SAR Test Report

Report No.: AGC01035180606FH01

FCC ID	:	2ANKUSV-PRI
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	BODY-WORN CAMERA
BRAND NAME	:	Safety Vision
MODEL NAME	:	SV-PRIMAELITE64
CLIENT	:	Safety Vision LLC
DATE OF ISSUE	:	Aug. 20,2018
STANDARD(S)	:	IEEE Std. 1528:2013 FCC 47CFR § 2.1093 IEEE/ANSI C95.1:2005;
REPORT VERSION	:	V1.0

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Aug. 20,2018	Valid	Initial Release

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Test Report

Applicant Name	Safety Vision LLC
Applicant Address	6100 West Sam Houston Parkway North | Houston, Texas 77041-5113, USA
Manufacturer Name	Safety Vision LLC
Manufacturer Address	6100 West Sam Houston Parkway North | Houston, Texas 77041-5113, USA
Product Designation	BODY-WORN CAMERA
Brand Name	Safety Vision
Model Name	SV-PRIMAELITE64
EUT Voltage	DC3.7V by battery
Applicable Standard	IEEE Std. 1528:2013 FCC 47CFR § 2.1093 IEEE/ANSI C95.1:2005
Test Date	Aug. 03,2018 to Aug. 04,2018
Report Template	AGCRT-US-5G/SAR (2018-01-01)

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

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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)
	Body-worn(with 0mm separation)		
	Head Liquid	Body Liquid	
2.4 GHz WIFI	0.086	0.091	1.6
5.8 GHz WIFI	0.082	0.120	
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 248227 D01 802 11 Wi-Fi SAR v02r02

2. GENERAL INFORMATION

2.1. EUT Description

General Information	
Product Designation	BODY-WORN CAMERA
Test Model	SV-PRIMAELITE64
Hardware Version	V1.0
Software Version	V1.0
Device Category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
2.4GHz WIFI	
WIFI Specification	☐802.11a ☒802.11b ☒802.11g ☒802.11n(20) ☐802.11n(40)
Operation Frequency	2.412 GHz～2.462GHz
EIRP	11b:14.03dBm,11g:12.91dBm,11n(20):12.84dBm
Antenna Gain	3dBi
5.8GHz WIFI	
WIFI Specification	☒802.11a ☒802.11n20 ☒802.11ac20 ☒802.11n40 ☒802.11ac40 ☒802.11ac80
Operation Frequency	5.725 GHz～5.825GHz
Type of modulation	BPSK, QPSK, 16QAM, 64QAM, 128QAM, 256QAM,OFDM
EIRP	802.11a20:12.45dBm; 802.11n20:11.72dBm; 802.11n40:10.85dBm 802.11ac20:11.27dBm; 802.11ac40:9.82dBm; 802.11ac80:9.06dBm
Antenna Gain	3dBi
Power Supply	DC 3.7V by battery or DC 5V by charging box with adapter

Note: The sample used for testing is end product.

Product	Type	
	☒ Production unit	☐ Identical Prototype

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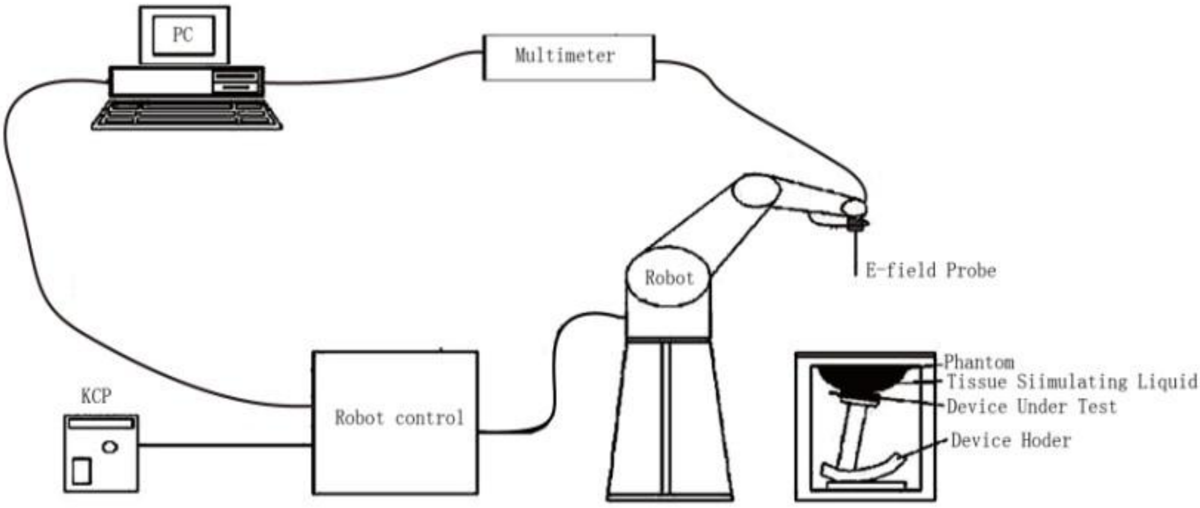
3. SAR MEASUREMENT SYSTEM

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.

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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. IEEE1528 etc.)Under ISO17025.The calibration data are in Appendix D.

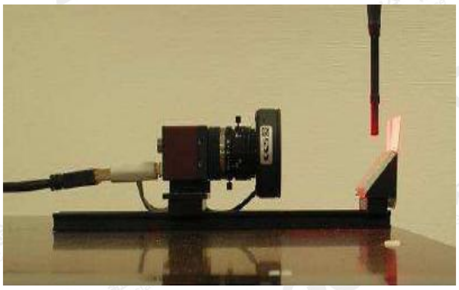
Isotropic E-Field Probe Specification

Model	SSE2
Manufacture	MVG
Identification No.	SN 08/16 EPGO282
Frequency	0.7GHz-6GHz Linearity:±0.06dB(700MHz-6GHz)
Dynamic Range	0.01W/Kg-100W/Kg Linearity:±0.06dB
Dimensions	Overall length:330mm Length of individual dipoles:2mm Maximum external diameter:8mm Probe Tip external diameter:2.5mm Distance between dipoles/ probe extremity:1mm
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 6 GHz with precision of better 30%.

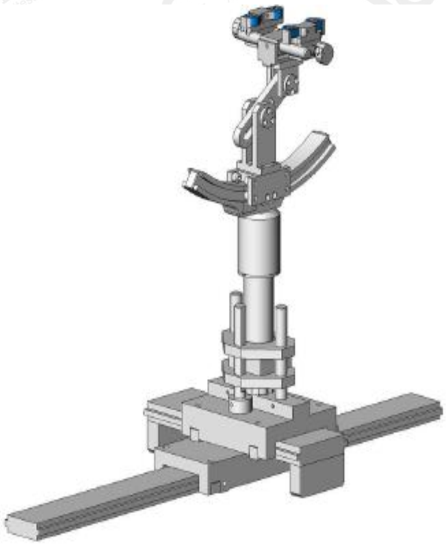
3.3. Robot

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:

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

$$SAR = c_h \frac{dT}{dt}\bigg|_{t=0}$$

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, 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	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

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.

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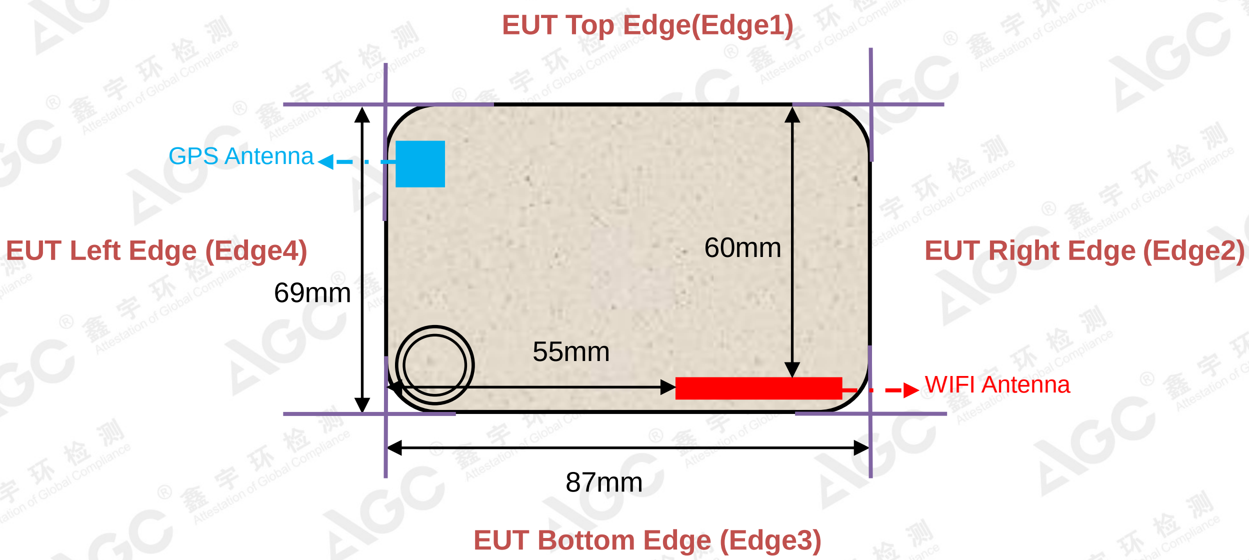
4.3. RF Exposure Conditions

Test Configuration and setting:

The device is a police portable BWC equipment, which support 2.4GHz & 5.8G Wifi.

