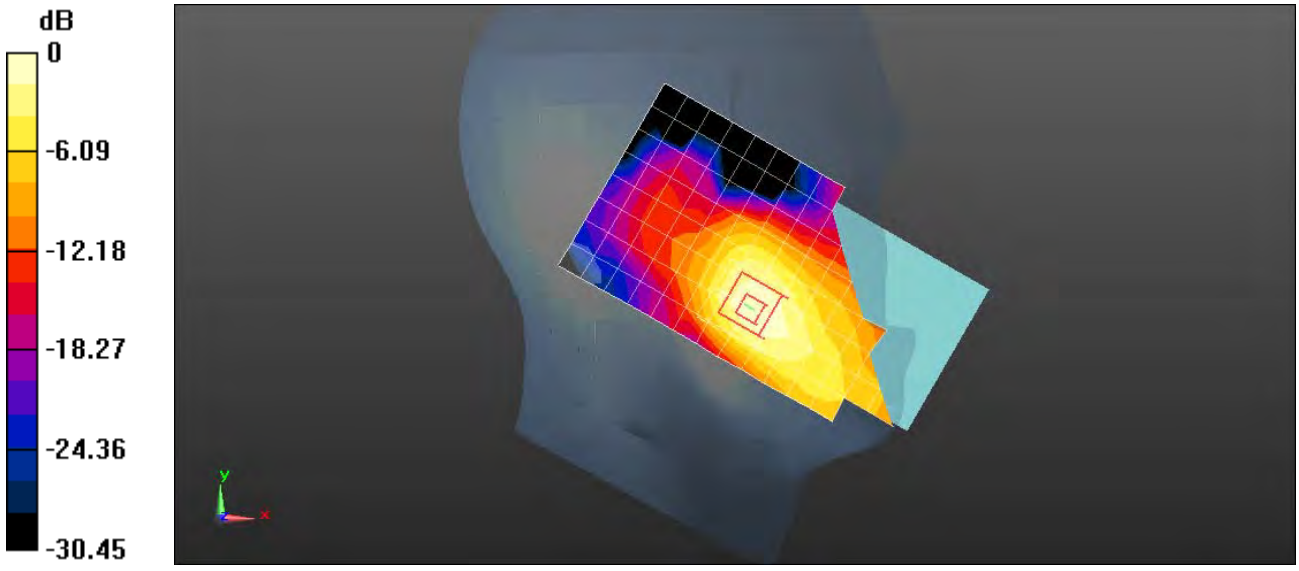
Medium: HSL2600;Medium parameters used: f = 2593 MHz; σ = 2.002 S/m; ε_r = 39.435; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.25 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 0.819 W/kg; SAR(10 g) = 0.433 W/kg
Maximum value of SAR (measured) = 1.29 W/kg



0 dB = 1.29 W/kg = 1.11 dBW/kg

Date: 2022-02-19

Test Laboratory: SGS-SAR Lab

CRUISE2 5G NR N41 100M QPSK 1RB1 518598CH Front side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 2592.99 MHz;Duty Cycle: 1:1

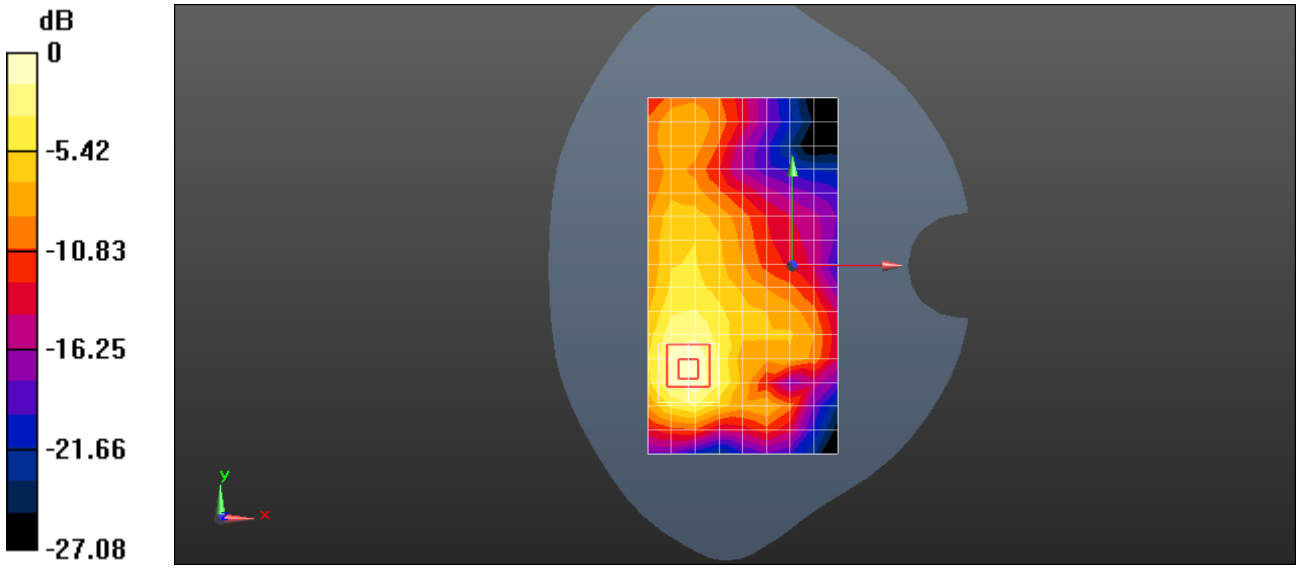
Medium: HSL2600;Medium parameters used: f = 2593 MHz; σ = 2.002 S/m; ε_r = 39.435; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3982; ConvF(7.58, 7.58, 7.58); Calibrated: 2021-12-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1428; Calibrated: 2021-04-09
- Phantom: SAM 3; Type: SAM; Serial: 1912
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.49 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.328 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 0.974 W/kg; SAR(10 g) = 0.491 W/kg
Maximum value of SAR (measured) = 1.62 W/kg



