Bay Area Compliance Labs Corp.

SAR EVALUATION REPORT

For

Chengdu Vantron Technology, Ltd.

No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, China 610045

FCC ID: 2AAGETAB5071-TM

Report Type:	**Product Type:**
Original Report	Tablet Computer

Report Number: RSC170630050-20A

Report Date: 2017-08-21

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Prepared By:

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Attestation of Test Results			
EUT Information	**Product Type**	Tablet Computer	
	Tested Model	VT-TABLET-5071-TM-FP	
	FCC ID	2AAGETAB5071-TM	
	Serial Number	17063005021	
	Test Date	2017-07-05,2017-08-20	
MODE		**Max. SAR Level(s) Reported(W/kg)**	**Limit(W/kg)**
2.4G WLAN	1g Body SAR	**1.46**	**1.6**
5.2G WLAN	1g Body SAR	**1.27**	
5.8G WLAN	1g Body SAR	**1.36**	
Applicable Standards	**ANSI / IEEE C95.1 : 2005** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fileds,3 kHz to 300 GHz.		
	ANSI / IEEE C95.3 : 2002 IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to SuchFields,100 kHz—300 GHz.		
	FCC 47 CFR part 2.1093 Radiofrequency radiation exposure evaluation: portable devices		
	IEEE1528:2013 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques		
	IEC 62209-2:2010 Human exposure to radio frequency fields from hand-held and Body mounted wireless communication devices-Human models, instrumentation, and procedures-Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)		
	KDB procedures KDB 447498 D01 General RF Exposure Guidance v06 KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04 KDB 865664 D02 RF Exposure Reporting v01r02 KDB 248227 D01 802 11 Wi-Fi SAR v02r02 KDB 616217 D04 SAR for laptop and tablets v01r02		

Note: This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for General Population/Uncontrolled Exposure limits specified in **FCC 47 CFR part 2.1093** and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures.

The results and statements contained in this report pertain only to the device(s) evaluated.

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	RSC170630050-20A	Original Report	2017-08-21

EUT DESCRIPTION

This report has been prepared on behalf of ***Chengdu Vantron Technology, Ltd.*** and their product ***Tablet Computer***, Model: ***VT-TABLET-5071-TM-FP***, FCC ID: ***2AAGETAB5071-TM*** or the EUT (Equipment under Test) as referred to in the rest of this report.

All measurement and test data in this report was gathered from production sample serial number: 17063005021 (Assigned by BACL, Kunshan). The EUT was received on 2017-06-26.

Technical Specification

Device Type:	Portable
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	Internal Antenna
Operation Mode :	WLAN and Bluetooth
Frequency Band:	WLAN 2.4G (802.11b/g/n20): 2412-2462MHz WLAN 5.2G (802.11a/n/ac): 5180-5240MHz WLAN 5.8G (802.11a/n/ac): 5745-5825MHz Bluetooth:2402-2480MHz
Conducted RF Power:	WLAN 2.4G: 13.75 dBm
	WLAN 5.2G: 9.89 dBm
	WLAN 5.8G: 8.96 dBm
	Bluetooth BDR/EDR: 4.42 dBm
	BLE: 4.40 dBm
Dimensions (L*W*H):	22.6 cm (L) × 12.7 cm (W) × 1.8 cm (H)
Power Source:	3.7 VDC Rechargeable Battery
Normal Operation:	Body Supported and Handheld

REFERENCE, STANDARDS, AND GUILDELINES

FCC:

The Report and Order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g as recommended by the ANSI/IEEE standard C95.1-1992 [6] for an uncontrolled environment (Paragraph 65). According to the Supplement C of OET Bulletin 65 “Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under “worst-case” conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in North America is 1.6 mW/g average over 1 gram of tissue mass.

CE:

The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 2 mW/g as recommended by EN62209-1 for an uncontrolled environment. According to the Standard, the device should be evaluated at maximum output power (radiated from the antenna) under “worst-case” conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in Europe is 2 mW/g average over 10 gram of tissue mass.

The test configurations were laid out on a specially designed test fixture to ensure the reproducibility of measurements. Each configuration was scanned for SAR. Analysis of each scan was carried out to characterize the above effects in the device.

SAR Limits

FCC Limit

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	1.60	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

CE Limit

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 10 g of tissue)	2.0	10
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

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

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

General Population/Uncontrolled environments Spatial Peak limit 1.6 W/kg (FCC/IC) & 2 W/kg (CE) applied to the EUT.

FACILITIES

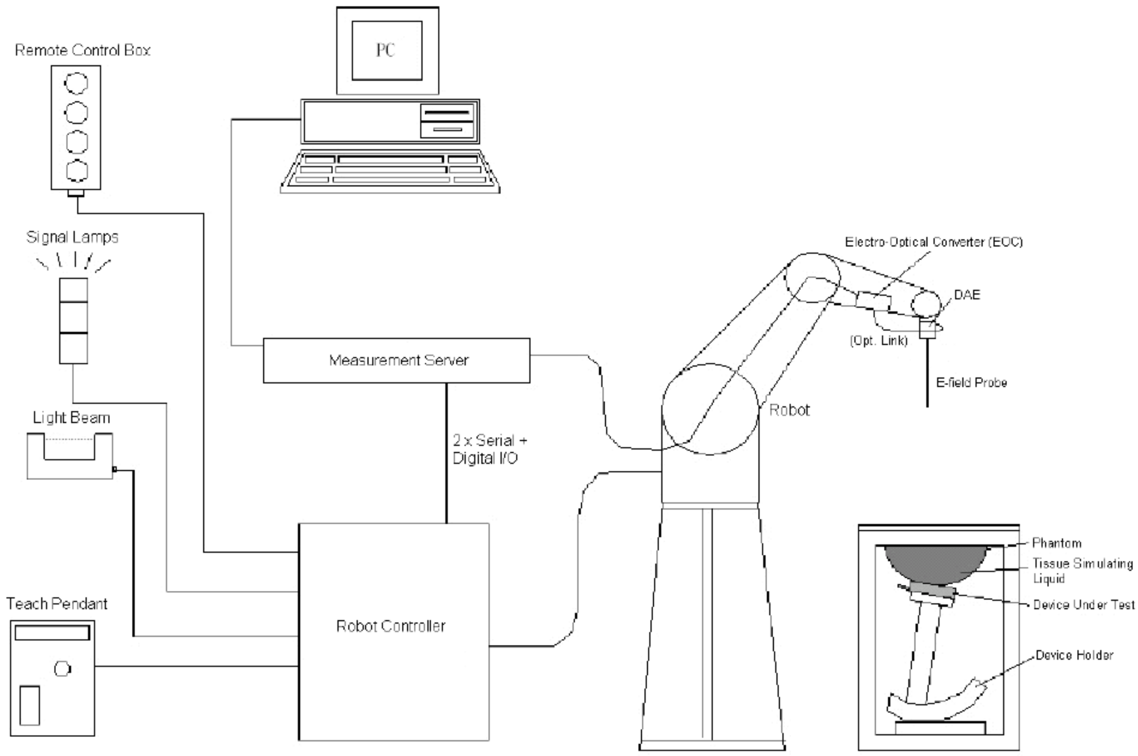
The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on No.248 Chenghu Road,Kunshan,Jiangsu province,China.

