FCC SAR TEST REPORT

Report No: STS1608093H01

Issued for

Multilaser Industrial S.A.

Av. Brigadeiro Faria Lima, 1811 - 15andar.- Jardim Paulistano, Brazil

Product Name:	Chromebook
Brand Name:	Multilaser
Model Name:	M11C
Series Model:	N/A
FCC ID:	2AAVQ0025852203
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	1.033 W/kg

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Test Report Certification

Applicant's name	:	Multilaser Industrial S.A.
Address	:	Av. Brigadeiro Faria Lima, 1811 - 15andar.- Jardim Paulistano, Brazil
Manufacture's Name	:	DongGuan HuaBel Electronic Technology Co., Ltd
Address	:	No.9 North of Industry-Road, Songshan-Lake, Dongguan, China

Product description

Product name	:	Chromebook
Trademark	:	Multilaser
Model and/or type reference	:	M11C
Series Model	:	N/A
Standards	:	ANSI/IEEE Std. C95.1-1992 FCC 47 CFR Part 2 (2.1093) IEEE 1528: 2013

The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664 The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of Test	:	
Date (s) of performance of tests	:	22 Sep. 2016
Date of Issue	:	24 Sep. 2016
Test Result	:	**Pass**

Testing Engineer **:** Allen Chen

(Allen Chen)

Technical Manager **:** John Zou

(John Zou)

Authorized Signatory **:** Bovey Yang

(Bovey Yang)

Table of Contents

1.General Information

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

1.1 EUT Description

Equipment	Chromebook		
Brand Name	Multilaser		
Model No.	M11C		
Series Model	N/A		
FCC ID	2AAVQ0025852203		
Model Difference	N/A		
Adapter	Input: AC100-240V,1000mA, 50/60 Hz Output: DC 19V,2100mA		
Battery	Rated Voltage: 7.6V; Charge Limit: 8.7V; Capacity: 4800mAh		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population / Uncontrolled		
Hardware Version	CB1100_MB_PCB_V1.0		
Software Version	7262.54		
Frequency Range	802.11b/g/ n20/n40: 2412MHz to 2462 MHz 802.11a/n20/n40/ac20/ac40/ac80: 5180 MHz to 5240 MHz; 5260 MHz to 5320 MHz; 5500 MHz to 5825 MHz; 5745 MHz to 5825 MHz;		
Max. Reported SAR(1g): (limit:1.6W/Kg)	Band	Mode	Body Worn (W/kg)
	DTS	2450MHz	1.033
	NII	5200MHz	0.951
	NII	5300MHz	0.880
	NII	5600MHz	0.977
	NII	5800MHz	0.978
	DSS	Bluetooth Note	0.041
FCC Equipment Class	Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS)		
Operating Mode:	WLAN: 802.11 a/b/g/n(HT20)/n(HT40)/a/ac20/ac40/ac80; Bluetooth: V3.0 + EDR (GFSK, π/4DQPSK, 8DPSK) ; Bluetooth: V4.0		
Antenna Specification:	BT,WIFI: PIFA Antenna		
Hotspot Mode:	Not Support		
DTM Mode:	Not Support		

Note:
1. Bluetooth SAR was estimated
2. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power

1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required	Actual
Temperature (℃)	18-25	22~23
Humidity (%RH)	30-70	55~65

1.3 Test Factory

Shenzhen STS Test Services Co., Ltd.
Add. : 1/F, Building B, Zhuoke Science Park,No.190, Chongqing Road, Fuyong, Baoan District, Shenzhen, Guangdong, China
CNAS Registration No.: L7649;
FCC Registration No.: 842334;
IC Registration No.: 12108A-1

2.Test Standards And Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
8	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

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

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

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

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

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

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

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

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

3. SAR Measurement System

3.1 Definition Of Specific Absorption Rate (SAR)

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

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

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

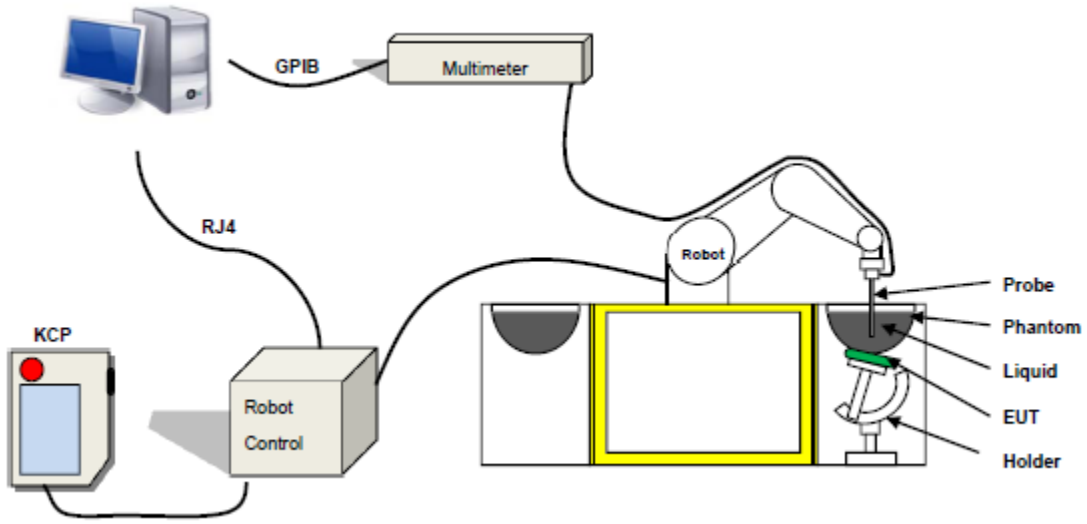
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

3.2 SAR System

SATIMO SAR System Diagram:



Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.

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

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 45/15 EPGO281 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter: 2.5 mm
- Length of Individual Dipoles: 2 mm
- Maximum external diameter: 8 mm
- Distance between dipoles / probe extremity: 2.7 mm
(repeatability better than +/- 1mm)
- Probe linearity: 0±2.60%(±0.11 dB)
- Axial Isotropy: < 0.25 dB
- Spherical Isotropy: < 0.25 dB
- Calibration range: 450MHz to 6GHz for head & body simulating liquid.
Angle between probe axis (evaluation axis) and surface normal line: less than 30°

Figure 1 – *MVG COMOSAR Dosimetric E field Dipole*

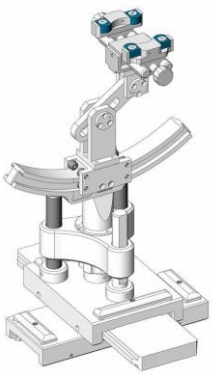
3.2.2 Phantom

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

SN 32/14 SAM115

SN 32/14 SAM116

3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.4. Tissue Simulating Liquids

4. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Frequency (MHz)	Bactericide	DGBE	diethylene glycol monohexyl ether	NaCl	Sucrose	1,2-Propanediol	X100	Water	Conductivity	Permittivity
	%	%	%	%	%	%	%	%	σ	εr
750	/	/	/	0.79	/	64.81	/	34.40	0.97	41.8
835	/	/	/	0.79	/	64.81	/	34.40	0.97	41.8
900	/	/	/	0.79	/	64.81	/	34.40	0.97	41.8
1800	/	13.84	/	0.35	/	/	30.45	55.36	1.38	41.0
1900	/	13.84	/	0.35	/	/	30.45	55.36	1.38	41.0
2000	/	7.99	/	0.16	/	/	19.97	71.88	1.55	41.1
2450	/	7.99	/	0.16	/	/	19.97	71.88	1.88	40.3
2600	/	7.99	/	0.16	/	/	19.97	71.88	1.88	40.3
5200-5800	/	/	10.70	/	/	/	10.70	78.60	Note	

Note: Please refer to the validation results for dielectric parameters of each frequency band.

Tissue dielectric parameters for head and body phantoms				
Frequency	ε_r		σ S/m	
	Head	Body	Head	Body
300	45.3	58.2	0.87	0.92
450	43.5	58.7	0.87	0.94
900	41.5	55.0	0.97	1.05
1450	40.5	54.0	1.20	1.30
1800	40.0	53.3	1.40	1.52
2450	39.2	52.7	1.80	1.95
3000	38.5	52.0	2.40	2.73
5800	35.3	48.2	5.27	6.00

LIQUID MEASUREMENT RESULTS

Date: 22 Sep. 2016 **Ambient condition:** Temperature 22.30°C **Relative humidity:** 50%

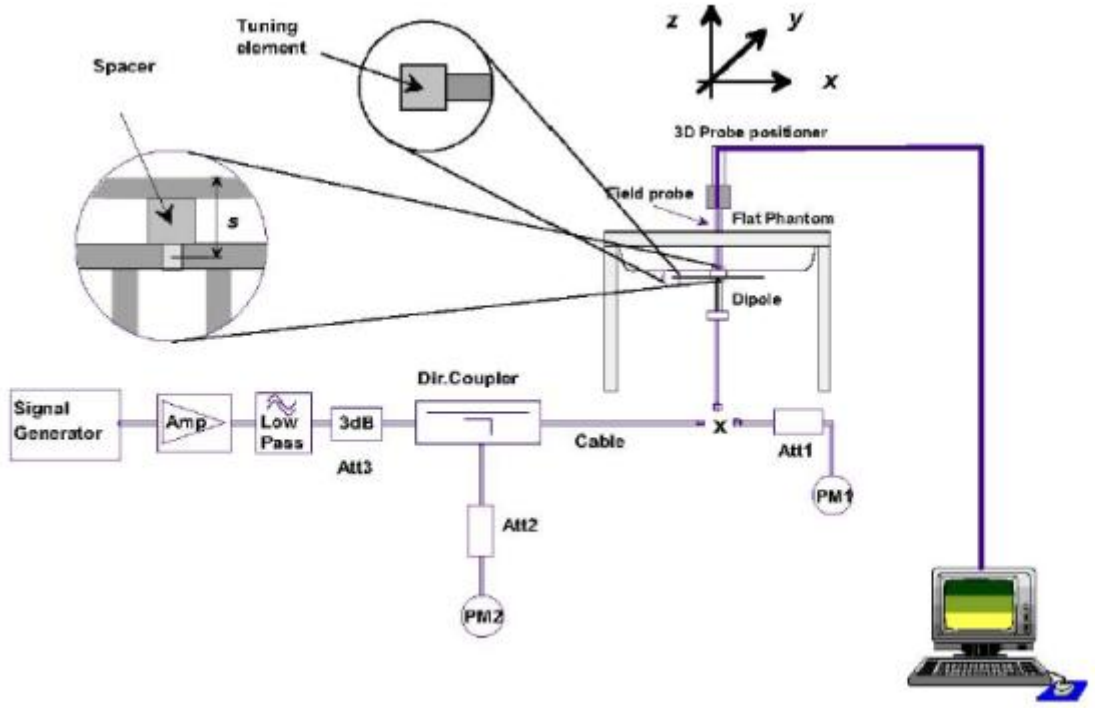
Body Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
2450 MHz	22.30	Permitivity:	52.7	52.35	-0.66	± 5
		Conductivity:	1.95	1.93	-1.03	± 5
5200 MHz	22.30	Permitivity :	49.0	47.5	-3.06	± 10
		Conductivity:	5.30	5.49	3.58	± 10
5300 MHz	22.30	Permitivity:	48.9	49.43	1.08	± 10
		Conductivity:	5.42	5.44	0.37	± 10
5600 MHz	22.30	Permitivity :	48.5	47.54	-1.98	± 10
		Conductivity:	5.77	5.78	0.17	± 10
5800 MHz	22.30	Permitivity:	48.2	48.82	1.29	± 10
		Conductivity:	6.00	5.73	-4.50	± 10

5. SAR System Validation

5.1 Validation System

Each SATIMO system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the SATIMO software, enable the user to conduct the system performance 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 validation setup is shown as below.



5.2 Validation Result

Comparing to the original SAR value provided by SATIMO, the validation data should be within its specification of 10 %.

