SAR Test Report

Report No.: AGC10211211001FH01

FCC ID	:	2APW4LIV3L
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Mobile Phone
BRAND NAME	:	YEZZ
MODEL NAME	:	LIV 3 LTE
APPLICANT	:	Bolt Modus Corp
DATE OF ISSUE	:	Nov. 03, 2021
STANDARD(S)	:	IEEE Std. 1528:2013 FCC 47 CFR Part 2§2.1093 IEEE Std C95.1 ™-2005 IEC 62209-1: 2016
REPORT VERSION	:	V1.0

Attestation of Global Compliance(Shenzhen) Co., Ltd.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Nov. 03, 2021	Valid	Initial Release

Test Report	
Applicant Name	Bolt Modus Corp
Applicant Address	Oficina N.33 Edificio Ofidepositos Central, Calidonia - Distrito Federal, Panama
Manufacturer Name	Bolt Modus Corp
Manufacturer Address	Oficina N.33 Edificio Ofidepositos Central, Calidonia - Distrito Federal, Panama
Factory Name	Bolt Modus Corp
Factory Address	Oficina N.33 Edificio Ofidepositos Central, Calidonia - Distrito Federal, Panama
Product Designation	Mobile Phone
Brand Name	YEZZ
Model Name	LIV 3 LTE
EUT Voltage	DC3.8V by battery
Applicable Standard	IEEE Std. 1528:2013 FCC 47 CFR Part 2§2.1093 IEEE Std C95.1 ™-2005 IEC 62209-1: 2016
Test Date	Oct. 29, 2021 to Nov. 03, 2021
Report Template	AGCRT-US-4G/SAR (2021-04-20)

Note: The results of testing in this report apply to the product/system which was tested only.

Prepared By — Thea Huang (Project Engineer) Nov. 03, 2021

Reviewed By — Calvin Liu (Reviewer) Nov. 03, 2021

Approved By — Max Zhang (Authorized Officer) Nov. 03, 2021

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1. SUMMARY OF MAXIMUM SAR VALUE

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

Frequency Band	Highest Reported 1g-SAR(W/kg)			SAR Test Limit (W/kg)
	Head	Body-worn(with 10mm separation)	Hotspot(with 10mm separation)	
GSM 850	0.543	0.686	0.686	1.6
PCS 1900	0.339	0.847	0.847	
UMTS Band II	1.181	1.441	1.441	
UMTS Band V	0.413	0.183	0.183	
LTE Band 2	1.041	1.326	1.326	
LTE Band 4	0.741	1.424	1.424	
LTE Band 7	0.021	0.299	0.299	
LTE Band 17	0.125	0.209	0.209	
WIFI 2.4G	0.248	0.148	0.148	
Simultaneous Reported SAR	1.589			
SAR Test Result	PASS			

This device is compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg) specified in IEEE Std. 1528:2013; FCC 47CFR § 2.1093; IEEE/ANSI C95.1:2005 and the following specific FCC Test Procedures:

- KDB 447498 D01 General RF Exposure Guidance v06
- KDB 648474 D04 Handset SAR v01r03
- KDB 865664 D01 SAR Measurement 100MHz to 6GHz v01r04
- KDB 941225 D01 3G SAR Procedures v03r01
- KDB 941225 D06 Hotspot Mode v02r01
- KDB 248227 D01 802 11 Wi-Fi SAR v02r02
- KDB 941225 D05 SAR for LTE Devices v02r05

2. GENERAL INFORMATION

2.1. EUT Description

General Information	
Product Designation	Mobile Phone
Test Model	LIV 3 LTE
Hardware Version	TH111V1.0
Software Version	I5009yz_V001_20210820_userdebug
Device Category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
GSM and GPRS& EGPRS	
Support Band	☒GSM 850 ☒PCS 1900 ☒GSM 900 ☒DCS 1800
GPRS & EGPRS Type	Class B
GPRS & EGPRS Class	Class 12(1Tx+4Rx, 2Tx+3Rx, 3Tx+2Rx, 4Tx+1Rx)
TX Frequency Range	GSM 850 : 820-850MHz; PCS 1900: 1850-1910MHz;
RX Frequency Range	GSM 850 : 869~894MHz; PCS 1900: 1930~1990MHz
Release Version	R99
Type of modulation	GMSK for GSM/GPRS; GMSK & 8-PSK for EGPRS
Antenna Gain	GSM850: -0.76dBi; PCS1900: 0.71dBi
Max. Average Power	GSM850: 32.20dBm; PCS1900: 30.27dBm
WCDMA	
Support Band	☒UMTS FDD Band II ☒UMTS FDD Band V ☐UMTS FDD Band IV ☐UMTS FDD Band I ☐UMTS FDD Band III ☒UMTS FDD Band VIII
HS Type	HSPA(HSUPA/HSDPA)
TX Frequency Range	FDD Band II: 1850-1910MHz; FDD Band V: 824-849MHz
RX Frequency Range	FDD Band II: 1930-1990MHz; FDD Band V: 869-894MHz
Release Version	Rel-6
Type of modulation	HSDPA:QPSK/16QAM; HSUPA:BPSK; WCDMA:QPSK
Antenna Gain	Band II: 0.71dBi; Band V: -0.76dBi
Max. Average Power	Band II: 22.34dBm; Band V: 22.30dBm
Bluetooth	
Bluetooth Version	☐V2.0 ☐V2.1 ☐V2.1+EDR ☐V3.0 ☐V3.0+HS ☒V4.2
Operation Frequency	2402~2480MHz
Type of modulation	BR ☒GFSK, EDR ☒π /4-DQPSK, ☒8DPSK BLE ☒GFSK 1Mbps ☐GFSK 2Mbps
Peak Power	BR&EDR: 6.34dBm; BLE: -1.43dBm
Antenna Gain	0.83dBi
WIFI	
WIFI Specification	☐802.11a ☒802.11b ☒802.11g ☒802.11n(20) ☐802.11n(40)
Operation Frequency	2412~2462MHz
Avg. Burst Power	11b: 15.22dBm,11g:10.48dBm,11n(20):11.58dBm
Antenna Gain	0.84dBi

EUT Description(Continue)

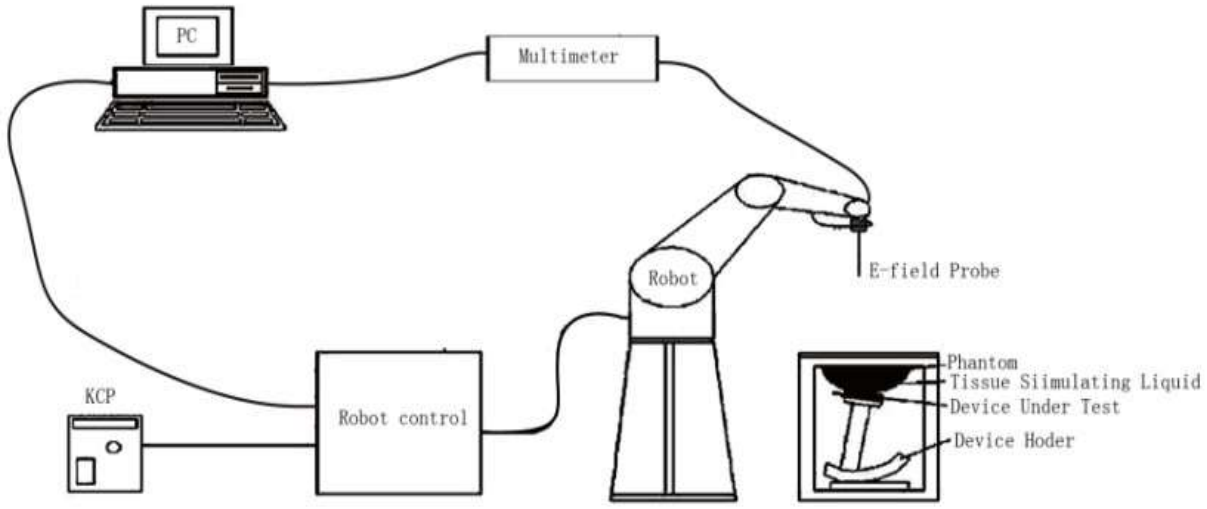
LTE	
Support Band	☒FDD Band 2 ☒FDD Band 4 ☒FDD Band 7 ☒FDD Band 17 (U.S. Bands) ☒FDD Band 3 (Non-U.S. Bands)
TX Frequency Range	Band 2:1850-1910MHz; Band 4:1710-1755MHz; Band 7:2500-2570MHz; Band 17: 704-716MHz;
RX Frequency Range	Band 2:1930-1990MHz; Band 4:2110-2155MHz; Band 7:2620-2690MHz; Band 17: 734-746 MHz;
Release Version	Rel-8
Type of modulation	QPSK, 16QAM
Antenna Gain	Band 2: 0.71dBi; Band 4: 0.72dBi; Band 7: 1.02dBi; Band 17: -0.79dBi;
Max. Average Power	Band 2: 23.39dBm; Band 4: 24.63dBm; Band 7:24.19dBm; Band 17: 23.84dBm;
Accessories	
Battery	Brand name: YEZZ Model No. : BLIV3LTE Voltage and Capacitance: 3.8 V & 2000mAh
Earphone	Brand name: N/A Model No. : N/A

Note:1.CMU200 can measure the average power and Peak power at the same time
2.The sample used for testing is end product.
3. The test sample has no any deviation to the test method of standard mentioned in page 1.

Product	Type
	☒ Production unit ☐ Identical Prototype

3. SAR MEASUREMENT SYSTEM

3.1. The SATIMO system used for performing compliance tests consists of following items



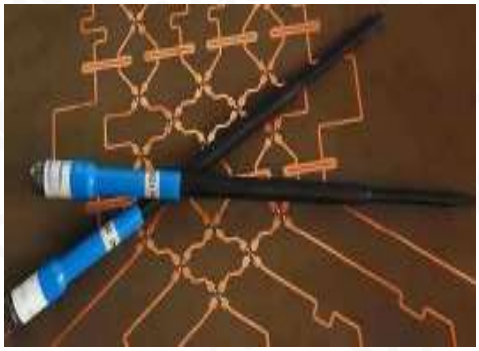
The COMOSAR system for performing compliance tests consists of the following items:

- The PC. It controls most of the bench devices and stores measurement data.A computer running WinXP and the Opensar software.
- The E-Field probe. The probe is a 3-axis system made of 3 distinct dipoles. Each dipole returns a voltage in function of the ambient electric field.
- The Keithley multimeter measures each probe dipole voltages.
- The SAM phantom simulates a human head. The measurement of the electric field is made inside the phantom.
- The liquids simulate the dielectric properties of the human head tissues.
- The network emulator controls the mobile phone under test.
- The validation dipoles are used to measure a reference SAR. They are used to periodically check the bench to make sure that there is no drift of the system characteristics over time.
- The phantom, the device holder and other accessories according to the targeted measurement.

3.2. COMOSAR E-Field Probe

The SAR measurement is conducted with the dosimetric probe manufactured by SATIMO. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. SATIMO conducts the probe calibration in compliance with international and national standards (e.g. IEEE 1528 and relevant KDB files.) The calibration data are in Appendix D.

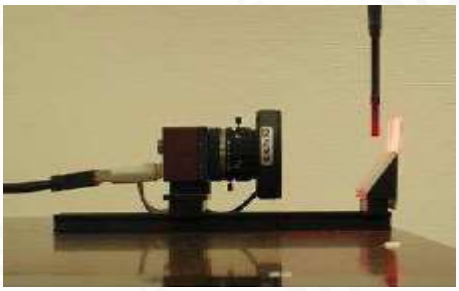
Isotropic E-Field Probe Specification

Model	SSE5	
Manufacture	MVG	
Identification No.	SN 24/20 EP336	
Frequency	0.15GHz-3GHz Linearity:±0.05dB(0.15GHz-3GHz)	
Dynamic Range	0.01W/kg-100W/kg Linearity:±0.05dB	
Dimensions	Overall length:330mm Length of individual dipoles:4.5mm Maximum external diameter:8mm Probe Tip external diameter:5mm Distance between dipoles/ probe extremity:2.7mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 3 GHz with precisin of better 30%.	

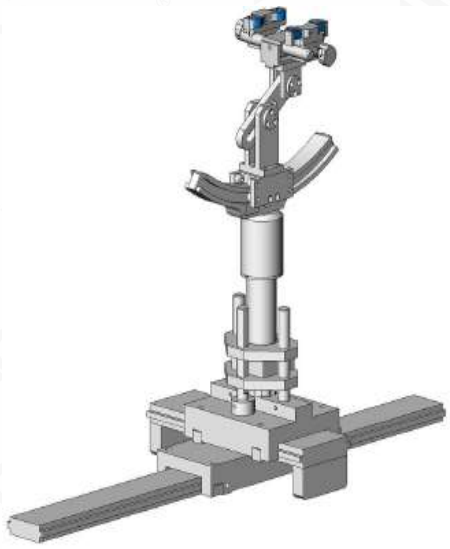
3.3. Robot

The COMOSAR system uses the KUKA robot from SATIMO SA (France).For the 6-axis controller COMOSAR system, the KUKA robot controller version from SATIMO is used. The XL robot series have many features that are important for our application: □ High precision (repeatability 0.02 mm) □ High reliability (industrial design) □ Jerk-free straight movements □ Low ELF interference (the closed metallic construction shields against motor control fields) □ 6-axis controller	

3.4. Video Positioning System

The video positioning system is used in OpenSAR to check the probe. Which is composed of a camera, LED, mirror and mechanical parts.The camera is piloted by the main computer with firewire link. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip. The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.	

3.5. Device Holder

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

3.6. SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas: □ Left head □ Right head □ Flat phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

4. SAR MEASUREMENT PROCEDURE

4.1. Specific Absorption Rate (SAR)

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

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

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

SAR is expressed in units of Watts per kilogram (W/kg)
SAR can be obtained using either of the following equations:

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

$$SAR = c_h \left.\frac{dT}{dt}\right|_{t=0}$$

Where

SAR	is the specific absorption rate in watts per kilogram;
E	is the r.m.s. value of the electric field strength in the tissue in volts per meter;
σ	is the conductivity of the tissue in siemens per metre;
ρ	is the density of the tissue in kilograms per cubic metre;
c_h	is the heat capacity of the tissue in joules per kilogram and Kelvin;
$\frac{dT}{dt} \mid t = 0$	is the initial time derivative of temperature in the tissue in kelvins per second

4.2. SAR Measurement Procedure

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurement are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface is 2.7mm This distance cannot be smaller than the distance os sensor calibration points to probe tip as `defined in the probe properties,

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in SATIMO software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in db) is specified in the standards for compliance testing. For example, a 2db range is required in IEEE Standard 1528 and IEC62209 standards, whereby 3db is a requirement when compliance is assessed in accordance with the ARIB standard (Japan) If one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximum are detected, the number of Zoom Scan has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100MHz to 6GHz

	≤ 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.	

Step 3: Zoom Scan

Zoom Scan are used to assess the peak spatial SAR value within a cubic average volume containing 1g abd 10g of simulated tissue. The Zoom Scan measures points(refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1g and 10g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB865664 d01 SAR Measurement 100MHz to 6GHz

Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

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.

Step 4: Power Drift Measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the same settings. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

4.3. RF Exposure Conditions

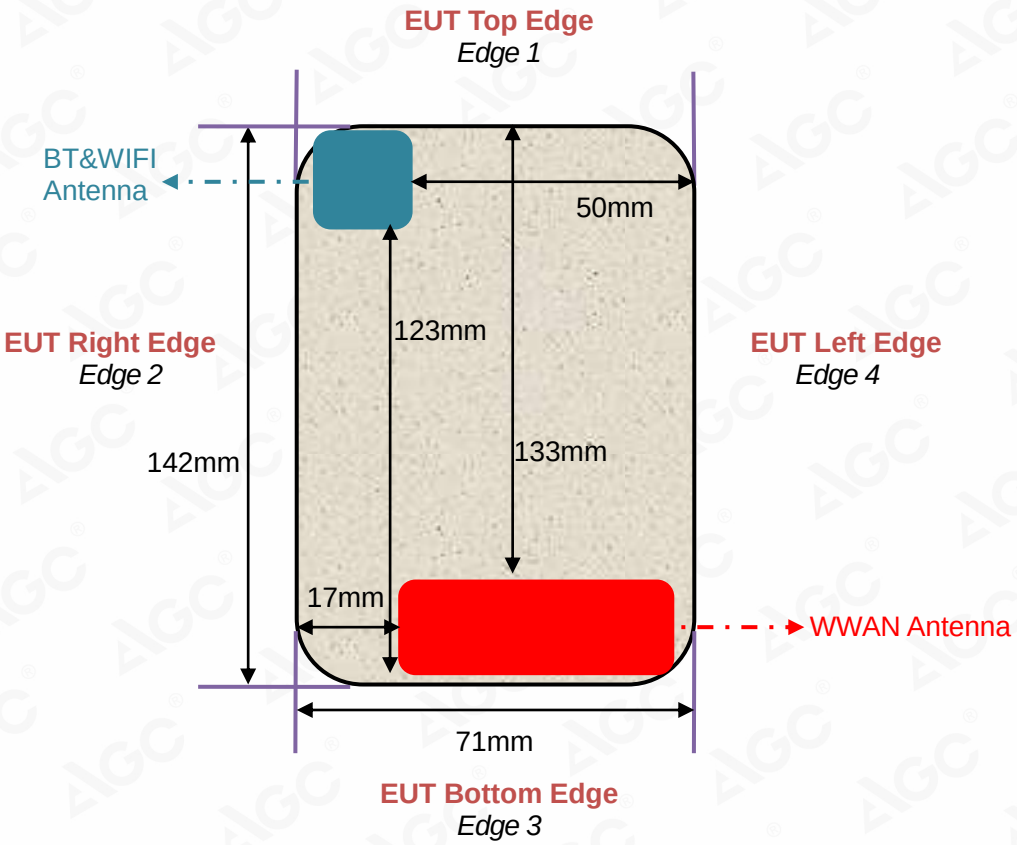
Test Configuration and setting:

The EUT is a model of GSM Portable Mobile Station (MS). It supports GSM/GPRS/EGPRS, WCDMA/HSPA, LTE, BT, WIFI, and support hot spot mode.

For WWAN SAR testing, the device was controlled by using a base station emulator. Communication between the device and the emulator were established by air link. The distance between the EUT and the antenna is larger than 50cm, and the output power radiated from the emulator antenna is at least 30db smaller than the output power of EUT.

For WLAN testing, the EUT is configured with the WLAN continuous TX tool through engineering command.

Antenna Location: (the back view)



For WWAN mode:

Test Configurations	Antenna to edges/surface	SAR required	Note
Head			
Left Touch		Yes	--
Left Tilt		Yes	--
Right Touch		Yes	--
Right Tilt		Yes	--
Body			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Hotspot			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Edge 1 (Top)	133mm	No	SAR is not required for the distance between the antenna and the edge is >25mm as per KDB 941225 D06 Hotspot SAR
Edge 2 (Right)	17mm	Yes	--
Edge 3 (Bottom)	1mm	Yes	--
Edge 4 (Left)	2mm	Yes	--

For WLAN mode:

Test Configurations	Antenna to edges/surface	SAR required	Note
Head			
Left Touch		Yes	--
Left Tilt		Yes	--
Right Touch		Yes	--
Right Tilt		Yes	--
Body			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Hotspot			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Edge 1 (Top)	1mm	Yes	--
Edge 2 (Right)	1mm	Yes	--
Edge 3 (Bottom)	123mm	No	SAR is not required for the distance between the antenna and the edge is >25mm as per KDB 941225 D06 Hotspot SAR
Edge 4 (Left)	50mm	No	SAR is not required for the distance between the antenna and the edge is >25mm as per KDB 941225 D06 Hotspot SAR

5. TISSUE SIMULATING LIQUID

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 15cm. For head SAR testing the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15cm For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15cm.The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 10% are listed in 6.2

5.1. The composition of the tissue simulating liquid

Ingredient (% Weight) / Frequency (MHz)	Water	Nacl	Polysorbate 20	DGBE	1,2 Propanediol	Triton X-100
750 Head	35	2	0.0	0.0	63	0.0
835 Head	50.36	1.25	48.39	0.0	0.0	0.0
1750 Head	52.64	0.36	0.0	47	0.0	0.0
1900 Head	54.9	0.18	0.0	44.92	0.0	0.0
2300 Head	62.82	0.51	0.0	36.67	0.0	0.0
2450 Head	71.88	0.16	0.0	7.99	0.0	19.97
2600 Head	55.242	0.306	0	44.452	0	0

5.2. Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEC 62209-1 have been incorporated in the following table. The body tissue dielectric parameters recommended by the IEC 62209-2 have been incorporated in the following table.

Target Frequency (MHz)	head		body	
	εr	σ (S/m)	εr	σ (S/m)
300	45.3	0.87	45.3	0.87
450	43.5	0.87	43.5	0.87
750	**41.9**	**0.89**	**41.9**	**0.89**
835	**41.5**	**0.90**	**41.5**	**0.90**
900	41.5	0.97	41.5	0.97
915	41.5	1.01	41.5	1.01
1450	40.5	1.20	40.5	1.20
1610	40.3	1.29	40.3	1.29
1750	**40.1**	**1.37**	**40.1**	**1.37**
1800 – 2000	**40.0**	**1.40**	**40.0**	**1.40**
2300	39.5	1.67	39.5	1.67
2450	**39.2**	**1.80**	**39.2**	**1.80**
2600	**39.0**	**1.96**	**39.0**	**1.96**
3000	38.5	2.40	38.5	2.40

(εr = relative permittivity, σ = conductivity and ρ = 1000 kg/m3

5.3. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using SATIMO Dielectric Probe Kit and R&S Network Analyzer ZVL6.

Tissue Stimulant Measurement for 750MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 41.9 (37.71-46.09)	δ[s/m] 0.89(0.801-0.979)		
Head	710	42.35	0.89	21.9	Nov. 01, 2021
	750	42.09	0.90		

Tissue Stimulant Measurement for 835MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 41.5 (37.35-45.65)	δ[s/m] 0.90(0.81-0.99)		
Head	835	40.62	0.89	21.9	Oct. 29, 2021
	836.4	40.31	0.90		
	836.6	40.31	0.90		

Tissue Stimulant Measurement for 1900MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr40.00(36.00-44.00)	δ[s/m]1.40(1.26-1.54)		
Head	1850.2	40.64	1.35	21.6	Oct. 31, 2021
	1852.4	40.23	1.35		
	1880	39.95	1.36		
	1900	39.72	1.37		
	1907.6	39.57	1.38		
	1909.8	39.26	1.39		

Tissue Stimulant Measurement for 1750MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 40.1 (36.09-44.11)	δ[s/m]1.37(1.233-1.507)		
Head	1720	42.44	1.32	21.5	Oct. 30, 2021
	1732.5	42.15	1.33		
	1745	41.86	1.34		
	1750	41.67	1.35		

Tissue Stimulant Measurement for 1900MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr40.00(36.00-44.00)	δ[s/m]1.40(1.26-1.54)		
Head	1860	39.86	1.39	21.4	Nov. 02, 2021
	1880	39.78	1.40		
	1900	39.52	1.41		

Tissue Stimulant Measurement for 2450MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr39.2(35.28-43.12)	δ[s/m]1.80(1.62-1.98)		
Head	2412	39.56	1.80	21.5	Nov. 03, 2021
	2437	39.24	1.81		
	2450	38.95	1.82		
	2462	38.72	1.83		

Tissue Stimulant Measurement for 2600MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr39(35.1-42.9)	δ[s/m]1.96(1.764-2.156)		
Head	2510	39.76	1.90	21.7	Nov. 03, 2021
	2535	39.65	1.91		
	2560	39.32	1.92		
	2600	38.90	1.93		

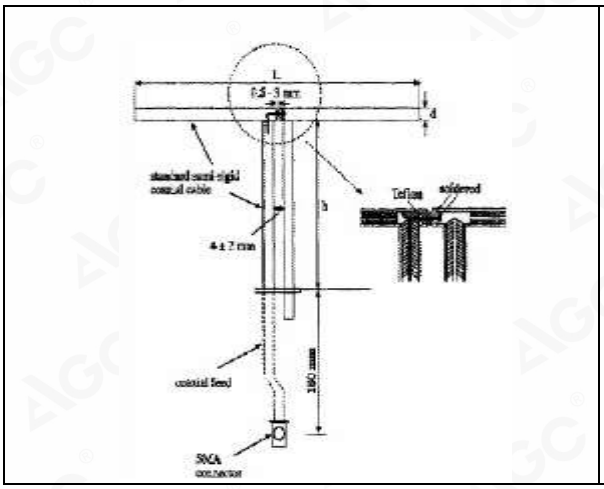
6. SAR SYSTEM CHECK PROCEDURE

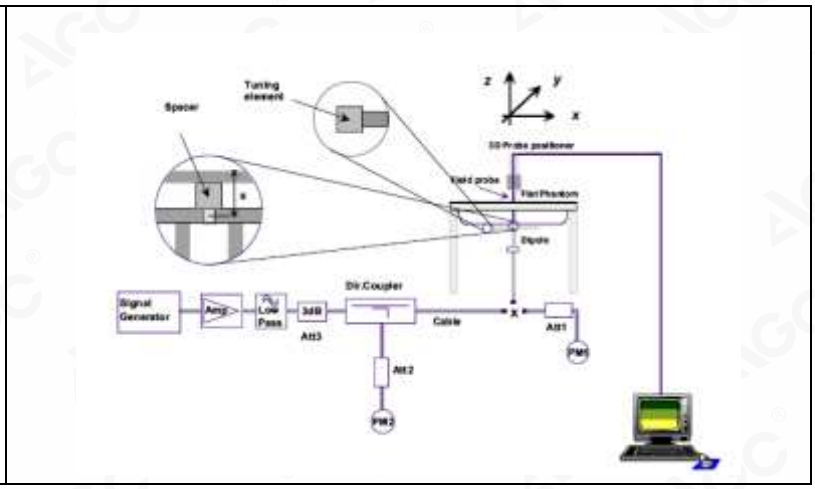
6.1. SAR System Check Procedures

SAR system check is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are remeasured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

Each SATIMO system is equipped with one or more system check kits. These units, together with the predefined measurement procedures within the SATIMO software, enable the user to conduct the system check and system validation. System kit includes a dipole, and dipole device holder.

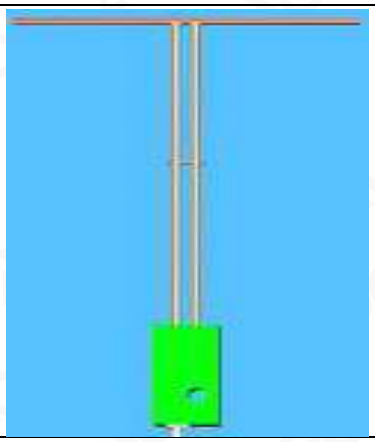
The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system check setup is shown as below.





6.2. SAR System Check

6.2.1. Dipoles



The dipoles used is based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of IEEE. the table below provides details for the mechanical and electrical
Specifications for the dipoles.

Frequency	L (mm)	h (mm)	d (mm)
750MHz	176	100	6.35
835MHz	161.0	89.8	3.6
1800MHz	71.6	41.7	3.6
1900MHz	68	39.5	3.6
2450MHz	51.5	30.4	3.6
2600MHz	48.5	28.8	3.6

6.2.2. System Check Result

System Performance Check at 750MHz&835MHz &1800MHz &1900MHz &2450MHz&2600MHz for Head								
Validation Kit: SN29/15 DIP 0G835-383& SN46/11 DIP 1G800-186&SN 46/11 DIP 1G900-187& SN46/11 DIP 2G450-189& SN 47/14 DIP 2G600-342								
Frequency [MHz]	Target Value(W/kg)		Reference Result (± 10%)		Tested Value(W/kg)		Tissue Temp. [°C]	Test time
	1g	10g	1g	10g	1g	10g		
750	8.31	5.45	7.479-9.141	4.905-5.995	8.75	5.42	21.9	Nov. 01, 2021
835	9.85	6.27	8.865-10.835	5.643-6.897	10.17	6.38	21.9	Oct. 29, 2021
1800	39.07	20.29	35.163-42.977	18.261-22.319	37.09	18.73	21.5	Oct. 30, 2021
1900	40.25	20.50	36.225-44.275	18.45-22.55	39.76	19.85	21.6	Oct. 31, 2021
1900	40.25	20.50	36.225-44.275	18.45-22.55	42.34	20.18	21.4	Nov. 02, 2021
2450	53.97	24.01	48.573-59.367	21.609-26.411	51.09	23.66	21.5	Nov. 03, 2021
2600	56.86	24.84	51.174-62.546	22.356-27.324	52.98	24.20	21.7	Nov. 03, 2021

Note:
(1) We use a CW signal of 18dBm for system check, and then all SAR value are normalized to 1W forward power. The result must be within ±10% of target value.

7. EUT TEST POSITION

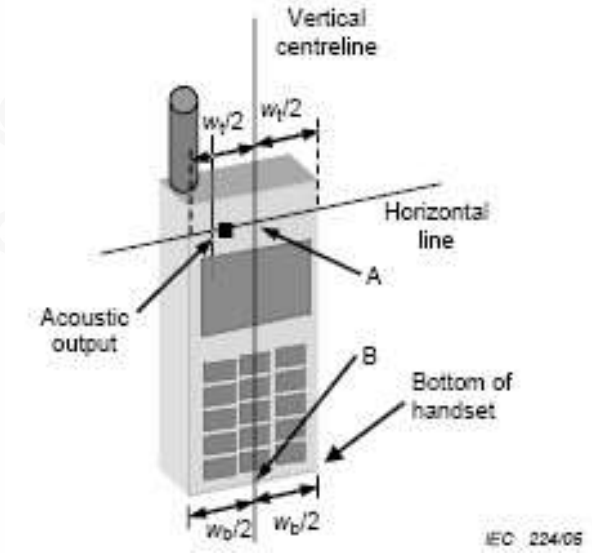
This EUT was tested in **Right Cheek, Right Tilted, Left Cheek, Left Tilted, Body back, Body front and 4 edges.**

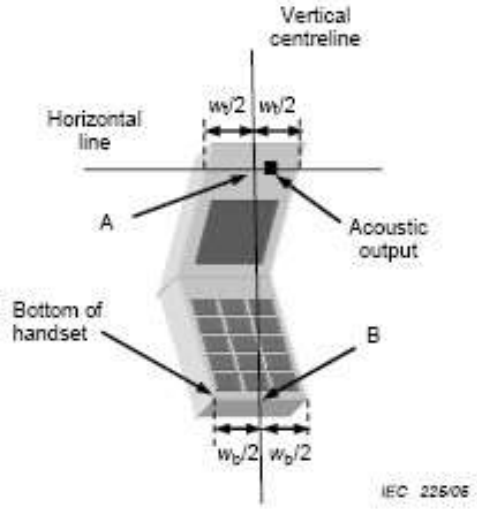
7.1. Define Two Imaginary Lines on the Handset

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

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

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





7.2. Cheek Position

(1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center picec in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

(2) To move the device towards the phantom with the ear piece aligned with the the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost

7.3. Tilt Position

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

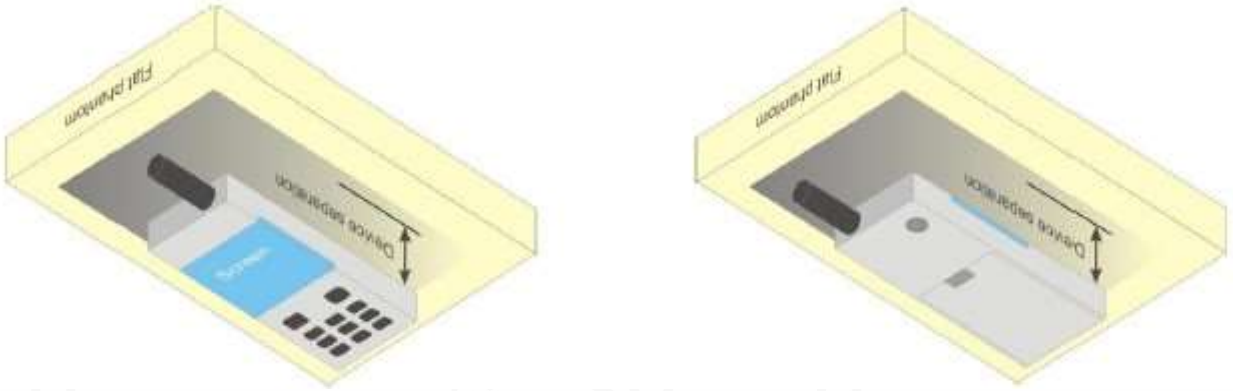
(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.

7.4. Body Worn Position

(1) To position the EUT parallel to the phantom surface.

(2) To adjust the EUT parallel to the flat phantom.