DESCRIPTION OF TEST SYSTEM

These measurements were performed with the automated near-field scanning system DASY5 from Schmid & Partner Engineering AG (SPEAG) which is the Fifth generation of the system shown in the figure hereinafter:

DASY5 System Description

The DASY5 system for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot (Staubli TX=RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal application, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 professional operating system and the DASY52 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

DASY5 Measurement Server

The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz Intel ULV Celeron, 128MB chip-disk and 128MB RAM. The necessary circuits for communication with the DAE4 (or DAE3) electronics box, as well as the 16 bit AD-converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized point out, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.

Data Acquisition Electronics

The data acquisition electronics (DAE4) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of both the DAE4 as well as of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

EX3DV4 E-Field Probes

Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

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 6 mm). The phantom has three measurement areas:
_ Left head
_ Right head
_ Flat phantom

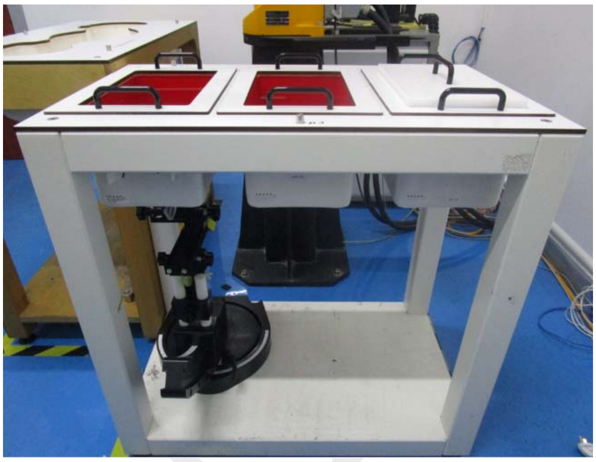
The phantom table for the DASY systems based on the TX90XL and RX160L robots have the size of 100 x 50 x 85 cm (L x W x H).
The phantom table for the compact DASY systems based on the RX60L robot have the size of 100 x 75 x 91 cm (L x W x H); these tables are reinforced for mounting of the robot onto the table.
For easy dislocation these tables have fork lift cut outs at the bottom.
The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. Only one device holder is necessary if two phantoms are used (e.g., for different liquids)

A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.

Triple Flat Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm(± 0.2 mm) shell thickness . The phantom shell is compatible with SPEAG tissue simulating liquids (sugar and oil based). Use of other liquids may render the phantom warranty void (see note or consult SPEAG support).

The phantom table for the DASY systems based on the TX90XL and RX160L robots have the size of 100 x 50 x 85 cm (L x W x H).
The phantom table for the compact DASY systems based on the RX60L robot have the size of 100 x 75 x 91 cm (L x W x H);
these tables are reinforced for mounting of the robot onto the table.
For easy dislocation these tables have fork lift cut outs at the bottom.
The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. Only one device holder is necessary if two phantoms are used (e.g., for different liquids)



A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.

Robots

The DASY5 system uses the high precision industrial robots TX90XL from Staubli SA (France). The TX robot family is the successor of the well known RX robot family and offers the same features important for our application:

- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchrony motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

The above mentioned robots are controlled by the Staubli CS8c robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is contained on the CDs delivered along with the robot. Paper manuals are available upon request direct from Staubli.

Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 15mm 2 step integral, with 1.5mm interpolation used to locate the peak SAR area used for zoom scan assessments.

Where the system identifies multiple SAR peaks (which are within 25% of peak value) the system will provide the user with the option of assessing each peak location individually for zoom scan averaging.

Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m^3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm,with the side length of the 10g cube is 21.5mm.

When the cube intersects with the surface of the phantom, it is oriented so that 3 vertices touch the surface of the shell or the center of a face is tangent to the surface. The face of the cube closest to the surface is modified in order to conform to the tangent surface.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 7 x7 x 7 (5mmx5mmx5mm) providing a volume of 30 mm in the X & Y & Z axis.

Tissue Dielectric Parameters for Head and Body Phantoms

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.

Recommended Tissue Dielectric Parameters for Head and Body

Frequency (MHz)	Head Tissue		Body Tissue	
	εr	σ (S/m)	εr	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

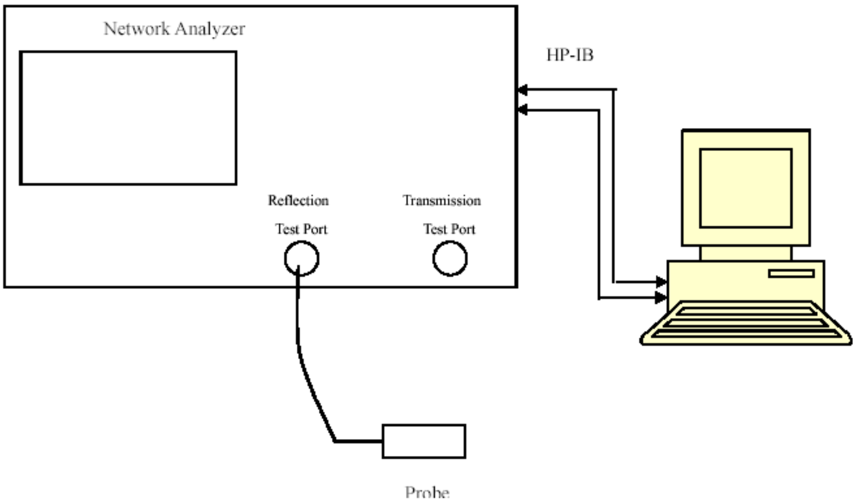
EQUIPMENT LIST AND CALIBRATION

Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
Robot	RX90	D03688	N/A	N/A
DASY5 Test Software	DASY52.8	N/A	N/A	N/A
DASY5 Measurement Server	DASY5 4.5.12	1567	N/A	N/A
Data Acquisition Electronics	DAE3	379	2016/10/04	2017/10/3
E-Field Probe	EX3DV4	7441	2016/11/15	2017/11/14
Dipole,2450MHz	D2450V2	970	2015/7/8	2018/7/7
Dipole,5GHz	D5GHzV2	1245	2016/11/7	2019/11/6
Mounting Device	MD4HHTV5	BJPCTC0152	N/A	N/A
Triple Flat Phantom 5.1C	QD 000 P51 CA	1130	N/A	N/A
Simulated Tissue 2450 MHz Body	TS-2450-B	1706245002	Each Time	/
Simulated Tissue 5250 MHz Body	TS-5250-B	1701525002	Each Time	/
Simulated Tissue 5800 MHz Body	TS-5800-B	1701580002	Each Time	/
Network Analyzer	8753B	2625A00809	2016/10/6	2017/10/5
S-Parameter Test Set	85047A	3033A02428	2016/10/6	2017/10/5
Dielectric probe kit	85070B	US33020324	N/A	N/A
Signal Generator	E4421B	US38440505	2016/11/25	2017/11/25
Power Meter	N1912A	MY5000492	2016/11/17	2017/11/16
Power Meter Sensor	N1921A	MY54210024	2016/11/17	2017/11/16
Power Amplifier	10S1G4M1	18060	N/A	N/A
Power Amplifier	ZVA-183-S+	857001418	N/A	N/A
Directional Coupler	488Z	N/A	N/A	N/A
Attenuator	20dB, 100W	N/A	N/A	N/A
Attenuator	3dB, 150W	N/A	N/A	N/A

