

RF Emission HAC TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
CDMA/LTE 4G Mobile Phone

ISSUED TO
Hoperun mMax Digital Inc.

4790 Irvine Blvd., Ste. 105-431 Irvine, CA 92620



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Date Sep. 18, 2017

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(Chief Engineer)

Date Sep. 18, 2017

Report No.: BL-EC1780083-701

EUT Name: CDMA/LTE 4G Mobile Phone

Model Name: S502

Brand Name: Jabr box

FCC ID: 2AKQN-S502

Test Standard: FCC 47 CFR Part 20.19

ANSI C63.19: 2011

KDB 285076 D01 HAC Guidance v04

M-Rating: E-Field: M4

Test conclusion: Pass

Test Date: Aug 17, 2017 ~ Aug 21, 2017

Date of Issue: Sep. 18, 2017

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Sep. 18, 2017</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory is a testing organization accredited by American Association for Laboratory Accreditation (A2LA) according to ISO/IEC 17025. The accreditation certificate is 4344.01. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Test Environment Condition

Ambient Temperature	21 to 23 °C
Ambient Relative Humidity	37 to 51 %
Ambient Pressure	100 to 102 kPa

1.4 Announce

- (1) The test report reference to the report template version v1.1.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant

Applicant	Hoperun mMax Digital Inc.
Address	4790 Irvine Blvd., Ste. 105-431 Irvine, CA 92620

2.2 Manufacturer

Manufacturer	Hoperun mMax Digital Inc.
Address	4790 Irvine Blvd., Ste. 105-431 Irvine, CA 92620

2.3 Factory Information

Factory	Hoperun mMax Digital Inc.
Address	4790 Irvine Blvd., Ste. 105-431 Irvine, CA 92620

2.4 General Description for Equipment under Test (EUT)

EUT Name	CDMA/LTE 4G Mobile Phone
EUT Model Under the test	S502
Series Model Name	N/A
Difference description	N/A
Hardware Version	S502_MAIN_V1.2
Software Version	LLDJ902.1.0_M200
Dimensions	N/A
Weight	N/A
Network and Wireless connectivity	3G Network CDMA/EVDO: CDMA2000,CDMA 1XEVD0, BC 0, BC1, BC10, Rev.0/A 4G Network FDD LTE Band 2/4/5/12/13/25/26 TDD LTE Band 41 Bluetooth 2.1+EDR, Bluetooth 4.1 Low Energy (BLE), WIFI 802.11b, 802.11g and 802.11n (HT20/40) GPS

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	Jabr box
	Model No.	LCL2000A
	Serial No.	N/A
	Capacitance	2300 mAh
	Rated Voltage	3.8 V
	Limit Charge Voltage	4.2±0.03 V
Ancillary Equipment 2	Charger	
	Brand Name	Jabr box
	Model Name	RC051057
	Rated Input	100-240 V ~, 0.2 mA, 50/60 Hz
	Rated Output	5 V = 1A
Ancillary Equipment 3	USB Cable	
	Length(Approx.)	1.0 m

2.6 Technical Information

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	CDMA; LTE; WLAN; Bluetooth		
Frequency Range	CDMA BC0	TX: 824.025 ~ 848.985 MHz	RX: 869.025 ~ 893.985 MHz
	CDMA BC1	TX: 1850 ~ 1910 MHz	RX: 91930 ~ 1990 MHz
	CDMA BC10	TX: 806.0 ~ 900.975 MHz	RX: 851.0~ 939.975 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 12	TX: 699~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	LTE Band 25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE Band 26	TX: 814 ~ 849 MHz	RX: 859 ~ 894 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	802.11b/g	2400 ~2483.5 MHz	
	802.11n (HT20/HT40)	2400 ~2483.5 MHz	
	Bluetooth	2400 ~2483.5 MHz	
Antenna Type	WWAN	PIFA	
	WLAN	PIFA	
	Bluetooth	PIFA	
Hotspot Function	Support		
Exposure Category	General Population/Uncontrolled exposure		
EUT Stage	Portable Device		

2.7 EUT Air Interface description

Air Interface	Band	Type	C63.19 Tested	Simultaneous Transmitter	OTT	Power Reduction
CDMA	BC0	Voice	Yes	Bluetooth/WLAN	NA	Not Support
	BC1	Voice	Yes	Bluetooth/WLAN	NA	Not Support
	BC10	Voice	Yes	Bluetooth/WLAN	NA	Not Support
EVDO	BC0	Data	No	Bluetooth/WLAN	NA	Not Support
	BC1	Data	No	Bluetooth/WLAN	NA	Support
	BC10	Data	No	Bluetooth/WLAN	NA	Not Support
LTE	Band 2	VOIP	Yes	Bluetooth/WLAN	NA	Support
	Band 4	VOIP	Yes	Bluetooth/WLAN	NA	Support
	Band 5	VOIP	Yes	Bluetooth/WLAN	NA	Not Support
	Band 12	VOIP	Yes	Bluetooth/WLAN	NA	Not Support
	Band 13	VOIP	Yes	Bluetooth/WLAN	NA	Not Support
	Band 25	VOIP	Yes	Bluetooth/WLAN	NA	Support
	Band 26	VOIP	Yes	Bluetooth/WLAN	NA	Not Support
	Band 41	VOIP	Yes	Bluetooth/WLAN	NA	Support
2.4G WLAN	2450	VOIP	Yes	WWAN	NA	NA
Bluetooth	2450	Data	No	WWAN	NA	NA

Note: For 2.4G WLAN RF emission testing exemption shall be applied to an RF air interface technology in a device whose Peak antenna input power, averaged over intervals $\leq 50 \mu s$, is $\leq 23dBm$, and is rated as M4.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	FCC 47 CFR Part 20.19	Hearing aid-compatible mobile handsets.
2	ANSI C 63.19:2011	American National Standard Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids
3	KDB 285076 D01 HAC Guidance v04	Provides equipment authorization guidance for mobile handsets subject to the requirements of Section 20.19 for hearing aid compatibility

3.2 HAC Test Configuration and Setting

For HAC RF emission testing, the EUT was linked and controlled by wireless communication test set. Communication between the EUT and the wireless communication test set was established by air link. The distance between the EUT and the communicating antenna of the test set is larger than 50 cm and the output power radiated from the wireless communication test set antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the wireless communication test set to radiate maximum output power during HAC testing.

3.3 Summary Of HAC M-Rating

Band	Measurement Result		M-Rating
CDMA BC0	E-Field dB (V/m)	17.81	M4
CDMA BC1	E-Field dB (V/m)	9.56	M4
CDMA BC10	E-Field dB (V/m)	17.86	M4
LTE Band2	E-Field dB (V/m)	28.38	M4
LTE Band4	E-Field dB (V/m)	25.86	M4
LTE Band5	E-Field dB (V/m)	34.46	M4
LTE Band12	E-Field dB (V/m)	33.46	M4
LTE Band13	E-Field dB (V/m)	35.44	M4
LTE Band25	E-Field dB (V/m)	27.96	M4
LTE Band26	E-Field dB (V/m)	36.33	M4
LTE Band41	E-Field dB (V/m)	21.49	M4

3.4 ANSI C63.19 HAC RF Categories

3.4.1 RF Emissions

The ANSI Standard presents performance requirements for acceptable interoperability of hearing with wireless communications devices. When these parameters are met, a hearing aid operates acceptably in close proximity to a wireless communications device.

WD RF audio interference level categories:

Category	Limits for E-Field Emission (V/m)	
	<960MHz	>960MHz
M1	50 to 55	40 to 45
M2	45 to 50	35 to 40
M3	40 to 45	30 to 35
M4	<40	<30

3.5 HAC Test Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in ANSI C 63.19:2011. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty Component	Uncertainty Value	Prob. Dist.	Div.	Ci (E)	Ci (H)	Std. Unc. (+/- %)	
						E	H
Measurement System							
Probe calibration	6.00	N	1.000	1	1	6.00	6.00
Axial Isotropy	2.02	R	1.732		1	1.17	1.17
Sensor Displacement	14.30	R	1.732	1	0.217	8.26	1.79
Boundary effect	2.50	R	1.732	1	1	0.87	0.87
Phantom Boundary Effect	6.89	R	1.732	1	0	3.52	0.00
Linearity	2.58	R	1.732	1	1	1.49	1.49
Scaling tp PMR Calibration	9.02	N	1.000	1	1	9.02	9.02
System detection limits	1.30	R	1.732	1	1	0.75	0.75
Readout Electronics	0.25	R	1.732	1	1	0.14	0.14
Response Time	1.23	R	1.732	1	1	0.71	0.71
Integration Time	2.15	R	1.732	1	1	1.24	1.24
RF ambient Conditions	2.03	R	1.732	1	1	1.17	1.17
RF Reflections	9.09	R	1.732	1	1	5.25	5.25
Probe positioner	0.63	N	1.000	1	0.71	0.63	0.45
Probe positioning	3.12	N	1.000	1	0.71	3.12	2.22
Extrapolation and Interpolation	1.18	R	1.732	1	1	0.68	0.68
Test sample Related							
Test sample positioning Vertical	2.73	R	1.732	1	0.71	1.58	1.12
Test sample positioning Lateral	1.19	R	1.732	1	1	0.69	0.69
Device holder and Phantom	2.20	N	1.000	1	1	2.20	2.20
Power drift	4.08	R	1.732	1	1	2.36	2.36
Phantom and Setup Related							
Phantom Thickness	2.00	N	1.000	1	0.6	2.00	1,20
Combined Std. Uncertainty(k=1)						16.18	13.25
Expanded Uncertainty on Power						32.35	26.50
Expanded Uncertainty on Field						16.18	13.25

4 SATIMO HSC MEASUREMENT SYSTEM

4.1 Definition of Hearing Aid Compatibility (HAC)

On July 10, 2003, the Federal Communications Commission (FCC) adopted new rules requiring wireless manufacturers and service providers to provide digital wireless phones that are compatible with hearing aids. The FCC has modified the exemption for wireless phones under the Hearing Aid Compatibility Act of 1998 (HAC Act) in WT Docket 01-309 RM-8658 to extend the benefits of wireless telecommunications to individuals with hearing disabilities. These benefits encompass business, social and emergency communications, which increase the value of the wireless network for everyone. An estimated more than 10% of the population in the United States show signs of hearing impairment and of that fraction, almost 80% use hearing aids. Approximately 500 million people worldwide suffer from hearing loss.

Compatibility Tests involved:

The standard calls for wireless communications devices to be measured for:

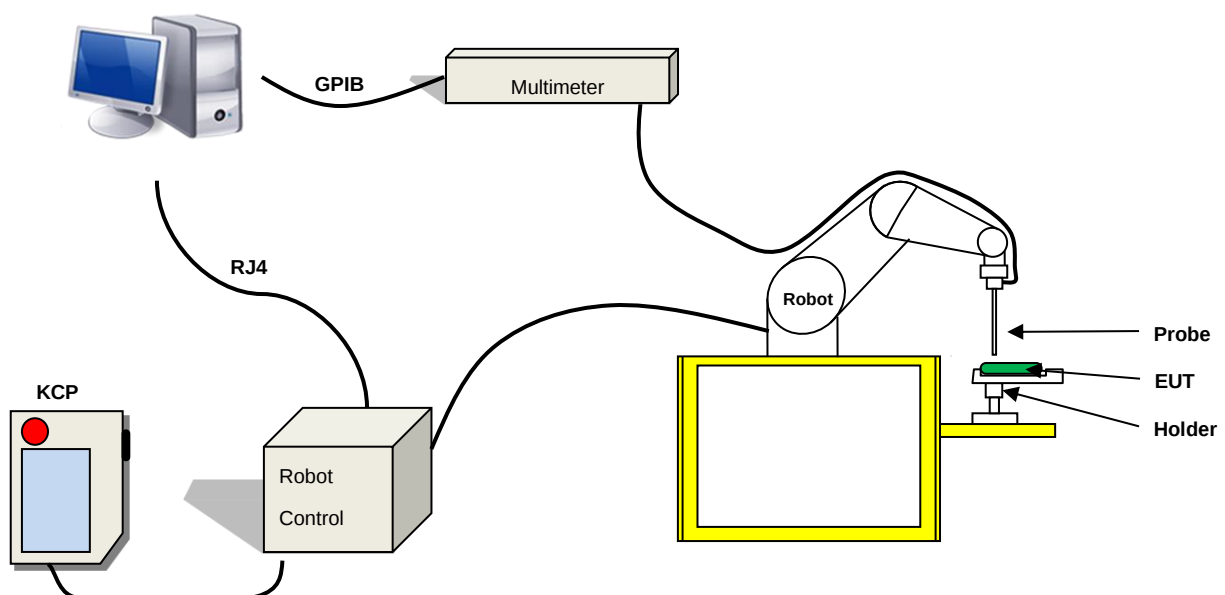
- RF Electric-field emissions.
- RF Magnetic- field emissions.
- T-coil mode, magnetic-signal strength in the audio band.
- T-coil mode, magnetic-signal frequency response through the audio band.
- T-coil mode, magnetic-signal and noise articulation index.

The hearing aid must be measured for:

- RF immunity in microphone mode
- RF immunity in T-coil mode

4.2 SATIMO HAC System

SATIMO HAC System Diagram:



4.2.1 Robot

The SATIMO HAC system uses the high precision robots from KUKA. For the 6-axis controller system, the robot controller version (KUKA) from KUKA is used. The KUKA robot series have many features that are important for our application:



- High precision (repeatability ± 0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

4.2.2 HAC E-Field Probe



Serial Number:	SN 03/16 EPH47
Frequency:	0.7GHz – 2.5GHz
Probe length:	330mm
Length of one dipole:	3.3mm
Maximum external diameter:	8mm
Probe extremity diameter:	5mm
Distance between dipoles/probe extremity:	3mm
Resistance of the three dipole (at the connector):	Dipole 1:R1=0.208 M Ω Dipole 2:R1=0.203 M Ω Dipole 3:R3=0.214 M Ω
Connector (HIROSE series SR30)	6 wire male (Hirose SR30series)

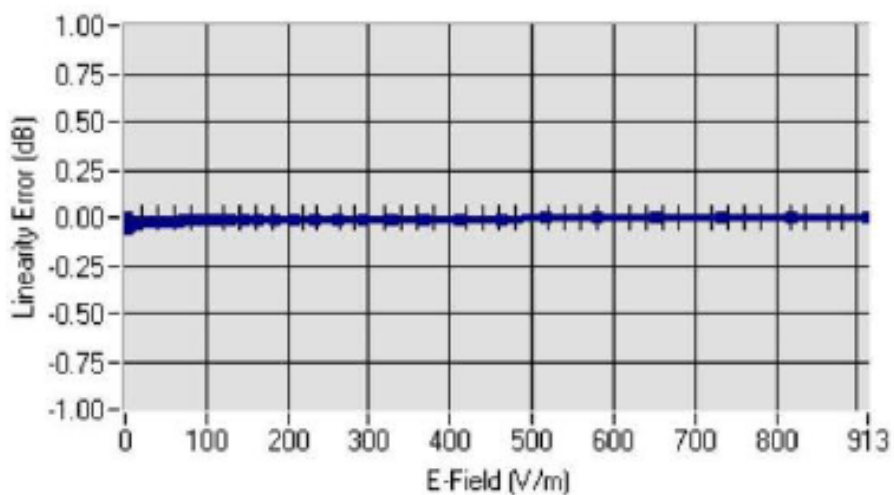
E-Field Probe Calibration Process

All methods used to perform the measurements and calibrations comply with the ANSI C63.19 and IEEE 1309 standards.