(3) To adjust the distance between the EUT surface and the flat phantom to **10mm.**



8. SAR EXPOSURE LIMITS

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

Type Exposure	Uncontrolled Environment Limit (W/kg)
Spatial Peak SAR (1g cube tissue for brain or body)	1.60
Spatial Average SAR (Whole body)	0.08
Spatial Peak SAR (Limbs)	4.0

9. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

10. TEST EQUIPMENT LIST

Equipment description	Manufacturer/ Model	Identification No.	Current calibration date	Next calibration date
SAR Probe	MVG	SN 24/20 EP336	Aug. 17, 2021	Aug. 16, 2022
Phantom	SATIMO	SN_4511_SAM90	Validated. No cal required.	Validated. No cal required.
Liquid	SATIMO	-	Validated. No cal required.	Validated. No cal required.
Comm Tester	Agilent-8960	GB46310822	Aug. 18,2021	Aug. 17,2022
Comm Tester	R&S- CMW500	121209	Aug. 18,2021	Aug. 17,2022
Multimeter	Keithley 2000	4114939	Aug. 18,2021	Aug. 17,2022
SAR Software	MVG-OpenSAR	OpenSAR V4_02_35	N/A	N/A
Dipole	SATIMO SID750	SN47/14 DIP 0G750-340	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID835	SN29/15 DIP 0G835-383	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID1800	SN46/11 DIP 1G800-186	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID1900	SN 46/11 DIP 1G900-187	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID2450	SN46/11 DIP 2G450-189	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID2600	SN 47/14 DIP 2G600-342	Apr. 26,2019	Apr. 25,2022
Signal Generator	Agilent-E4438C	US41461365	Aug. 18,2021	Aug. 17,2022
Vector Analyzer	Agilent / E4440A	MY44303916	Mar. 21, 2021	Mar. 20, 2022
Network Analyzer	Rhode & Schwarz ZVL6	SN101443	Oct. 28,2021	Oct. 27,2022
Attenuator	Warison /WATT-6SR1211	S/N:WRJ34AYM2F1	June 09,2021	June 08,2022
Attenuator	Mini-circuits / VAT-10+	31405	June 09,2021	June 08,2022
Amplifier	AS0104-55_55	1004793	June 10,2021	June 09,2022
Directional Couple	Werlatone/ C5571-10	SN99463	May 15,2020	May 14,2022
Directional Couple	Werlatone/ C6026-10	SN99482	May 15,2020	May 14,2022
Power Sensor	NRP-Z21	1137.6000.02	Sep. 07,2021	Sep. 06,2022
Power Sensor	NRP-Z23	100323	Feb. 17,2021	Feb. 16,2022
Power Viewer	R&S	V2.3.1.0	N/A	N/A

Note: Per KDB 865664 Dipole SAR Validation, AGC Lab has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:
1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss is within 20% of calibrated measurement;
4. Impedance is within 5Ω of calibrated measurement.

11. MEASUREMENT UNCERTAINTY

SATIMO Uncertainty- SN 24/20 EP336 Measurement uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System									
Probe calibration	E.2.1	7.000	N	1	1	1	7.000	7.000	∞
Axial Isotropy	E.2.2	0.150	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.061	0.061	∞
Hemispherical Isotropy	E.2.2	0.150	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.061	0.061	∞
Boundary effect	E.2.3	1.000	R	$\sqrt{3}$	1	1	0.577	0.577	∞
Linearity	E.2.4	0.610	R	$\sqrt{3}$	1	1	0.352	0.352	∞
System detection limits	E.2.4	1.000	R	$\sqrt{3}$	1	1	0.577	0.577	∞
Modulation response	E2.5	3.000	R	$\sqrt{3}$	1	1	1.732	1.732	∞
Readout Electronics	E.2.6	0.021	N	1	1	1	0.021	0.021	∞
Response Time	E.2.7	0.000	R	$\sqrt{3}$	1	1	0.000	0.000	∞
Integration Time	E.2.8	1.400	R	$\sqrt{3}$	1	1	0.808	0.808	∞
RF ambient conditions-Noise	E.6.1	3.000	R	$\sqrt{3}$	1	1	1.732	1.732	∞
RF ambient conditions-reflections	E.6.1	3.000	R	$\sqrt{3}$	1	1	1.732	1.732	∞
Probe positioner mechanical tolerance	E.6.2	1.400	R	$\sqrt{3}$	1	1	0.808	0.808	∞
Probe positioning with respect to phantom shell	E.6.3	1.400	R	$\sqrt{3}$	1	1	0.808	0.808	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.300	R	$\sqrt{3}$	1	1	1.328	1.328	∞
Test sample Related									
Test sample positioning	E.4.2	2.6	N	1	1	1	2.600	2.600	∞
Device holder uncertainty	E.4.1	3	N	1	1	1	3.000	3.000	∞
Output power variation—SAR drift measurement	E.2.9	5	R	$\sqrt{3}$	1	1	2.887	2.887	∞
SAR scaling	E.6.5	5	R	$\sqrt{3}$	1	1	2.887	2.887	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	4	R	$\sqrt{3}$	1	1	2.309	2.309	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1	1	0.84	1.900	1.596	∞
Liquid conductivity measurement	E.3.3	2.5	R	$\sqrt{3}$	0.78	0.71	1.126	1.025	∞
Liquid permittivity measurement	E.3.3	4	N	1	0.78	0.71	3.120	2.840	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.332	0.375	∞
Liquid permittivity—temperature uncertainty	E.3.4	5	N	1	0.23	0.26	1.150	1.300	M
Combined Standard Uncertainty			RSS				10.519	10.334	
Expanded Uncertainty (95% Confidence interval)			K=2				21.039	20.668	

SATIMO Uncertainty- SN 24/20 EP336 System Validation uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System									
Probe calibration	E.2.1	7.000	N	1	1	1	7.000	7.000	∞
Axial Isotropy	E.2.2	0.150	R	$\sqrt{3}$	1	1	0.087	0.087	∞
Hemispherical Isotropy	E.2.2	0.150	R	$\sqrt{3}$	0	0	0.000	0.000	∞
Boundary effect	E.2.3	1.000	R	$\sqrt{3}$	1	1	0.577	0.577	∞
Linearity	E.2.4	0.610	R	$\sqrt{3}$	1	1	0.352	0.352	∞
System detection limits	E.2.4	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	E2.5	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	E.2.6	0.021	N	1	1	1	0.021	0.021	∞
Response Time	E.2.7	0.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	E.2.8	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	E.6.2	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	E.6.3	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
System validation source									
Deviation of experimental dipole from numerical dipole	E.6.4	5.0	N	1	1	1	5.00	5.00	∞
Input power and SAR drift measurement	8,6.6.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Dipole axis to liquid distance	8,E.6.6	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and set-up									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity（temperature uncertainty）	E.3.3	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity（measured）	E.3.3	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity（temperature uncertainty）	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity（measured）	E.3.4	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty			RSS				10.452	10.266	
Expanded Uncertainty (95% Confidence interval)			K=2				20.904	20.531	

SATIMO Uncertainty- SN 24/20 EP336 System Check uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System									
Probe calibration drift	E.2.1.3	0.5	N	1	1	1	0.50	0.50	∞
Axial Isotropy	E.2.2	0.150	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Hemispherical Isotropy	E.2.2	0.150	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	E.2.3	1.000	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Linearity	E.2.4	0.610	R	$\sqrt{3}$	0	0	0.00	0.00	∞
System detection limits	E.2.4	1.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Modulation response	E2.5	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	E.2.6	0.021	N	1	0	0	0.00	0.00	∞
Response Time	E.2.7	0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	E.2.8	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	E.6.1	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-reflections	E.6.1	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Probe positioner mechanical tolerance	E.6.2	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	E.6.3	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.3	R	$\sqrt{3}$	0	0	0.00	0.00	∞
System check source (dipole)									
Deviation of experimental dipoles	E.6.4	2.0	N	1	1	1	2.00	2.00	∞
Input power and SAR drift measurement	8,6.6.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Dipole axis to liquid distance	8,E.6.6	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid permittivity measurement	E.3.3	4	N	1	0.78	0.71	3.12	2.84	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity—temperature uncertainty	E.3.4	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty			RSS				5.562	5.203	
Expanded Uncertainty (95% Confidence interval)			K=2				11.124	10.406	

12. CONDUCTED POWER MEASUREMENT

GSM BAND

Mode	Frequency(MHz)	Avg. Burst Power(dBm)	Duty cycle Factor(dBm)	Frame Power(dBm)
Maximum Power <1>				
GSM 850	824.2	32.02	-9	23.02
	836.6	**32.20**	-9	23.20
	848.8	32.16	-9	23.16
GPRS 850 （1 Slot）	824.2	31.64	-9	22.64
	836.6	31.86	-9	22.86
	848.8	31.64	-9	22.64
GPRS 850 （2 Slot）	824.2	30.05	-6	24.05
	836.6	30.39	-6	24.39
	848.8	30.04	-6	24.04
GPRS 850 （3 Slot）	824.2	29.04	-4.26	24.78
	836.6	29.23	-4.26	24.97
	848.8	29.24	-4.26	**24.98**
GPRS 850 （4 Slot）	824.2	27.39	-3	24.39
	836.6	27.36	-3	24.36
	848.8	27.34	-3	24.34
EGPRS 850 （1 Slot）	824.2	26.93	-9	17.93
	836.6	26.58	-9	17.58
	848.8	26.77	-9	17.77
EGPRS 850 （2 Slot）	824.2	25.07	-6	19.07
	836.6	25.14	-6	19.14
	848.8	25.46	-6	19.46
EGPRS 850 （3 Slot）	824.2	23.03	-4.26	18.77
	836.6	23.43	-4.26	19.17
	848.8	23.20	-4.26	18.94
EGPRS 850 （4 Slot）	824.2	21.75	-3	18.75
	836.6	21.94	-3	18.94
	848.8	21.79	-3	18.79

GSM BAND CONTINUE

Mode	Frequency(MHz)	Avg. Burst Power(dBm)	Duty cycle Factor(dBm)	Frame Power(dBm)
Maximum Power <1>				
PCS1900	1850.2	30.01	-9	21.01
	1880	**30.27**	-9	21.27
	1909.8	30.12	-9	21.12
GPRS1900 （1 Slot）	1850.2	29.49	-9	20.49
	1880	29.96	-9	20.96
	1909.8	29.80	-9	20.80
GPRS1900 （2 Slot）	1850.2	27.93	-6	21.93
	1880	27.70	-6	21.70
	1909.8	27.83	-6	21.83
GPRS1900 （3 Slot）	1850.2	26.67	-4.26	22.41
	1880	27.00	-4.26	22.74
	1909.8	26.74	-4.26	22.48
GPRS1900 （4 Slot）	1850.2	25.71	-3	22.71
	1880	25.65	-3	22.65
	1909.8	25.79	-3	**22.79**
EGPRS1900 （1 Slot）	1850.2	25.00	-9	16.00
	1880	25.15	-9	16.15
	1909.8	25.05	-9	16.05
EGPRS1900 （2 Slot）	1850.2	24.98	-6	18.98
	1880	24.58	-6	18.58
	1909.8	24.97	-6	18.97
EGPRS1900 （3 Slot）	1850.2	22.97	-4.26	18.71
	1880	22.79	-4.26	18.53
	1909.8	22.87	-4.26	18.61
EGPRS1900 （4 Slot）	1850.2	21.70	-3	18.70
	1880	21.84	-3	18.84
	1909.8	21.55	-3	18.55

Note 1:
The Frame Power (Source-based time-averaged Power) is scaled the maximum burst average power based on time slots. The calculated methods are show as following:
Frame Power = Max burst power (1 Up Slot) – 9 dB
Frame Power = Max burst power (2 Up Slot) – 6 dB
Frame Power = Max burst power (3 Up Slot) – 4.26 dB
Frame Power = Max burst power (4 Up Slot) – 3 dB
Note 2:
SAR is not required for GPRS (1 Slot) Mode because its output power is less than of Voice Mode

UMTS BAND
HSDPA Setup Configuration:

·The EUT was connected to Base Station Agilent-8960 referred to the Setup Configuration.

·The RF path losses were compensated into the measurements.

·A call was established between EUT and Based Station with following setting:

(1) Set Gain Factors(βc and βd) parameters set according to each

(2) Set RMC 12.2Kbps+HSDPA mode.

(3) Set Cell Power=-86dBm

(4) Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)

(5) Select HSDPA Uplink Parameters

(6) Set Delta ACK, Delta NACK and Delta CQI=8

(7) Set Ack - Nack Repetition Factor to 3

(8) Set CQI Feedback Cycle (k) to 4ms

(9) Set CQI Repetition Factor to 2

(10) Power Ctrl Mode=All Up bits

·The transmitted maximum output power was recorded.

Table C.10.2.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	βc (Note5)	βd	βd (SF)	βc/βd	βHS (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15(Note 4)	15/15(Note 4)	64	12/15(Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: ΔACK, ΔNACK and ΔCQI = 30/15 with β_{hs} = 30/15 * β_c .
Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, ΔACK and ΔNACK = 30/15 with β_{hs} = 30/15 * β_c , and ΔCQI = 24/15 with β_{hs} = 24/15 * β_c .
Note 3: CM = 1 for βc/βd =12/15, hs/ c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
Note 4: For subtest 2 the c/ d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to c = 11/15 and d = 15/15.

HSUPA Setup Configuration:

· The EUT was connected to Base Station Agilent-8960 referred to the Setup Configuration.

· The RF path losses were compensated into the measurements.

· A call was established between EUT and Base Station with following setting * :

(1) Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK

(2) Set the Gain Factors (βc and βd) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121

(3) Set Cell Power = -86 dBm

(4) Set Channel Type = 12.2k + HSPA

(5) Set UE Target Power

(6) Power Ctrl Mode= Alternating bits

(7) Set and observe the E-TFCI

(8) Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI

· The transmitted maximum output power was recorded.

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

Sub-test	βc	βd	βd (SF)	βc/βd	βHS (Note 1)	βec	βed (Note 4) (Note 5)	βed (SF)	βed (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	βed1: 47/15 βed2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, ΔACK, ΔNACK and ΔCQI = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, ΔACK, ΔNACK and ΔCQI = 5/15 with β_{hs} = 5/15 * β_c.
Note 2: CM = 1 for βc/βd =12/15, hs/ c=24/15. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the c/ d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to c = 10/15 and d = 15/15.
Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.
Note 5: βed cannot be set directly; it is set by Absolute Grant Value.
Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

UMTS BAND II

Mode	Frequency (MHz)	Avg. Burst Power (dBm)
WCDMA 1900 RMC	1852.4	**22.34**
	1880	22.00
	1907.6	22.23
WCDMA 1900 AMR	1852.4	22.24
	1880	21.98
	1907.6	21.72
HSDPA Subtest 1	1852.4	20.99
	1880	20.93
	1907.6	20.72
HSDPA Subtest 2	1852.4	20.06
	1880	19.88
	1907.6	20.76
HSDPA Subtest 3	1852.4	19.90
	1880	20.06
	1907.6	20.03
HSDPA Subtest 4	1852.4	20.18
	1880	20.60
	1907.6	20.76
HSUPA Subtest 1	1852.4	20.62
	1880	20.39
	1907.6	20.31
HSUPA Subtest 2	1852.4	21.44
	1880	21.84
	1907.6	21.22
HSUPA Subtest 3	1852.4	21.30
	1880	21.10
	1907.6	21.30
HSUPA Subtest 4	1852.4	21.34
	1880	22.03
	1907.6	22.31
HSUPA Subtest 5	1852.4	21.31
	1880	21.76
	1907.6	21.83

UMTS BAND V

Mode	Frequency (MHz)	Avg. Burst Power (dBm)
WCDMA 850 RMC	826.4	**22.30**
	836.4	22.17
	846.6	21.97
WCDMA 850 AMR	826.4	22.20
	836.4	21.94
	846.6	22.02
HSDPA Subtest 1	826.4	21.35
	836.4	20.80
	846.6	20.89
HSDPA Subtest 2	826.4	20.35
	836.4	20.05
	846.6	20.48
HSDPA Subtest 3	826.4	19.84
	836.4	19.91
	846.6	20.09
HSDPA Subtest 4	826.4	20.24
	836.4	20.53
	846.6	20.90
HSUPA Subtest 1	826.4	20.40
	836.4	20.23
	846.6	20.61
HSUPA Subtest 2	826.4	21.55
	836.4	21.55
	846.6	21.43
HSUPA Subtest 3	826.4	21.32
	836.4	21.12
	846.6	21.06
HSUPA Subtest 4	826.4	21.14
	836.4	22.25
	846.6	22.20
HSUPA Subtest 5	826.4	21.35
	836.4	21.81
	846.6	21.98

According to 3GPP 25.101 sub-clause 6.2.2 , the maximum output power is allowed to be reduced by following the table.

Table 6.1aA: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	0≤ CM≤3.5	MAX(CM-1,0)
Note: CM=1 for β_c/β_d=12/15, β_{hs}/β_c=24/15.For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

LTE Band

Conducted Power of LTE Band 2(dBm)							
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					18607	**18900**	**19193**
1.4MHz	QPSK	1	0	0	23.14	22.63	22.95
			3	0	23.06	22.53	22.79
			5	0	23.12	22.52	22.79
		3	0	0	23.12	22.67	22.75
			2	0	23.07	22.65	22.76
			3	0	23.13	22.68	22.77
		6	0	1	22.07	21.55	21.7
	16QAM	1	0	1	22.85	21.47	22.19
			3	1	22.86	21.47	22.11
			5	1	22.81	21.43	22.12
		3	0	1	22.1	21.59	21.84
			2	1	22.09	21.69	21.84
			3	1	22.08	21.44	21.92
		6	0	2	21.4	20.8	20.87
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					18615	**18900**	**19185**
3MHz	QPSK	1	0	0	22.96	22.63	22.59
			7	0	22.99	22.68	22.71
			14	0	22.93	22.65	22.76
		8	0	1	22.04	21.6	21.66
			4	1	22.04	21.6	21.65
			7	1	21.92	21.57	21.76
		15	0	1	22.12	21.6	21.7
	16QAM	1	0	1	22.48	22.35	21.9
			7	1	22.54	22.3	21.88
			14	1	22.47	22.31	21.9
		8	0	2	21.5	20.83	21.07
			4	2	21.5	20.84	21.08
			7	2	21.3	20.8	21.19
		15	0	2	21.37	20.75	20.91

Conducted Power of LTE Band 2(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18625	Channel 18900	Channel 19175
5MHz	QPSK	1	0	0	22.95	22.77	22.66
			13	0	22.85	22.69	22.68
			24	0	22.83	22.8	22.72
		12	0	1	22.07	21.58	21.71
			6	1	22.06	21.58	21.7
			13	1	21.95	21.63	21.73
		25	0	1	21.98	21.6	21.69
	16QAM	1	0	1	21.5	21.88	21.51
			13	1	21.33	21.94	21.53
			24	1	21.29	21.96	21.58
		12	0	2	21.18	20.74	20.89
			6	2	21.19	20.75	20.9
			13	2	21.06	20.83	20.8
		25	0	2	21.12	20.9	20.8
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18650	Channel 18900	Channel 19150
10MHz	QPSK	1	0	0	22.97	22.75	22.68
			25	0	22.82	22.86	22.73
			49	0	22.81	22.79	22.83
		25	0	1	21.93	21.63	21.72
			13	1	21.92	21.72	21.72
			25	1	21.75	21.64	21.67
		50	0	1	21.81	21.8	21.71
	16QAM	1	0	1	22.38	21.8	21.49
			25	1	22.29	21.95	21.59
			49	1	22.15	21.91	21.55
		25	0	2	20.95	20.91	21.03
			13	2	20.96	20.92	21.04
			25	2	20.94	20.83	21.14
		50	0	2	21.08	20.82	20.85

Conducted Power of LTE Band 2(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18675	Channel 18900	Channel 19125
15MHz	QPSK	1	0	0	22.95	22.76	22.52
			38	0	22.84	22.67	22.63
			74	0	22.68	22.71	22.62
		36	0	1	21.92	21.73	21.59
			18	1	21.92	21.74	21.58
			39	1	21.92	21.74	21.58
		75	0	1	21.88	21.72	21.76
	16QAM	1	0	1	22.4	21.95	22.16
			38	1	22.22	21.92	22.25
			74	1	22.13	22.02	22.23
		36	0	2	21.03	20.82	20.83
			18	2	21.03	20.82	20.84
			39	2	20.95	20.83	20.85
		75	0	2	21.04	20.84	20.85
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18700	Channel 18900	Channel 19100
20MHz	QPSK	1	0	0	**23.39**	22.94	22.69
			50	0	22.98	22.94	22.79
			99	0	23.01	22.93	22.8
		50	0	1	21.81	21.63	21.7
			25	1	21.81	21.62	21.71
			50	1	21.8	21.59	21.76
		100	0	1	21.73	21.65	21.71
	16QAM	1	0	1	22.14	21.73	22.46
			50	1	21.98	21.74	22.54
			99	1	21.79	21.72	22.54
		50	0	2	21.04	20.74	20.91
			25	2	21.05	20.75	20.83
			50	2	20.88	20.93	20.92
		100	0	2	21.02	20.89	20.89

Conducted Power of LTE Band 4(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					19957	20175	20393
1.4MHz	QPSK	1	0	0	24.34	24.21	24.36
			3	0	24.31	24.24	24.33
			5	0	24.31	24.22	24.34
		3	0	0	24.47	24.26	24.18
			2	0	24.36	24.25	24.16
			3	0	24.39	24.24	24.13
		6	0	1	23.35	23.22	22.93
	16QAM	1	0	1	24.29	24.05	23.49
			3	1	24.25	23.99	23.5
			5	1	24.27	24.03	23.54
		3	0	1	23.61	23.3	23.24
			2	1	23.69	23.31	23.24
			3	1	23.64	23.32	23.17
		6	0	2	22.59	22.46	22.65
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					19965	20175	20385
3MHz	QPSK	1	0	0	24.25	24.32	24.28
			7	0	24.29	24.29	24.37
			14	0	24.28	24.25	24.36
		8	0	1	23.36	23.24	23.1
			4	1	23.36	23.15	23.1
			7	1	23.26	23.16	23.02
		15	0	1	23.36	23.11	23.03
	16QAM	1	0	1	23.77	23.46	23.52
			7	1	23.77	23.44	23.54
			14	1	23.73	23.5	23.46
		8	0	2	22.72	22.66	22.61
			4	2	22.73	22.46	22.53
			7	2	22.73	22.59	22.54
		15	0	2	22.45	22.38	22.35

Conducted Power of LTE Band 4(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 19975	Channel 20175	Channel 20375
5MHz	QPSK	1	0	0	24.33	24.39	23.76
			13	0	24.23	24.33	23.81
			24	0	24.21	24.45	23.84
		12	0	1	23.31	23.15	23.18
			6	1	23.31	23.15	23.19
			13	1	23.37	23.18	23.06
		25	0	1	23.38	23.18	23.08
	16QAM	1	0	1	23.03	23.73	23.2
			13	1	22.9	23.61	23.16
			24	1	22.91	23.63	23.13
		12	0	2	22.65	22.39	22.11
			6	2	22.66	22.41	22.12
			13	2	22.64	22.46	22.14
		25	0	2	22.59	22.5	22.35
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 20000	Channel 20175	Channel 20350
10MHz	QPSK	1	0	0	24.29	24.2	24.37
			25	0	24.16	24.22	24.35
			49	0	24.14	24.26	24.37
		25	0	1	23.35	23.06	23.21
			13	1	23.35	23.06	23.2
			25	1	23.13	23.16	23.14
		50	0	1	23.36	23.29	23.09
	16QAM	1	0	1	23.78	23.43	23.01
			25	1	23.76	23.38	22.98
			49	1	23.71	23.36	22.9
		25	0	2	22.53	22.54	22.42
			13	2	22.53	22.54	22.43
			25	2	22.48	22.47	22.36
		50	0	2	22.49	22.33	22.34

Conducted Power of LTE Band 4(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 20025	Channel 20175	Channel 20325
15MHz	QPSK	1	0	0	24.25	24.25	24.41
			38	0	24.23	24.29	24.37
			74	0	24.18	24.33	24.36
		36	0	1	23.2	23.14	23.15
			18	1	23.2	23.14	23.15
			39	1	23.19	23.14	23.15
		75	0	1	23.39	23.22	23.03
	16QAM	1	0	1	23.84	24.16	23.82
			38	1	23.78	24.08	23.86
			74	1	23.76	24.05	23.83
		36	0	2	22.68	22.45	22.37
			18	2	22.69	22.47	22.38
			39	2	22.54	22.47	22.28
		75	0	2	22.53	22.37	22.45
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 20050	Channel 20175	Channel 20300
20MHz	QPSK	1	0	0	**24.63**	24.5	24.3
			50	0	24.47	24.55	24.3
			99	0	24.48	24.5	24.24
		50	0	1	23.35	23.25	23.33
			25	1	23.35	23.25	23.18
			50	1	23.2	23.35	23.11
		100	0	1	23.33	23.19	23.27
	16QAM	1	0	1	23.72	23.52	24.17
			50	1	23.82	23.51	24.11
			99	1	23.81	23.54	24.02
		50	0	2	22.68	22.54	22.41
			25	2	22.7	22.55	22.42
			50	2	22.55	22.47	22.45
		100	0	2	22.47	22.34	22.56

Conducted Power of LTE Band 7 (dBm)							
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					20775	**21100**	**21425**
5MHz	QPSK	1	0	0	23.88	23.41	22.46
			12	0	23.98	23.58	23
			24	0	23.96	23.55	22.55
		12	0	1	22.96	22.48	22.02
			6	1	22.95	22.6	22.01
			13	1	22.94	22.59	22.13
		25	0	1	22.78	22.46	22.01
	16QAM	1	0	1	22.33	22.85	21.83
			12	1	22.42	22.77	21.83
			24	1	22.44	22.71	21.77
		12	0	2	21.97	21.83	21.11
			6	2	21.98	21.84	21.38
			13	2	21.96	21.86	21.09
		25	0	2	22.25	21.78	21.08
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					20800	**21100**	**21400**
10MHz	QPSK	1	0	0	23.79	23.4	22.09
			24	0	23.82	23.7	22.73
			49	0	23.87	23.63	23.01
		25	0	1	22.93	22.67	22.07
			12	1	22.93	22.66	22.05
			25	1	22.88	22.53	22.15
		50	0	1	22.77	22.55	22.15
	16QAM	1	0	1	23.15	22.99	22.06
			24	1	23.18	22.91	21.92
			49	1	23.24	22.85	21.87
		25	0	2	22.04	21.94	21.47
			12	2	22.07	21.96	21.45
			25	2	22.01	21.83	21.49
		50	0	2	22.24	21.79	21.24

Conducted Power of LTE Band 7 (dBm)							
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					20825	**21100**	**21375**
15MHz	QPSK	1	0	0	23.85	23.5	22.35
			37	0	23.93	23.63	22.41
			74	0	23.79	23.46	22.8
		37	0	1	22.98	22.55	22.07
			16	1	22.98	22.54	22.07
			35	1	22.98	22.54	22.07
		75	0	1	22.86	22.64	22.14
	16QAM	1	0	1	23.38	23.47	22.84
			37	1	23.3	23.44	22.63
			74	1	23.34	23.35	22.59
		37	0	2	22.02	21.74	21.38
			16	2	22.03	21.76	21.39
			35	2	22.05	21.78	21.39
		75	0	2	22.26	21.79	21.22
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					20850	**21100**	**21350**
20MHz	QPSK	1	0	0	24.14	23.61	22.92
			49	0	**24.19**	23.73	22.21
			99	0	23.98	23.82	23.17
		50	0	1	23.05	22.62	22.26
			25	1	23.06	22.61	22.25
			49	1	23.07	22.49	22.07
		100	0	1	22.86	22.61	22.28
	16QAM	1	0	1	22.86	23.18	23.16
			49	1	22.99	23.03	22.87
			99	1	22.97	22.86	22.88
		50	0	2	22.17	21.9	21.45
			25	2	22.2	21.91	21.46
			49	2	22.19	21.72	21.39
		100	0	2	22.2	21.75	21.28

Conducted Power of LTE Band 17(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					23755	23790	23825
5MHz	QPSK	1	0	0	23.67	23.59	23.49
			13	0	23.7	23.62	23.5
			24	0	23.64	23.58	23.48
		12	0	1	22.88	22.45	22.51
			6	1	22.9	22.46	22.52
			13	1	22.48	22.52	22.86
		25	0	1	22.7	22.62	22.88
	16QAM	1	0	1	22.11	22.6	22.3
			13	1	22.27	22.61	22.44
			24	1	21.91	22.74	22.14
		12	0	2	21.75	21.85	21.46
			6	2	21.76	21.88	21.47
			13	2	21.87	21.59	21.79
		25	0	2	21.92	21.72	21.85
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					23780	23790	23800
10MHz	QPSK	1	0	0	23.43	23.53	23.74
			25	0	23.46	23.63	**23.84**
			49	0	23.43	23.56	23.63
		25	0	1	22.97	22.44	22.4
			13	1	22.82	22.45	22.42
			25	1	22.5	22.66	22.83
		50	0	1	22.37	22.49	22.54
	16QAM	1	0	1	22.87	23.04	22.55
			25	1	22.65	22.81	22.26
			49	1	23.02	23.04	22.27
		25	0	2	21.78	21.91	22.01
			13	2	21.69	21.93	21.87
			25	2	21.56	21.63	22.01
		50	0	2	21.9	21.81	21.56

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.
UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3.3-1 of the 3GPP TS36.101.

Table 6.2.3.3-1 Maximum Power Reduction (MPR) for Power class3

Modulation	Maximum Power Reduction (MPR) for Power[RB]						MPR(dB)
	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz	
QPSK	＞5	＞4	＞8	＞12	＞16	＞18	≤1
16QAM	≤5	≤4	≤8	≤12	≤16	≤18	≤1
16QAM	＞5	＞4	＞8	＞12	＞16	＞18	≤2

The allowed A-MPR values specified below in Table 6.2.4.3-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of “NS_01”.3

Table 6.2.4.3-1: Additional Maximum Power Reduction (A-MPR) / Spectrum Emission requirements

Network Signaling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.2-1	1.4,3,5,10,15,20	Table 5.4.2-1	N/A
NS_03	6.6.2.2.3.1	2,4,10, 23, 25,35,36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.3.2	41	5	>6	≤1
			10, 15, 20	Table 6.2.4.3-4	
NS_05	6.6.3.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.4.2-1	N/A
NS_07	6.6.2.2.3.3 6.6.3.3.3.2	13	10	Table 6.2.4.3-2	Table 6.2.4.3-2
NS_08	6.6.3.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4.3-3	Table 6.2.4.3-3
NS_11	6.6.2.2.1 6.6.3.3.13	231	1.4, 3, 5, 10,15,20	Table 6.2.4.3-5	Table 6.2.4.3-5
NS_12	6.6.3.3.5	26	1.4, 3, 5	Table 6.2.4.3-6	Table 6.2.4.3-6
NS_13	6.6.3.3.6	26	5	Table 6.2.4.3-7	Table 6.2.4.3-7
NS_14	6.6.3.3.7	26	10, 15	Table 6.2.4.3-8	Table 6.2.4.3-8
NS_15	6.6.3.3.8	26	1.4, 3, 5, 10, 15	Table 6.2.4.3-9 Table 6.2.4.3-10	Table 6.2.4.3-9, Table 6.2.4.3-10
NS_16	6.6.3.3.9	27	3, 5, 10	Table 6.2.4.3-11, Table 6.2.4.3-12, Table 6.2.4.3-13	
NS_17	6.6.3.3.10 6.6.3.3.11	28 28	5, 10	Table 5.4.2-1	N/A
			5	≥ 2	≤ 1
NS_18			10, 15, 20	≥ 1	≤ 4
NS_19			10, 15, 20	Table 6.2.4.3-15	Table 6.2.4.3-15
NS_20			5, 10, 15, 20	Table 6.2.4.3-14	Table 6.2.4.3-14
…					
NS_20	-	-	-	-	-

WIFI

Mode	Data Rate (Mbps)	Channel	Frequency(MHz)	Avg. Burst Power(dBm)
802.11b	1	01	2412	**15.22**
		06	2437	14.31
		11	2462	15.15
802.11g	6	01	2412	9.82
		06	2437	7.01
		11	2462	10.48
802.11n(20)	6.5	01	2412	11.02
		06	2437	10.24
		11	2462	11.58

Bluetooth_V4.2(BR/EDR)

Modulation	Channel	Frequency(MHz)	Peak Power (dBm)
GFSK	0	2402	5.18
	39	2441	5.10
	78	2480	1.96
π /4-DQPSK	0	2402	5.51
	39	2441	5.87
	78	2480	2.39
8-DPSK	0	2402	5.91
	39	2441	**6.34**
	78	2480	2.83

Bluetooth_V4.2(BLE)

Modulation	Channel	Frequency(MHz)	Peak Power (dBm)
GFSK	0	2402	-1.80
	19	2440	**-1.43**
	39	2480	-4.35

13. TEST RESULTS

13.1. SAR Test Results Summary

13.1.1. Test position and configuration

Head SAR was performed with the device configured in the positions according to IEEE 1528-2013, Body-worn and 4 Edges SAR was performed with the device 10mm from the phantom.

13.1.2. Operation Mode

1. Per KDB 447498 D01 v06 ,for each exposure position, if the highest 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional.
2. Per KDB 865664 D01 v01r04,for each frequency band, if the measured SAR is ≥0.8W/kg, testing for repeated SAR measurement is required , that the highest measured SAR is only to be tested. When the SAR results are near the limit, the following procedures are required for each device to verify these types of SAR measurement related variation concerns by repeating the highest measured SAR configuration in each frequency band.
   (1) When the original highest measured SAR is ≥0.8W/kg, repeat that measurement once.
   (2) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is >1.20 or when the original or repeated measurement is ≥1.45 W/kg.
   (3) Perform a third repeated measurement only if the original, first and second repeated measurement is ≥1.5 W/kg and ratio of largest to smallest SAR for the original, first and second measurement is ≥ 1.20.
3. Body-worn exposure conditions are intended to voice call operations, therefore GSM voice call mode is selected to be test.
4. Per KDB 648474 D04 v01r03,when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤1.2W/kg, SAR testing with a headset connected is not required.
5. Per KDB 248227 D01v02r02,for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤1.2W/kg.
6. Per KDB 941225 D06 V02r01, When the same wireless mode transmission configurations for voice and data are required for SAR measurements, the more conservative configuration with a smaller separation distance should be tested for the overlapping SAR configurations.
7. Maximum Scaling SAR in order to calculate the Maximum SAR values to test under the standard Peak Power, Calculation method is as follows:
   Maximum Scaling SAR =tested SAR (Max.) ×[maximum turn-up power (mw)/ maximum measurement output power(mw)]
8. Proximity sensor, just for avoiding the wrong operation in the phone screen when call, and has no influence on output power or SAR result
9. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1RB allocation using the RB offset and required test channel combination with highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
10. Per KDB 941125 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
11. Per KDB 941125 D05v02r05. For QPSK with 100% RB allocation. SAR is not required when the highest maximum output power for 100% RB allocation is less than the highest maximum output power in 50% and

1RB allocation and the highest reported SAR is >1.45 W/kg, the remaining required test channels must also be tested.