Ambient condition: Temperature 23.2°C **Relative humidity:** 50%

Freq.(MHz)	Power(mW)	Tested Value (W/Kg)	Normalized SAR (W/kg)	Target(W/Kg)	Tolerance(%)	Date
2450 Body	100	5.153	51.53	52.40	-1.66	2016-09-22
5200 Body	100	15.849	158.49	159.00	-0.32	2016-09-22
5300 Body	100	16.93	169.33	166.40	1.76	2016-09-22
5600 Body	100	17.56	175.64	173.80	1.06	2016-09-22
5800 Body	100	18.54	185.41	181.20	2.32	2016-09-22

Note: The tolerance limit of System validation ±10%.

6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:
The following steps are used for each test position

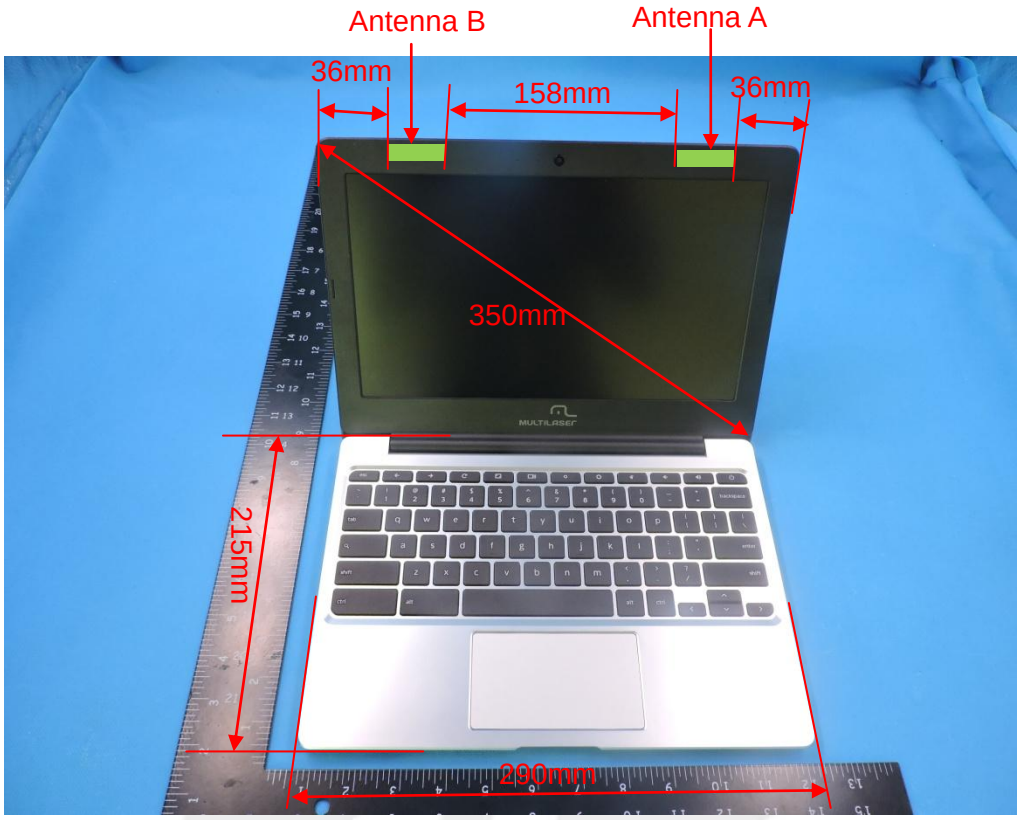
- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

➢ Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below.
When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

7. EUT Antenna Location Sketch

It is a Chromebook, support WiFi/BT mode.



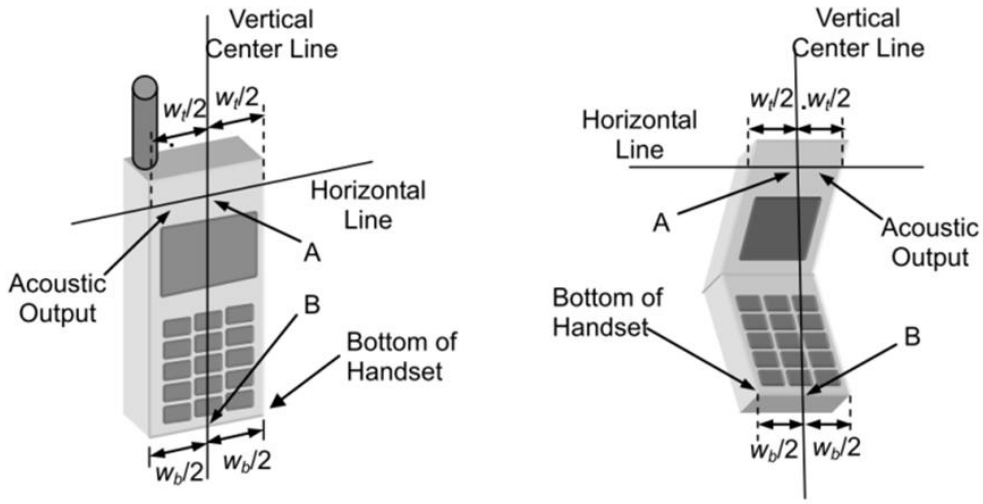
WIFI/BT Antenna

8. EUT Test Position

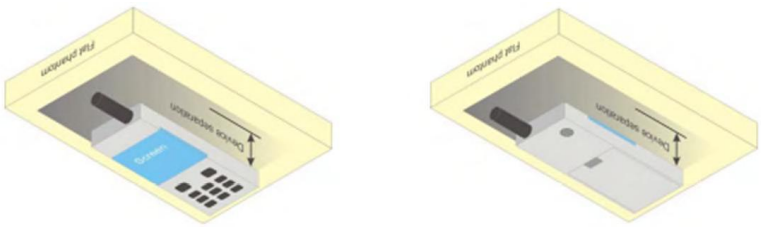
This EUT was tested in Front Face and Rear Face.

8.1 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.



Body-worn Position Conditions:
Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative *test separation distance* configuration may be used to support both SAR conditions. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.



9. Uncertainty

9.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2013.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

NO	Source	Tol(%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	1gUi	10gUi	Veff
Measurement System□									
1	Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
2	Axial isotropy	3.5	R	√3	$(1\text{-cp})^{1/2}$	$(1\text{-cp})^{1/2}$	1.43	1.43	∞
3	Hemispherical isotropy	5.9	R	√3	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	∞
4	Boundary effect	1.0	R	√3	1	1	0.58	0.58	∞
5	Linearity	4.7	R	√3	1	1	2.71	2.71	∞
6	System Detection limits	1.0	R	√3	1	1	0.58	0.58	∞
7	Readout electronics	0.5	N	1	1	1	0.50	0.50	∞
8	Response time	0	R	√3	1	1	0	0	∞
9	Integration time	1.4	R	√3	1	1	0.81	0.81	∞
10	Ambient noise	3.0	R	√3	1	1	1.73	1.73	∞
11	Ambient reflections	3.0	R	√3	1	1	1.73	1.73	∞
12	Probe positioner mech. restrictions	1.4	R	√3	1	1	0.81	0.81	∞
13	Probe positioning with respect to phantom shell	1.4	R	√3	1	1	0.81	0.81	∞
14	Max.SAR evaluation	1.0	R	√3	1	1	0.6	0.6	∞
Test sample related									

15	Device positioning	2.6	N	1	1	1	2.6	2.6	11
16	Device holder	3	N	1	1	1	3.0	3.0	7
17	Drift of output power	5.0	R	√3	1	1	2.89	2.89	∞
Phantom and set-up									
18	Phantom uncertainty	4.0	R	√3	1	1	2.31	2.31	∞
19	Liquid conductivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	5
20	Liquid conductivity (meas)	4	N	1	0.23	0.26	0.92	1.04	5
21	Liquid Permittivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	∞
22	Liquid Permittivity (meas)	5.0	N	1	0.23	0.26	1.15	1.30	∞
Combined standard			RSS	$U_C = \sqrt{\sum_{i=1}^{n} C_i^2 U_i^2}$			10.63%	10.54%	
Expanded uncertainty (P=95%)		$U = k\, U_C$,k=2					21.26%	21.08%	

9.2 System validation Uncertainty

NO	Source	Tol(%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	1gUi	10gUi	Veff
Measurement System□									
1	Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
2	Axial isotropy	3.5	R	√3	$(1\text{-cp})^{1/2}$	$(1\text{-cp})^{1/2}$	1.43	1.43	∞
3	Hemispherical isotropy	5.9	R	√3	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	∞
4	Boundary effect	1.0	R	√3	1	1	0.58	0.58	∞
5	Linearity	4.7	R	√3	1	1	2.71	2.71	∞
6	System Detection limits	1.0	R	√3	1	1	0.58	0.58	∞
7	Modulation response	0	N	1	1	1	0	0	∞
8	Readout electronics	0.5	N	1	1	1	0.50	0.50	∞
9	Response time	0	R	√3	1	1	0	0	∞
10	Integration time	1.4	R	√3	1	1	0.81	0.81	∞
11	Ambient noise	3.0	R	√3	1	1	1.73	1.73	∞
12	Ambient reflections	3.0	R	√3	1	1	1.73	1.73	∞
13	Probe positioner mech. restrictions	1.4	R	√3	1	1	0.81	0.81	∞
14	Probe positioning with respect to phantom shell	1.4	R	√3	1	1	0.81	0.81	∞
15	Max.SAR evaluation	1.0	R	√3	1	1	0.6	0.6	∞
Dipole									
16	Deviation of experimental source from	4	N	1	1	1	4.00	4.00	∞

17	Input power and SAR drit measurement	5	R	√3	1	1	2.89	2.89	∞
18	Dipole Axis to liquid Distance	2	R	√3	1	1			∞
Phantom and set-up									
19	Phantom uncertainty	4.0	R	√3	1	1	2.31	2.31	∞
20	Uncertainty in SAR correction for deviation(in	2.0	N	1	1	0.84	2	1.68	∞
21	Liquid conductivity (target)	2	N	1	1	0.84	2.00	1.68	∞
22	Liquid conductivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	5
23	Liquid conductivity (meas)	4	N	1	0.23	0.26	0.92	1.04	5
24	Liquid Permittivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	∞
25	Liquid Permittivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	5
26	Liquid Permittivity (meas)	5.0	N	1	0.23	0.26	1.15	1.30	∞
Combined standard			RSS	$U_C = \sqrt{\sum_{i=1}^{n} C_i^2 U_i^2}$			10.15%	10.05%	
Expanded uncertainty (P=95%)		$U = k\, U_C$,k=2					20.29%	20.10%	

10. Conducted Power Measurement

10.1 Test Result

Band	Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	
				Antenna 1	Antenna 1
2450 MHz	802.11b	1	2412	13.46	13.37
		6	2437	13.37	13.27
		11	2462	13.07	12.87
	802.11g	1	2412	12.28	12.18
		6	2437	12.47	12.38
		11	2462	12.38	12.18
	802.11n(HT 20)	1	2412	10.69	10.49
		6	2437	11.19	11.09
		11	2462	10.49	10.30
	802.11n(HT 40)	3	2422	9.31	9.31
		6	2437	9.90	9.80
		9	2452	9.80	9.70
5200 MHz	802.11a	36	5180	15.46	14.79
		40	5200	15.29	15.25
		48	5240	15.97	15.59
	802.11n(HT20)	36	5180	15.77	15.24
		40	5200	15.59	15.12
		48	5240	15.04	15.14
	802.11n(HT40)	38	5190	15.70	14.84
		46	5230	14.73	15.02
	802.11ac(HT20)	36	5180	12.74	12.30
		40	5200	12.04	10.99
		48	5240	11.68	11.67
	802.11ac(HT40)	38	5190	12.95	11.97
		46	5230	12.12	12.42
	802.11ac(HT80)	42	5210	11.51	11.46
5300 MHz	802.11a	52	5260	15.44	15.15
		60	5300	15.89	15.40
		64	5320	15.79	14.79
	802.11n(HT20)	52	5260	15.88	15.27
		60	5300	15.16	14.08
		64	5320	11.44	11.00
	802.11n(HT40)	54	5270	11.21	10.31
		62	5310	11.40	11.58
	802.11ac(HT20)	52	5260	10.61	10.97
		60	5300	10.21	10.56
		64	5320	10.59	9.96
	802.11ac(HT40)	54	5270	10.55	9.91
		62	5310	9.85	9.55
	802.11ac(HT80)	58	5290	11.19	10.36