For SAR testing, the EUT is configured with the WLAN continuous TX tool through software.

Antenna Location: (the front view)



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 5% are listed in 5.2

5.1. The composition of the tissue simulating liquid

Ingredient (% Weight) / Frequency (MHz)	Water	Nacl	Polysorbate 20	DGBE	1,2-Propanediol	Triton X-100	Diethylen glycol monohexylether
2450 Head	71.88	0.16	0.0	7.99	0.0	19.97	0.0
2450 Body	70	1	0.0	9	0.0	20	0.0
5000 Head	65.52	0.0	0.0	0.0	0.0	17.24	17.24
5000 Body	80	0.0	0.0	10	0.0	10	0.0

5.2. Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE 1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in IEEE 1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in IEEE 1528.

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
835	41.5	0.90	41.5	0.90
900	41.5	0.97	41.5	0.97
1450	40.5	1.20	40.5	1.20
1800 – 2000	40.0	1.40	40.0	1.40
2450	**39.2**	**1.80**	**39.2**	**1.80**
3000	38.5	2.40	38.5	2.40
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5600	35.5	5.07	48.5	5.77
5800	**35.3**	**5.27**	**48.2**	**6.00**

(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 2450MHz					
Head	Fr. (MHz)	Dielectric Parameters (±5%) εr 39.2(37.24-41.16)	δ[s/m] 1.80(1.71-1.89)	Tissue Temp [°C]	Test time
	2412	40.01	1.75	21.3	Aug. 03,2018
	2437	39.43	1.78		
	2450	38.81	1.82		
	2462	38.19	1.84		
Tissue Stimulant Measurement for 2450MHz					
Body	Fr. (MHz)	Dielectric Parameters (±5%) εr 52.7(50.065-55.335)	δ[s/m] 1.95(1.8525-2.0475)	Tissue Temp [°C]	Test time
	2412	54.06	1.88	21.5	Aug. 03,2018
	2437	53.47	1.90		
	2450	52.94	1.92		
	2462	52.25	1.95		

Tissue Stimulant Measurement for 5800MHz					
Head	Fr. (MHz)	Dielectric Parameters (±5%) εr 35.3(33.535-37.065)	δ[s/m] 5.27(5.0065-5.5335)	Tissue Temp [°C]	Test time
	5745	36.35	5.12	21.3	Aug. 04,2018
	5785	36.18	5.20		
	5800	35.62	5.25		
	5825	35.07	5.31		
Tissue Stimulant Measurement for 5800MHz					
Body	Fr. (MHz)	Dielectric Parameters (±5%) εr 48.2 (45.79-50.610)	δ[s/m] 6.00 (5.70-6.30)	Tissue Temp [°C]	Test time
	5745	49.71	5.86	21.5	Aug. 04,2018
	5785	49.53	5.95		
	5800	48.96	6.01		
	5825	48.22	6.08		

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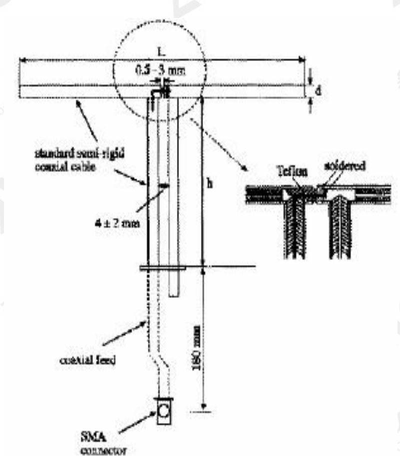
6. SAR SYSTEM CHECK PROCEDURE

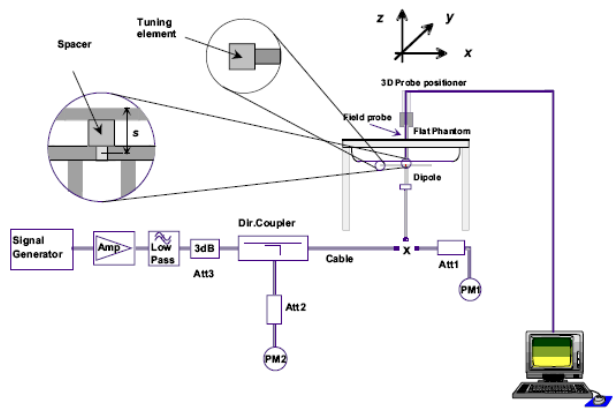
6.1. SAR System Check Procedures

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.

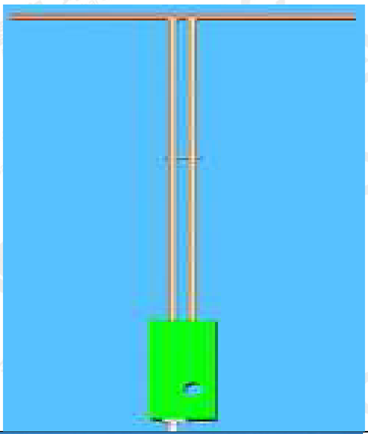
Each SATIMO system is equipped with one or more system check kits. These units, together with the predefined measurement procedures within the SATIMO software, enable the user to conduct the system check and system validation. System kit includes a dipole, and dipole device holder.

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 dipole 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 dipole.
	The wave guide 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 wave guide.

Frequency	L (mm)	h (mm)	d (mm)
2450MHz	51.5	30.4	3.6

Frequency	L (mm)	W (mm)	L_f (mm)	W_f (mm)
5000MHz	40.39	20.19	81.03	61.98

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6.2.2. System Check Result

System Performance Check at 2450MHz &5000-6000MHz for Head								
Validation Kit:SN29/15 DIP 2G450-393 &SN 15/15 WGA 36								
Frequency [MHz]	Target Value(W/Kg)		Reference Result (± 10%)		Normalized to 1W(W/Kg)		Tissue Temp. [°C]	Test time
	1g	10g	1g	10g	1g	10g		
2450	54.53	24.30	49.077-59.983	21.87-26.73	51.62	23.22	21.3	Aug. 03,2018
5800	180.38	61.46	162.342-198.418	55.314-67.606	173.04	59.93	21.3	Aug. 04,2018
System Performance Check at 2450MHz &5000MHz for Body								
Frequency [MHz]	Target Value(W/Kg)		Reference Result (± 10%)		Normalized to 1W(W/Kg)		Tissue Temp. [°C]	Test time
	1g	10g	1g	10g	1g	10g		
2450	49.92	23.16	44.928-54.912	20.844-25.476	47.92	21.07	21.5	Aug. 03,2018
5800	176.30	61.30	158.67-193.93	55.17-67.43	175.22	60.88	21.5	Aug. 04,2018

Note:
(1) We use a CW signal of 18dBm(2.4GHz),15dBm(5.8GHz) for system check, and then all SAR values are normalized to 1W forward power. The result must be within ±10% of target value.

7. EUT TEST POSITION

This EUT was tested in **Body back**

7.1. Test 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 **0mm.**

The SAR test procedure has been defined by FCC via KDB.