0 dB = 1.62 W/kg = 2.10 dBW/kg

Date: 2022-02-17

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N66 QPSK 50RB25 344000CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 1720 MHz;Duty Cycle: 1:1

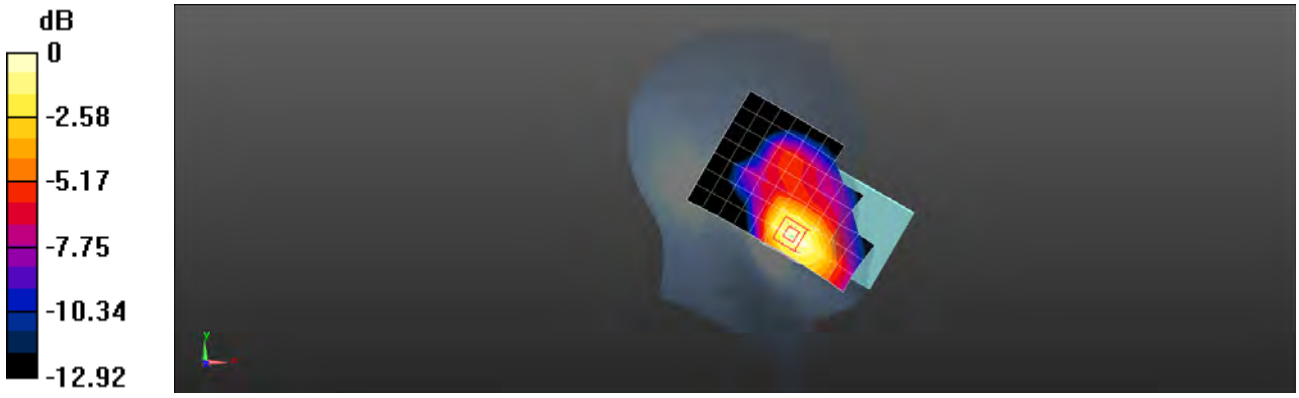
Medium: HSL1750;Medium parameters used: f = 1720 MHz; σ = 1.336 S/m; ε_r = 39.169; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.323 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.484 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.374 W/kg
SAR(1 g) = 0.248 W/kg; SAR(10 g) = 0.164 W/kg
Maximum value of SAR (measured) = 0.330 W/kg



0 dB = 0.330 W/kg = -4.81 dBW/kg

Date: 2022-02-17

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N66 QPSK 1RB1 344000CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 1720 MHz;Duty Cycle: 1:1

