FCC SAR EVALUATION REPORT

In accordance with the requirements of
FCC 47 CFR Part 2(2.1093), ANSI/IEEE C95.1-1992 and
IEEE Std 1528-2013

Product Name： Tablet

Trademark： CLOUD MOBILE

Model Name： Sunshine T1

Family Model： N/A

Report No.： STR210310001008E

FCC ID： 2AY6A-T1

Prepared for

Cloud Mobile Holding LLC

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TEST RESULT CERTIFICATION

Applicant's name.....: Cloud Mobile Holding LLC

Address.....: 1149 S. HILL ST. SUITE H400, LOS ANGELES, CA 90015

Manufacturer's Name.....: Cloud Mobile Holding LLC

Address.....: 1149 S. HILL ST. SUITE H400, LOS ANGELES, CA 90015

Product description

Product name.....: Tablet

Trademark .....: CLOUD MOBILE

Model Name .....: Sunshine T1

Family Model.....: N/A

Standards.....: FCC 47 CFR Part 2(2.1093)
ANSI/IEEE C95.1-1992
IEEE Std 1528-2013
Published RF exposure KDB procedures

This device described above has been tested by Shenzhen NTEK. In accordance with the measurement methods and procedures specified in IEEE Std 1528-2013 and KDB 865664 D01. Testing has shown that this device is capable of compliance with localized specific absorption rate (SAR) specified in FCC 47 CFR Part 2(2.1093) and ANSI/IEEE C95.1-1992. The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

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Date of Test

Date (s) of performance of tests.....: Mar. 08, 2021 ~ Mar. 24, 2021

Date of Issue .....: Apr. 07, 2021

Test Result .....: **Pass**

Prepared By (Test Engineer) : Cheng Jiawen
(Cheng Jiawen)

Approved By (Lab Manager) : Alex
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※ ※ Revision History ※ ※

REV.	DESCRIPTION	ISSUED DATE	REMARK
Rev.1.0	Initial Test Report Release	Apr. 07, 2021	Cheng Jiawen

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1. General Information

1.1. RF exposure limits

(A).Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

(B).Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: ***Whole-Body SAR*** is averaged over the entire body, ***partial-body SAR*** is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. ***SAR for hands, wrists, feet and ankles*** is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

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).

General Population/Uncontrolled Environments:

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

NOTE HEAD AND TRUNK LIMIT 1.6 W/kg APPLIED TO THIS EUT

1.2. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Sunshine T1 are as follows.

RF Exposure Conditions		Equipment Class -Highest Reported SAR (W/kg)			
		PCE	DTS	NII	DSS
1-g Head		0.169	0.307	0.238	N/A
1-g Body (Separation distance of 0mm)		1.135	0.301	0.340	N/A
Max Simultaneous Tx	Head	0.476	0.476	0.407	0.211
	Body	1.475	1.436	1.475	1.177

Note: The Max Simultaneous Tx is calculated based on the same configuration and test position.
This 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 C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013 & KDB 865664 D01.

1.3. EUT Description

Device Information			
Product Name	Tablet		
Trade Name	CLOUD MOBILE		
Model Name	Sunshine T1		
Family Model	N/A		
FCC ID	2AY6A-T1		
Device Phase	Identical Prototype		
Exposure Category	General population / Uncontrolled environment		
Antenna	PIFA Antenna		
Battery Information	DC 3.7V, 3500mAh		
Device Operating Configurations			
Supporting Mode(s)	GSM 850/1900, WCDMA Band 2/4/5, LTE Band 2/4/5/7/12/17/66, WLAN 2.4G/5.2G/5.8G, Bluetooth		
Test Modulation	GSM(GMSK/8PSK), WCDMA(QPSK), LTE(QPSK/16QAM), WLAN(DSSS/OFDM), Bluetooth(GFSK, π/4-DQPSK, 8DPSK)		
Device Class	B		
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM 850	824-849	869-894
	GSM 1900	1850-1910	1930-1990
	WCDMA Band 2	1850-1910	1930-1990
	WCDMA Band 4	1710-1755	2110-2155

	WCDMA Band 5	824-849	869-894
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710-1755	2110-2155
	LTE Band 5	824-849	869-894
	LTE Band 7	2500-2570	2620-2690
	LTE Band 12	699-716	729-746
	LTE Band 17	704-716	734-746
	LTE Band 66	1710-1780	2110-2200
	WLAN 2.4G	2412-2462	
	WLAN 5.2G	5180-5240	
	WLAN 5.8G	5745-5825	
	Bluetooth	2402-2480	
GPRS Multislot Class(12)	Max Number of Timeslots in Uplink		4
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
EDGE Multislot Class(12)	Max Number of Timeslots in Uplink		4
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
Power Class	4, tested with power level 5(GSM 850)		
	1, tested with power level 0(GSM 1900)		
	3, tested with power control “all 1”(WCDMA Band 2)		
	3, tested with power control “all 1”(WCDMA Band 4)		
	3, tested with power control “all 1”(WCDMA Band 5)		
	3, tested with power control all Max.(LTE Band 2)		
	3, tested with power control all Max.(LTE Band 4)		
	3, tested with power control all Max.(LTE Band 5)		
	3, tested with power control all Max.(LTE Band 7)		
	3, tested with power control all Max.(LTE Band 12)		
	3, tested with power control all Max.(LTE Band 17)		
	3, tested with power control all Max.(LTE Band 66)		

1.4. Test specification(s)

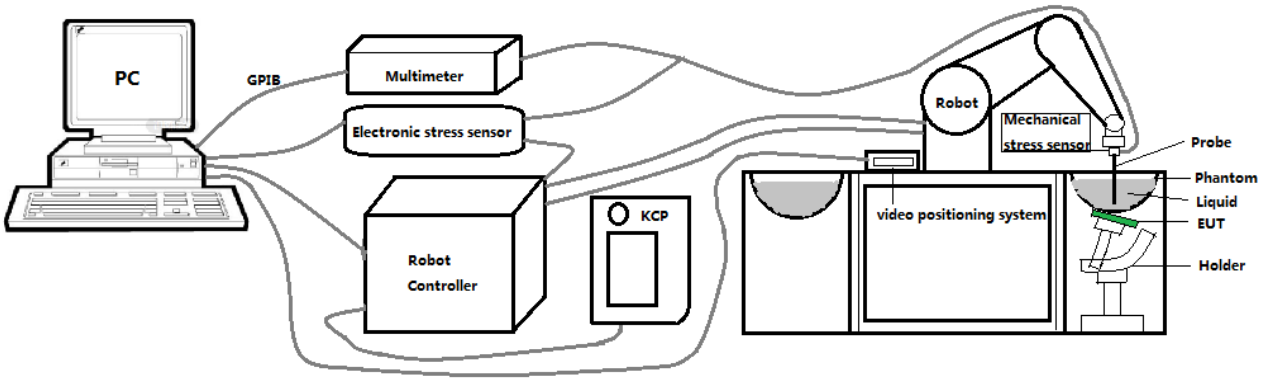
FCC 47 CFR Part 2(2.1093)
ANSI/IEEE C95.1-1992
IEEE Std 1528-2013
KDB 865664 D01 SAR measurement 100 MHz to 6 GHz
KDB 865664 D02 RF Exposure Reporting
KDB 447498 D01 General RF Exposure Guidance
KDB 248227 D01 802.11 Wi-Fi SAR
KDB 941225 D01 3G SAR Procedures
KDB 941225 D05 SAR for LTE Devices
KDB 616217 D04 SAR for laptop and tablets

1.5. Ambient Condition

Ambient temperature	20°C – 24°C
Relative Humidity	30% – 70%

2. SAR Measurement System

2.1. SATIMO SAR Measurement Set-up Diagram



These measurements were performed with the automated near-field scanning system OPENSAR from SATIMO. The system is based on a high precision robot (working range: 901 mm), which positions the probes with a positional repeatability of better than ±0.03 mm. The SAR measurements were conducted with dosimetric probe (manufactured by SATIMO), designed in the classical triangular configuration and optimized for dosimetric evaluation.

The first step of the field measurement is the evaluation of the voltages induced on the probe by the device under test. Probe diode detectors are nonlinear. Below the diode compression point, the output voltage is proportional to the square of the applied E-field; above the diode compression point, it is linear to the applied E-field. The compression point depends on the diode, and a calibration procedure is necessary for each sensor of the probe.

The Keithley multimeter reads the voltage of each sensor and send these three values to the PC. The corresponding E field value is calculated using the probe calibration factors, which are stored in the working directory. This evaluation includes linearization of the diode characteristics. The field calculation is done separately for each sensor. Each component of the E field is displayed on the "Dipole Area Scan Interface" and the total E field is displayed on the "3D Interface"

2.2. Robot

The SATIMO SAR system uses the high precision robots from KUKA. For the 6-axis controller system, the robot controller version (KUKA) from KUKA is used. The KUKA robot series have many features that are important for our application:

- High precision (repeatability ±0.03 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

2.3. E-Field Probe

This E-field detection probe is composed of three orthogonal dipoles linked to special Schottky diodes with low detection thresholds. The probe allows the measurement of electric fields in liquids such as the one defined in the IEEE and CENELEC standards.

For the measurements the Specific Dosimetric E-Field Probe SN 08/16 EPGO287 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 2.5 mm
- Distance between probe tip and sensor center: 1 mm
- Distance between sensor center and the inner phantom surface: 2 mm (repeatability better than ±1 mm).
- Probe linearity: ±0.08 dB
- Axial isotropy: ±0.01 dB
- Hemispherical Isotropy: ±0.01 dB
- Calibration range: 650MHz to 5900MHz for head & body simulating liquid.
- Lower detection limit: 8mW/kg

Angle between probe axis (evaluation axis) and surface normal line: less than 30°.

2.3.1. E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than ±10%. The spherical isotropy shall be evaluated and within ±0.25dB. The sensitivity parameters (Norm X, Norm Y, and Norm Z), the diode compression parameter (DCP) and the conversion factor (Conv F) of the probe are tested. The calibration data can be referred to appendix D of this report.

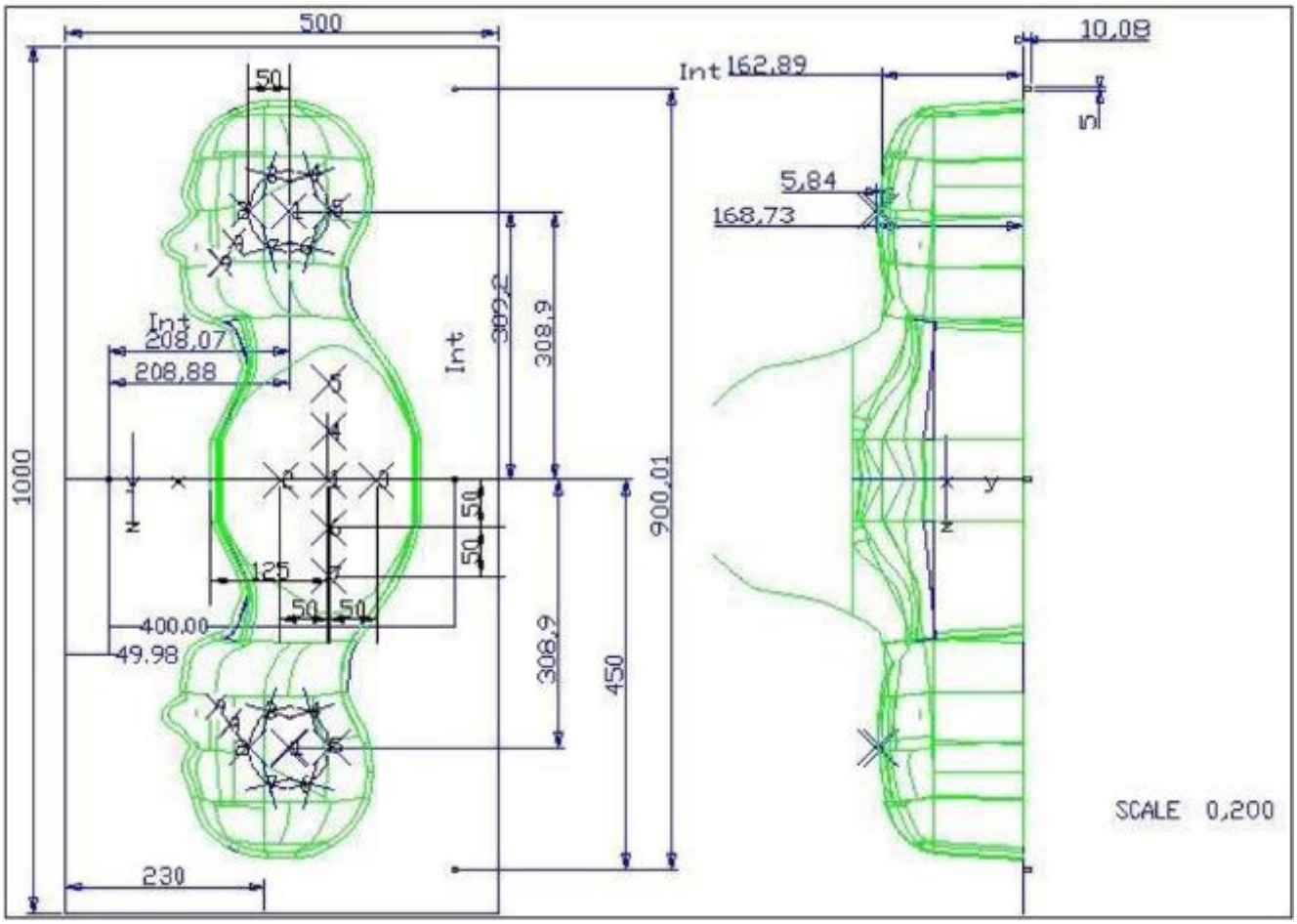
2.4. SAM phantoms

Photo of SAM phantom SN 16/15 SAM119

The SAM phantom is used to measure the SAR relative to people exposed to electro-magnetic field radiated by mobile phones.

2.4.1. Technical Data

Serial Number	Shell thickness	Filling volume	Dimensions	Positionner Material	Permittivity	Loss Tangent
SN 16/15 SAM119	2 mm ±0.2 mm	27 liters	Length:1000 mm Width:500 mm Height:200 mm	Gelcoat with fiberglass	3.4	0.02

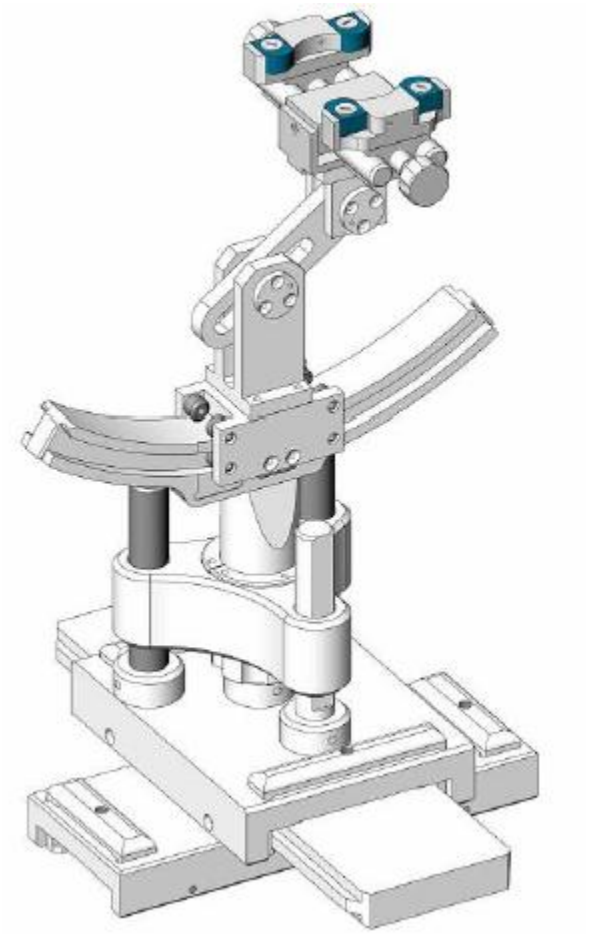


Serial Number	Left Head(mm)		Right Head(mm)		Flat Part(mm)	
SN 16/15 SAM119	2	2.02	2	2.08	1	2.09
	3	2.05	3	2.06	2	2.06
	4	2.07	4	2.07	3	2.08
	5	2.08	5	2.08	4	2.10
	6	2.05	6	2.07	5	2.10
	7	2.05	7	2.05	6	2.07
	8	2.07	8	2.06	7	2.07
	9	2.08	9	2.06	-	-

The test, based on ultrasonic system, allows measuring the thickness with an accuracy of 10 µm.

2.5. 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 degree.



Serial Number	Holder Material	Permittivity	Loss Tangent
SN 16/15 MSH100	Delrin	3.7	0.005

2.6. Test Equipment List

This table gives a complete overview of the SAR measurement equipment.

Devices used during the test described are marked ☒

	Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
					Last Cal.	Due Date
☒	MVG	E FIELD PROBE	SSE2	SN 08/16 EPGO287	Mar. 01, 2021	Feb. 28, 2022
☒	MVG	750 MHz Dipole	SID750	SN 03/15 DIP 0G750-355	Mar. 01, 2021	Feb. 28, 2024
☒	MVG	835 MHz Dipole	SID835	SN 03/15 DIP 0G835-347	Mar. 01, 2021	Feb. 28, 2024
☐	MVG	900 MHz Dipole	SID900	SN 03/15 DIP 0G900-348	Mar. 01, 2021	Feb. 28, 2024
☒	MVG	1800 MHz Dipole	SID1800	SN 03/15 DIP 1G800-349	Mar. 01, 2021	Feb. 28, 2024
☒	MVG	1900 MHz Dipole	SID1900	SN 03/15 DIP 1G900-350	Mar. 01, 2021	Feb. 28, 2024
☐	MVG	2000 MHz Dipole	SID2000	SN 03/15 DIP 2G000-351	Mar. 01, 2021	Feb. 28, 2024
☒	MVG	2450 MHz Dipole	SID2450	SN 03/15 DIP 2G450-352	Mar. 01, 2021	Feb. 28, 2024
☒	MVG	2600 MHz Dipole	SID2600	SN 03/15 DIP 2G600-356	Mar. 01, 2021	Feb. 28, 2024
☒	MVG	5000 MHz Dipole	SWG5500	SN 13/14 WGA 33	Mar. 01, 2021	Feb. 28, 2024
☒	MVG	Liquid measurement Kit	SCLMP	SN 21/15 OCPG 72	NCR	NCR
☒	MVG	Power Amplifier	N.A	AMPLISAR_28/14_003	NCR	NCR
☒	KEITHLEY	Millivoltmeter	2000	4072790	NCR	NCR
☒	R&S	Universal radio communication tester	CMU200	117858	Jul. 13, 2020	Jul. 12, 2021
☒	R&S	Wideband radio communication tester	CMW500	103917	Jul. 13, 2020	Jul. 12, 2021
☒	HP	Network Analyzer	8753D	3410J01136	Jul. 13, 2020	Jul. 12, 2021
☒	Agilent	PSG Analog Signal Generator	E8257D	MY51110112	Jul. 13, 2020	Jul. 12, 2021

☒	Agilent	Power meter	E4419B	MY45102538	Jul. 13, 2020	Jul. 12, 2021
☒	Agilent	Power sensor	E9301A	MY41495644	Jul. 13, 2020	Jul. 12, 2021
☒	Agilent	Power sensor	E9301A	US39212148	Jul. 13, 2020	Jul. 12, 2021
☒	MCLI/USA	Directional Coupler	CB11-20	0D2L51502	Jul. 17, 2020	Jul. 16, 2023

3. SAR Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.

(b) Read the WWAN RF power level from the base station simulator.

(c) For WLAN/Bluetooth power measurement, use engineering software to configure EUT WLAN/Bluetooth continuously transmission, at maximum RF power in each supported wireless interface and frequency band.

(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/Bluetooth output power.

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/Bluetooth continuously transmission, at maximum RF power, in the highest power channel.

(b) Place the EUT in the positions as Appendix A demonstrates.

(c) Set scan area, grid size and other setting on the OPENSAR software.

(d) Measure SAR results for the highest power channel on each testing position.

(e) Find out the largest SAR result on these testing positions of each band.

(f) Measure SAR results for other channels in worst SAR testing position if the reported 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

3.1. Power Reference

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

3.2. Area scan & Zoom scan

The area scan is a 2D scan to find the hot spot location on the DUT. The zoom scan is a 3D scan above the hot spot to calculate the 1g and 10g SAR value.

Measurement of the SAR distribution with a grid of 8 to 16 mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme. Around this point, a cube of 30 * 30 *30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8 * 4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

From the scanned SAR distribution, identify the position of the maximum SAR value, in addition identify the positions of any local maxima with SAR values within 2 dB of the maximum value that will not be within the zoom scan of other peaks; additional peaks shall be measured only when the primary peak is within 2 dB of the SAR compliance limit (e.g., 1 W/kg for 1,6 W/kg 1 g limit, or 1,26 W/kg for 2 W/kg, 10 g limit).

Area scan & Zoom scan scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

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

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

3.3. Description of interpolation/extrapolation scheme

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 minimise 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 1 mm 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 10 grams and 1 gram requires a very fine resolution in the three dimensional scanned data array.

3.4. Volumetric Scan

The volumetric scan consists to a full 3D scan over a specific area. This 3D scan is useful form multi Tx SAR measurement. Indeed, it is possible with OpenSAR to add, point by point, several volumetric scan to calculate the SAR value of the combined measurement as it is define in the standard IEEE1528 and IEC62209.

3.5. Power Drift

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In OpenSAR 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 V/m. If the power drifts more than ±5%, the SAR will be retested.

4. System Verification Procedure

4.1. Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% of weight)	Head Tissue									
Frequency Band (MHz)	750	835	900	1800	1900	2000	2450	2600	5200	5800
Water	34.40	34.40	34.40	55.36	55.36	57.87	57.87	57.87	65.53	65.53
NaCl	0.79	0.79	0.79	0.35	0.35	0.16	0.16	0.16	0.00	0.00
1,2-Propanediol	64.81	64.81	64.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Triton X-100	0.00	0.00	0.00	30.45	30.45	19.97	19.97	19.97	24.24	24.24
DGBE	0.00	0.00	0.00	13.84	13.84	22.00	22.00	22.00	10.23	10.23

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid depth from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm.

Photo of Liquid depth for Head Position	Photo of Liquid depth for Body Position

4.1.1. Tissue Dielectric Parameter Check Results

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ±5% of the target values.

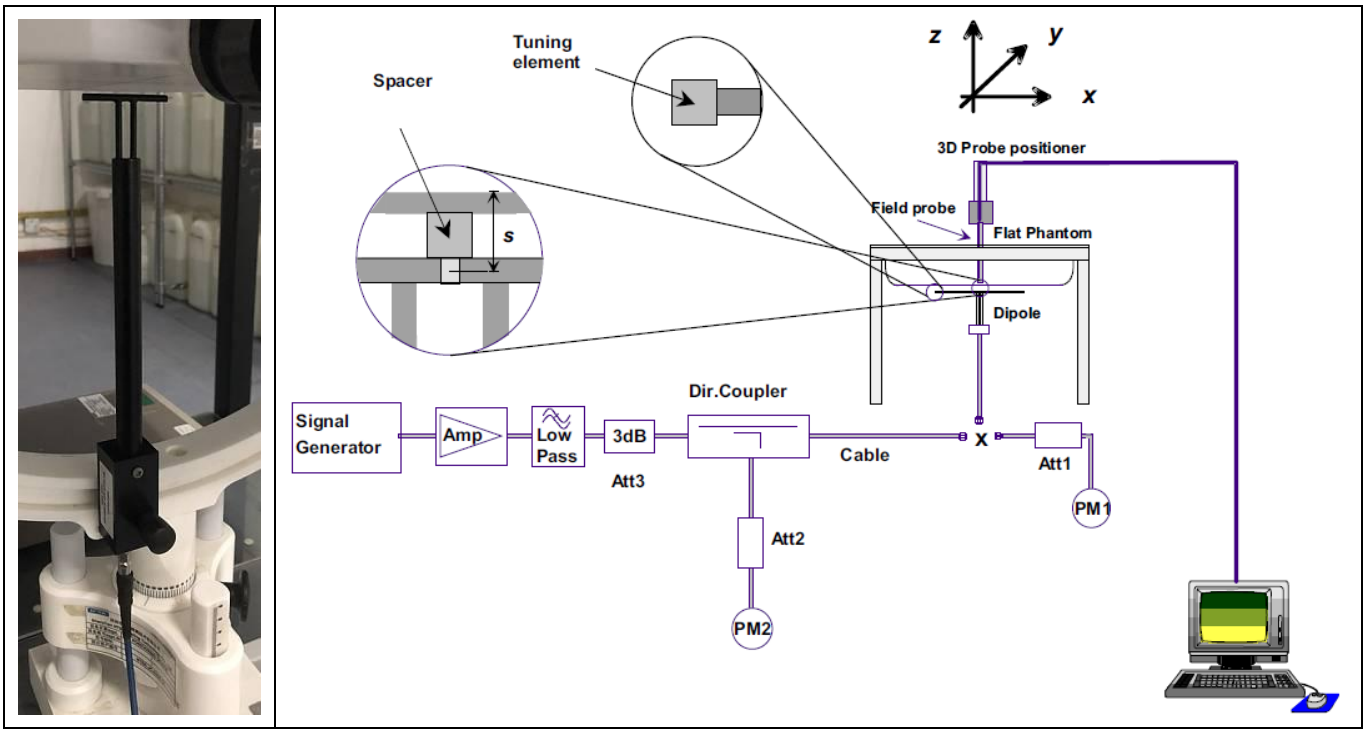
Tissue Type	Measured Frequency (MHz)	Target Tissue		Measured Tissue		Liquid Temp.	Test Date
		εr (±5%)	σ (S/m) (±5%)	εr	σ (S/m)		
Head 750	750	41.96 (39.86~44.06)	0.89 (0.85~0.93)	42.86	0.92	21.5 °C	Mar. 12, 2021
Head 850	835	41.50 (39.43~43.58)	0.90 (0.86~0.95)	41.93	0.88	21.3 °C	Mar. 08, 2021
Head 1800	1800	40.00 (38.00~42.00)	1.40 (1.33~1.47)	39.71	1.35	21.3 °C	Mar. 09, 2021
Head 1900	1900	40.00 (38.00~42.00)	1.40 (1.33~1.47)	39.18	1.45	21.5 °C	Mar. 10, 2021
Head 2450	2450	39.20 (37.24~41.16)	1.80 (1.71~1.89)	39.51	1.77	21.2 °C	Mar. 11, 2021
Head 2600	2600	39.01 (37.06~40.96)	1.96 (1.86~2.06)	39.54	1.93	21.4 °C	Mar. 13, 2021
Head 5200	5200	36.00 (34.20~37.80)	4.66 (4.43~4.89)	36.32	4.75	21.5 °C	Mar. 23, 2021
Head 5800	5800	35.30 (33.54~37.07)	5.27 (5.01~5.53)	35.39	5.18	21.9 °C	Mar. 24, 2021

NOTE: The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2 °C of the conditions expected during the SAR evaluation to satisfy protocol requirements.

4.2. System Verification Procedure

The system verification is performed for verifying the accuracy of the complete measurement system and performance of the software. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 100mW (below 5GHz) or 100mW (above 5GHz). To adjust this power a power meter is used. The power sensor is connected to the cable before the system verification to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system verification to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).

The system verification is shown as below picture:



4.2.1. System Verification Results

Comparing to the original SAR value provided by SATIMO, the verification data should be within its specification of ±10%. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance verification can meet the variation criterion and the plots can be referred to Appendix B of this report.

System Verification	Target SAR (1W) (±10%)		Measured SAR (Normalized to 1W)		Liquid Temp.	Test Date
	1-g (W/Kg)	10-g (W/Kg)	1-g (W/Kg)	10-g (W/Kg)		
750MHz Head	8.53 (7.68~9.38)	5.56 (5.01~6.11)	8.02	5.84	21.5 °C	Mar. 12, 2021
835MHz Head	9.84 (8.86~10.82)	6.22 (5.60~6.84)	9.34	5.90	21.3 °C	Mar. 08, 2021
1800MHz Head	37.96 (34.17~41.75)	19.81 (17.83~21.79)	39.91	19.30	21.3 °C	Mar. 09, 2021
1900MHz Head	40.37 (36.34~44.40)	20.48 (18.44~22.52)	37.61	20.71	21.5 °C	Mar. 10, 2021
2450MHz Head	53.69 (48.33~59.05)	23.94 (21.55~26.33)	50.77	24.49	21.2 °C	Mar. 11, 2021
2600MHz Head	55.83 (50.25~61.41)	24.19 (21.78~26.60)	60.80	24.34	21.4 °C	Mar. 13, 2021
5200MHz Head	162.34 (146.11~178.57)	55.42 (49.88~60.96)	158.46	55.59	21.5 °C	Mar. 23, 2021
5800MHz Head	178.89 (161.01~196.77)	59.32 (53.39~65.25)	180.92	62.34	21.9 °C	Mar. 24, 2021

5. SAR Measurement variability and uncertainty

5.1. SAR measurement variability

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

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

5.2. SAR measurement uncertainty

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

6. RF Exposure Positions

6.1. Tablet host platform exposure conditions

Refer to KDB616217 D04, when the modular approach is used, transmitters and modules must be initially tested for standalone operations in generic host conditions according to the following minimum test separation distance and antenna installation requirements for incorporation in the tablet platform. The separation distance required for incorporation in qualified hosts is described in KDB 447498; item 5) of section 4.1 and item 1) of section 5.2.2 etc.

- ≤ 5 mm between the antenna and user for both back surface and edge exposure conditions
- the antennas used by the host must have been tested for equipment approval or qualify for SAR test exclusion
- the antenna polarization, physical orientation, rotation and installation configurations used by the host must have been tested for compliance or qualify for test exclusion
- when the *SAR Test Exclusion Threshold* in KDB 447498 applies, a *test separation distance* of 5 mm is required to determine test exclusion for the tablet platform

The antennas embedded in tablets are typically ≤ 5mm from the outer housing. The required antenna to user test separation distance is a “not to exceed test” distance required to apply the modular approach. Instead of the typical zero gap tablet edge test requirement between the edge of a tablet and the user, when an antenna has been tested at ≤ 5 mm according to the modular approach it can be incorporated into tablets with at least twice the tested distance from the outer housing of the tablet edge; otherwise, the tablet edge zero gap test requirement applies. When the dedicated host approach is applied, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom.

7. RF Output Power

7.1. GSM Conducted Power

Band GSM850	Burst-Averaged output Power (dBm)				Frame-Averaged output Power (dBm)			
Tx Channel	Tune-up	128	189	251	Tune-up	128	189	251
Frequency (MHz)	(dBm)	824.2	836.4	848.8	(dBm)	824.2	836.4	848.8
GSM (GMSK)	33.00	32.76	32.64	32.61	23.97	23.73	23.61	23.58
GPRS(GMSK, 1 TS)	33.00	32.71	32.59	32.55	23.97	23.68	23.56	23.52
GPRS(GMSK, 2 TS)	32.00	31.94	31.96	31.79	25.98	25.92	25.94	25.77
GPRS(GMSK, 3 TS)	30.00	29.69	29.82	29.63	25.74	25.43	25.56	25.37
GPRS(GMSK, 4 TS)	29.00	28.49	28.60	28.35	25.99	25.48	25.59	25.34
EDGE(GMSK, 1 TS)	26.50	26.37	25.67	25.37	17.47	17.34	16.64	16.34
EDGE(GMSK, 2 TS)	25.00	24.87	24.69	24.78	18.98	18.85	18.67	18.76
EDGE(GMSK, 3 TS)	22.50	22.32	22.17	22.17	18.24	18.06	17.91	17.91
EDGE(GMSK, 4 TS)	21.00	21.00	20.86	21.00	17.99	17.99	17.85	17.99
Band GSM1900	Burst-Averaged output Power (dBm)				Frame-Averaged output Power (dBm)			
Tx Channel	Tune-up	512	661	810	Tune-up	512	661	810
Frequency (MHz)	(dBm)	1850.2	1880.0	1909.8	(dBm)	1850.2	1880.0	1909.8
GSM (GMSK)	30.00	29.44	29.57	29.66	20.97	20.41	20.54	20.63
GPRS(GMSK, 1 TS)	30.00	29.46	29.60	29.74	20.97	20.43	20.57	20.71
GPRS(GMSK, 2 TS)	29.00	28.66	28.76	28.94	22.98	22.64	22.74	22.92
GPRS(GMSK, 3 TS)	27.00	26.48	26.54	26.74	22.74	22.22	22.28	22.48
GPRS(GMSK, 4 TS)	25.50	25.18	25.15	25.32	22.49	22.17	22.14	22.31
EDGE(GMSK, 1 TS)	26.00	25.60	25.47	25.27	16.97	16.57	16.44	16.24
EDGE(GMSK, 2 TS)	24.00	23.88	23.64	23.87	17.98	17.86	17.62	17.85
EDGE(GMSK, 3 TS)	22.00	21.50	21.55	21.59	17.74	17.24	17.29	17.33
EDGE(GMSK, 4 TS)	20.50	20.44	20.38	20.38	17.49	17.43	17.37	17.37

Note: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 TS) - 9.03 dB
Frame-averaged power = Maximum burst averaged power (2 TS) - 6.02 dB
Frame-averaged power = Maximum burst averaged power (3 TS) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 TS) - 3.01 dB

7.2. WCDMA Conducted Power

Band	WCDMA Band 2			
Tx Channel	Tune-up	9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
RMC12.2K	23.50	23.30	23.14	23.08
HSDPA Sub 1	23.00	22.55	21.53	21.70
HSDPA Sub 2	22.50	22.20	21.46	21.56
HSDPA Sub 3	22.00	21.75	21.02	21.32
HSDPA Sub 4	21.50	21.47	21.09	21.01
HSUPA Sub 1	22.50	22.35	21.48	21.54
HSUPA Sub 2	22.50	22.44	21.54	21.65
HSUPA Sub 3	22.50	22.14	20.93	21.12
HSUPA Sub 4	22.00	22.00	21.56	21.60
HSUPA Sub 5	22.00	21.94	21.16	21.35
Band	WCDMA Band 4			
Tx Channel	Tune-up	1312	1413	1513
Frequency (MHz)		1712.4	1732.6	1752.6
RMC12.2K	22.00	21.83	21.87	22.00
HSDPA Sub 1	21.50	20.84	20.89	21.02
HSDPA Sub 2	21.00	20.46	20.44	20.53
HSDPA Sub 3	20.00	19.50	19.59	19.51
HSDPA Sub 4	20.00	19.52	19.46	19.56
HSUPA Sub 1	21.00	19.70	20.66	20.79
HSUPA Sub 2	21.00	20.82	20.76	20.81
HSUPA Sub 3	20.00	19.32	19.77	19.65
HSUPA Sub 4	21.00	20.81	20.87	20.97
HSUPA Sub 5	20.50	19.23	20.25	20.40
Band	WCDMA Band 5			
Tx Channel	Tune-up	4132	4182	4233
Frequency (MHz)		826.4	836.4	846.6
RMC12.2K	22.50	22.12	22.14	22.25
HSDPA Sub 1	21.50	21.22	21.22	21.36
HSDPA Sub 2	21.50	20.89	20.57	21.09
HSDPA Sub 3	20.00	19.78	19.56	19.93
HSDPA Sub 4	20.00	19.88	19.86	19.68
HSUPA Sub 1	21.50	20.02	21.05	21.14
HSUPA Sub 2	21.50	21.12	21.17	21.23
HSUPA Sub 3	20.50	19.26	20.03	20.03
HSUPA Sub 4	21.50	21.18	21.21	21.37
HSUPA Sub 5	21.00	19.80	20.59	20.53

7.3. LTE Conducted Power

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		18607/1850.7	18900/1880	19193/1909.3
LTE Band 2	1.4MHz	QPSK	1	0	24.00	23.44	23.40	23.39
			1	2	24.00	23.56	23.53	23.53
			1	5	24.00	23.39	23.39	23.38
			3	0	23.50	23.43	23.44	23.45
			3	1	23.50	23.41	23.43	23.46
			3	2	23.50	23.38	23.46	23.43
			6	0	22.50	22.44	22.46	22.49
		16QAM	1	0	23.00	22.17	22.46	22.52
			1	2	23.00	22.33	22.60	22.66
			1	5	23.00	22.18	22.46	22.52
			3	0	23.00	22.49	22.53	22.60
			3	1	23.00	22.48	22.55	22.62
			3	2	23.00	22.51	22.52	22.63
			6	0	22.00	21.50	21.54	21.61
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		18615/1851.5	18900/1880	19185/1908.5
LTE Band 2	3MHz	QPSK	1	0	24.00	23.45	23.41	23.48
			1	7	24.00	23.72	23.71	23.80
			1	14	24.00	23.46	23.43	23.52
			8	0	23.00	22.43	22.41	22.53
			8	4	23.00	22.45	22.44	22.50
			8	7	23.00	22.45	22.43	22.50
			15	0	22.50	22.40	22.41	22.43
		16QAM	1	0	23.50	22.77	22.59	22.31
			1	7	23.50	23.04	22.86	22.54
			1	14	23.50	22.77	22.53	22.31
			8	0	21.50	21.41	21.44	21.44
			8	4	21.50	21.46	21.45	21.46
			8	7	21.50	21.41	21.38	21.44
			15	0	21.50	21.37	21.38	21.47
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		18625/1852.5	18900/1880	19175/1907.5
LTE Band 2	5MHz	QPSK	1	0	24.00	23.28	23.35	23.39
			1	12	24.00	23.59	23.80	23.74
			1	24	24.00	23.29	23.35	23.39
			12	0	23.00	22.35	22.42	22.46
			12	6	23.00	22.42	22.45	22.52
			12	11	23.00	22.40	22.40	22.43
			25	0	22.50	22.39	22.43	22.42
		16QAM	1	0	23.50	22.56	22.83	22.65