12. Per KDB 941125 D05v02r05. 16QAM output power for each RB allocation configuration is not 1/2 dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤1.45W/kg, Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
13. Per KDB 941125 D05v02r05. Smaller bandwidth output power for each RB allocation configuration is >not 1/2 dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤1.45W/kg. Per KDB 941125 D05v02r05, smaller bandwidth SAR testing is not required.

13.1.3. Test Result

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 57.1					
Product: Mobile Phone									
Test Mode: GSM850 with GMSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
SIM 1 Card									
Left Cheek	voice	190	836.6	-0.04	0.484	32.30	32.20	0.495	1.6
Left Tilt	voice	190	836.6	0.21	0.328	32.30	32.20	0.336	1.6
Right Cheek	voice	190	836.6	-0.15	**0.531**	32.30	32.20	**0.543**	1.6
Right Tilt	voice	190	836.6	0.02	0.397	32.30	32.20	0.406	1.6
Body back	voice	190	836.6	-0.23	0.587	32.30	32.20	0.601	1.6
Body front	voice	190	836.6	0.16	0.577	32.30	32.20	0.590	1.6
Body back	GPRS-3 slot	190	836.6	-0.08	0.655	29.30	29.23	0.666	1.6
Body front	GPRS-3 slot	190	836.6	0.22	**0.675**	29.30	29.23	**0.686**	1.6
Edge 2(Right)	GPRS-3 slot	190	836.6	-0.15	0.331	29.30	29.23	0.336	1.6
Edge 3(Bottom)	GPRS-3 slot	190	836.6	0.01	0.215	29.30	29.23	0.218	1.6
Edge 4(Left)	GPRS-3 slot	190	836.6	-0.27	0.197	29.30	29.23	0.200	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 59.6					
Product: Mobile Phone									
Test Mode: PCS1900 with GMSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
SIM 1 Card									
Left Cheek	voice	661	1880.0	0.04	**0.337**	30.30	30.27	**0.339**	1.6
Left Tilt	voice	661	1880.0	-0.11	0.180	30.30	30.27	0.181	1.6
Right Cheek	voice	661	1880.0	0.05	0.265	30.30	30.27	0.267	1.6
Right Tilt	voice	661	1880.0	-0.12	0.129	30.30	30.27	0.130	1.6
Body back	voice	661	1880.0	0.06	0.581	30.30	30.27	0.585	1.6
Body front	voice	661	1880.0	-0.18	0.489	30.30	30.27	0.492	1.6
Body back	GPRS-4 slot	512	1850.2	-0.09	**0.830**	25.80	25.71	**0.847**	1.6
Body back	GPRS-4 slot	661	1880	0.14	0.770	25.80	25.65	0.797	1.6
Body back	GPRS-4 slot	810	1909.8	-0.02	0.722	25.80	25.79	0.724	1.6
Body front	GPRS-4 slot	661	1880.0	0.15	0.625	25.80	25.65	0.647	1.6
Edge 2(Right)	GPRS-4 slot	661	1880.0	-0.07	0.087	25.80	25.65	0.090	1.6
Edge 3(Bottom)	GPRS-4 slot	661	1880.0	-0.11	0.191	25.80	25.65	0.198	1.6
Edge 4(Left)	GPRS-4 slot	661	1880.0	0.03	0.208	25.80	25.65	0.215	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 59.6					
Product: Mobile Phone									
Test Mode: WCDMA Band II with QPSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	RMC 12.2kbps	9262	1852.4	0.14	**1.078**	22.40	22.34	1.093	1.6
Left Cheek	RMC 12.2kbps	9400	1880	-0.18	1.077	22.40	22.00	**1.181**	1.6
Left Cheek	RMC 12.2kbps	9538	1907.6	0.22	1.077	22.40	22.23	1.120	1.6
Left Tilt	RMC 12.2kbps	9400	1880	-0.15	0.266	22.40	22.00	0.292	1.6
Right Cheek	RMC 12.2kbps	9400	1880	0.23	0.609	22.40	22.00	0.668	1.6
Right Tilt	RMC 12.2kbps	9400	1880	-0.16	0.321	22.40	22.00	0.352	1.6
Body back	RMC 12.2kbps	9262	1852.4	0.25	1.259	22.40	22.34	1.277	1.6
Body back	RMC 12.2kbps	9400	1880	-0.22	**1.314**	22.40	22.00	**1.441**	1.6
Body back	RMC 12.2kbps	9538	1907.6	0.19	1.210	22.40	22.23	1.258	1.6
Body front	RMC 12.2kbps	9400	1880	-0.25	0.058	22.40	22.00	0.064	1.6
Edge 2(Right)	RMC 12.2kbps	9400	1880	0.14	0.196	22.40	22.00	0.215	1.6
Edge 3(Bottom)	RMC 12.2kbps	9400	1880	-0.11	0.191	22.40	22.00	0.209	1.6
Edge 4(Left)	RMC 12.2kbps	9262	1852.4	0.15	0.607	22.40	22.34	0.615	1.6
Edge 4(Left)	RMC 12.2kbps	9400	1880	-0.27	0.817	22.40	22.00	0.896	1.6
Edge 4(Left)	RMC 12.2kbps	9538	1907.6	0.14	0.818	22.40	22.23	0.851	1.6
Body back+Ear.	RMC 12.2kbps	9262	1852.4	-0.11	1.203	22.40	22.34	1.220	1.6
Body back+Ear.	RMC 12.2kbps	9400	1880	-0.25	1.194	22.40	22.00	1.309	1.6
Body back+Ear.	RMC 12.2kbps	9538	1907.6	0.16	1.202	22.40	22.23	1.250	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 57.1					
Product: Mobile Phone									
Test Mode: WCDMA Band V with QPSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	RMC 12.2kbps	4183	836.4	-0.04	0.344	22.30	22.17	0.354	1.6
Left Tilt	RMC 12.2kbps	4183	836.4	0.01	0.233	22.30	22.17	0.240	1.6
Right Cheek	RMC 12.2kbps	4183	836.4	-0.05	**0.401**	22.30	22.17	**0.413**	1.6
Right Tilt	RMC 12.2kbps	4183	836.4	0.08	0.243	22.30	22.17	0.250	1.6
Body back	RMC 12.2kbps	4183	836.4	-0.02	0.168	22.30	22.17	0.173	1.6
Body front	RMC 12.2kbps	4183	836.4	0.06	**0.178**	22.30	22.17	**0.183**	1.6
Edge 2(Right)	RMC 12.2kbps	4183	836.4	-0.03	0.117	22.30	22.17	0.121	1.6
Edge 3(Bottom)	RMC 12.2kbps	4183	836.4	0.09	0.037	22.30	22.17	0.038	1.6
Edge 4(Left)	RMC 12.2kbps	4183	836.4	-0.05	0.143	22.30	22.17	0.147	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15					Relative Humidity (%): 57.3							
Product: Mobile Phone												
Test Mode: LTE Band 2												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±5%)	SAR (1g) (W/kg)	Max. Tune up Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
20	QPSK	Left Cheek	1	0	18700	1860	0.17	**0.971**	23.40	23.39	0.973	1.6
		Left Cheek	1	0	18900	1880	-0.21	0.965	23.00	22.94	0.978	1.6
		Left Cheek	1	0	19100	1900	0.15	0.969	23.00	22.69	**1.041**	1.6
		Left Tilt	1	0	18900	1880	-0.22	0.334	23.00	22.94	0.339	1.6
		Right Cheek	1	0	18700	1860	0.16	0.790	23.40	23.39	0.792	1.6
		Right Cheek	1	0	18900	1880	-0.13	0.846	23.00	22.94	0.858	1.6
		Right Cheek	1	0	19100	1900	0.29	0.788	23.00	22.69	0.846	1.6
		Right Tilt	1	0	18900	1880	0.18	0.226	23.00	22.94	0.229	1.6
		Body back	1	0	18700	1860	-0.15	1.236	23.40	23.39	1.239	1.6
		Body back	1	0	18900	1880	0.06	**1.241**	23.00	22.94	1.258	1.6
		Body back	1	0	19100	1900	-0.15	1.235	23.00	22.69	**1.326**	1.6
		Body front	1	0	18700	1860	0.10	0.976	23.40	23.39	0.978	1.6
		Body front	1	0	18900	1880	0.02	0.955	23.00	22.94	0.968	1.6
		Body front	1	0	19100	1900	-0.14	0.924	23.00	22.69	0.992	1.6
		Edge 2(Right)	1	0	18900	1880	0.14	0.178	23.00	22.94	0.180	1.6
		Edge 3(Bottom)	1	0	18900	1880	-0.05	0.370	23.00	22.94	0.375	1.6
		Edge 4(Left)	1	0	18900	1880	0.12	0.686	23.00	22.94	0.696	1.6
		Body back+Ear.	1	0	18700	1860	-0.16	1.144	23.40	23.39	1.147	1.6
		Body back+Ear.	1	0	18900	1880	0.15	1.202	23.00	22.94	1.219	1.6
		Body back+Ear.	1	0	19100	1900	-0.13	1.060	23.00	22.69	1.138	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15					Relative Humidity (%): 58.2							
Product: Mobile Phone												
Test Mode: LTE Band 4												
BM MHz	**MOD**	**Position**	**Test Mode**		**Ch.**	**Freq. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tuneup Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
			UL RB Allocation	**UL RB START**								
20	**QPSK**	Left Cheek	1	0	20175	1732.5	0.03	**0.708**	24.70	24.50	**0.741**	1.6
		Left Tilt	1	0	20175	1732.5	0.19	0.327	24.70	24.50	0.342	1.6
		Right Cheek	1	0	20175	1732.5	0.05	0.481	24.70	24.50	0.504	1.6
		Right Tilt	1	0	20175	1732.5	0.10	0.260	24.70	24.50	0.272	1.6
		Body back	1	0	20050	1720	0.08	1.285	24.70	24.63	1.306	1.6
		Body back	1	0	20175	1732.5	0.15	**1.304**	24.70	24.50	1.365	1.6
		Body back	1	0	20300	1745	0.14	1.299	24.70	24.30	**1.424**	1.6
		Body front	1	0	20175	1732.5	0.17	0.392	24.70	24.50	0.410	1.6
		Edge 2(Right)	1	0	20175	1732.5	0.11	0.112	24.70	24.50	0.117	1.6
		Edge 3(Bottom)	1	0	20175	1732.5	0.15	0.635	24.70	24.50	0.665	1.6
		Edge 4(Left)	1	0	20050	1720	0.02	0.902	24.70	24.63	0.917	1.6
		Edge 4(Left)	1	0	20175	1732.5	0.16	0.906	24.70	24.50	0.949	1.6
		Edge 4(Left)	1	0	20300	1745	0.05	0.914	24.70	24.30	1.002	1.6
		Body back+Ear.	1	0	20050	1720	0.14	1.272	24.70	24.63	1.293	1.6
		Body back+Ear.	1	0	20175	1732.5	0.02	1.278	24.70	24.50	1.338	1.6
		Body back+Ear.	1	0	20300	1745	0.13	1.284	24.70	24.30	1.408	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15					Relative Humidity (%): 56.8							
Product: Mobile Phone												
Test Mode: LTE Band 7												
BM MHz	**MOD**	**Position**	**Test Mode**		**Ch.**	**Freq. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tuneup Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
			UL RB Allocation	**UL RB START**								
20	**QPSK**	Left Cheek	1	0	21100	2535	0.27	0.015	24.20	23.61	0.017	1.6
		Left Tilt	1	0	21100	2535	-0.12	0.011	24.20	23.61	0.013	1.6
		Right Cheek	1	0	21100	2535	0.20	**0.018**	24.20	23.61	**0.021**	1.6
		Right Tilt	1	0	21100	2535	-0.15	0.013	24.20	23.61	0.015	1.6
		Body back	1	0	21100	2535	0.23	0.220	24.20	23.61	0.252	1.6
		Body front	1	0	21100	2535	-0.16	0.085	24.20	23.61	0.097	1.6
		Edge 2(Right)	1	0	21100	2535	0.28	0.005	24.20	23.61	0.006	1.6
		Edge 3(Bottom)	1	0	21100	2535	-0.15	**0.261**	24.20	23.61	**0.299**	1.6
		Edge 4(Left)	1	0	21100	2535	-0.24	0.027	24.20	23.61	0.031	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 59.7								
Product: Mobile Phone												
Test Mode: LTE Band 17												
BM MHz	**MOD**	**Position**	**Test Mode**		**Ch.**	**Freq. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tuneup Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
			UL RB Allocation	**UL RB START**								
10	**QPSK**	Left Cheek	1	0	23790	710	0.18	**0.115**	23.90	23.53	**0.125**	1.6
		Left Tilt	1	0	23790	710	-0.12	0.081	23.90	23.53	0.088	1.6
		Right Cheek	1	0	23790	710	0.13	0.099	23.90	23.53	0.108	1.6
		Right Tilt	1	0	23790	710	-0.16	0.066	23.90	23.53	0.072	1.6
		Body back	1	0	23790	710	0.15	**0.192**	23.90	23.53	**0.209**	1.6
		Body front	1	0	23790	710	-0.14	0.140	23.90	23.53	0.152	1.6
		Edge 2(Right)	1	0	23790	710	0.17	0.096	23.90	23.53	0.105	1.6
		Edge 3(Bottom)	1	0	23790	710	-0.11	0.023	23.90	23.53	0.025	1.6
		Edge 4(Left)	1	0	23790	710	-0.19	0.134	23.90	23.53	0.146	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15			Relative Humidity (%): 59.4						
Product: Mobile Phone									
Test Mode:802.11b									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±5%)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	DTS	6	2437	0.04	**0.243**	14.40	14.31	**0.248**	1.6
Left Tilt	DTS	6	2437	-0.08	0.197	14.40	14.31	0.201	1.6
Right Cheek	DTS	6	2437	0.03	0.164	14.40	14.31	0.167	1.6
Right Tilt	DTS	6	2437	-0.04	0.154	14.40	14.31	0.157	1.6
Body back	DTS	6	2437	0.02	**0.145**	14.40	14.31	**0.148**	1.6
Body front	DTS	6	2437	-0.05	0.119	14.40	14.31	0.121	1.6
Edge 1 (Top)	DTS	6	2437	0.03	0.114	14.40	14.31	0.116	1.6
Edge 2(Right)	DTS	6	2437	-0.06	0.119	14.40	14.31	0.121	1.6

Note:
- According to KDB248227, SAR is not required for 802.11n HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels.
- All of above “DTS” means data transmitters.
- The test separation for body back, body front and 4 Edges is 10mm of all above table.

Repeated SAR										
Product: Mobile Phone										
Test Mode: PCS1900& WCDMA Band II &LTE Band 2& LTE Band 4										
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±5%)**	**Once SAR (1g) (W/kg)**	**Power Drift (<±5%)**	**Twice SAR (1g) (W/kg)**	**Power Drift (<±5%)**	**Third SAR (1g) (W/kg)**	**Limit W/kg**
Body back	GPRS-4 slot	512	1850.2	0.09	**0.733**	--	--	--	--	1.6
Body back	RMC 12.2kbps	9400	1880	-0.06	**1.214**	--	--	--	--	1.6

Position	**Mode**		**Ch.**	**Fr. (MHz)**	**Power Drift (<±5%)**	**Once SAR (1g) (W/kg)**	**Power Drift (<±5%)**	**Twice SAR (1g) (W/kg)**	**Power Drift (<±5%)**	**Third SAR (1g) (W/kg)**	**Limit W/kg**
	UL RB Allocation	**UL RB START**									
Body back	1	0	18900	1880	0.12	**1.144**	--	--	--	--	1.6
Body back	1	0	20175	1732.5	-0.16	**1.294**	--	--	--	--	1.6

The second repeated SAR judge reference								
Product: Mobile Phone								
Band	**Position**	**Mode**	**Ch.**	**Fr. (MHz)**	**Orignal SAR (1g) (W/kg)**	**First SAR (1g) (W/kg)**	**Ratio**	**Limit**
PCS1900	Body back	GPRS-4 slot	512	1850.2	0.830	0.733	**1.132**	<1.2
WCDMA Band II	Body back	RMC 12.2kbps	9400	1880	1.314	1.214	**1.082**	<1.2

Band	**Position**	**Mode**		**Ch.**	**Fr. (MHz)**	**Orignal SAR (1g) (W/kg)**	**First SAR (1g) (W/kg)**	**Ratio**	**Limit**
		UL RB Allocation	**UL RB START**						
LTE Band 2	Body back	1	0	18900	1880	1.241	1.144	**1.085**	<1.2
LTE Band 4	Body back	1	0	20175	1732.5	1.304	1.294	**1.008**	<1.2

Simultaneous Multi-band Transmission Evaluation:

Application Simultaneous Transmission information:

NO	Simultaneous state	Portable Handset		
		Head	Body-worn	Hotspot
1	GSM(voice)+ WLAN 2.4GHz (data)	Yes	Yes	-
2	GSM(voice)+ Bluetooth(data)	Yes	Yes	-
3	GSM (Data) + WLAN 2.4GHz (data)	-	Yes	Yes
4	GSM (Data) + Bluetooth(data)	-	Yes	Yes
5	WCDMA+ WLAN 2.4GHz (data)	Yes	Yes	Yes
6	WCDMA+ Bluetooth(data)	Yes	Yes	Yes
7	LTE + WLAN 2.4GHz (data)	Yes	Yes	Yes
8	LTE + Bluetooth(data)	Yes	Yes	Yes

NOTE:

1. WIFI and BT share the same antenna, and cannot transmit simultaneously.
2. Simultaneous with every transmitter must be the same test position.
3. KDB 447498 D01, BT SAR is excluded as below table.
4. KDB 447498 D01, for handsets the test separation distance is determined by the smallest distance between the outer surface of the device and the user; which is 0mm for head SAR and 10mm for body-worn SAR.
5. According to KDB 447498 D01 4.3.1, Standalone SAR test exclusion is as follow:
   For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
   [(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] • [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR[30], where
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation[31]
   - The result is rounded to one decimal place for comparison
   - The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

   The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.
6. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
7. According to KDB 447498 D01 4.3.2, simultaneous transmission SAR test exclusion is as follow:
   (1) Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.
   (2) Any transmitters and antennas should be considered when calculating simultaneous mode.
   (3) For mobile phone and PC, it's the sum of all transmitters and antennas at the same mode with same position in each applicable exposure condition
   (4)When the standalone SAR test exclusion of section 4.3.2 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following to det
   (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;
   where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.

8. When the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. The simultaneous transmitting antennas in each operating mode and exposure condition combination must be considered one pair at a time to determine the SAR to peak location separation ratio to qualify for test exclusion. The ratio is determined by (SAR1 + SAR2)1.5/Ri, rounded to two decimal digits, and must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion.

Estimated SAR		Max Power including Tune-up Tolerance		Separation Distance (mm)	Estimated SAR (W/kg)
		dBm	mW		
BT	Head	7	5.01	0	0.209
	Body	7	5.01	10	0.104

Sum of the SAR for GSM 850 &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		GSM 850	WI-Fi DTS Band	Bluetooth		
Head (voice)	Left Touch	0.495	0.248		0.743	No
	Left Tilt	0.336	0.201		0.537	No
	Right Touch	0.543	0.167		0.710	No
	Right Tilt	0.406	0.157		0.563	No
Head (voice)	Left Touch	0.495		0.209	0.704	No
	Left Tilt	0.336		0.209	0.545	No
	Right Touch	0.543		0.209	0.752	No
	Right Tilt	0.406		0.209	0.615	No
Body-worn (voice)	Rear	0.601	0.148		0.749	No
		0.601		0.104	0.705	No
	Front	0.590	0.121		0.711	No
		0.590		0.104	0.694	No
Body-worn (Data)	Rear	0.666		0.104	0.770	No
		0.666	0.148		0.814	No
	Front	0.686		0.104	0.790	No
		0.686	0.121		0.807	No
Body-worn (Hotspot)	Edge 2	0.336	0.121		0.457	No
	Edge 2	0.336		0.104	0.440	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for GSM 1900 &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		PCS 1900	WI-Fi DTS Band	Bluetooth		
Head (voice)	Left Touch	0.339	0.248		0.587	No
	Left Tilt	0.181	0.201		0.382	No
	Right Touch	0.267	0.167		0.434	No
	Right Tilt	0.130	0.157		0.287	No
Head (voice)	Left Touch	0.339		0.209	0.548	No
	Left Tilt	0.181		0.209	0.390	No
	Right Touch	0.267		0.209	0.476	No
	Right Tilt	0.130		0.209	0.339	No
Body-worn (voice)	Rear	0.585	0.148		0.733	No
		0.585		0.104	0.689	No
	Front	0.492	0.121		0.613	No
		0.492		0.104	0.596	No
Body-worn (Data)	Rear	0.847		0.104	0.951	No
		0.847	0.148		0.995	No
	Front	0.647		0.104	0.751	No
		0.647	0.121		0.768	No
Body-worn (Hotspot)	Edge 2	0.090	0.121		0.211	No
	Edge 2	0.090		0.104	0.194	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band II &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band II	Wi-Fi DTS Band	Bluetooth		
Head	Left Touch	1.181	0.248		1.429	No
	Left Tilt	0.292	0.201		0.493	No
	Right Touch	0.668	0.167		0.835	No
	Right Tilt	0.352	0.157		0.509	No
Head	Left Touch	1.181		0.209	1.390	No
	Left Tilt	0.292		0.209	0.501	No
	Right Touch	0.668		0.209	0.877	No
	Right Tilt	0.352		0.209	0.561	No
Body-worn	Rear	1.441	0.148		**1.589**	No
	Front	0.064	0.121		0.185	No
	Edge 2	0.215	0.121		0.336	No
	Rear	1.441		0.104	1.545	No
	Front	0.064		0.104	0.168	No
	Edge 2	0.215		0.104	0.319	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band V &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band V	Wi-Fi DTS Band	Bluetooth		
Head	Left Touch	0.354	0.248		0.602	No
	Left Tilt	0.240	0.201		0.441	No
	Right Touch	0.413	0.167		0.580	No
	Right Tilt	0.250	0.157		0.407	No
Head	Left Touch	0.354		0.209	0.563	No
	Left Tilt	0.240		0.209	0.449	No
	Right Touch	0.413		0.209	0.622	No
	Right Tilt	0.250		0.209	0.459	No
Body-worn	Rear	0.173	0.148		0.321	No
	Front	0.183	0.121		0.304	No
	Edge 2	0.121	0.121		0.242	No
	Rear	0.173		0.104	0.277	No
	Front	0.183		0.104	0.287	No
	Edge 2	0.121		0.104	0.225	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 2 &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 2	Wi-Fi DTS Band	Bluetooth		
Head	Left Touch	1.041	0.248		1.289	No
	Left Tilt	0.339	0.201		0.540	No
	Right Touch	0.858	0.167		1.025	No
	Right Tilt	0.229	0.157		0.386	No
Head	Left Touch	1.041		0.209	1.250	No
	Left Tilt	0.339		0.209	0.548	No
	Right Touch	0.858		0.209	1.067	No
	Right Tilt	0.229		0.209	0.438	No
Body-worn	Rear	1.326	0.148		1.474	No
	Front	0.992	0.121		1.113	No
	Edge 2	0.180	0.121		0.301	No
	Rear	1.326		0.104	1.430	No
	Front	0.992		0.104	1.096	No
	Edge 2	0.180		0.104	0.284	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 4 &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 4	Wi-Fi DTS Band	Bluetooth		
Head	Left Touch	0.741	0.248		0.989	No
	Left Tilt	0.342	0.201		0.543	No
	Right Touch	0.504	0.167		0.671	No
	Right Tilt	0.272	0.157		0.429	No
Head	Left Touch	0.741		0.209	0.950	No
	Left Tilt	0.342		0.209	0.551	No
	Right Touch	0.504		0.209	0.713	No
	Right Tilt	0.272		0.209	0.481	No
Body-worn	Rear	1.424	0.148		1.572	No
	Front	0.410	0.121		0.531	No
	Edge 2	0.117	0.121		0.238	No
	Rear	1.424		0.104	1.528	No
	Front	0.410		0.104	0.514	No
	Edge 2	0.117		0.104	0.221	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 7 &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 7	Wi-Fi DTS Band	Bluetooth		
Head	Left Touch	0.017	0.248		0.265	No
	Left Tilt	0.013	0.201		0.214	No
	Right Touch	0.021	0.167		0.188	No
	Right Tilt	0.015	0.157		0.172	No
Head	Left Touch	0.017		0.209	0.226	No
	Left Tilt	0.013		0.209	0.222	No
	Right Touch	0.021		0.209	0.230	No
	Right Tilt	0.015		0.209	0.224	No
Body-worn	Rear	0.252	0.148		0.400	No
	Front	0.097	0.121		0.218	No
	Edge 2	0.006	0.121		0.127	No
	Rear	0.252		0.104	0.356	No
	Front	0.097		0.104	0.201	No
	Edge 2	0.006		0.104	0.110	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 17 &Wi-Fi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 17	Wi-Fi DTS Band	Bluetooth		
Head	Left Touch	0.125	0.248		0.373	No
	Left Tilt	0.088	0.201		0.289	No
	Right Touch	0.108	0.167		0.275	No
	Right Tilt	0.072	0.157		0.229	No
Head	Left Touch	0.125		0.209	0.334	No
	Left Tilt	0.088		0.209	0.297	No
	Right Touch	0.108		0.209	0.317	No
	Right Tilt	0.072		0.209	0.281	No
Body-worn	Rear	0.209	0.148		0.357	No
	Front	0.152	0.121		0.273	No
	Edge 2	0.105	0.121		0.226	No
	Rear	0.209		0.104	0.313	No
	Front	0.152		0.104	0.256	No
	Edge 2	0.105		0.104	0.209	No

Note:

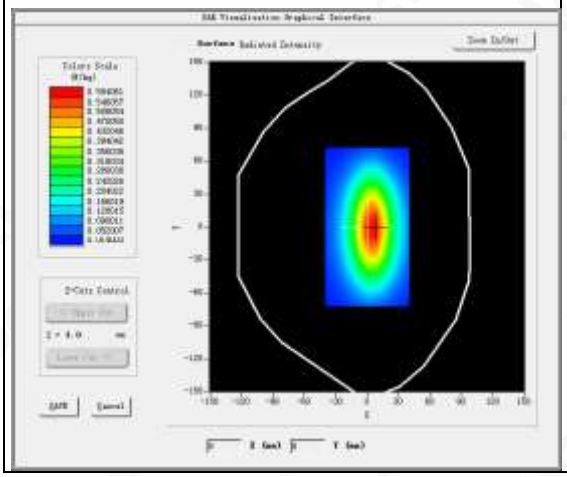
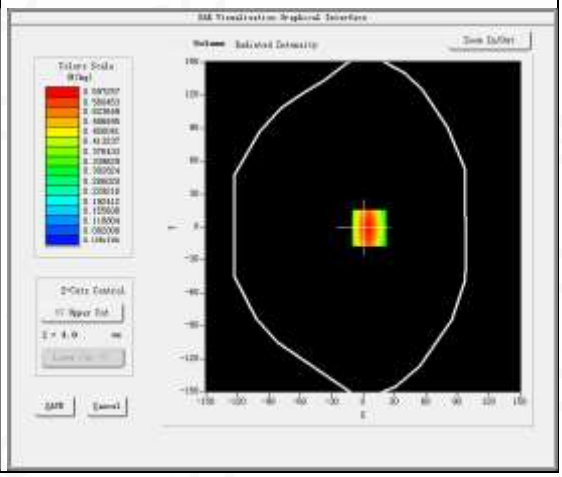
·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

APPENDIX A. SAR SYSTEM CHECK DATA

Test Laboratory: AGC Lab **Date: Nov. 01, 2021**
System Check Head 750 MHz
DUT: Dipole 750 MHz Type: SID 750
Communication System CW; Communication System Band: D750 (750.0 MHz); Duty Cycle: 1:1; Conv.F=5.35
Frequency: 750 MHz; Medium parameters used: f = 750 MHz; σ=0.90 mho/m; εr =42.09; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

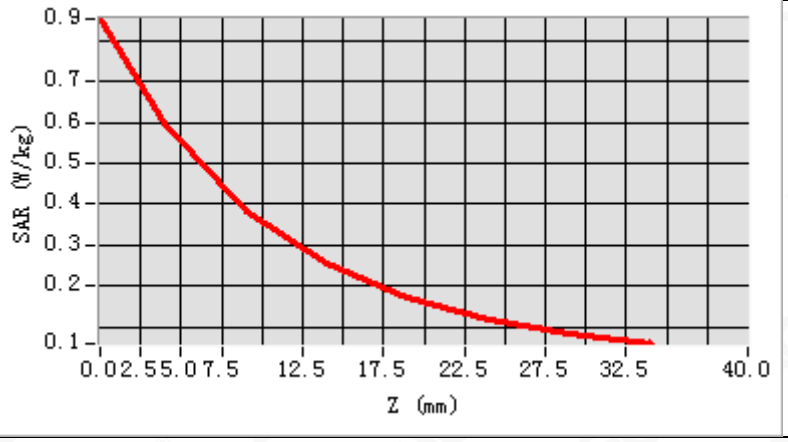
Configuration/System Check 750MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 750MHz Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

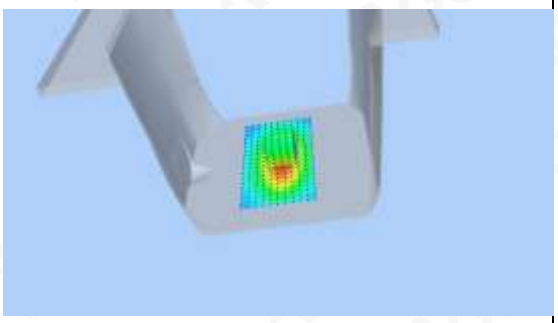
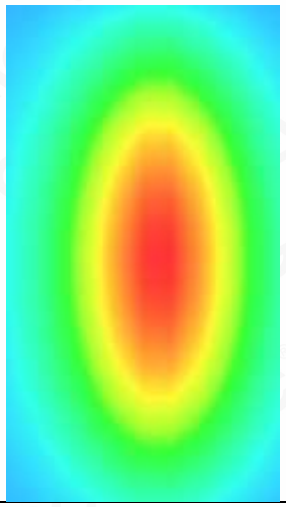
SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=-1.00
SAR Peak: 0.85 W/kg

SAR 10g (W/Kg)	0.341834
SAR 1g (W/Kg)	0.551872

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.8253	0.5643	0.3724	0.2428	0.1684	0.1128	0.0725

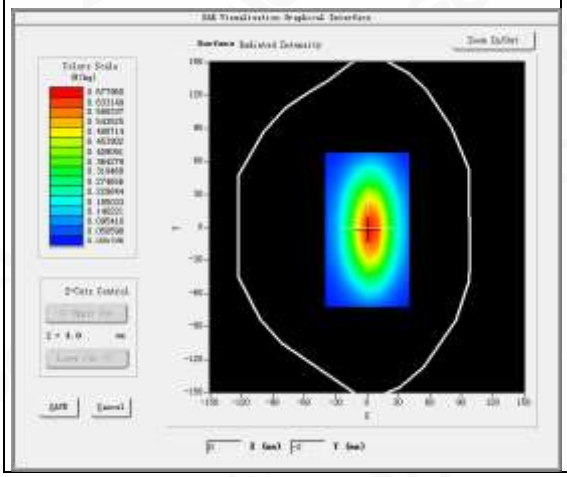
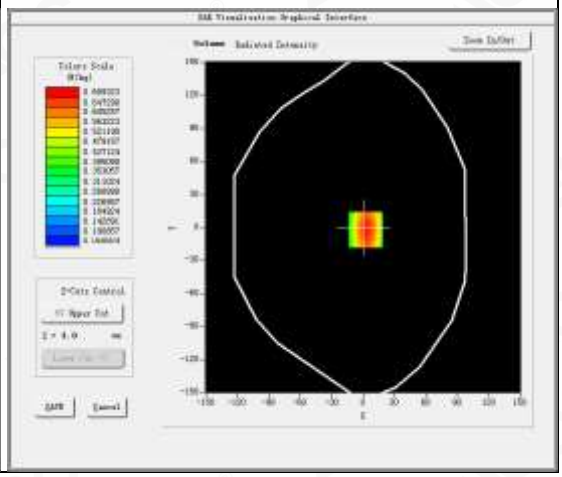


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Oct. 29, 2021**
System Check Head 835 MHz
DUT: Dipole 835 MHz Type: SID 835
Communication System CW; Communication System Band: D835 (835.0 MHz); Duty Cycle: 1:1; Conv.F=5.21
Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ=0.89 mho/m; εr =40.62; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

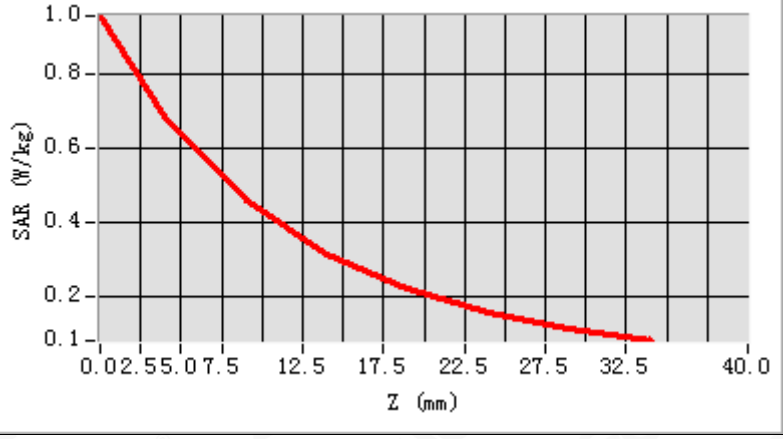
Configuration/System Check 835MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 835MHz Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

