



ANSI C63.19

TEST REPORT

Product Name	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone
Model Name	Alpha
Marketing Name	6032A
FCC ID	RAD397
Client	TCT Mobile Limited
Manufacturer	TCT Mobile Limited
Date of issue	February 17, 2014

TA Technology (Shanghai) Co., Ltd.

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GENERAL SUMMARY

Reference Standard(s)	ANSI C63.19-2007: American National Standard Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.
Conclusion	This portable wireless equipment has been measured in all cases requested by the relevant standards. General Judgment: M3 (RF Emission)
Comment	The test result only responds to the measured sample.

Approved by 杨伟中
Director

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HAC Manager

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1. General Information

1.1. Notes of the Test Report

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS), and accreditation number: L2264.

TA Technology (Shanghai) Co., Ltd. guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

TA Technology (Shanghai) Co., Ltd. is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

This report alone does not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

If the electronic report is inconsistent with the printed one, it should be subject to the latter.

1.2. Testing Laboratory

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1.3. Applicant Information

Company: TCT Mobile Limited
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Address: Shanghai,
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1.4. Manufacturer Information

Company: TCT Mobile Limited
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1.5. Information of EUT

General Information

Device Type:	Portable Device		
State of Sample:	Prototype Unit		
Product IMEI:	013780000050627		
Hardware Version:	PIO		
Software Version:	vA2A		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	GSM 850/GSM 1900; (tested) UMTS Band II/ UMTS Band V; (tested) Bluetooth; (untested) WiFi (802.11b/g/n HT20/ n HT40); (untested) GSM 900/GSM 1800; (untested) UMTS Band I; (untested)		
Test Modulation:	(GSM)GMSK; (UMTS)QPSK		
Operating Frequency Range(s):	Mode	Tx (MHz)	Rx (MHz)
	GSM 850	824.2 ~ 848.8	869.2 ~ 893.8
	GSM 1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8
	UMTS Band II	1852.4 ~ 1907.6	1932.4 ~ 1987.6
	UMTS Band V	826.4 ~ 846.6	871.4 ~ 891.6
Power Class:	GSM 850: 4		
	GSM 1900: 1		
	UMTS Band II: 3		
	UMTS Band V: 3		
Power Level	GSM 850: tested with power level 5		
	GSM 1900: tested with power level 0		
	UMTS Band II: tested with power control all up bits		
	UMTS Band V: tested with power control all up bits		
Test Channel: (Low - Middle - High)	128 - 190 - 251	(GSM 850)	(tested)
	512 - 661 - 810	(GSM 1900)	(tested)
	9262 - 9400 - 9538	(UMTS Band II)	(tested)
	4132 - 4183 - 4233	(UMTS Band V)	(tested)

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Auxiliary Equipment Details

AE1:Battery 1

Model: CAC2000005C2

Manufacturer: SCUD

SN: /

AE1:Battery 2

Model: CAC2000009C1

Manufacturer: BYD

SN: 013780000050601

Equipment under Test (EUT) has two antennas

Antenna 1: GSM 850/GSM 1900/UMTS Band II/ UMTS Band V

Antenna 2: GSM 850/ UMTS Band V/Bluetooth/WiFi (802.11b/g/n HT20/ n HT40);

The detail about EUT and Lithium Battery is in chapter 1.5 in this report. HAC is tested for GSM 850, GSM 1900, UMTS Band II and UMTS Band V.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

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Air-Interface	Band (MHz)	Type	C63.19/ tested	Simultaneous Transmissions Note: Not to be tested	Concurrent single transmission	Reduced power 20.19(c)(1)	Voice Over Digital Transport (Data)
GSM	850	VO	Yes	Yes WIFI or BT	Yes: BT	NA	NA
	1900	VO				NA	NA
	GPRS	DT	NA	Yes WIFI or BT	Yes: * see note	NA	NA
	EGPRS	DT				NA	NA
WCDMA	Band II	VO	Yes	Yes WIFI or BT	Yes: * see note	NA	NA
	Band V	VO	Yes	Yes WIFI or BT	Yes: * see note	NA	NA
	HSDPA	DT	NA	Yes WIFI or BT	Yes: * see note	NA	NA
	HSUPA	DT	NA	Yes WIFI or BT	Yes: * see note	NA	NA
	HSPA+	DT	NA	Yes WIFI or BT	Yes: * see note	NA	NA
	DC-HSDPA	DT	NA	Yes WIFI or BT	Yes: * see note	NA	NA
	RMC	DT	NA	Yes WIFI or BT	Yes: * see note	NA	NA
WIFI	2450	DT	NA	Yes GSM, GPRS, EGPRS, WCDMA	NA	NA	Yes
Bluetooth (BT)	2400	DT	NA	Yes GSM, GPRS, EGPRS, WCDMA	NA	NA	NA

VO Voice CMRS/PSTN Service only
V/D Voice CMRS/PSTN and Data Service
DT Digital Transport

*HAC Rating was based on concurrent voice and data modes, Non current mode was found to represent worst case rating for both M and T rating

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1.6. The Ambient Conditions during Test

Temperature	Min. = 18°C, Max. = 28 °C
Relative humidity	Min. = 0%, Max. = 80%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

1.7. The Total M-rating of each tested band

Mode	Rating
GSM 850	M3
GSM 1900	M3
UMTS Band II	M4
UMTS Band V	M4

1.8. Test Date

The test performed from January 18, 2014 to January 19, 2014.

2. Test Information

2.1. Operational Conditions during Test

2.1.1. General Description of Test Procedures

The phone was tested in all normal configurations for the ear use. The EUT is mounted in the device holder equivalent as for classic dosimeter measurements. The acoustic output of the EUT shall coincide with the center point of the area formed by the dielectric wire and the middle bar of the arch's top frame. The EUT shall be moved vertically upwards until it touches the frame. The fine adjustment is possible by sliding the complete. The EUT holder is on the yellow base plate of the Test Arch phantom. These test configurations are tested at the high, middle and low frequency channels of each applicable operating mode; for example, GSM, WCDMA (UMTS), CDMA and TDMA.

2.1.2. GSM/WCDMA Test Configuration

A communication link is set up with a System Simulator (SS) by air link, and a call is established. The EUT is commanded to operate at maximum transmitting power. Using E5515C the power lever is set to "5" for GSM 850, set to "0" for GSM 1900. Set to all up bits for UMTS. The test in the bands of GSM 850/GSM 1900 and UMTS Band II /UMTS Band V are performed in the mode of speech transfer function.

2.2.2. Probe System

The HAC measurements were conducted with the E-Field Probe ER3DV6 and the H-Field Probe H3DV6 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

E-Field Probe Description

Construction	One dipole parallel, two dipoles normal to probe axis Built-in shielding against static charges PEEK enclosure material
Calibration	In air from 100 MHz to 3.0 GHz (absolute accuracy $\pm 6.0\%$, $k=2$)
Frequency	40 MHz to > 6 GHz (can be extended to < 20 MHz) Linearity: ± 0.2 dB (100 MHz to 3 GHz)
Directivity	± 0.2 dB in air (rotation around probe axis) ± 0.4 dB in air (rotation normal to probe axis)
Dynamic Range	2 V/m to > 1000 V/m; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm (Tip: 16 mm) Tip diameter: 8 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.5 mm
Application	General near-field measurements up to 6 GHz Field component measurements Fast automatic scanning in phantoms



Figure 2 ER3DV6 E-field Probe

H-Field Probe Description

Construction	Three concentric loop sensors with 3.8 mm loop diameters Resistively loaded detector diodes for linear response Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Frequency	200 MHz to 3 GHz (absolute accuracy $\pm 6.0\%$, $k=2$); Output linearized
Directivity	± 0.2 dB (spherical isotropy error)
Dynamic Range	10 mA/m to 2 A/m at 1 GHz
E-Field Interference	< 10% at 3 GHz (for plane wave)
Dimensions	Overall length: 330 mm (Tip: 40 mm) Tip diameter: 6 mm (Body: 12 mm) Distance from probe tip to dipole centers: 3 mm



Figure 3 H3DV6 H-field Probe

Application General magnetic near-field measurements up to 3
 GHz (in air or liquids)
 Field component measurements
 Surface current measurements
 Low interaction with the measured field

2.2.3. Test Arch Phantom & Phone Positioner

The Test Arch phantom should be positioned horizontally on a stable surface. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. It enables easy and well defined positioning of the phone and validation dipoles as well as simple teaching of the robot (Dimensions: 370 x 370 x 370 mm).

The Device reference point is set for the EUT at 6.3 mm, the Grid reference point is on the upper surface at the origin of the coordinates, and the “user point \Height Check 0.5 mm” is 0.5mm above the center, allowing verification of the gap of 0.5mm while the probe is positioned there.

The Phone Positioner supports accurate and reliable positioning of any phone with effect on near field $<\pm 0.5$ dB.

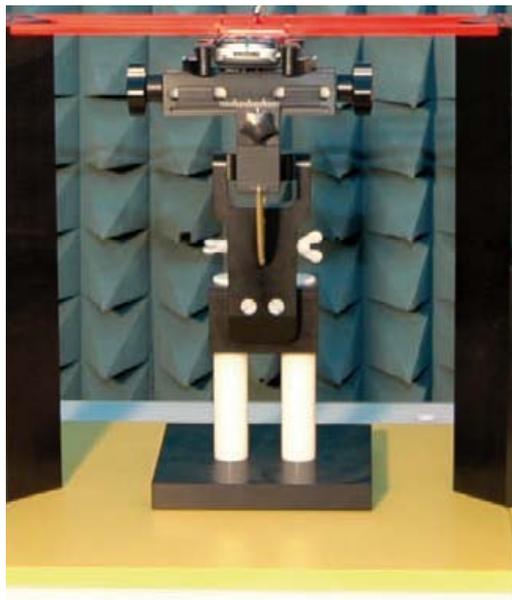


Figure 4 HAC Phantom & Device Holder

2.3. RF Test Procedures

The evaluation was performed with the following procedure:

1. Confirm proper operation of the field probe, probe measurement system and other instrumentation and the positioning system.
2. Position the WD in its intended test position. The gauge block can simplify this positioning. Note that a separate E-field and H-field gauge block will be needed if the center of the probe sensor elements is at different distances from the tip of the probe.
3. Configure the WD normal operation for maximum rated RF output power, at the desired channel and other operating parameters (e.g., test mode), as intended for the test.
4. The center sub-grid shall center on the center of the axial measurement point or the acoustic output, as appropriate. Locate the field probe at the initial test position in the 50 mm by 50 mm grid, which is contained in the measurement plane. If the field alignment method is used, align the probe for maximum field reception.
5. Record the reading.
6. Scan the entire 50 mm by 50 mm region in equally spaced increments and record the reading at each measurement point. The grid is 5 cm by 5 cm area that is divided into 9 evenly sized blocks or sub-grids. The distance between measurement points shall be sufficient to assure the identification of the maximum reading.
7. Identify the five contiguous sub-grids around the center sub-grid with the lowest maximum field strength readings. Thus the six areas to be used to determine the WD's highest emissions are identified and outlined for the final manual scan. Please note that a maximum of five blocks can be excluded for both E-field and H-field measurements for the WD output being measured. Stated another way, the center sub-grid and three others must be common to both the E-field and H-field measurements.
8. Identify the maximum field reading within the non-excluded sub-grids identified in Step 7.
9. Convert the maximum field strength reading identified in Step 8 to V/m or A/m, as appropriate. For probes which require a probe modulation factor, this conversion shall be done using the appropriate probe modulation factor and the calibration.
10. Repeat Step 1 through Step 10 for both the E-field and H-field measurements.
11. Compare this reading to the categories in ANSI C63.19 Clause 7 and record the resulting category. The lowest category number listed in 7.2, Table 7.4, or Table 7.5 obtained in Step 10 for either E- or H-field determines the M category for the audio coupling mode assessment. Record the WD category rating.



Figure 5 WD reference and plane for RF emission measurements

2.4. System Check

Validation Procedure

Place a dipole antenna meeting the requirements given in ANSI C63.19 D.5 in the position normally occupied by the WD. The dipole antenna serves as a known source for an electrical and magnetic output. Position the E-field and H-field probes so that:

The probes and their cables are parallel to the coaxial feed of the dipole antenna.

The probe cables and the coaxial feed of the dipole antenna approach the measurement area from opposite directions.

The center point of the probe element(s) are 10 mm from the closest surface of the dipole elements. Validation was performed to verify that measured E-field and H-field values are within +/-25% from the target reference values provided by the manufacturer. "Values within +/-25% are acceptable. Of which 12% is deviation and 13% is measurement uncertainty."

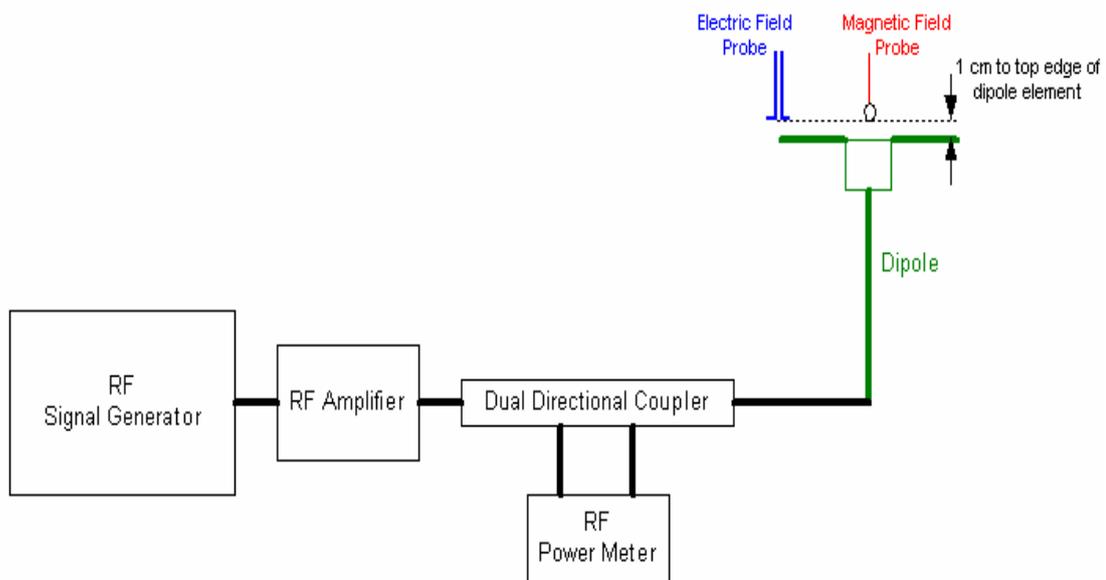


Figure 6 Dipole Validation Setup

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Dipole Measurement Summary

E-Field Scan					
Mode	Frequency (MHz)	Input Power (mW)	Value		Test Date
CW	835	100	Target ¹ Value(V/m)	161.8	August 30,2012
			Measured ² Value(V/m)	170.3	January 18, 2014
			Deviation ³ (%)	5.25	/
CW	1880	100	Target ¹ Value(V/m)	139.0	August 30,2012
			Measured ² Value(V/m)	148.1	January 18, 2014
			Deviation ³ (%)	6.55	/
H-Field Scan					
Mode	Frequency (MHz)	Input Power (mW)	Value		Test Date
CW	835	100	Target ¹ Value(A/m)	0.460	August 30,2012
			Measured ² Value(A/m)	0.471	January 18, 2014
			Deviation ³ (%)	2.39	/
CW	1880	100	Target ¹ Value(A/m)	0.460	August 30,2012
			Measured ² Value(A/m)	0.457	January 18, 2014
			Deviation ³ (%)	-0.65	/
<p>Notes: 1. Target value is provided by SPEAD in the calibration certificate of specific dipoles. 2. Please refer to the attachment for detailed measurement data and plot. 3. Deviation (%) = 100 * (Measured value minus Target value) divided by Target value.</p>					

2.5. Probe Modulation Factor

The Probe Modulation Factor (PMF) is defined as the ratio of the field readings for a CW and a modulated signal with the equivalent Field Envelope Peak as defined in ANSI C63.19 (Chapter C.3.1). Calibration shall be made of the modulation response of the probe and its instrumentation chain. This Calibration shall be performed with the field probe, attached to the instrumentation that is to be used with it during the measurement. The response of the probe system to a CW field at the frequency(s) of interest is compared to its response to a modulated signal with equal peak amplitude. The field level of the test signals shall be more than 10dB above the ambient level and the noise floor of the instrumentation being used. The ratio of the CW reading to that taken with a modulated field shall be applied to the readings taken of modulated fields of the specified type.

Modulation Factor Test Procedure

This may be done using the following procedure:

1. Fix the field probe in a set location relative to a field generating device, such as the reference dipole antenna.
2. Illuminate the probe using the wireless device connected to the reference dipole with a test signal at the intended measurement frequency, Ensure there is sufficient field coupling between the probe and the antenna so the resulting reading is greater than 10 dB above the probe system noise floor but within the systems operating range.
3. Record the amplitude applied to the antenna during transmission and the field strength measured by the E-field probe located near the tip of the dipole antenna
4. Replace the wireless device with an RF signal generator producing an unmodulated CW signal and set to the wireless device operating frequency.
5. Set the amplitude of the unmodulated signal to equal that recorded from the wireless device.
6. Record the reading of the probe measurement system of the unmodulated signal.
7. The ratio, in linear units, of the probe reading in Step 6 to the reading in Step 3 is the E-field modulation factor. $PMF_E = E_{CW} / E_{mod}$ ($PMF_H = H_{CW} / H_{mod}$)
8. Repeat the previous steps using the H-field probe, except locate the probe at the center of the dipole.

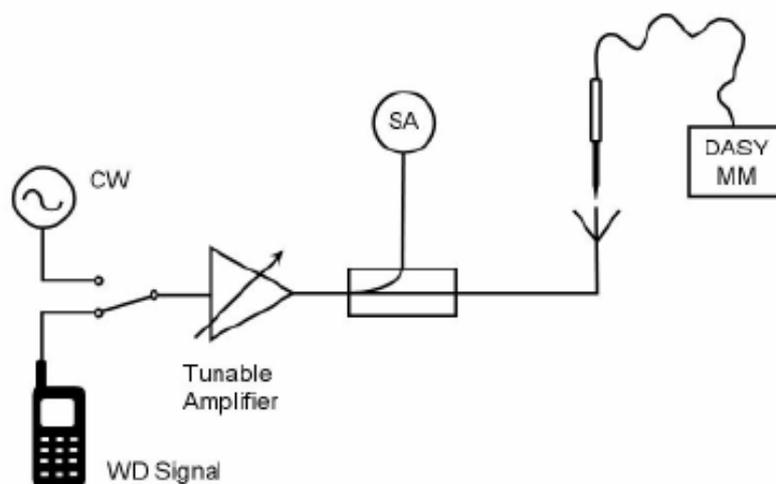


Figure 7 Probe Modulation Factor Test Setup

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PMF

Band	E-Field Probe Modulation Factor	H-Field Probe Modulation Factor
GSM 850	2.81	2.75
GSM 1900	2.84	2.84
UMTS Band II	1.03	1.01
UMTS Band V	1.03	1.01

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2.6. Conducted Output Power Measurement

Summary

The EUT is tested using an E5515C communications tester as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted power. Conducted output power was measured using an integrated RF connector and attached RF cable. This result contains conducted output power for the EUT.

Conducted Power Results

GSM 850	Conducted Power(dBm)		
	Channel 128	Channel 190	Channel 251
Test Results	33.01	33.05	33.08
GSM 1900	Conducted Power(dBm)		
	Channel 512	Channel 661	Channel 810
Test Results	29.83	29.91	30.05
UMTS Band II	Conducted Power(dBm)		
	Channel 9262	Channel 9400	Channel 9538
12.2kbps RMC	24.14	23.78	23.65
UMTS Band V	Conducted Power(dBm)		
	Channel 4132	Channel 4183	Channel 4233
12.2kbps RMC	23.55	23.48	23.44

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3. Test Results

3.1. ANSI C63.19-2007 Limits

Category		Telephone RF parameters < 960 MHz			
Near field	AWF	E-field emissions		H-field emissions	
Category M1	0	631.0 to 1122.0	V/m	1.91 to 3.39	A/m
	-5	473.2 to 841.4	V/m	1.43 to 2.54	A/m
Category M2	0	354.8 to 631.0	V/m	1.07 to 1.91	A/m
	-5	266.1 to 473.2	V/m	0.80 to 1.43	A/m
Category M3	0	199.5 to 354.8	V/m	0.60 to 1.07	A/m
	-5	149.6 to 266.1	V/m	0.45 to 0.80	A/m
Category M4	0	< 199.5	V/m	< 0.60	A/m
	-5	< 149.6	V/m	< 0.45	A/m
Category		Telephone RF parameters > 960 MHz			
Near field	AWF	E-field emissions		H-field emissions	
Category M1	0	199.5 to 354.8	V/m	0.60 to 1.07	A/m
	-5	149.6 to 266.1	V/m	0.45 to 0.80	A/m
Category M2	0	112.2 to 199.5	V/m	0.34 to 0.60	A/m
	-5	84.1 to 149.6	V/m	0.25 to 0.45	A/m
Category M3	0	63.1 to 112.2	V/m	0.19 to 0.34	A/m
	-5	47.3 to 84.1	V/m	0.14 to 0.25	A/m
Category M4	0	< 63.1	V/m	< 0.19	A/m
	-5	< 47.3	V/m	< 0.14	A/m

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3.2. Summary Test Results

GSM 850 Results (Antenna 1)

Battery 1

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	154.6	-0.006	M3	Figure 12
Middle/190	836.6	138.5	0.060	M4	Figure 13
Low/128	824.2	130.5	-0.011	M4	Figure 14
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	0.293	0.060	M4	Figure 15
Middle/190	836.6	0.265	-0.018	M4	Figure 16
Low/128	824.2	0.235	-0.030	M4	Figure 17

Battery 2

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	160.8	-0.002	M3	Figure 18
Middle/190	836.6	178.9	0.036	M3	Figure 19
Low/128	824.2	186.4	0.001	M3	Figure 20
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	0.321	-0.006	M4	Figure 21
Middle/190	836.6	0.361	0.012	M4	Figure 22
Low/128	824.2	0.385	0.002	M4	Figure 23

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GSM 850 Results (Antenna 2)

Battery 1

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	181.8	-0.032	M3	Figure 24
Middle/190	836.6	162.5	0.047	M3	Figure 25
Low/128	824.2	159.8	-0.007	M3	Figure 26
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	0.673	0.067	M3	Figure 27
Middle/190	836.6	0.585	0.056	M3	Figure 28
Low/128	824.2	0.567	0.019	M3	Figure 29

Battery 2

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	189.1	-0.012	M3	Figure 30
Middle/190	836.6	171.3	0.007	M3	Figure 31
Low/128	824.2	170.1	0.080	M3	Figure 32
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/251	848.8	0.609	-0.026	M3	Figure 33
Middle/190	836.6	0.556	-0.061	M3	Figure 34
Low/128	824.2	0.564	0.032	M3	Figure 35

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GSM 1900 Results(Antenna 1)

Battery 1

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/810	1909.8	67.5	0.031	M3	Figure 36
Middle/661	1880	72.5	-0.021	M3	Figure 37
Low/512	1850.2	77.3	-0.021	M3	Figure 38
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/810	1909.8	0.181	-0.001	M3	Figure 39
Middle/661	1880	0.194	0.043	M3	Figure 40
Low/512	1850.2	0.205	-0.005	M3	Figure 41

Battery 2

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/810	1909.8	61.4	0.018	M3	Figure 42
Middle/661	1880	65.1	-0.007	M3	Figure 43
Low/512	1850.2	68.1	0.003	M3	Figure 44
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/810	1909.8	0.19	0.057	M3	Figure 45
Middle/661	1880	0.19	-0.008	M3	Figure 46
Low/512	1850.2	0.19	0.050	M3	Figure 47

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UMTS Band II Results(Antenna 1)

Battery 1

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/9538	1907.6	32.90	-0.027	M4	Figure 48
Middle/9400	1880	32.90	-0.040	M4	Figure 49
Low/9262	1852.4	33.70	-0.038	M4	Figure 50
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/9538	1907.6	0.089	-0.024	M4	Figure 51
Middle/9400	1880	0.090	0.018	M4	Figure 52
Low/9262	1852.4	0.090	-0.027	M4	Figure 53

Battery 2

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/9538	1907.6	30.3	-0.015	M4	Figure 54
Middle/9400	1880	31.5	0.125	M4	Figure 55
Low/9262	1852.4	35.5	-0.009	M4	Figure 56
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/9538	1907.6	0.091	0.012	M4	Figure 57
Middle/9400	1880	0.091	0.087	M4	Figure 58
Low/9262	1852.4	0.094	-0.030	M4	Figure 59

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UMTS Band V Results (Antenna 1)

Battery 1

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	52.90	-0.005	M4	Figure 60
Middle/4183	836.6	49.30	0.002	M4	Figure 61
Low/4132	826.4	50.90	-0.028	M4	Figure 62
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	0.099	0.057	M4	Figure 63
Middle/4183	836.6	0.094	0.004	M4	Figure 64
Low/4132	826.4	0.092	-0.005	M4	Figure 65

Battery 2

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	53.3	0.012	M4	Figure 66
Middle/4183	836.6	61.8	0.005	M4	Figure 67
Low/4132	826.4	61.3	-0.022	M4	Figure 68
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	0.110	0.042	M4	Figure 69
Middle/4183	836.6	0.128	0.014	M4	Figure 70
Low/4132	826.4	0.124	0.005	M4	Figure 71

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UMTS Band V Results (Antenna 2)

Battery 1

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	67.30	-0.006	M4	Figure 72
Middle/4183	836.6	62.00	0.005	M4	Figure 73
Low/4132	826.4	57.10	-0.004	M4	Figure 74
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	0.234	0.008	M4	Figure 75
Middle/4183	836.6	0.215	-0.142	M4	Figure 76
Low/4132	826.4	0.194	0.004	M4	Figure 77

Battery 2

E-Field					
Channel	Frequency (MHz)	Peak Field (V/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	67.8	-0.022	M4	Figure 78
Middle/4183	836.6	61.2	-0.057	M4	Figure 79
Low/4132	826.4	59.8	-0.046	M4	Figure 80
H-Field					
Channel	Frequency (MHz)	Peak Field (A/m)	Power Drift (dB)	Rating	Graph Results
High/4233	846.6	0.220	0.018	M4	Figure 81
Middle/4183	836.6	0.205	-0.028	M4	Figure 82
Low/4132	826.4	0.199	0.026	M4	Figure 83

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4. Measurement Uncertainty

No.	Error source	Type	Uncertainty Value (%)	Prob. Dist.	k	c_{iE}	c_{iH}	Standard Uncertainty (%) u_i (%) E	Standard Uncertainty (%) u_i (%) H	Degree of freedom V_{eff} or v_i
Measurement System										
1	Probe Calibration	B	5.1	N	1	1	1	5.1	5.1	∞
2	Axial Isotropy	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
3	Sensor Displacement	B	16.5	R	$\sqrt{3}$	1	0.145	9.5	1.4	∞
4	Boundary Effects	B	2.4	R	$\sqrt{3}$	1	1	1.4	1.4	∞
5	Test Arch	B	7.2	R	$\sqrt{3}$	1	0	4.1	0	∞
6	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
7	Scaling to Peak Envelope Power	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
8	System Detection Limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
9	Readout Electronics	B	0.3	N	1	1	1	0.3	0.3	∞
10	Response Time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
11	Integration Time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
12	RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	RF Reflections	B	12.0	R	$\sqrt{3}$	1	1	6.9	6.9	∞
14	Probe Positioner	B	1.2	R	$\sqrt{3}$	1	0.67	0.7	0.5	∞
15	Probe Positioning	A	4.7	R	$\sqrt{3}$	1	0.67	2.7	1.8	∞
16	Extra. And Interpolation	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test Sample Related										
17	Device Positioning Vertical	B	4.7	R	$\sqrt{3}$	1	0.67	2.7	1.8	∞
18	Device Positioning Lateral	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞

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19	Device Holder and Phantom	B	2.4	R	$\sqrt{3}$	1	1	1.4	1.4	∞
20	Power Drift	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and Setup related										
21	Phantom Thickness	B	2.4	R	$\sqrt{3}$	1	0.67	1.4	0.9	∞
Combined standard uncertainty (%)								15.19	10.82	
Expanded Std. uncertainty on power (K=2)								30.38	21.64	
Expanded Std. uncertainty on field (K=2)								15.19	10.82	

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5. Main Test Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Power meter	Agilent E4417A	GB41291714	March 10, 2013	One year
02	Power sensor	Agilent N8481H	MY50350004	September 25, 2013	One year
03	Signal Generator	HP 8341B	2730A00804	September 10, 2013	One year
04	Amplifier	IXA-020	0401	No Calibration Requested	
05	BTS	E5515C	MY48360988	November 30, 2013	One year
06	E-Field Probe	ER3DV6	2272	January 21, 2013	One year
07	H-Field Probe	H3DV6	6103	January 21, 2013	One year
08	DAE	DAE4	1317	January 25, 2013	One year
09	Validation Kit 835MHz	CD835V3	1023	August 30, 2012	Three years
10	Validation Kit 1880MHz	CD1880V3	1018	August 30, 2012	Three years
11	Hygrothermograph	WS-1	64591	September 26, 2013	One year

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

ANNEX A: System Check Results

HAC_System Performance Check at 835MHz_E

DUT: Dipole 835 MHz; Type: CD835V3; SN:1023

Date/Time: 1/18/2014 9:31:24 AM

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm

/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 170.3 V/m

Probe Modulation Factor = 1.00

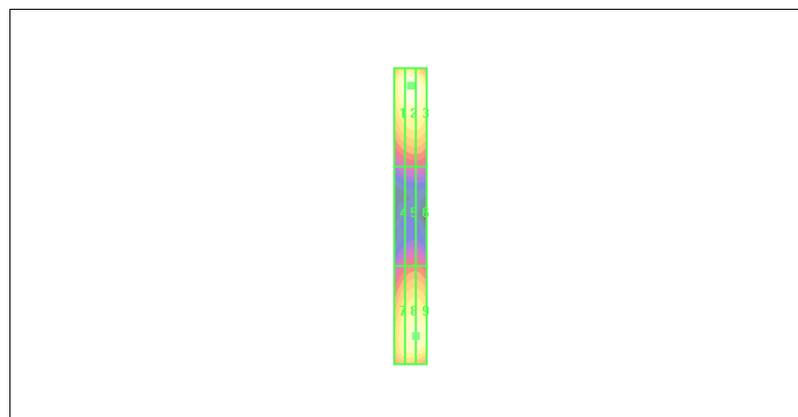
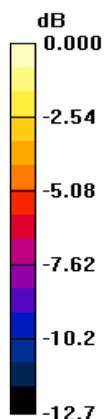
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 118.7 V/m; Power Drift = 0.003 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 161.9 M4	Grid 2 170.3 M4	Grid 3 166.1 M4
Grid 4 81.2 M4	Grid 5 88.2 M4	Grid 6 87.9 M4
Grid 7 144.5 M4	Grid 8 157.6 M4	Grid 9 157.6 M4



0 dB = 170.3V/m

Figure 8 System Performance Check 835MHz_E

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HAC_System Performance Check at 835MHz_H

DUT: Dipole 835 MHz; Type: CD835V3; SN: 1023

Date/Time: 1/18/2014 10:15:25 AM

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x381x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.471 A/m

Probe Modulation Factor = 1.00

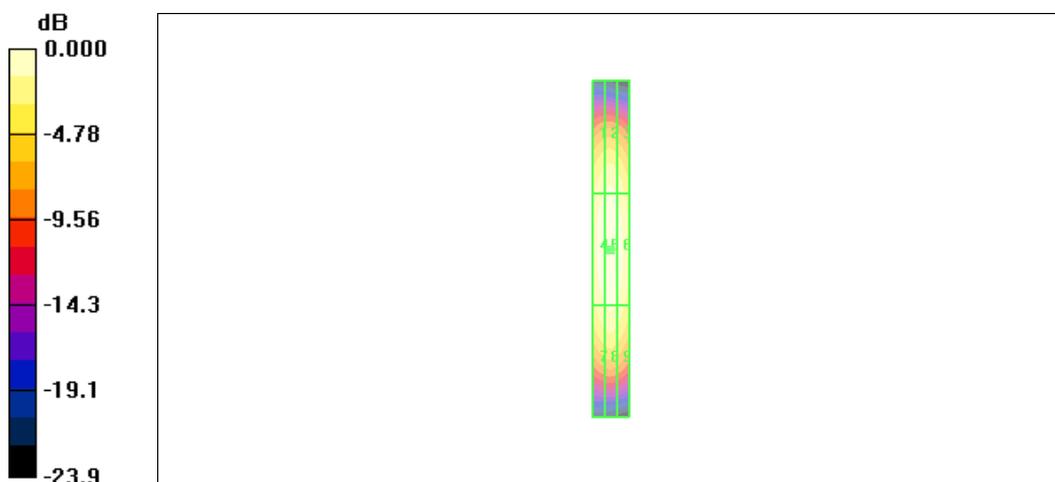
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.503 A/m; Power Drift = -0.012 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.397 M4	0.411 M4	0.382 M4
Grid 4	Grid 5	Grid 6
0.453 M4	0.471 M4	0.440 M4
Grid 7	Grid 8	Grid 9
0.388 M4	0.405 M4	0.380 M4



0 dB = 0.471A/m

Figure 9 System Performance Check 835MHz_H

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HAC_System Performance Check at 1880MHz_E

DUT: Dipole 1880 MHz; Type: CD1880V3; SN: 1018

Date/Time: 1/18/2014 11:24:07 AM

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

E Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 148.1 V/m

Probe Modulation Factor = 1.00

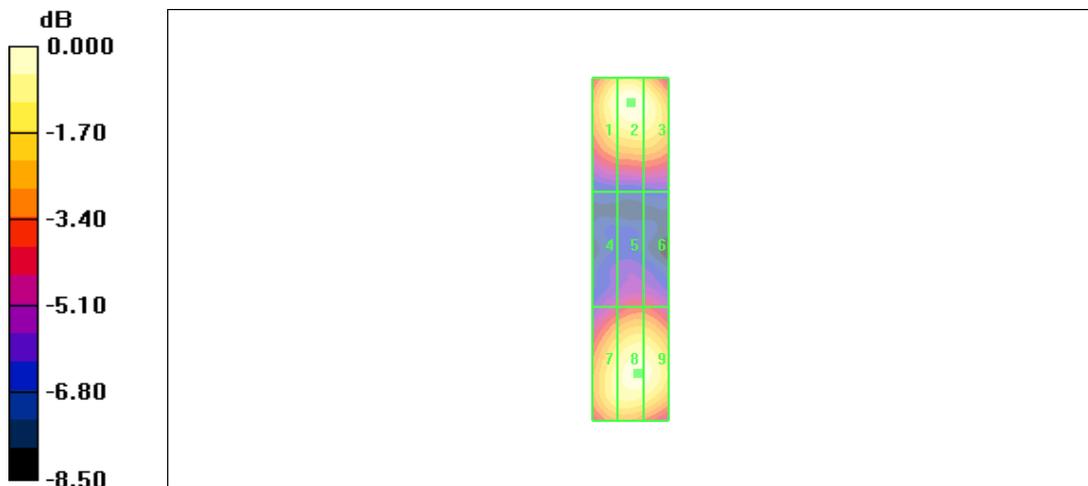
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 146.4 V/m; Power Drift = 0.002 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

Grid 1 140.5 M2	Grid 2 148.1 M2	Grid 3 143.0 M2
Grid 4 86.9 M3	Grid 5 93.9 M3	Grid 6 93.7 M3
Grid 7 136.0 M2	Grid 8 143.9 M2	Grid 9 143.2 M2



0 dB = 148.1V/m

Figure 10 System Performance Check 1880MHz_E

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HAC_System Performance Check at 1880MHz_H

DUT: Dipole 1880 MHz; Type: CD1880V3; SN: 1018

Date/Time: 1/18/2014 12:41:28 PM

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

H Scan - measurement distance from the probe sensor center to Dipole = 10mm/Hearing Aid

Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.457 A/m

Probe Modulation Factor = 1.00

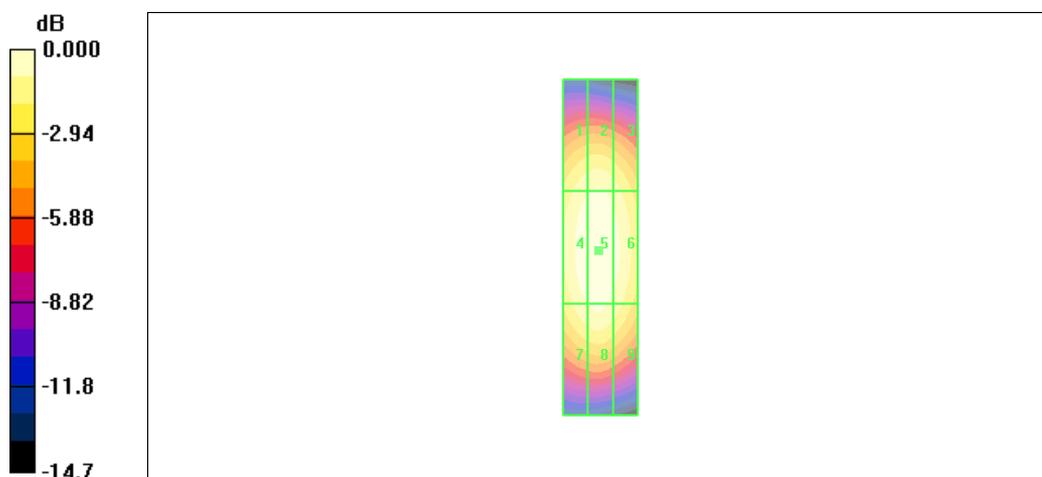
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.483 A/m; Power Drift = 0.003 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.403 M2	Grid 2 0.415 M2	Grid 3 0.387 M2
Grid 4 0.443 M2	Grid 5 0.457 M2	Grid 6 0.428 M2
Grid 7 0.408 M2	Grid 8 0.423 M2	Grid 9 0.393 M2



0 dB = 0.457A/m

Figure 11 System Performance Check 1880MHz_H

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ANNEX B: Graph Results

HAC RF E-Field GSM 850 High (Battery 1, Antenna 1)

Date/Time: 1/19/2014 4:01:45 AM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 154.6 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 60.7 V/m; Power Drift = -0.006 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
112.6 M4	146.6 M4	147.6 M4
Grid 4	Grid 5	Grid 6
120.5 M4	154.6 M3	155.3 M3
Grid 7	Grid 8	Grid 9
130.6 M4	156.3 M3	156.2 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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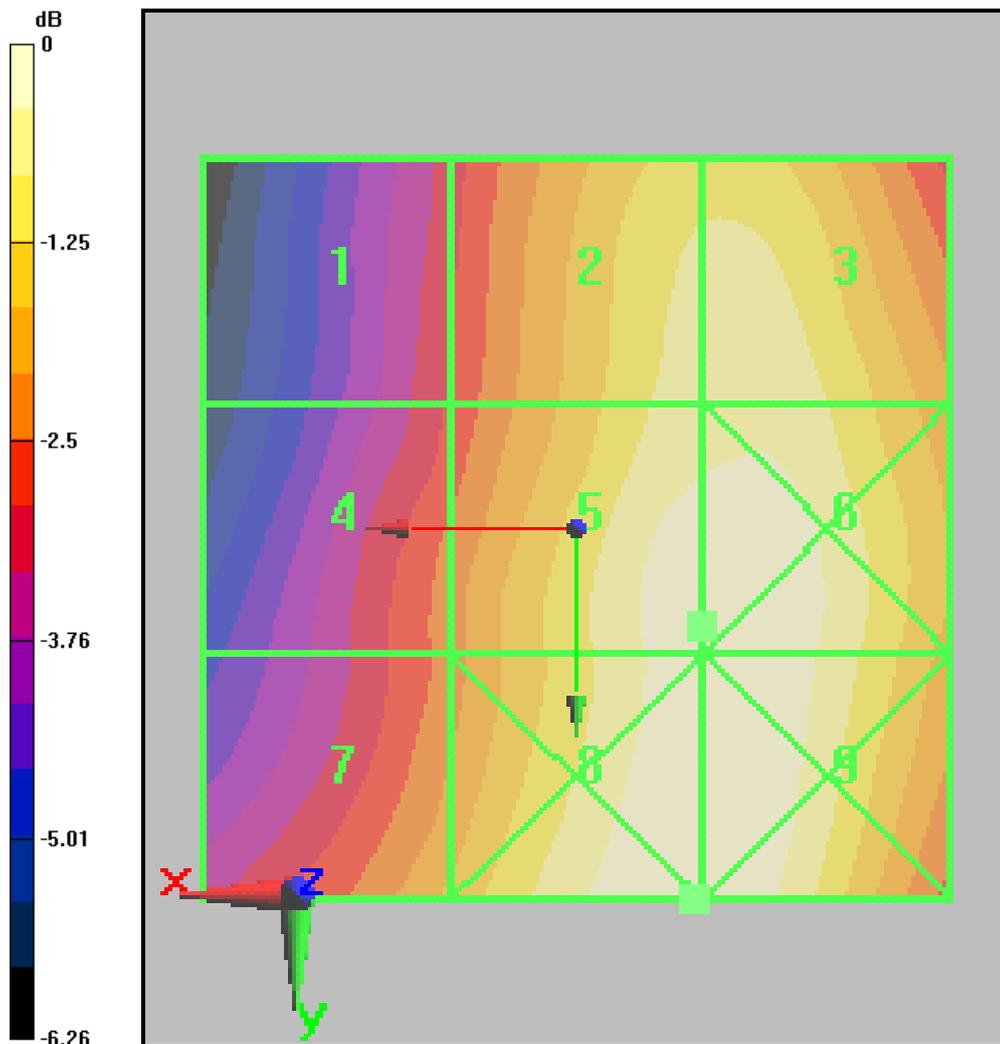
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 156.4 V/m

E Category: M3

Location: -8, 25, 8.7 mm



0 dB = 156.4V/m

Figure 12 HAC RF E-Field GSM 850 Channel 251

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HAC RF E-Field GSM 850 Middle (Battery 1, Antenna 1)

Date/Time: 1/19/2014 3:53:35 AM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 138.5 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 54.9 V/m; Power Drift = 0.060 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
102.2 M4	131.3 M4	131.6 M4
Grid 4	Grid 5	Grid 6
109.5 M4	138.5 M4	138.8 M4
Grid 7	Grid 8	Grid 9
118.6 M4	140.6 M4	140.6 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 140.6 V/m

E Category: M4

Location: -8, 25, 8.7 mm

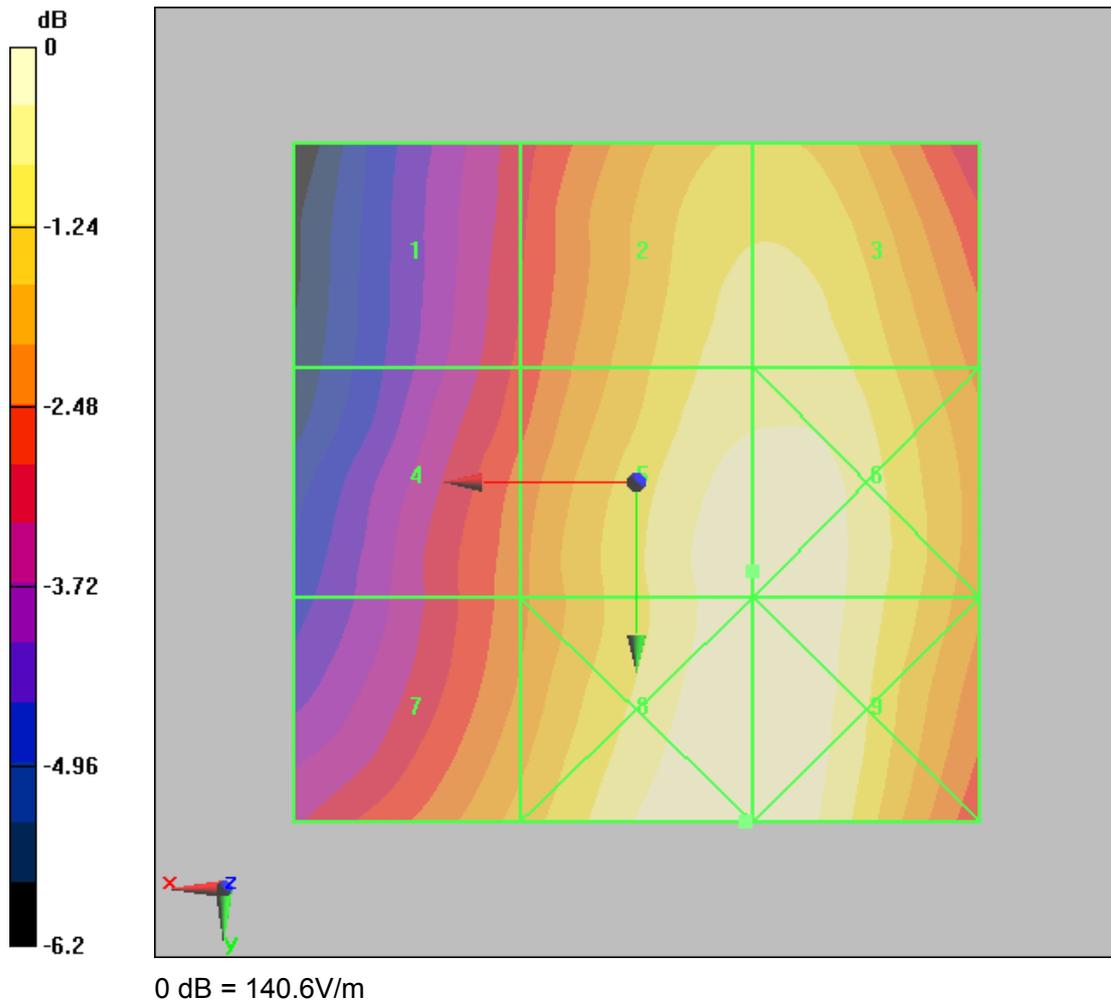


Figure 13 HAC RF E-Field GSM 850 Channel 190

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HAC RF E-Field GSM 850 Low (Battery 1, Antenna 1)

Date/Time: 1/19/2014 4:07:23 AM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 130.5 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 52.4 V/m; Power Drift = -0.011 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
98.9 M4	123.7 M4	123.9 M4
Grid 4	Grid 5	Grid 6
104.8 M4	130.5 M4	130.7 M4
Grid 7	Grid 8	Grid 9
112.7 M4	131.9 M4	131.7 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