Band	Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	
				Antenna 1	Antenna 1
5600 MHz	802.11a	100	5500	14.45	13.79
		116	5580	14.13	13.51
		140	5700	13.88	13.30
	802.11n(HT20)	100	5500	13.99	13.60
		116	5580	14.24	13.87
		140	5700	14.07	13.09
	802.11n(HT40)	102	5510	13.32	13.51
		110	5550	13.92	13.20
		134	5670	14.70	14.23
	802.11ac(HT20)	100	5500	9.60	9.16
		116	5580	9.47	9.55
		140	5700	10.82	10.44
	802.11ac(HT40)	102	5510	9.20	8.90
		110	5550	9.86	9.74
		134	5670	10.45	9.65
	802.11ac(HT80)	106	5530	9.05	9.41
		122	5610	9.93	10.25
5800 MHz	802.11a	149	5745	18.13	17.63
		157	5785	17.13	17.46
		165	5825	17.84	17.83
	802.11n(HT20)	149	5745	17.21	17.06
		157	5785	17.06	16.86
		165	5825	17.55	16.94
	802.11n(HT40)	151	5755	17.72	17.18
		159	5795	17.87	17.18
	802.11ac(HT20)	149	5745	12.58	12.53
		157	5785	12.27	12.07
		165	5825	12.08	11.58
	802.11ac(HT40)	151	5755	12.21	12.68
		159	5795	12.43	12.47
	802.11ac(HT80)	155	5775	13.37	13.34

Bluetooth

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	-1.190
	39	2441	-1.290
	78	2480	-1.490
π/4-DQPSK(2Mbps)	0	2402	-4.390
	39	2441	-4.490
	78	2480	-4.490
8DPSK(3Mbps)	0	2402	-5.390
	39	2441	-5.290
	78	2480	-5.390

BT 4.0

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	1	2402	-0.020
	20	2440	-0.020
	40	2480	0.080

10.2 Tune-up Power

Band	Mode		Antenna 1	Antenna 2
2450MHz	IEEE 802.11b		13±1dBm	13±1dBm
	IEEE 802.11g		12±1dBm	12±1dBm
	IEEE 802.11n(HT 20)		11±1dBm	11±1dBm
	IEEE 802.11n(HT 40)		9±1dBm	9±1dBm
5200 MHz	802.11a		15±1dBm	15±1dBm
	802.11n(HT20)		15±1dBm	15±1dBm
	802.11n(HT40)		15±1dBm	15±1dBm
	802.11ac(HT20)		12±1dBm	11.4±1dBm
	802.11ac(HT40)		12±1dBm	12±1dBm
	802.11ac(HT80)		11±1dBm	11±1dBm
5300 MHz	802.11a		15±1dBm	14.5±1dBm
	802.11n(HT20)	Low Channel	15±1dBm	15±1dBm
		Mid. Channel	15±1dBm	15±1dBm
		High Channel	11±1dBm	11±1dBm
	802.11n(HT40)		11±1dBm	11±1dBm
	802.11ac(HT20)		10±1dBm	10±1dBm
	802.11ac(HT40)		10±1dBm	10±1dBm
	802.11ac(HT80)		11±1dBm	11±1dBm
5600 MHz	802.11a		14±1dBm	13±1dBm
	802.11n(HT20)		14±1dBm	14±1dBm
	802.11n(HT40)		14±1dBm	14±1dBm
	802.11ac(HT20)		10±1dBm	10±1dBm
	802.11ac(HT40)		10±1dBm	10±1dBm
	802.11ac(HT80)		10±1dBm	10±1dBm
5800 MHz	802.11a		18±1dBm	17±1dBm
	802.11n(HT20)		17±1dBm	17±1dBm
	802.11n(HT40)		17±1dBm	17±1dBm
	802.11ac(HT20)		12±1dBm	12±1dBm
	802.11ac(HT40)		12±1dBm	12±1dBm
	802.11ac(HT80)		13±1dBm	13±1dBm

Mode	BT(AVG)
GFSK	-1±1dBm
π/4-DQPSK	-4±1dBm
8DPSK	-5±1dBm

Mode	BT 4.0(AVG)
GFSK	0±1dBm

10.3 SAR Test Exclusions Applied

Per FCC KDB 447498D01, the 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHZ)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

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

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

$$\frac{Max\ Power\ of\ Channel\ (mW)}{Test\ Separation\ Dist\ (mm)} * \sqrt{Frequency(GHz)} \leq 3.0$$

Based on the maximum conducted power of **Bluetooth Body** (rounded to the nearest mW) and the antenna to user separation distance,

Bluetooth Body SAR was not required; [(1/5)* √2.402] = **0.31** < 3.0.

Based on the maximum conducted power of **2.4 GHz WIFI Body** (rounded to the nearest mW) and the antenna to user separation distance,

2.4 GHz WIFI Body SAR was required; [(25.12/5)* √2.412] =**7.8** > 3.0.

Based on the maximum conducted power of **5.2 GHz WIFI Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.2 GHz WIFI Body SAR was required; [(39.81/5)* √5240] = **18.23** > 3.0.

Based on the maximum conducted power of **5.3 GHz WIFI Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.3 GHz WIFI Body SAR was required; [(39.81/5)* √5300] = **18.33** > 3.0.

Based on the maximum conducted power of **5.6 GHz WIFI Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.6 GHz WIFI Body SAR was required; [(31.62/5)* √5500] = **14.83** > 3.0.

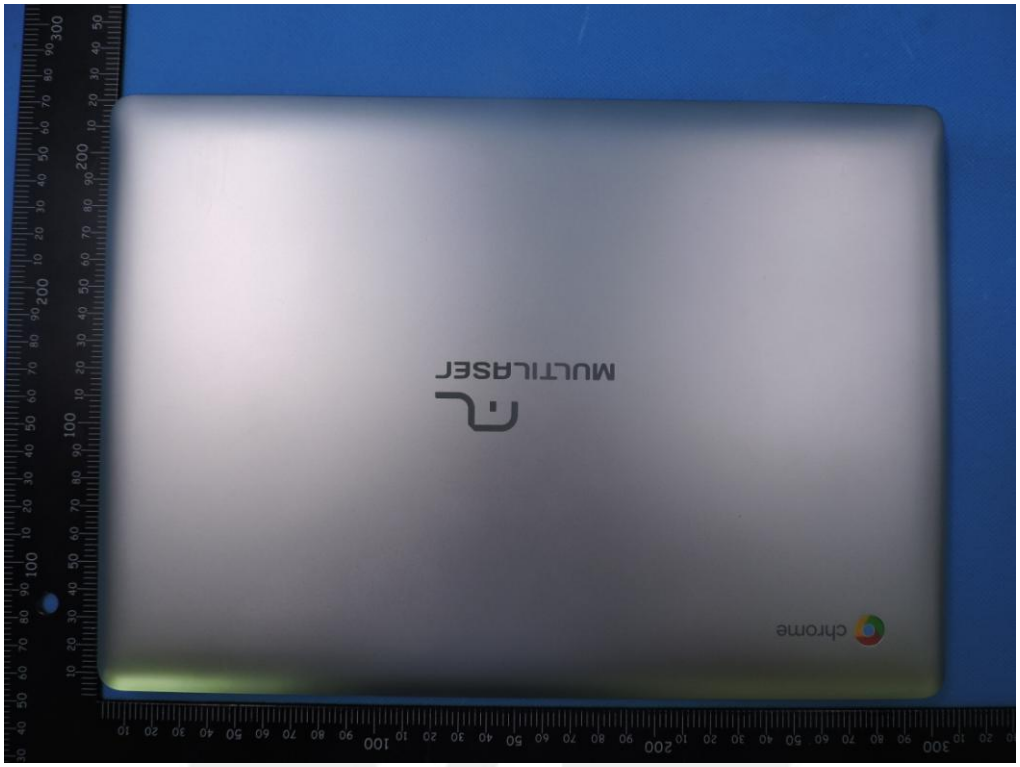
Based on the maximum conducted power of **5.8 GHz WIFI Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.8 GHz WIFI Body SAR was required; [(79.43/5)* √5745] = **38.08** > 3.0.

