TEST REPORT

Report No.:	BCTC2309729360-6E
Applicant:	Shenzhen Feiyufei Digital Technology Co., Ltd
Product Name:	Tablet
Model/Type reference:	NET Z
Tested Date:	2023-09-21 to 2023-09-27
Issued Date:	2023-10-11

Shenzhen BCTC Testing Co., Ltd.

FCC ID: 2BCOA-NETZ

Product Name:	Tablet
Trademark:	Krono
Model/Type Ref.:	NET Z
Applicant:	Shenzhen Feiyufei Digital Technology Co., Ltd
Address:	3A18, Bldg. A2, Fuhai Technology Industrial Park Fuyong Community, Baoan, Shenzhen, Guangdong, China.
Manufacturer:	Shenzhen Feiyufei Digital Technology Co., Ltd
Address:	3A18, Bldg. A2, Fuhai Technology Industrial Park Fuyong Community, Baoan, Shenzhen, Guangdong, China.
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng , Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2023-09-21
Sample tested Date:	2023-09-21 to 2023-09-27
Issue Date:	2023-10-11
SAR Max. Values is：	0.321 W/kg (1g) for Head 0.675 W/kg (1g) for Body 0.674 W/kg (1g) for Hotspot
Test Standards:	IEEE Std C95.1, 2019/ IEEE Std 1528™-2013/FCC Part 2.1093
Test Results:	PASS
Remark:	This is SAR test report

Tested by:

Min zhi Cheng

Min Zhi Cheng/ Project Handler

Approved by:

Zero Zhou/ Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2309729360-6E	2023-10-11	Original	Valid

2. Test Standards

IEEE Std C95.1-2019: IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz. It specifies the maximum exposure limit of 1.6 W/kg as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.
IEEE Std 1528™-2013: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
FCC Part 2.1093 Radiofrequency Radiation Exposure Evaluation: Portable Devices
KDB 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz
KDB 865664 D02 RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations
KDB 248227 D01 802.11 Wi-Fi SAR v02r02: SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 941225 D01 3G SAR Procedures: 3G SAR MEAUREMENT PROCEDURES
KDB 941225 D05 SAR for LTE Devices: SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES
KDB 941225 D06 Hotspot Mode v02r01: SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
KDB 648474 D04 Handset SAR v01r03: SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS

3. Test Summary

The maximum results of Specific Absorption Rate (SAR) have found during testing are as follows:

Frequency Band	Report SAR1g (W/kg)			SAR1g Limit (W/kg)
	Head (0mm Gap)	Body (0mm Gap)	Hotspot (0mm Gap)	
GSM	0.143	0.545	0.497	1.6
WCDMA	0.132	**0.675**	0.477	1.6
LTE	0.180	0.533	**0.674**	1.6
WLAN 2.4G	**0.321**	0.304	0.354	1.6
Simultaneous Transmission	0.501	0.970	1.028	1.6

The device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2019, and had been tested in accordance with the measurement methods and procedure specified in IEEE 1528-2013.

4. SAR Limits

FCC Limit (1g Tissue)

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average(averaged over the whole body)	0.08	0.4
Spatial Peak(averaged over any 1 g of tissue)	1.6	8.0
Spatial Peak(hands/wrists/ feet/anklesaveraged over 10 g)	4.0	20.0

Population/Uncontrolled Environments are defined as locations where there is the exposure of individual who have no knowledge or control of their exposure.
Occupational/Controlled Environments are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure (i.e. as a result of employment or occupation).

5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is <3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k=2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

Therefore, the measurement uncertainty is not required.

6. Product Information and Test Setup

6.1 Product Information

Model/Type Ref.:	NET Z
Model differences:	N/A
Hardware Version:	N/A
Software Version:	N/A
Ratings:	AC 100-240,50/60Hz
Adapter:	Input:AC100-240V,50/60Hz,0.3A Output:DC5.0V,2.0A
Battery:	DC 3.7V 3000mAh

Bluetooth

Operation Frequency:	2402-2480MHz
Bluetooth Version:	N/A
Type of Modulation:	GFSK, π/ 4 DQPSK, 8DPSK
Number Of Channel	79CH
Antenna installation:	Internal antenna
Antenna Gain:	-0.52 dBi

BLE

Operation Frequency:	Bluetooth: 2402-2480MHz
Bluetooth Version:	N/A
Type of Modulation:	Bluetooth: GFSK
Number Of Channel	40channel
Antenna installation:	Internal antenna
Antenna Gain:	-0.52 dBi

2,3G

Operation Frequency:	GSM 850: TX: 824~849MHz; RX: 869~894MHz; GSM 1900: TX:1850~1910MHz; RX:1930~1990MHz; WCDMA Band II: TX: 1852.40~1907.60MHz; Rx: 1932.60~1987.40MHz; WCDMA Band V: TX: 826.40~846.60MHz; RX: 871.40~ 891.60MHz;
Max RF Output Power:	GSM 850: 32.09 dBm, GSM 1900: 29.40 dBm WCDMA Band II: 22.10 dBm WCDMA Band V: 22.58 dBm
Type of Modulation:	GSM with GMSK Modulation WCDMA Mode with BPSK Modulation
Antenna installation:	Internal antenna
Antenna Gain:	GSM850: -4.93dBi GSM1900: -0.21 dBi WCDMA Band II: -0.21 dBi WCDMA Band V:-4.93 dBi

4G

Tx Frequency:	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 7: 2500MHz-2570MH
Rx Frequency:	LTE Band 2: 1930 MHz ~ 1990 MHz LTE Band 4: 2110 MHz ~ 2155 MHz LTE Band 7: 2620MHz-2690MHz
Bandwidth:	LTE Band 2: 1.4MHz /3MHz /5MHz /10MHz /15MHz /20MHz LTE Band 4: 1.4MHz /3MHz /5MHz /10MHz /15MHz /20MHz LTE Band 7: 5MHz /10MHz /15MHz /20MHz
Type of Modulation:	QPSK/16QAM
Antenna Type:	Internal Antenna
Antenna Gain:	LTE Band 2: -0.21dBi LTE Band 4: -1.09dBi LTE Band 7: 0.9dBi

WLAN

WIFI2.4G	
Operation Frequency:	802.11b/g/n20MHz:2412~2462MHz 802.11n40MHz:2422~2452 MHz
Bit Rate of Transmitter	802.11b:11/5.5/2/1Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n Up to 150Mbps
Type of Modulation:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Number Of Channel	11 channels for 802.11b/g/n(HT20); 7 Channels for 802.11n(HT40);
Antenna Gain:	-0.52 dBi

6.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

6.3 Support Equipment

Cable of Product

No.	Cable Type	Quantity	Provider	Length (m)	Shielded	Note
1	--	--	Applicant	---	Yes/No	--
2	--	--	BCTC	--	Yes/No	--

No.	Device Type	Brand	Model	Series No.	Note
1.	---	---	---	---	---
2.	--	--	--	--	--

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

6.4 Test Environment

1. Normal Test Conditions:

Humidity(%):	35-75
Atmospheric Pressure(kPa):	95-105
Temperature(℃):	18-25

2. Extreme Test Conditions:
N/A

7. Test Facility and Test Instrument Used

7.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850
A2LA certificate registration number is: CN1212
ISED Registered No.: 23583
ISED CAB identifier: CN0017

7.2 Test Instrument Used

Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
PC	DELL	\	\	N/A	N/A
SAR Measurement system	SATIMO	\	\	N/A	N/A
Signal Generator	Keysight	83711B	US37100131	Aug. 29, 2023	Aug. 28, 2024
Multimeter	Keithley	1160271	\	Nov. 10, 2022	Nov 09, 2023
S-parameter Network Analyzer	R&S	ZVB 8	101353	Dec. 07, 2022	Dec. 06, 2023
Wideband Radio Communication Tester	R&S	CMW500	\	Nov. 10, 2022	Nov 09, 2023
E SAR PROBE 6GHz	MVG	SSE2	2623-EPGO-420	July 18, 2023	July 17, 2024
DIPOLE 835	SATIMO	SID 835	SN 47/21 DIP 0G835-621	Nov. 25, 2021	Nov. 24, 2024
DIPOLE 1800	SATIMO	SID 1800	SN 47/21 DIP 1G800-623	Nov. 25, 2021	Nov. 24, 2024
DIPOLE 1900	SATIMO	SID 1900	SN 47/21 DIP 2G100-624	Nov. 25, 2021	Nov. 24, 2024
DIPOLE 2450	SATIMO	SID 2450	SN 47/21 DIP 2G450-627	Nov. 25, 2021	Nov. 24, 2024
DIPOLE 2600	SATIMO	SID 2600	SN 47/21 DIP 2G600-628	Nov. 25, 2021	Nov. 24, 2024
COMOSAR OPENCoaxial Probe	SATIMO	\	\	Nov. 18, 2022	Nov. 17, 2023
SAR Locator	SATIMO	\	\	Nov. 18, 2022	Nov. 17, 2023
Communication Antenna	SATIMO	\	\	Nov. 18, 2022	Nov. 17, 2023
FEATURE PHONEPOSITIONING DEVICE	SATIMO	\	\	N/A	N/A
DUMMY PROBE	SATIMO	\	\	N/A	N/A
SAM Phantom	MVG	\	SN 13/09 SAM68	N/A	N/A
Liquid measurement Kit	HP	85033D	3423A08186	N/A	N/A
Power meter	Agilent	E4419	\	May 15, 2023	May 14, 2024
Power meter	Agilent	E4419	\	May 15, 2023	May 14, 2024
Power sensor	Agilent	E9300A	\	May 15, 2023	May 14, 2024
Power sensor	Agilent	E9300A	\	May 15, 2023	May 14, 2024
Directional Coupler	Krytar 158020	131467	\	Nov. 10, 2022	Nov 09, 2023

Note:
Per KDB865664D01 requirements for dipole calibration, the test laboratory has adopted three year extended calibration interval. Each measured dipole is expected to evalute with following criteria at least on annual interval.

1. There is no physical damage on the dipole;
2. System check with specific dipole is within 10% of calibrated values;
3. The most recent return-loss results, measued at least annually, deviates by no more than 20% from the previous measurement;
4. The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the provious measurement.

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

8. Specific Absorption Rate (SAR)

8.1 Introduction

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

8.2 SAR Definition

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

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

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

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

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

Where: C is the specific heat capacity, δ T is the temperature rise and δ t is the exposure duration, or related to the

electrical field in the tissue by

$$\mathrm{SAR} = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

9. SAR Measurement System

9.1 The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:
- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

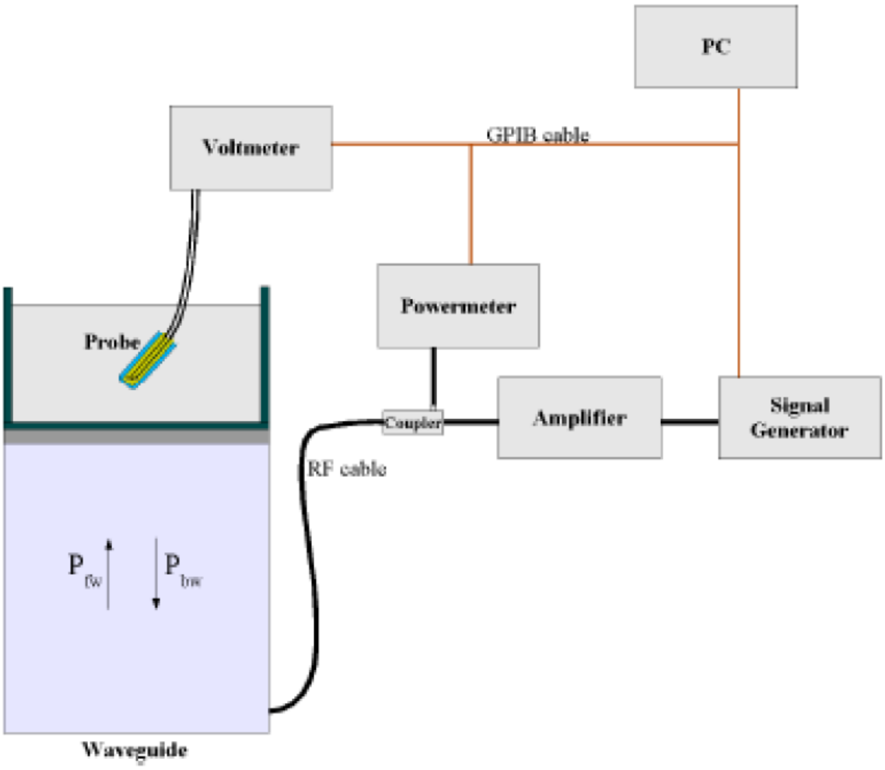
The following figure shows the system.

The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 10g mass.

9.2 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 46/21 EPGO362 with following specifications is used
- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 5 mm
- Distance between probe tip and sensor center: 2.10mm
- Distance between sensor center and the inner phantom surface: 4 mm (repeatability better than +/- 1mm)
- Probe linearity: ＜0.25 dB
- Axial Isotropy: ＜0.25 dB
- Spherical Isotropy: ＜0.50 dB
- Calibration range: 835 to 2500MHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and surface normal line:1ess than 30°
Probe calibration is realized, in compliance with EN 62209-1 and IEEE 1528 STD, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 62209-1 annex technique using reference guide at the five frequencies.



$$SAR = \frac{4(p_{fw} - p_{Pbw})}{ab\delta} cos^2 \left(\pi\frac{y}{a}\right) c^{(2\pi/\delta)}$$

Where :
Pfw = Forward Power
Pbw = Backward Power
a and b =Waveguide dimensions
l = Skin depth

Keithley configuration:
Rate = Medium; Filter = ON; RDGS = 10; Filter type = Moving Average; Range auto after each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

The calibration factors, CF(N), for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

CF(N)=SAR(N)/Vlin(N) (N=1,2,3)

The linearised output voltage Vlin(N) is obtained from the displayed output voltage V(N) using

Vlin(N)=V(N)*(1+V(N)/DCP(N)) (N=1,2,3)

where DCP is the diode compression point in mV.

9.3 Probe Calibration Process

Dosimetric Assessment Procedure
Each E-Probe/Probe Amplifier combination has unique calibration parameters. SATIMO Probe calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm2) using an with CALISAR, Antenna proprietary calibration system.

Free Space Assessment Procedure
The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1mW/cm2.

Temperature Assessment Procedure
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated head tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where:
Δt = exposure time (30 seconds),
C = heat capacity of tissue (brain or muscle),
ΔT = temperature increase due to RF exposure.

SAR is proportional to ΔT/Δt, the initial rate of tissue heating, before thermal diffusion takes place. The electric field in the simulated tissue can be used to estimate SAR by equating the thermally derived SAR to that with the E- field component.

$$SAR = \frac{|E|^2 \cdot \sigma}{\rho}$$

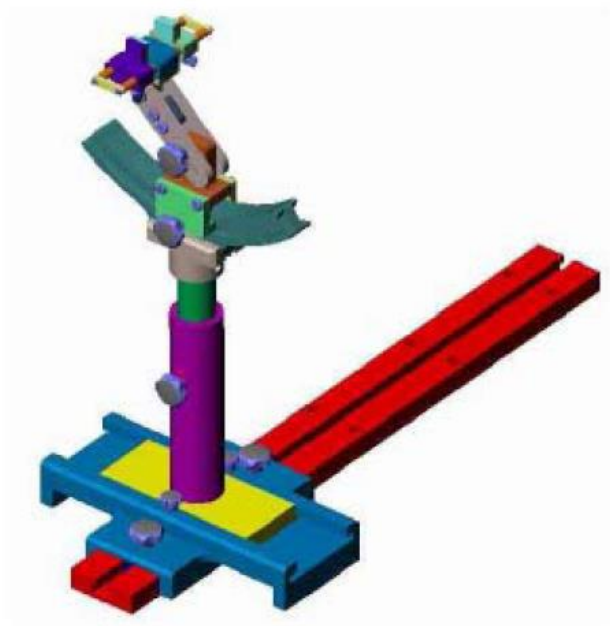
Where:
σ = simulated tissue conductivity,
ρ = Tissue density (1.25 g/cm3 for brain tissue)

9.4 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

9.5 Device Holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is lower than 1°.



System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

10. Tissue Simulating Liquids

10.1 Composition of Tissue Simulating Liquid

For the measurement of the field distribution inside the SAM phantom with SMTIMO, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. Please see the following photos for the liquid height.