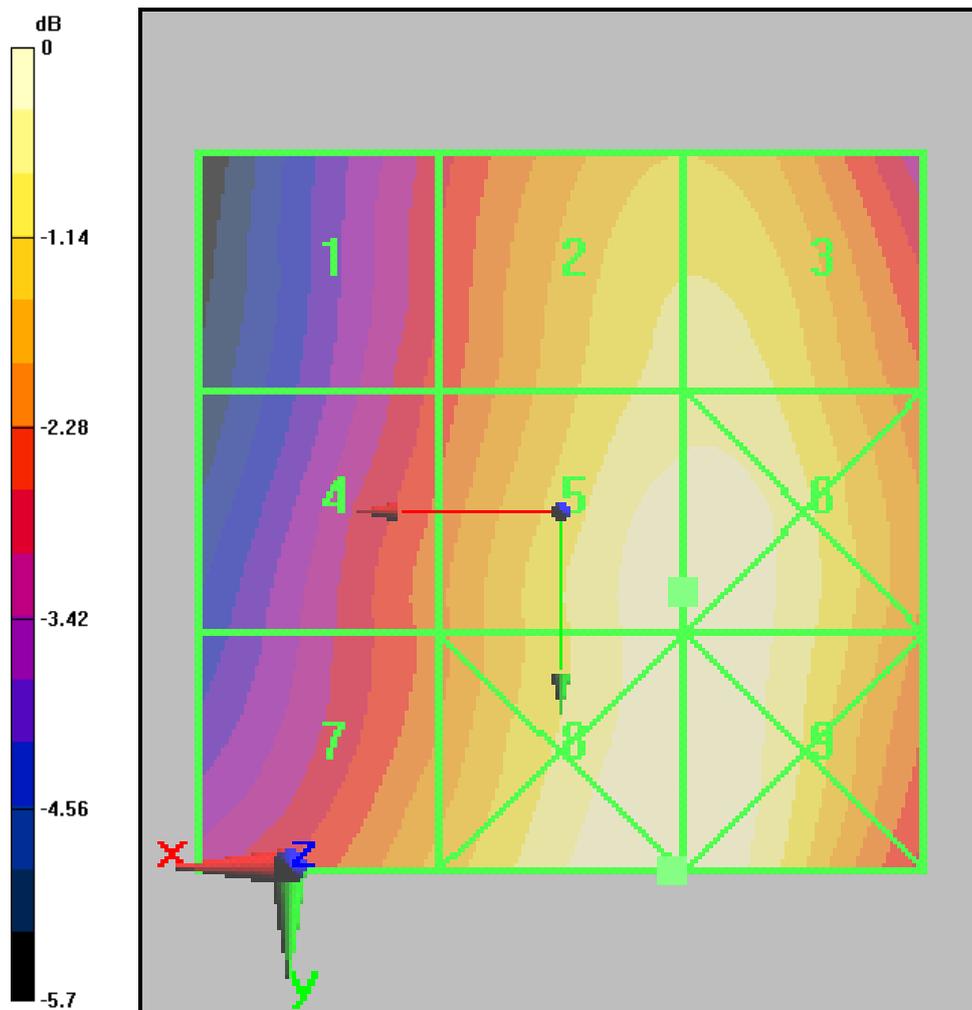
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 131.9 V/m

E Category: M4

Location: -7.5, 25, 8.7 mm



0 dB = 131.9V/m

Figure 14 HAC RF E-Field GSM 850 Channel 128

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field GSM 850 High (Battery 1, Antenna 1)

Date/Time: 1/19/2014 6:21:35 AM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.293 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.076 A/m; Power Drift = 0.060 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.339 M4	0.268 M4	0.183 M4
Grid 4	Grid 5	Grid 6
0.335 M4	0.263 M4	0.183 M4
Grid 7	Grid 8	Grid 9
0.378 M4	0.293 M4	0.208 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

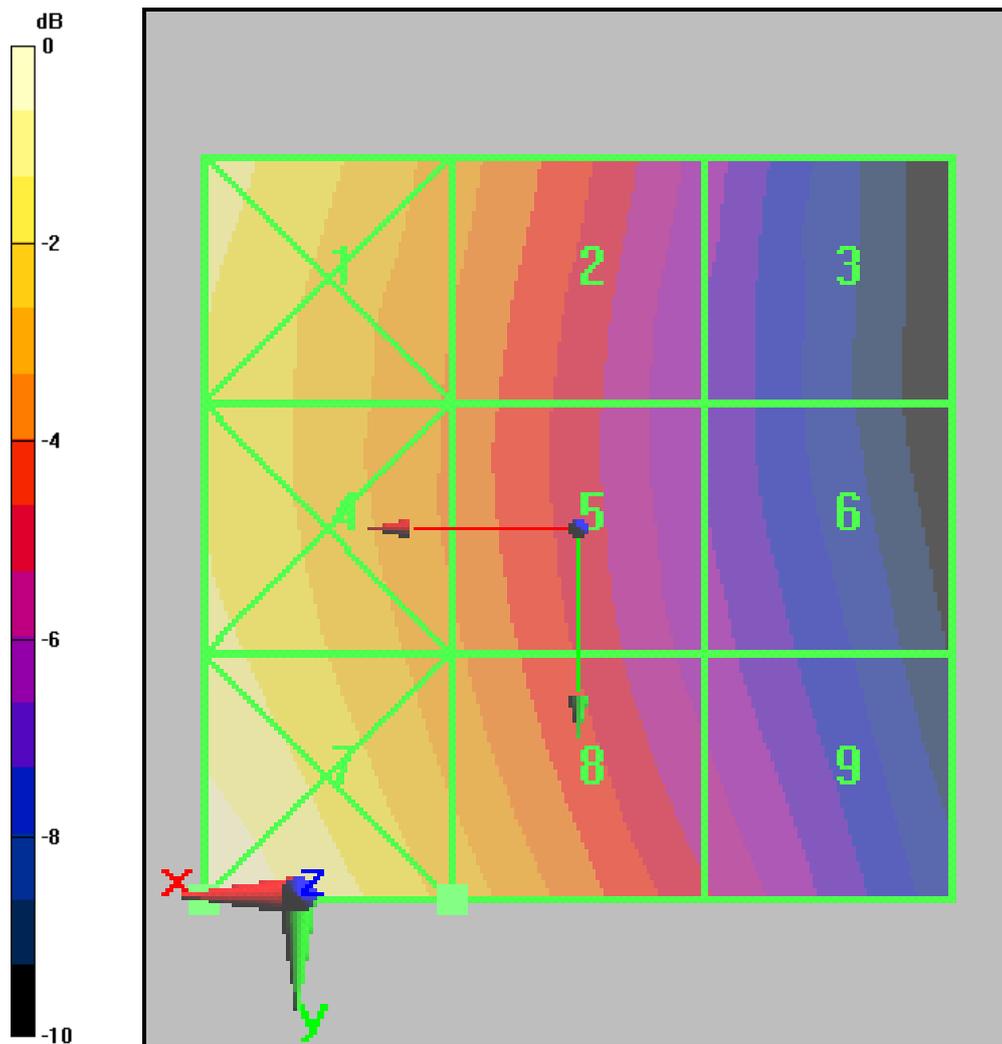
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.378 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.378A/m

Figure 15 HAC RF H-Field GSM 850Channel 251

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field GSM 850 Middle (Battery 1, Antenna 1)

Date/Time: 1/19/2014 6:15:55 AM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.265 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.069 A/m; Power Drift = -0.018 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.310 M4	0.245 M4	0.166 M4
Grid 4	Grid 5	Grid 6
0.305 M4	0.238 M4	0.163 M4
Grid 7	Grid 8	Grid 9
0.343 M4	0.265 M4	0.183 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

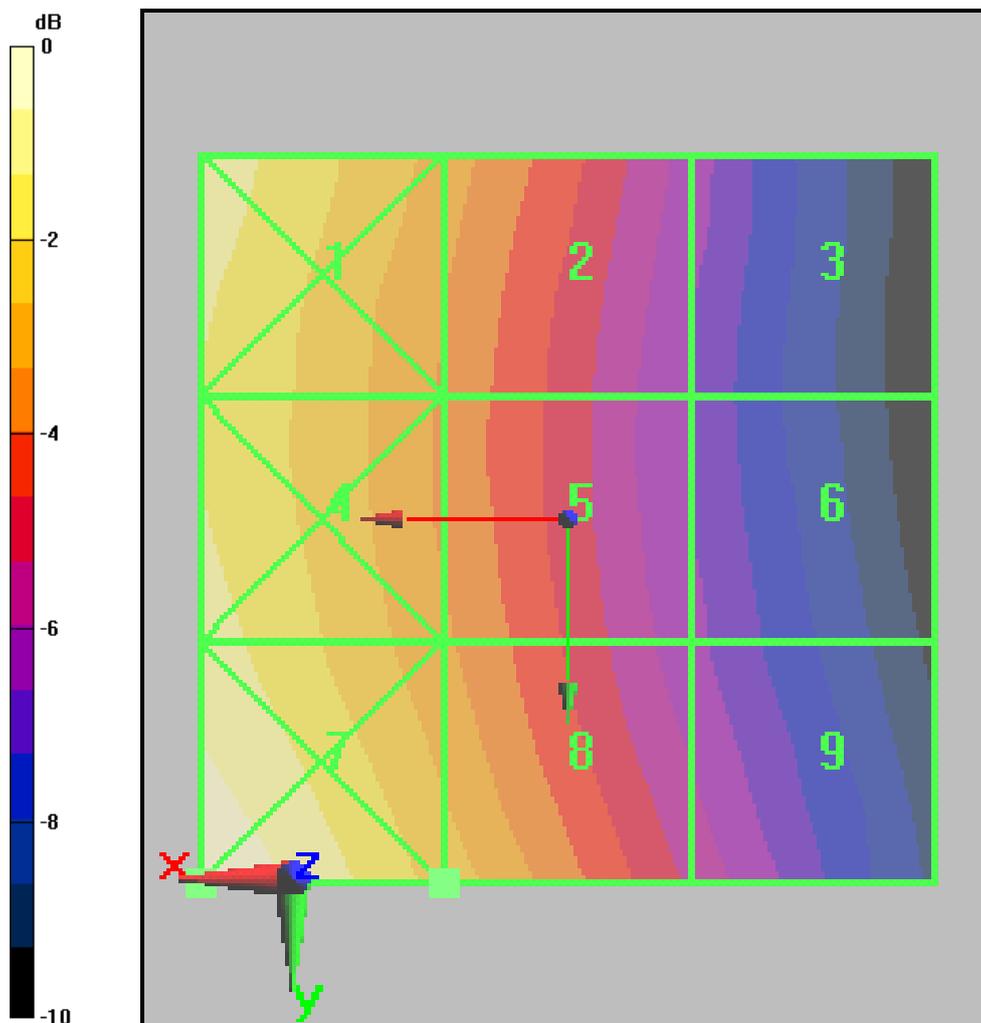
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.343 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.343A/m

Figure 16 HAC RF H-Field GSM 850 Channel 190

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field GSM 850 Low (Battery 1, Antenna 1)

Date/Time: 1/19/2014 6:27:07 AM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.235 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.061 A/m; Power Drift = -0.030 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.281 M4	0.216 M4	0.144 M4
Grid 4	Grid 5	Grid 6
0.274 M4	0.211 M4	0.141 M4
Grid 7	Grid 8	Grid 9
0.308 M4	0.235 M4	0.159 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

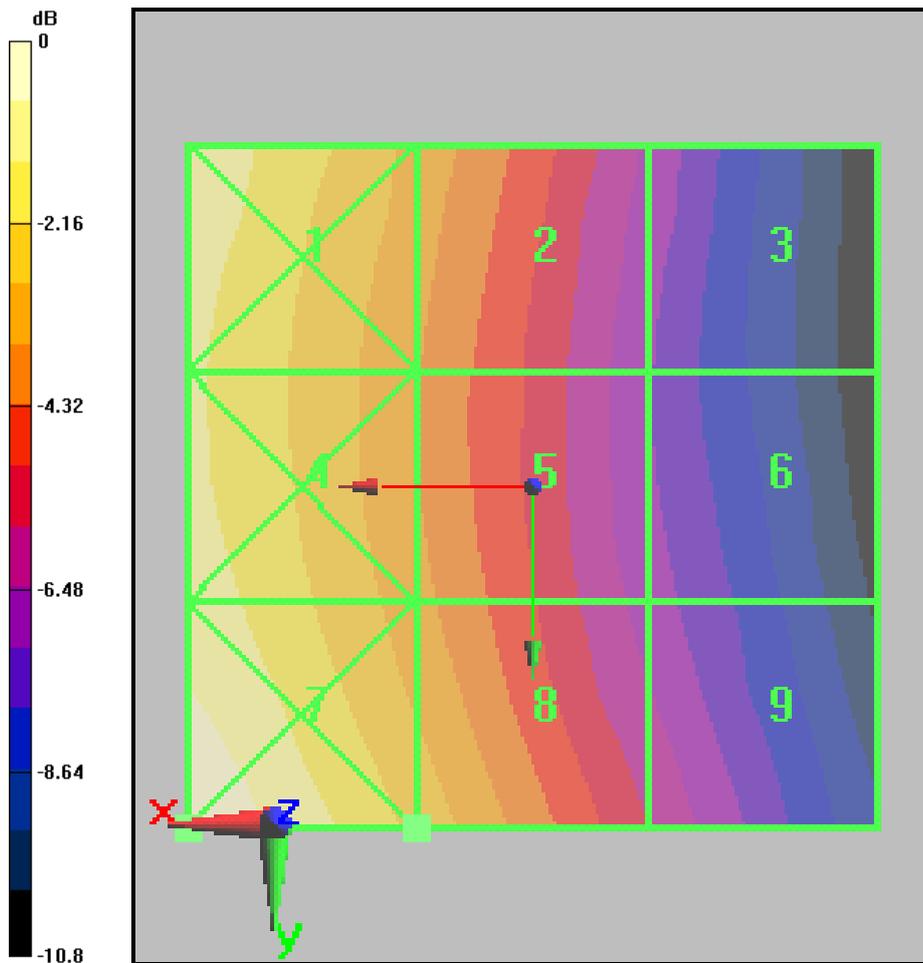
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.308 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.308A/m

Figure 17 HAC RF H-Field GSM 850 Channel 128

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF E-Field GSM 850 High (Battery 2, Antenna 1)

Date/Time: 1/18/2014 3:15:58 PM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 160.8 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 61 V/m; Power Drift = -0.002 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
114.8 M4	155.8 M3	159.5 M3
Grid 4	Grid 5	Grid 6
123.1 M4	160.8 M3	163.3 M3
Grid 7	Grid 8	Grid 9
136.9 M4	163.3 M3	163.7 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

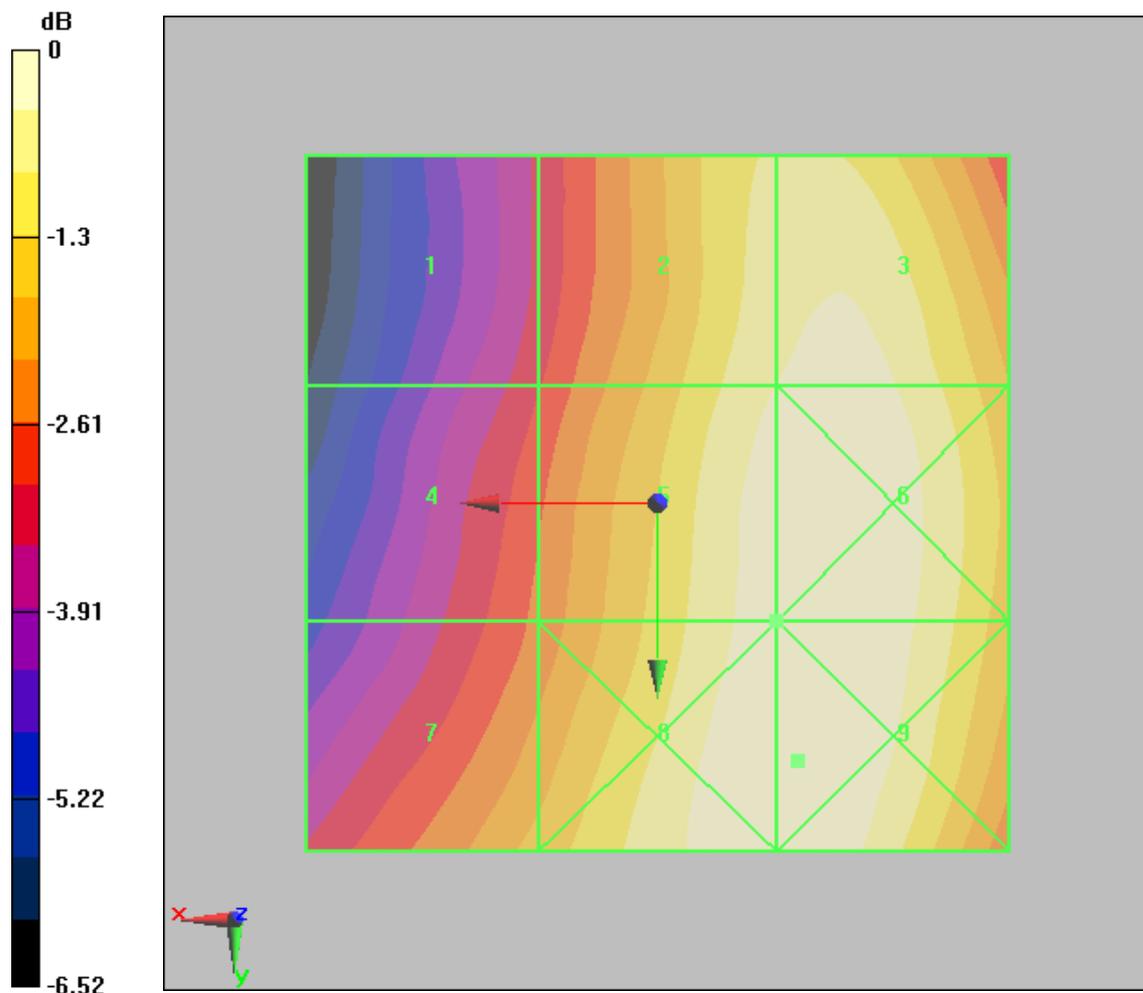
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 163.7 V/m

E Category: M3

Location: -10, 18.5, 8.7 mm



0 dB = 163.7V/m

Figure 18 HAC RF E-Field GSM 850 Channel 251

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF E-Field GSM 850 Middle (Battery 2, Antenna 1)

Date/Time: 1/18/2014 3:09:53 PM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 178.9 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 68.7 V/m; Power Drift = 0.036 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
129.8 M4	172.6 M3	175.6 M3
Grid 4	Grid 5	Grid 6
138.9 M4	178.9 M3	180.6 M3
Grid 7	Grid 8	Grid 9
153.5 M3	181.3 M3	181.6 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

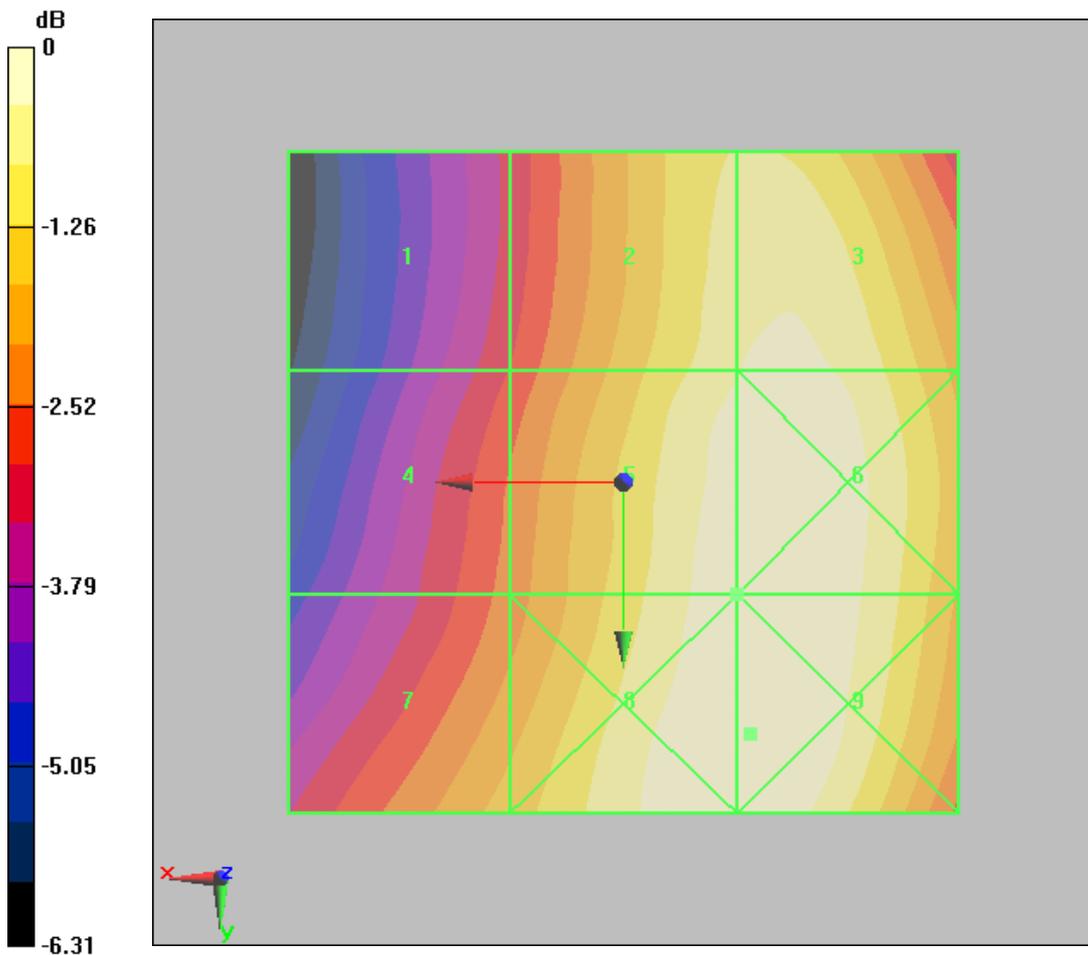
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 181.6 V/m

E Category: M3

Location: -9.5, 19, 8.7 mm



0 dB = 181.6V/m

Figure 19 HAC RF E-Field GSM 850 Channel 190

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF E-Field GSM 850 Low (Battery 2, Antenna 1)

Date/Time: 1/18/2014 3:21:32 PM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 186.4 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 72.6 V/m; Power Drift = 0.001 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
139.0 M4	180.9 M3	183.2 M3
Grid 4	Grid 5	Grid 6
146.5 M4	186.4 M3	188.3 M3
Grid 7	Grid 8	Grid 9
159.7 M3	188.4 M3	188.9 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

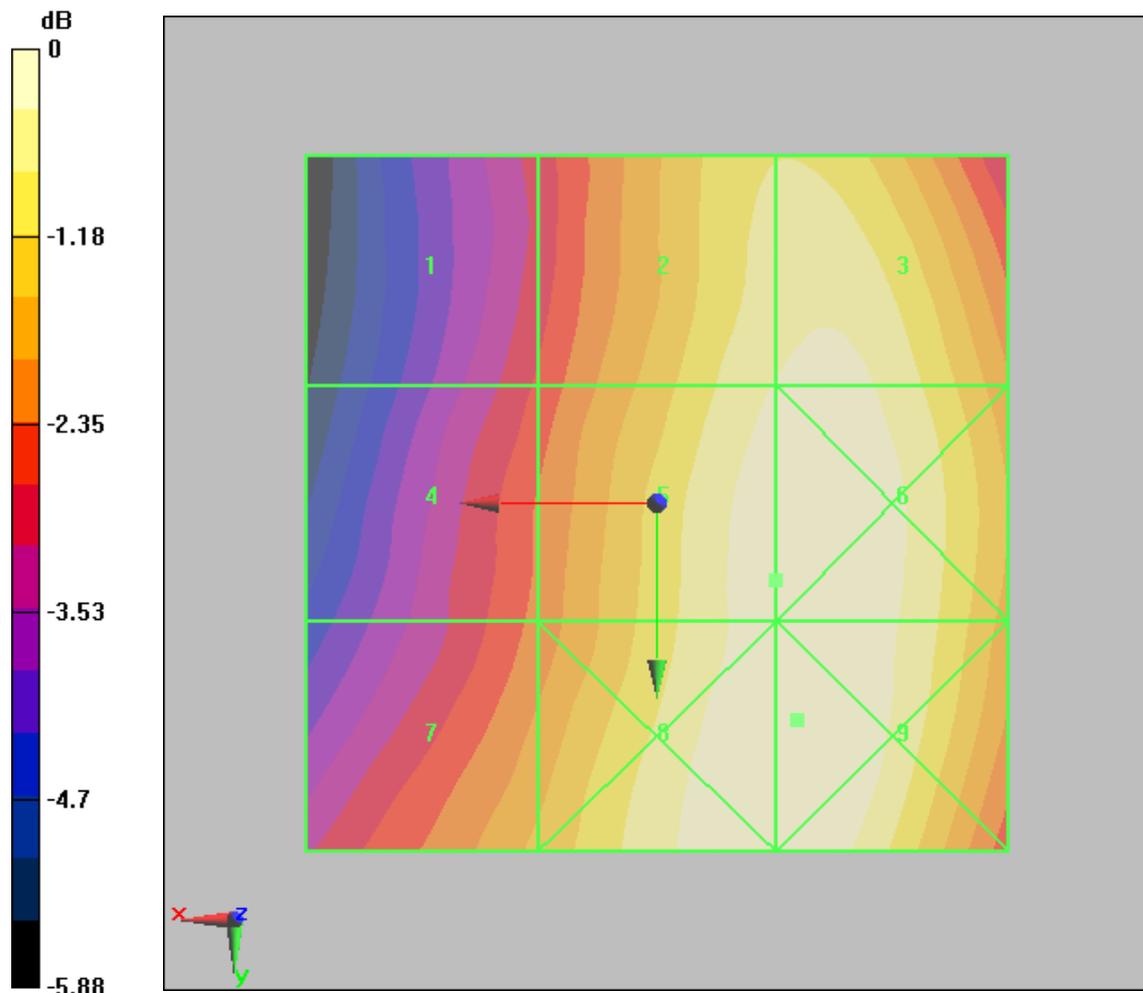
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 188.9 V/m

E Category: M3

Location: -10, 15.5, 8.7 mm



0 dB = 188.9V/m

Figure 20 HAC RF E-Field GSM 850 Channel 128

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field GSM 850 High (Battery 2, Antenna 1)

Date/Time: 1/18/2014 6:13:20 PM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.321 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.079 A/m; Power Drift = -0.006 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.349 M4	0.271 M4	0.182 M4
Grid 4	Grid 5	Grid 6
0.359 M4	0.277 M4	0.196 M4
Grid 7	Grid 8	Grid 9
0.412 M4	0.321 M4	0.231 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

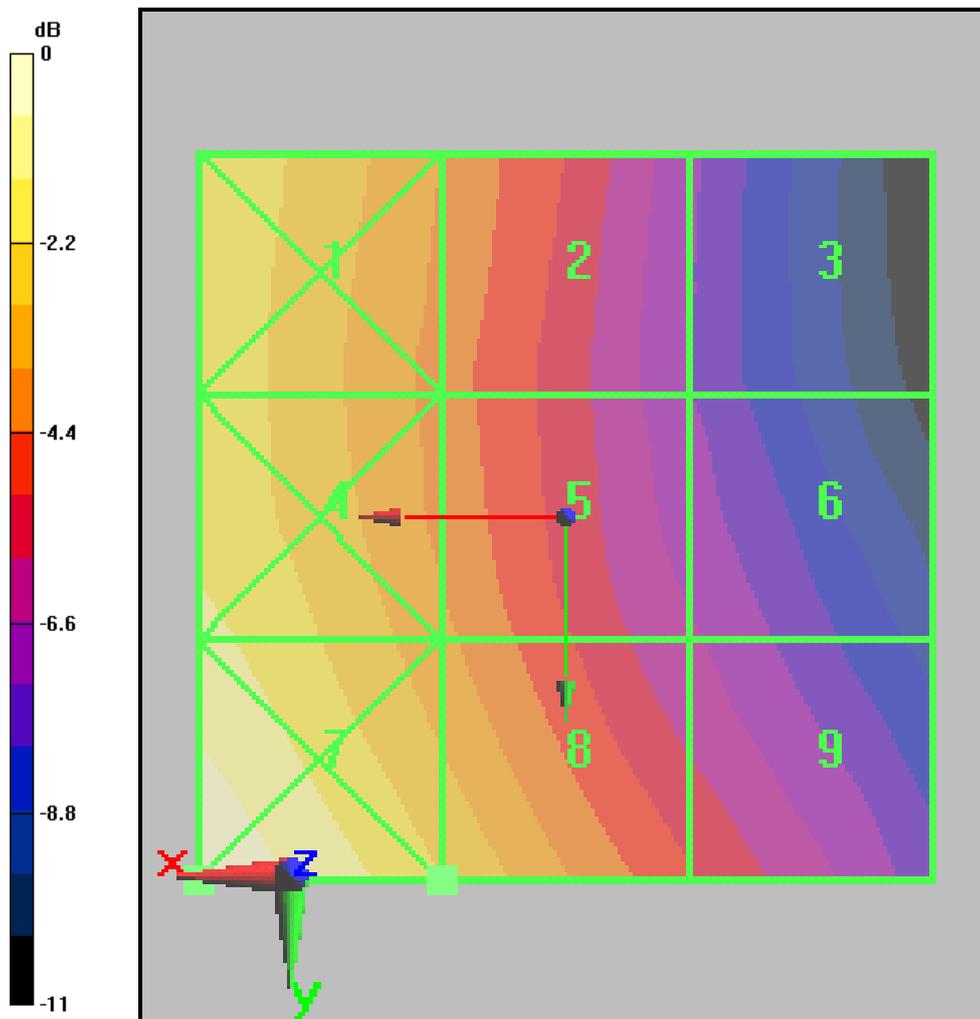
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.412 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.412A/m

Figure 21 HAC RF H-Field GSM 850Channel 251

TA Technology (Shanghai) Co., Ltd.

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HAC RF H-Field GSM 850 Middle (Battery 2, Antenna 1)

Date/Time: 1/18/2014 6:07:51 PM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.361 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.088 A/m; Power Drift = 0.012 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.396 M4	0.304 M4	0.205 M4
Grid 4	Grid 5	Grid 6
0.407 M4	0.313 M4	0.219 M4
Grid 7	Grid 8	Grid 9
0.467 M3	0.361 M4	0.257 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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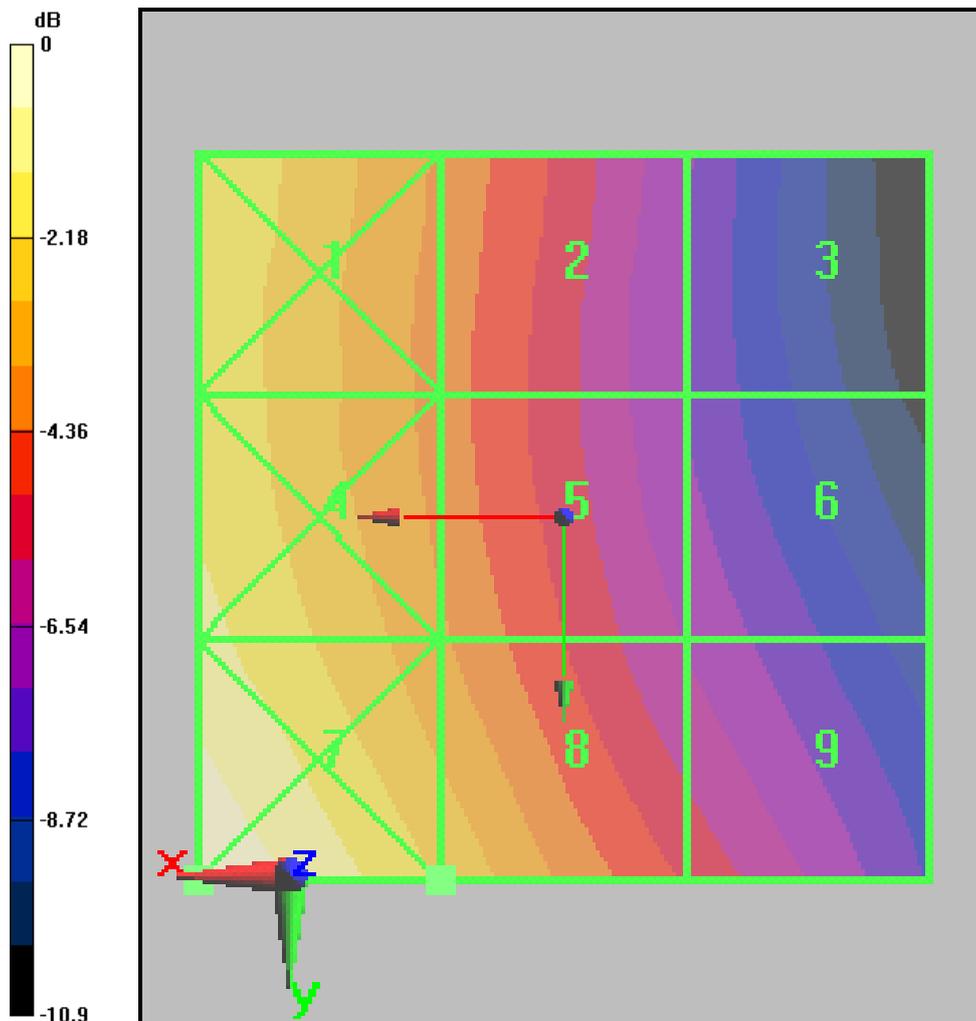
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.467 A/m

H Category: M3

Location: 25, 25, 9.2 mm



0 dB = 0.467A/m

Figure 22 HAC RF H-Field GSM 850 Channel 190

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HAC RF H-Field GSM 850 Low (Battery 2, Antenna 1)

Date/Time: 1/18/2014 6:18:52 PM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.385 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.095 A/m; Power Drift = 0.002 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.429 M4	0.327 M4	0.216 M4
Grid 4	Grid 5	Grid 6
0.443 M4	0.338 M4	0.232 M4
Grid 7	Grid 8	Grid 9
0.505 M3	0.385 M4	0.272 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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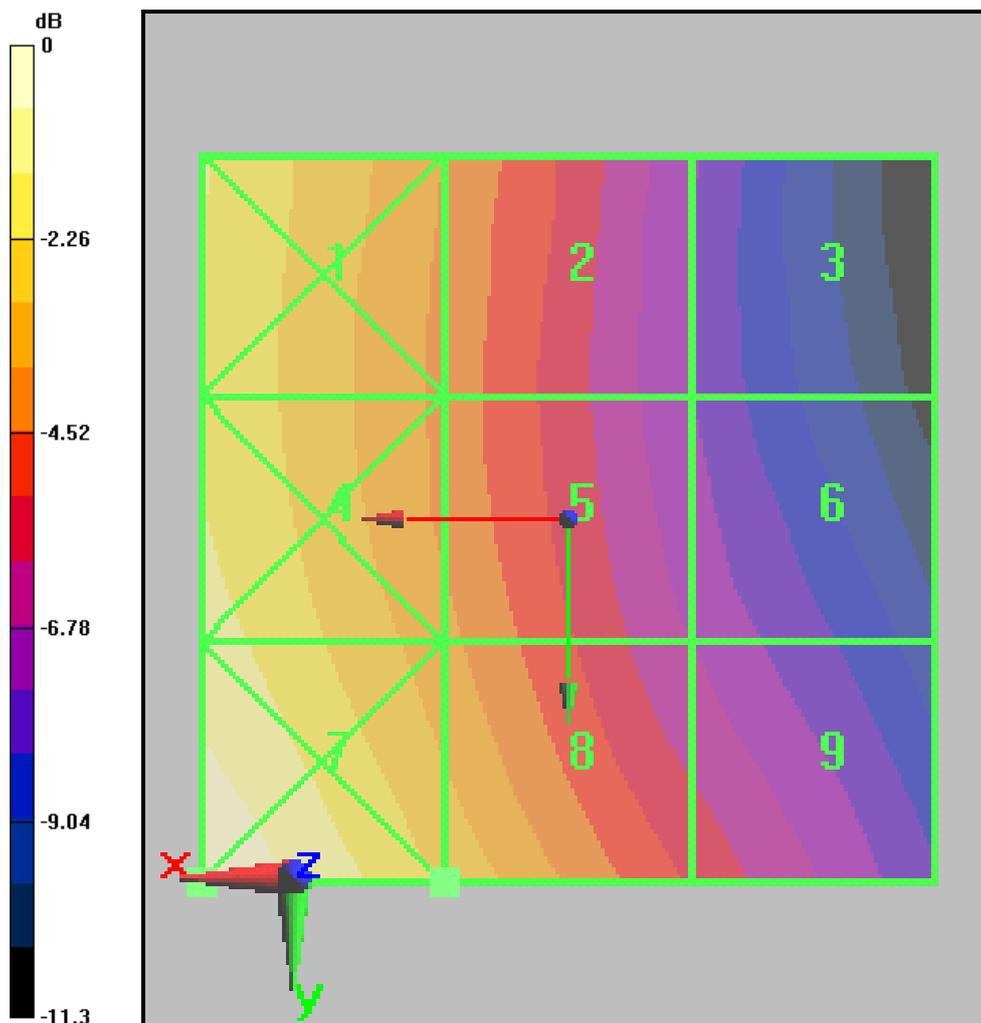
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.505 A/m

H Category: M3

Location: 25, 25, 9.2 mm



0 dB = 0.505A/m

Figure 23 HAC RF H-Field GSM 850 Channel 128

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HAC RF E-Field GSM 850 High (Battery 1, Antenna 2)

Date/Time: 1/18/2014 7:34:03 PM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 181.8 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 79.5 V/m; Power Drift = -0.032 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
164.0 M3	206.2 M3	187.8 M3
Grid 4	Grid 5	Grid 6
133.3 M4	181.8 M3	174.6 M3
Grid 7	Grid 8	Grid 9
94.2 M4	127.6 M4	123.3 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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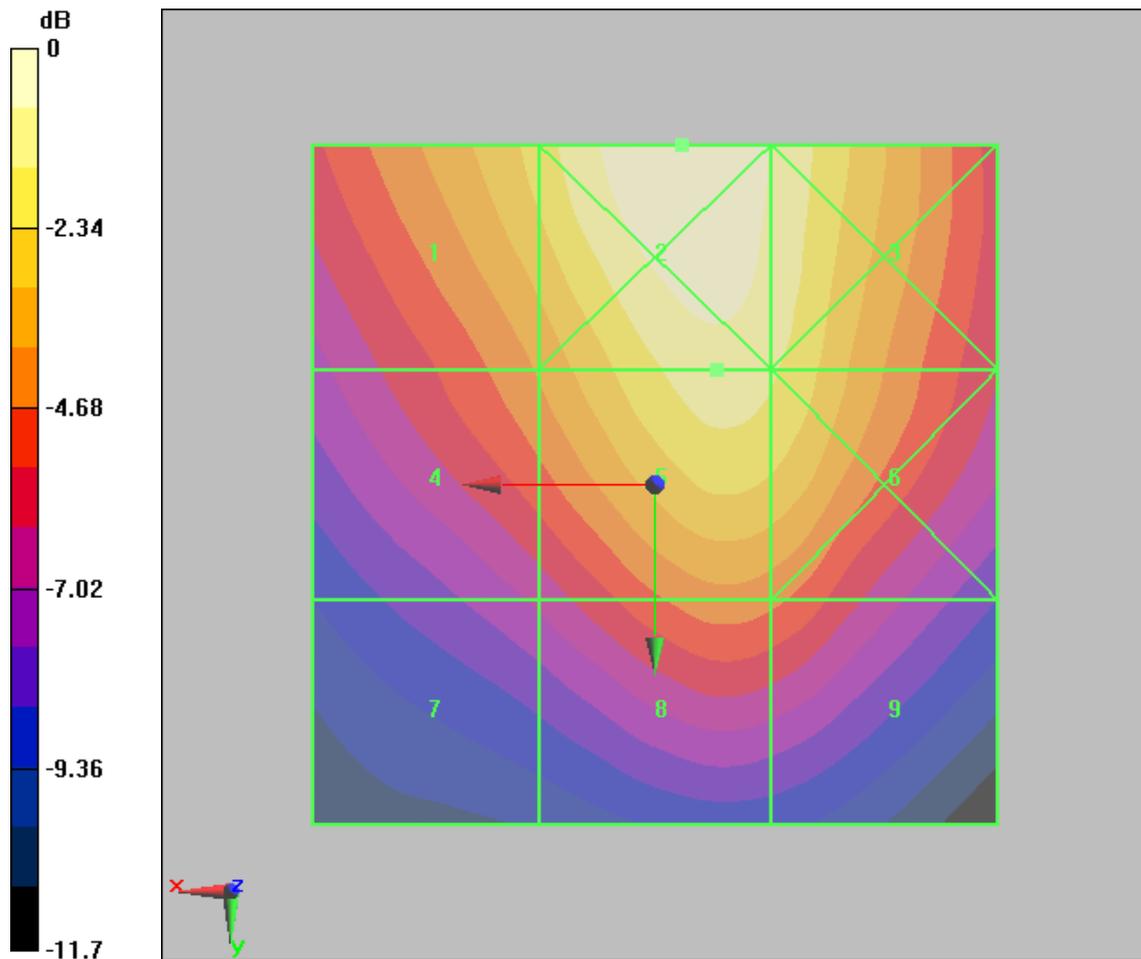
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 206.2 V/m

E Category: M3

Location: -2, -25, 8.7 mm



0 dB = 206.2V/m

Figure 24 HAC RF E-Field GSM 850 Channel 251

TA Technology (Shanghai) Co., Ltd.