SAR MEASUREMENT SYSTEM VERIFICATION

Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
2412	Simulated Tissue 2450 MHz Body	53.986	1.894	52.75	1.91	2.34	-0.84	±5
2437	Simulated Tissue 2450 MHz Body	53.972	1.916	52.72	1.94	2.37	-1.24	±5
2450	Simulated Tissue 2450 MHz Body	53.958	1.938	52.7	1.95	2.39	-0.62	±5
2462	Simulated Tissue 2450 MHz Body	53.934	1.951	52.68	1.97	2.38	-0.96	±5

**Liquid Verification above was performed on 2017-08-20.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	Ơ (S/m)	ε_r	Ơ (S/m)	$\Delta\varepsilon_r$	ΔƠ (S/m)	
5180	Simulated Tissue 5250 MHz Body	50.373	5.168	49.04	5.28	2.72	-2.05	±5
5220	Simulated Tissue 5250 MHz Body	50.138	5.184	49.01	5.30	2.29	-2.18	±5
5240	Simulated Tissue 5250 MHz Body	50.092	5.265	48.96	5.35	2.31	-1.52	±5
5250	Simulated Tissue 5250 MHz Body	49.988	5.327	48.95	5.36	2.13	-0.57	±5

**Liquid Verification above was performed on 2017-07-05.*

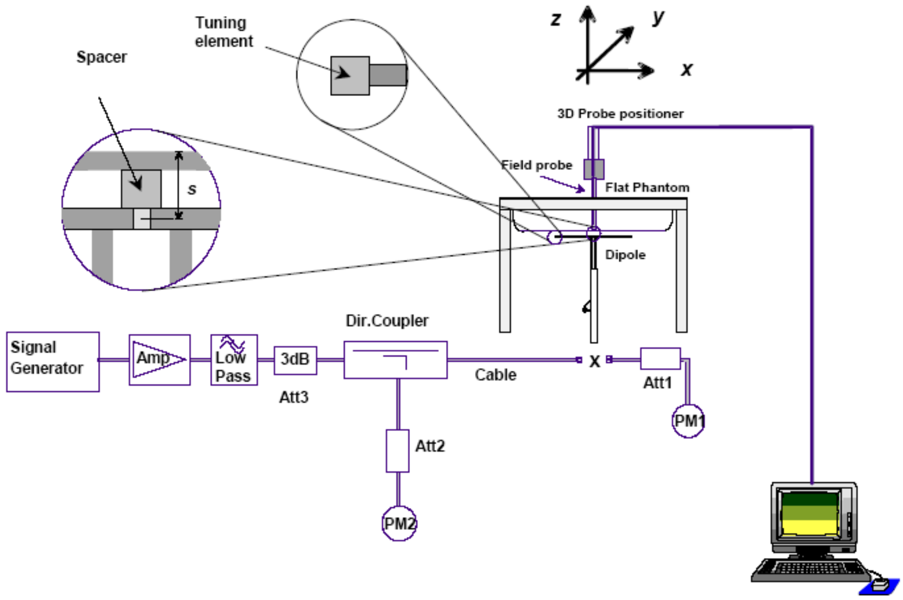
Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	Ơ (S/m)	ε_r	Ơ (S/m)	$\Delta\varepsilon_r$	ΔƠ (S/m)	
5745	Simulated Tissue 5800 MHz Body	49.263	5.791	48.27	5.94	2.05	-2.44	±5
5785	Simulated Tissue 5800 MHz Body	48.879	5.816	48.22	5.98	1.37	-2.78	±5
5800	Simulated Tissue 5800 MHz Body	48.639	5.862	48.2	6	0.91	-2.3	±5
5825	Simulated Tissue 5800 MHz Body	48.527	5.913	48.2	6	0.68	-1.45	±5

**Liquid Verification above was performed on 2017-07-05.*

System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ±10%. The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

System Verification Setup Block Diagram



System Accuracy Check Results

Date	Frequency Band	Liquid Type	Input Power (mW)	Measured SAR(W/kg)		Normalized to 1W (W/kg)	Target Value (W/kg)	Delta (%)	Tolerance (%)
2017-07-05	5250	Body	100	1g	7.62	76.2	77.9	-2.18	±10
2017-07-05	5800	Body	100	1g	7.37	73.7	75.8	-2.77	±10
2017-08-20	2450	Body	100	1g	4.98	49.8	51.3	-2.92	±10

* SAR values above are normalized to 1 Watt forward power.

SAR SYSTEM VALIDATION DATA

Test Plot *#: System Check 2450 MHz Body 2017-08-20

DUT: Dipole 2450 MHz; Type: D2450V2; Serial:970

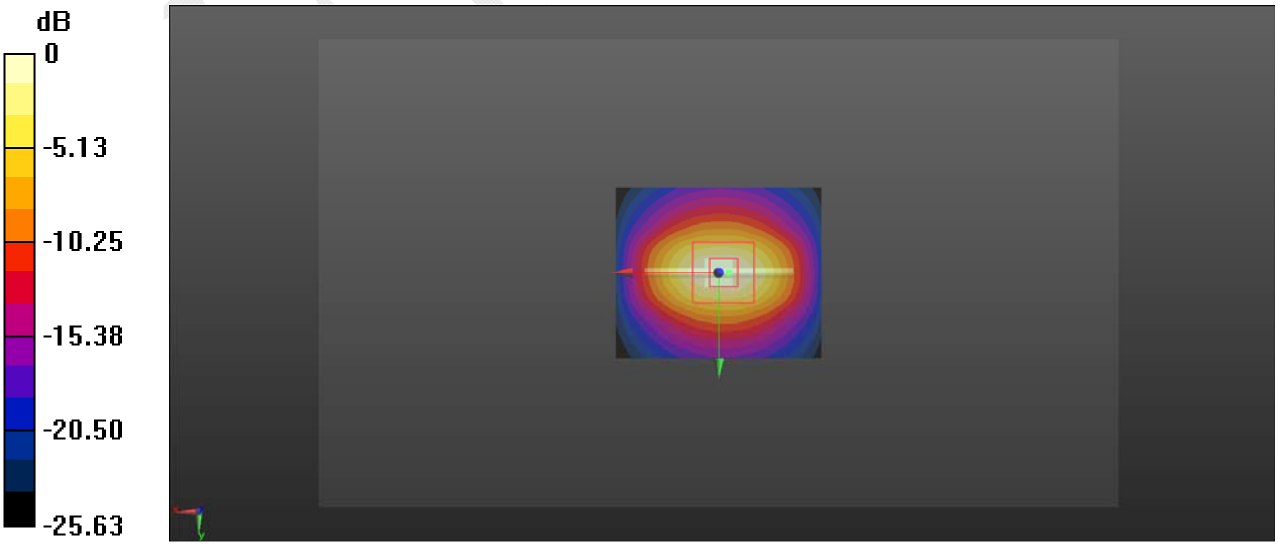
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.938 S/m; ε_r = 53.958; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7441; ConvF(7.67, 7.67, 7.67); Calibrated: 2016/11/15;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn379; Calibrated: 2016/10/4
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1130
- Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 6.05 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.91 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 4.98 W/kg; SAR(10 g) = 2.26 W/kg
Maximum value of SAR (measured) = 5.65 W/kg



