FCC SAR Compliance Test Report

For

HUNG WAI PRODUCTS LIMITED

Unit 11, 12/F., New Commerce Centre, 19 On Sum Street, Shatin, Hong Kong

Model: DT080-MS-W10

Test Engineer:	Lily Zhao
Report Number:	FCC17060478A-6
Report Date:	2017-07-07
FCC ID:	2AB6Z-MS-W10
Check By:	Stars Liang
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Modified History

REV.	Modification Description	Issued Date	Remark
REV.1.0	Initial Test Report Relesse	2017-07-07	Stars Liang

1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in this test report. QTC Certification & Testing Co., Ltd. does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report is not to be reproduced or published in full without the prior written permission.

1.2 Application details

Date of receipt of test item: 2017-06-09
Start of test: 2017-06-27
End of test: 2017-06-27

1.3 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for DT080-MS-W10 is as below:

Band	Position	MAX Reported SAR_{1g} (W/kg)
2.4G WIFI	Body-Worn	0.112
5G WIFI	Body-Worn	**0.114**

The device is in compliance with Specific Absorption Rate （SAR）for general population/uncontraolled exposure limits of 1.6 W/Kg as averaged over any 1g tissue according to the FCC rule §2.1093, the ANSI/IEEE C95.1:2005, the NCRP Report Number 86 for uncontrolled environment, according to the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013.

1.4 EUT Information

<table>
<tr><td colspan="4">Device Information:</td></tr>
<tr><td>Product Type:</td><td colspan="3">8 inch Windows OS Tablet</td></tr>
<tr><td>Model:</td><td colspan="3">DT080-MS-W10</td></tr>
<tr><td>Brand Name:</td><td colspan="3">N/A</td></tr>
<tr><td>Device Type:</td><td colspan="3">Portable device</td></tr>
<tr><td>Exposure Category:</td><td colspan="3">uncontrolled environment / general population</td></tr>
<tr><td>Production Unit or Identical Prototype:</td><td colspan="3">Production Unit</td></tr>
<tr><td>Hardware version:</td><td colspan="3">V02</td></tr>
<tr><td>Software version :</td><td colspan="3">CSR1.0.12</td></tr>
<tr><td>Antenna Type :</td><td colspan="3">Internal Antenna</td></tr>
<tr><td colspan="4">Device Operating Configurations:</td></tr>
<tr><td>Supporting Mode(s) :</td><td colspan="3">Wi-Fi , BT</td></tr>
<tr><td>Modulation:</td><td colspan="3">OFDM/CCK, GFSK/π/4-DQPSK/ 8-DPSK, GFSK</td></tr>
<tr><td>Device Class :</td><td colspan="3">Class B, No DTM Mode</td></tr>
<tr><td rowspan="4">Operating Frequency Range(s)</td><td>Band</td><td>TX(MHz)</td><td>RX(MHz)</td></tr>
<tr><td>Wi-Fi</td><td colspan="2">2412~2462</td></tr>
<tr><td>Wi-Fi (5G)</td><td colspan="2">5150~5250
5725~5850</td></tr>
<tr><td>BT</td><td>2402~2480</td><td>2402~2480</td></tr>
<tr><td rowspan="4">Test Channel:</td><td colspan="3">1-6-11 (Wi-Fi)</td></tr>
<tr><td colspan="3">802.11a/n/ac 20M: 36-40-44-48-52-56-60-64-149-153-157-161-165
802.11 n/ac 40M: 38-46-54-62-151-159 (Wi-Fi 5G)</td></tr>
<tr><td colspan="3">0-39-78(BT 3.0)</td></tr>
<tr><td colspan="3">0-20-39 (BT 4.0)</td></tr>
<tr><td>Power Source:</td><td colspan="3">3.7 VDC/1000mAh Rechargeable Battery</td></tr>
</table>

2 Testing laboratory

Test Site	QTC Certification & Testing Co., Ltd.
Test Location	2nd Floor,BI Building,Fengyeyuan Industrial Plant,, Liuxian 2st. Road, Xin'an Street, Bao'an District,,Shenzhen,518000
Telephone	+86-755-26996144 EXT:8164
Fax	+86-755-26996253

3 Test Environment

	Required	Actual
Ambient temperature:	18 – 25 °C	22 ± 2 °C
Tissue Simulating liquid:	22 ± 2 °C	22 ± 2 °C
Relative humidity content:	30 – 70 %	30 – 70 %

4 Applicant and Manufacturer

Applicant/Client Name:	HUNG WAI PRODUCTS LIMITED
Applicant Address:	Unit 11, 12/F., New Commerce Centre, 19 On Sum Street, Shatin, Hong Kong
Manufacturer Name:	HUNG WAI ELECTRONICS (HUIZHOU) LTD
Manufacturer Address:	3rd floor, NO. 1, Minfeng Road, Huinan High and New Technology Industry Park, Huiao Avenue, Huizhou City, Guangdong

5 Test standard/s:

ANSI Std C95.1-2005	Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
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
RSS-102	Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands (Issue 5 March 2015)
KDB447498 D01	General RF Exposure Guidance v06
KDB616217 D04	SAR for laptop and tablets v01r03
KDB248227 D01	SAR meas for 802.11 a/b/g v02r02
KDB865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB865664 D02	RF Exposure Reporting v01r02

5.1 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain/Body/Arms/Legs)	**1.60 mW/g**	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Heads/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

The limit applied in this test report is shown in bold letters

Notes:

* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

** The Spatial Average value of the SAR averaged over the whole body.

*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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

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

5.2 SAR Definition

Specific Absorption Rate is defined as 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).