11. EUT And Test Setup Photo

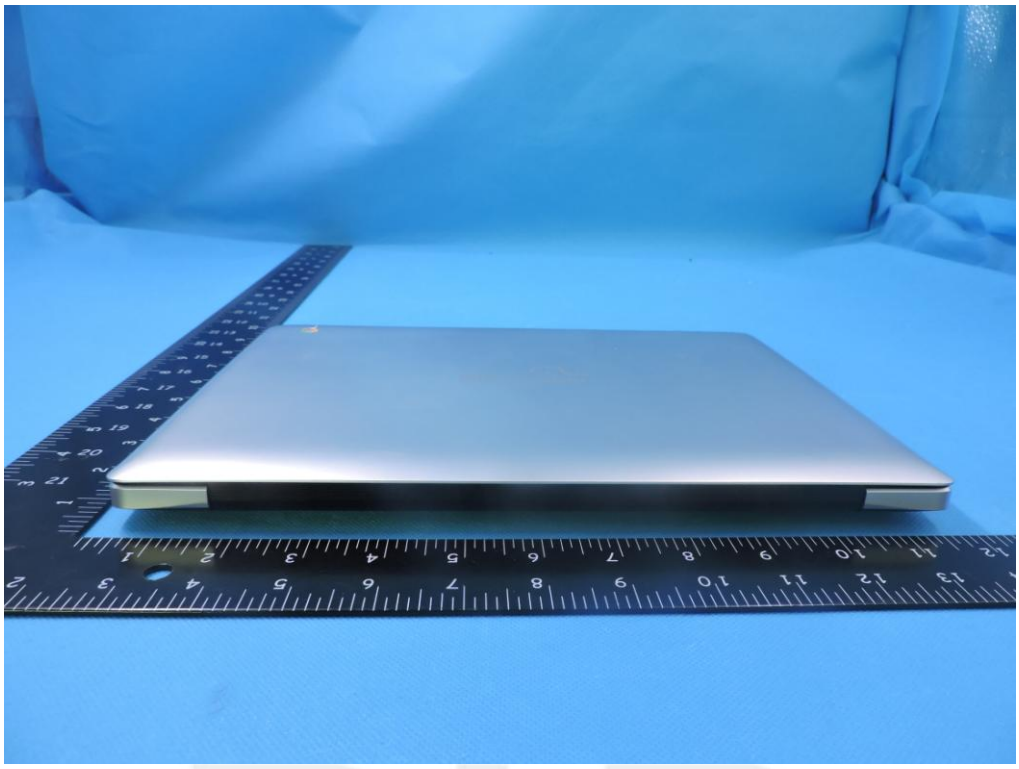
11.1 EUT Photo

Front side

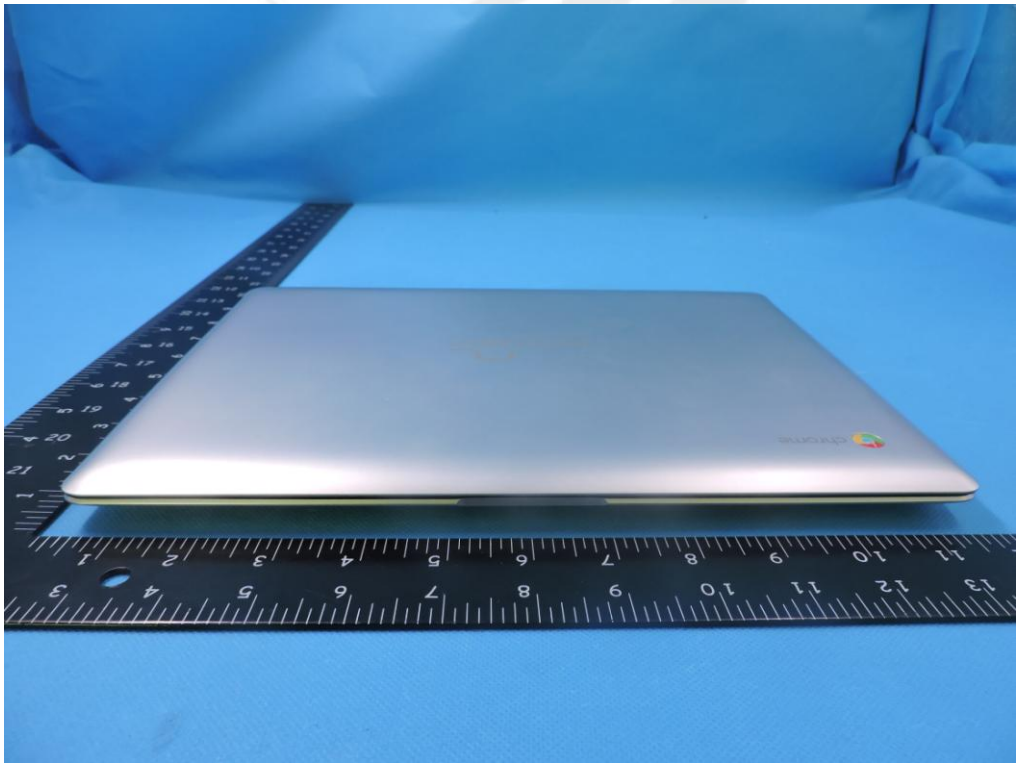


Back side

Top side

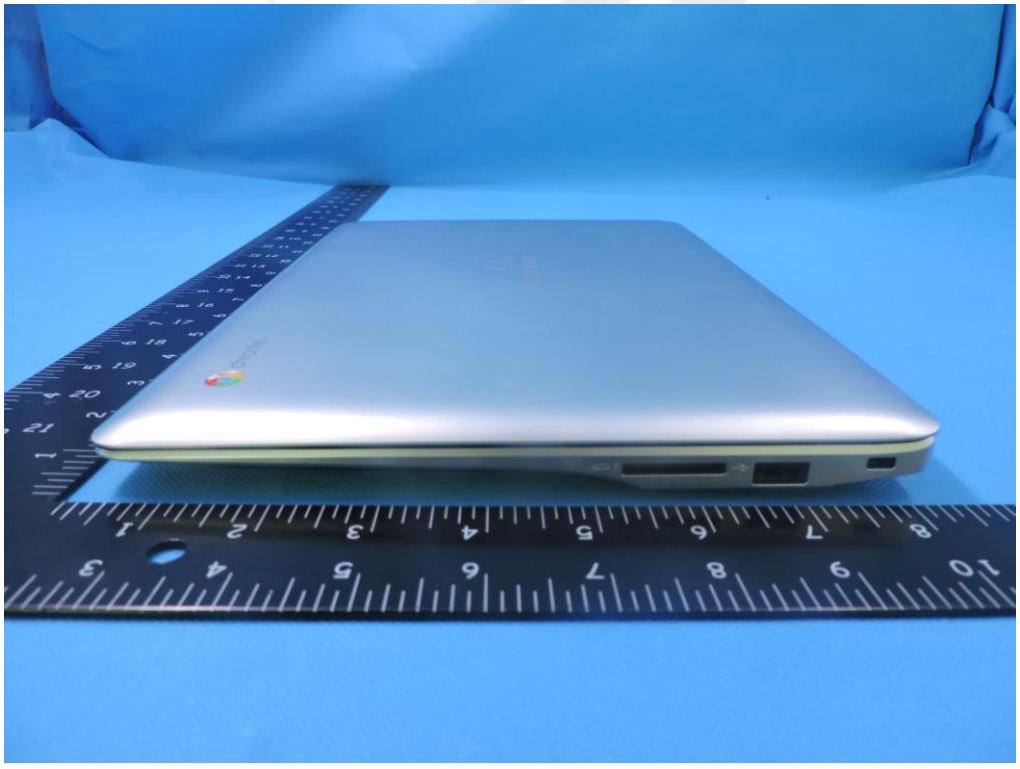


Bottom side



Left side

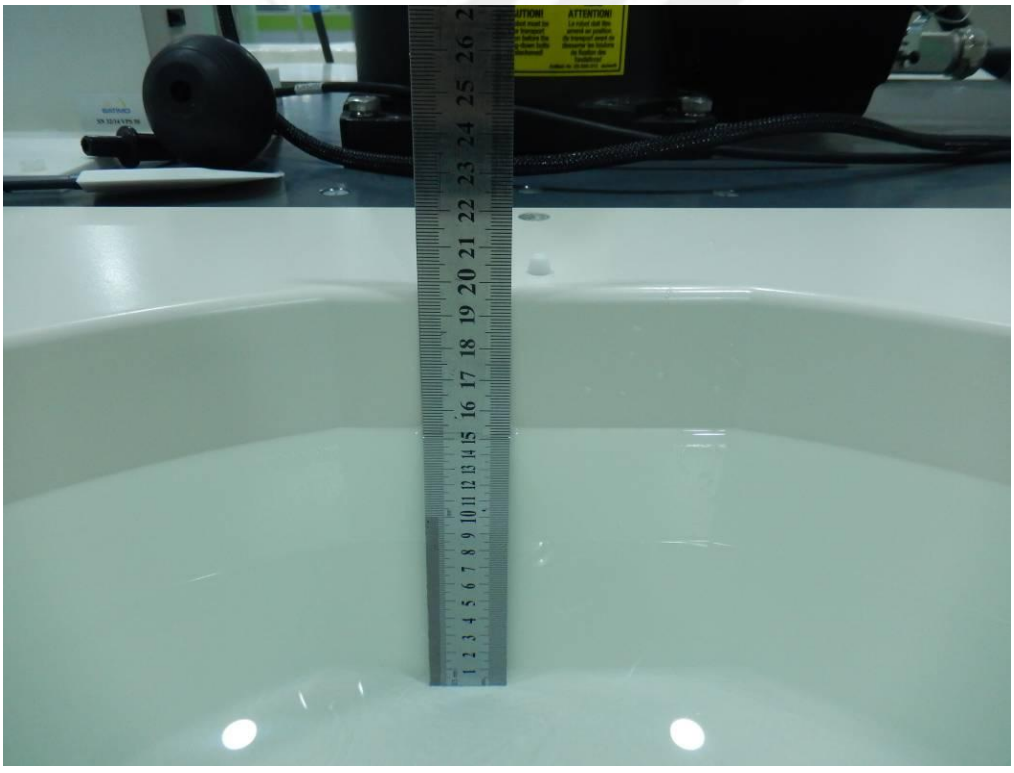
Right side



11.2 Setup Photo

Back Screen

Liquid depth (15 cm)



12. SAR Result Summary

Band (MHz)	Mode	ANT.	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Duty cycle(%)	Scaled SAR (W/Kg)	Meas. No.
2450	802.11b	ANT.A	Back Screen	1	0.810	-2.84	14	13.46	99	0.926	/
				6	0.818	-4.06	14	13.37	99	0.935	/
				11	**0.834**	-3.33	14	13.07	99	**0.954**	1
		ANT.B	Back Screen	1	0.412	-2.25	14	13.37	99	0.472	/
				6	0.424	-3.02	14	13.27	99	0.485	/
				11	**0.458**	0.74	14	12.87	99	**0.524**	2
5200	802.11a	ANT.A	Back Screen	36	0.626	-2.69	16	15.46	99	0.716	/
				40	0.727	-1.99	16	15.29	99	**0.865**	/
				48	**0.751**	-1.10	16	15.97	99	0.764	3
		ANT.B	Back Screen	36	**0.712**	-1.61	16	14.79	99	**0.951**	4
				40	0.707	-2.16	16	15.25	99	0.848	/
				48	0.664	-1.21	16	15.59	99	0.737	/
5300	802.11a	ANT.A	Back Screen	52	0.766	-2.68	16	15.44	99	**0.880**	/
				60	0.756	-4.84	16	15.89	99	0.783	/
				64	**0.767**	-4.40	16	15.79	99	0.813	5
		ANT.B	Back Screen	52	0.701	-1.80	15.5	15.15	99	0.768	/
				60	**0.711**	0.52	15.5	15.40	99	0.735	6
				64	0.708	-1.18	15.5	14.79	99	**0.842**	/
5600	802.11a	ANT.A	Back Screen	100	0.765	-1.75	15	14.45	99	0.877	/
				116	**0.773**	-4.25	15	14.13	99	0.954	7
				140	0.747	-2.68	15	13.88	99	**0.977**	/
		ANT.B	Back Screen	100	0.722	-1.59	14	13.79	99	0.766	/
				116	0.749	-1.34	14	13.51	99	0.846	/
				140	**0.782**	-1.59	14	13.30	99	**0.928**	8
5800	802.11a	ANT.A	Back Screen	149	0.560	2.26	19	18.13	99	0.691	/
				157	0.447	-1.73	19	17.13	99	0.695	/
				165	**0.568**	-3.79	19	17.84	99	**0.749**	9
		ANT.B	Back Screen	149	0.870	-2.77	18	17.63	99	0.957	/
				157	0.855	2.71	18	17.46	99	**0.978**	/
				165	**0.873**	-1.41	18	17.83	99	0.917	10

Note:

1. The test separation of all above table is 0mm.

Repeated SAR

Band (MHz)	Mode	ANT.	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Duty cycle(%)	Scaled SAR (W/Kg)	Meas. No.
2450	802.11b	A	Back Screen	11	0.826	-2.11	14	13.07	99	**1.033**	/
5200	802.11a	A	Back Screen	48	0.763	0.60	16	15.97	99	0.776	/
		B	Back Screen	36	0.708	-1.43	16	14.79	99	0.944	/
5300	802.11a	A	Back Screen	64	0.772	1.02	16	15.79	99	0.818	/
		B	Back Screen	60	0.716	-1.31	15.5	15.40	99	0.740	/
5600	802.11a	A	Back Screen	116	0.789	2.17	15	14.13	99	0.974	/
		B	Back Screen	140	0.776	3.40	14	13.30	99	0.921	/
5800	802.11a	B	Back Screen	165	0.865	-0.88	18	17.83	99	0.909	/

repeated SAR measurement

Band (MHz)	Mode	ANT.	Test Position	Ch.	Original Measured SAR 1g(mW/g)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
2450	802.11b	A	Back Screen	11	0.834	0.826	1.01	-	-	-
5200	802.11a	A	Back Screen	48	0.751	0.763	1.02	-	-	-
		B	Back Screen	36	0.712	0.708	1.01	-	-	-
5300	802.11a	A	Back Screen	64	0.767	0.772	1.01	-	-	-
		B	Back Screen	60	0.711	0.716	1.01	-	-	-
5600	802.11a	A	Back Screen	116	0.773	0.789	1.02	-	-	-
		B	Back Screen	140	0.782	0.776	1.01	-	-	-
5800	802.11a	B	Back Screen	165	0.873	0.865	1.01	-	-	-

Note:

1. Per KDB 865664 D01V01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is≥0.8W/Kg.
2. Per KDB 865664 D01V01,if the ratio of largest to smallest SAR for the original and first repeated measurement is≤1.2and the measured SAR＜1.45W/Kg, only one repeated measurement is required.
3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is＞1.20 or when the original or repeated measurement is ≥ 1.45W/Kg
4. The ratio is the difference in percentage between original and repeated measured SAR.

Simultaneous Multi-band Transmission Evaluation:

1. Bluetooth and WIFI can't simultaneous transmission at the same time.
2. Based upon KDB 447498 D01 v05, BT SAR is excluded as below table.
3. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
4. The reported SAR summation is calculated based on the same configuration and test position.
5. KDB 447498 / 4.3.2 (2) when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

   a) (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.

   b) 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is >50mm.