0 dB = 5.65 W/kg = 7.52 dBW/kg

Test Plot *#: System Performance: 5250 MHz Body 2017-07-05

DUT: D5GHzV2; Type: 5GHz; Serial: 1245

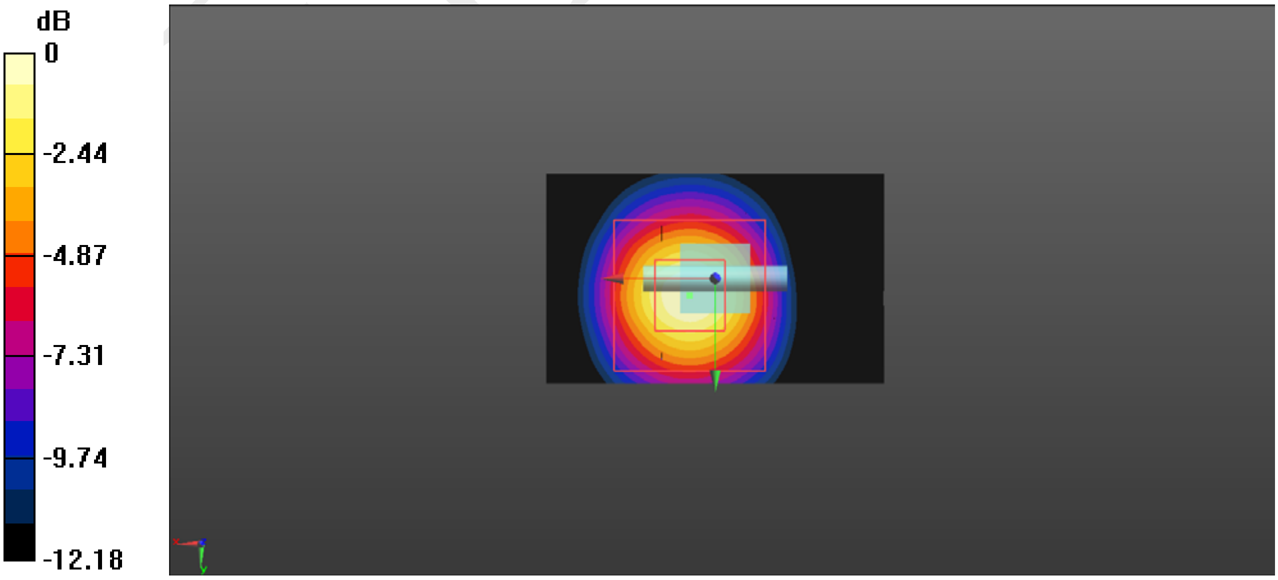
Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 5.327 S/m; ε_r = 49.988; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7441; ConvF(5.24, 5.24, 5.24); Calibrated: 2016/11/15;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn379; Calibrated: 2016/10/4
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1130
- Measurement SW: DASY52, Version 52.8 (8);

Area Scan (61x41x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 16.1 W/kg

Zoom Scan (7x7x6)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 41.99 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 7.62 W/kg; SAR(10 g) = 2.17 W/kg
Maximum value of SAR (measured) = 15.8 W/kg



0 dB = 15.8 W/kg = 11.99 dBW/kg

Test Plot *#: System Performance: 5800 MHz Body 2017-07-05

DUT: D5GHzV2; Type: 5GHz; Serial: 1245

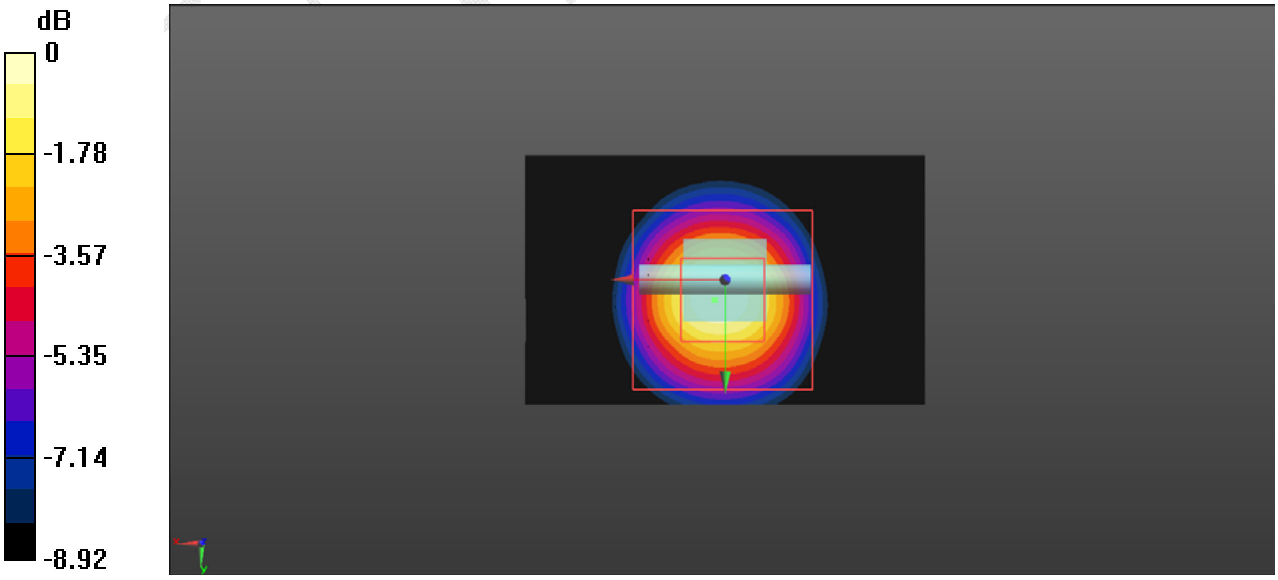
Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 5.862 S/m; ε_r = 48.639; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7441; ConvF(4.48, 4.48, 4.48); Calibrated: 2016/11/15;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn379; Calibrated: 2016/10/4
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1130
- Measurement SW: DASY52, Version 52.8 (8);