Liquid Height for Body SAR

The Composition of Tissue Simulating Liquid

Frequency (MHz)	Water (%)	Salt (%)	1,2-Propane diol (%)	HEC (%)	Preventol (%)	DGBE (%)
Head/Body						
835	40.3	1.4	57.9	0.2	0.2	0
900	40.3	1.4	57.9	0.2	0.2	0
1800-2000	55.2	0.3	0	0	0	44.5
2450	55.0	0.1	0	0	0	44.9
2600	54.9	0.1	0	0	0	45.0

Frequency (MHz)	Water (%)	Hexyl Carbitol (%)	Triton X-100 (%)
Head/Body			
5000-6000	65.52	17.24	17.24

10.2 Limit

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters

computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Target Frequency (MHz)	Head	
	Conductivity (σ)	Permittivity (ε_r)
150	0.76	52.3
300	0.87	45.3
450	0.87	43.5
750	0.89	41.9
835	0.90	41.5
900	0.97	41.5
915	0.98	41.5
1450	1.20	40.5
1610	1.29	40.3
1800-2000	1.40	40.0
2450	1.80	39.2
2600	1.96	39.0
3000	2.40	38.5
5200	4.66	36.0
5400	4.86	35.8
5600	5.07	35.5
5800	5.27	35.3

10.3 Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an R&S ZVB 8. Dielectric Probe Kit and an Agilent Network Analyzer.

Calibration Result for Dielectric Parameters of Tissue Simulating Liquid

Frequency (MHz)	Liquid	Target Conductivity (σ)	Target Permitivity (εr)	Measured Conductivity (σ)	Measured Permitivity (εr)	Delta (σ)%	Delta (εr)%	Limit (%)	Temp . TSL (°C)	Date
835	Head	0.90	41.50	0.911	39.972	1.22	-3.68	±5	22.9	25/09/2023
1800	Head	1.40	40.0	1.347	41.399	-3.79	3.50	±5	22.9	25/09/2023
1900	Head	1.40	40.0	1.462	38.162	4.43	-4.60	±5	22.9	25/09/2023
2450	Head	1.80	39.2	1.800	38.946	0.00	-0.65	±5	22.9	25/09/2023
2600	Head	1.96	39.0	1.895	37.976	-3.32	-2.63	±5	22.9	25/09/2023

Remark:

1. The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized.
2. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

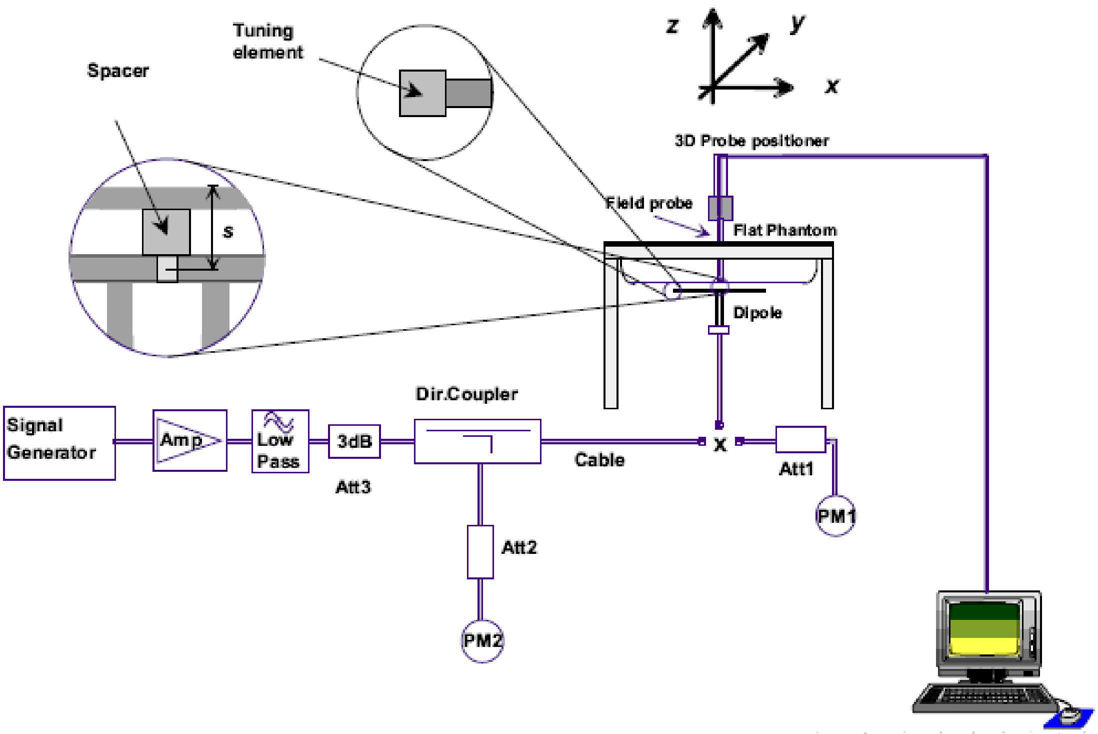
11. System Check

11.1 Purpose of System Performance Check

At the device test frequencies. System check verifies the measurement repeatability of a SAR system before compliance testing and is not a validation of all system specifications. The latter is not required for testing a device but is mandatory before the system is deployed. The system check detects possible short-term drift and unacceptable measurement errors or uncertainties in the system.

11.2 System Setup

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator at frequency 600MHz-6000MHz. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The output power on dipole port must be calibrated to 20 dBm (100 mW) before dipole is connected.



System Verification Setup Block Diagram

Setup Photo of Dipole Antenna

11.3 Validation Results

Comparing to the original SAR value provided by SATIMO, the validation data should be within its specification of 10 %. The following table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion.

Frequency (MHz)	Power	Measured SAR_{1g} (W/Kg)	Normalize to 1 Watt	Drift (%)	1W Target SAR_{1g} (W/Kg)	Difference Percentage (%)	Limit (%)	Liquid Temp	Date
835	250 mW	2.403	9.612	0.69	10.01	-3.98	±10	22.9	25/09/2023
1800	250 mW	9.991	39.964	-2.84	39.74	0.56	±10	22.9	25/09/2023
1900	250 mW	9.930	39.72	1.07	41.26	-3.73	±10	22.9	25/09/2023
2450	250 mW	13.516	54.064	0.93	55.16	-1.99	±10	22.9	25/09/2023
2600	250 mW	14.011	56.044	-1.75	56.50	-0.81	±10	22.9	25/09/2023

12. EUT Testing Position

12.1 Define Two Imaginary Lines on the Handset

(a) The vertical centerline passes through two points on the front side of the handset - the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the bottom of the handset.

(b) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic
output. The horizontal line is also tangential to the face of the handset at point A.

(c) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.

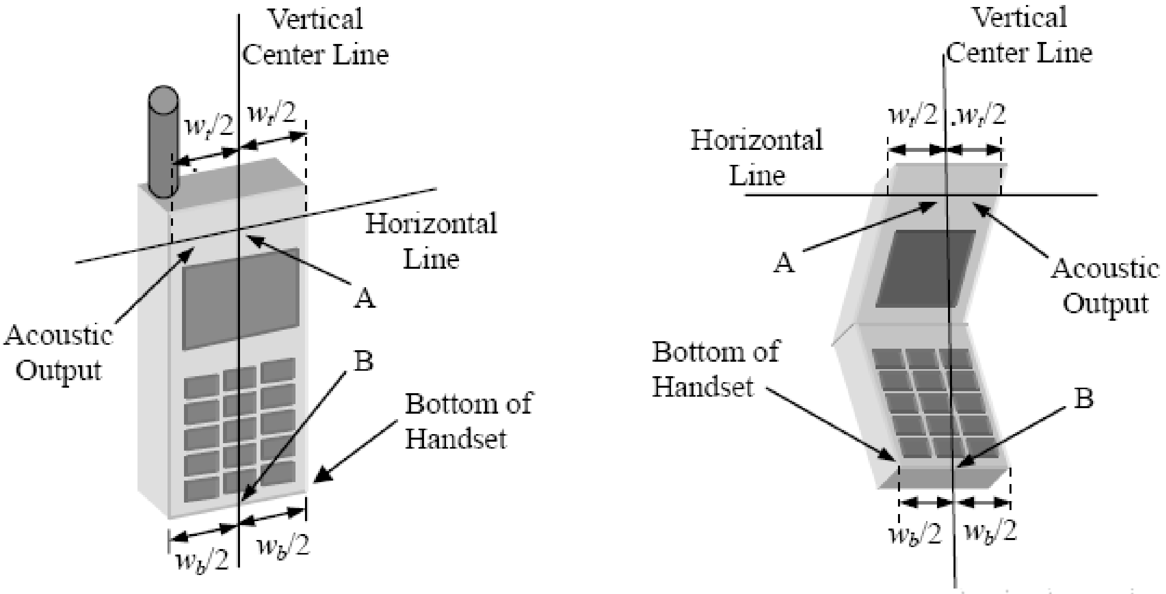


Illustration for Handset Vertical and Horizontal Reference Lines

12.2 Cheek Position

(a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
(b) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see below).

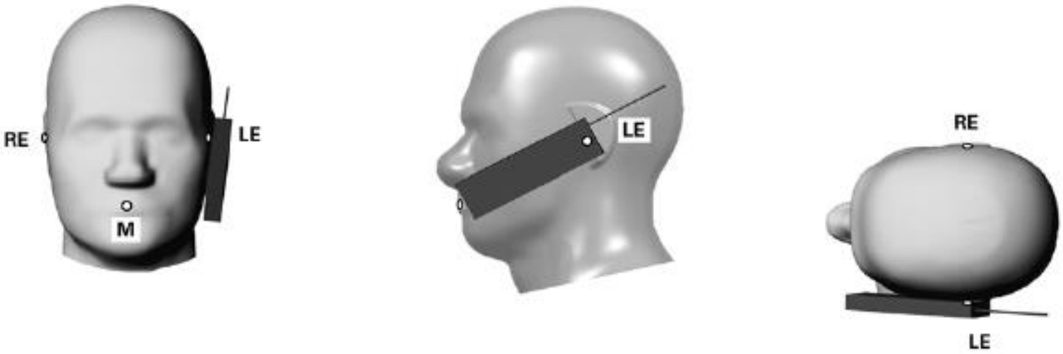


Illustration for Cheek Position

12.3 Tilted Position

(a) To position the device in the “cheek” position described above.

(b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see below).

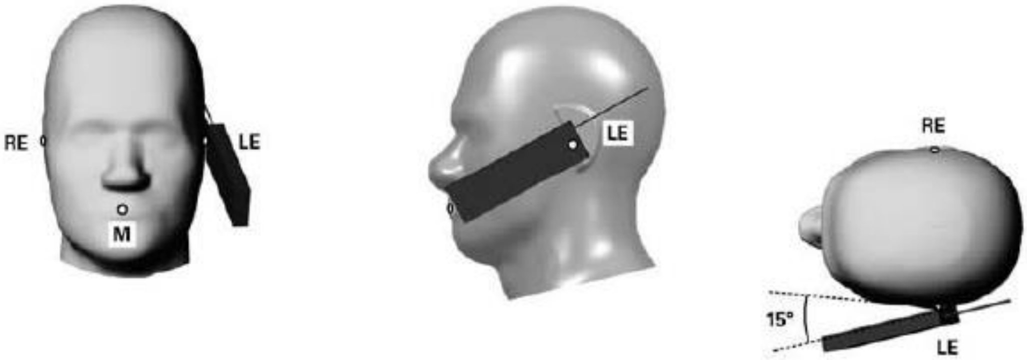
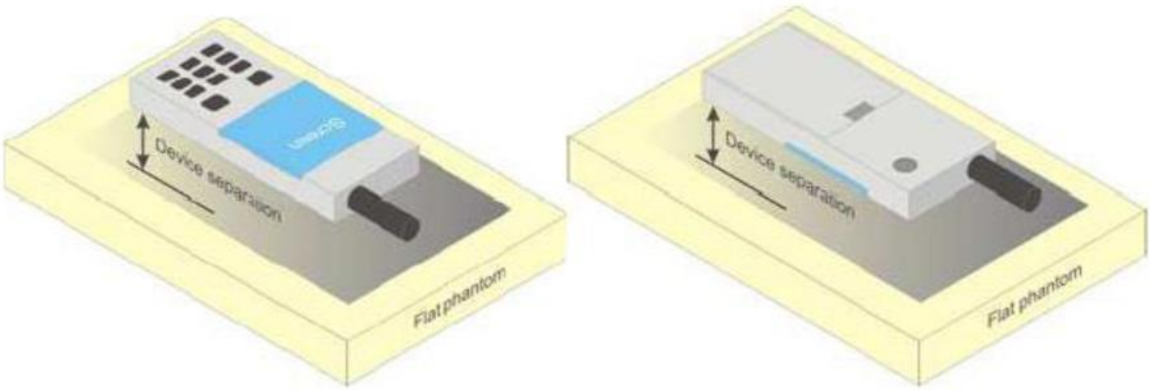


Illustration for Tilted Position

12.4 Body Position

A typical example of a body-worn device is a Mobile Phone , wireless enabled PDA or other battery operated wireless device with the ability to transmit while mounted on a person’s body using a carry accessory approved by the wireless device manufacturer.



Test positions for body-worn devices

13. SAR Measurement Procedures

13.1 Measurement Procedures

The measurement procedures are as follows:
(a) Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the highest power channel.
(b) Keep EUT to radiate maximum output power or 100% factor (if applicable)
(c) Measure output power through RF cable and power meter.
(d) Place the EUT in the positions as Annex D demonstrates.
(e) Set scan area, grid size and other setting on the SATIMO software.
(f) Measure SAR results for the highest power channel on each testing position.
(g) Find out the largest SAR result on these testing positions of each band
(h) Measure SAR results for other channels in worst SAR testing position if the SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:
(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

13.2 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The SATIMO software includes all numerical procedures necessary to evaluate the spatial peak SAR value.
The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.
The entire evaluation of the spatial peak values is performed within the post-processing engine. The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:
(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

13.3 Area & Zoom Scan Procedures

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan measures 5x5x7 points with step size 8, 8 and 5 mm for 300 MHz to 3 GHz, and 8x8x8 points with step size 4, 4 and 2.5 mm for 3 GHz to 6 GHz. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g.

<table>
<tr><th colspan="3"></th><th>≤ 3 GHz</th><th>> 3 GHz</th></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 mm ± 1 mm</td><td>½·δ·ln(2) mm ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

13.4 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing (step-size is 4, 4 and 2.5 mm). When all volume scan were completed, the software can combine and subsequently superpose these measurement data to calculating the multiband SAR.

13.5 SAR Averaged Methods

The local SAR inside the phantom is measured using small dipole sensing elements inside a probe body. The probe tip must not be in contact with the phantom surface in order to minimize measurements errors, but the highest local SAR will occur at the surface of the phantom.

An extrapolation is using to determinate this highest local SAR values. The extrapolation is based on a fourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1mm step.

The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10g and 1 g requires a very fine resolution in the three dimensional scanned data array.

13.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In SATIMO measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

14. SAR Test Result

14.1 Conducted RF Output Power

According KDB 447498 D01 General RF Exposure Guidance v06 Section 4.1 2) states that “Unless it is specified differently in the published RF exposure KDB procedures, these requirements also apply to test reduction and test exclusion considerations. Time-averaged maximum conducted output power applies to SAR and, as required by § 2.1091(c), time-averaged ERP applies to MPE. When an antenna port is not available on the device to support conducted power measurement, such as FRS and certain Part 15 transmitters with built-in integral antennas, the maximum output power allowed for production units should be used to determine RF exposure test exclusion and compliance.”

The Tune-up limit already includes component tolerance. KDB 447498 sec.4.1.(d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

<GSM>
General Note:
1. Per KDB 447498 D01, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01, 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.
3. Per October 2013 TCB Workshop: When the maximum frame-averaged powers levels are within 0.25 dB of each other, test the configuration with the most number of time slots.

Conducted power measurement results

GSM - Burst Average Power (dBm)								
Band	**GSM850**			**Tune-up**	**GSM1900**			**Tune-up**
Channel	**128**	**190**	**251**		**512**	**661**	**810**	
Frequency (MHz)	**824.2**	**836.6**	**848.8**		**1850.2**	**1880**	**1909.8**	
GSM	31.67	**32.09**	31.88	32.5	28.74	**29.23**	29.40	29.5

GSM - Source-Based Time-Average Power (dBm)						
Band	**GSM850**			**GSM1900**		
Channel	**128**	**190**	**251**	**512**	**661**	**810**
Frequency (MHz)	**824.2**	**836.6**	**848.8**	**1850.2**	**1880**	**1909.8**
GSM	22.67	23.09	22.88	19.74	20.23	20.40

Notes:Per KDB 941225 D01, SAR is not required for EDGE (8PSK) mode because the maximum output power and tune-up limit is ≤ 1/4dB higher than GPRS/EDGE (GMSK) or the adjusted SAR of the highest reported SAR of GPRS/EDGE (GMSK) is ≤ 1.2W/kg.

<W-CDMA>

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station E5515C referred to theSetup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (βc and βd) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	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} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: 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 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$, and Δ_{CQI} = 24/15 with $\beta_{hs} = 24/15 * \beta_c$.

Note 3: 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 4: 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.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base StationR&S CMU200 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (βc and βd) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	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_{ed}1: 47/15 β_{ed}2: 47/15	4 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 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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, 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 β_c = 10/15 and β_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 β_c = 14/15 and β_d = 15/15.

Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

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

General Note

1. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If AMR 12.2kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2kbps can be excluded.
2. By design, AMR and HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.
3. It is expected by the manufacturer that MPR for some HSDPA/HSUPA subtests may differ from the specification of 3GPP, according to the chipset implementation in this model. The implementation and expected deviation are detailed in tune-up procedure exhibit.

Conducted power measurement results

Band	WCDMA Band II				WCDMA Band V			
Channel	9262	9400	9538	Tune-up	4132	4182	4233	Tune-up
Frequency (MHz)	1852.4	1880.0	1907.6		826.4	836.4	846.6	
RMC 12.2K	**22.10**	22.09	21.93	22.5	22.15	**22.58**	22.35	23.0
HSDPA Subtest-1	**21.66**	21.67	21.41	22.0	**21.73**	21.65	21.10	22.0
HSDPA Subtest-2	21.32	20.84	20.91		21.29	21.43	21.11	
HSDPA Subtest-3	19.73	19.61	19.98		21.16	21.42	21.22	
HSDPA Subtest-4	19.85	20.13	19.59		21.13	21.47	21.35	
HSUPA Subtest-1	20.83	21.44	21.26	22.0	21.88	21.35	21.15	21.5
HSUPA Subtest-2	**21.64**	21.60	21.42		21.78	21.76	21.59	
HSUPA Subtest-3	20.07	20.64	20.25		**21.93**	21.59	21.48	
HSUPA Subtest-4	21.64	21.60	21.41		21.07	21.14	21.86	
HSUPA Subtest-5	20.50	20.71	20.57		21.48	21.27	21.34	

Note:

1. Per KDB 941225 D01 v03, the 12.2kbps RMC mode was selected for SAR testing (the primary mode).
2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤1/4dB higher than the primary mode (RMC12.2kbps) 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.

<LTE>

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.
LTE QPSK configuration has the highest maximum average output power per 3GPP standard.

FDD-LTE Band 2

Channel Bandwidth: 1.4MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	21.53	23.5
	MCK	22.74	
	HCH	22.93	
16QAM	LCH	20.67	22.5
	MCK	21.83	
	HCH	21.96	
Channel Bandwidth: 3MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	21.56	23.0
	MCK	21.76	
	HCH	22.72	
16QAM	LCH	20.56	22.5
	MCK	20.84	
	HCH	22.12	
Channel Bandwidth: 5MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	21.17	23.5
	MCK	21.74	
	HCH	22.82	
16QAM	LCH	20.25	22.5
	MCK	20.70	
	HCH	22.29	
Channel Bandwidth: 10MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	20.77	23.0
	MCK	21.69	
	HCH	22.73	
16QAM	LCH	19.87	22.5
	MCK	20.70	
	HCH	21.88	
Channel Bandwidth: 15MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	20.86	23.0
	MCK	21.75	
	HCH	22.73	
16QAM	LCH	19.97	22.5
	MCK	20.77	
	HCH	21.88	
Channel Bandwidth: 20MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	21.02	23.5
	MCK	21.72	
	HCH	**22.82**	
16QAM	LCH	20.14	22.5
	MCK	20.71	
	HCH	22.06	

FDD-LTE Band 4

Channel Bandwidth: 1.4MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	19.87	22.0
	MCK	21.04	
	HCH	21.38	
16QAM	LCH	19.07	21.5
	MCK	19.91	
	HCH	21.14	
Channel Bandwidth: 3MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	19.85	21.5
	MCK	20.17	
	HCH	21.21	
16QAM	LCH	18.97	22.0
	MCK	19.20	
	HCH	21.35	
Channel Bandwidth: 5MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	19.94	21.5
	MCK	20.16	
	HCH	21.23	
16QAM	LCH	18.73	21.0
	MCK	19.16	
	HCH	20.69	
Channel Bandwidth: 10MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	19.98	21.5
	MCK	20.22	
	HCH	21.20	
16QAM	LCH	19.03	21.5
	MCK	19.19	
	HCH	21.27	
Channel Bandwidth: 15MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	19.92	21.5
	MCK	20.16	
	HCH	21.18	
16QAM	LCH	18.99	21.5
	MCK	19.21	
	HCH	21.26	
Channel Bandwidth: 20MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	19.95	22.0
	MCK	20.13	
	HCH	**21.39**	
16QAM	LCH	19.00	21.0
	MCK	19.26	
	HCH	20.64	

FDD-LTE Band 7

Channel Bandwidth: 5MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	18.61	20.0
	MCK	18.74	
	HCH	19.67	
16QAM	LCH	17.56	19.5
	MCK	17.81	
	HCH	18.83	
Channel Bandwidth: 10MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	18.61	20.5
	MCK	18.75	
	HCH	19.94	
16QAM	LCH	17.65	20.5
	MCK	18.10	
	HCH	19.84	
Channel Bandwidth: 15MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	18.63	20.5
	MCK	18.81	
	HCH	20.01	
16QAM	LCH	17.76	20.5
	MCK	18.15	
	HCH	19.84	
Channel Bandwidth: 20MHz			
Modulation	**Channel**	**E.I.R.P(dBm)**	**Tune- up**
QPSK	LCH	18.62	20.5
	MCK	18.85	
	HCH	**20.23**	
16QAM	LCH	17.75	20.0
	MCK	17.98	
	HCH	19.30	

WLAN 2.4G			
Mode	Frequency	Maximum Conducted Output Power	Tune-up power
	(MHz)	(dBm)	(dBm)
802.11b	2412	12.82	14.0
	2437	13.33	
	2462	13.04	
802.11g	2412	11.46	14.5
	2437	14.14	
	2462	13.81	
802.11n20	2412	11.45	15.0
	2437	**14.28**	
	2462	13.89	
802.11n40	2422	13.35	14.0
	2437	13.49	
	2452	13.52	

Note:
1. When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 b/g/n modes, the channel in the lower order/sequence 802.11 mode (i.e. g, n) is selected. Therefore the SAR measurements performed for the 802.11b modes, as the lowest order modulation, cover 802.11g/n modes.
2. SAR is not required for the following 2.4 GHz OFDM conditions as 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.
3. Per KDB 248227 D01 v02r02, For 802.11b DSSS SAR measurements ,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. 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.

Bluetooth			
Modulation	Frequency (MHz)	Output Power (dBm)	Tune-up power (dBm)
1-DH1	2402	-1.73	0.5
	2441	**-0.05**	
	2480	-1.76	
2-DH1	2402	-2.12	0.0
	2441	-0.68	
	2480	-2.44	
3-DH1	2402	-2.1	0.0
	2441	-0.58	
	2480	-2.29	

BLE			
Modulation	Frequency (MHz)	Output Power (dBm)	Tune-up power (dBm)
GFSK	2402	-1.57	0.5
	2440	**-0.02**	
	2480	-1.58	

Note:
Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] •[√ f(GHz)] ≤ 3.0 for1-g SAR and ≤ 7.5 for 10-g extremity SAR

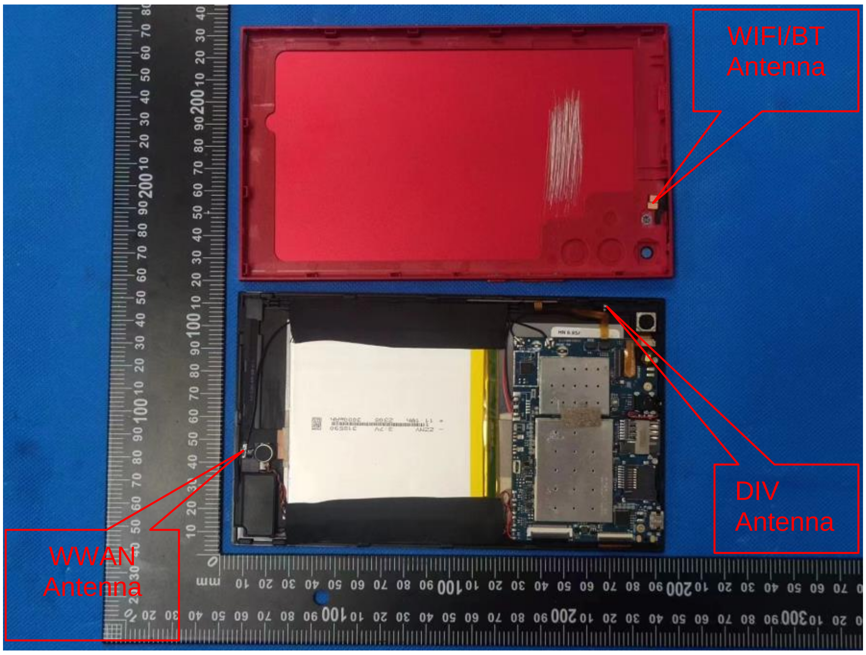
f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation
The result is rounded to one decimal place for comparison

Bluetooth Turn up Power (dBm)	Bluetooth Turn up Power (mW)	Separation Distance (mm)	Frequency (GHz)	Result	Exclusion Thresholds
0.5	1.12	5	2.48	0.35	3.0

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
According to the calculation results in the table above, BT SAR does not need to be tested.

14.2 Transmit Antennas and SAR Measurement Position

EUT Antenna Location:



Antennas	Support Band
WWAN	GSM 850/1900+WCDMA Band 2/5+LTE Band 2/4/7 T/RX
BT/WIFI	BT+2.4G WIFI

Distance of The Antenna to the EUT surface and edge (mm)						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	<25	<25	180	<25	38	<25
BT/WIFI	<25	<25	<25	156	105	<25

EUT Testing Location Evaluation:

Positions for SAR tests; Hotspot mode						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	Yes	Yes	No	Yes	No	Yes
BT/WIFI	Yes	Yes	Yes	No	No	Yes

Note:

1. According to the KDB 941225 D06 Hot Spot SAR v02, the edges with less than 25 mm distance to the antennas need to be tested for SAR.

14.3 Measured and Reported (Scaled) SAR Results

The calculated SAR is obtained by the following formula:
1. Reported SAR for WWAN=Measured SAR * Tune-up Scaling factor
2. Reported SAR for WLAN and Bluetooth=Measured SAR * Tune-up Scaling factor * Duty Cycle Scaling factor
3. Duty Cycle Scaling factor=1/ Duty Cycle (%)

KDB 447498 D01 General RF Exposure Guidance:
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:
- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 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

KDB 648474 D04 Handset SAR v01r03:
1. 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 the body-worn accessory with a headset attached to the handset.
2. when the separation distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, using the same wireless mode test configuration for voice and data, such as UMTS, LTE and Wi-Fi, and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface)
3. For Smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

KDB 941225 D01 3G SAR Procedures:
When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤1/4dB higher than the primary mode (RMC12.2kbps) 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.

KDB 941225 D05 SAR for LTE Devices:
1. Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
2. When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
3. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
4. SAR measurement is not required for the 16QAM and 64QAM. When the highest maximum output power for 16QAM and 64QAM is ≤ ½ dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.
5. Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

KDB 248227 D01 802.11 Wi-Fi SAR

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements.

For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions.

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.16 The initial test position procedure is described in the following:

a) 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).
b) 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.
c) 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.

Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR

TCB workshop April 2015:

SAR test exclusion can be applied for testing overlapping LTE bands as follows:

a) The maximum output power, including tolerance, for the smaller band must be s the larger band to qualify for the SAR test exclusion.

b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band.

LTE Band 17 (704-716 MHz) is covered by LTE Band 12 (699-716 MHz)

GSM 850											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	GSM	Left Cheek	190	836.6	32.09	32.5	1.099	0.085	0.093	
		GSM	Left Tilt	190	836.6	32.09	32.5	1.099	0.064	0.070	
		GSM	Right Cheek	190	836.6	32.09	32.5	1.099	0.090	**0.099**	1
		GSM	Right Tilt	190	836.6	32.09	32.5	1.099	0.077	0.085	
Body & Hotspot	0	GSM	Front Face	190	836.6	32.09	32.5	1.099	0.478	**0.525**	2
		GSM	Back Face	190	836.6	32.09	32.5	1.099	0.289	0.318	
Hotspot	0	GSM	Right Side	190	836.6	32.09	32.5	1.099	0.176	0.193	
		GSM	Bottom Side	190	836.6	32.09	32.5	1.099	0.349	0.384	

GSM 1900											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	GSM	Left Cheek	661	1880	29.23	29.5	1.064	0.119	0.127	
		GSM	Left Tilt	661	1880	29.23	29.5	1.064	0.099	0.105	
		GSM	Right Cheek	661	1880	29.23	29.5	1.064	0.134	**0.143**	3
		GSM	Right Tilt	661	1880	29.23	29.5	1.064	0.121	0.129	
Body & Hotspot	0	GSM	Front Face	661	1880	29.23	29.5	1.064	0.512	**0.545**	4
		GSM	Back Face	661	1880	29.23	29.5	1.064	0.290	0.309	
Hotspot	0	GSM	Right Side	661	1880	29.23	29.5	1.064	0.241	0.256	
		GSM	Bottom Side	661	1880	29.23	29.5	1.064	0.467	0.497	

WCDMA Band II											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	RMC*	Left Cheek	9262	1852.4	22.1	22.5	1.096	0.118	0.129	
		RMC*	Left Tilt	9262	1852.4	22.1	22.5	1.096	0.109	0.120	
		RMC*	Right Cheek	9262	1852.4	22.1	22.5	1.096	0.120	**0.132**	5
		RMC*	Right Tilt	9262	1852.4	22.1	22.5	1.096	0.114	0.125	
Body & Hotspot	0	RMC*	Front Face	9262	1852.4	22.1	22.5	1.096	0.616	**0.675**	6
		RMC*	Back Face	9262	1852.4	22.1	22.5	1.096	0.264	0.289	
Hotspot	0	RMC*	Right Side	9262	1852.4	22.1	22.5	1.096	0.275	0.302	
		RMC*	Bottom Side	9262	1852.4	22.1	22.5	1.096	0.417	0.457	

WCDMA Band V											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	RMC*	Left Cheek	4182	836.4	22.58	23.0	1.102	0.079	0.087	
		RMC*	Left Tilt	4182	836.4	22.58	23.0	1.102	0.080	0.088	
		RMC*	Right Cheek	4182	836.4	22.58	23.0	1.102	0.083	**0.091**	7
		RMC*	Right Tilt	4182	836.4	22.58	23.0	1.102	0.077	0.085	
Body & Hotspot	0	RMC*	Front Face	4182	836.4	22.58	23.0	1.102	0.140	0.154	
		RMC*	Back Face	4182	836.4	22.58	23.0	1.102	0.443	**0.488**	8
Hotspot	0	RMC*	Right Side	4182	836.4	22.58	23.0	1.102	0.106	0.117	
		RMC*	Bottom Side	4182	836.4	22.58	23.0	1.102	0.433	0.477	

FDD-LTE Band 2 (20MHz Bandwidth)											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	QPSK,1RB	Left Cheek	19100	1900	22.82	23.0	1.042	0.121	0.126	
		QPSK,1RB	Left Tilt	19100	1900	22.82	23.0	1.042	0.097	0.101	
		QPSK,1RB	Right Cheek	19100	1900	22.82	23.0	1.042	0.130	**0.136**	9
		QPSK,1RB	Right Tilt	19100	1900	22.82	23.0	1.042	0.105	0.109	
		QPSK,50%RB	Left Cheek	19100	1900	22.82	23.0	1.042	0.110	0.115	
		QPSK,50%RB	Left Tilt	19100	1900	22.82	23.0	1.042	0.091	0.095	
		QPSK,50%RB	Right Cheek	19100	1900	22.82	23.0	1.042	0.125	0.130	
		QPSK,50%RB	Right Tilt	19100	1900	22.82	23.0	1.042	0.099	0.103	
Body & Hotspot	0	QPSK,1RB	Front Face	19100	1900	22.82	23.0	1.042	0.276	0.288	
		QPSK,1RB	Back Face	19100	1900	22.82	23.0	1.042	0.215	0.224	
		QPSK,50%RB	Front Face	19100	1900	22.82	23.0	1.042	0.261	0.272	
		QPSK,50%RB	Back Face	19100	1900	22.82	23.0	1.042	0.203	0.212	
Hotspot	0	QPSK,1RB	Right Side	19100	1900	22.82	23.0	1.042	0.373	0.389	
		QPSK,1RB	Bottom Side	19100	1900	22.82	23.0	1.042	0.647	**0.674**	10
		QPSK,50%RB	Right Side	19100	1900	22.82	23.0	1.042	0.332	0.346	
		QPSK,50%RB	Bottom Side	19100	1900	22.82	23.0	1.042	0.628	0.655	