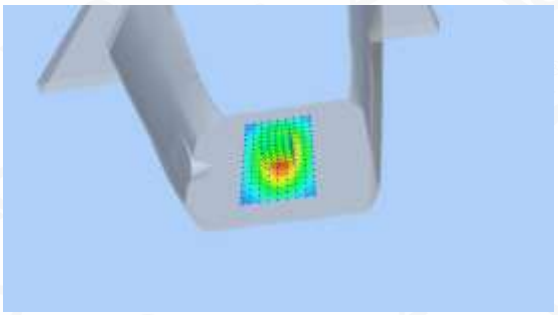
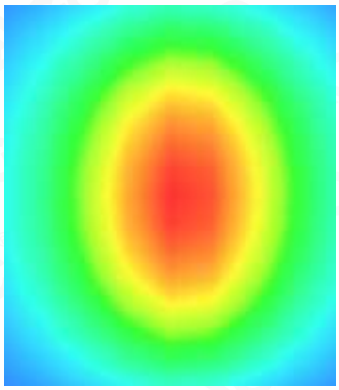
SURFACE SAR	VOLUME SAR
	

Maximum location: X=2.00, Y=-2.00
SAR Peak: 0.96 W/kg

SAR 10g (W/Kg)	0.402548
SAR 1g (W/Kg)	0.641857

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.9643	0.6867	0.4572	0.3123	0.2269	0.1534	0.1071

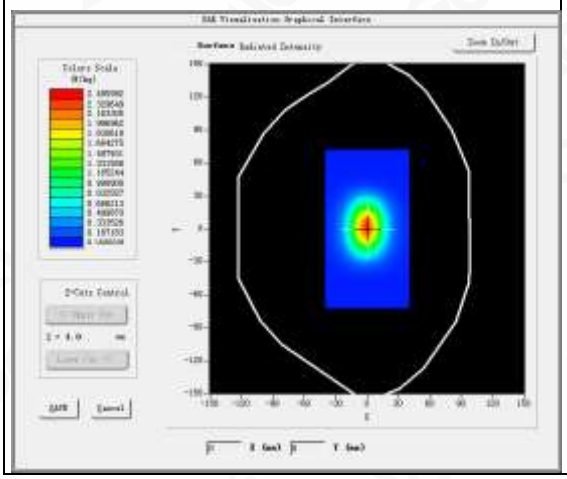
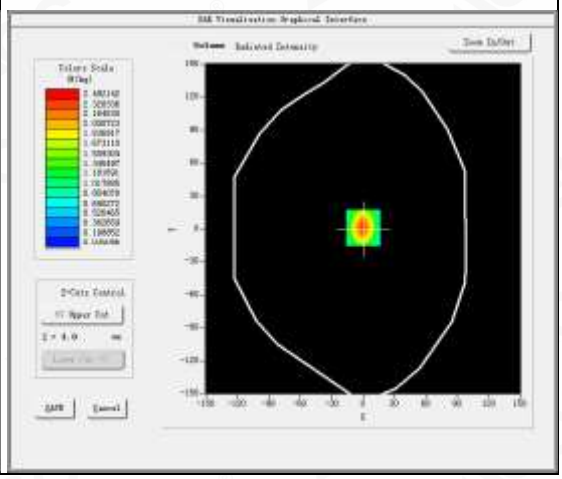


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Oct. 30, 2021**
System Check Head 1750MHz
DUT: Dipole 1800 MHz; Type: SID 1800
Communication System: CW; Communication System Band: D1700 (1750.0 MHz); Duty Cycle:1:1;Conv.F=4.94
Frequency: 1750 MHz; Medium parameters used: f = 1750MHz; σ=1.35 mho/m; εr =41.67; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃): 21.7, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

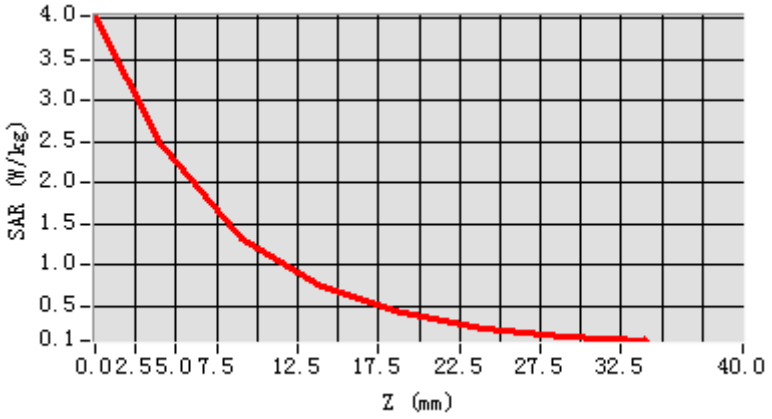
Configuration/System Check 1750MHz Head/Area Scan: Measurement grid: dx=8mm,dy=8mm
Configuration/System Check 1750MHz Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

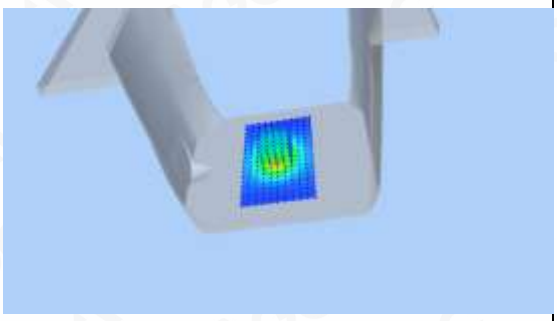
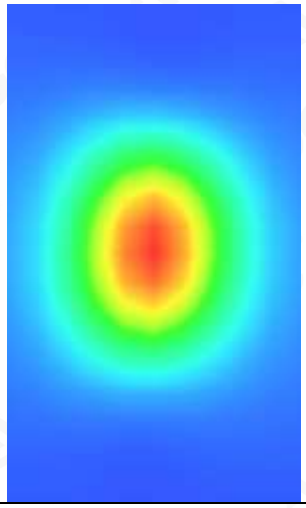
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=1.00
SAR Peak: 4.00 W/kg

SAR 10g (W/Kg)	1.181584
SAR 1g (W/Kg)	2.340352

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	4.0348	2.4921	1.3231	0.7355	0.4110	0.2337	0.1334

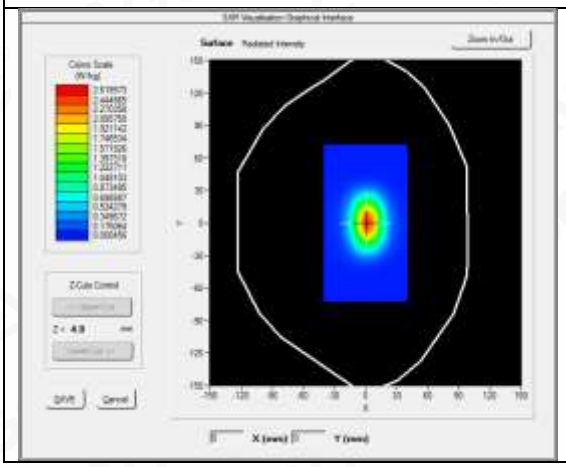
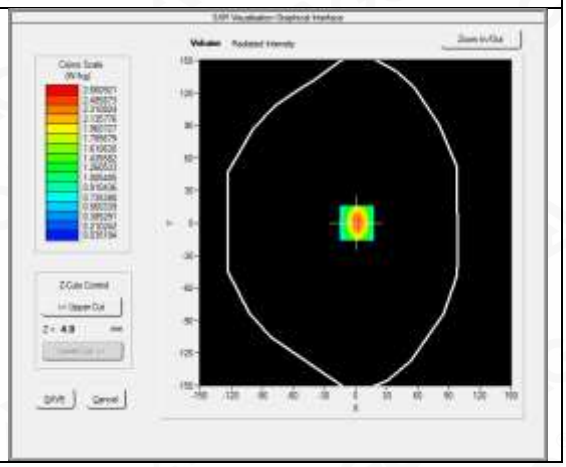


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
System Check Head 1900MHz
DUT: Dipole 1900 MHz; Type: SID 1900
Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Duty Cycle:1:1; Conv.F=4.57
Frequency: 1900 MHz; Medium parameters used: f = 1800 MHz; σ=1.37 mho/m; εr =39.72; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

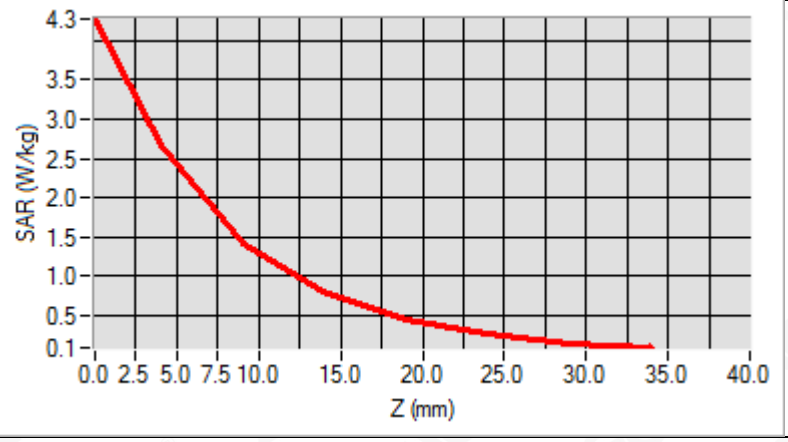
Configuration/System Check 1900MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 1900MHz Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

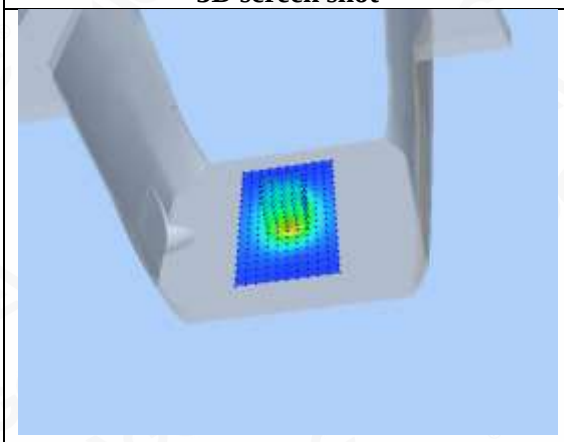
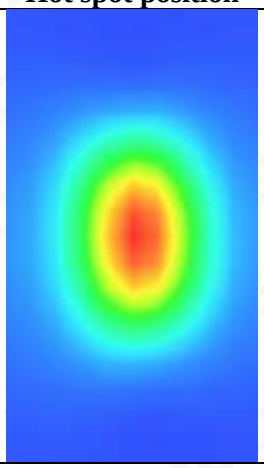
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=0.00
SAR Peak: 4.27 W/kg

SAR 10g (W/Kg)	1.252485
SAR 1g (W/Kg)	2.508432

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	4.2729	2.6607	1.4215	0.8028	0.4483	0.2507	0.1452

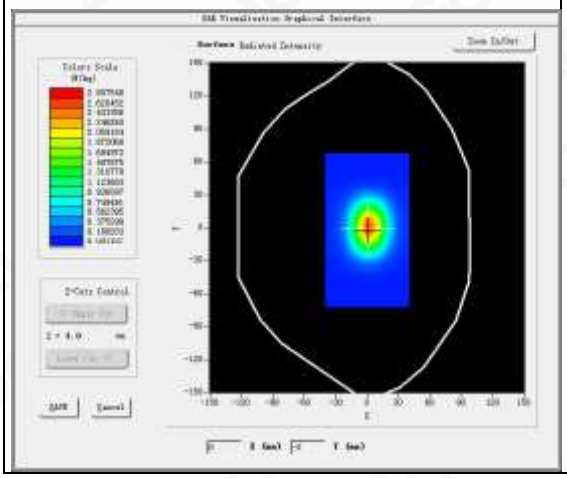
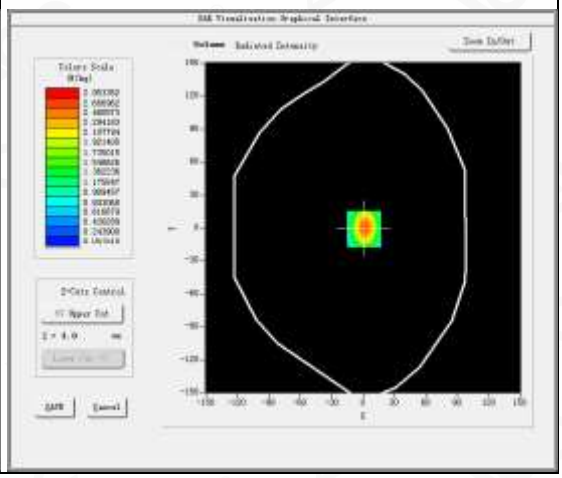


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Nov. 02, 2021**
System Check Head 1900MHz
DUT: Dipole 1900 MHz; Type: SID 1900
Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Duty Cycle:1:1; Conv.F=4.57
Frequency: 1900 MHz; Medium parameters used: f = 1800 MHz; σ=1.41 mho/m; εr =39.52; ρ= 1000 kg/m^3 ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.6, Liquid temperature (℃): 21.4

SATIMO Configuration:
Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

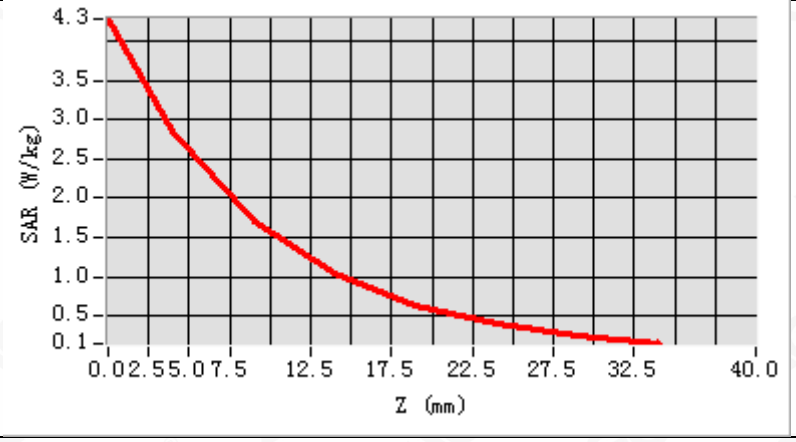
Configuration/System Check 1900MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 1900MHz Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

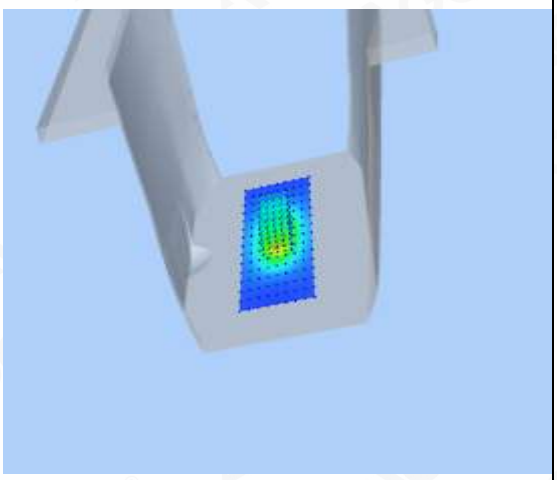
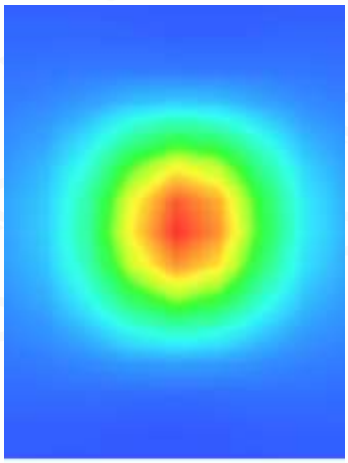
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=-1.00
SAR Peak: 4.29 W/kg

SAR 10g (W/Kg)	1.273548
SAR 1g (W/Kg)	2.671652

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	4.2828	2.8571	1.6964	1.0473	0.6342	0.3908	0.2469

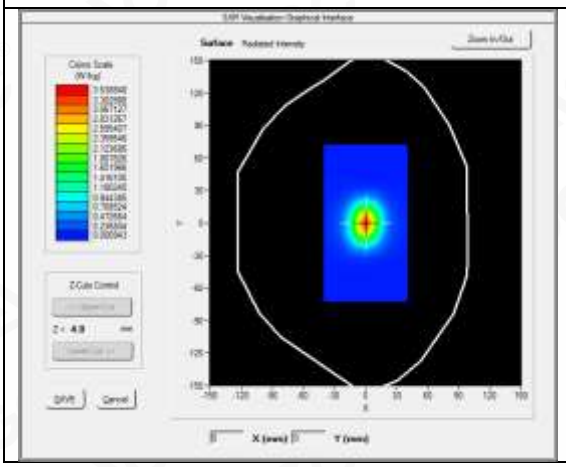
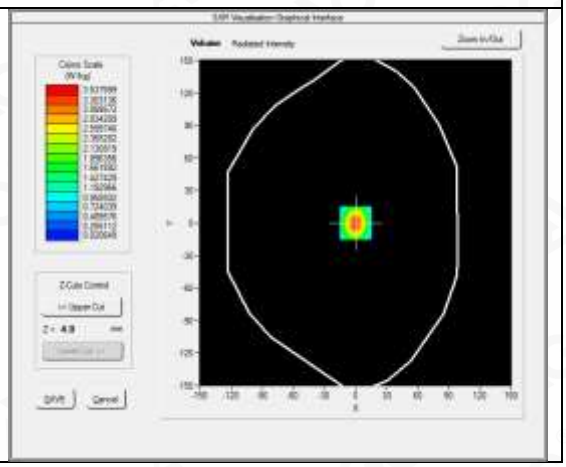


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Nov. 03, 2021**
System Check Head 2450 MHz
DUT: Dipole 2450 MHz Type: SID 2450
Communication System CW; Communication System Band: D2450 (2450.0 MHz); Duty Cycle: 1:1; Conv.F=4.02
Frequency: 2450 MHz; Medium parameters used: f = 2450 MHz; σ=1.82 mho/m; εr =38.95; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.7, Liquid temperature (℃): 21.5

SATIMO Configuration
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

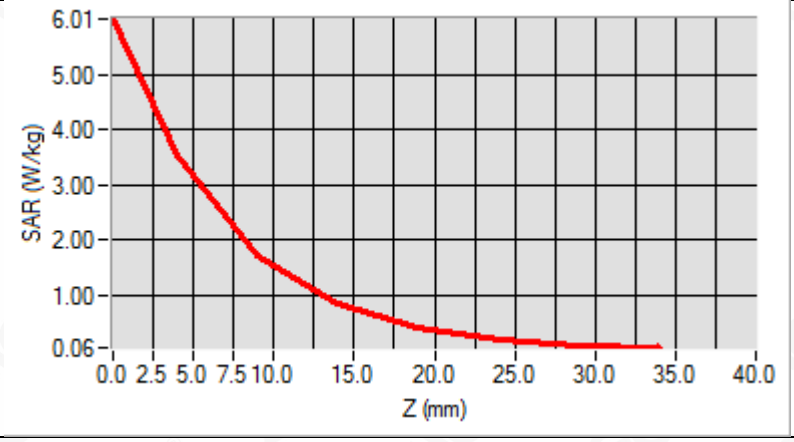
Configuration/System Check 2450MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 2450MHz Head/Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

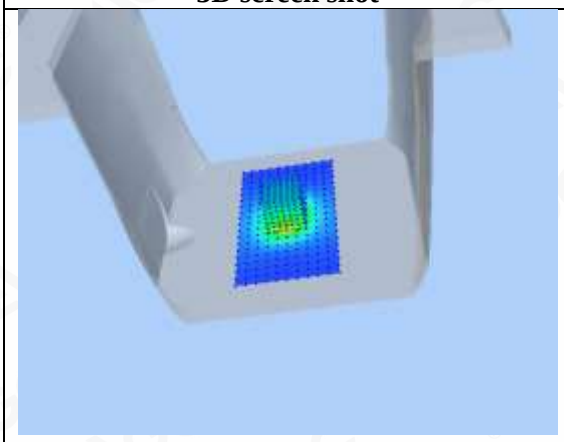
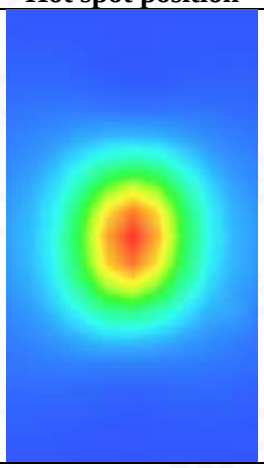
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00
SAR Peak: 5.94 W/kg

SAR 10g (W/Kg)	1.492954
SAR 1g (W/Kg)	3.223681

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.0138	3.5342	1.7267	0.8563	0.4215	0.2164	0.1058

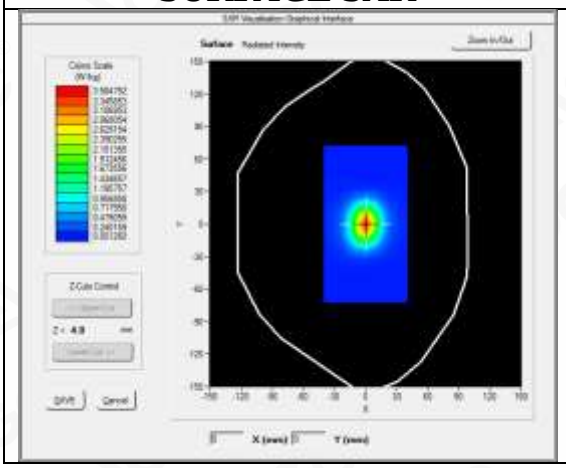
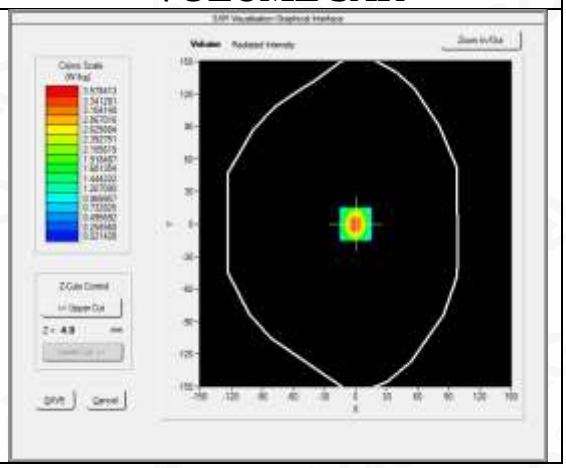


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Nov. 03, 2021**
System Check Head 2600MHz
DUT: Dipole 2600 MHz; Type: SID 2600
Communication System: CW; Communication System Band: D2600 (2600.0 MHz); Duty Cycle: 1:1; Conv.F=3.89
Frequency:2600 MHz; Medium parameters used: f = 2600 MHz; σ=1.93 mho/m; εr =38.90; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃): 21.9, Liquid temperature (℃): 21.7

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

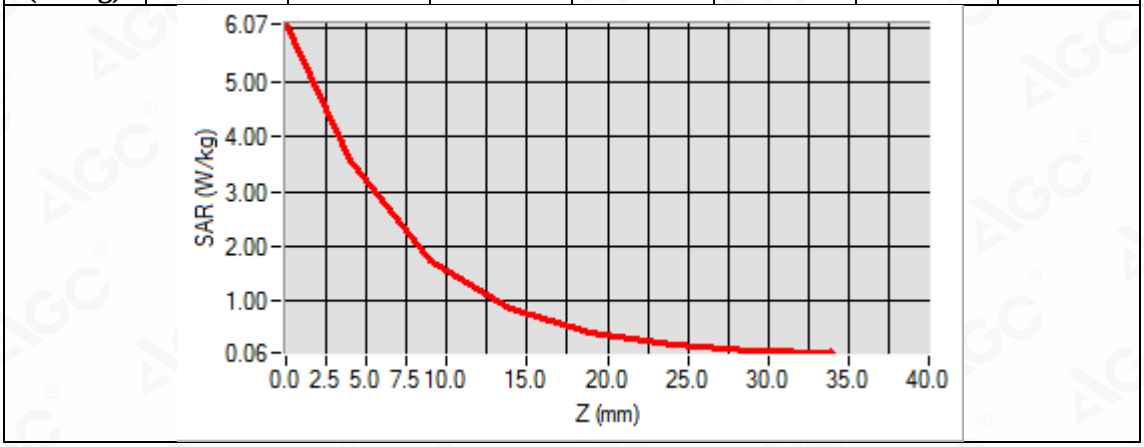
Configuration/System Check 2600 Head/Area Scan: Measurement grid: dx=8mm,dy=8mm
Configuration/System Check 2600 Head/Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

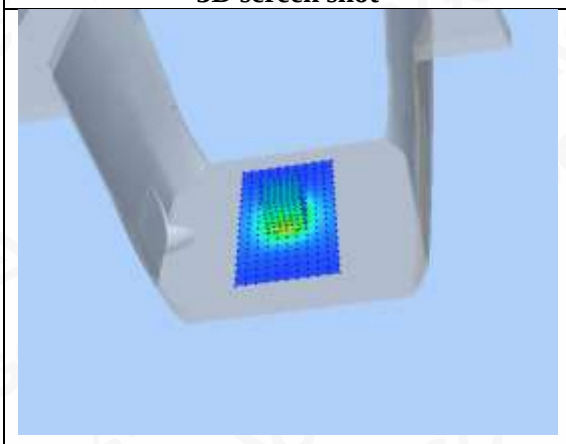
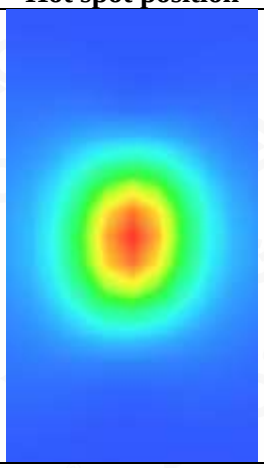
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00
SAR Peak: 5.99 W/kg

SAR 10g (W/Kg)	1.527125
SAR 1g (W/Kg)	3.342687

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.0627	3.5753	1.7436	0.8603	0.4341	0.2274	0.1168



3D screen shot	Hot spot position
	

APPENDIX B. SAR MEASUREMENT DATA

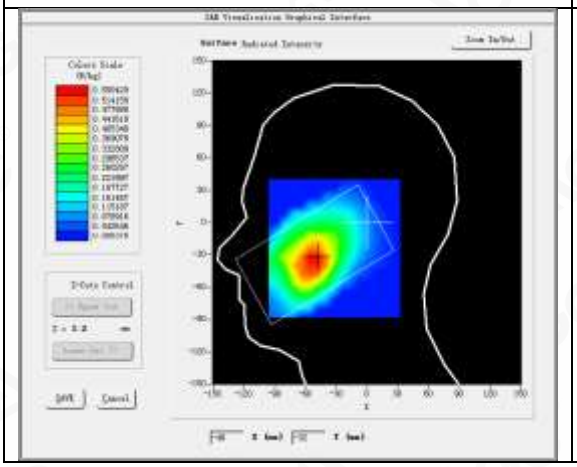
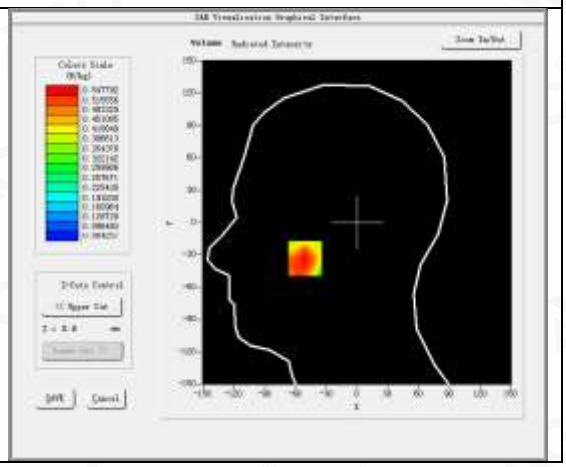
Test Laboratory: AGC Lab **Date: Oct. 29, 2021**
GSM 850 Mid- Touch-Right <SIM 1>
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3; Conv.F=5.21; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; σ= 0.90 mho/m; εr = 40.31; ρ= 1000 kg/m^3 ;
Phantom section: Right Section
Ambient temperature (℃): 22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/GSM 850 Mid-Touch-Right/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/GSM 850 Mid-Touch-Right/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

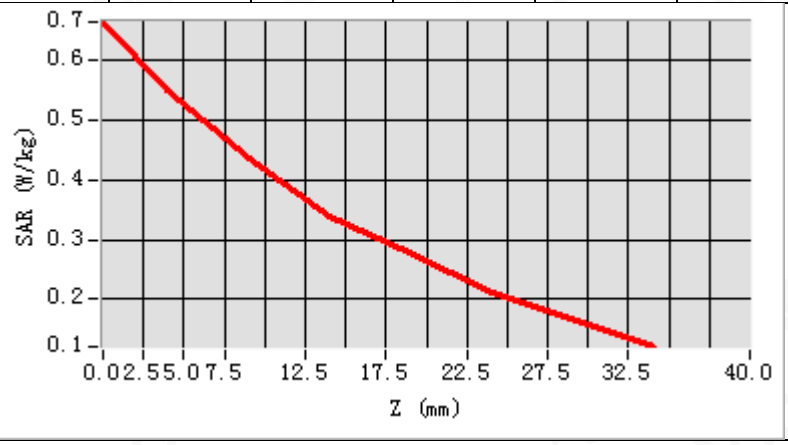
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	GSM 850
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

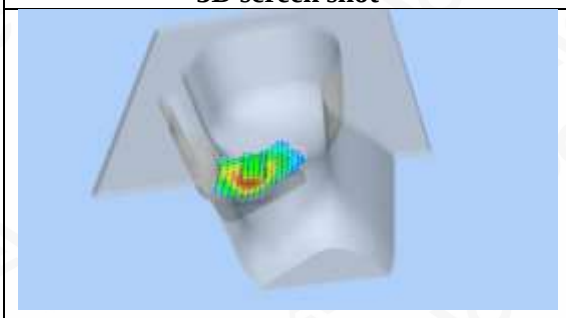
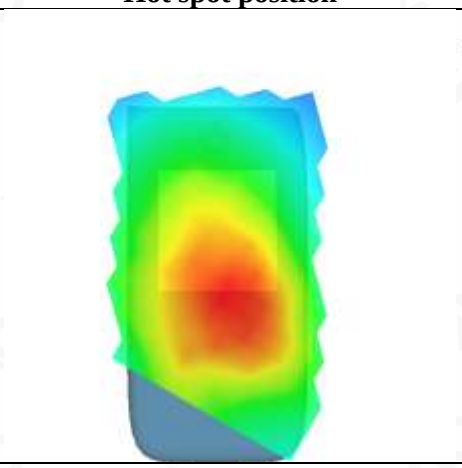
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-33.00
SAR Peak: 0.70 W/kg

SAR 10g (W/Kg)	0.388939
SAR 1g (W/Kg)	0.531239

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.6628	0.5478	0.4351	0.3376	0.2780	0.2115	0.1680



3D screen shot	Hot spot position
	

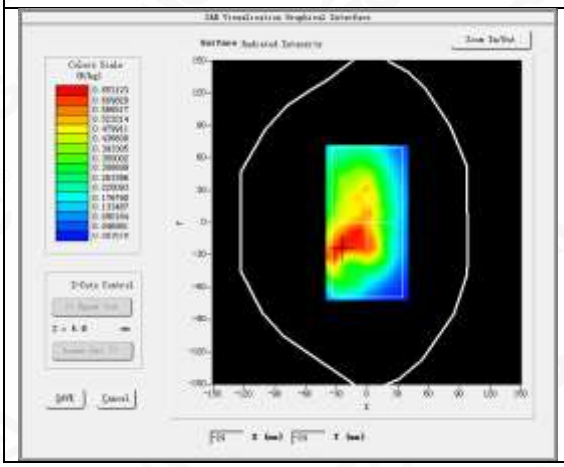
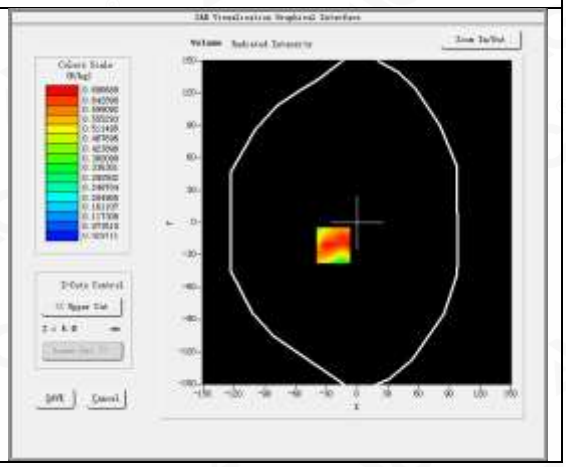
Test Laboratory: AGC Lab **Date: Oct. 29, 2021**
GPRS 850 Mid- Body- Front (3up)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: GPRS-3 Slot; Communication System Band: GSM 850; Duty Cycle: 1:2.7; Conv.F=5.21;
Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; σ= 0.90 mho/m; εr = 40.31; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/GPRS 850 Mid-Body-Front/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/GPRS 850 Mid-Body-Front/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

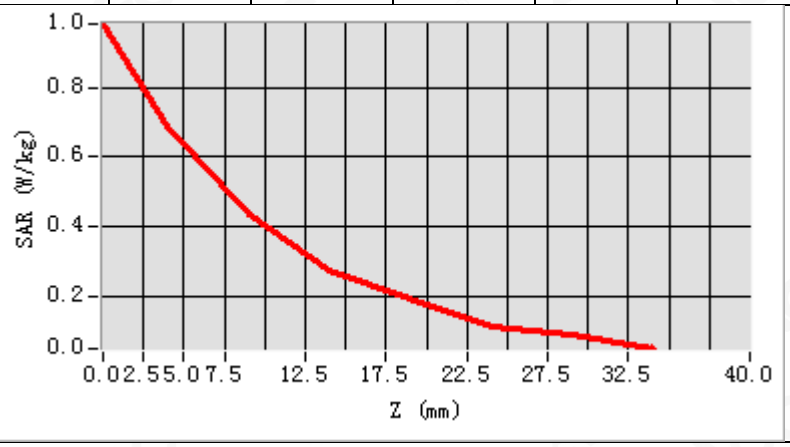
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body Front
Band	GSM 850
Channels	Middle
Signal	TDMA (Crest factor: 2.7)