Area Scan (61x41x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 16.6 W/kg

Zoom Scan (7x7x6)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 38.48 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 31.8 W/kg
SAR(1 g) = 7.37 W/kg; SAR(10 g) = 2.15 W/kg
Maximum value of SAR (measured) = 16.3 W/kg



0 dB = 16.3 W/kg = 12.12 dBW/kg

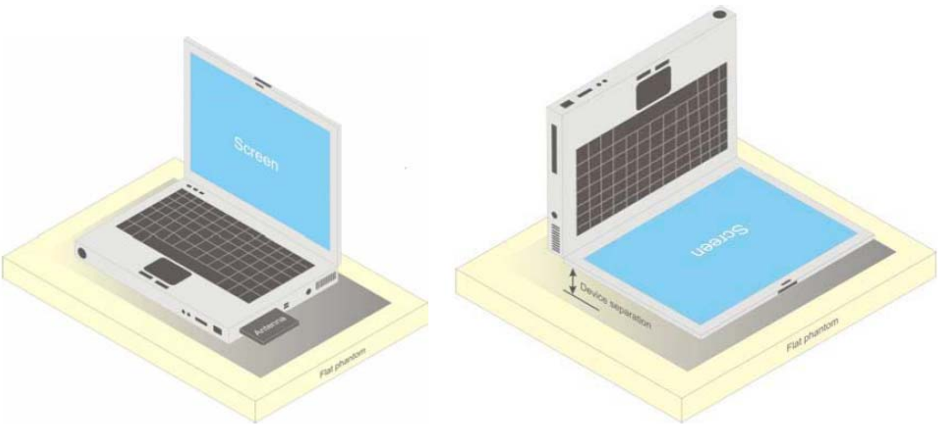
EUT TEST STRATEGY AND METHODOLOGY

Body-supported device

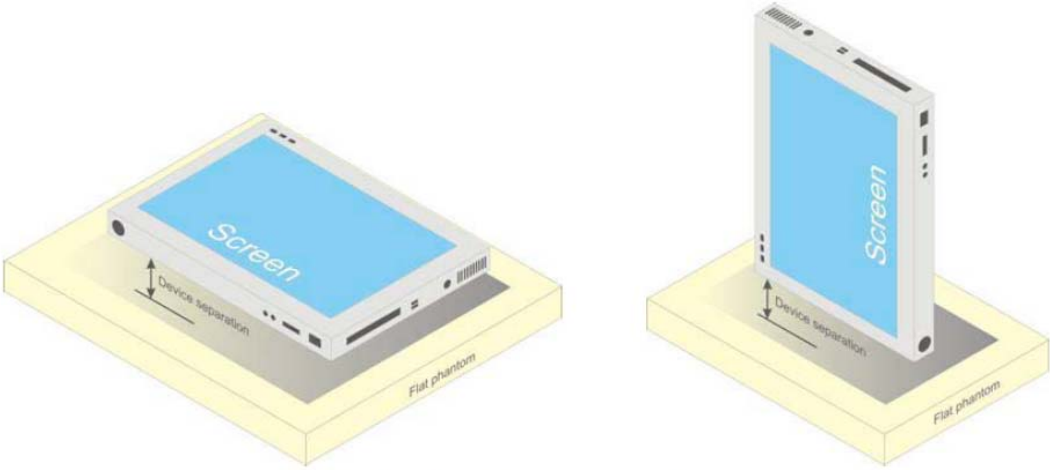
A typical example of a body supported device is a wireless enabled laptop device that among other orientations may be supported on the thighs of a sitting user. To represent this orientation, the device shall be positioned with its base against the flat phantom.

Other orientations may be specified by the manufacturer in the user instructions. If the intended use is not specified, the device shall be tested directly against the flat phantom in all usable orientations. The screen portion of the device shall be in an open position at a 90° angle as seen in Figure a (left side), or at an operating angle specified for intended use by the manufacturer in the operating instructions. Where a body supported device has an integral screen required for normal operation, then the screen-side will not need to be tested if it ordinarily remains 200 mm from the body. Where a screen mounted antenna is present, this position shall be repeated with the screen against the flat phantom as shown in Figure 7a) (right side), if this is consistent with the intended use.

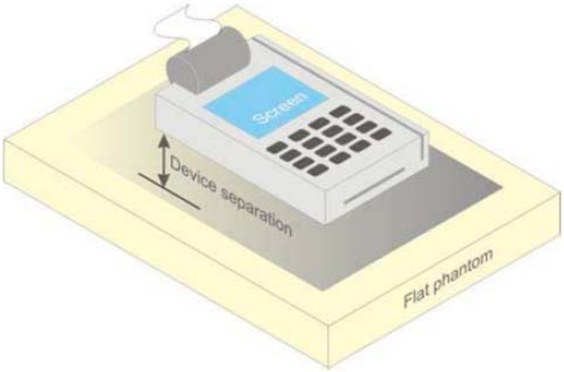
Other devices that fall into this category include tablet type portable computers and credit card transaction authorisation terminals, point-of-sale and/or inventory terminals. Where these devices may be torso or limb-supported, the same principles for body-supported devices are applied. The example in Figure b) shows a tablet form factor portable computer for which SAR should be separately assessed with d) each surface and e) the separation distances positioned against the flat phantom that correspond to the intended use as specified by the manufacturer. If the intended use is not specified in the user instructions, the device shall be tested directly against the flat phantom in all usable orientations. Some body-supported devices may allow testing with an external power supply (e.g. a.c. adapter) supplemental to the battery, but it shall be verified and documented in the measurement report that SAR is still conservative.



a) Portable computer with external antenna plug-in-radio-card (left side) or with internal antenna located in screen section (right side)



b) Tablet form factor portable computer



c) Wireless credit card transaction authorisation terminal

Figure 7 – Test positions for body supported devices

Test positions for Hand-held device

Hand-held device means a portable device which is located in a user's hand during its intended use Hand-held usage of the device, not at the head or torso. The device shall be placed directly against the flat phantom as shown in Figure J.1, for those sides of the device that are in contact with the hand during intended use.