Test Report

HAC RF E-Field GSM 850 Middle (Battery 1, Antenna 2)

Date/Time: 1/18/2014 7:28:16 PM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 162.5 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 70.3 V/m; Power Drift = 0.047 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
146.9 M4	182.7 M3	165.0 M3
Grid 4	Grid 5	Grid 6
119.8 M4	162.5 M3	155.0 M3
Grid 7	Grid 8	Grid 9
87.4 M4	115.7 M4	111.6 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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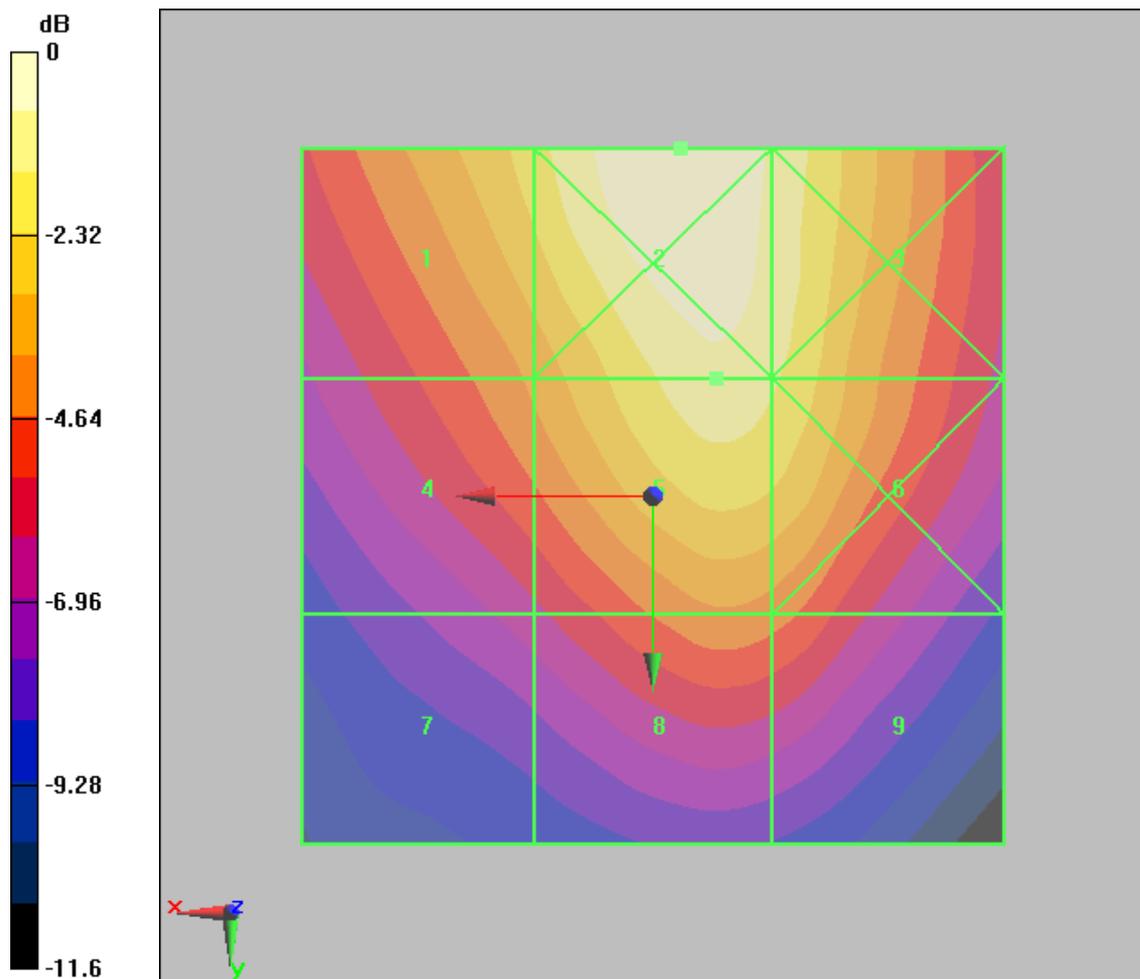
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 182.7 V/m

E Category: M3

Location: -2, -25, 8.7 mm



0 dB = 182.7V/m

Figure 25 HAC RF E-Field GSM 850 Channel 190

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HAC RF E-Field GSM 850 Low (Battery 1, Antenna 2)

Date/Time: 1/18/2014 7:41:00 PM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 159.8 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 69 V/m; Power Drift = -0.007 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
143.9 M4	179.4 M3	163.0 M3
Grid 4	Grid 5	Grid 6
118.3 M4	159.8 M3	153.0 M3
Grid 7	Grid 8	Grid 9
87.3 M4	116.4 M4	112.9 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

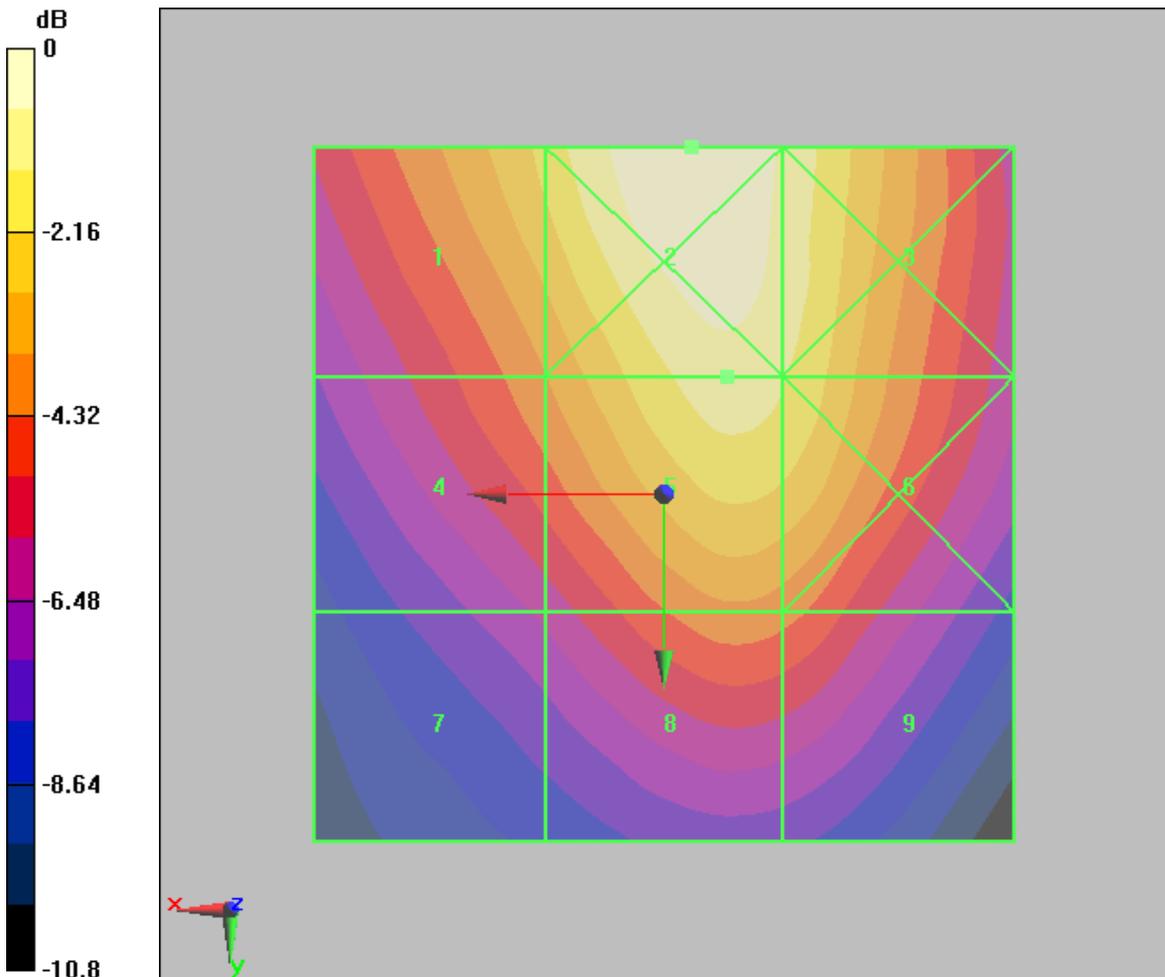
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 179.4 V/m

E Category: M3

Location: -2, -25, 8.7 mm



0 dB = 179.4V/m

Figure 26 HAC RF E-Field GSM 850 Channel 128

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HAC RF H-Field GSM 850 High (Battery 1, Antenna 2)

Date/Time: 1/18/2014 8:37:08 PM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.673 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.324 A/m; Power Drift = 0.067 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.357 M4	0.511 M3	0.492 M3
Grid 4	Grid 5	Grid 6
0.436 M4	0.673 M3	0.649 M3
Grid 7	Grid 8	Grid 9
0.442 M4	0.682 M3	0.655 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

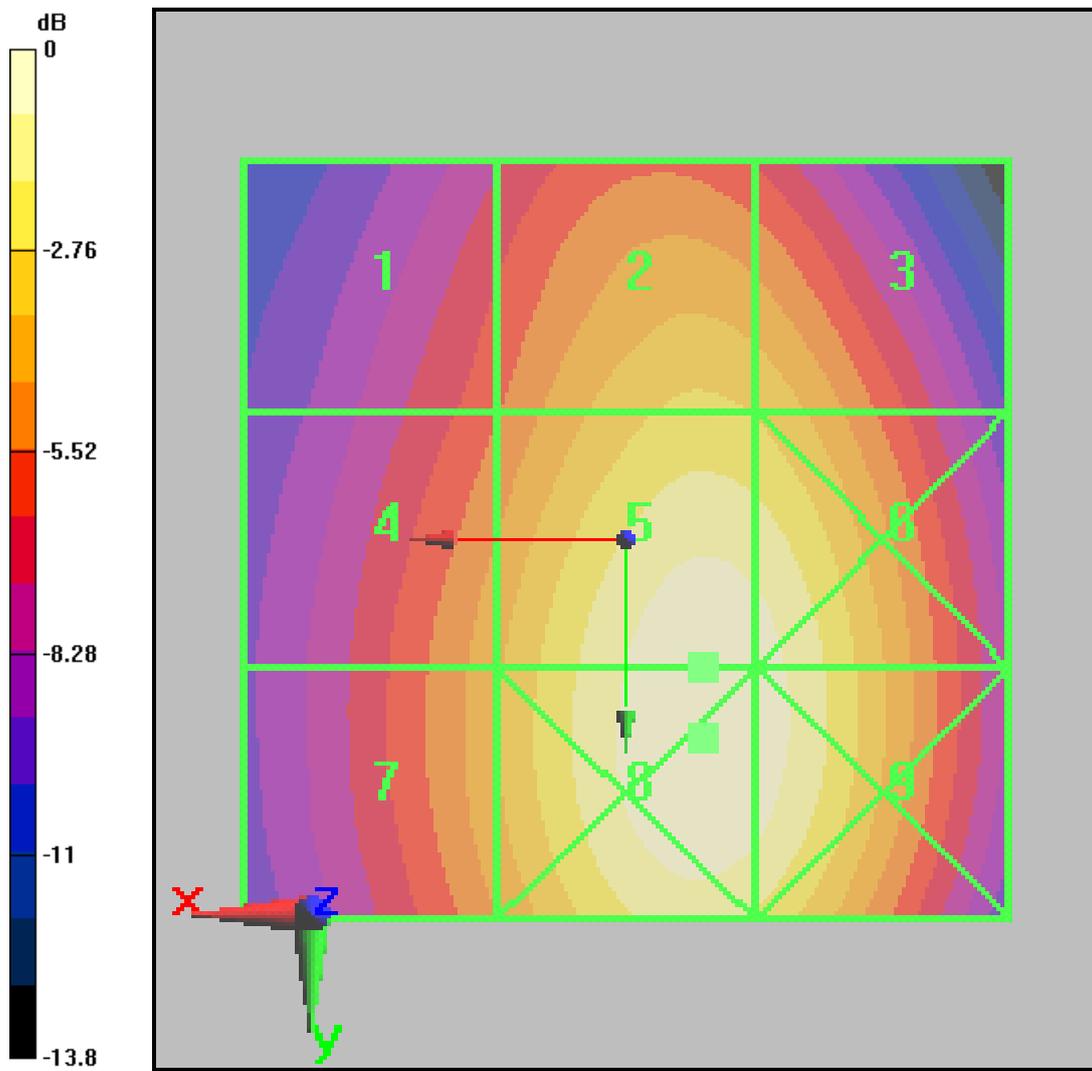
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.682 A/m

H Category: M3

Location: -5, 13, 9.2 mm



0 dB = 0.682A/m

Figure 27 HAC RF H-Field GSM 850Channel 251

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HAC RF H-Field GSM 850 Middle (Battery 1, Antenna 2)

Date/Time: 1/18/2014 9:31:26 PM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.585 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.284 A/m; Power Drift = 0.056 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.319 M4	0.452 M3	0.436 M4
Grid 4	Grid 5	Grid 6
0.382 M4	0.585 M3	0.562 M3
Grid 7	Grid 8	Grid 9
0.386 M4	0.592 M3	0.568 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

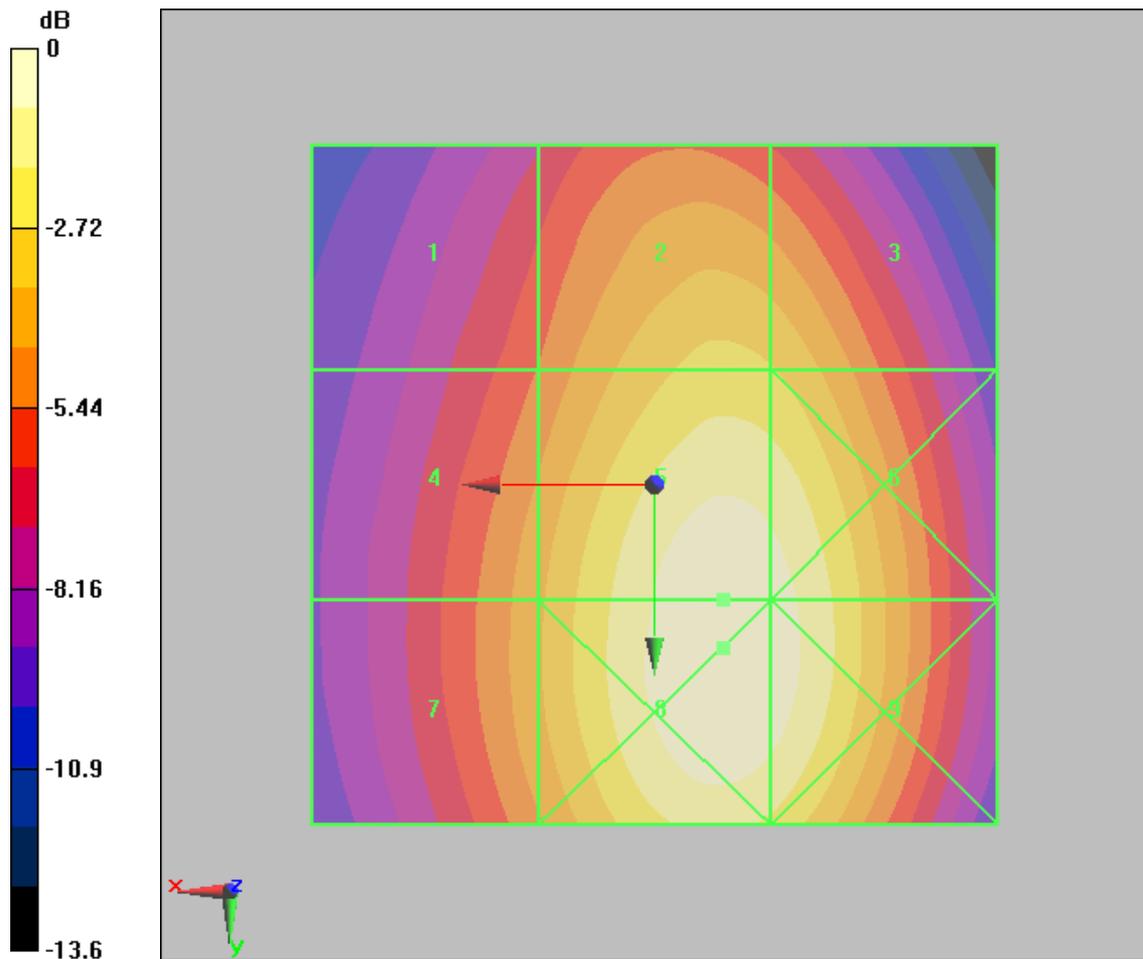
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.592 A/m

H Category: M3

Location: -5, 12, 9.2 mm



0 dB = 0.592A/m

Figure 28 HAC RF H-Field GSM 850 Channel 190

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HAC RF H-Field GSM 850 Low (Battery 1, Antenna 2)

Date/Time: 1/18/2014 9:42:47 PM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.567 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.278 A/m; Power Drift = 0.019 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.314 M4	0.443 M4	0.427 M4
Grid 4	Grid 5	Grid 6
0.375 M4	0.567 M3	0.548 M3
Grid 7	Grid 8	Grid 9
0.379 M4	0.573 M3	0.552 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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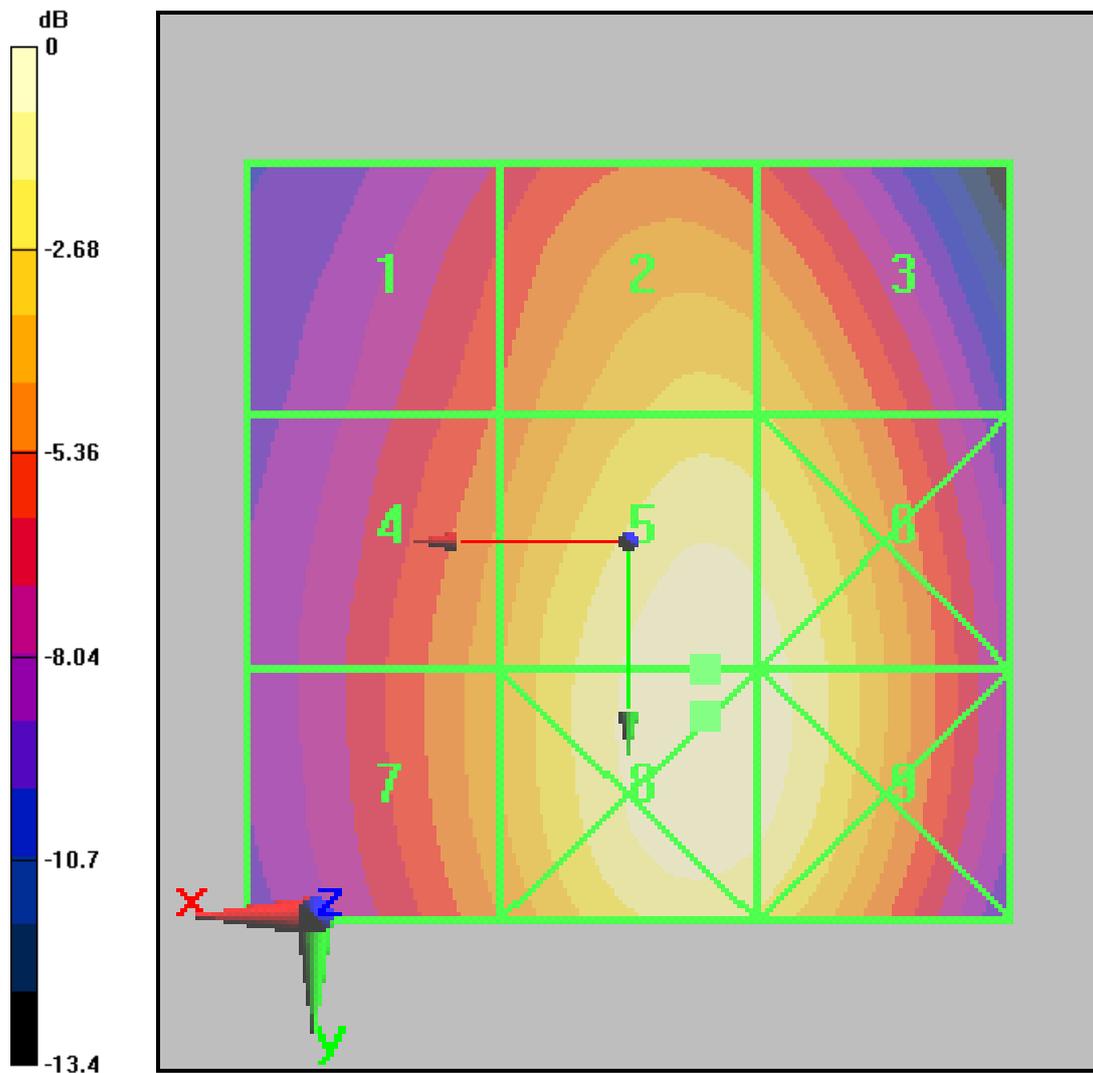
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.573 A/m

H Category: M3

Location: -5, 11.5, 9.2 mm



0 dB = 0.573A/m

Figure 29 HAC RF H-Field GSM 850 Channel 128

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HAC RF E-Field GSM 850 High (Battery 2, Antenna 2)

Date/Time: 1/18/2014 8:03:27 PM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 189.1 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 80 V/m; Power Drift = -0.012 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1 157.5 M3	Grid 2 209.0 M3	Grid 3 198.2 M3
Grid 4 130.0 M4	Grid 5 189.1 M3	Grid 6 184.8 M3
Grid 7 95.4 M4	Grid 8 139.6 M4	Grid 9 137.7 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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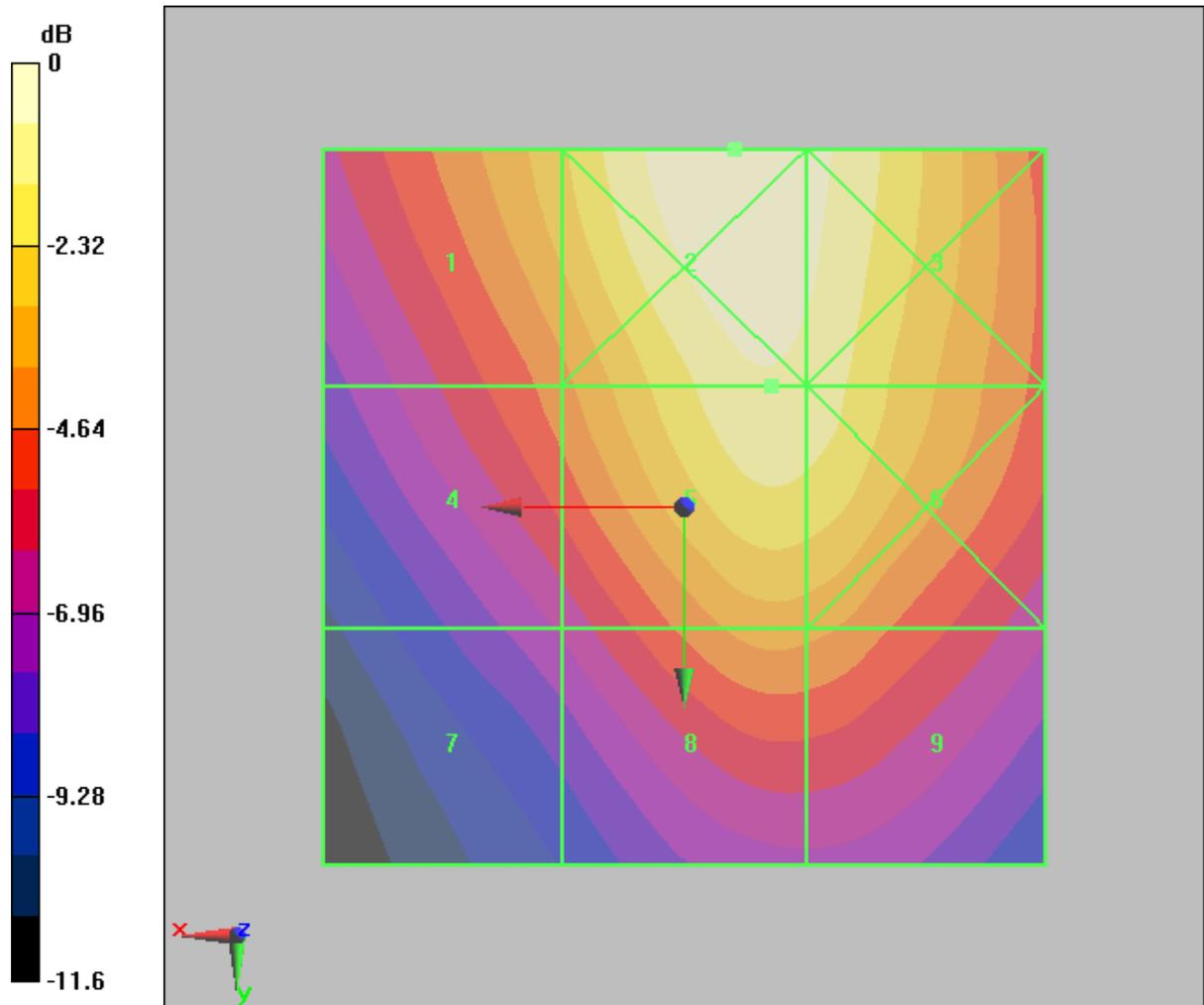
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 209.0 V/m

E Category: M3

Location: -3.5, -25, 8.7 mm



0 dB = 209.0V/m

Figure 30 HAC RF E-Field GSM 850 Channel 251

TA Technology (Shanghai) Co., Ltd.

Test Report

HAC RF E-Field GSM 850 Middle (Battery 2, Antenna 2)

Date/Time: 1/18/2014 8:57:57 PM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 171.3 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 72.1 V/m; Power Drift = 0.007 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
142.0 M4	190.7 M3	181.6 M3
Grid 4	Grid 5	Grid 6
116.2 M4	171.3 M3	167.7 M3
Grid 7	Grid 8	Grid 9
82.3 M4	123.0 M4	121.3 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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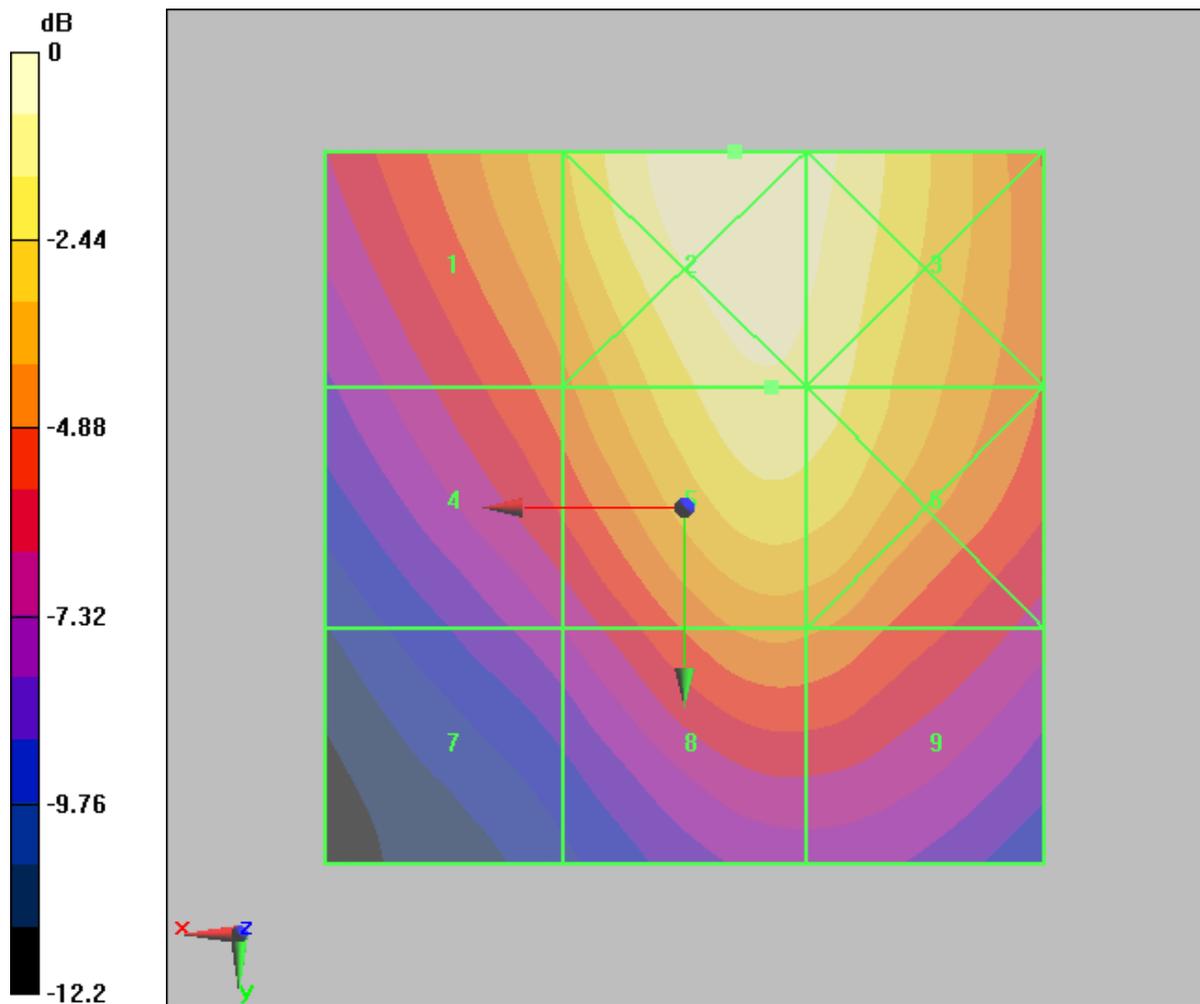
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 190.7 V/m

E Category: M3

Location: -3.5, -25, 8.7 mm



0 dB = 190.7V/m

Figure 31 HAC RF E-Field GSM 850 Channel 190

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HAC RF E-Field GSM 850 Low (Battery 2, Antenna 2)

Date/Time: 1/18/2014 9:51:33 PM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 850 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 170.1 V/m

Probe Modulation Factor = 2.81

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 71.8 V/m; Power Drift = 0.080 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
143.6 M4	189.3 M3	178.7 M3
Grid 4	Grid 5	Grid 6
117.8 M4	170.1 M3	165.6 M3
Grid 7	Grid 8	Grid 9
83.2 M4	120.0 M4	117.3 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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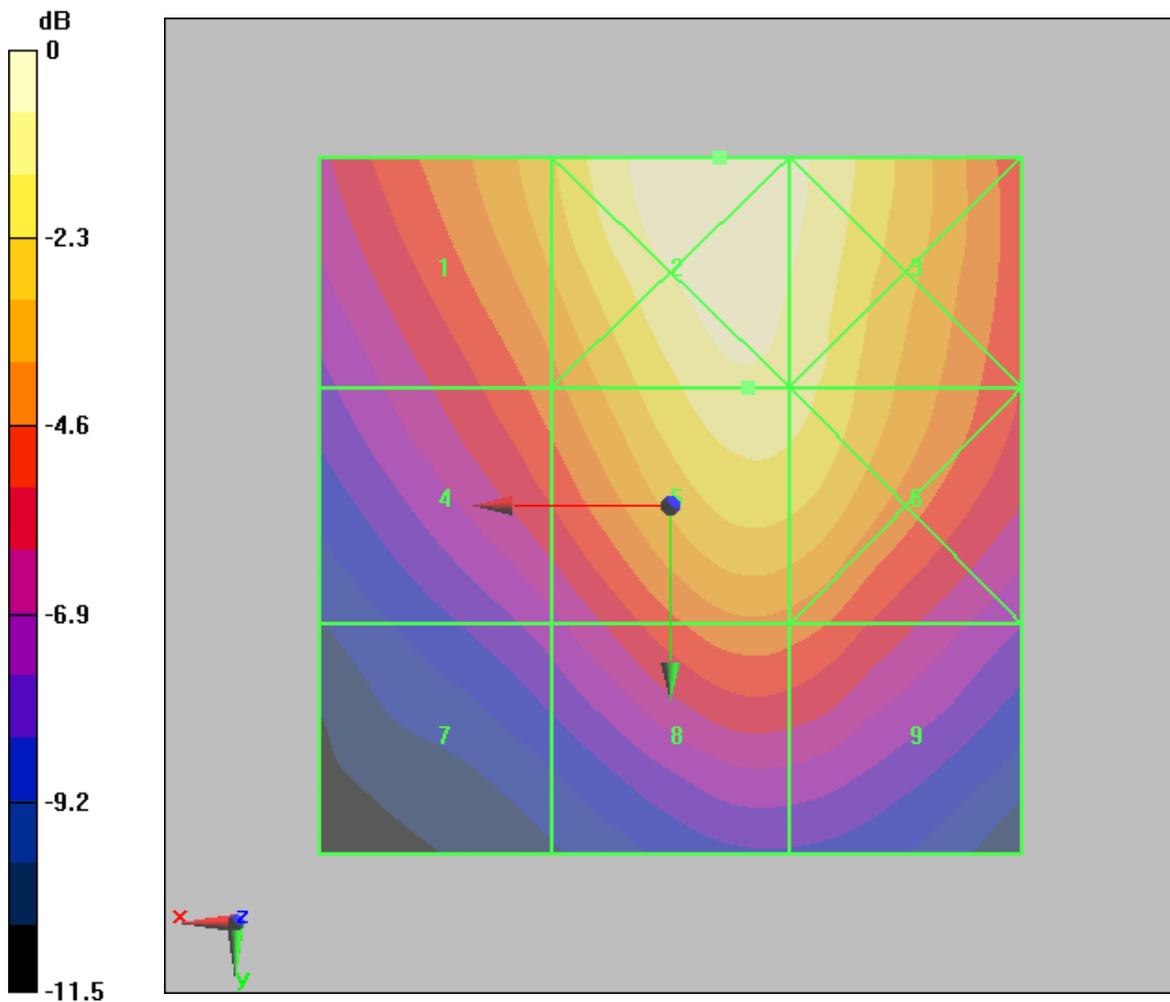
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 189.3 V/m

E Category: M3

Location: -3.5, -25, 8.7 mm



0 dB = 189.3V/m

Figure 32 HAC RF E-Field GSM 850 Channel 128

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HAC RF H-Field GSM 850 High (Battery 2, Antenna 2)

Date/Time: 1/18/2014 10:49:52 PM

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.609 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.291 A/m; Power Drift = -0.026 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.335 M4	0.460 M3	0.448 M4
Grid 4	Grid 5	Grid 6
0.411 M4	0.609 M3	0.589 M3
Grid 7	Grid 8	Grid 9
0.418 M4	0.619 M3	0.597 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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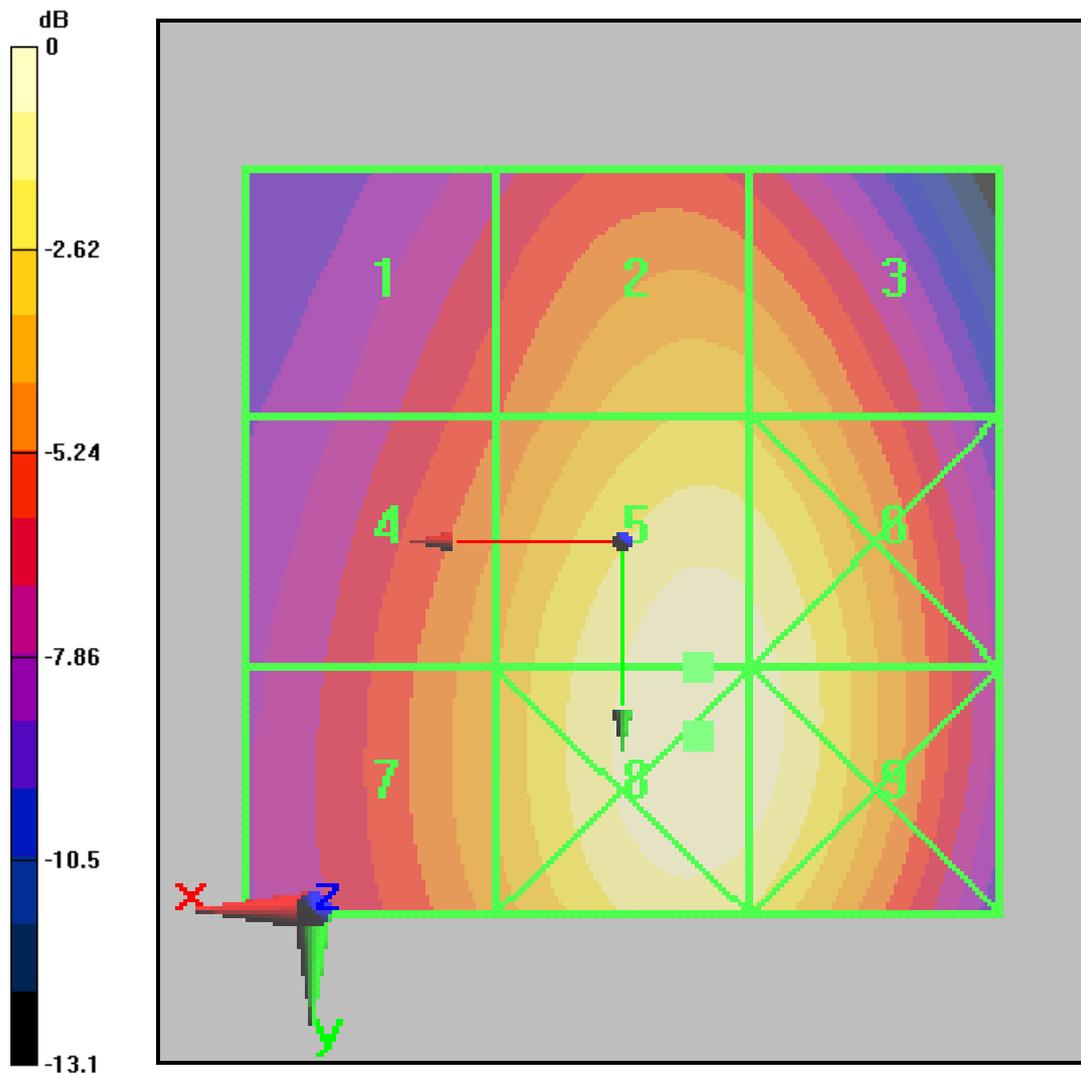
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.619 A/m

H Category: M3

Location: -5, 13, 9.2 mm



0 dB = 0.619A/m

Figure 33 HAC RF H-Field GSM 850Channel 251

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HAC RF H-Field GSM 850 Middle (Battery 2, Antenna 2)

Date/Time: 1/18/2014 11:03:55 PM

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.556 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.267 A/m; Power Drift = -0.061 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.306 M4	0.430 M4	0.416 M4
Grid 4	Grid 5	Grid 6
0.376 M4	0.556 M3	0.541 M3
Grid 7	Grid 8	Grid 9
0.381 M4	0.564 M3	0.547 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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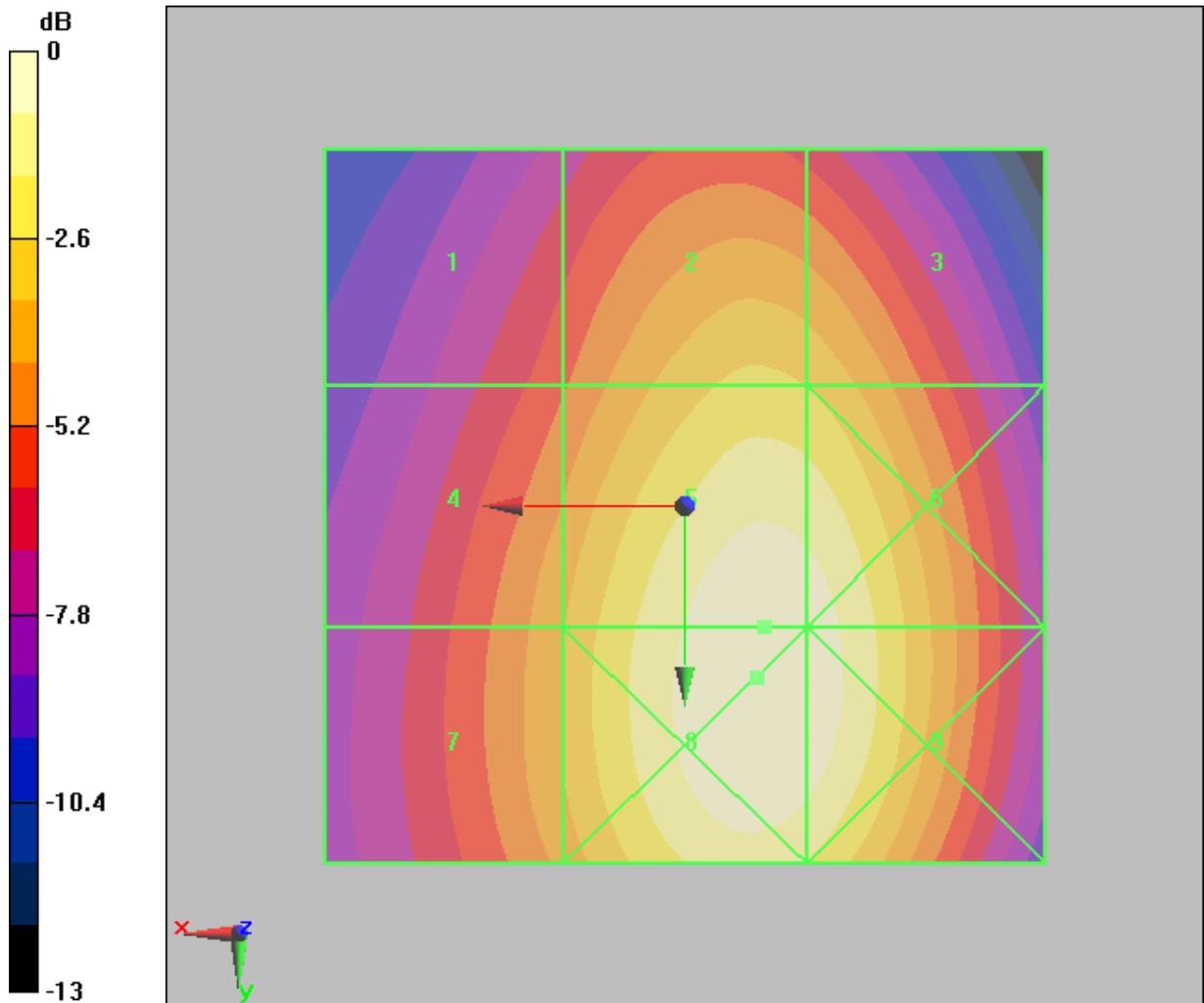
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.564 A/m

H Category: M3

Location: -5, 12, 9.2 mm



0 dB = 0.564A/m

Figure 34 HAC RF H-Field GSM 850 Channel 190

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HAC RF H-Field GSM 850 Low (Battery 2, Antenna 2)

Date/Time: 1/18/2014 11:27:02 PM

Communication System: GSM; Frequency: 824.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.564 A/m

Probe Modulation Factor = 2.75

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.269 A/m; Power Drift = 0.032 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.304 M4	0.433 M4	0.423 M4
Grid 4	Grid 5	Grid 6
0.372 M4	0.564 M3	0.548 M3
Grid 7	Grid 8	Grid 9
0.376 M4	0.570 M3	0.553 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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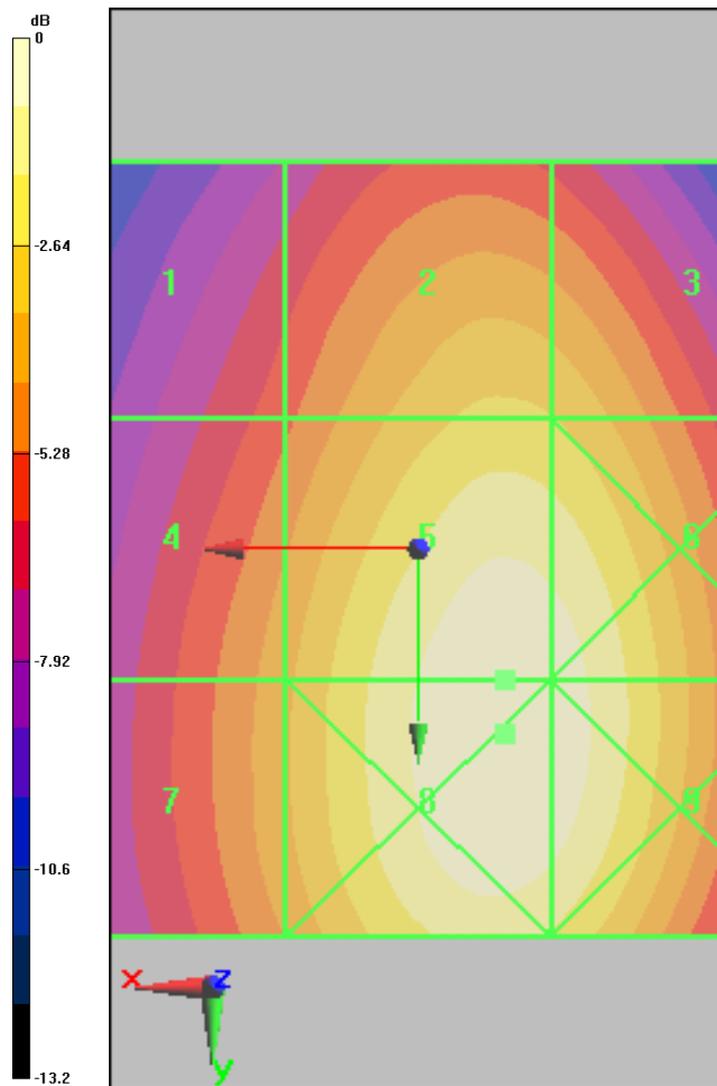
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.570 A/m

H Category: M3

Location: -5.5, 12, 9.2 mm



0 dB = 0.570A/m

Figure 35 HAC RF H-Field GSM 850 Channel 128

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HAC RF E-Field GSM 1900 High (Battery 1)

Date/Time: 1/19/2014 4:21:26 AM

Communication System: GSM; Frequency: 1909.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 1900 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 67.5 V/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 36.7 V/m; Power Drift = 0.031 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
52.1 M3	65.5 M3	61.9 M3
Grid 4	Grid 5	Grid 6
53.5 M3	67.5 M3	62.9 M3
Grid 7	Grid 8	Grid 9
49 M3	60.8 M3	56.3 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

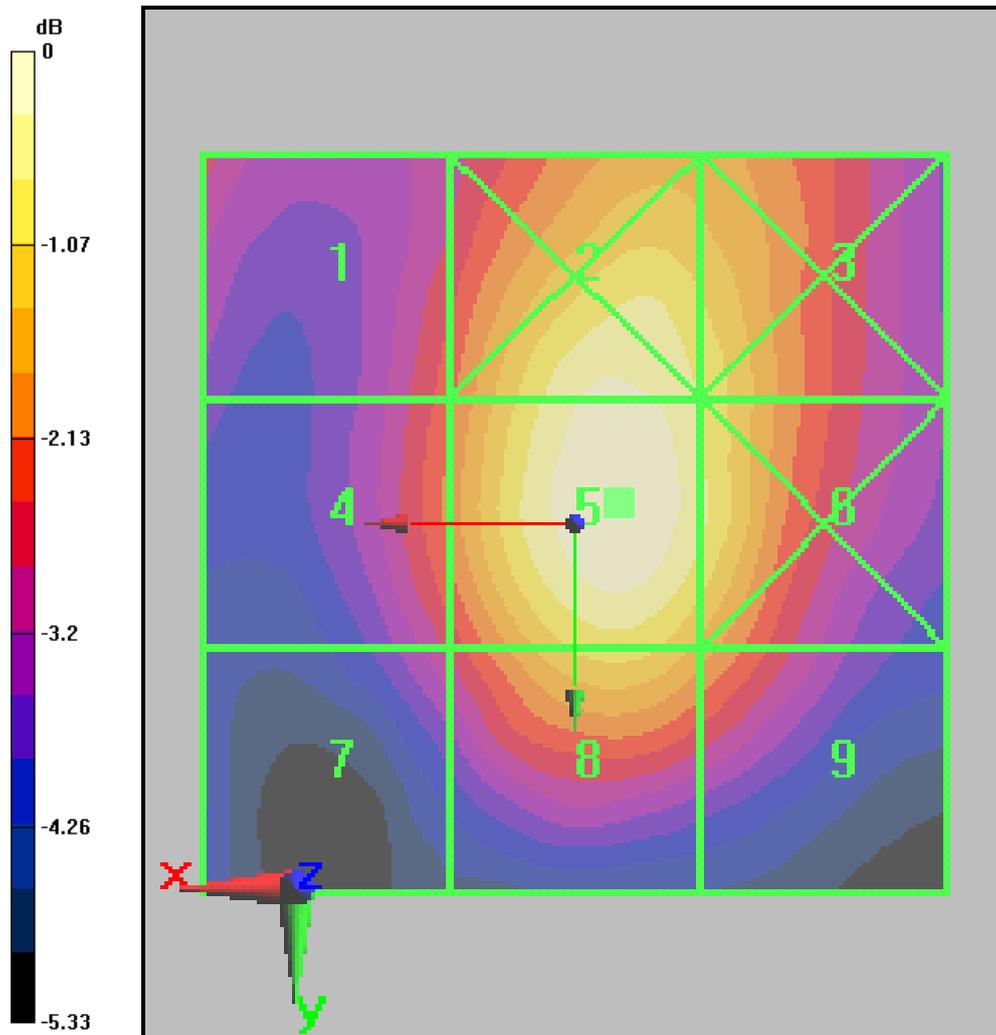
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 67.5 V/m

E Category: M3

Location: -3, -1.5, 8.7 mm



0 dB = 67.5V/m

Figure 36 HAC RF E-Field GSM 1900 Channel 810

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF E-Field GSM 1900 Middle (Battery 1)

Date/Time: 1/19/2014 4:14:49 AM

Communication System: GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 1900 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 72.5 V/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 44.5 V/m; Power Drift = -0.021 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
70.5 M3	68.6 M3	60.3 M3
Grid 4	Grid 5	Grid 6
68.5 M3	72.5 M3	62.9 M3
Grid 7	Grid 8	Grid 9
67.2 M3	65.5 M3	57.8 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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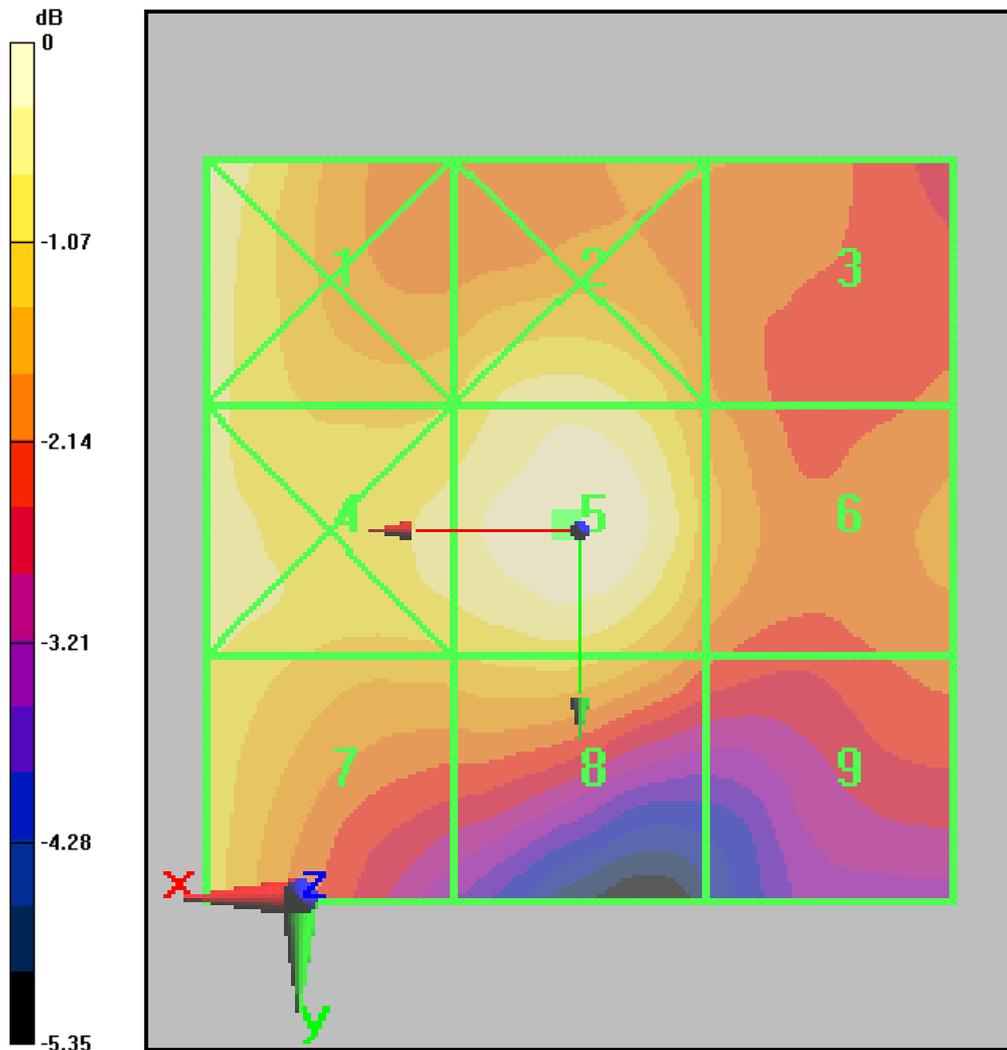
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 72.5 V/m

E Category: M3

Location: 1, -0.5, 8.7 mm



0 dB = 72.5V/m

Figure 37 HAC RF E-Field GSM 1900 Channel 661

TA Technology (Shanghai) Co., Ltd.