8. SAR EXPOSURE LIMITS

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

Type Exposure	Uncontrolled Environment Limit (W/kg)
Spatial Peak SAR (1 g 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	1-2F., Bldg.2, No.1-4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District B112-B113, Shenzhen 518012
NVLAP Lab Code	600153-0
Designation Number	CN5028
Test Firm Registration Number	682566
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by National Voluntary Laboratory Accreditation program, NVLAP Code 600153-0

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10. TEST EQUIPMENT LIST

Equipment description	Manufacturer/ Model	Identification No.	Current calibration date	Next calibration date
SAR Probe	MVG	SN 08/16 EPGO282	Aug. 08,2017	Aug. 07,2018
Phantom	SATIMO	SN_4511_SAM90	Validated. No cal required.	Validated. No cal required.
Liquid	SATIMO	-	Validated. No cal required.	Validated. No cal required.
Multimeter	Keithley 2000	1188656	Mar. 01,2018	Feb. 28,2019
Dipole	SATIMO SID2450	SN29/15 DIP 2G450-393	Jul. 05,2016	Jul. 04,2019
Wave guide	SWG5500	SN 15/15 WGA 36	Jul. 05,2016	Jul. 04,2019
Signal Generator	Agilent-E4438C	US41461365	Mar. 01,2018	Feb. 28,2019
Vector Analyzer	Agilent / E4440A	US41421290	Mar. 01,2018	Feb. 28,2019
Network Analyzer	Rhode & Schwarz ZVL6	SN100132	Mar. 01,2018	Feb. 28,2019
Attenuator	Warison /WATT-6SR1211	N/A	N/A	N/A
Attenuator	Mini-circuits / VAT-10+	N/A	N/A	N/A
Amplifier	EM30180	SN060552	Mar. 01,2018	Feb. 28,2019
Directional Couple	Werlatone/ C5571-10	SN99463	Jun. 12,2018	Jun. 11,2019
Directional Couple	Werlatone/ C6026-10	SN99482	Jun. 12,2018	Jun. 11,2019
Power Sensor	NRP-Z21	1137.6000.02	Oct. 12,2017	Oct. 11,2018
Power Sensor	NRP-Z23	US38261498	Mar. 01,2018	Feb. 28,2019
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.

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11. MEASUREMENT UNCERTAINTY

Measurement uncertainty for Dipole averaged over 1 gram / 10 gram.									
a	b	c	d	e f(d,k)	f	g	h c×f/e	i c×g/e	k
Uncertainty Component	Sec.	Tol (± %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (±%)	10g Ui (±%)	vi
Measurement System									
Probe calibration	E.2.1	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	E.2.2	0.695	R	$\sqrt{3}$	√0.5	√0.5	0.28	0.28	∞
Hemispherical Isotropy	E.2.2	1.045	R	$\sqrt{3}$	√0.5	√0.5	0.43	0.43	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	E.2.4	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	E2.5	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Readout Electronics	E.2.6	0.021	N	1	1	1	0.021	0.021	∞
Response Time	E.2.7	0	R	$\sqrt{3}$	1	1	0	0	∞
Integration Time	E.2.8	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
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	∞
Test sample Related									
Test sample positioning	E.4.2	2.6	N	1	1	1	2.6	2.6	∞
Device holder uncertainty	E.4.1	3	N	1	1	1	3	3	∞
Output power variation—SAR drift measurement	E.2.9	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	E.6.5	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
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	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity measurement	E.3.3	5	N	1	0.23	0.26	1.15	1.30	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid permittivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty			RSS				9.79	9.59	
Expanded Uncertainty (95% Confidence interval)			K=2				19.58	19.18	

System check uncertainty for Dipole averaged over 1 gram / 10 gram.									
a	b	c	d	e f(d,k)	f	g	h c×f/e	i c×g/e	k
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	0.695	R	√3	0	0	0.00	0.00	∞
Hemispherical Isotropy	E.2.2	1.045	R	√3	0	0	0.00	0.00	∞
Boundary effect	E.2.3	1.0	R	√3	0	0	0.00	0.00	∞
Linearity	E.2.4	0.685	R	√3	0	0	0.00	0.00	∞
System detection limits	E.2.4	1.0	R	√3	0	0	0.00	0.00	∞
Modulation response	E2.5	3.0	R	√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	√3	0	0	0.00	0.00	∞
Integration Time	E.2.8	1.4	R	√3	0	0	0.00	0.00	∞
RF ambient conditions-Noise	E.6.1	3.0	R	√3	0	0	0.00	0.00	∞
RF ambient conditions-reflections	E.6.1	3.0	R	√3	0	0	0.00	0.00	∞
Probe positioner mechanical tolerance	E.6.2	1.4	R	√3	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	E.6.3	1.4	R	√3	1	1	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.3	R	√3	0	0	0.00	0.00	∞
System check source (dipole)									
Deviation of experimental dipoles	E.6.4	2	N	1	1	1	2	2	∞
Input power and SAR drift measurement	8,6.6.4	5	R	√3	1	1	2.89	2.89	∞
Dipole axis to liquid distance	8,E.6.6	2	R	√3	1	1	1.15	1.15	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	4	R	√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	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity measurement	E.3.3	5	N	1	0.23	0.26	1.15	1.30	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	√3	0.78	0.71	1.13	1.02	∞
Liquid permittivity—temperature uncertainty	E.3.4	2.5	R	√3	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty			RSS				5.564	5.205	
Expanded Uncertainty (95% Confidence interval)			K=2				11.128	10.410	

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System Validation uncertainty for Dipole averaged over 1 gram / 10 gram.									
a	b	c	d	e f(d,k)	f	g	h c×f/e	i c×g/e	k
Uncertainty Component	Sec.	Tol (±%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (±%)	10g Ui (±%)	vi
Measurement System									
Probe calibration	E.2.1	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	E.2.2	0.695	R	$\sqrt{3}$	1	1	0.40	0.40	∞
Hemispherical Isotropy	E.2.2	1.045	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
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 check source (dipole)									
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 tissue parameters									
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 measurement	E.3.3	4.0	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity measurement	E.3.3	5.0	N	1	0.23	0.26	1.15	1.30	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid permittivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty			RSS				9.718	9.517	
Expanded Uncertainty (95% Confidence interval)			K=2				19.437	19.035	

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12. CONDUCTED POWER MEASUREMENT

2.4GHz WIFI

Mode	Data Rate (Mbps)	Channel	Frequency(MHz)	Average Power (dBm)
802.11b	1	1	2412	**14.03**
		6	2437	13.96
		11	2462	13.64
802.11g	6	1	2412	12.76
		6	2437	12.91
		11	2462	12.59
802.11n20	6.5	1	2412	12.06
		6	2437	12.71
		11	2462	12.84

5GHz WIFI

Band	Mode	Channel	Frequency (MHz)	EIRP (dBm)
5800	802.11a	149	5745	**12.45**
		153	5765	12.33
		157	5785	12.31
		161	5805	12.28
		165	5825	12.44
	802.11n20	149	5745	11.53
		153	5765	11.42
		157	5785	11.48
		161	5805	11.39
		165	5825	11.72
	802.11n40	151	5755	10.85
		159	5795	10.36
	802.11ac20	149	5745	11.27
		153	5765	11.12
		157	5785	11.09
		161	5805	11.03
		165	5825	10.84
	802.11ac40	151	5755	9.17
		159	5795	9.82
	802.11ac80	155	5775	9.06

13. TEST RESULTS

13.1. SAR Test Results Summary

13.1.1. Test position and configuration

1. The EUT is a police portable BWC equipment.
2. According to FCC PAG, Lab use the head liquid with a separation of 0mm at flat phantom to test, and use the body liquid with a separation of 0mm at flat phantom to test;
3. For SAR testing, the device was controlled by software to test at reference fixed frequency points.

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. Per KDB 248227 D01 v02r02 Chapter 5.2.2,when SAR measurement is required for 2.4GHz 802.11g/n OFDM configurations, the measurement and test reducing procedures for OFDM are applied. SAR is not required for the following 2.4 GHz OFDM conditions.
   (1) When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.
   (2) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is≤1.2 W/Kg,
4. Per KDB 248227 D01 v02r02 Chapter 5.3.4, SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, the procedures in 5.3.2 are applied to determine the test configuration. Additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.
   (1) When SAR test exclusion provisions of KDB Publication 447498 D01 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.
   (2) When the highest reported SAR for the initial test configuration (when applicable, include subsequent

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

(3) When the specified maximum output power is same for both UNII 1 and UNII 2A,begin SAR measuremengs in UNII 2A with the channel with the highest measured output power.If the report SAR for UNII 2A is <1.2W/Kg,SAR is nor required for UNII 1;otherwise treat the remaining bands separately and test them independently for SAR.

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

5. 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)]

13.1.3. SAR Test Results Summary

SAR MEASUREMENT									
Depth of Liquid (cm):>15					Relative Humidity (%): 64.9				
Product: BODY-WORN CAMERA									
Test Mode: 2.4GHz 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**
Head Lipuid									
Body Back	DTS	1	2412	0.02	0.077	14.50	14.03	0.086	1.6
Body Lipuid									
Body Back	DTS	1	2412	0.05	0.082	14.50	14.03	0.091	1.6

Note:
- When the 1-g SAR is ≤ 0.8W/kg, testing for low and high channel is optional.
- The test separation of all above table is 0mm.