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

SAR is expressed in units of watts per kilogram (W/kg). SAR can be related to the electric field at a point by

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

where:

σ = conductivity of the tissue (S/m)

ρ = mass density of the tissue (kg/m^3)

E = rms electric field strength (V/m)

6 SAR Measurement System

6.1 The Measurement System

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
- Device 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.

6.2 Robot

The COMOSAR system uses the high precision robots KR 6 R900 sixx type out of the newer series from Satimo SA (France).For the 6-axis controller COMOSAR system, the KUKA robot controller version from Satimo is used. The KR 6 R900 sixx robot series have many features that are important for
our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)
- 6-axis controller

6.3 Probe

For the measurements the Specific Dosimetric E-Field Probe SSE 5 with following specifications is used

Figure 1 – MVG COMOSAR Dosimetric E field Dipole

- Dynamic range: 0.01-100 W/kg

Probe Length	330 mm
Length of Individual Dipoles	4.5 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	5 mm
Distance between dipoles / probe extremity	2.7 mm

- Calibration range: 300MHz to 3GHz for head & body simulating liquid.

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

Figure 2 – MVG COMOSAR Dosimetric E field Dipole

Dynamic range: 0.01-100 W/kg

Probe Length	330 mm
Length of Individual Dipoles	2 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	2.5 mm
Distance between dipoles / probe extremity	1 mm

- Calibration range: 5GHz to 6GHz for head & body simulating liquid.

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

6.4 Measurement procedure

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 16 mm * 8 to 16 mm and a constant distance to the inner surface of the phantom.Since the sensors can not 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.

6.5 Description of interpolation/extrapolation scheme

- The local SAR inside the phantom is measured using small dipole sensing elements inside a probe body.The probe tip must not be in contact with the phantom surface in order to minimise measurements errors,but the highest local SAR will occur at the surface of the phantom.

- An extrapolation is using to determinate this highest local SAR values.
  The extrapolation is based on afourth-order least-square polynomial fit of measured data.The local SAR value is then extrapolated from the liquid surface with a 1 mm step.

- The measurements have to be performed over a limited time(due to the duration of the battery) so the step of measurement is high.It could vary between 5 and 8 mm.To obtain an accurate assessment of the maximum SAR average over 10 grams and 1gram requires a very fine resolution in the three dimensional scanned data array.

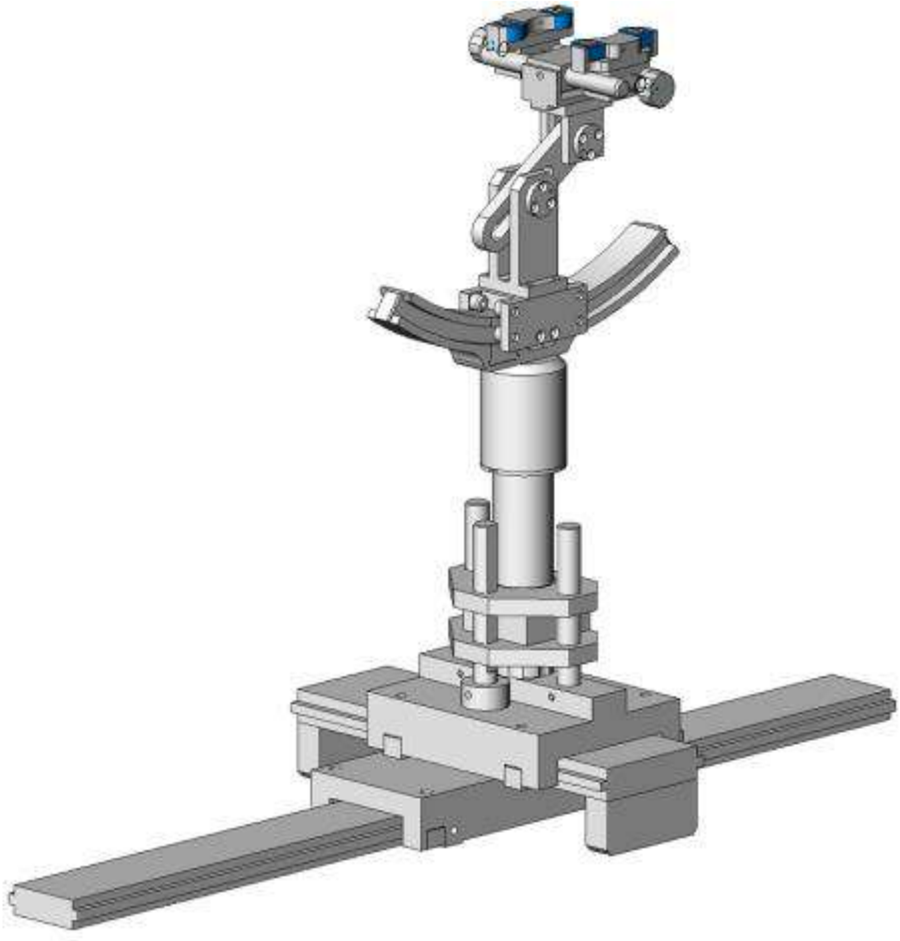
6.6 Phantom

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.