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HAC RF E-Field GSM 1900 Low (Battery 1)

Date/Time: 1/19/2014 4:27:41 AM

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 1900 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 77.3 V/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 28.2 V/m; Power Drift = -0.021 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
75.9 M3	64.2 M3	74 M3
Grid 4	Grid 5	Grid 6
77.3 M3	58.6 M3	78.1 M3
Grid 7	Grid 8	Grid 9
77.2 M3	58.6 M3	76.5 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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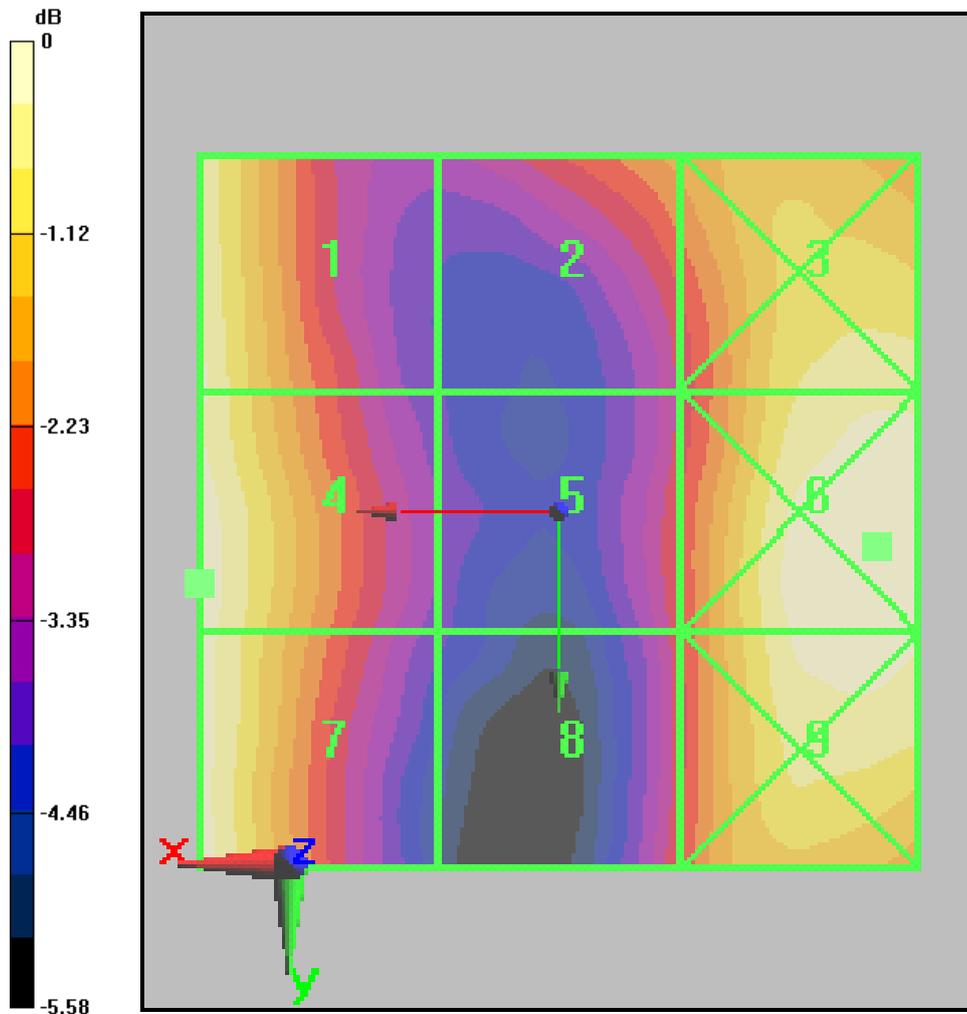
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 78.1 V/m

E Category: M3

Location: -22, 2.5, 8.7 mm



0 dB = 78.1V/m

Figure 38 HAC RF E-Field GSM 1900 Channel 512

TA Technology (Shanghai) Co., Ltd.

Test Report

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HAC RF H-Field GSM 1900 High (Battery 1)

Date/Time: 1/19/2014 6:38:39 AM

Communication System: GSM; Frequency: 1909.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.181 A/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.069 A/m; Power Drift = -0.001 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.181 M3	0.181 M3	0.158 M3
Grid 4	Grid 5	Grid 6
0.181 M3	0.181 M3	0.153 M3
Grid 7	Grid 8	Grid 9
0.169 M3	0.169 M3	0.147 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

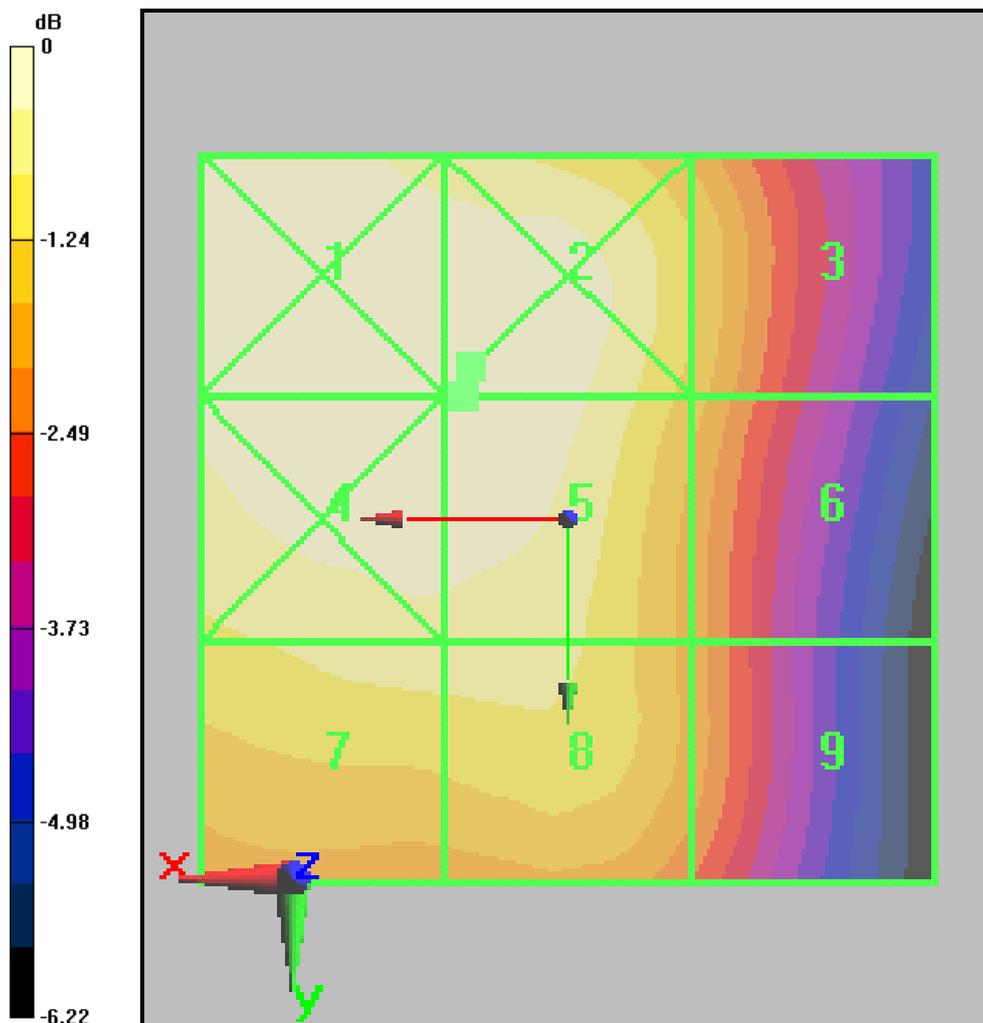
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.181 A/m

H Category: M3

Location: 6.5, -10.5, 9.2 mm



0 dB = 0.181A/m

Figure 39 HAC RF H-Field GSM 1900 Channel 810

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Test Report

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HAC RF H-Field GSM 1900 Middle (Battery 1)

Date/Time: 1/19/2014 6:33:02 AM

Communication System: GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.194 A/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.072 A/m; Power Drift = 0.043 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.198 M3	0.213 M3	0.204 M3
Grid 4	Grid 5	Grid 6
0.193 M3	0.194 M3	0.176 M3
Grid 7	Grid 8	Grid 9
0.179 M3	0.185 M3	0.175 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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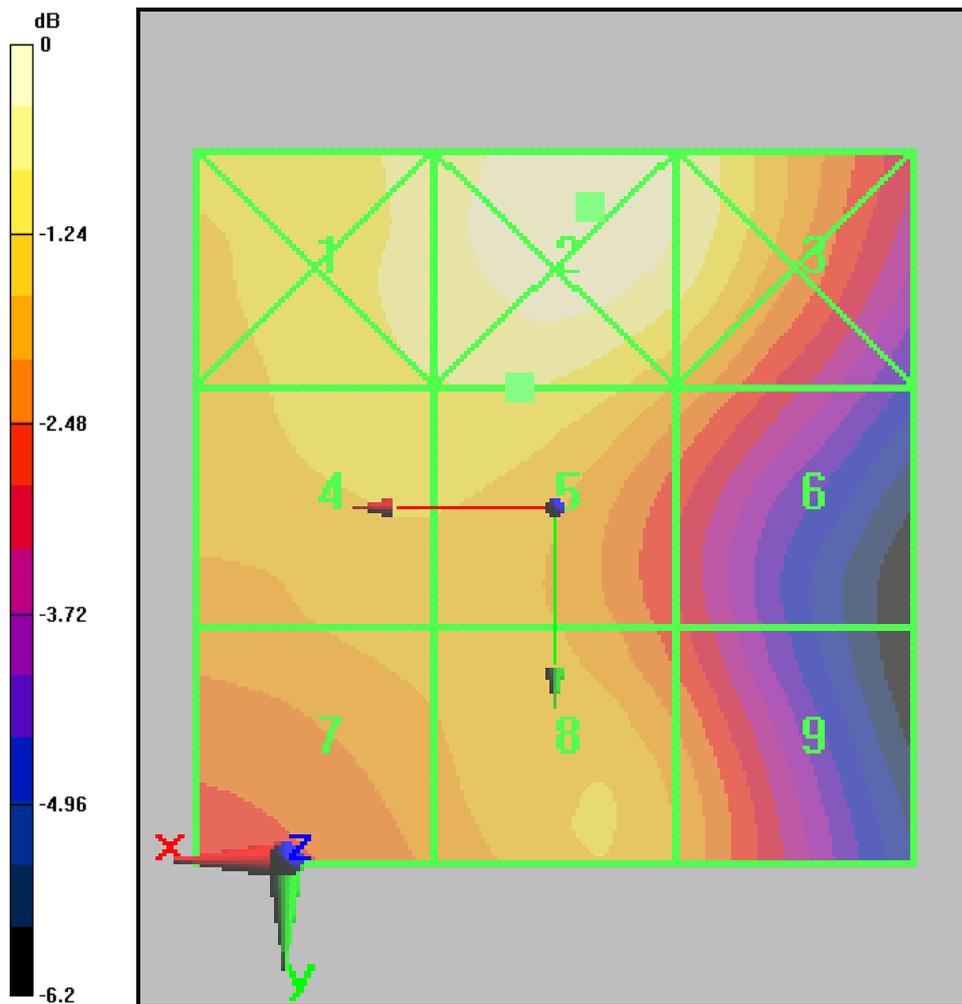
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.213 A/m

H Category: M3

Location: -2.5, -21, 9.2 mm



0 dB = 0.213A/m

Figure 40 HAC RF H-Field GSM 1900 Channel 661

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HAC RF H-Field GSM 1900 Low (Battery 1)

Date/Time: 1/19/2014 6:44:14 AM

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.205 A/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.059 A/m; Power Drift = -0.005 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.229 M3	0.229 M3	0.211 M3
Grid 4	Grid 5	Grid 6
0.195 M3	0.194 M3	0.166 M3
Grid 7	Grid 8	Grid 9
0.204 M3	0.205 M3	0.184 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

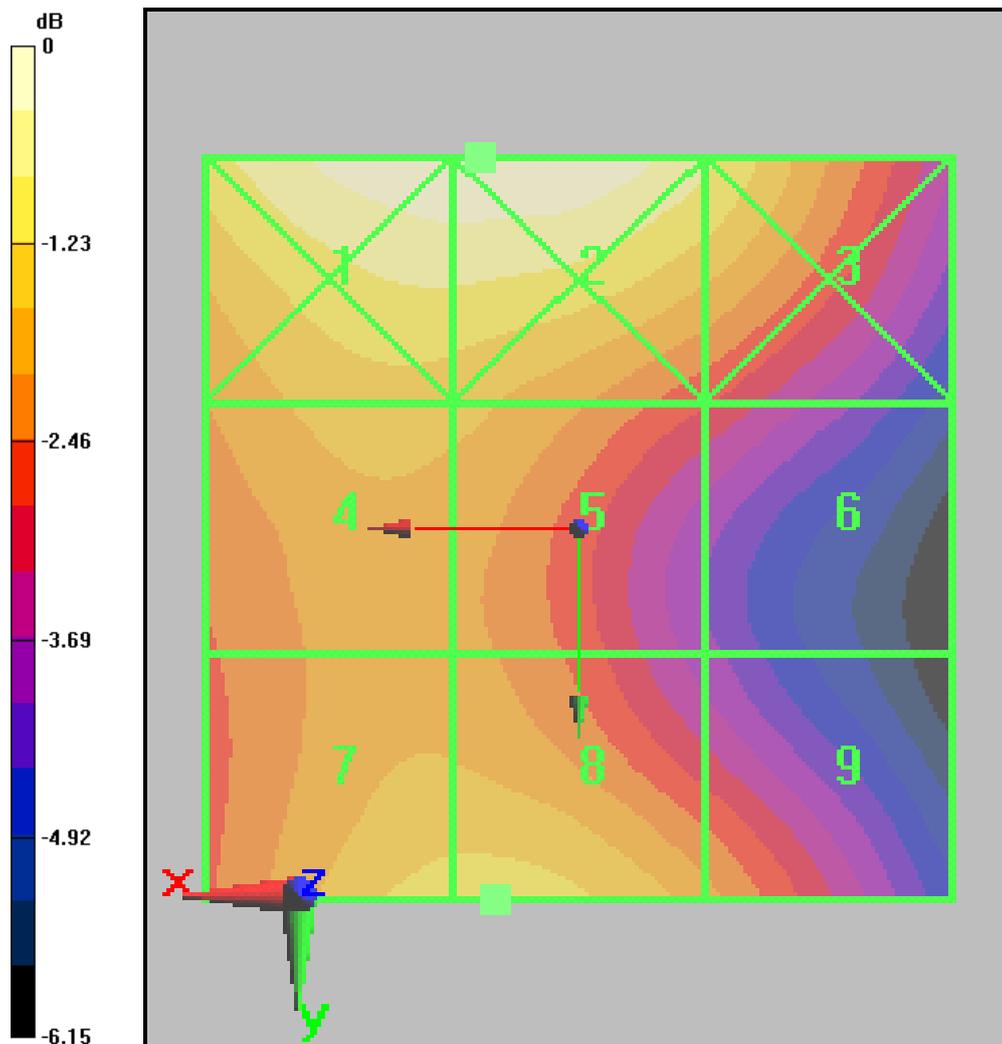
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.229 A/m

H Category: M3

Location: 6.5, -25, 9.2 mm



0 dB = 0.229A/m

Figure 41 HAC RF H-Field GSM 1900 Channel 512

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HAC RF E-Field GSM 1900 High (Battery 2)

Date/Time: 1/18/2014 3:37:15 PM

Communication System: GSM; Frequency: 1909.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 1900 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 61.4 V/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 31.3 V/m; Power Drift = 0.018 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
62.2 M3	61.5 M3	60.1 M3
Grid 4	Grid 5	Grid 6
54.2 M3	61.4 M3	59.5 M3
Grid 7	Grid 8	Grid 9
54 M3	52.4 M3	51.4 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

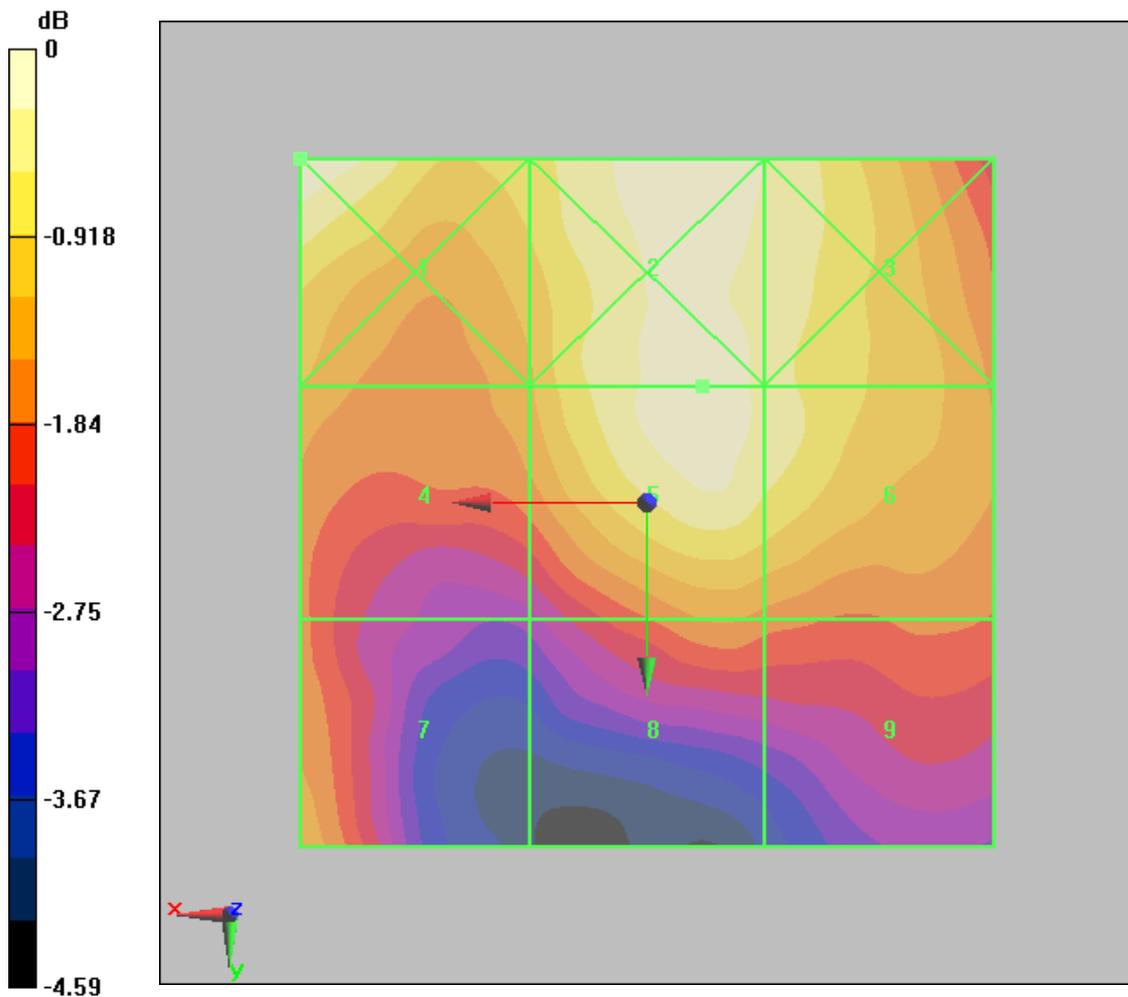
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 62.2 V/m

E Category: M3

Location: 25, -25, 8.7 mm



0 dB = 62.2V/m

Figure 42 HAC RF E-Field GSM 1900 Channel 810

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HAC RF E-Field GSM 1900 Middle (Battery 2)

Date/Time: 1/18/2014 3:29:45 PM

Communication System: GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 1900 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 65.1 V/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 26.6 V/m; Power Drift = -0.007 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
72.2 M3	60.9 M3	64.2 M3
Grid 4	Grid 5	Grid 6
66.2 M3	56.3 M3	65.1 M3
Grid 7	Grid 8	Grid 9
64.4 M3	48.6 M3	61.9 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 72.2 V/m

E Category: M3

Location: 25, -25, 8.7 mm

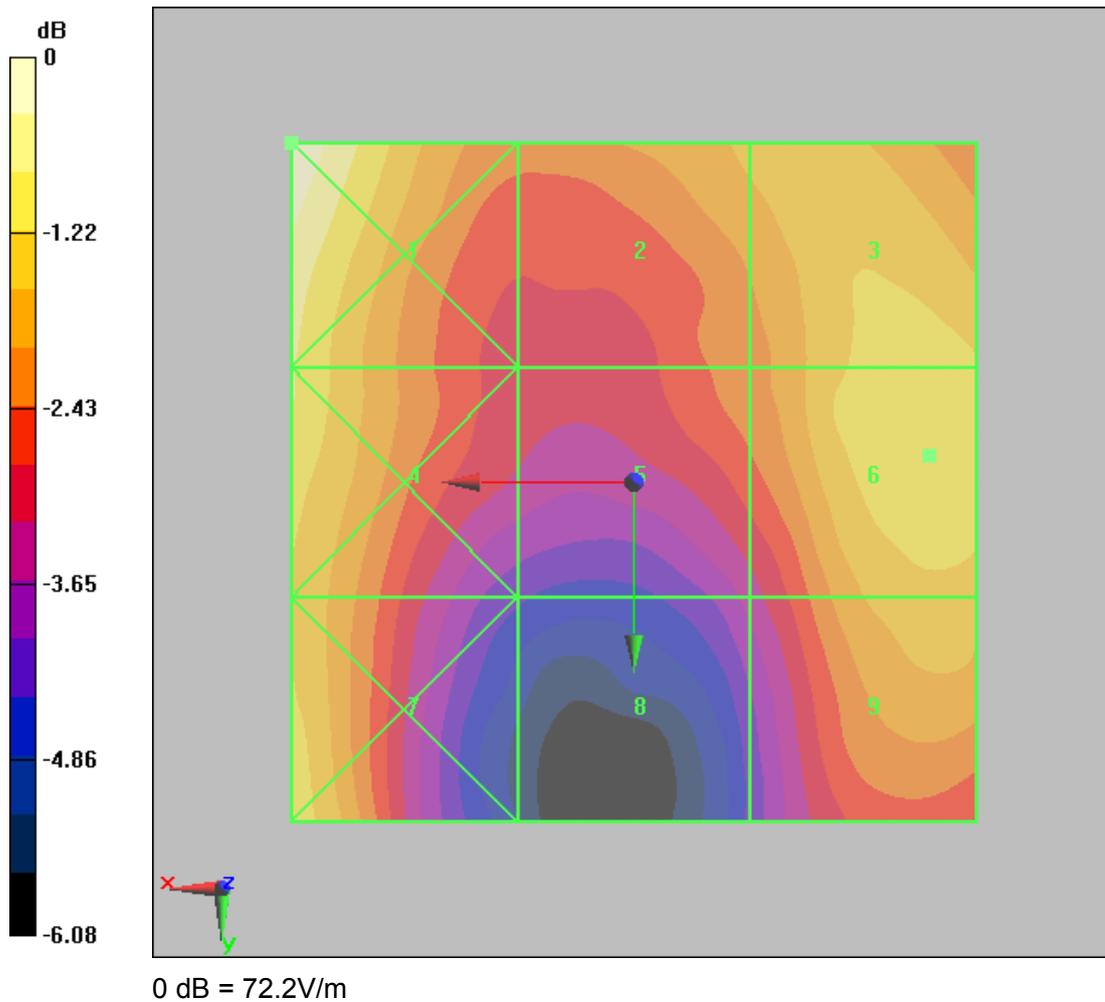


Figure 43 HAC RF E-Field GSM 1900 Channel 661

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HAC RF E-Field GSM 1900 Low (Battery 2)

Date/Time: 1/18/2014 3:42:42 PM

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A with Battery BYD GSM 1900 HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 68.1 V/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 20.1 V/m; Power Drift = 0.003 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
68.1 M3	63.2 M3	71.2 M3
Grid 4	Grid 5	Grid 6
64.3 M3	59.7 M3	72.7 M3
Grid 7	Grid 8	Grid 9
65.8 M3	54.8 M3	70.4 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

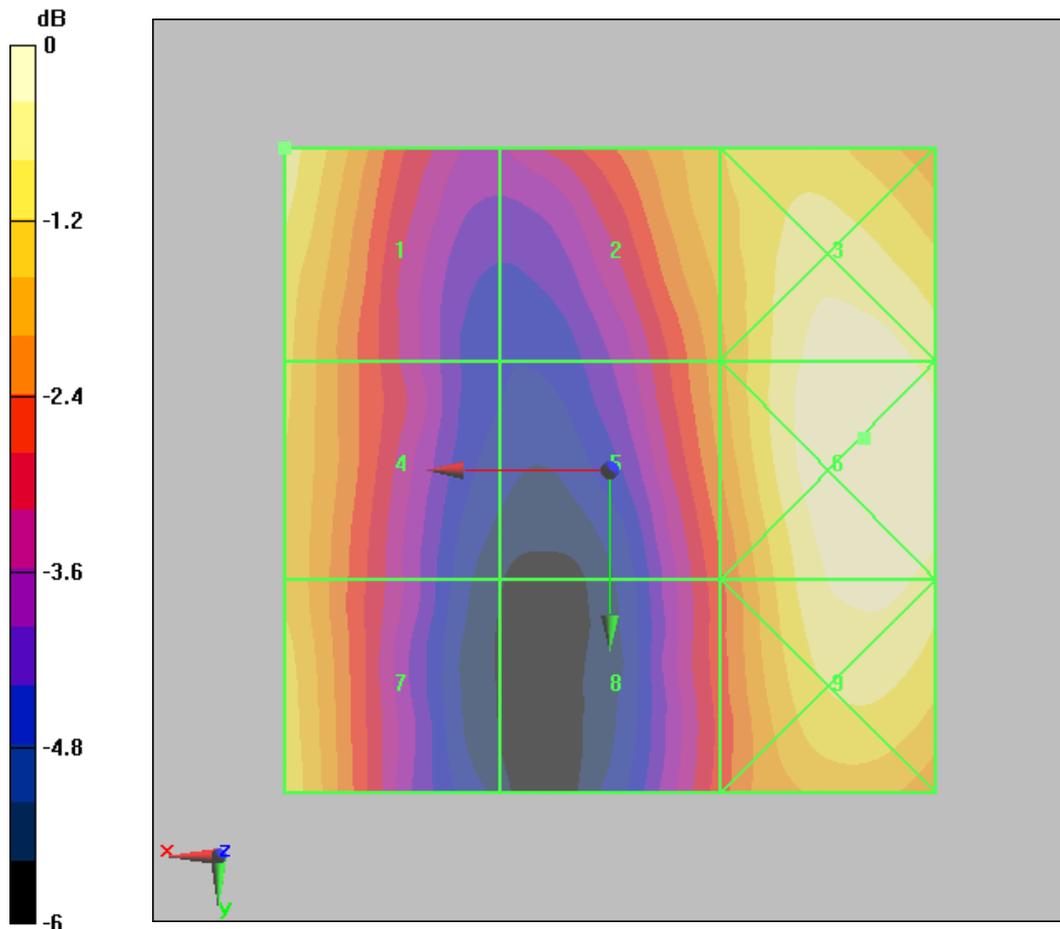
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 72.7 V/m

E Category: M3

Location: -19.5, -2.5, 8.7 mm



0 dB = 72.7V/m

Figure 44 HAC RF E-Field GSM 1900 Channel 512

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field GSM 1900 High (Battery 2)

Date/Time: 1/18/2014 5:46:45 PM

Communication System: GSM; Frequency: 1909.8 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.190 A/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.069 A/m; Power Drift = 0.057 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.206 M3	0.191 M3	0.163 M3
Grid 4	Grid 5	Grid 6
0.195 M3	0.190 M3	0.153 M3
Grid 7	Grid 8	Grid 9
0.178 M3	0.177 M3	0.151 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

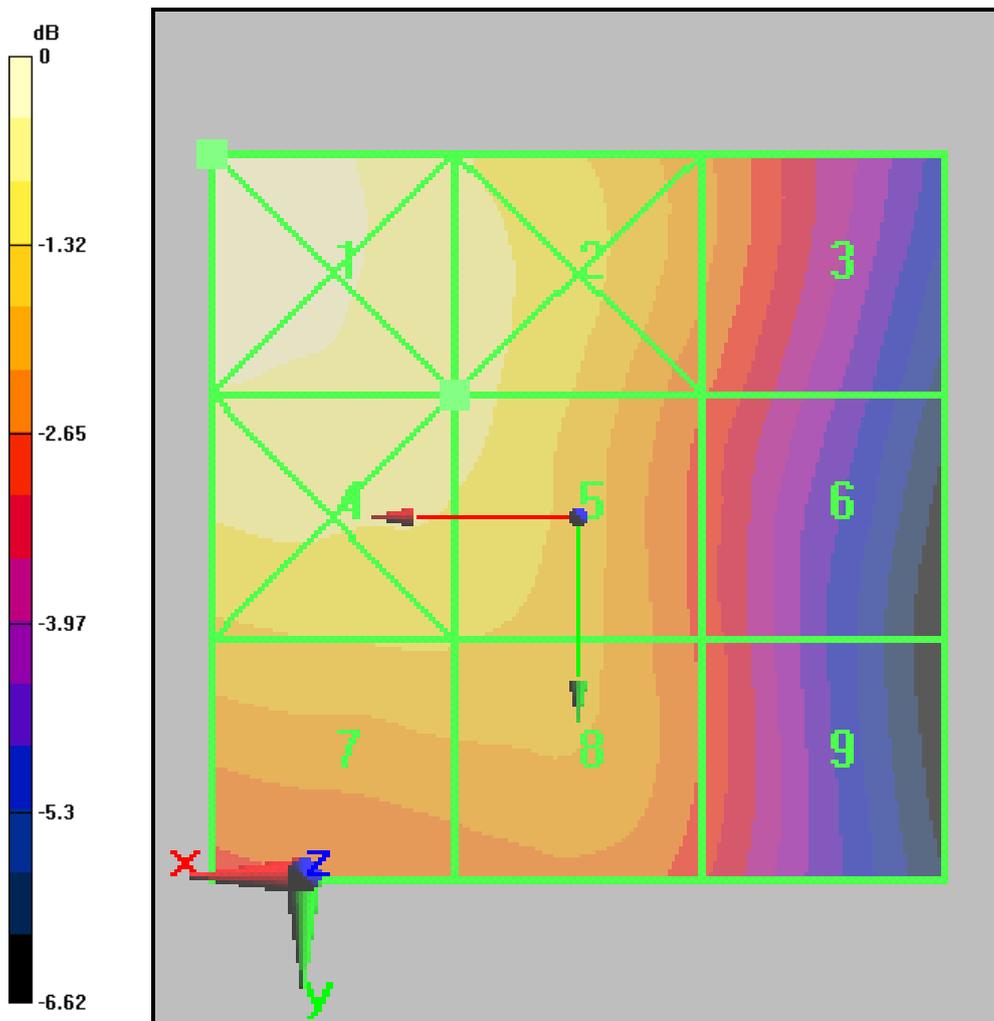
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.206 A/m

H Category: M3

Location: 25, -25, 9.2 mm



0 dB = 0.206A/m

Figure 45 HAC RF H-Field GSM 1900 Channel 810

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field GSM 1900 Middle (Battery 2)

Date/Time: 1/18/2014 5:41:08 PM

Communication System: GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.190 A/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.064 A/m; Power Drift = -0.008 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.208 M3	0.208 M3	0.190 M3
Grid 4	Grid 5	Grid 6
0.192 M3	0.189 M3	0.159 M3
Grid 7	Grid 8	Grid 9
0.181 M3	0.181 M3	0.164 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

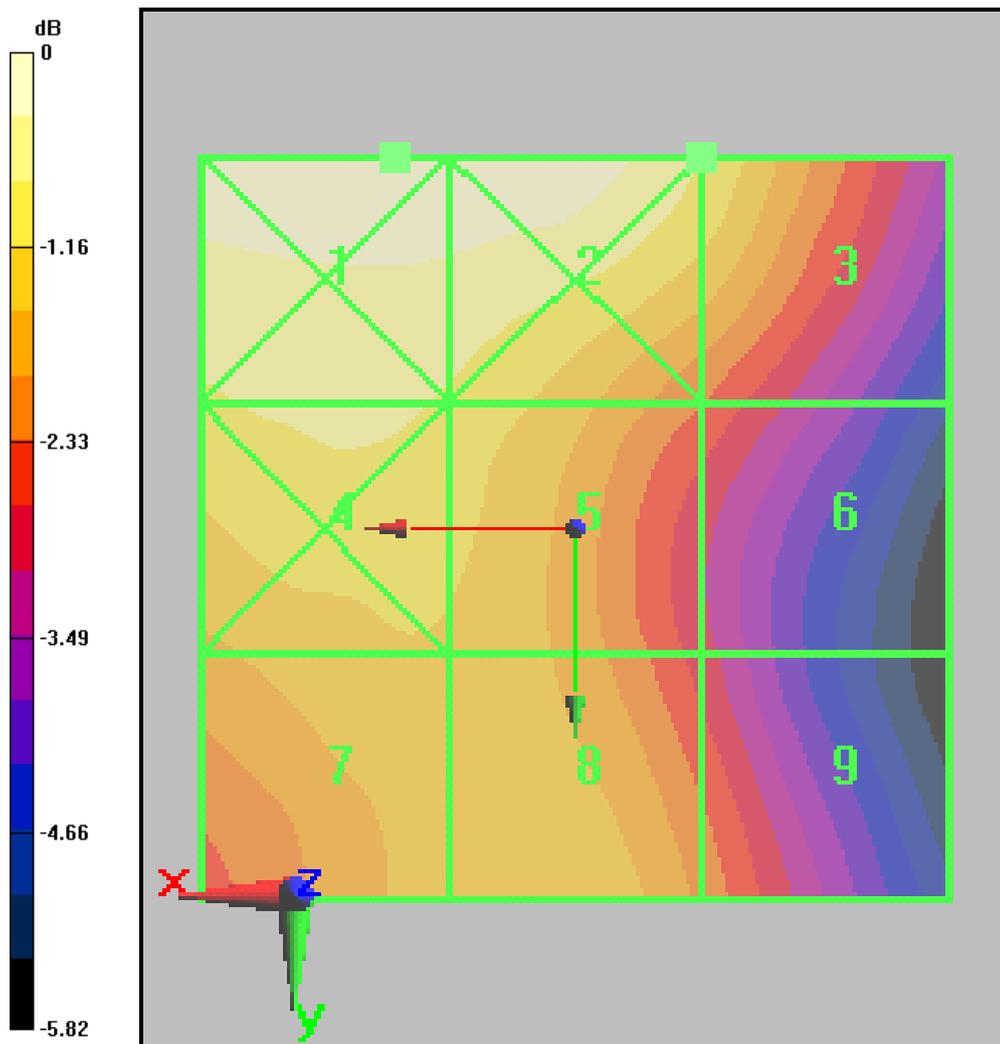
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.208 A/m

H Category: M3

Location: 12, -25, 9.2 mm



0 dB = 0.208A/m

Figure 46 HAC RF H-Field GSM 1900 Channel 661

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field GSM 1900 Low (Battery 2)

Date/Time: 1/18/2014 5:52:14 PM

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD GSM 850 HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.190 A/m

Probe Modulation Factor = 2.84

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.057 A/m; Power Drift = 0.050 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.221 M3	0.219 M3	0.182 M3
Grid 4	Grid 5	Grid 6
0.195 M3	0.190 M3	0.154 M3
Grid 7	Grid 8	Grid 9
0.190 M3	0.190 M3	0.161 M3

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

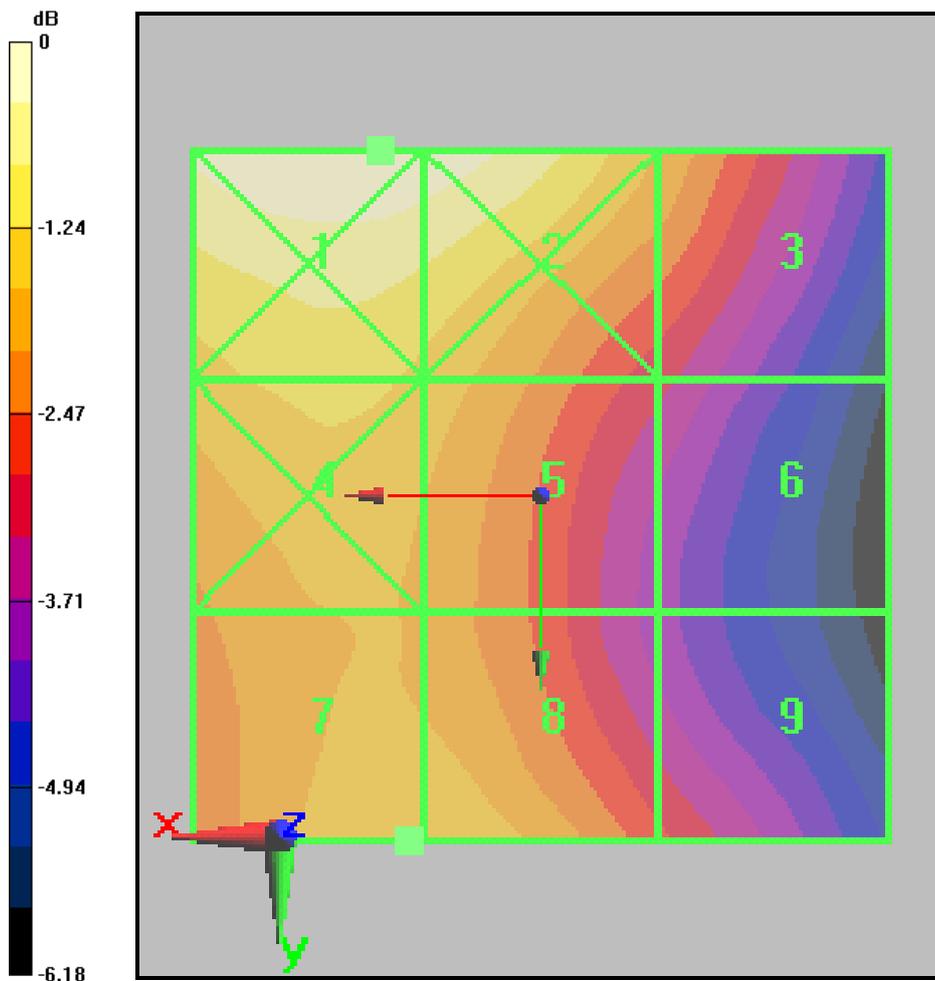
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.221 A/m

H Category: M3

Location: 11.5, -25, 9.2 mm



0 dB = 0.221A/m

Figure 47 HAC RF H-Field GSM 1900 Channel 512

TA Technology (Shanghai) Co., Ltd.

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Report No. RXA1401-0006HAC

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HAC RF E-Field UMTS Band II High (Battery 1)

Date/Time: 1/19/2014 4:43:37 AM

Communication System: WCDMA ; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA II HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 32.9 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 49.1 V/m; Power Drift = -0.027 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
25.3 M4	32 M4	30.1 M4
Grid 4	Grid 5	Grid 6
25.9 M4	32.9 M4	30.4 M4
Grid 7	Grid 8	Grid 9
24 M4	29.6 M4	27.4 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

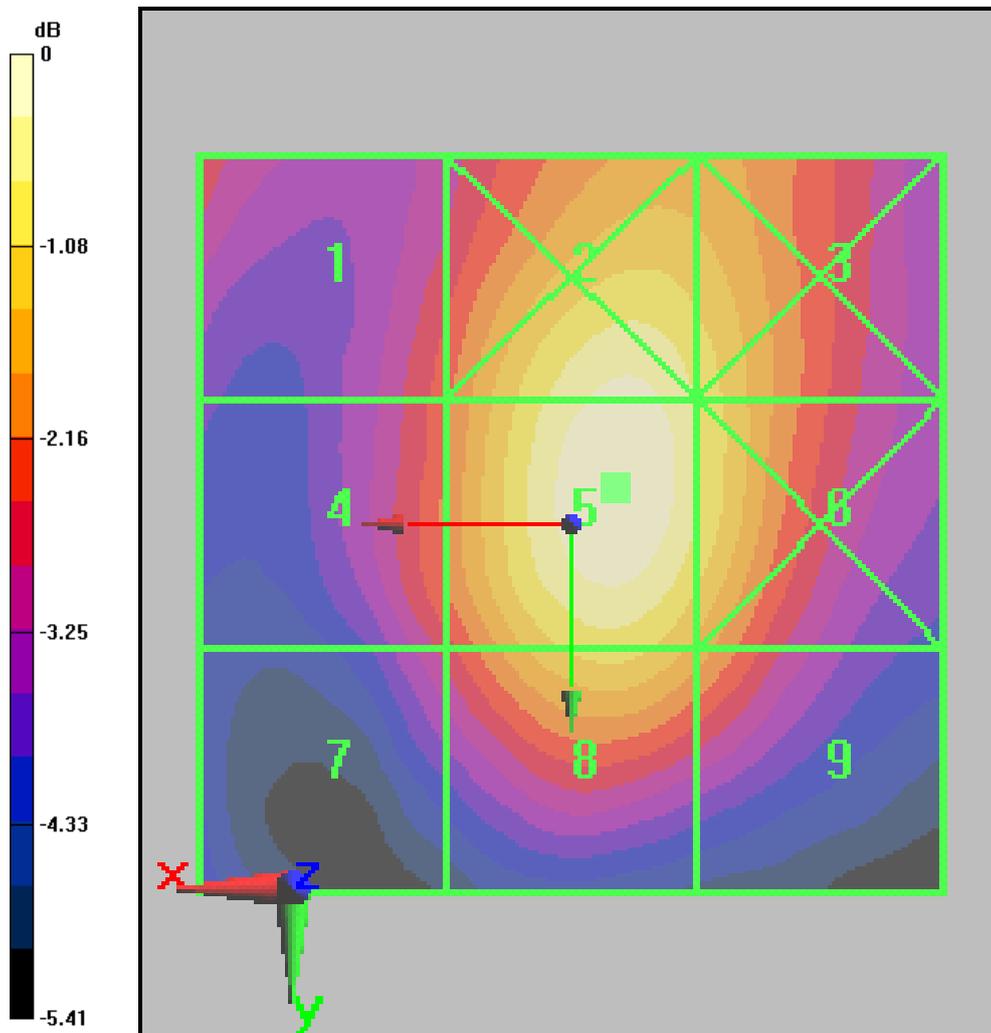
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 32.9 V/m

E Category: M4

Location: -3, -2.5, 8.7 mm



0 dB = 32.9V/m

Figure 48 HAC RF E-Field UMTS Band II Channel 9538

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF E-Field UMTS Band II Middle (Battery 1)

Date/Time: 1/19/2014 4:37:02 AM

Communication System: WCDMA ; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA II HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 32.9 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 55.5 V/m; Power Drift = -0.040 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
31.8 M4	31 M4	27.6 M4
Grid 4	Grid 5	Grid 6
30.9 M4	32.9 M4	28.7 M4
Grid 7	Grid 8	Grid 9
30.2 M4	29.8 M4	26 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

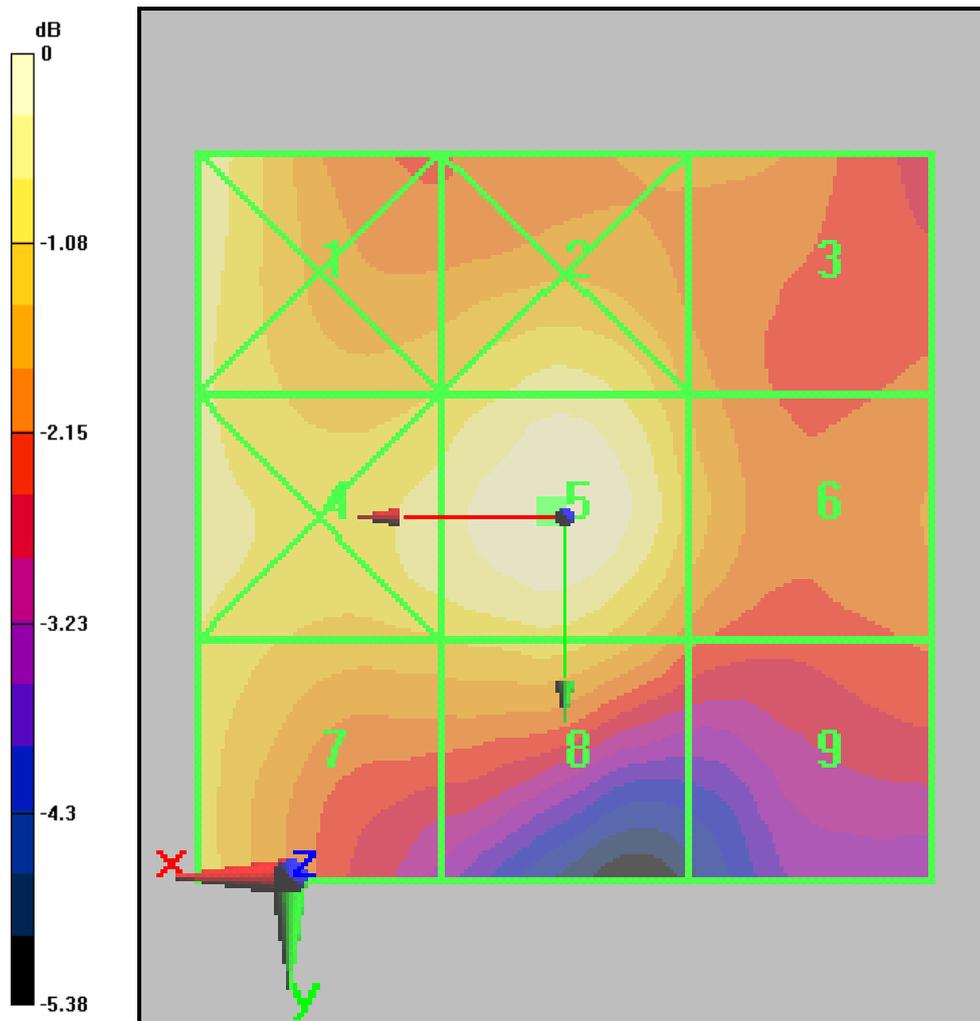
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 32.9 V/m

E Category: M4

Location: 1, -0.5, 8.7 mm



0 dB = 32.9V/m

Figure 49 HAC RF E-Field UMTS Band II Channel 9400

TA Technology (Shanghai) Co., Ltd.