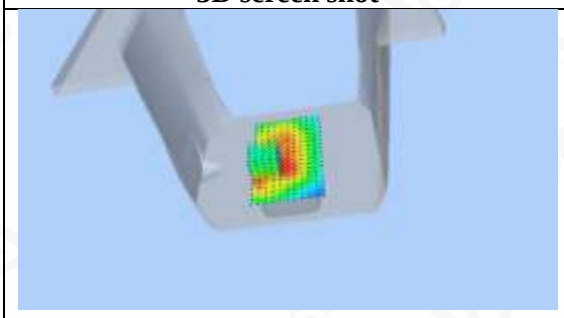
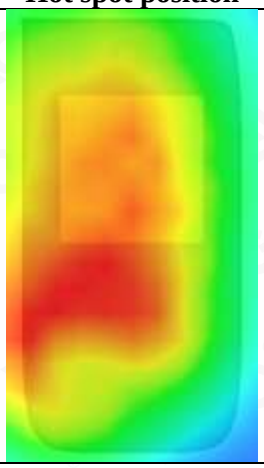
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-23.00, Y=-21.00
SAR Peak: 1.10 W/kg

SAR 10g (W/Kg)	0.424922
SAR 1g (W/Kg)	0.675415

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.9828	0.6867	0.4349	0.2735	0.1918	0.1148	0.0897



3D screen shot	Hot spot position
	

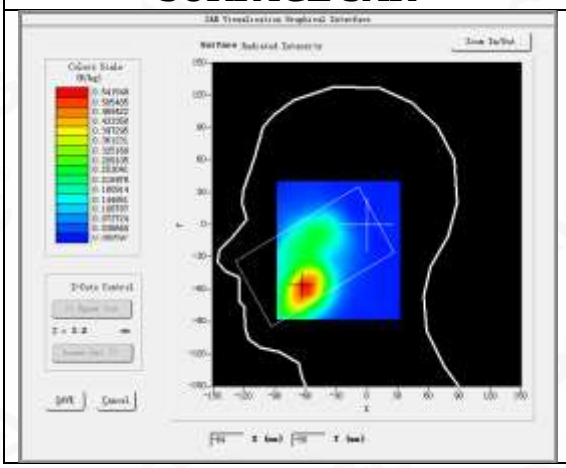
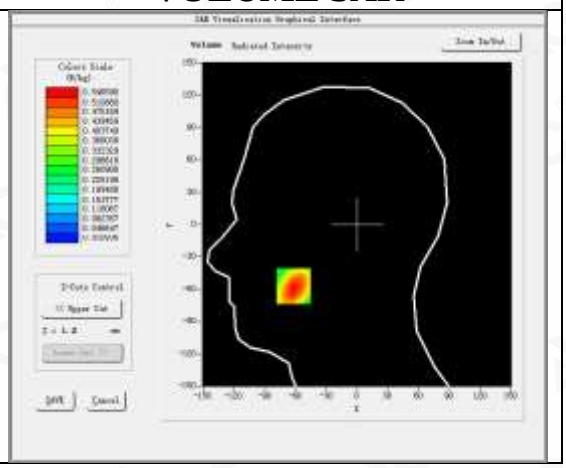
Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
PCS 1900 Mid-Touch- Left <SIM 1>
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3; Conv.F=4.57; Frequency: 1880 MHz; Medium parameters used: f = 1800 MHz; σ= 1.36 mho/m; εr =39.95; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/PCS1900 Mid-Touch-Left/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/PCS1900 Mid-Touch-Left/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

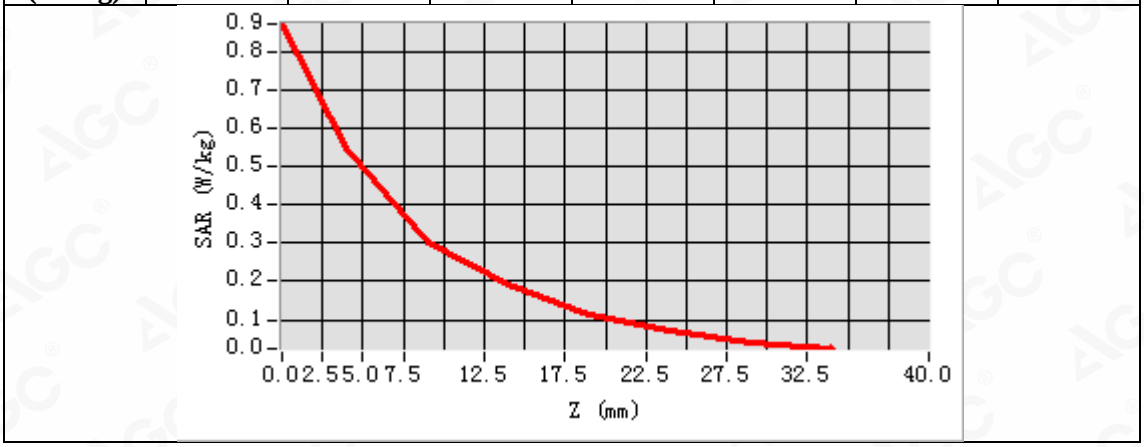
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	PCS 1900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

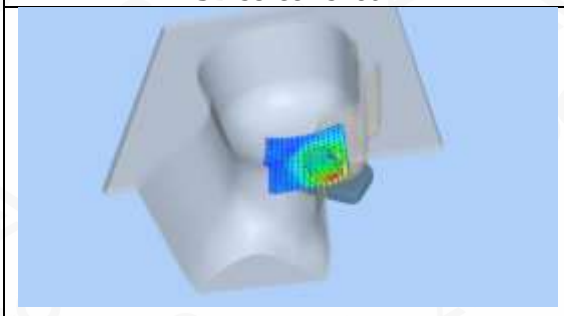
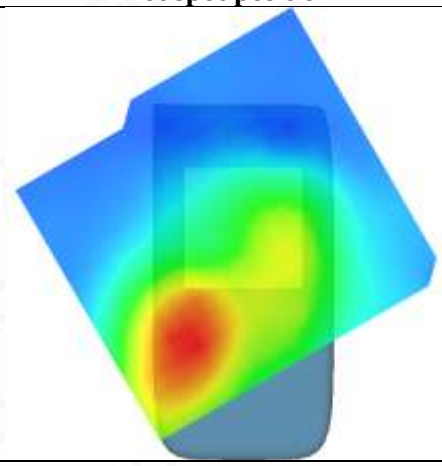
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-62.00, Y=-57.00
SAR Peak: 0.87 W/kg

SAR 10g (W/Kg)	0.199441
SAR 1g (W/Kg)	0.336740

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.8720	0.5466	0.3030	0.1897	0.1141	0.0688	0.0402



3D screen shot	Hot spot position
	

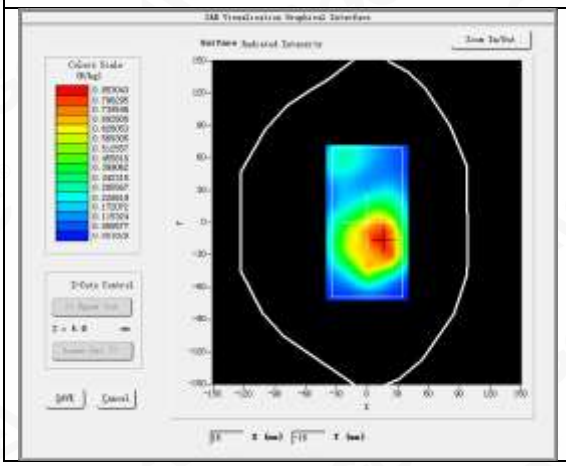
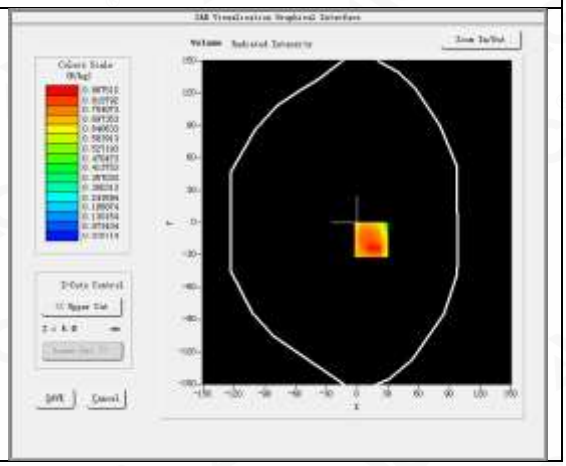
Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
GPRS 1900 Low-Body-Back (4up)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: GPRS-4Slot; Communication System Band: PCS 1900; Duty Cycle: 1:2.1; Conv.F=4.57; Frequency: 1850.2 MHz; Medium parameters used: f = 1800 MHz; σ= 1.36 mho/m; εr =39.95; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/GPRS1900 Low-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/GPRS1900 Low-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

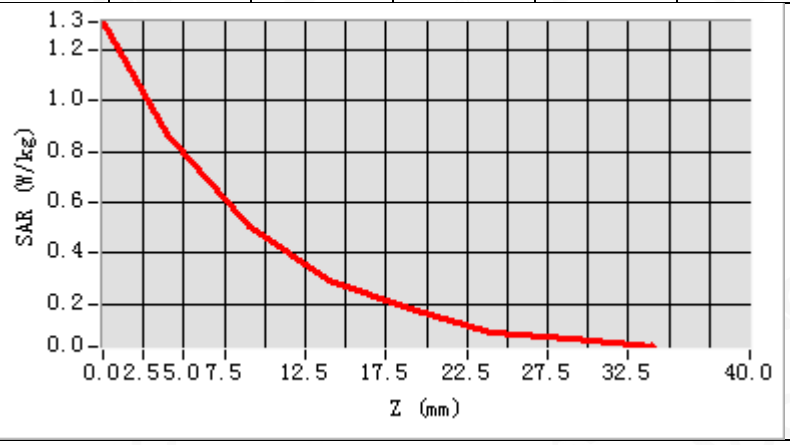
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body Back
Band	PCS 1900
Channels	Low
Signal	TDMA (Crest factor: 2.01)

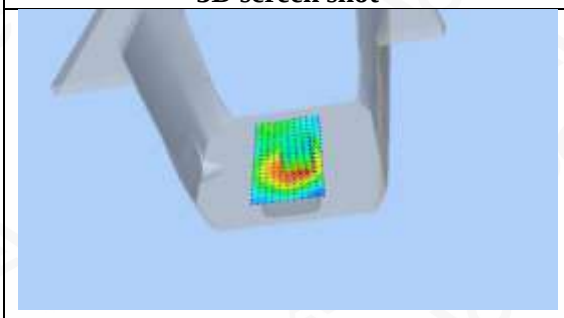
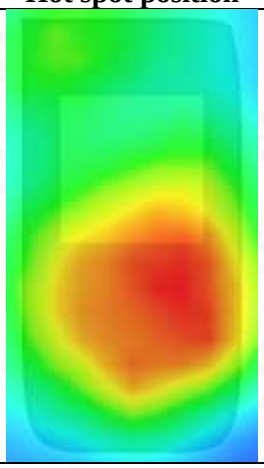
SURFACE SAR	VOLUME SAR
	

Maximum location: X=14.00, Y=-16.00
SAR Peak: 1.42 W/kg

SAR 10g (W/Kg)	0.478948
SAR 1g (W/Kg)	0.829760

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.3092	0.8675	0.5070	0.2963	0.1860	0.0891	0.0655



3D screen shot	Hot spot position
	

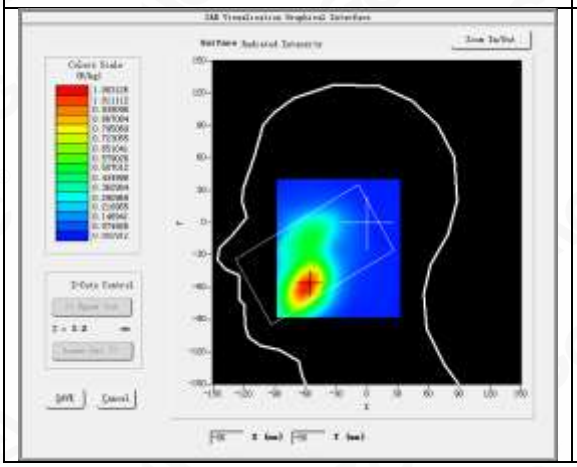
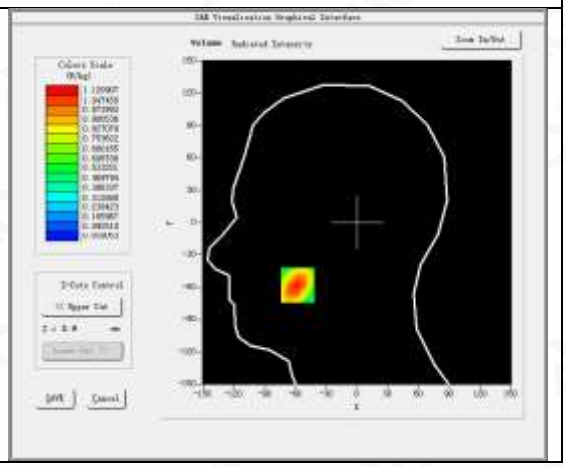
Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
WCDMA Band II Low-Touch-Left (RMC)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: UMTS; Communication System Band: Band II UTRA/FDD ;Duty Cycle:1:1; Conv.F=4.57;
Frequency: 1852.4 MHz; Medium parameters used: f = 1800 MHz; σ= 1.36 mho/m; εr =39.95; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA Band II Low-Touch-Left/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA Band II Low-Touch-Left/Zoom Scan: Measurement grid:dx=8mm,dy=8mm,dz=5mm;

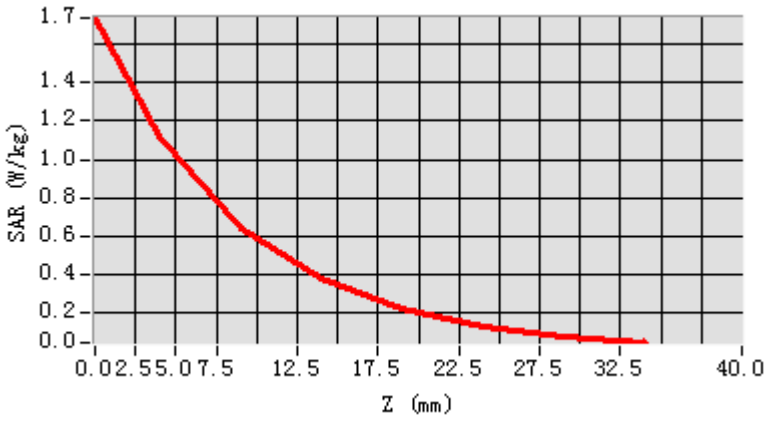
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	WCDMA Band II
Channels	Low
Signal	CDMA (Crest factor: 1.0)

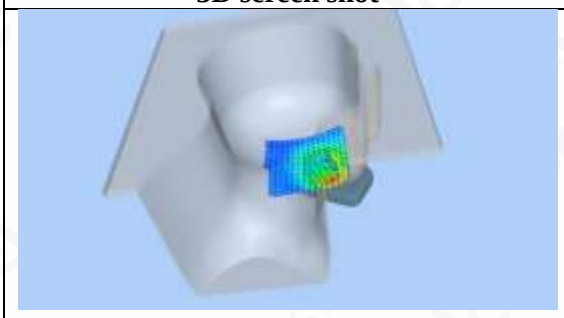
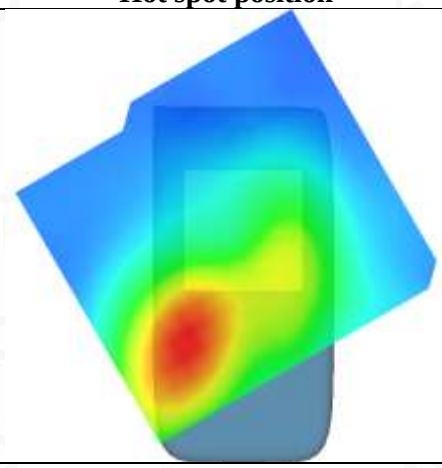
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-58.00, Y=-58.00
SAR Peak: 1.74 W/kg

SAR 10g (W/Kg)	0.601984
SAR 1g (W/Kg)	1.078191

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.7338	1.1209	0.6380	0.3788	0.2236	0.1341	0.0809



3D screen shot	Hot spot position
	

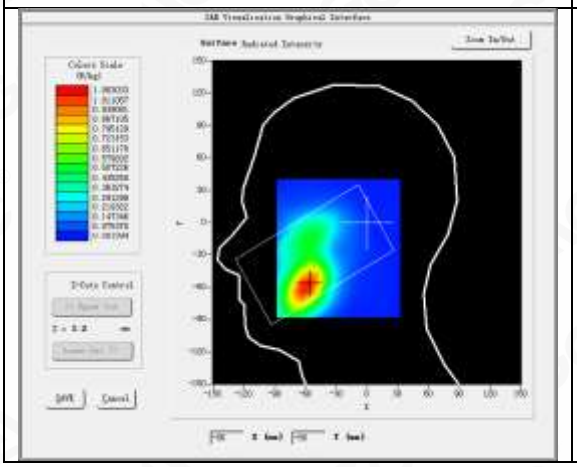
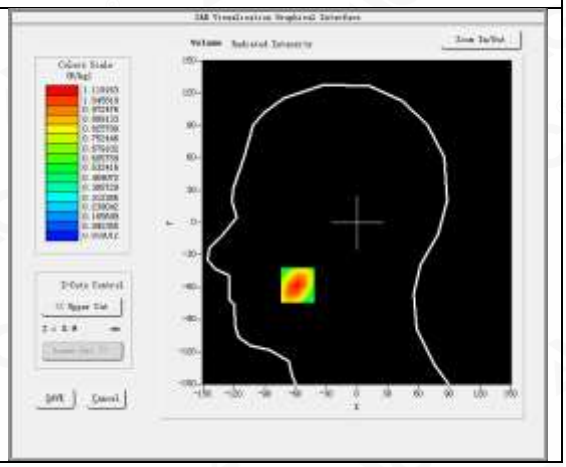
Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
WCDMA Band II Mid-Touch-Left (RMC)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: UMTS; Communication System Band: Band II UTRA/FDD ;Duty Cycle:1:1; Conv.F=4.57;
Frequency: 1880 MHz; Medium parameters used: f = 1800 MHz; σ= 1.36 mho/m; εr =39.95; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA Band II Mid-Touch-Left/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA Band II Mid-Touch-Left/Zoom Scan: Measurement grid:dx=8mm,dy=8mm,dz=5mm;

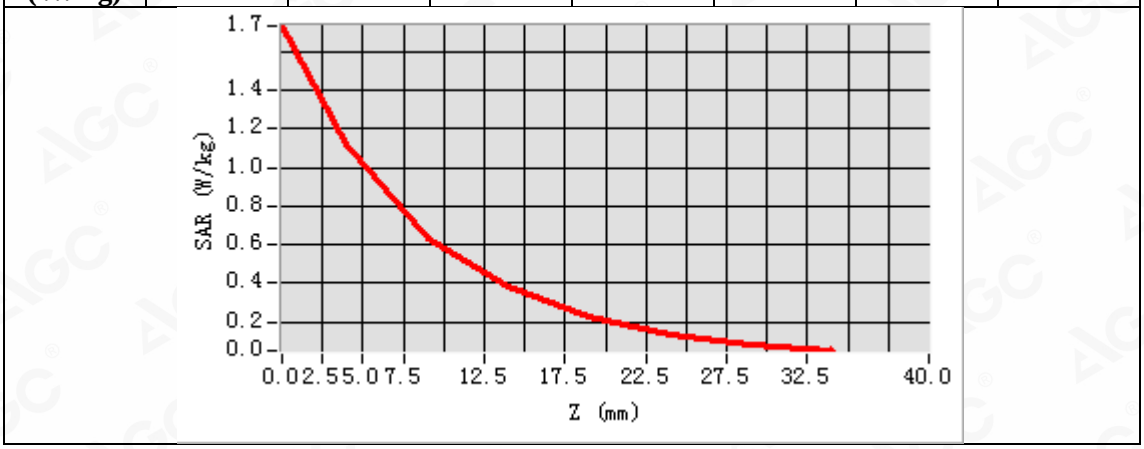
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	WCDMA Band II
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

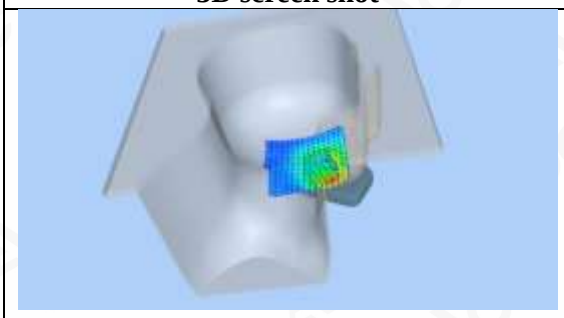
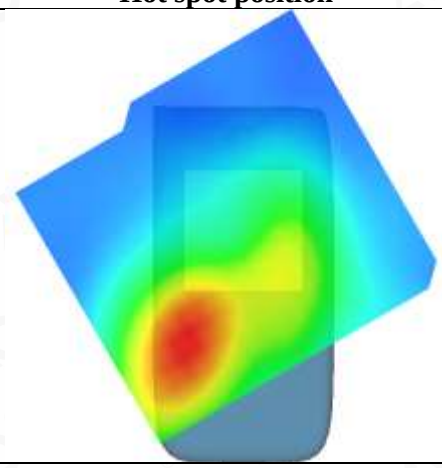
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-58.00, Y=-58.00
SAR Peak: 1.74 W/kg

SAR 10g (W/Kg)	0.601070
SAR 1g (W/Kg)	1.077284

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.7350	1.1192	0.6364	0.3774	0.2236	0.1347	0.0805



3D screen shot	Hot spot position
	

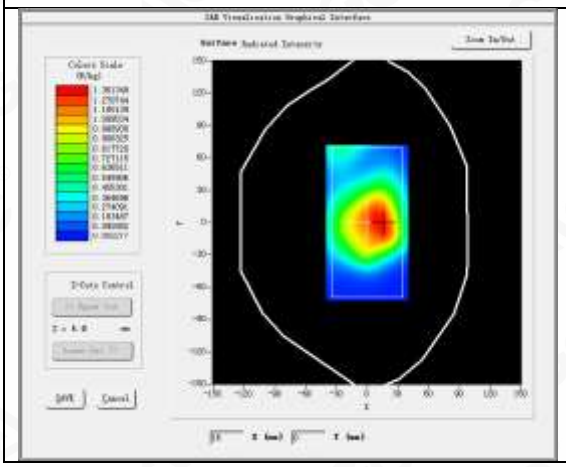
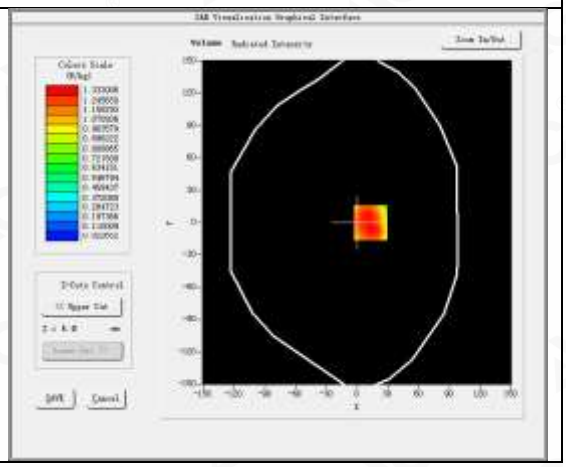
Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
WCDMA Band II Mid-Body-Towards Grounds (RMC 12.2kbps)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: UMTS; Communication System Band: Band II UTRA/FDD ;Duty Cycle:1:1; Conv.F=4.57;
Frequency: 1880 MHz; Medium parameters used: f = 1800 MHz; σ=1.36 mho/m; εr =39.95; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA band II Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA band II Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

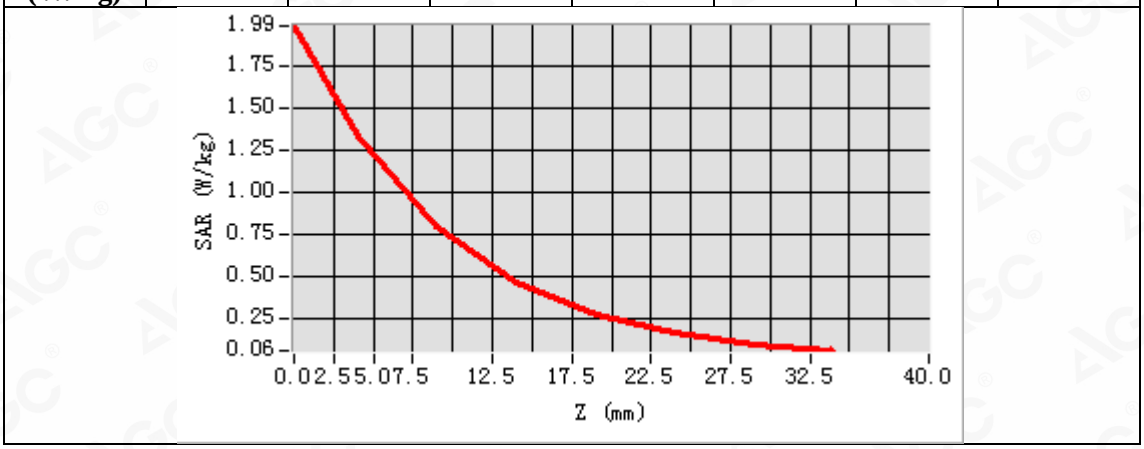
Area Scan	surf_sam_plan.txt, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body Back
Band	WCDMA band II
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

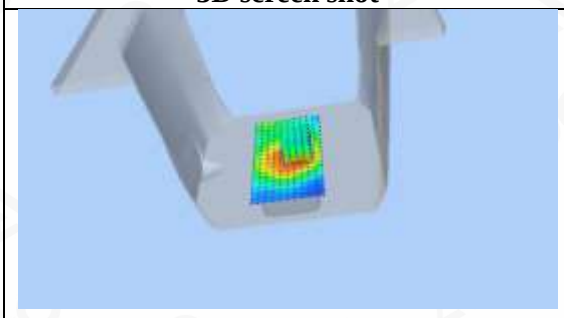
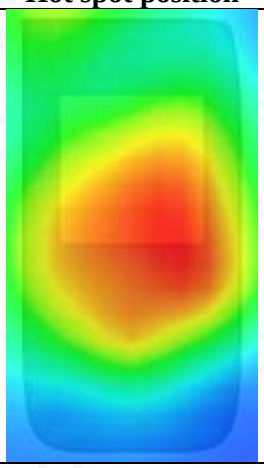
SURFACE SAR	VOLUME SAR
	

Maximum location: X=13.00, Y=0.00
SAR Peak: 2.16 W/kg

SAR 10g (W/Kg)	0.777629
SAR 1g (W/Kg)	1.314031

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.9899	1.3330	0.7902	0.4672	0.2753	0.1621	0.0949



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Oct. 29, 2021**

WCDMA Band Ⅴ Mid-Touch-Right (RMC)

DUT: Mobile Phone; Type: LIV 3 LTE

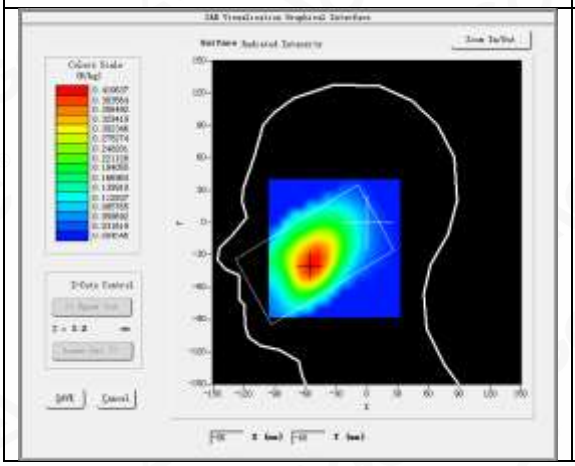
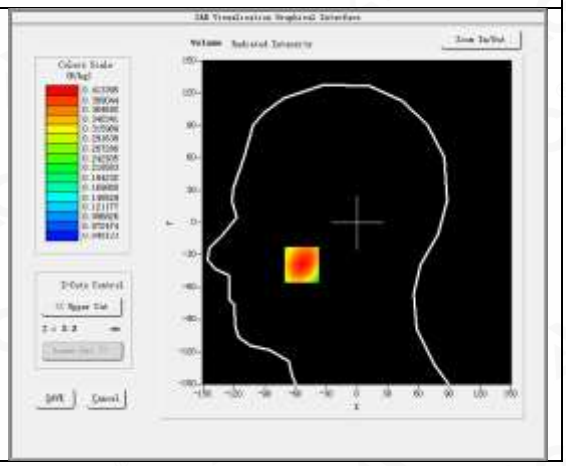
Communication System: UMTS; Communication System Band: BAND V UTRA/FDD ; Duty Cycle:1: 1; Conv.F=5.21;
Frequency: 836.4 MHz; Medium parameters used: f = 835MHz; σ=0.90 mho/m; εr =40.31; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:

- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA Band V Mid-Touch-Right/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA Band V Mid-Touch-Right/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm

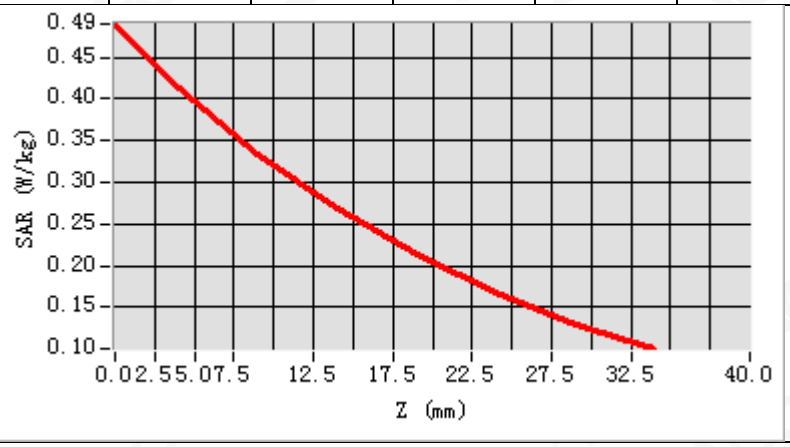
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	WCDMA Band V
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

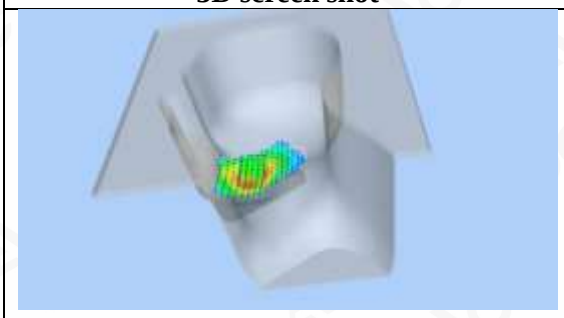
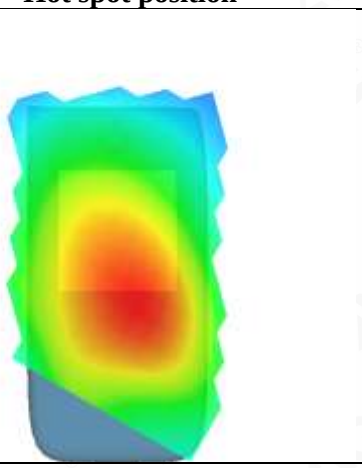
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-54.00, Y=-39.00
SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.298890
SAR 1g (W/Kg)	0.400853

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4899	0.4134	0.3339	0.2697	0.2136	0.1676	0.1292



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Oct. 29, 2021**

WCDMA Band Ⅴ Mid-Body- Towards Phantom (RMC)

DUT: Mobile Phone; Type: LIV 3 LTE

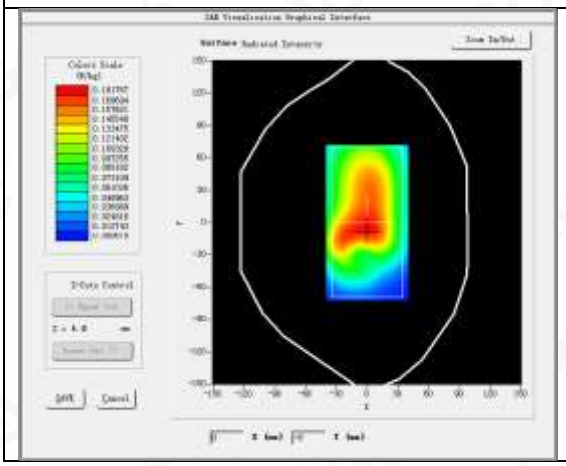
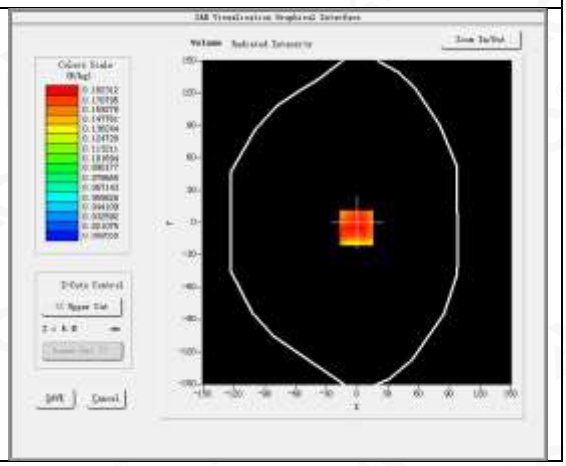
Communication System: UMTS; Communication System Band: BAND V UTRA/FDD; Duty Cycle:1: 1; Conv.F=5.21;
Frequency: 836.4 MHz; Medium parameters used: f = 835MHz; σ= 0.90 mho/m; εr = 40.31; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:

- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA Band V Mid-Body- Front /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA Band V Mid-Body- Front /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

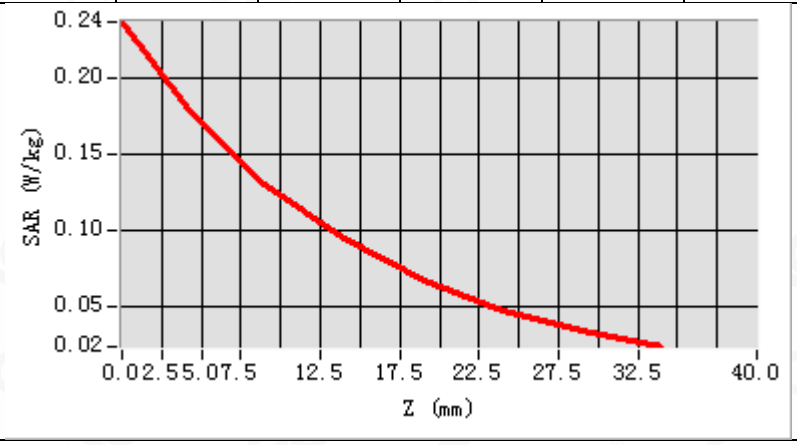
Area Scan	surf_sam_plan.txt, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body Front
Band	WCDMA Band V
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

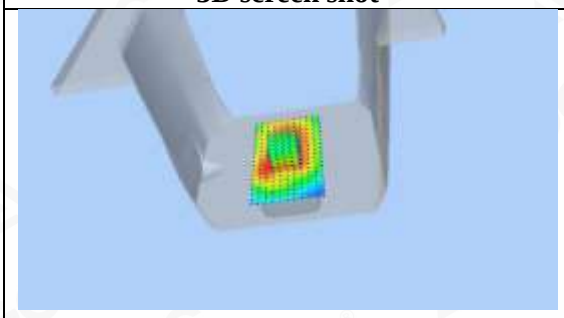
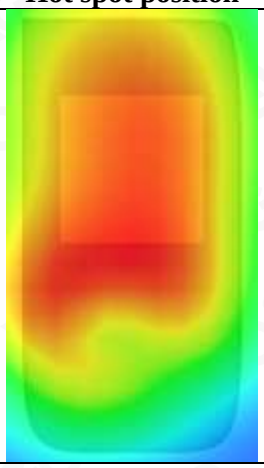
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-1.00, Y=-5.00
SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.126043
SAR 1g (W/Kg)	0.178289

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2373	0.1823	0.1308	0.0948	0.0674	0.0474	0.0332



3D screen shot	Hot spot position
	

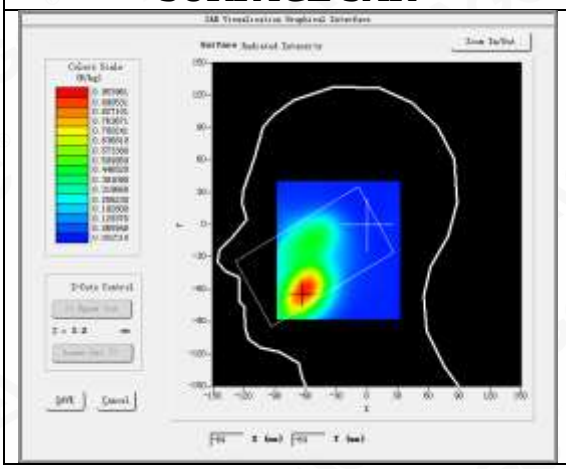
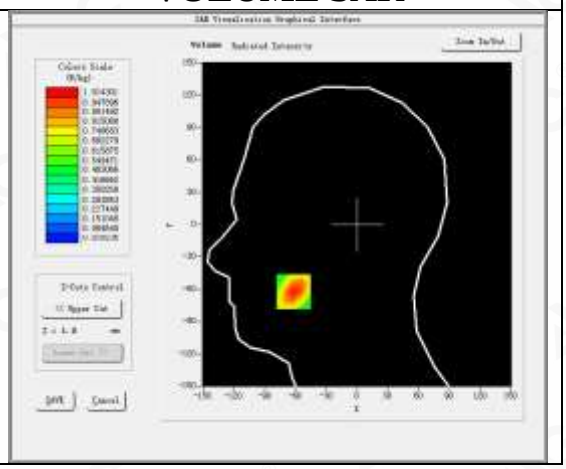
Test Laboratory: AGC Lab **Date: Nov. 02, 2021**
LTE Band 2 Low-Touch-Left (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 2; Duty Cycle:1:1; Conv.F=4.57;
Frequency:1860MHz; Medium parameters used: f =1900 MHz; σ= 1.40 mho/m; εr =39.78; ρ= 1000 kg/m^3 ;
Phantom section: Left Section
Ambient temperature (℃): 21.6, Liquid temperature (℃): 21.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 2 Low- Touch-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 2 Low- Touch-Left /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

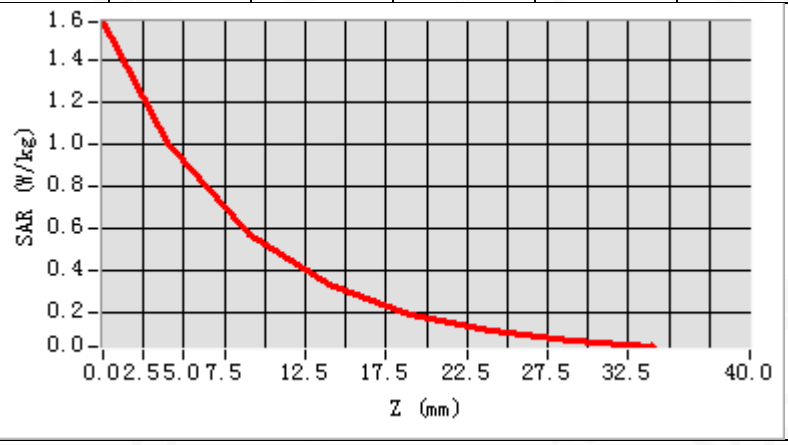
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 2
Channels	Low
Signal	OFDM (Crest factor: 1.0)

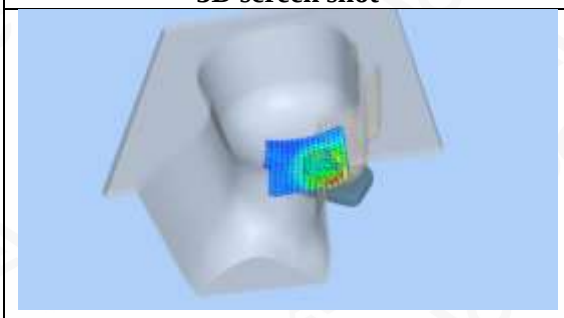
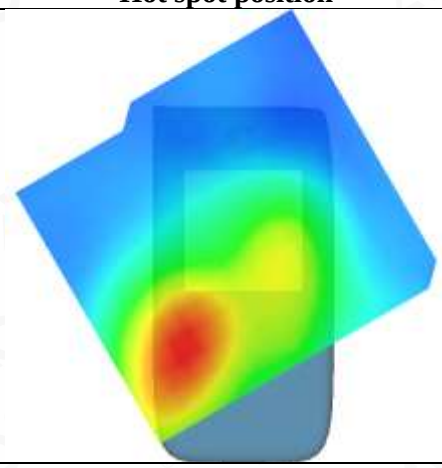
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-62.00, Y=-62.00
SAR Peak: 1.59 W/kg

SAR 10g (W/Kg)	0.538338
SAR 1g (W/Kg)	0.971448

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.5808	1.0143	0.5704	0.3320	0.1939	0.1182	0.0703



3D screen shot	Hot spot position
	

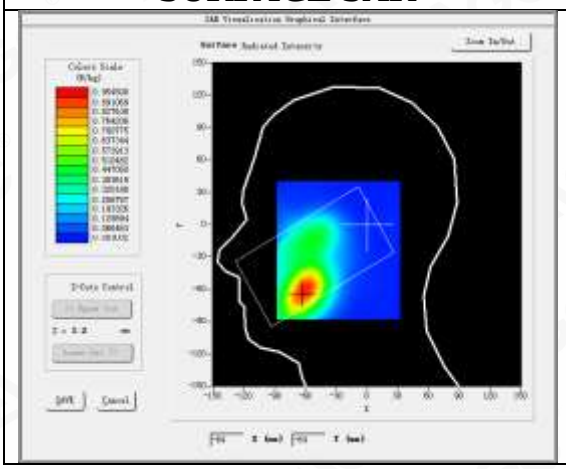
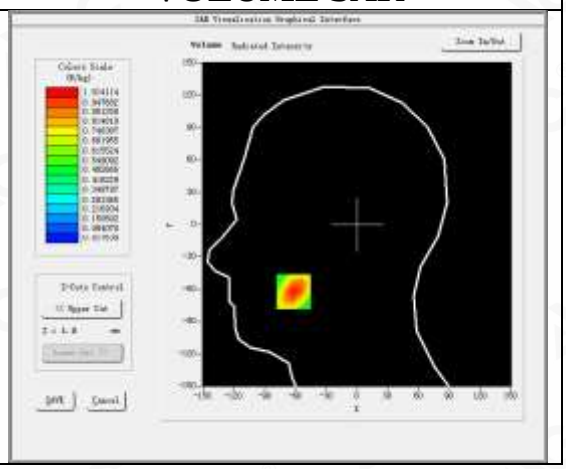
Test Laboratory: AGC Lab **Date: Nov. 02, 2021**
LTE Band 2 High-Touch-Left (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 2; Duty Cycle:1:1; Conv.F=4.57; Frequency:1900MHz; Medium parameters used: f =1900 MHz; σ= 1.40 mho/m; εr =39.78; ρ= 1000 kg/m³ ; Phantom section: Left Section
Ambient temperature (℃): 21.6, Liquid temperature (℃): 21.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 2 High- Touch-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 2 High- Touch-Left /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

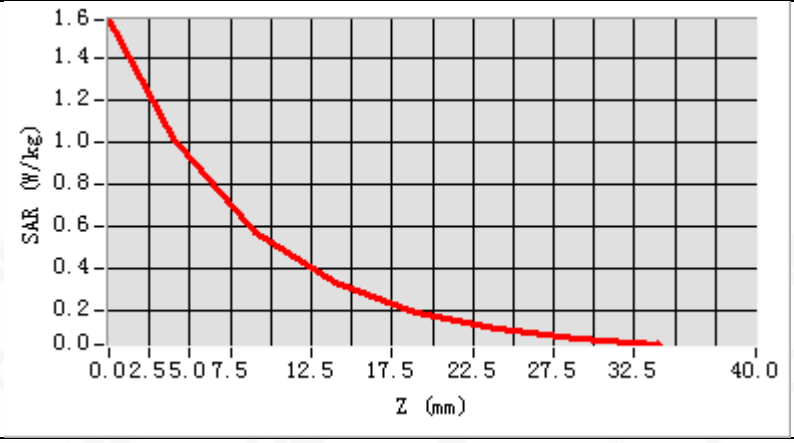
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 2
Channels	High
Signal	OFDM (Crest factor: 1.0)

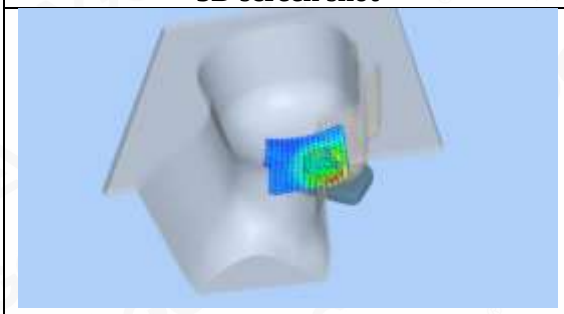
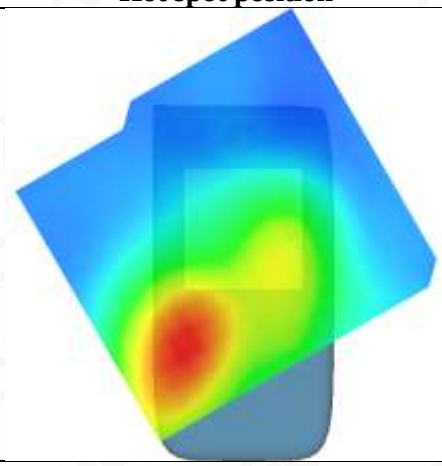
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-62.00, Y=-62.00
SAR Peak: 1.58 W/kg

SAR 10g (W/Kg)	0.538277
SAR 1g (W/Kg)	0.969294

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.5770	1.0141	0.5708	0.3312	0.1932	0.1181	0.0712



3D screen shot	Hot spot position
	

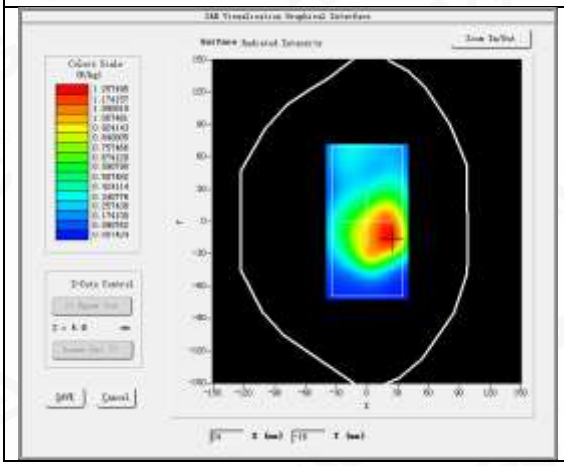
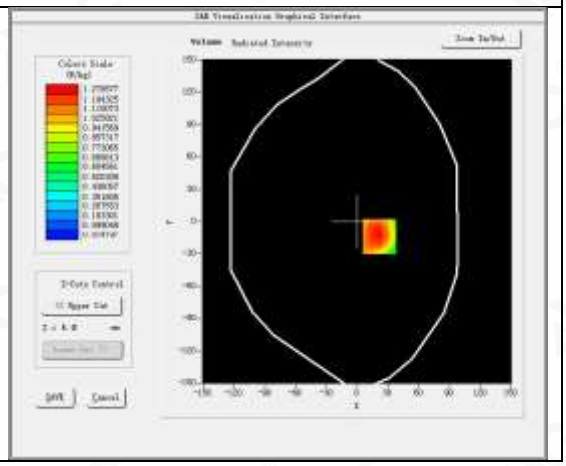
Test Laboratory: AGC Lab **Date: Nov. 02, 2021**
LTE Band 2 Mid-Body-Back (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 2; Duty Cycle:1:1; Conv.F=4.57; Frequency:1880MHz; Medium parameters used: f = 1800 MHz; σ= 1.40 mho/m; εr =39.78; ρ= 1000 kg/m^3 ; Phantom section: Flat Section
Ambient temperature (℃): 21.6, Liquid temperature (℃): 21.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 2 Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 2 Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

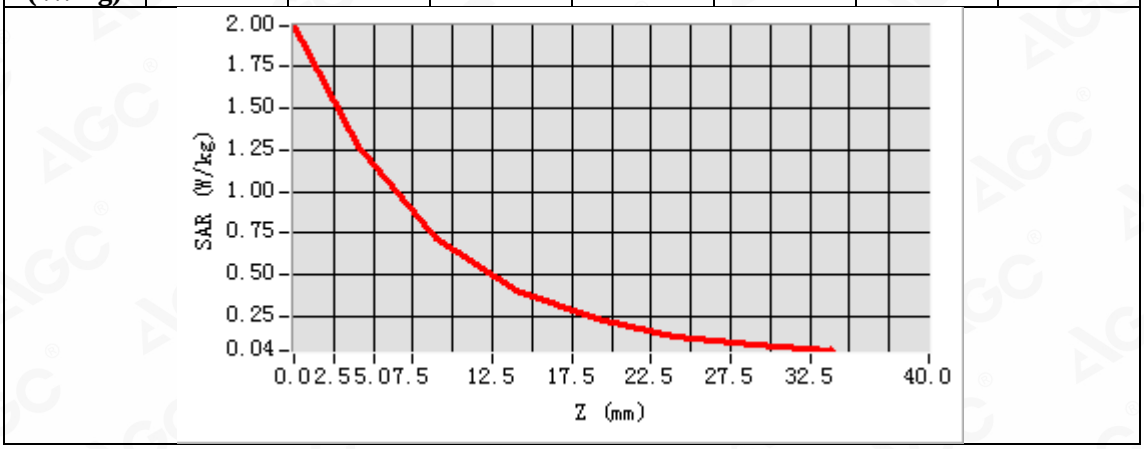
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	LTE Band 2
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

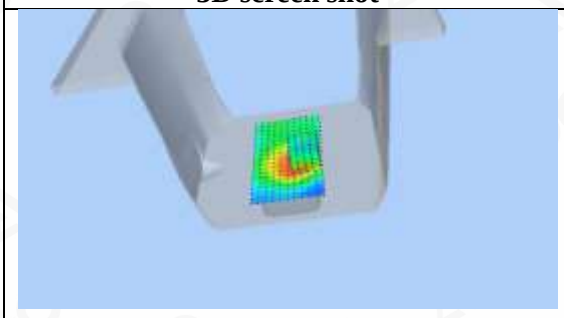
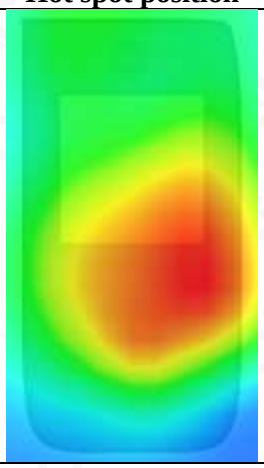
SURFACE SAR	VOLUME SAR
	

Maximum location: X=22.00, Y=-14.00
SAR Peak: 2.00 W/kg

SAR 10g (W/Kg)	0.720062
SAR 1g (W/Kg)	1.240605

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.9967	1.2786	0.7147	0.4037	0.2312	0.1310	0.0734



3D screen shot	Hot spot position
	

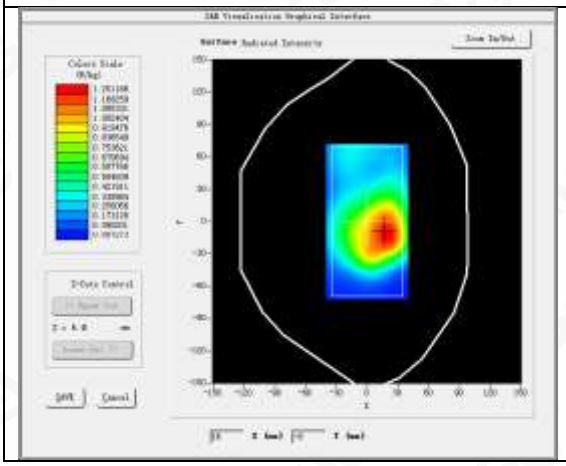
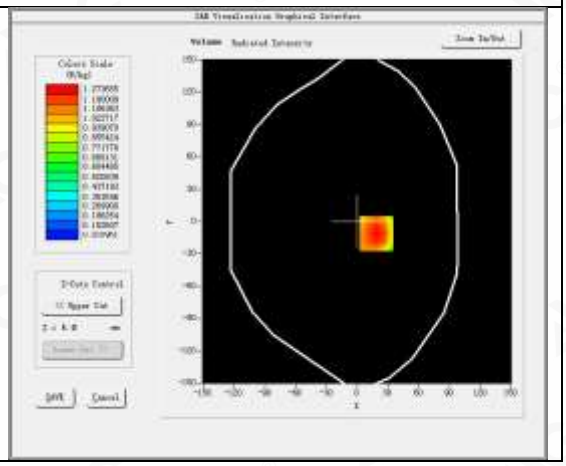
Test Laboratory: AGC Lab **Date: Nov. 02, 2021**
LTE Band 2 High-Body-Back (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 2; Duty Cycle:1:1; Conv.F=4.57;
Frequency:1900MHz; Medium parameters used: f = 1800 MHz; σ= 1.40 mho/m; εr =39.78; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.6, Liquid temperature (℃): 21.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 2 High-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 2 High-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

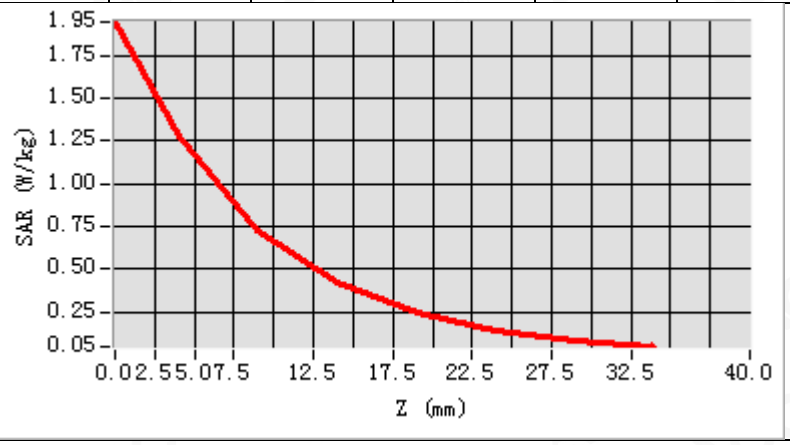
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	LTE Band 2
Channels	High
Signal	OFDM (Crest factor: 1.0)

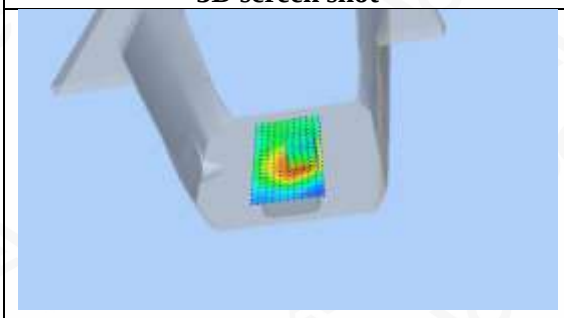
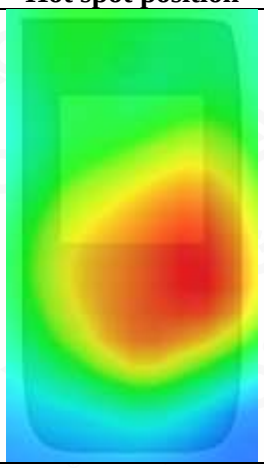
SURFACE SAR	VOLUME SAR
	

Maximum location: X=19.00, Y=-11.00
SAR Peak: 2.01 W/kg

SAR 10g (W/Kg)	0.713996
SAR 1g (W/Kg)	1.234609

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.9479	1.2737	0.7307	0.4232	0.2442	0.1389	0.0805



3D screen shot	Hot spot position
	

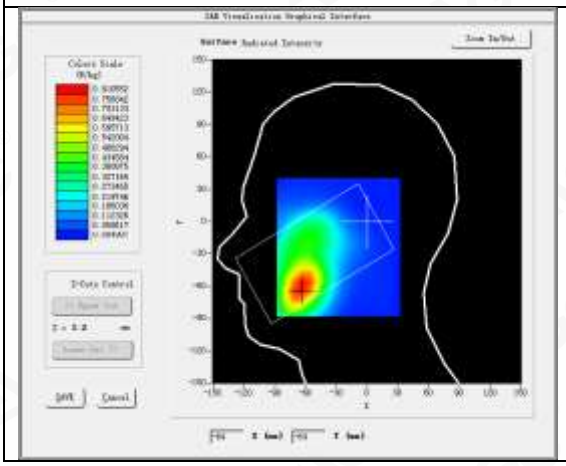
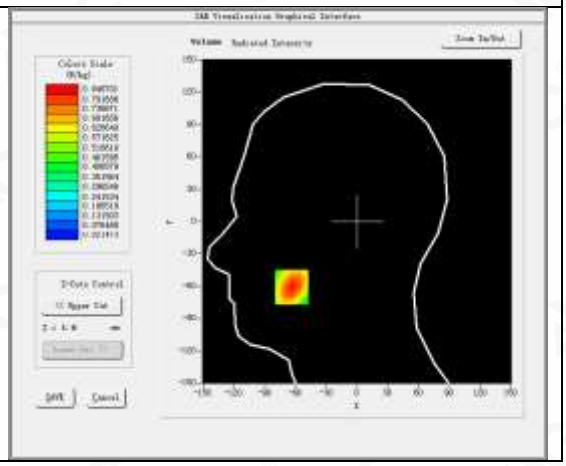
Test Laboratory: AGC Lab **Date: Oct. 30, 2021**
LTE Band 4 Mid-Touch-Left (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 4; Duty Cycle:1:1; Conv.F=4.94; Frequency:1732.5 MHz; Medium parameters used: f =1750 MHz; σ= 1.33 mho/m; εr =42.15; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.7, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 4 Mid- Touch-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 4 Mid- Touch-Left /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

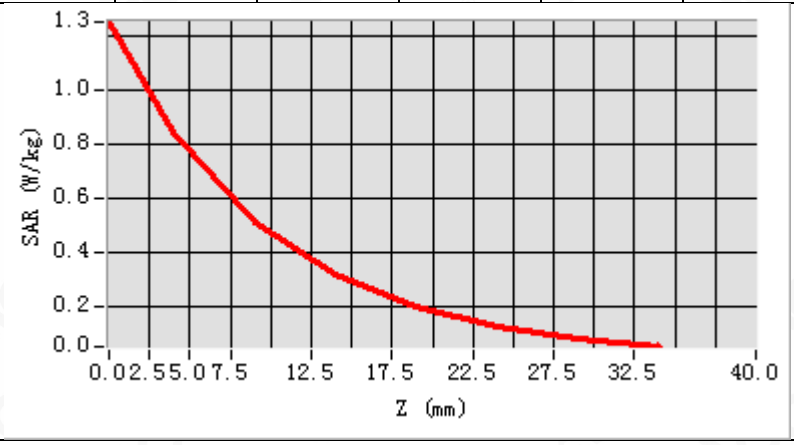
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 4
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

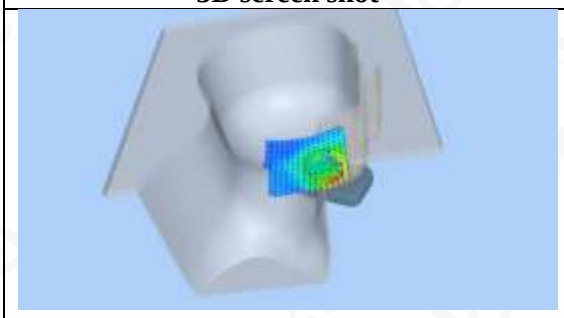
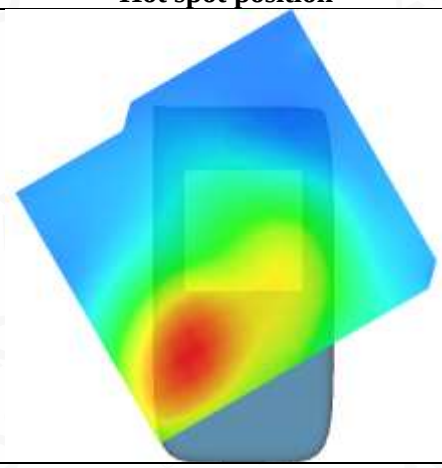
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-64.00, Y=-61.00
SAR Peak: 1.26 W/kg

SAR 10g (W/Kg)	0.475736
SAR 1g (W/Kg)	0.708334

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.2524	0.8467	0.5119	0.3141	0.1955	0.1223	0.0791



3D screen shot	Hot spot position
	

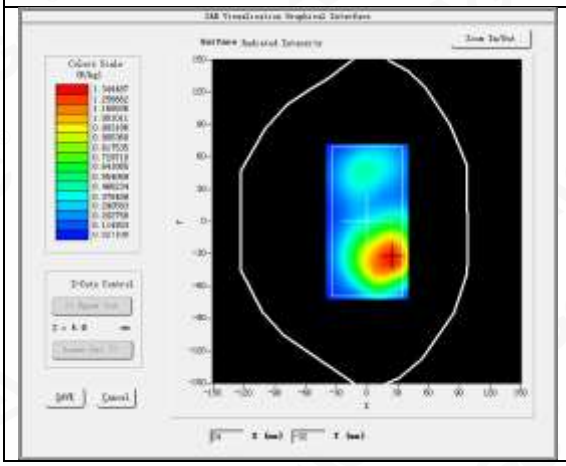
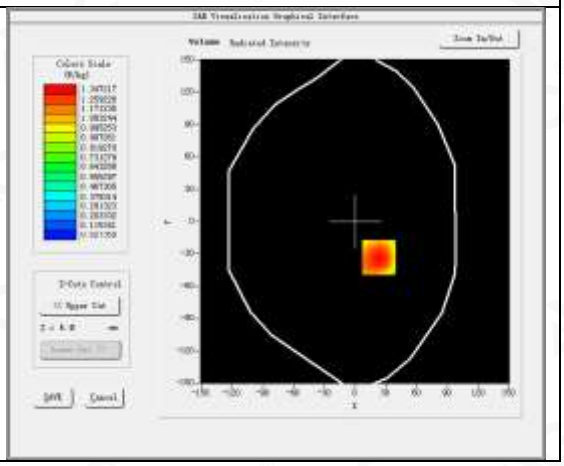
Test Laboratory: AGC Lab **Date: Oct. 30, 2021**
LTE Band 4 Mid-Body-Back (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 4; Duty Cycle:1:1; Conv.F=4.94;
Frequency:1732.5 MHz; Medium parameters used: f = 1800 MHz; σ= 1.33 mho/m; εr =42.15; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.7, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 4 Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 4 Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

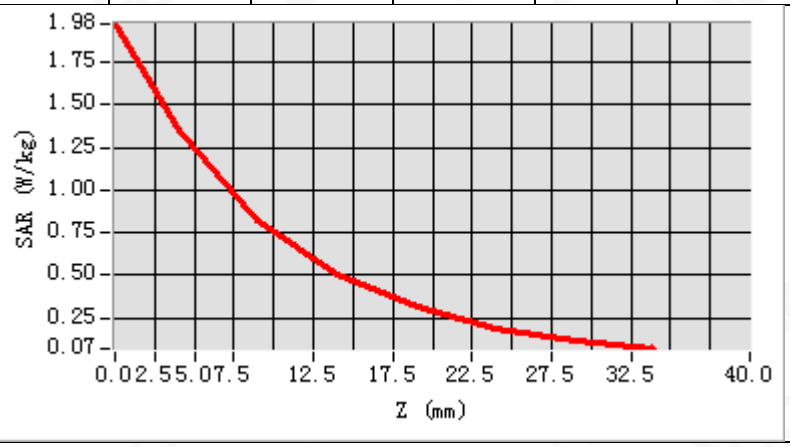
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	LTE Band 4
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

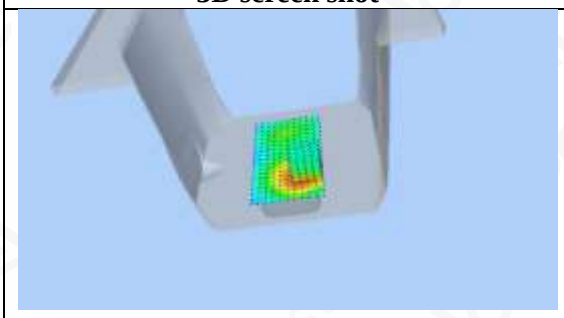
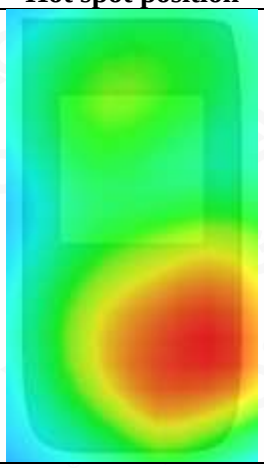
SURFACE SAR	VOLUME SAR
	

Maximum location: X=23.00, Y=-33.00
SAR Peak: 2.04 W/kg

SAR 10g (W/Kg)	0.786189
SAR 1g (W/Kg)	1.304461

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.9758	1.3472	0.8242	0.5049	0.3107	0.1901	0.1133



3D screen shot	Hot spot position
	

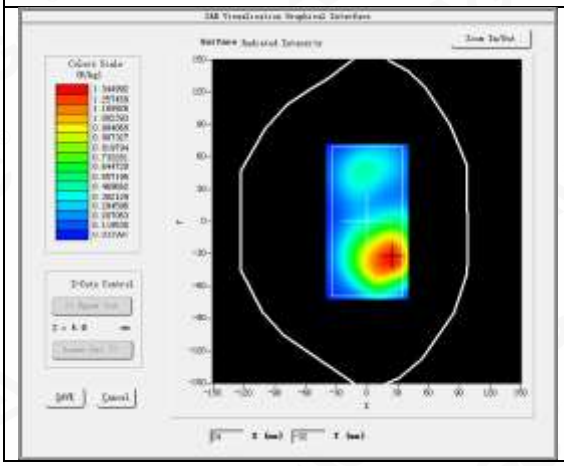
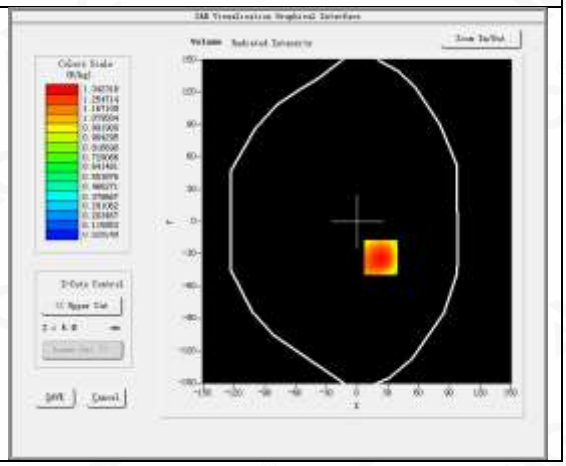
Test Laboratory: AGC Lab **Date: Oct. 30, 2021**
LTE Band 4 High-Body-Back (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 4; Duty Cycle:1:1; Conv.F=4.94;
Frequency:1745 MHz; Medium parameters used: f = 1800 MHz; σ= 1.33 mho/m; εr =42.15; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.7, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 4 High-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 4 High-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