LINEARITY

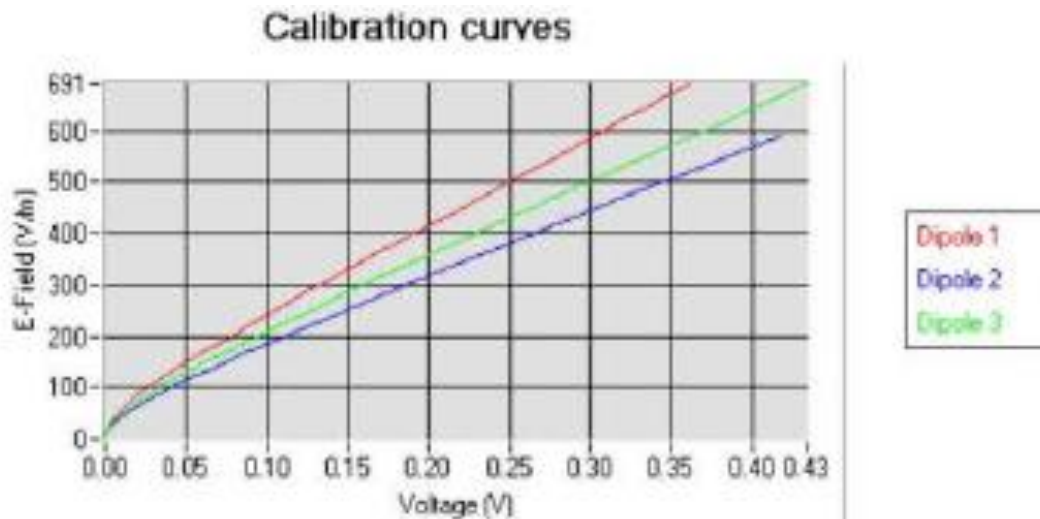
The linearity was determined using a standard dipole with the probe positioned 10 mm above the dipole. The input power of the dipole was adjusted from -15 to 36 dBm using a 1dB step (to cover the range 2V/m to 1000V/m).

Linearity: +/- 1.32% (+/- 0.06 dB)



SENSITIVITY

The sensitivity factors of the three dipoles were determined using the waveguide method outlined in the fore mentioned standards.

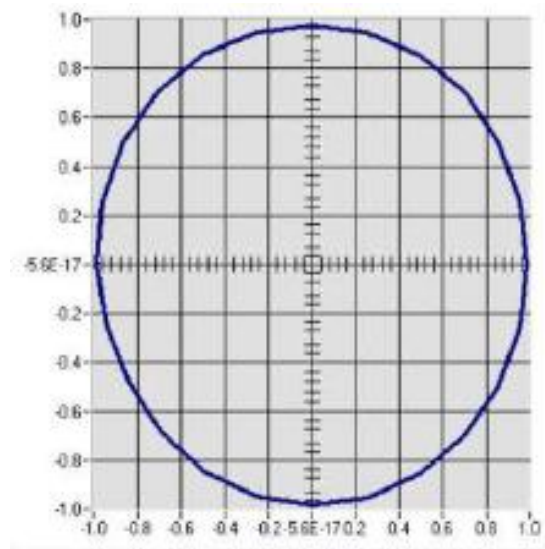


Frequency (GHz)	Normz dipole 1 ($\mu\text{V}/(\text{V}/\text{m})^2$)	Normz dipole 2 ($\mu\text{V}/(\text{V}/\text{m})^2$)	Normz dipole 3 ($\mu\text{V}/(\text{V}/\text{m})^2$)
0.7GHz-2.5GHz	3.69	4.41	4.60
Frequency (GHz)	DCP dipole 1 (mV)	DCP dipole 2 (mV)	DCP dipole 3 (mV)
0.7GHz-2.5GHz	106	117	121

ISOTROPY

The axial isotropy was evaluated by exposing the probe to a reference wave from a standard dipole. The probe was rotated along its main axis from 0 - 360 degrees in 15 degree steps.

Isotropy: +/- 1.59% (+/- 0.07 dB)

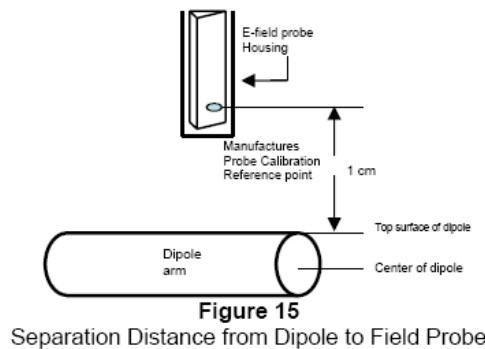


5 SYSTEM VERIFICATION

5.1 System Check Procedure

The input signal was an unmodulated continuous wave. The following points were taken into consideration in performing this check:

- Average Input Power $P = 100\text{mW RMS}$ (20dBm RMS) after adjustment for return loss
- The test fixture must meet the 2 wavelength separation criterion
- The proper measurement of the 1 cm probe to dipole separation, which is measured from top surface of the dipole to the calibration reference point of the sensor, defined by the probe manufacturer is shown in the following diagram:

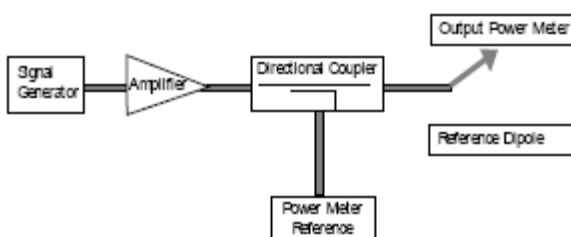


RF power was recorded using both an average reading meter and a peak reading meter. Readings of the probe are provided by the measurement system. To assure proper operation of the near-field measurement probe the input power to the dipole shall be commensurate with the full rated output power of the wireless device (e.g. - for a cellular phone wireless device the average peak antenna input power will be on the order of 100mW (i.e. - 20dBm) RMS after adjustment for any mismatch.

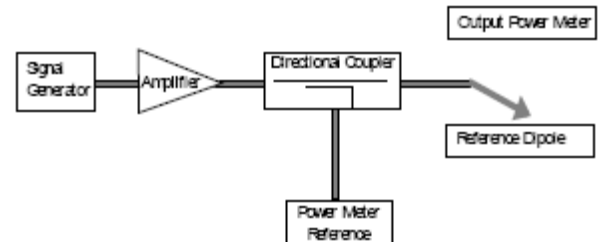
5.2 Validation Procedure

A dipole antenna meeting the requirements given in PC63.19 was placed in the position normally occupied by the WD. The length of the dipole was scanned with both E-field and H-field probes and the maximum values for each were recorded. Using the near-field measurement system, scan the antenna over the radiating dipole and record the greatest field reading observed. Due to the nature of E-fields about free-space dipoles, the two E-field peaks measured over the dipole are averaged to compensate for non-parallelity of the setup see manufacturer method on dipole calibration certificates, Field strength measurements shall be made only when the probe is stationary. RF power was recorded using both an average and a peak power reading meter.

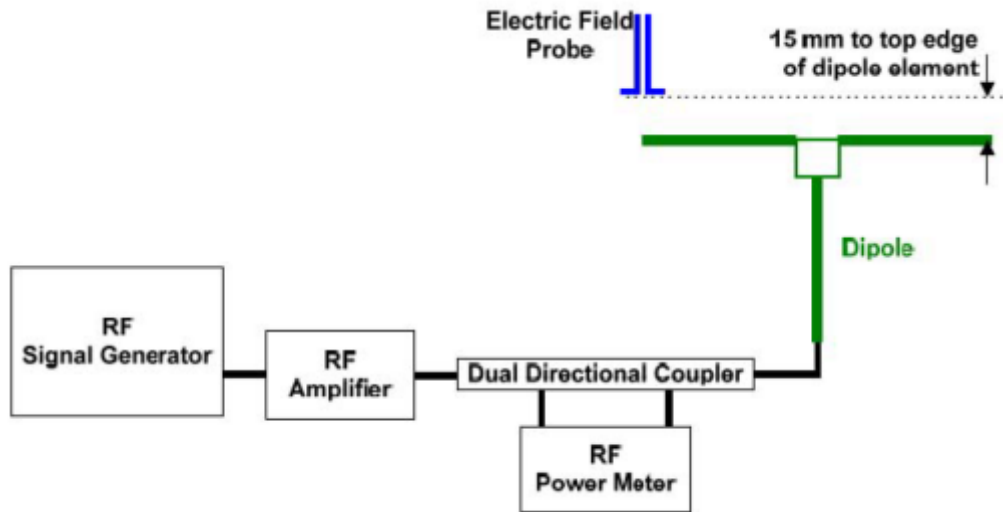
Setup for Desired Output Power to Dipole



Setup to Dipole



5.3 System Validation Setup



Using this setup configuration, the signal generator was adjusted for the desired output power 20dBm (100mW) at a specified frequency. The reference power from the coupled port of the directional coupler is recorded. Next, the output cable is connected to the reference dipole

5.4 System Validation Results

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

Frequency	Input Power (dBm)	E-field Result (V/m)	Target Field (V/m)	Tolerance (%)	Date
835 MHz	20.0	214.10	220.4	-2.86	17/8/2017
1880MHz	20.0	155.88	153.4	1.62	20/8/2017

6 Modulation Interference Factor (MIF)

The HAC Standard ANSI C63.19-2011 defines a new scaling using the Modulation Interference Factor (MIF). For any specific fixed and repeatable modulated signal, a modulation interference factor (MIF, expressed in dB) may be developed that relates its interference potential to its steady-state rms signal level or average power level. This factor is a function only of the audio-frequency amplitude modulation characteristics of the signal and is the same for field-strength and conducted power measurements. It is important to emphasize that the MIF is valid only for a specific repeatable audio-frequency amplitude modulation characteristic. Any change in modulation characteristic requires determination and application of a new MIF.

The MIF may be determined using a radiated RF field, a conducted RF signal, or in a preliminary stage, a mathematical analysis of a modeled RF signal:

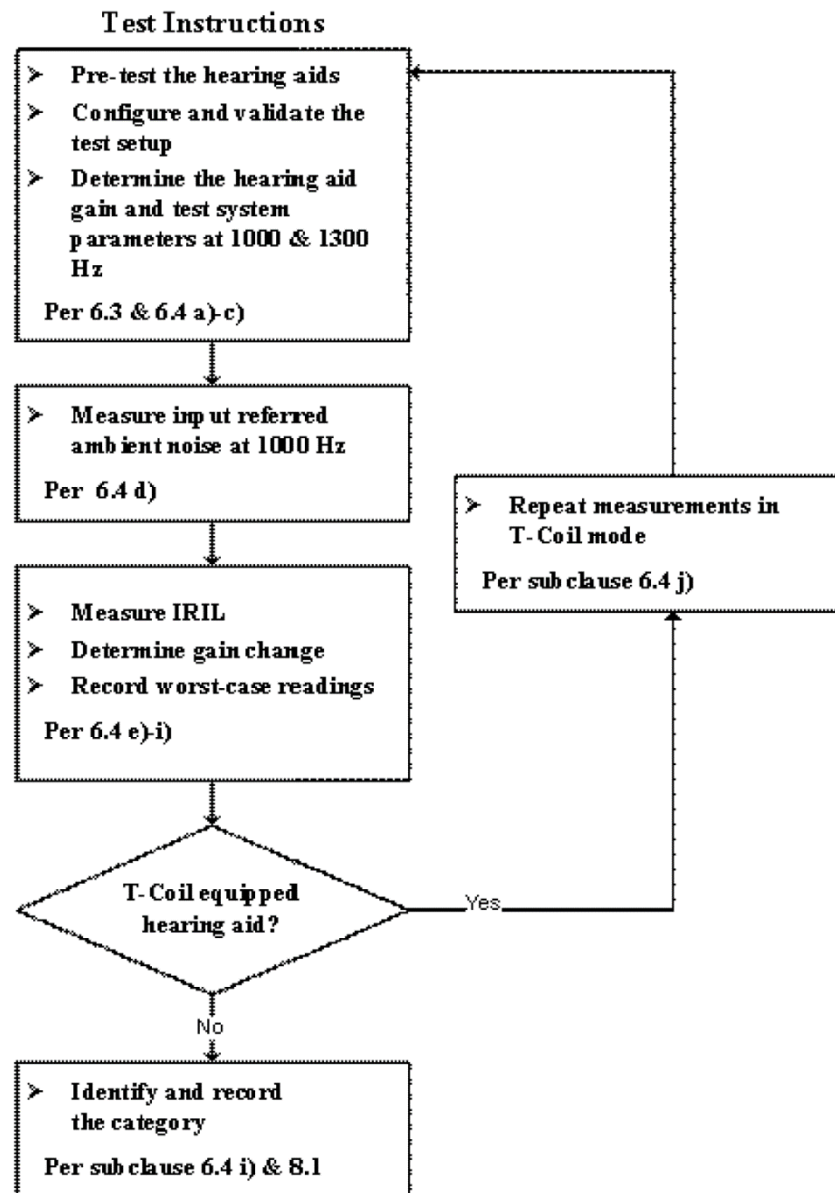
- Verify the slope accuracy and dynamic range capability over the desired operating frequency band of a fast probe or sensor, square-law detector, as specified in D.3, and weighting system as specified in D.4 and D.5. For the probe and instrumentation included in the measurement of MIF, additional calibration and application of calibration factors are not required.
- Using RF illumination or conducted coupling, apply the specific modulated signal in question to the measurement system at a level within its confirmed operating dynamic range.
- Measure the steady-state rms level at the output of the fast probe or sensor.
- Measure the steady-state average level at the weighting output.
- Without changing the square-law detector or weighting system, and using RF illumination or conducted coupling, substitute for the specific modulated signal a 1kHz, 80% amplitude-modulated carrier at the same frequency and adjust its strength until the level at the weighting output equals the step d) measurement.
- Without changing the carrier level from step e), remove the 1 kHz modulation and again measure the steady-state rms level indicated at the output of the fast probe or sensor.
- The MIF for the specific modulation characteristic is provided by the ratio of the step f) measurement to the step c) measurement, expressed in dB ($20 \times \log(\text{step f})/(\text{step c})$).

In practice, step e) and step f) need not be repeated for each MIF determination if the relationship between the two measurements has been preestablished for the measurement system over the operating frequency and dynamic ranges.

Probe	Signal Type	MIF
E-Field Probe	CW	-100.00
	GSM	3.63
	WCDMA	-27.23
	CDMA2000	-19.75
	TD-SCDMA	3.10
	FDD-LTE	-15.6
	TDD-LTE	-1.6

7 HAC RF IMMUNITY MEASUREMENT PROCEDURES

7.1 HAC Measurement Process Diagram



7.2 HAC RF Test Setup



Reference and plane for RF emission measurements

7.3 RF Emission Measurement Procedure

The following illustrate a typical RF emissions test scan over a wireless communications device:

- Proper operation of the field probe, probe measurement system, other instrumentation, and the positioning system was confirmed.
- WD is positioned in its intended test position, acoustic output point of the device perpendicular to the field probe.
- The WD operation for maximum rated RF output power was configured and confirmed with the base station simulator, at the test channel and other normal operating parameters as intended for the test. The battery was ensured to be fully charged before each test.
- The center sub-grid was centered over the center of the acoustic output (also audio band magnetic output, if applicable). The WD audio output was positioned tangent (as physically possible) to the measurement plane.
- A surface calibration was performed before each setup change to ensure repeatable spacing and proper maintenance of the measurement plane using the HAC Phantom.
- The measurement system measured the field strength at the reference location.