Estimated SAR		Maximum Power		Antenna to user(mm)	Frequency(GHz)	Stand alone SAR(1g) [W/kg]
		dBm	mW			
BT	Back Screen	0	1	5	2.402	0.041

13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
2450MHzDipole	SATIMO	SID2450	SN 30/14 DIP2G450-335	2014.09.01	2017.08.31
Waveguide	SATIMO	SWG5500	SN 13/14 WGA32	2014.09.01	2017.08.31
E-Field Probe	MVG	SSE2	SN 45/15 EPGO281	2015.12.10	2016.12.09
Antenna	SATIMO	ANTA3	SN 07/13 ZNTA52	2014.09.01	2017.08.31
Phantom1	SATIMO	SAM	SN 32/14 SAM115	N/A	N/A
Phantom2	SATIMO	SAM	SN 32/14 SAM116	N/A	N/A
SAR TEST BENCH	SATIMO	GSM and WCDMA mobile phone POSITIONNING SYSTEM	SN 32/14 MSH97	N/A	N/A
SAR TEST BENCH	SATIMO	LAPTOP POSITIONNING SYSTEM	SN 32/14 LSH29	N/A	N/A
Dielectric Probe Kit	SATIMO	SCLMP	SN 32/14 OCPG52	2016.08.30	2017.08.29
Multi Meter	Keithley	Multi Meter 2000	4050073	2015.11.20	2016.11.19
Signal Generator	Agilent	N5182A	MY50140530	2015.11.18	2016.11.17
Power Meter	R&S	NRP	100510	2015.10.25	2016.10.24
Power Meter	HP	EPM-442A	GB37170267	2015.10.24	2016.10.23
Power Sensor	R&S	NRP-Z11	101919	2015.10.24	2016.10.23
Power Sensor	HP	8481A	2702A65976	2015.10.24	2016.10.23
Network Analyzer	Agilent	5071C	EMY46103472	2015.12.12	2016.12.11
Attenuator 1	PE	PE7005-10	N/A	2015.10.25	2016.10.24
Attenuator 2	PE	PE7005-3	N/A	2015.10.24	2016.10.23
Attenuator 3	Woken	WK0602-XX	N/A	2015.12.12	2016.12.11
Dual Directional Coupler	Agilent	778D	50422	2015.11.18	2016.11.17

Appendix A. System Validation Plots

System Performance Check Data (2450MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2016-09-22
Measurement duration: 14 minutes 23 seconds

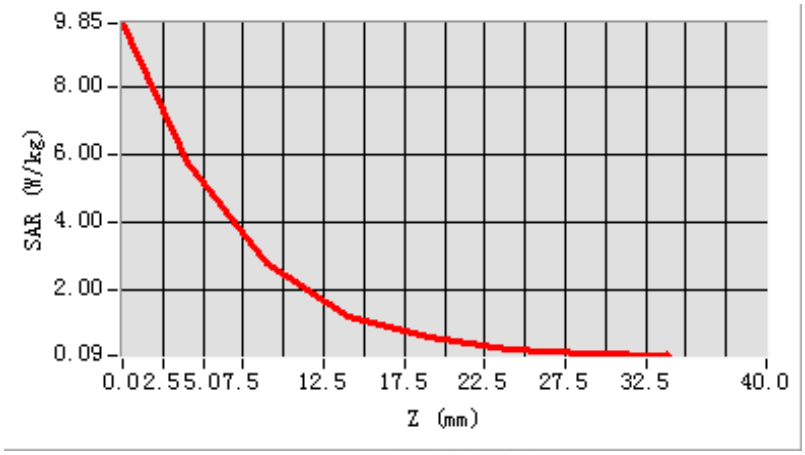
Experimental conditions.

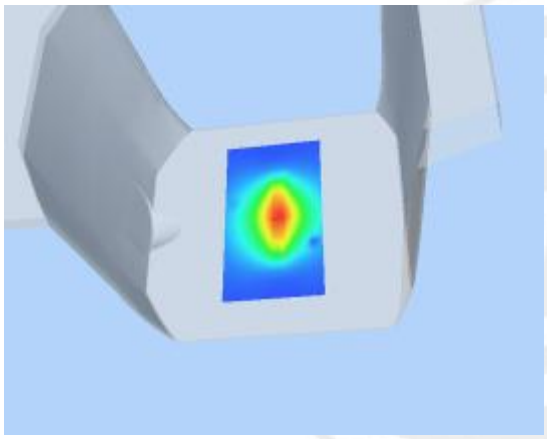
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity (real part)	52.316002
Relative permittivity	12.930000
Conductivity (S/m)	1.92
Power drift (%)	-1.200000
Ambient Temperature	23.2°C
Liquid Temperature	22.3°C
Probe	SN 45/15 EPGO281
ConvF	2.28
Crest factor:	1:1

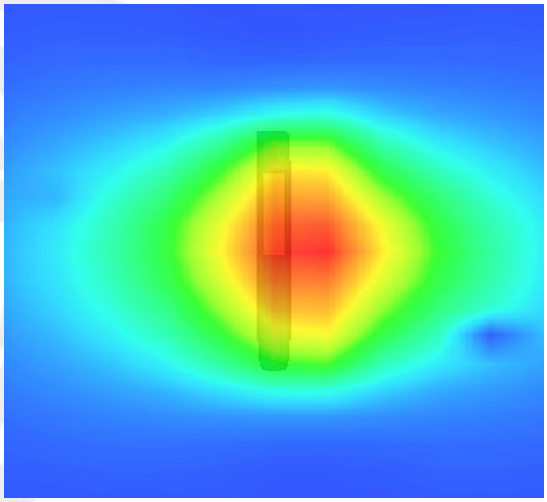
Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.357362
SAR 1g (W/Kg)	5.153482

Z Axis Scan


9.85
8.00
6.00
4.00
2.00
0.09
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)





System Performance Check Data(5200MHz Body)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2016-09-22

Measurement duration: 14 minutes 22 seconds

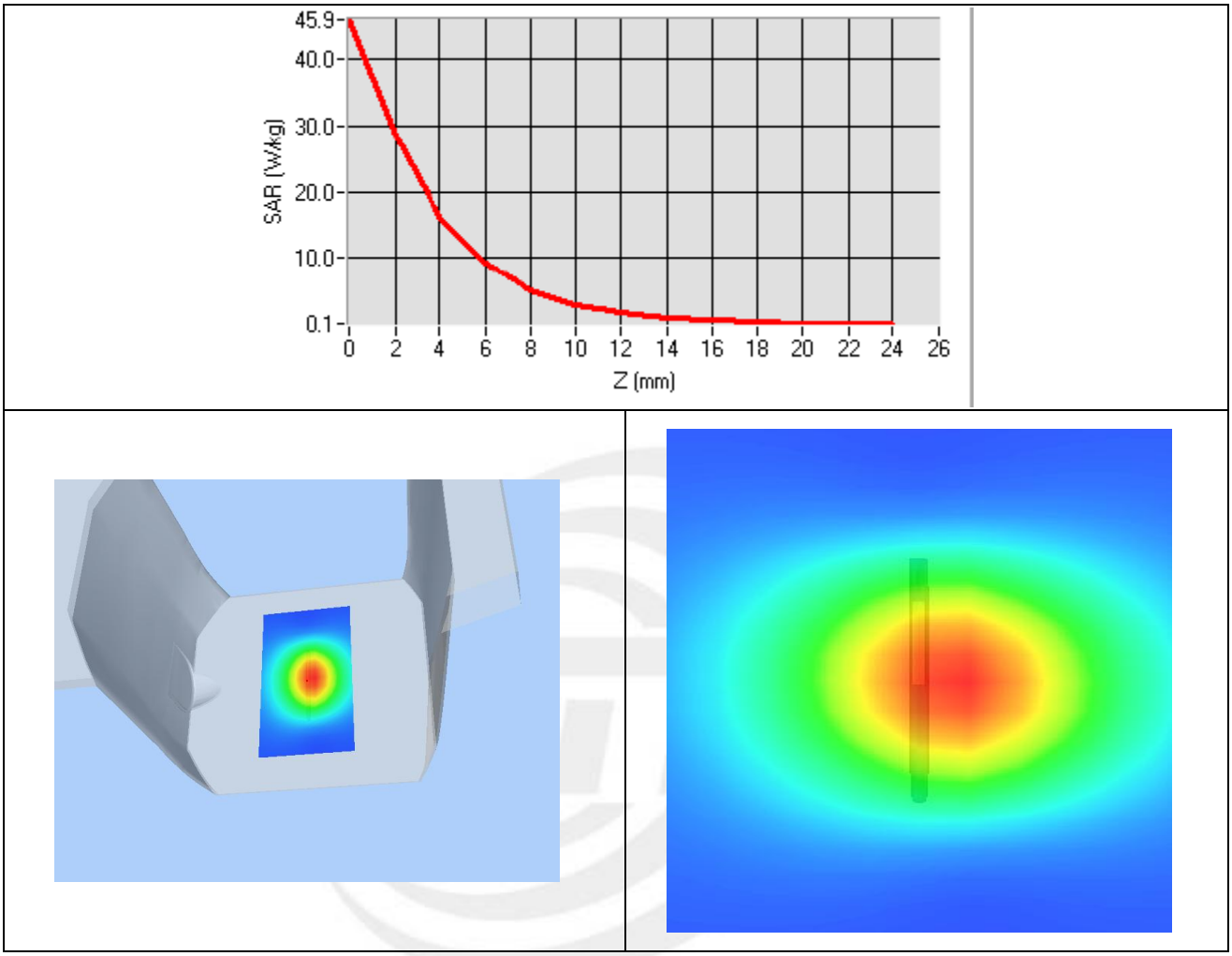
Experimental conditions.

Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity (real part)	47.50000
Relative permittivity (imaginary)	16.250000
Conductivity (S/m)	5.49000
Power drift (%)	4.140000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 45/15 EPGO281
ConvF	2.52
Crest factor:	1:1

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.643525
SAR 1g (W/Kg)	15.862541

Z Axis Scan



System Performance Check Data(5300MHz Body)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2016-09-22

Measurement duration: 14 minutes 24 seconds

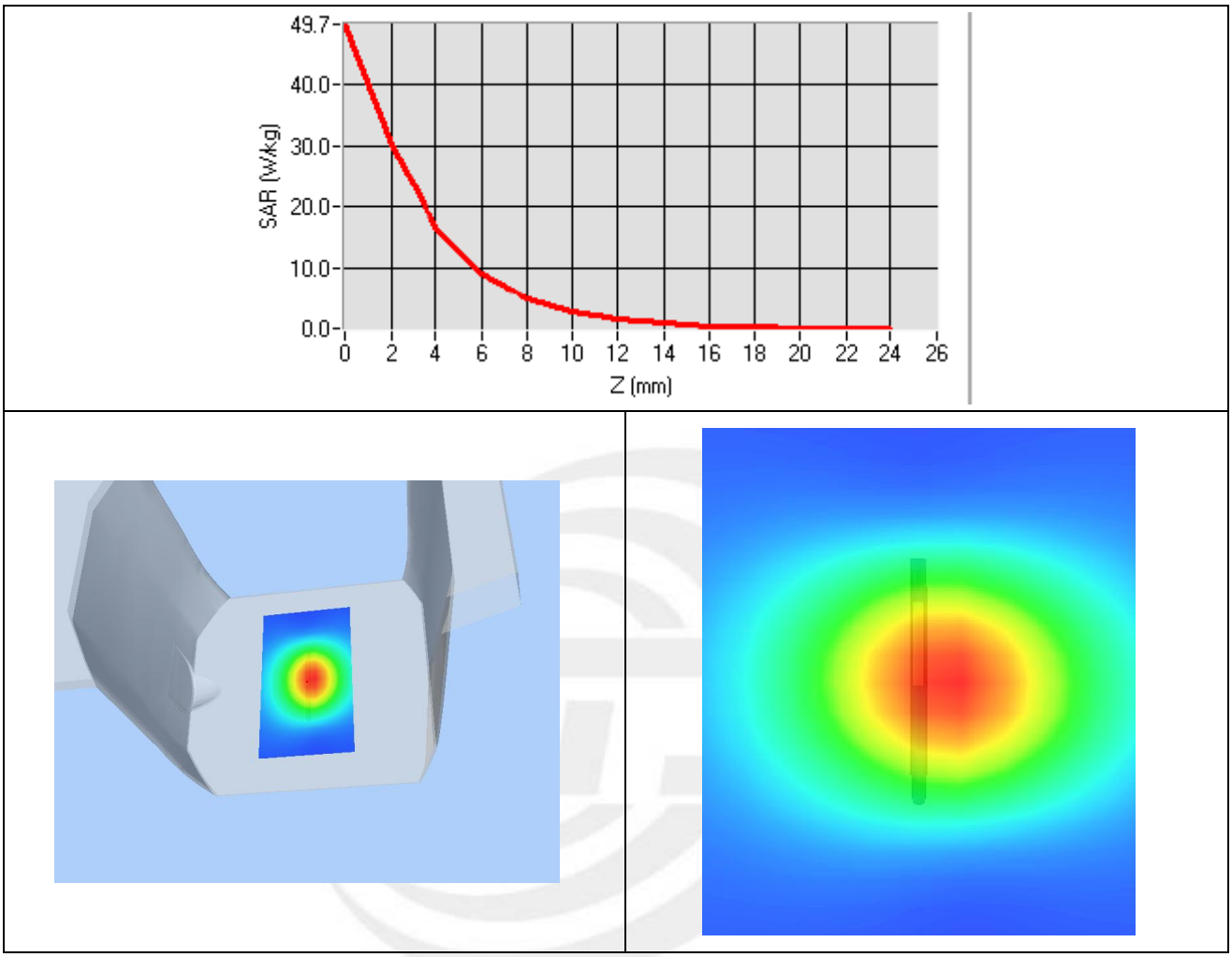
Experimental conditions.