			1	12	23.50	22.76	23.09	22.99
			1	24	23.50	22.60	22.81	22.62
			12	0	21.50	21.35	21.37	21.35
			12	6	21.50	21.44	21.44	21.40
			12	11	21.50	21.38	21.36	21.31
			25	0	21.50	21.36	21.40	21.45
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		18650/1855	18900/1880	19150/1905
LTE Band 2	10MHz	QPSK	1	0	24.00	23.51	23.41	23.46
			1	24	24.00	23.46	23.55	23.61
			1	49	24.00	23.43	23.38	23.47
			25	0	23.00	22.43	22.47	22.55
			25	12	23.00	22.45	22.45	22.46
			25	24	23.00	22.44	22.44	22.44
			50	0	22.50	22.41	22.47	22.44
		16QAM	1	0	23.00	22.73	22.55	22.31
			1	24	23.00	22.93	22.74	22.45
			1	49	23.00	22.81	22.59	22.30
			25	0	22.00	21.41	21.49	21.50
			25	12	22.00	21.43	21.44	21.49
			25	24	22.00	21.43	21.42	21.42
			50	0	21.50	21.40	21.47	21.42
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		18675/1857.5	18900/1880	19125/1902.5
LTE Band 2	15MHz	QPSK	1	0	24.00	23.31	23.36	23.27
			1	37	24.00	23.66	23.63	23.66
			1	74	24.00	23.29	23.32	23.27
			36	0	23.00	22.53	22.55	22.54
			36	18	23.00	22.54	22.53	22.59
			36	37	23.00	22.45	22.49	22.52
			75	0	23.00	22.45	22.50	22.54
		16QAM	1	0	23.00	22.73	22.50	22.47
			1	37	23.00	22.97	22.83	22.81
			1	74	23.00	22.71	22.49	22.43
			36	0	22.00	21.46	21.54	21.45
			36	18	22.00	21.46	21.56	21.49
			36	37	22.00	21.43	21.46	21.42
			75	0	22.00	21.45	21.43	21.50
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		18700/1860	18900/1880	19100/1900
LTE Band 2	20MHz	QPSK	1	0	24.00	23.18	23.19	23.21
			1	49	24.00	23.50	23.52	23.60
			1	99	24.00	23.08	23.16	23.24
			50	0	22.50	22.43	22.46	22.47
			50	24	22.50	22.41	22.49	22.46
			50	49	22.50	22.46	22.37	22.35

			100	0	22.50	22.43	22.43	22.45
		16QAM	1	0	23.00	22.47	22.43	22.44
			1	49	23.00	22.83	22.72	22.82
			1	99	23.00	22.44	22.40	22.43
			50	0	22.00	21.45	21.47	21.51
			50	24	22.00	21.49	21.45	21.51
			50	49	22.00	21.49	21.34	21.41
			100	0	21.50	21.42	21.41	21.43

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		19957/1710.7	20175/1732.5	20393/1754.3
LTE Band 4	1.4MHz	QPSK	1	0	24.00	23.02	22.98	23.11
			1	2	24.00	23.13	23.10	23.22
			1	5	24.00	23.51	23.02	23.11
			3	0	23.50	23.00	23.07	23.13
			3	1	23.50	22.99	23.08	23.16
			3	2	23.50	22.99	23.00	23.14
			6	0	22.50	22.07	22.04	22.13
		16QAM	1	0	22.50	22.01	22.10	21.90
			1	2	22.50	22.09	22.21	22.06
			1	5	22.50	22.01	22.09	21.93
			3	0	22.50	22.11	22.20	22.27
			3	1	22.50	22.12	22.30	22.25
			3	2	22.50	22.10	22.16	22.32
			6	0	21.50	21.13	21.16	21.30
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		19965/1711.5	20175/1732.5	20385/1753.5
LTE Band 4	3MHz	QPSK	1	0	24.00	23.17	23.17	23.24
			1	7	24.00	23.46	23.53	23.49
			1	14	24.00	23.20	23.12	23.20
			8	0	22.50	22.13	22.12	22.19
			8	4	22.50	22.14	22.15	22.23
			8	7	22.50	22.13	22.12	22.19
			15	0	22.50	22.05	22.06	22.17
		16QAM	1	0	23.00	21.85	22.41	22.38
			1	7	23.00	22.06	22.61	22.62
			1	14	23.00	21.86	22.40	22.36
			8	0	21.50	21.04	21.13	21.25
			8	4	21.50	21.04	21.13	21.23
			8	7	21.50	21.06	21.08	21.18
			15	0	21.50	21.09	21.10	21.15
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		19975/1712.5	20175/1732.5	20375/1752.5
LTE	5MHz	QPSK	1	0	24.00	23.08	23.02	23.20

Band 4			1	12	24.00	23.44	23.41	23.56
			1	24	24.00	23.00	23.13	23.11
			12	0	22.50	22.02	22.07	22.24
			12	6	22.50	22.13	22.13	22.26
			12	11	22.50	22.09	22.10	22.17
			25	0	22.50	22.07	22.10	22.25
		16QAM	1	0	23.00	22.41	22.22	22.34
			1	12	23.00	22.75	22.64	22.76
			1	24	23.00	22.46	22.23	22.37
			12	0	21.50	21.01	21.04	21.31
			12	6	21.50	21.11	21.10	21.31
			12	11	21.50	21.11	21.05	21.22
			25	0	21.50	20.99	21.10	21.19
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20000/1715	20175/1732.5	20350/1750
LTE Band 4	10MHz	QPSK	1	0	24.00	23.14	23.02	23.31
			1	24	24.00	23.21	23.29	23.51
			1	49	24.00	23.04	23.22	23.23
			25	0	22.50	21.98	22.15	22.21
			25	12	22.50	22.10	22.12	22.29
			25	24	22.50	22.06	22.12	22.18
			50	0	22.50	22.01	22.13	22.23
		16QAM	1	0	22.50	22.32	22.18	21.92
			1	24	22.50	22.42	22.34	22.14
			1	49	22.50	22.42	22.20	22.00
			25	0	21.50	20.99	21.14	21.19
			25	12	21.50	21.10	21.12	21.25
			25	24	21.50	21.08	21.08	21.18
			50	0	21.50	21.01	21.15	21.16
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20025/1717.5	20175/1732.5	20325/1747.5
LTE Band 4	15MHz	QPSK	1	0	24.00	23.06	22.93	23.26
			1	37	24.00	23.31	23.24	23.56
			1	74	24.00	22.90	23.16	23.09
			36	0	22.50	22.11	22.15	22.30
			36	18	22.50	22.10	22.16	22.36
			36	37	22.50	21.93	22.25	22.24
			75	0	22.50	22.07	22.23	22.33
		16QAM	1	0	23.00	22.07	22.29	22.14
			1	37	23.00	22.31	22.55	22.48
			1	74	23.00	21.96	22.30	22.24
			36	0	21.50	21.00	21.15	21.29
			36	18	21.50	21.05	21.15	21.34
			36	37	21.50	20.97	21.23	21.32
			75	0	21.50	20.99	21.16	21.21

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20050/1720	20175/1732.5	20300/1745
LTE Band 4	20MHz	QPSK	1	0	24.00	22.83	22.79	23.04
			1	49	24.00	23.09	23.30	23.53
			1	99	24.00	22.79	23.06	23.01
			50	0	22.50	21.97	22.22	22.09
			50	24	22.50	22.04	22.12	22.26
			50	49	22.50	21.79	22.20	22.29
			100	0	22.50	21.89	22.19	22.19
		16QAM	1	0	23.00	22.05	22.02	22.07
			1	49	23.00	22.52	22.36	22.44
			1	99	23.00	22.09	22.07	22.21
			50	0	21.50	21.04	21.22	21.05
			50	24	21.50	21.07	21.09	21.26
			50	49	21.50	20.89	21.15	21.31
			100	0	21.50	20.95	21.21	21.14

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20407/824.7	20525/836.5	20643/848.3
LTE Band 5	1.4MHz	QPSK	1	0	23.00	22.72	22.70	22.43
			1	2	23.00	22.84	22.83	22.57
			1	5	23.00	22.78	22.66	22.46
			3	0	23.00	22.73	22.78	22.53
			3	1	23.00	22.77	22.79	22.50
			3	2	23.00	22.72	22.78	22.50
			6	0	22.00	21.72	21.73	21.54
		16QAM	1	0	22.00	21.85	21.90	21.30
			1	2	22.00	21.98	21.96	21.44
			1	5	22.00	21.90	21.85	21.33
			3	0	22.50	21.93	21.95	21.65
			3	1	22.50	21.94	22.01	21.65
			3	2	22.50	21.88	21.97	21.68
			6	0	21.00	20.86	20.85	20.67
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20415/825.5	20525/836.5	20635/847.5
LTE Band 5	3MHz	QPSK	1	0	23.00	22.77	22.78	22.52
			1	7	23.00	23.00	23.00	22.74
			1	14	23.00	22.83	22.75	22.46
			8	0	22.00	21.72	21.73	21.52
			8	4	22.00	21.73	21.74	21.54
			8	7	22.00	21.76	21.70	21.48
			15	0	22.00	21.69	21.71	21.50
		16QAM	1	0	22.50	21.90	21.65	21.89
			1	7	22.50	22.14	21.89	22.12

			1	14	22.50	21.89	21.58	21.84
			8	0	21.00	20.69	20.70	20.57
			8	4	21.00	20.74	20.69	20.53
			8	7	21.00	20.69	20.67	20.51
			15	0	21.00	20.61	20.74	20.52
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20425/826.5	20525/836.5	20625/846.5
LTE Band 5	5MHz	QPSK	1	0	23.00	22.65	22.68	22.44
			1	12	23.00	23.00	22.99	22.98
			1	24	23.00	22.65	22.67	22.43
			12	0	22.00	21.70	21.73	21.58
			12	6	22.00	21.75	21.75	21.57
			12	11	22.00	21.72	21.70	21.44
			25	0	22.00	21.79	21.76	21.58
		16QAM	1	0	22.50	22.14	21.98	21.74
			1	12	22.50	22.49	22.34	22.08
			1	24	22.50	22.17	21.94	21.75
			12	0	21.00	20.69	20.71	20.63
			12	6	21.00	20.73	20.73	20.61
			12	11	21.00	20.71	20.66	20.47
			25	0	21.00	20.67	20.76	20.58
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20450/829	20525/836.5	20600/844
LTE Band 5	10MHz	QPSK	1	0	23.00	22.71	22.74	22.79
			1	24	23.00	22.82	22.86	22.68
			1	49	23.00	22.78	22.71	22.54
			25	0	22.00	21.78	21.86	21.76
			25	12	22.00	21.77	21.76	21.60
			25	24	22.00	21.68	21.83	21.40
			50	0	22.00	21.73	21.82	21.59
		16QAM	1	0	22.50	22.10	21.92	21.59
			1	24	22.50	22.21	22.03	21.45
			1	49	22.50	22.10	21.83	21.34
			25	0	21.00	20.79	20.83	20.70
			25	12	21.00	20.77	20.79	20.55
			25	24	21.00	20.66	20.78	20.40
			50	0	21.00	20.69	20.80	20.54

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20775/2502.5	21100/2535	21425/2567.5
LTE Band 7	5MHz	QPSK	1	0	24.00	23.29	23.44	23.72
			1	12	24.00	23.69	23.83	24.00
			1	24	24.00	23.32	23.48	23.74
			12	0	23.00	22.26	22.48	22.71

			12	6	23.00	22.32	22.54	22.78
			12	11	23.00	22.28	22.51	22.74
			25	0	23.00	22.28	22.54	22.74
		16QAM	1	0	23.50	22.47	22.63	22.75
			1	12	23.50	22.83	22.99	23.09
			1	24	23.50	22.44	22.64	22.78
			12	0	22.00	21.18	21.36	21.71
			12	6	22.00	21.25	21.48	21.79
			12	11	22.00	21.21	21.43	21.75
			25	0	22.00	21.17	21.44	21.62
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20800/2505	21100/2535	21400/2565
LTE Band 7	10MHz	QPSK	1	0	24.00	23.46	23.50	23.24
			1	24	24.00	23.65	23.63	23.39
			1	49	24.00	23.59	23.50	23.28
			25	0	23.00	22.32	22.49	22.25
			25	12	23.00	22.33	22.55	22.32
			25	24	23.00	22.28	22.56	22.31
			50	0	22.50	22.28	22.48	22.26
		16QAM	1	0	23.00	22.00	22.71	22.22
			1	24	23.00	22.09	22.88	22.40
			1	49	23.00	22.01	22.72	22.28
			25	0	22.00	21.23	21.45	21.20
			25	12	22.00	21.19	21.50	21.20
			25	24	22.00	21.21	21.45	21.22
			50	0	21.50	21.18	21.45	21.23
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20825/2507.5	21100/2535	21375/2562.5
LTE Band 7	15MHz	QPSK	1	0	24.00	23.52	22.91	23.18
			1	37	24.00	23.70	23.10	23.52
			1	74	24.00	23.52	22.92	23.20
			36	0	23.00	22.47	22.03	22.31
			36	18	23.00	22.50	22.04	22.36
			36	37	23.00	22.41	22.09	22.41
			75	0	22.50	22.32	22.09	22.38
		16QAM	1	0	23.00	21.85	21.95	22.33
			1	37	23.00	22.11	22.32	22.68
			1	74	23.00	21.78	21.98	22.41
			36	0	21.50	20.94	20.93	21.23
			36	18	21.50	20.95	20.98	21.26
			36	37	21.50	20.92	20.99	21.32
			75	0	21.50	20.91	21.00	21.27
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		20850/2510	21100/2535	21350/2560

LTE Band 7	20MHz	QPSK	1	0	24.00	22.82	22.83	23.03
			1	49	24.00	23.05	23.55	23.40
			1	99	24.00	22.73	23.01	23.08
			50	0	22.50	21.78	21.89	22.18
			50	24	22.50	21.81	22.02	22.22
			50	49	22.50	21.87	21.95	22.24
			100	0	22.50	21.82	21.90	22.17
		16QAM	1	0	22.50	21.61	21.89	22.08
			1	49	22.50	21.89	22.27	22.49
			1	99	22.50	21.76	21.97	22.28
			50	0	21.50	20.72	20.91	21.13
			50	24	21.50	20.73	20.96	21.18
			50	49	21.50	20.75	20.94	21.22
			100	0	21.50	20.78	20.85	21.13

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		23017/699.7	23095/707.5	23173/715.3
LTE Band 12	1.4MHz	QPSK	1	0	22.50	21.24	21.85	21.61
			1	2	22.50	22.30	21.98	21.81
			1	5	22.50	22.11	21.77	21.64
			3	0	22.50	22.13	21.81	21.67
			3	1	22.50	22.15	21.81	21.69
			3	2	22.50	22.09	21.80	21.64
			6	0	21.50	21.21	20.90	20.79
		16QAM	1	0	21.50	20.99	20.92	20.85
			1	2	21.50	21.14	21.06	20.94
			1	5	21.50	21.03	20.97	20.77
			3	0	21.50	21.33	21.02	20.91
			3	1	21.50	21.34	21.05	20.92
			3	2	21.50	21.34	20.97	20.85
			6	0	20.50	20.33	20.01	19.86
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		23025/700.5	23095/707.5	23165/714.5
LTE Band 12	3MHz	QPSK	1	0	22.50	22.14	21.82	21.76
			1	7	22.50	22.36	22.12	22.01
			1	14	22.50	22.06	21.73	21.72
			8	0	21.50	21.15	20.89	20.73
			8	4	21.50	21.15	20.91	20.78
			8	7	21.50	21.09	20.77	20.85
			15	0	21.50	21.09	20.83	20.77
		16QAM	1	0	22.00	21.53	21.01	20.69
			1	7	22.00	21.82	21.32	20.86
			1	14	22.00	21.46	20.92	20.49
			8	0	20.50	20.14	19.81	19.63
			8	4	20.50	20.12	19.77	19.68

			8	7	20.50	20.05	19.68	19.72
			15	0	20.50	20.09	19.71	19.76
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		23035/701.5	23095/707.5	23155/713.5
LTE Band 12	5MHz	QPSK	1	0	22.50	22.04	21.78	21.59
			1	12	22.50	22.45	22.35	21.98
			1	24	22.50	21.88	21.66	21.64
			12	0	21.50	21.14	20.82	20.72
			12	6	21.50	21.13	20.88	20.81
			12	11	21.50	21.23	20.50	21.02
			25	0	21.50	21.23	20.68	20.93
		16QAM	1	0	22.00	21.54	21.06	20.96
			1	12	22.00	21.99	21.42	21.37
			1	24	22.00	21.43	21.04	20.82
			12	0	20.50	20.13	19.70	19.75
			12	6	20.50	20.11	19.78	19.81
			12	11	20.50	20.24	19.47	20.01
			25	0	20.50	20.12	19.65	19.83
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		23060/704	23095/707.5	23130/711
LTE Band 12	10MHz	QPSK	1	0	22.50	22.13	21.94	21.80
			1	24	22.50	22.09	21.91	21.83
			1	49	22.50	21.84	21.76	21.70
			25	0	21.50	20.92	20.58	21.42
			25	12	21.50	20.99	20.82	20.83
			25	24	21.50	21.02	20.53	21.14
			50	0	21.50	21.02	20.53	21.26
		16QAM	1	0	21.50	21.00	21.39	20.94
			1	24	21.50	20.92	21.23	21.03
			1	49	21.50	20.66	21.20	20.84
			25	0	20.50	19.91	19.59	20.33
			25	12	20.50	19.94	19.81	19.81
			25	24	20.50	19.95	19.42	20.07
			50	0	20.50	19.96	19.48	20.27

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		23755/706.5	23790/710	23825/713.5
LTE Band 17	5MHz	QPSK	1	0	22.00	21.49	21.35	21.33
			1	12	22.00	21.77	21.67	21.53
			1	24	22.00	21.30	21.36	21.19
			12	0	21.00	20.22	20.62	20.36
			12	6	21.00	20.42	20.40	20.41
			12	11	21.00	20.13	20.25	20.58
			25	0	21.00	20.16	20.48	20.52

		16QAM	1	0	21.50	21.00	20.55	20.59
			1	12	21.50	21.17	20.99	21.02
			1	24	21.50	20.78	20.62	20.38
			12	0	20.00	19.17	19.55	19.37
			12	6	20.00	19.37	19.32	19.40
			12	11	20.00	19.12	19.17	19.58
			25	0	20.00	19.14	19.52	19.43
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		23780/709	23790/710	23800/711
LTE Band 17	10MHz	QPSK	1	0	22.00	21.59	21.40	21.41
			1	24	22.00	21.55	21.49	21.47
			1	49	22.00	21.50	21.38	21.27
			25	0	21.00	20.43	20.75	20.90
			25	12	21.00	20.44	20.44	20.47
			25	24	21.00	20.26	20.46	20.72
			50	0	21.00	20.39	20.68	20.86
		16QAM	1	0	21.00	20.37	20.72	20.49
			1	24	21.00	20.30	20.91	20.65
			1	49	21.00	20.24	20.68	20.38
			25	0	20.00	19.37	19.71	19.85
			25	12	20.00	19.36	19.39	19.39
			25	24	20.00	19.18	19.42	19.70
			50	0	20.00	19.35	19.60	19.85

Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		131979/1710.7	132322/1745	132665/1779.3
LTE Band 66	1.4MHz	QPSK	1	0	23.50	22.86	22.93	22.99
			1	2	23.50	22.97	23.06	23.12
			1	5	23.50	22.85	22.90	23.00
			3	0	23.00	22.81	22.93	22.95
			3	1	23.00	22.88	22.96	22.98
			3	2	23.00	22.79	22.91	22.95
			6	0	22.50	21.93	21.99	22.07
		16QAM	1	0	22.50	21.87	21.95	21.70
			1	2	22.50	21.96	22.06	21.85
			1	5	22.50	21.89	21.98	21.72
			3	0	22.50	21.95	22.06	22.04
			3	1	22.50	21.98	22.08	22.07
			3	2	22.50	21.91	22.06	22.18
			6	0	21.50	21.03	21.09	21.21
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		131987/1711.5	132322/1745	132657/1778.5
LTE Band	3MHz	QPSK	1	0	23.50	22.90	22.95	22.99
			1	7	23.50	23.18	23.26	23.28

66			1	14	23.50	22.89	22.90	23.01
			8	0	22.50	21.88	21.92	22.01
			8	4	22.50	21.88	21.91	22.04
			8	7	22.50	21.83	21.93	21.98
			15	0	22.00	21.76	21.86	21.96
		16QAM	1	0	22.50	21.64	22.17	22.05
			1	7	22.50	21.94	22.45	22.35
			1	14	22.50	21.59	22.20	22.11
			8	0	21.50	20.83	20.94	20.98
			8	4	21.50	20.87	20.96	21.01
			8	7	21.50	20.83	20.95	21.00
			15	0	21.00	20.83	20.91	20.92
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		131997/1712.5	132322/1745	132647/1777.5
LTE Band 66	5MHz	QPSK	1	0	23.50	22.74	22.88	22.90
			1	12	23.50	23.05	23.25	23.35
			1	24	23.50	22.68	22.90	22.92
			12	0	22.00	21.77	21.83	21.88
			12	6	22.00	21.81	21.93	21.98
			12	11	22.00	21.78	21.91	21.95
			25	0	22.00	21.82	21.92	21.95
		16QAM	1	0	23.00	21.99	22.19	22.06
			1	12	23.00	22.30	22.61	22.45
			1	24	23.00	21.94	22.27	22.12
			12	0	21.00	20.80	20.85	20.87
			12	6	21.00	20.90	20.97	20.99
			12	11	21.00	20.90	20.95	20.92
			25	0	21.00	20.79	20.89	20.96
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		132022/1715	132322/1745	132622/1775
LTE Band 66	10MHz	QPSK	1	0	23.50	22.90	22.91	22.91
			1	24	23.50	22.99	23.03	23.06
			1	49	23.50	22.86	22.89	23.06
			25	0	22.00	21.68	21.85	21.87
			25	12	22.00	21.79	21.89	21.93
			25	24	22.00	21.81	21.94	21.95
			50	0	22.00	21.75	21.90	21.95
		16QAM	1	0	22.50	21.63	22.15	21.99
			1	24	22.50	21.73	22.31	22.12
			1	49	22.50	21.67	22.23	22.06
			25	0	21.50	20.72	20.88	20.90
			25	12	21.50	20.85	20.93	20.93
			25	24	21.50	20.87	21.02	20.98
			50	0	21.00	20.78	20.90	20.97
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		

			RB Size	RB Offset		132047/1717.5	132322/1745	132597/1772.5
LTE Band 66	15MHz	QPSK	1	0	23.50	22.80	22.86	22.84
			1	37	23.50	23.08	23.07	23.17
			1	74	23.50	22.71	22.84	23.06
			36	0	22.50	21.78	21.98	22.01
			36	18	22.50	21.86	22.11	22.02
			36	37	22.50	21.75	22.06	22.07
			75	0	22.50	21.80	22.04	22.10
		16QAM	1	0	22.50	21.85	22.08	21.97
			1	37	22.50	22.10	22.36	22.23
			1	74	22.50	21.81	22.22	21.94
			36	0	21.50	20.78	20.97	21.08
			36	18	21.50	20.85	21.11	21.12
			36	37	21.50	20.78	21.12	21.13
			75	0	21.50	20.83	20.98	21.03
Band	Band Width	Modulation	RB Configuration		Tune-up	Channel/Frequency(MHz)		
			RB Size	RB Offset		132072/1720	132322/1745	132572/1770
LTE Band 66	20MHz	QPSK	1	0	23.50	22.61	22.71	22.66
			1	49	23.50	22.90	23.13	23.05
			1	99	23.50	22.57	22.75	22.78
			50	0	22.50	21.71	21.83	22.14
			50	24	22.50	21.79	21.94	21.95
			50	49	22.50	21.60	21.99	22.06
			100	0	22.50	21.64	21.92	22.06
		16QAM	1	0	22.50	21.73	21.85	21.99
			1	49	22.50	22.16	22.16	22.31
			1	99	22.50	21.84	21.95	21.99
			50	0	21.50	20.77	20.88	21.24
			50	24	21.50	20.87	21.02	21.02
			50	49	21.50	20.62	21.07	21.12
			100	0	21.50	20.72	20.97	21.16

7.4. WLAN & Bluetooth Output Power

7.4.1. Output Power Results Of WLAN

Mode	Channel	Frequency (MHz)	Tune-up	Output Power (dBm)
802.11b	1	2412	11.50	10.57
	6	2437	11.50	10.04
	11	2462	11.50	11.22
802.11g	1	2412	8.50	6.62
	6	2437	8.50	8.39
	11	2462	8.50	8.05
802.11n	1	2412	8.50	6.52

HT20	6	2437	8.50	8.41
	11	2462	8.50	8.00
802.11n HT40	3	2422	9.10	8.30
	6	2437	9.10	7.47
	9	2452	9.10	9.01

NOTE: Power measurement results of WLAN 2.4G.

Mode	Channel	Frequency (MHz)	Tune-up	Output Power (dBm)
802.11a	36	5180	11.500	10.880
	40	5200	11.500	11.449
	48	5240	11.500	10.562
802.11n HT20	36	5180	9.500	9.468
	40	5200	9.500	9.101
	48	5240	9.500	8.996
802.11n HT40	38	5190	9.500	9.126
	46	5230	9.500	8.947

NOTE: Power measurement results of WLAN 5.2G.

Mode	Channel	Frequency (MHz)	Tune-up	Output Power (dBm)
802.11a	149	5745	10.500	10.017
	157	5785	10.500	10.079
	165	5825	10.500	10.235
802.11n HT20	149	5745	10.000	9.490
	157	5785	10.000	9.700
	165	5825	10.000	9.240
802.11n HT40	151	5755	9.500	9.168
	159	5795	9.500	9.047

NOTE: Power measurement results of WLAN 5.8G.

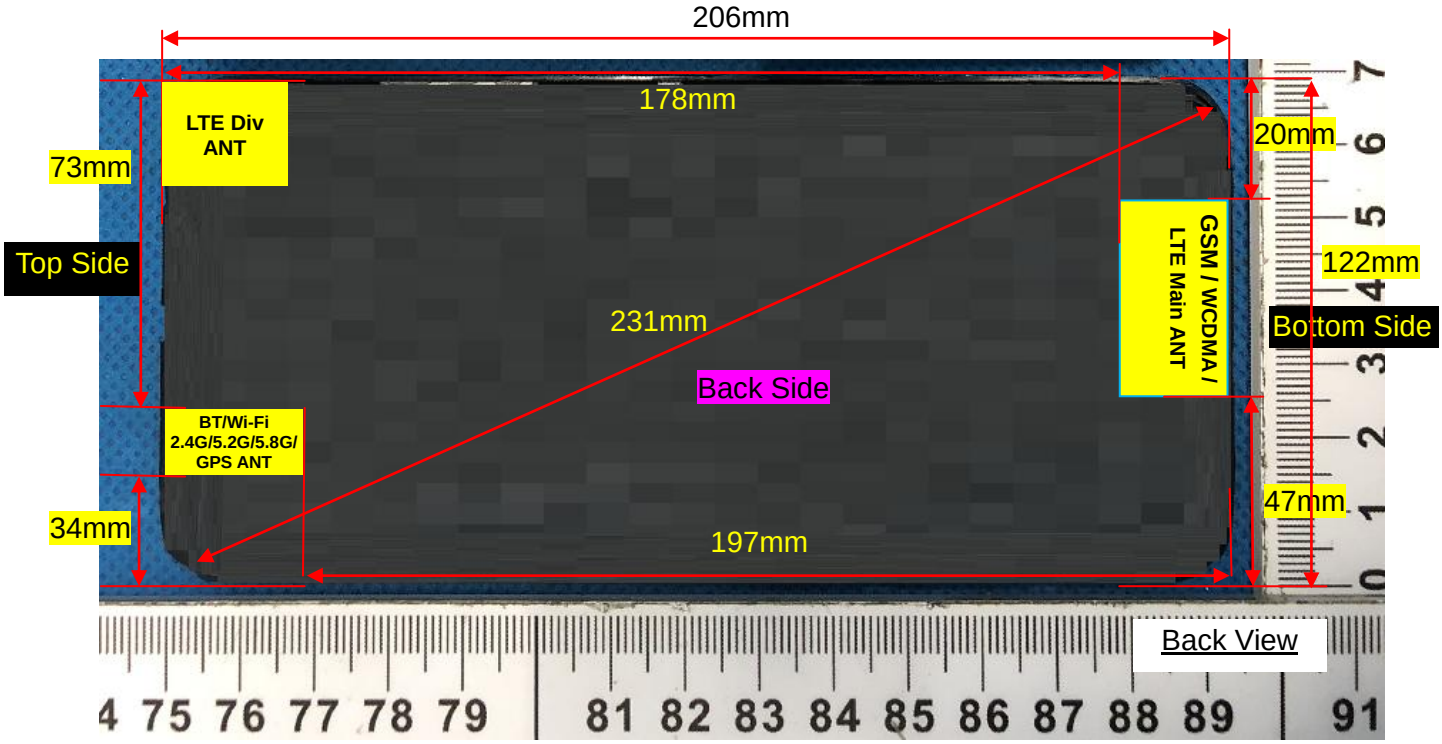
7.4.2. Output Power Results Of Bluetooth

	Output Power (dBm)				
	Channel	Tune-up	Data Rates		
			1M	2M	3M
BR+EDR	0CH	0.000	-0.998	-1.679	-1.638
	39CH	-1.000	-1.766	-2.505	-2.533
	78CH	0.000	-0.915	-1.793	-1.882

	Channel	Tune-up	Output Power (dBm)
BLE	0CH	0.000	-1.209
	19CH	0.000	-1.813
	39CH	0.000	-1.334

8. Antenna Location

Left Side



Right Side

Note: Since the confidentiality request of EUT，the antenna location example diagram see as above.

Distance of the Antenna to the EUT surface/edge						
Antennas	Front Side	Back Side	Left Side	Right Side	Top Side	Bottom Side
WWAN Main	5	5	20	47	178	5
WLAN & Bluetooth	5	5	73	34	5	197

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

Positions for SAR tests		
Test separation distances ≤ 50 mm		
Exposure Positions	Tune-up Maximum power of WLAN 2.4G	
	11.5dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	4.4
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	4.4
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	34
	SAR exclusion threshold	0.7
	SAR testing required?	**NO**
Top Side	Antenna to user(mm)	5
	SAR exclusion threshold	4.4
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of WLAN 5.2G	
	11.5dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	6.5
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	6.5
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	34
	SAR exclusion threshold	1.0
	SAR testing required?	**NO**
Top Side	Antenna to user(mm)	5
	SAR exclusion threshold	6.5
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of WLAN 5.8G	
	10.5dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	5.4
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	5.4
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	34

	SAR exclusion threshold	0.8
	SAR testing required?	**NO**
Top Side	Antenna to user(mm)	5
	SAR exclusion threshold	5.4
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of GSM850	
	33dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	367.6
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	367.6
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	91.9
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	39.1
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	367.6
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of GSM1900	
	30dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	276.4
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	276.4
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	69.1
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	29.4
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	276.4
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of WCDMA Band 2	

	23.5dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	61.9
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	61.9
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	15.5
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	6.6
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	61.9
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of WCDMA Band 4	
	22dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	42.0
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	42.0
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	10.5
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	4.5
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	42.0
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of WCDMA Band 5	
	22.5dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	32.7
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	32.7

	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	8.2
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	3.5
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	32.7
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of LTE Band 2	
	24dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	69.4
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	69.4
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	17.4
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	7.4
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	69.4
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of LTE Band 4	
	24dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	66.6
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	66.6
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	16.6
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	7.1

	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	66.6
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of LTE Band 5	
	23dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	36.7
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	36.7
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	9.2
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	3.9
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	36.7
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of LTE Band 7	
	24dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	80.5
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	80.5
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	20.1
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	8.6
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	80.5
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of LTE Band 12	
	22.5dBm	

Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	30.1
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	30.1
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	7.5
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	3.2
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	30.1
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of LTE Band 17	
	22dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	22.8
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	22.8
	SAR testing required?	**YES**
Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	6.7
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	2.9
	SAR testing required?	**NO**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	22.8
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of LTE Band 66	
	23.5dBm	
Front Side	Antenna to user(mm)	5
	SAR exclusion threshold	59.7
	SAR testing required?	**YES**
Back Side	Antenna to user(mm)	5
	SAR exclusion threshold	59.7
	SAR testing required?	**YES**

Left Side	Antenna to user(mm)	20
	SAR exclusion threshold	14.9
	SAR testing required?	**YES**
Right Side	Antenna to user(mm)	47
	SAR exclusion threshold	6.4
	SAR testing required?	**YES**
Bottom Side	Antenna to user(mm)	5
	SAR exclusion threshold	59.7
	SAR testing required?	**YES**

NOTE: Refer to section 4.3.1 of KDB 447498 D01.

Positions for SAR tests		
Test separation distances > 50 mm		
Exposure Positions	Tune-up Maximum power of WLAN 2.4G	
	11.5dBm	14.13mW
Left Side	Antenna to user(mm)	73
	SAR exclusion threshold(mW)	326
	SAR testing required?	**NO**
Bottom Side	Antenna to user(mm)	197
	SAR exclusion threshold(mW)	1566
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of WLAN 5.2G	
	11.5dBm	14.13mW
Left Side	Antenna to user(mm)	73
	SAR exclusion threshold(mW)	296
	SAR testing required?	**NO**
Bottom Side	Antenna to user(mm)	197
	SAR exclusion threshold(mW)	1536
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of WLAN 5.8G	
	10.5dBm	11.22mW
Left Side	Antenna to user(mm)	73
	SAR exclusion threshold(mW)	292
	SAR testing required?	**NO**
Bottom Side	Antenna to user(mm)	197
	SAR exclusion threshold(mW)	1532
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of GSM850	
	33dBm	1995.26mW
Top Side	Antenna to user(mm)	178

	SAR exclusion threshold(mW)	889
	SAR testing required?	**YES**
Exposure Positions	Tune-up Maximum power of GSM1900	
	30dBm	1000mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	1389
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of WCDMA Band 2	
	23.5dBm	223.87mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	1389
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of WCDMA Band 4	
	22dBm	158.49mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	1389
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of WCDMA Band 5	
	22.5dBm	177.83mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	889
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of LTE Band 2	
	24dBm	251.19mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	1389
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of LTE Band 4	
	24dBm	251.19mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	1389
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of LTE Band 5	
	23dBm	199.53mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	889
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of LTE Band 7	
	24dBm	251.19mW
Top Side	Antenna to user(mm)	178

	SAR exclusion threshold(mW)	1376
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of LTE Band 12	
	22.5dBm	177.83mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	889
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of LTE Band 17	
	22dBm	158.49mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	889
	SAR testing required?	**NO**
Exposure Positions	Tune-up Maximum power of LTE Band 66	
	23.5dBm	223.87mW
Top Side	Antenna to user(mm)	178
	SAR exclusion threshold(mW)	889
	SAR testing required?	**NO**

NOTE: Refer to section 4.3.1 of KDB 447498 D01.

9. Stand-alone SAR test exclusion

Refer to FCC KDB 447498D01, the 1-g SAR 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)]·[$\sqrt{f_{(GHZ)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

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

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

Mode	P_{max} (dBm)	P_{max} (mW)	Distance (mm)	f (GHz)	Calculation Result	SAR Exclusion threshold	SAR test exclusion
Bluetooth	0.000	1.000	5	2.480	0.31	3.0	Yes

NOTE: Standalone SAR test exclusion for Bluetooth

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)] * [$\sqrt{f_{(GHZ)}}$/x] W/kg for test separation distances ≤ 50mm, where x = 7.5 for 1-g SAR and x = 18.75 for 10-g SAR.

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

Mode	Position	P_{max} (dBm)	P_{max} (mW)	Distance (mm)	f (GHz)	x	Estimated SAR (W/Kg)
Bluetooth	Head	0.000	1.000	5	2.480	7.5	0.042
Bluetooth	Body	0.000	1.000	5	2.480	7.5	0.042

NOTE: Estimated SAR calculation for Bluetooth.

10. SAR Results

10.1. SAR measurement results

10.1.1. SAR measurement Result of GSM850

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Left Cheek	189/836.4	GPRS(GMSK 4TS)	0.061	0.038	-0.49	28.60	29.00	0.067	2021/3/08
Left Tilt 15 Degree	189/836.4	GPRS(GMSK 4TS)	0.033	0.024	1.75	28.60	29.00	0.036	2021/3/08
Right Cheek	189/836.4	GPRS(GMSK 4TS)	0.053	0.029	-4.55	28.60	29.00	0.058	2021/3/08
Right Tilt 15 Degree	189/836.4	GPRS(GMSK 4TS)	0.027	0.017	4.24	28.60	29.00	0.030	2021/3/08

NOTE: Head SAR test results of GSM850.