SAR MEASUREMENT								
Depth of Liquid (cm):>15				Relative Humidity (%): 60.7				
Product: BODY-WORN CAMERA								
Test Mode: 5.8GHz 802.11a20								
Position	**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)**
Head Lipuid								
Body Back	149	5745	0.07	0.081	12.50	12.45	0.082	1.6
Body Lipuid								
Body Back	149	5745	0.10	0.119	12.50	12.45	0.120	1.6

Note:
- When the 1-g SAR is ≤ 0.8W/kg, testing for low and high channel is optional.
- The test separation of all above table is 0mm.

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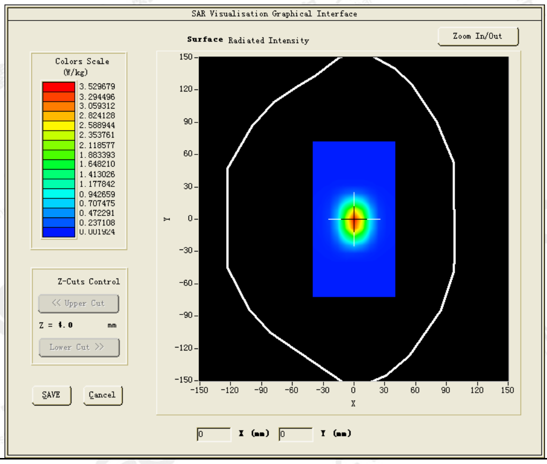
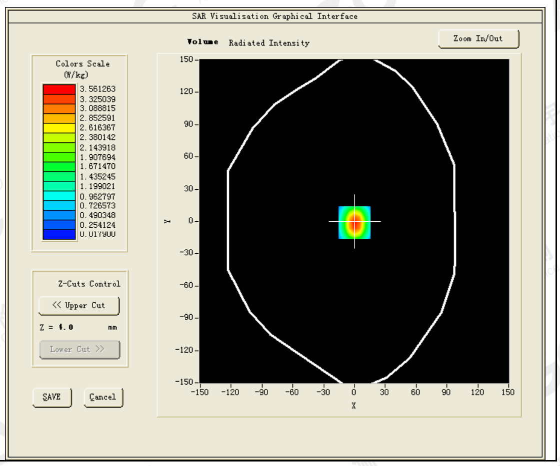
APPENDIX A. SAR SYSTEM CHECK DATA

Test Laboratory: AGC Lab **Date: Aug. 03,2018**
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=2.52
Frequency: 2450 MHz; Medium parameters used: f = 2450 MHz; σ =1.82 mho/m; εr =38.81; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃): 21.9, Liquid temperature (℃): 21.3

SATIMO Configuration:

- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_32

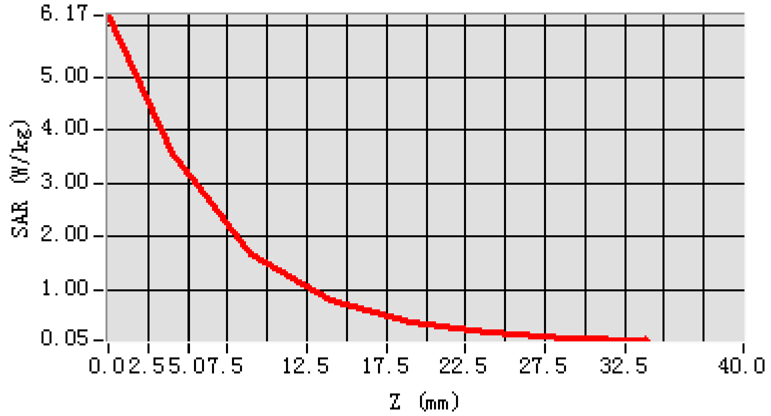
Configuration/System Check 2450 MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 2450 MHz Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

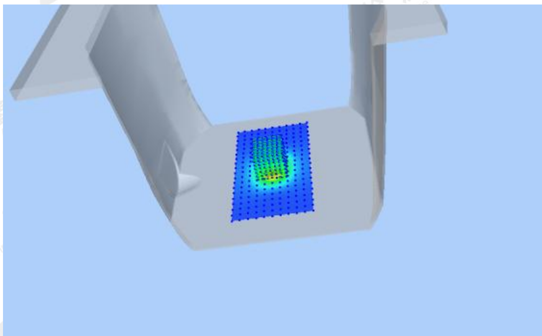
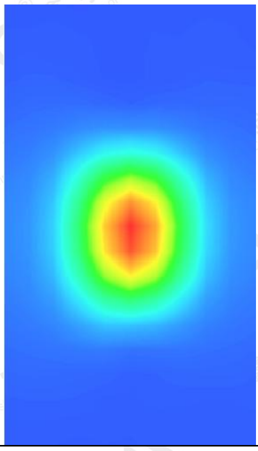
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=-0.00
SAR Peak: 6.17 W/kg

SAR 10g (W/Kg)	1.465371
SAR 1g (W/Kg)	3.257154

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.1744	3.5695	1.6801	0.8144	0.4035	0.2011	0.1005



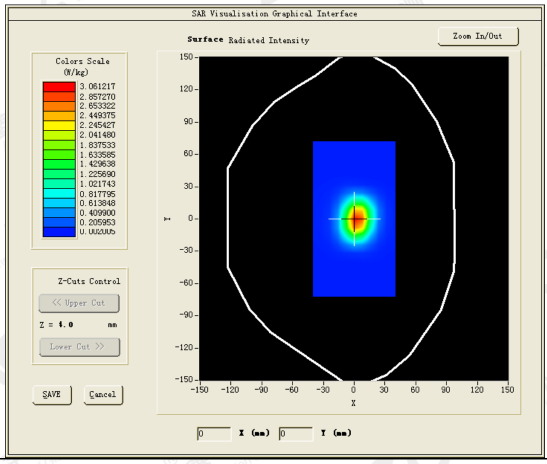
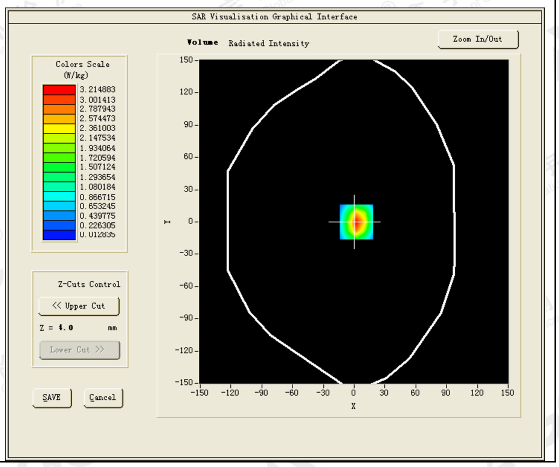
3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 03,2018**
System Check Body 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=2.58
Frequency: 2450 MHz; Medium parameters used: f = 2450 MHz; σ =1.92 mho/m; ε r =52.94; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.9, Liquid temperature (℃): 21.5

SATIMO Configuration

- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

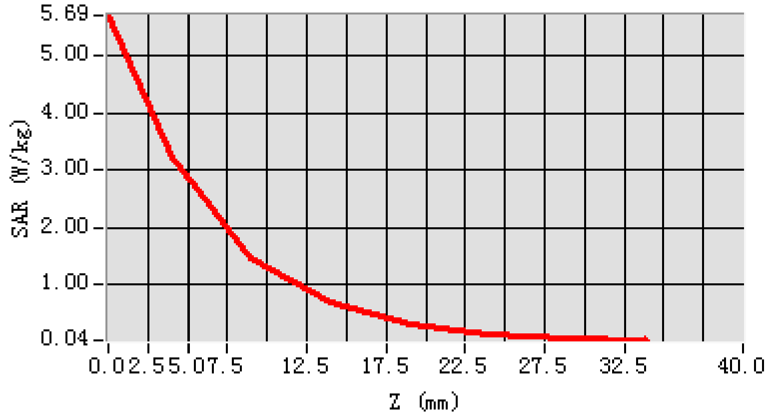
Configuration/System Check 2450MHz Body/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 2450MHz Body/Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