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

6.7 Device Holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is lower than 1°.



Device holder

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

6.8 Video Positioning System

- The video positioning system is used in OpenSAR to check the probe. Which is composed of a camera, LED, mirror and mechanical parts. The camera is piloted by the main computer with firewire link.

- During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.

- The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

6.9 Tissue simulating liquids: dielectric properties

The following materials are used for producing the tissue-equivalent materials.

(Liquids used for tests are marked with☒):

Ingredients(% of weight)	**Frequency (MHz)**				
frequency band	☐ 450	☐ 835	☐ 1800	☐ 1900	☐ 2450
Tissue Type	Head	Head	Head	Head	Head
Water	38.56	41.45	52.64	55.242	62.7
Salt (NaCl)	3.95	1.45	0.36	0.306	0.5
Sugar	56.32	56.0	0.0	0.0	0.0
HEC	0.98	1.0	0.0	0.0	0.0
Bactericide	0.19	0.1	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	36.8
DGBE	0.0	0.0	47.0	44.542	0.0
Ingredients(% of weight)	**Frequency (MHz)**				
frequency band	☐ 450	☐ 835	☐ 1800	☐ 1900	☒ 2450
Tissue Type	Body	Body	Body	Body	Body
Water	51.16	52.4	69.91	69.91	73.2
Salt (NaCl)	1.49	1.40	0.13	0.13	0.04
Sugar	46.78	45.0	0.0	0.0	0.0
HEC	0.52	1.0	0.0	0.0	0.0
Bactericide	0.05	0.1	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	29.96	29.96	26.7

Salt: 99+% Pure Sodium Chloride
Sugar: 98+% Pure Sucrose
Water: De-ionized, 16MΩ+ resistivity
HEC: Hydroxyethyl Cellulose
DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

☐ Simulating Head Liquid for 5G(HBBL3500-5800MHz), Manufactured by SPEAG:

Ingredients	**(% by weight)**
Water	50-65%
Mineral oil	10-30%
Emulsifiers	8-25%
Sodium salt	0-1.5%

☒ Simulating Body Liquid for 5G(MBBL3500-5800MHz),Manufactured by SPEAG:

Ingredients	**(% by weight)**
Water	60-80%
Esters,Emulsifiers,Inhibitors	20-40%
Sodium salt	0-1.5%

6.10 Tissue simulating liquids: parameters

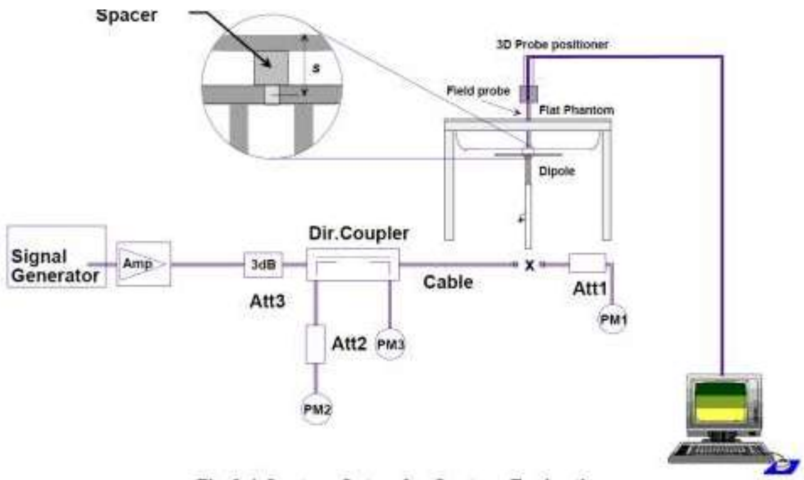
Tissue Type	Measured Frequency (MHz)	Target Tissue				Measured Tissue		Liquid Temp.	Test Date
		Target Permittivity ε_r	Range of ±5%	Target Conductivity σ (S/m)	Range of ±5%	ε_r	σ (S/m)		
2450MHz Body	2410	52.80	50.16~55.44	1.91	1.81~2.00	52.50	1.94	21.6°C	2017-06-27
	2435	52.70	50.07~55.34	1.94	1.84~2.04	52.52	1.95		
	2450	52.70	50.07~55.34	1.95	1.85~2.05	52.73	1.96		
	2460	52.70	50.07~55.34	1.96	1.86~2.06	52.76	1.99		
5G Body	5200	49.0	46.55~51.45	5.30	5.03~5.56	49.86	5.19	21.6°C	2017-06-27
	5300	48.9	46.05~51.35	5.42	5.15~5.69	48.32	5.27		
	5800	48.20	45.79~50.61	6.00	5.70~6.30	47.74	6.09		
ε_r= Relative permittivity, σ= Conductivity									

7 System Check

7.1 System check procedure

The System check is performed by using a System check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 100 mW. To adjust this power a power meter is used. The power sensor is connected to the cable before the System check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the validation to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).

System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



7.2 System check results

The system Check is performed for verifying the accuracy of the complete measurement system and performance of the software.The following table shows System check results for all frequency bands and tissue liquids used during the tests (plot(s) see annex A).