FDD-LTE Band 4 (20MHz Bandwidth)											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	QPSK,1RB	Left Cheek	20300	1745	21.39	22.0	1.151	0.122	0.140	
		QPSK,1RB	Left Tilt	20300	1745	21.39	22.0	1.151	0.109	0.125	
		QPSK,1RB	Right Cheek	20300	1745	21.39	22.0	1.151	0.128	**0.147**	11
		QPSK,1RB	Right Tilt	20300	1745	21.39	22.0	1.151	0.095	0.109	
		QPSK,50%RB	Left Cheek	20300	1745	21.39	22.0	1.151	0.113	0.130	
		QPSK,50%RB	Left Tilt	20300	1745	21.39	22.0	1.151	0.099	0.114	
		QPSK,50%RB	Right Cheek	20300	1745	21.39	22.0	1.151	0.119	0.137	
		QPSK,50%RB	Right Tilt	20300	1745	21.39	22.0	1.151	0.091	0.105	
Body & Hotspot	0	QPSK,1RB	Front Face	20300	1745	21.39	22.0	1.151	0.276	0.318	
		QPSK,1RB	Back Face	20300	1745	21.39	22.0	1.151	0.215	0.247	
		QPSK,50%RB	Front Face	20300	1745	21.39	22.0	1.151	0.261	0.300	
		QPSK,50%RB	Back Face	20300	1745	21.39	22.0	1.151	0.208	0.239	
Hotspot	0	QPSK,1RB	Right Side	20300	1745	21.39	22.0	1.151	0.373	0.429	
		QPSK,1RB	Bottom Side	20300	1745	21.39	22.0	1.151	0.462	**0.532**	12
		QPSK,50%RB	Right Side	20300	1745	21.39	22.0	1.151	0.319	0.367	
		QPSK,50%RB	Bottom Side	20300	1745	21.39	22.0	1.151	0.442	0.509	

FDD-LTE Band 7 (20MHz Bandwidth)											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	QPSK,1RB	Left Cheek	21350	2560	20.23	20.5	1.064	0.144	0.153	
		QPSK,1RB	Left Tilt	21350	2560	20.23	20.5	1.064	0.119	0.127	
		QPSK,1RB	Right Cheek	21350	2560	20.23	20.5	1.064	0.169	**0.180**	13
		QPSK,1RB	Right Tilt	21350	2560	20.23	20.5	1.064	0.103	0.110	
		QPSK,50%RB	Left Cheek	21350	2560	20.23	20.5	1.064	0.137	0.146	
		QPSK,50%RB	Left Tilt	21350	2560	20.23	20.5	1.064	0.112	0.119	
		QPSK,50%RB	Right Cheek	21350	2560	20.23	20.5	1.064	0.158	0.168	
		QPSK,50%RB	Right Tilt	21350	2560	20.23	20.5	1.064	0.099	0.105	
Body & Hotspot	0	QPSK,1RB	Front Face	21350	2560	20.23	20.5	1.064	0.501	0.533	
		QPSK,1RB	Back Face	21350	2560	20.23	20.5	1.064	0.319	0.339	
		QPSK,50%RB	Front Face	21350	2560	20.23	20.5	1.064	0.492	0.524	
		QPSK,50%RB	Back Face	21350	2560	20.23	20.5	1.064	0.299	0.318	
Hotspot	0	QPSK,1RB	Right Side	21350	2560	20.23	20.5	1.064	0.479	**0.510**	14
		QPSK,1RB	Bottom Side	21350	2560	20.23	20.5	1.064	0.463	0.493	
		QPSK,50%RB	Right Side	21350	2560	20.23	20.5	1.064	0.434	0.462	
		QPSK,50%RB	Bottom Side	21350	2560	20.23	20.5	1.064	0.429	0.457	

WLAN 2.4G											
RF Exposure Conditions	Dist. (mm)	Mode	Test Position	CH.	Freq. (MHz)	Output Power (dBm)			SAR1g (W/kg)		Plot No.
						Meas.	Turn-up	Scaling Factor	Meas.	Scaled	
Head	0	802.11b	Left Cheek	6	2437	13.33	13.5	1.040	0.309	**0.321**	15
		802.11b	Left Tilt	6	2437	13.33	13.5	1.040	0.192	0.200	
		802.11b	Right Cheek	6	2437	13.33	13.5	1.040	0.297	0.309	
		802.11b	Right Tilt	6	2437	13.33	13.5	1.040	0.175	0.182	
Body & Hotspot	0	802.11b	Front Face	6	2437	13.33	13.5	1.040	0.292	0.304	
		802.11b	Back Face	6	2437	13.33	13.5	1.040	0.144	0.150	
Hotspot	0	802.11b	Right Side	6	2437	13.33	13.5	1.040	0.195	0.203	
		802.11b	Top Side	6	2437	13.33	13.5	1.040	0.340	**0.354**	16

Remark:
1. The value with the bold is the maximum SAR Value of each test band.
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels SAR tests are not necessary.

14.4 SAR Measurement Variability

According to KDB865664, Repeated measurements are required only when the measured SAR is ≥ 0.80 W/kg. If the measured SAR value of the initial repeated measurement is < 1.45 W/kg with ≤ 20% variation, only one repeated measurement is required to reaffirm that the results are not expected to have substantial variations, which may introduce significant compliance concerns. A second repeated measurement is required only if the measured result for the initial repeated measurement is within 10% of the SAR limit and vary by more than 20%, which are often related to device and measurement setup difficulties. The following procedures are applied to determine if repeated measurements are required. 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.19 The repeated measurement results must be clearly identified in the SAR report. All measured SAR, including the repeated results, must be considered to determine compliance and for reporting according to KDB 690783.Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

1) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
2) 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).
3) 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.
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

14.5 Simultaneous Transmission Evaluation

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmiting antenna.

Application Simultaneous Transmission information:

No.	Configurations	Body SAR	Hotspot SAR
1	WWAN+WLAN 2.4G (Data)	Yes	Yes
2	WWAN+ Bluetooth (Data)	Yes	Yes

Remark:
1. WWAN cannot transmit simultaneously.
2. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
3. According to the KDB 447498 D01 v06, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

● (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√ f(GHz)/x] W/kg for test separation distances ≤ 50 mm;
where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.
● 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm

Estimated stand alone SAR						
Communication system	Frequency (MHz)	Maximum Power (dBm)	Maximum Power (mW)	Separation Distance (mm)	X	Estimated SAR1-g (W/kg)
Bluetooth*	2480	5.5	3.55	5	7.5	0.149
Bluetooth*	2480	5.5	3.55	10	7.5	0.075

Note:

1. Bluetooth*- Including Lower power Bluetooth
2. Maximum average power including tune-up tolerance;
3. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

4. Per FCC KD B447498 D01, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the transmitting antenna in a specific a physical test configuration is ≤1.6 W/Kg. When the sum is greater than the SAR limit, SAR test exclusion is determined by the SAR to peak location separation ratio.

$$\text{Ratio}=\frac{(\text{SAR}_1+\text{SAR}_2)^{1.5}}{(\text{peak location separation,mm})}<0.04$$

5. Simultaneous transmission of maximum SAR sum calculation.

RF Exposure Conditions	Test Position	WWAN Scaled SAR (W/kg)	WLAN 2.4G Scaled SAR (W/kg)	Summed SAR (W/kg)	SAR1-g Limit (W/kg)
Head	Left Cheek	0.153	0.321	0.474	1.6
	Left Tilt	0.127	0.200	0.327	1.6
	Right Cheek	0.180	0.309	0.489	1.6
	Right Tilt	0.129	0.182	0.311	1.6
Body-worn & Hotspot	Front Face	0.675	0.304	0.979	1.6
	Back Face	0.488	0.150	0.638	1.6
Hotspot	Left Side	N/A	N/A	N/A	1.6
	Right Side	0.510	0.203	0.713	1.6
	Top Side	N/A	0.354	0.354	1.6
	Bottom Side	0.674	N/A	0.674	1.6

15. Test Plots

15.1 System Performance Check

System check at 835 MHz

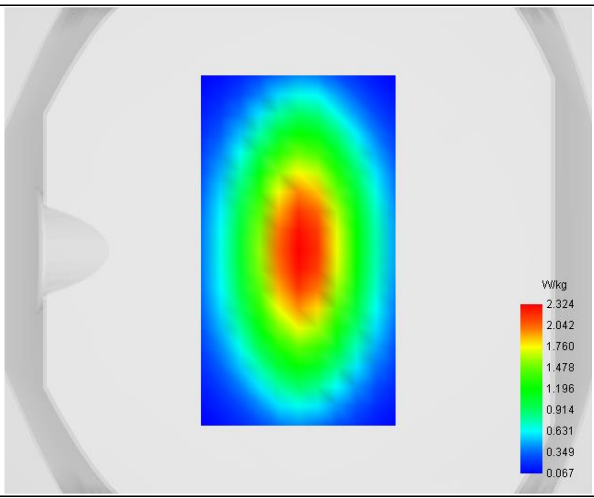
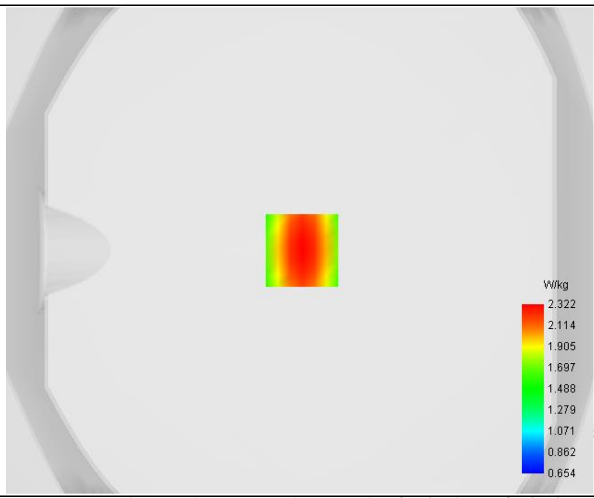
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x8,dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	835.000
Relative permitivity (real part)	39.972
Relative permitivity (imaginary part)	20.910
Conductivity (S/m)	0.911

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

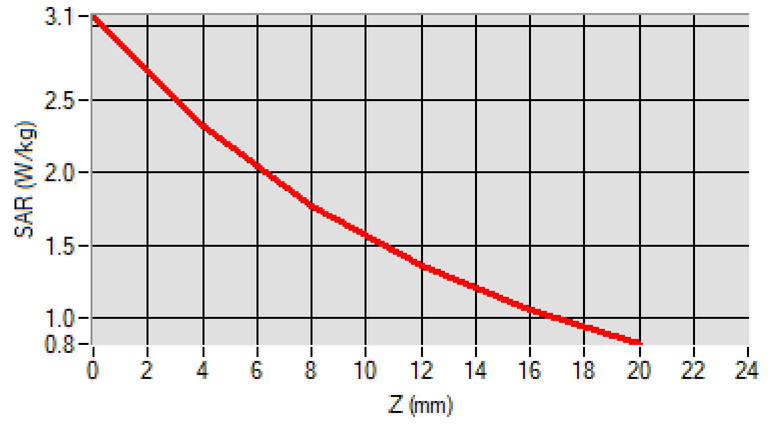
Maximum location: X=1.00, Y=0.00 ; SAR Peak: 5.68 W/kg

D. SAR 1g & 10g

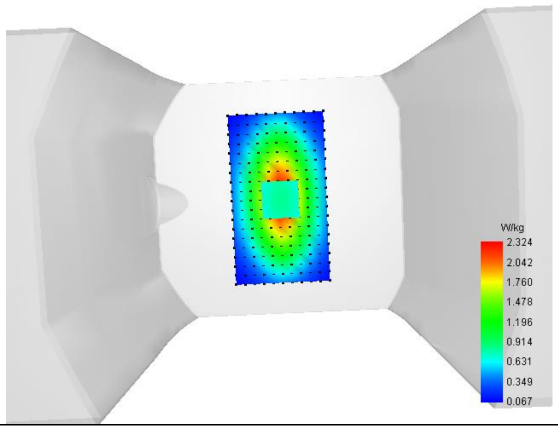
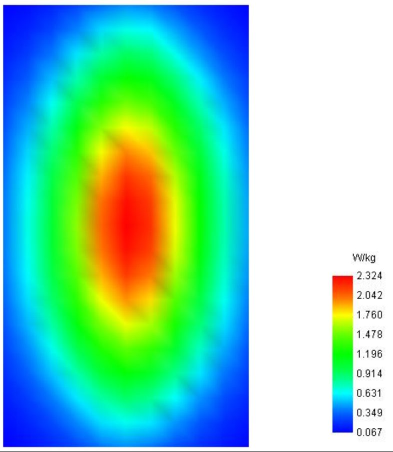
SAR 10g (W/Kg)	1.691
SAR 1g (W/Kg)	2.403
Variation (%)	0.692
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	3.108	2.344	1.786	1.395	1.109



F. 3D Image

3D screen shot	Hot spot position
	

System check at 1800 MHz

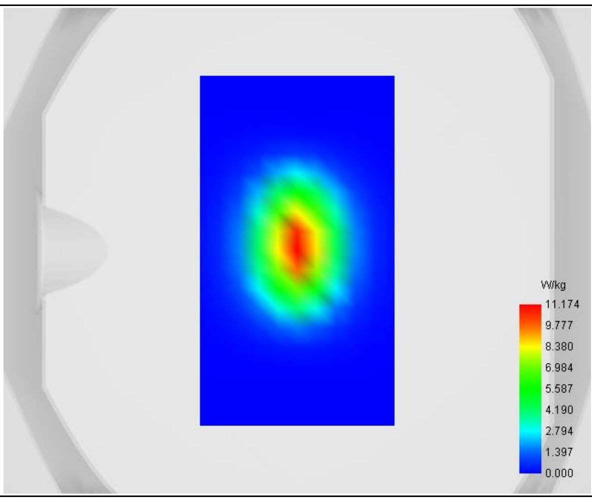
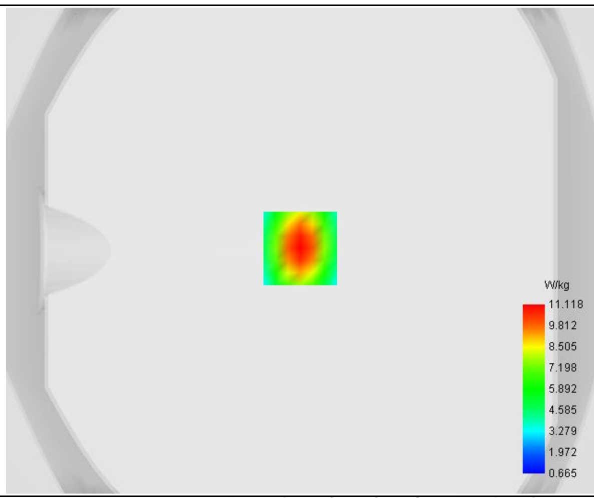
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.96
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x8,dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1800.000
Relative permitivity (real part)	41.399
Relative permitivity (imaginary part)	15.186
Conductivity (S/m)	1.347

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

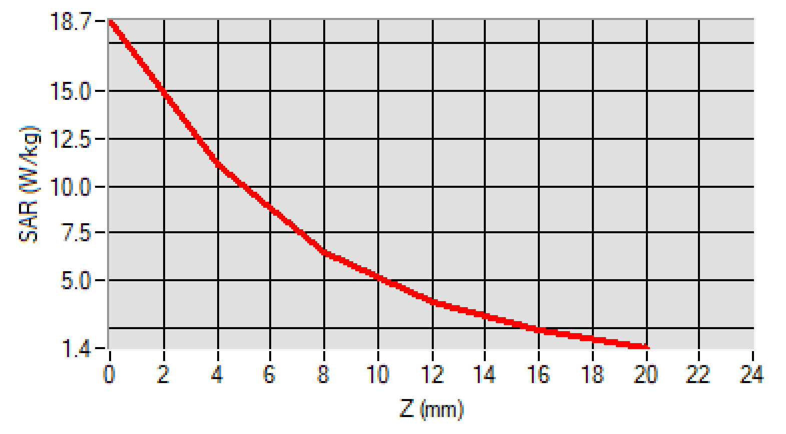
Maximum location: X=0.00, Y=1.00 ; SAR Peak: 22.78 W/kg

D. SAR 1g & 10g

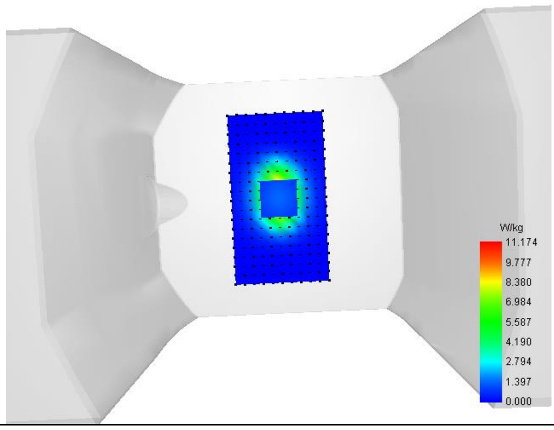
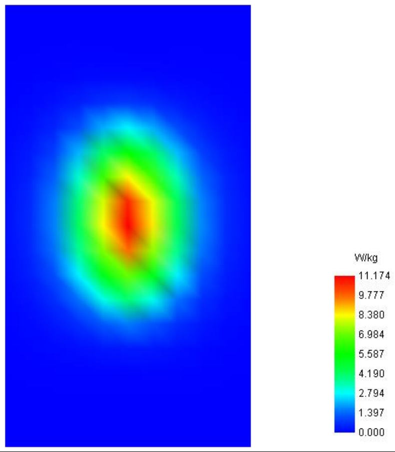
SAR 10g (W/Kg)	0.508
SAR 1g (W/Kg)	9.991
Variation (%)	-2.842
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	18.71+	11.234	6.561	3.924	2.453