Device Position	Validation plane
Band	5300 MHz
Channels	-
Signal	CW
Frequency (MHz)	5300
Relative permittivity (real part)	49.430000
Relative permittivity (imaginary)	19.140000
Conductivity (S/m)	5.437435
Power drift (%)	-1.770000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 45/15 EPGO281
ConvF	2.79
Crest factor:	1:1

Maximum location: X=5.00, Y=3.00

SAR 10g (W/Kg)	6.847433
SAR 1g (W/Kg)	16.933272

Z Axis Scan



System Performance Check Data(5600MHz Body)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2016-09-22

Measurement duration: 14 minutes 24 seconds

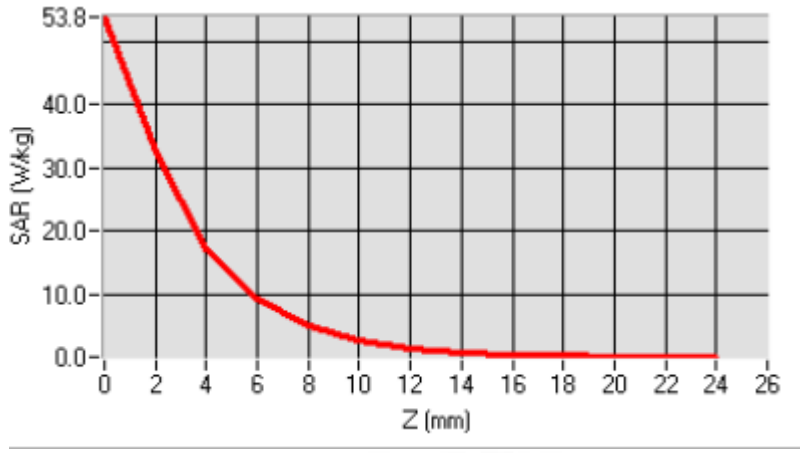
Experimental conditions.

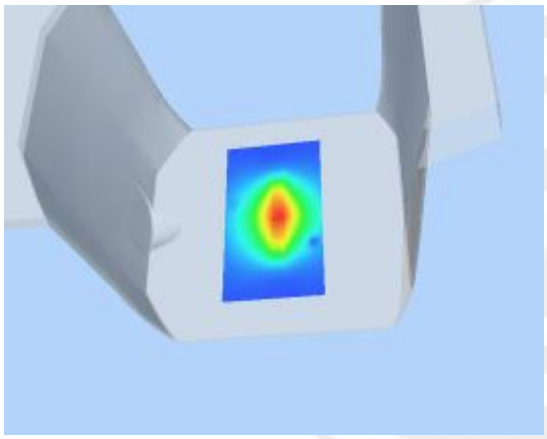
Device Position	Validation plane
Band	5600 MHz
Channels	-
Signal	CW
Frequency (MHz)	5600
Relative permittivity (real part)	47.540000
Relative permittivity (imaginary)	19.610000
Conductivity (S/m)	5.78000
Power drift (%)	1.860000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 45/15 EPGO281
ConvF	2.83
Crest factor:	1:1

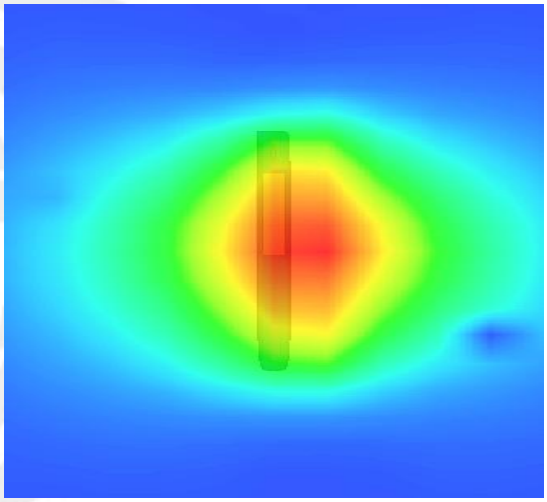
Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	7.269389
SAR 1g (W/Kg)	17.563842

Z Axis Scan







System Performance Check Data(5800MHz Body)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2016-09-22

Measurement duration: 14 minutes 24 seconds

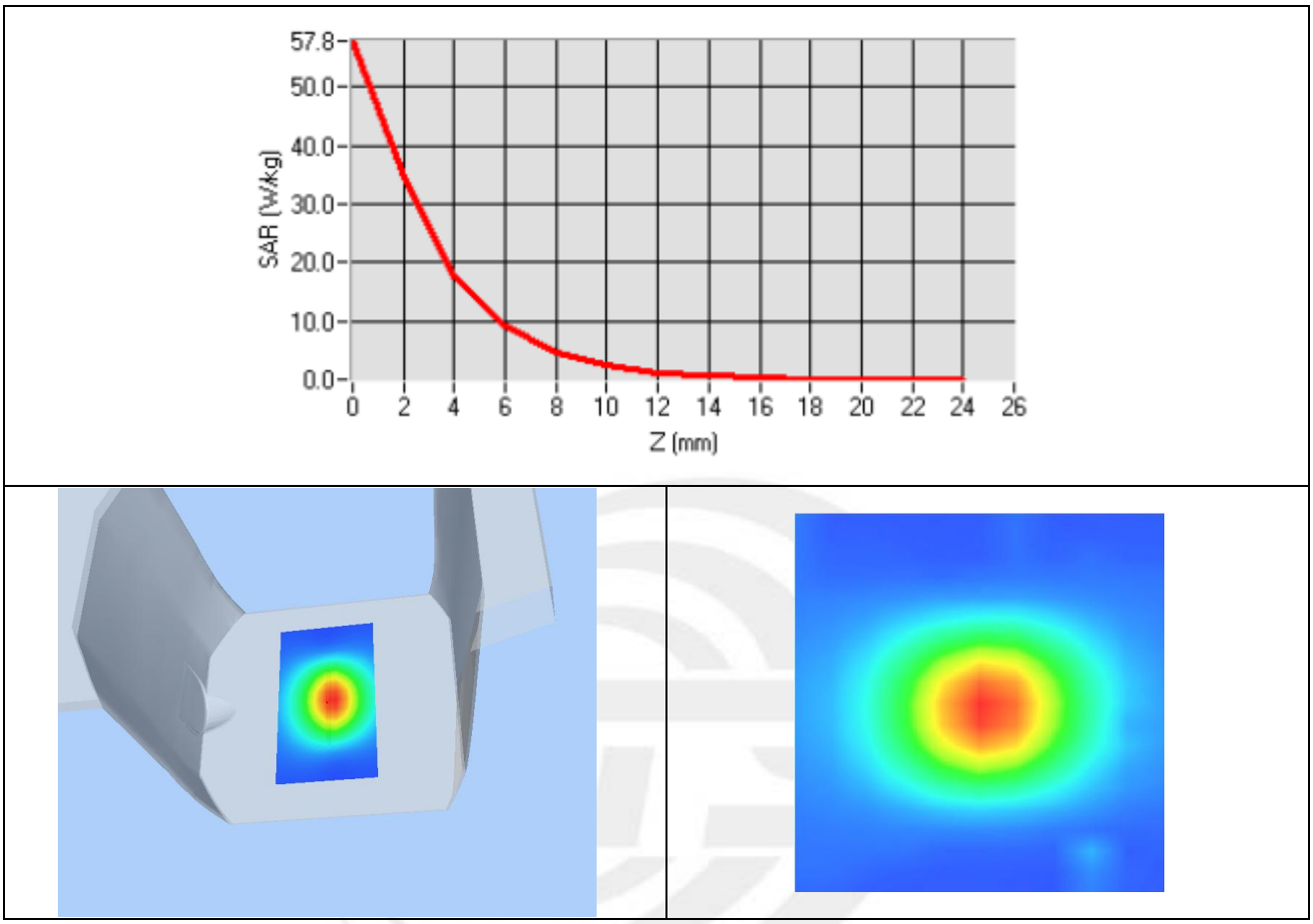
Experimental conditions.

Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity (real part)	48.820000
Relative permittivity (imaginary)	19.830000
Conductivity (S/m)	5.73000
Power drift (%)	-1.00000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 45/15 EPGO281
ConvF	2.60
Crest factor:	1:1

Maximum location: X=3.00, Y=2.00

SAR 10g (W/Kg)	8.653684
SAR 1g (W/Kg)	18.540752

Z Axis Scan


57.8
50.0
40.0
30.0
20.0
10.0
0.0
SAR (W/Kg)
0 2 4 6 8 10 12 14 16 18 20 22 24 26
Z (mm)

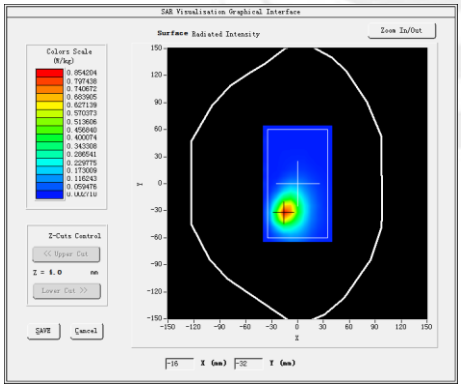
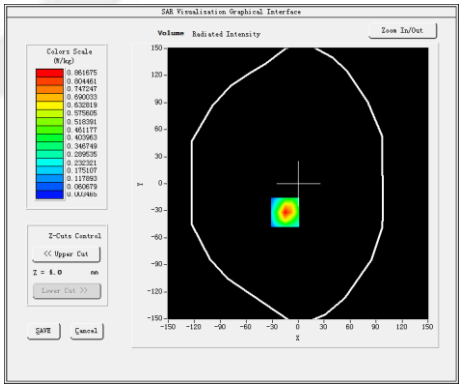
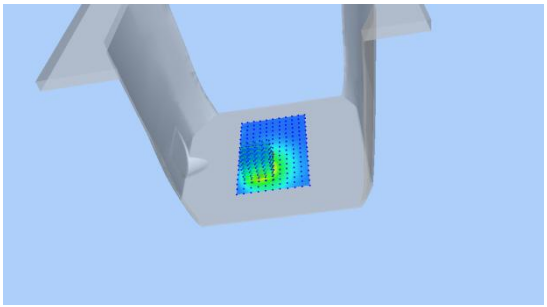
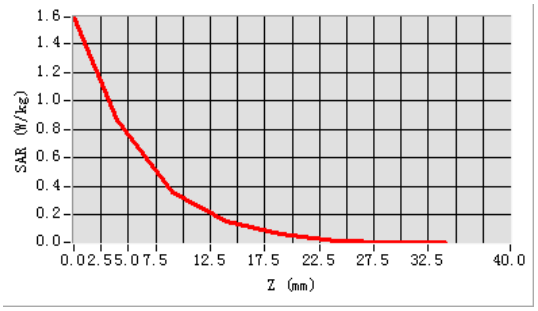
Appendix B. SAR Test Plots

Plot 1: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.28
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	52.35
Conductivity (S/m)	1.93
Variation (%)	-3.33