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Report No. RXA1401-0006HAC

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HAC RF E-Field UMTS Band II Low (Battery 1)

Date/Time: 1/19/2014 4:49:15 AM

Communication System: WCDMA ; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA II HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 33.7 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 36.6 V/m; Power Drift = -0.038 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
32.9 M4	28 M4	32 M4
Grid 4	Grid 5	Grid 6
33.8 M4	25.4 M4	33.7 M4
Grid 7	Grid 8	Grid 9
33.9 M4	24.9 M4	33 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

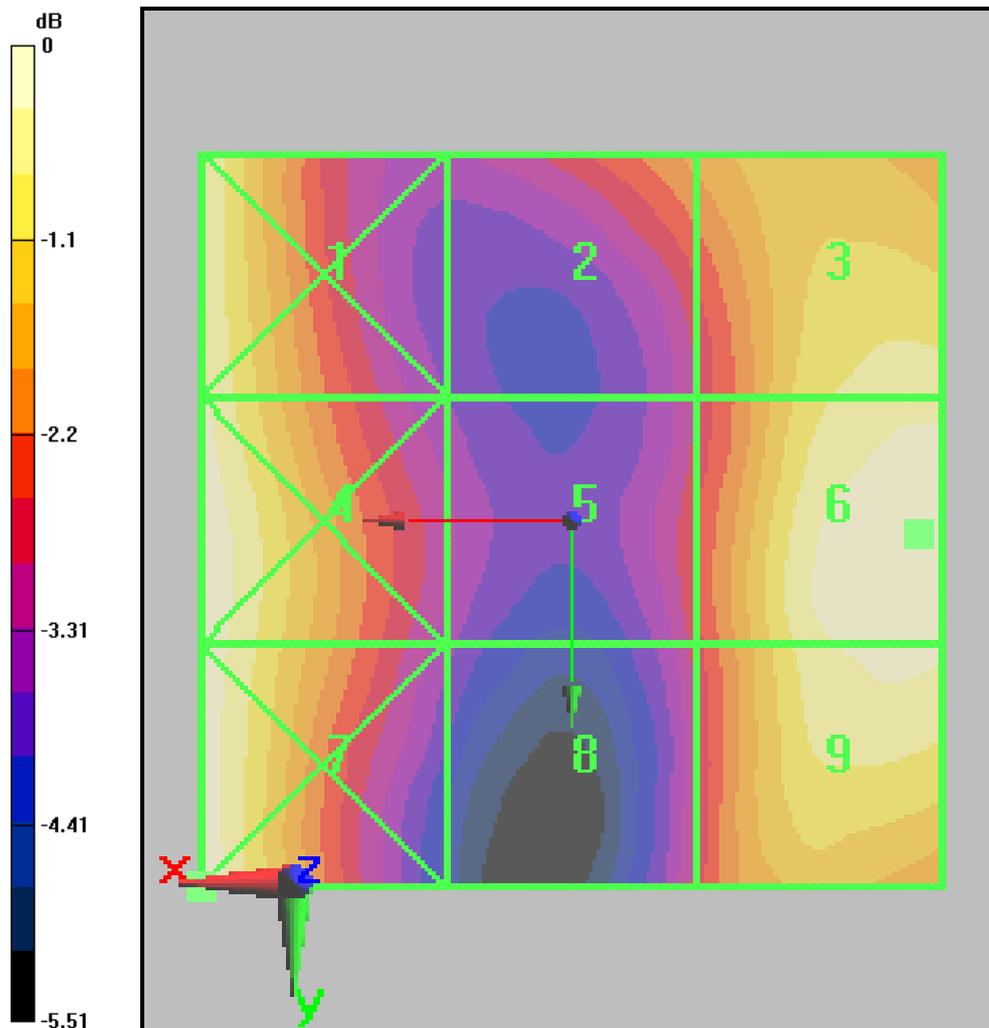
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 33.9 V/m

E Category: M4

Location: 25, 25, 8.7 mm



0 dB = 33.9V/m

Figure 50 HAC RF E-Field UMTS Band II Channel 9262

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field UMTS Band II High (Battery 1)

Date/Time: 1/19/2014 6:03:13 AM

Communication System: WCDMA ; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA II HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.089 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.097 A/m; Power Drift = -0.024 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.089 M4	0.090 M4	0.080 M4
Grid 4	Grid 5	Grid 6
0.089 M4	0.089 M4	0.077 M4
Grid 7	Grid 8	Grid 9
0.084 M4	0.085 M4	0.074 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

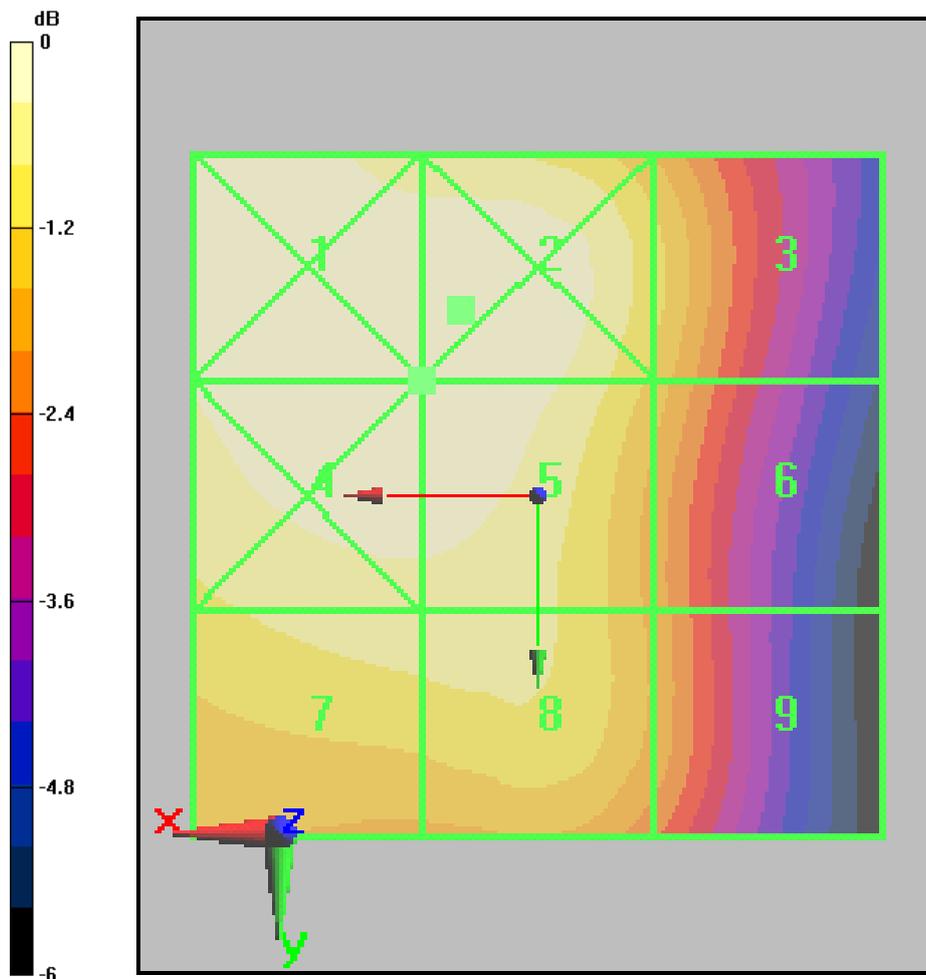
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.090 A/m

H Category: M4

Location: 5.5, -13.5, 9.2 mm



0 dB = 0.090A/m

Figure 51 HAC RF H-Field UMTS Band II Channel 9538

TA Technology (Shanghai) Co., Ltd.
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Report No. RXA1401-0006HAC

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HAC RF H-Field UMTS Band II Middle (Battery 1)

Date/Time: 1/19/2014 5:45:16 AM

Communication System: WCDMA ; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA II HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.090 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.094 A/m; Power Drift = 0.018 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.092 M4	0.098 M4	0.094 M4
Grid 4	Grid 5	Grid 6
0.089 M4	0.090 M4	0.082 M4
Grid 7	Grid 8	Grid 9
0.084 M4	0.086 M4	0.081 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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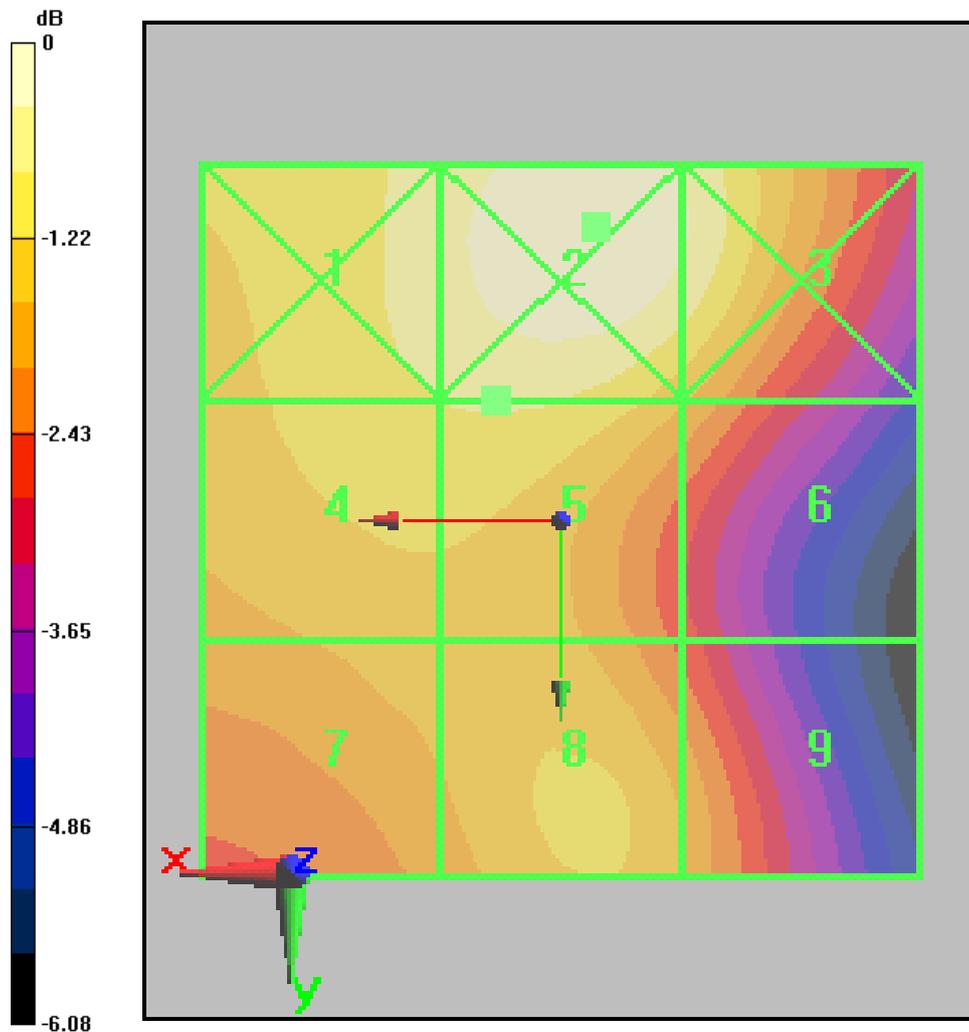
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.098 A/m

H Category: M4

Location: -2.5, -20.5, 9.2 mm



0 dB = 0.098A/m

Figure 52 HAC RF H-Field UMTS Band II Channel 9400

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HAC RF H-Field UMTS Band II Low (Battery 1)

Date/Time: 1/19/2014 6:09:13 AM

Communication System: WCDMA ; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA II HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.090 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.078 A/m; Power Drift = -0.027 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.102 M4	0.102 M4	0.094 M4
Grid 4	Grid 5	Grid 6
0.088 M4	0.088 M4	0.076 M4
Grid 7	Grid 8	Grid 9
0.090 M4	0.090 M4	0.084 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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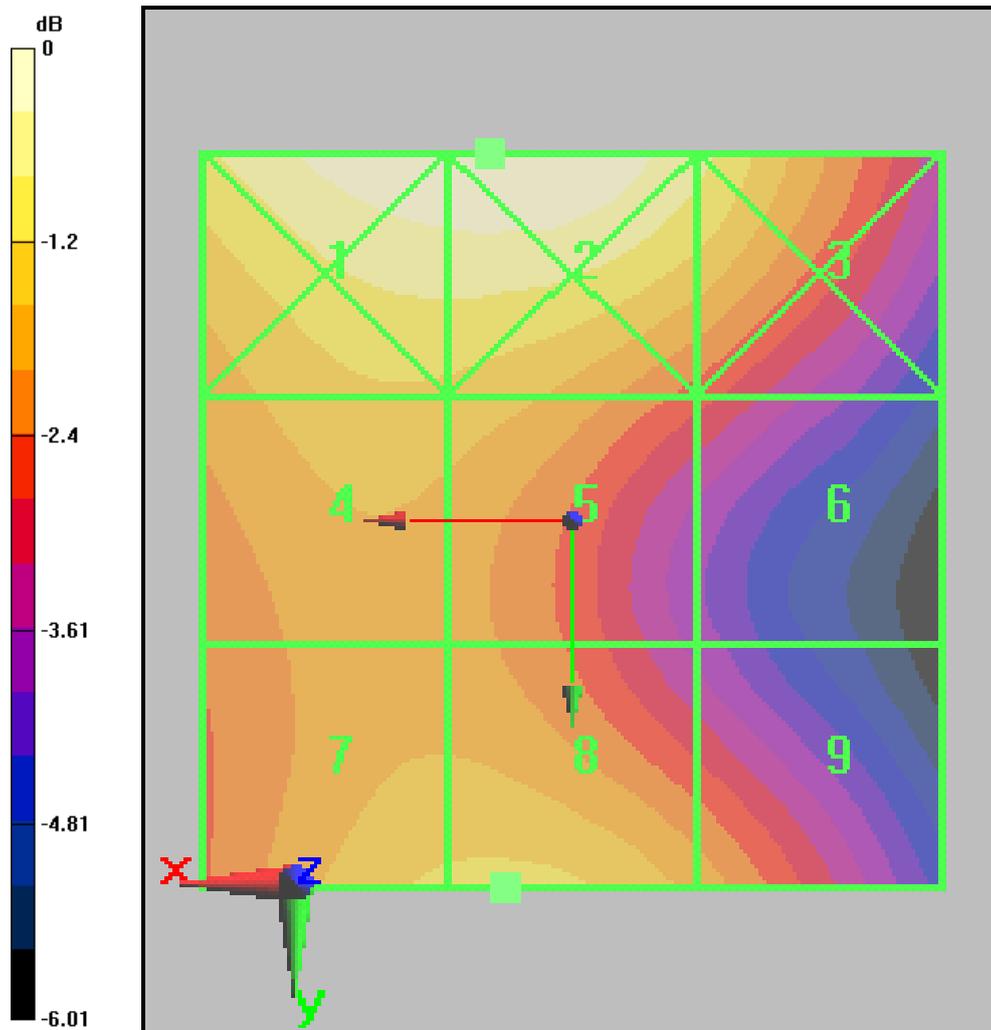
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.102 A/m

H Category: M4

Location: 5.5, -25, 9.2 mm



0 dB = 0.102A/m

Figure 53 HAC RF H-Field UMTS Band II Channel 9262

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HAC RF E-Field UMTS Band II High (Battery 2)

Date/Time: 1/18/2014 4:01:31 PM

Communication System: WCDMA ; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA II HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 30.3 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 42.2 V/m; Power Drift = -0.015 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
32 M4	30.4 M4	29.5 M4
Grid 4	Grid 5	Grid 6
27.9 M4	30.3 M4	29.3 M4
Grid 7	Grid 8	Grid 9
26.9 M4	26 M4	25.7 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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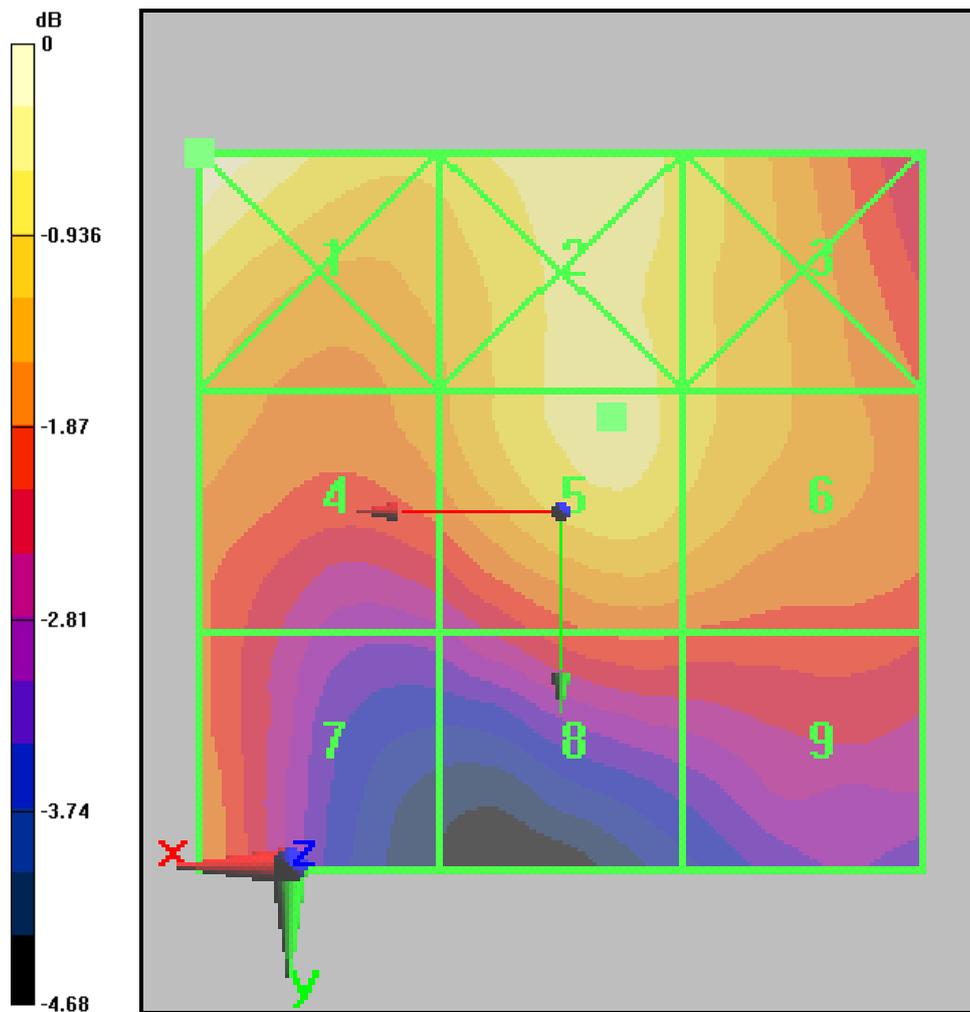
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 32 V/m

E Category: M4

Location: 25, -25, 8.7 mm



0 dB = 32V/m

Figure 54 HAC RF E-Field UMTS Band II Channel 9538

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HAC RF E-Field UMTS Band II Middle (Battery 2)

Date/Time: 1/18/2014 3:55:33 PM

Communication System: WCDMA ; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA II HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 31.5 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 36.5 V/m; Power Drift = 0.125 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
36.5 M4	30.3 M4	31 M4
Grid 4	Grid 5	Grid 6
33.1 M4	28.1 M4	31.5 M4
Grid 7	Grid 8	Grid 9
32 M4	24.4 M4	29.9 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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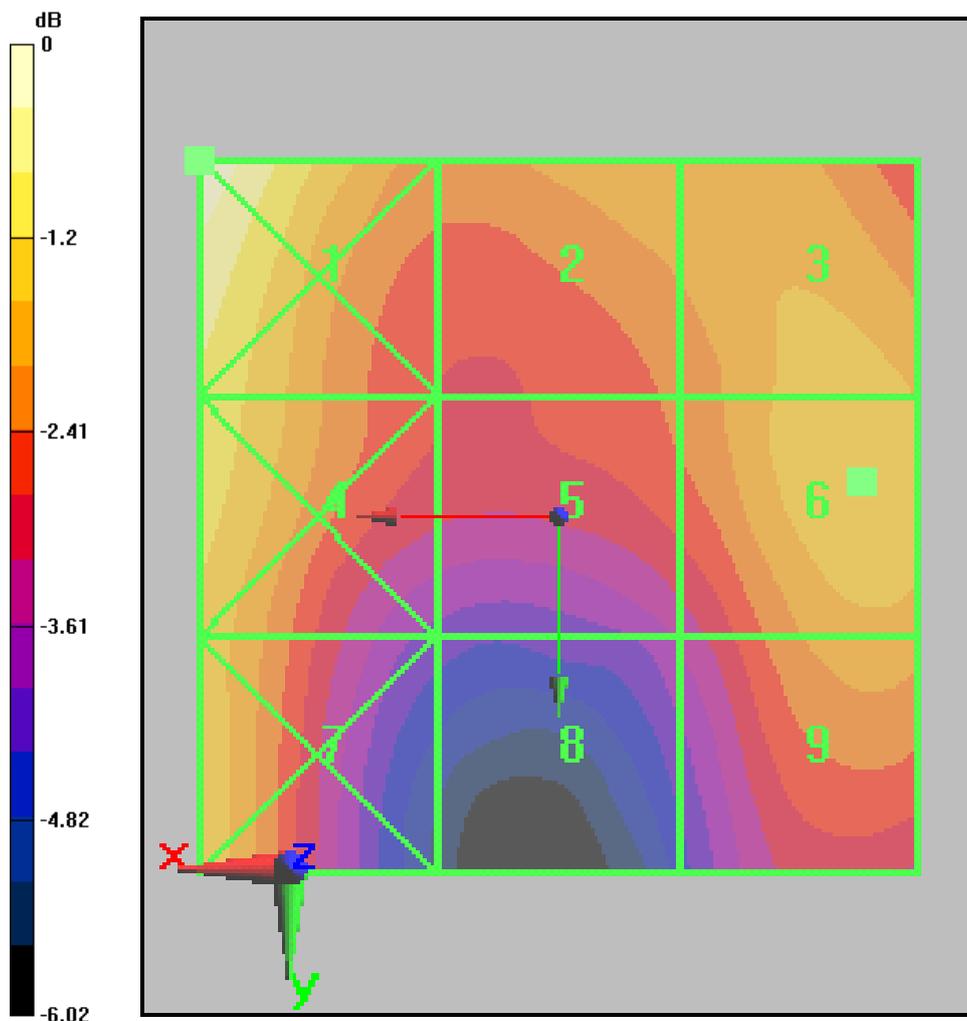
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 36.5 V/m

E Category: M4

Location: 25, -25, 8.7 mm



0 dB = 36.5V/m

Figure 55 HAC RF E-Field UMTS Band II Channel 9400

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HAC RF E-Field UMTS Band II Low (Battery 2)

Date/Time: 1/18/2014 4:07:10 PM

Communication System: WCDMA ; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA II HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 35.5 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 29.2 V/m; Power Drift = -0.009 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
36.2 M4	31.8 M4	34.9 M4
Grid 4	Grid 5	Grid 6
33.6 M4	29.6 M4	35.5 M4
Grid 7	Grid 8	Grid 9
32.8 M4	27 M4	34.1 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

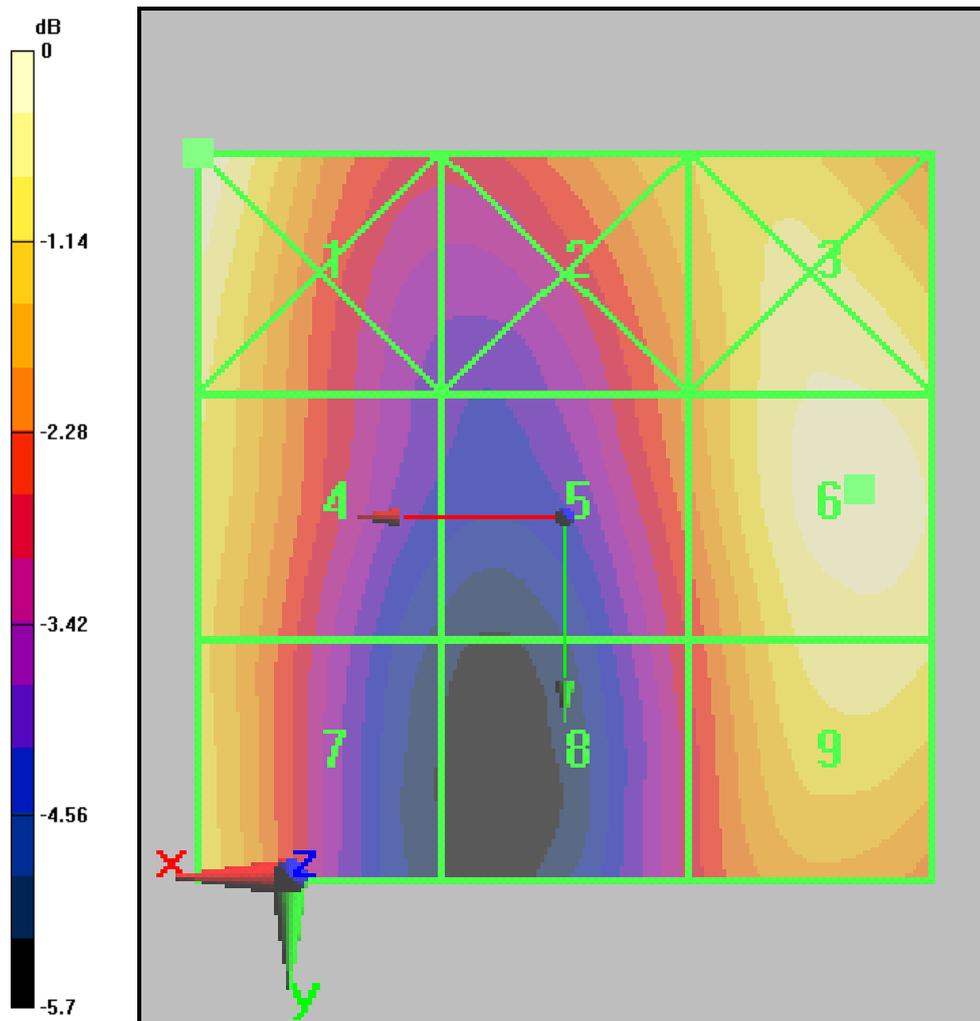
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 36.2 V/m

E Category: M4

Location: 25, -25, 8.7 mm



0 dB = 36.2V/m

Figure 56 HAC RF E-Field UMTS Band II Channel 9262

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HAC RF H-Field UMTS Band II High (Battery 2)

Date/Time: 1/18/2014 5:06:54 PM

Communication System: WCDMA ; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA II HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.091 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.092 A/m; Power Drift = 0.012 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.101 M4	0.093 M4	0.080 M4
Grid 4	Grid 5	Grid 6
0.094 M4	0.091 M4	0.075 M4
Grid 7	Grid 8	Grid 9
0.085 M4	0.085 M4	0.074 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.101 A/m

H Category: M4

Location: 25, -25, 9.2 mm

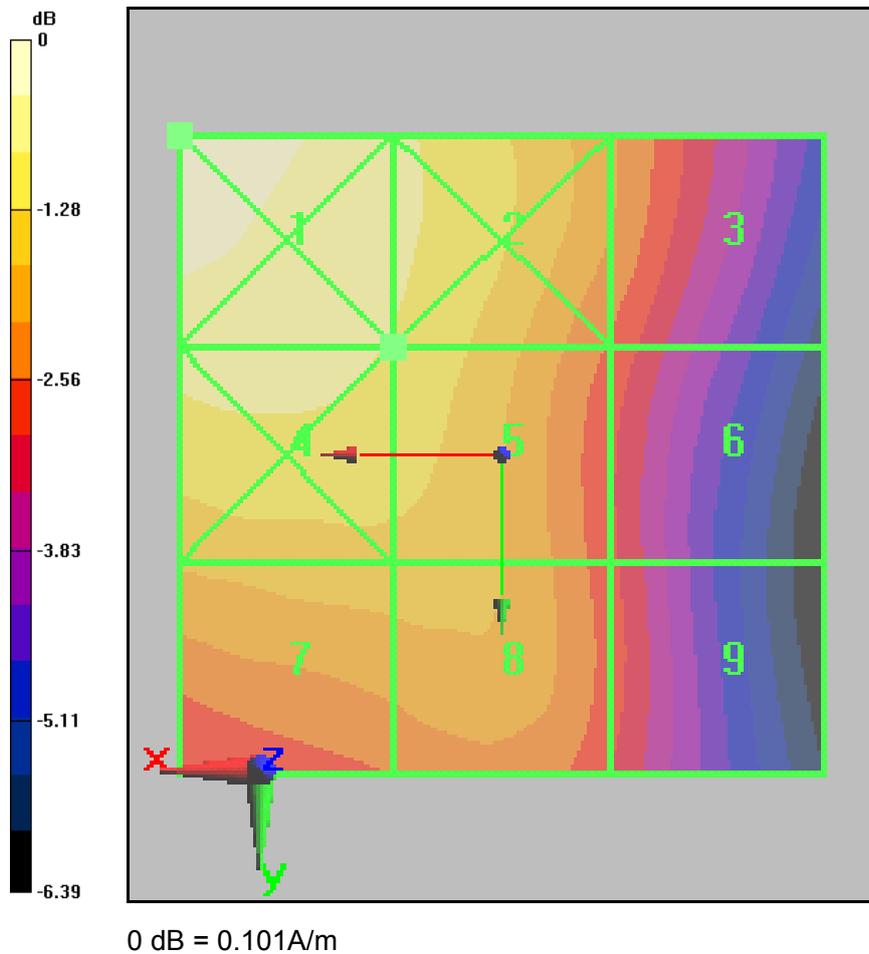


Figure 57 HAC RF H-Field UMTS Band II Channel 9538

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HAC RF H-Field UMTS Band II Middle (Battery 2)

Date/Time: 1/18/2014 5:01:13 PM

Communication System: WCDMA ; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA II HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.091 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.085 A/m; Power Drift = 0.087 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.098 M4	0.098 M4	0.091 M4
Grid 4	Grid 5	Grid 6
0.091 M4	0.089 M4	0.077 M4
Grid 7	Grid 8	Grid 9
0.086 M4	0.086 M4	0.078 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

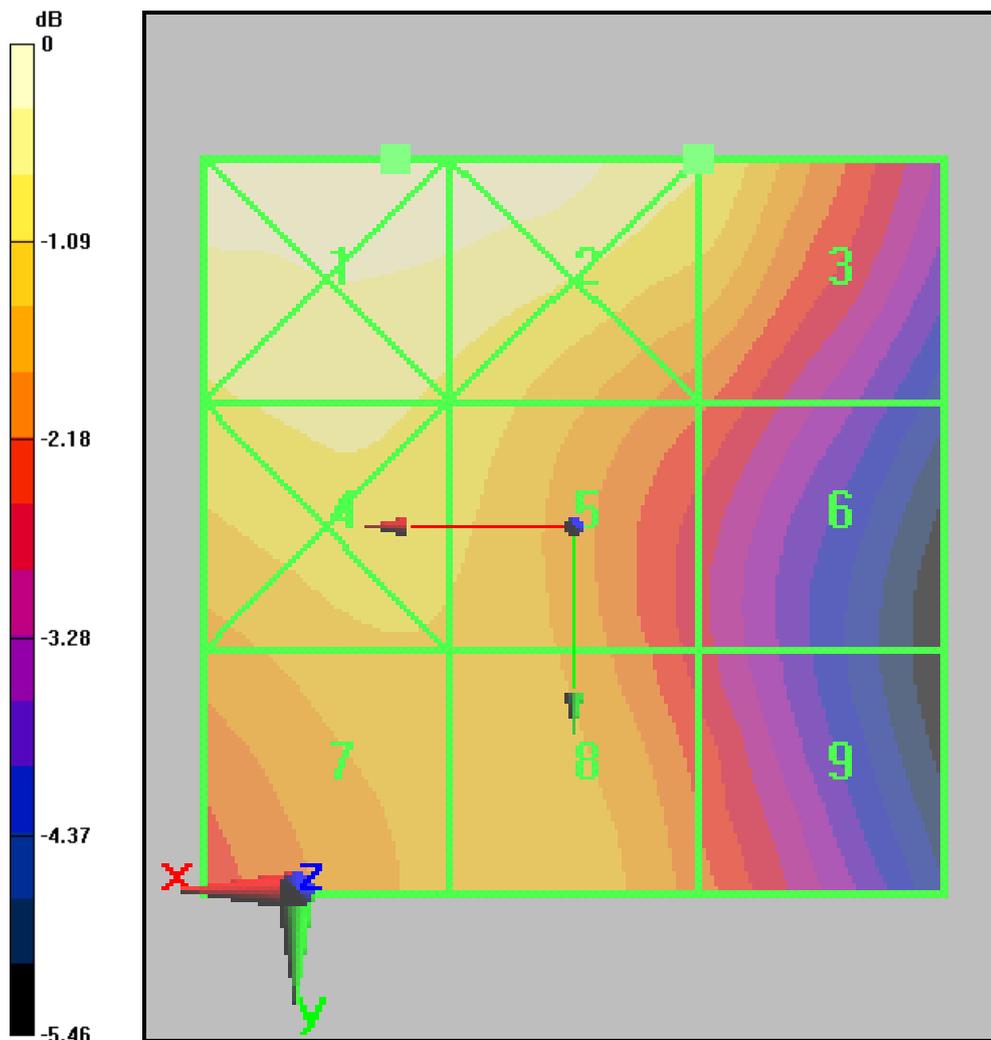
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.098 A/m

H Category: M4

Location: 12, -25, 9.2 mm



0 dB = 0.098A/m

Figure 58 HAC RF H-Field UMTS Band II Channel 9400

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HAC RF H-Field UMTS Band II Low (Battery 2)

Date/Time: 1/18/2014 5:13:05 PM

Communication System: WCDMA ; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA II HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.094 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.082 A/m; Power Drift = -0.03 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.109 M4	0.108 M4	0.091 M4
Grid 4	Grid 5	Grid 6
0.097 M4	0.094 M4	0.078 M4
Grid 7	Grid 8	Grid 9
0.093 M4	0.093 M4	0.081 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

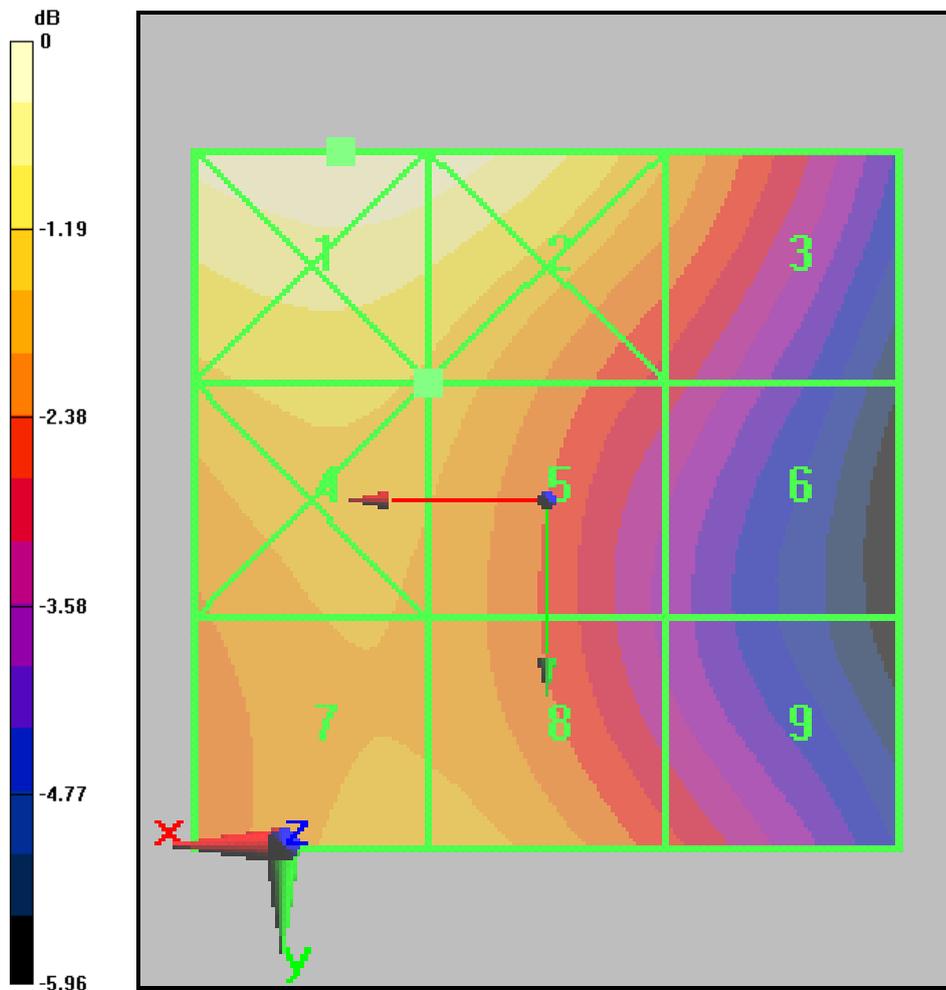
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.109 A/m

H Category: M4

Location: 14.5, -25, 9.2 mm



0 dB = 0.109A/m

Figure 59 HAC RF H-Field UMTS Band II Channel 9262

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF E-Field UMTS Band V High (Battery 1, Antenna 1)

Date/Time: 1/19/2014 5:02:39 AM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 52.9 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 57.2 V/m; Power Drift = -0.005 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
38.6 M4	50.3 M4	50.6 M4
Grid 4	Grid 5	Grid 6
41.4 M4	52.9 M4	53.2 M4
Grid 7	Grid 8	Grid 9
44.7 M4	53.6 M4	53.6 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

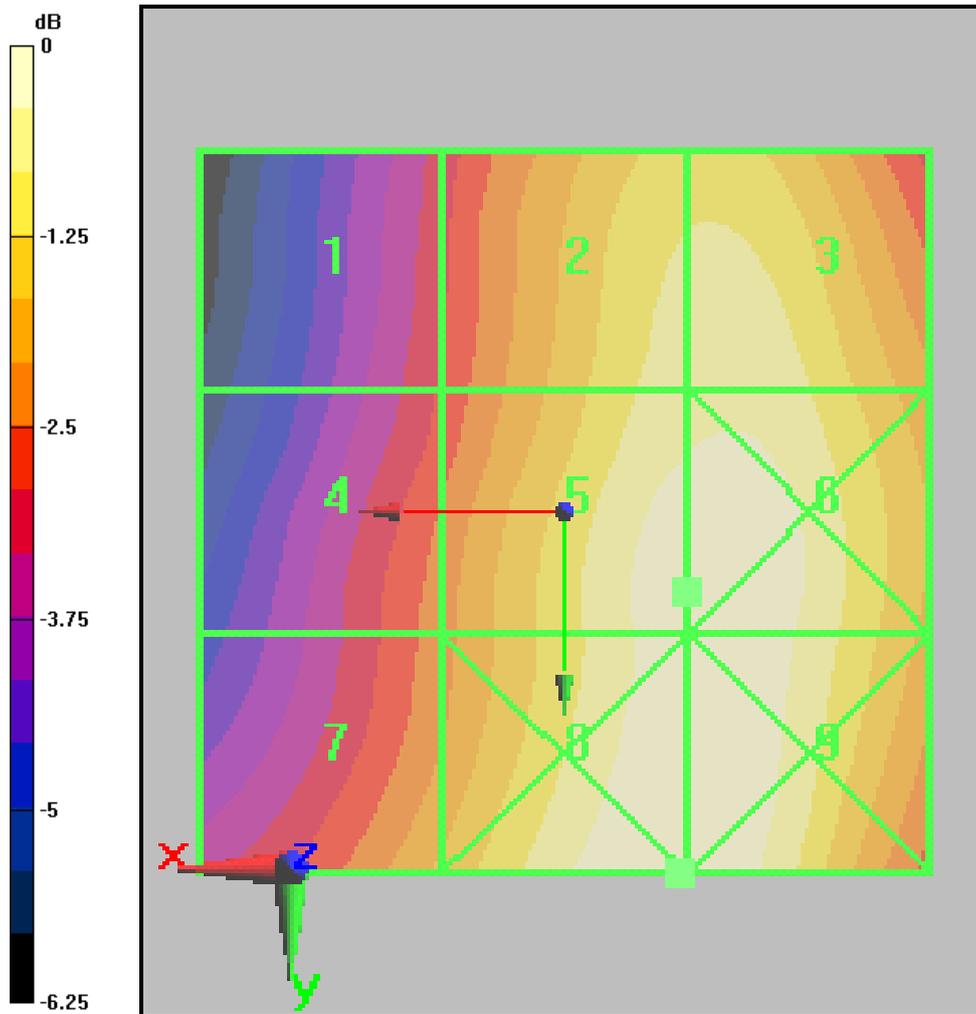
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 53.6 V/m

E Category: M4

Location: -8, 25, 8.7 mm



0 dB = 53.6V/m

Figure 60 HAC RF E-Field UMTS Band V Channel 4233

TA Technology (Shanghai) Co., Ltd.

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Report No. RXA1401-0006HAC

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HAC RF E-Field UMTS Band V Middle (Battery 1, Antenna 1)

Date/Time: 1/19/2014 4:56:13 AM

Communication System: WCDMA ; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 49.3 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 53.7 V/m; Power Drift = 0.002 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
36.4 M4	46.8 M4	47 M4
Grid 4	Grid 5	Grid 6
39 M4	49.3 M4	49.4 M4
Grid 7	Grid 8	Grid 9
42.4 M4	49.9 M4	49.9 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

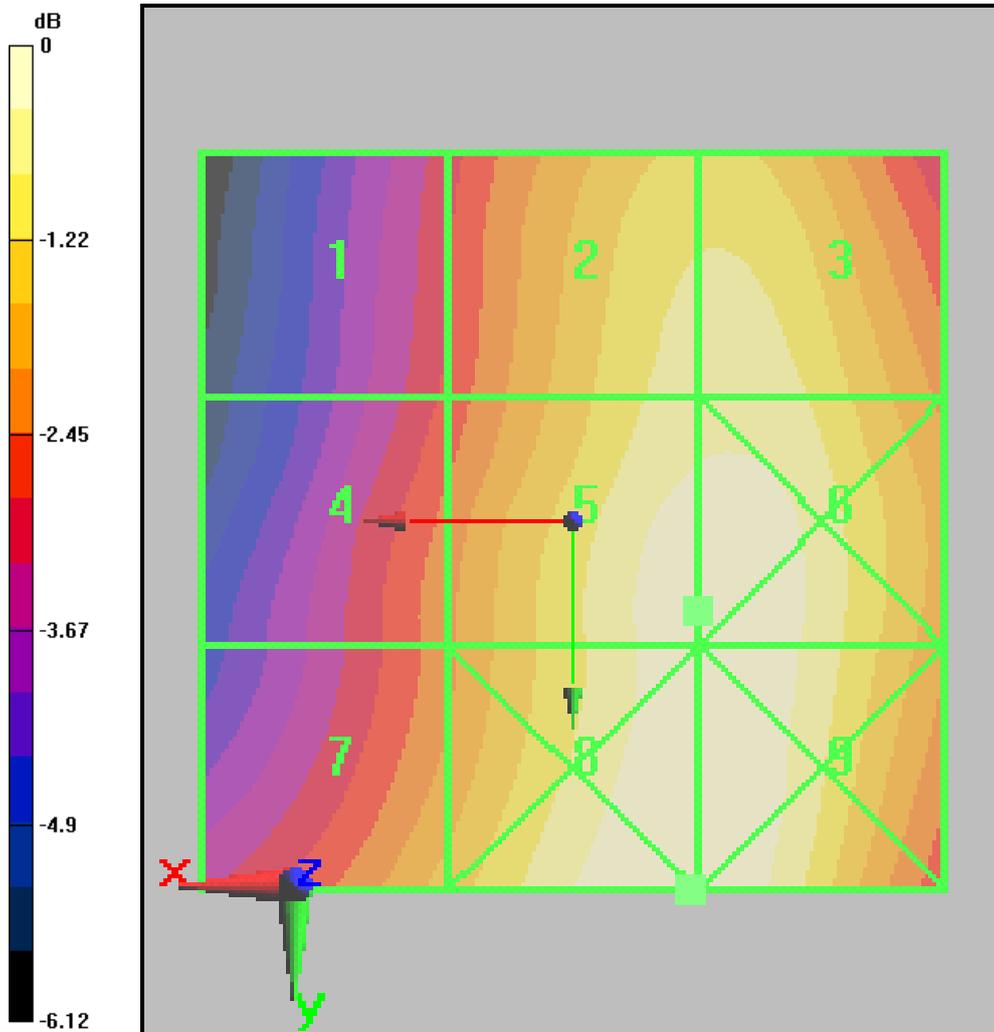
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 49.9 V/m

E Category: M4

Location: -8, 25, 8.7 mm



0 dB = 49.9V/m

Figure 61 HAC RF E-Field UMTS Band V Channel 4183

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF E-Field UMTS Band V Low (Battery 1, Antenna 1)

Date/Time: 1/19/2014 5:08:23 AM

Communication System: WCDMA ; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 50.9 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 55.9 V/m; Power Drift = -0.028 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
38.2 M4	48.3 M4	48.5 M4
Grid 4	Grid 5	Grid 6
40.6 M4	50.9 M4	51 M4
Grid 7	Grid 8	Grid 9
43.6 M4	51.2 M4	51.2 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

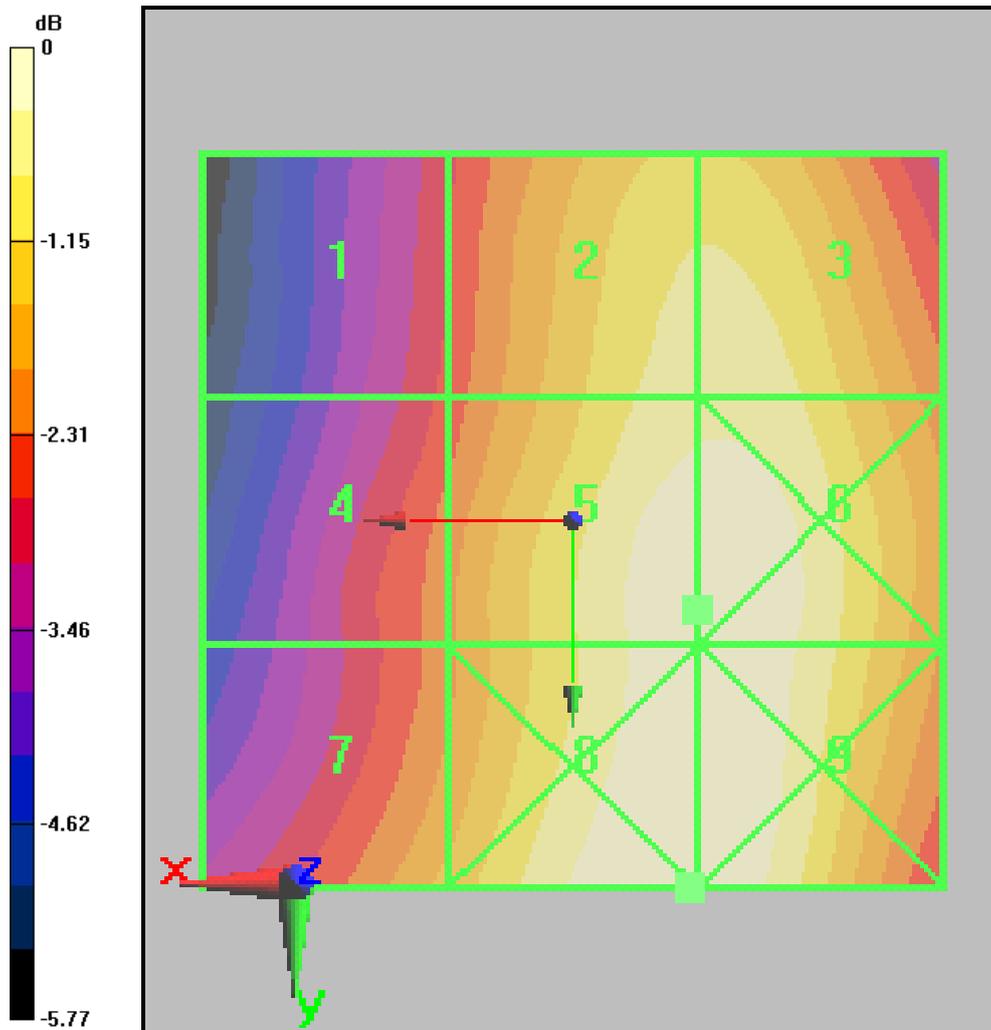
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 51.2 V/m

E Category: M4

Location: -8, 25, 8.7 mm



0 dB = 51.2V/m

Figure 62 HAC RF E-Field UMTS Band V Channel 4132

TA Technology (Shanghai) Co., Ltd.