F. 3D Image

3D screen shot	Hot spot position
	

System check at 1900 MHz

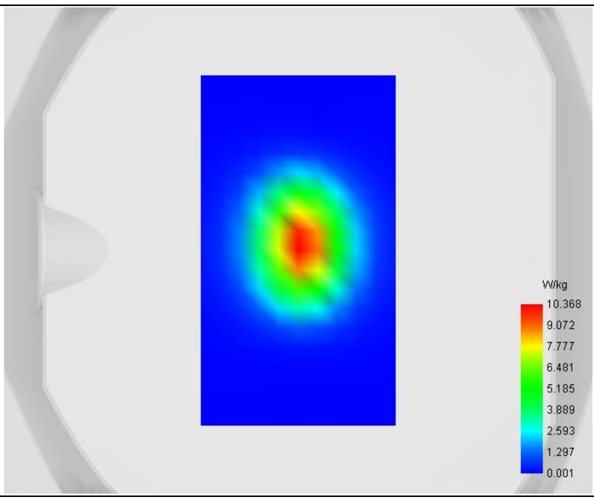
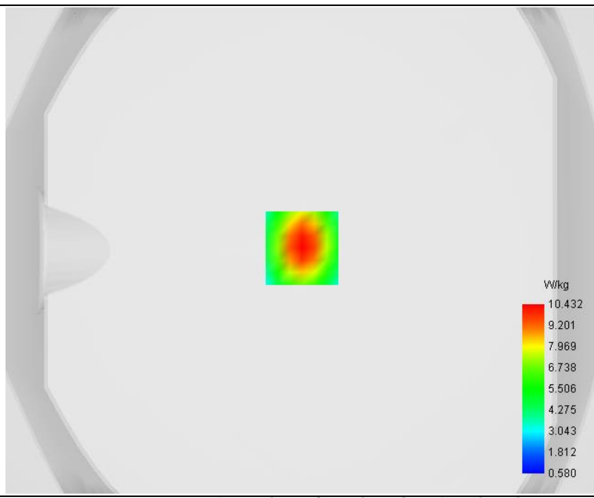
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x8,dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1900.000
Relative permitivity (real part)	38.162
Relative permitivity (imaginary part)	12.866
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

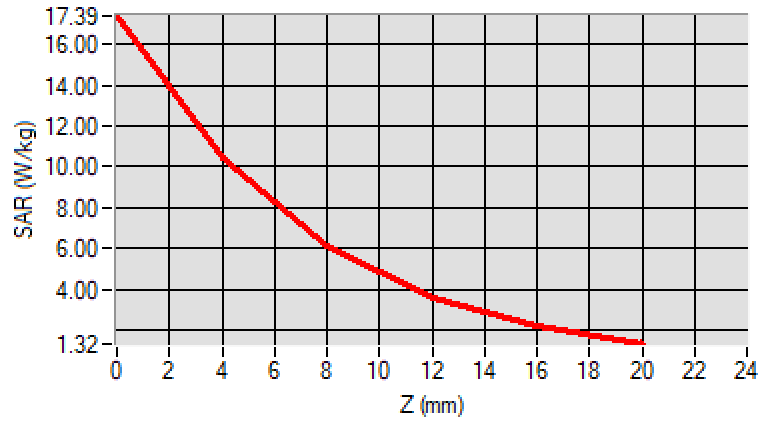
Maximum location: X=1.00, Y=1.00 ; SAR Peak: 22.54 W/kg

D. SAR 1g & 10g

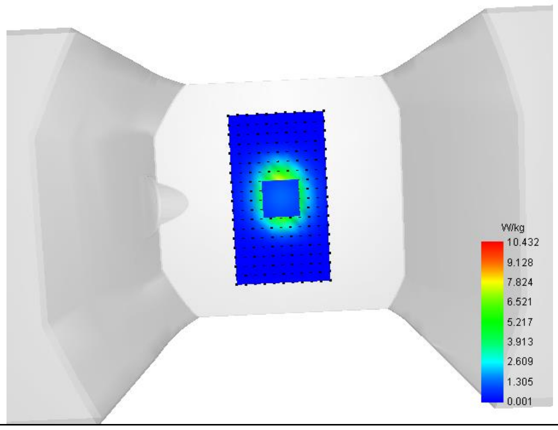
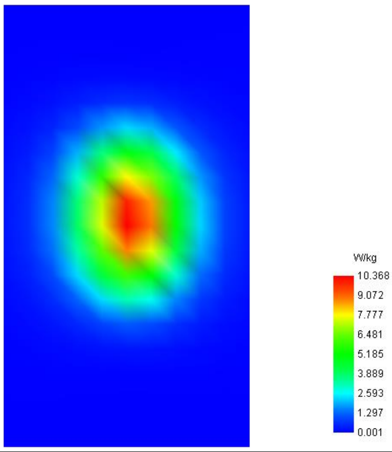
SAR 10g (W/Kg)	5.051
SAR 1g (W/Kg)	9.930
Variation (%)	1.070
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	17.387	10.484	6.206	3.672	2.184



F. 3D Image

3D screen shot	Hot spot position
	

System check at 2450 MHz

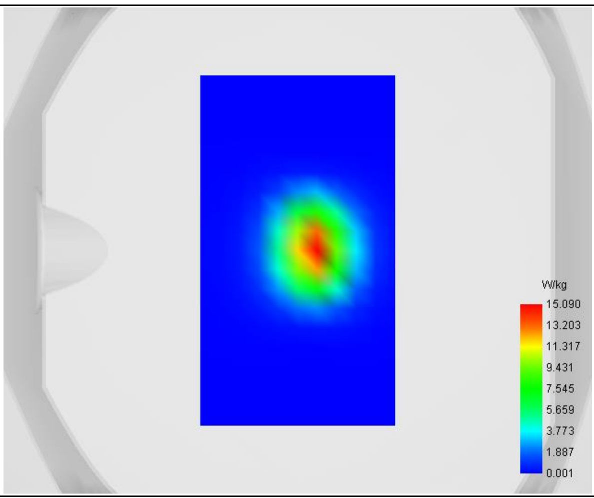
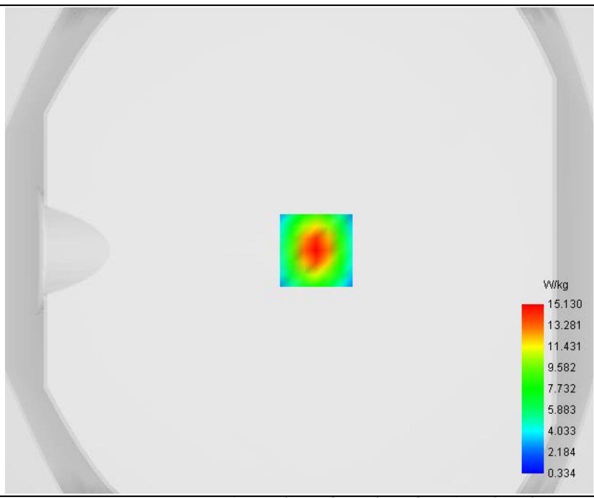
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x8,dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	2450.000
Relative permitivity (real part)	38.946
Relative permitivity (imaginary part)	13.242
Conductivity (S/m)	1.800

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

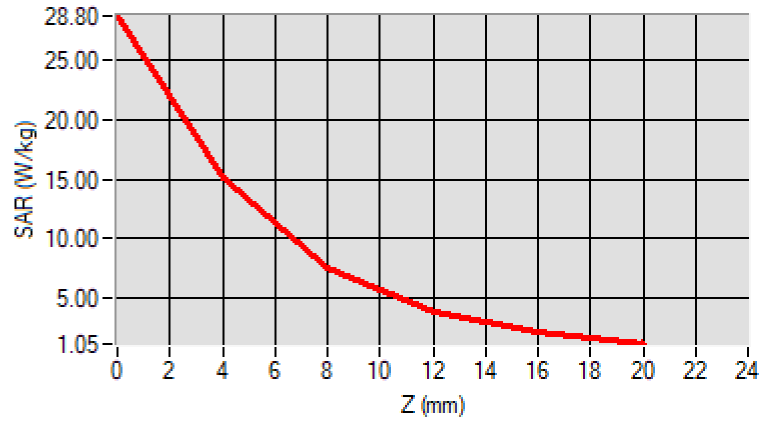
Maximum location: X=7.00, Y=0.00 ; SAR Peak: 29.42 W/kg

D. SAR 1g & 10g

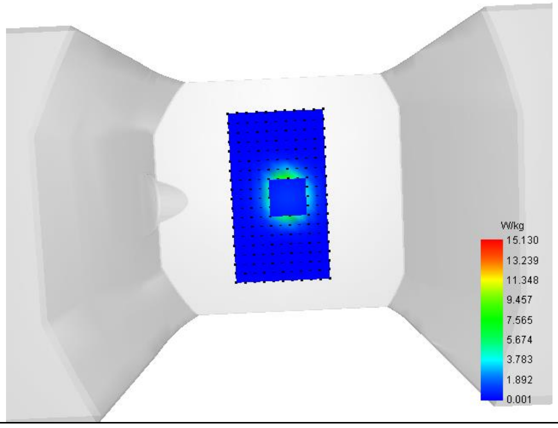
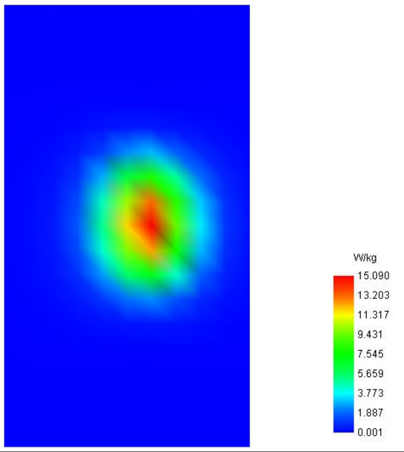
SAR 10g (W/Kg)	5.813
SAR 1g (W/Kg)	13.516
Variation (%)	0.931
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	28.802	15.018	7.416	3.658	1.912



F. 3D Image

3D screen shot	Hot spot position
	

System check at 2600 MHz

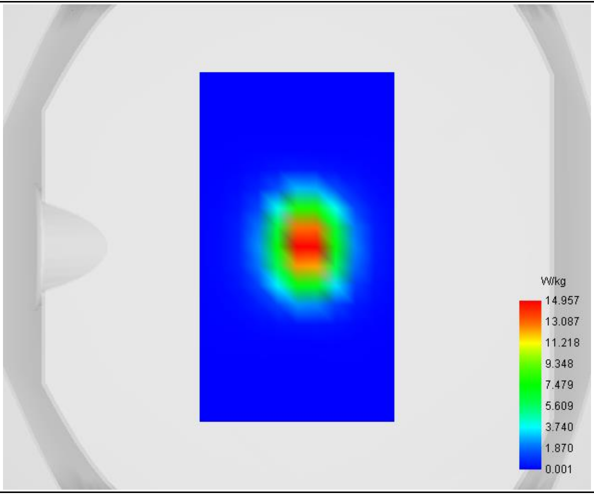
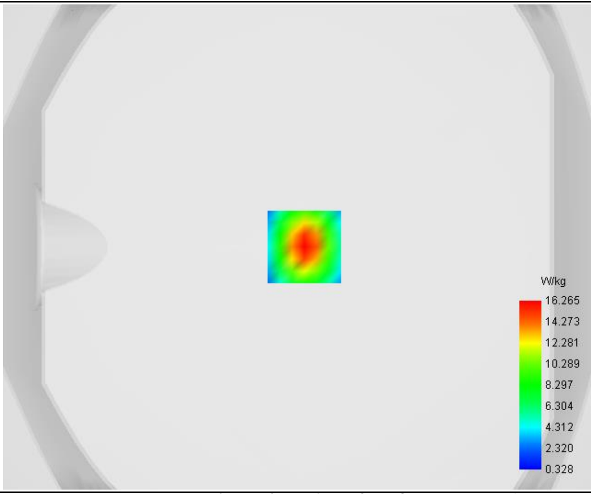
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.03
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x8,dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	2600.000
Relative permitivity (real part)	37.976
Relative permitivity (imaginary part)	13.906
Conductivity (S/m)	1.895

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

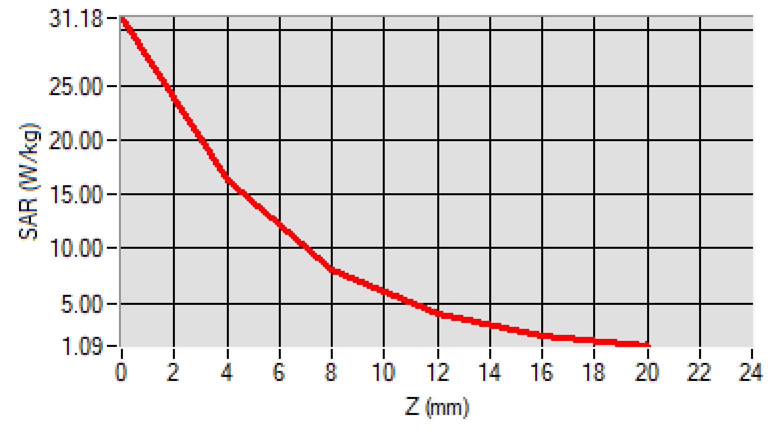
Maximum location: X=3.00, Y=0.00 ; SAR Peak: 31.98 W/kg

D. SAR 1g & 10g

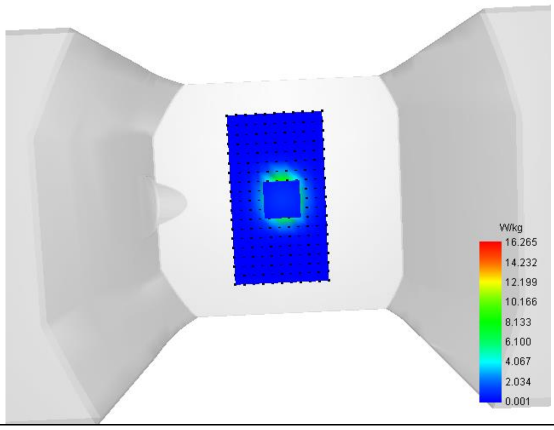
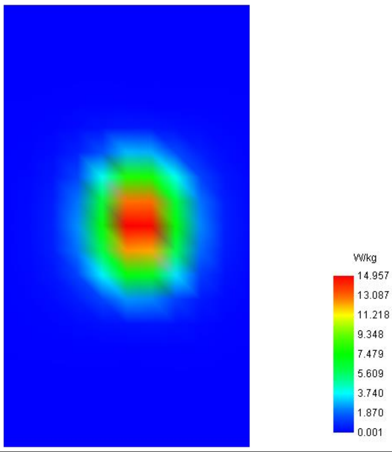
SAR 10g (W/Kg)	6.318
SAR 1g (W/Kg)	14.011
Variation (%)	-1.750
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	31.172	16.108	7.982	3.835	1.964



F. 3D Image

3D screen shot	Hot spot position
	

15.2 SAR Test Graph Results

SAR plots for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination according to FCC KDB 865664 D02

Plot 1

A. Experimental conditions.

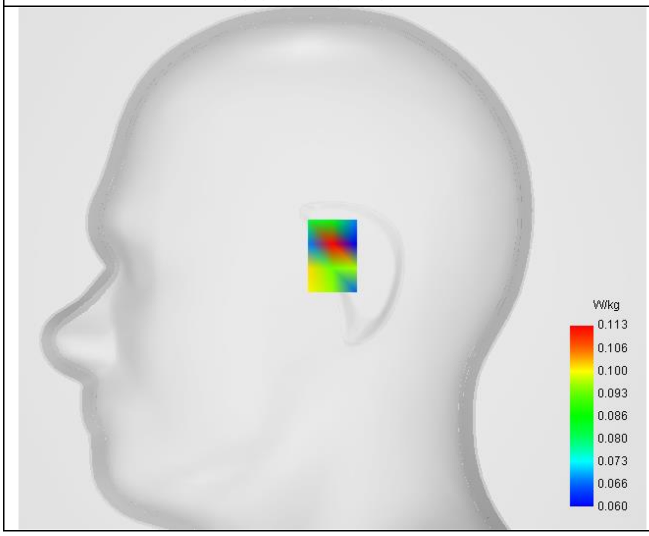
Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	dx=12mm dy=12mm, Adaptative 1 max
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle (190)
Signal	TDMA (Crest factor: 8.0)