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	189/836.4	GPRS(GMSK 4TS)	0.479	0.236	0.16	28.60	29.00	0.525	2021/3/08
Back Side	189/836.4	GPRS(GMSK 4TS)	0.611	0.304	0.06	28.60	29.00	0.670	2021/3/08
Left Side	189/836.4	GPRS(GMSK 4TS)	0.266	0.128	-3.37	28.60	29.00	0.292	2021/3/08
Right Side	189/836.4	GPRS(GMSK 4TS)	0.236	0.120	-2.42	28.60	29.00	0.259	2021/3/08
Top Side	189/836.4	GPRS(GMSK 4TS)	0.055	0.013	0.02	28.60	29.00	0.060	2021/3/08
Bottom Side	189/836.4	GPRS(GMSK 4TS)	0.458	0.227	3.55	28.60	29.00	0.502	2021/3/08

NOTE: Body SAR test results of GSM850

10.1.2. SAR measurement Result of GSM1900

Test Position	Test channel	Test Mode	SAR Value (W/kg)	Power Drift	Conducted power	Tune-up power	Scaled SAR	Date

of Head	/Freq.		1g	10g	(±5%)	(dBm)	(dBm)	1g (W/Kg)	
Left Cheek	661/1880	GPRS(GMSK 2TS)	0.124	0.069	1.66	28.76	29.00	0.131	2021/3/10
Left Tilt 15 Degree	661/1880	GPRS(GMSK 2TS)	0.073	0.043	-3.58	28.76	29.00	0.077	2021/3/10
Right Cheek	661/1880	GPRS(GMSK 2TS)	0.116	0.065	-4.85	28.76	29.00	0.123	2021/3/10
Right Tilt 15 Degree	661/1880	GPRS(GMSK 2TS)	0.055	0.030	0.68	28.76	29.00	0.058	2021/3/10

NOTE: Head SAR test results of GSM1900

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	661/1880	GPRS(GMSK 2TS)	0.506	0.262	3.75	28.76	29.00	0.535	2021/3/10
Back Side	661/1880	GPRS(GMSK 2TS)	0.596	0.307	0.36	28.76	29.00	0.630	2021/3/10
Left Side	661/1880	GPRS(GMSK 2TS)	0.272	0.143	-1.68	28.76	29.00	0.287	2021/3/10
Right Side	661/1880	GPRS(GMSK 2TS)	0.236	0.121	4.67	28.76	29.00	0.249	2021/3/10
Bottom Side	661/1880	GPRS(GMSK 2TS)	0.466	0.238	3.00	28.76	29.00	0.492	2021/3/10

NOTE: Body SAR test results of GSM1900

10.1.3. SAR measurement Result of WCDMA Band 2

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Left Cheek	9400/1880	RMC12.2K	0.156	0.082	2.10	23.14	23.50	0.169	2021/3/10
Left Tilt 15 Degree	9400/1880	RMC12.2K	0.084	0.047	0.79	23.14	23.50	0.091	2021/3/10
Right Cheek	9400/1880	RMC12.2K	0.142	0.072	1.39	23.14	23.50	0.154	2021/3/10
Right Tilt 15 Degree	9400/1880	RMC12.2K	0.068	0.038	1.47	23.14	23.50	0.074	2021/3/10

NOTE: Head SAR test results of WCDMA Band 2

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	9400/1880	RMC12.2K	0.427	0.218	-2.46	23.14	23.50	0.464	2021/3/10
Back Side	9400/1880	RMC12.2K	0.559	0.288	3.83	23.14	23.50	0.607	2021/3/10
Left Side	9400/1880	RMC12.2K	0.247	0.127	2.39	23.14	23.50	0.268	2021/3/10
Right Side	9400/1880	RMC12.2K	0.200	0.104	-1.84	23.14	23.50	0.217	2021/3/10
Bottom Side	9400/1880	RMC12.2K	0.408	0.214	3.56	23.14	23.50	0.443	2021/3/10

NOTE: Body SAR test results of WCDMA Band 2

10.1.4. SAR measurement Result of WCDMA Band 4

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Left Cheek	1413/1732.6	RMC12.2K	0.113	0.089	1.88	21.87	22.00	0.116	2021/3/09
Left Tilt 15 Degree	1413/1732.6	RMC12.2K	0.065	0.049	3.17	21.87	22.00	0.067	2021/3/09
Right Cheek	1413/1732.6	RMC12.2K	0.107	0.082	0.20	21.87	22.00	0.110	2021/3/09
Right Tilt 15 Degree	1413/1732.6	RMC12.2K	0.055	0.043	0.89	21.87	22.00	0.057	2021/3/09

NOTE: Head SAR test results of WCDMA Band 4

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	1413/1732.6	RMC12.2K	0.358	0.142	4.52	21.87	22.00	0.369	2021/3/09
Back Side	1413/1732.6	RMC12.2K	0.424	0.168	4.44	21.87	22.00	0.437	2021/3/09
Left Side	1413/1732.6	RMC12.2K	0.196	0.075	1.86	21.87	22.00	0.202	2021/3/09
Right Side	1413/1732.6	RMC12.2K	0.167	0.070	-4.88	21.87	22.00	0.172	2021/3/09
Bottom Side	1413/1732.6	RMC12.2K	0.304	0.125	4.06	21.87	22.00	0.313	2021/3/09

NOTE: Body SAR test results of WCDMA Band 4

10.1.5. SAR measurement Result of WCDMA Band 5

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Left Cheek	4182/836.4	RMC12.2K	0.041	0.025	4.37	22.14	22.50	0.045	2021/3/08
Left Tilt 15 Degree	4182/836.4	RMC12.2K	0.023	0.012	0.70	22.14	22.50	0.025	2021/3/08
Right Cheek	4182/836.4	RMC12.2K	0.038	0.025	4.27	22.14	22.50	0.041	2021/3/08
Right Tilt 15 Degree	4182/836.4	RMC12.2K	0.020	0.016	-3.61	22.14	22.50	0.022	2021/3/08

NOTE: Head SAR test results of WCDMA Band 5

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	4182/836.4	RMC12.2K	0.419	0.213	1.85	22.14	22.50	0.455	2021/3/08
Back Side	4182/836.4	RMC12.2K	0.498	0.257	1.01	22.14	22.50	0.541	2021/3/08
Left Side	4182/836.4	RMC12.2K	0.244	0.130	2.00	22.14	22.50	0.265	2021/3/08
Right Side	4182/836.4	RMC12.2K	0.179	0.092	3.90	22.14	22.50	0.194	2021/3/08
Bottom Side	4182/836.4	RMC12.2K	0.385	0.202	4.10	22.14	22.50	0.418	2021/3/08

NOTE: Body SAR test results of WCDMA Band 5

10.1.6. SAR measurement Result of LTE Band 2

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Left Cheek	18900/1880	20M QPSK(1,49)	0.066	0.044	2.01	23.52	24.00	0.074	2021/3/10
Left Tilt 15 Degree	18900/1880	20M QPSK(1,49)	0.033	0.024	1.60	23.52	24.00	0.037	2021/3/10
Right Cheek	18900/1880	20M QPSK(1,49)	0.059	0.042	3.83	23.52	24.00	0.066	2021/3/10
Right Tilt 15 Degree	18900/1880	20M QPSK(1,49)	0.027	0.016	-4.28	23.52	24.00	0.030	2021/3/10

50%RB									
Left Cheek	18900/1880	1.4M QPSK(3,1)	0.059	0.041	1.65	23.43	23.50	0.060	2021/3/10
Left Tilt 15 Degree	18900/1880	1.4M QPSK(3,1)	0.030	0.021	-0.36	23.43	23.50	0.030	2021/3/10
Right Cheek	18900/1880	1.4M QPSK(3,1)	0.056	0.039	-2.51	23.43	23.50	0.057	2021/3/10
Right Tilt 15 Degree	18900/1880	1.4M QPSK(3,1)	0.023	0.014	0.02	23.43	23.50	0.023	2021/3/10

NOTE: Head SAR test results of LTE Band 2

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Front Side	18900/1880	20M QPSK(1,49)	0.324	0.178	-4.04	23.52	24.00	0.362	2021/3/10
Back Side	18900/1880	20M QPSK(1,49)	0.394	0.215	1.81	23.52	24.00	0.440	2021/3/10
Left Side	18900/1880	20M QPSK(1,49)	0.196	0.106	1.29	23.52	24.00	0.219	2021/3/10
Right Side	18900/1880	20M QPSK(1,49)	0.149	0.086	4.55	23.52	24.00	0.166	2021/3/10
Bottom Side	18900/1880	20M QPSK(1,49)	0.298	0.164	0.49	23.52	24.00	0.333	2021/3/10
50%RB									
Front Side	18900/1880	1.4M QPSK(3,1)	0.300	0.163	1.41	23.43	23.50	0.305	2021/3/10
Back Side	18900/1880	1.4M QPSK(3,1)	0.337	0.190	4.09	23.43	23.50	0.342	2021/3/10
Left Side	18900/1880	1.4M QPSK(3,1)	0.167	0.093	-0.08	23.43	23.50	0.170	2021/3/10
Right Side	18900/1880	1.4M QPSK(3,1)	0.133	0.076	3.41	23.43	23.50	0.135	2021/3/10
Bottom Side	18900/1880	1.4M QPSK(3,1)	0.274	0.140	-1.48	23.43	23.50	0.278	2021/3/10

NOTE: Body SAR test results of LTE Band 2

10.1.7. SAR measurement Result of LTE Band 4

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Left Cheek	20175/1732.5	20M QPSK(1,49)	0.090	0.061	1.44	23.30	24.00	0.106	2021/3/09
Left Tilt 15 Degree	20175/1732.5	20M QPSK(1,49)	0.050	0.035	-1.93	23.30	24.00	0.059	2021/3/09
Right Cheek	20175/1732.5	20M QPSK(1,49)	0.077	0.048	4.38	23.30	24.00	0.090	2021/3/09
Right Tilt 15 Degree	20175/1732.5	20M QPSK(1,49)	0.037	0.026	-2.53	23.30	24.00	0.043	2021/3/09
50%RB									
Left Cheek	20175/1732.5	1.4M QPSK(3,1)	0.078	0.058	0.94	23.08	23.50	0.086	2021/3/09
Left Tilt 15 Degree	20175/1732.5	1.4M QPSK(3,1)	0.046	0.032	2.39	23.08	23.50	0.051	2021/3/09
Right Cheek	20175/1732.5	1.4M QPSK(3,1)	0.069	0.044	-3.20	23.08	23.50	0.076	2021/3/09
Right Tilt 15 Degree	20175/1732.5	1.4M QPSK(3,1)	0.033	0.024	-2.02	23.08	23.50	0.036	2021/3/09

NOTE: Head SAR test results of LTE Band 4

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Front Side	20175/1732.5	20M QPSK(1,49)	0.369	0.147	4.96	23.30	24.00	0.434	2021/3/09
Back Side	20175/1732.5	20M QPSK(1,49)	0.490	0.193	2.71	23.30	24.00	0.576	2021/3/09

Left Side	20175/1732.5	20M QPSK(1,49)	0.219	0.089	0.05	23.30	24.00	0.257	2021/3/09
Right Side	20175/1732.5	20M QPSK(1,49)	0.191	0.076	-0.48	23.30	24.00	0.224	2021/3/09
Bottom Side	20175/1732.5	20M QPSK(1,49)	0.364	0.140	-0.83	23.30	24.00	0.428	2021/3/09
50%RB									
Front Side	20175/1732.5	1.4M QPSK(3,1)	0.342	0.127	-0.01	23.08	23.50	0.377	2021/3/09
Back Side	20175/1732.5	1.4M QPSK(3,1)	0.422	0.181	1.89	23.08	23.50	0.465	2021/3/09
Left Side	20175/1732.5	1.4M QPSK(3,1)	0.197	0.084	0.29	23.08	23.50	0.217	2021/3/09
Right Side	20175/1732.5	1.4M QPSK(3,1)	0.177	0.066	3.40	23.08	23.50	0.195	2021/3/09
Bottom Side	20175/1732.5	1.4M QPSK(3,1)	0.343	0.131	-1.91	23.08	23.50	0.378	2021/3/09

NOTE: Body SAR test results of LTE Band 4

10.1.8. SAR measurement Result of LTE Band 5

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Left Cheek	20525/836.5	10M QPSK(1,24)	0.048	0.028	-4.89	22.86	23.00	0.050	2021/3/08
Left Tilt 15 Degree	20525/836.5	10M QPSK(1,24)	0.024	0.010	-4.48	22.86	23.00	0.025	2021/3/08
Right Cheek	20525/836.5	10M QPSK(1,24)	0.043	0.028	4.06	22.86	23.00	0.044	2021/3/08
Right Tilt 15 Degree	20525/836.5	10M QPSK(1,24)	0.022	0.016	-3.12	22.86	23.00	0.023	2021/3/08
50%RB									
Left Cheek	20525/836.5	1.4M QPSK(3,1)	0.043	0.026	-1.32	22.79	23.00	0.045	2021/3/08
Left Tilt 15	20525/836.5	1.4M QPSK(3,1)	0.022	0.009	3.79	22.79	23.00	0.023	2021/3/08

Degree									
Right Cheek	20525/836.5	1.4M QPSK(3,1)	0.037	0.024	0.19	22.79	23.00	0.039	2021/3/08
Right Tilt 15 Degree	20525/836.5	1.4M QPSK(3,1)	0.019	0.014	2.71	22.79	23.00	0.020	2021/3/08

NOTE: Head SAR test results of LTE Band 5

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Front Side	20525/836.5	10M QPSK(1,24)	0.473	0.247	3.60	22.86	23.00	0.488	2021/3/08
Back Side	20525/836.5	10M QPSK(1,24)	0.583	0.301	-3.52	22.86	23.00	0.602	2021/3/08
Left Side	20525/836.5	10M QPSK(1,24)	0.260	0.133	3.86	22.86	23.00	0.269	2021/3/08
Right Side	20525/836.5	10M QPSK(1,24)	0.214	0.111	-3.45	22.86	23.00	0.221	2021/3/08
Bottom Side	20525/836.5	10M QPSK(1,24)	0.491	0.250	3.82	22.86	23.00	0.507	2021/3/08
50%RB									
Front Side	20525/836.5	1.4M QPSK(3,1)	0.429	0.217	-3.25	22.79	23.00	0.450	2021/3/08
Back Side	20525/836.5	1.4M QPSK(3,1)	0.532	0.275	1.84	22.79	23.00	0.558	2021/3/08
Left Side	20525/836.5	1.4M QPSK(3,1)	0.233	0.117	-0.48	22.79	23.00	0.245	2021/3/08
Right Side	20525/836.5	1.4M QPSK(3,1)	0.189	0.103	1.69	22.79	23.00	0.198	2021/3/08
Bottom Side	20525/836.5	1.4M QPSK(3,1)	0.419	0.227	3.66	22.79	23.00	0.440	2021/3/08

NOTE: Body SAR test results of LTE Band 5

10.1.9. SAR measurement Result of LTE Band 7

Test Position	Test channel	Test Mode	SAR Value (W/kg)	Power Drift	Conducted power	Tune-up power	Scaled SAR 1g	Date

of Head	/Freq.		1g	10g	(±5%)	(dBm)	(dBm)	(W/Kg)	
1RB									
Left Cheek	21100/2535	20M QPSK(1,49)	0.102	0.055	-2.01	23.55	24.00	0.113	2021/3/13
Left Tilt 15 Degree	21100/2535	20M QPSK(1,49)	0.053	0.033	-0.57	23.55	24.00	0.059	2021/3/13
Right Cheek	21100/2535	20M QPSK(1,49)	0.091	0.052	-1.18	23.55	24.00	0.101	2021/3/13
Right Tilt 15 Degree	21100/2535	20M QPSK(1,49)	0.050	0.030	2.68	23.55	24.00	0.055	2021/3/13
50%RB									
Left Cheek	21100/2535	15M QPSK(36,18)	0.093	0.049	0.79	22.04	23.00	0.116	2021/3/13
Left Tilt 15 Degree	21100/2535	15M QPSK(36,18)	0.050	0.028	4.65	22.04	23.00	0.062	2021/3/13
Right Cheek	21100/2535	15M QPSK(36,18)	0.078	0.045	-0.07	22.04	23.00	0.097	2021/3/13
Right Tilt 15 Degree	21100/2535	15M QPSK(36,18)	0.044	0.027	-1.16	22.04	23.00	0.055	2021/3/13

NOTE: Head SAR test results of LTE Band 7

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Front Side	21100/2535	20M QPSK(1,49)	0.656	0.451	0.98	23.55	24.00	0.728	2021/3/13
Back Side	21100/2535	20M QPSK(1,49)	1.006	0.604	-1.45	23.55	24.00	1.116	2021/3/13
Back Side Repeated	21100/2535	20M QPSK(1,49)	0.998	0.597	2.35	23.55	24.00	1.107	2021/3/13
Left Side	21100/2535	20M QPSK(1,49)	0.498	0.303	0.98	23.55	24.00	0.552	2021/3/13
Right Side	21100/2535	20M QPSK(1,49)	0.399	0.238	4.54	23.55	24.00	0.443	2021/3/13
Bottom	21100/2535	20M	0.595	0.357	0.48	23.55	24.00	0.660	2021/3/13

Side		QPSK(1,49)							
Back Side	20850/2510	20M QPSK(1,49)	0.815	0.480	-3.48	23.05	24.00	1.014	2021/3/13
Back Side	21350/2560	20M QPSK(1,49)	0.855	0.508	1.09	23.40	24.00	0.982	2021/3/13
50%RB									
Front Side	21100/2535	15M QPSK(36,18)	0.556	0.309	0.69	22.04	23.00	0.694	2021/3/13
Back Side	21100/2535	15M QPSK(36,18)	0.622	0.343	-3.73	22.04	23.00	0.776	2021/3/13
Left Side	21100/2535	15M QPSK(36,18)	0.430	0.261	2.43	22.04	23.00	0.536	2021/3/13
Right Side	21100/2535	15M QPSK(36,18)	0.356	0.225	-3.79	22.04	23.00	0.444	2021/3/13
Bottom Side	21100/2535	15M QPSK(36,18)	0.563	0.325	2.29	22.04	23.00	0.702	2021/3/13
100%RB									
Back Side	21100/2535	5M QPSK(25,0)	0.559	0.321	2.17	22.54	23.00	0.621	2021/3/13

NOTE: Body SAR test results of LTE Band 7

10.1.10. SAR measurement Result of LTE Band 12

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Left Cheek	23095/707.5	10M QPSK(1,0)	0.085	0.055	-0.38	21.94	22.50	0.097	2021/3/12
Left Tilt 15 Degree	23095/707.5	10M QPSK(1,0)	0.045	0.025	3.80	21.94	22.50	0.051	2021/3/12
Right Cheek	23095/707.5	10M QPSK(1,0)	0.079	0.052	1.57	21.94	22.50	0.090	2021/3/12
Right Tilt 15 Degree	23095/707.5	10M QPSK(1,0)	0.038	0.020	1.94	21.94	22.50	0.043	2021/3/12
50%RB									
Left Cheek	23095/707.5	1.4M QPSK(3,1)	0.077	0.049	-1.15	21.81	22.50	0.090	2021/3/12

Left Tilt 15 Degree	23095/707.5	1.4M QPSK(3,1)	0.041	0.023	-0.84	21.81	22.50	0.048	2021/3/12
Right Cheek	23095/707.5	1.4M QPSK(3,1)	0.069	0.046	-1.33	21.81	22.50	0.081	2021/3/12
Right Tilt 15 Degree	23095/707.5	1.4M QPSK(3,1)	0.034	0.018	3.38	21.81	22.50	0.040	2021/3/12

NOTE: Head SAR test results of LTE Band 12

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Front Side	23095/707.5	10M QPSK(1,0)	0.663	0.374	3.44	21.94	22.50	0.754	2021/3/12
Back Side	23095/707.5	10M QPSK(1,0)	0.998	0.567	-2.01	21.94	22.50	1.135	2021/3/12
Back Side Repeated	23095/707.5	10M QPSK(1,0)	0.990	0.564	2.13	21.94	22.50	1.126	2021/3/12
Left Side	23095/707.5	10M QPSK(1,0)	0.498	0.285	0.61	21.94	22.50	0.567	2021/3/12
Right Side	23095/707.5	10M QPSK(1,0)	0.379	0.218	2.13	21.94	22.50	0.431	2021/3/12
Bottom Side	23095/707.5	10M QPSK(1,0)	0.522	0.302	1.37	21.94	22.50	0.594	2021/3/12
Back Side	23060/704	10M QPSK(1,0)	0.798	0.440	-3.73	22.13	22.50	0.869	2021/3/12
Back Side	23130/711	10M QPSK(1,0)	0.878	0.479	2.78	21.80	22.50	1.032	2021/3/12
50%RB									
Front Side	23095/707.5	1.4M QPSK(3,1)	0.338	0.193	-4.13	21.81	22.50	0.396	2021/3/12
Back Side	23095/707.5	1.4M QPSK(3,1)	0.578	0.300	-0.43	21.81	22.50	0.678	2021/3/12
Left Side	23095/707.5	1.4M QPSK(3,1)	0.295	0.160	-2.62	21.81	22.50	0.346	2021/3/12
Right Side	23095/707.5	1.4M QPSK(3,1)	0.200	0.122	2.57	21.81	22.50	0.234	2021/3/12

Bottom Side	23095/707.5	1.4M QPSK(3,1)	0.284	0.168	1.91	21.81	22.50	0.333	2021/3/12
100%RB									
Back Side	23095/707.5	10M QPSK(50,0)	0.558	0.287	0.23	20.53	21.50	0.698	2021/3/12

NOTE: Body SAR test results of LTE Band 12

10.1.11. SAR measurement Result of LTE Band 17

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Left Cheek	23790/710	10M QPSK(1,0)	0.068	0.046	-4.85	21.40	22.00	0.078	2021/3/12
Left Tilt 15 Degree	23790/710	10M QPSK(1,0)	0.039	0.027	0.28	21.40	22.00	0.045	2021/3/12
Right Cheek	23790/710	10M QPSK(1,0)	0.064	0.041	3.07	21.40	22.00	0.073	2021/3/12
Right Tilt 15 Degree	23790/710	10M QPSK(1,0)	0.030	0.024	4.50	21.40	22.00	0.034	2021/3/12
50%RB									
Left Cheek	23790/710	10M QPSK(25,0)	0.061	0.043	1.40	20.75	21.00	0.065	2021/3/12
Left Tilt 15 Degree	23790/710	10M QPSK(25,0)	0.037	0.024	-3.54	20.75	21.00	0.039	2021/3/12
Right Cheek	23790/710	10M QPSK(25,0)	0.058	0.036	-0.85	20.75	21.00	0.061	2021/3/12
Right Tilt 15 Degree	23790/710	10M QPSK(25,0)	0.027	0.021	0.90	20.75	21.00	0.029	2021/3/12

NOTE: Head SAR test results of LTE Band17

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					

1RB									
Front Side	23790/710	10M QPSK(1,0)	0.626	0.407	-2.54	21.40	22.00	0.719	2021/3/12
Back Side	23790/710	10M QPSK(1,0)	0.986	0.558	1.75	21.40	22.00	1.132	2021/3/12
Back Side Repeated	23790/710	10M QPSK(1,0)	0.980	0.555	1.11	21.40	22.00	1.125	2021/3/12
Left Side	23790/710	10M QPSK(1,0)	0.440	0.245	2.30	21.40	22.00	0.505	2021/3/12
Bottom Side	23790/710	10M QPSK(1,0)	0.544	0.304	2.08	21.40	22.00	0.625	2021/3/12
Back Side	23780/709	10M QPSK(1,0)	0.809	0.435	-3.32	21.59	22.00	0.889	2021/3/12
Back Side	23800/711	10M QPSK(1,0)	0.838	0.470	-0.12	21.41	22.00	0.960	2021/3/12
50%RB									
Front Side	23790/710	10M QPSK(25,0)	0.363	0.239	3.28	20.75	21.00	0.385	2021/3/12
Back Side	23790/710	10M QPSK(25,0)	0.584	0.303	1.72	20.75	21.00	0.619	2021/3/12
Left Side	23790/710	10M QPSK(25,0)	0.223	0.133	-0.59	20.75	21.00	0.236	2021/3/12
Bottom Side	23790/710	10M QPSK(25,0)	0.290	0.165	0.32	20.75	21.00	0.307	2021/3/12
100%RB									
Back Side	23790/710	10M QPSK(50,0)	0.465	0.288	-0.86	20.68	21.00	0.501	2021/3/12

NOTE: Body SAR test results of LTE Band 17

10.1.12. SAR measurement Result of LTE Band 66

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Left Cheek	132322/1745	20M QPSK(1,49)	0.137	0.085	-0.36	23.13	23.50	0.149	2021/3/09
Left Tilt 15	132322/1745	20M QPSK(1,49)	0.070	0.043	6.00	23.13	23.50	0.076	2021/3/09

Degree									
Right Cheek	132322/1745	20M QPSK(1,49)	0.118	0.070	-3.58	23.13	23.50	0.128	2021/3/09
Right Tilt 15 Degree	132322/1745	20M QPSK(1,49)	0.053	0.032	4.93	23.13	23.50	0.058	2021/3/09
50%RB									
Left Cheek	132322/1745	1.4M QPSK(3,1)	0.130	0.073	-0.24	22.96	23.00	0.131	2021/3/09
Left Tilt 15 Degree	132322/1745	1.4M QPSK(3,1)	0.062	0.037	-0.53	22.96	23.00	0.063	2021/3/09
Right Cheek	132322/1745	1.4M QPSK(3,1)	0.111	0.061	3.02	22.96	23.00	0.112	2021/3/09
Right Tilt 15 Degree	132322/1745	1.4M QPSK(3,1)	0.048	0.029	-3.92	22.96	23.00	0.048	2021/3/09

NOTE: Head SAR test results of LTE Band 66

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
1RB									
Front Side	132322/1745	20M QPSK(1,49)	0.405	0.232	4.10	23.13	23.50	0.441	2021/3/09
Back Side	132322/1745	20M QPSK(1,49)	0.508	0.290	-0.47	23.13	23.50	0.553	2021/3/09
Left Side	132322/1745	20M QPSK(1,49)	0.253	0.147	-3.37	23.13	23.50	0.275	2021/3/09
Right Side	132322/1745	20M QPSK(1,49)	0.193	0.109	-0.70	23.13	23.50	0.210	2021/3/09
Bottom Side	132322/1745	20M QPSK(1,49)	0.390	0.220	-0.63	23.13	23.50	0.425	2021/3/09
50%RB									
Front Side	132322/1745	1.4M QPSK(3,1)	0.347	0.209	0.60	22.96	23.00	0.350	2021/3/09
Back Side	132322/1745	1.4M QPSK(3,1)	0.475	0.249	4.37	22.96	23.00	0.479	2021/3/09
Left Side	132322/1745	1.4M	0.224	0.131	0.66	22.96	23.00	0.226	2021/3/09

		QPSK(3,1)							
Right Side	132322/1745	1.4M QPSK(3,1)	0.170	0.095	-2.51	22.96	23.00	0.172	2021/3/09
Bottom Side	132322/1745	1.4M QPSK(3,1)	0.343	0.196	-0.06	22.96	23.00	0.346	2021/3/09

NOTE: Body SAR test results of LTE Band 66

10.1.13. SAR measurement Result of WLAN 2.4G

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Left Cheek	6/2437	802.11 b	0.219	0.109	3.15	10.04	11.50	0.307	2021/3/11
Left Tilt 15 Degree	6/2437	802.11 b	0.129	0.064	4.57	10.04	11.50	0.181	2021/3/11
Right Cheek	6/2437	802.11 b	0.188	0.096	4.68	10.04	11.50	0.263	2021/3/11
Right Tilt 15 Degree	6/2437	802.11 b	0.088	0.039	0.38	10.04	11.50	0.123	2021/3/11

NOTE: Head SAR test results of WLAN 2.4G

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	6/2437	802.11 b	0.134	0.062	0.05	10.04	11.50	0.188	2021/3/11
Back Side	6/2437	802.11 b	0.215	0.101	1.50	10.04	11.50	0.301	2021/3/11
Top Side	6/2437	802.11 b	0.067	0.031	-2.11	10.04	11.50	0.094	2021/3/11

NOTE: Body SAR test results of WLAN 2.4G

10.1.14. SAR measurement Result of WLAN 5.2G

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Left Cheek	40/5200	802.11 a	0.115	0.071	-2.34	11.449	11.500	0.116	2021/3/23
Left Tilt 15 Degree	40/5200	802.11 a	0.064	0.040	1.21	11.449	11.500	0.065	2021/3/23
Right Cheek	40/5200	802.11 a	0.100	0.060	1.72	11.449	11.500	0.101	2021/3/23
Right Tilt 15 Degree	40/5200	802.11 a	0.054	0.032	3.91	11.449	11.500	0.055	2021/3/23

NOTE: Head SAR test results of WLAN 5.2G

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	40/5200	802.11 a	0.169	0.069	3.71	11.449	11.500	0.171	2021/3/23
Back Side	40/5200	802.11 a	0.281	0.115	-1.14	11.449	11.500	0.284	2021/3/23
Top Side	40/5200	802.11 a	0.155	0.063	-2.72	11.449	11.500	0.157	2021/3/23

NOTE: Body SAR test results of WLAN 5.2G

10.1.15. SAR measurement Result of WLAN 5.8G

Test Position of Head	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Left Cheek	157/5785	802.11 a	0.216	0.096	3.40	10.079	10.500	0.238	2021/3/24
Left Tilt 15 Degree	157/5785	802.11 a	0.118	0.050	4.72	10.079	10.500	0.130	2021/3/24
Right Cheek	157/5785	802.11 a	0.193	0.081	2.90	10.079	10.500	0.213	2021/3/24
Right Tilt 15 Degree	157/5785	802.11 a	0.090	0.038	1.65	10.079	10.500	0.099	2021/3/24

NOTE: Head SAR test results of WLAN 5.8G

Test Position of Body with 0mm	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 1g (W/Kg)	Date
			1g	10g					
Front Side	157/5785	802.11 a	0.195	0.089	3.93	10.079	10.500	0.215	2021/3/24
Back Side	157/5785	802.11 a	0.309	0.143	1.07	10.079	10.500	0.340	2021/3/24
Top Side	157/5785	802.11 a	0.158	0.073	-2.37	10.079	10.500	0.174	2021/3/24

NOTE: Body SAR test results of WLAN 5.8G

10.2. SAR Summation Scenario

Per KDB 447498 D01, simultaneous transmission SAR is compliant if,

1) Scalar SAR summation < 1.6W/kg.

2) SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (min. separation distance, mm), and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the zoom scan. If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.

Test Position		Scaled SAR_{MAX}		∑1-g SAR (W/Kg)	SPLSR	Remark
		PCE	DTS			
Head	Left Cheek	0.169	0.307	0.476	N/A	N/A
	Left Tilt 15 Degree	0.091	0.181	0.272	N/A	N/A
	Right Cheek	0.154	0.263	0.417	N/A	N/A
	Right Tilt 15 Degree	0.074	0.123	0.197	N/A	N/A
Body	Front Side	0.754	0.188	0.942	N/A	N/A
	Back Side	1.135	0.301	1.436	N/A	N/A
	Left Side	0.567	N/A	0.567	N/A	N/A
	Right Side	0.444	N/A	0.444	N/A	N/A
	Top Side	0.060	0.094	0.154	N/A	N/A
	Bottom Side	0.702	N/A	0.702	N/A	N/A

Test Position		Scaled SAR_{MAX}		∑1-g SAR (W/Kg)	SPLSR	Remark
		PCE	NII			
Head	Left Cheek	0.169	0.238	0.407	N/A	N/A
	Left Tilt 15 Degree	0.091	0.130	0.221	N/A	N/A
	Right Cheek	0.154	0.213	0.367	N/A	N/A
	Right Tilt 15 Degree	0.074	0.099	0.173	N/A	N/A
Body	Front Side	0.754	0.215	0.969	N/A	N/A
	Back Side	1.135	0.340	1.475	N/A	N/A
	Left Side	0.567	N/A	0.567	N/A	N/A
	Right Side	0.444	N/A	0.444	N/A	N/A
	Top Side	0.060	0.174	0.234	N/A	N/A
	Bottom Side	0.702	N/A	0.702	N/A	N/A

Test Position		Scaled SAR_{MAX}		∑1-g SAR (W/Kg)	SPLSR	Remark
		PCE	DSS			
Head	Left Cheek	0.169	0.042	0.211	N/A	N/A
	Left Tilt 15 Degree	0.091	0.042	0.133	N/A	N/A
	Right Cheek	0.154	0.042	0.196	N/A	N/A
	Right Tilt 15 Degree	0.074	0.042	0.116	N/A	N/A
Body	Front Side	0.754	0.042	0.796	N/A	N/A
	Back Side	1.135	0.042	1.177	N/A	N/A
	Left Side	0.567	N/A	0.567	N/A	N/A

	Right Side	0.444	N/A	0.444	N/A	N/A
	Top Side	0.060	0.042	0.102	N/A	N/A
	Bottom Side	0.702	N/A	0.702	N/A	N/A

11. Appendix A. Photo documentation

Refer to appendix Test Setup photo---SAR

12. Appendix B. System Check Plots

Table of contents
MEASUREMENT 1 System Performance Check - 750MHz
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MEASUREMENT 3 System Performance Check - 1800MHz
MEASUREMENT 4 System Performance Check - 1900MHz
MEASUREMENT 5 System Performance Check - 2450MHz
MEASUREMENT 6 System Performance Check - 2600MHz
MEASUREMENT 7 System Performance Check - 5200MHz
MEASUREMENT 8 System Performance Check - 5800MHz

MEASUREMENT 1

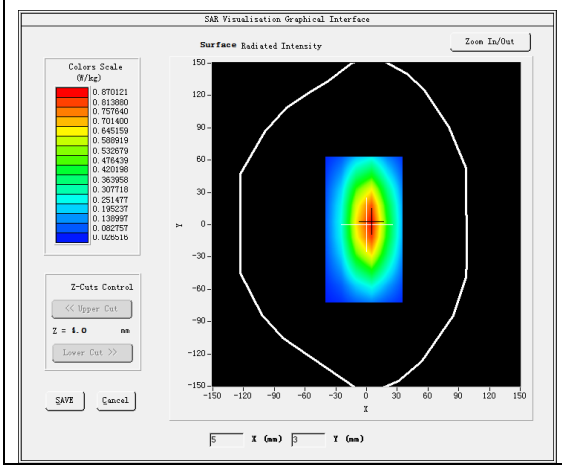
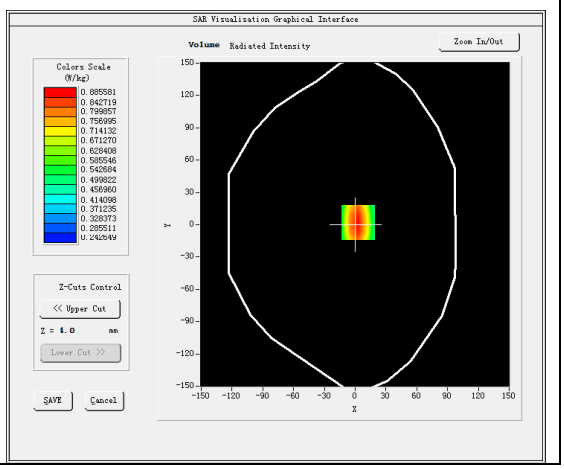
Date of measurement: 12/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

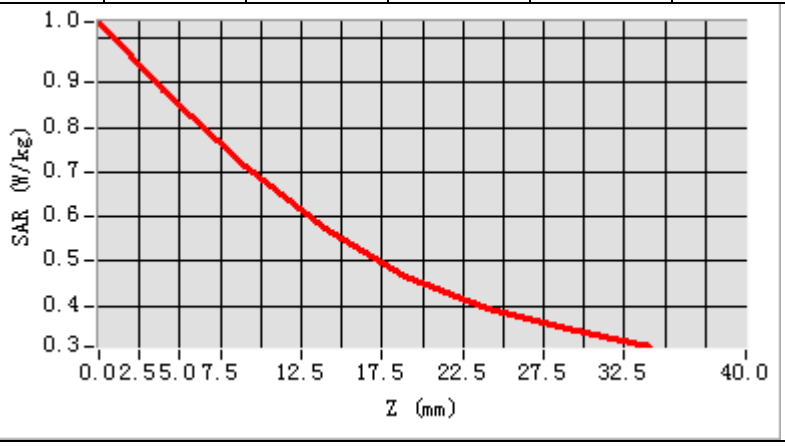
Frequency (MHz)	750.000000
Relative permittivity (real part)	42.859130
Relative permittivity (imaginary part)	21.995960
Conductivity (S/m)	0.916498
Variation (%)	-0.640000