System Check	Target SAR (1W) (+/-10%)				Measured SAR (Normalized to 1W)		Liquid Temp.	Test Date
	1-g (W/g)	Range of ±10% 1-g (W/g)	10-g (W/g)	Range of ±10% 10-g (W/g)	1-g (W/g)	10-g (W/g)		
D2450V2 Body	51.39	46.25~56.53	23.63	21.27~25.99	53.630	22.650	21.6°C	2017-06-27
D5200V2 Body	163.36	147.03~179.69	57.09	51.39~62.79	167.180	59.640	21.6°C	2017-06-27
D5300V2 Body	166.22	149.60~182.84	57.22	51.50~62.94	165.370	58.820	21.6°C	2017-06-27
D5800V2 Body	177.10	159.39~194.81	59.95	53.96~65.94	179.660	60.800	21.6°C	2017-06-27
Note: All SAR values are normalized to 1W forward power.								

Note: 5G band system check USES standard waveguide, so the test results are standard en62209-2 table B2

8 SAR Test Test Configuration

8.1 Wi-Fi Test Configuration

For the 802.11b/g SAR tests, a communication link is set up with the test mode software for Wi-Fi mode test. The Absolute Radio Frequency Channel Number(ARFCN) is allocated to 1 ,6 and 11 respectively in the case of 2450 MHz.During the test,at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate. 802.11b/g operating modes are tested independently according to the service requirements in each frquency band. 802.11b/g modes are tested on channel 1, 6, 11; however,if output power reduction is necessary for channels 1 and/or 11 to meet restricted band requirements the highest output channel closest to each of these channels must be tested instead.

SAR is not required for 802.11g/n channels when the maximum average output power is less than

0.25dB higher than that measured on the corresponding 802.11b channels.

Mode	Band	GHz	Channel	"Default Test Channels"	
				802.11b	802.11g
802.11b/g	2.4 GHz	2412	1#	√	△
		2437	6	√	△
		2462	11#	√	△

Notes:

√ = "default test channels"

△= possible 802.11g channels with maximum average output ¼ dB the "default test channels"

= when output power is reduced for channel 1 and /or 11 to meet restricted band requirements the highest output channels closest to each of these channels should be tested.

802.11 Test Channels per FCC Requirements

8.2 WiFi 5G SAR Test Procedures

A) U-NII-1 and U-NII-2A Bands

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following：

1) When the same maximum output power is specified for both bands, begin SAR measurement in U- NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.

2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.

3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50.

Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

B) U-NII-2C and U-NII-3 Bands

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. when Terminal Doppler Weather Radar (TDWR) restriction applies, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

C) OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in

a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.
1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
1) The channel closest to mid-band frequency is selected for SAR measurement.
2) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

D) SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

9 Detailed Test Results

9.1 Conducted Power measurements

The measuring conducted average power (Unit: dBm) is shown as below.

9.1.1 Conducted Power of Wi-Fi 2.4G

Mode	802.11b		
Channel / Frequency (MHz)	1(2412)	6(2437)	11(2462)
Average Power(dBm)	16.54	**16.81**	16.78
Mode	802.11g		
Channel / Frequency (MHz)	1(2412)	6(2437)	11(2462)
Average Power(dBM)	15.23	15.34	15.53
Mode	802.11n(HT20)		
Channel / Frequency (MHz)	1(2412)	6(2437)	11(2462)
Average Power(dBM)	15.05	15.13	15.03
Mode	802.11n(HT40)		
Channel / Frequency (MHz)	3(2422)	6(2437)	9(2452)
Average	14.18	14.25	14.40

Note:

<KDB 248227 D01, SAR Guidance for Wi-Fi Transmitters>

(1) For handsets operating next to ear, hotspot mode or mini-tablet configurations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When the reported SAR of initial test position is <= 0.4 W/kg, SAR testing for remaining test positions is not required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is <= 0.8 W/kg or all test positions are measured.

(2) For Wi-Fi 2.4 GHz, the highest measured maximum output power channel for DSSS was selected for SAR measurement. When the reported SAR is <= 0.8 W/kg, no further SAR testing is required. Otherwise, SAR is evaluated at the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel. For OFDM modes (802.11g/n), SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is <= 1.2 W/kg.

9.1.2 Conducted Power of Wi-Fi 5G

Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Power Setting	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
5.2G	802.11a	36	5180	6	14.5	14.50±1	15.12	No
		40	5200		14.5	14.50±1	15.19	No
		44	5220		14.5	14.50±1	15.22	No
		48	5240		14.5	14.50±1	**15.34**	Yes
	802.11n HT20	36	5180	6.5	13.5	13.50±1	14.23	No
		40	5200		13.5	13.50±1	14.22	No
		44	5220		13.5	13.50±1	14.33	No
		48	5240		13.5	13.50±1	14.32	No
	802.11n HT40	38	5190	13.5	12.5	12.50±1	13.14	No
		46	5230		12.5	12.50±1	13.21	No
	802.11ac 20M	36	5180	6.5M	12.0	12.00±1	12.33	No
		40	5200		12.0	12.00±1	12.32	No
		44	5220		12.0	12.00±1	12.53	No
		48	5240		12.0	12.00±1	12.56	No
	802.11ac 40M	38	5190	13.5M	12.0	12.00±1	12.47	No
		46	5230		12.0	12.00±1	12.54	No
	802.11ac 80M	42	5210	29.3M	/	/	/	No
Band	**Mode**	**Channel**	**Frequency (MHz)**	**Data Rate (Mbps)**	**Power Setting**	**Tune-up**	**Average Power (dBm)**	**SAR Test (Yes/No)**
5.3G	802.11a	52	5260	6	/	/	/	No
		56	5280		/	/	/	No
		60	5300		/	/	/	No
		64	5320		/	/	/	No
	802.11n HT20	52	5260	6.5	/	/	/	No
		56	5280		/	/	/	No
		60	5300		/	/	/	No
		64	5320		/	/	/	No
	802.11n HT40	54	5270	13.5	/	/	/	No
		62	5310		/	/	/	No

Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Power Setting	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
		138	5690		/	/	/	No
	802.11ac 20M	52	5260	6.5M	/	/	/	No
		56	5280		/	/	/	No
		60	5300		/	/	/	No
		64	5320		/	/	/	No
	802.11ac 40M	54	5270	13.5M	/	/	/	No
		62	5310		/	/	/	No
	802.11ac 80M	58	5290	29.3M	/	/	/	No
Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Power Setting	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
5.8G	802.11a	149	5745	6	14.5	14.50±1	15.22	No
		153	5765		14.5	14.50±1	15.21	No
		157	5785		14.5	14.50±1	15.20	No
		161	5805		14.5	14.50±1	15.25	No
		165	5825		14.5	14.50±1	**15.31**	Yes
	802.11n HT20	149	5745	6.5	13.5	13.50±1	14.15	No
		153	5765		13.5	13.50±1	14.12	No
		157	5785		13.5	13.50±1	14.18	No
		161	5805		13.5	13.50±1	14.20	No
		165	5825		13.5	13.50±1	14.47	No
	802.11n HT40	151	5755	13.5	13.0	13.00±1	13.41	No
		159	5795		13.0	13.00±1	13.52	No
	802.11ac 20M	149	5745	6.5M 6.5M	11.5	11.50±1	12.13	No
		153	5765		11.5	11.50±1	12.15	No
		157	5785		11.5	11.50±1	12.20	No
		161	5805		11.5	11.50±1	12.12	No
		165	5825		11.5	11.50±1	12.18	No
	802.11ac 40M	151	5755	13.5M	11.5	11.50±1	12.22	No
		159	5795		11.5	11.50±1	12.13	No
	802.11ac 80M	155	5775	29.3M	/	/	/	No

Note:

<KDB 248227 D01, SAR Guidance for Wi-Fi Transmitters>

For WLAN 5 GHz, the initial test configuration was selected according to the transmission mode with the highest maximum output power. When the reported SAR of initial test configuration is > 0.8

W/kg, SAR is required for the subsequent highest measured output power channel until the reported SAR result is <= 1.2 W/kg or all required channels are measured. For other transmission modes, SAR is not required when the highest reported SAR for initial test configuration is adjusted by the ratio of subsequent test configuration to initial test configuration specified maximum output power and it is <= 1.2 W/kg.

9.1.3 Conducted Power of BT

The maximum output power of BT is:

Mode	**1Mbps**		
Channel / Frequency (MHz)	0(2402)	39(2441)	78(2480)
Average Power(dBm)	2.77	2.39	2.32
Mode	**2Mbps**		
Channel / Frequency (MHz)	0(2402)	39(2441)	78(2480)
Average Power(dBm)	1.38	1.40	1.03
Mode	**3Mbps**		
Channel / Frequency (MHz)	0(2402)	39(2441)	78(2480)
Average Power(dBm)	1.26	1.38	1.07

9.1.4 Tune-up power tolerance

Band	Tune-up power tolerance(dBm)		
2.4G Wi-Fi	802.11b		Max output power =16.0±1dbm
	802.11g		Max output power =15.0±1dbm
	802.11n (HT20)		Max output power =15.0 ±1dbm
	802.11n (HT40)		Max output power =14.0±1dbm
5G Wi-Fi	Band1	802.11a	Max output power =14.5dbm±1.0dBm
		802.11n(HT20)	Max output power =13.5dbm±1.0dBm
		802.11n(HT40)	Max output power =12.5dbm±1.0dBm
		802.11ac20M	Max output power =12.0dbm±1.0dBm
		802.11ac40M	Max output power =12.0dbm±1.0dBm
	Band4	802.11a	Max output power =14.5dbm±1.0dBm
		802.11n(HT20)	Max output power =-13.5dbm±1.0dBm
		802.11n(HT40)	Max output power =13.0dbm±1.0dBm
		802.11ac20M	Max output power =11.5 dbm±1.0dBm
		802.11ac40M	Max output power =11.5dbm±1.0dBm
BT	1Mbps Power		Max output power =2.5dBm±0.5dbm
	2Mbps Power		Max output power =1.0dBm±0.5dbm
	3Mbps Power		Max output power =1.0dBm±0.5dbm

9.2 SAR test results

Notes:

1) Per KDB447498 D01v05 r02,the SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the scaled SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8 W/kg), testing at the high and low channels is optional.

2) Per KDB447498 D01v05r02, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is: ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

3) Per KDB447498 D01v06, All measurement SAR result is scaled-up to account for tune-up tolerance is compliant.

4) Per KDB648474 D04v01r03, body-worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn with headset SAR.