B. Permitivity

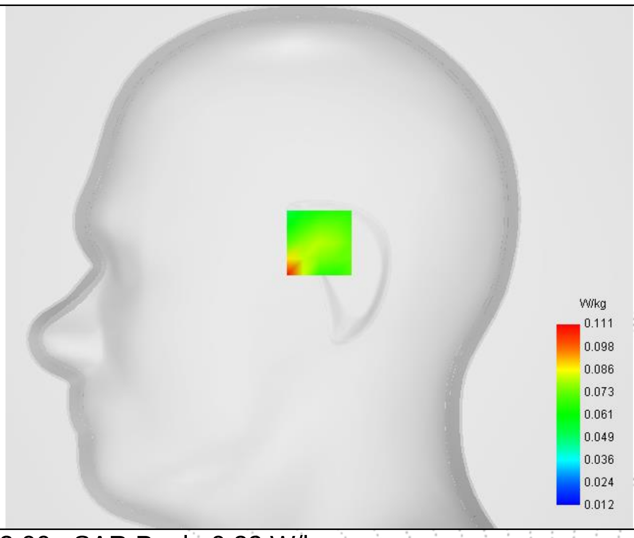
Frequency (MHz)	836.600
Relative permitivity (real part)	39.972
Relative permitivity (imaginary part)	19.400
Conductivity (S/m)	0.911

C. SAR Surface and Volume

SURFACE SAR



VOLUME SAR



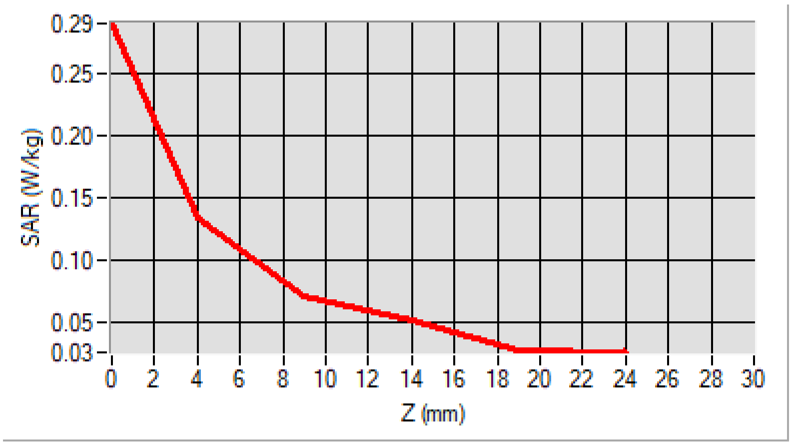
Maximum location: X=0.00, Y=12.00 ; SAR Peak: 0.22 W/kg

D. SAR 1g & 10g

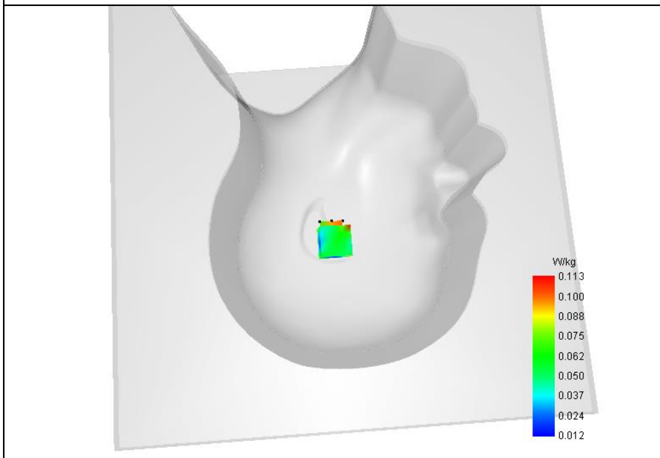
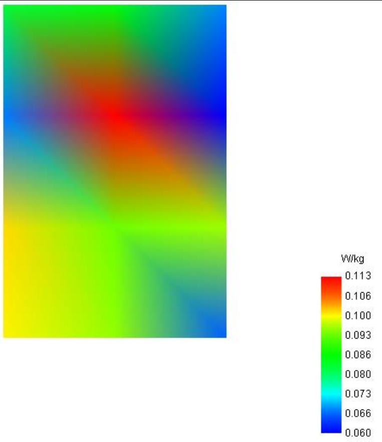
SAR 10g (W/Kg)	0.067
SAR 1g (W/Kg)	0.090
Variation (%)	-1.130
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.095	0.109	0.063	0.035	0.060



F. 3D Image

3D screen shot	Hot spot position
	

Plot 2

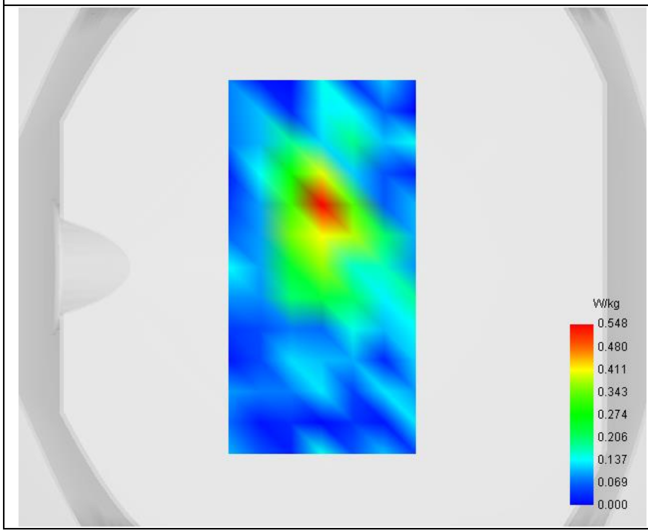
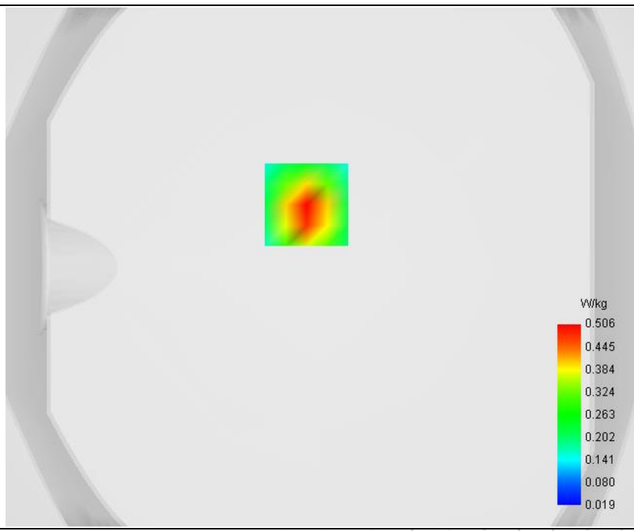
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle (190)
Signal	TDMA (Crest factor: 8.0)

B. Permitivity

Frequency (MHz)	836.600
Relative permitivity (real part)	39.972
Relative permitivity (imaginary part)	19.400
Conductivity (S/m)	0.911

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

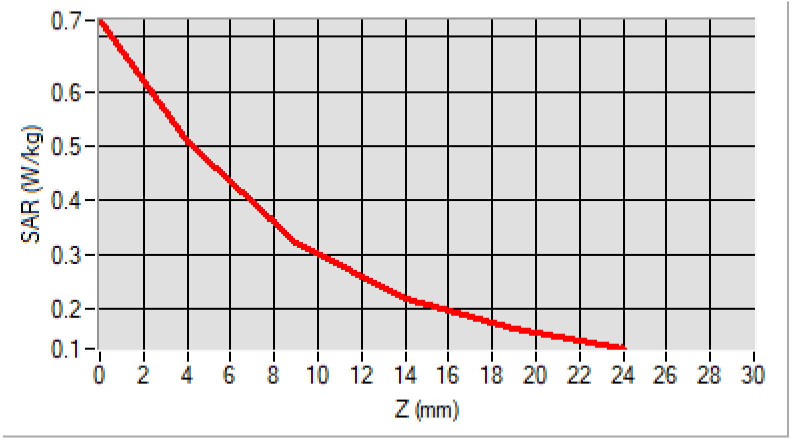
Maximum location: X=-5.00, Y=24.00 ; SAR Peak: 0.74 W/kg

D. SAR 1g & 10g

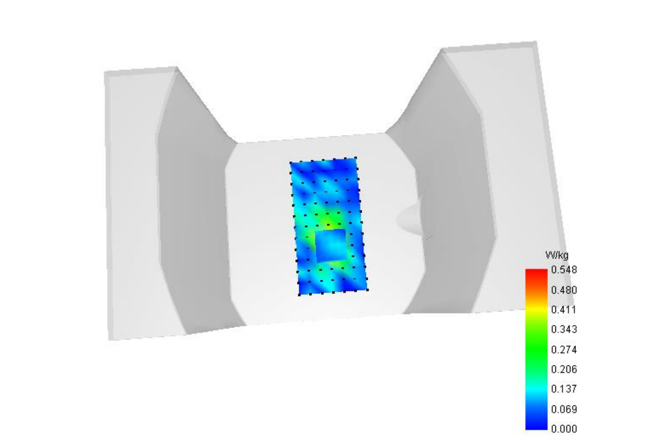
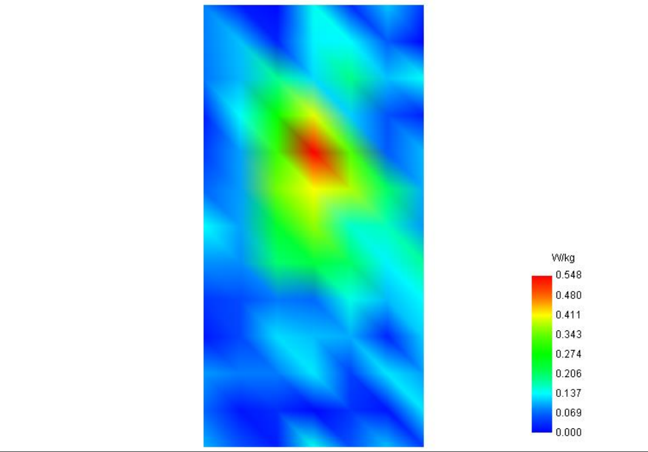
SAR 10g (W/Kg)	0.290
SAR 1g (W/Kg)	0.478
Variation (%)	0.910
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.731	0.506	0.324	0.219	0.163



F. 3D Image

3D screen shot	Hot spot position
	

Plot 3

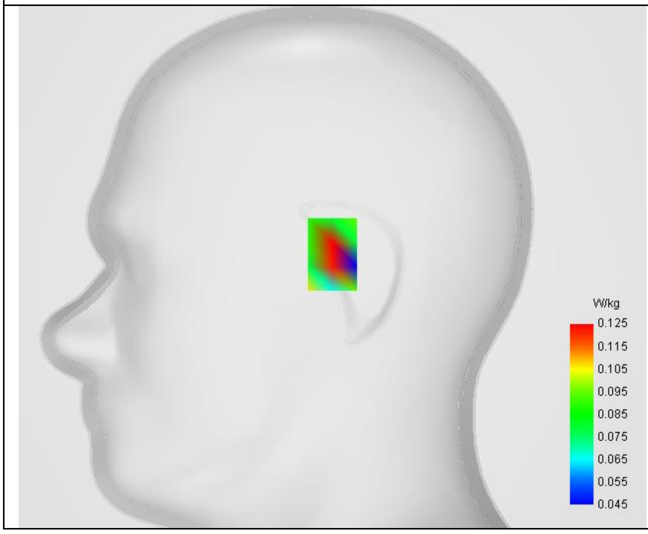
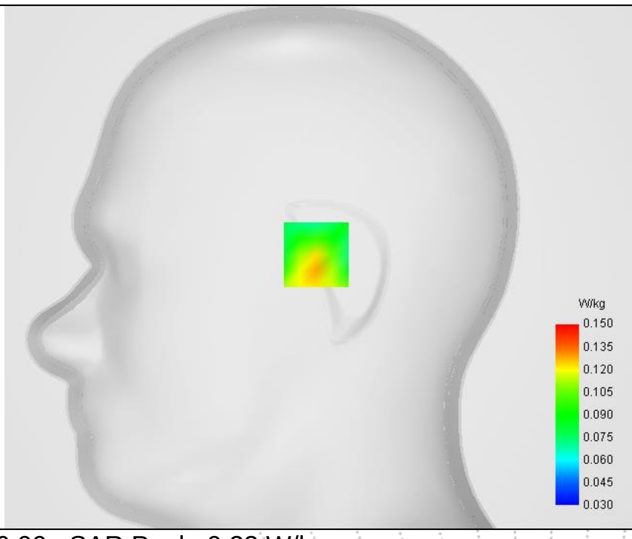
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	dx=12mm dy=12mm, Adaptative 1 max
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle (661)
Signal	TDMA (Crest factor: 8.0)

B. Permitivity

Frequency (MHz)	1880.000
Relative permitivity (real part)	38.162
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

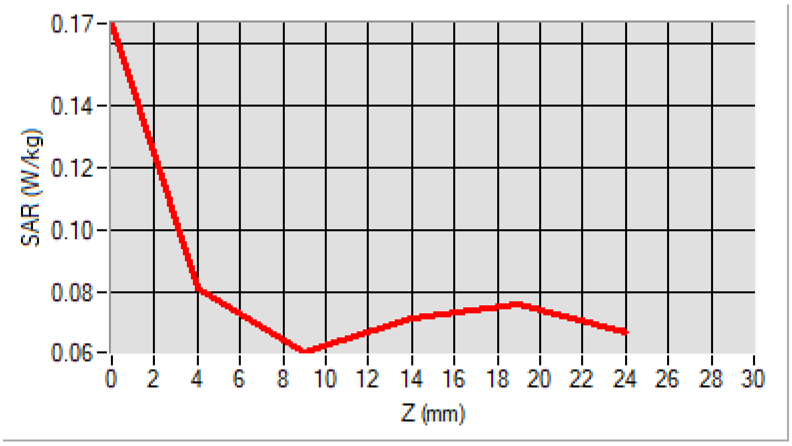
Maximum location: X=-1.00, Y=6.00 ; SAR Peak: 0.23 W/kg

D. SAR 1g & 10g

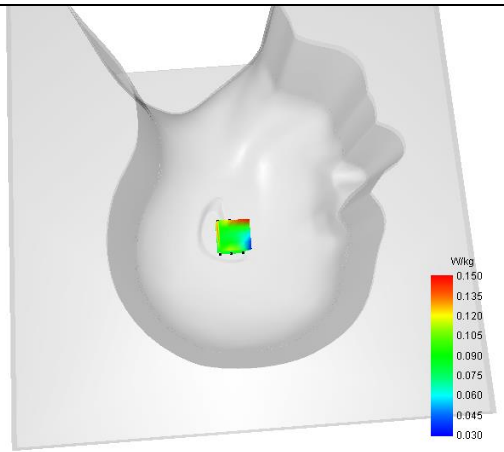
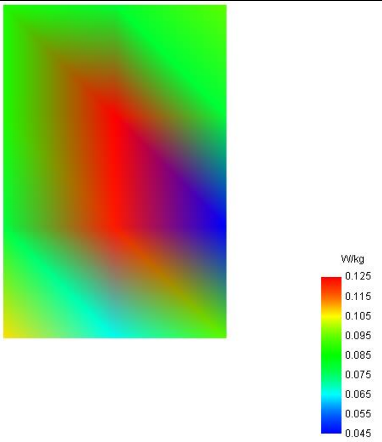
SAR 10g (W/Kg)	0.101
SAR 1g (W/Kg)	0.134
Variation (%)	-2.760
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.097	0.129	0.087	0.060	0.081



F. 3D Image

3D screen shot	Hot spot position
	

Plot 4

A. Experimental conditions.

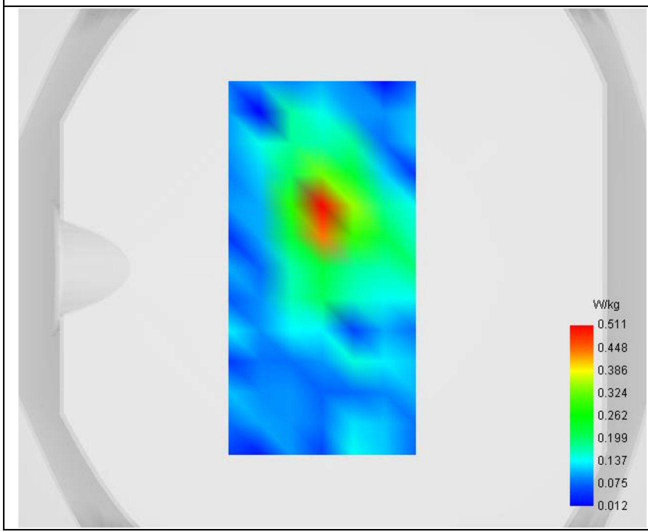
Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle (661)
Signal	TDMA (Crest factor: 8.0)