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HAC RF H-Field UMTS Band V High (Battery 1, Antenna 1)

Date/Time: 1/19/2014 5:33:07 AM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.099 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.070 A/m; Power Drift = 0.057 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.114 M4	0.091 M4	0.062 M4
Grid 4	Grid 5	Grid 6
0.112 M4	0.088 M4	0.062 M4
Grid 7	Grid 8	Grid 9
0.127 M4	0.099 M4	0.070 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

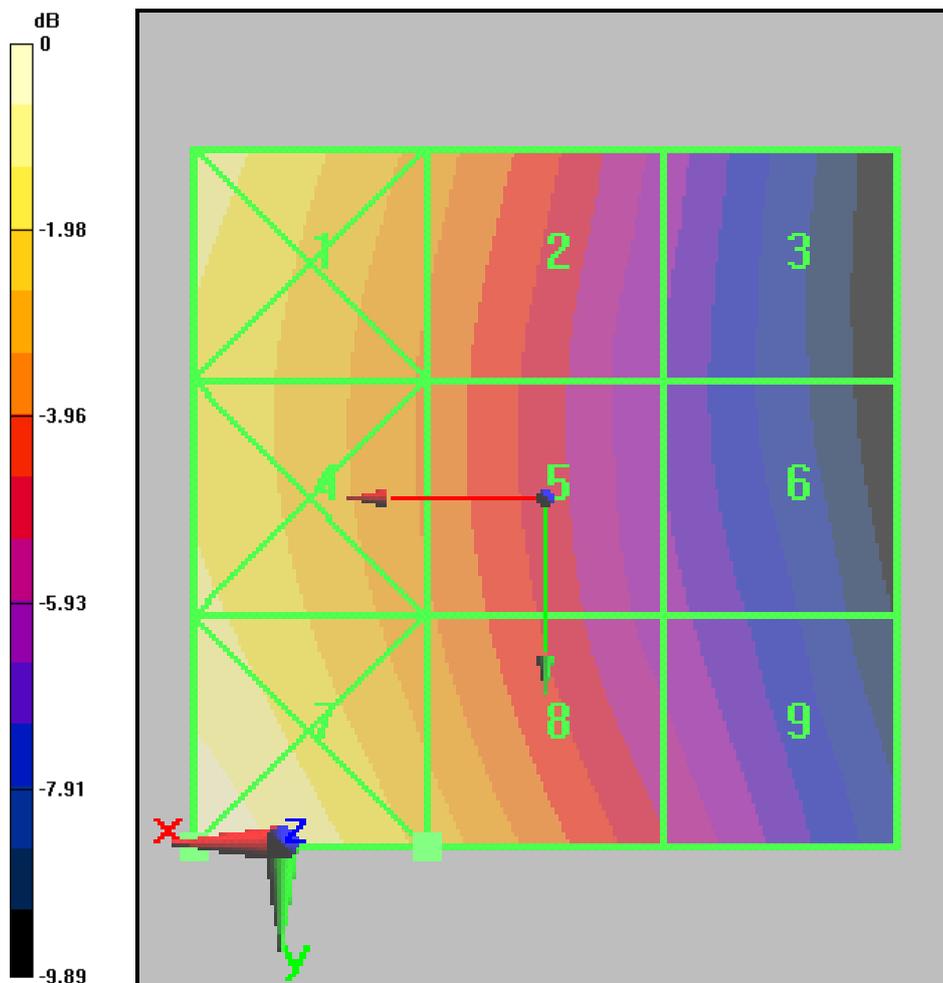
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.127 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.127A/m

Figure 63 HAC RF H-Field UMTS Band V Channel 4233

TA Technology (Shanghai) Co., Ltd.

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HAC RF H-Field UMTS Band V Middle (Battery 1, Antenna 1)

Date/Time: 1/19/2014 5:38:50 AM

Communication System: WCDMA ; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.094 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.067 A/m; Power Drift = 0.004 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.109 M4	0.087 M4	0.059 M4
Grid 4	Grid 5	Grid 6
0.107 M4	0.084 M4	0.058 M4
Grid 7	Grid 8	Grid 9
0.120 M4	0.094 M4	0.066 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

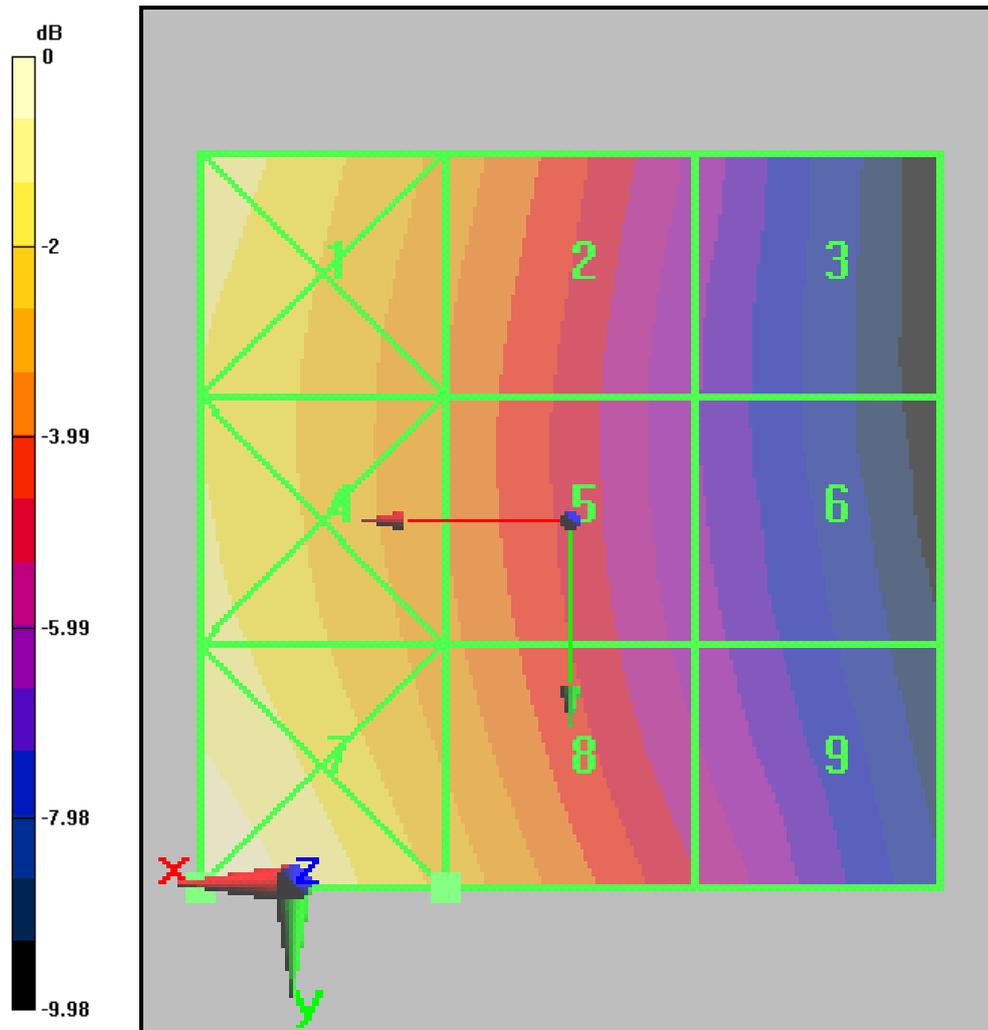
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.120 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.120A/m

Figure 64 HAC RF H-Field UMTS Band V Channel 4183

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HAC RF H-Field UMTS Band V Low (Battery 1, Antenna 1)

Date/Time: 1/19/2014 5:26:58 AM

Communication System: WCDMA ; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.092 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.065 A/m; Power Drift = -0.005 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.109 M4	0.085 M4	0.057 M4
Grid 4	Grid 5	Grid 6
0.107 M4	0.083 M4	0.056 M4
Grid 7	Grid 8	Grid 9
0.120 M4	0.092 M4	0.064 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

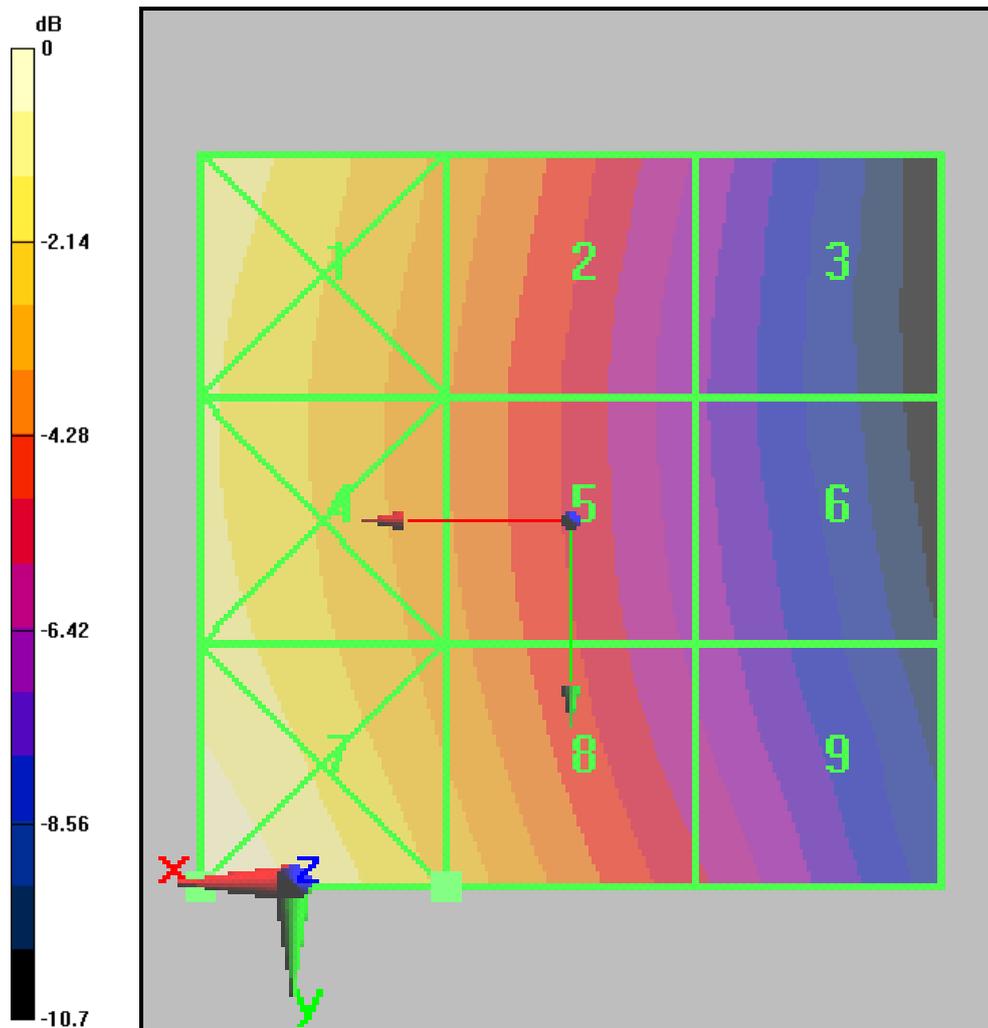
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.120 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.120A/m

Figure 65 HAC RF H-Field UMTS Band V Channel 4132

TA Technology (Shanghai) Co., Ltd.

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HAC RF E-Field UMTS Band V High (Battery 2, Antenna 1)

Date/Time: 1/18/2014 4:27:37 PM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 53.3 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 55.2 V/m; Power Drift = 0.012 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
37.7 M4	51.9 M4	53.3 M4
Grid 4	Grid 5	Grid 6
40.1 M4	53.2 M4	54.5 M4
Grid 7	Grid 8	Grid 9
44.3 M4	53.8 M4	54.2 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

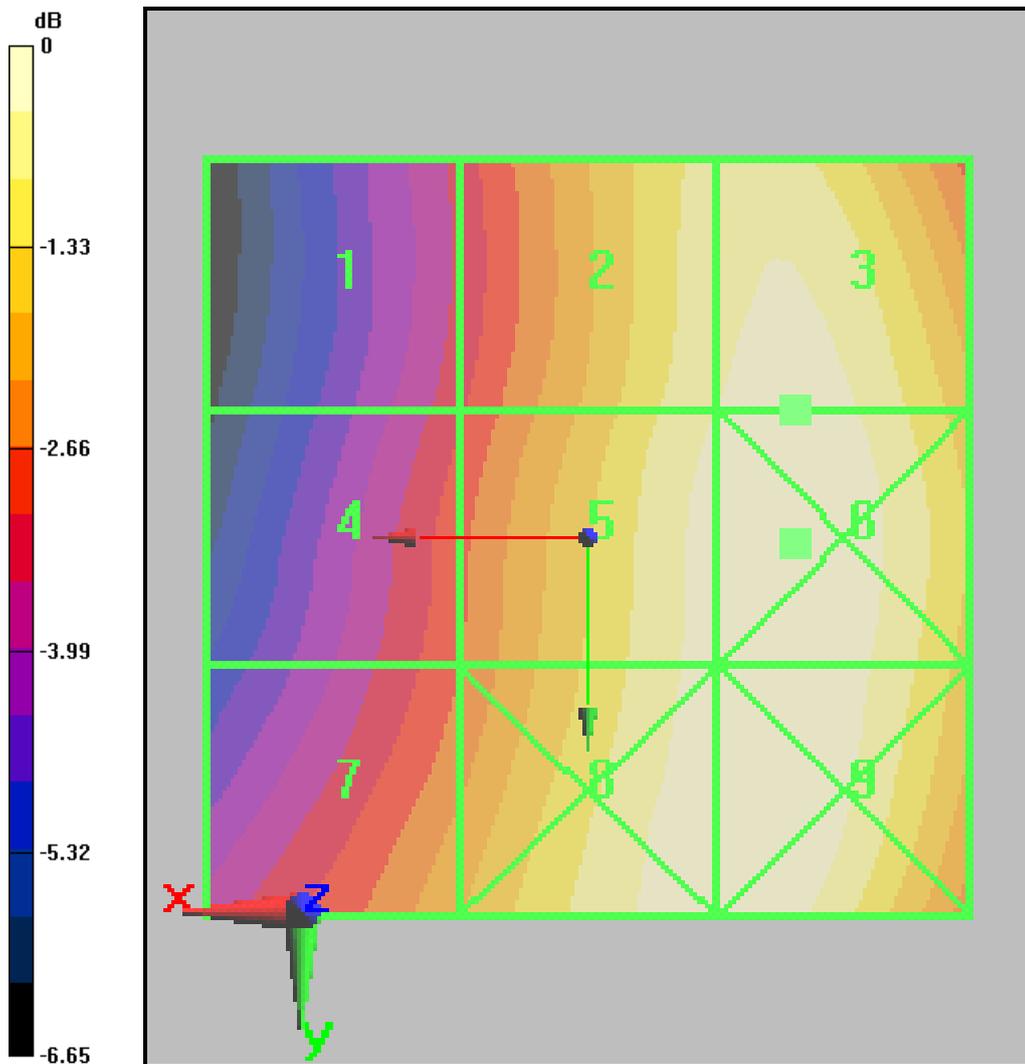
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 54.5 V/m

E Category: M4

Location: -13.5, 0.5, 8.7 mm



0 dB = 54.5V/m

Figure 66 HAC RF E-Field UMTS Band V Channel 4233

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HAC RF E-Field UMTS Band V Middle (Battery 2, Antenna 1)

Date/Time: 1/18/2014 4:14:45 PM

Communication System: WCDMA ; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 61.8 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 64.8 V/m; Power Drift = 0.005 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
44.4 M4	60.1 M4	61.4 M4
Grid 4	Grid 5	Grid 6
47.1 M4	61.8 M4	62.8 M4
Grid 7	Grid 8	Grid 9
51.6 M4	62.4 M4	62.7 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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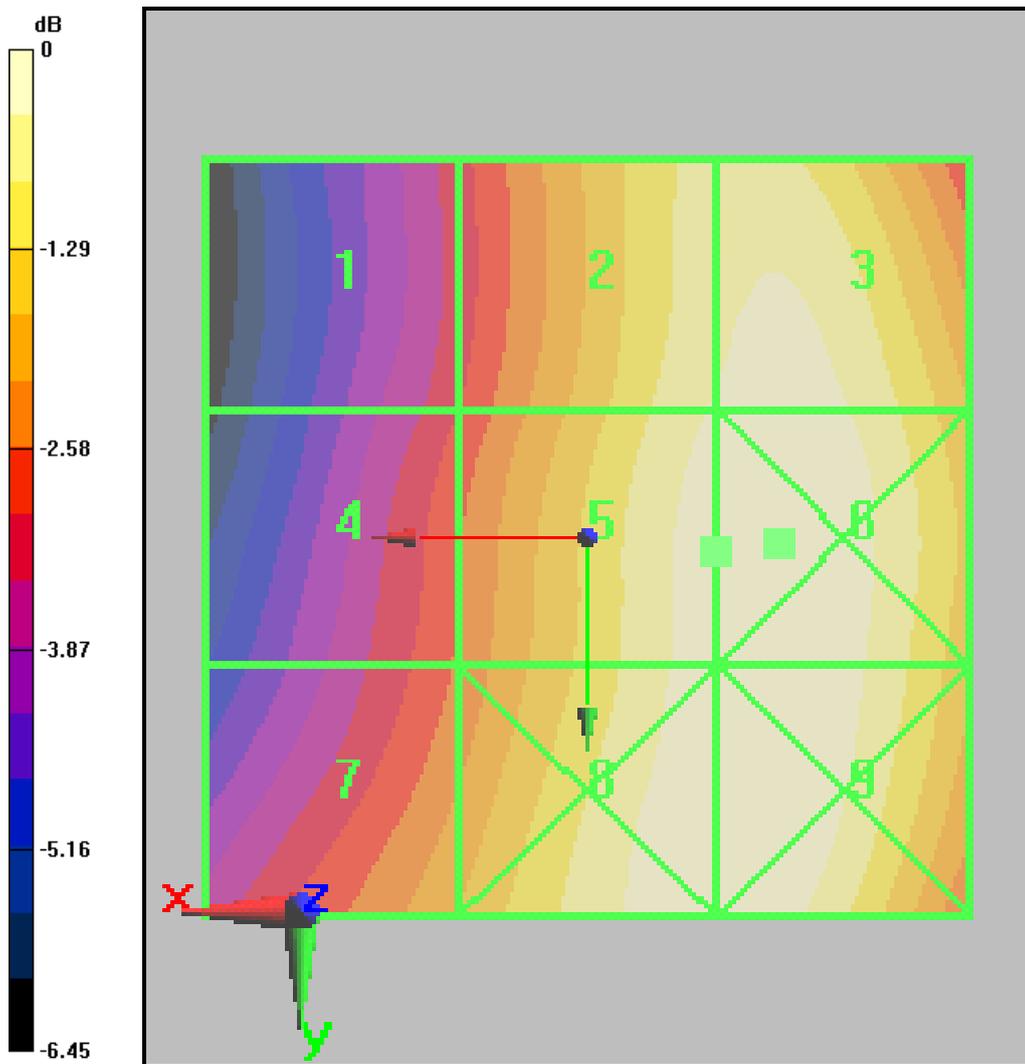
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 62.8 V/m

E Category: M4

Location: -12.5, 0.5, 8.7 mm



0 dB = 62.8V/m

Figure 67 HAC RF E-Field UMTS Band V Channel 4183

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HAC RF E-Field UMTS Band V Low (Battery 2, Antenna 1)

Date/Time: 1/18/2014 4:21:18 PM

Communication System: WCDMA ; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature:22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 61.3 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 64.9 V/m; Power Drift = -0.022 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
45 M4	59.9 M4	60.9 M4
Grid 4	Grid 5	Grid 6
47.1 M4	61.3 M4	62.2 M4
Grid 7	Grid 8	Grid 9
51.3 M4	61.6 M4	61.8 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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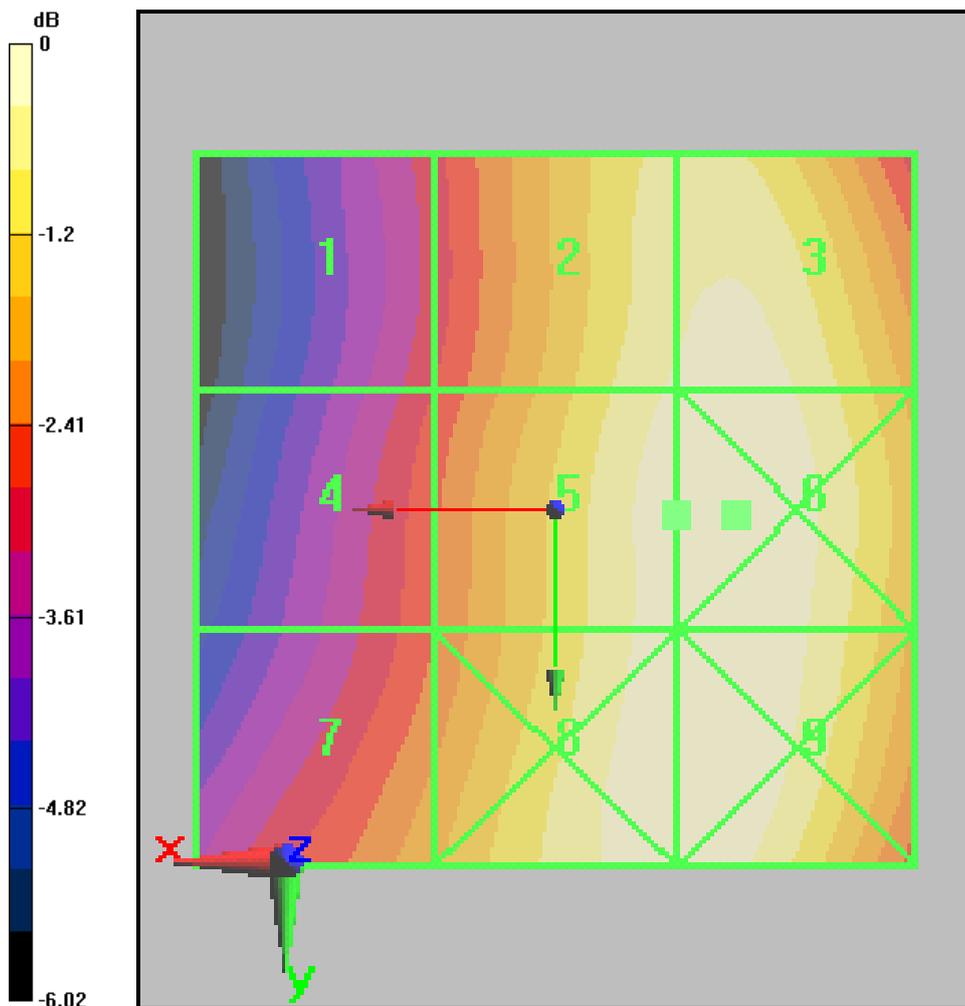
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 62.2 V/m

E Category: M4

Location: -12.5, 0.5, 8.7 mm



0 dB = 62.2V/m

Figure 68 HAC RF E-Field UMTS Band V Channel 4132

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HAC RF H-Field UMTS Band V High (Battery 2, Antenna 1)

Date/Time: 1/18/2014 5:25:10 PM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.110 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.073 A/m; Power Drift = 0.042 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.119 M4	0.093 M4	0.063 M4
Grid 4	Grid 5	Grid 6
0.122 M4	0.095 M4	0.067 M4
Grid 7	Grid 8	Grid 9
0.140 M4	0.110 M4	0.080 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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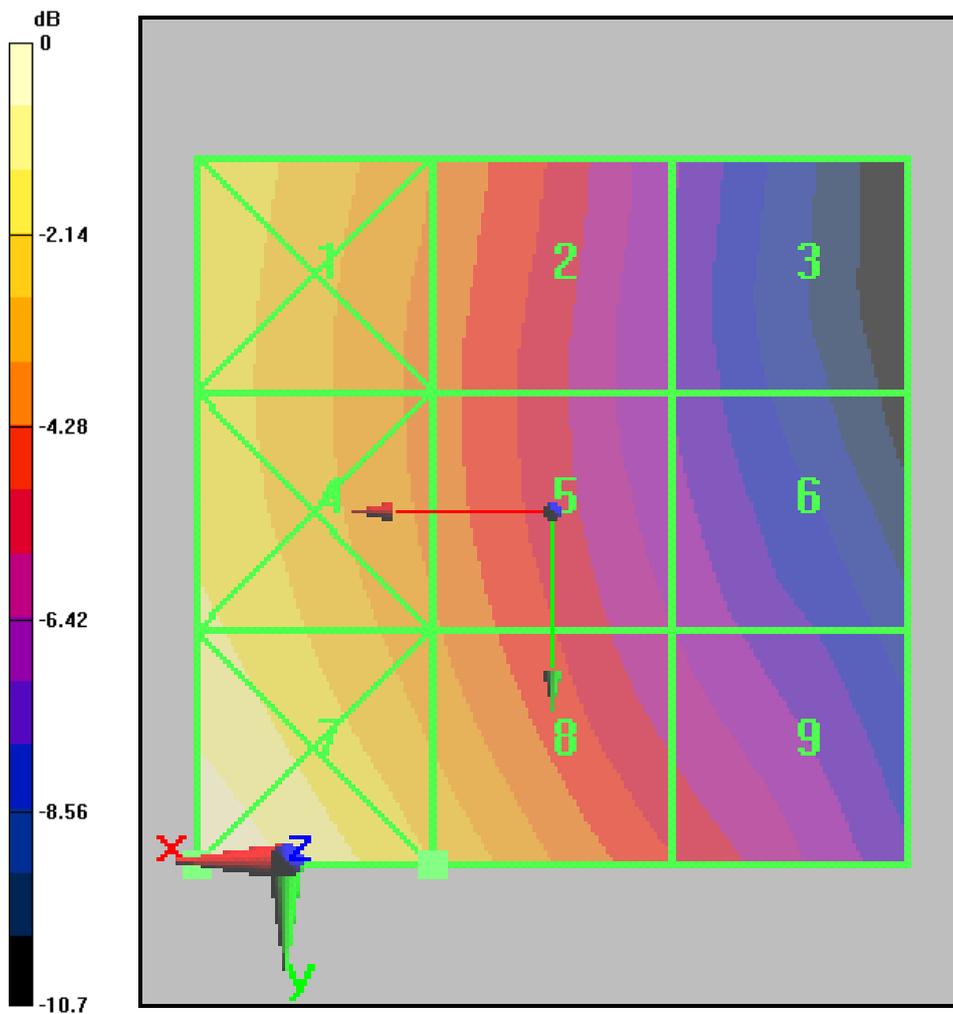
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.140 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.140A/m

Figure 69 HAC RF H-Field UMTS Band V Channel 4233

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HAC RF H-Field UMTS Band V Middle (Battery 2, Antenna 1)

Date/Time: 1/18/2014 5:19:35 PM

Communication System: WCDMA ; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.128 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.087 A/m; Power Drift = 0.014 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.139 M4	0.109 M4	0.074 M4
Grid 4	Grid 5	Grid 6
0.144 M4	0.111 M4	0.079 M4
Grid 7	Grid 8	Grid 9
0.164 M4	0.128 M4	0.093 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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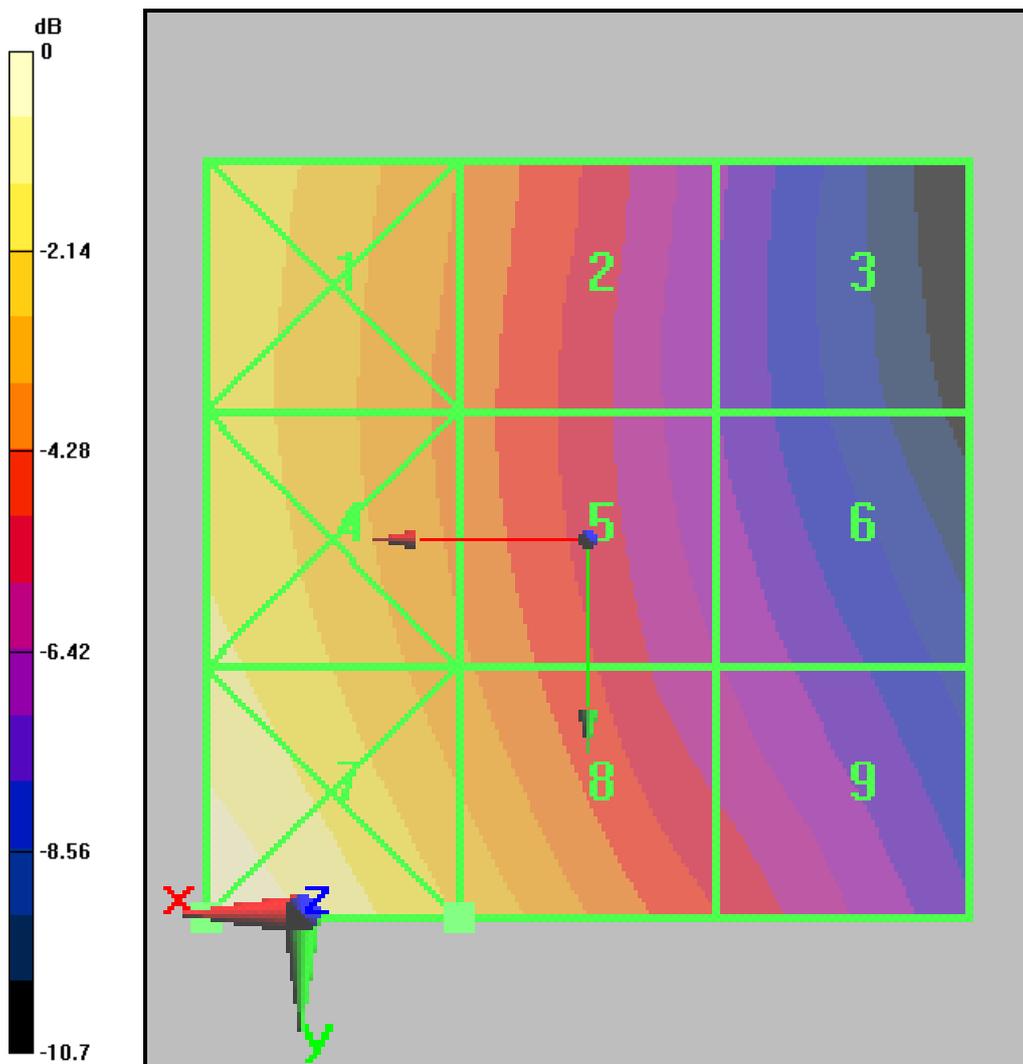
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.164 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.164A/m

Figure 70 HAC RF H-Field UMTS Band V Channel 4183

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HAC RF H-Field UMTS Band V Low (Battery 2, Antenna 1)

Date/Time: 1/18/2014 5:30:55 PM

Communication System: WCDMA ; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.124 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.083 A/m; Power Drift = 0.005 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.136 M4	0.105 M4	0.070 M4
Grid 4	Grid 5	Grid 6
0.139 M4	0.108 M4	0.076 M4
Grid 7	Grid 8	Grid 9
0.159 M4	0.124 M4	0.089 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

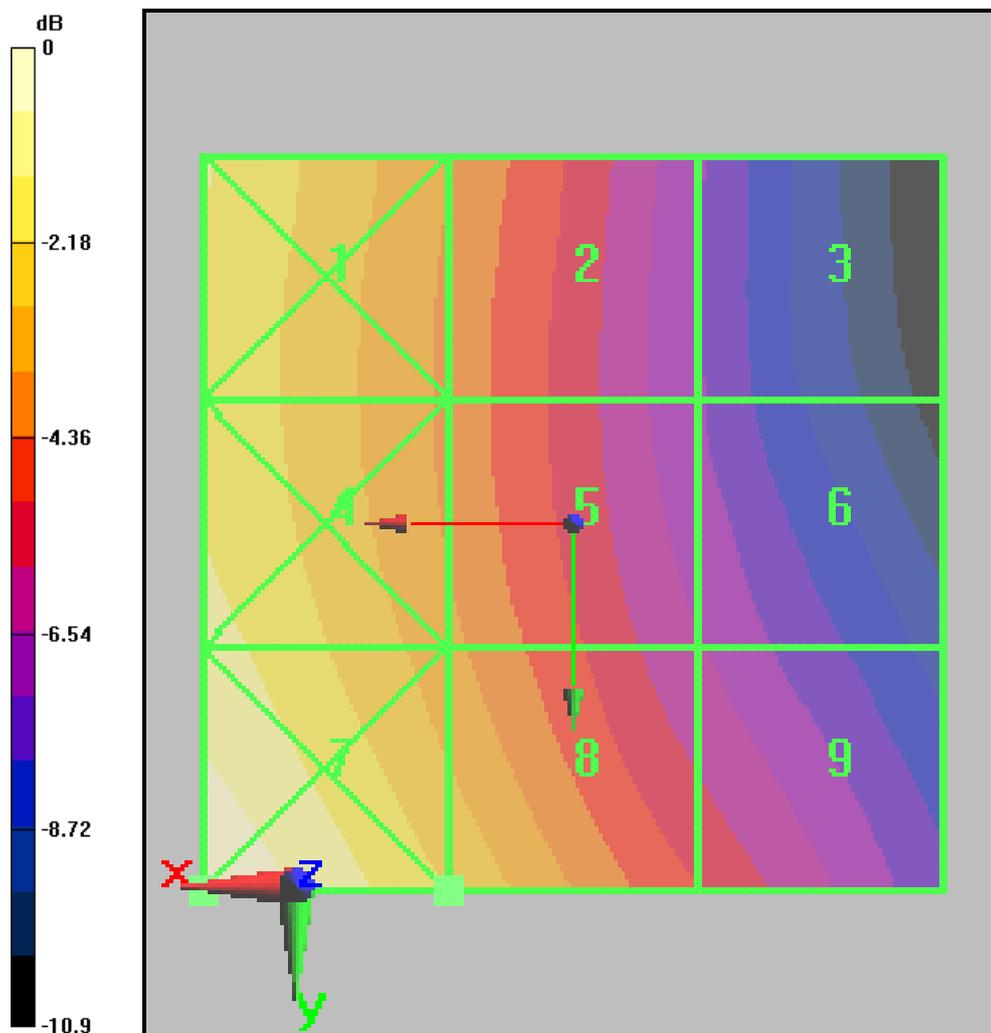
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.159 A/m

H Category: M4

Location: 25, 25, 9.2 mm



0 dB = 0.159A/m

Figure 71 HAC RF H-Field UMTS Band V Channel 4132

TA Technology (Shanghai) Co., Ltd.

Test Report

HAC RF E-Field UMTS Band V High (Battery 1, Antenna 2)

Date/Time: 1/19/2014 2:05:28 AM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 67.3 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 79.9 V/m; Power Drift = -0.006 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
60.4 M4	76 M4	69.2 M4
Grid 4	Grid 5	Grid 6
49.2 M4	67.3 M4	64.4 M4
Grid 7	Grid 8	Grid 9
35.1 M4	47.2 M4	45.7 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

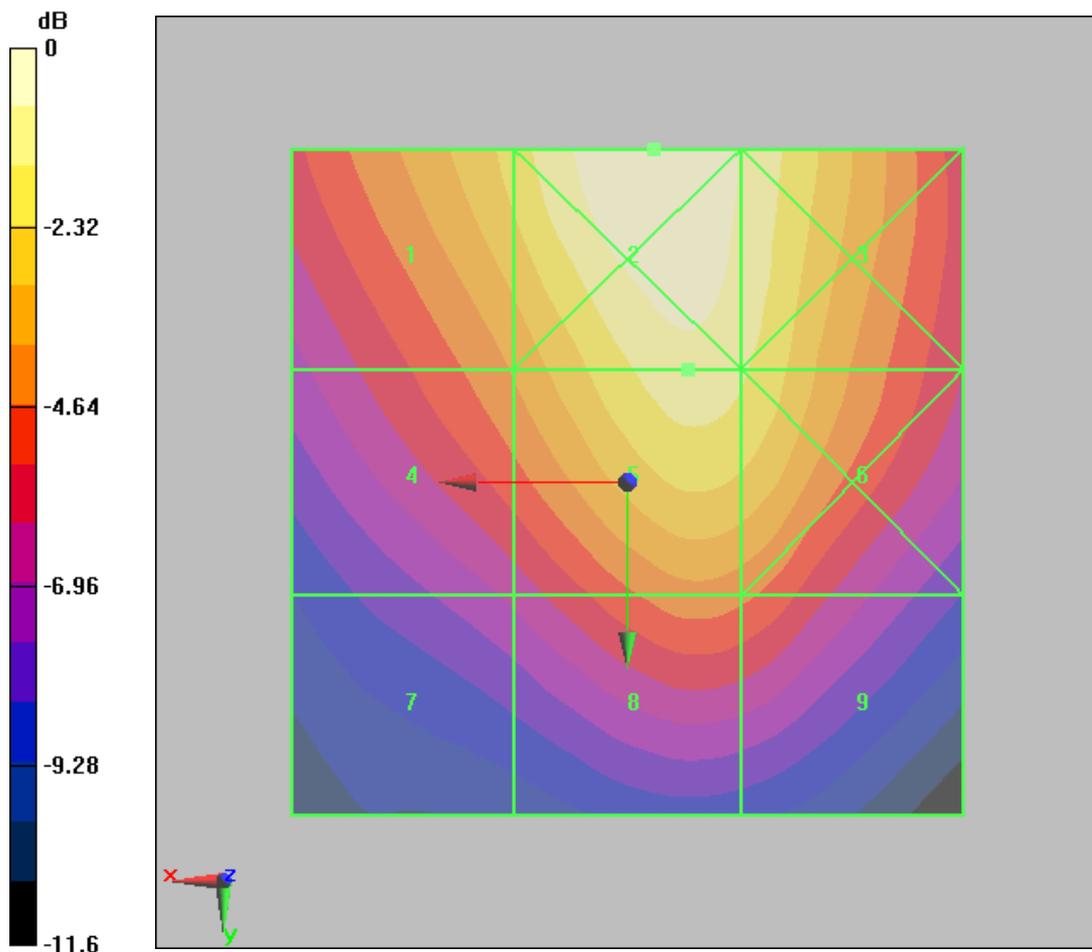
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 76 V/m

E Category: M4

Location: -2, -25, 8.7 mm



0 dB = 76V/m

Figure 72 HAC RF E-Field UMTS Band V Channel 4233

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HAC RF E-Field UMTS Band V Middle (Battery 1, Antenna 2)

Date/Time: 1/19/2014 2:21:33 AM

Communication System: WCDMA ; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 62 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 73.6 V/m; Power Drift = 0.005 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
56 M4	69.7 M4	63 M4
Grid 4	Grid 5	Grid 6
45.8 M4	62 M4	59.2 M4
Grid 7	Grid 8	Grid 9
33.2 M4	44 M4	42.5 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

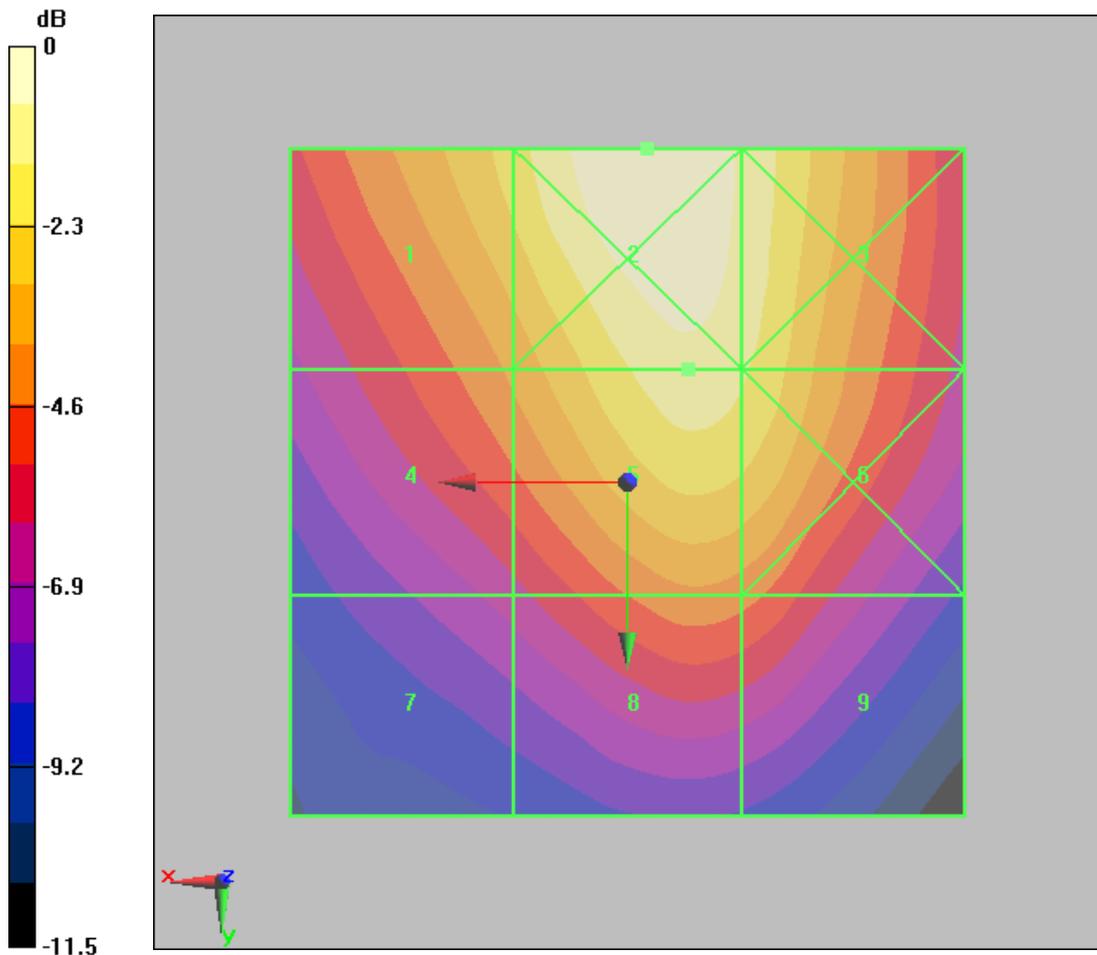
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 69.7 V/m

E Category: M4

Location: -1.5, -25, 8.7 mm



0 dB = 69.7V/m

Figure 73 HAC RF E-Field UMTS Band V Channel 4183

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HAC RF E-Field UMTS Band V Low (Battery 1, Antenna 2)

Date/Time: 1/19/2014 2:13:05 AM

Communication System: WCDMA ; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 57.1 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 67.4 V/m; Power Drift = -0.004 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
51.5 M4	64 M4	58 M4
Grid 4	Grid 5	Grid 6
42.4 M4	57.1 M4	54.7 M4
Grid 7	Grid 8	Grid 9
31.3 M4	41.3 M4	40.1 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

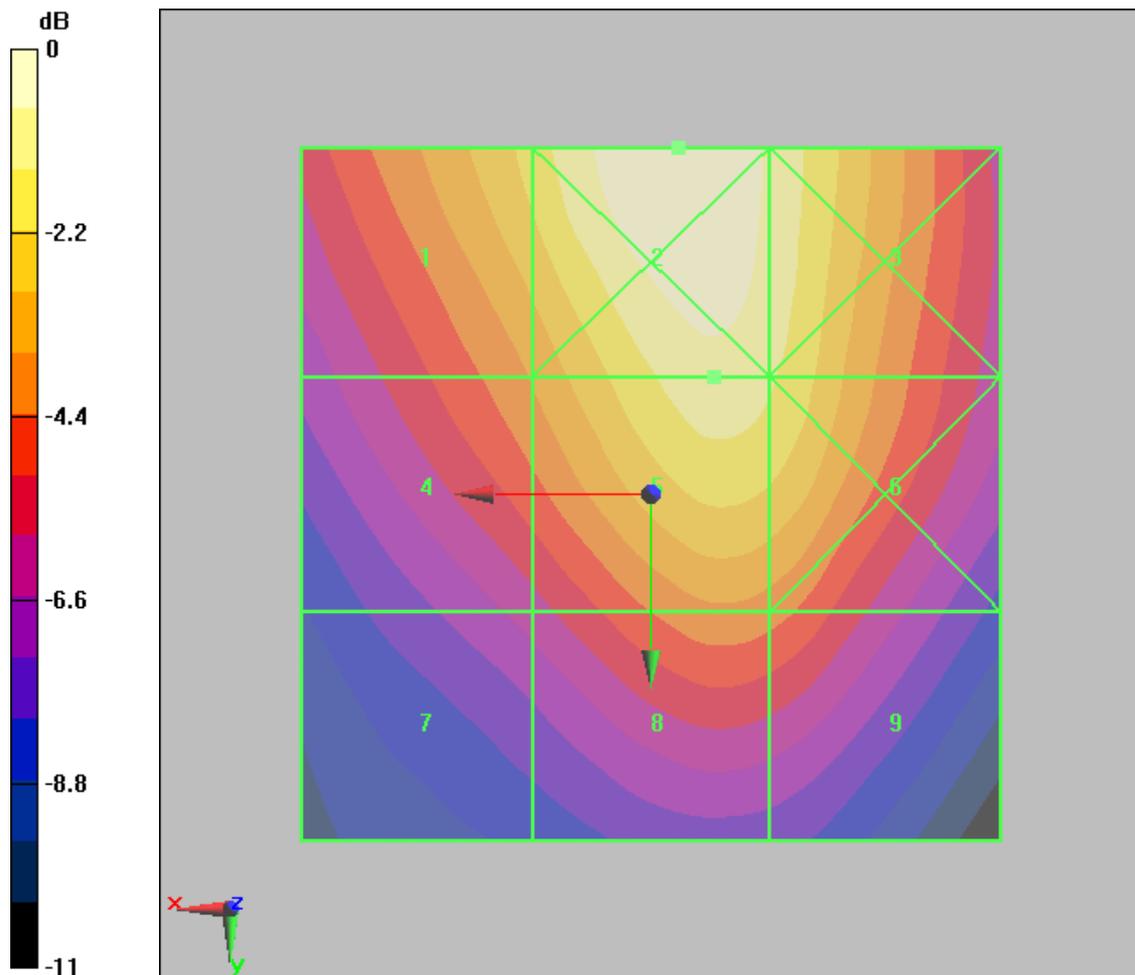
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 64 V/m

E Category: M4

Location: -2, -25, 8.7 mm



0 dB = 64V/m

Figure 74 HAC RF E-Field UMTS Band V Channel 4132

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field UMTS Band V High (Battery 1, Antenna 2)

Date/Time: 1/19/2014 12:55:47 AM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.234 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.303 A/m; Power Drift = 0.008 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.130 M4	0.182 M4	0.176 M4
Grid 4	Grid 5	Grid 6
0.157 M4	0.234 M4	0.227 M4
Grid 7	Grid 8	Grid 9
0.159 M4	0.238 M4	0.230 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

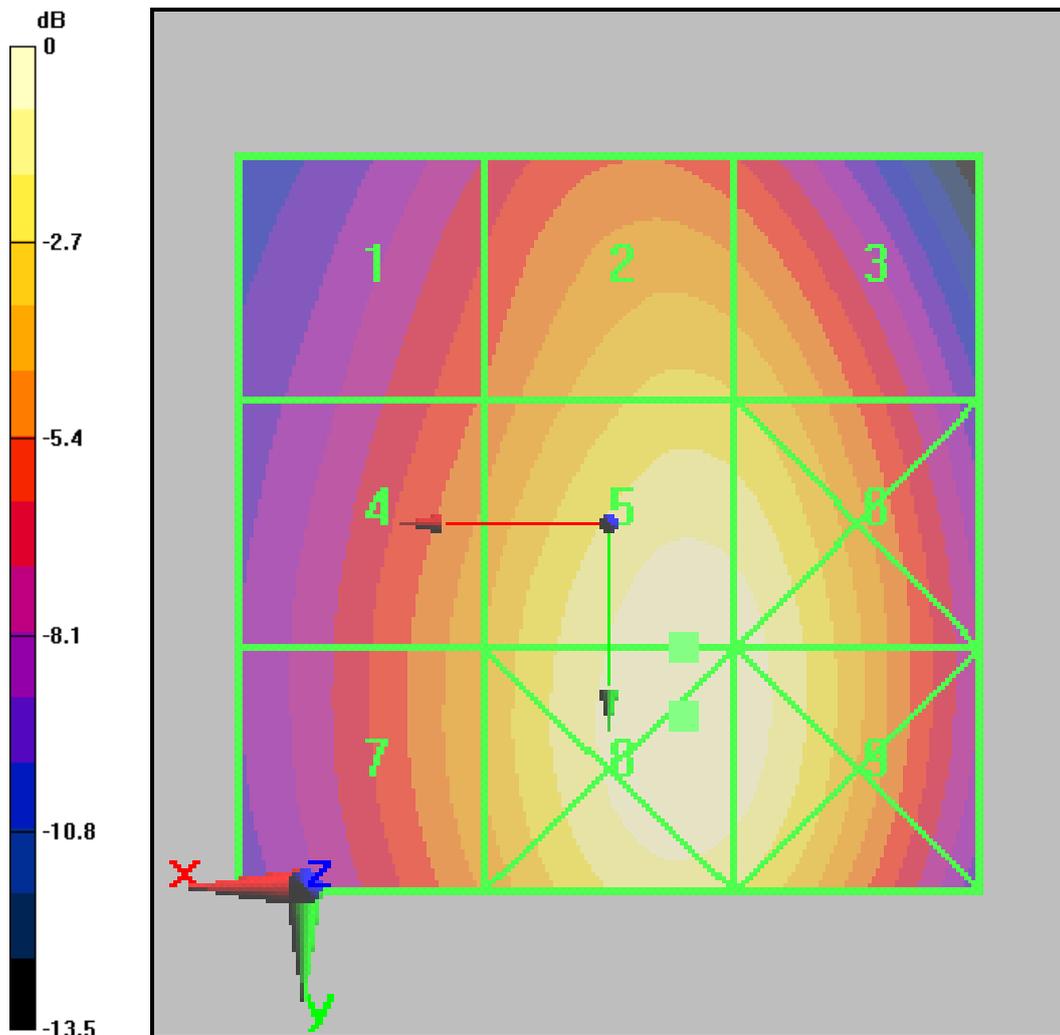
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.238 A/m

H Category: M4

Location: -5, 13, 9.2 mm



0 dB = 0.238A/m

Figure 75 HAC RF H-Field UMTS Band V Channel 4233

TA Technology (Shanghai) Co., Ltd.
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Report No. RXA1401-0006HAC

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HAC RF H-Field UMTS Band V Middle (Battery 1, Antenna 2)

Date/Time: 1/19/2014 12:49:30 AM

Communication System: WCDMA ; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.215 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.281 A/m; Power Drift = -0.142 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.120 M4	0.168 M4	0.163 M4
Grid 4	Grid 5	Grid 6
0.144 M4	0.215 M4	0.209 M4
Grid 7	Grid 8	Grid 9
0.146 M4	0.218 M4	0.211 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

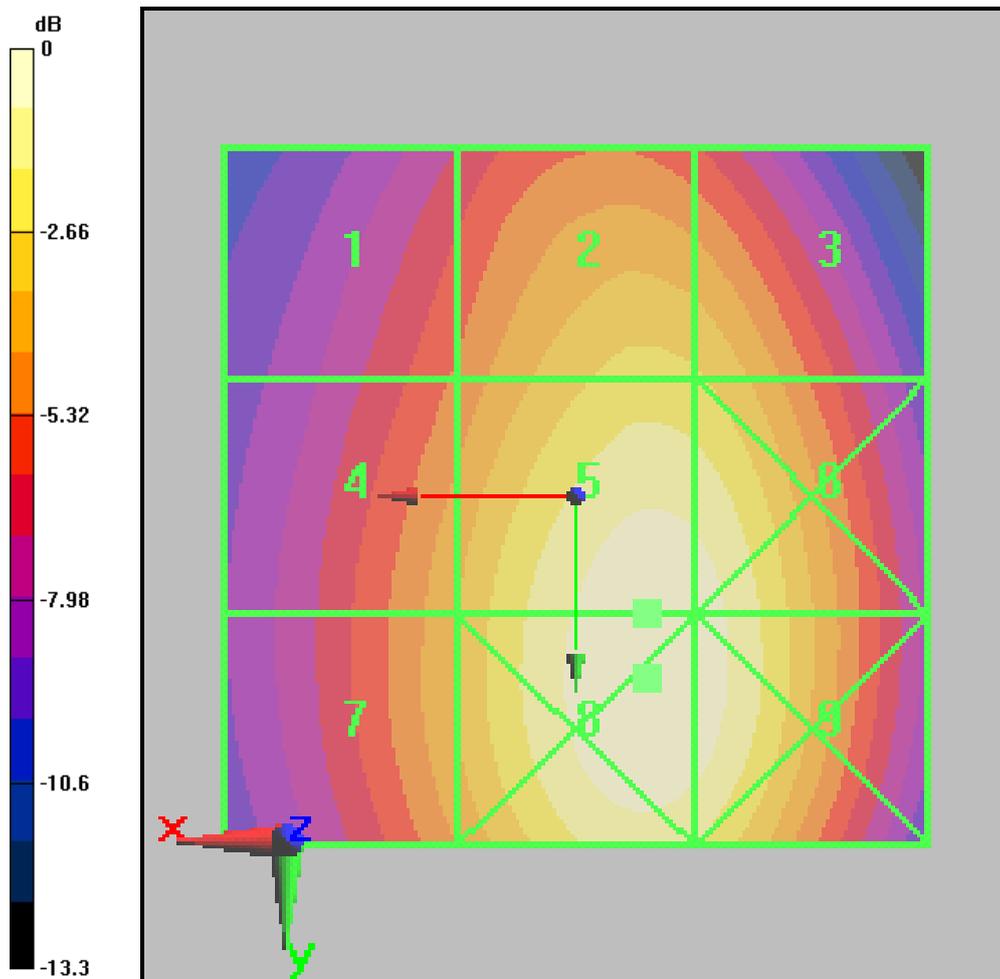
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.218 A/m

H Category: M4

Location: -5, 13, 9.2 mm



0 dB = 0.218A/m

Figure 76 HAC RF H-Field UMTS Band V Channel 4183

TA Technology (Shanghai) Co., Ltd.