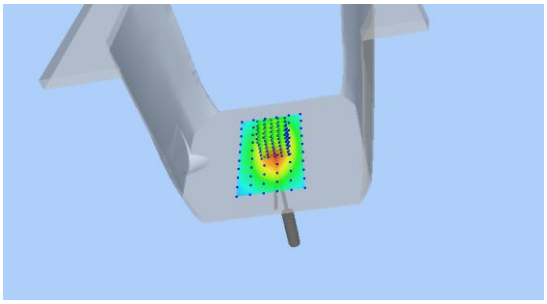
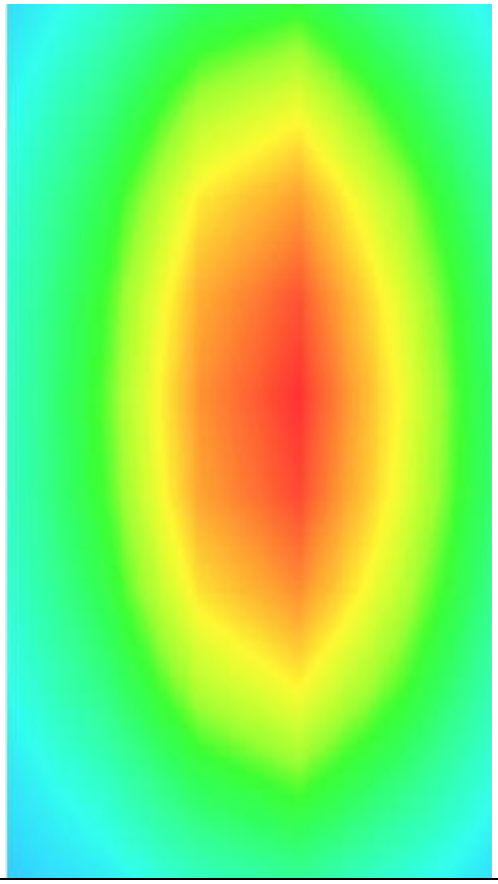
SURFACE SAR	VOLUME SAR
	

Maximum location: X=3.00, Y=2.00
SAR Peak: 1.04 W/kg

SAR 10g (W/Kg)	0.584268
SAR 1g (W/Kg)	0.802322

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.0370	0.8856	0.7122	0.5722	0.4656	0.3959	0.3496



3D screen shot	Hot spot position
	

MEASUREMENT 2

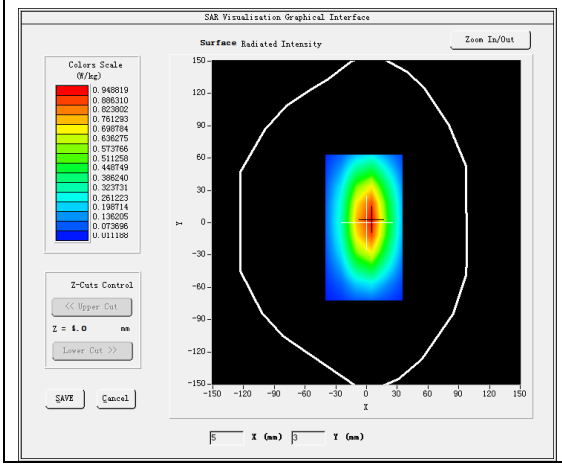
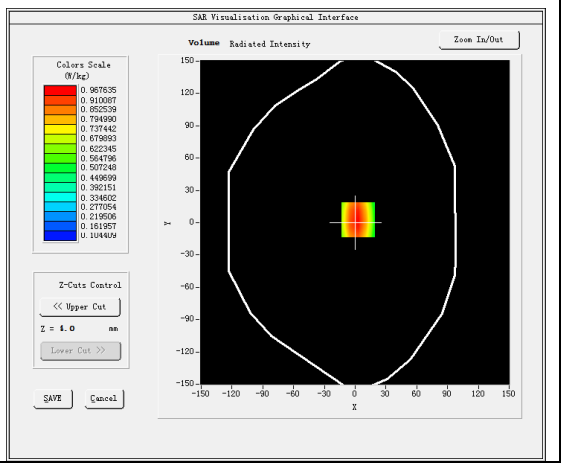
Date of measurement: 8/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

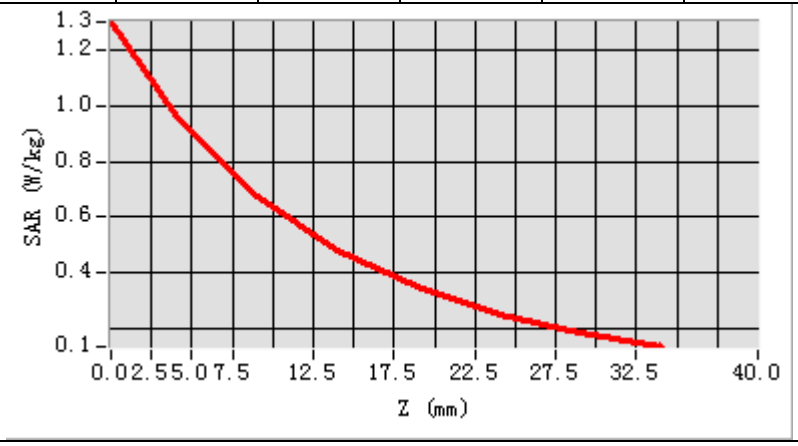
Frequency (MHz)	835.000000
Relative permittivity (real part)	41.929536
Relative permittivity (imaginary part)	19.054376
Conductivity (S/m)	0.883911
Variation (%)	-2.110000

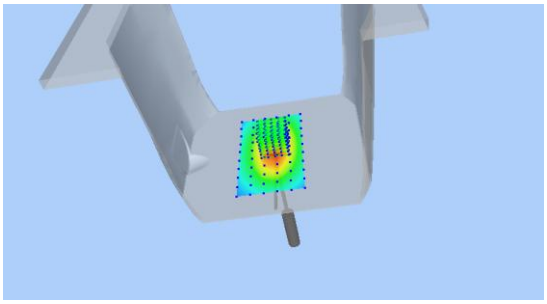
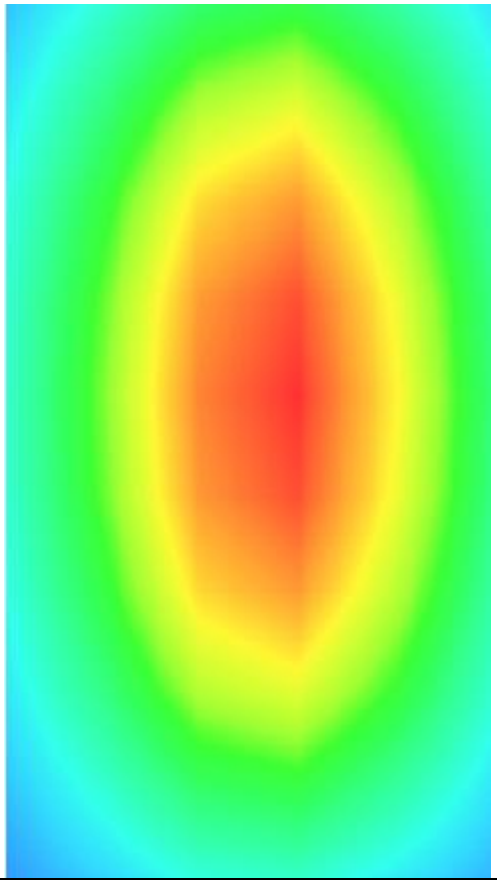
SURFACE SAR	VOLUME SAR
	

Maximum location: X=3.00, Y=3.00
SAR Peak: 1.30 W/kg

SAR 10g (W/Kg)	0.590003
SAR 1g (W/Kg)	0.934035

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.3010	0.9668	0.6740	0.4811	0.3490	0.2528	0.1852



3D screen shot	Hot spot position
	

MEASUREMENT 3

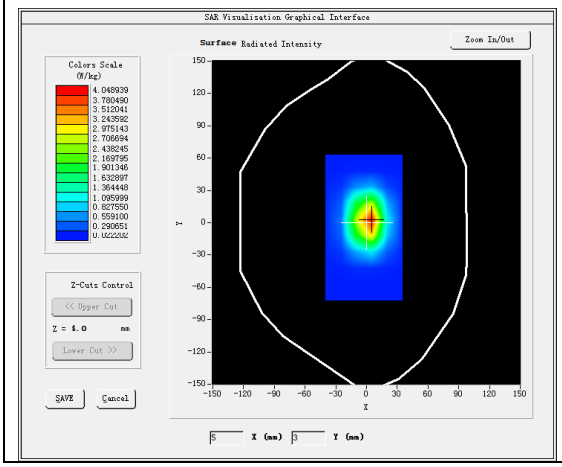
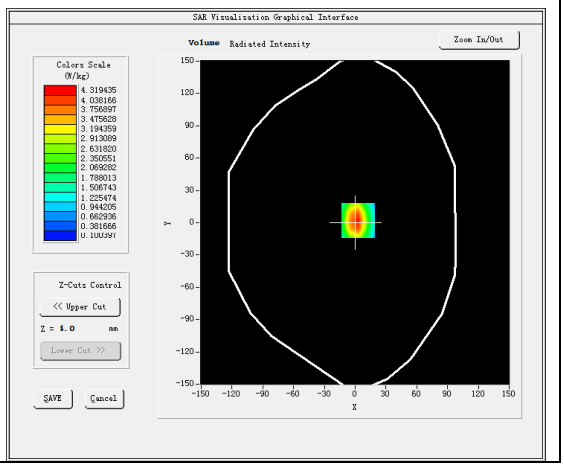
Date of measurement: 9/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

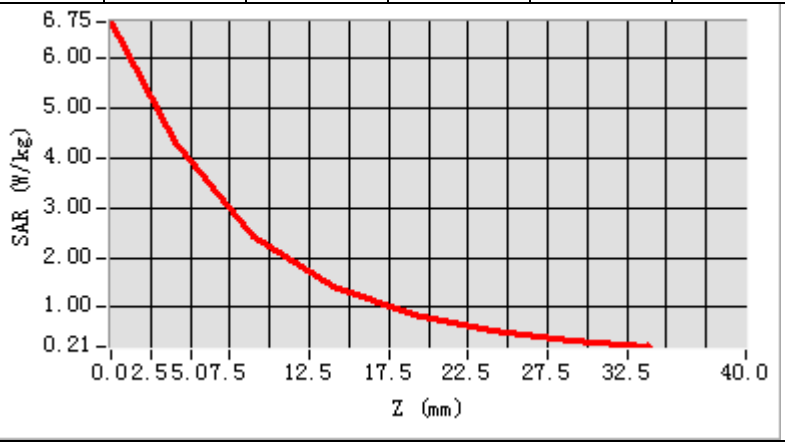
Frequency (MHz)	1800.000000
Relative permittivity (real part)	39.709695
Relative permittivity (imaginary part)	13.544382
Conductivity (S/m)	1.354438
Variation (%)	-2.130000

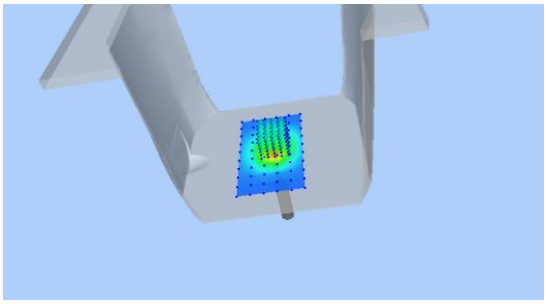
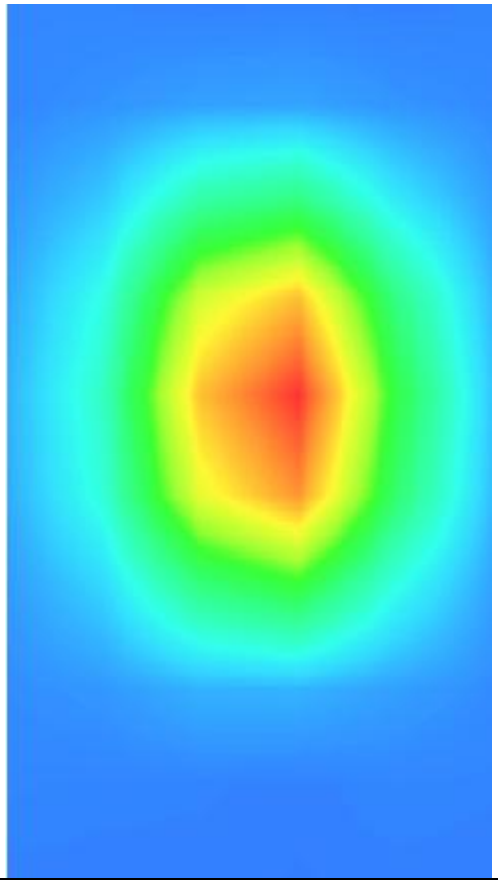
SURFACE SAR	VOLUME SAR
	

Maximum location: X=3.00, Y=2.00
SAR Peak: 6.82 W/kg

SAR 10g (W/Kg)	1.930492
SAR 1g (W/Kg)	3.991125

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.7452	4.3184	2.4350	1.4227	0.8549	0.5206	0.3263



3D screen shot	Hot spot position
	

MEASUREMENT 4

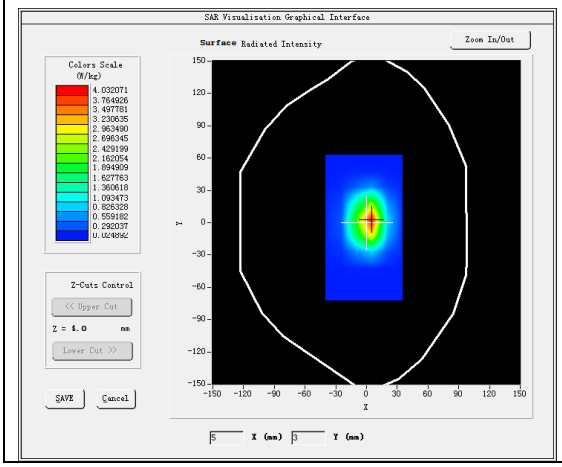
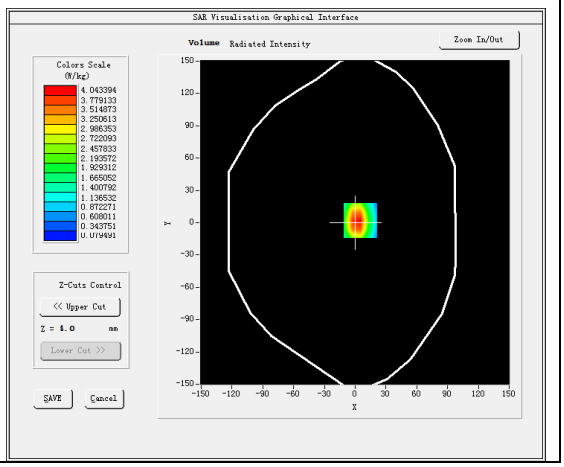
Date of measurement: 10/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

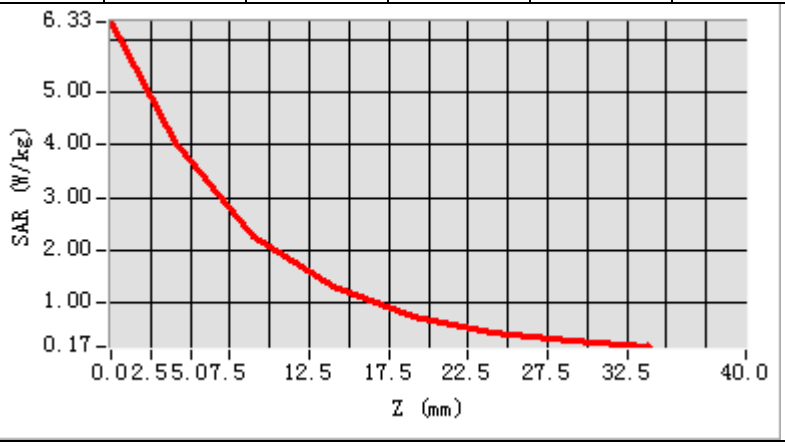
Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.178300
Relative permittivity (imaginary part)	13.753700
Conductivity (S/m)	1.451779
Variation (%)	-3.540000

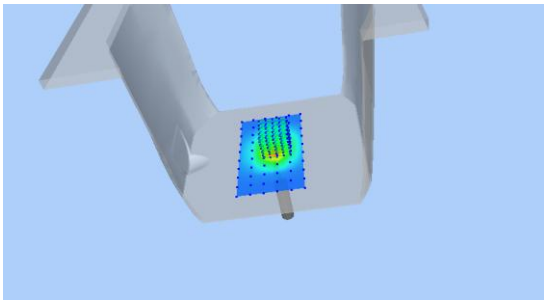
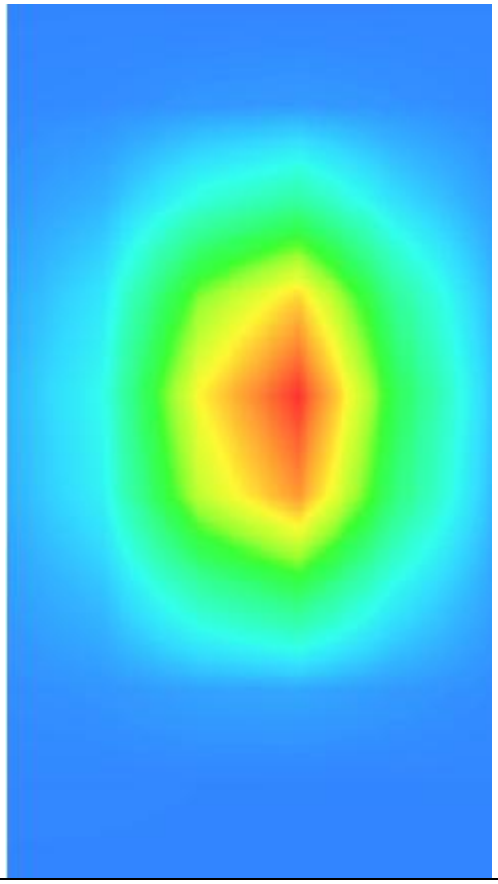
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=2.00
SAR Peak: 6.70 W/kg

SAR 10g (W/Kg)	2.071348
SAR 1g (W/Kg)	3.761429

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.3245	4.0428	2.2609	1.3076	0.7601	0.4550	0.2762



3D screen shot	Hot spot position
	

MEASUREMENT 5

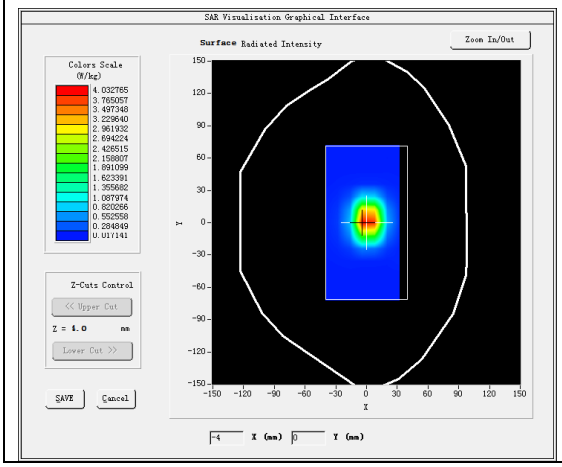
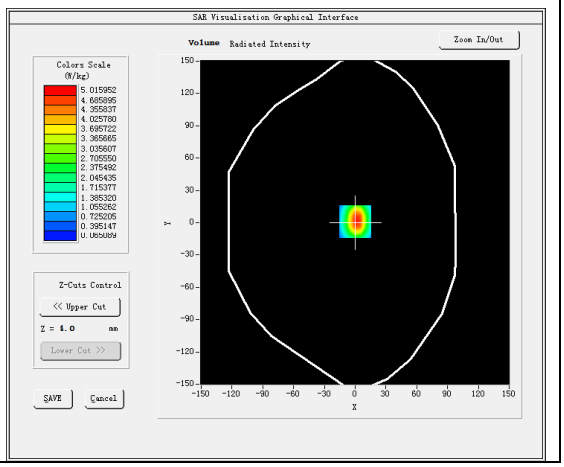
Date of measurement: 11/3/2021

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

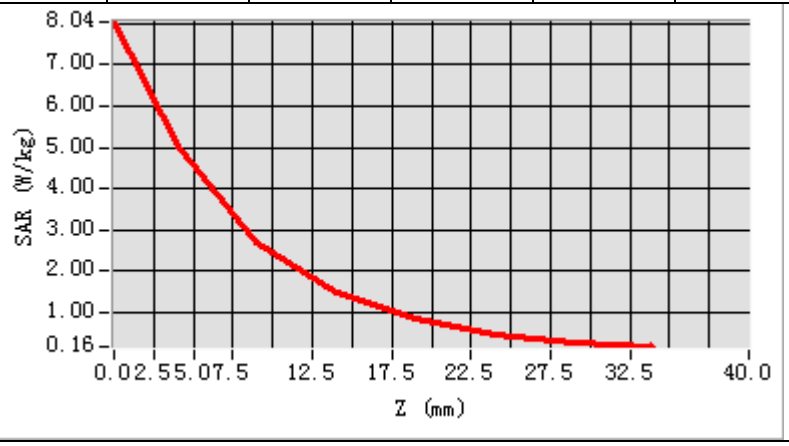
Frequency (MHz)	2450.000000
Relative permittivity (real part)	39.509198
Relative permittivity (imaginary part)	13.038461
Conductivity (S/m)	1.774679
Variation (%)	-1.220000

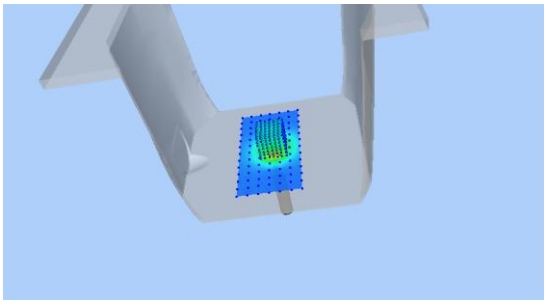
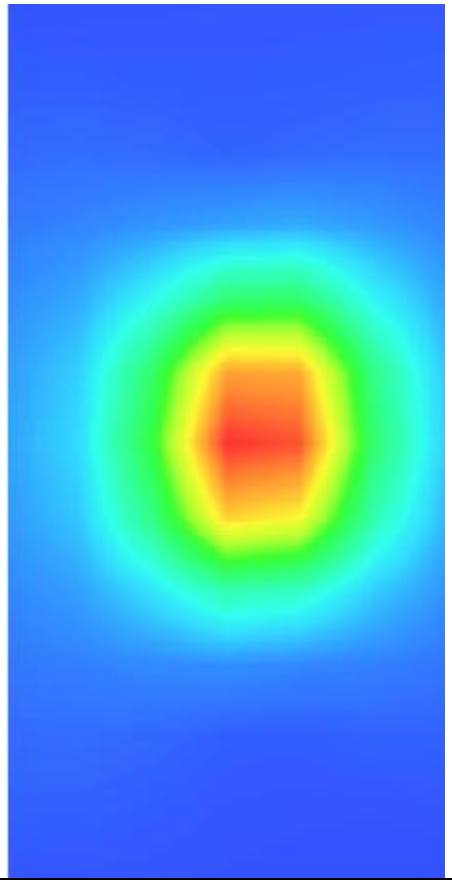
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=1.00
SAR Peak: 8.14 W/kg

SAR 10g (W/Kg)	2.449187
SAR 1g (W/Kg)	5.077238

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	8.0380	5.0166	2.6988	1.4830	0.8308	0.4689	0.2696



3D screen shot	Hot spot position
	

MEASUREMENT 6

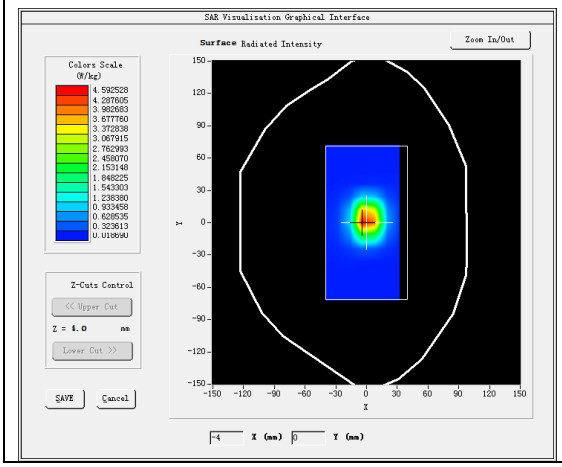
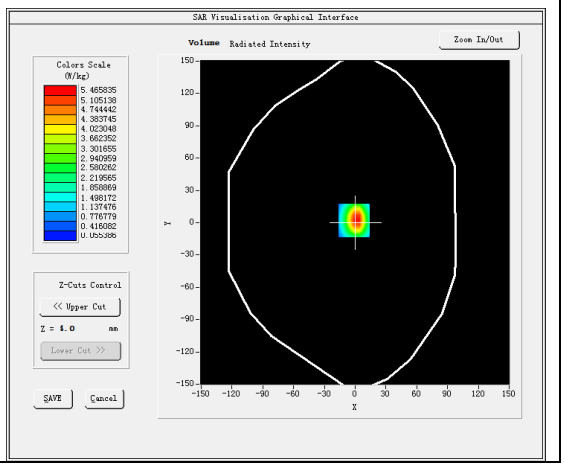
Date of measurement: 13/3/2021

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

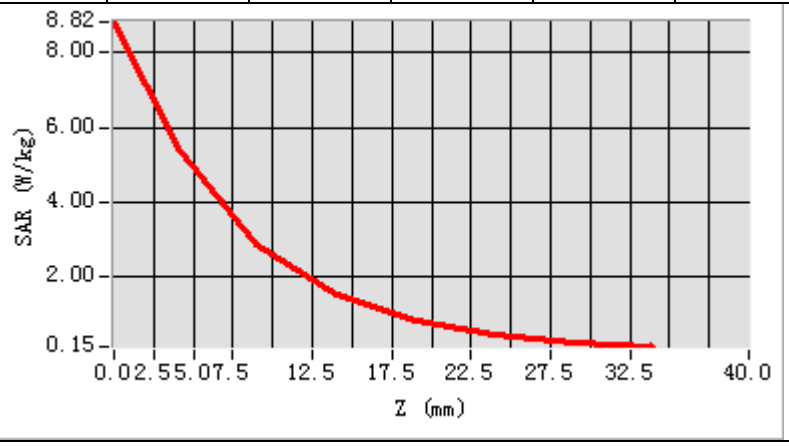
Frequency (MHz)	2600.000000
Relative permittivity (real part)	39.536327
Relative permittivity (imaginary part)	13.365600
Conductivity (S/m)	1.930587
Variation (%)	-1.940000

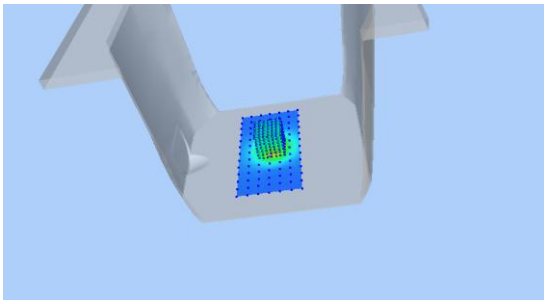
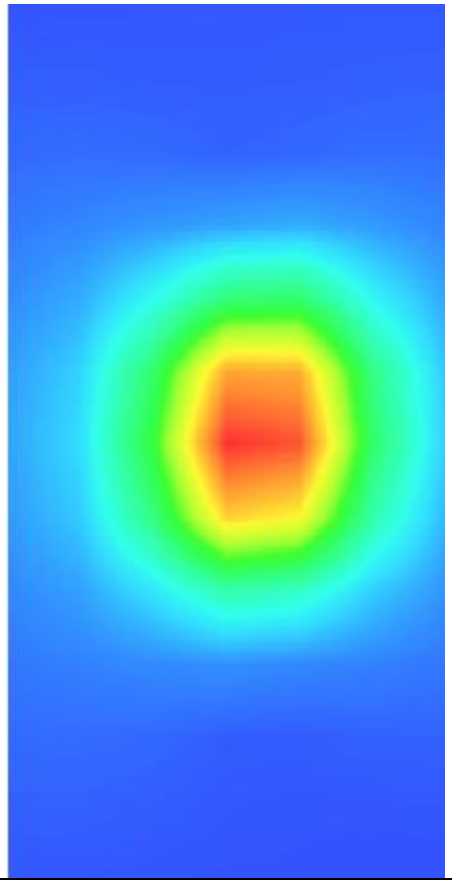
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-1.00, Y=2.00
SAR Peak: 9.07 W/kg

SAR 10g (W/Kg)	2.434126
SAR 1g (W/Kg)	6.080238

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	8.8166	5.4642	2.8989	1.5675	0.8596	0.4712	0.2630



3D screen shot	Hot spot position
	

MEASUREMENT 7

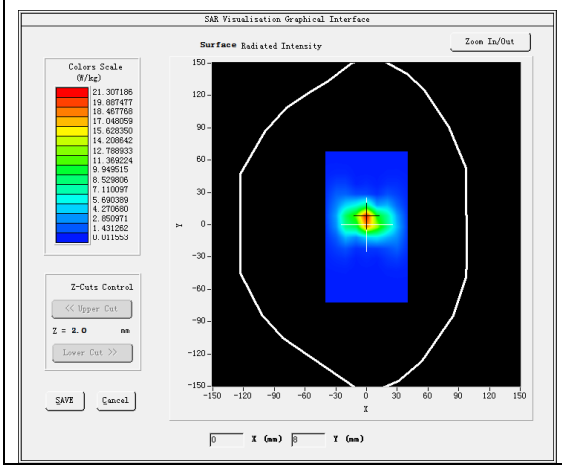
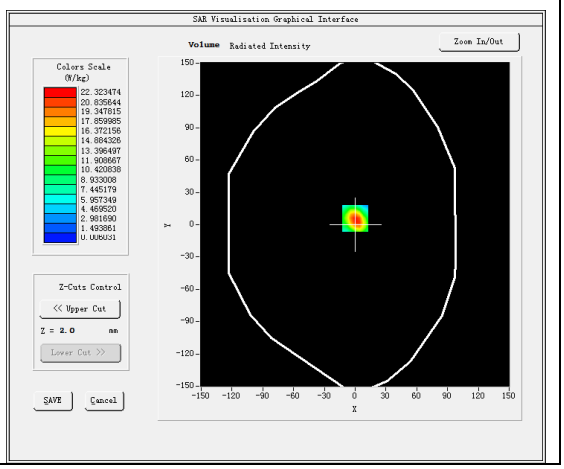
Date of measurement: 23/3/2021

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

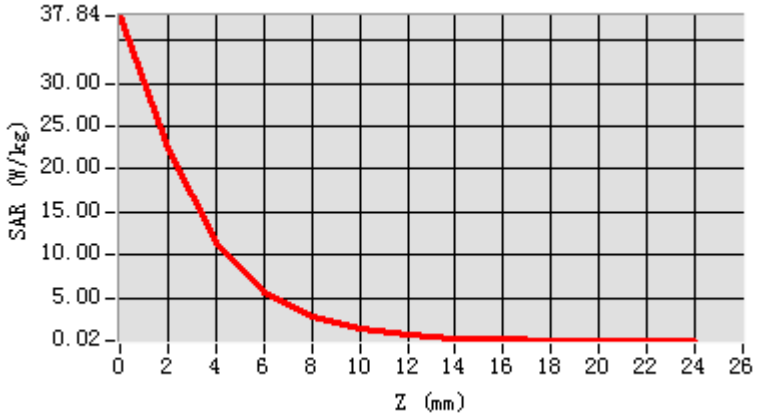
Frequency (MHz)	5200.000000
Relative permittivity (real part)	36.315406
Relative permittivity (imaginary part)	16.427374
Conductivity (S/m)	4.745686
Variation (%)	-2.340000

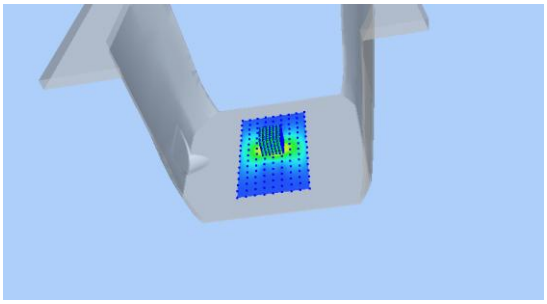
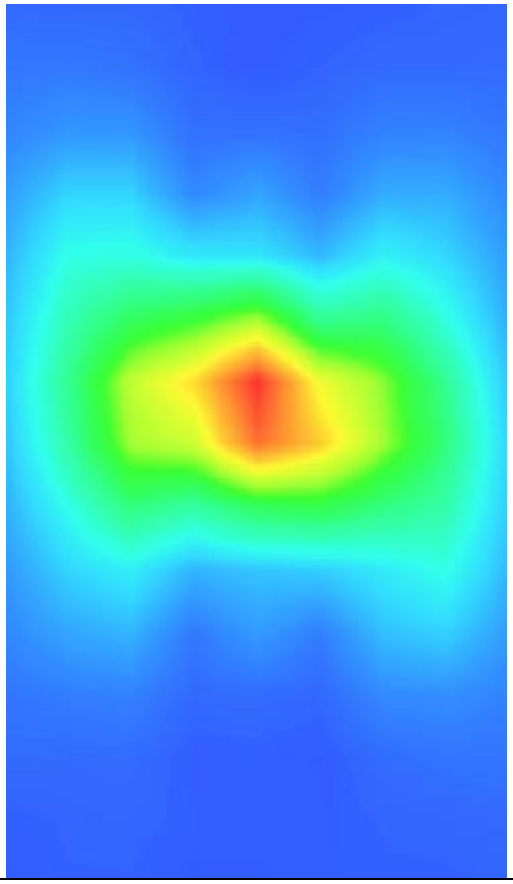
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=6.00
SAR Peak: 40.06 W/kg

SAR 10g (W/Kg)	5.559127
SAR 1g (W/Kg)	15.845962

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	37.8362	22.3230	11.3780	5.6671	2.8240	1.4093	0.7142	0.3640	0.1862	0.1010	0.0540	0.0312



3D screen shot	Hot spot position
	

MEASUREMENT 8

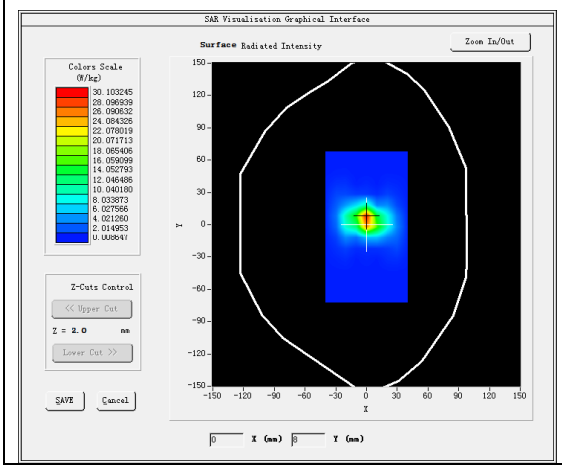
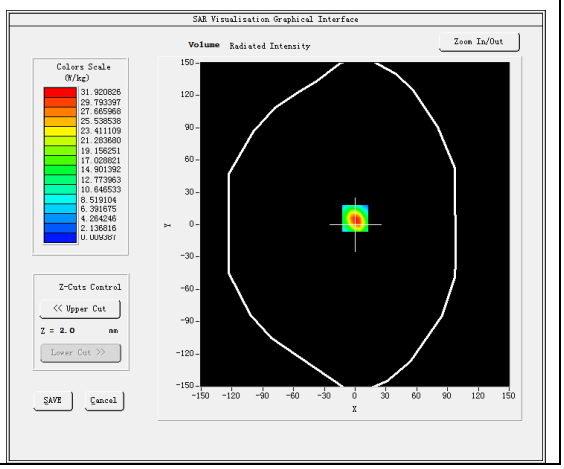
Date of measurement: 24/3/2021

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

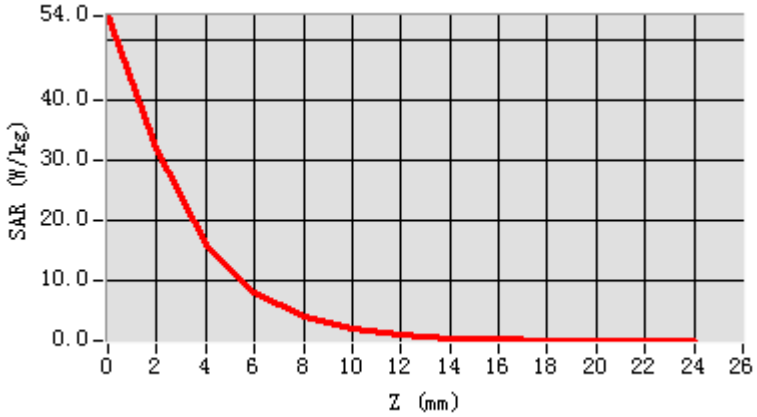
Frequency (MHz)	5800.000000
Relative permittivity (real part)	35.386904
Relative permittivity (imaginary part)	16.086578
Conductivity (S/m)	5.183453
Variation (%)	-0.810000