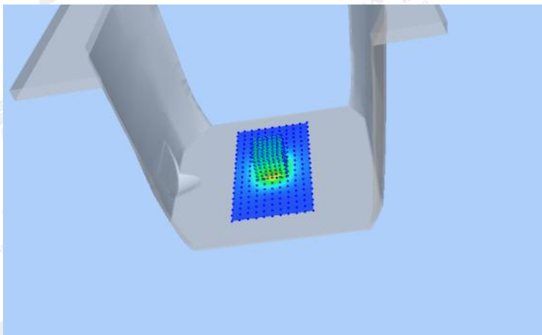
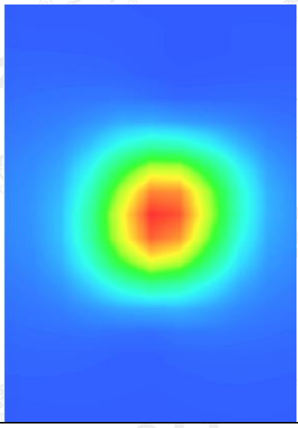
SURFACE SAR	VOLUME SAR
	

Maximum location: X=2.00, Y=0.00
SAR Peak: 5.69 W/kg

SAR 10g (W/Kg)	1.329134
SAR 1g (W/Kg)	3.023741

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	5.6859	3.2221	1.4603	0.6925	0.3333	0.1617	0.0842



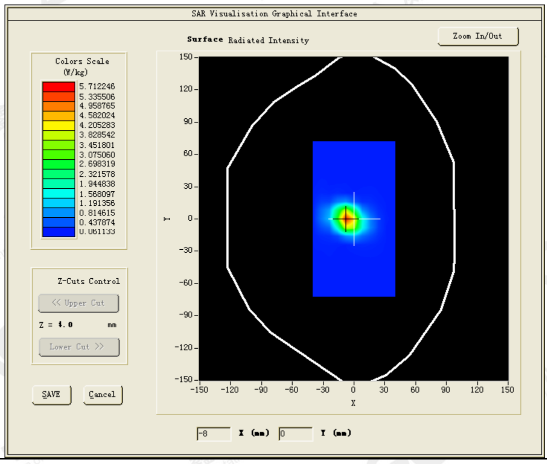
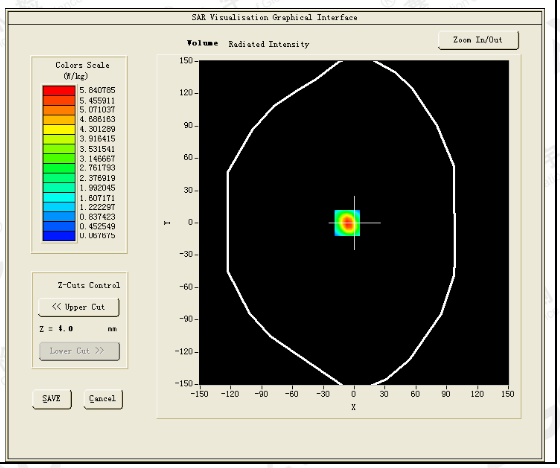
3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 04,2018**
System Check Head 5800 MHz
DUT: Dipole 5000MHz Type: SWG5500
Communication System: CW; Communication System Band: D5000 (5000.0 MHz); Duty Cycle: 1:1; Conv.F=2.46
Frequency: 5800 MHz; Medium parameters used: f = 5800 MHz; σ =5.25 mho/m; εr =35.62; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=15dBm
Ambient temperature (℃): 22.0, Liquid temperature (℃): 21.3

SATIMO Configuration:

- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

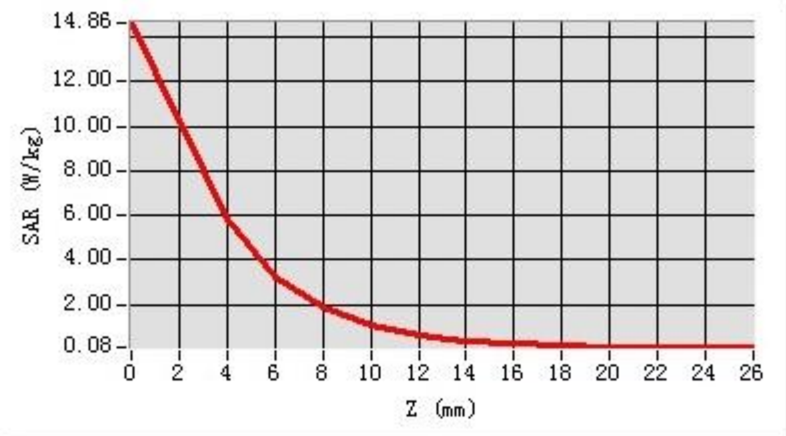
Configuration/System Check 5800 MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 5800 MHz Head/Zoom Scan: Measurement grid: dx=4mm,dy=4mm, dz=2mm

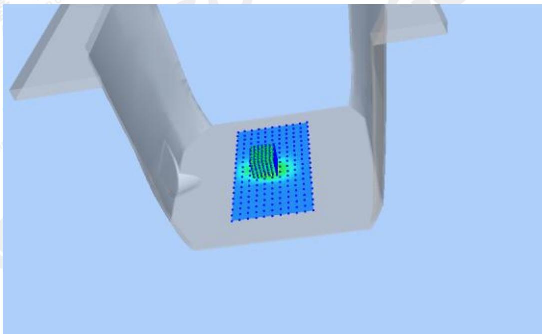
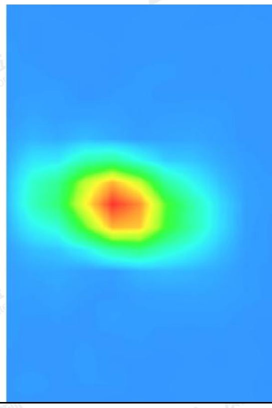
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-8.00, Y=0.00
SAR Peak: 14.86 W/kg

SAR 10g (W/Kg)	1.895310
SAR 1g (W/Kg)	5.471854

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	14.8569	5.8023	3.2602	1.8331	1.0471	0.6021	0.3622	0.2159	0.1537	0.1108	0.1000	0.0850

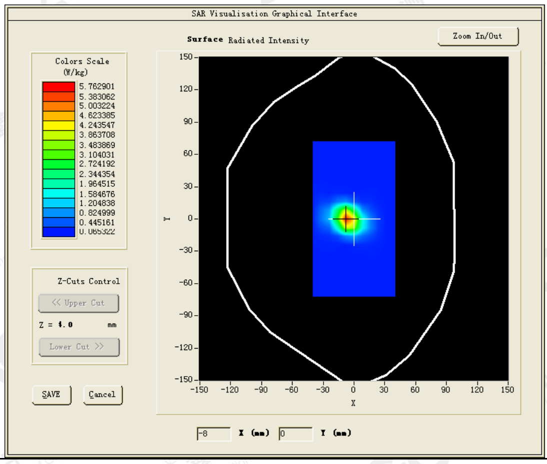
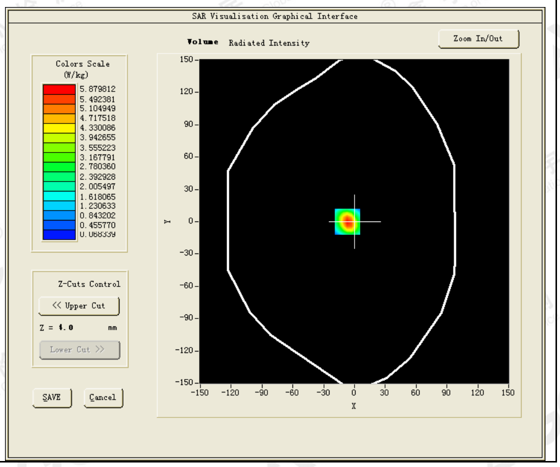


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 04,2018**
System Check Body 5800 MHz
DUT: Dipole 5000MHz Type: SWG5500
Communication System: CW; Communication System Band: D5000 (5000.0 MHz); Duty Cycle: 1:1; Conv.F=2.53
Frequency: 5800 MHz; Medium parameters used: f = 5800 MHz; σ =6.01 mho/m; εr =48.96; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=15dBm
Ambient temperature (℃): 22.0, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