5)Per KDB248227 D01v02r02, the procedures required to establish specific device operating configurations for testing the SAR of 802.11 a/b/g transmitters.

6) Per KDB865664 D01v01r04,for each frequency band,repeated SAR measurement is required only when the measured SAR is ≥0.8W/Kg; if the deviation among the repeated measurement is ≤20%,and the measured SAR <1.45W/Kg,only one repeated measurement is required.

7) Per KDB865664 D02v01r02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is > 1.5 W/kg, or > 7.0 W/kg for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing(Refer to appendix B for details).

8) Per KDB6162147 D04v01r02, the SAR requirements for laptop and tablet computers, and its to determine the minimum test separation distance .

9.2.1 Results overview of Wi-Fi 2.4G

Test Position of Body with 0mm	Test channel /Freq.(MHz)	Test Mode	SAR Value (W/kg)		Power Drift (%)	Conducted Power (dBm)	Tune-up Limit (dBm)	Scaled SAR_{1-g} (W/kg)	Scalig factor
			1-g	10-g					
Wi-Fi antenna (0 degree) to side									
Front side	6/2437	802.11b	0.019	0.013	-0.110	16.810	17.000	0.020	1.045
Rear side	6/2437	802.11b	0.107	0.056	-1.360	16.810	17.000	**0.112**	1.045
Left side	6/2437	802.11b	0.014	0.011	-0.020	16.810	17.000	0.015	1.045
Top side	6/2437	802.11b	0.010	0.008	-0.230	16.810	17.000	0.010	1.045
Wi-Fi antenna (90 degree) to side									
Front side	6/2437	802.11b	0.015	0.010	-0.210	16.810	17.000	0.016	1.045
Rear side	6/2437	802.11b	0.100	0.052	-1.260	16.810	17.000	**0.104**	1.045
Left side	6/2437	802.11b	0.015	0.010	-0.120	16.810	17.000	0.016	1.045

Note:

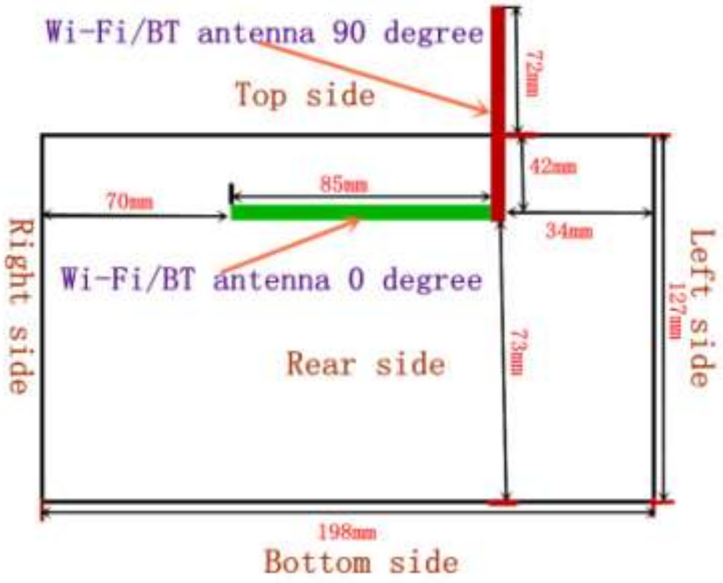
1) The maximum SAR value of each test band is shown in **bold** letters.
2) All measurement SAR result is scaled-up to account for tune-up tolerance is compliant.
3) For the antenna-to-edge distance is greater than 2.5cm,so the Right and Top sides do not need to be tested.

9.2.2 Results overview of Wi-Fi 5G

Test Position of Body with 0mm	Test channel /Freq.(MHz)	Test Mode	SAR Value (W/kg)		Power Drift (%)	Conducted Power (dBm)	Tune-up Limit (dBm)	Scaled SAR_{1-g} (W/kg)	Scaling Factor
			1-g	10-g					
5.2G U-NII-1 band (802.11a)									
Wi-Fi antenna (0 degree) to side									
Front side	48/5240	802.11a	0.045	0.029	-0.880	15.340	15.500	0.047	1.038
Rear side	48/5240	802.11a	0.110	0.057	0.890	15.340	15.500	**0.114**	1.038
Left side	48/5240	802.11a	0.035	0.018	-2.530	15.340	15.500	0.036	1.038
Top side	48/5240	802.11a	0.028	0.010	-0.520	15.340	15.500	0.029	1.038
Wi-Fi antenna (90 degree) to side									
Front side	48/5240	802.11a	0.042	0.023	-0.320	15.340	15.500	0.044	1.038
Rear side	48/5240	802.11a	0.106	0.052	0.520	15.340	15.500	**0.110**	1.038
Left side	48/5240	802.11a	0.033	0.013	-1.250	15.340	15.500	0.034	1.038
5.8G U-NII-3 Band (802.11a)									
Wi-Fi antenna (0 degree) to side									
Front side	157/5825	802.11a	0.036	0.022	0.360	15.310	15.500	0.038	1.045
Rear side	165/5825	802.11a	0.084	0.043	0.180	15.310	15.500	**0.088**	1.045
Left side	165/5825	802.11a	0.030	0.016	-0.600	15.310	15.500	0.031	1.045
Top side	165/5825	802.11a	0.014	0.009	3.710	15.310	15.500	0.015	1.045
Wi-Fi antenna (90 degree) to side									
Front side	157/5825	802.11a	0.032	0.020	0.120	15.310	15.500	0.033	1.045
Rear side	165/5825	802.11a	0.080	0.040	0.220	15.310	15.500	**0.084**	1.045
Left side	165/5825	802.11a	0.031	0.018	-0.320	15.310	15.500	0.032	1.045