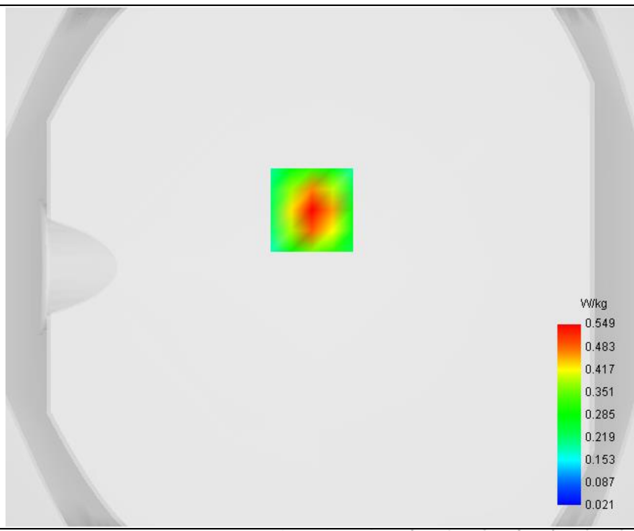
B. Permitivity

Frequency (MHz)	1880.000
Relative permitivity (real part)	38.162
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR





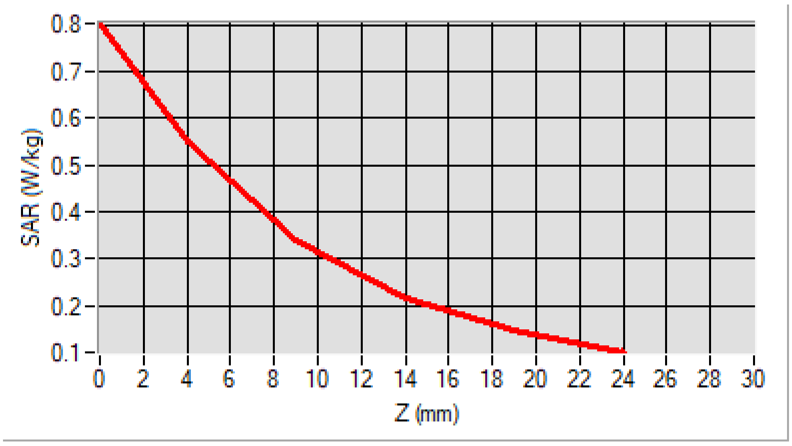
Maximum location: X=-3.00, Y=22.00 ; SAR Peak: 0.81 W/kg

D. SAR 1g & 10g

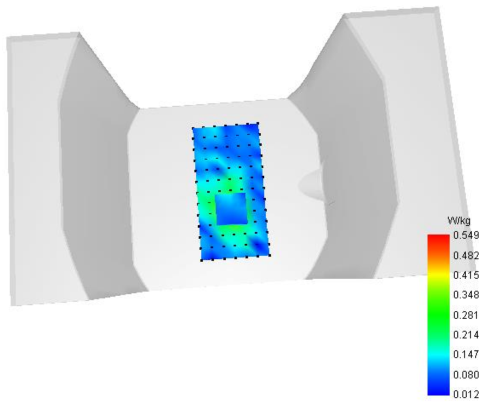
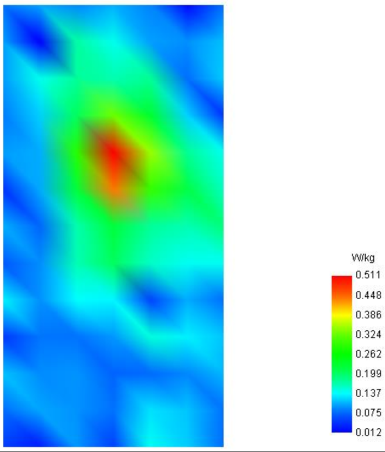
SAR 10g (W/Kg)	0.299
SAR 1g (W/Kg)	0.512
Variation (%)	-3.120
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.802	0.549	0.340	0.217	0.146



F. 3D Image

3D screen shot	Hot spot position
	

Plot 5

A. Experimental conditions.

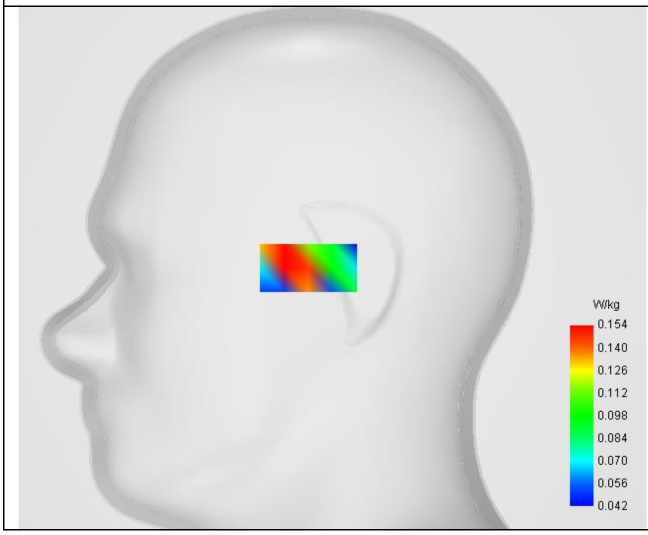
Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	dx=12mm dy=12mm, Adaptative 1 max
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Right head
Device Position	Cheek
Band	Band2_WCDMA1900
Channels	Middle (9400)
Signal	WCDMA (Crest factor: 1.0)

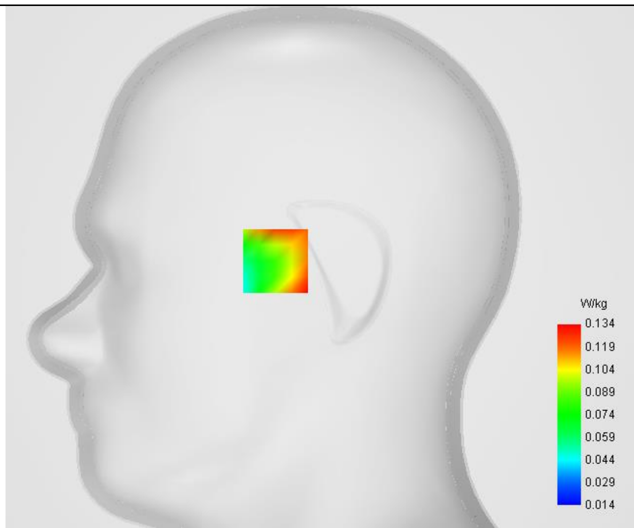
B. Permitivity

Frequency (MHz)	1880.000
Relative permitivity (real part)	38.162
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR





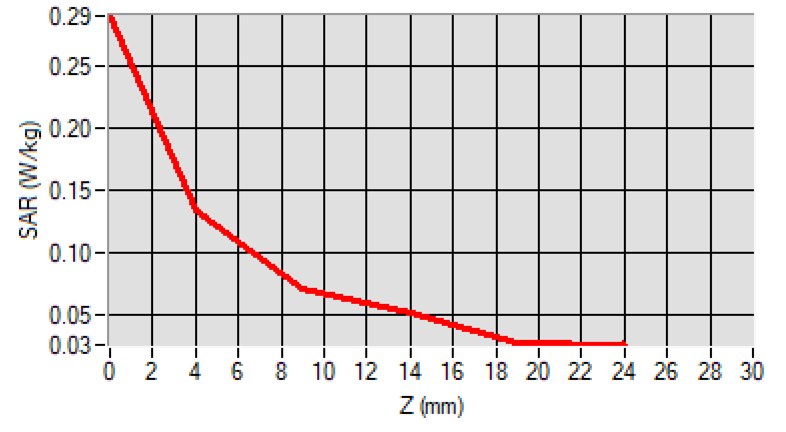
Maximum location: X=-22.00, Y=3.00 ; SAR Peak: 0.20 W/kg

D. SAR 1g & 10g

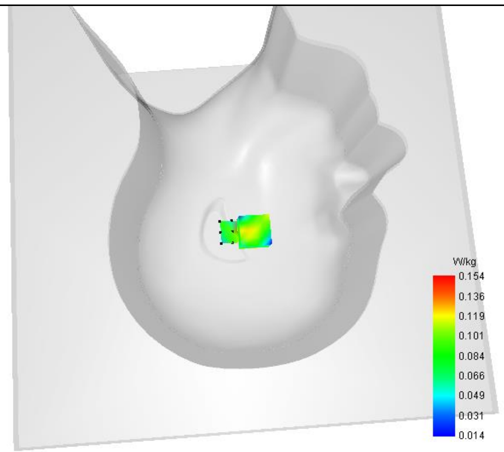
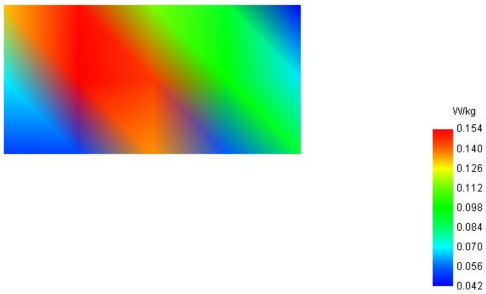
SAR 10g (W/Kg)	0.102
SAR 1g (W/Kg)	0.120
Variation (%)	4.420
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.290	0.134	0.072	0.051	0.028



F. 3D Image

3D screen shot	Hot spot position
	

Plot 6

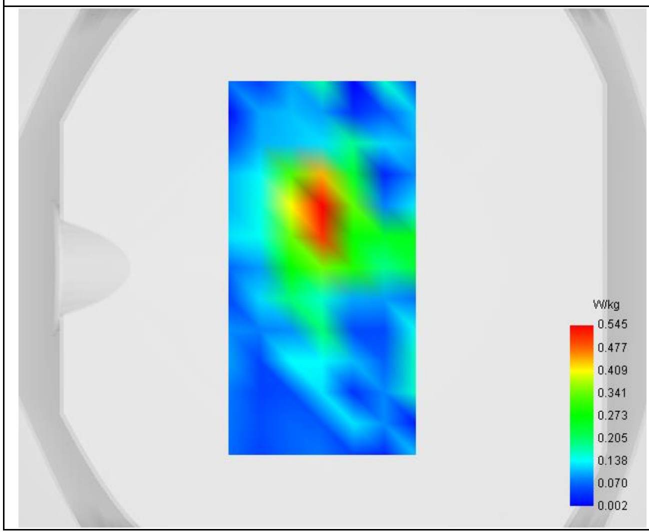
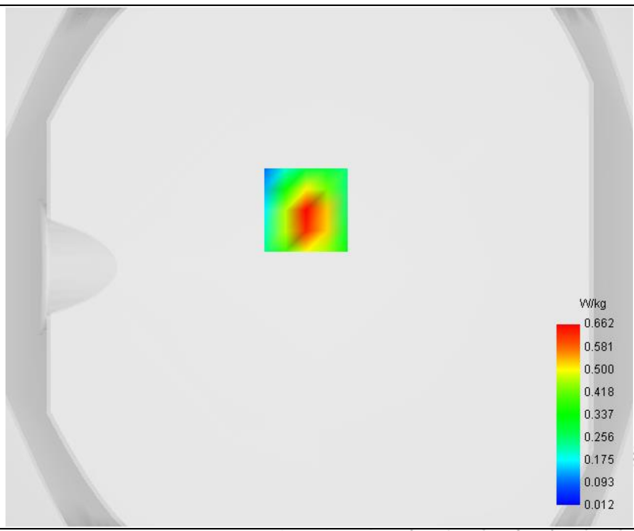
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	Band2_WCDMA1900
Channels	Middle (9400)
Signal	WCDMA (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1880.000
Relative permitivity (real part)	38.162
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

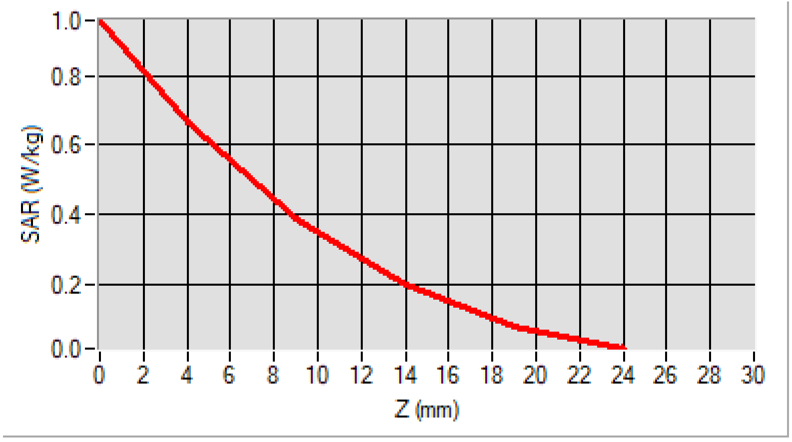
Maximum location: X=-5.00, Y=22.00 ; SAR Peak: 1.01 W/kg

D. SAR 1g & 10g

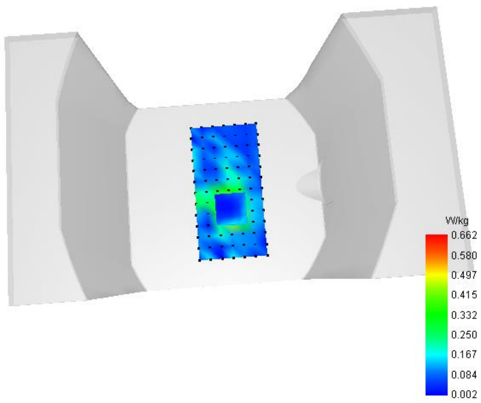
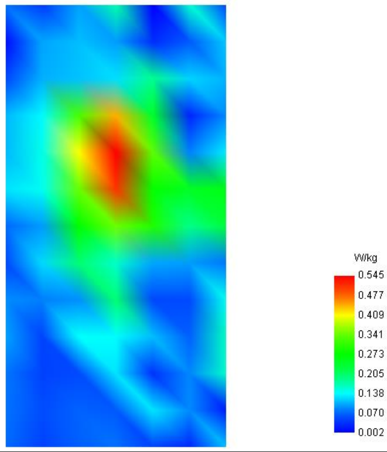
SAR 10g (W/Kg)	0.328
SAR 1g (W/Kg)	0.616
Variation (%)	4.190
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.958	0.662	0.387	0.197	0.078



F. 3D Image

3D screen shot	Hot spot position
	

Plot 7

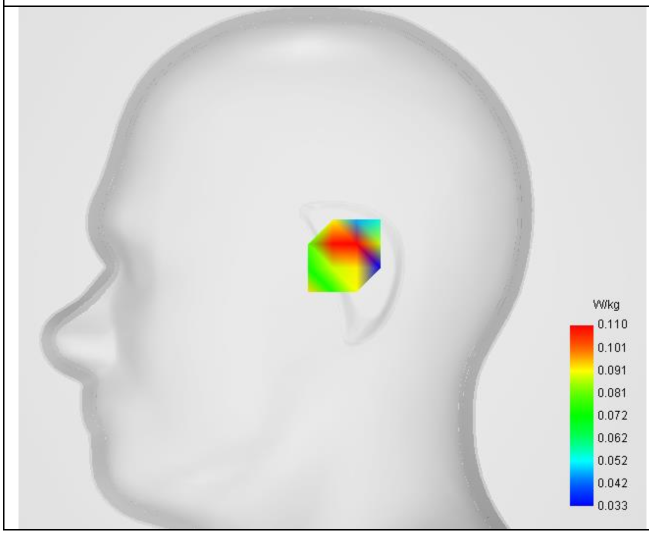
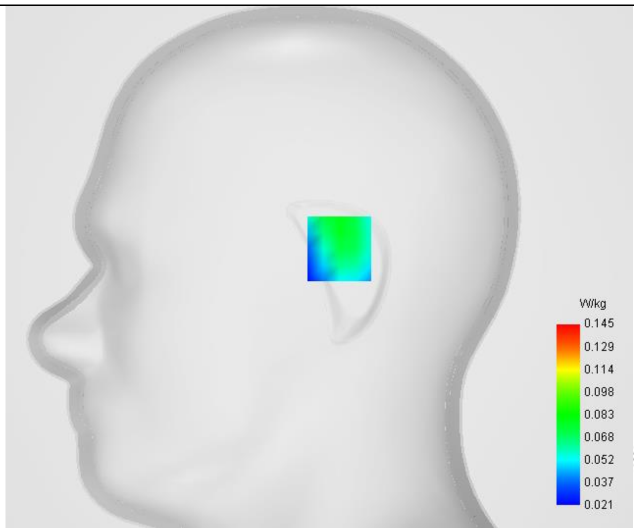
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	dx=12mm dy=12mm, Adaptative 1 max
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Right head
Device Position	Cheek
Band	Band5_WCDMA850
Channels	Middle (4182)
Signal	WCDMA (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	836.400
Relative permitivity (real part)	39.972
Relative permitivity (imaginary part)	20.226
Conductivity (S/m)	0.911