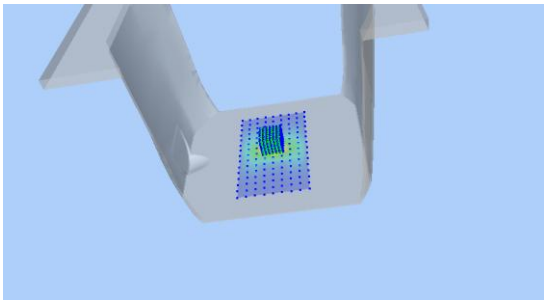
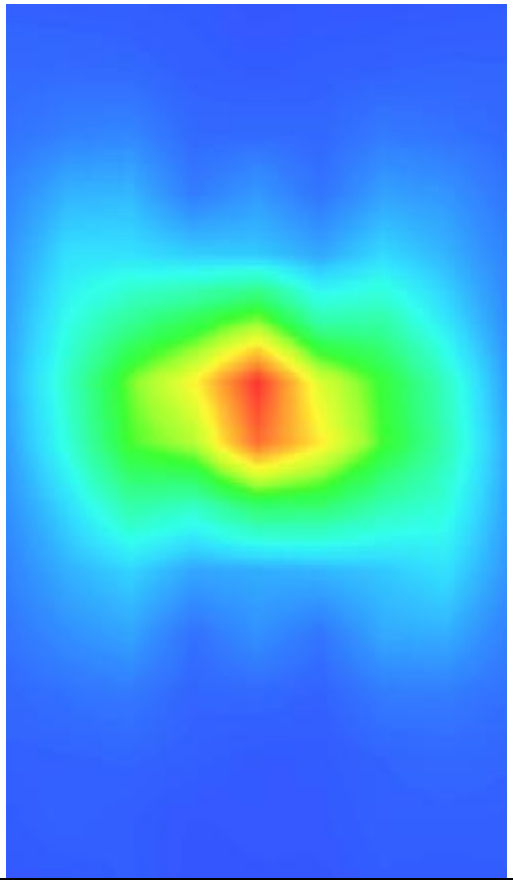
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=6.00
SAR Peak: 57.37 W/kg

SAR 10g (W/Kg)	6.233694
SAR 1g (W/Kg)	18.092163

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	54.0382	31.9204	16.1700	8.1721	4.0860	2.0552	1.0343	0.5162	0.2761	0.1551	0.0790	0.0469



3D screen shot	Hot spot position
	

13. Appendix C. Plots of High SAR Measurement

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MEASUREMENT 30 LTE Band 66 Body

MEASUREMENT 1

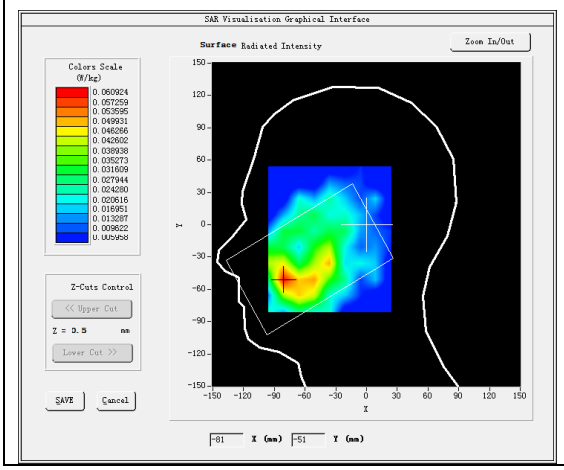
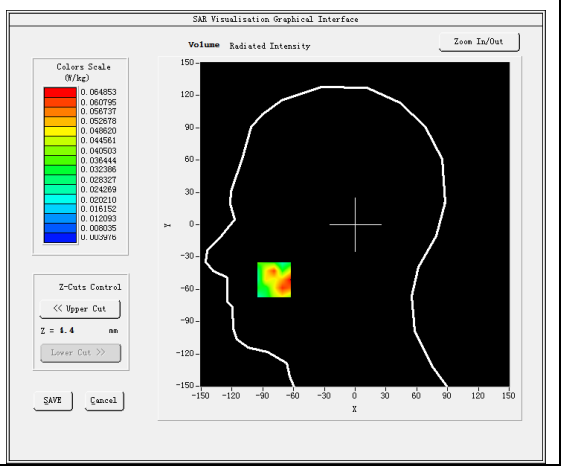
Date of measurement: 8/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 2.0)

B. SAR Measurement Results

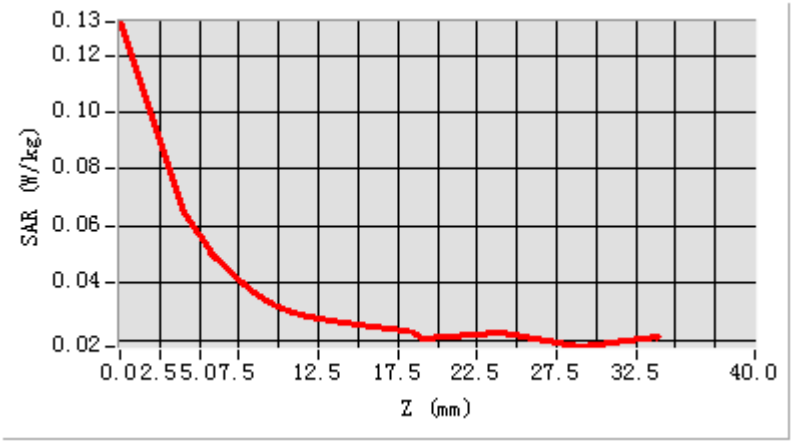
Frequency (MHz)	836.400000
Relative permittivity (real part)	41.845196
Relative permittivity (imaginary part)	19.080215
Conductivity (S/m)	0.886594
Variation (%)	-0.490000

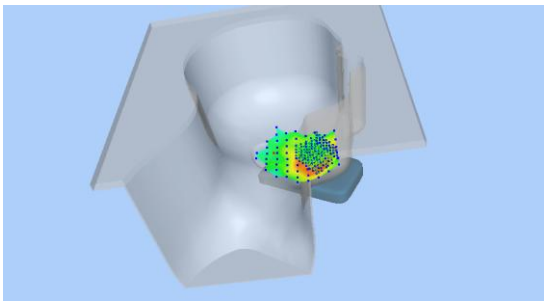
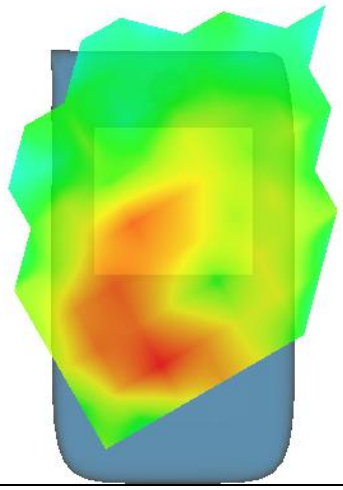
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-79.00, Y=-51.00
SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.038179
SAR 1g (W/Kg)	0.060807

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1318	0.0649	0.0449	0.0225	0.0217	0.0205	0.0176



3D screen shot	Hot spot position
	

MEASUREMENT 2

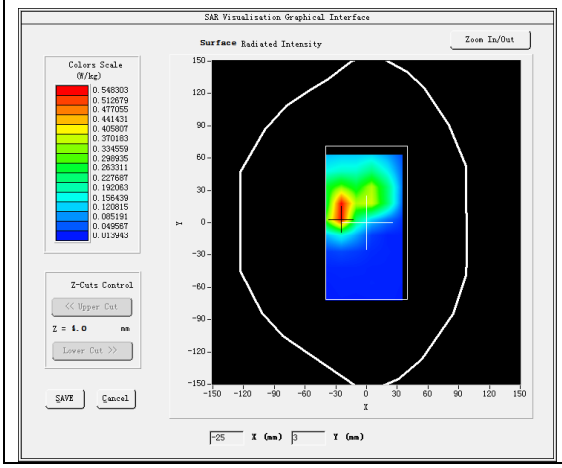
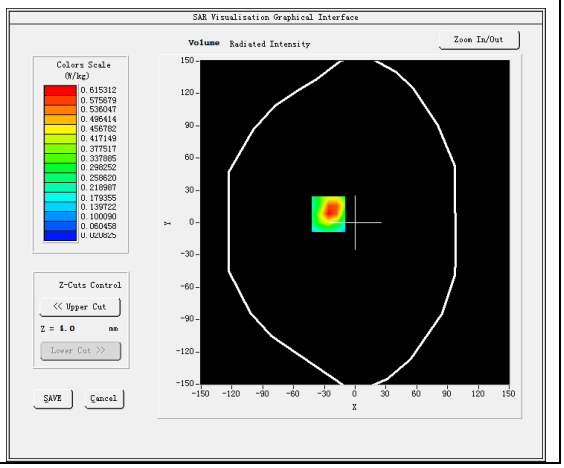
Date of measurement: 8/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 2.0)

B. SAR Measurement Results

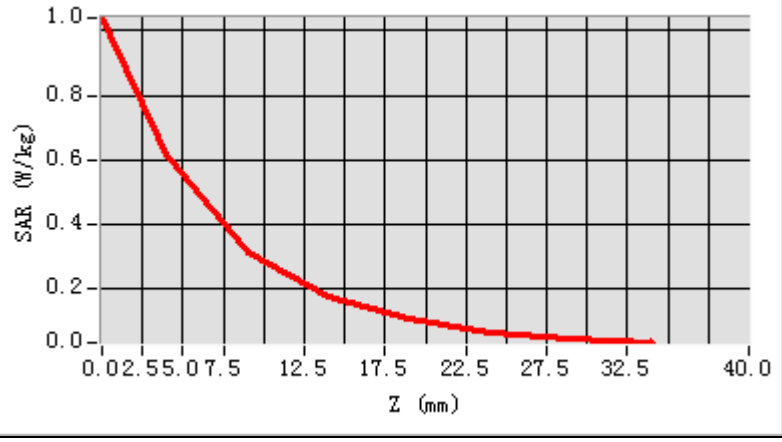
Frequency (MHz)	836.400000
Relative permittivity (real part)	41.845196
Relative permittivity (imaginary part)	19.080215
Conductivity (S/m)	0.886594
Variation (%)	0.060000

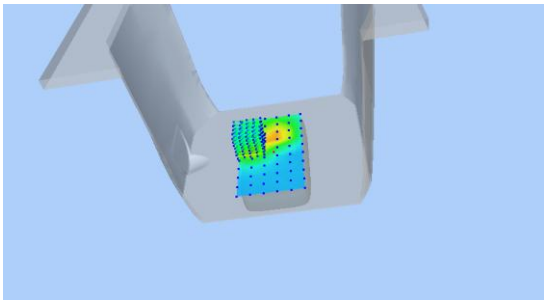
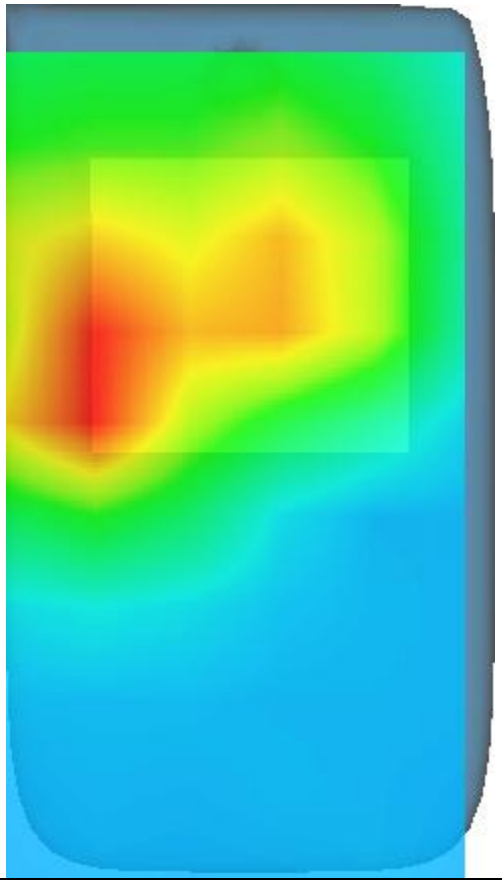
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-26.00, Y=8.00
SAR Peak: 1.09 W/kg

SAR 10g (W/Kg)	0.303992
SAR 1g (W/Kg)	0.611235

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.0403	0.6153	0.3114	0.1725	0.1062	0.0644	0.0446



3D screen shot	Hot spot position
	

MEASUREMENT 3

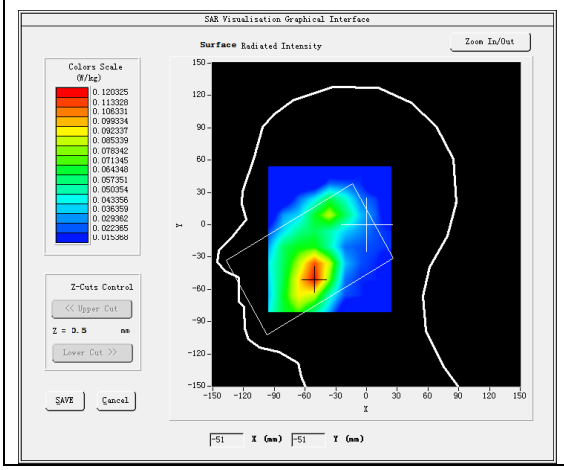
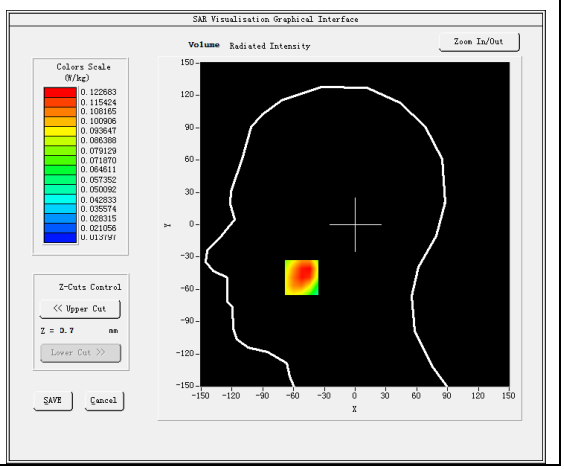
Date of measurement: 10/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)

B. SAR Measurement Results

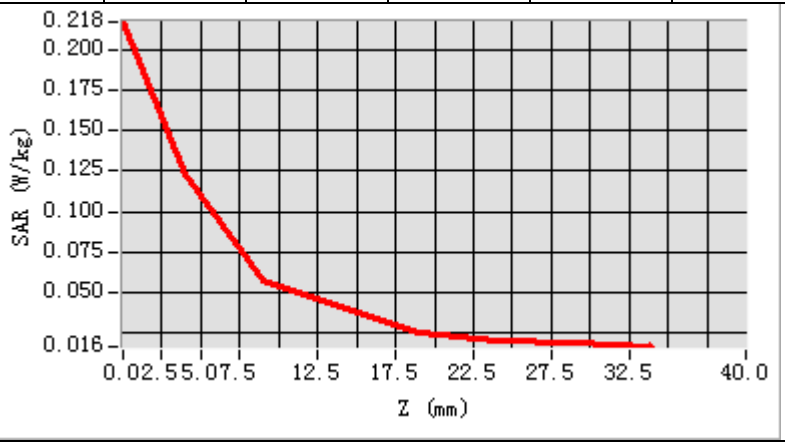
Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.264702
Relative permittivity (imaginary part)	13.771500
Conductivity (S/m)	1.438357
Variation (%)	1.660000

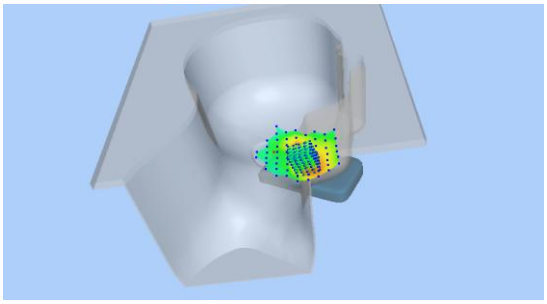
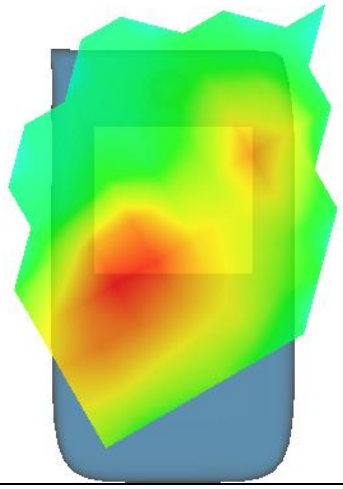
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-52.00, Y=-49.00
SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.069316
SAR 1g (W/Kg)	0.124398

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2176	0.1227	0.0567	0.0406	0.0242	0.0199	0.0184



3D screen shot	Hot spot position
	

MEASUREMENT 4

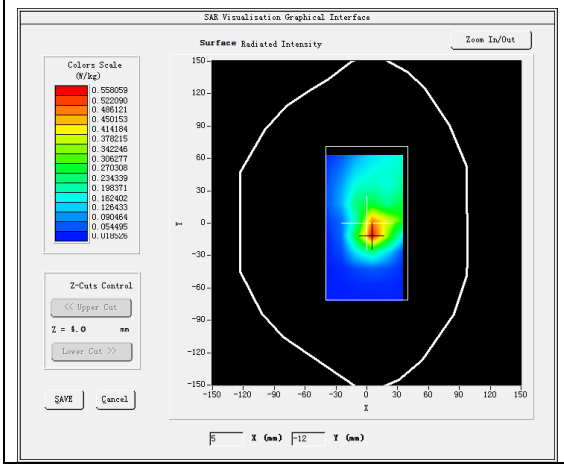
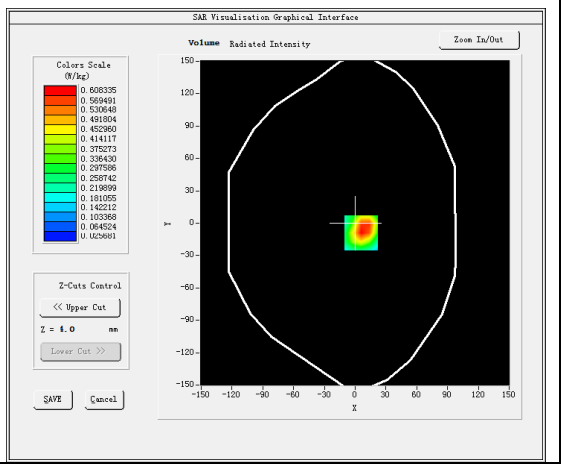
Date of measurement: 10/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)

B. SAR Measurement Results

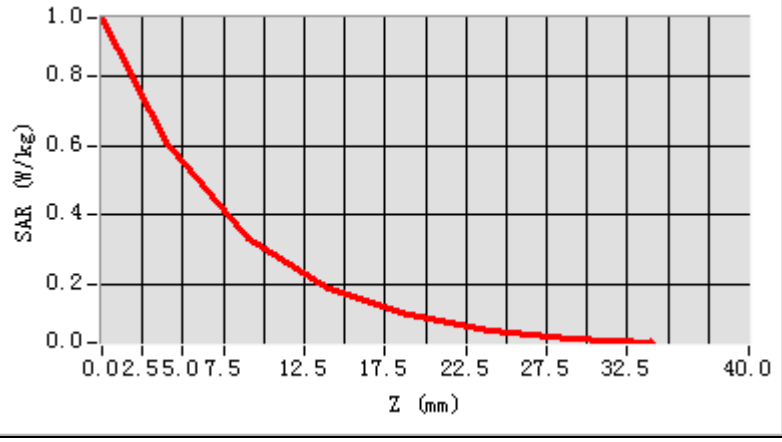
Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.264702
Relative permittivity (imaginary part)	13.771500
Conductivity (S/m)	1.438357
Variation (%)	0.360000

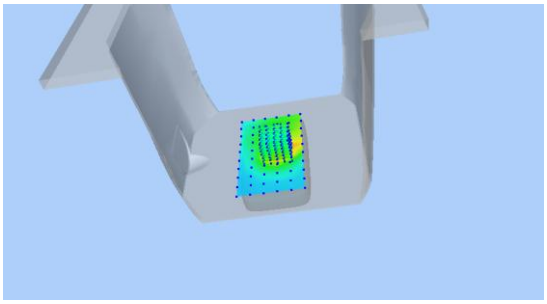
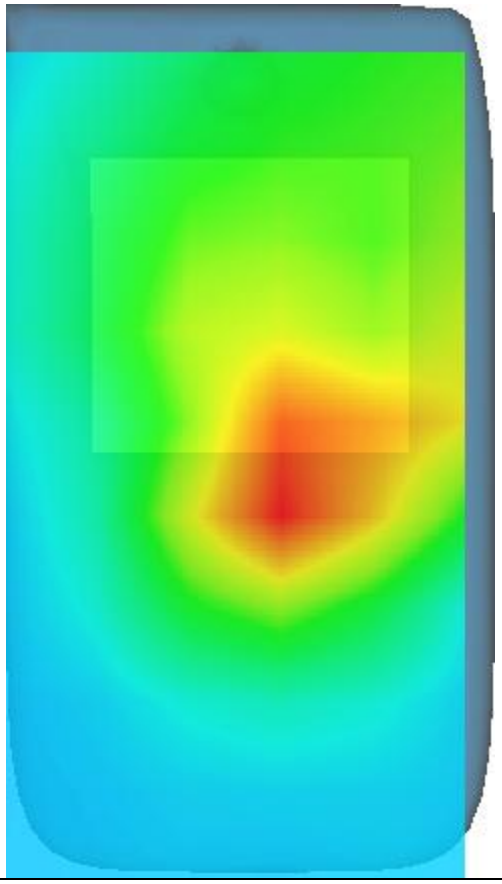
SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=-9.00
SAR Peak: 1.02 W/kg

SAR 10g (W/Kg)	0.306859
SAR 1g (W/Kg)	0.596113

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.9645	0.6083	0.3365	0.1930	0.1165	0.0732	0.0479



3D screen shot	Hot spot position
	

MEASUREMENT 5

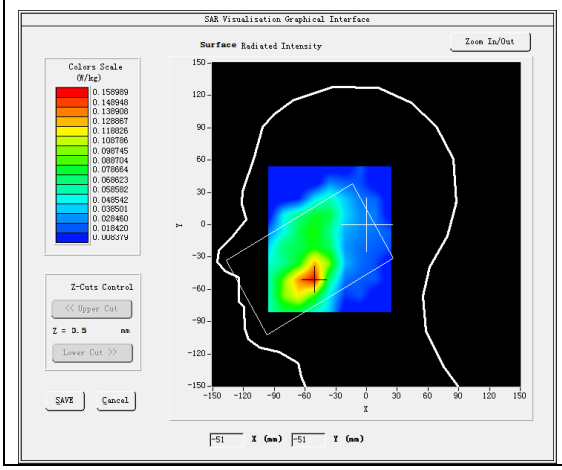
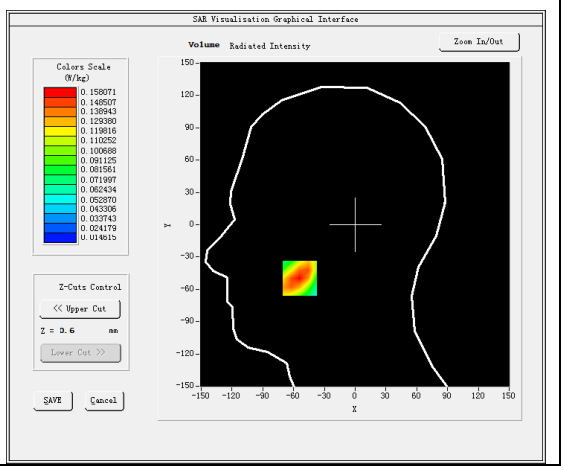
Date of measurement: 10/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	Band2_WCDMA1900
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.264702
Relative permittivity (imaginary part)	13.771500
Conductivity (S/m)	1.438357
Variation (%)	2.100000

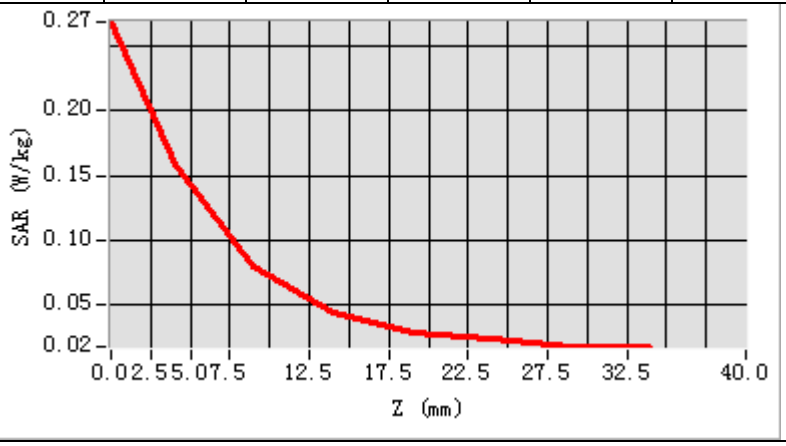
SURFACE SAR	VOLUME SAR
	

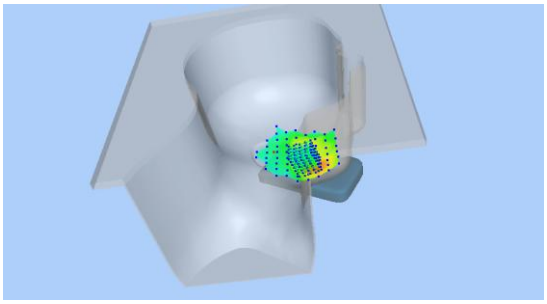
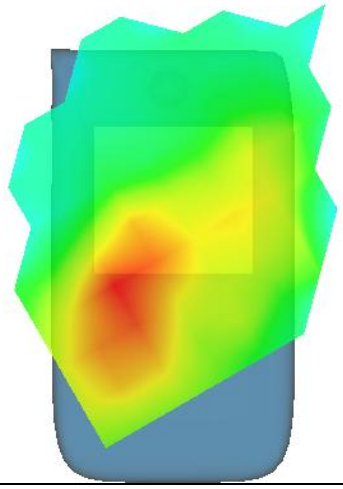
Maximum location: X=-54.00, Y=-50.00

SAR Peak: 0.27 W/kg

SAR 10g (W/Kg)	0.082138
SAR 1g (W/Kg)	0.155568

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2691	0.1581	0.0797	0.0434	0.0281	0.0229	0.0180



3D screen shot	Hot spot position
	

MEASUREMENT 6

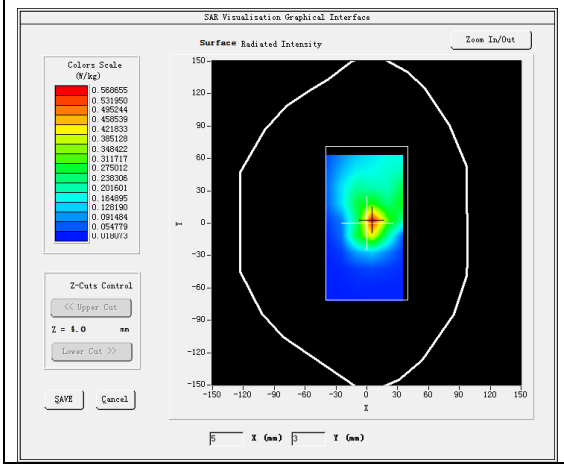
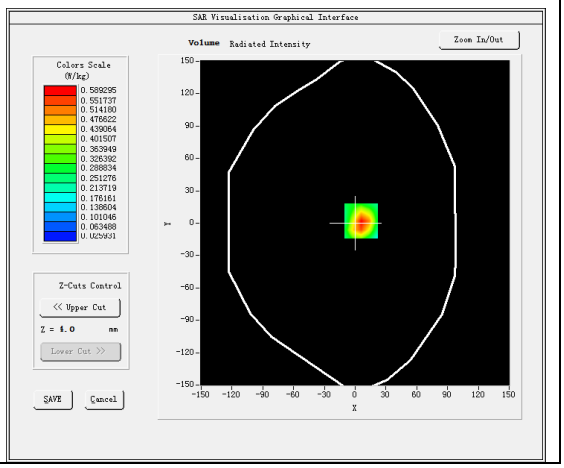
Date of measurement: 10/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band2_WCDMA1900
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)

B. SAR Measurement Results

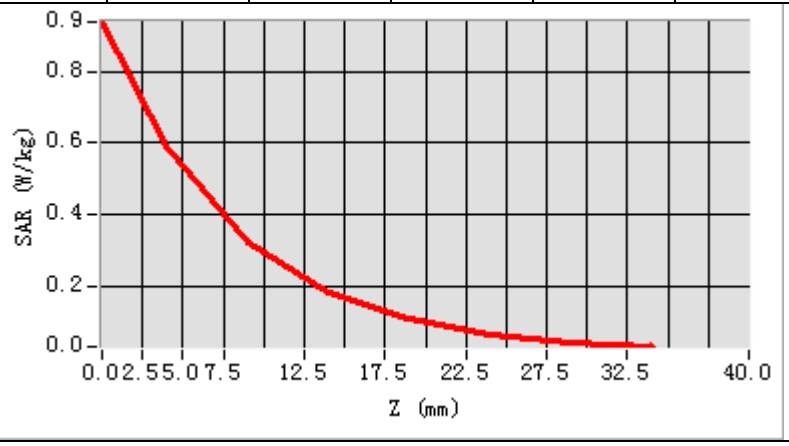
Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.264702
Relative permittivity (imaginary part)	13.771500
Conductivity (S/m)	1.438357
Variation (%)	3.830000

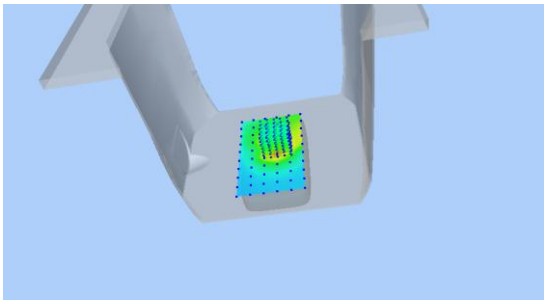
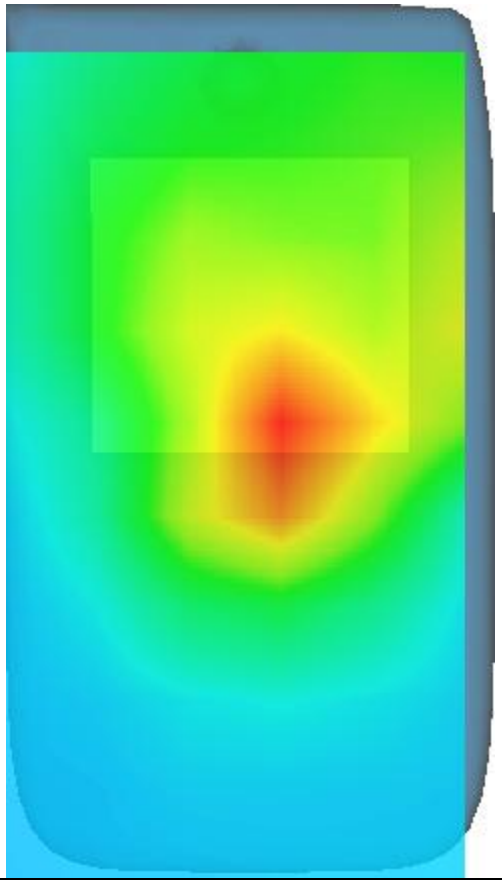
SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=2.00
SAR Peak: 0.95 W/kg

SAR 10g (W/Kg)	0.287728
SAR 1g (W/Kg)	0.559222

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.9377	0.5893	0.3235	0.1827	0.1106	0.0683	0.0458



3D screen shot	Hot spot position
	

MEASUREMENT 7

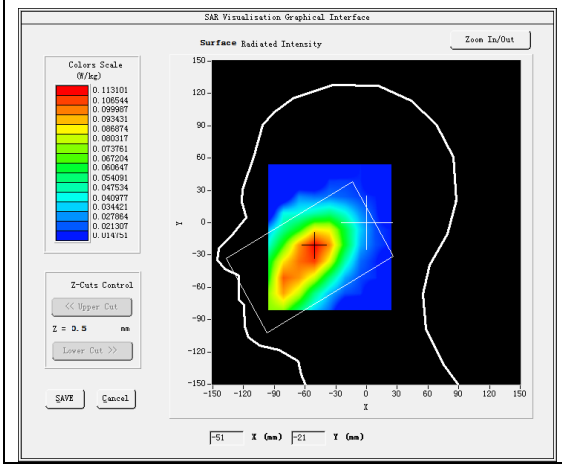
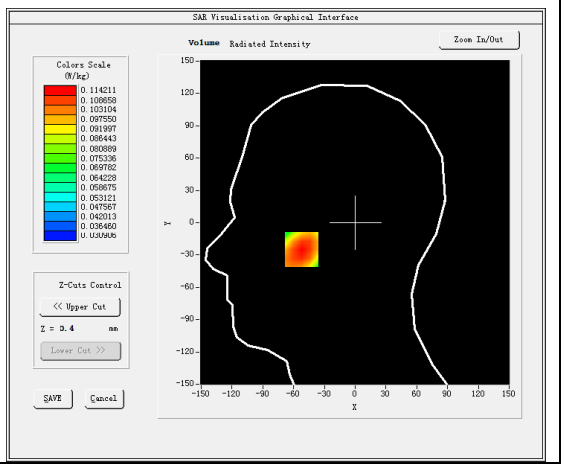
Date of measurement: 9/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	Band4_WCDMA1700
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)

B. SAR Measurement Results

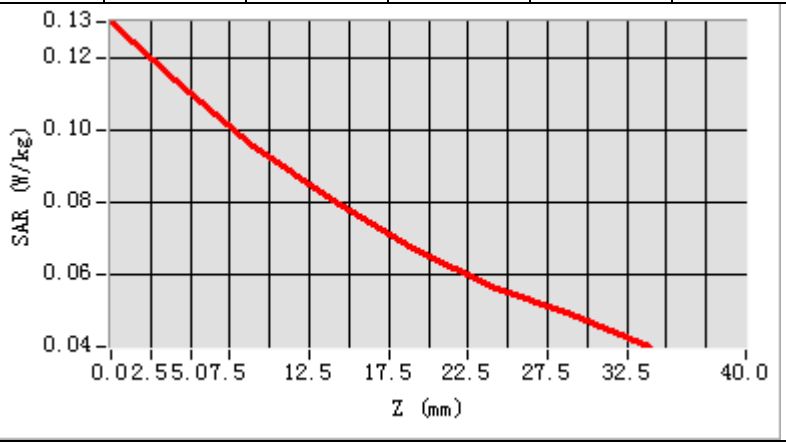
Frequency (MHz)	1732.600000
Relative permittivity (real part)	40.169395
Relative permittivity (imaginary part)	13.496682
Conductivity (S/m)	1.298681
Variation (%)	1.880000

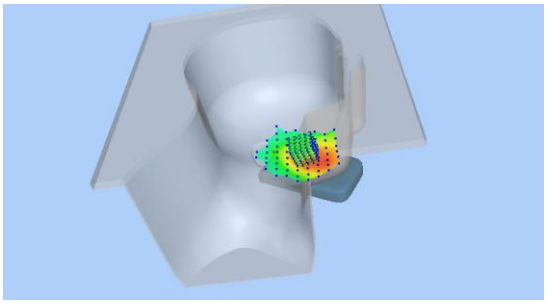
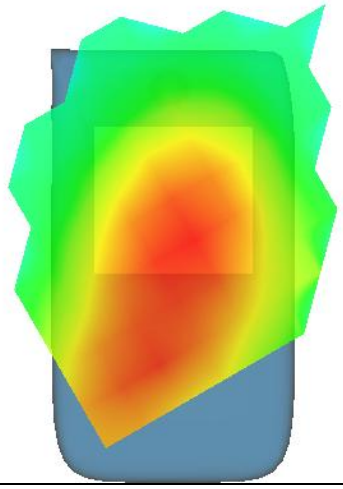
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-52.00, Y=-25.00
SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.088930
SAR 1g (W/Kg)	0.113010

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1301	0.1142	0.0954	0.0807	0.0673	0.0564	0.0488



3D screen shot	Hot spot position
	

MEASUREMENT 8

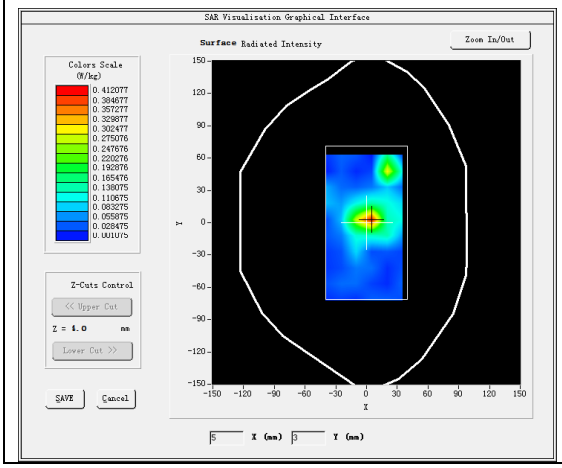
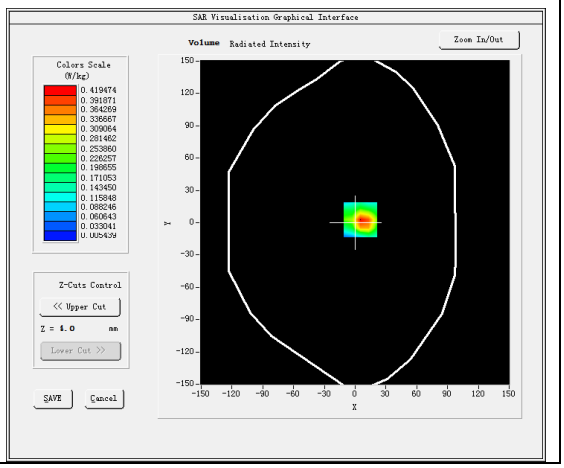
Date of measurement: 9/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band4_WCDMA1700
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)