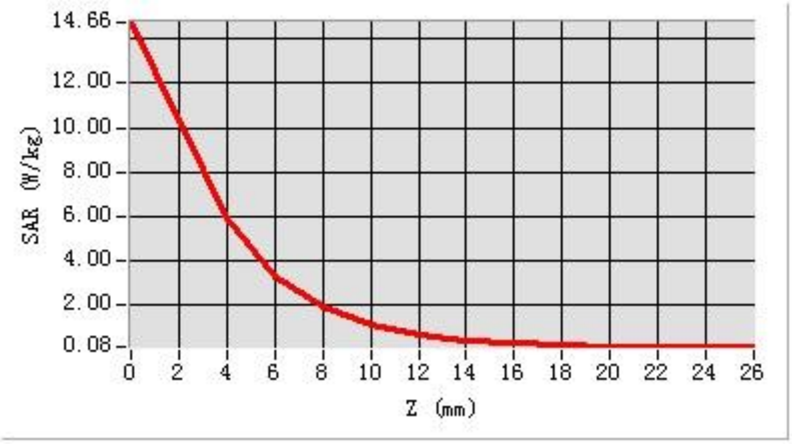
Configuration/System Check 5800 MHz Body/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 5800 MHz Body/Zoom Scan: Measurement grid: dx=4mm,dy=4mm, dz=2mm

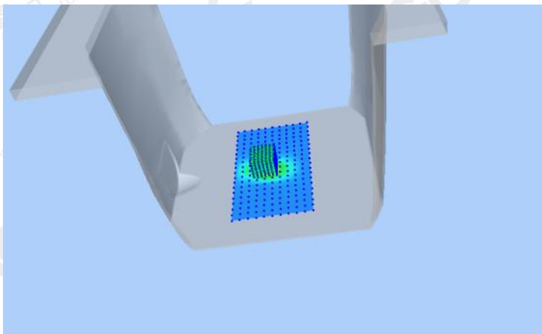
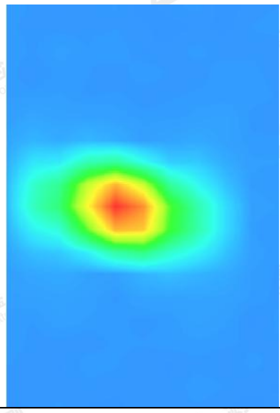
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-8.00, Y=0.00
SAR Peak: 14.66 W/kg

SAR 10g (W/Kg)	1.925120
SAR 1g (W/Kg)	5.541004

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	14.6563	5.8911	3.2977	1.8685	1.0735	0.6261	0.3882	0.2499	0.1712	0.1333	0.1051	0.0942



3D screen shot	Hot spot position
	

APPENDIX B. SAR MEASUREMENT DATA

2.4GHz 802.11b -Head liquid

Test Laboratory: AGC Lab **Date: Aug. 03,2018**
802.11b Low- Body-Worn-Back
DUT: BODY-WORN CAMERA; **Type: SV-PRIMAELITE64**

Communication System: Wi-Fi; Communication System Band: 802.11b; Duty Cycle: 1:1; Conv.F=2.52;
Frequency: 2412 MHz; Medium parameters used: f = 2450 MHz; σ = 1.75mho/m; ε r =40.01; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃):21.9, Liquid temperature (℃): 21.3

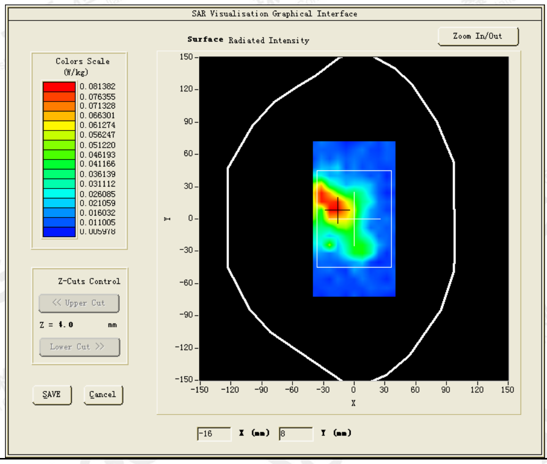
SATIMO Configuration:

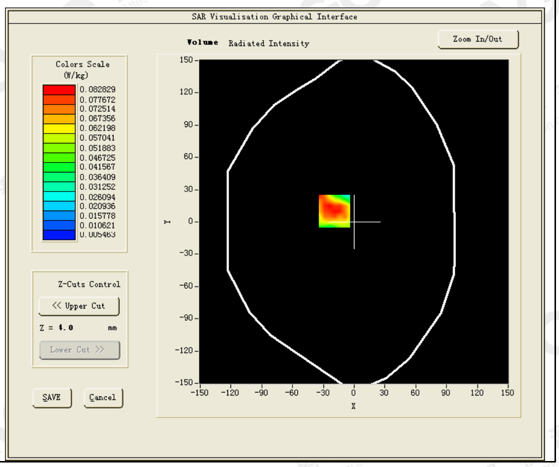
- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_32

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

Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	SAM twin phantom
Device Position	Body back
Band	2450MHz
Channels	Low
Signal	Crest factor: 1.0

SURFACE SAR	VOLUME SAR

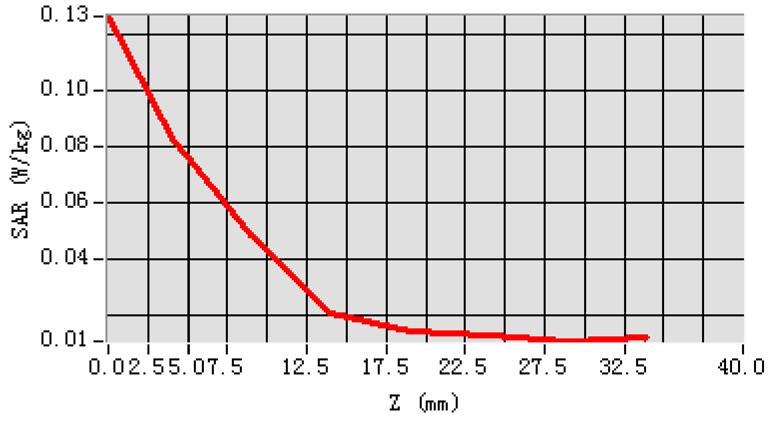


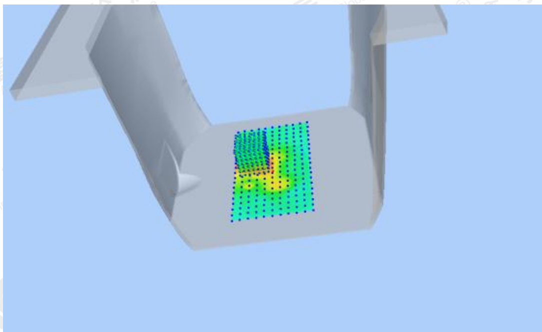
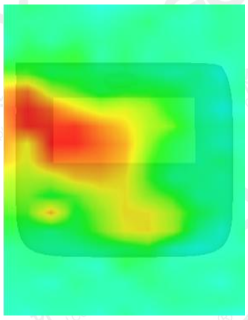


Maximum location: X=-19.00, Y=10.00
SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.043056
SAR 1g (W/Kg)	0.077487

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1263	0.0828	0.0480	0.0201	0.0142	0.0127	0.0104



3D screen shot	Hot spot position
	

2.4GHz 802.11b -Body liquid

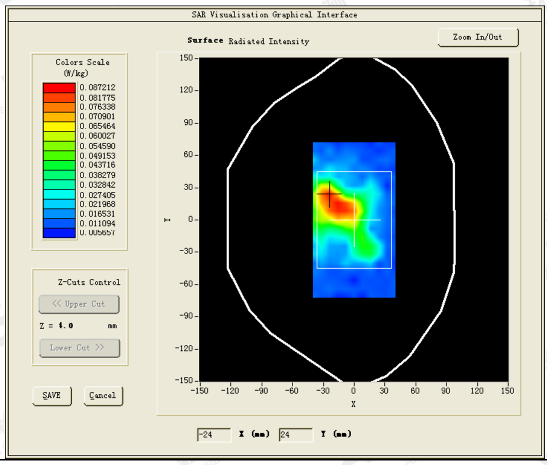
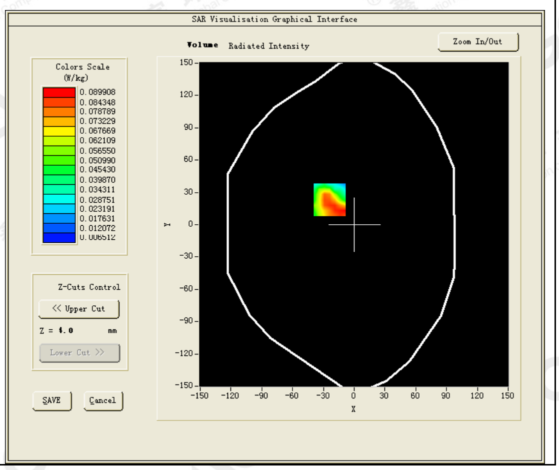
Test Laboratory: AGC Lab **Date: Aug. 03,2018**
802.11b Low- Body-Worn-Back
DUT: BODY-WORN CAMERA; Type: SV-PRIMAELITE64