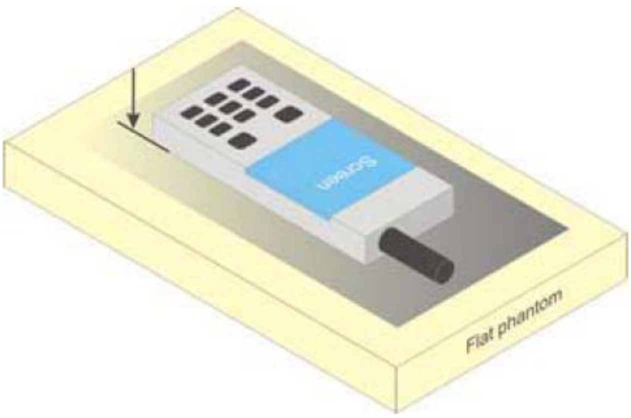


Figure J.1 – Test position for hand-held devices, not used at the head or torso

Test Distance for SAR Evaluation

For this case the DUT(Device Under Test) is set directly against the phantom, the test distance is 0mm.

SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop. The SAR at this point is measured at the start of the test and then again at the end of the testing.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head or radiating structures of the EUT, the horizontal grid spacing was 15 mm x 15 mm, and the SAR distribution was determined by integrated grid of 1.5mm x 1.5mm. Based on these data, the area of the maximum absorption was determined by spline interpolation. The first Area Scan covers the entire dimension of the EUT to ensure that the hotspot was correctly identified.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

1) The data at the surface were extrapolated, since the center of the dipoles is 1.2 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one dimensional splines with the “Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the averages.

All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

Test methodology

KDB 447498 D01 General RF Exposure Guidance v06
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r02
KDB 248227 D01 802 11 Wi-Fi SAR v02r02
KDB 616217 D04 SAR for laptop and tablets v01r02

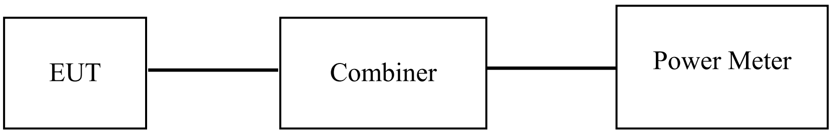
CONDUCTED OUTPUT POWER MEASUREMENT

Provision Applicable

The measured peak output power should be greater and within 5% than EMI measurement.

Test Procedure

The RF output of the transmitter was connected to the input of the Power Meter through Combiner.
Combiner.



WLAN&Bluetooth

Maximum Target Output Power

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
WLAN2.4G (802.11b)	13.9	13.9	13.9
WLAN2.4G (802.11g)	12.5	12.5	12.5
WLAN2.4G (802.11n HT20)	12.5	12.5	12.5
WLAN 5.2G (802.11 a)	10.0	10.0	10.0
WLAN 5.2G (802.11 ac20)	9.7	9.7	9.7
WLAN 5.2G (802.11 ac40)	9.0	9.0	9.0
WLAN 5.2G (802.11 ac80)	8.5	8.5	8.5
WLAN 5.2G (802.11 n20)	9.8	9.8	9.8
WLAN 5.2G (802.11 n40)	9.0	9.0	9.0
WLAN 5.8G (802.11 a)	9.0	9.0	9.0
WLAN 5.8G (802.11 ac20)	9.0	9.0	9.0
WLAN 5.8G (802.11 ac40)	8.5	8.5	8.5
WLAN 5.8G (802.11 ac80)	7.7	7.7	7.7
WLAN 5.8G (802.11 n20)	9.0	9.0	9.0
WLAN 5.8G (802.11 n40)	8.5	8.5	8.5
Bluetooth BDR/EDR	4.5	4.0	3.5
Bluetooth LE	4.5	4.0	3.5

Test Results:

WLAN 2.4G

Band	Frequency (MHz)	Conducted Output Power	
		(dBm)	(mW)
802.11b	2412	**13.75**	**23.714**
	2437	13.45	22.131
	2462	13.63	23.067
802.11g	2412	12.28	16.904
	2437	12.2	16.596
	2462	11.87	15.382
802.11n HT20	2412	12.23	16.711
	2437	12.16	16.444
	2462	11.88	15.417

Note:

1. The output power was tested under data rate 1Mbps for 802.11b, 6Mbps for 802.11g, MCS0 for 802.11n HT20.

WLAN 5.2G:

Mode	Channel frequency (MHz)	RF Output Power	
		(dBm)	(mW)
802.11a	5180	9.19	8.299
	5220	9.69	9.311
	5240	**9.89**	**9.750**
802.11ac20	5180	8.68	7.379
	5220	9.41	8.730
	5240	9.56	9.036
802.11ac40	5190	8.19	6.592
	5230	8.84	7.656
802.11ac80	5210	8.31	6.776
802.11n HT20	5180	8.7	7.413
	5220	9.31	8.531
	5240	9.61	9.141
802.11n HT40	5190	8.29	6.745
	5230	8.8	7.586

WLAN 5.8G:

Mode	Channel frequency (MHz)	RF Output Power	
		(dBm)	(mW)
802.11a	5745	**8.96**	**7.870**
	5785	8.58	7.211
	5825	8.3	6.761
802.11ac20	5745	8.78	7.551
	5785	8.42	6.950
	5825	8.09	6.442
802.11ac40	5755	8.3	6.761
	5795	7.79	6.012
802.11ac80	5775	7.56	5.702
802.11n HT20	5745	8.85	7.674
	5785	8.62	7.278
	5825	8.55	7.161
802.11n HT40	5755	8.2	6.607
	5795	7.75	5.957

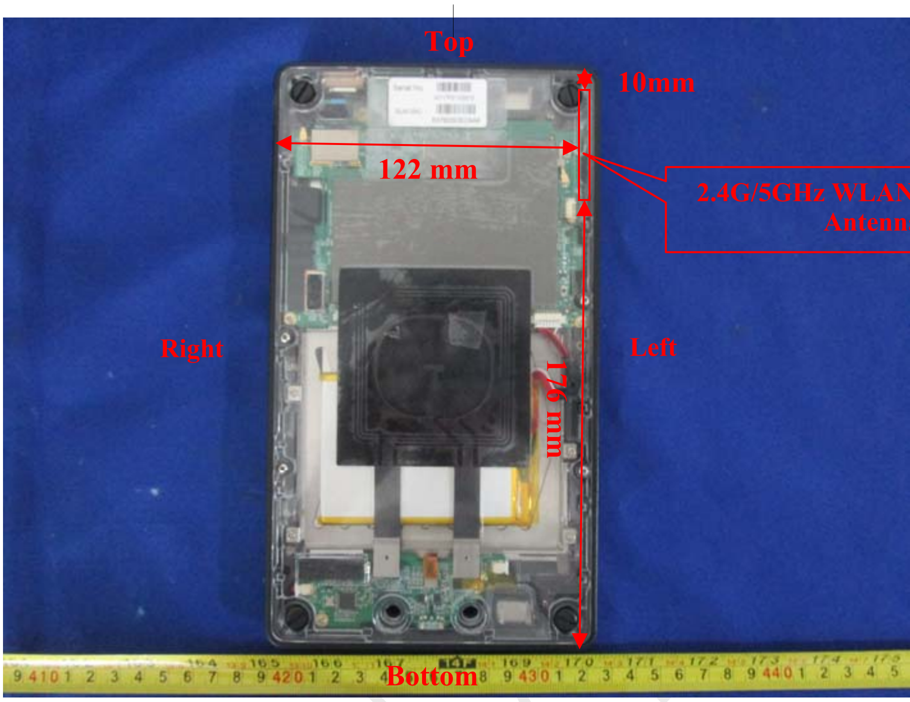
Note:
The output power was tested under data rate 6Mbps for 802.11a, MCS0 for 802.11n-ht20 ,802.11n-ht40, 802.11ac20, 802.11ac40 and 802.11ac80.