8 CONDUCTED RF OUTPUT POWER

8.1 CDMA

Band		CDMA BC0			CDMA BC1		
Channel		1013	384	777	25	600	1175
Frequency (MHz)		824.70	836.52	848.31	1851.25	1880.00	1908.75
1xRTT	RC1 SO55	23.62	23.83	23.57	23.49	23.33	23.32
1xEVDO Rel.0	FTAP Rate: 307.2kbps	23.92	23.82	23.21	23.23	22.89	23.10
1xEVDO Rel.A	FTAP: 307.2k	23.56	23.93	23.47	23.31	22.89	22.99
Band		CDMA BC10			-		
Channel		450	560	670	-	-	-
Frequency (MHz)		838.50	841.80	845.10	-	-	-
1xRTT	RC1 SO55	23.92	23.94	23.88	-	-	-
1xEVDO Rel.0	FTAP Rate: 307.2kbps	23.86	23.85	23.73	-	-	-
1xEVDO Rel.A	FTAP: 307.2k	23.90	23.77	23.81	-	-	-

8.2 LTE

FDD LTE Band 2							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18700	18900	19100	18700	18900	19100
20MHz	1 (RB_Pos:0)	23.67	23.37	22.72	23.08	22.53	22.18
	1 (RB_Pos:50)	23.11	23.13	22.55	22.48	22.09	21.84
	1 (RB_Pos:99)	23.30	23.28	22.73	22.50	22.36	22.07
	50 (RB_Pos:0)	22.29	22.05	21.60	21.15	21.02	20.51
	50 (RB_Pos:25)	22.09	21.97	21.55	21.03	20.84	20.37
	50 (RB_Pos:50)	22.16	21.95	21.59	21.08	20.83	20.39
	100 (RB_Pos:0)	22.19	21.92	21.57	21.05	20.99	20.53
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18675	18900	19125	18675	18900	19125
15MHz	1 (RB_Pos:0)	23.60	23.01	22.89	22.86	22.31	22.62
	1 (RB_Pos:38)	22.87	22.57	22.51	21.90	22.06	22.45
	1 (RB_Pos:74)	23.18	22.88	22.83	22.37	22.21	22.53
	36 (RB_Pos:0)	22.16	21.95	21.78	21.15	21.05	20.63
	36 (RB_Pos:20)	22.10	21.85	21.70	21.02	20.95	20.52
	36 (RB_Pos:39)	22.17	21.94	21.74	20.95	20.96	20.78
	75 (RB_Pos:0)	22.18	21.90	21.74	21.12	20.89	20.71
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18650	18900	19150	18650	18900	19150
10MHz	1 (RB_Pos:0)	23.38	22.96	22.84	22.45	22.34	22.22
	1 (RB_Pos:25)	23.30	22.66	22.75	22.23	22.06	22.10
	1 (RB_Pos:49)	23.20	22.83	22.84	22.13	22.13	22.05
	25 (RB_Pos:0)	22.21	21.83	21.86	21.23	20.91	20.98
	25 (RB_Pos:12)	22.10	21.88	21.93	21.26	20.84	20.85
	25 (RB_Pos:25)	22.10	21.94	21.97	21.17	20.94	21.10
	50 (RB_Pos:0)	22.13	21.93	21.92	21.05	20.91	20.88
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18625	18900	19175	18625	18900	19175
5MHz	1 (RB_Pos:0)	23.11	23.14	23.04	22.15	22.36	22.27
	1 (RB_Pos:13)	23.26	22.70	22.93	21.72	21.99	22.15
	1 (RB_Pos:24)	23.04	22.96	23.05	21.89	22.26	21.95
	12 (RB_Pos:0)	22.18	21.94	21.99	21.13	21.14	20.84
	12 (RB_Pos:6)	22.20	21.91	22.01	20.88	21.02	20.91
	12 (RB_Pos:13)	22.23	21.96	22.12	21.23	21.10	21.05
	25 (RB_Pos:0)	22.26	21.99	22.13	21.33	20.95	21.07
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		

	Channel	18615	18900	19185	18615	18900	19185
3.0MHz	1 (RB_Pos:0)	23.28	22.90	23.16	22.20	22.63	22.36
	1 (RB_Pos:8)	23.21	22.60	22.82	22.09	22.03	22.35
	1 (RB_Pos:14)	23.51	22.87	23.07	22.76	22.58	22.34
	8 (RB_Pos:0)	22.38	21.82	22.07	20.87	21.02	21.16
	8 (RB_Pos:3)	22.22	21.82	22.03	20.91	20.94	21.12
	8 (RB_Pos:7)	22.25	21.88	21.96	21.02	20.89	21.07
	15 (RB_Pos:0)	22.24	21.86	22.13	21.21	20.86	20.95
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18607	18900	19193	18607	18900	19193
1.4MHz	1 (RB_Pos:0)	23.07	22.71	23.01	22.94	21.95	22.36
	1 (RB_Pos:3)	23.10	22.73	23.44	22.95	22.27	22.46
	1 (RB_Pos:5)	23.07	22.87	23.06	23.06	22.66	22.43
	3 (RB_Pos:0)	23.10	22.82	23.05	21.77	22.12	21.97
	3 (RB_Pos:1)	23.17	22.83	23.05	21.83	22.10	22.07
	3 (RB_Pos:3)	23.24	22.78	22.99	21.76	22.04	22.00
	6 (RB_Pos:0)	22.07	21.84	22.12	21.05	20.90	21.11

FDD LTE Band 4							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20050	20175	20300	20050	20175	20300
20MHz	1 (RB_Pos:0)	23.27	23.10	23.00	22.20	22.45	22.41
	1 (RB_Pos:50)	22.77	23.33	22.70	21.91	22.29	22.05
	1 (RB_Pos:99)	23.28	23.11	22.61	22.04	22.51	22.06
	50 (RB_Pos:0)	22.08	22.13	22.00	21.10	21.11	21.03
	50 (RB_Pos:25)	21.98	22.11	21.82	21.04	21.05	20.87
	50 (RB_Pos:50)	22.06	22.14	21.69	21.05	21.03	20.65
	100 (RB_Pos:0)	22.05	22.04	21.96	21.07	21.03	20.84
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20025	20175	20325	20025	20175	20325
15MHz	1 (RB_Pos:0)	23.20	23.09	23.04	22.13	22.47	22.89
	1 (RB_Pos:38)	22.66	22.85	22.60	21.86	22.13	22.61
	1 (RB_Pos:74)	22.75	22.85	22.73	22.67	22.36	22.61
	36 (RB_Pos:0)	22.00	22.12	22.07	20.98	21.12	21.00
	36 (RB_Pos:20)	21.80	22.04	21.78	20.86	21.15	20.72
	36 (RB_Pos:39)	21.84	22.07	21.79	20.90	21.19	20.65
	75 (RB_Pos:0)	21.91	21.99	22.00	20.99	21.10	20.86
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20000	20175	20350	20000	20175	20350
10MHz	1 (RB_Pos:0)	22.91	23.13	23.00	22.21	22.40	22.22
	1 (RB_Pos:25)	22.77	23.14	22.81	22.37	22.30	22.15
	1 (RB_Pos:49)	22.83	22.95	22.87	22.36	22.25	22.08
	25 (RB_Pos:0)	21.88	22.01	22.06	20.84	20.91	21.00
	25 (RB_Pos:12)	21.78	22.01	21.83	20.75	20.92	20.90
	25 (RB_Pos:25)	21.76	22.05	21.80	20.75	20.94	20.78
	50 (RB_Pos:0)	21.86	22.03	21.96	20.75	20.93	20.91
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	19975	20175	20375	19975	20175	20375
5MHz	1 (RB_Pos:0)	22.56	23.31	22.78	21.53	22.01	21.98
	1 (RB_Pos:13)	22.39	22.87	22.51	21.20	21.91	21.91
	1 (RB_Pos:24)	22.35	23.18	22.76	21.36	21.97	22.49
	12 (RB_Pos:0)	21.67	22.04	21.76	20.51	21.24	20.88
	12 (RB_Pos:6)	21.65	22.02	21.79	20.52	21.11	20.91
	12 (RB_Pos:13)	21.73	22.05	21.79	20.60	21.07	20.82
	25 (RB_Pos:0)	21.64	22.10	21.77	20.73	21.02	20.78
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	19965	20175	20385	19965	20175	20385

3.0MHz	1 (RB_Pos:0)	22.62	23.12	22.65	22.09	22.91	21.99
	1 (RB_Pos:8)	22.52	22.96	22.51	22.09	22.83	21.84
	1 (RB_Pos:14)	22.47	23.08	22.61	22.27	22.30	21.95
	8 (RB_Pos:0)	21.70	22.06	21.77	21.35	21.10	20.76
	8 (RB_Pos:3)	21.78	22.23	21.74	21.34	21.24	20.73
	8 (RB_Pos:7)	21.89	22.25	21.79	20.55	21.18	20.80
	15 (RB_Pos:0)	21.78	22.10	21.74	20.60	20.91	20.76
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	19957	20175	20393	19957	20175	20393
1.4MHz	1 (RB_Pos:0)	22.59	23.07	22.77	22.39	22.17	22.05
	1 (RB_Pos:3)	22.68	23.03	23.07	22.56	22.14	22.06
	1 (RB_Pos:5)	22.66	22.90	22.82	22.25	22.04	22.05
	3 (RB_Pos:0)	22.59	22.91	22.80	21.43	22.11	21.90
	3 (RB_Pos:1)	22.51	22.92	22.83	21.48	22.03	21.95
	3 (RB_Pos:3)	22.47	23.02	22.79	21.39	21.99	21.79
	6 (RB_Pos:0)	21.66	22.10	21.75	20.51	20.75	21.00

FDD LTE Band 5							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20450	20525	20600	20450	20525	20600
10MHz	1 (RB_Pos:0)	23.02	23.00	22.98	22.18	22.40	22.00
	1 (RB_Pos:25)	23.01	22.97	23.31	21.94	22.07	22.17
	1 (RB_Pos:49)	22.91	22.97	23.00	21.86	22.21	22.10
	25 (RB_Pos:0)	21.91	22.17	22.11	20.88	21.03	21.23
	25 (RB_Pos:12)	21.94	22.01	22.03	20.77	20.99	21.08
	25 (RB_Pos:25)	21.88	22.16	22.01	20.85	21.16	21.06
	50 (RB_Pos:0)	22.04	22.22	22.08	20.93	21.21	21.00
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20425	20525	20625	20425	20525	20625
5MHz	1 (RB_Pos:0)	22.82	22.76	22.85	21.83	22.54	21.98
	1 (RB_Pos:13)	22.51	23.03	22.61	21.41	21.96	21.89
	1 (RB_Pos:24)	22.58	23.17	22.78	21.72	22.37	21.94
	12 (RB_Pos:0)	21.94	22.09	22.00	20.86	21.29	20.90
	12 (RB_Pos:6)	22.05	22.10	21.96	20.67	21.30	20.87
	12 (RB_Pos:13)	22.00	22.03	21.94	20.98	20.80	20.79
	25 (RB_Pos:0)	21.87	22.07	22.00	21.05	20.85	20.86
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20415	20525	20635	20415	20525	20635
3.0 MHz	1 (RB_Pos:0)	22.95	22.97	22.81	21.96	22.82	22.04
	1 (RB_Pos:8)	22.64	22.90	22.61	21.76	22.67	21.96

	1 (RB_Pos:14)	22.93	23.05	22.74	22.49	22.96	22.39
	8 (RB_Pos:0)	21.97	22.08	21.90	20.75	21.19	20.89
	8 (RB_Pos:3)	21.92	21.97	21.99	20.58	21.08	20.80
	8 (RB_Pos:7)	21.79	21.96	21.80	20.56	21.07	20.85
	15 (RB_Pos:0)	21.95	22.08	21.95	20.85	21.05	20.98
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20407	20525	20643	20407	20525	20643
1.4MHz	1 (RB_Pos:0)	22.88	22.85	22.88	22.71	22.87	22.27
	1 (RB_Pos:3)	23.20	23.13	23.06	22.66	22.99	22.44
	1 (RB_Pos:5)	22.80	22.90	22.81	22.55	22.83	21.89
	3 (RB_Pos:0)	22.89	22.86	23.01	21.87	22.03	22.38
	3 (RB_Pos:1)	22.84	22.96	22.94	21.67	22.05	22.32
	3 (RB_Pos:3)	22.75	22.95	22.85	21.61	21.99	22.29
	6 (RB_Pos:0)	21.78	22.07	21.95	20.65	20.65	21.05

FDD LTE Band 12							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	23060	23095	23130	23060	23095	23130
10MHz	1 (RB_Pos:0)	22.61	22.54	22.86	21.75	22.02	21.89
	1 (RB_Pos:25)	22.63	22.57	22.68	22.15	22.05	21.87
	1 (RB_Pos:49)	22.40	22.53	22.91	22.10	21.74	21.99
	25 (RB_Pos:0)	21.49	21.61	21.78	20.54	20.60	20.92
	25 (RB_Pos:12)	21.56	21.49	21.72	20.34	20.57	20.86
	25 (RB_Pos:25)	21.67	21.63	21.77	20.59	20.51	20.82
	50 (RB_Pos:0)	21.68	21.54	21.75	20.50	20.52	20.75
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	23035	23095	23155	23035	23095	23155
5MHz	1 (RB_Pos:0)	22.26	22.53	22.62	21.30	21.65	21.72
	1 (RB_Pos:13)	22.20	22.64	22.49	20.97	21.51	21.35
	1 (RB_Pos:24)	22.48	22.54	22.60	21.28	21.45	21.47
	12 (RB_Pos:0)	21.49	21.64	21.63	20.53	20.65	20.55
	12 (RB_Pos:6)	21.65	21.63	21.56	20.41	20.65	20.40
	12 (RB_Pos:13)	21.59	21.68	21.62	20.51	20.69	20.36
	25 (RB_Pos:0)	21.59	21.67	21.67	20.59	20.59	20.53
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	23025	23095	23165	23025	23095	23165
3.0MHz	1 (RB_Pos:0)	22.51	22.54	22.47	21.91	22.69	21.83
	1 (RB_Pos:8)	22.40	22.48	22.34	21.73	22.43	21.79
	1 (RB_Pos:14)	22.43	22.44	22.58	21.94	22.55	21.88
	8 (RB_Pos:0)	21.46	21.65	21.52	20.69	20.83	20.63

	8 (RB_Pos:3)	21.41	21.73	21.50	20.64	20.73	20.61
	8 (RB_Pos:7)	21.47	21.66	21.49	20.66	20.69	20.59
	15 (RB_Pos:0)	21.55	21.72	21.58	20.63	20.60	20.60
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	23017	23095	23173	23017	23095	23173
1.4MHz	1 (RB_Pos:0)	22.55	22.49	22.41	22.25	21.94	21.80
	1 (RB_Pos:3)	22.52	22.55	22.66	22.03	22.14	21.96
	1 (RB_Pos:5)	22.39	22.54	22.60	22.03	22.03	21.98
	3 (RB_Pos:0)	22.52	22.64	22.38	21.28	21.90	21.94
	3 (RB_Pos:1)	22.57	22.71	22.53	21.64	21.95	22.10
	3 (RB_Pos:3)	22.47	22.56	22.53	21.67	21.79	22.09
	6 (RB_Pos:0)	21.41	21.62	21.60	20.61	20.78	20.77

FDD LTE Band 13							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	23230	23230	23230	23230	23230	23230
10MHz	1 (RB_Pos:0)	22.51	22.51	22.51	21.56	21.56	21.56
	1 (RB_Pos:25)	22.57	22.57	22.57	22.43	22.43	22.43
	1 (RB_Pos:49)	22.42	22.42	22.42	21.99	21.99	21.99
	25 (RB_Pos:0)	21.84	21.84	21.84	20.80	20.80	20.80
	25 (RB_Pos:12)	21.71	21.71	21.71	20.58	20.58	20.58
	25 (RB_Pos:25)	21.68	21.68	21.68	20.53	20.53	20.53
	50 (RB_Pos:0)	21.77	21.77	21.77	20.72	20.72	20.72
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	23205	23230	23255	23205	23230	23255
5MHz	1 (RB_Pos:0)	22.66	21.63	22.64	21.60	22.56	21.59
	1 (RB_Pos:13)	22.51	20.95	22.67	21.49	22.43	21.44
	1 (RB_Pos:24)	22.46	21.13	22.51	21.76	22.47	21.77
	12 (RB_Pos:0)	21.72	20.83	21.71	20.89	21.68	20.94
	12 (RB_Pos:6)	21.74	20.58	21.62	20.66	21.63	20.64
	12 (RB_Pos:13)	21.67	20.45	21.72	20.57	21.70	20.66
	25 (RB_Pos:0)	21.78	20.76	21.79	20.57	21.75	20.77