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Report No. RXA1401-0006HAC

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HAC RF H-Field UMTS Band V Low (Battery 1, Antenna 2)

Date/Time: 1/19/2014 12:03:13 AM

Communication System: WCDMA ; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.194 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.253 A/m; Power Drift = 0.004 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.110 M4	0.152 M4	0.148 M4
Grid 4	Grid 5	Grid 6
0.132 M4	0.194 M4	0.189 M4
Grid 7	Grid 8	Grid 9
0.133 M4	0.196 M4	0.191 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

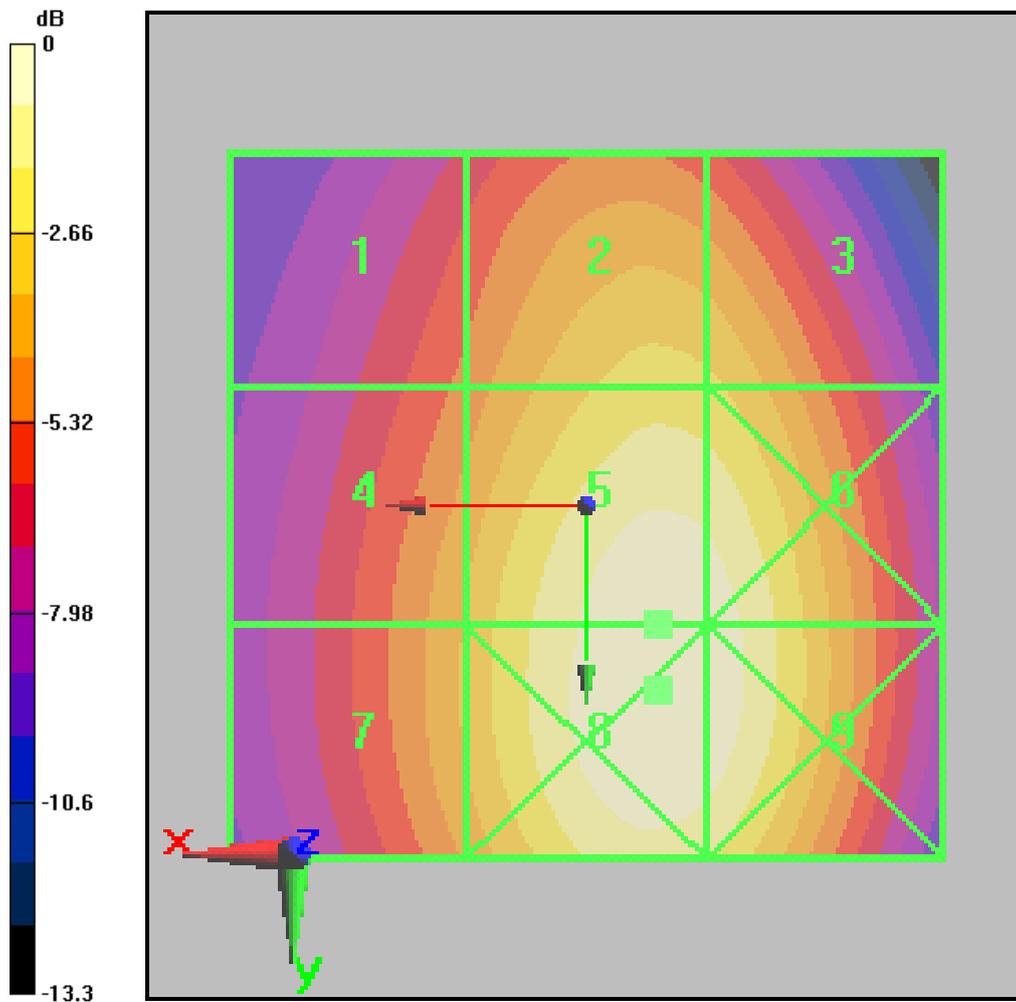
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.196 A/m

H Category: M4

Location: -5, 13, 9.2 mm



0 dB = 0.196A/m

Figure 77 HAC RF H-Field UMTS Band V Channel 4132

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HAC RF E-Field UMTS Band V High (Battery 2, Antenna 2)

Date/Time: 1/19/2014 7:07:43 AM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 67.8 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 80.6 V/m; Power Drift = -0.022 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
58.4 M4	75.5 M4	70.6 M4
Grid 4	Grid 5	Grid 6
47.6 M4	67.8 M4	65.7 M4
Grid 7	Grid 8	Grid 9
34.2 M4	49.5 M4	48.7 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

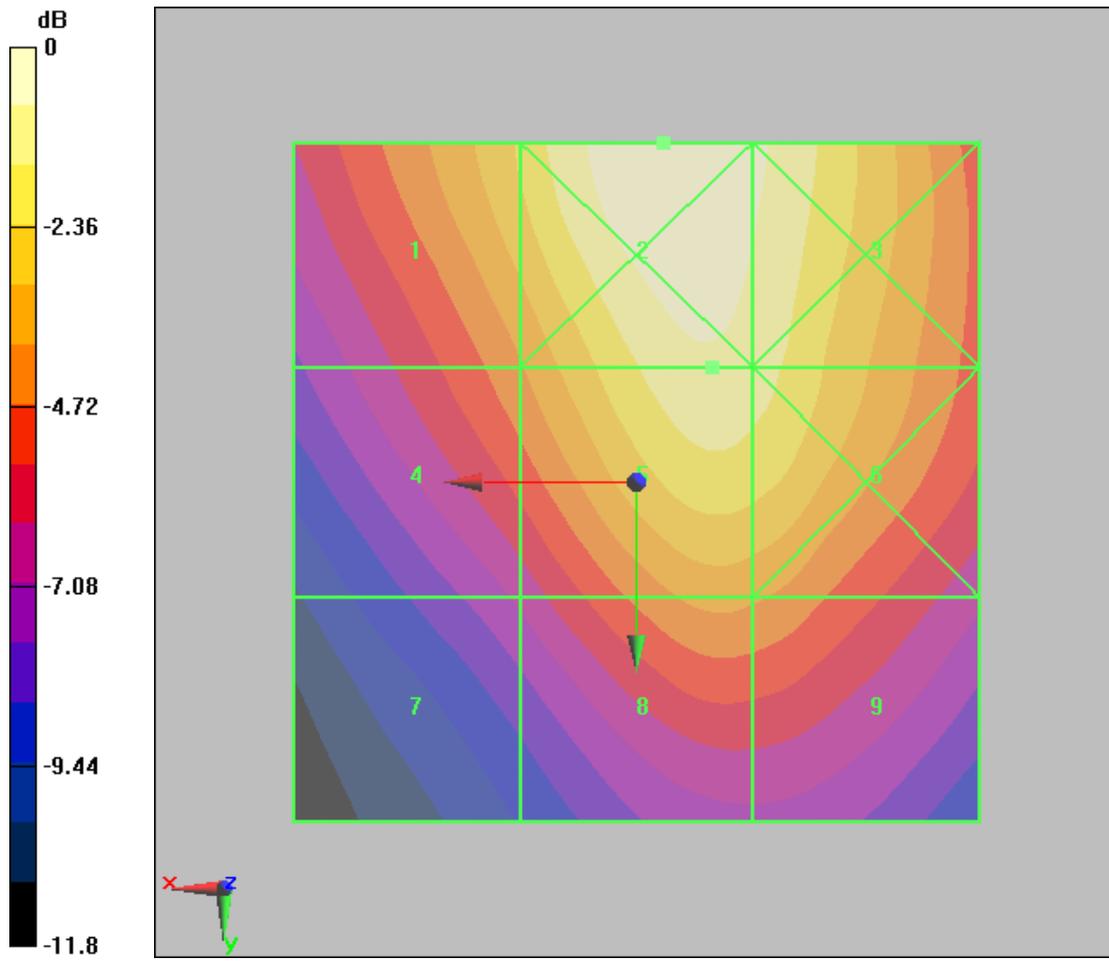
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 75.5 V/m

E Category: M4

Location: -2, -25, 8.7 mm



0 dB = 75.5V/m

Figure 78 HAC RF E-Field UMTS Band V Channel 4233

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HAC RF E-Field UMTS Band V Middle (Battery 2, Antenna 2)

Date/Time: 1/19/2014 7:52:12 AM

Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature:22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 61.2 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 73.2 V/m; Power Drift = -0.057 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
53.3 M4	68.8 M4	64.1 M4
Grid 4	Grid 5	Grid 6
43 M4	61.2 M4	59.2 M4
Grid 7	Grid 8	Grid 9
30.2 M4	43.8 M4	43.1 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

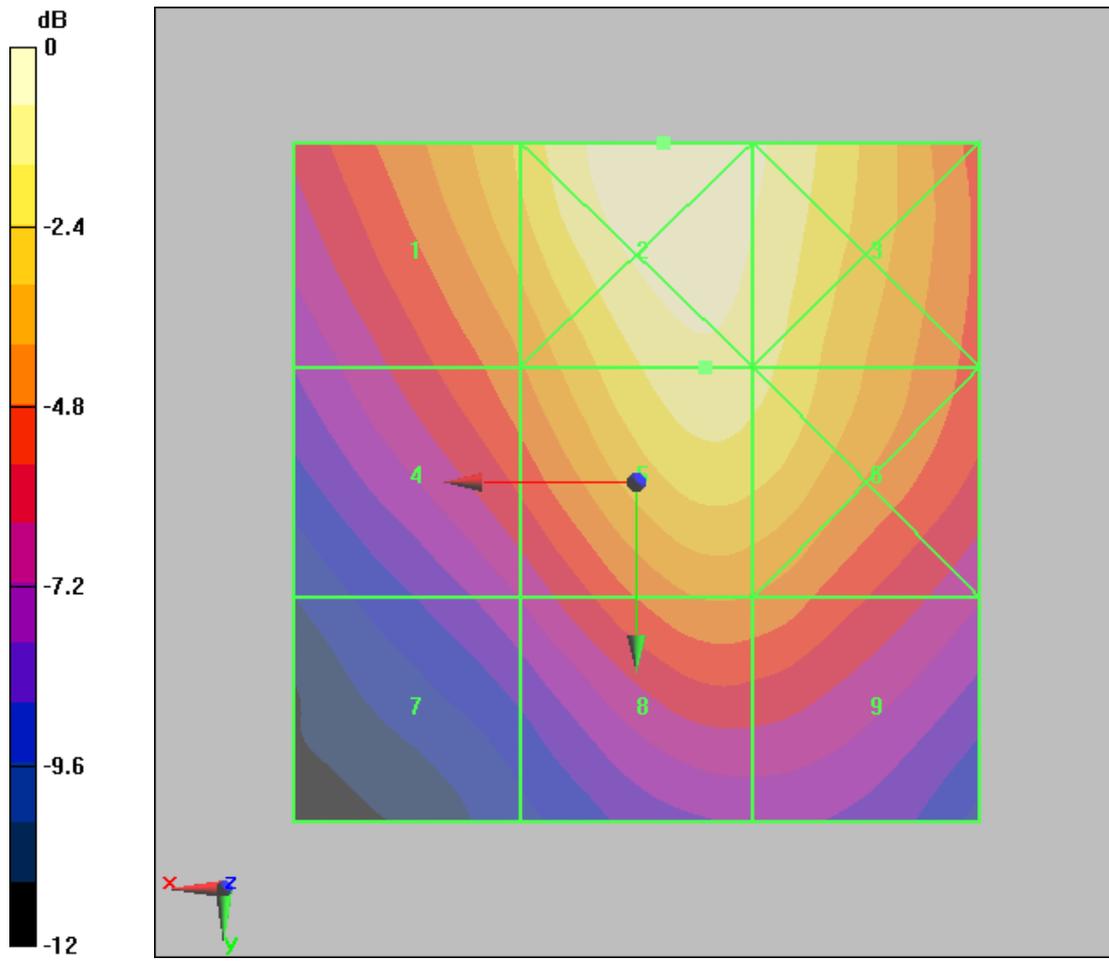
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 68.8 V/m

E Category: M4

Location: -2, -25, 8.7 mm



0 dB = 68.8V/m

Figure 79 HAC RF E-Field UMTS Band V Channel 4183

TA Technology (Shanghai) Co., Ltd.

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HAC RF E-Field UMTS Band V Low (Battery 2, Antenna 2)

Date/Time: 1/19/2014 7:14:37 AM

Communication System: WCDMA ; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1); Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF E-Field/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low 2 2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 59.8 V/m

Probe Modulation Factor = 1.03

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 69.1 V/m; Power Drift = -0.046 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
50.4 M4	67 M4	63.2 M4
Grid 4	Grid 5	Grid 6
41.1 M4	59.8 M4	58.3 M4
Grid 7	Grid 8	Grid 9
29 M4	42.3 M4	41.5 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

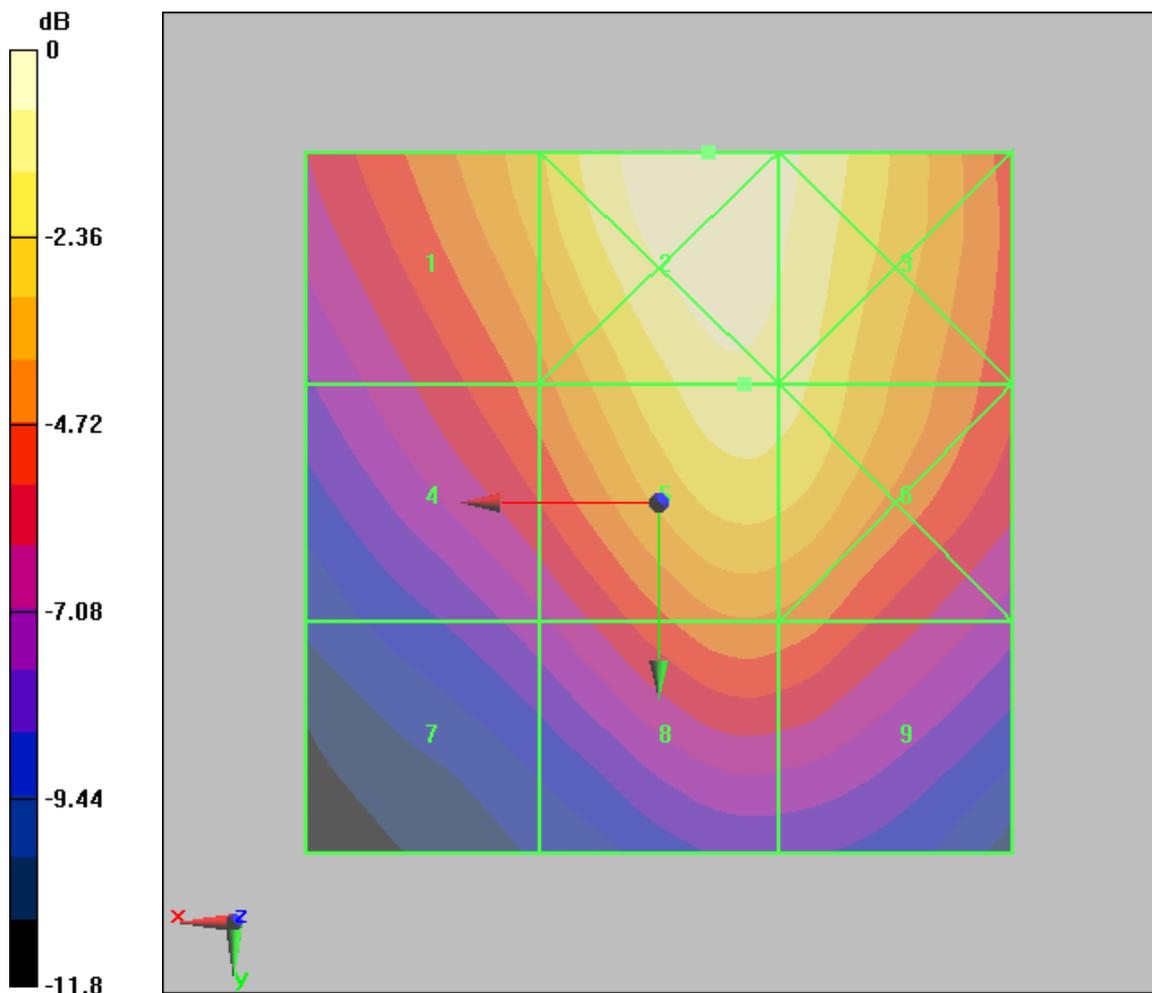
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 67 V/m

E Category: M4

Location: -3.5, -25, 8.7 mm



0 dB = 67V/m

Figure 80 HAC RF E-Field UMTS Band V Channel 4132

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HAC RF H-Field UMTS Band V High (Battery 2, Antenna 2)

Date/Time: 1/19/2014 1:39:54 AM

Communication System: WCDMA ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device High/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.220 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.282 A/m; Power Drift = 0.018 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.124 M4	0.169 M4	0.165 M4
Grid 4	Grid 5	Grid 6
0.153 M4	0.220 M4	0.215 M4
Grid 7	Grid 8	Grid 9
0.156 M4	0.224 M4	0.217 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

TA Technology (Shanghai) Co., Ltd. Test Report

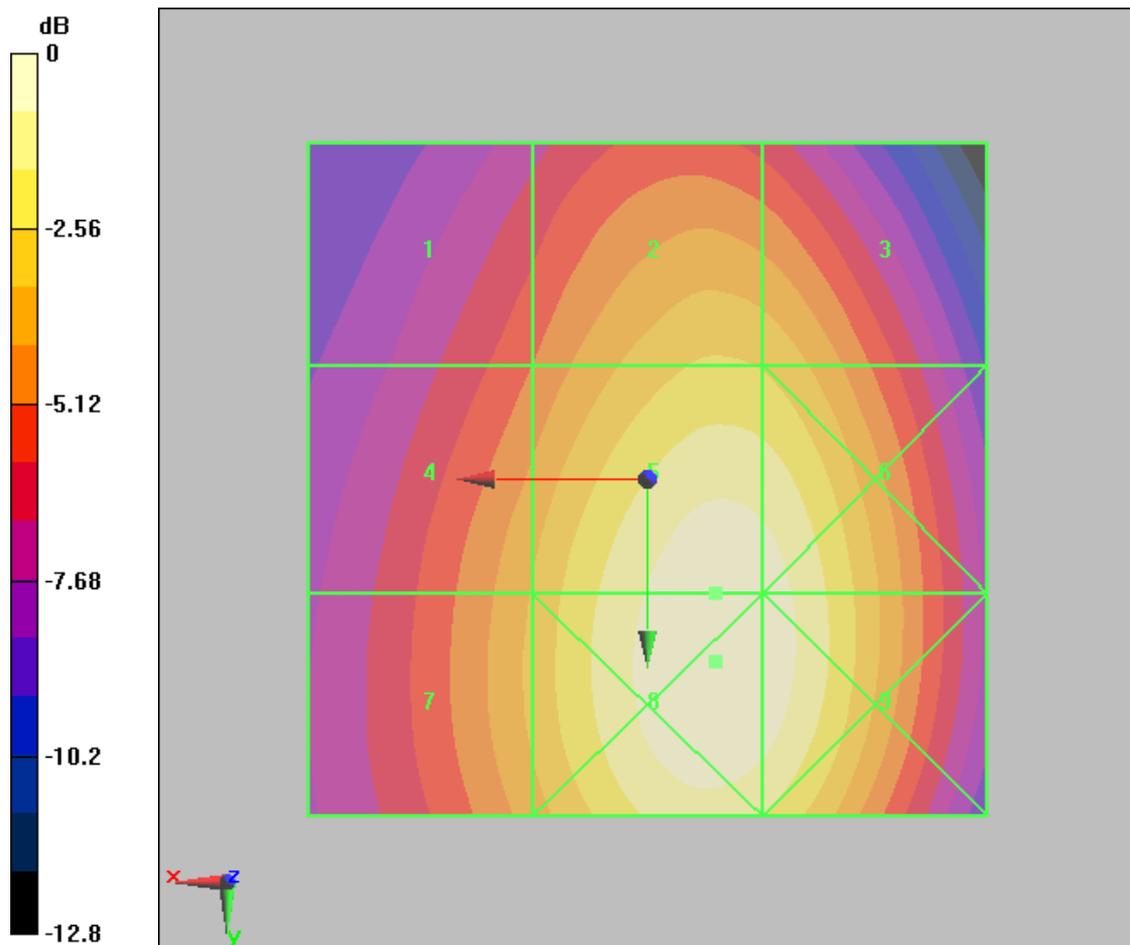
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.224 A/m

H Category: M4

Location: -5, 13.5, 9.2 mm



0 dB = 0.224A/m

Figure 81 HAC RF H-Field UMTS Band V Channel 4233

TA Technology (Shanghai) Co., Ltd.

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HAC RF H-Field UMTS Band V Middle (Battery 2, Antenna 2)

Date/Time: 1/19/2014 1:34:18 AM

Communication System: WCDMA ; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Middle/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.205 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.262 A/m; Power Drift = -0.028 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.115 M4	0.158 M4	0.154 M4
Grid 4	Grid 5	Grid 6
0.140 M4	0.205 M4	0.200 M4
Grid 7	Grid 8	Grid 9
0.143 M4	0.208 M4	0.202 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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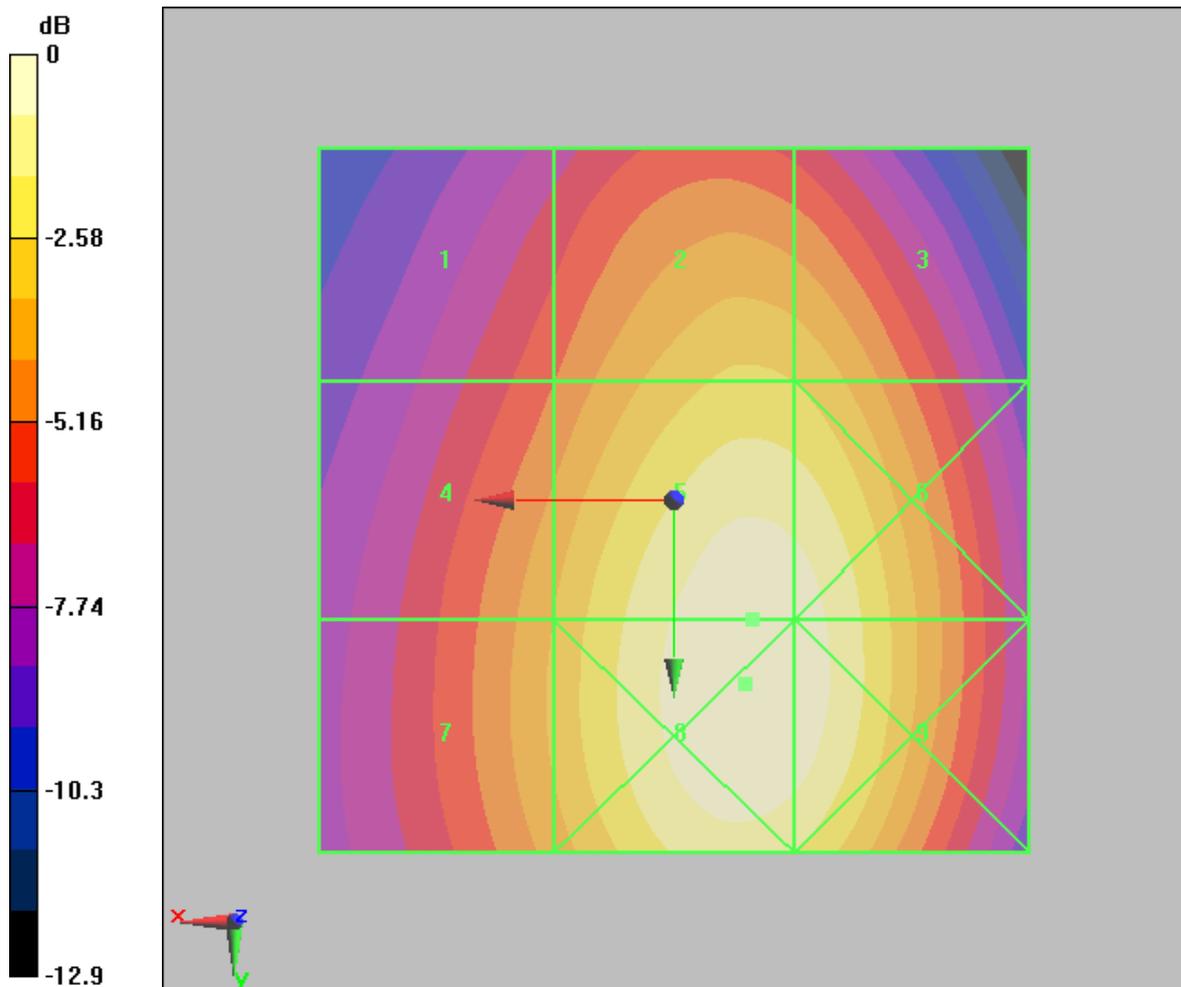
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.208 A/m

H Category: M4

Location: -5, 13, 9.2 mm



0 dB = 0.208A/m

Figure 82 HAC RF H-Field UMTS Band V Channel 4183

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No. RXA1401-0006HAC

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HAC RF H-Field UMTS Band V Low (Battery 2, Antenna 2)

Date/Time: 1/19/2014 1:28:27 AM

Communication System: WCDMA ; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Ambient Temperature: 22.3 °C

Phantom section: RF Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: H3DV6 - SN6103; Calibrated: 1/21/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

6032A With Battery BYD WCDMA V HAC RF H-Field/H Scan - ER3D - 2007: 15 mm from Probe Center to the Device Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.199 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.255 A/m; Power Drift = 0.026 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.110 M4	0.155 M4	0.151 M4
Grid 4	Grid 5	Grid 6
0.135 M4	0.199 M4	0.194 M4
Grid 7	Grid 8	Grid 9
0.137 M4	0.202 M4	0.196 M4

Category	AWF (dB)	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

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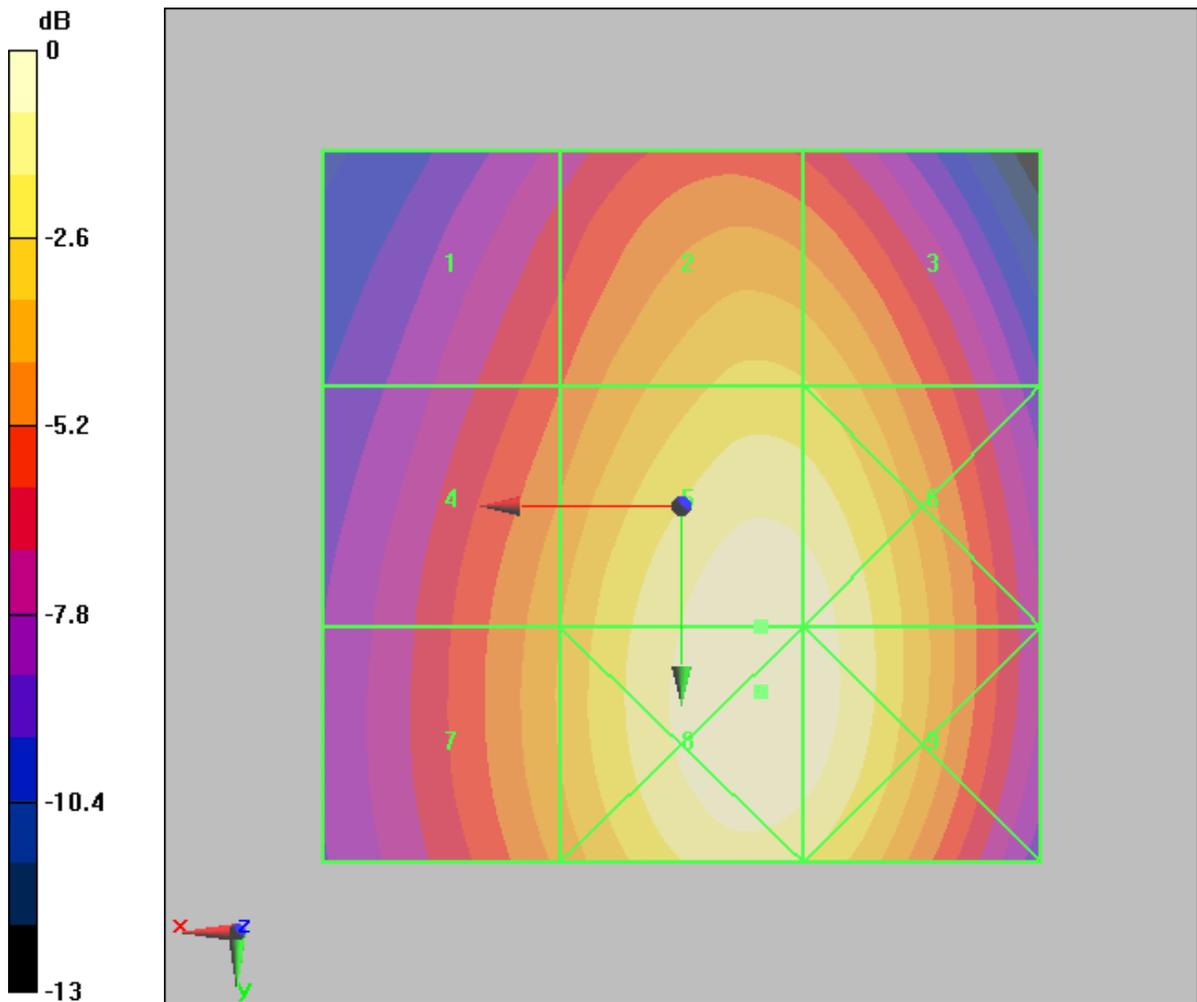
Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45

Cursor:

Total = 0.202 A/m

H Category: M4

Location: -5.5, 13, 9.2 mm



0 dB = 0.202A/m

Figure 83 HAC RF H-Field UMTS Band V Channel 4132

TA Technology (Shanghai) Co., Ltd. Test Report

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ANNEX C: E-Probe Calibration Certificate

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **TMC-BJ (Auden)**

Certificate No: **ER3-2272_Jan13**

CALIBRATION CERTIFICATE

Object: **ER3DV6 - SN:2272**

Calibration procedure(s): **QA CAL-02.v6, QA CAL-25.v4
Calibration procedure for E-field probes optimized for close near field
evaluations in air**

Calibration date: **January 21, 2013**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ER3DV6	SN: 2328	12-Oct-12 (No. ER3-2328_Oct12)	Oct-13
DAE4	SN: 789	18-Sep-12 (No. DAE4-789_Sep12)	Sep-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 21, 2013

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Calibration Laboratory of
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Zeughausstrasse 43, 8004 Zurich, Switzerland



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

NORM _{x,y,z}	sensitivity in free space
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization ϕ	ϕ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1309-2005, "IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005
- CTIA Test Plan for Hearing Aid Compatibility, April 2010.

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ for XY sensors and $\vartheta = 90$ for Z sensor ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart).
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- Spherical isotropy (3D deviation from isotropy)**: in a locally homogeneous field realized using an open waveguide setup.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

ER3DV6 – SN:2272

January 21, 2013

Probe ER3DV6

SN:2272

Manufactured: November 29, 2001
Calibrated: January 21, 2013

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

TA Technology (Shanghai) Co., Ltd.

Test Report

ER3DV6- SN:2272

January 21, 2013

DASY/EASY - Parameters of Probe: ER3DV6 - SN:2272

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$)	1.65	1.71	1.78	$\pm 10.1 \%$
DCP (mV) ^B	102.3	99.1	99.0	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	149.2	$\pm 3.5 \%$
		Y	0.0	0.0	1.0		165.3	
		Z	0.0	0.0	1.0		150.8	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

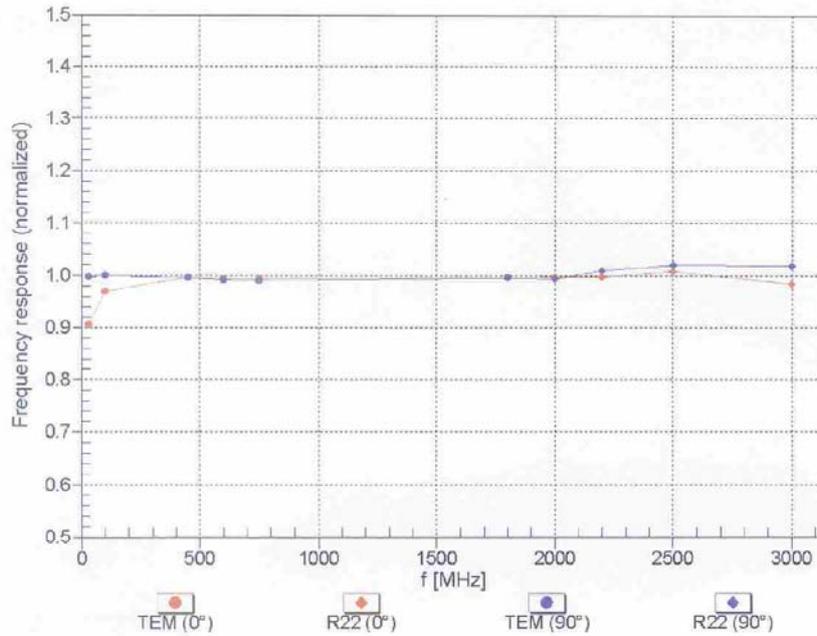
^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

ER3DV6- SN:2272

January 21, 2013

Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

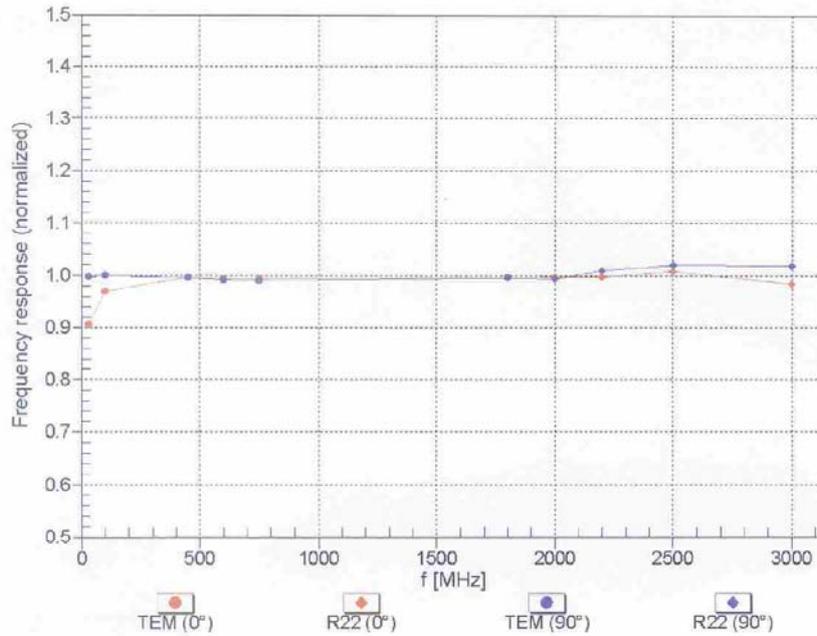


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

ER3DV6- SN:2272

January 21, 2013

Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



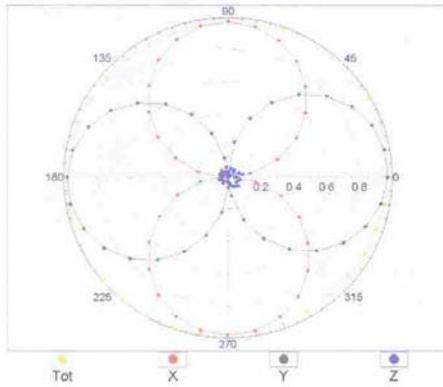
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

ER3DV6- SN:2272

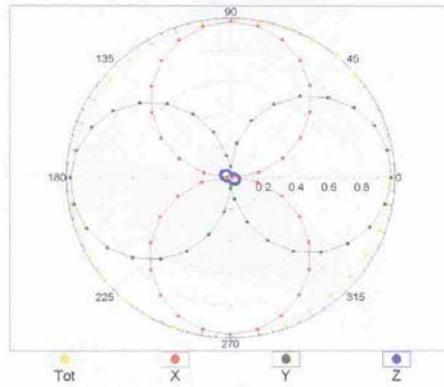
January 21, 2013

Receiving Pattern (ϕ), $\vartheta = 0^\circ$

f=600 MHz, TEM, 0°

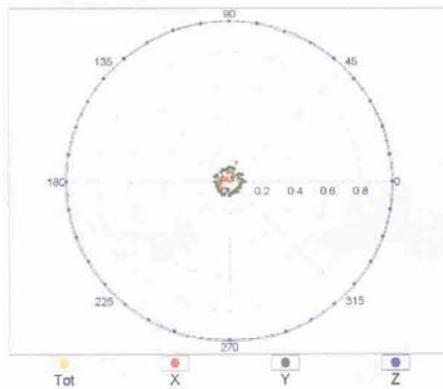


f=2500 MHz, R22, 0°

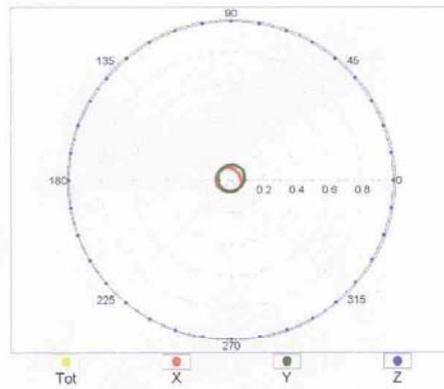


Receiving Pattern (ϕ), $\vartheta = 90^\circ$

f=600 MHz, TEM, 90°



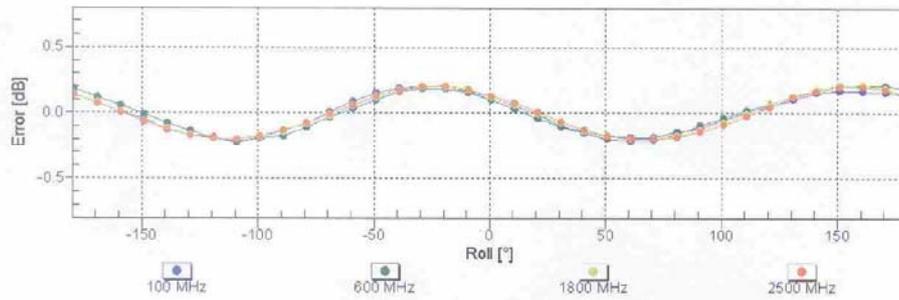
f=2500 MHz, R22, 90°



ER3DV6- SN:2272

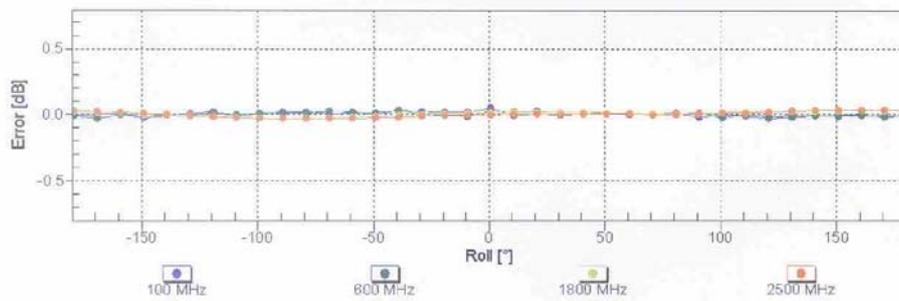
January 21, 2013

Receiving Pattern (ϕ), $\vartheta = 0^\circ$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

Receiving Pattern (ϕ), $\vartheta = 90^\circ$

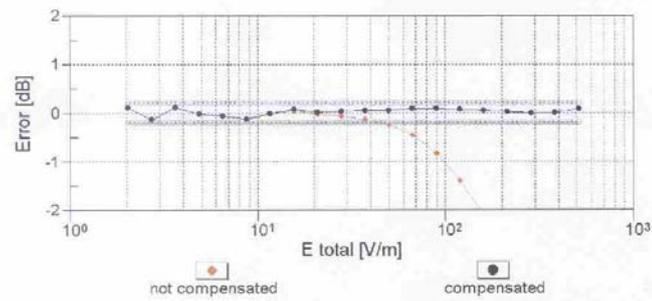
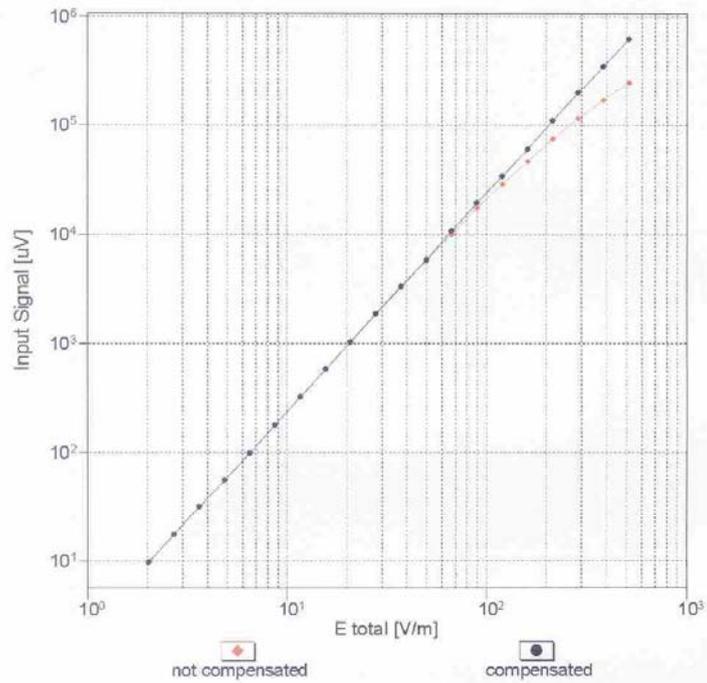


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

ER3DV6- SN:2272

January 21, 2013

Dynamic Range f(E-field) (TEM cell , f = 900 MHz)

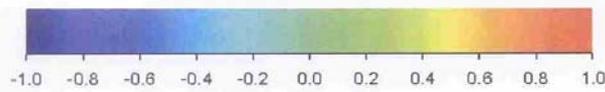
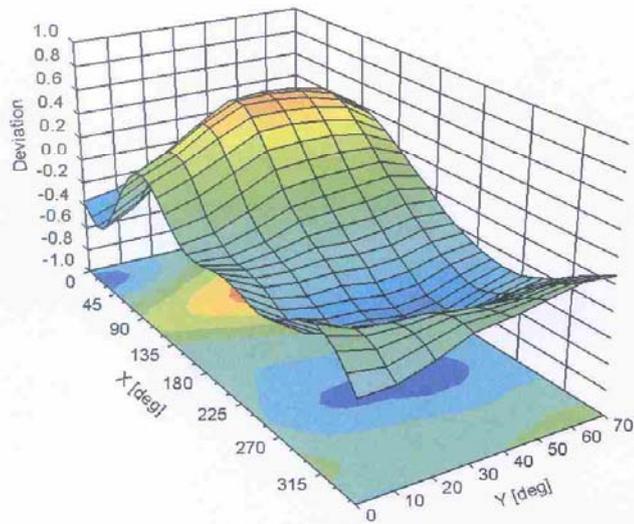


Uncertainty of Linearity Assessment: $\pm 0.6\%$ (k=2)

ER3DV6-SN:2272

January 21, 2013

Deviation from Isotropy in Air
Error (ϕ , θ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)

ER3DV6- SN:2272

January 21, 2013

DASY/EASY - Parameters of Probe: ER3DV6 - SN:2272

Other Probe Parameters

Sensor Arrangement	Rectangular
Connector Angle (°)	-69.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	8 mm
Probe Tip to Sensor X Calibration Point	2.5 mm
Probe Tip to Sensor Y Calibration Point	2.5 mm
Probe Tip to Sensor Z Calibration Point	2.5 mm

TA Technology (Shanghai) Co., Ltd.