B. SAR Measurement Results

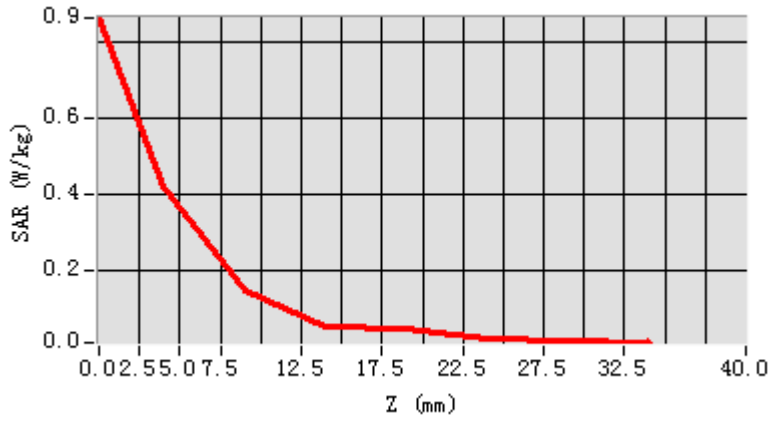
Frequency (MHz)	1732.600000
Relative permittivity (real part)	40.169395
Relative permittivity (imaginary part)	13.496682
Conductivity (S/m)	1.298681
Variation (%)	4.440000

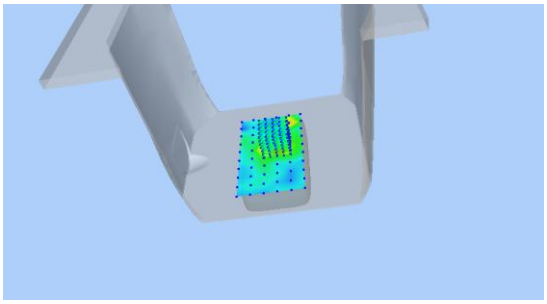
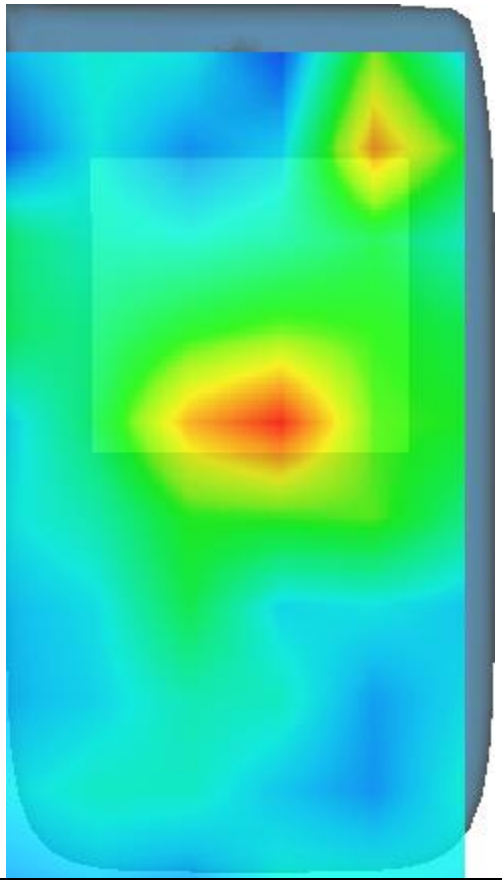
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=3.00
SAR Peak: 0.90 W/kg

SAR 10g (W/Kg)	0.168143
SAR 1g (W/Kg)	0.424050

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.8612	0.4195	0.1495	0.0539	0.0462	0.0209	0.0178



3D screen shot	Hot spot position
	

MEASUREMENT 9

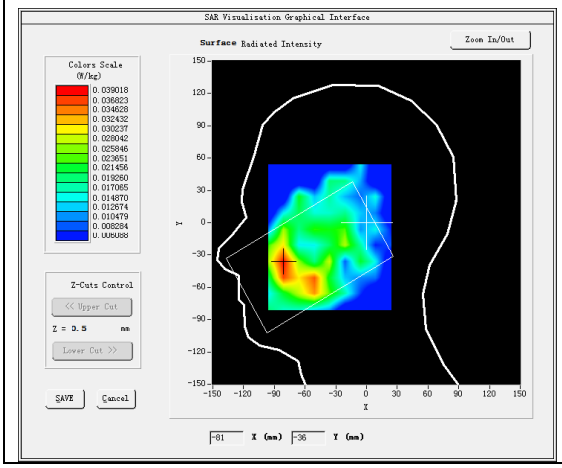
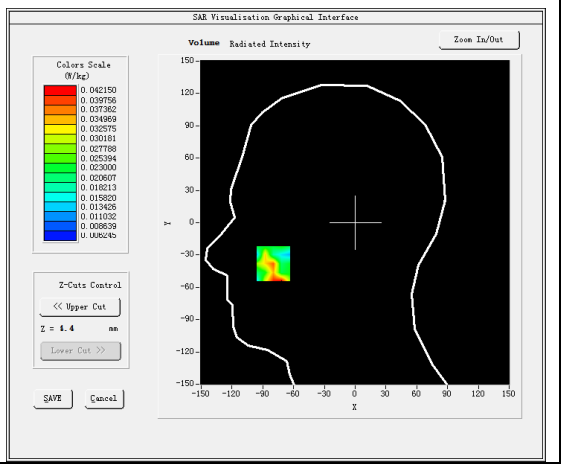
Date of measurement: 8/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	Band5_WCDMA850
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)

B. SAR Measurement Results

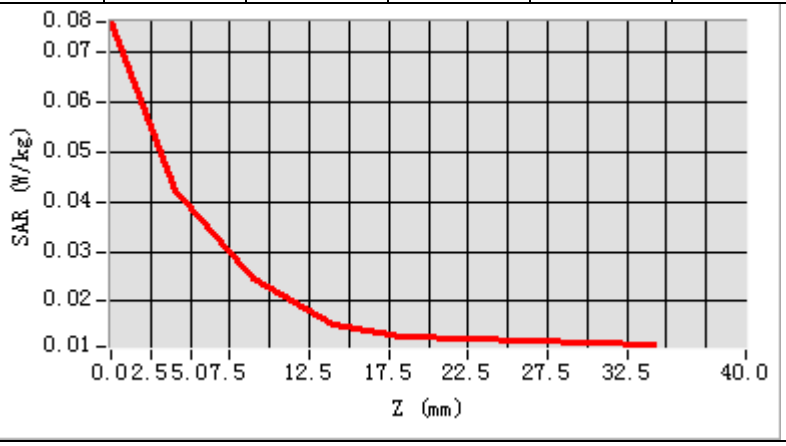
Frequency (MHz)	836.400000
Relative permittivity (real part)	41.845196
Relative permittivity (imaginary part)	19.080215
Conductivity (S/m)	0.886594
Variation (%)	4.370000

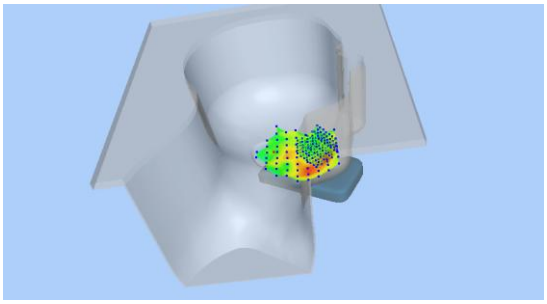
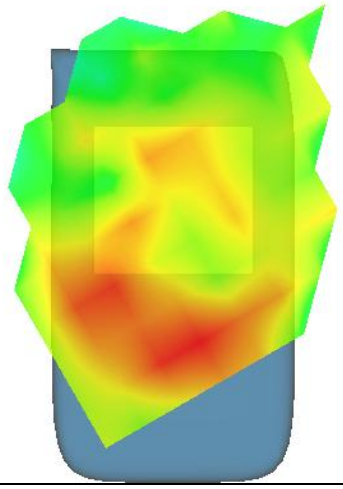
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-80.00, Y=-38.00
SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.025006
SAR 1g (W/Kg)	0.040820

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0762	0.0421	0.0246	0.0174	0.0153	0.0126	0.0109



3D screen shot	Hot spot position
	

MEASUREMENT 10

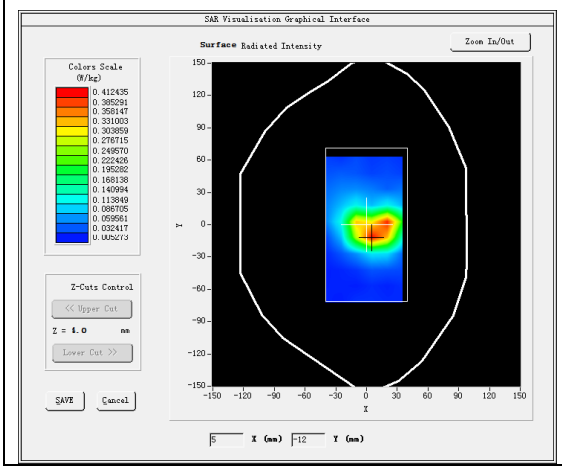
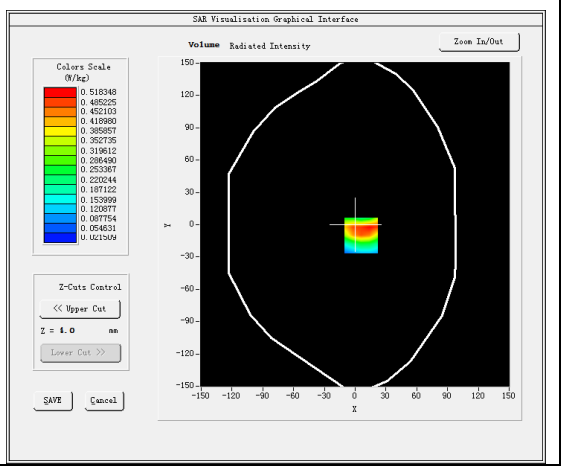
Date of measurement: 8/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band5_WCDMA850
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)

B. SAR Measurement Results

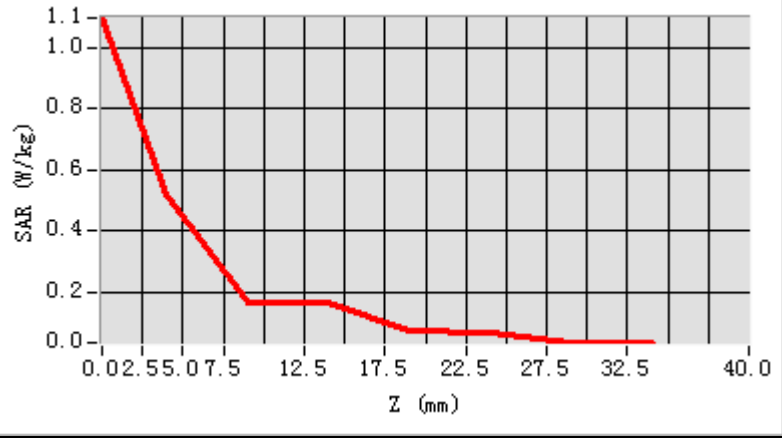
Frequency (MHz)	836.400000
Relative permittivity (real part)	41.845196
Relative permittivity (imaginary part)	19.080215
Conductivity (S/m)	0.886594
Variation (%)	1.010000

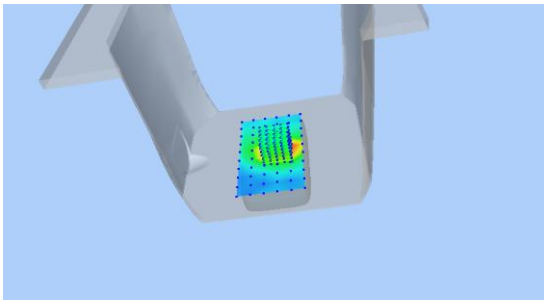
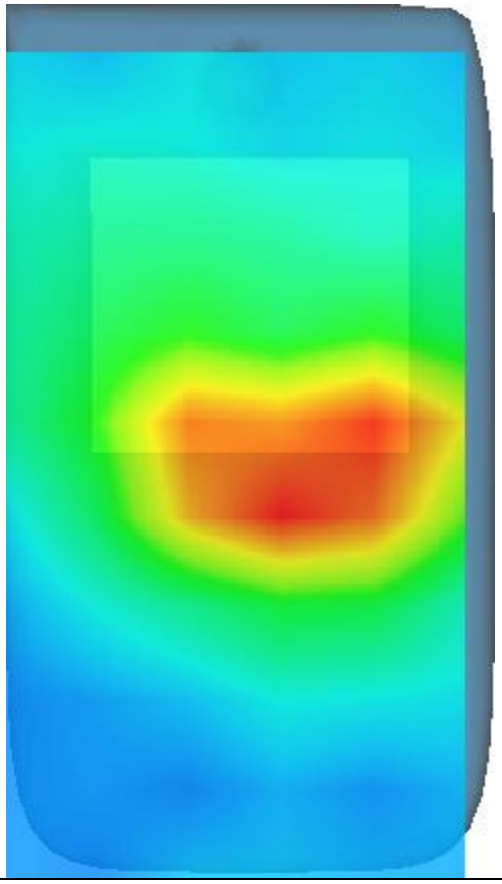
SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=-10.00
SAR Peak: 0.91 W/kg

SAR 10g (W/Kg)	0.257305
SAR 1g (W/Kg)	0.497829

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.0955	0.5183	0.1677	0.1683	0.0733	0.0710	0.0365



3D screen shot	Hot spot position
	

MEASUREMENT 11

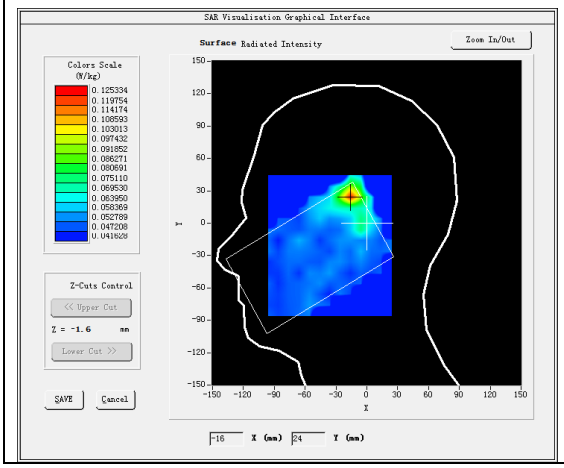
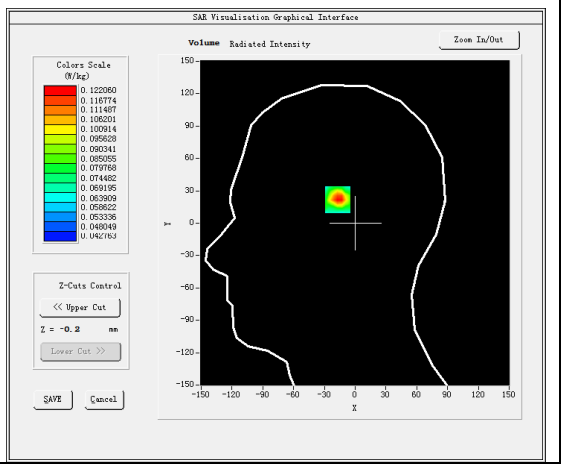
Date of measurement: 23/3/2021

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11a U-NII
Channels	Middle
Signal	IEEE802.11a (Crest factor: 1.0)

B. SAR Measurement Results

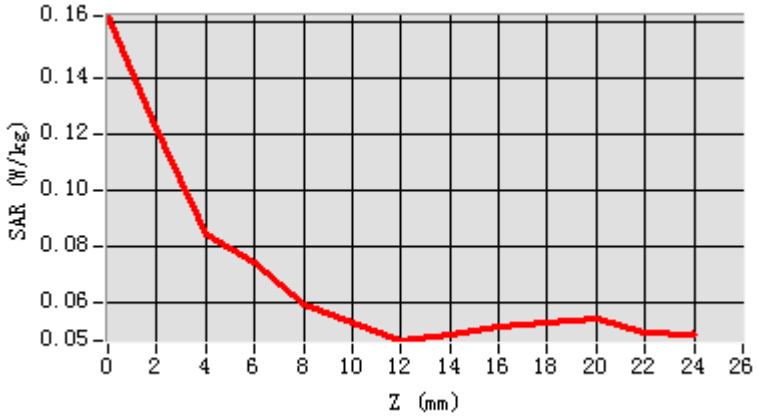
Frequency (MHz)	5200.000000
Relative permittivity (real part)	36.315407
Relative permittivity (imaginary part)	16.427374
Conductivity (S/m)	4.745686
Variation (%)	-2.340000

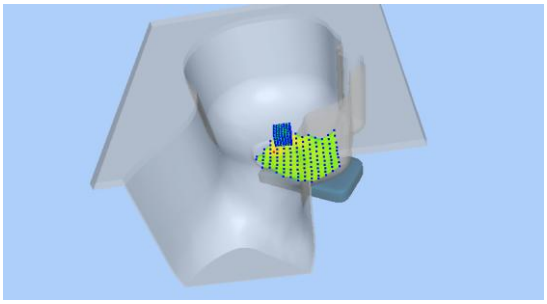
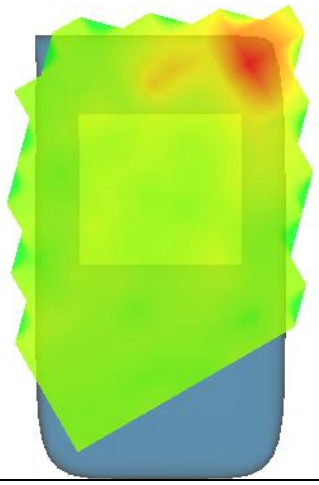
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-16.00, Y=25.00
SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.071477
SAR 1g (W/Kg)	0.114840

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	0.1622	0.1221	0.0841	0.0741	0.0595	0.0527	0.0465	0.0488	0.0513	0.0528	0.0545	0.0494



3D screen shot	Hot spot position
	

MEASUREMENT 12

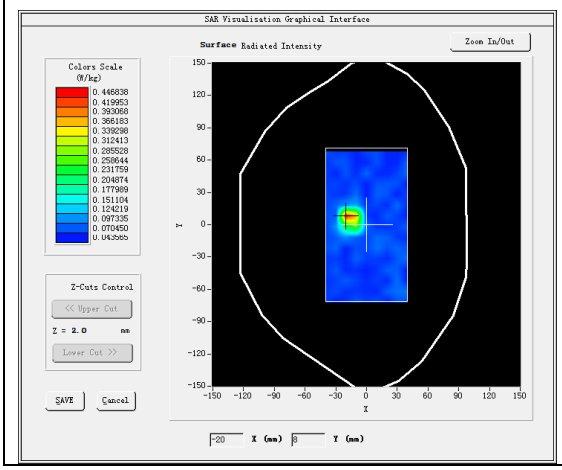
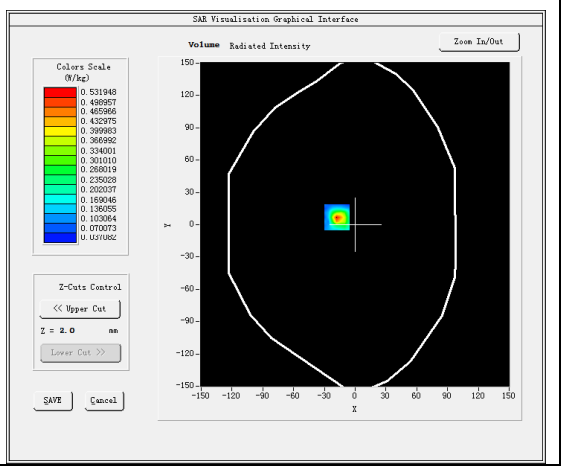
Date of measurement: 23/3/2021

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11a U-NII
Channels	Middle
Signal	IEEE802.11a (Crest factor: 1.0)

B. SAR Measurement Results

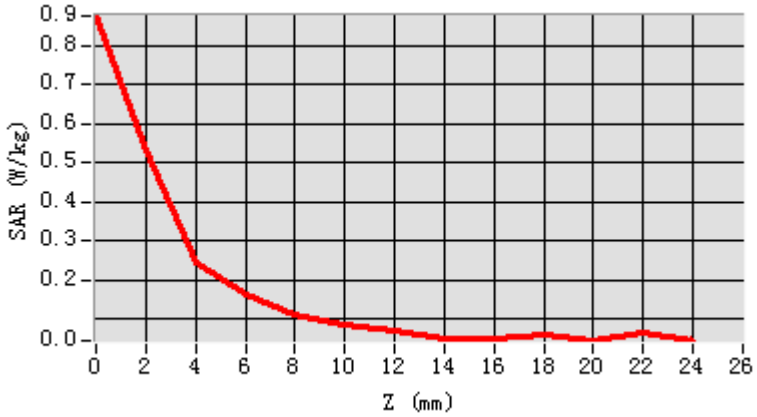
Frequency (MHz)	5200.000000
Relative permittivity (real part)	36.315407
Relative permittivity (imaginary part)	16.427374
Conductivity (S/m)	4.745686
Variation (%)	-1.140000

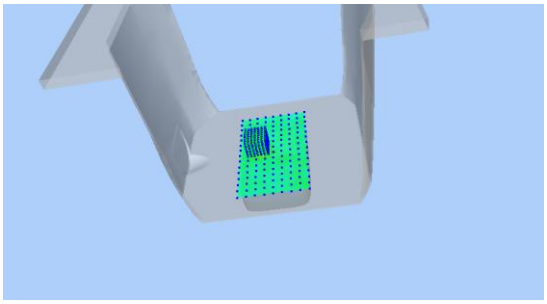
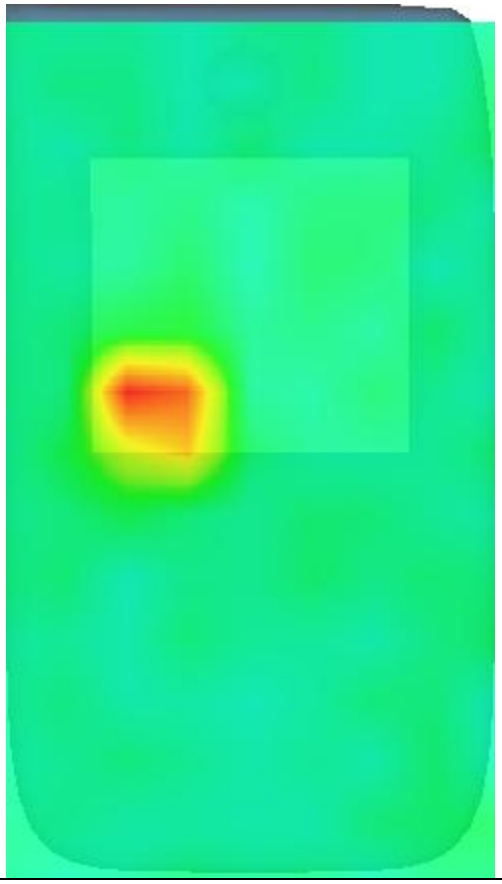
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-18.00, Y=7.00
SAR Peak: 0.94 W/kg

SAR 10g (W/Kg)	0.114754
SAR 1g (W/Kg)	0.280583

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	0.8749	0.5319	0.2429	0.1615	0.1113	0.0859	0.0726	0.0500	0.0500	0.0610	0.0444	0.0663



3D screen shot	Hot spot position
	

MEASUREMENT 13

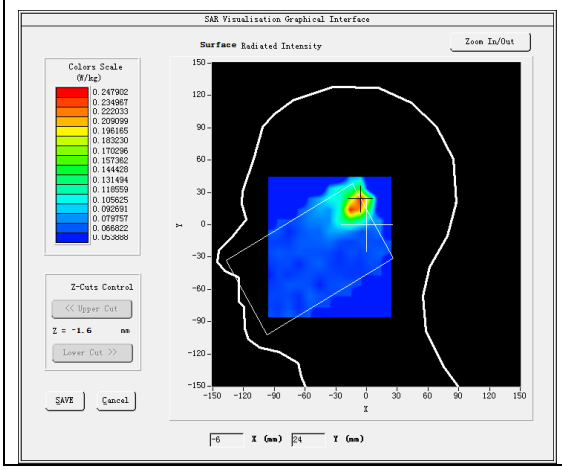
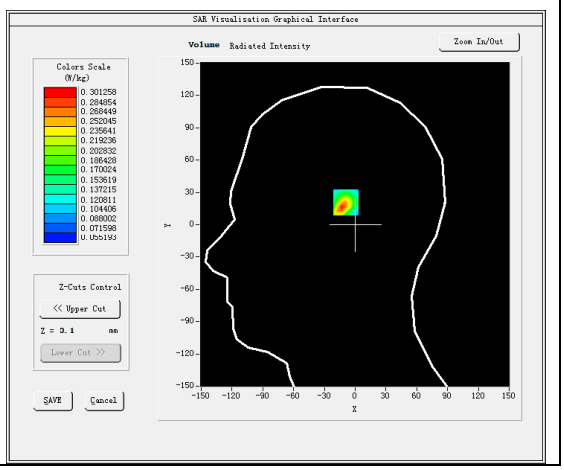
Date of measurement: 24/3/2021

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11a U-NII
Channels	Middle
Signal	IEEE802.11a (Crest factor: 1.0)

B. SAR Measurement Results

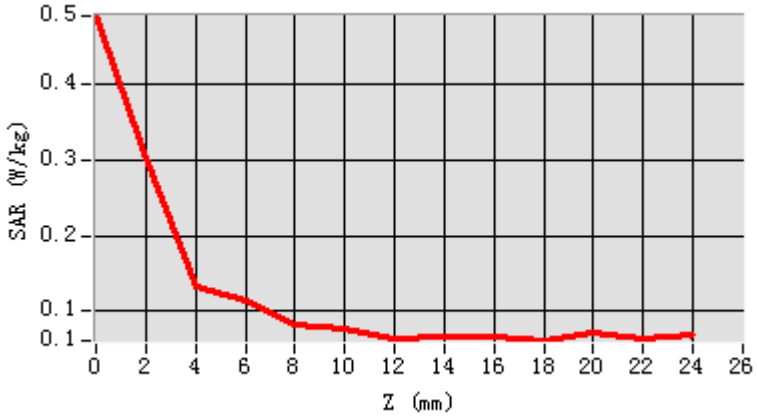
Frequency (MHz)	5785.000000
Relative permittivity (real part)	35.462856
Relative permittivity (imaginary part)	15.962135
Conductivity (S/m)	5.130053
Variation (%)	3.400000

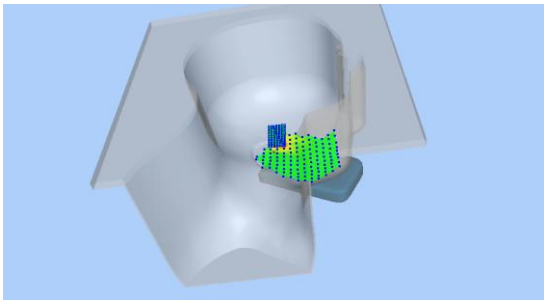
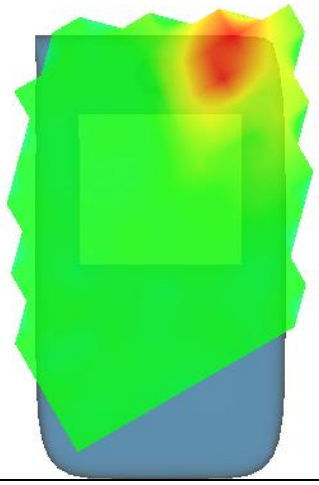
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-6.00, Y=23.00
SAR Peak: 0.74 W/kg

SAR 10g (W/Kg)	0.096298
SAR 1g (W/Kg)	0.215811

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	0.4905	0.3013	0.1336	0.1133	0.0815	0.0779	0.0652	0.0676	0.0672	0.0613	0.0730	0.0638



3D screen shot	Hot spot position
	

MEASUREMENT 14

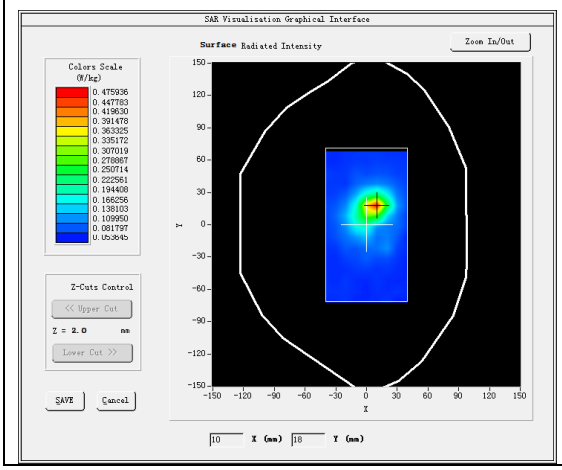
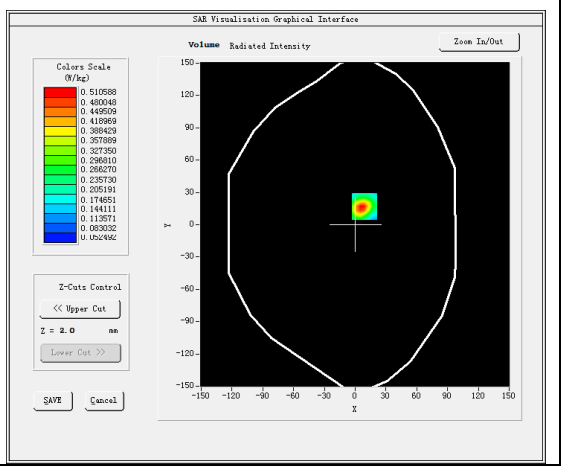
Date of measurement: 24/3/2021

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11a U-NII
Channels	Middle
Signal	IEEE802.11a (Crest factor: 1.0)

B. SAR Measurement Results

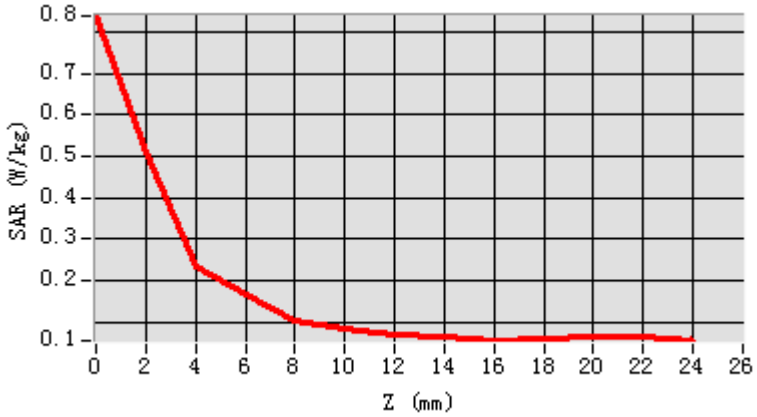
Frequency (MHz)	5785.000000
Relative permittivity (real part)	35.462856
Relative permittivity (imaginary part)	15.962135
Conductivity (S/m)	5.130053
Variation (%)	1.070000

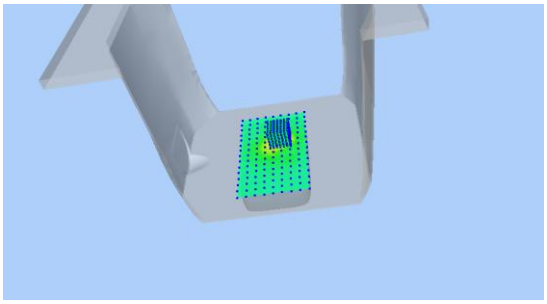
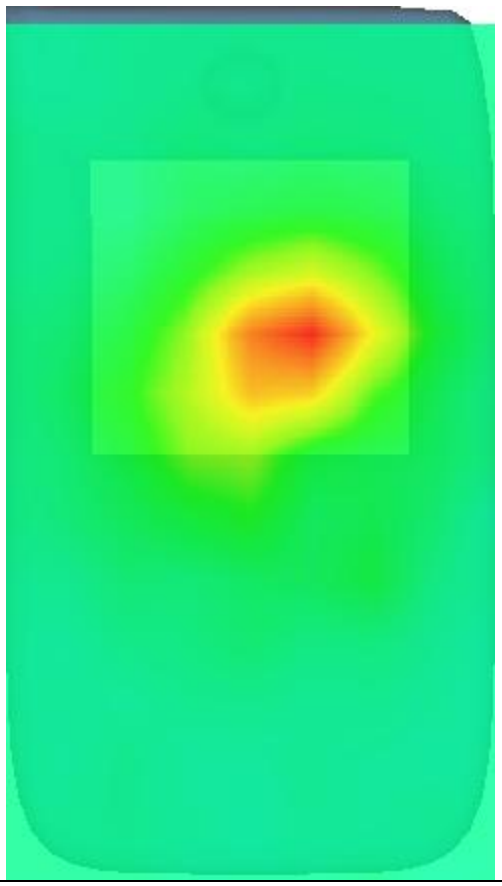
SURFACE SAR	VOLUME SAR
	

Maximum location: X=9.00, Y=17.00
SAR Peak: 0.89 W/kg

SAR 10g (W/Kg)	0.142528
SAR 1g (W/Kg)	0.308506

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	0.8395	0.5106	0.2328	0.1663	0.1044	0.0828	0.0688	0.0645	0.0566	0.0608	0.0632	0.0633



3D screen shot	Hot spot position
	

MEASUREMENT 15

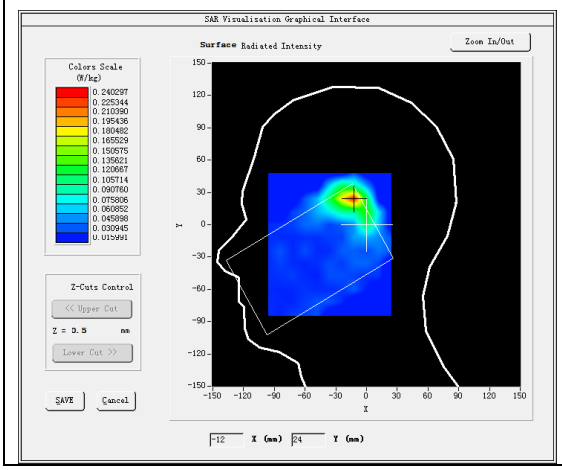
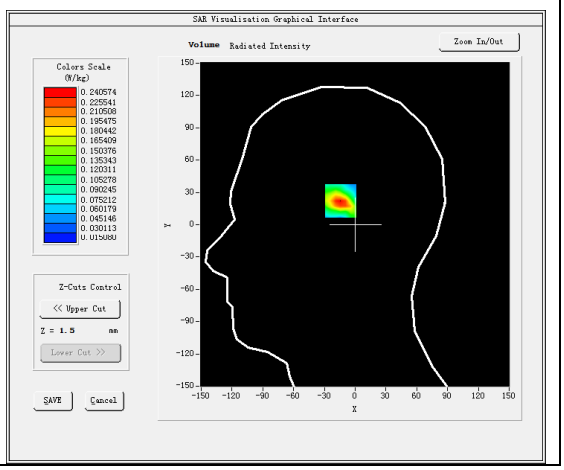
Date of measurement: 11/3/2021

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.11b (Crest factor: 1.0)

B. SAR Measurement Results

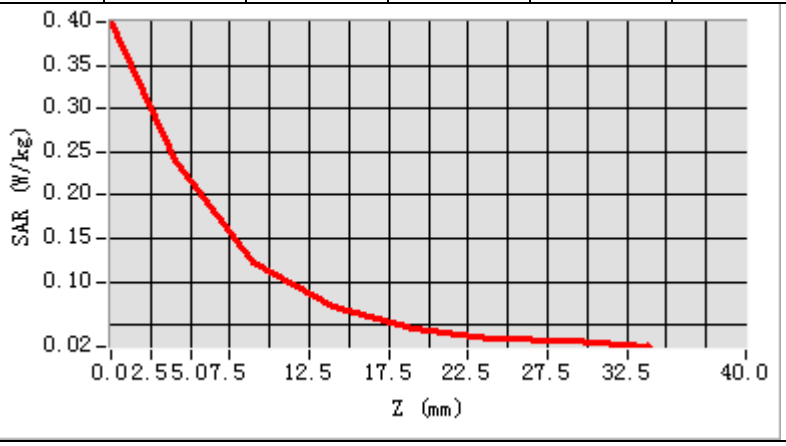
Frequency (MHz)	2437.000000
Relative permittivity (real part)	39.561298
Relative permittivity (imaginary part)	12.956961
Conductivity (S/m)	1.754229
Variation (%)	3.150000

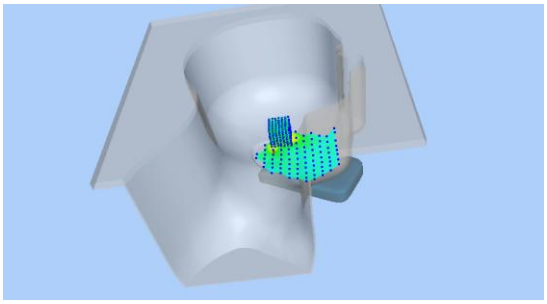
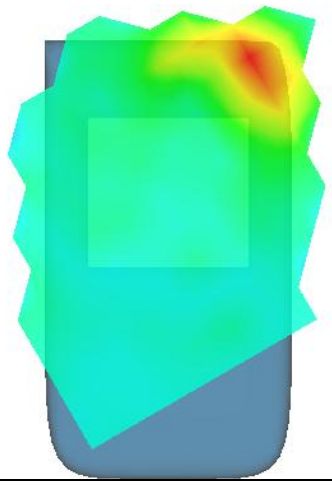
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-13.00, Y=24.00
SAR Peak: 0.41 W/kg

