HAC TEST REPORT FOR T-coil

Test Item: Summary Result T-coil Category = T3

REPORT NO.: SA990210L08-5

MODEL NO.: PC36100

RECEIVED: Feb. 23, 2010

TESTED: Mar. 16, 2010

ISSUED: Mar. 18, 2010

APPLICANT: HTC Corporation

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ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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APPENDIX C: SYSTEM EQUIPMENT & CALIBRATION

1. CERTIFICATION

PRODUCT : Smart Phone
MODEL NO. : PC36100
BRAND : HTC
APPLICANT : HTC Corporation
TESTED : Mar. 16, 2010
TEST SAMPLE : ENGINEERING SAMPLE
STANDARDS : **FCC 47CFR Part 20.19**
ANSI C63.19 2007
TEST ITEM: T-coil performance

The above equipment (Model: PC36100) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Pettie Chen , **DATE:** Mar. 18, 2010
Pettie Chen / Specialist

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Mar. 18, 2010
Responsible for RF — Long Chen / Senior Engineer

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Gary Chang / Assistant Manager

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

PRODUCT	Smart Phone
MODEL NO.	PC36100
FCC ID	NM8PC36100
POWER SUPPLY	3.7Vdc (Battery) 5.0Vdc (Adapter) 5.0Vdc (host equipment)
CLASSIFICATION	Portable device, production unit
MODULATION TYPE	OQPSK, HPSK
FREQUENCY RANGE	824MHz ~ 849MHz (CDMA850) 1850MHz ~ 1910MHz (CDMA1900)
CHANNEL FREQUENCIES UNDER TEST AND ITS CONDUCTED OUTPUT POWER	Refer to Section 2.4
T-COIL CATEGORY	T3
ANTENNA TYPE	PIFA antenna with -3dBi gain (For 850 Band) PIFA antenna with 1.0dBi gain (For 1900 Band)
DATA CABLE	Refer to NOTE
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to NOTE

NOTE:

1. The communicated functions of EUT listed as below:

		850MHz	1900MHz	
3G	CDMA	√	√	With WLAN 802.11b/g + BT 2.1 with EDR + GPS
	1*EVDO Release A	√	√	

2. The EUT has following accessories.

NO.	PRODUCT	BRAND	MANU-FACTURE	MODEL	DESCRIPTION
1	Power Adapter	hTC	Delta	TC U250	I/P: 100-240Vac, 50-60Hz, 200mA O/P: 5Vdc, 1A
2			Emerson	TC U250	
3	USB cable	MEC	-	DC M410	1.4m shielded cable without core (For data transmission & charging use)
4		Foxlink	-		
5	Battery	HT ENERGY	-	RHOD160	Rating: 3.7Vdc, 1500mAh
6		Formosa	-		

3. MEID no.: A100000D98
4. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

2.2 DESCRIPTIONOF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
1	Universal Radio Communication Tester	R&S	CMU200	117260	Mar. 24, 2010

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

NOTE: All power cords of the above support units are non shielded (1.8m).

2.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to the specifications of the manufacturer, this product must comply with the requirements of the following standards:

FCC 47CFR Part 20.19

ANSI C63.19 - 2007

All test items have been performed and recorded as per the above standards.

2.4 MEASUREMENTS FOR CERTIFICATION OF 3G DEVICES

For CDMA devices, RC1 and RC3 CDMA modes are considered in S055 service option. In addition, RC1 and RC3 modes are considered in S02 service option. The conducted power measurements for each mode are shown in the table below.

CDMA 2000 CONDUCTED POWER												
CHAN.	FREQ. (MHz)	CDMA 2000	RAW VALUE (dBm)				CORR. FACTOR (dB)	OUTPUT POWER (dBm)			
		RC	SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+SCH)		SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+SCH)
1013	824.70	RC1	19.47	19.54	-	-	4.2	23.67	23.74	-	-
		RC3	19.51	19.58	19.53	19.49	4.2	23.71	23.78	23.73	23.69
384	836.52	RC1	19.65	19.68	-	-	4.2	23.85	23.88	-	-
		RC3	19.69	19.76	19.74	19.67	4.2	23.89	23.96	23.94	23.87
777	848.31	RC1	18.80	18.87	-	-	4.2	23.00	23.07	-	-
		RC3	18.81	18.91	18.82	18.84	4.2	23.01	23.11	23.02	23.04

CDMA 2000 CONDUCTED POWER											
CHAN.	FREQ. (MHz)	CDMA 2000	RAW VALUE (dBm)				CORR. FACTOR (dB)	OUTPUT POWER (dBm)			
		RC	SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+SCH)		SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+SCH)
25	1851.25	RC1	19.18	19.31	-	-	4.5	23.68	23.81	-	-
		RC3	19.29	19.42	19.38	19.35	4.5	23.79	23.92	23.88	23.85
600	1880.00	RC1	19.14	19.18	-	-	4.5	23.64	23.68	-	-
		RC3	19.26	19.29	19.24	19.22	4.5	23.76	23.79	23.74	23.72
1175	1908.75	RC1	18.81	18.85	-	-	4.5	23.31	23.35	-	-
		RC3	18.96	18.98	18.92	18.78	4.5	23.46	23.48	23.42	23.28

For CDMA devices, **RC1 S03 mode is used for T-coil compliance evaluation.** This RC1 S03 is used for measurements in section x of this report. As per the recent presentation by Qualcomm to the FCC on March 15, 2007, RC1 S03 combination represents the appropriate configuration for T-coil testing.

3. SUMMARY OF THE TEST RESULTS

ANSI C63.19 (2007) T-coil result				
Mode	**Test**	**Test Results**	**T-Rating**	**Verdit**
CDMA850	Min. Field Strength (AMB1), dB A/m	-0.315	3	PASS
	Min. Signal Quality (ABM1/ABM2), dB	23.6	3	PASS
	Frequency Response @ Axial position			PASS
CDMA1900	Min. Field Strength (AMB1), dB A/m	-2.83	3	PASS
	Min. Signal Quality (ABM1/ABM2), dB	20.2	3	PASS
	Frequency Response @ Axial position			PASS
Overall T-Rating :		T3		

4. GENERAL INFORMATION OF THE DASY 5 SYSTEM

4.1 GENERAL INFORMATION OF TEST EQUIPMENT

DASY5 (Software 5.2 Build 157) consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY 5 software defined.
The DASY 5 software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box.
The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion form the optical into digital electric signal of the DAE and transfers data to the PC.
This system consists of the following items:

AM1DV3 Audio Magnetic Field Probe

The AM1D probe is an active probe with a single sensor. It is fully RF-shielded and has a rounded tip 6mm in diameter incorporating a pickup coil with its center offset 3mm from the tip and the sides. The symmetric signal preamplifier in the probe is fed via the shielded symmetric output cable from the AMMI with a 48V “phantom” voltage supply. The 7-pin connector on the back in the axis of the probe does not carry any signals. It is mounted to the DAE for the correct orientation of the sensor. If the probe axis is tilted 54.7 degree from the vertical, the sensor is approximately vertical when the signal connector is at the underside of the probe (cable hanging downwards).

Specification:

Frequency range	0.1 ~ 20 kHz (RF sensitivity <-100dB, fully RF shielded)
Sensitivity	<-50dB A/m @ 1 kHz
Pre-amplifier	40 dB, symmetric
Dimensions	Tip diameter/ length: 6/ 290 mm, sensor according to ANSI-C63.19

DATA ACQUISITION ELECTRONICS (DAE)

CONSTRUCTION

The data acquisition electronics (DAE 4) consists of a highly sensitive electrometer grade preamplifier with auto-zeroing, a channel and gain-switching multiplex, a fast 16 bit AD converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock. The mechanical probe is mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection. The input impedance of the DAE3,4 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

AMMI

The Audio Magnetic Measuring Instrument (AMMI) is a desktop 19-inch unit containing a sampling unit, a waveform generator for test and calibration signals, and a USB interface.

Specification:

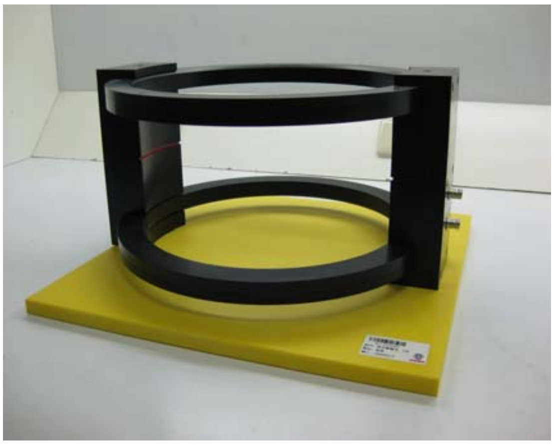
Sampling rate	48 kHz/24 bit
Dynamic range	85 dB
Test signal generation	User selectable and predefined (via PC)
Calibration	Auto-calibration/full system calibration using AMCC with monitor output
Connection:	Front connectors Audio Out - audio signal to the base station simulator Coil Out - test and calibration signal to the AMCC Coil In - monitor signal from the AMCC BNO connector Probe In - probe signal
Dimensions	482 x 65 x 270 mm

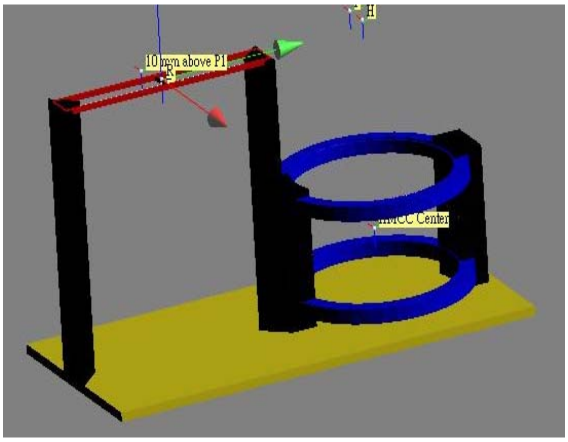
AMCC

The Audio Magnetic Calibration coil is a Helmholtz Coil designed according to ANSI C63.19-2007 section D.9, for calibration of the AM1D probe. The two horizontal coils generate a homogeneous magnetic field in the z direction. The DC input resistance is adjusted to approximately 50 Ohm by a series resistor, and a shunt resistor of 10 Ohm allows monitoring the current with a scale of 1:10.