FDD LTE Band 25							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26140	26365	26590	26140	26365	26590
20MHz	1 (RB_Pos:0)	23.47	23.47	23.22	22.17	22.71	22.49
	1 (RB_Pos:50)	23.08	23.47	23.03	22.26	22.59	22.40
	1 (RB_Pos:99)	23.06	23.33	23.21	22.28	22.41	22.41
	50 (RB_Pos:0)	22.38	22.22	22.02	21.45	21.16	20.94
	50 (RB_Pos:25)	22.38	22.18	22.10	21.45	21.08	20.94
	50 (RB_Pos:50)	22.32	22.08	22.08	21.39	21.09	21.05
	100 (RB_Pos:0)	22.54	22.09	22.11	21.34	21.05	21.10
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26115	26365	26615	26115	26365	26615
15MHz	1 (RB_Pos:0)	23.59	23.23	23.06	22.97	22.57	22.96
	1 (RB_Pos:38)	23.19	22.95	23.11	22.24	22.45	22.89
	1 (RB_Pos:74)	23.29	22.92	23.15	22.23	22.35	22.97
	36 (RB_Pos:0)	22.20	22.10	22.14	21.03	21.12	21.05
	36 (RB_Pos:20)	22.28	22.02	22.19	21.10	21.03	21.18
	36 (RB_Pos:39)	22.37	22.06	22.34	21.29	21.17	21.22
	75 (RB_Pos:0)	22.31	22.03	22.27	21.29	21.13	21.09
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26090	26365	26640	26090	26365	26640
10MHz	1 (RB_Pos:0)	23.52	23.17	23.34	22.33	22.48	22.79
	1 (RB_Pos:25)	23.06	22.99	23.33	23.07	22.33	22.80
	1 (RB_Pos:49)	23.27	23.07	23.41	22.85	22.41	22.64
	25 (RB_Pos:0)	22.22	22.19	22.45	21.17	21.05	21.41
	25 (RB_Pos:12)	22.23	22.06	22.53	20.96	21.08	21.38
	25 (RB_Pos:25)	22.45	22.24	22.51	21.17	21.25	21.52
	50 (RB_Pos:0)	22.36	22.12	22.49	21.19	21.21	21.49
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26065	26365	26665	26065	26365	26665
5MHz	1 (RB_Pos:0)	23.14	23.00	23.21	22.14	22.52	22.47
	1 (RB_Pos:13)	22.92	23.10	23.25	21.69	22.09	22.47
	1 (RB_Pos:24)	22.99	23.28	22.92	21.71	21.97	22.94
	12 (RB_Pos:0)	22.30	22.17	22.30	21.13	21.08	21.40
	12 (RB_Pos:6)	22.22	22.07	22.26	20.95	21.11	21.36
	12 (RB_Pos:13)	22.04	22.17	22.32	21.08	21.21	21.07
	25 (RB_Pos:0)	22.21	22.07	22.47	21.31	21.08	21.33
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26055	26365	26675	26055	26365	26675

3.0MHz	1 (RB_Pos:0)	23.13	22.95	23.24	22.23	22.90	22.49
	1 (RB_Pos:8)	23.07	22.99	23.05	22.63	22.16	22.15
	1 (RB_Pos:14)	23.18	23.16	23.12	22.83	22.17	22.36
	8 (RB_Pos:0)	22.43	22.12	22.22	21.45	21.07	21.14
	8 (RB_Pos:3)	22.26	22.05	22.28	21.19	21.11	21.11
	8 (RB_Pos:7)	22.16	22.11	22.17	21.09	21.14	21.23
	15 (RB_Pos:0)	22.20	22.08	22.21	21.06	21.10	21.16
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26047	26365	26683	26047	26365	26683
1.4MHz	1 (RB_Pos:0)	23.32	22.86	23.01	23.05	23.01	22.19
	1 (RB_Pos:3)	23.21	22.99	23.61	23.09	23.03	22.45
	1 (RB_Pos:5)	23.16	22.85	23.21	22.97	22.99	22.45
	3 (RB_Pos:0)	23.30	22.97	23.25	21.90	22.16	22.02
	3 (RB_Pos:1)	23.14	22.98	23.34	21.99	22.15	22.07
	3 (RB_Pos:3)	23.15	22.99	23.21	21.92	22.09	21.95
	6 (RB_Pos:0)	22.33	22.08	22.27	21.13	20.83	21.37

FDD LTE Band 26							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26775	26865	26965	26775	26865	26965
15MHz	1 (RB_Pos:0)	22.99	22.99	23.21	22.54	22.24	22.66
	1 (RB_Pos:38)	22.59	22.72	23.03	21.94	21.95	22.49
	1 (RB_Pos:74)	22.85	22.91	22.82	22.26	22.70	22.43
	36 (RB_Pos:0)	21.79	21.80	22.04	20.86	20.99	21.05
	36 (RB_Pos:20)	21.63	21.80	21.97	20.72	20.94	20.69
	36 (RB_Pos:39)	21.81	21.86	21.91	20.91	20.98	20.84
	75 (RB_Pos:0)	21.74	21.94	21.96	20.68	20.79	20.94
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26750	26865	26990	26750	26865	26990
10MHz	1 (RB_Pos:0)	23.03	22.72	22.96	22.07	22.49	22.25
	1 (RB_Pos:25)	22.73	22.83	22.82	21.71	22.14	22.13
	1 (RB_Pos:49)	22.87	22.76	22.76	21.87	22.09	21.89
	25 (RB_Pos:0)	21.85	21.99	21.89	20.76	20.92	20.95
	25 (RB_Pos:12)	21.74	21.71	21.77	20.74	20.73	20.85
	25 (RB_Pos:25)	21.79	21.87	21.72	20.71	20.68	20.78
	50 (RB_Pos:0)	21.78	21.97	21.67	20.88	20.91	20.79
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26715	26865	27015	26715	26865	27015
5MHz	1 (RB_Pos:0)	22.83	22.66	22.71	21.84	22.24	21.78
	1 (RB_Pos:13)	22.58	22.62	22.56	21.34	22.14	21.83

	1 (RB_Pos:24)	22.76	23.11	22.29	21.66	22.25	21.75
	12 (RB_Pos:0)	21.93	21.89	21.76	20.71	20.99	20.62
	12 (RB_Pos:6)	21.91	21.80	21.67	20.65	20.66	20.71
	12 (RB_Pos:13)	21.74	21.88	21.79	20.62	20.61	20.77
	25 (RB_Pos:0)	21.78	21.93	21.78	20.90	20.82	20.84
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26705	26865	27025	26705	26865	27025
3.0MHz	1 (RB_Pos:0)	22.83	22.71	22.78	22.25	22.42	21.94
	1 (RB_Pos:8)	22.85	22.66	22.39	21.55	21.97	21.76
	1 (RB_Pos:14)	22.94	22.71	22.46	21.76	22.04	21.72
	8 (RB_Pos:0)	21.87	21.86	21.71	20.62	20.81	20.92
	8 (RB_Pos:3)	21.84	21.77	21.57	20.66	20.74	20.80
	8 (RB_Pos:7)	21.79	21.73	21.57	20.63	20.78	20.62
	15 (RB_Pos:0)	21.84	21.79	21.72	20.87	20.91	20.58
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26697	26865	27033	26697	26865	27033
1.4MHz	1 (RB_Pos:0)	22.85	22.86	22.56	22.78	22.15	21.67
	1 (RB_Pos:3)	22.88	22.88	22.50	22.60	22.19	21.71
	1 (RB_Pos:5)	23.00	22.78	22.50	22.60	22.19	21.59
	3 (RB_Pos:0)	22.91	22.86	22.63	22.13	21.96	21.60
	3 (RB_Pos:1)	22.84	22.92	22.55	22.11	21.99	21.62
	3 (RB_Pos:3)	22.82	22.81	22.54	22.10	21.87	21.51
	6 (RB_Pos:0)	21.87	21.78	21.54	21.28	20.67	20.56

FDD LTE Band 41							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39750	40620	41490	39750	40620	41490
20MHz	1 (RB_Pos:0)	22.89	23.63	23.02	22.21	22.57	22.28
	1 (RB_Pos:50)	22.95	23.34	22.90	21.81	22.17	22.25
	1 (RB_Pos:99)	22.74	23.43	22.91	21.82	22.29	22.24
	50 (RB_Pos:0)	21.77	22.51	21.59	20.68	21.57	20.67
	50 (RB_Pos:25)	21.79	22.30	21.37	20.89	21.36	20.45
	50 (RB_Pos:50)	21.71	22.24	21.32	20.81	21.38	20.31
	100 (RB_Pos:0)	21.79	22.42	21.45	20.81	21.32	20.39
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39725	40620	41515	39725	40620	41515
15MHz	1 (RB_Pos:0)	22.64	23.86	22.84	22.42	22.90	21.87
	1 (RB_Pos:38)	22.41	23.49	22.22	22.25	22.64	21.93
	1 (RB_Pos:74)	22.56	23.66	22.30	22.24	22.70	22.00
	36 (RB_Pos:0)	21.56	22.53	21.52	20.48	21.56	20.68

	36 (RB_Pos:20)	21.57	22.32	21.30	20.38	21.36	20.37
	36 (RB_Pos:39)	21.60	22.39	21.32	20.53	21.45	20.28
	75 (RB_Pos:0)	21.49	22.35	21.49	20.53	21.43	20.54
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39700	40620	41540	39700	40620	41540
10MHz	1 (RB_Pos:0)	22.47	23.80	22.53	22.14	22.91	22.79
	1 (RB_Pos:25)	22.53	23.34	22.41	22.00	22.71	22.87
	1 (RB_Pos:49)	22.33	23.41	22.48	22.15	22.67	22.59
	25 (RB_Pos:0)	21.23	22.35	21.47	20.36	21.24	20.43
	25 (RB_Pos:12)	21.26	22.30	21.35	20.27	21.28	20.32
	25 (RB_Pos:25)	21.24	22.26	21.29	20.27	21.08	20.28
	50 (RB_Pos:0)	21.28	22.31	21.39	20.23	21.37	20.48
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39675	40620	41565	39675	40620	41565
5MHz	1 (RB_Pos:0)	22.02	23.01	22.52	21.58	22.33	21.20
	1 (RB_Pos:13)	22.12	23.20	22.38	21.23	22.07	20.99
	1 (RB_Pos:24)	22.23	23.15	22.39	21.43	22.33	20.99
	12 (RB_Pos:0)	21.16	22.25	21.33	20.24	21.20	20.29
	12 (RB_Pos:6)	21.17	22.31	21.36	20.30	21.25	20.12
	12 (RB_Pos:13)	21.25	22.29	21.36	20.27	21.25	20.12
	25 (RB_Pos:0)	21.23	22.32	21.38	20.18	21.30	20.33

8.3 WIFI

1.1.1 2.4GWIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Peak Power (dBm)
2.4 (2.4~2.4835)	802.11b	1	2412	19.48
		6	2437	19.50
		11	2462	19.60
	802.11g	1	2412	21.90
		6	2437	22.16
		11	2462	21.68
	802.11n(HT20)	1	2412	21.31
		6	2437	22.31
		11	2462	21.51
	802.11n(HT40)	3	2422	19.93
		6	2437	20.10
		9	2452	20.19

8.4 Bluetooth

Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Peak Power (dBm)	6.68	10.48	7.19	7.43	11.24	8.03
Mode	8-DPSK			BLE		
Channel	0	39	78	0	19	39
Frequency (MHz)	2402	2441	2480	2402	2440	2480
Peak Power (dBm)	7.77	11.58	8.36	-1.80	-0.12	-1.25

8.5 Power Reduction List

When device operating under hotspot mode, the CDMA BC1, LTE B2/B4/B25/41 power reduction will applied for SAR compliance.

Band		CDMA BC1		
Channel		25	600	1175
Frequency (MHz)		1851.25	1880.00	1908.75
1xRTT	RC1 SO55	20.37	20.29	20.24
1xEVDO Rel.0	FTAP Rate: 307.2kbps	20.35	20.25	20.29
1xEVDO Rel.A	FTAP: 307.2k	20.25	20.23	20.18

FDD LTE Band 2							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18700	18900	19100	18700	18900	19100
20MHz	1 (RB_Pos:0)	20.14	20.34	20.02	20.41	20.65	20.41
	1 (RB_Pos:50)	20.10	20.39	19.79	20.83	20.44	19.90
	1 (RB_Pos:99)	20.05	20.43	20.00	20.10	20.55	20.03
	50 (RB_Pos:0)	20.19	20.21	19.83	20.17	20.07	19.82
	50 (RB_Pos:25)	20.18	20.17	19.71	20.17	20.02	19.52
	50 (RB_Pos:50)	20.15	20.14	19.69	20.19	20.19	19.71
	100 (RB_Pos:0)	20.21	20.08	19.79	20.06	20.02	19.70
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18675	18900	19125	18675	18900	19125
15MHz	1 (RB_Pos:0)	20.22	20.35	20.03	20.30	20.59	21.01
	1 (RB_Pos:38)	20.17	19.87	19.79	20.13	20.18	20.87
	1 (RB_Pos:74)	20.32	20.19	19.98	20.25	21.07	21.04
	36 (RB_Pos:0)	20.08	20.09	19.96	20.23	20.07	19.85
	36 (RB_Pos:20)	20.13	20.03	19.90	20.24	19.92	19.78
	36 (RB_Pos:39)	20.15	20.17	20.02	20.27	20.26	19.78
	75 (RB_Pos:0)	20.12	20.11	19.96	20.27	20.18	19.89
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	18650	18900	19150	18650	18900	19150
10MHz	1 (RB_Pos:0)	20.30	20.10	20.13	20.87	20.61	20.57
	1 (RB_Pos:25)	20.14	20.03	19.92	20.97	20.36	20.42
	1 (RB_Pos:49)	20.18	20.20	20.15	20.82	20.41	20.35
	25 (RB_Pos:0)	20.17	20.08	20.24	20.02	20.06	20.41
	25 (RB_Pos:12)	20.07	20.15	20.19	19.93	20.04	20.39
	25 (RB_Pos:25)	20.17	20.09	20.22	20.03	20.16	20.34
	50 (RB_Pos:0)	20.12	20.13	20.21	20.05	20.09	20.17

Bandwidth (MHz)	RB Set Channel	Power (dBm)					
		QPSK			16QAM		
		18625	18900	19175	18625	18900	19175
5MHz	1 (RB_Pos:0)	19.85	20.36	19.98	19.98	20.61	20.49
	1 (RB_Pos:13)	20.09	19.85	20.10	19.99	20.11	20.10
	1 (RB_Pos:24)	20.13	20.26	20.26	19.90	19.88	20.14
	12 (RB_Pos:0)	20.10	20.01	20.31	19.92	20.23	20.25
	12 (RB_Pos:6)	20.16	20.08	20.36	19.92	20.09	20.34
	12 (RB_Pos:13)	20.15	20.14	20.33	20.02	20.24	20.44
	25 (RB_Pos:0)	20.19	20.07	20.29	20.29	20.20	20.30
Bandwidth (MHz)	RB Set Channel	Power (dBm)					
		QPSK			16QAM		
		18615	18900	19185	18615	18900	19185
3.0MHz	1 (RB_Pos:0)	19.96	20.03	20.28	20.67	20.49	20.24
	1 (RB_Pos:8)	19.93	19.90	20.34	20.70	20.20	19.99
	1 (RB_Pos:14)	20.25	20.11	20.26	20.63	20.19	20.63
	8 (RB_Pos:0)	20.26	20.12	20.42	20.27	20.35	20.36
	8 (RB_Pos:3)	20.33	20.07	20.43	20.15	20.21	20.37
	8 (RB_Pos:7)	20.19	20.06	20.40	20.12	20.17	20.35
	15 (RB_Pos:0)	20.24	20.10	20.41	20.39	20.08	20.39
Bandwidth (MHz)	RB Set Channel	Power (dBm)					
		QPSK			16QAM		
		18607	18900	19193	18607	18900	19193
1.4MHz	1 (RB_Pos:0)	20.22	19.96	20.37	20.88	20.30	20.81
	1 (RB_Pos:3)	20.44	20.12	20.52	20.81	20.37	20.82
	1 (RB_Pos:5)	20.21	20.09	20.46	20.86	20.24	20.85
	3 (RB_Pos:0)	20.10	20.10	20.44	20.18	20.09	21.12
	3 (RB_Pos:1)	20.17	20.13	20.49	20.38	20.08	21.17
	3 (RB_Pos:3)	20.09	20.08	20.45	20.44	20.03	21.11
	6 (RB_Pos:0)	20.09	20.12	20.41	20.29	19.90	20.73