SAR 10g (W/Kg)	0.108951
SAR 1g (W/Kg)	0.218763

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4004	0.2406	0.1229	0.0700	0.0454	0.0343	0.0313



3D screen shot	Hot spot position
	

MEASUREMENT 16

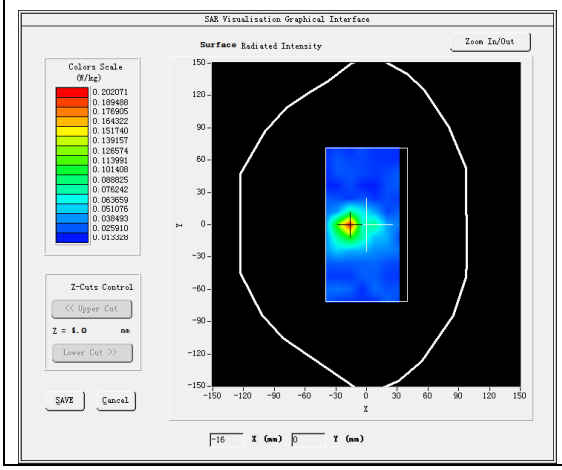
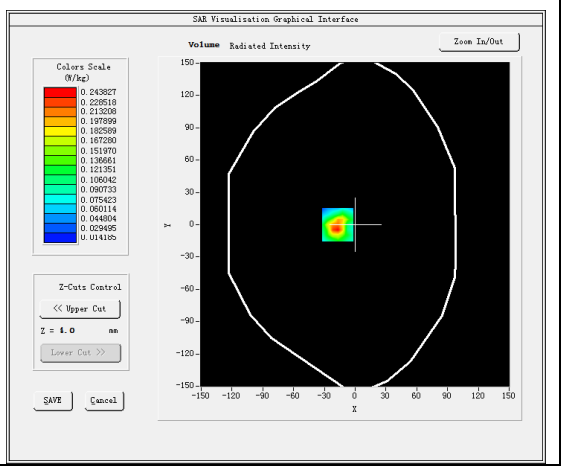
Date of measurement: 11/3/2021

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.11b (Crest factor: 1.0)

B. SAR Measurement Results

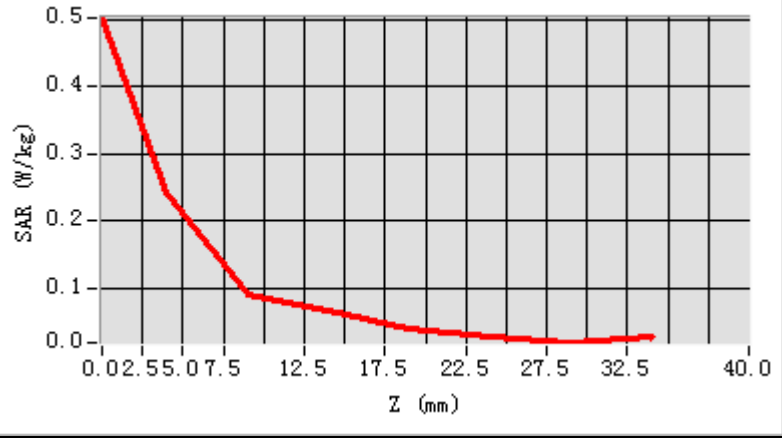
Frequency (MHz)	2437.000000
Relative permittivity (real part)	39.561298
Relative permittivity (imaginary part)	12.956961
Conductivity (S/m)	1.754229
Variation (%)	1.500000

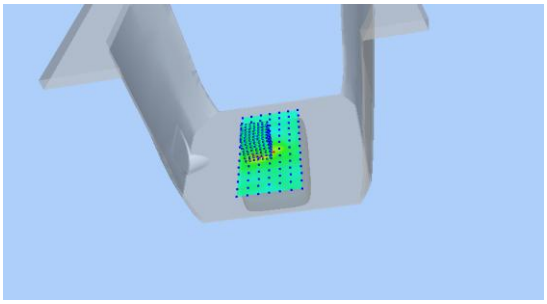
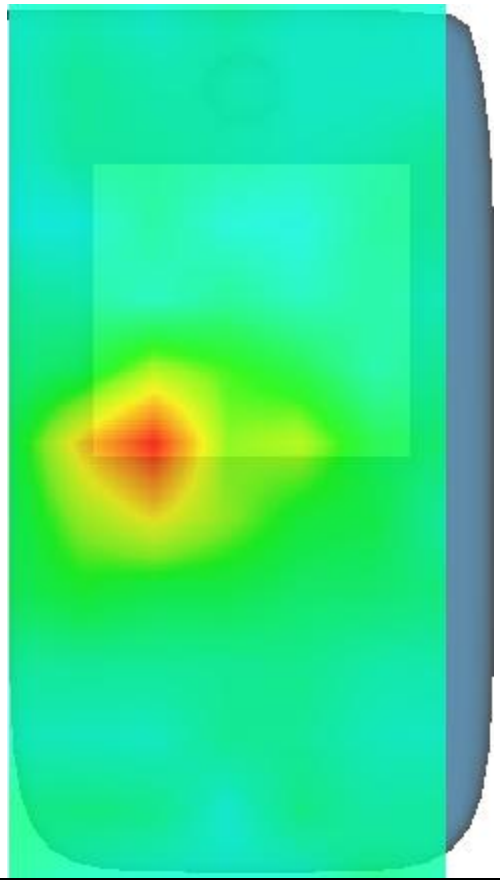
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-17.00, Y=0.00
SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.101269
SAR 1g (W/Kg)	0.214638

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5031	0.2438	0.0902	0.0673	0.0407	0.0289	0.0185



3D screen shot	Hot spot position
	

MEASUREMENT 17

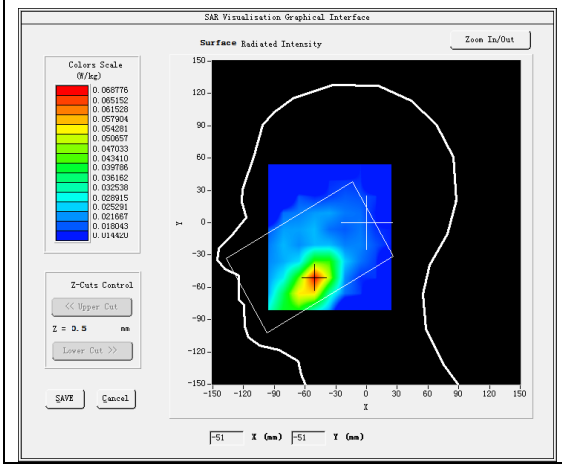
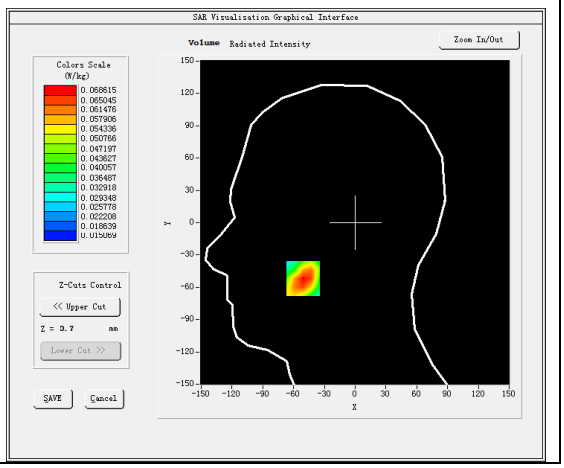
Date of measurement: 10/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 2
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

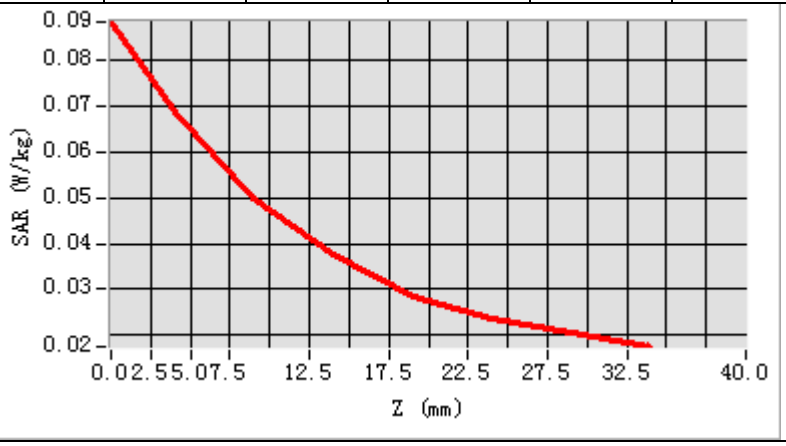
Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.264702
Relative permittivity (imaginary part)	13.771500
Conductivity (S/m)	1.438357
Variation (%)	2.010000

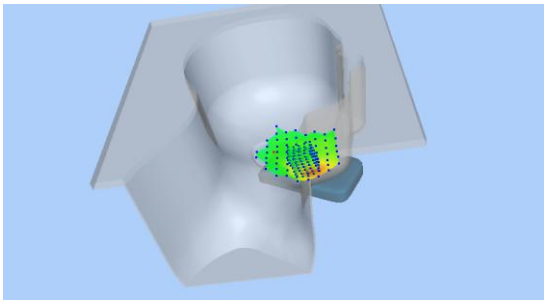
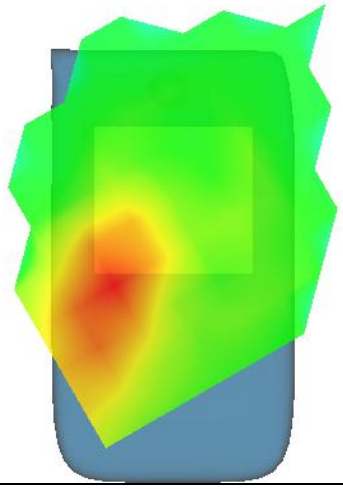
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-52.00
SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.044205
SAR 1g (W/Kg)	0.065979

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0882	0.0686	0.0497	0.0376	0.0283	0.0238	0.0205



3D screen shot	Hot spot position
	

MEASUREMENT 18

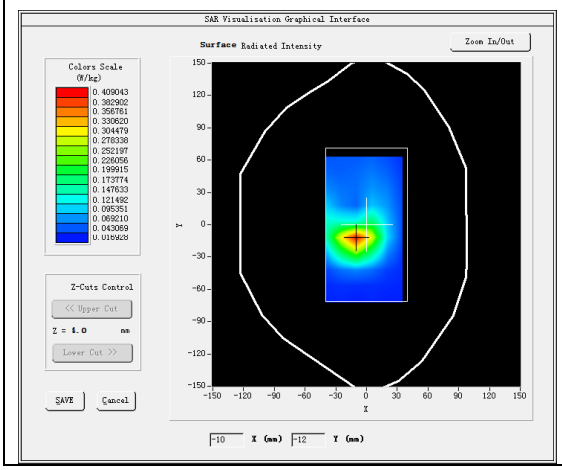
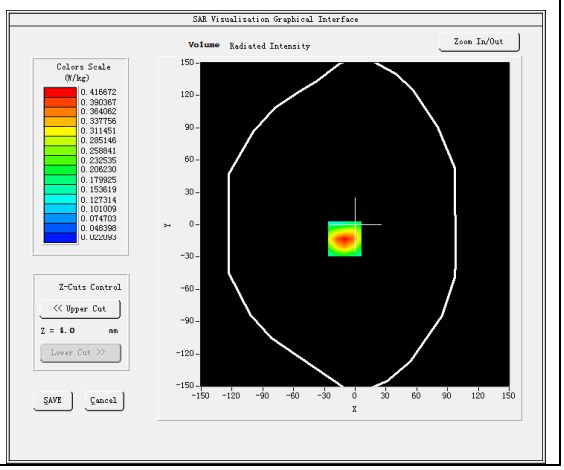
Date of measurement: 10/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

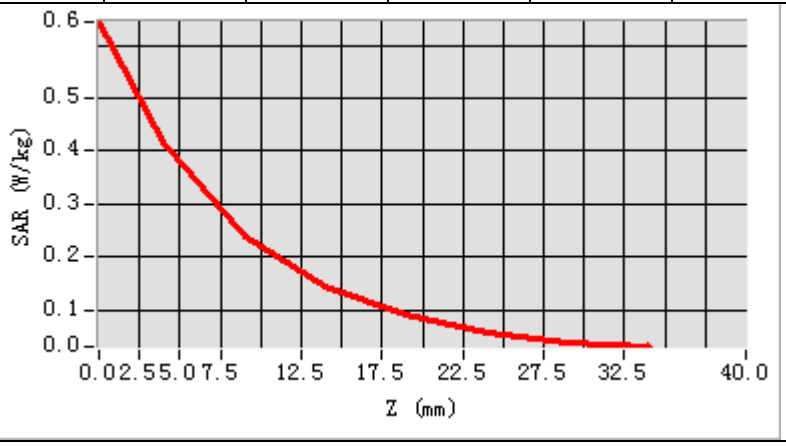
Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.264702
Relative permittivity (imaginary part)	13.771500
Conductivity (S/m)	1.438357
Variation (%)	1.810000

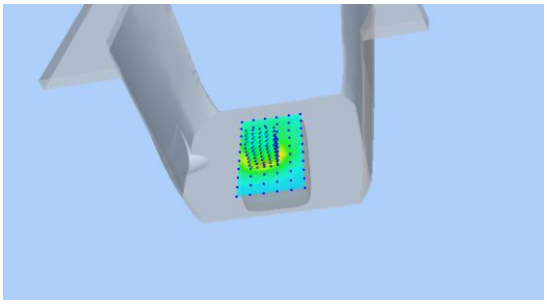
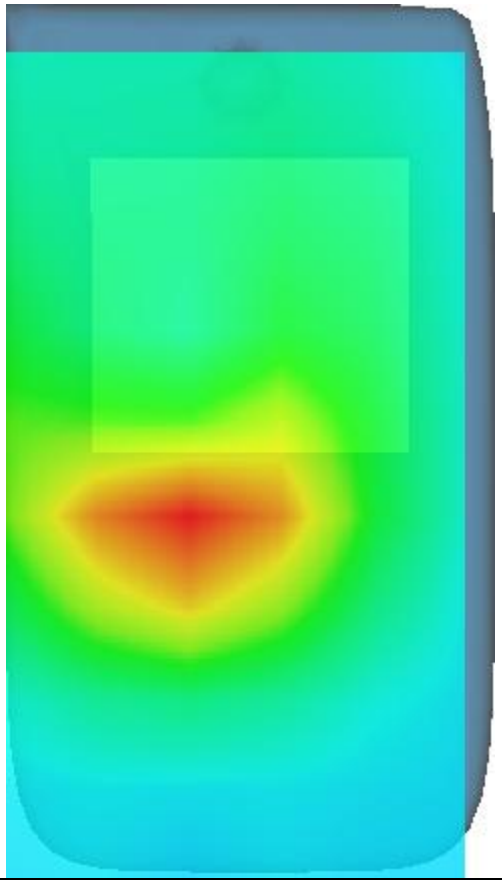
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-10.00, Y=-13.00
SAR Peak: 0.64 W/kg

SAR 10g (W/Kg)	0.214665
SAR 1g (W/Kg)	0.394115

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.6438	0.4167	0.2399	0.1426	0.0901	0.0576	0.0402



3D screen shot	Hot spot position
	

MEASUREMENT 19

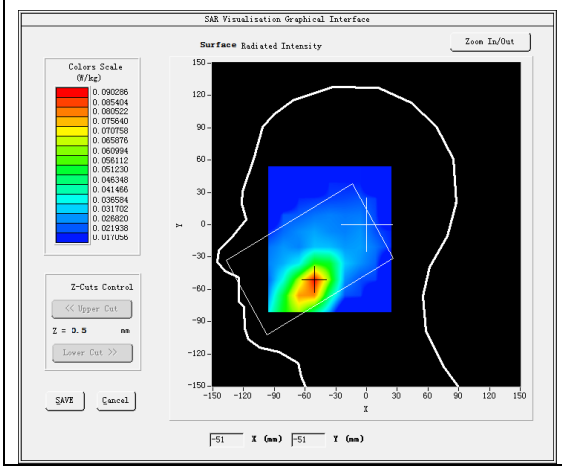
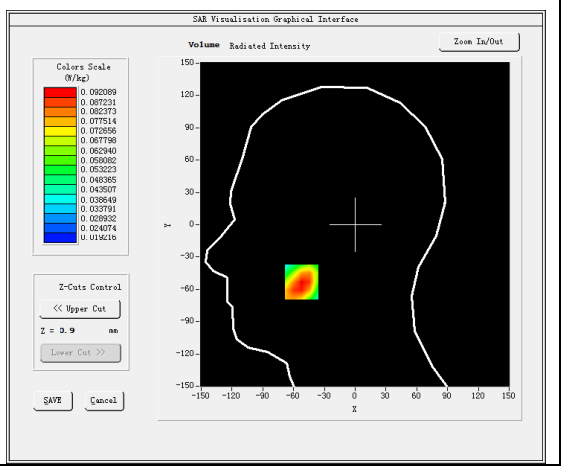
Date of measurement: 9/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 4
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

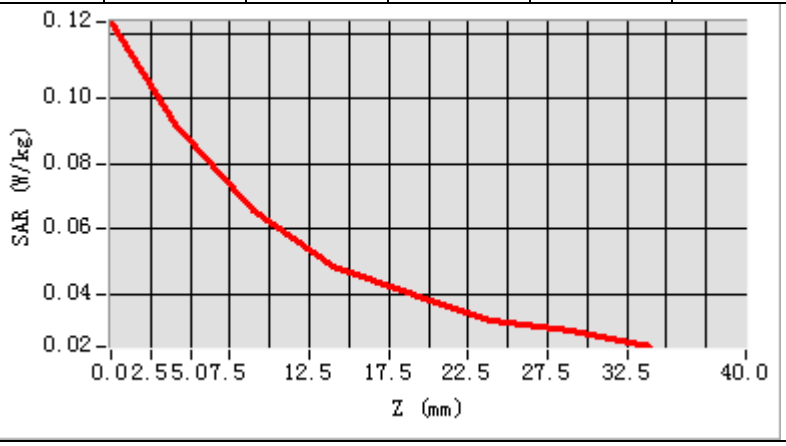
Frequency (MHz)	1732.500000
Relative permittivity (real part)	40.177296
Relative permittivity (imaginary part)	13.481532
Conductivity (S/m)	1.297597
Variation (%)	1.440000

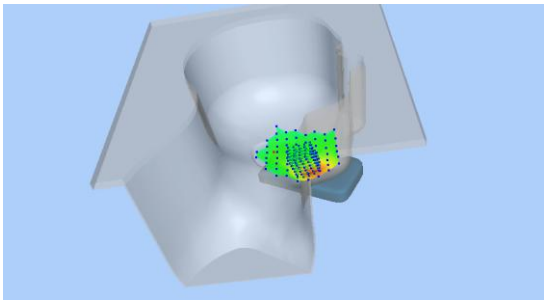
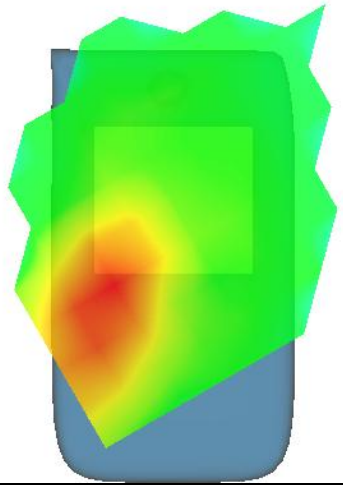
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-52.00, Y=-53.00
SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.060720
SAR 1g (W/Kg)	0.090348

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1235	0.0921	0.0656	0.0482	0.0398	0.0320	0.0287



3D screen shot	Hot spot position
	

MEASUREMENT 20

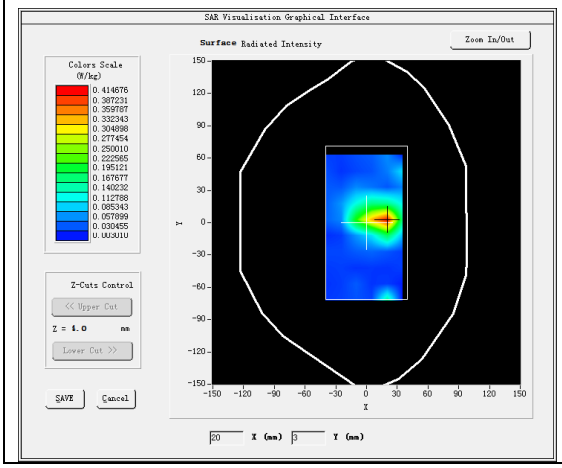
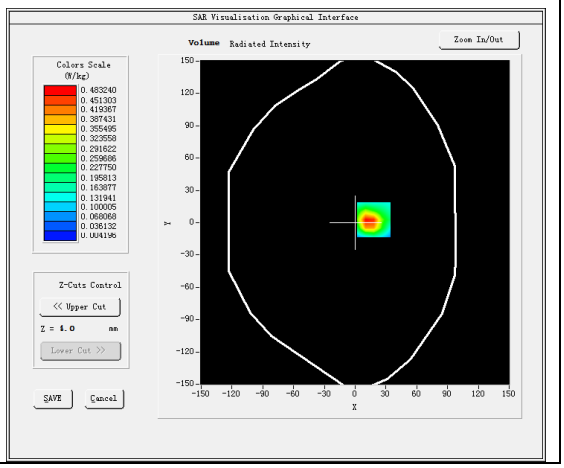
Date of measurement: 9/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

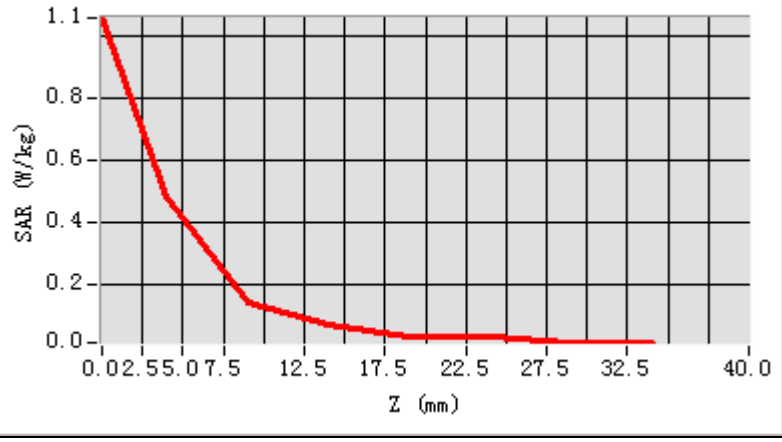
Frequency (MHz)	1732.500000
Relative permittivity (real part)	40.177296
Relative permittivity (imaginary part)	13.481532
Conductivity (S/m)	1.297597
Variation (%)	2.710000

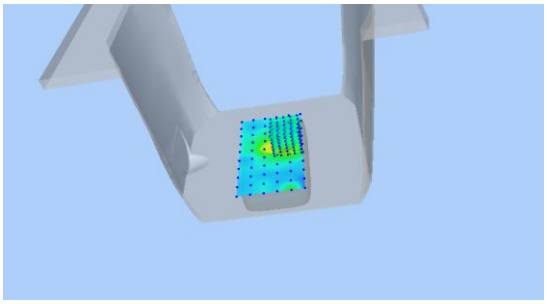
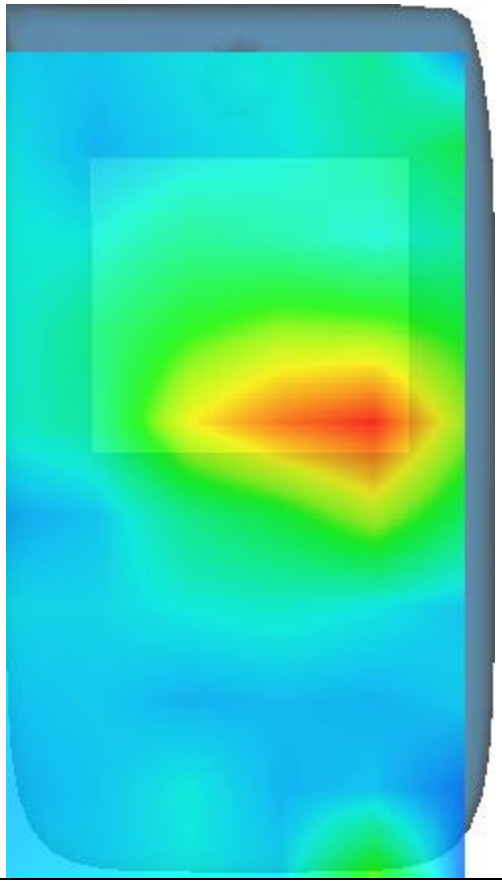
SURFACE SAR	VOLUME SAR
	

Maximum location: X=18.00, Y=3.00
SAR Peak: 1.04 W/kg

SAR 10g (W/Kg)	0.192916
SAR 1g (W/Kg)	0.490283

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.0576	0.4832	0.1374	0.0685	0.0309	0.0275	0.0112



3D screen shot	Hot spot position
	

MEASUREMENT 21

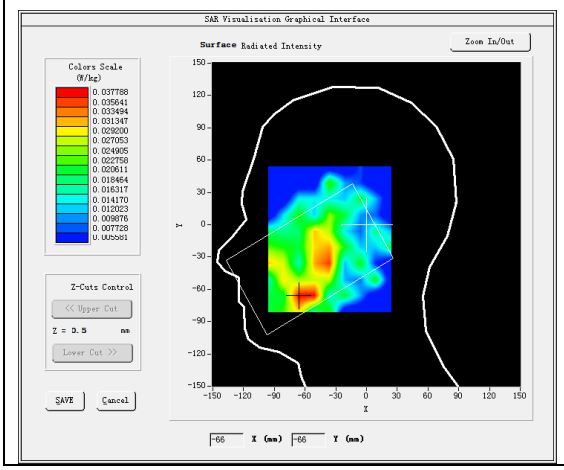
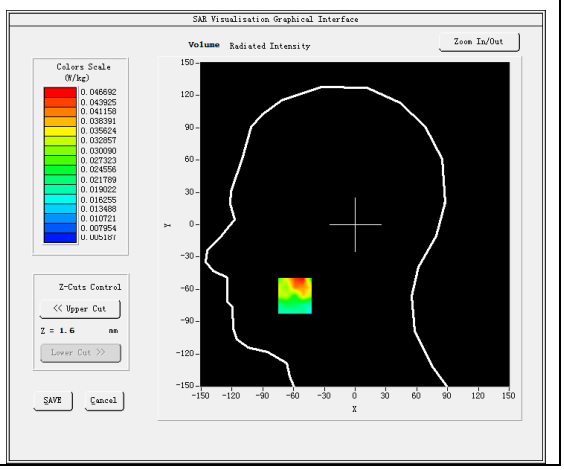
Date of measurement: 8/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 5
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

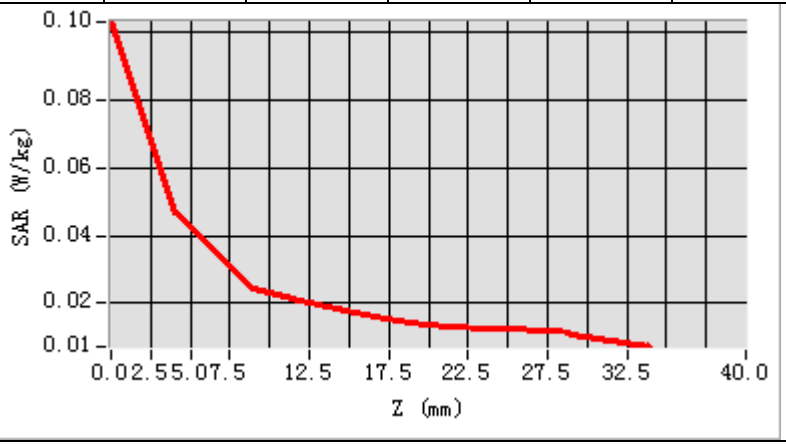
Frequency (MHz)	836.500000
Relative permittivity (real part)	41.847786
Relative permittivity (imaginary part)	19.078876
Conductivity (S/m)	0.886638
Variation (%)	-4.890000

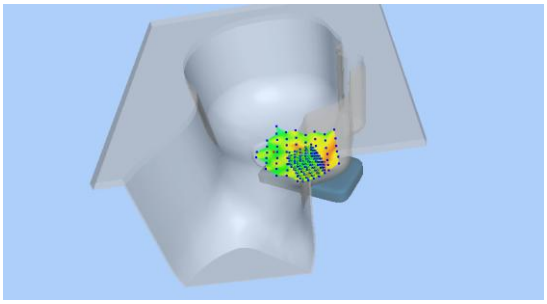
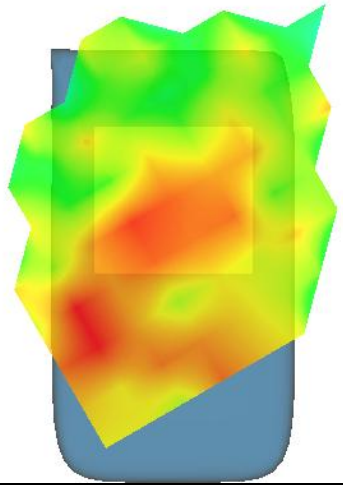
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-59.00, Y=-66.00
SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.027569
SAR 1g (W/Kg)	0.048414

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1031	0.0467	0.0244	0.0238	0.0186	0.0153	0.0107



3D screen shot	Hot spot position
	

MEASUREMENT 22

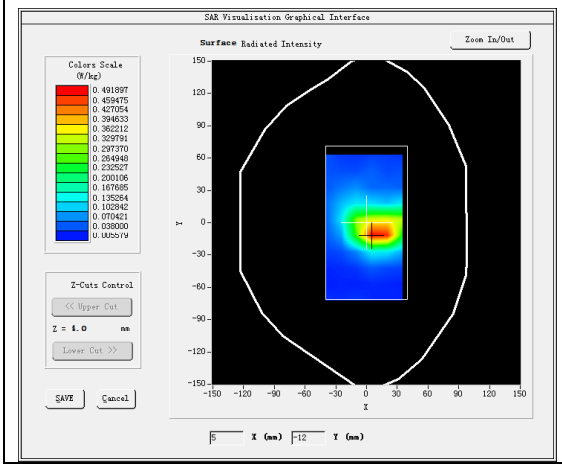
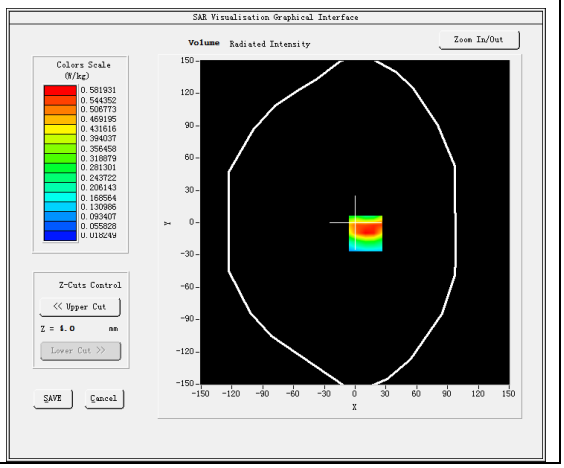
Date of measurement: 8/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 5
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

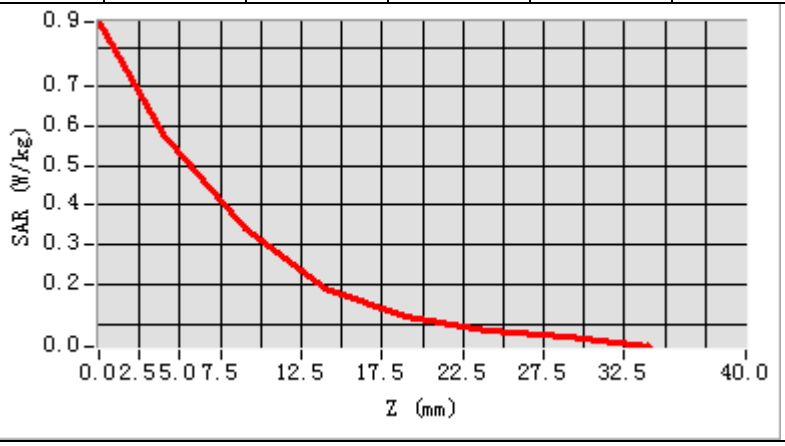
Frequency (MHz)	836.500000
Relative permittivity (real part)	41.847786
Relative permittivity (imaginary part)	19.078876
Conductivity (S/m)	0.886638
Variation (%)	-3.520000

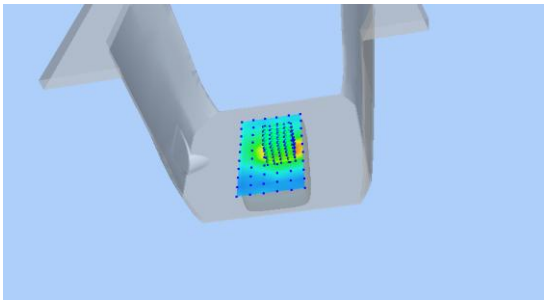
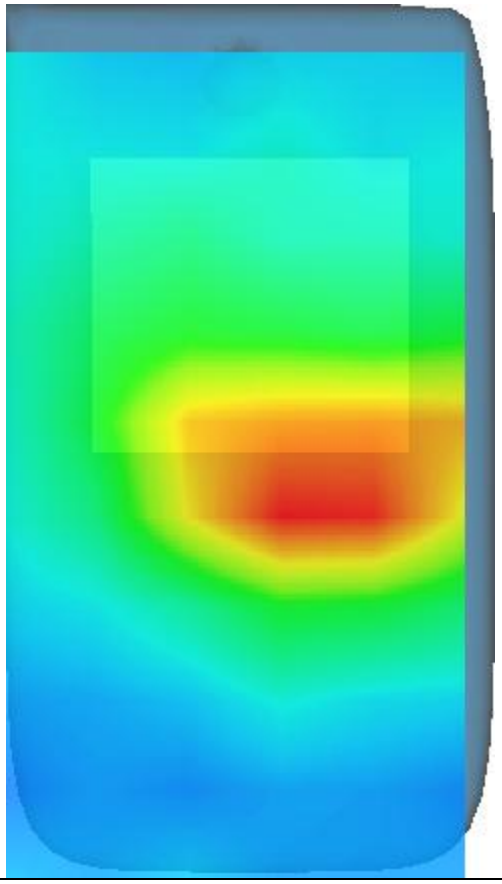
SURFACE SAR	VOLUME SAR
	

Maximum location: X=10.00, Y=-10.00
SAR Peak: 1.03 W/kg

SAR 10g (W/Kg)	0.300832
SAR 1g (W/Kg)	0.583023

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.8635	0.5819	0.3420	0.1905	0.1197	0.0807	0.0654



3D screen shot	Hot spot position
	

MEASUREMENT 23

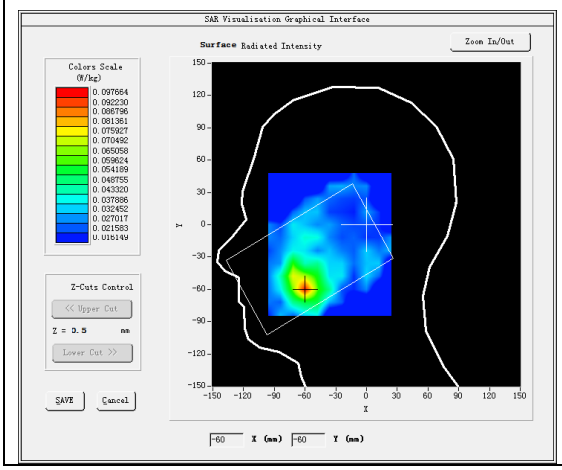
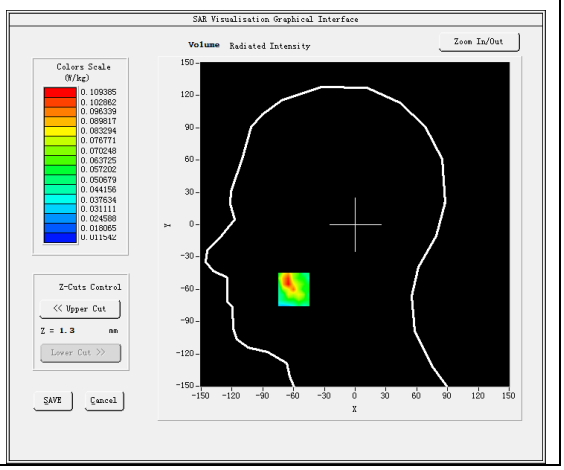
Date of measurement: 13/3/2021

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 7
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