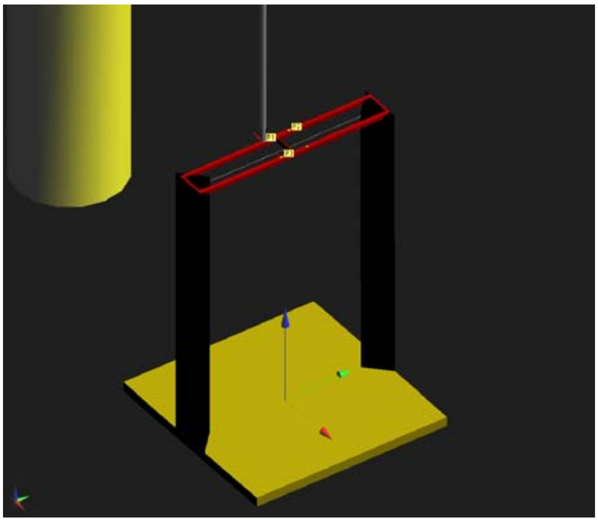
Specification:

Coil In	typically 50 Ohm
Coil Monitor	10Ohm ±1%(100mV corresponding to 1 A/m)
Dimensions	370 x 370 x 196 mm





HAC ARCH

DIMENSIONS 370 x 370 x 370mm

DEVICE HOLDER

CONSTRUCTION Supports accurate and reliable positioning of any phone effect on near field <+/- 0.5dB

4.2 TEST SYSTEM CONFIGURATION

Figure 4.2: T-Coil setup with HAC Test Arch and AMCC

4.3 TEST EQUIPMENT LIST

ITEM	NAME	BRAND	TYPE	SERIES NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
1	Audio Band Magnetic Probe	SPEAG	AM1DV3	3060	Jan. 21, 2010	Jan. 20, 2011
2	DAE	SPEAG	DAE3	579	Jul. 17, 2009	Jul. 16, 2010
3	Audio Band Magnetic Measuring Instrument	SPEAG	AMMI	1075	NA	NA
4	Helmholtz Coil	SPEAG	AMCC	1076	NA	NA
5	HAC Arch	SPEAG	HAC ARCH	1034	NA	NA
6	Robot Positioner	Staubli Unimation	NA	NA	NA	NA

NOTE1: All test equipment has been calibrated by the SPEAG. Please reference" APPENDIX B "for the calibration report.

NOTE2: Before starting the measurement, all test equipment shall be warmed up for 30min.

4.4 T-COIL MEASUREMENT UNCERTAINTY

HAC UNCERTAINTY BUDGET ACCORDING TO ANSI C63.19							
ERROR DESCRIPTION	UNCERTAINTY VALUE	PROBABILITY DISTRIBUTION	DIV.	(Ci) ABM1	(Ci) ABM2	STD. UNC. AMB1	STD. UNC. AMB2
PROBE SENSITIVITY							
Reference level	±3.0%	Normal	1	1	1	±3.0%	±3.0%
AMCC geometry	±0.4%	Rectangular	√3	1	1	±0.2%	±0.2%
AMCC current	±1.0%	Rectangular	√3	1	1	±0.6%	±0.6%
Probe positioning during calibration	±0.1%	Rectangular	√3	1	1	±0.1%	±0.1%
Noise contribution	±0.7%	Rectangular	√3	0.0143	1	±0.0%	±0.4%
Frequency slope	±5.9%	Rectangular	√3	0.1	1	±0.3%	±3.5%
PROBE SYSTEM							
Repeatability / Drift	±1.0%	Rectangular	√3	1	1	±0.6%	±0.6%
Linearity / Dynamic range	±0.6%	Rectangular	√3	1	1	±0.4%	±0.4%
Acoustic noise	±1.0%	Rectangular	√3	0.1	1	±0.1%	±0.6%
Probe angle	±2.3%	Rectangular	√3	1	1	±1.4%	±1.4%
Spectral processing	±0.9%	Rectangular	√3	1	1	±0.5%	±0.5%
Integration time	±0.6%	Normal	1	1	5	±0.6%	±3.0%
Field distribution	±0.2%	Rectangular	√3	1	1	±0.1%	±0.1%
TEST SIGNAL							
Reference signal spectral response	±0.6%	Rectangular	√3	0	1	±0.0%	±0.4%
POSITIONING							
Probe positioning	±1.9%	Rectangular	√3	1	1	±1.1%	±1.1%
Phantom thickness	±0.9%	Rectangular	√3	1	1	±0.5%	±0.5%
DUT positioning	±1.9%	Rectangular	√3	1	1	±1.1%	±1.1%
EXTERNAL CONTRIBUTIONS							
RF interference	±0.0%	Rectangular	√3	1	0.3	±0.0%	±0.0%
Test signal variation	±2.0%	Rectangular	√3	1	1	±1.2%	±1.2%
Combined Standard Uncertainty (ABM):						**±4.1%**	**±6.1%**
Extended Standard Uncertainty (k=2) [%]:						**±8.1%**	**±12.3%**

The uncertainty budget for HAC Audio Band Magnetic Field (AMB) assessment according to ANSI C63.19-2007.The budget is valid for the DASY system and represents a worst- case analysis. For specific tests and configurations, the uncertainty could be smaller.

5. SYSTEM VALIDATION & CALIBRATION

At the beginning of the HAC T-coil measurement, a 3-phase calibration was performed per Speag instruction to ensure accurate measurement of the voltages and ABM field. Reference input level was also validated and calibrated per C63.19.

5.1 CABLING OF SYSTEM

The principal cabling of the T-Coil setup is shown in Figure 6.1 All cables provided with the basic setup have a length of approximately 5 m.

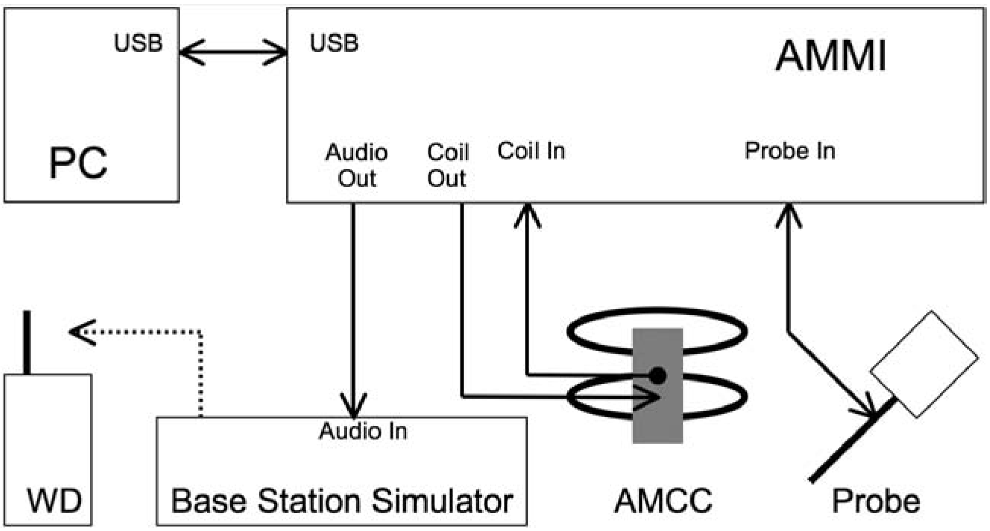


Figure 5.1: T-Coil setup cabling

5.2 INPUT CHANNEL CALIBRATION

Phase 1: The AMMI audio output was switched off, and a 200 mV_pp symmetric rectangular signal of 1 kHz was generated and internally connected directly to both channels of the sampling unit (coil in, probe in).

Phase 2: The AMMI audio output was off, and a 20 mV_pp symmetric 100 Hz signal was internally connected.

The signals during phases 1 and 2 were available at the output on the rear panel of the AMMI. The output must however not be loaded in order not to influence the calibration. After the first two phases, the two input channels were both calibrated for absolute measurements of voltages. The resulting factors were displayed above the multimeter window.

After phases 1 and 2, the input channels were calibrated to measure exact voltages.

5.3 PROBE CALIBRATION IN AMCC

Phase 3: Probe Calibration in AMCC

The probe sensitivity at **1 kHz is 0.00731303V / (A/m)** was calibrated by AMCC coil for verification of setup performance. The evaluated probe sensitivity was able to be compared to the calibration of the AM1D probe. The frequency response and sensitivity was shown in appendix A1. The probe signal is represented after application of an ideal integrator. The green curve represents the current though the AMCC, the blue curve the integrated probe signal. The difference between the two curves is equivalent to the frequency response of the probe system and shows the characteristics. The probe/system complies with the frequency response and linearity requirements in C63.19 according to the Speag's calibrated report as shown in appendix C1

(1)The frequency response has been tested within +/- 0.5 dB of ideal differentiator from 100 Hz to 10 kHz.

(2)The linearity has also been tested within 0.1dB from 5 dB below limitation to 16 dB above noise level. The AMCC coil is qualified according to certificate report that shown in appendix C2.

5.4 REFERENCE INPUT LEVEL

An Input Level is measured to verify that it is within +/-0.2 dB from the Reference Input Level in section 6.3.2.1 of ANSI C63.19-2007.

According to ANSI C63.19:2007 section 6.3.2.1, the normal speech input level for HAC T-coil tests shall be set to -16dBm0 for GSM and UMTS (WCDMA), and to -18 dBm0 for CDMA. This technical note shows a possibility to evaluate and set the correct level with the HAC T-Coil setup with a Rohde & Schwarz communication tester CMU200 with audio option B52 and B85.

5.4.1 TARGET LEVEL FOR "AUDIO OUT" OF THE AMMI

(CMU200 Audio Codec Calibration)

Measured data is shown in Table 5.4.1. This target level takes into account the difference between AMMI's and CMU's reference levels.