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

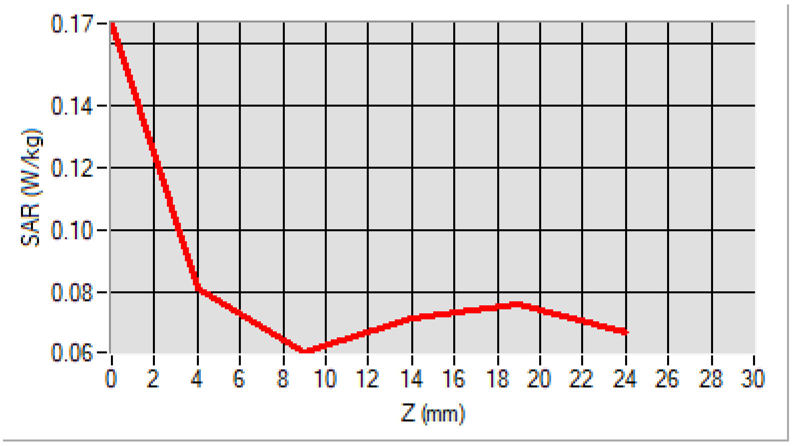
Maximum location: X=10.00, Y=9.00 ; SAR Peak: 0.10 W/kg

D. SAR 1g & 10g

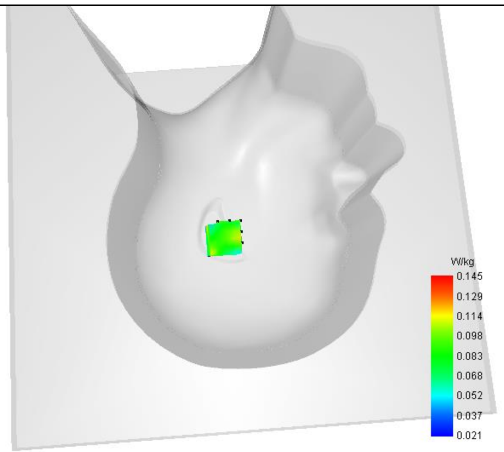
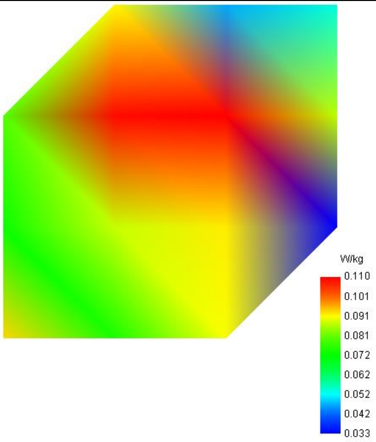
SAR 10g (W/Kg)	0.078
SAR 1g (W/Kg)	0.083
Variation (%)	2.420
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.167	0.081	0.060	0.072	0.076



F. 3D Image

3D screen shot	Hot spot position
	

Plot 8

A. Experimental conditions.

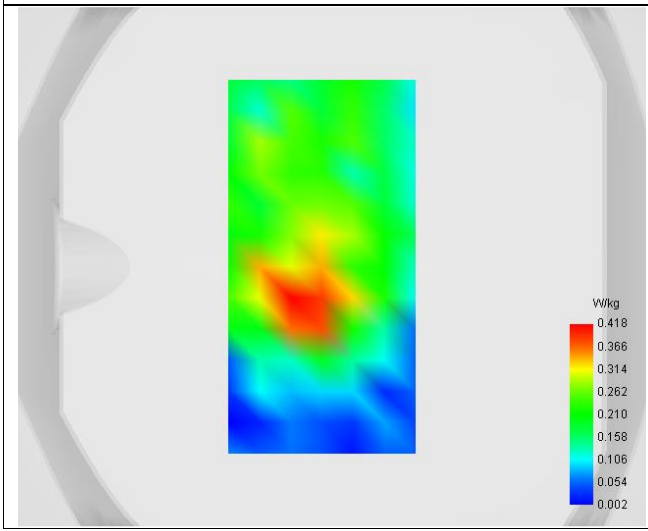
Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	Band5_WCDMA850
Channels	Middle (4182)
Signal	WCDMA (Crest factor: 1.0)

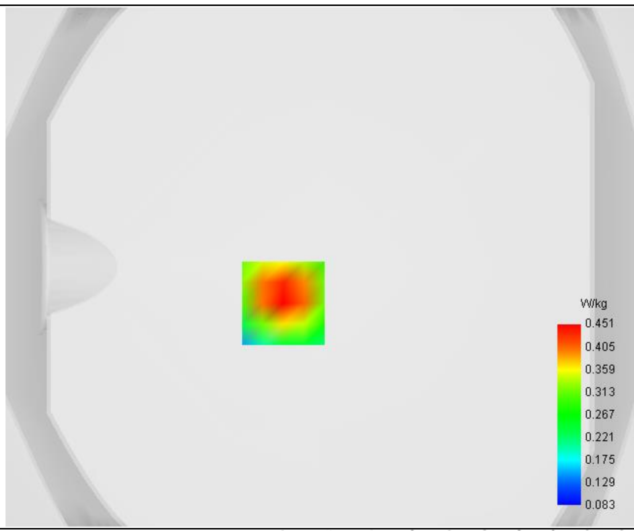
B. Permitivity

Frequency (MHz)	836.400
Relative permitivity (real part)	39.972
Relative permitivity (imaginary part)	20.226
Conductivity (S/m)	0.911

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR





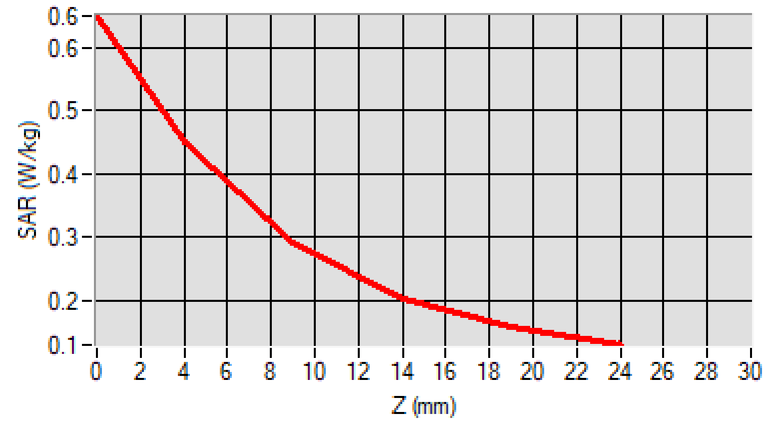
Maximum location: X=-14.00, Y=-14.00 ; SAR Peak: 0.66 W/kg

D. SAR 1g & 10g

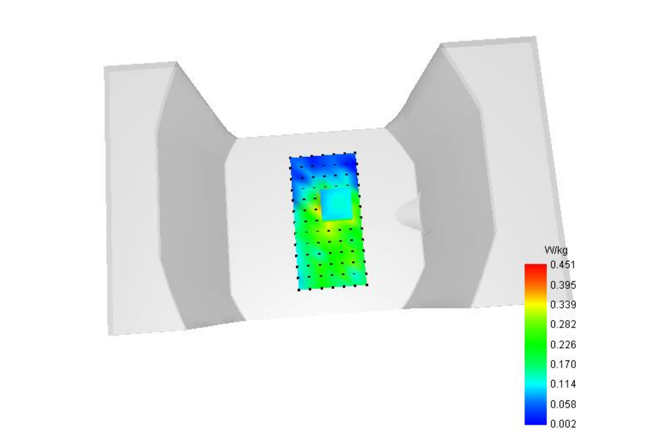
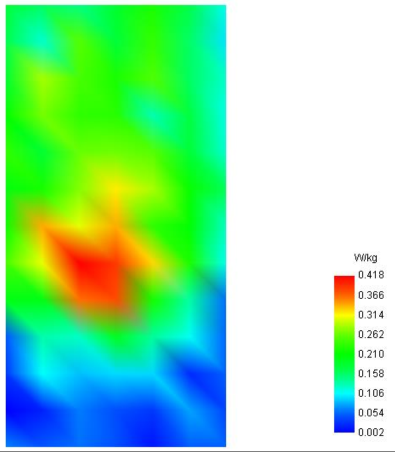
SAR 10g (W/Kg)	0.285
SAR 1g (W/Kg)	0.443
Variation (%)	-2.490
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.650	0.451	0.291	0.202	0.157



F. 3D Image

3D screen shot	Hot spot position
	

Plot 9

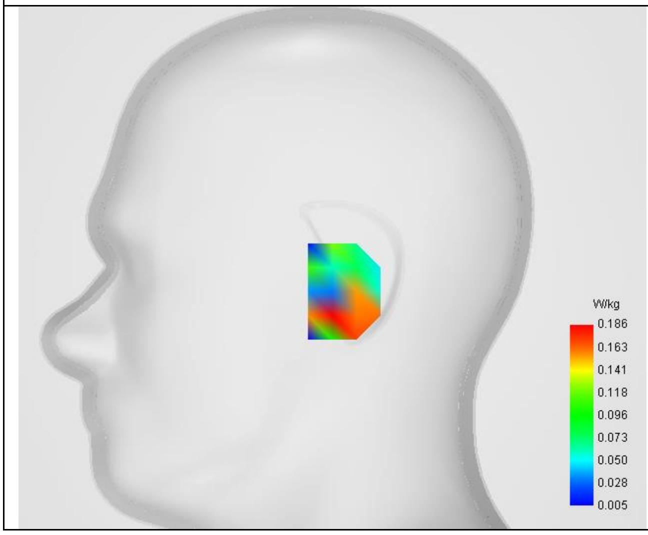
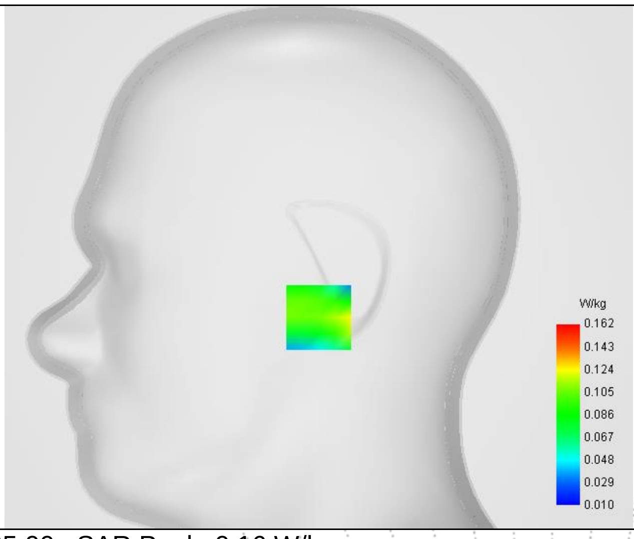
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	dx=12mm dy=12mm, Adaptative 1 max
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Right head
Device Position	Cheek
Band	LTE band 2
Channels	19100
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1900.000
Relative permitivity (real part)	38.162
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

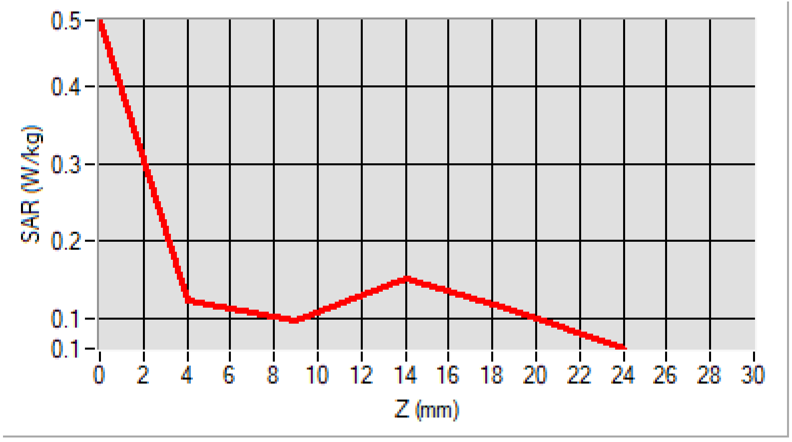
Maximum location: X=0.00, Y=-25.00 ; SAR Peak: 0.16 W/kg

D. SAR 1g & 10g

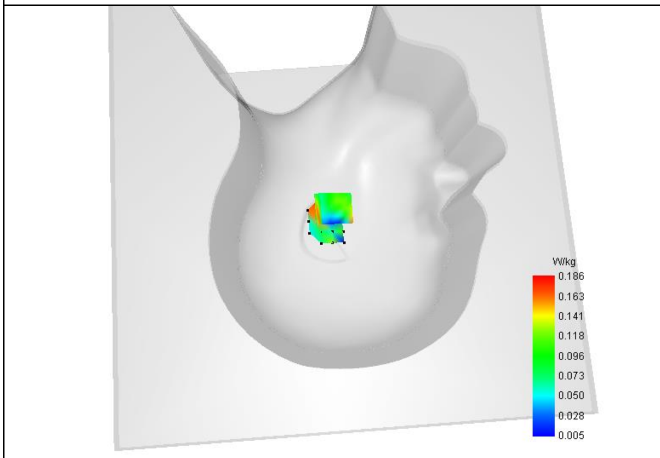
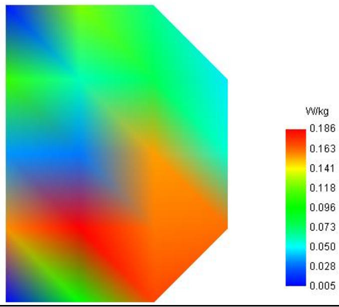
SAR 10g (W/Kg)	0.112
SAR 1g (W/Kg)	0.130
Variation (%)	2.850
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.487	0.124	0.097	0.151	0.111



F. 3D Image

3D screen shot	Hot spot position
	

Plot 10

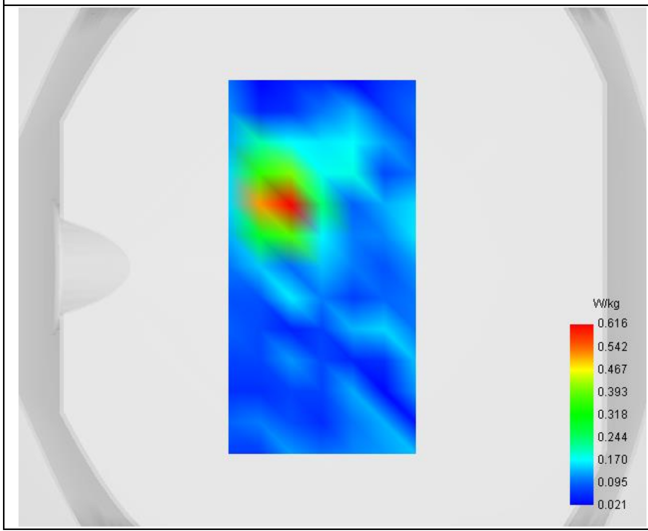
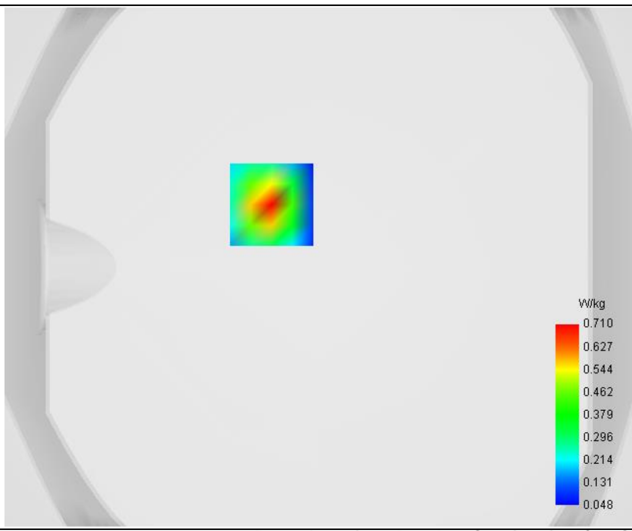
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels	19100
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1900.000
Relative permitivity (real part)	38.162
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

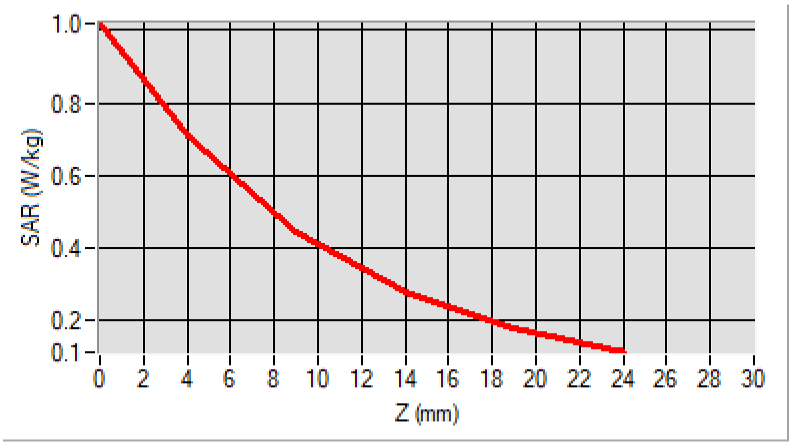
Maximum location: X=-18.00, Y=24.00 ; SAR Peak: 1.04 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.350
SAR 1g (W/Kg)	0.647
Variation (%)	2.460
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.019	0.710	0.446	0.281	0.181



F. 3D Image

3D screen shot	Hot spot position