FDD LTE Band 4							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20050	20175	20300	20050	20175	20300
20MHz	1 (RB_Pos:0)	21.44	21.25	21.24	21.28	21.57	21.57
	1 (RB_Pos:50)	21.00	21.15	20.96	21.07	21.63	21.16
	1 (RB_Pos:99)	21.05	21.23	21.11	21.11	21.78	21.15
	50 (RB_Pos:0)	21.18	21.19	21.10	21.23	21.12	20.99
	50 (RB_Pos:25)	21.13	21.25	20.93	21.18	21.09	20.76
	50 (RB_Pos:50)	21.14	21.12	20.77	21.17	21.07	20.67
	100 (RB_Pos:0)	21.15	21.19	20.99	21.19	21.02	20.92
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20025	20175	20325	20025	20175	20325
15MHz	1 (RB_Pos:0)	21.24	21.28	21.40	21.28	21.88	22.26
	1 (RB_Pos:38)	20.81	21.12	20.82	20.96	21.52	21.88
	1 (RB_Pos:74)	21.14	21.14	20.99	21.22	21.79	22.21
	36 (RB_Pos:0)	21.02	21.25	21.18	21.05	21.22	21.13
	36 (RB_Pos:20)	20.93	21.24	20.94	21.03	21.20	20.85
	36 (RB_Pos:39)	21.01	21.28	20.91	21.04	21.23	20.90
	75 (RB_Pos:0)	20.99	21.15	21.04	21.04	21.20	20.84
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	20000	20175	20350	20000	20175	20350
10MHz	1 (RB_Pos:0)	20.89	21.13	21.02	21.27	21.49	21.32
	1 (RB_Pos:25)	20.77	21.07	20.99	20.99	21.44	21.24
	1 (RB_Pos:49)	20.78	20.97	21.04	21.18	21.34	21.15
	25 (RB_Pos:0)	20.97	21.14	21.15	20.98	21.10	21.24
	25 (RB_Pos:12)	20.85	21.14	21.08	20.86	21.07	21.07
	25 (RB_Pos:25)	20.88	21.11	21.02	20.79	21.05	21.00
	50 (RB_Pos:0)	20.92	21.12	21.05	20.82	21.07	21.16
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	19975	20175	20375	19975	20175	20375
5MHz	1 (RB_Pos:0)	20.63	21.05	20.93	20.77	21.08	21.13
	1 (RB_Pos:13)	20.44	21.15	20.62	20.25	21.03	21.05
	1 (RB_Pos:24)	20.51	21.39	20.79	20.43	20.97	21.13
	12 (RB_Pos:0)	20.76	21.21	20.97	20.65	21.27	20.78
	12 (RB_Pos:6)	20.74	21.20	20.99	20.58	21.26	20.84
	12 (RB_Pos:13)	20.73	21.22	20.94	20.62	21.26	20.76
	25 (RB_Pos:0)	20.79	21.24	20.88	20.86	21.21	20.81
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	19965	20175	20385	19965	20175	20385

3.0MHz	1 (RB_Pos:0)	20.62	21.10	20.86	20.62	21.44	21.18
	1 (RB_Pos:8)	20.56	21.07	20.73	20.51	21.44	21.09
	1 (RB_Pos:14)	20.48	21.33	20.87	20.54	21.41	21.13
	8 (RB_Pos:0)	20.72	21.13	20.91	20.50	21.29	20.96
	8 (RB_Pos:3)	20.65	21.15	20.89	20.53	21.32	20.93
	8 (RB_Pos:7)	20.66	21.18	20.87	20.53	21.25	20.93
	15 (RB_Pos:0)	20.73	21.14	20.89	20.79	21.27	20.86
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	19957	20175	20393	19957	20175	20393
1.4MHz	1 (RB_Pos:0)	20.68	21.05	20.76	21.28	21.39	21.14
	1 (RB_Pos:3)	20.79	21.16	20.78	21.32	22.07	21.17
	1 (RB_Pos:5)	20.67	21.15	20.83	21.50	21.97	21.22
	3 (RB_Pos:0)	20.70	21.18	20.83	20.32	21.18	20.71
	3 (RB_Pos:1)	20.75	21.13	20.87	20.37	21.40	20.75
	3 (RB_Pos:3)	20.62	21.10	20.84	20.27	21.26	20.70
	6 (RB_Pos:0)	20.57	21.18	20.79	20.34	20.99	20.90

FDD LTE Band 25							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26140	26365	26590	26140	26365	26590
20MHz	1 (RB_Pos:0)	20.31	20.40	20.24	20.81	20.73	20.72
	1 (RB_Pos:50)	20.48	20.60	20.13	20.56	20.70	20.34
	1 (RB_Pos:99)	20.45	20.50	20.45	20.37	20.64	20.36
	50 (RB_Pos:0)	20.24	20.21	20.13	20.23	20.18	20.13
	50 (RB_Pos:25)	20.34	20.24	20.11	20.38	20.20	20.10
	50 (RB_Pos:50)	20.29	20.17	20.19	20.24	20.24	20.20
	100 (RB_Pos:0)	20.29	20.19	20.20	20.25	20.15	20.14
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26115	26365	26615	26115	26365	26615
15MHz	1 (RB_Pos:0)	20.14	20.29	20.40	20.81	20.47	21.10
	1 (RB_Pos:38)	20.11	20.12	20.25	20.07	20.36	21.13
	1 (RB_Pos:74)	20.30	20.18	20.39	20.81	20.56	21.02
	36 (RB_Pos:0)	20.04	20.21	20.26	20.09	20.20	20.20
	36 (RB_Pos:20)	20.17	20.21	20.37	20.11	20.21	20.27
	36 (RB_Pos:39)	20.29	20.22	20.58	20.40	20.31	20.66
	75 (RB_Pos:0)	20.18	20.16	20.42	20.13	20.13	20.45
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26090	26365	26640	26090	26365	26640
10MHz	1 (RB_Pos:0)	20.08	20.18	20.57	20.88	20.58	20.92
	1 (RB_Pos:25)	20.04	20.18	20.71	20.35	20.71	20.94

	1 (RB_Pos:49)	20.28	20.18	20.61	20.69	21.20	20.84
	25 (RB_Pos:0)	20.00	20.15	20.55	20.08	20.13	20.66
	25 (RB_Pos:12)	20.01	20.18	20.63	19.97	20.07	20.74
	25 (RB_Pos:25)	20.31	20.27	20.79	20.28	20.27	20.83
	50 (RB_Pos:0)	20.16	20.20	20.52	20.12	20.17	20.56
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26065	26365	26665	26065	26365	26665
5MHz	1 (RB_Pos:0)	19.76	20.19	20.26	19.80	20.19	20.68
	1 (RB_Pos:13)	19.80	20.23	20.15	19.46	20.21	20.66
	1 (RB_Pos:24)	19.64	20.49	20.35	19.90	20.29	20.52
	12 (RB_Pos:0)	20.04	20.12	20.42	19.79	20.24	20.38
	12 (RB_Pos:6)	20.00	20.21	20.48	19.79	20.23	20.52
	12 (RB_Pos:13)	20.02	20.26	20.35	19.91	20.29	20.33
	25 (RB_Pos:0)	20.02	20.20	20.46	20.27	20.12	20.83
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26055	26365	26675	26055	26365	26675
3.0MHz	1 (RB_Pos:0)	19.83	20.13	20.40	20.55	21.07	20.91
	1 (RB_Pos:8)	19.78	20.10	20.17	20.37	21.09	20.59
	1 (RB_Pos:14)	19.89	20.23	20.21	20.79	21.32	20.59
	8 (RB_Pos:0)	20.12	20.14	20.36	19.78	20.34	20.41
	8 (RB_Pos:3)	20.09	20.12	20.35	19.75	20.33	20.40
	8 (RB_Pos:7)	19.97	20.21	20.37	19.75	20.43	20.43
	15 (RB_Pos:0)	20.02	20.13	20.37	19.97	20.22	20.33
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	26047	26365	26683	26047	26365	26683
1.4MHz	1 (RB_Pos:0)	19.81	20.06	20.05	20.96	21.05	20.38
	1 (RB_Pos:3)	19.96	20.18	20.21	20.73	21.34	20.48
	1 (RB_Pos:5)	19.89	20.09	20.06	20.67	21.12	20.64
	3 (RB_Pos:0)	19.99	20.06	20.25	20.13	20.46	20.44
	3 (RB_Pos:1)	20.07	20.12	20.29	20.20	20.36	20.40
	3 (RB_Pos:3)	20.11	20.09	20.21	20.37	20.43	20.31
	6 (RB_Pos:0)	20.00	20.11	20.36	20.14	20.19	20.49

FDD LTE Band 41							
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39750	40620	41490	39750	40620	41490
20MHz	1 (RB_Pos:0)	18.76	19.06	19.20	18.95	18.60	19.14
	1 (RB_Pos:50)	18.60	18.99	18.84	18.44	18.15	18.86
	1 (RB_Pos:99)	18.65	19.02	18.91	18.67	18.12	18.66
	50 (RB_Pos:0)	18.82	18.62	18.94	19.03	18.29	18.50
	50 (RB_Pos:25)	18.56	18.49	18.73	18.74	18.06	18.30
	50 (RB_Pos:50)	18.49	18.48	18.69	18.79	17.90	18.14
	100 (RB_Pos:0)	18.66	18.61	18.80	18.70	18.20	18.32
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39725	40620	41515	39725	40620	41515
15MHz	1 (RB_Pos:0)	18.49	19.19	19.09	19.33	18.35	19.14
	1 (RB_Pos:38)	18.26	19.03	18.80	19.16	17.80	18.85
	1 (RB_Pos:74)	18.54	19.08	19.05	19.05	17.92	18.92
	36 (RB_Pos:0)	18.44	18.36	18.90	18.87	18.19	18.13
	36 (RB_Pos:20)	18.25	18.20	18.71	18.70	17.95	17.90
	36 (RB_Pos:39)	18.29	18.30	18.79	18.97	18.04	17.85
	75 (RB_Pos:0)	18.38	18.41	18.77	19.07	18.02	18.10
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39700	40620	41540	39700	40620	41540
10MHz	1 (RB_Pos:0)	18.09	18.86	19.40	19.32	18.21	19.33
	1 (RB_Pos:25)	18.01	18.86	18.97	19.23	17.93	19.26
	1 (RB_Pos:49)	18.01	18.75	18.90	19.15	18.01	19.27
	25 (RB_Pos:0)	18.20	18.16	18.84	18.69	18.10	18.02
	25 (RB_Pos:12)	18.20	18.12	18.78	18.57	17.98	17.82
	25 (RB_Pos:25)	18.22	18.14	18.77	18.56	17.98	17.82
	50 (RB_Pos:0)	18.18	18.03	18.74	18.74	18.06	18.10
Bandwidth (MHz)	RB Set	Power (dBm)					
		QPSK			16QAM		
	Channel	39675	40620	41565	39675	40620	41565
5MHz	1 (RB_Pos:0)	18.00	18.40	18.66	18.76	18.10	17.69
	1 (RB_Pos:13)	18.01	18.36	18.51	18.70	17.85	17.47
	1 (RB_Pos:24)	18.10	18.35	18.51	18.55	17.88	17.59
	12 (RB_Pos:0)	18.20	18.04	18.72	19.03	18.04	17.73
	12 (RB_Pos:6)	18.15	18.06	18.64	18.98	18.00	17.76
	12 (RB_Pos:13)	18.20	18.14	18.65	18.95	17.91	17.75
	25 (RB_Pos:0)	18.09	18.04	18.68	18.70	18.07	17.98

9 11 HAC RF Emission Test Results

9.1 E-Filled Emission Test Results

Band	Mode	Ch.	Freq. (MHz)	Peak E-Field dB (V/m)	M-Rating	Meas. No.
CDMA BC0	Voice	1013	824.70	17.81	M4	1#
		384	836.52	16.90	M4	2#
		777	848.31	16.06	M4	3#
CDMA BC1	Voice	25	1851.25	9.56	M4	4#
		600	1880.00	9.35	M4	5#
		1175	1908.75	8.01	M4	6#
CDMA BC10	Voice	450	838.50	17.86	M4	7#
		560	841.80	17.75	M4	8#
		670	845.10	17.60	M4	9#
LTE Band2	QPSK	18700	1860.00	28.38	M4	10#
		18900	1880.00	27.85	M4	11#
		19100	1900.00	26.44	M4	12#
LTE Band4	QPSK	20050	1720.00	25.19	M4	13#
		20175	1732.50	25.16	M4	14#
		20300	1745.00	25.86	M4	15#
LTE Band5	QPSK	20450	829.00	34.46	M4	16#
		20525	836.50	34.24	M4	17#
		20600	844.00	33.79	M4	18#
LTE Band12	QPSK	23060	704.00	32.50	M4	19#
		23095	707.50	32.92	M4	20#
		23130	711.00	33.46	M4	21#
LTE Band13	QPSK	23230	782.00	35.44	M4	22#
LTE Band25	QPSK	26140	1860.00	27.96	M4	23#
		26365	1882.50	27.54	M4	24#
		26590	1905.00	26.51	M4	25#
LTE Band26	QPSK	26775	822.50	36.33	M4	26#
		26865	831.50	36.02	M4	27#
		26965	841.50	35.57	M4	28#
LTE Band41	QPSK	39750	2505.00	14.28	M4	29#
		40620	2593.00	20.72	M4	30#
		41490	2680.00	21.49	M4	31#

10 TEST EQUIPMENTS LIST

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
PC	Dell	N/A	N/A	N/A	N/A
800-950MHz Dipole	SATIMO	SIDB835	SN 18/12 DHA41	2017/02/17	2018/02/16
1700-2000MHz Dipole	SATIMO	SIDB1900	SN 18/12 DHB46	2017/02/17	2018/02/16
2100-2600MHz Dipole	SATIMO	SIDB2450	SN 18/12 DHC48	2017/02/17	2018/02/16
E-Field Probe	SATIMO	SCE	SN 03/16 EPH47	2017/03/22	2018/03/21
Antenna	SATIMO	ANTA3	SN 17/13 ZNTA45	N/A	N/A
MultiMeter	Keithley	MultiMeter 2000	4024022	2017/06/12	2018/06/11
Signal Generator	R&S	SMF100A	1167.0000k02/104260	2017/06/12	2018/06/11
Power Meter	Agilent	E4419B	GB40201833	2016/11/25	2017/11/24
Power Sensor	Agilent	E9300A	MY41498012	2016/11/25	2017/11/24
Power Sensor	Agilent	E9300A	MY41499891	2016/11/25	2017/11/24
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Wireless Communication Test Set	R&S	CMU 200	123666	2016/11/08	2017/11/07
Wireless Communications Test Set	R&S	CMW 500	138884	2017/06/12	2018/06/11

11 REFERENCES

- 1 FCC 47 CFR Part 20.19 "Hearing aid-compatible mobile handsets."
- 2 ANSI C 63.19:2011 "American National Standard Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids", 27 May 2011
- 3 KDB 285076 D01 HAC Guidance v04, "provides equipment authorization guidance for mobile handsets subject to the requirements of Section 20.19 for hearing aid compatibility
- 4 KDB 285076 D02, T-Coil testing for CMRS IP v01r01 provides guidance for T-Coil tests for voice-over-IP (e.g. LTE and Wi-Fi) CMRS based Telephone Services.
- 4 SATIMO COMOHAC_V4
- 5 SATIMO OPENHAC_V4

ANNEX A HAC TEST RESULT OF SYSTEM VERIFICAION

E-Field System Check Data(835MHz Head)

Experimental conditions.