10 Multiple Transmitter Information

The SAR measurement positions of each side are as below:



<Rear Side>

Side	Wi-Fi/BT antenna **(0 degree) to Side**	**Wi-Fi/BT antenna (90 degree) to Side**
	SAR Consideration	**SAR Consideration**
Front Side	Yes	Yes
Rear Side	Yes	Yes
Left Side	Yes	Yes
Right Side	No	No
Top Side	Yes	No
Bottom Side	No	No

Note: According to section 6.1.4.5 device with swivel antennas, if the antennas can be rotated to two planes, an evaluation should be performed and documented on the report to decide the highest exposure conditions, and only that position need consideration.

In addition, in case of this antenna, the two representative positions 0 degree and 90 degree shall be evaluated independently for each required EUT edge. When evaluating the test surfaces, the nearest distance between the antenna and the edges is applicable.

10.1.1 Stand-alone SAR test exclusion

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

• 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.

Body-Worn position

Mode	Pmax(dBm)	Pmax(mW)	Distance(mm)	f(GHz)	Calculation Result	exclusion Threshold	SAR test exclusion
BT	2.50	1.78	5.00	2.45	0.56	3.00	Yes

10.1.2 Simultaneous Transmission Possibilities

Note: The device does not support simultaneous BT and Wi-Fi ,because the BT and Wi-Fi share the same antenna and can't transmit simultaneously.

11 Measurement uncertainty evaluation

11.1 Measurement uncertainty evaluation for SAR test

The following table includes the uncertainty table of the IEEE 1528. The values are determined by Satimo.The breakdown of the individual uncertainties is as follows:

Measurement Uncertainty evaluation for SAR test								
Uncertainty Component	Tol. (±%)	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g U_i (±%)	10g U_i (±%)	V_i
measurement system								
Probe Calibration	5.8	N	1	1	1	5.8	5.8	∞
Axial Isotropy	3.5	R	$\sqrt{3}$	$(1-C_p)^{1/2}$	$(1-C_p)^{1/2}$	1.43	1.43	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	∞
Boundary Effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
system Detection Limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3	N	1	1	1	3.00	3.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
RF Ambient Conditions-Noise	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF Ambient Conditions-Reflections	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe Positioner Mechanical Tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to Phantom Shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, interpolation and Integration Algorithms for Max.SAR Evaluation	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Test sample Related								
Test Sample Positioning	2.6	N	1	1	1	2.60	2.60	11
Device Holder Uncertainty	3	N	1	1	1	3.00	3.00	7
Output Power Variation-SAR drift measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	2	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and Tissue Parameters								
Phantom Uncertainty (shape and thickness tolerances)	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviation (in permittivity and conductivity)	2	N	1	1	0.84	2.00	1.68	∞
Liquid conductivity（meas.）	2.5	N	1	0.64	0.43	1.60	1.08	5
Liquid conductivity (target.)	5	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	5
Liquid Permittivity（meas.）	2.5	N	1	0.60	0.49	1.50	1.23	∞
Liquid Permittivity (target.)	5	R	$\sqrt{3}$	0.60	0.49	1.73	1.42	∞
Combined Standard Uncertainly		Rss				10.63	10.54	
Expanded Uncertainty{95% CONFIDENCE INTERRVAL}		k				21.26	21.08	

11.2 Measurement uncertainty evaluation for system check

The following table includes the uncertainty table of the IEEE 1528. The values are determined by Satimo.The breakdown of the individual uncertainties is as follows:

Uncertainty For System Performance Check								
Uncertainty Component	Tol. (±%)	Prob. Dist.	Div.	C_i 1g	C_i 10g	1g U_i(±%)	10g U_i (±%)	V_i
measurement system								
Probe Calibration	5.8	N	1	1	1	5.80	5.80	∞
Axial Isotropy	3.5	R	$\sqrt{3}$	$(1-C_p)^{1/2}$	$(1-C_p)^{1/2}$	1.43	1.43	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	∞
Boundary Effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
system detection Limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	0	N	1	1	1	0.00	0.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
RF ambient Conditions - Noise	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions – Reflections	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioned Mechanical Tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to Phantom Shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Dipole								
Deviation of experimental source from numerical source	4	N	1	1	1	4.00	4.00	∞
Input power and SAR drift measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Dipole axis to liquid Distance	2	R	$\sqrt{3}$	1	1	1.16	1.16	∞
Phantom and Tissue Parameters								
Phantom Uncertainty (shape and thickness tolerances)	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviation (in permittivity and conductivity)	2	N	1	1	0.84	2.00	1.68	∞
Liquid conductivity（meas.）	2.5	N	1	0.64	0.43	1.60	1.08	5
Liquid conductivity (target.)	5	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	5
Liquid Permittivity（meas.）	2.5	N	1	0.60	0.49	1.50	1.23	∞
Liquid Permittivity (target.)	5	R	$\sqrt{3}$	0.60	0.49	1.73	1.41	∞
Combined Standard Uncertainty		Rss				10.28	9.98	
Expanded Uncertainty (95% Confidence interval)		k				20.57	19.95	