Bluetooth:

Mode	Channel frequency (MHz)	RF Output Power	
		(dBm)	(mW)
BDR(GFSK)	2402	**4.42**	**2.767**
	2441	3.54	2.259
	2480	2.74	1.879
EDR(4-DQPSK)	2402	1.23	1.327
	2441	0.68	1.169
	2480	-0.32	0.929
EDR(8-DPSK)	2402	1.77	1.503
	2441	1.17	1.309
	2480	0.01	1.002
Bluetooth LE	2402	4.40	2.754
	2440	3.61	2.296
	2480	3.36	2.168

SAR test exclusion considerations

Antennas Location:



Note:

1. The 2.4GHz/5GHz WLAN and Bluetooth transmit and receive through the same antenna.
2. 2.4GHz/5GHz WLAN and Bluetooth can not transmit simultaneously.
3. 2.4 GHz and 5GHz WLAN can not transmit simultaneously.

Antenna Distance To Edge

Antenna Distance To Edge(mm)					
Antenna	**Back**	**Left**	**Right**	**Top**	**Bottom**
WLAN&Bluetooth	< 5	< 5	122	10	176

Standalone SAR test exclusion considerations

Mode	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
Bluetooth	2480	4.5	2.82	0	0.9	3	YES

NOTE:
The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤7.5 for 10-g extremity SAR, where
1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

SAR test exclusion for the EUT edge considerations Result

Antenna Distance To Edge					
Mode	**Back**	**Left**	**Right**	**Top**	**Bottom**
WLAN	**Required**	**Required**	**Judge**	**Judge**	**Judge**

Note:

Required: The distance is less than 5mm, the SAR test is required as Standalone SAR test exclusion considerations table.
Judge: Please refer the below tables for detail.

SAR test exclusion for the EUT edge considerations detail:

Distance< 50mm(To Edges)

Antenna	Edge	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test required
WLAN 2.4G	Top	2462	13.9	24.55	10	3.9	3.0	**Yes**
WLAN 5.2G	Top	5240	10.0	10.0	10	2.3	3.0	No
WLAN 5.8G	Top	5825	9.0	7.94	10	1.9	3.0	No

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤7.5 for 10-g extremity SAR, where
1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.
5. The Time based average Power is used for calculation

Distance> 50mm(To Edges)

Antenna	Edge	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Test exclusion Threshold (mW)	SAR Test required
WLAN 2.4G	Right	2462	13.9	24.55	122	815.6	No
WLAN 5.2G	Right	5240	10	10	122	785.5	No
WLAN 5.8G	Right	5825	9	7.94	122	782.2	No
WLAN 2.4G	Bottom	2462	13.9	24.55	176	1355.6	No
WLAN 5.2G	Bottom	5240	10	10	176	1325.5	No
WLAN 5.8G	Bottom	5825	9	7.94	176	1322.2	No

At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following:

a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz

b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

SAR Test Data

Environmental Conditions

Temperature:	22.1-23.7 ℃	22.2-23.4 ℃
Relative Humidity:	42 %	45 %
ATM Pressure:	1003 mbar	1001 mbar
Test Date:	2017-07-05	2017-08-20

Testing was performed by Edison Hu, Zack Huang, Peter Lee.

WLAN 2.4G:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	2412	802.11 b	-0.14	13.75	13.9	1.035	0.932	0.96	1#
	2437	802.11 b	-0.12	13.45	13.9	1.109	0.974	1.08	2#
	2462	802.11 b	-0.04	13.63	13.9	1.064	0.983	1.05	3#
Body Left (0mm)	2412	802.11 b	-0.11	13.75	13.9	1.035	1.25	1.29	4#
	2437	802.11 b	0.12	13.45	13.9	1.109	1.32	**1.46**	**5#**
	2462	802.11 b	-0.20	13.63	13.9	1.064	1.31	1.39	6#
Body Top (0mm)	2412	802.11 b	/	/	/	/	/	/	/
	2437	802.11 b	0.05	13.45	13.9	1.109	0.121	0.13	7#
	2462	802.11 b	/	/	/	/	/	/	/

2.4 GHz 802.11g/n OFDM SAR Test Exclusion Consideration:

Modulation Mode	Pavg (dBm)	Pavg (mW)	Reported SAR(W/kg)	Adjusted SAR(W/kg)	Limit(W/kg)	SAR Test Exclusion
802.11b(DSSS)	13.9	24.55	1.46	/	/	/
802.11g(OFDM)	12.5	17.78	/	1.06	1.2	Yes
802.11n HT20(OFDM)	12.5	17.78	/	1.06	1.2	Yes

Note:

KDB 248227 D01-When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied. SAR is not required for the following 2.4 GHz OFDM conditions.

a) When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.

b) 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.

WLAN 5.2G:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	5180	802.11 a	/	/	/	/	/	/	/
	5220	802.11 a	0.15	9.69	10	1.074	0.564	0.61	8#
	5240	802.11 a	/	/	/	/	/	/	/
Body Left (0mm)	5180	802.11 a	0.16	9.19	10	1.205	1.05	**1.27**	**9#**
	5220	802.11 a	-0.20	9.69	10	1.074	1.15	1.24	10#
	5240	802.11 a	0.04	9.89	10	1.026	1.11	1.14	11#

WLAN 5.8G:

EUT Position	Frequency (MHz)	Test Mode	Power Drift (dB)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	5745	802.11 a	-0.06	8.96	9.0	1.009	0.837	0.84	12#
	5785	802.11 a	-0.15	8.58	9.0	1.102	0.770	0.85	13#
	5825	802.11 a	-0.10	8.3	9.0	1.175	0.647	0.76	14#/
Body Left (0mm)	5745	802.11 a	-0.07	8.96	9.0	1.009	1.29	1.30	15#
	5785	802.11 a	-0.01	8.58	9.0	1.102	1.23	**1.36**	**16#**
	5825	802.11 a	0.06	8.3	9.0	1.175	1.11	1.30	17#

Note:

1. When the 1-g SAR is less than half of the limit value, testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. KDB 447498-The test separation distances required for a device to demonstrate SAR or MPE compliance must be sufficiently conservative to support the operational separation distances required by the device and its antennas and radiating structures. The test separation distance 0mm is considered sufficiently conservative.