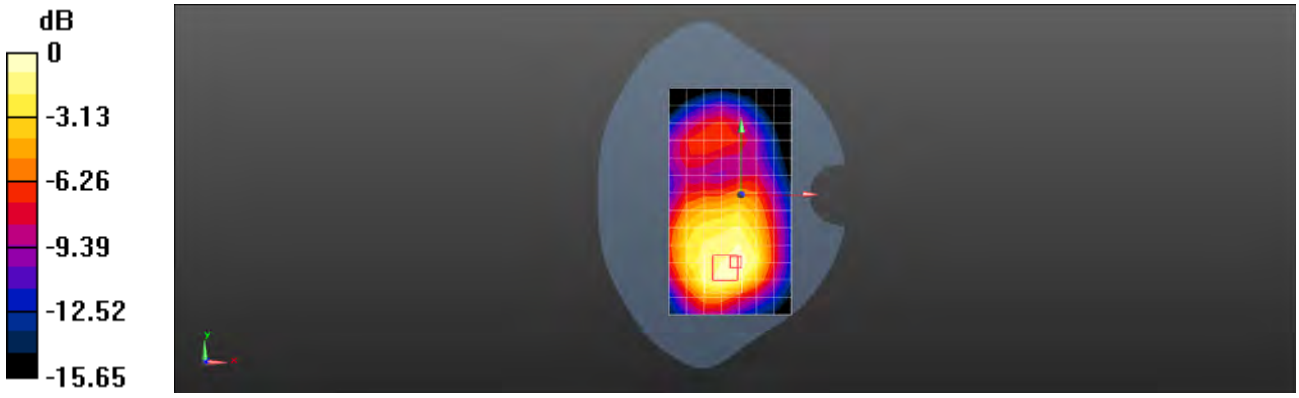
Medium: HSL1750;Medium parameters used: f = 1720 MHz; σ = 1.336 S/m; ε_r = 39.169; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN7620; ConvF(8.97, 8.97, 8.97); Calibrated: 2021-08-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1327; Calibrated: 2021-11-05
- Phantom: SAM 6; Type: SAM; Serial: 1824
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.697 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.182 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.846 W/kg
SAR(1 g) = 0.496 W/kg; SAR(10 g) = 0.312 W/kg
Maximum value of SAR (measured) = 0.722 W/kg



0 dB = 0.722 W/kg = -1.41 dBW/kg

Date: 2022-02-18

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N71 QPSK 1RB1 134600CH Left cheek

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 673 MHz;Duty Cycle: 1:1

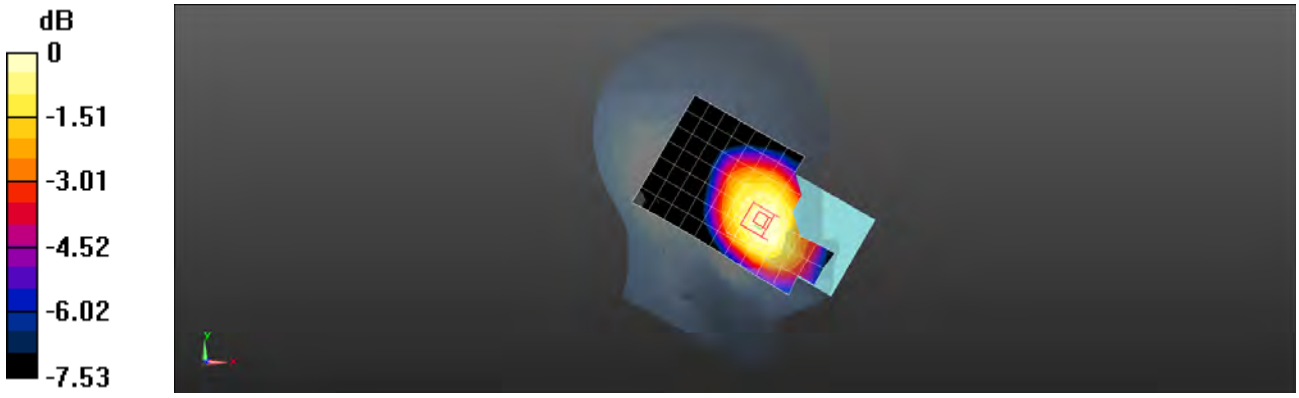
Medium: HSL750;Medium parameters used: f = 673 MHz; σ = 0.836 S/m; ε_r = 42.731; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.113 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.113 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.118 W/kg
SAR(1 g) = 0.097 W/kg; SAR(10 g) = 0.080 W/kg
Maximum value of SAR (measured) = 0.111 W/kg



0 dB = 0.111 W/kg = -9.55 dBW/kg

Date: 2022-02-18

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N71 QPSK 1RB1 134600CH Back side 10mm