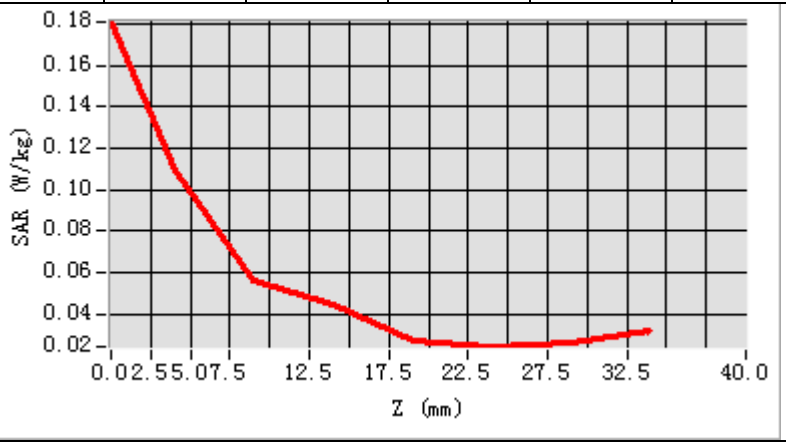
Frequency (MHz)	2535.000000
Relative permittivity (real part)	39.871628
Relative permittivity (imaginary part)	13.233500
Conductivity (S/m)	1.863718
Variation (%)	-2.010000

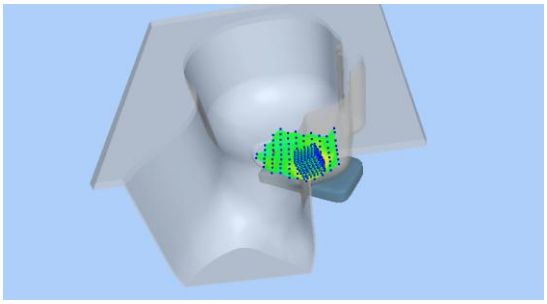
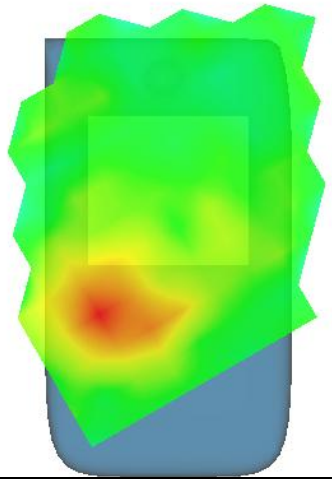
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-60.00, Y=-60.00
SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.054913
SAR 1g (W/Kg)	0.102469

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1808	0.1094	0.0568	0.0445	0.0270	0.0245	0.0261



3D screen shot	Hot spot position
	

MEASUREMENT 24

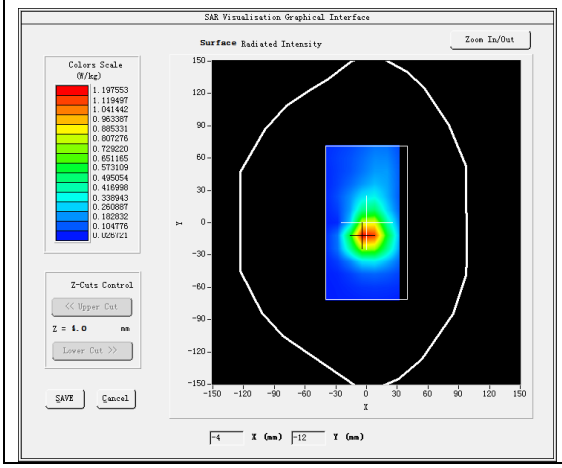
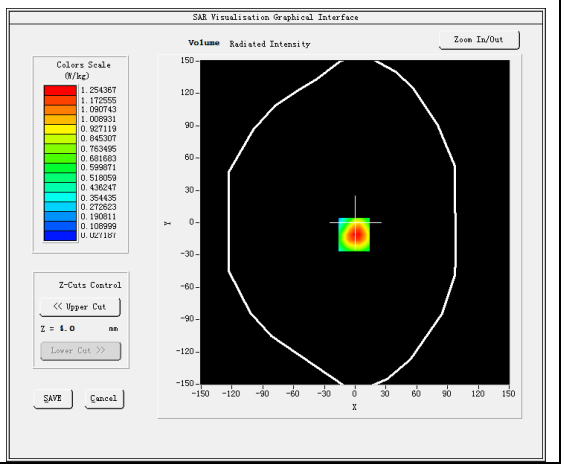
Date of measurement: 13/3/2021

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 7
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

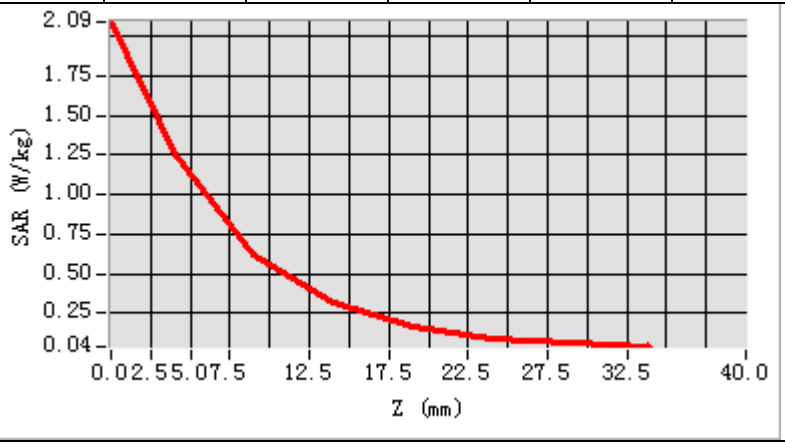
Frequency (MHz)	2535.000000
Relative permittivity (real part)	39.871628
Relative permittivity (imaginary part)	13.233500
Conductivity (S/m)	1.863718
Variation (%)	-1.450000

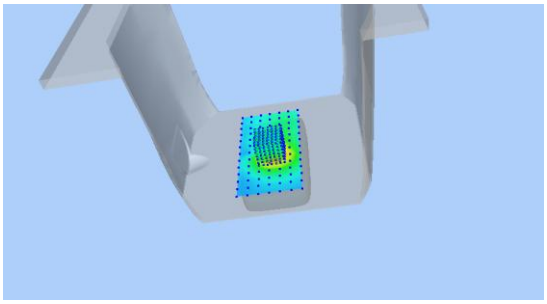
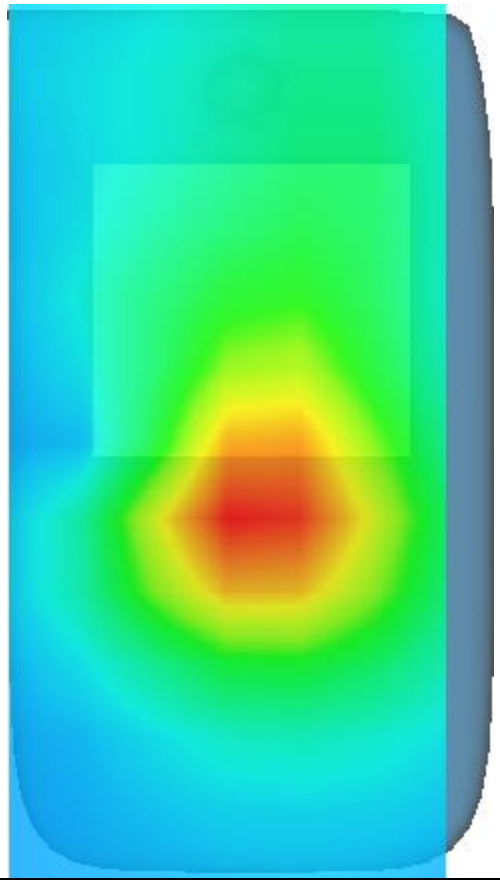
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-1.00, Y=-11.00
SAR Peak: 2.08 W/kg

SAR 10g (W/Kg)	0.604165
SAR 1g (W/Kg)	1.005784

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	2.0924	1.2544	0.6282	0.3225	0.1688	0.0957	0.0594



3D screen shot	Hot spot position
	

MEASUREMENT 25

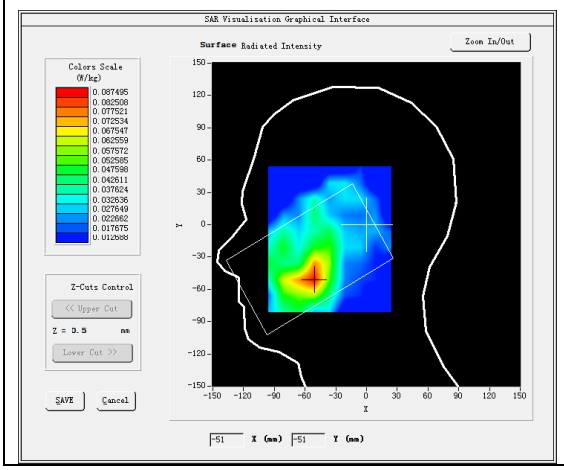
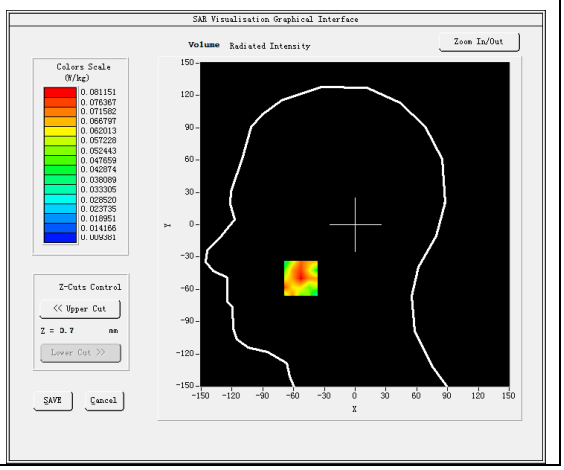
Date of measurement: 12/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 12
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

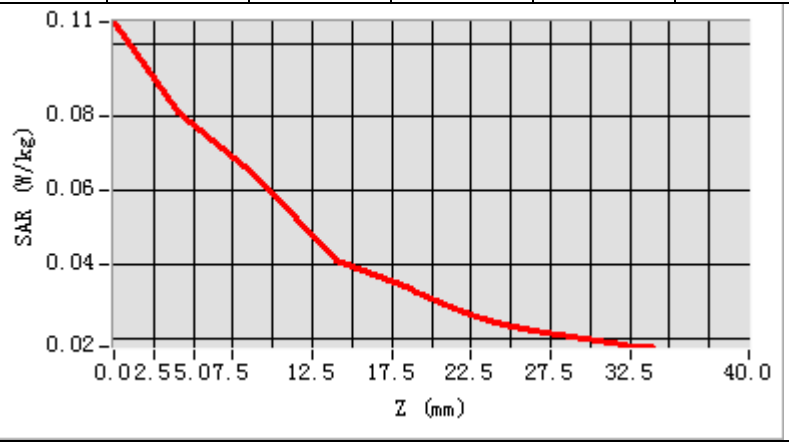
Frequency (MHz)	707.500000
Relative permittivity (real part)	43.371880
Relative permittivity (imaginary part)	21.799959
Conductivity (S/m)	0.856860
Variation (%)	-0.380000

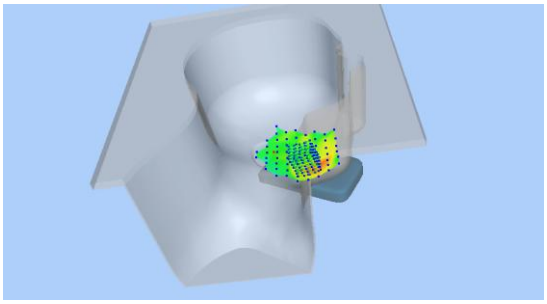
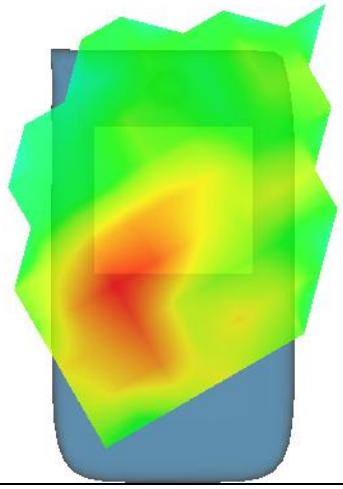
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-53.00, Y=-50.00
SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.055144
SAR 1g (W/Kg)	0.084553

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1057	0.0812	0.0639	0.0410	0.0333	0.0310	0.0206



3D screen shot	Hot spot position
	

MEASUREMENT 26

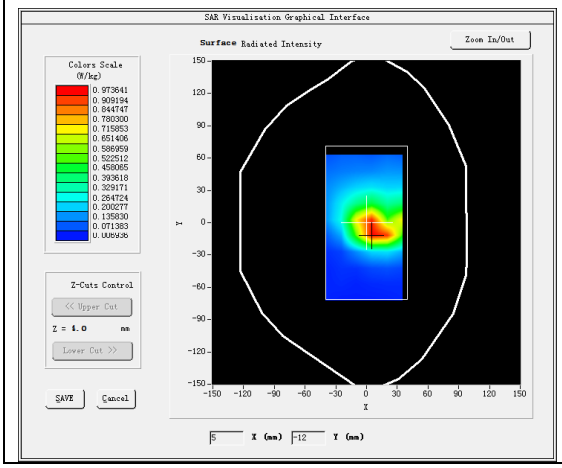
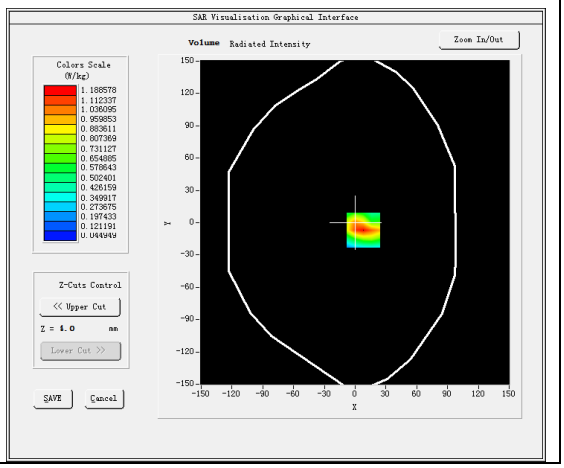
Date of measurement: 12/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 12
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

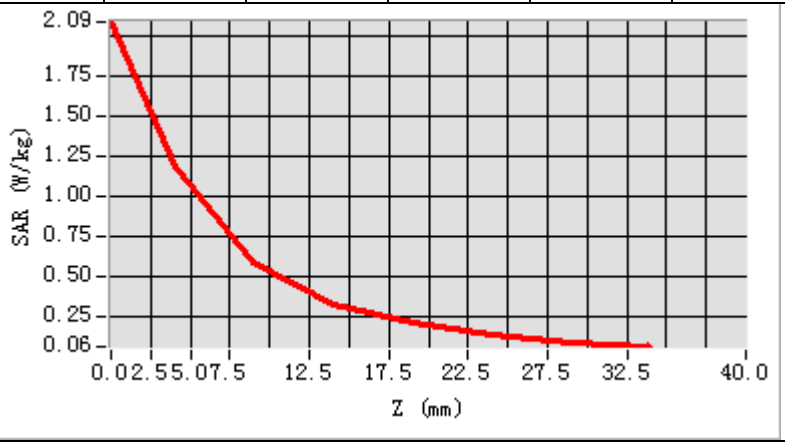
Frequency (MHz)	707.500000
Relative permittivity (real part)	43.371880
Relative permittivity (imaginary part)	21.799959
Conductivity (S/m)	0.856860
Variation (%)	-2.010000

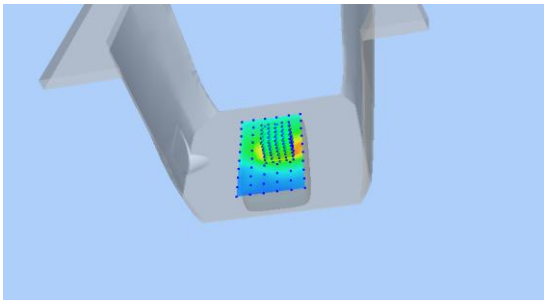
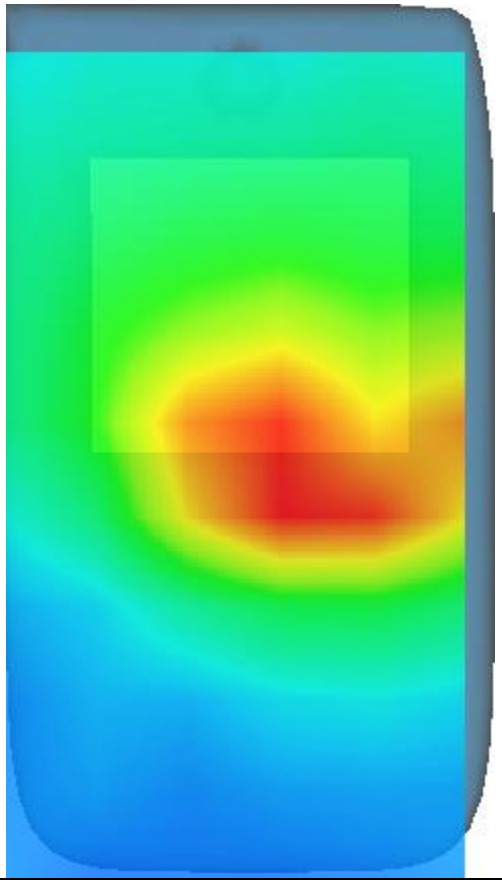
SURFACE SAR	VOLUME SAR
	

Maximum location: X=8.00, Y=-7.00
SAR Peak: 2.11 W/kg

SAR 10g (W/Kg)	0.566546
SAR 1g (W/Kg)	0.998099

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	2.0909	1.1886	0.5836	0.3272	0.2153	0.1403	0.0813



3D screen shot	Hot spot position
	

MEASUREMENT 27

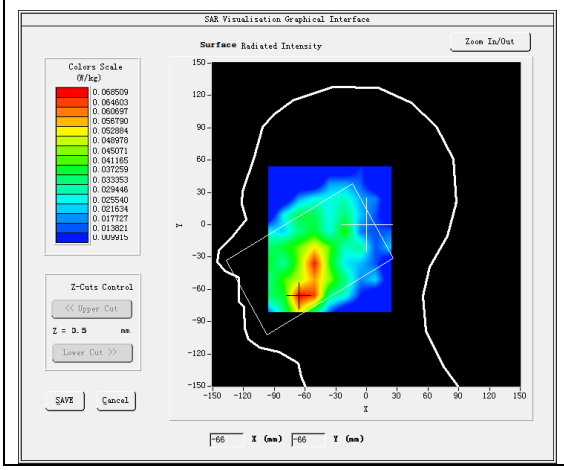
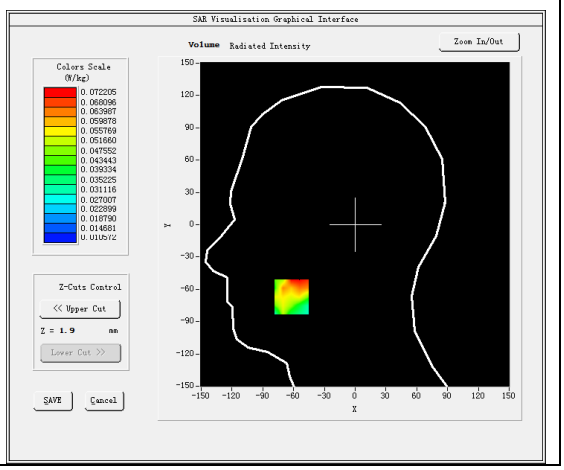
Date of measurement: 12/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 17
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	710.000000
Relative permittivity (real part)	43.350632
Relative permittivity (imaginary part)	21.828360
Conductivity (S/m)	0.861008
Variation (%)	-4.850000

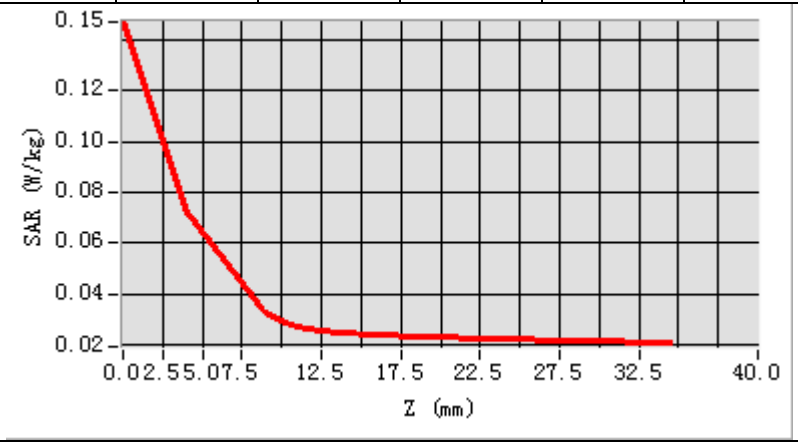
SURFACE SAR	VOLUME SAR
	

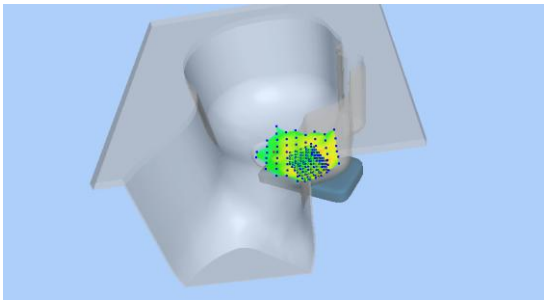
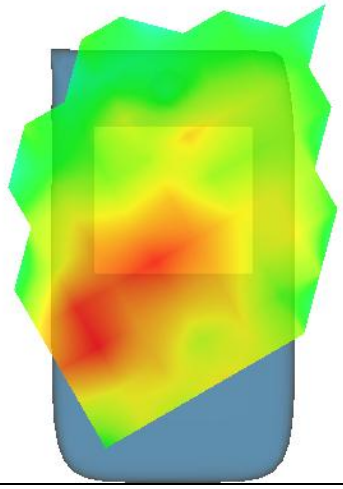
Maximum location: X=-62.00, Y=-67.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.046055
SAR 1g (W/Kg)	0.068467

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1469	0.0722	0.0479	0.0450	0.0300	0.0301	0.0193



3D screen shot	Hot spot position
	

MEASUREMENT 28

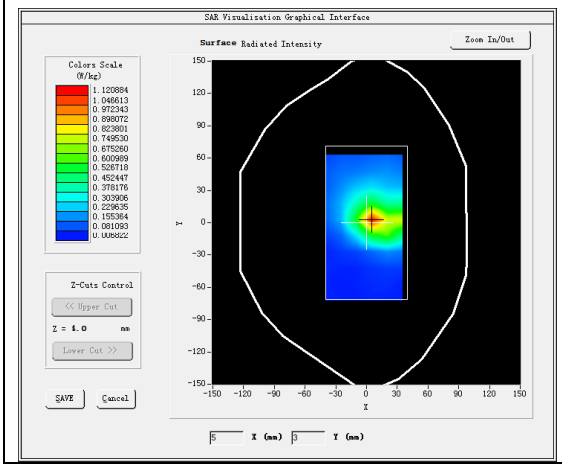
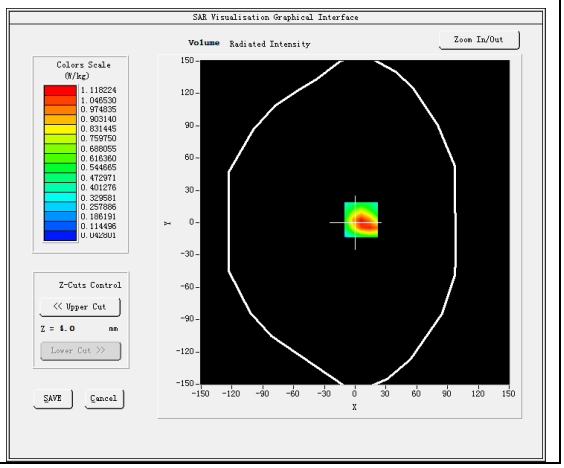
Date of measurement: 12/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 17
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

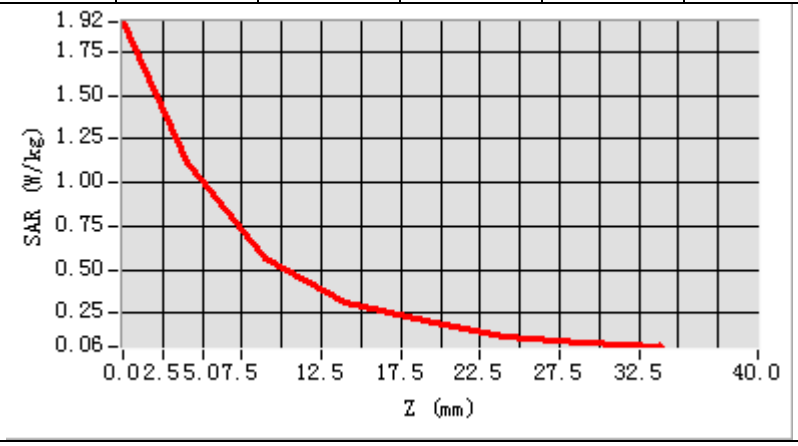
Frequency (MHz)	710.000000
Relative permittivity (real part)	43.350632
Relative permittivity (imaginary part)	21.828360
Conductivity (S/m)	0.861008
Variation (%)	1.750000

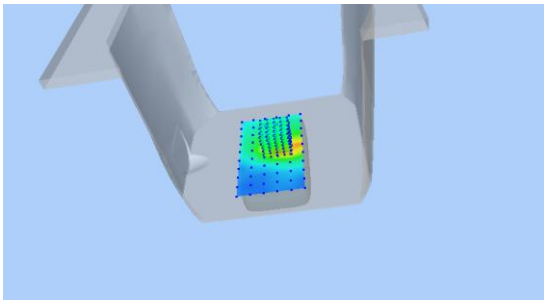
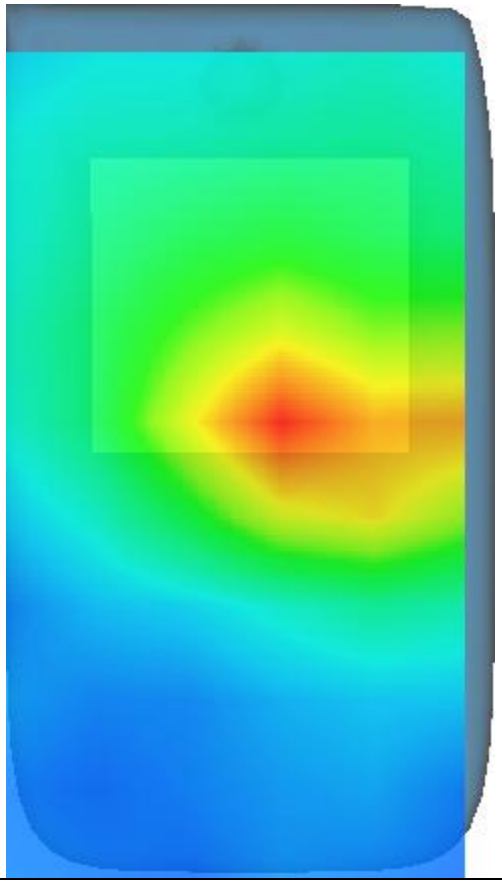
SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=3.00
SAR Peak: 2.00 W/kg

SAR 10g (W/Kg)	0.557739
SAR 1g (W/Kg)	0.986026

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.9189	1.1182	0.5645	0.3127	0.2043	0.1221	0.0796



3D screen shot	Hot spot position
	

MEASUREMENT 29

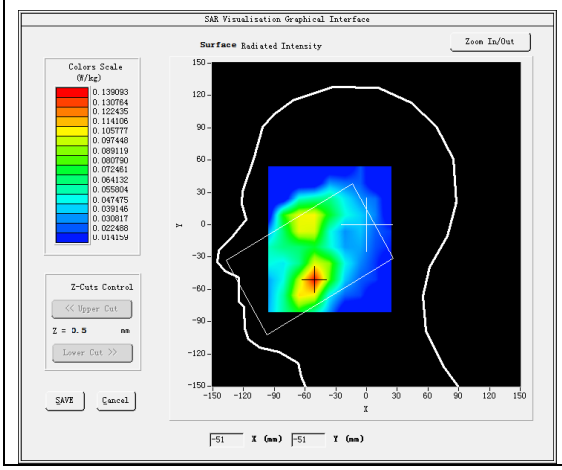
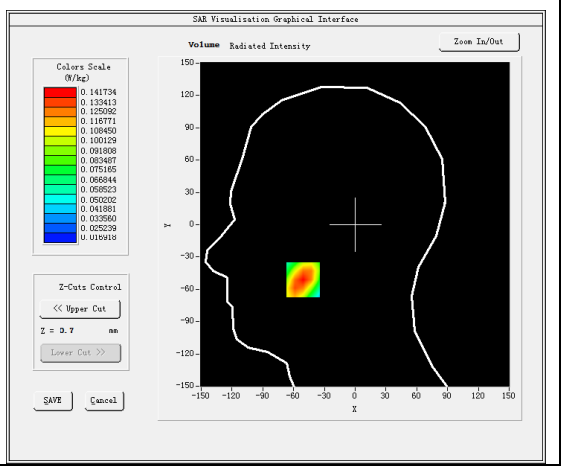
Date of measurement: 9/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 66
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

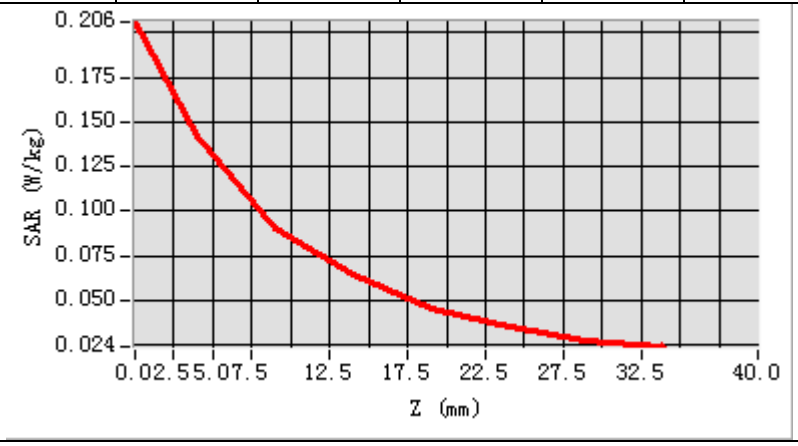
Frequency (MHz)	1745.000000
Relative permittivity (real part)	40.105495
Relative permittivity (imaginary part)	13.479082
Conductivity (S/m)	1.306722
Variation (%)	-0.360000

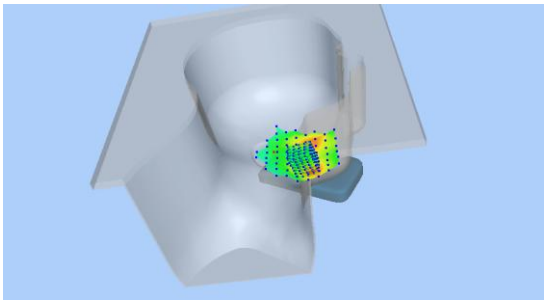
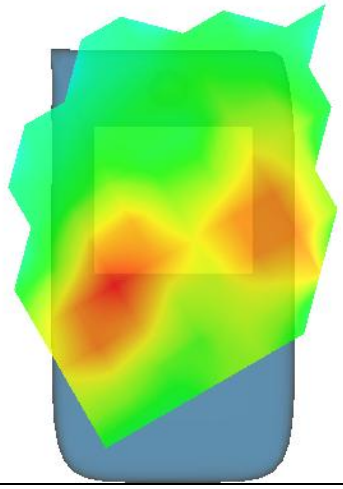
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-51.00
SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.084681
SAR 1g (W/Kg)	0.136688

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2061	0.1417	0.0906	0.0642	0.0449	0.0354	0.0274



3D screen shot	Hot spot position
	

MEASUREMENT 30

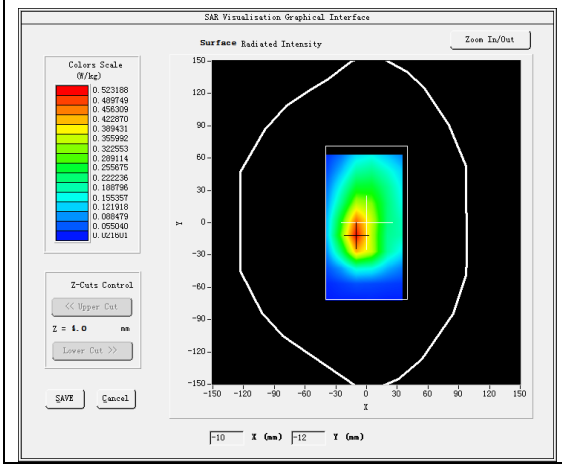
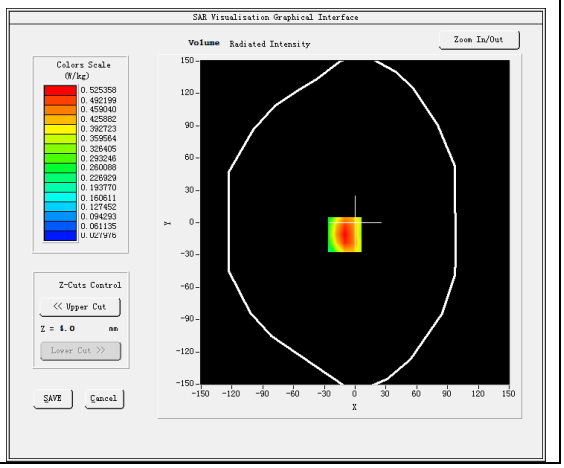
Date of measurement: 9/3/2021

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 66
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. SAR Measurement Results

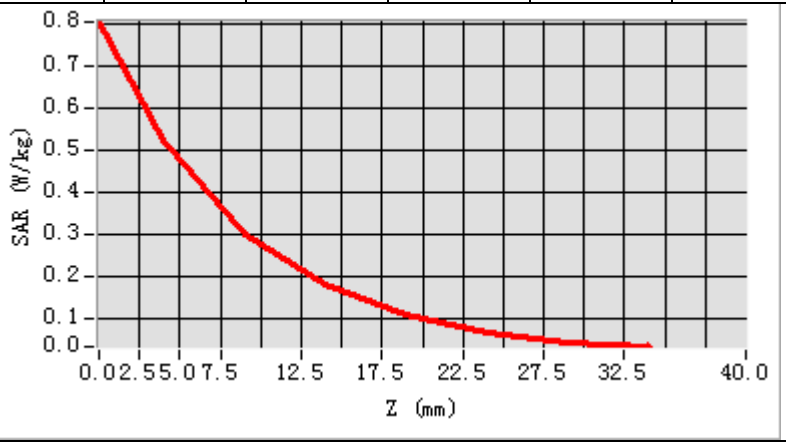
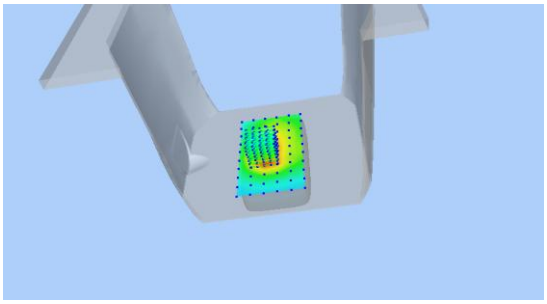
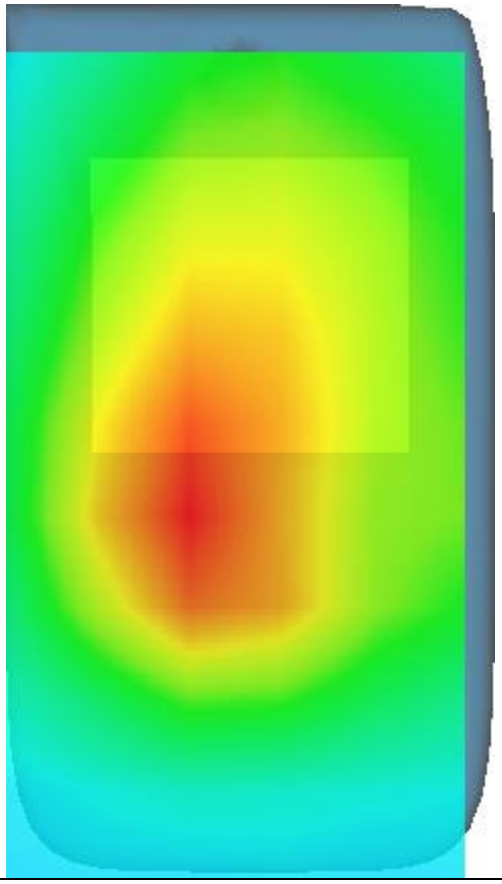
Frequency (MHz)	1745.000000
Relative permittivity (real part)	40.105495
Relative permittivity (imaginary part)	13.479082
Conductivity (S/m)	1.306722
Variation (%)	-0.470000

SURFACE SAR	VOLUME SAR
	

Maximum location: X=-10.00, Y=-11.00
SAR Peak: 0.81 W/kg

SAR 10g (W/Kg)	0.289830
SAR 1g (W/Kg)	0.508152

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.8065	0.5254	0.3038	0.1812	0.1107	0.0707	0.0465



3D screen shot	Hot spot position