Table 5.4.1: Measured Input Level

CMU voltage level(dBV)	AMMI 1kHz signal with gain 10 inserted(dBV)
-2.51	-23.65

5.4.2 MEASURED GAIN SETTING

The predefined signal types have the following differences / factors compared to the 1kHz sine signal:

Table 5.4.2: Measured Gain Setting

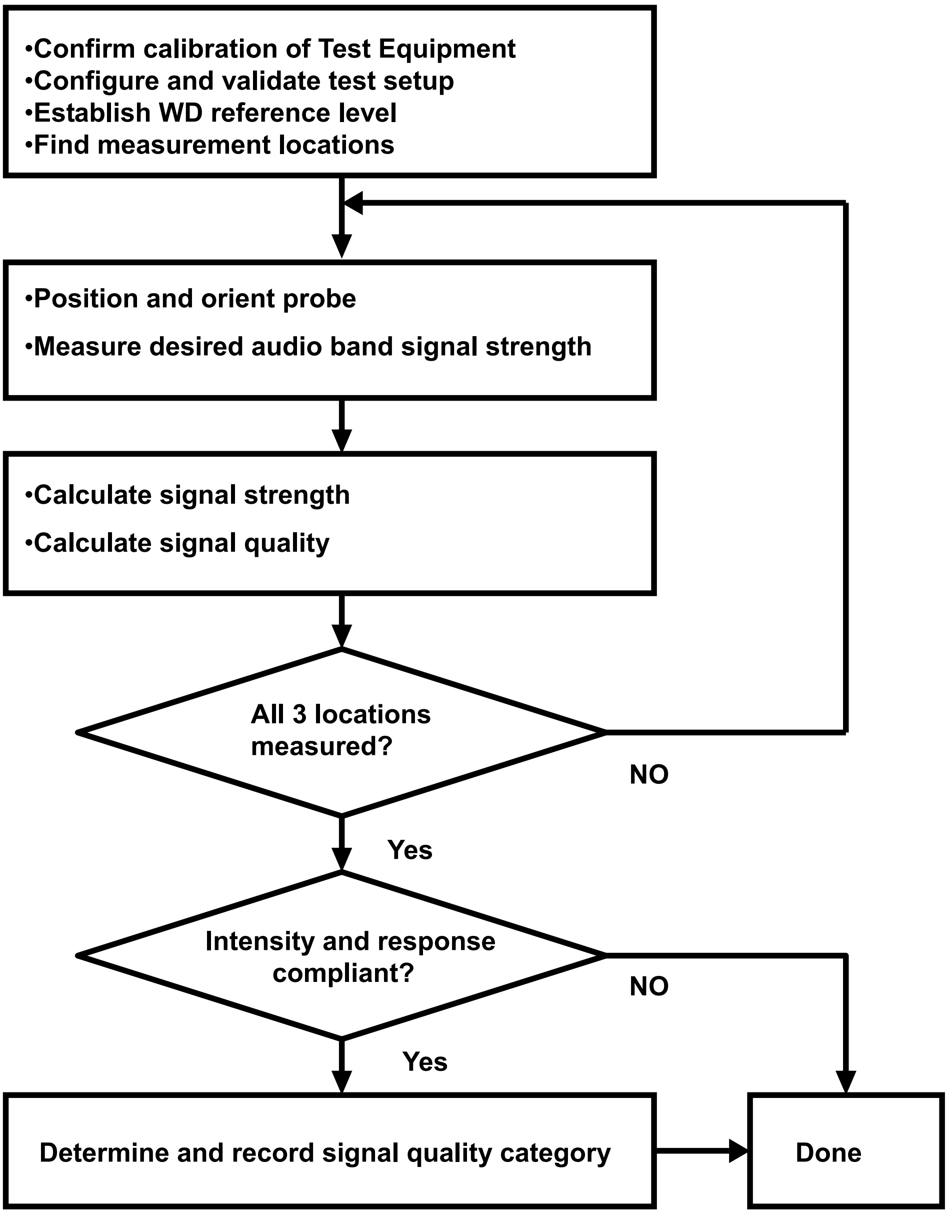
Audio Signal Level	Signal Type Duration	Peak to RMS (dB)	RMS(dB)	Gain factor	Gain Setting
-18dBm0	**1KHz**	16.2	-12.7	4.33	27.80
-18dBm0	300 to 3KHz	21.6	-18.6	8.48	54.44

5.5 REFERENCE INPUT OF AUDIO SIGNAL SPECTRUM

With the reference job "use as reference" in the beginning of a procedure, measure the spectrum of the current when applied to the AMCC, i.e. the input magnetic field spectrum, as shown in the **appendix A2**. For this, the delay of the window shall be set to a multiple of the signal period and at least 2s. From the measurement on the device, using the same signal, the postprocessor deducts the input spectrum, so the result represents the net DUT response.

6. T-COIL TEST PROCEDURE

The device was positioned and setup according to ANSI C63.19-2007. The following shows the T-Coil Signal measurement flowchart:



The following steps were a typical test scan for the wireless communications device:

1. Geometry and signal check: system probe alignment, proper operation of the field probe, probe measurement system, other instrumentation, and the positioning system was confirmed.
   A surface calibration was performed before each setup change to ensure repeatable spacing and proper maintenance of the measurement plane using the test Arch.
2. Set the reference drive level of signal voice defined in C63.19 per 6.3.2.1, as shown in the **appendix A2** of this report
3. The ambient and test system background noise (dB A/m) was measured as well as ABM2 over the full measurement. The maximum noise level must be at least 10dB below the limit of C63.19 per 7.3.2.
   For the three probe positions, noise spectrum plots for the highest ambient noise are given in **appendix A3.**
4. The DUT was positioned in its intended test position, acoustic output point of the device perpendicular to the field probe.
5. The DUT operation for maximum rated RF output power was configured and connected by using of coaxial cable connection to the base station simulator at the test channel and other normal operating parameters as intended for the test. The battery was ensured to be fully charged before each test. The center sub-grid was centered over the center of the acoustic output (also audio band magnetic output, if applicable). The DUT audio output was positioned tangent (as physically possible) to the measurement plane.
6. The DUT's RF emission field was eliminated from T-coil results by using a well RF-shielding of the probe, AM1D, and by using of coaxial cable connection to a Base Station Simulator. One test channel was pre-measurement to avoid this possibility.
7. Determined the optimal measurement locations for the DUT by following the three steps, coarse resolution scan, fine resolution scans, and point measurement, as described in C63.19 per 6.3.4.4. At each measurement locations, samples in the measurement window duration were evaluated to get ABM1 and the signal spectrum. The noise measurement was performed after the scan with the signal, the same happened, just with the voice signal switched off. The ABM2 was calculated from this second scan.
   (1) Coarse resolution scans (1 KHz signal at 50 x 50 mm grid area with 10 mm spacing). Only ABM1 was measured in order to find the location of T-Coil source.
   (2) Fine resolution scans (1 KHz signal at 10 x 10 mm grid area with 2 mm spacing). The positioned appropriately based on optimal AMB1 of coarse resolution scan. Both ABM1 and ABM2 were measured in order to find the location of the SNR point.
   (3) Point measurement (1 KHz signal) for ABM1 and ABM2 in axial, radial transverse and radial longitudinal. The positioned appropriately based on optimal SNR of fine resolution scan. The SNR was calculated for axial, radial transverse and radial longitudinal orientation.

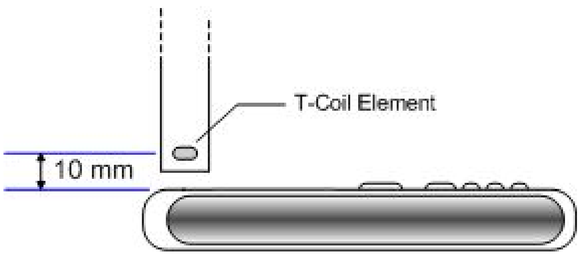
(4) Point measurement (300Hz to 3 KHz signal) for frequency response in axial. The positioned appropriately based on optimal SNR of fine resolution axial scan.

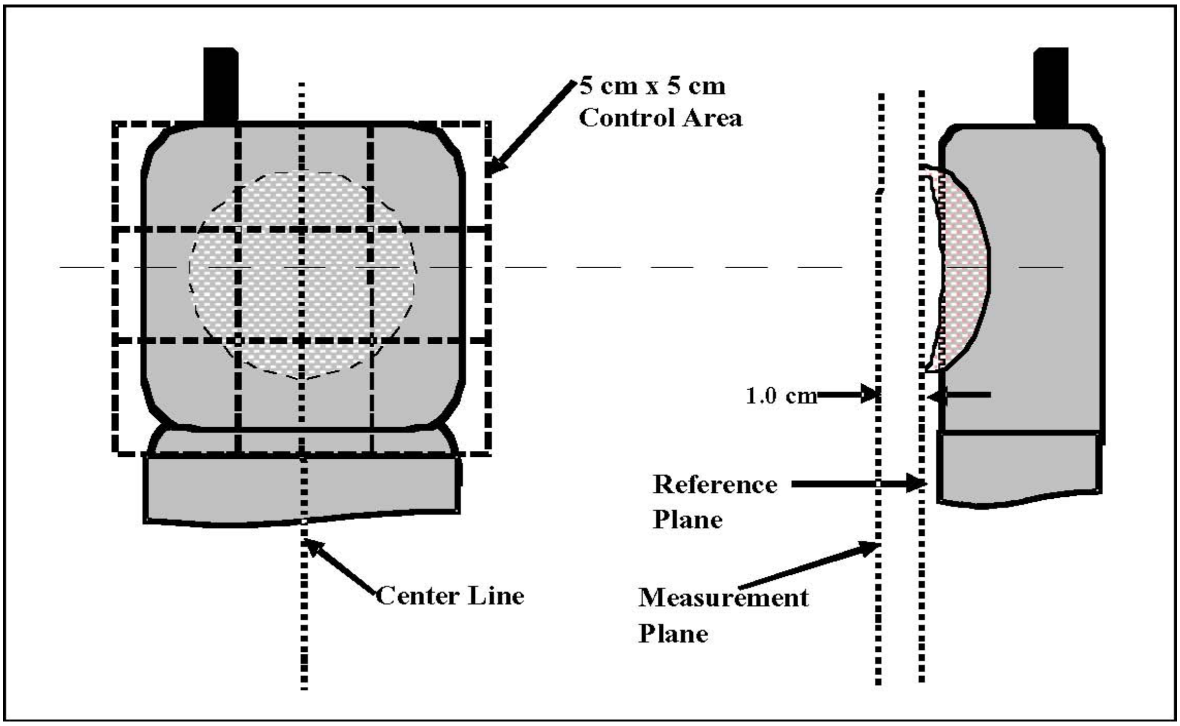
8. All results resulting from a measurement point in a T-Coil job were calculated from the signal samples during this window interval. ABM values were averaged over the sequence of these samples.
9. At an optimal point measurement, the SNR(ABM1/ABM2) was calculated for axial, radial transverse and radial longitudinal orientation, and the frequency response was measured in axial axis.
10. Corrected for the frequency response after the DUT measurement since the DASY5 system had known the spectrum of the input signal by using a reference job, as shown in the **appendix B2** of this report.
11. In SEMCAD post-processing, the spectral points are in addition scaled with the high-pass (half-band) and the A-weighting, bandwidth compensated factor (BWC) and those results are final as shown in this report.
12. Classified the signal quality based on the T-Coil Signal Quality Categories.

7. DESCRIPTION FOR EUT TESTING CONFIGURATION

The phone was tested in normal configurations for the ear use. The DASY5 measurement system specified in section 3.1 was utilized within the intended operations as set by the SPEAG™ setup. The Test Arch provided by SPEAG is used to position the DUT. All tests are done via conducted setup with CMU 200.

The distance is established by positioning the device beneath the test arch phantom so that it is touching the frame. The location and thickness of the arch, and the location/orientation of the coil within the probe housing, are precisely known values in the DASY software. The height of the measurement plane is further fine-tuned by performing a Surface Detection job at the beginning of each test. The end result is that the probe sensor is very precisely located 10mm above the device reference plane.





8. T-COIL REQUIREMENTS AND CATEGORY

8.1 RF EMISSIONS

EUT has to fulfill RF emission requirements at the axial measurement location.

8.2 AXIAL FIELD INTENSITY

The minimum limits of ABM1 field intensity shall be ≥ –18 dB (A/m) at 1 kHz, in a 1/3 octave band filter for all orientations.