SAR Measurement Variability

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results

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

The Highest Measured SAR Configuration in Each Frequency Band

Body SAR

Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
			Original	Repeated	
(2350-2500 MHz) WLAN 2.4G	2462	Body Left	1.32	1.27	**1.04**
(5140-5360 MHz) WLAN 5.2G	5200	Body Left	1.15	1.11	**1.04**
(5700-5910 MHz) WLAN 5.8G	5745	Body Left	1.29	1.23	**1.05**

Note:

1. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20.
2. The measured SAR results **do not** have to be scaled to the maximum tune-up tolerance to determine if repeated measurements are required.
3. SAR measurement variability must be assessed for each frequency band, which is determined by the **SAR probe calibration point and tissue-equivalent medium** used for the device measurements..

SAR Plots

Please Refer to the Attachment.

APPENDIX A MEASUREMENT UNCERTAINTY

The uncertainty budget has been determined for the measurement system and is given in the following Table.

Measurement uncertainty evaluation for IEEE1528-2013 SAR test

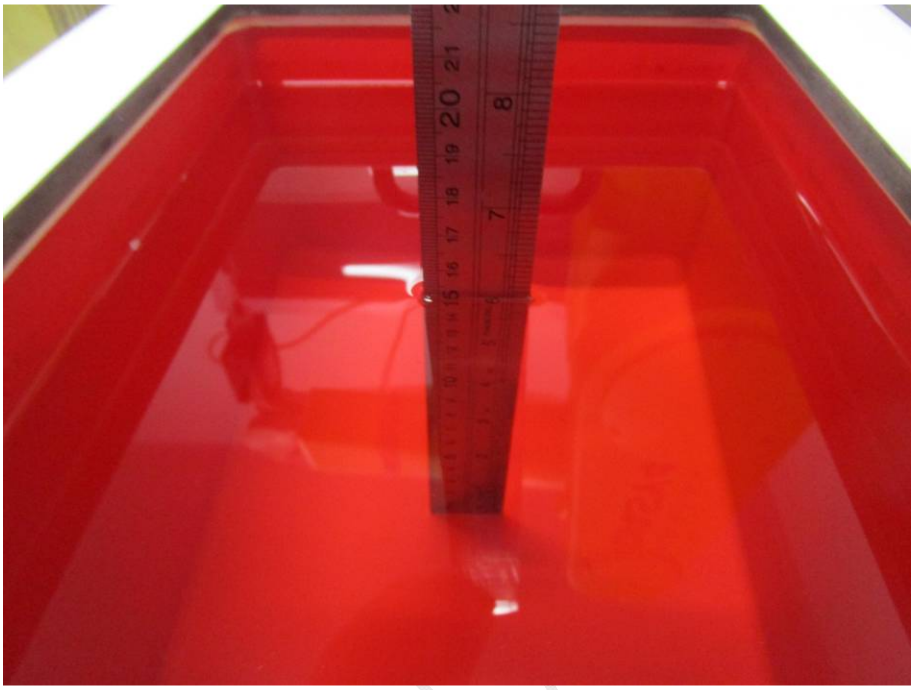
Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Linearity	4.7	R	√3	1	1	2.7	2.7
Detection limits	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambient conditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Device holder uncertainty	6.3	N	1	1	1	6.3	6.3
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Liquid conductivity target)	5.0	R	√3	0.64	0.43	1.8	1.2
Liquid conductivity meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity target)	5.0	R	√3	0.6	0.49	1.7	1.4
Liquid permittivity meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Combined standard uncertainty		RSS				12.2	12.0
Expanded uncertainty 95 % confidence interval)						24.3	23.9

Measurement uncertainty evaluation for IEC62209-2 SAR test

Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Linearity	4.7	R	√3	1	1	2.7	2.7
Modulation Response	0.0	R	√3	1	1	0.0	0.0
Detection limits	1.0	R	√3	1	1	0.6	0.6
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambient conditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Device holder Uncertainty	6.3	N	1	1	1	6.3	6.3
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Power scaling	4.5	R	√3	1	1	2.6	2.6
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Algorithm for correcting SAR for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.1	0.9
Liquid conductivity (meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity (meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Temp. unc. - Conductivity	1.7	R	√3	0.78	0.71	0.8	0.7
Temp. unc. - Permittivity	0.3	R	√3	0.23	0.26	0.0	0.0
Combined standard uncertainty		RSS				12.2	12.1
Expanded uncertainty 95 % confidence interval)						24.5	24.2

APPENDIX B EUT TEST POSITION PHOTOS

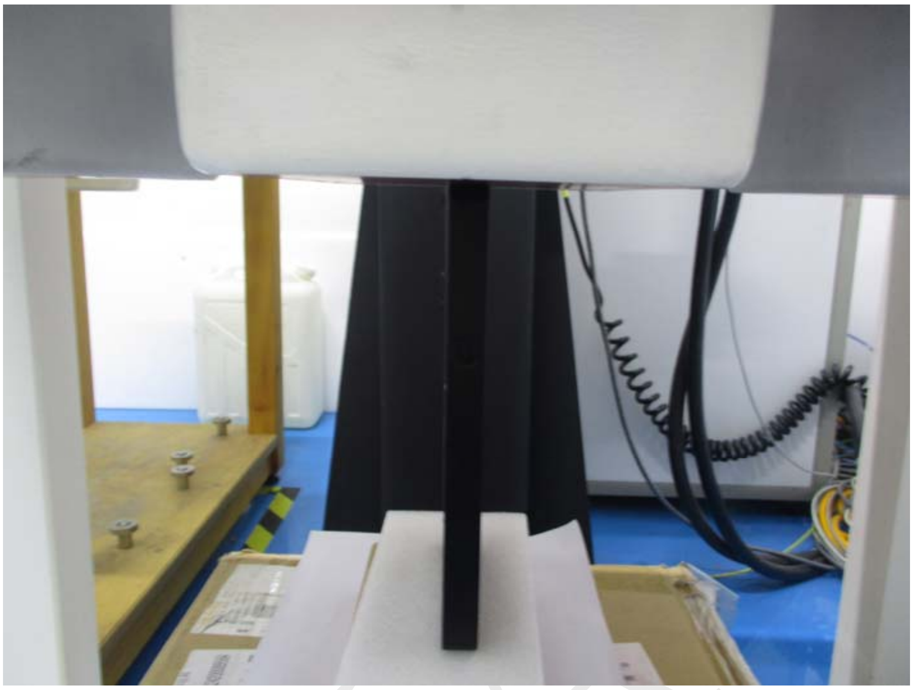
Liquid depth ≥ 15cm



Body Back Setup Photo(0mm)

Body Left Setup Photo(0mm)

Body Top Setup Photo(0mm)



APPENDIX C CALIBRATION CERTIFICATES

Please Refer to the Attachment.

******* END OF REPORT *******