12 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

	Manufacturer	Device Type	Type(Model)	Serial number	calibration	
					Last Cal.	Due Date
☒	SATIMO	COMOSAR DOSIMETRIC E FIELD PROBE	SSE5	SN 09/13 EP170	2016-07-25	2017-07-24
☐	SATIMO	COMOSAR 835 MHz REFERENCE DIPOLE	SID835	SN 14/13 DIP0G835-235	2016-07-25	2017-07-24
☐	SATIMO	COMOSAR 900 MHz REFERENCE DIPOLE	SID900	SN 14/13 DIP0G900-231	2016-07-25	2017-07-24
☐	SATIMO	COMOSAR 1800 MHz REFERENCE DIPOLE	SID1800	SN 14/13 DIP1G800-232	2016-07-25	2017-07-24
☐	SATIMO	COMOSAR 1900 MHz REFERENCE DIPOLE	SID1900	SN 14/13 DIP1G900-236	2016-07-25	2017-07-24
☐	SATIMO	COMOSAR 2000 MHz REFERENCE DIPOLE	SID2000	SN 14/13 DIP2G000-237	2016-07-25	2017-07-24
☒	SATIMO	COMOSAR 2450 MHz REFERENCE DIPOLE	SID2450	SN 14/13 DIP2G450-238	2016-07-25	2017-07-24
☐	SATIMO	COMOSAR 2600 MHz REFERENCE DIPOLE	SID2600	SN 28/14 DIP2G600-327	2016-07-25	2017-07-24
☒	SATIMO	COMOSAR 5200 MHz REFERENCE DIPOLE	SID5200	SN 14/13 EPG239	2016-07-25	2017-07-24
☒	SATIMO	COMOSAR 5800 MHz REFERENCE DIPOLE	SID5800	SN 14/13 EPG239	2016-07-25	2017-07-24
☒	SATIMO	Software	OPENSAR	N/A	N/A	N/A
☒	SATIMO	Phantom	COMOSAR IEEE SAM PHANTOM	SN 14/13 SAM99	N/A	N/A
☒	R & S	Universal Radio Communication Tester	CMU 200	117528	2016-08-19	2017-08-18
☒	HP	Network Analyser	8753D	3410A08889	2016-08-19	2017-08-18
☒	HP	Signal Generator	E4421B	GB39340770	2016-08-19	2017-08-18
☒	Keithley	Multimeter	Keithley 2000	4014539	2016-08-19	2017-08-18
☒	SATIMO	Amplifier	Power Amplifier	MODU-023-A-0004	2015-10-13	2016-10-12
☒	Agilent	Power Meter	E4418B	GB43312909	2015-10-13	2016-10-12
☒	Agilent	Power Meter Sensor	E4412A	MY41500046	2015-10-13	2016-10-12
☒	Agilent	Power Meter	E4417A	GB41291826	2015-10-13	2016-10-12
☒	Agilent	Power Meter Sensor	8481H	MY41091215	2015-10-13	2016-10-12
☒	SATIMO	DAE	SUPR72	SN 42/13	2016-07-25	2017-07-24

Annex A: System performance verification

(**Please See the SAR Measurement Plots of annex A.**)

Annex B: Measurement results

(**Please See the SAR Measurement Plots of annex B.**)

Annex C: Calibration reports

(Please See the Calibration reports of annex C.)

Annex D: Photo documentation

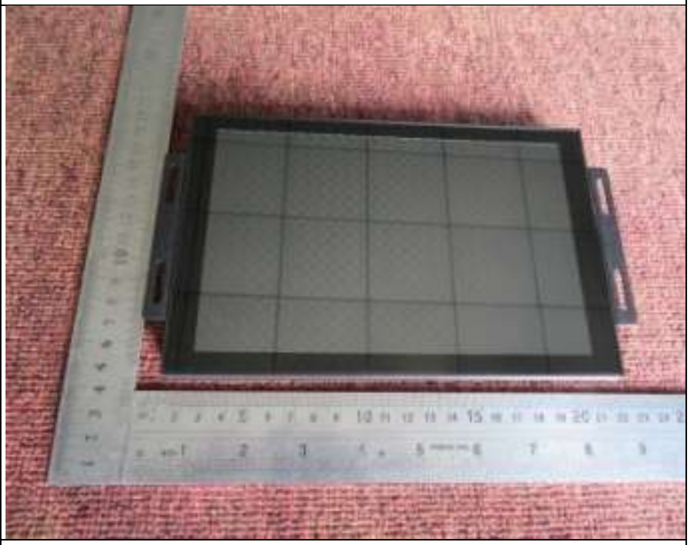
Photo 1: Measurement System OPENSAR	Photo 2: Front view
	
Photo 3: Rear View	Photo 4: Front Side 0mm(0 degree and 90 degree)
	

Photo 5: Rear Side 0mm(0 degree and 90 degree)	Photo 6: Left Side 0mm(0 degree and 90 degree)
	
Photo 7: Top Side 0mm(0 degree)	Photo 8: 2450MHz Liquid Depth ≥ 15.0cm
	

End