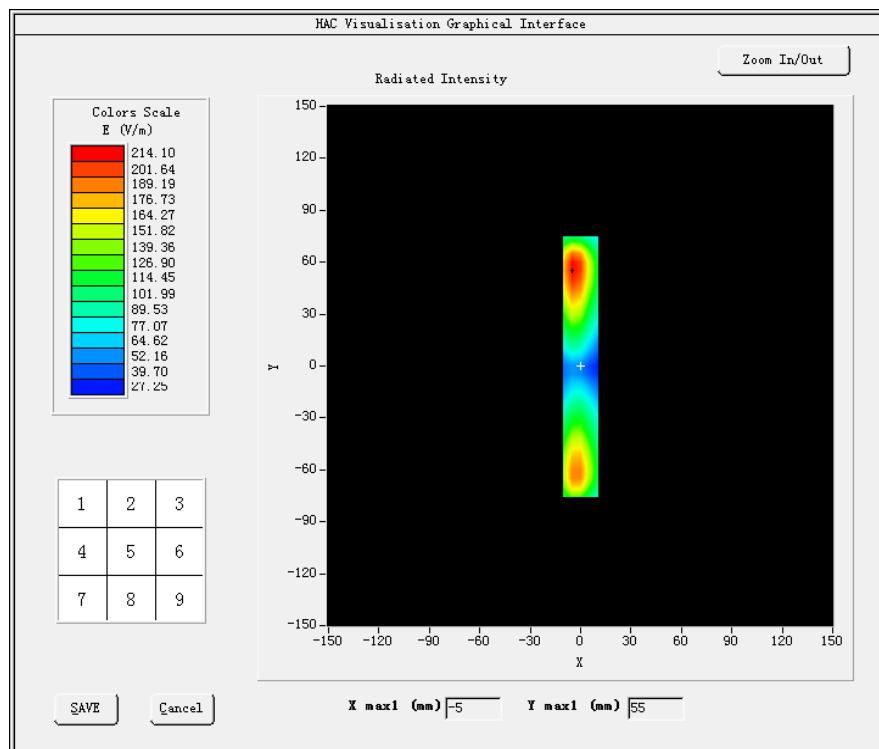
Grid size (mm x mm)	20.0, 150.0
Step (mm)	5
Band	835MHz
Channel	
Signal	CW
Date of measurement	17/8/2017

HAC Measurement Results

Frequency (MHz): 835.000000

Maximum value of total field = 214.10 V/m

SURFACE E-Field



E-Filed System Check Data (1880MHz)

Experimental conditions

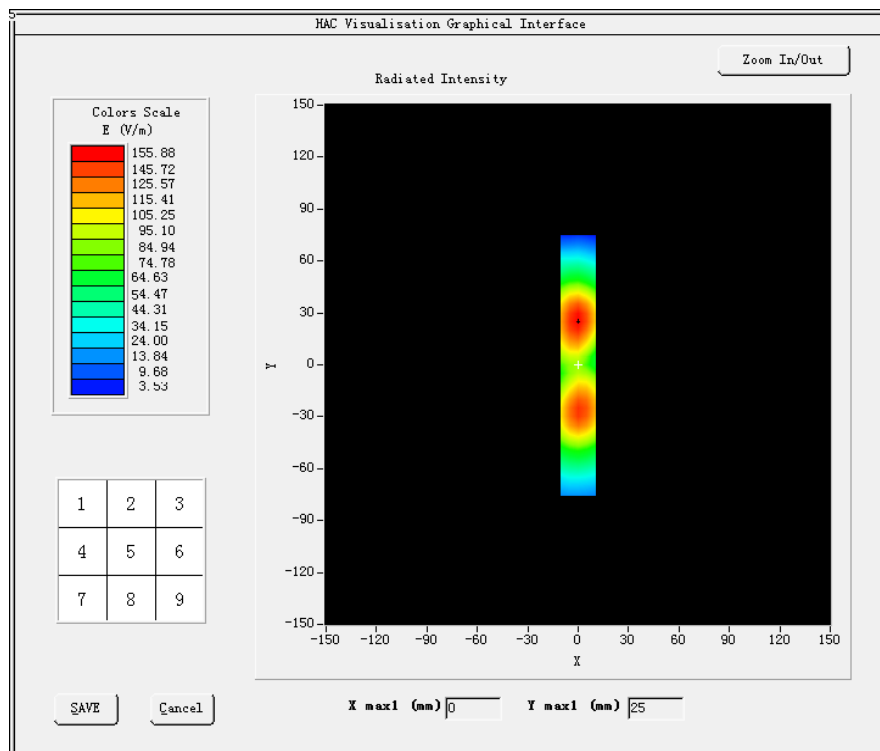
Grid size (mm x mm)	20.0, 150.0
Step (mm)	5
Band	1900 MHz
Channel	
Signal	CW
Date of measurement	20/8/2017

HAC Measurement Results

Frequency (MHz): 1900.000000

Maximum value of total field = 155.88V/m

SURFACE HAC



E-Filed System Check Data (2450MHz)

Experimental conditions

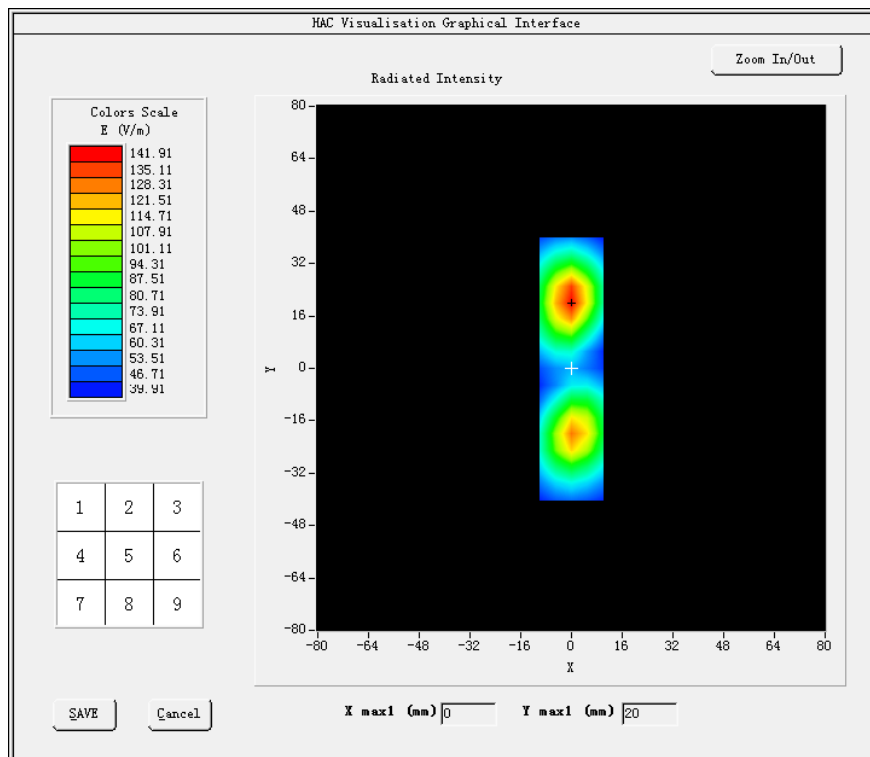
Grid size (mm x mm)	20.0, 80.0
Step (mm)	5
Band	2450 MHz
Channel	
Signal	CW
Date of measurement	21/8/2017

HAC Measurement Results

Frequency (MHz): 2450.000000

Maximum value of total field = 141.91V/m

SURFACE HAC



ANNEX B HAC RF MEASUREMENT RESULT

MEASUREMENT 1

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC0_US_Cellular
Channel	Low
Signal	CDMA
Date of measurement	17/8/2017

HAC Measurement Results

Lower Band (Channel 1013):

Frequency (MHz): 824.700000

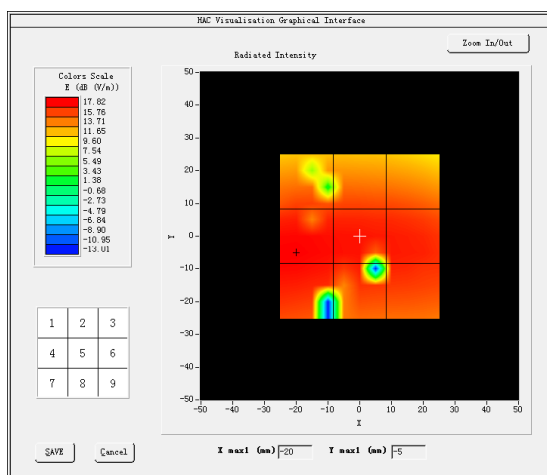
Modulation Interference Factor(MIF)=-19.750000

Maximum value of total field = 17.81 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 16.07	Grid 2: 15.92	Grid 3: 15.64
Grid 4: 18.07	Grid 5: 17.81	Grid 6: 17.56
Grid 7: 17.91	Grid 8: 17.61	Grid 9: 17.62

MEASUREMENT 2

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC0_US_Cellular
Channel	Middle
Signal	CDMA
Date of measurement	17/8/2017

HAC Measurement Results

Middle Band (Channel 384):

Frequency (MHz): 836.520000

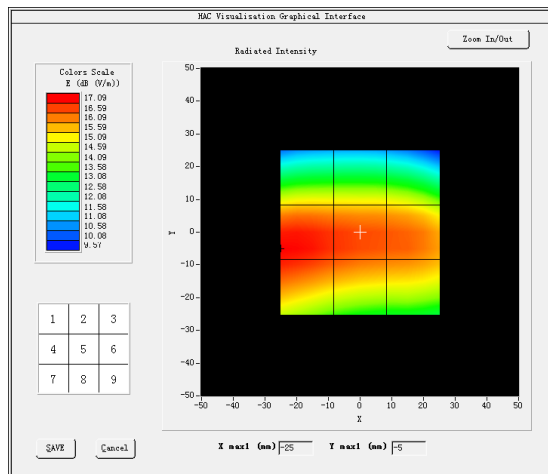
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 16.90 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 15.20	Grid 2: 15.17	Grid 3: 15.06
Grid 4: 17.28	Grid 5: 16.90	Grid 6: 16.62
Grid 7: 17.15	Grid 8: 16.65	Grid 9: 16.33

MEASUREMENT 3

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC0_US_Cellular
Channel	High
Signal	CDMA
Date of measurement	17/8/2017

HAC Measurement Results

Higher Band (Channel 777):

Frequency (MHz): 848.310000

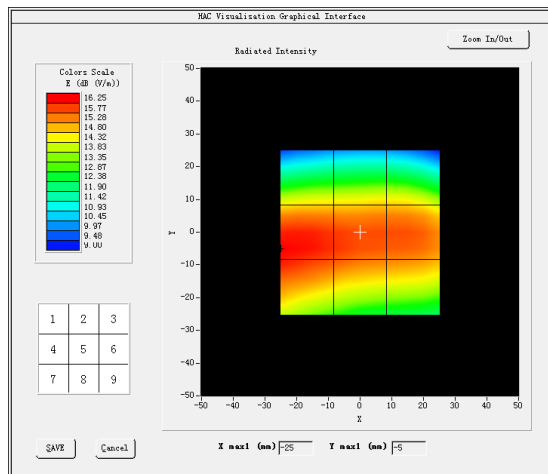
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 16.06 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 14.38	Grid 2: 14.52	Grid 3: 14.50
Grid 4: 16.42	Grid 5: 16.06	Grid 6: 15.86
Grid 7: 16.34	Grid 8: 15.82	Grid 9: 15.47

MEASUREMENT 4

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC1_North_American_PCS
Channel	Low
Signal	CDMA
Date of measurement	20/8/2017

HAC Measurement Results

Lower Band (Channel 25):

Frequency (MHz): 1851.250000

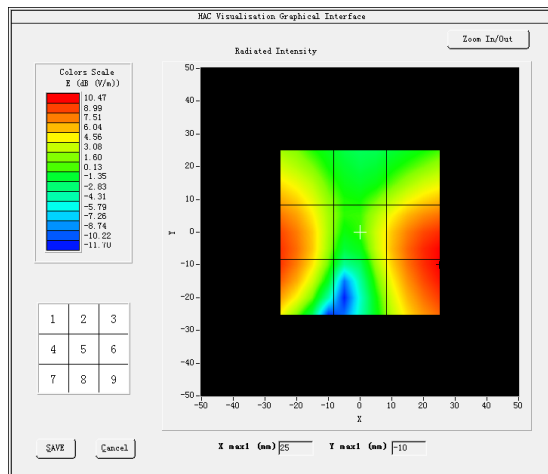
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 9.56 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 6.54	Grid 2: 2.75	Grid 3: 6.14
Grid 4: 9.56	Grid 5: 5.70	Grid 6: 10.78
Grid 7: 9.56	Grid 8: 5.37	Grid 9: 10.79

MEASUREMENT 5

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC1_North_American_PCS
Channel	Middle
Signal	CDMA
Date of measurement	20/8/2017

HAC Measurement Results

Middle Band (Channel 600):

Frequency (MHz): 1880.000000

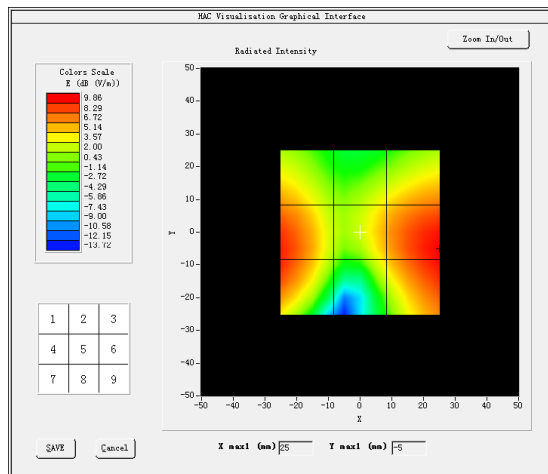
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 9.35 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 6.07	Grid 2: 4.06	Grid 3: 6.70
Grid 4: 9.35	Grid 5: 6.22	Grid 6: 10.13
Grid 7: 9.34	Grid 8: 5.25	Grid 9: 9.98

MEASUREMENT 6

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC1_North_American_PCS
Channel	High
Signal	CDMA
Date of measurement	20/8/2017

HAC Measurement Results

Higher Band (Channel 1175):

Frequency (MHz): 1908.750000

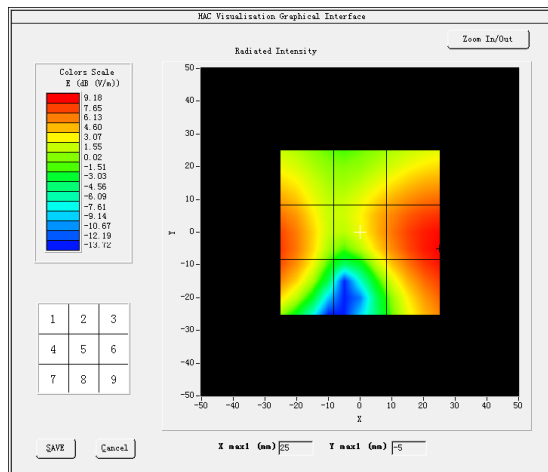
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 8.01 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 5.39	Grid 2: 4.82	Grid 3: 6.92
Grid 4: 8.01	Grid 5: 6.23	Grid 6: 9.46
Grid 7: 7.80	Grid 8: 4.71	Grid 9: 9.21

MEASUREMENT 7

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC10_Secondary_800MHz
Channel	Low
Signal	CDMA
Date of measurement	17/8/2017