8.3 SIGNAL QUALITY

Table 9.3 provides the signal quality requirement for the intended T-Coil signal from a Wireless Device. The worst Signal Quality of the axial and radial components of the magnetic field was used to determined the T-Coil category

Category	Telephone parameters WD signal quality [(signal + noise)-to-noise ratio in decibels]
Category T1	0 dB to 10 dB
Category T2	10 dB to 20 dB
Category T3	20 dB to 30 dB
Category T4	> 30 dB

8.4 FREQUENCY RESPONSE

The frequency response of the axial component must follow the frequency curve specified in ANSI C63.19-2007 section 7.3.3, over the frequency range 300-3000 Hz.

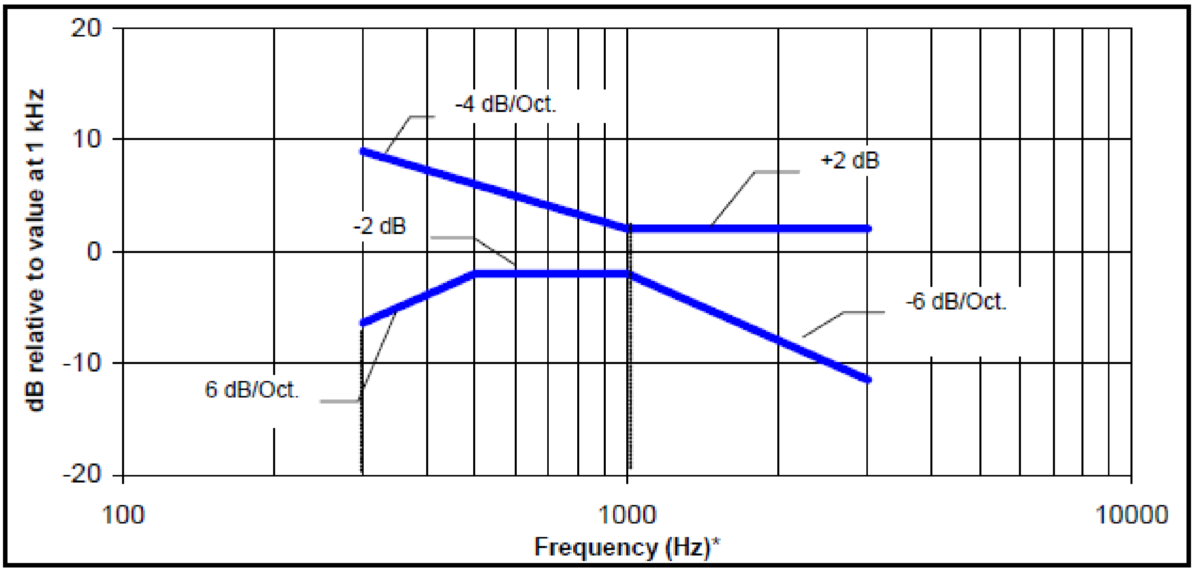


Figure 8.4a Magnetic field frequency response for WDs with a field ≤ –15 dB (A/m) at 1 kHz

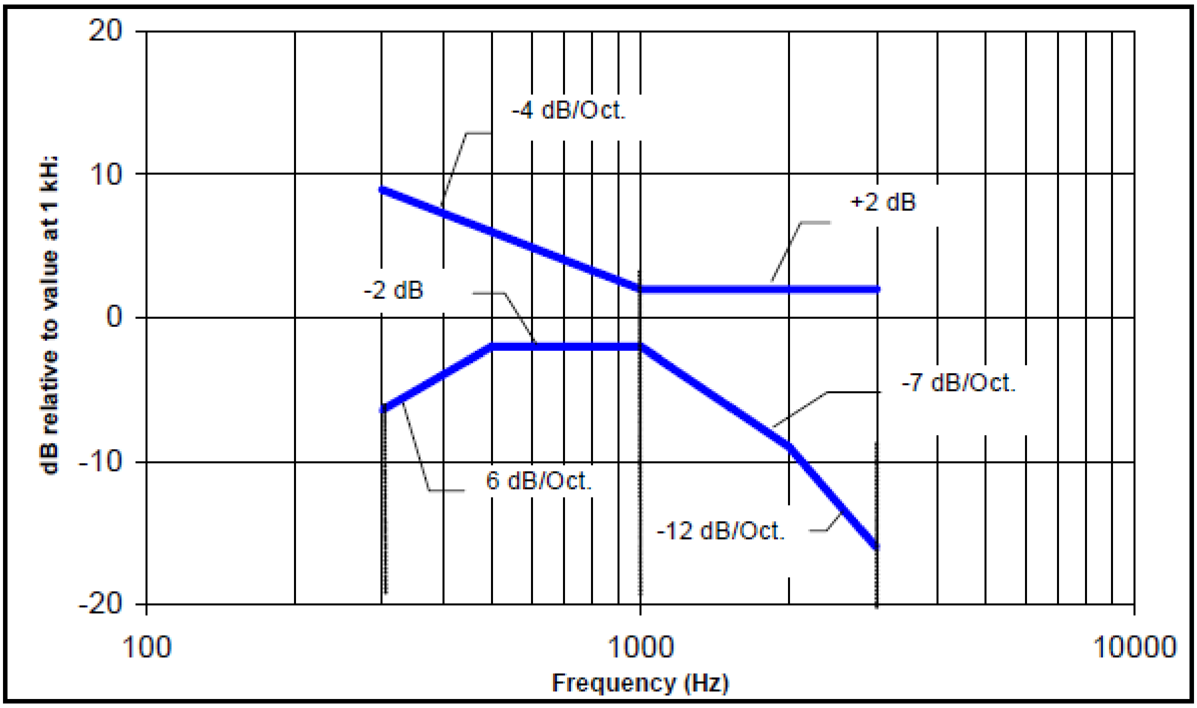


Figure 8.4b Magnetic field frequency response for WDs with a field that exceeds –15 dB(A/m) at 1 kHz

9. T-COIL TEST RESULT

9.1 SNR MEASUREMENT RESULT

Probe Position	Band	Channel	Measurement Position (x mm, y mm)	Ambient Background Noise (dB A/m)	ABM2 (dB A/m)	ABM1 (dB A/m)	SNR (dB)	T-coil SNR Rating
Radial 1 (Longitudinal)	CDMA 850	1013	2, -4	-38.22	-24.615	-0.315	24.3	T3
		384	4, -2	-38.24	-23.482	0.118	23.6	T3
		777	6,-4	-38.19	-23.805	0.595	24.4	T3
	CDMA 1900	25	4, -4	-38.23	-22.760	-2.560	20.2	T3
		600	6, -4	-38.18	-22.350	-1.750	20.6	T3
		1175	2, -4	-38.25	-23.030	-2.830	20.2	T3
Radial2 (Transversal)	CDMA 850	1013	2, 6	-38.45	-35.302	0.498	35.8	T4
		384	0, 4	-38.47	-34.659	-0.959	33.7	T4
		777	0, 6	-38.44	-35.579	-0.479	35.1	T4
	CDMA 1900	25	0, 2	-38.49	-33.580	-1.180	32.4	T4
		600	2, 6	-38.42	-35.130	1.570	36.7	T4
		1175	2, 6	-38.46	-34.630	-0.630	34.0	T4
Axial	CDMA 850	1013	-4, 0	-38.26	-32.940	2.760	35.7	T4
		384	-2, 0	-38.23	-31.390	2.110	33.5	T4
		777	-2, 0	-38.15	-31.880	1.820	33.7	T4
	CDMA 1900	25	0, -4	-38.17	-28.620	3.080	31.7	T4
		600	-2, -4	-38.27	-30.660	3.440	34.1	T4
		1175	-2, -4	-38.23	-29.580	4.220	33.8	T4

Table 9.1: Test Result for Various Positions

Note:

- Minimum Limit: ABM1 ≥-18 dB A/m
- Signal Quality = ABM1/ABM2
- Bold Number = worst case at each frequency band
- Data plots are showed in **appendix B1**

9.2 FREQUENCY RESPONSE AT AXIAL MEASUREMENT POINT

Cell Phone Mode	Verdict
CDMA 850	Pass
CDMA1900	Pass

Note: Please see **appendix B2** for the frequency response test raw data.

10. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.
If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

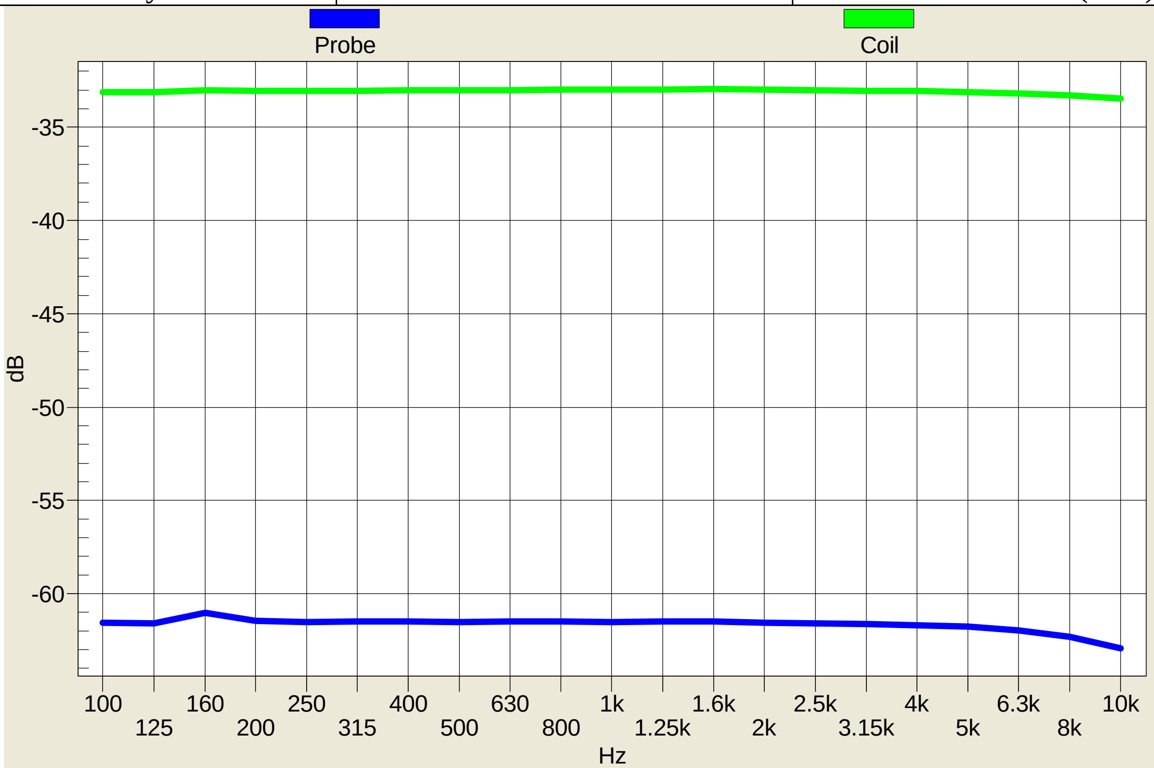
The address and road map of all our labs can be found in our web site also.