Maximum location: X=-15.00, Y=-32.00
SAR Peak: 1.58 W/kg

SAR 10g (W/Kg)	0.352234
SAR 1g (W/Kg)	0.833912

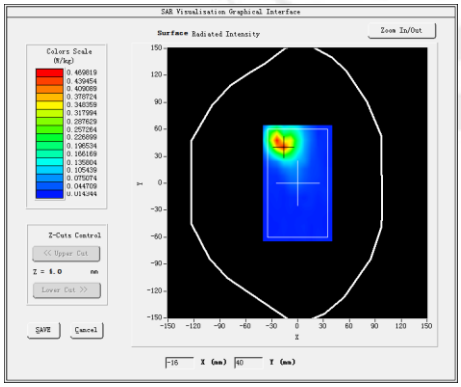
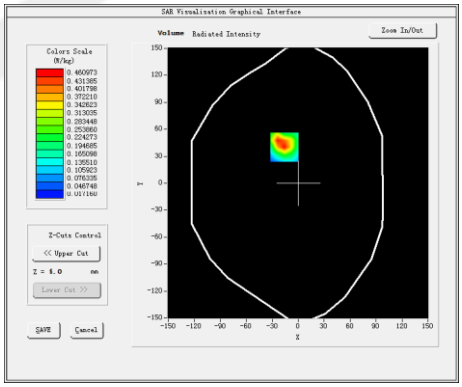
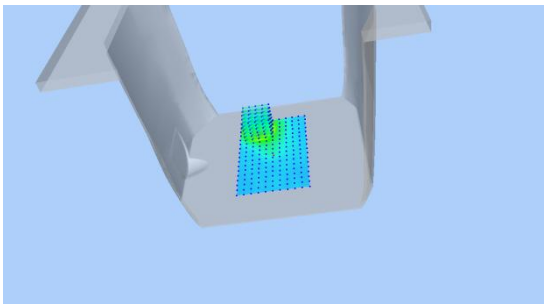
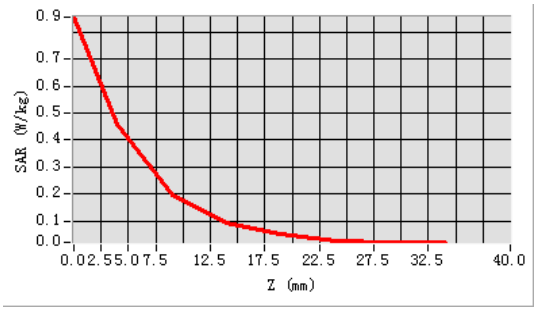
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 2: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.28
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	52.35
Conductivity (S/m)	1.93
Variation (%)	0.74

Maximum location: X=-16.00, Y=40.00
SAR Peak: 0.96 W/kg

SAR 10g (W/Kg)	0.196636
SAR 1g (W/Kg)	0.458428

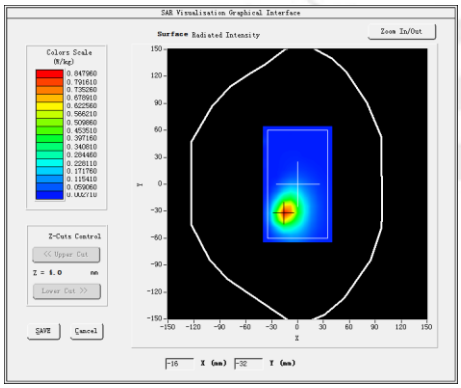
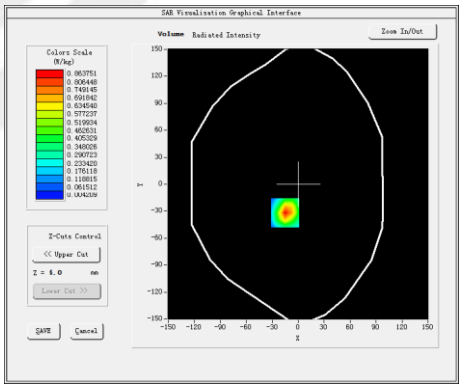
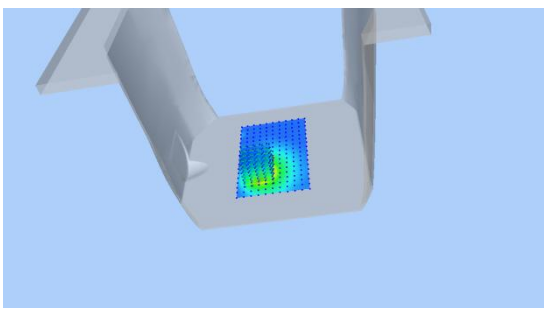
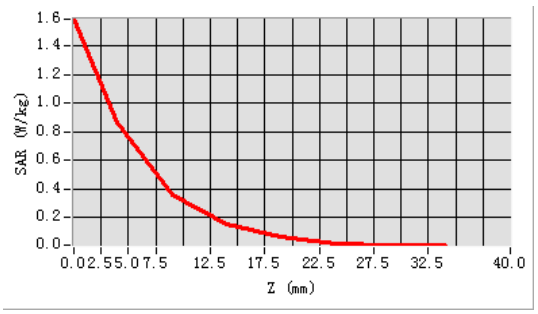
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 3: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.52
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	Middle
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5200
Relative permittivity (real part)	47.5
Conductivity (S/m)	5.49
Variation (%)	-1.10

Maximum location: X=-14.00, Y=-32.00
SAR Peak: 1.55 W/kg

SAR 10g (W/Kg)	0.252101
SAR 1g (W/Kg)	0.751090

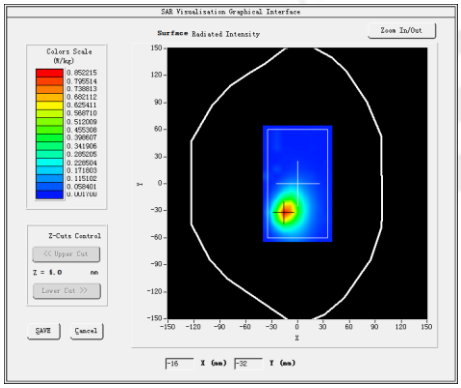
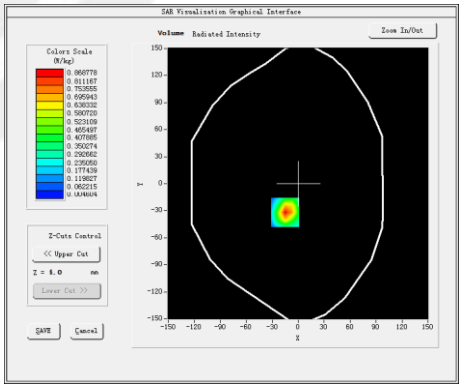
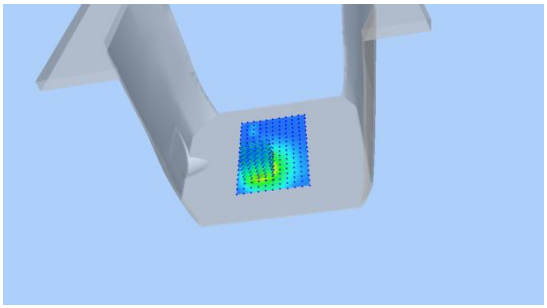
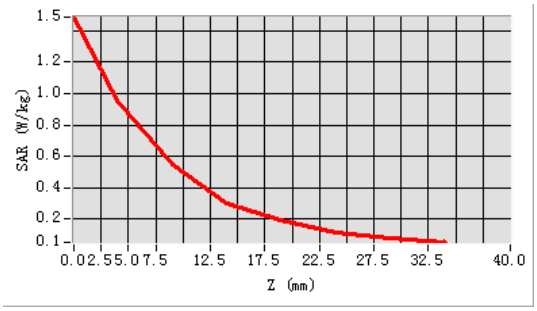
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 4: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.52
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	Low
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5180
Relative permittivity (real part)	47.5
Conductivity (S/m)	5.49
Variation (%)	-1.61

Maximum location: X=-14.00, Y=-30.00
SAR Peak: 1.48 W/kg

SAR 10g (W/Kg)	0.262693
SAR 1g (W/Kg)	0.712441

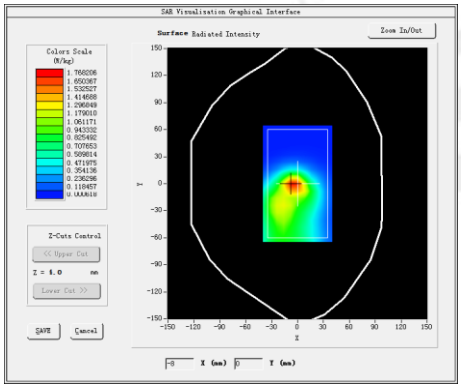
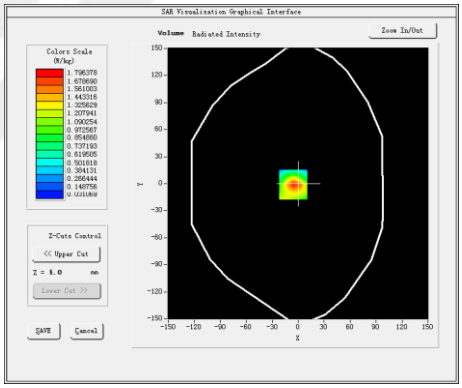
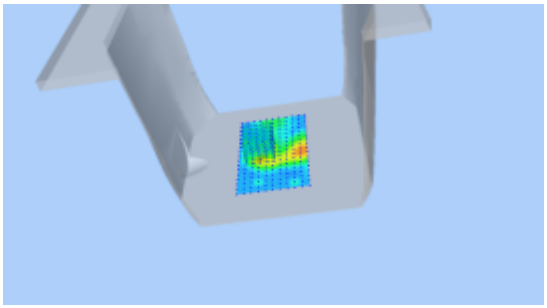
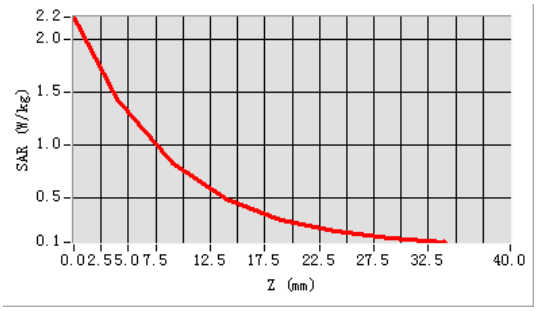
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 5: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.79
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	High
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5320
Relative permittivity (real part)	49.43
Conductivity (S/m)	5.44
Variation (%)	-4.40

Maximum location: X=-6.00, Y=-1.00
SAR Peak: 2.25 W/kg

SAR 10g (W/Kg)	0.287356
SAR 1g (W/Kg)	0.767339

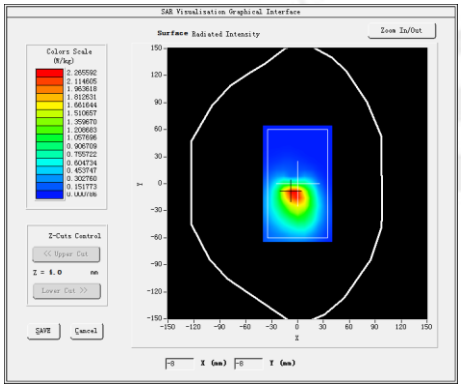
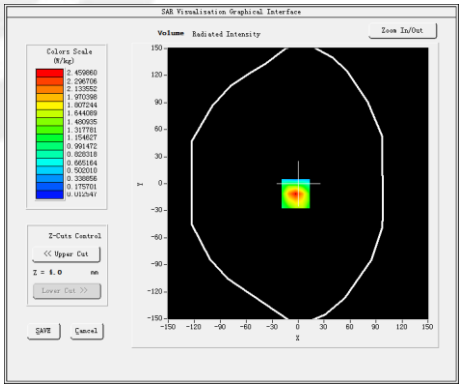
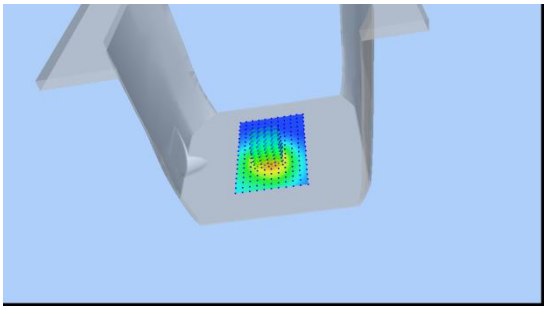
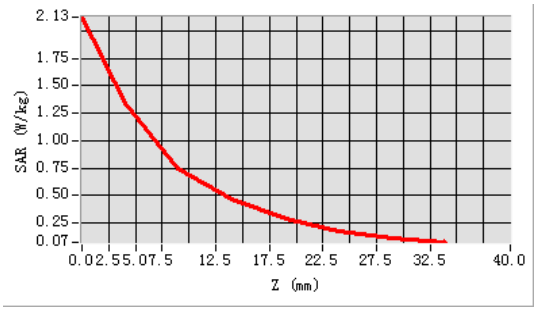
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 6: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.79
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	Middle
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5300
Relative permittivity (real part)	49.43
Conductivity (S/m)	5.44
Variation (%)	0.52