HAC Measurement Results

Lower Band (Channel 450):

Frequency (MHz): 838.500000

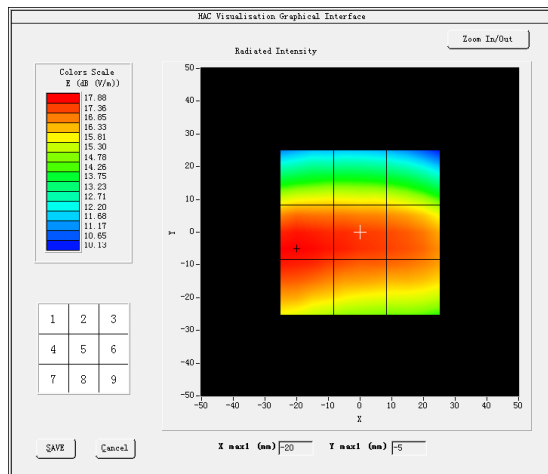
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 17.86 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 16.03	Grid 2: 16.01	Grid 3: 15.80
Grid 4: 18.07	Grid 5: 17.86	Grid 6: 17.53
Grid 7: 17.98	Grid 8: 17.64	Grid 9: 17.35

MEASUREMENT 8

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC10_Secondary_800MHz
Channel	Middle
Signal	CDMA
Date of measurement	17/8/2017

HAC Measurement Results

Middle Band (Channel 560):

Frequency (MHz): 841.800000

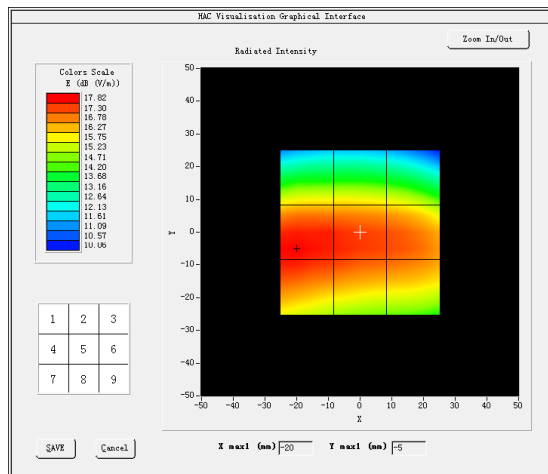
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 17.75 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 15.91	Grid 2: 15.96	Grid 3: 15.68
Grid 4: 18.00	Grid 5: 17.75	Grid 6: 17.41
Grid 7: 17.92	Grid 8: 17.58	Grid 9: 17.21

MEASUREMENT 9

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	BC10_Secondary_800MHz
Channel	High
Signal	CDMA
Date of measurement	17/8/2017

HAC Measurement Results

Higher Band (Channel 670):

Frequency (MHz): 845.100000

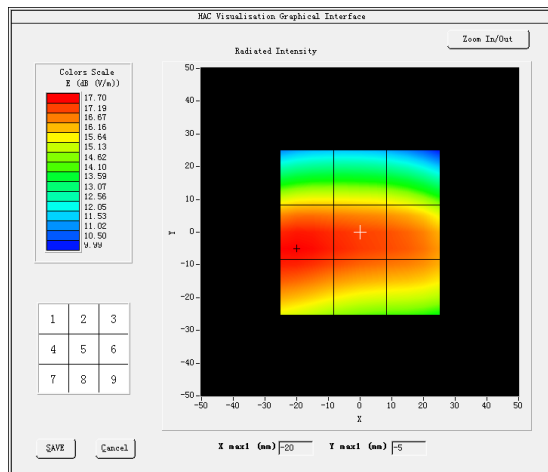
Modulation Interference Factor(MIF)= -19.750000

Maximum value of total field = 17.60 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 15.83	Grid 2: 15.82	Grid 3: 15.59
Grid 4: 17.88	Grid 5: 17.60	Grid 6: 17.29
Grid 7: 17.78	Grid 8: 17.42	Grid 9: 17.07

MEASUREMENT 10

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 2
Channel	Low
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Lower Band (Channel 18700):

Frequency (MHz): 1860.000000

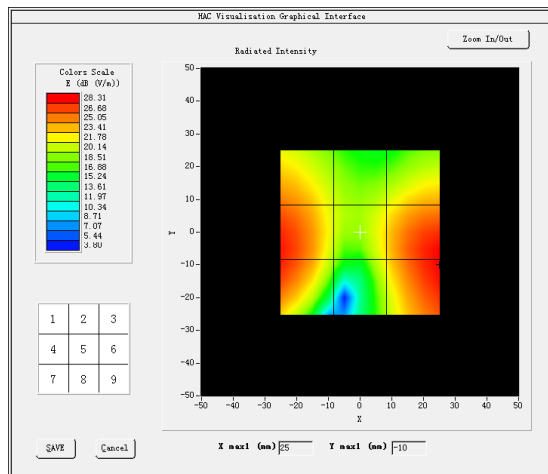
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 28.38 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 25.00	Grid 2: 20.69	Grid 3: 23.59
Grid 4: 27.77	Grid 5: 23.04	Grid 6: 28.38
Grid 7: 27.68	Grid 8: 22.66	Grid 9: 28.38

MEASUREMENT 11

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 2
Channel	Middle
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Middle Band (Channel 18900):

Frequency (MHz): 1880.000000

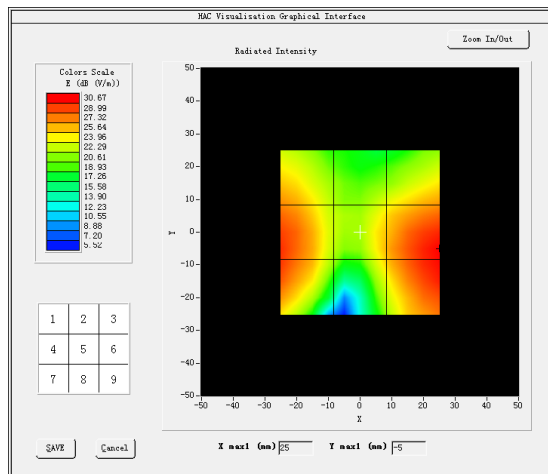
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 27.85 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 25.01	Grid 2: 21.53	Grid 3: 24.46
Grid 4: 27.85	Grid 5: 24.53	Grid 6: 29.09
Grid 7: 27.74	Grid 8: 24.18	Grid 9: 28.97

MEASUREMENT 12

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 2
Channel	High
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Higher Band (Channel 19100):

Frequency (MHz): 1900.000000

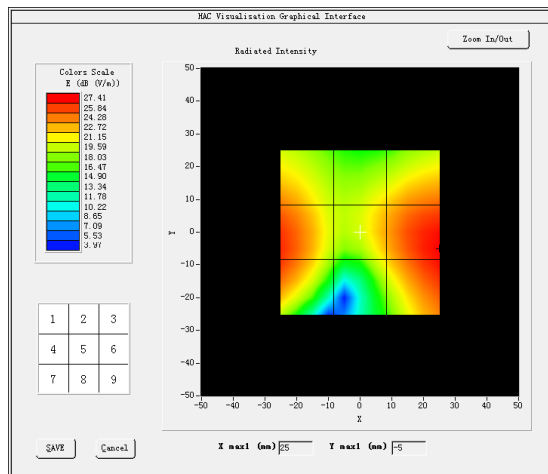
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 26.44 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 23.92	Grid 2: 21.82	Grid 3: 24.45
Grid 4: 26.44	Grid 5: 23.43	Grid 6: 27.41
Grid 7: 26.22	Grid 8: 22.35	Grid 9: 27.21

MEASUREMENT 13

Experimental conditions

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 4
Channel	Low
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Lower Band (Channel 20050):

Frequency (MHz): 1720.000000

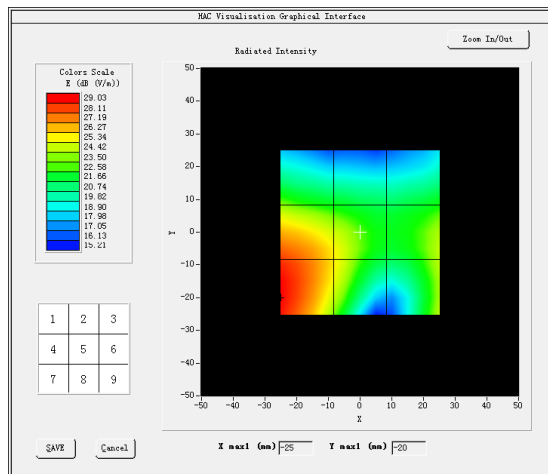
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 25.19 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 22.98	Grid 2: 21.55	Grid 3: 21.97
Grid 4: 27.97	Grid 5: 25.19	Grid 6: 24.34
Grid 7: 29.06	Grid 8: 25.20	Grid 9: 24.33

MEASUREMENT 14

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 4
Channel	Middle
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Middle Band (Channel 20175):

Frequency (MHz): 1732.500000

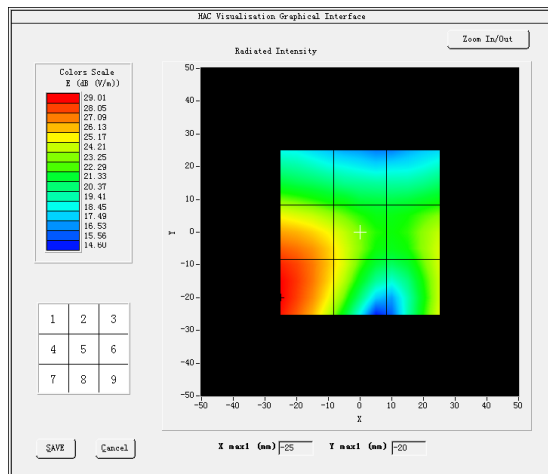
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 25.16 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 23.10	Grid 2: 21.91	Grid 3: 21.92
Grid 4: 28.00	Grid 5: 25.16	Grid 6: 24.55
Grid 7: 29.05	Grid 8: 25.18	Grid 9: 24.63

MEASUREMENT 15

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 4
Channel	High
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Higher Band (Channel 20300):

Frequency (MHz): 1745.000000

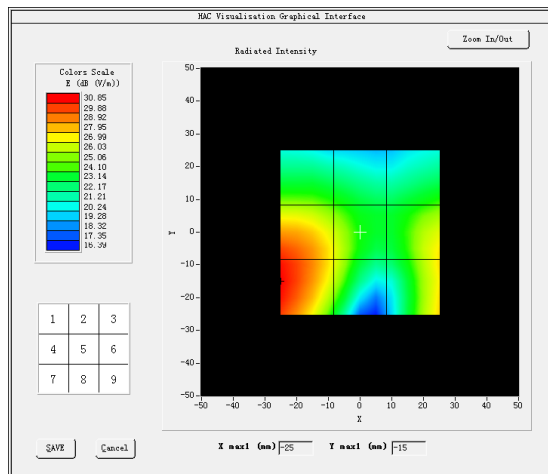
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 25.86 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 23.21	Grid 2: 22.28	Grid 3: 22.59
Grid 4: 28.59	Grid 5: 24.73	Grid 6: 25.65
Grid 7: 29.25	Grid 8: 24.68	Grid 9: 25.86

MEASUREMENT 16

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 5
Channel	Low
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Lower Band (Channel 20450):

Frequency (MHz): 829.000000

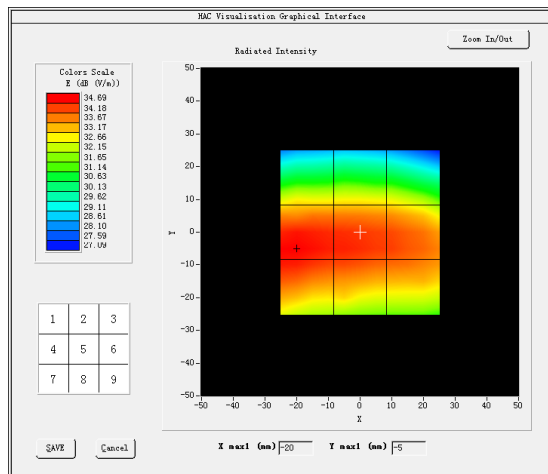
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 34.46 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 32.67	Grid 2: 32.66	Grid 3: 32.50
Grid 4: 34.71	Grid 5: 34.46	Grid 6: 34.21
Grid 7: 34.62	Grid 8: 34.29	Grid 9: 34.01

MEASUREMENT 17

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 5
Channel	Middle
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Middle Band (Channel 20525):

Frequency (MHz): 836.500000

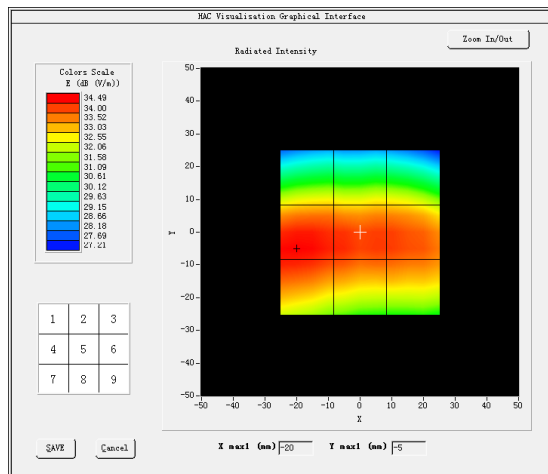
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 34.24 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 32.53	Grid 2: 32.52	Grid 3: 32.46
Grid 4: 34.49	Grid 5: 34.24	Grid 6: 34.08
Grid 7: 34.38	Grid 8: 34.04	Grid 9: 33.83

MEASUREMENT 18

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 5
Channel	High
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Higher Band (Channel 20600):

Frequency (MHz): 844.000000

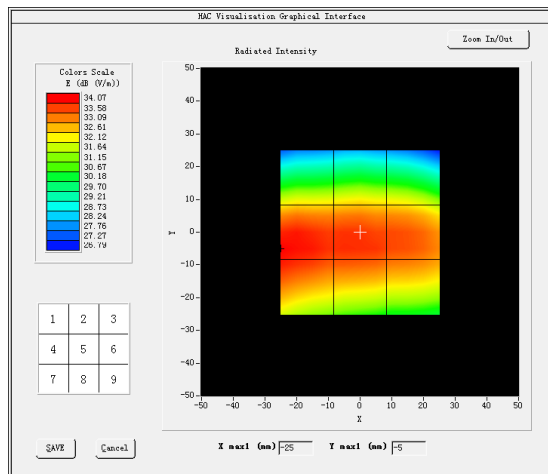
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 33.79 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 32.00	Grid 2: 32.16	Grid 3: 32.00
Grid 4: 34.07	Grid 5: 33.79	Grid 6: 33.57
Grid 7: 33.98	Grid 8: 33.55	Grid 9: 33.30

MEASUREMENT 19

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 12
Channel	Low
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Lower Band (Channel 23060):

Frequency (MHz): 704.000000

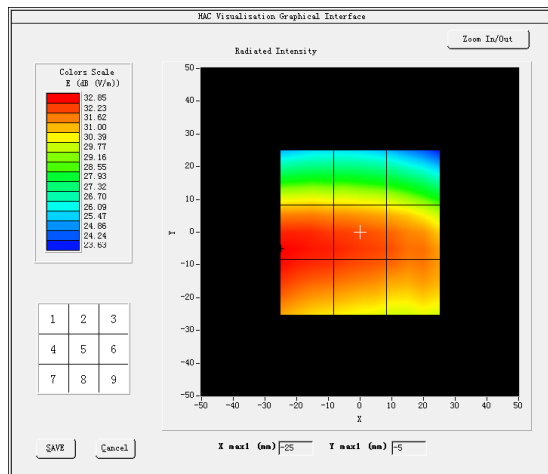
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 32.50 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 30.37	Grid 2: 30.28	Grid 3: 29.82
Grid 4: 32.86	Grid 5: 32.50	Grid 6: 32.07
Grid 7: 32.83	Grid 8: 32.41	Grid 9: 31.97