---END---

APPENDIX A1:

Probe Calibration in AMCC

	Coil	Probe
Internal calibration factor	2.38307 V	1.15006 V
Probe sensitivity at 1kHz		0.00367567 V/(A/m)



Appendix A1 : The frequency response and sensitivity of AM1D probe

APPENDIX A2:

Reference Input of Audio Signal Spectrum

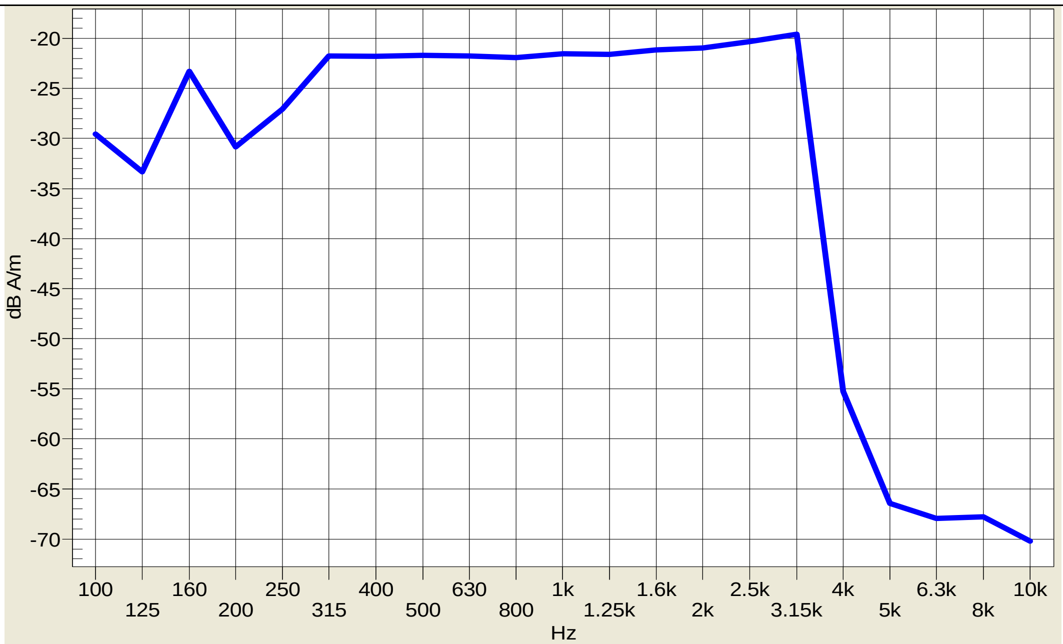


Figure A2-1: Audio signal spectrum of the broadband signal (48KHz_voice_300Hz~3KHz)

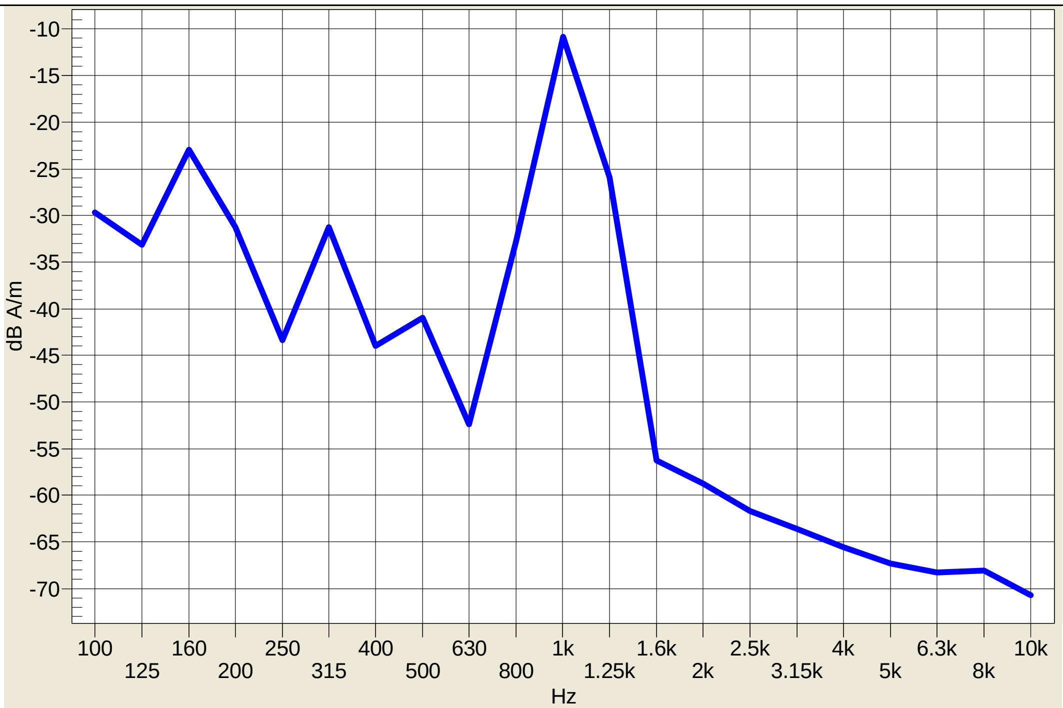
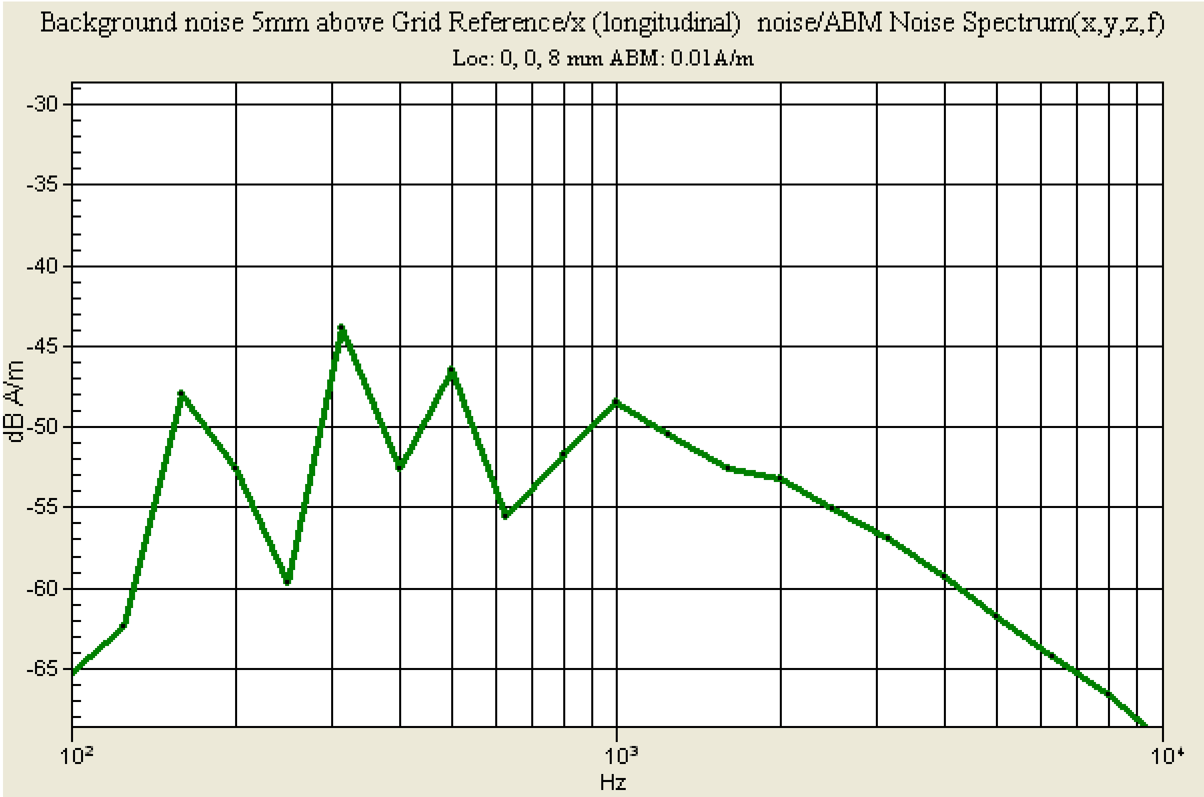


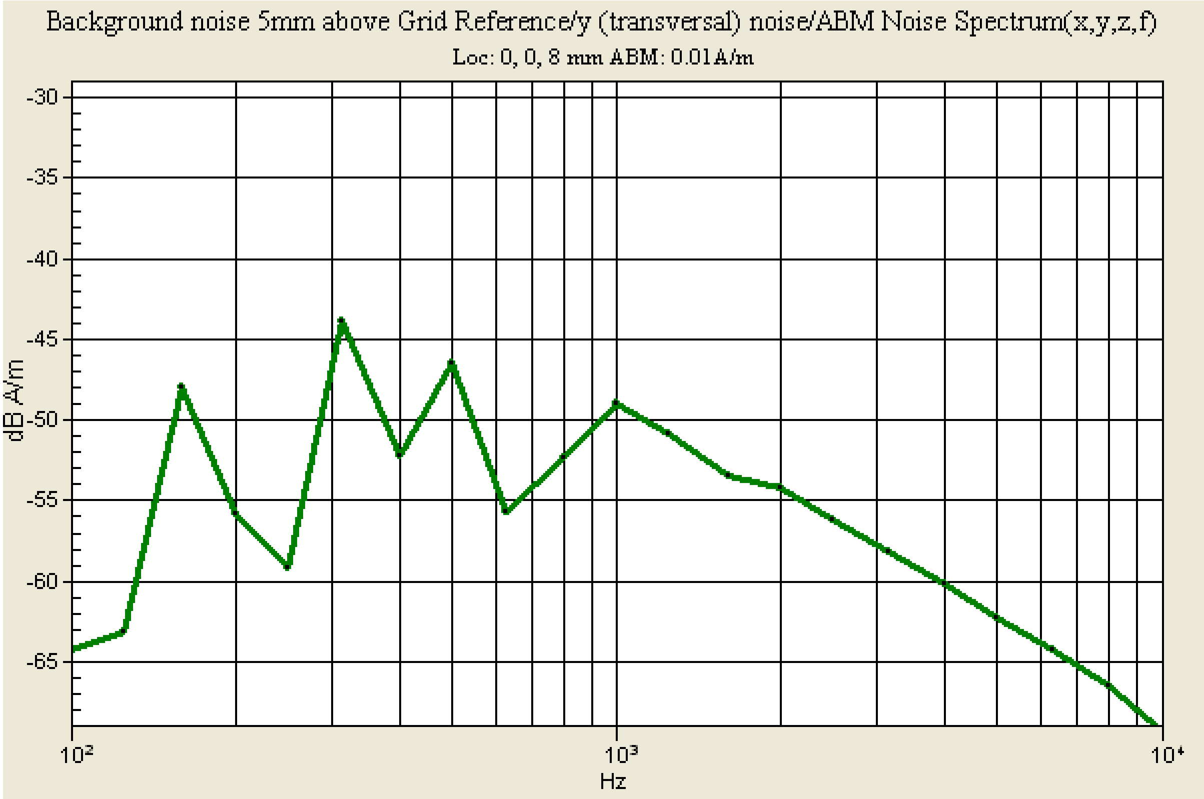
Figure A2-2: Audio signal spectrum of the narrowband signal (48KHz_voice_1KHz)