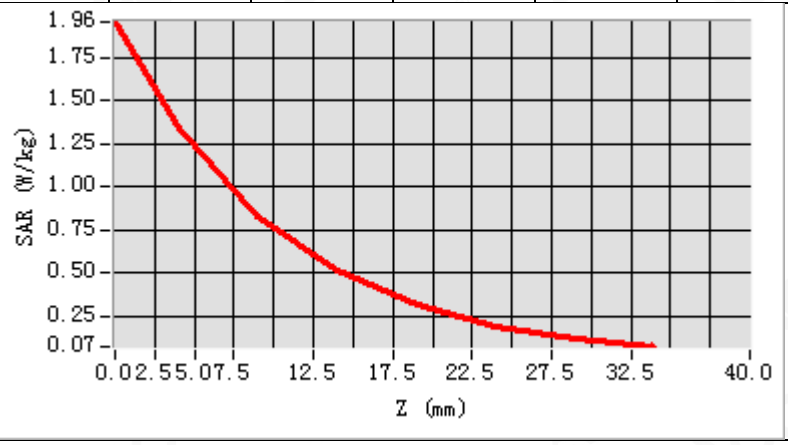
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	LTE Band 4
Channels	High
Signal	OFDM (Crest factor: 1.0)

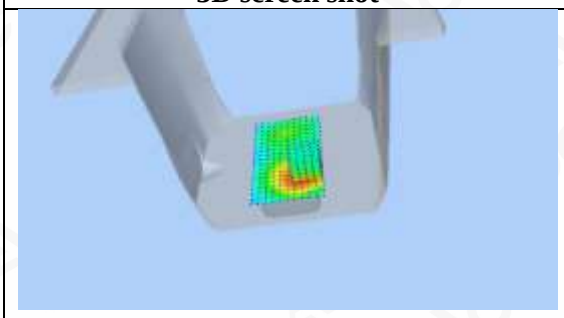
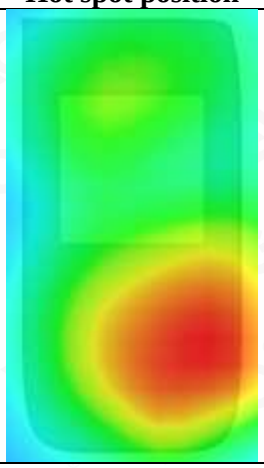
SURFACE SAR	VOLUME SAR
	

Maximum location: X=23.00, Y=-33.00
SAR Peak: 2.03 W/kg

SAR 10g (W/Kg)	0.784148
SAR 1g (W/Kg)	1.298722

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.9572	1.3423	0.8255	0.5069	0.3118	0.1905	0.1148



3D screen shot	Hot spot position
	

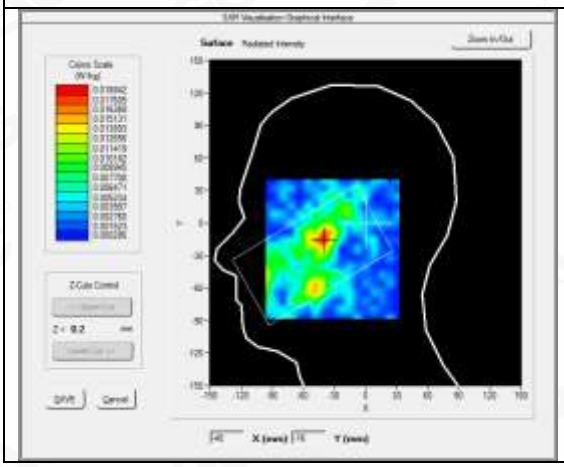
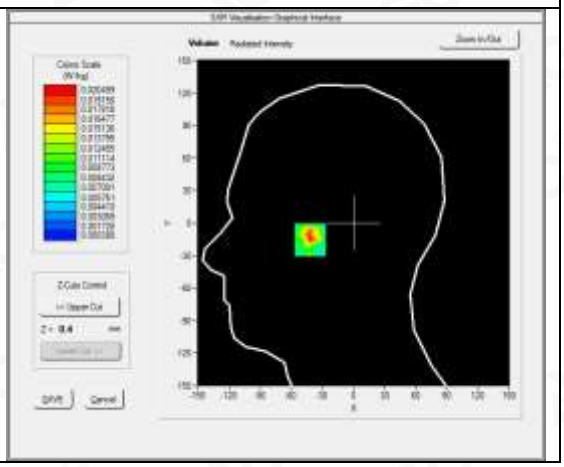
Test Laboratory: AGC Lab **Date: Nov. 03, 2021**
LTE Band 7 Mid-Touch-Right (1RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 7; Duty Cycle:1:1; Conv.F=3.89
Frequency: 2535MHz; Medium parameters used: f =2600 MHz; σ=1.91 mho/m; εr =39.65; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.9, Liquid temperature (℃): 21.7

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE BAND 7 Mid-Touch-Right/Area Scan: Measurement grid: dx=8mm, y=8mm
Configuration/ LTE BAND 7 Mid-Touch-Right/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm

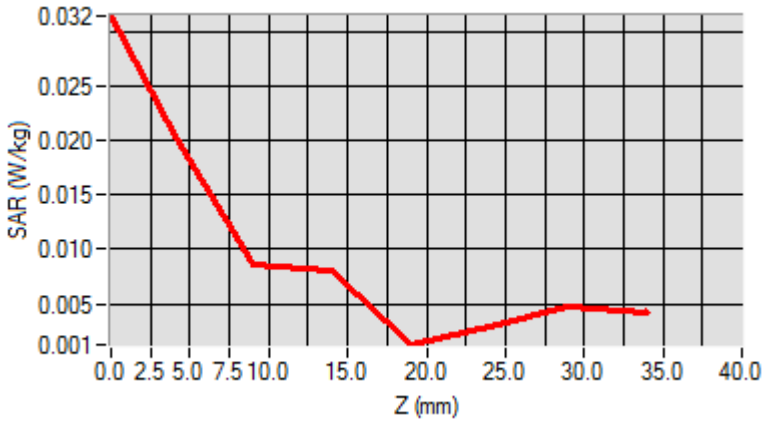
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE BAND 7
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

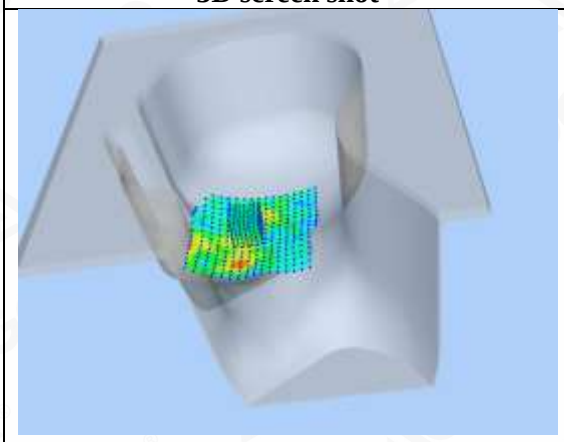
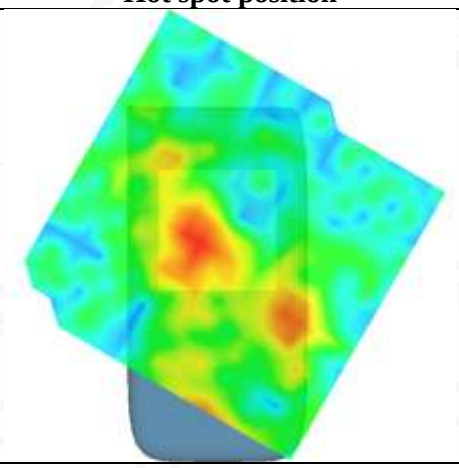
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-42.00, Y=-15.00
SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.008763
SAR 1g (W/Kg)	0.017950

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0315	0.0205	0.0086	0.0081	0.0012	0.0029	0.0047



3D screen shot	Hot spot position
	

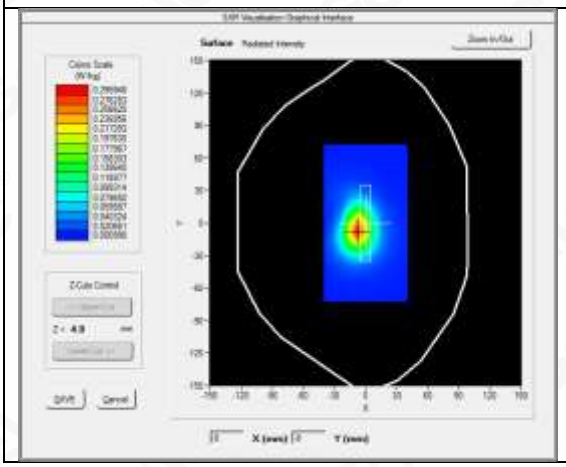
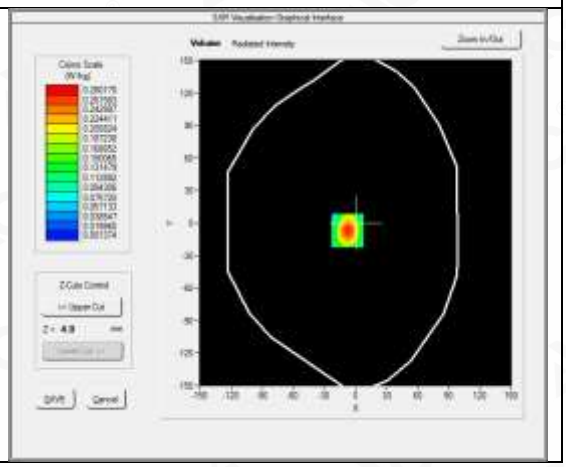
Test Laboratory: AGC Lab **Date: Nov. 03, 2021**
LTE Band 7 Mid- Edge 3 (1RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 7; Duty Cycle:1:1; Conv.F=3.89
Frequency: 2535MHz; Medium parameters used: f =2600 MHz; σ=1.91 mho/m; εr =39.65; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.9, Liquid temperature (℃): 21.7

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE BAND 7 Mid- Edge 3 /Area Scan: Measurement grid: dx=10mm, y=10mm
Configuration/ LTE BAND 7 Mid- Edge 3 /Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm

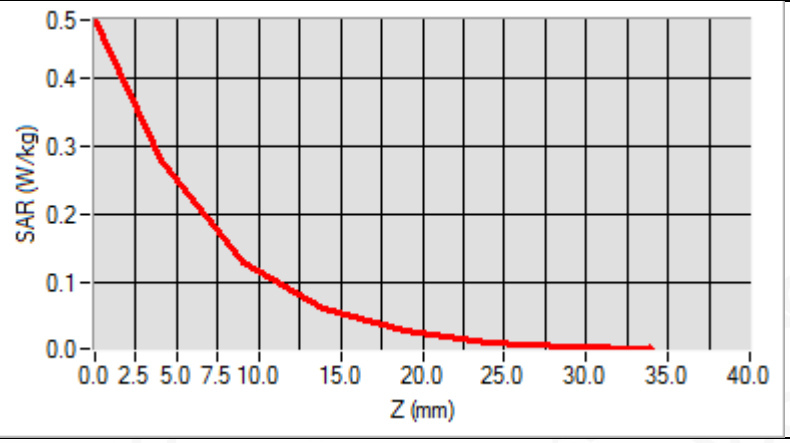
Area Scan	surf_sam_plan.txt, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Edge 3
Band	LTE BAND 7
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

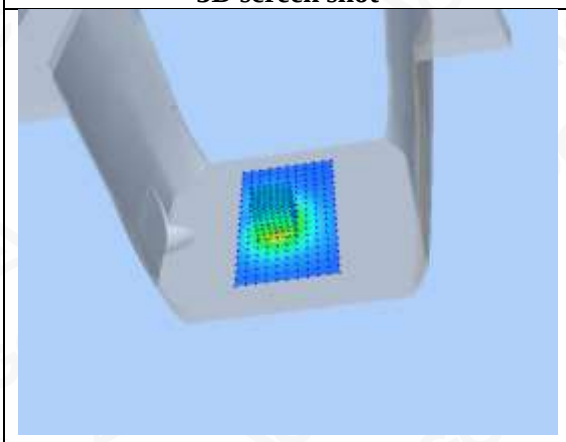
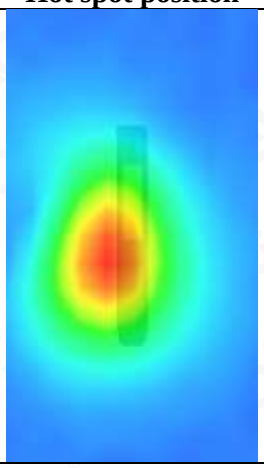
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-8.00, Y=-7.00
SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.122103
SAR 1g (W/Kg)	0.261126

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4844	0.2802	0.1310	0.0628	0.0295	0.0144	0.0080



3D screen shot	Hot spot position
	

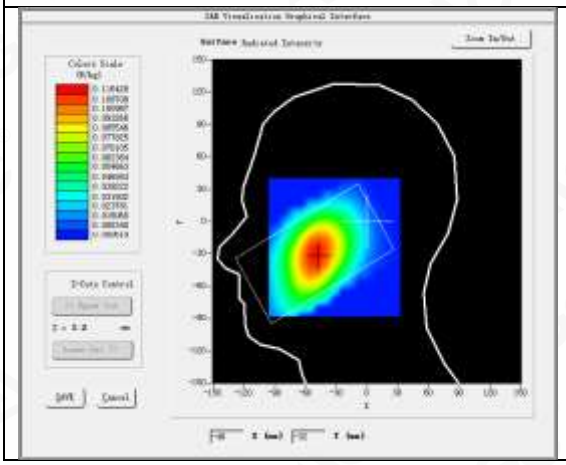
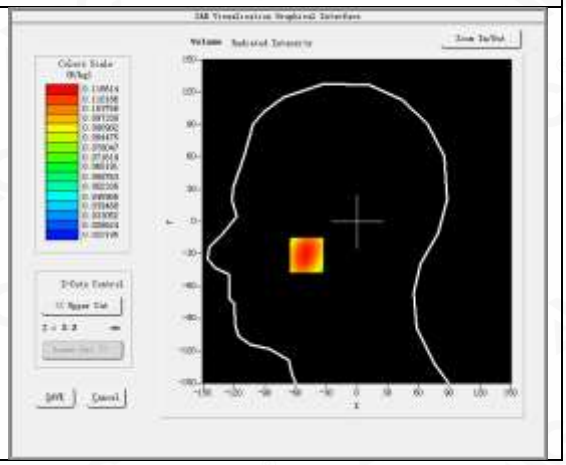
Test Laboratory: AGC Lab **Date: Nov. 01, 2021**
LTE Band 17 Mid-Touch-Left (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 17; Duty Cycle:1:1; Conv.F=5.35
Frequency: 710 MHz; Medium parameters used: f = 750 MHz; σ=0.89 mho/m; εr =42.35; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 17 Mid- Touch-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 17 Mid- Touch-Left /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

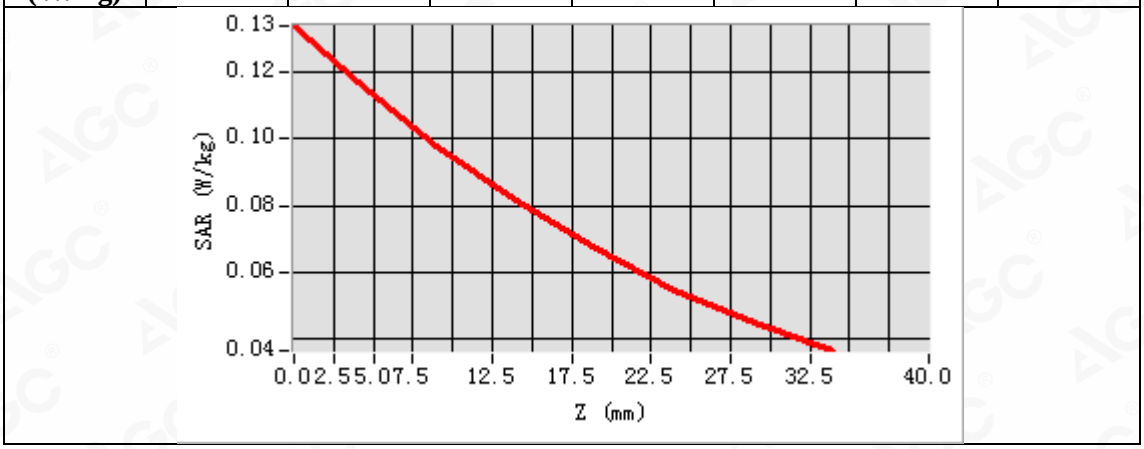
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 17
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

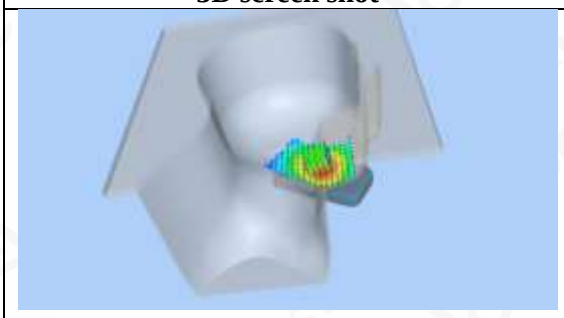
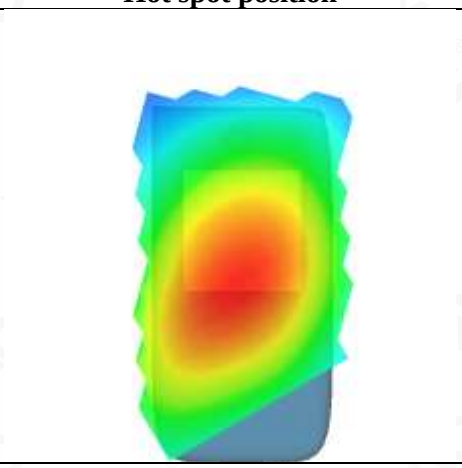
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-49.00, Y=-31.00
SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.090034
SAR 1g (W/Kg)	0.115434

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1335	0.1166	0.0977	0.0814	0.0672	0.0549	0.0450



3D screen shot	Hot spot position
	

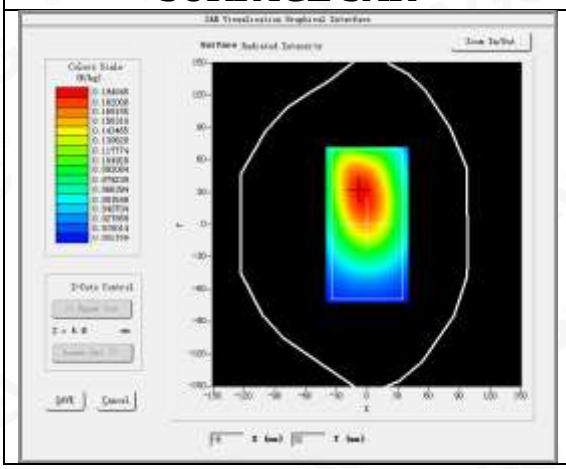
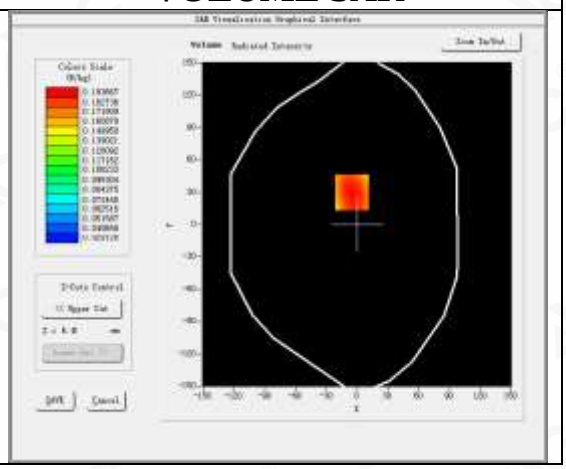
Test Laboratory: AGC Lab **Date: Nov. 01, 2021**
LTE Band 17 Mid-Body-Back (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 17; Duty Cycle:1:1; Conv.F=5.35;
Frequency: 710 MHz; Medium parameters used: f = 750 MHz; σ=0.89 mho/m; εr =42.35; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 22.1, Liquid temperature (℃): 21.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 17 Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 17 Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

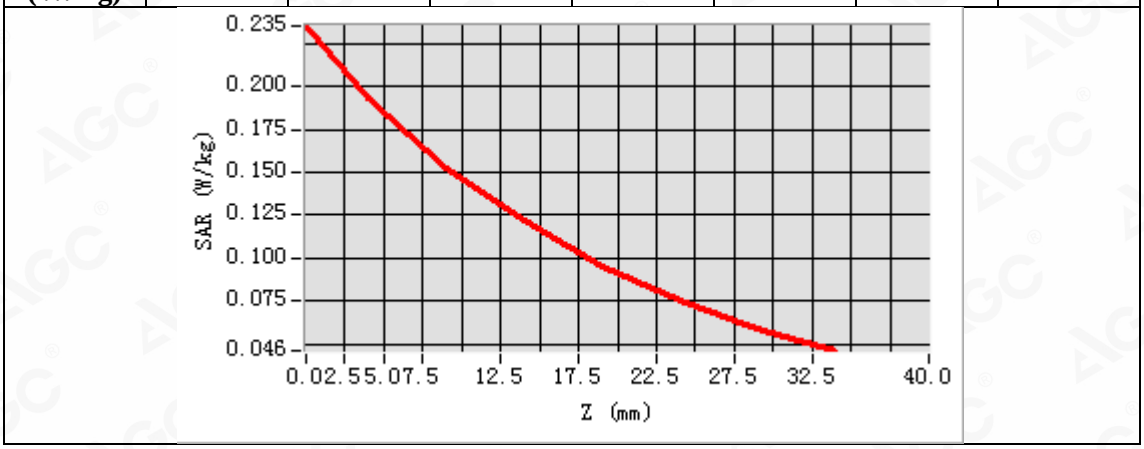
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	LTE Band 17
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

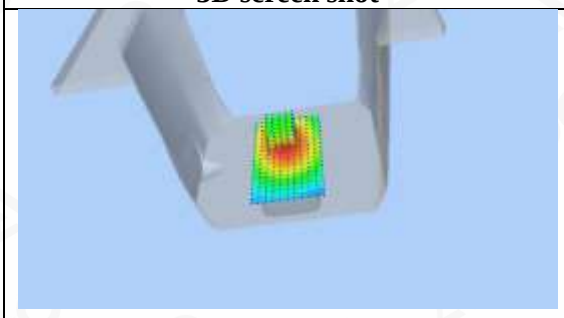
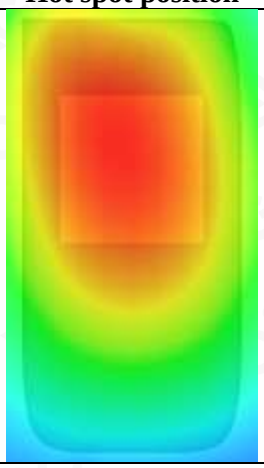
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-5.00, Y=30.00
SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.145430
SAR 1g (W/Kg)	0.192374

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2353	0.1937	0.1520	0.1214	0.0953	0.0748	0.0590



3D screen shot	Hot spot position
	

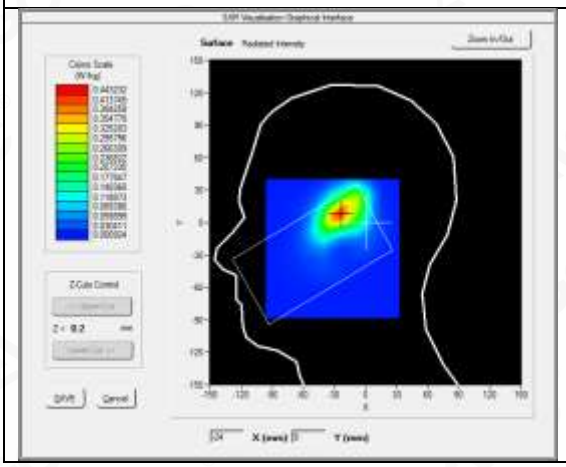
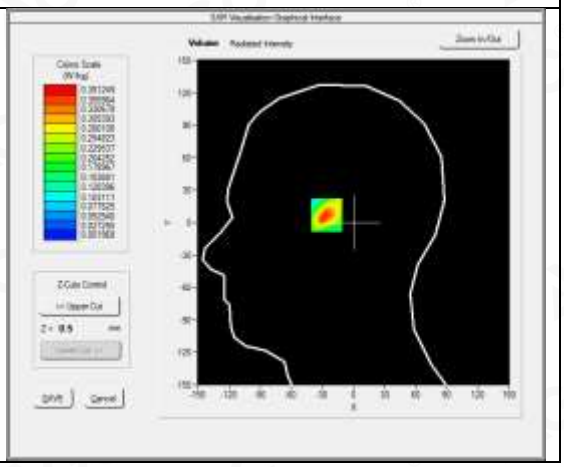
WIFI MODE
Test Laboratory: AGC Lab **Date: Nov. 03, 2021**
802.11b Mid-Touch-Left
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: Wi-Fi; Communication System Band: 802.11b; Duty Cycle: 1:1; Conv.F=4.02;
Frequency: 2437 MHz; Medium parameters used: f = 2450 MHz; σ =1.81mho/m; εr =39.24 ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃):21.7, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/802.11b Mid- Touch-Left/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/802.11b Mid- Touch-Left/Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

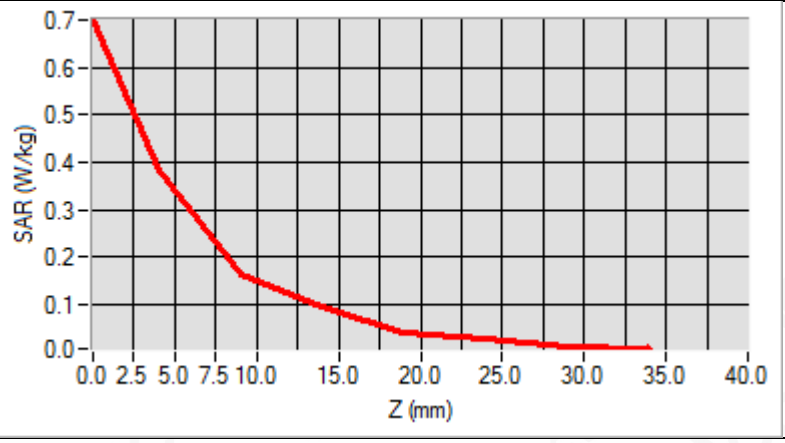
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	2450MHz
Channels	Middle
Signal	Crest factor: 1.0

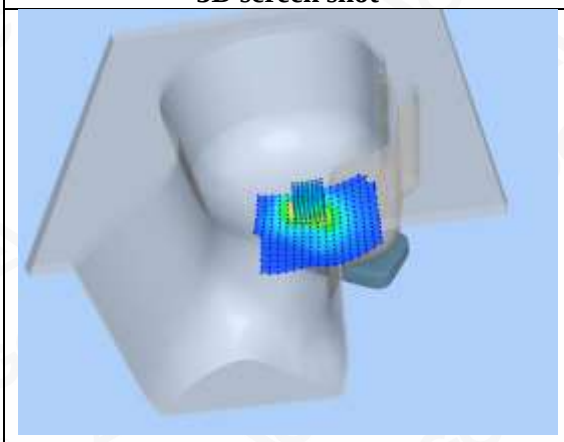
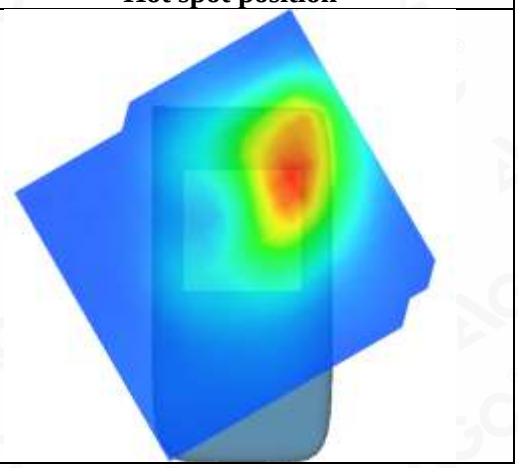
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-25.00, Y=8.00
SAR Peak: 0.66 W/kg

SAR 10g (W/Kg)	0.160598
SAR 1g (W/Kg)	0.242924

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.7004	0.3812	0.1618	0.0941	0.0382	0.0253	0.0086



3D screen shot	Hot spot position
	

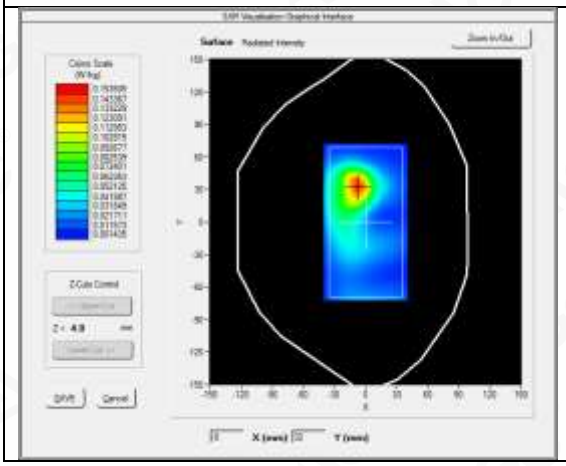
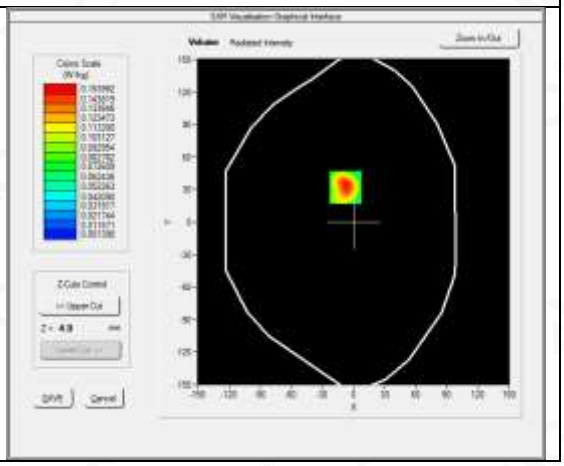
Test Laboratory: AGC Lab **Date: Nov. 03, 2021**
802.11b Mid-Body-Worn- Back
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: Wi-Fi; Communication System Band: 802.11b; Duty Cycle: 1:1; Conv.F=4.02;
Frequency: 2437 MHz; Medium parameters used: f = 2450 MHz; σ =1.81mho/m; εr =39.24; ρ= 1000 kg/m^3 ;
Phantom section: Flat Section
Ambient temperature (℃):21.7, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/802.11b Mid- Body- Back /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/802.11b Mid- Body- Back /Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm;

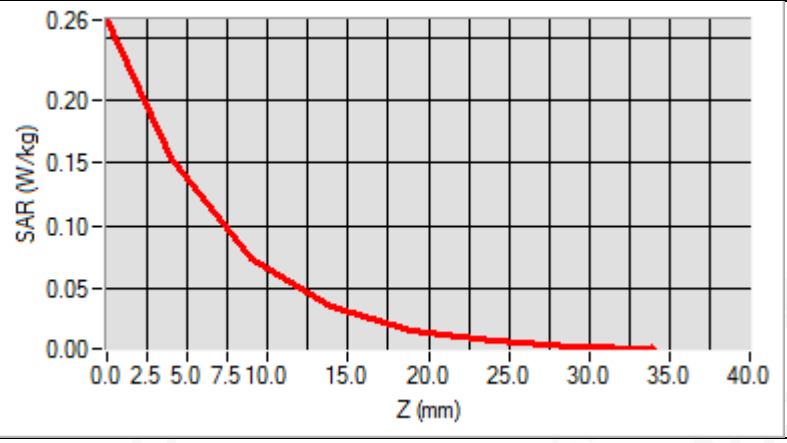
Area Scan	surf_sam_plan.txt, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	2450MHz
Channels	Middle
Signal	Crest factor: 1.0

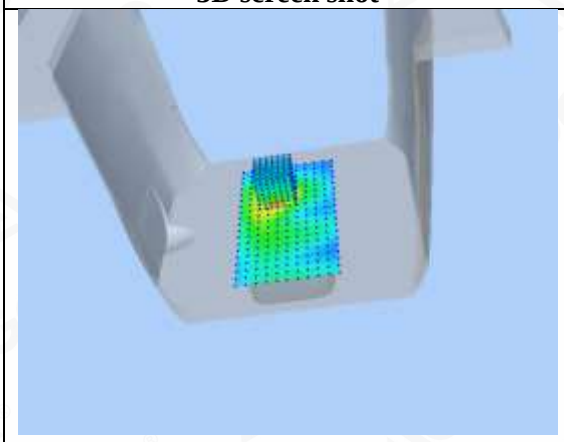
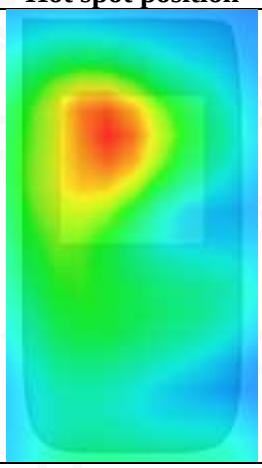
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-8.00, Y=32.00
SAR Peak: 0.26 W/kg