Communication System: Wi-Fi; Communication System Band: 802.11b; Duty Cycle: 1:1; Conv.F=2.58;
Frequency: 2412 MHz; Medium parameters used: f = 2450 MHz; σ = 1.88mho/m; ε r =54.06; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃):21.9, Liquid temperature (℃): 21.5

SATIMO Configuration:
- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_32

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

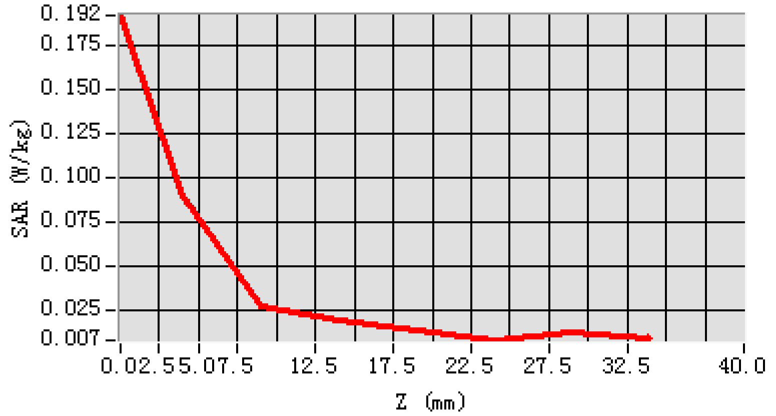
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	SAM twin phantom
Device Position	Body back
Band	2450MHz
Channels	Low
Signal	Crest factor: 1.0

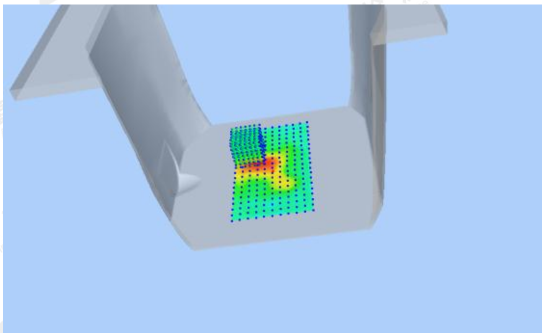
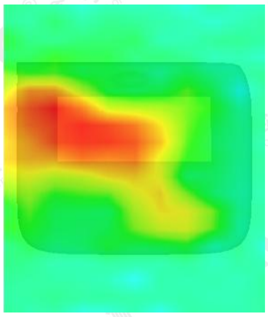
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-24.00, Y=23.00
SAR Peak: 0.16 W/kg

SAR 10g (W/Kg)	0.043412
SAR 1g (W/Kg)	0.082444

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1918	0.0899	0.0266	0.0189	0.0133	0.0075	0.0121



3D screen shot	Hot spot position
	

5.8GHz 802.11a20-Head liquid

Test Laboratory: AGC Lab **Date: Aug. 04,2018**
802.11a20 Low-Body-Worn-Back
DUT: BODY-WORN CAMERA; Type: SV-PRIMAELITE64

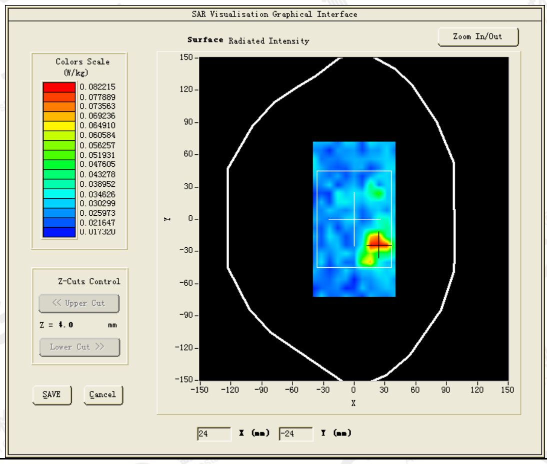
Communication System: Wi-Fi; Communication System Band: 802.11a20; Duty Cycle: 1:1; Conv.F=2.46;
Frequency: 5745MHz; Medium parameters used: f = 5800 MHz; σ = 5.12mho/m; ε r =36.35; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 22.0, Liquid temperature (℃): 21.3

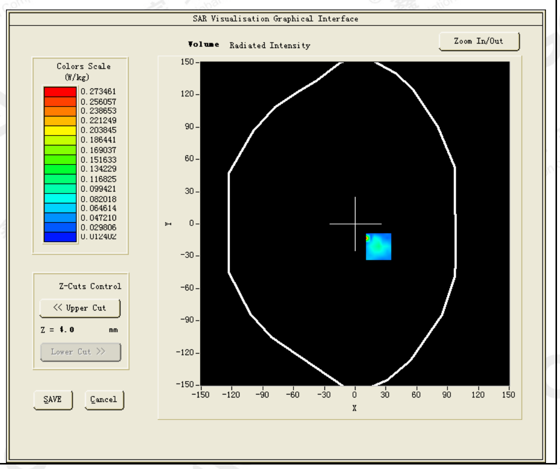
SATIMO Configuration:
- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ 802.11a20 Low- Body-Worn-Back /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ 802.11a20 Low- Body-Worn-Back /Zoom Scan: Measurement grid: dx=4mm,dy=4mm, dz=2mm

Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	8x8x13 dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body back
Band	5800MHz
Channels	Low
Signal	Crest factor: 1.0

SURFACE SAR	VOLUME SAR

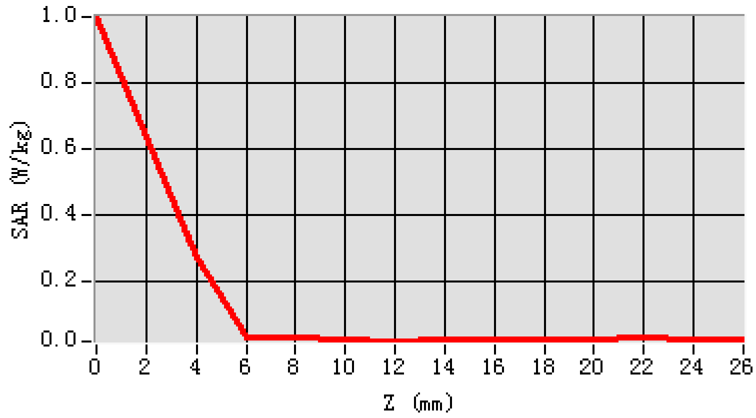


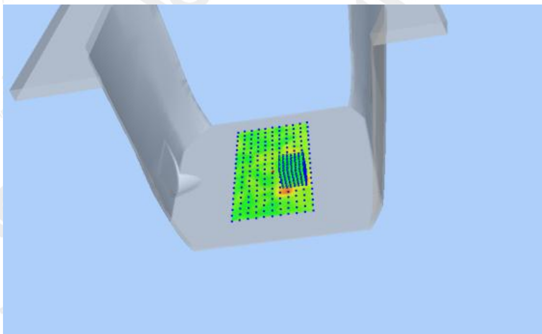
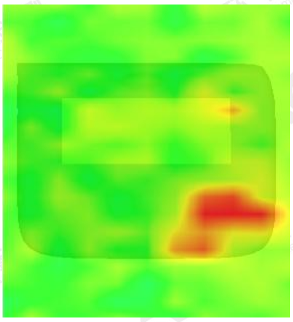


Maximum location: X=23.00, Y=-21.00
SAR Peak: 0.95 W/kg

SAR 10g (W/Kg)	0.048977
SAR 1g (W/Kg)	0.081429

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	0.9985	0.2735	0.0312	0.0317	0.0249	0.0168	0.0247	0.0256	0.0251	0.0238	0.0267	0.0238



3D screen shot	Hot spot position
	

5.8GHz 802.11a20-Body liquid

Test Laboratory: AGC Lab **Date: Aug. 04,2018**
802.11a20 Low-Body-Worn-Back
DUT: BODY-WORN CAMERA; Type: SV-PRIMAELITE64