APPENDIX A3:

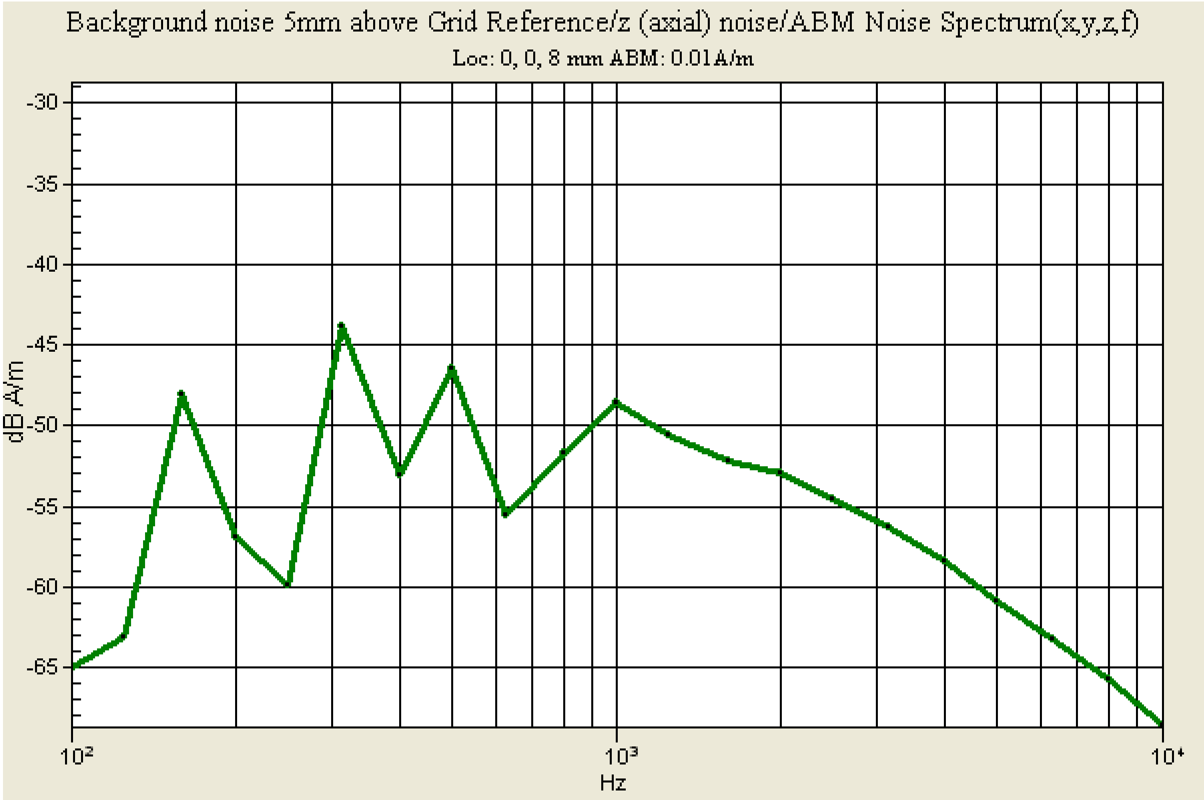
Ambient Noise Spectrum Plots



Radial 1 Position Ambient Noise Spectrum Plot



Radial 2 Position Ambient Noise Spectrum Plot



Axial Position Ambient Noise Spectrum Plot

APPENDIX B1: Measurement Data

Date/Time: 2010/3/8 07:36:06

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch 1013 Radial 1

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 0 kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.135993 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -0.494 dB A/m
BWC Factor = 0.135993 dB
Location: 5, -5, 3 mm

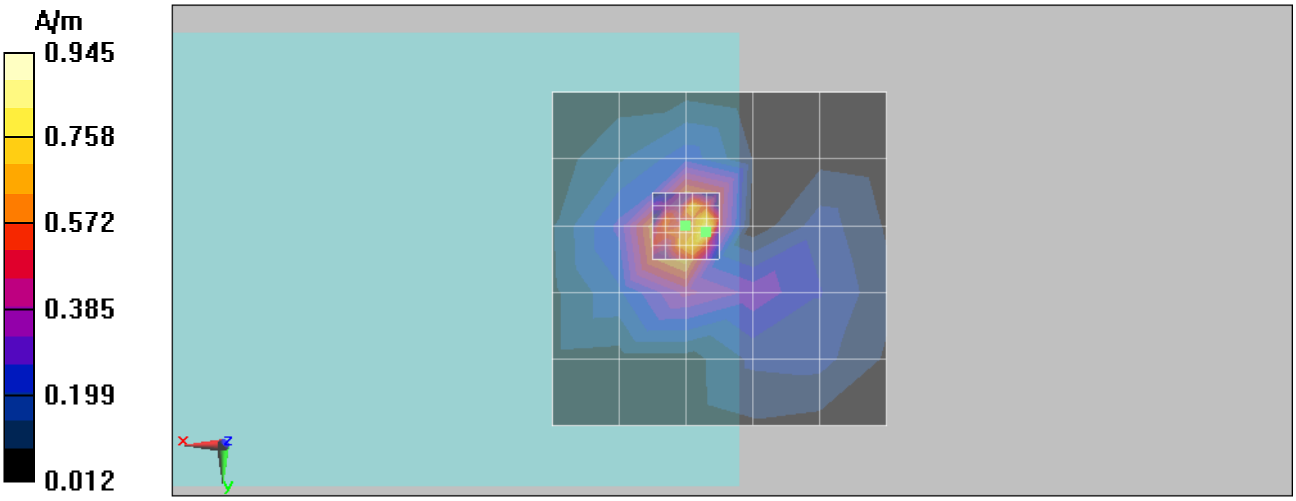
Fine scan/x (longitudinal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.147017 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -0.327 dB A/m
BWC Factor = 0.147017 dB
Location: 2, -4, 3 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.141037 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 24.3 dB
ABM1 comp = -0.315 dB A/m
BWC Factor = 0.141037 dB
Location: 2, -4, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch 384 Radial 1

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131973 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -1.51 dB A/m
BWC Factor = 0.131973 dB
Location: 5, -5, 3 mm

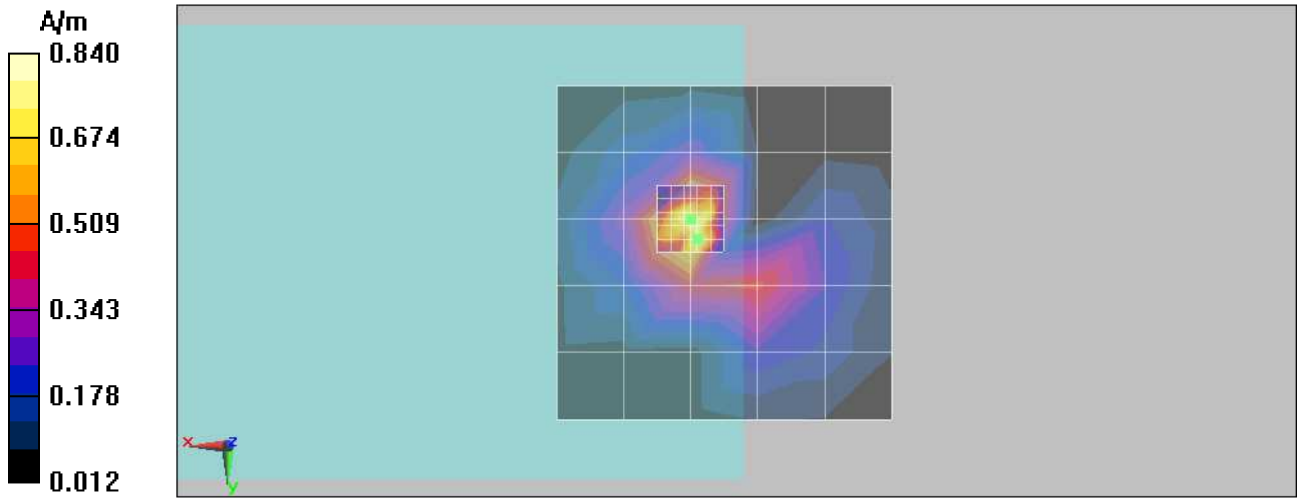
Fine scan/x (longitudinal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.141037 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -0.835 dB A/m
BWC Factor = 0.141037 dB
Location: 4, -2, 3 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.12701 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 23.6 dB
ABM1 comp = 0.118 dB A/m
BWC Factor = 0.12701 dB
Location: 4, -2, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch777 Radial 1

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 0 kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.125983 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -1.26 dB A/m
BWC Factor = 0.125983 dB
Location: 5, -5, 3 mm

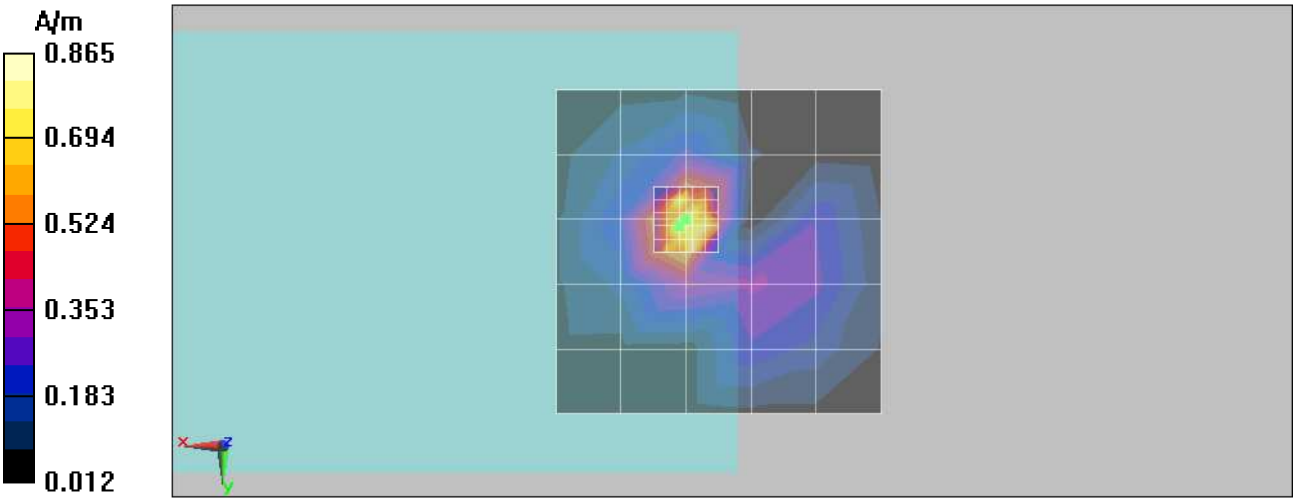
Fine scan/x (longitudinal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.130005 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -1.03 dB A/m
BWC Factor = 0.130005 dB
Location: 6, -4, 3 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134026 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 24.4 dB
ABM1 comp = 0.595 dB A/m
BWC Factor = 0.134026 dB
Location: 6, -4, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch25 Radial 1