SAR 10g (W/Kg)	0.069682
SAR 1g (W/Kg)	0.144909

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2639	0.1540	0.0732	0.0349	0.0165	0.0080	0.0041



3D screen shot	Hot spot position
	

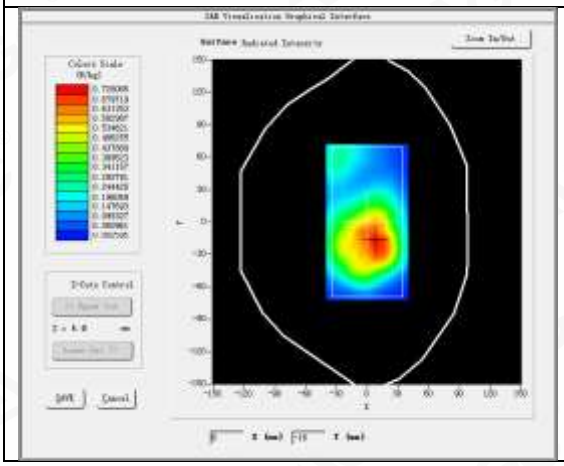
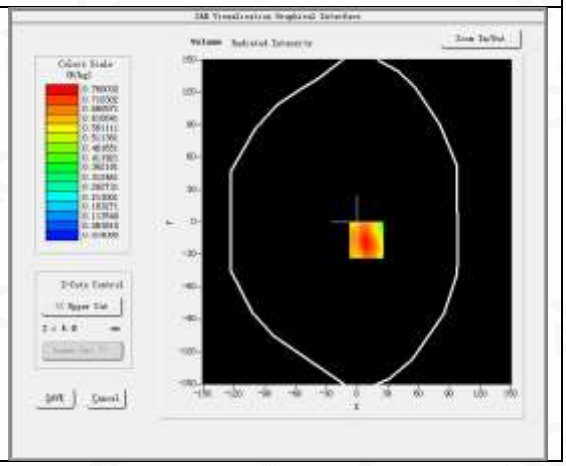
Repeated SAR
Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
GPRS 1900 Low-Body-Back (4up)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: GPRS-4Slot; Communication System Band: PCS 1900; Duty Cycle: 1:2.1; Conv.F=4.57; Frequency: 1850.2 MHz; Medium parameters used: f = 1800 MHz; σ= 1.36 mho/m; εr =39.95; ρ= 1000 kg/m^3 ;
Phantom section: Flat Section
Ambient temperature (℃): 21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/GPRS1900 Low-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/GPRS1900 Low-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

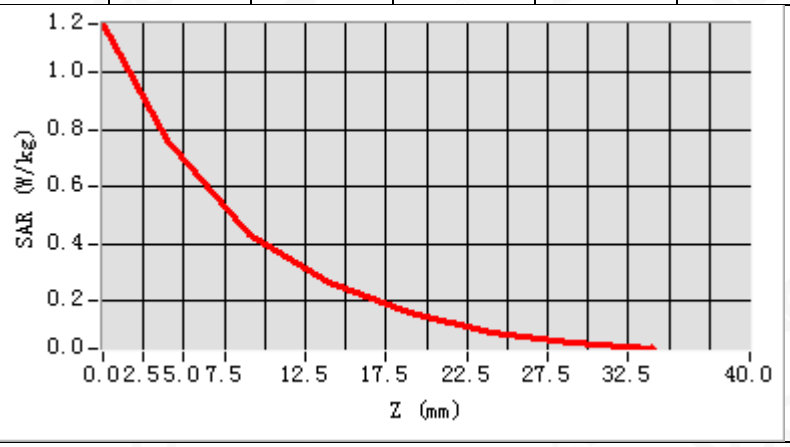
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body Back
Band	PCS 1900
Channels	Low
Signal	TDMA (Crest factor: 2.01)

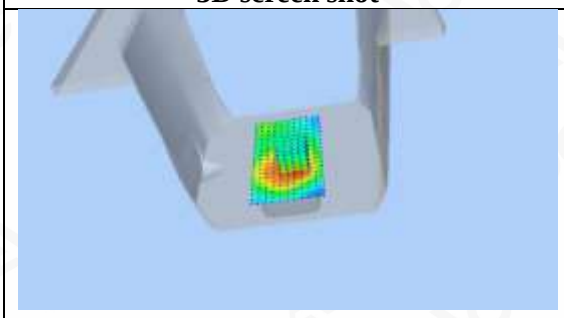
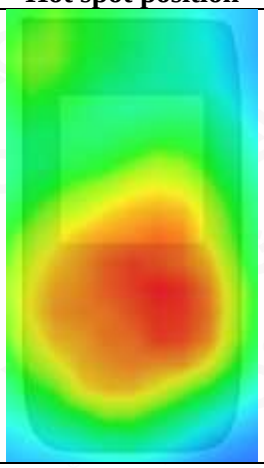
SURFACE SAR	VOLUME SAR
	

Maximum location: X=9.00, Y=-17.00
SAR Peak: 1.22 W/kg

SAR 10g (W/Kg)	0.422825
SAR 1g (W/Kg)	0.732530

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.1723	0.7600	0.4334	0.2620	0.1537	0.0878	0.0534



3D screen shot	Hot spot position
	

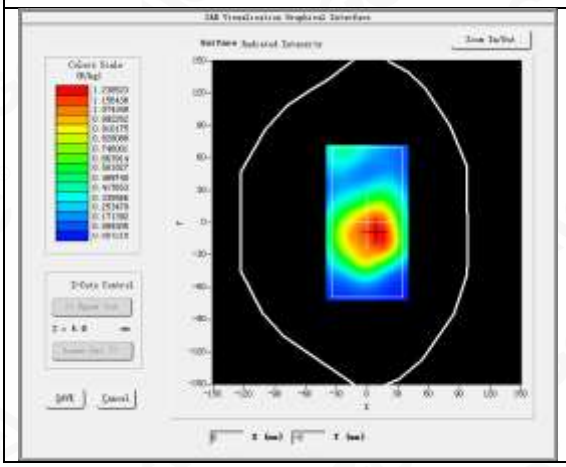
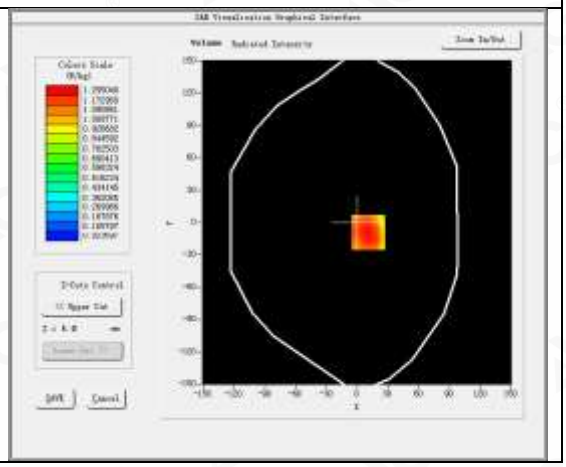
Test Laboratory: AGC Lab **Date: Oct. 31, 2021**
WCDMA Band II Mid-Body-Towards Grounds (RMC 12.2kbps)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: UMTS; Communication System Band: Band II UTRA/FDD ;Duty Cycle:1:1; Conv.F=4.57;
Frequency: 1880 MHz; Medium parameters used: f = 1800 MHz; σ=1.36 mho/m; εr =39.95; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.8, Liquid temperature (℃): 21.6

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA band II Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA band II Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

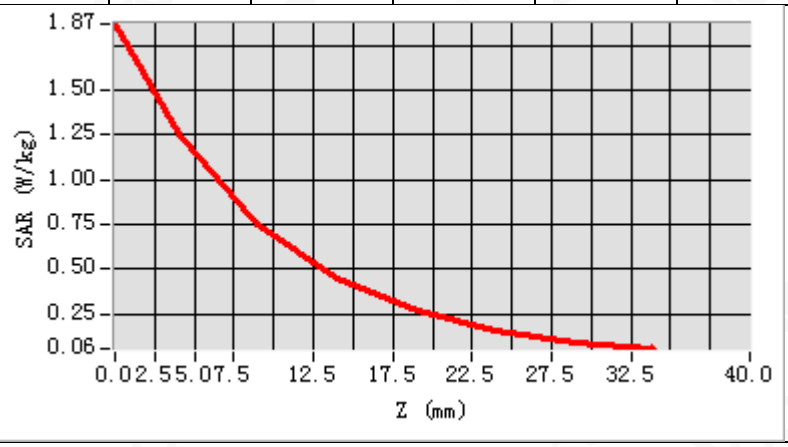
Area Scan	surf_sam_plan.txt, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body Back
Band	WCDMA band II
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

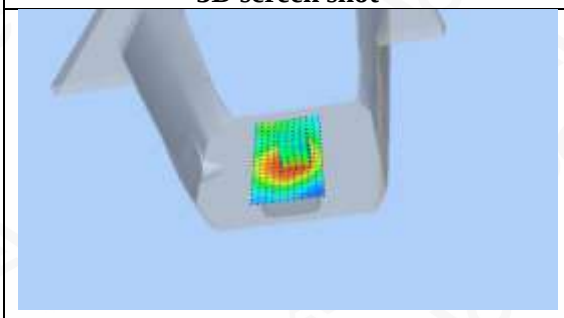
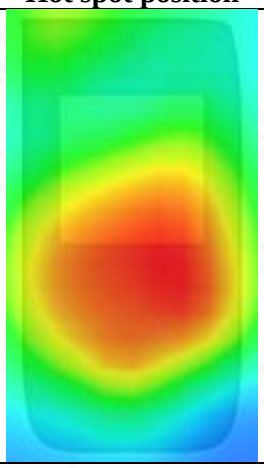
SURFACE SAR	VOLUME SAR
	

Maximum location: X=11.00, Y=-9.00
SAR Peak: 1.92 W/kg

SAR 10g (W/Kg)	0.732282
SAR 1g (W/Kg)	1.214381

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.8699	1.2550	0.7492	0.4512	0.2700	0.1606	0.0942



3D screen shot	Hot spot position
	

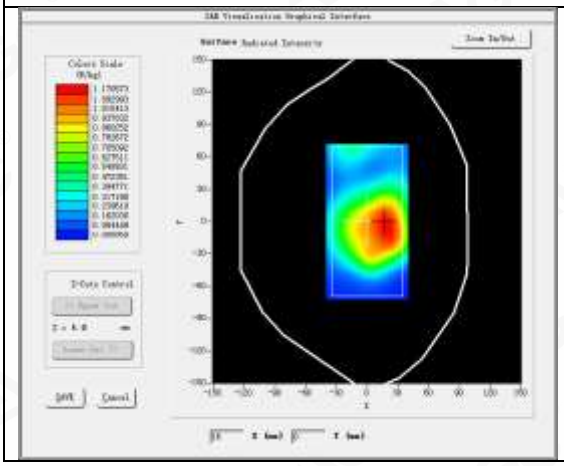
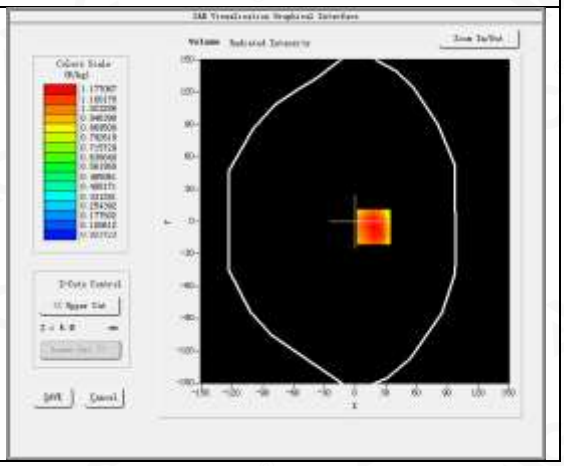
Test Laboratory: AGC Lab **Date: Nov. 02, 2021**
LTE Band 2 Mid-Body-Back (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 2; Duty Cycle:1:1; Conv.F=4.57; Frequency:1880MHz; Medium parameters used: f = 1800 MHz; σ= 1.40 mho/m; εr =39.78; ρ= 1000 kg/m^3 ; Phantom section: Flat Section
Ambient temperature (℃): 21.6, Liquid temperature (℃): 21.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 2 Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 2 Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

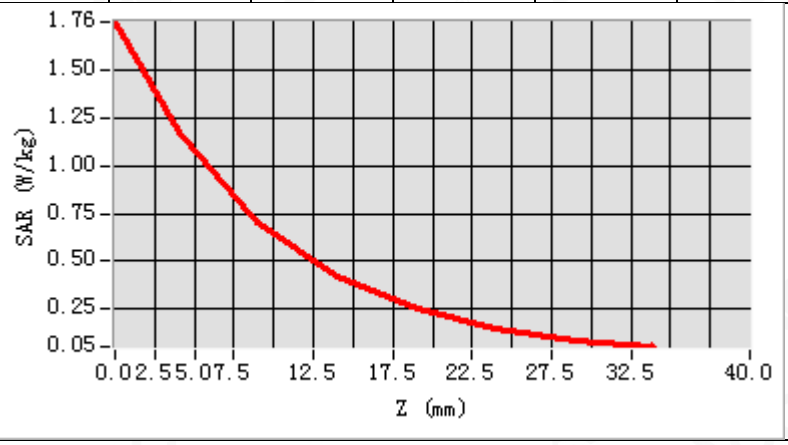
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	LTE Band 2
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

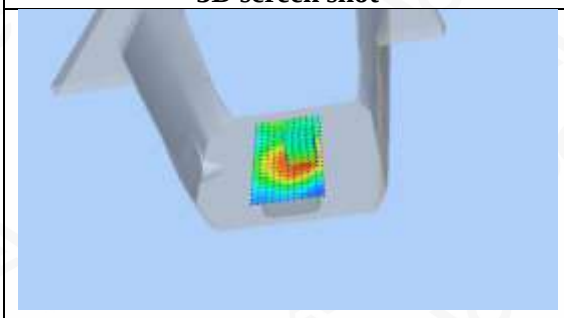
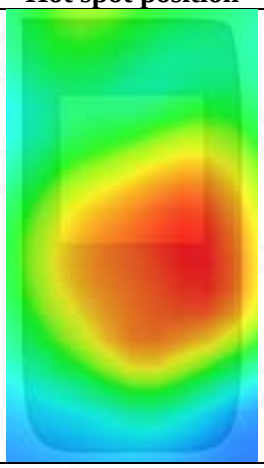
SURFACE SAR	VOLUME SAR
	

Maximum location: X=18.00, Y=-5.00
SAR Peak: 1.81 W/kg

SAR 10g (W/Kg)	0.684120
SAR 1g (W/Kg)	1.144051

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.7551	1.1771	0.7008	0.4193	0.2494	0.1460	0.0855



3D screen shot	Hot spot position
	

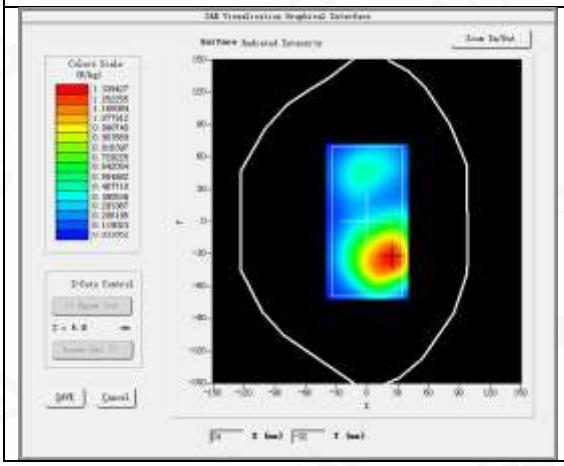
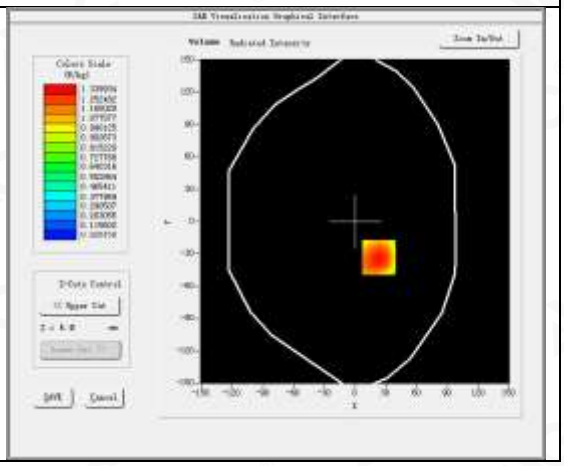
Test Laboratory: AGC Lab **Date: Oct. 30, 2021**
LTE Band 4 Mid-Body-Back (1 RB#0)
DUT: Mobile Phone; Type: LIV 3 LTE

Communication System: LTE; Communication System Band: LTE Band 4; Duty Cycle:1:1; Conv.F=4.94;
Frequency:1732.5 MHz; Medium parameters used: f = 1800 MHz; σ= 1.33 mho/m; εr =42.15; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.7, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 17, 2021; Serial No.: SN 24/20 EP336
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 4 Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 4 Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

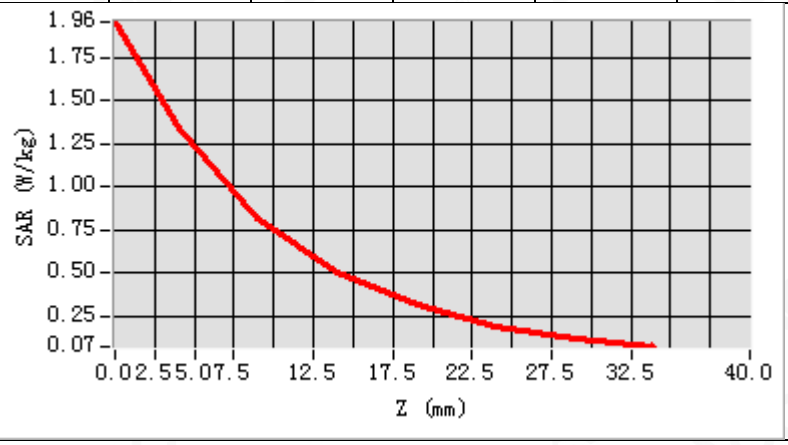
Area Scan	surf_sam_plan.txt, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body Back
Band	LTE Band 4
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

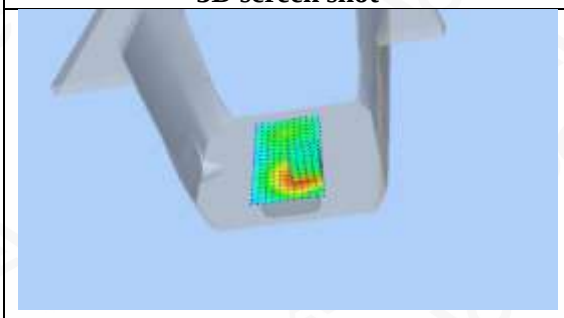
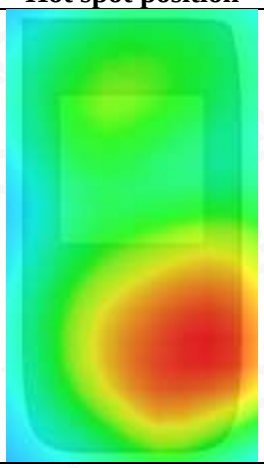
SURFACE SAR	VOLUME SAR
	

Maximum location: X=23.00, Y=-33.00
SAR Peak: 2.01 W/kg

SAR 10g (W/Kg)	0.783016
SAR 1g (W/Kg)	1.294412

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.9615	1.3401	0.8211	0.5054	0.3103	0.1892	0.1143

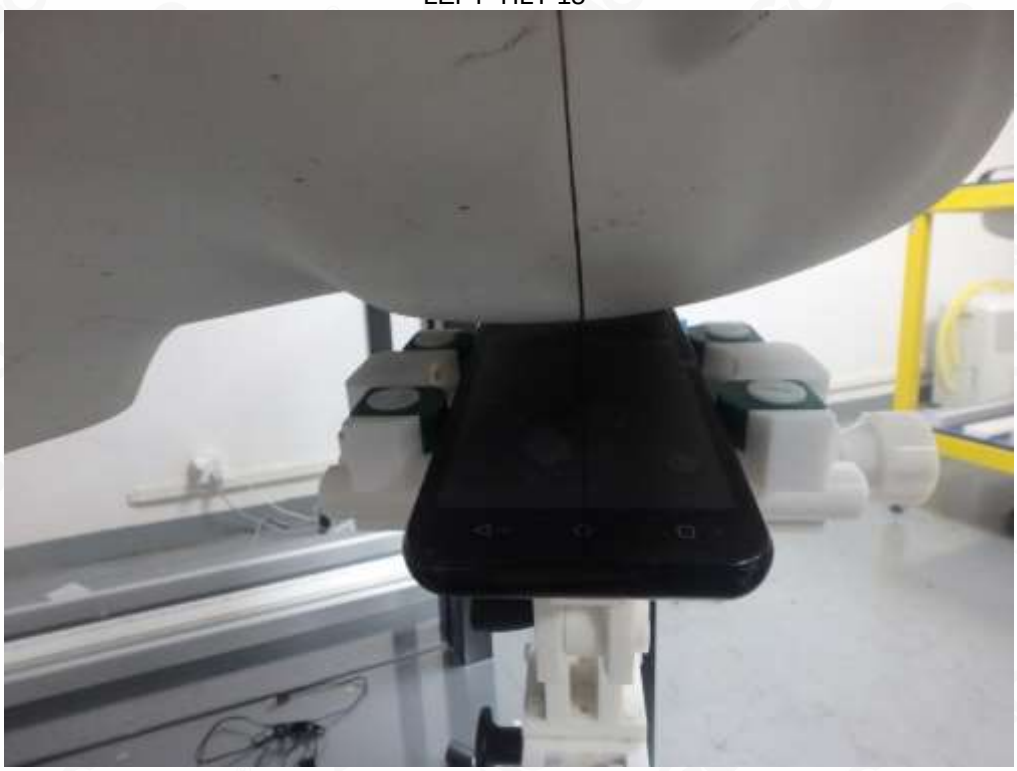


3D screen shot	Hot spot position
	

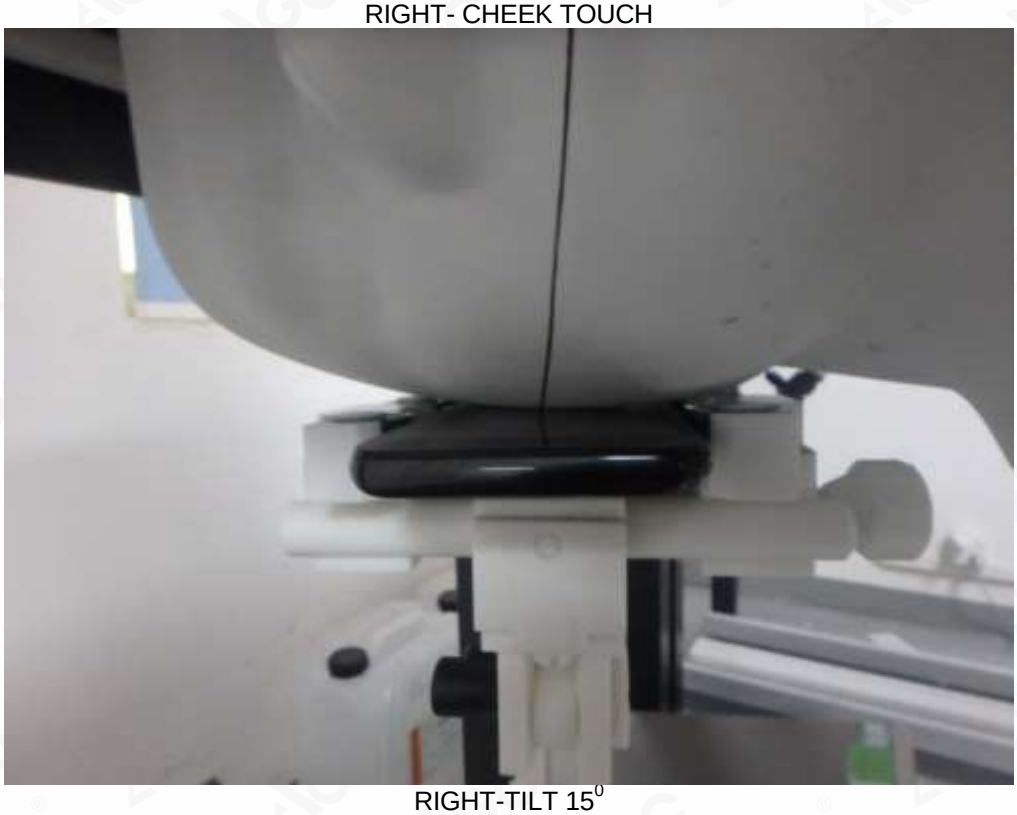
APPENDIX C. TEST SETUP PHOTOGRAPHS

LEFT-CHEEK TOUCH

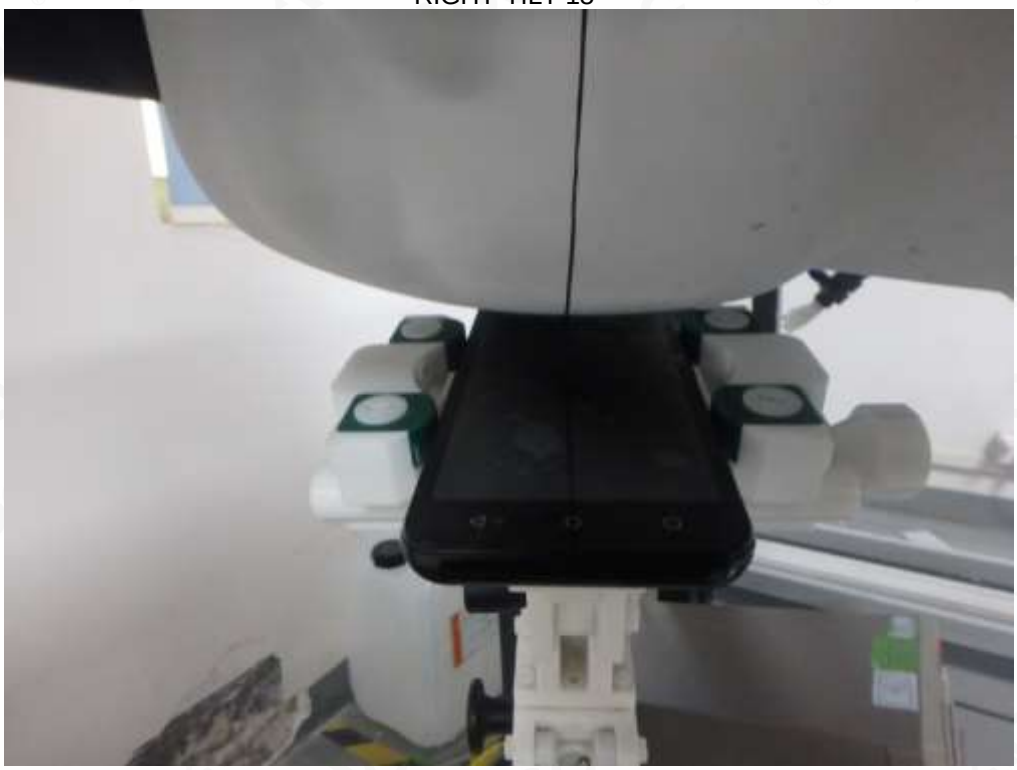
LEFT-TILT 15^0



RIGHT- CHEEK TOUCH



RIGHT-TILT 15^0



Body Back 10mm

Body Front 10mm

Edge 1(Top) 10mm-Hotspot Mode

Edge 2(Right) 10mm-Hotspot Mode

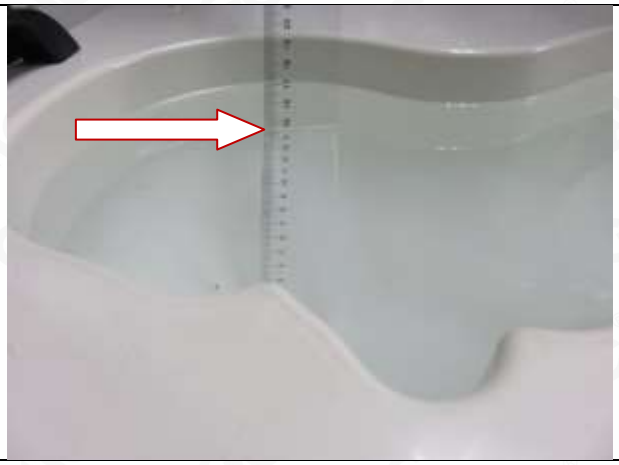
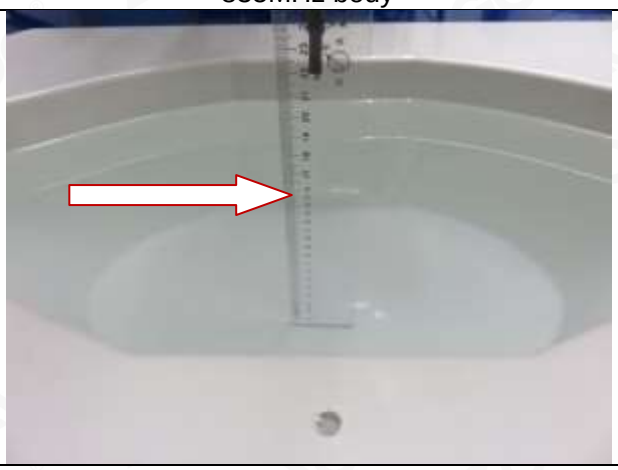
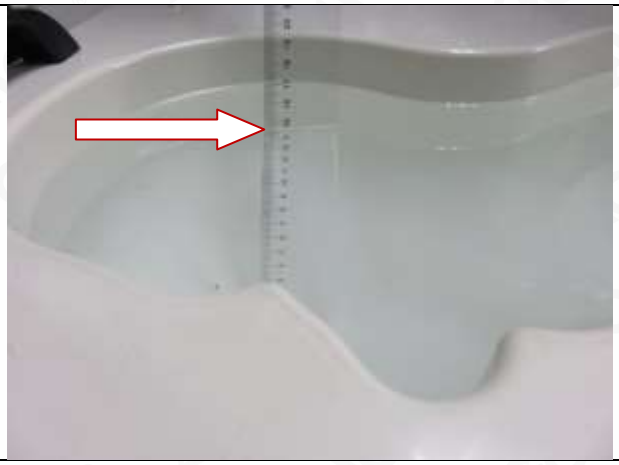
Edge 3(Bottom) 10mm-Hotspot Mode

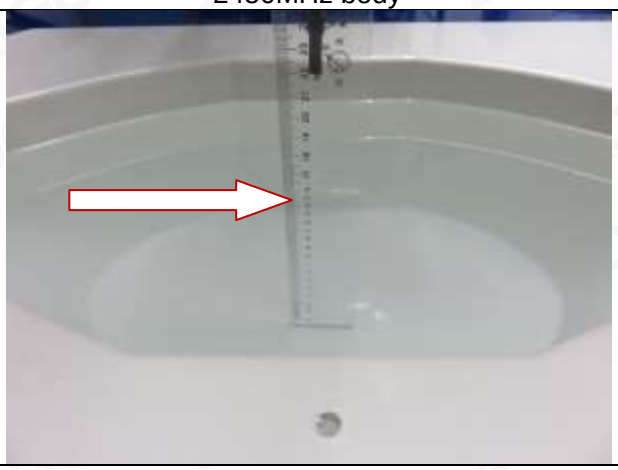
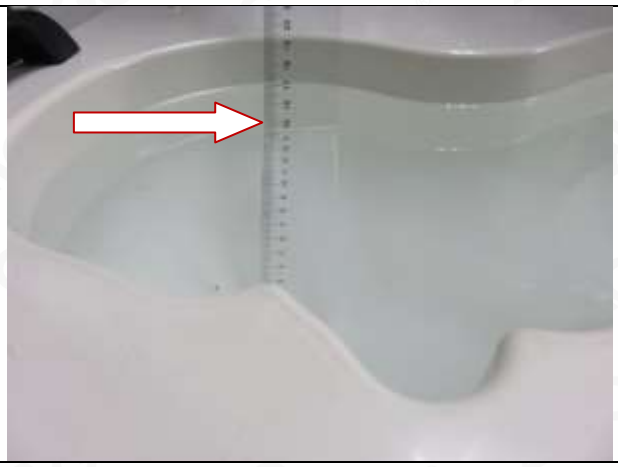
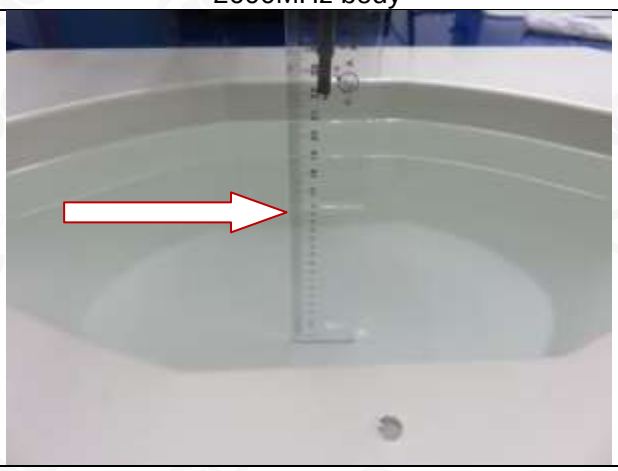
Edge 4(Left) 10mm-Hotspot Mode

Body/Hotspot/Hands back with Headset 10mm

DEPTH OF THE LIQUID IN THE PHANTOM—ZOOM IN

Note：The position used in the measurement were according to IEEE 1528-2013

750MHz head	750MHz body
	
835MHz head	835MHz body
	
1750MHz head	1750MHz body
	

1900MHz head	1900MHz body
	
2450MHz head	2450MHz body
	
2600MHz head	2600MHz body
	

APPENDIX D. CALIBRATION DATA

Refer to Attached files.

Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").

2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.

3.The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.

4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.

5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.

6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.

7.Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.

8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.

9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.