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 673 MHz;Duty Cycle: 1:1

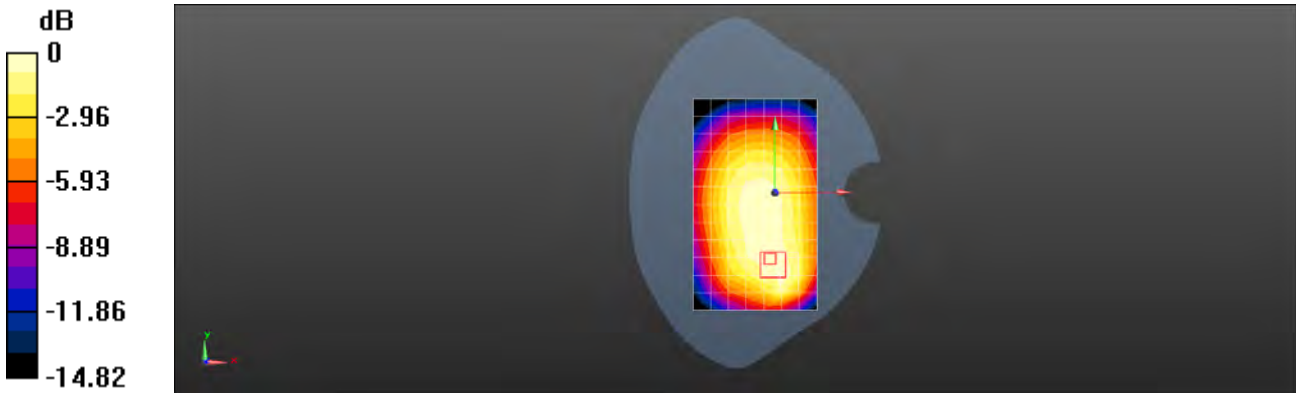
Medium: HSL750;Medium parameters used: f = 673 MHz; σ = 0.836 S/m; ε_r = 42.731; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.9, 8.9, 8.9); Calibrated: 2021-08-12
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2021-11-05
- Phantom: SAM 5; Type: SAM; Serial: 1481
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.171 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.59 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.218 W/kg
SAR(1 g) = 0.129 W/kg; SAR(10 g) = 0.089 W/kg
Maximum value of SAR (measured) = 0.174 W/kg



0 dB = 0.174 W/kg = -7.59 dBW/kg

Date: 2022-03-03

Test Laboratory: SGS-SAR Lab

CRUISE2 5GA 5G NR N77 100M QPSK 1RB1 633334CH Right tilted

DUT: CRUISE2 5GA; Type: mobile phone

Communication System: UID 0, NR (0); Frequency: 3500 MHz;Duty Cycle: 1:1

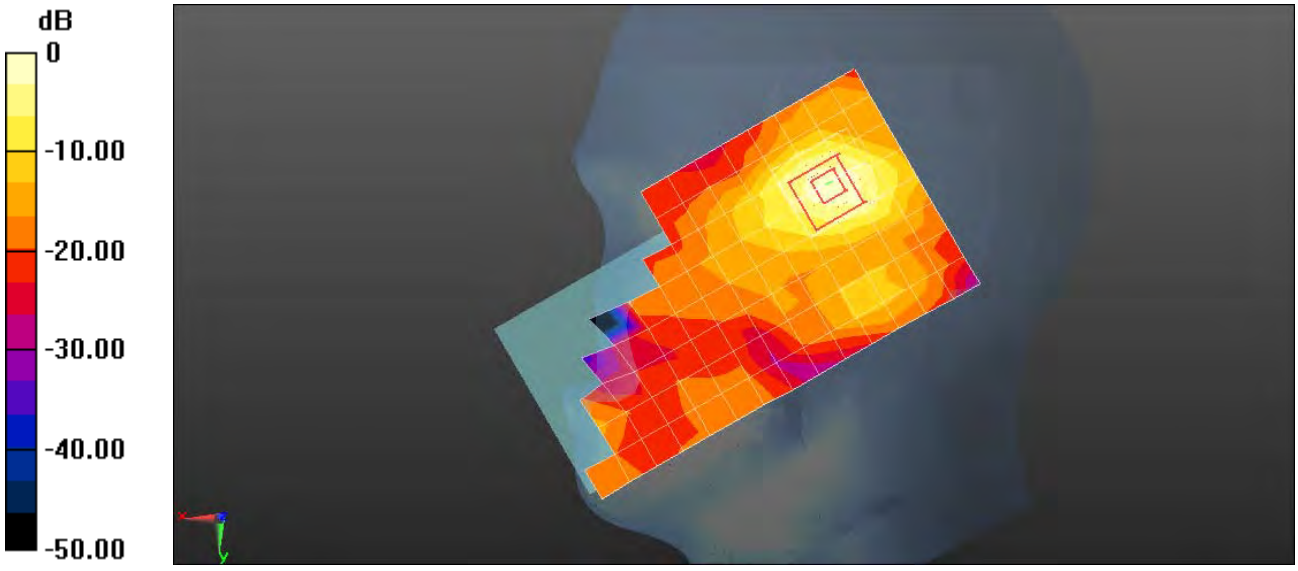
Medium: HSL3500;Medium parameters used: f = 3500 MHz; σ = 2.983 S/m; ε_r = 38.27; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(7.05, 7.05, 7.05); Calibrated: 2021-04-26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1324; Calibrated: 2021-06-22
- Phantom: SAM 2; Type: SAM; Serial: 1563
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Configuration/Head/Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.810 W/kg

Configuration/Head/Zoom Scan (7x7x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.115 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.65 W/kg
SAR(1 g) = 0.578 W/kg; SAR(10 g) = 0.209 W/kg
Maximum value of SAR (measured) = 0.980 W/kg



0 dB = 0.980 W/kg = -0.09 dBW/kg