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134967 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -2.74 dB A/m
BWC Factor = 0.134967 dB
Location: 5, -5, 3 mm

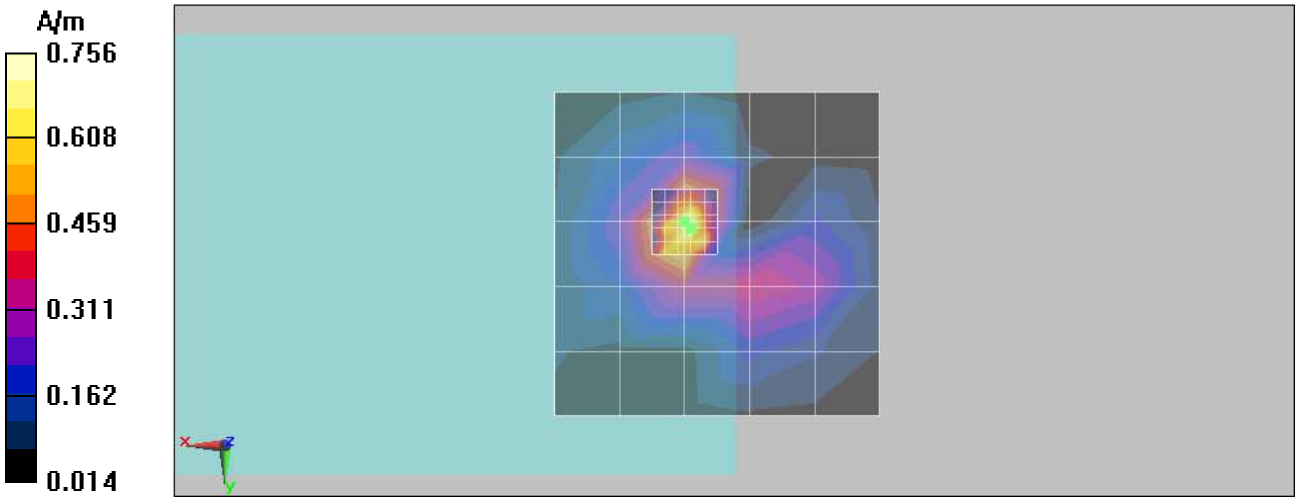
Fine scan/x (longitudinal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131973 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -2.62 dB A/m
BWC Factor = 0.131973 dB
Location: 4, -4, 3 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.143002 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 20.2 dB
ABM1 comp = -2.56 dB A/m
BWC Factor = 0.143002 dB
Location: 4, -4, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch600 Radial 1

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 0 kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131032 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -2.73 dB A/m
BWC Factor = 0.131032 dB
Location: 5, -5, 3 mm

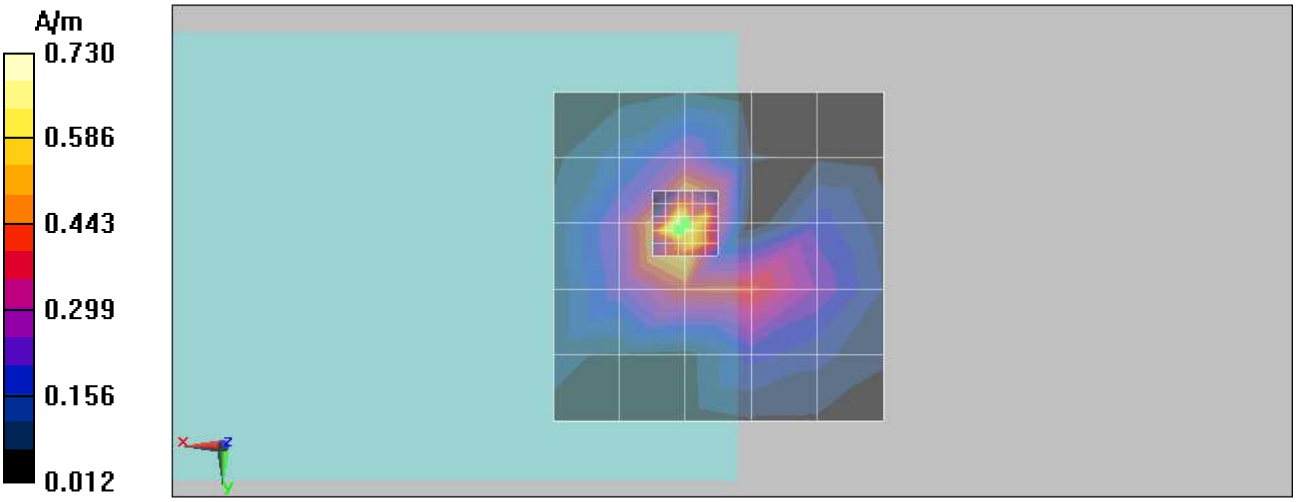
Fine scan/x (longitudinal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.135993 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -1.93 dB A/m
BWC Factor = 0.135993 dB
Location: 6, -4, 3 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.137019 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 20.6 dB
ABM1 comp = -1.75 dB A/m
BWC Factor = 0.137019 dB
Location: 6, -4, 3 mm



Date/Time: 2010/3/8 09:49:35

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch1175 Radial 1

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 0 kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.137019 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -3.51 dB A/m
BWC Factor = 0.137019 dB
Location: 5, -5, 3 mm

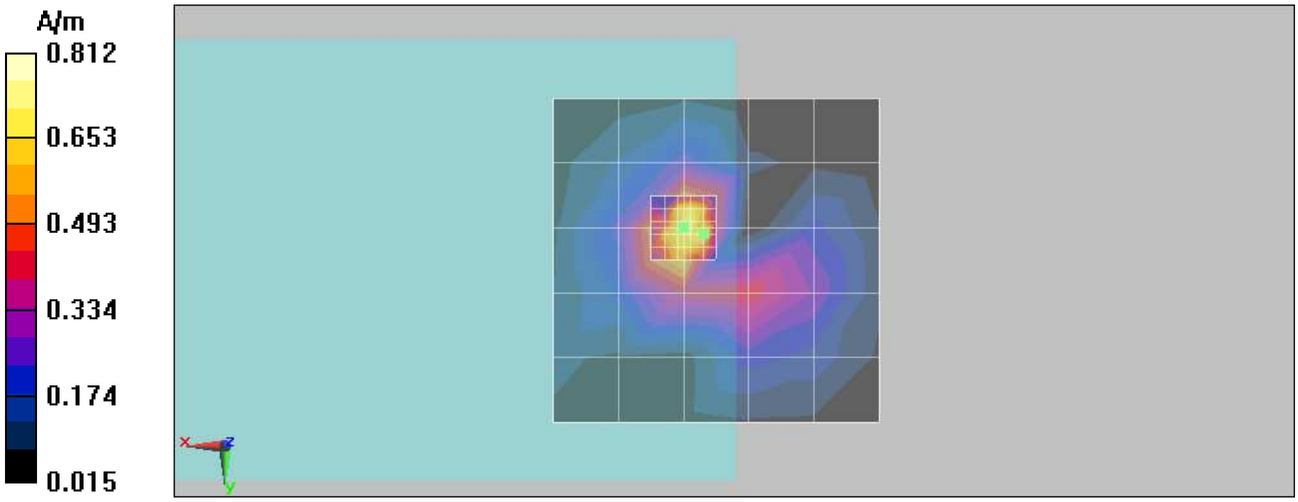
Fine scan/x (longitudinal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.133 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -2.95 dB A/m
BWC Factor = 0.133 dB
Location: 2, -4, 3 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134026 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 20.2 dB
ABM1 comp = -2.83 dB A/m
BWC Factor = 0.134026 dB
Location: 2, -4, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch 1013 Radial 2

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.135993 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = 0.053 dB A/m
BWC Factor = 0.135993 dB
Location: 5, 5, 3 mm

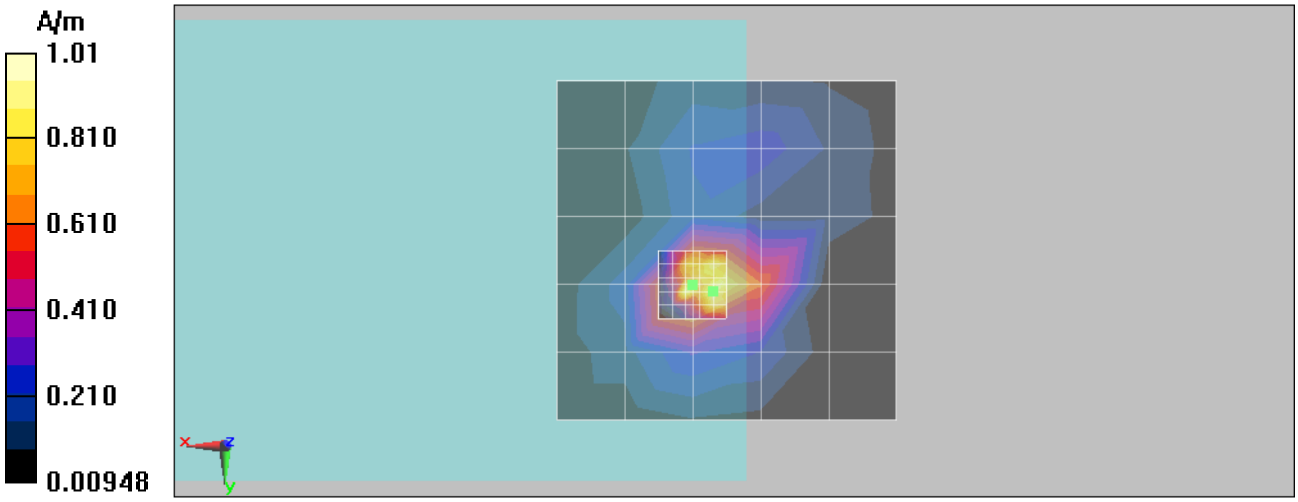
Fine scan/y (transversal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.147017 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 0.206 dB A/m
BWC Factor = 0.147017 dB
Location: 2, 6, 3 mm