Maximum location: X=-3.00, Y=-11.00
SAR Peak: 2.16 W/kg

SAR 10g (W/Kg)	0.255378
SAR 1g (W/Kg)	0.710782

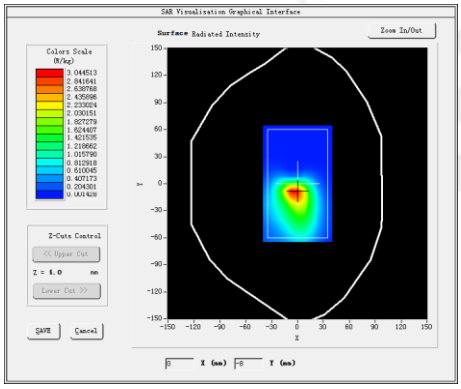
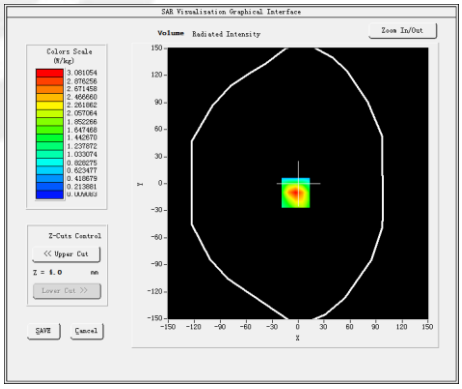
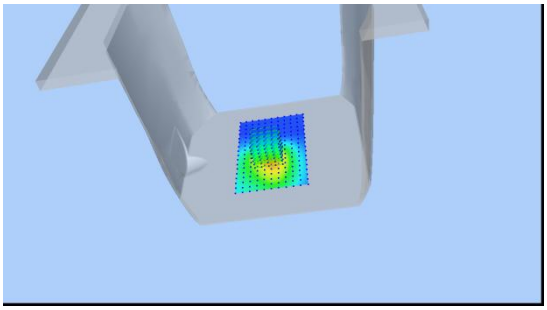
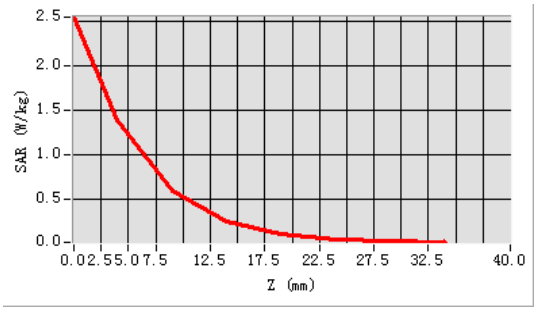
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 7: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	Middle
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5560
Relative permittivity (real part)	47.54
Conductivity (S/m)	5.78
Variation (%)	-4.25

Maximum location: X=-3.00, Y=-10.00
SAR Peak: 2.54 W/kg

SAR 10g (W/Kg)	0.257397
SAR 1g (W/Kg)	0.772583

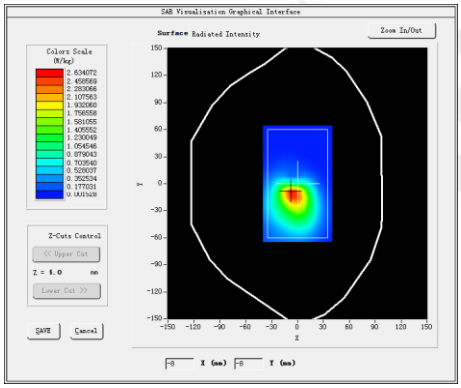
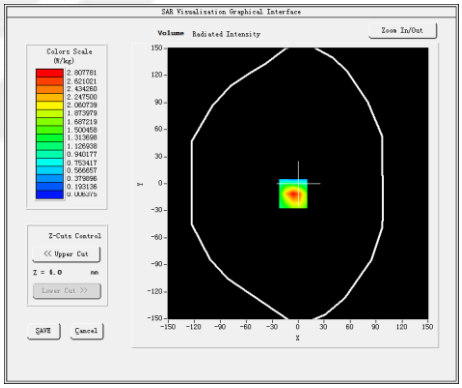
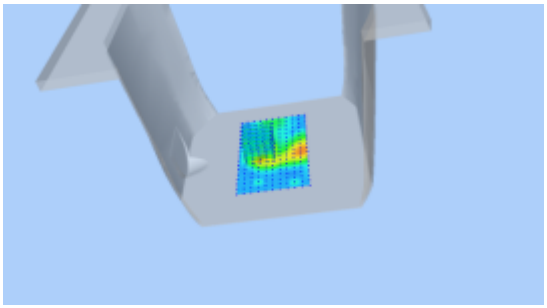
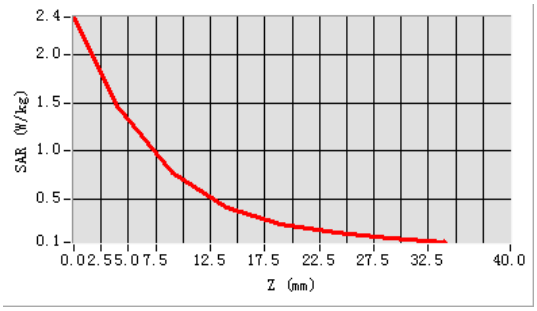
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 8: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	High
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5700
Relative permittivity (real part)	47.54
Conductivity (S/m)	5.78
Variation (%)	-1.59

Maximum location: X=-6.00, Y=-11.00
SAR Peak: 2.42 W/kg

SAR 10g (W/Kg)	0.279269
SAR 1g (W/Kg)	0.782401

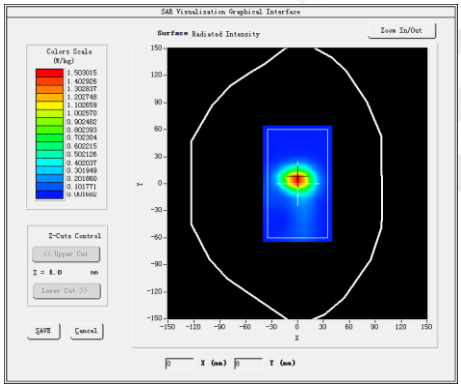
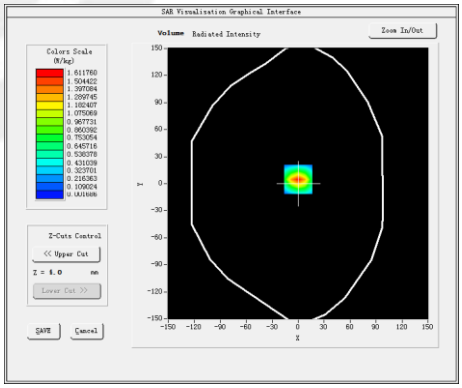
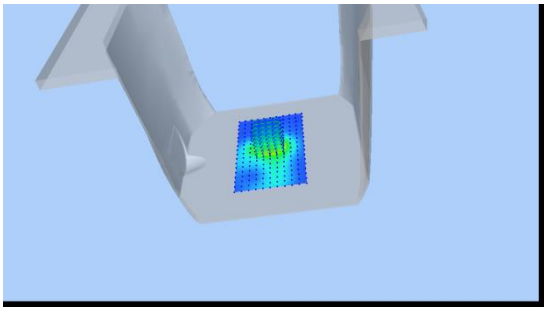
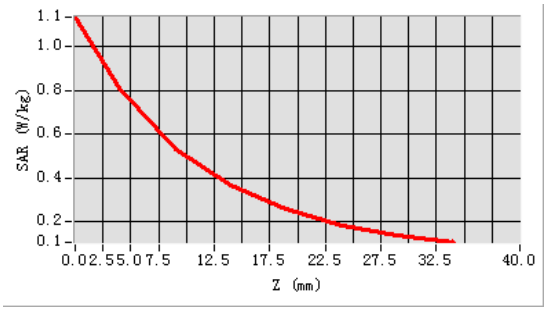
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 9: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.60
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	High
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5825
Relative permittivity (real part)	48.82
Conductivity (S/m)	5.73
Variation (%)	-3.79

Maximum location: X=0.00, Y=5.00
SAR Peak: 1.13 W/kg

SAR 10g (W/Kg)	0.384898
SAR 1g (W/Kg)	0.568119

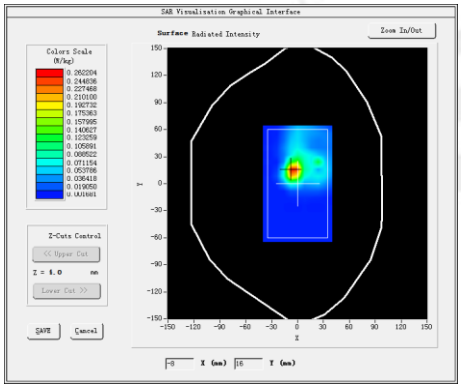
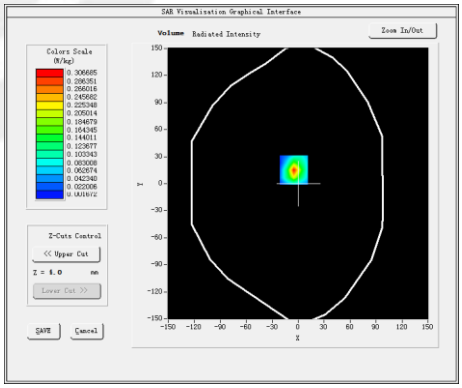
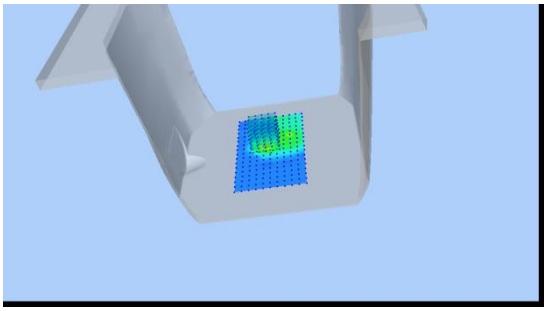
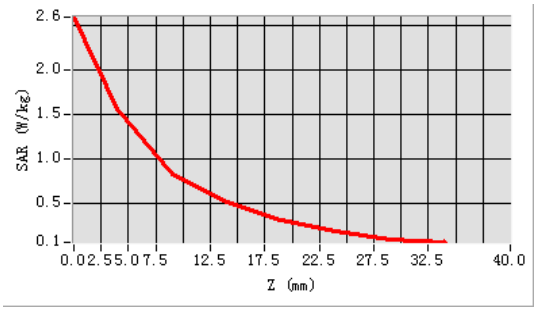
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 10: DUT: Chromebook; EUT Model: M11C

Test Date	2016-09-22
Probe	SN 45/15 EPGO281
ConvF	2.60
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Screen
Band	IEEE 802.11a ISM
Channels	High
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5825
Relative permittivity (real part)	48.82
Conductivity (S/m)	5.73
Variation (%)	-1.41

Maximum location: X=-5.00, Y=-15.00
SAR Peak: 2.64 W/kg

SAR 10g (W/Kg)	0.312643
SAR 1g (W/Kg)	0.872612

SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※