MEASUREMENT 20

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 12
Channel	Middle
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Middle Band (Channel 23095):

Frequency (MHz): 707.500000

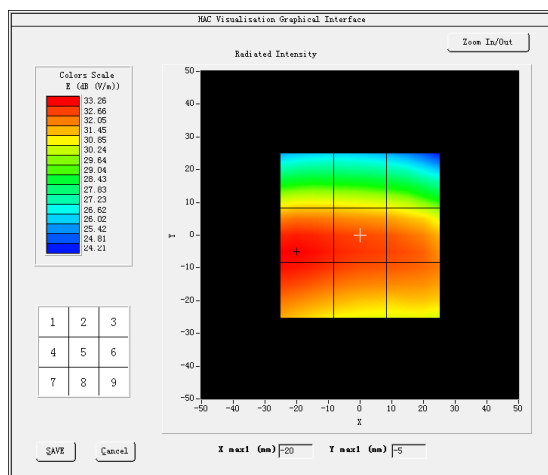
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 32.92 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 30.82	Grid 2: 30.75	Grid 3: 30.38
Grid 4: 33.27	Grid 5: 32.92	Grid 6: 32.62
Grid 7: 33.22	Grid 8: 32.81	Grid 9: 32.53

MEASUREMENT 21

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 12
Channel	High
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Higher Band (Channel 23130):

Frequency (MHz): 711.000000

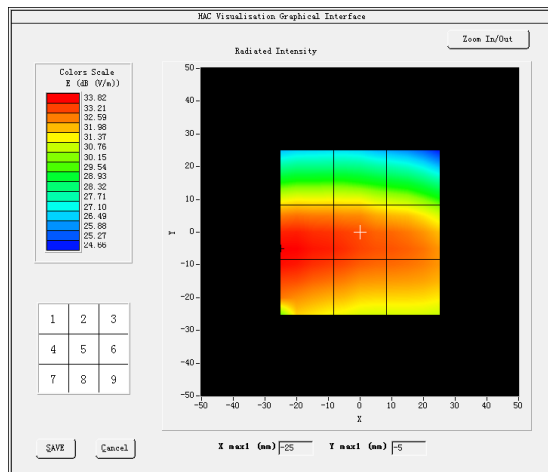
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 33.46 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 31.36	Grid 2: 31.31	Grid 3: 30.74
Grid 4: 33.85	Grid 5: 33.46	Grid 6: 33.00
Grid 7: 33.81	Grid 8: 33.33	Grid 9: 32.91

MEASUREMENT 22

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 13
Channel	Middle
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Middle Band (Channel 23230):

Frequency (MHz): 782.000000

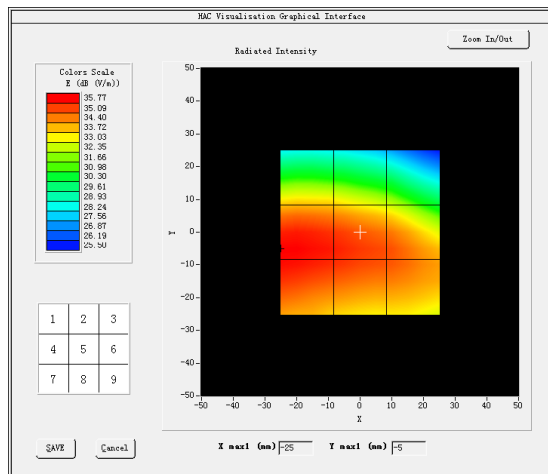
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 35.44 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 33.25	Grid 2: 33.00	Grid 3: 31.83
Grid 4: 35.80	Grid 5: 35.44	Grid 6: 34.92
Grid 7: 35.75	Grid 8: 35.36	Grid 9: 34.90

MEASUREMENT 23

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 25
Channel	Low
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Lower Band (Channel 26140):

Frequency (MHz): 1860.000000

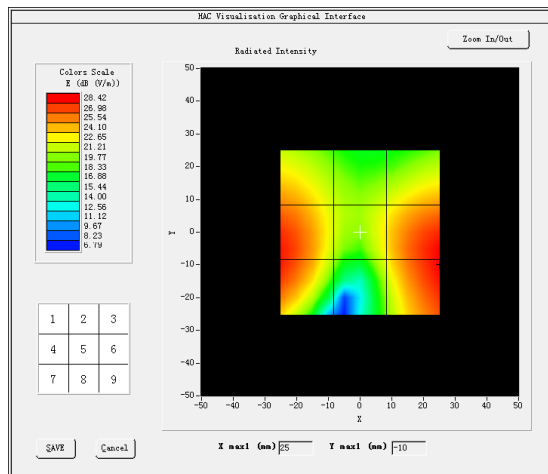
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 27.96 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 25.00	Grid 2: 21.71	Grid 3: 24.35
Grid 4: 27.96	Grid 5: 23.48	Grid 6: 28.46
Grid 7: 27.94	Grid 8: 23.00	Grid 9: 28.47

MEASUREMENT 24

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 25
Channel	Middle
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Middle Band (Channel 26365):

Frequency (MHz): 1882.500000

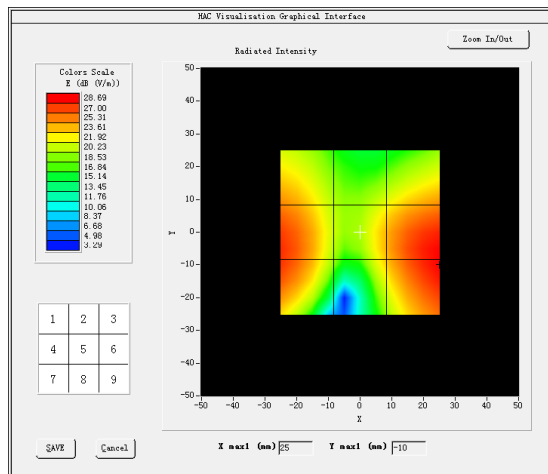
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 27.54 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 24.69	Grid 2: 21.15	Grid 3: 24.29
Grid 4: 27.54	Grid 5: 24.25	Grid 6: 28.73
Grid 7: 27.47	Grid 8: 23.79	Grid 9: 28.75

MEASUREMENT 25

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 25
Channel	High
Signal	LTE
Date of measurement	20/8/2017

HAC Measurement Results

Higher Band (Channel 26590):

Frequency (MHz): 1905.000000

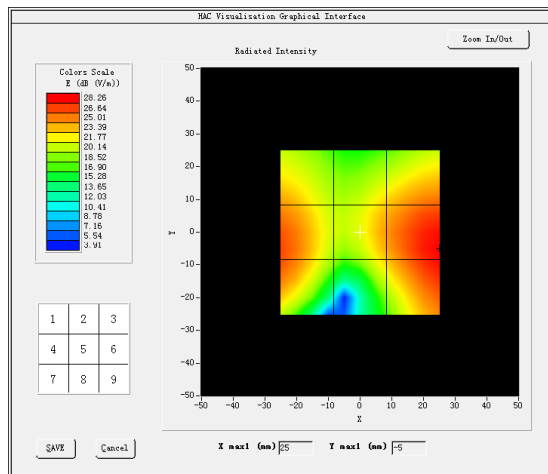
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 26.51 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 23.99	Grid 2: 22.69	Grid 3: 25.27
Grid 4: 26.51	Grid 5: 24.52	Grid 6: 28.26
Grid 7: 26.35	Grid 8: 23.41	Grid 9: 28.10

MEASUREMENT 26

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 26
Channel	Low
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Lower Band (Channel 26775):

Frequency (MHz): 822.500000

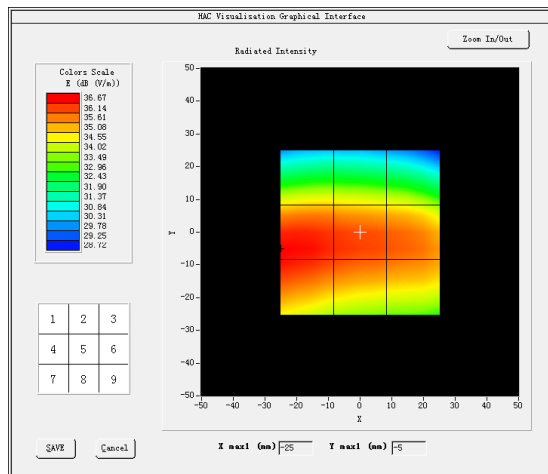
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 36.33 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 34.54	Grid 2: 34.47	Grid 3: 34.19
Grid 4: 36.71	Grid 5: 36.33	Grid 6: 36.00
Grid 7: 36.65	Grid 8: 36.17	Grid 9: 35.83

MEASUREMENT 27

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 26
Channel	Middle
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Middle Band (Channel 26865):

Frequency (MHz): 831.500000

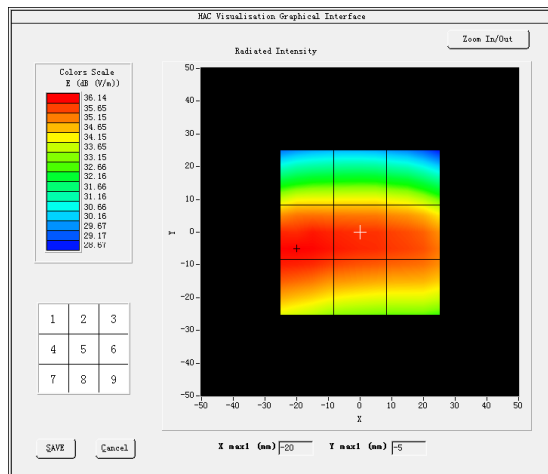
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 36.02 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 34.19	Grid 2: 34.23	Grid 3: 34.07
Grid 4: 36.21	Grid 5: 36.02	Grid 6: 35.80
Grid 7: 36.12	Grid 8: 35.84	Grid 9: 35.59

MEASUREMENT 28

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 26
Channel	High
Signal	LTE
Date of measurement	17/8/2017

HAC Measurement Results

Higher Band (Channel 26965):

Frequency (MHz): 841.500000

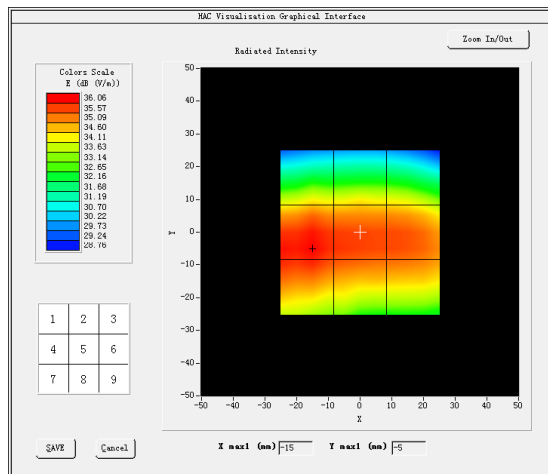
Modulation Interference Factor(MIF)= -15.600000

Maximum value of total field = 35.57 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 33.97	Grid 2: 34.04	Grid 3: 33.87
Grid 4: 35.95	Grid 5: 35.57	Grid 6: 35.46
Grid 7: 35.80	Grid 8: 35.37	Grid 9: 35.20

MEASUREMENT 29

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 41
Channel	Low
Signal	LTE
Date of measurement	21/8/2017

HAC Measurement Results

Lower Band (Channel 39750):

Frequency (MHz): 2505.000000

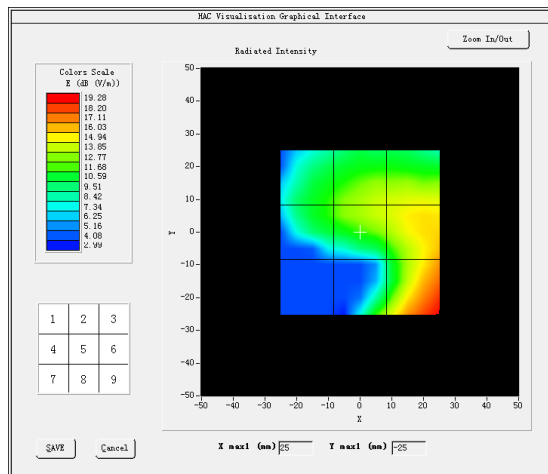
Modulation Interference Factor(MIF)= -1.600000

Maximum value of total field = 14.28 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 12.23	Grid 2: 14.11	Grid 3: 14.47
Grid 4: 12.40	Grid 5: 14.28	Grid 6: 16.14
Grid 7: 4.97	Grid 8: 13.88	Grid 9: 19.28

MEASUREMENT 30

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 41
Channel	Middle
Signal	LTE
Date of measurement	21/8/2017

HAC Measurement Results

Middle Band (Channel 40620):

Frequency (MHz): 2593.000000

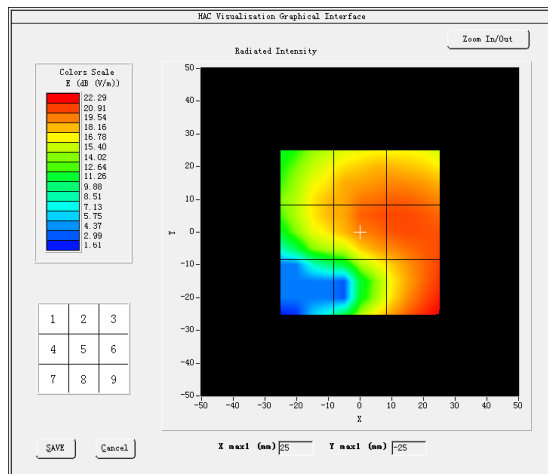
Modulation Interference Factor(MIF)= -1.600000

Maximum value of total field = 20.72 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 18.24	Grid 2: 20.16	Grid 3: 20.27
Grid 4: 18.30	Grid 5: 20.72	Grid 6: 20.83
Grid 7: 12.49	Grid 8: 18.31	Grid 9: 22.29

Experimental conditions.

Grid size (mm x mm)	50.0, 50.0
Step (mm)	5
Band	LTE band 41
Channel	High
Signal	LTE
Date of measurement	21/8/2017

HAC Measurement Results

Higher Band (Channel 41490):

Frequency (MHz): 2680.000000

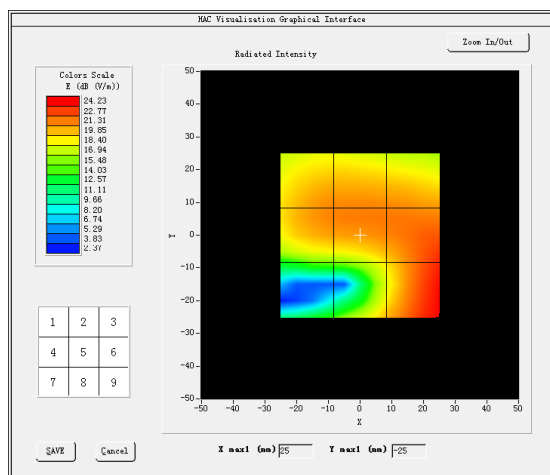
Modulation Interference Factor(MIF)= -1.600000

Maximum value of total field = 21.49 dB (V/m)

Hearing Aid Near-Field Category: M4

SURFACE HAC

E in dB (V/m)



Grid 1: 20.97	Grid 2: 21.03	Grid 3: 20.87
Grid 4: 21.24	Grid 5: 21.49	Grid 6: 23.17
Grid 7: 16.11	Grid 8: 20.12	Grid 9: 24.23

ANNEX C EUT EXTERNAL PHOTO

Please refer the document "BL-EC1780083-AW. PDF".

ANNEX D TEST SETUP PHOTO

Please refer the document "BL-EC1780083-AS-E-Field PDF".

ANNEX E CALIBRATION FOR PROBE AND DIPOLE

Please refer the document "CALIBRATION FOR PROBE AND DIPOLE PDF".

--END OF REPORT--