Test Report

ANNEX D: H-Probe Calibration Certificate

**Calibration Laboratory of
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Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **TMC-BJ (Auden)**

Certificate No: **H3-6103_Jan13**

CALIBRATION CERTIFICATE

Object: **H3DV6 - SN:6103**

Calibration procedure(s): **QA CAL-03.v6, QA CAL-25.v4
Calibration procedure for H-field probes optimized for close near field
evaluations in air**

Calibration date: **January 21, 2013**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe H3DV6	SN: 6182	12-Oct-12 (No. H3-6182_Oct12)	Oct-13
DAE4	SN: 789	18-Sep-12 (No. DAE4-789_Sep12)	Sep-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 21, 2013

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

TA Technology (Shanghai) Co., Ltd.

Test Report

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Calibration Laboratory of
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Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

NORM _{x,y,z}	sensitivity in free space
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1309-2005, "IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005.
- CTIA Test Plan for Hearing Aid Compatibility, April 2010.

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ for XY sensors and $\vartheta = 90$ for Z sensor ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide).
- X, Y, Z(f)_a0a1a2 = X, Y, Z_a0a1a2 * frequency_response** (see Frequency Response Chart).
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- Spherical isotropy (3D deviation from isotropy)**: in a locally homogeneous field realized using an open waveguide setup.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the X_a0a1a2 (no uncertainty required).

H3DV6 – SN:6103

January 21, 2013

Probe H3DV6

SN:6103

Manufactured: January 5, 2002
Calibrated: January 21, 2013

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

H3DV6- SN:6103

January 21, 2013

DASY/EASY - Parameters of Probe: H3DV6 - SN:6103

Basic Calibration Parameters

		Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (A/m / $\sqrt{(mV)}$)	a0	2.79E-003	2.85E-003	3.13E-003	$\pm 5.1 \%$
Norm (A/m / $\sqrt{(mV)}$)	a1	6.40E-005	1.13E-004	3.52E-005	$\pm 5.1 \%$
Norm (A/m / $\sqrt{(mV)}$)	a2	1.56E-005	4.75E-005	9.07E-005	$\pm 5.1 \%$
DCP (mV) ^B		91.8	97.8	93.6	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB $\sqrt{\mu V}$	C	D dB	VR mV	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	122.1	$\pm 1.9 \%$
		Y	0.0	0.0	1.0		120.6	
		Z	0.0	0.0	1.0		122.4	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

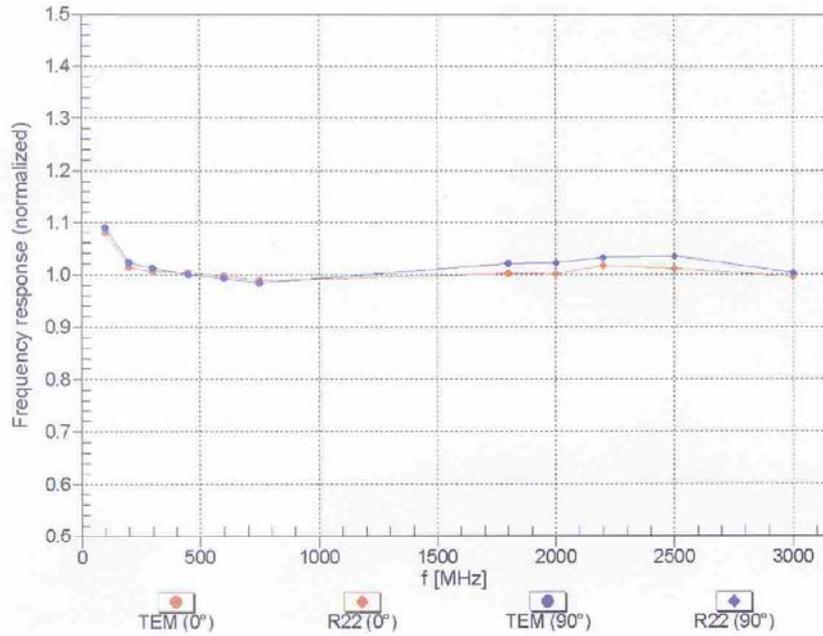
^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

H3DV6- SN:6103

January 21, 2013

Frequency Response of H-Field (TEM-Cell: ifi110 EXX, Waveguide: R22)



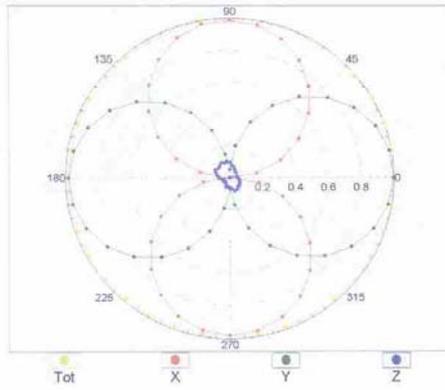
Uncertainty of Frequency Response of H-field: $\pm 6.3\%$ (k=2)

H3DV6-SN:6103

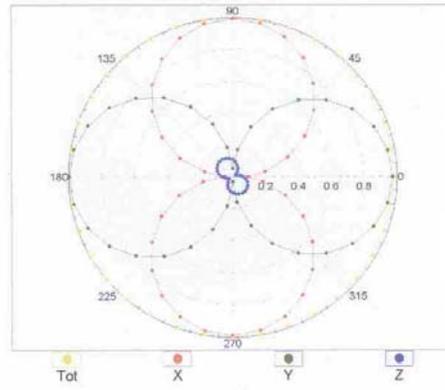
January 21, 2013

Receiving Pattern (ϕ), $\vartheta = 0^\circ$

f=600 MHz, TEM, 0°

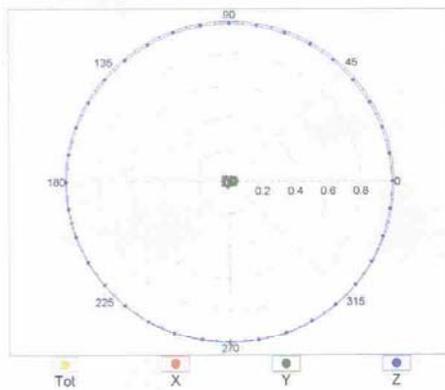


f=2500 MHz, R22, 0°

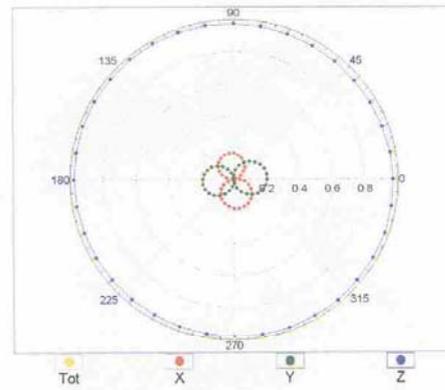


Receiving Pattern (ϕ), $\vartheta = 90^\circ$

f=600 MHz, TEM, 90°



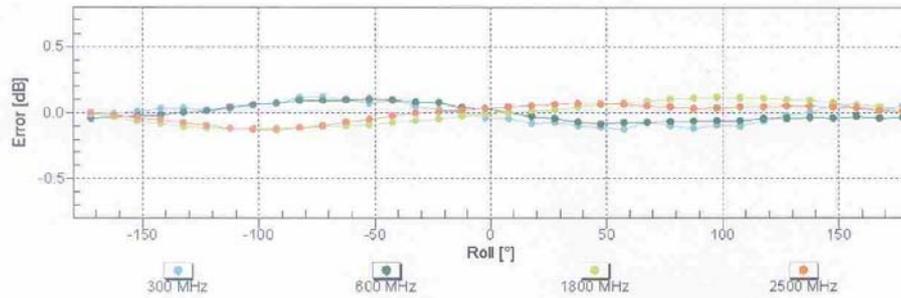
f=2500 MHz, R22, 90°



H3DV6- SN:6103

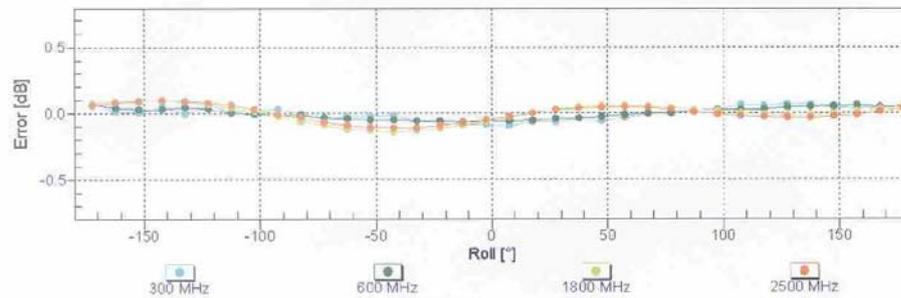
January 21, 2013

Receiving Pattern (ϕ), $\vartheta = 0^\circ$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Receiving Pattern (ϕ), $\vartheta = 90^\circ$

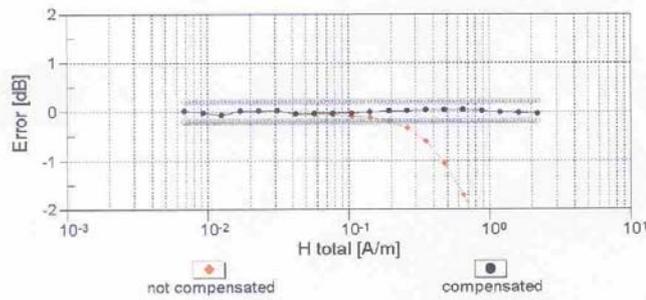
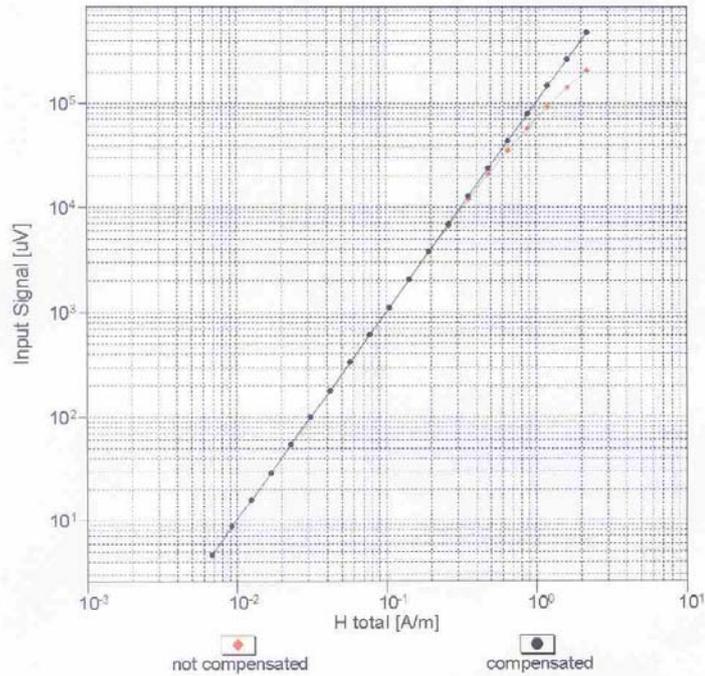


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

H3DV6-SN:6103

January 21, 2013

Dynamic Range f(H-field) (TEM cell, f = 900 MHz)



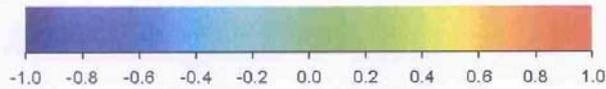
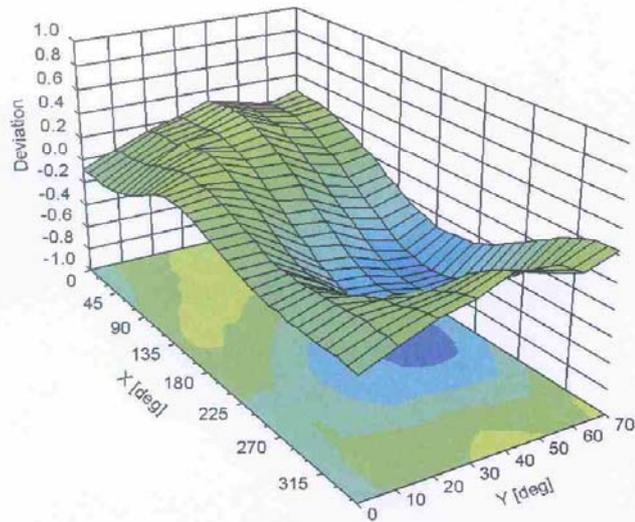
Uncertainty of Linearity Assessment: $\pm 0.6\%$ (k=2)

H3DV6- SN:6103

January 21, 2013

Deviation from Isotropy in Air

Error (ϕ , θ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)

H3DV6- SN:6103

January 21, 2013

DASY/EASY - Parameters of Probe: H3DV6 - SN:6103

Other Probe Parameters

Sensor Arrangement	Rectangular
Connector Angle (°)	-92.4
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	20 mm
Tip Diameter	6 mm
Probe Tip to Sensor X Calibration Point	3 mm
Probe Tip to Sensor Y Calibration Point	3 mm
Probe Tip to Sensor Z Calibration Point	3 mm

TA Technology (Shanghai) Co., Ltd. Test Report

Report No. RXA1401-0006HAC

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ANNEX E: CD835V3 Dipole Calibration Certificate

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client: **TMC Beijing (Auden)**

Certificate No: **CD835V3-1023_Aug12**

CALIBRATION CERTIFICATE

Object: **CD835V3 - SN: 1023**

Calibration procedure(s): **QA CAL-20.v6
Calibration procedure for dipoles in air**

Calibration date: **August 30, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Probe ER3DV6	SN: 2336	29-Dec-11 (No. ER3-2336_Dec11)	Dec-12
Probe H3DV8	SN: 6065	29-Dec-11 (No. H3-6065_Dec11)	Dec-12
DAE4	SN: 781	29-May-12 (No. DAE4-781_May12)	May-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter Agilent 4419B	SN: GB42420191	09-Oct-09 (in house check Oct-11)	In house check: Oct-12
Power sensor HP 8482H	SN: 3318A09450	09-Oct-09 (in house check Oct-11)	In house check: Oct-12
Power sensor HP 8482A	SN: US37295597	09-Oct-09 (in house check Oct-11)	In house check: Oct-12
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-11)	In house check: Oct-12
RF generator E4433B	MY 41000675	03-Nov-04 (in house check Oct-11)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Fin Bornholt	R&D Director	
Approved by:	Katja Pokovic	Laboratory Director	

Issued: September 4, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

References

- [1] ANSI-C63.19-2007
American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- **Coordinate System:** y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna (mounted on the table) towards its feed point between the two dipole arms. x-axis is normal to the other axes. In coincidence with the standards [1], the measurement planes (probe sensor center) are selected to be at a distance of 10 mm above the top edge of the dipole arms.
- **Measurement Conditions:** Further details are available from the hardcopies at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- **Antenna Positioning:** The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASYS Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- **Feed Point Impedance and Return Loss:** These parameters are measured using a HP 8753E Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminated by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- **E-field distribution:** E field is measured in the x-y-plane with an isotropic ER3D-field probe with 100 mW forward power to the antenna feed point. In accordance with [1], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 10 mm (in z) above the top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, 10mm above the dipole surface.
- **H-field distribution:** H-field is measured with an isotropic H-field probe with 100mW forward power to the antenna feed point, in the x-y-plane. The scan area and sensor distance is equivalent to the E-field scan. The maximum of the field is available at the center (subgrid 5) above the feed point. The H-field value stated as calibration value represents the maximum of the interpolated H-field, 10mm above the dipole surface at the feed point.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.2
Extrapolation	Advanced Extrapolation	
Phantom	HAC Test Arch	
Distance Dipole Top - Probe Center	10mm	
Scan resolution	dx, dy = 5 mm	
Frequency	835 MHz ± 1 MHz	
Input power drift	< 0.05 dB	

Maximum Field values at 835 MHz

H-field 10 mm above dipole surface	condition	interpolated maximum
Maximum measured	100 mW input power	0.461 A / m ± 8.2 % (k=2)

E-field 10 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end	100 mW input power	161.8 V / m
Maximum measured above low end	100 mW input power	159.0 V / m
Averaged maximum above arm	100 mW input power	160.4 V / m ± 12.8 % (k=2)

Appendix

Antenna Parameters

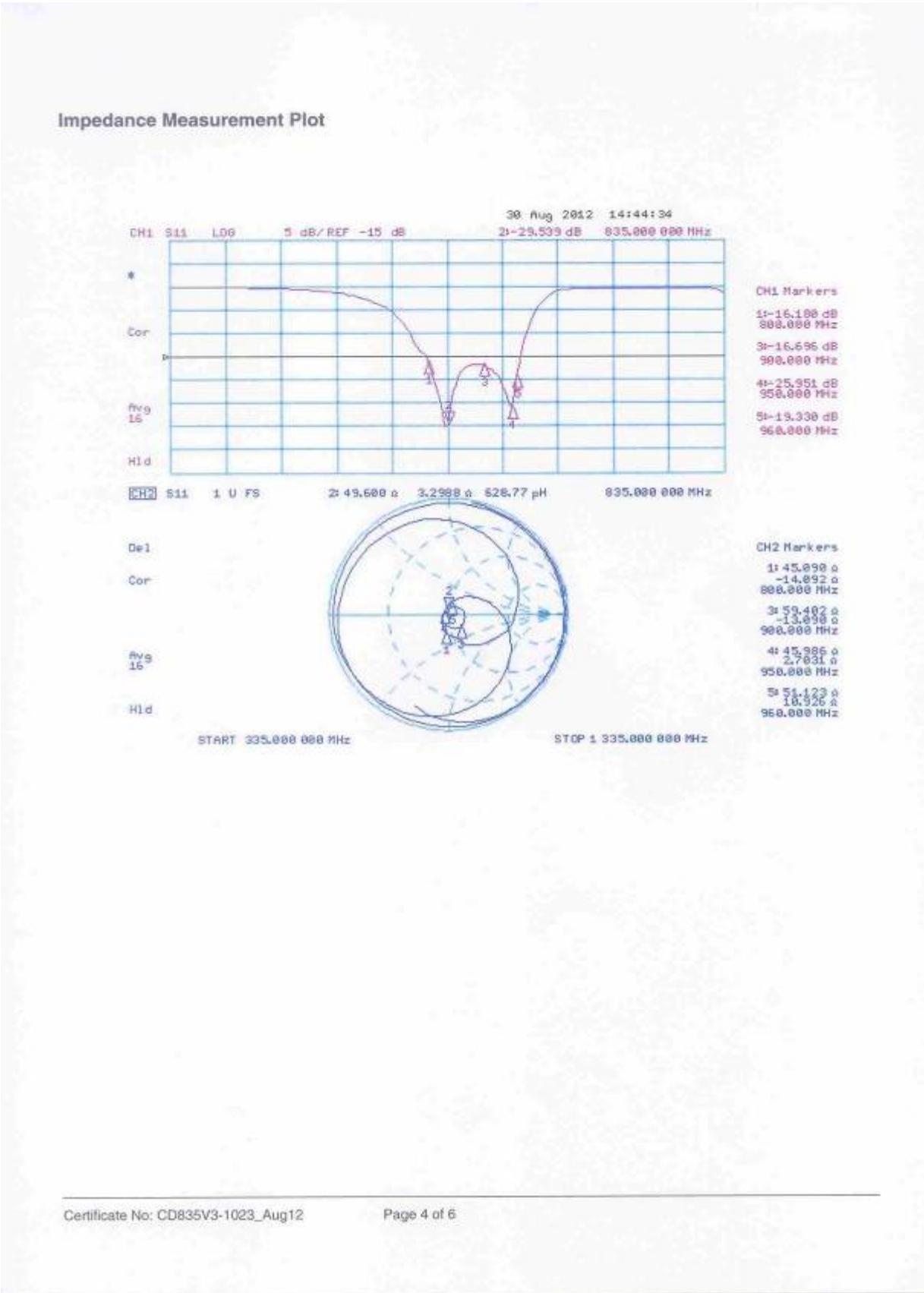
Frequency	Return Loss	Impedance
800 MHz	16.2 dB	45.1 Ω - 14.1 jΩ
835 MHz	29.5 dB	49.6 Ω + 3.3 jΩ
900 MHz	16.7 dB	59.4 Ω - 13.1 jΩ
950 MHz	26.0 dB	46.0 Ω + 2.7 jΩ
960 MHz	19.3 dB	51.1 Ω + 10.9 jΩ

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth. The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals. Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

TA Technology (Shanghai) Co., Ltd. Test Report



DASY5 H-field Result

Date: 30.08.2012

Test Laboratory: SPEAG Lab2

DUT: HAC-Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN: 1023

Communication System: CW; Frequency: 835 MHz
 Medium parameters used: $\sigma = 0 \text{ mho/m}$, $\epsilon_r = 1$; $\rho = 1 \text{ kg/m}^3$
 Phantom section: RF Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

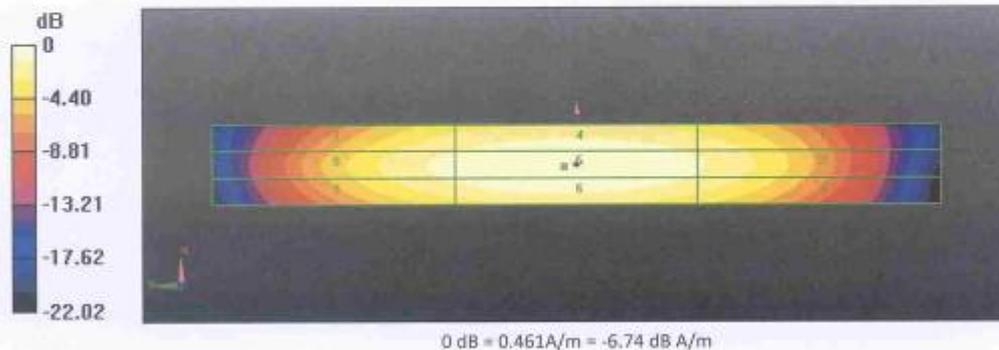
DASY52 Configuration:

- Probe: H3DV6 - SN6065; ; Calibrated: 29.12.2011
- Sensor-Surface: [Fix Surface]
- Electronics: DAE4 5n781; Calibrated: 29.05.2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- DASY52 52.8.2(969); SEMCAD X 14.6.4(4989)

Dipole H-Field measurement @ 835MHz/H-Scan - 835MHz d=10mm/Hearing Aid Compatibility Test (41x361x1):
 Measurement grid: dx=5mm, dy=5mm
 Device Reference Point: 0, 0, -6.3 mm
 Reference Value = 0.49 V/m; Power Drift = 0.01 dB
 PMR not calibrated. PMF = 1.000 is applied.
 H-field emissions = 0.46 A/m
 Near-field category: M4 (AWF 0 dB)

PMF scaled H-field

Grid 1 M4	Grid 2 M4	Grid 3 M4
0.38 A/m	0.40 A/m	0.38 A/m
Grid 4 M4	Grid 5 M4	Grid 6 M4
0.43 A/m	0.46 A/m	0.44 A/m
Grid 7 M4	Grid 8 M4	Grid 9 M4
0.39 A/m	0.42 A/m	0.40 A/m



DASY5 E-field Result

Date: 30.08.2012

Test Laboratory: SPEAG Lab2

DUT: HAC-Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN: 1023

Communication System: CW; Frequency: 835 MHz
 Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
 Phantom section: RF Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

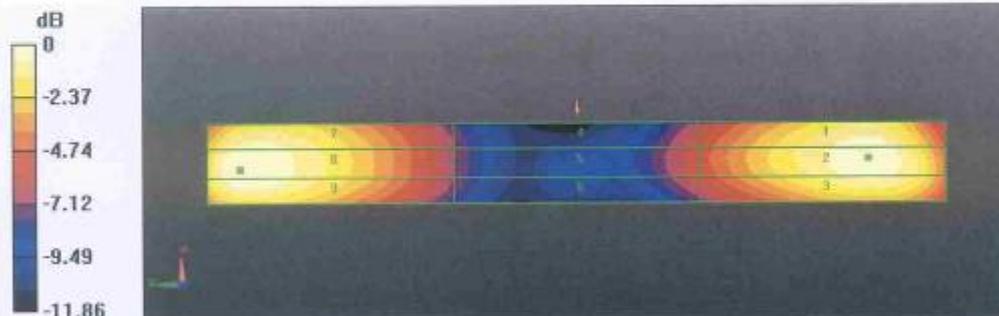
- Probe: ER3DV6 - 5N2336; ConvF[1, 1, 1]; Calibrated: 29.12.2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 29.05.2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- DASY52 52.8.2(969); SEMCAD X 14.6.4(4989)

Dipole E-Field measurement @ 835MHz/E-Scan - 835MHz d=10mm/Hearing Aid Compatibility Test (41x361x1):

Measurement grid: dx=5mm, dy=5mm
 Device Reference Point: 0, 0, -6.3 mm
 Reference Value = 104.0 V/m; Power Drift = -0.04 dB
 PMR not calibrated. PMF = 1.000 is applied.
 E-field emissions = 161.8 V/m
 Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 M4	Grid 2 M4	Grid 3 M4
156.0 V/m	159.0 V/m	151.3 V/m
Grid 4 M4	Grid 5 M4	Grid 6 M4
87.06 V/m	88.87 V/m	85.39 V/m
Grid 7 M4	Grid 8 M4	Grid 9 M4
154.8 V/m	161.8 V/m	159.2 V/m



0 dB = 161.8V/m = 44.18 dB V/m

TA Technology (Shanghai) Co., Ltd. Test Report

ANNEX F: CD1880V3 Dipole Calibration Certificate

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland




S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS) Accreditation No.: **SCS 108**
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Client: **TMC Beijing (Auden)** Certificate No: **CD1880V3-1018_Aug12**

CALIBRATION CERTIFICATE

Object	CD1880V3 - SN: 1018
Calibration procedure(s)	QA CAL-20.v6 Calibration procedure for dipoles in air
Calibration date:	August 30, 2012

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Probe ER3DV6	SN: 2336	29-Dec-11 (No. ER3-2336_Dec11)	Dec-12
Probe H3DV6	SN: 6065	29-Dec-11 (No. H3-6065_Dec11)	Dec-12
DAE4	SN: 781	29-May-12 (No. DAE4-781_May12)	May-13

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter Agilent 4419B	SN: GB42420191	09-Oct-09 (in house check Oct-11)	In house check: Oct-12
Power sensor HP 8482H	SN: 3316A09450	09-Oct-09 (in house check Oct-11)	In house check: Oct-12
Power sensor HP 8482A	SN: US37295597	09-Oct-09 (in house check Oct-11)	In house check: Oct-12
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-11)	In house check: Oct-12
RF generator E4433B	MY 41006675	03-Nov-04 (in house check Oct-11)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Fin Bornholt	R&D Director	
Approved by:	Katja Pokovic	Laboratory Director	

Issued: September 4, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: CD1880V3-1018_Aug12
Page 1 of 6

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

References

- [1] ANSI-C63.19-2007
American National Standard for Methods of Measurement of Compatibility between Wireless Communications
Devices and Hearing Aids.

Methods Applied and Interpretation of Parameters:

- **Coordinate System:** y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna (mounted on the table) towards its feed point between the two dipole arms. x-axis is normal to the other axes. In coincidence with the standards [1], the measurement planes (probe sensor center) are selected to be at a distance of 10 mm above the top edge of the dipole arms.
- **Measurement Conditions:** Further details are available from the hardcopies at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- **Antenna Positioning:** The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DASY5 Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- **Feed Point Impedance and Return Loss:** These parameters are measured using a HP 8753E Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminating by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- **E-field distribution:** E field is measured in the x-y-plane with an isotropic ER3D-field probe with 100 mW forward power to the antenna feed point. In accordance with [1], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 10 mm (in z) above the top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, 10mm above the dipole surface.
- **H-field distribution:** H-field is measured with an isotropic H-field probe with 100mW forward power to the antenna feed point, in the x-y-plane. The scan area and sensor distance is equivalent to the E-field scan. The maximum of the field is available at the center (subgrid 5) above the feed point. The H-field value stated as calibration value represents the maximum of the interpolated H-field, 10mm above the dipole surface at the feed point.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

TA Technology (Shanghai) Co., Ltd.

Test Report

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.2
Extrapolation	Advanced Extrapolation	
Phantom	HAC Test Arch	
Distance Dipole Top - Probe Center	10mm	
Scan resolution	dx, dy = 5 mm	
Frequency	1880 MHz ± 1 MHz	
Input power drift	< 0.05 dB	

Maximum Field values at 1880 MHz

H-field 10 mm above dipole surface	condition	interpolated maximum
Maximum measured	100 mW input power	0.463 A / m ± 8.2 % (k=2)

E-field 10 mm above dipole surface	condition	Interpolated maximum
Maximum measured above high end	100 mW input power	139.0 V / m
Maximum measured above low end	100 mW input power	138.8 V / m
Averaged maximum above arm	100 mW input power	138.9 V / m ± 12.8 % (k=2)

Appendix

Antenna Parameters

Frequency	Return Loss	Impedance
1730 MHz	27.8 dB	52.8 Ω + 3.1 jΩ
1880 MHz	21.7 dB	49.4 Ω + 8.2 jΩ
1900 MHz	22.2 dB	51.6 Ω + 7.7 jΩ
1950 MHz	30.1 dB	52.3 Ω + 2.3 jΩ
2000 MHz	20.7 dB	42.8 Ω + 4.7 jΩ

3.2 Antenna Design and Handling

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

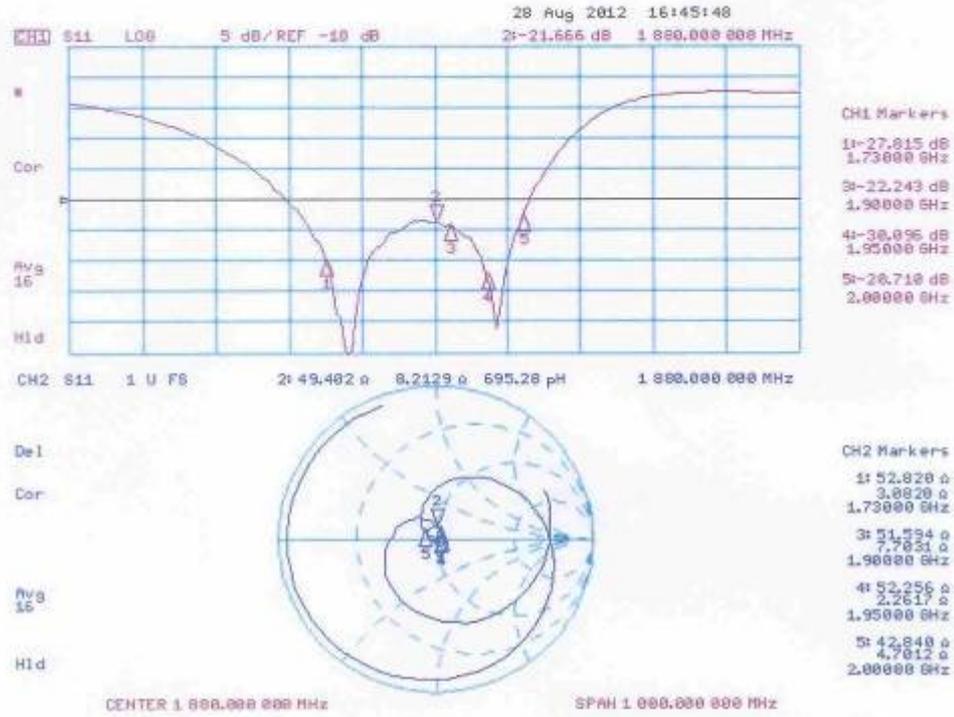
The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

TA Technology (Shanghai) Co., Ltd. Test Report

Impedance Measurement Plot



DASY5 H-field Result

Date: 30.08.2012

Test Laboratory: SPEAG Lab2

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: CD1880V3 - SN: 1018

Communication System: CW; Frequency: 1880 MHz
 Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³
 Phantom section: RF Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

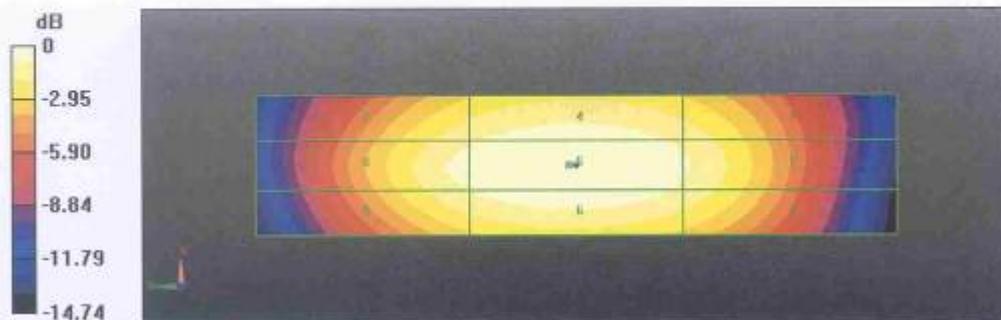
- Probe: H3DV6 - SN6065; ; Calibrated: 29.12.2011
- Sensor-Surface: {Fix Surface}
- Electronics: DAE4 Sn781; Calibrated: 29.05.2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- DASY52 52.8.2(969); SEMCAD X 14.6.4(4989)

Dipole H-Field measurement @ 1880MHz/H-Scan - 1880MHz d=10mm/Hearing Aid Compatibility Test (41x181x1):

Measurement grid: dx=5mm, dy=5mm
 Device Reference Point: 0, 0, -6.3 mm
 Reference Value = 0.49 V/m; Power Drift = 0.03 dB
 PMR not calibrated. PMF = 1.000 is applied.
 H-field emissions = 0.46 A/m
 Near-field category: M2 (AWF 0 dB)

PMF scaled H-field

Grid 1 M2	Grid 2 M2	Grid 3 M2
0.40 A/m	0.42 A/m	0.40 A/m
Grid 4 M2	Grid 5 M2	Grid 6 M2
0.44 A/m	0.46 A/m	0.44 A/m
Grid 7 M2	Grid 8 M2	Grid 9 M2
0.40 A/m	0.43 A/m	0.41 A/m



0 dB = 0.463A/m = -6.74 dB A/m

DASY5 E-field Result

Date: 30.08.2012

Test Laboratory: SPEAG Lab2

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: CD1880V3 - SN: 1018

Communication System: CW; Frequency: 1880 MHz
 Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³
 Phantom section: RF Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

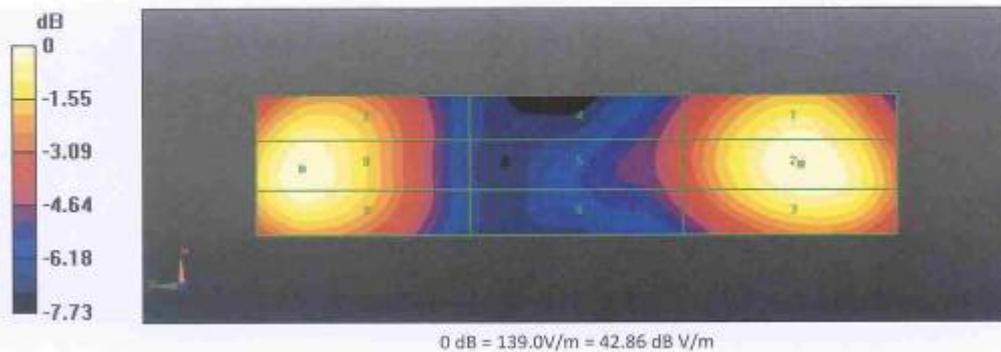
- Probe: ER3DV6 - SN2336; ConvF(1, 1, 1); Calibrated: 29.12.2011
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn781; Calibrated: 29.05.2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA; Serial: 1070
- DASY52 52.8.2(969); SEMCAD X 14.6.4(4989)

Dipole E-Field measurement @ 1880MHz/E-Scan - 1880MHz d=10mm/Hearing Aid Compatibility Test (41x181x1):

Measurement grid: dx=5mm, dy=5mm
 Device Reference Point: 0, 0, -6.3 mm
 Reference Value = 156.8 V/m; Power Drift = 0.01 dB
 PMR not calibrated. PMF = 1.000 is applied.
 E-field emissions = 139.0 V/m
 Near-field category: M2 (AWF 0 dB)

PMF scaled E-field

Grid 1 M2	Grid 2 M2	Grid 3 M2
135.0 V/m	138.8 V/m	134.4 V/m
Grid 4 M3	Grid 5 M3	Grid 6 M3
91.42 V/m	93.60 V/m	89.22 V/m
Grid 7 M2	Grid 8 M2	Grid 9 M2
130.8 V/m	139.0 V/m	136.3 V/m



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Test Report

ANNEX G: DAE4 Calibration Certificate

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
S Service suisse d'étalonnage
C Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **TA Shanghai (Auden)**

Certificate No: **DAE4-1317_Jan13**

CALIBRATION CERTIFICATE																							
Object	DAE4 - SD 000 D04 BJ - SN: 1317																						
Calibration procedure(s)	QA CAL-06.v25 Calibration procedure for the data acquisition electronics (DAE)																						
Calibration date:	January 25, 2013																						
<p>This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.</p> <p>All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.</p> <p>Calibration Equipment used (M&TE critical for calibration)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 30%;">Primary Standards</th> <th style="width: 15%;">ID #</th> <th style="width: 35%;">Cal Date (Certificate No.)</th> <th style="width: 20%;">Scheduled Calibration</th> </tr> </thead> <tbody> <tr> <td>Keithley Multimeter Type 2001</td> <td>SN: 0810278</td> <td>02-Oct-12 (No:12728)</td> <td>Oct-13</td> </tr> <tr> <th style="text-align: left;">Secondary Standards</th> <th>ID #</th> <th>Check Date (in house)</th> <th>Scheduled Check</th> </tr> <tr> <td>Auto DAE Calibration Unit</td> <td>SE UWS 053 AA 1001</td> <td>07-Jan-13 (in house check)</td> <td>In house check: Jan-14</td> </tr> <tr> <td>Calibrator Box V2.1</td> <td>SE UMS 006 AA 1002</td> <td>07-Jan-13 (in house check)</td> <td>In house check: Jan-14</td> </tr> </tbody> </table>				Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration	Keithley Multimeter Type 2001	SN: 0810278	02-Oct-12 (No:12728)	Oct-13	Secondary Standards	ID #	Check Date (in house)	Scheduled Check	Auto DAE Calibration Unit	SE UWS 053 AA 1001	07-Jan-13 (in house check)	In house check: Jan-14	Calibrator Box V2.1	SE UMS 006 AA 1002	07-Jan-13 (in house check)	In house check: Jan-14
Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration																				
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Calibrator Box V2.1	SE UMS 006 AA 1002	07-Jan-13 (in house check)	In house check: Jan-14																				
Calibrated by:	Name R.Mayoraz	Function Technician	Signature 																				
Approved by:	Fin Bomholt	Deputy Technical Manager	Signature 																				
			Issued: January 25, 2013																				
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.																							

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Report No. RXA1401-0006HAC

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**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary

DAE data acquisition electronics
Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- **DC Voltage Measurement:** Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- **Connector angle:** The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
 - **DC Voltage Measurement Linearity:** Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
 - **Common mode sensitivity:** Influence of a positive or negative common mode voltage on the differential measurement.
 - **Channel separation:** Influence of a voltage on the neighbor channels not subject to an input voltage.
 - **AD Converter Values with inputs shorted:** Values on the internal AD converter corresponding to zero input voltage
 - **Input Offset Measurement:** Output voltage and statistical results over a large number of zero voltage measurements.
 - **Input Offset Current:** Typical value for information; Maximum channel input offset current, not considering the input resistance.
 - **Input resistance:** Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
 - **Low Battery Alarm Voltage:** Typical value for information. Below this voltage, a battery alarm signal is generated.
 - **Power consumption:** Typical value for information. Supply currents in various operating modes.

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DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V, full range = -100...+300 mV

Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.011 \pm 0.02% (k=2)	404.006 \pm 0.02% (k=2)	403.901 \pm 0.02% (k=2)
Low Range	3.98819 \pm 1.55% (k=2)	3.99805 \pm 1.55% (k=2)	3.98192 \pm 1.55% (k=2)

Connector Angle

Connector Angle to be used in DASY system	117 $^{\circ}$ \pm 1 $^{\circ}$
-------------------------------------------	-----------------------------------

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Appendix

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	199994.16	-0.78	-0.00
Channel X	+ Input	20000.75	0.37	0.00
Channel X	- Input	-19997.98	2.89	-0.01
Channel Y	+ Input	199995.20	0.02	0.00
Channel Y	+ Input	19999.08	-1.15	-0.01
Channel Y	- Input	-20002.66	-1.68	0.01
Channel Z	+ Input	199994.67	-0.43	-0.00
Channel Z	+ Input	19997.92	-2.31	-0.01
Channel Z	- Input	-20000.66	0.26	-0.00

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2001.23	0.59	0.03
Channel X	+ Input	201.53	0.55	0.28
Channel X	- Input	-198.20	0.62	-0.31
Channel Y	+ Input	2000.33	-0.29	-0.01
Channel Y	+ Input	200.43	-0.68	-0.34
Channel Y	- Input	-199.64	-0.69	0.35
Channel Z	+ Input	2000.78	0.22	0.01
Channel Z	+ Input	200.32	-0.69	-0.34
Channel Z	- Input	-199.27	-0.35	0.18

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	-23.69	-25.75
	- 200	28.59	26.45
Channel Y	200	-1.44	-1.70
	- 200	-0.06	-0.16
Channel Z	200	-10.76	-11.18
	- 200	9.82	9.91

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	1.52	-4.72
Channel Y	200	8.54	-	4.31
Channel Z	200	10.79	5.34	-

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4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16104	15986
Channel Y	16111	15993
Channel Z	16217	16069

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	1.28	0.53	2.45	0.33
Channel Y	-1.29	-2.89	0.51	0.58
Channel Z	-0.39	-1.47	1.06	0.37

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

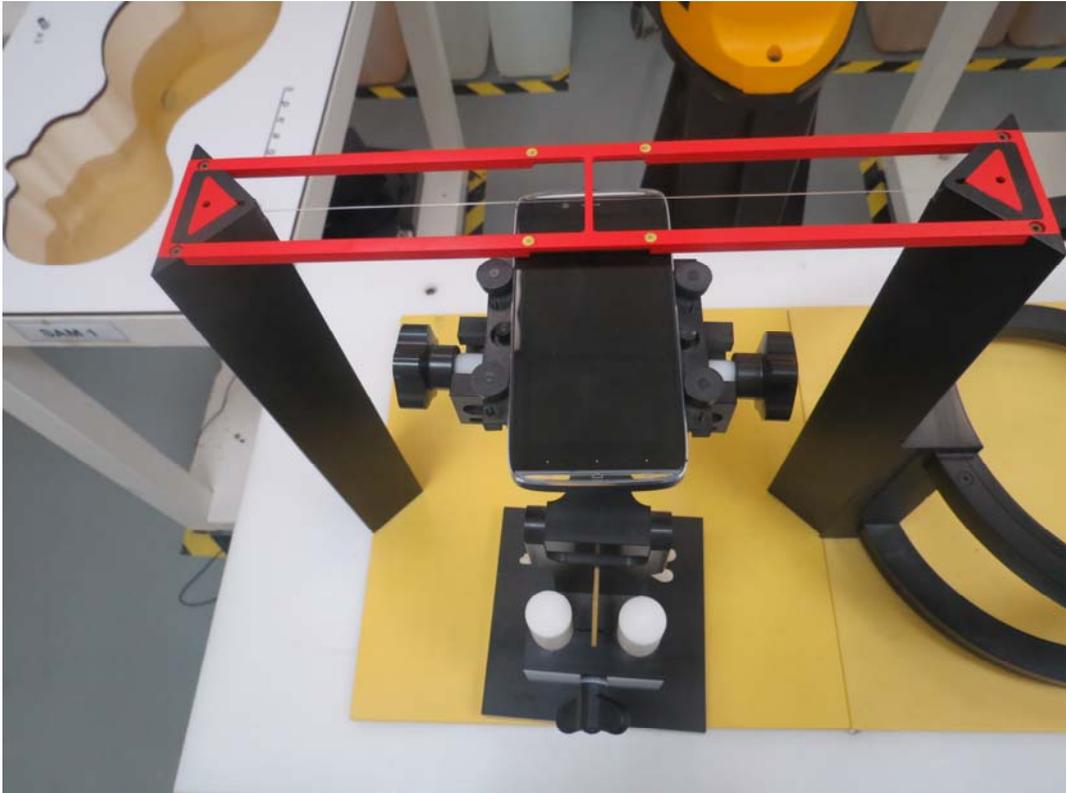
Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

ANNEX H: The EUT Appearances and Test Configuration



EUT

Picture 1: Constituents of EUT



Picture 2: Test Setup