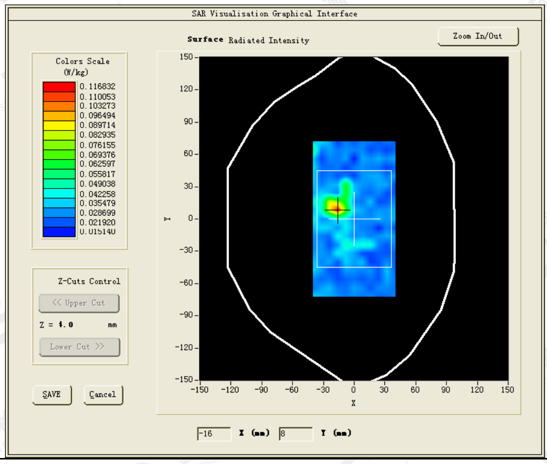
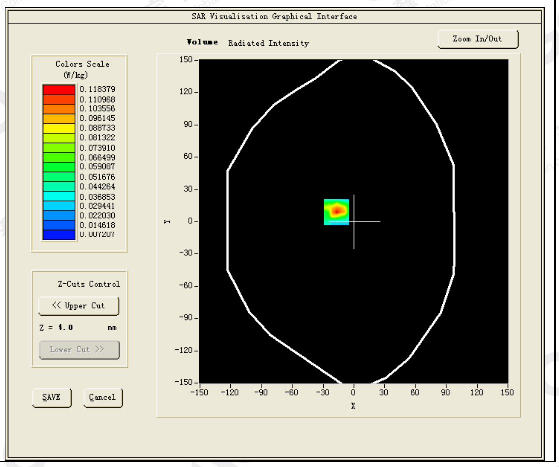
Communication System: Wi-Fi; Communication System Band: 802.11a20; Duty Cycle: 1:1; Conv.F=2.53;
Frequency: 5745MHz; Medium parameters used: f = 5800 MHz; σ = 5.86mho/m; ε r =49.71; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 22.0, Liquid temperature (℃): 21.5

SATIMO Configuration:

- Probe: SSE2; Calibrated: Aug. 08,2017; Serial No.: SN 08/16 EPGO282
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ 802.11a20 Low- Body-Worn-Back /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ 802.11a20 Low- Body-Worn-Back /Zoom Scan: Measurement grid: dx=4mm,dy=4mm, dz=2mm

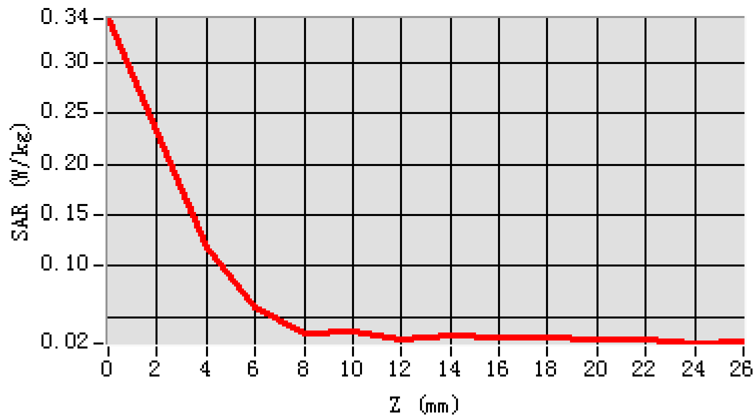
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	8x8x13 dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body back
Band	5800MHz
Channels	Low
Signal	Crest factor: 1.0

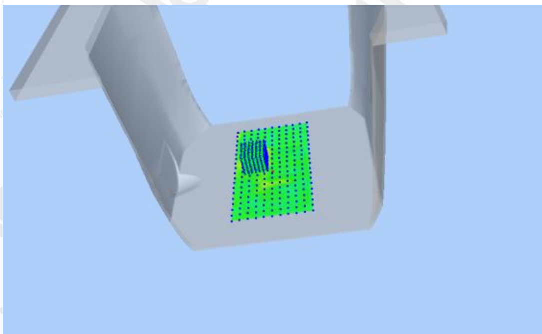
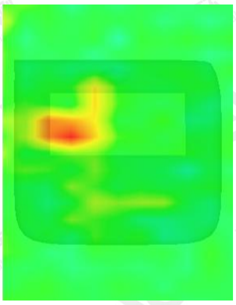
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-17.00, Y=9.00
SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.053408
SAR 1g (W/Kg)	0.119074

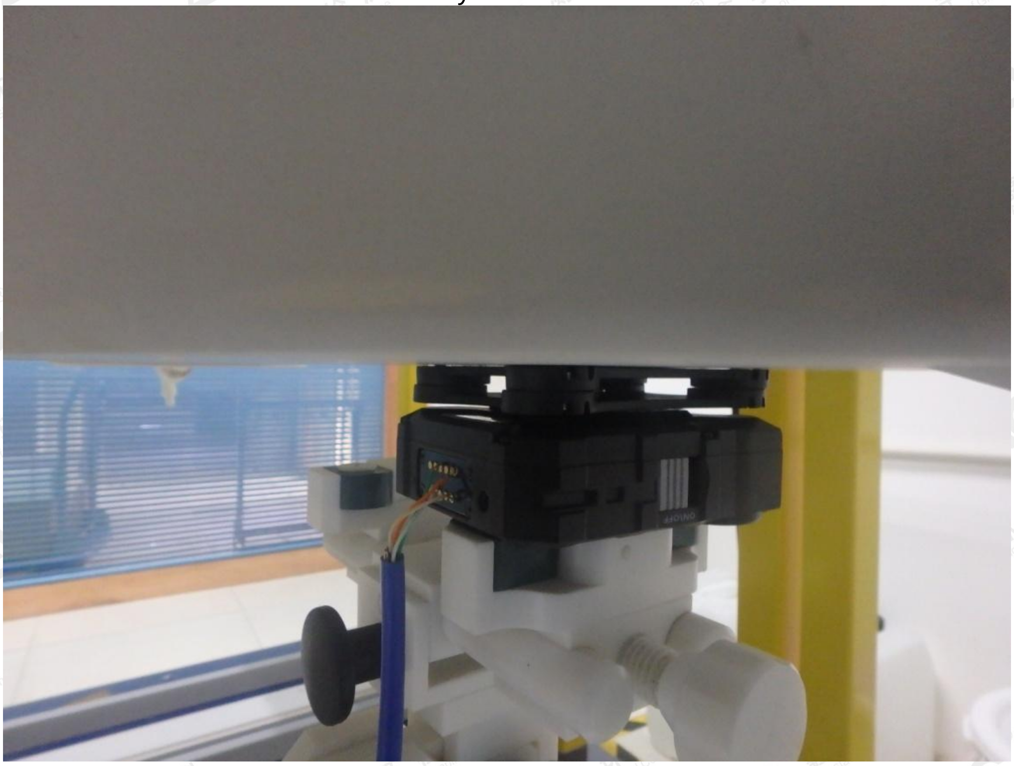
Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	0.3435	0.1184	0.0583	0.0342	0.0350	0.0276	0.0320	0.0300	0.0289	0.0275	0.0280	0.0237



3D screen shot	Hot spot position
	

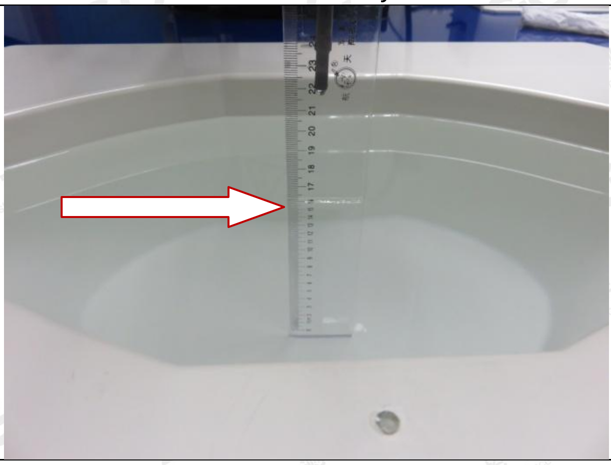
APPENDIX C. TEST SETUP PHOTOGRAPHS

Body Back 0mm



DEPTH OF THE LIQUID IN THE PHANTOM—ZOOM IN

Note：The position used in the measurement were according to EN62209-2

2450MHz body	5000MHz body
	

APPENDIX D. CALIBRATION DATA

Refer to Attached files.

Tel: +86-755 2908 1955 Fax: +86-755 2600 8484 E-mail: agc@agc-cert.com 400 089 2118
Add: 2/F. , Building 2, No.1-4,Chaxi Sanwei Technical Industrial Park,Gushu, Xixiang, Baoan District, Shenzhen, Guangdong China