Point scan/y (transversal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.141037 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 35.8 dB
ABM1 comp = 0.498 dB A/m
BWC Factor = 0.141037 dB
Location: 2, 6, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch 384 Radial 2

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131973 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -1.78 dB A/m
BWC Factor = 0.131973 dB
Location: 5, 5, 3 mm

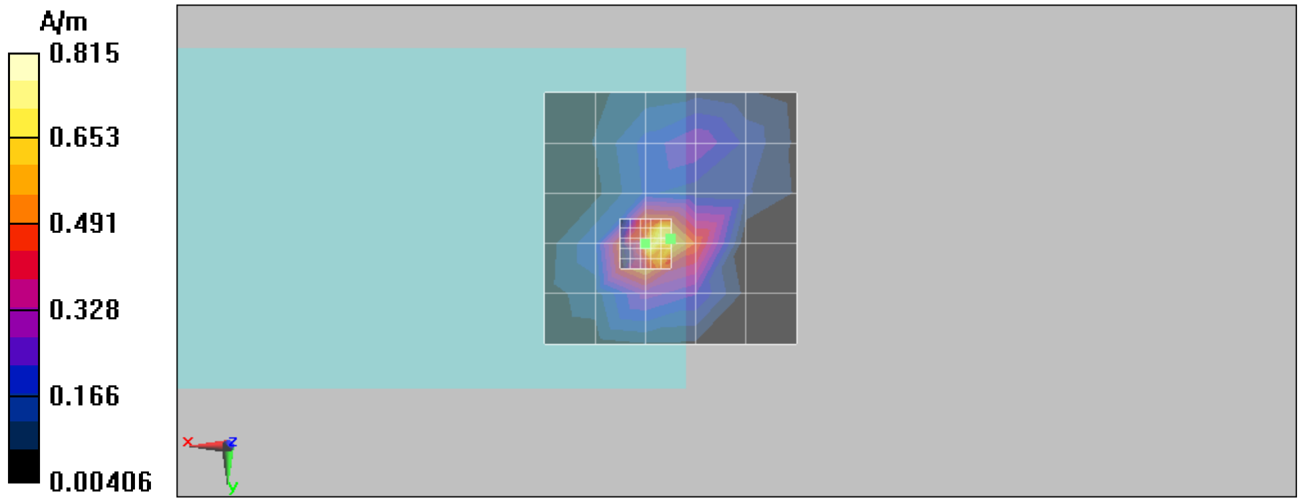
Configuration/Fine scan/y (transversal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.141037 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -1.239 dB A/m
BWC Factor = 0.141037 dB
Location: 0, 4, 3 mm

Configuration/Point scan/y (transversal) scan at point with noise/ABM SNR(x,y,z)

(1x1x1):
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.12701 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 33.7 dB
ABM1 comp = -0.959 dB A/m
BWC Factor = 0.12701 dB
Location: 0, 4, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch777 Radial 2

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.125983 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -2.35 dB A/m
BWC Factor = 0.125983 dB
Location: 5, 5, 3 mm

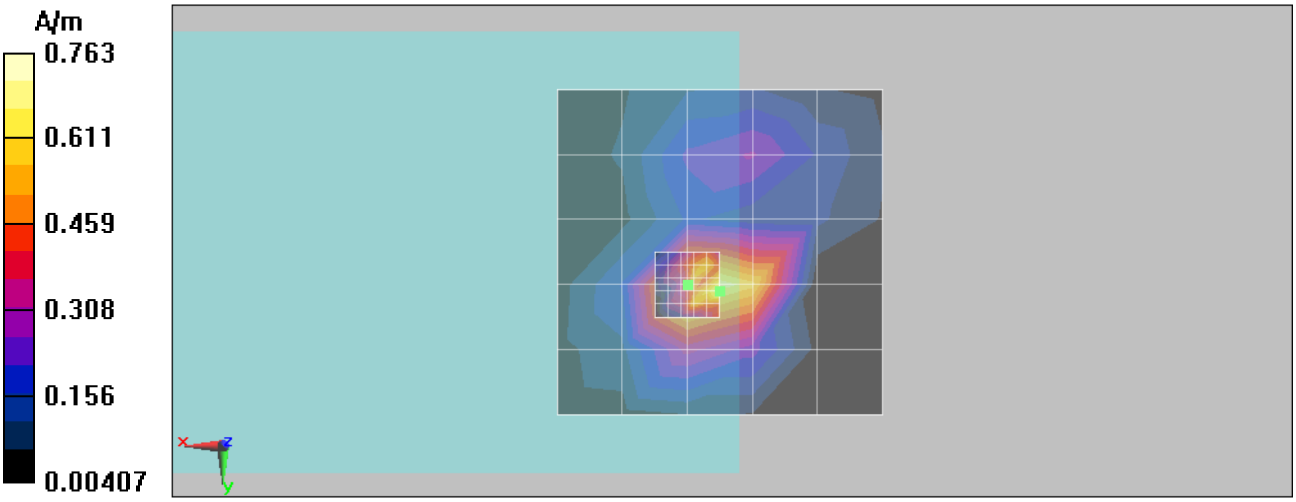
Fine scan/y (transversal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.130005 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -1.23 dB A/m
BWC Factor = 0.130005 dB
Location: 0, 6, 3 mm

Point scan/y (transversal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134026 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 35.1 dB
ABM1 comp = -0.479 dB A/m
BWC Factor = 0.134026 dB
Location: 0, 6, 3 mm



Date/Time: 2010/3/8 08:59:00

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch25 Radial 2

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134967 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -2.48 dB A/m
BWC Factor = 0.134967 dB
Location: 5, 5, 3 mm

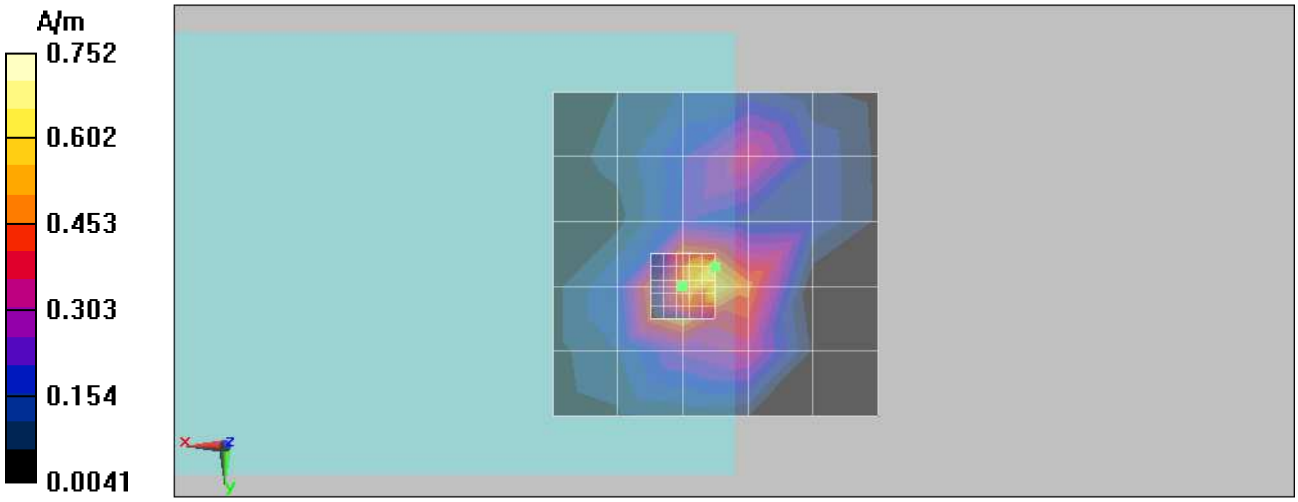
Fine scan/y (transversal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131973 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -1.56 dB A/m
BWC Factor = 0.131973 dB
Location: 0, 2, 3 mm

Point scan/y (transversal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.143002 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 32.4 dB
ABM1 comp = -1.18 dB A/m
BWC Factor = 0.143002 dB
Location: 0, 2, 3 mm



Date/Time: 2010/3/8 09:29:59

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch600 Radial 2

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131032 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -0.731 dB A/m
BWC Factor = 0.131032 dB
Location: 5, 5, 3 mm

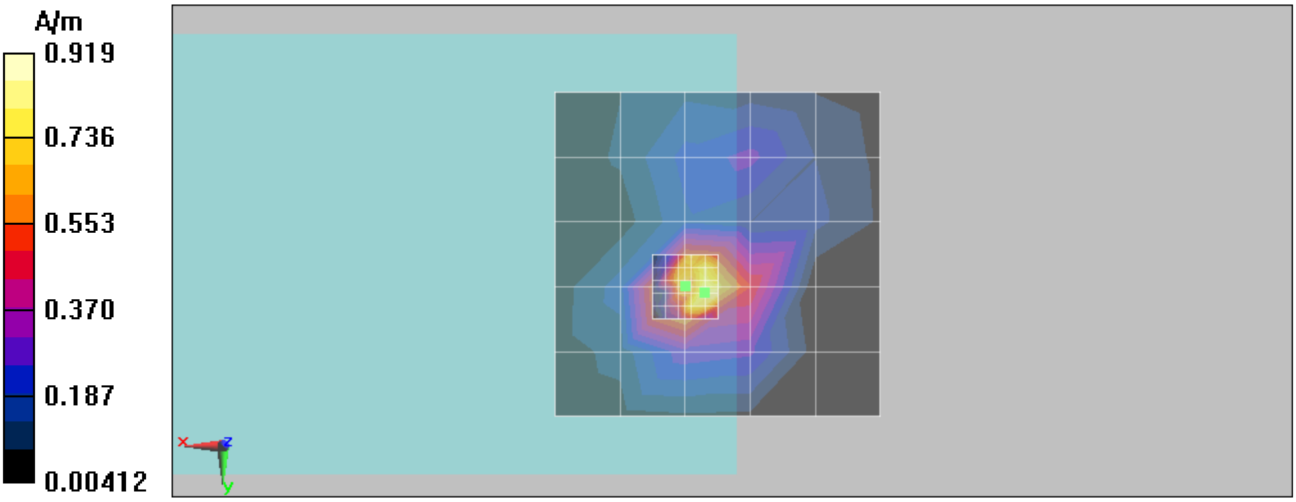
Fine scan/y (transversal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.135993 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 0.852 dB A/m
BWC Factor = 0.135993 dB
Location: 2, 6, 3 mm

Point scan/y (transversal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.137019 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 36.7 dB
ABM1 comp = 1.57 dB A/m
BWC Factor = 0.137019 dB
Location: 2, 6, 3 mm



Date/Time: 2010/3/8 09:50:08

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch1175 Radial 2

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.137019 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = -2.03 dB A/m
BWC Factor = 0.137019 dB
Location: 5, 5, 3 mm

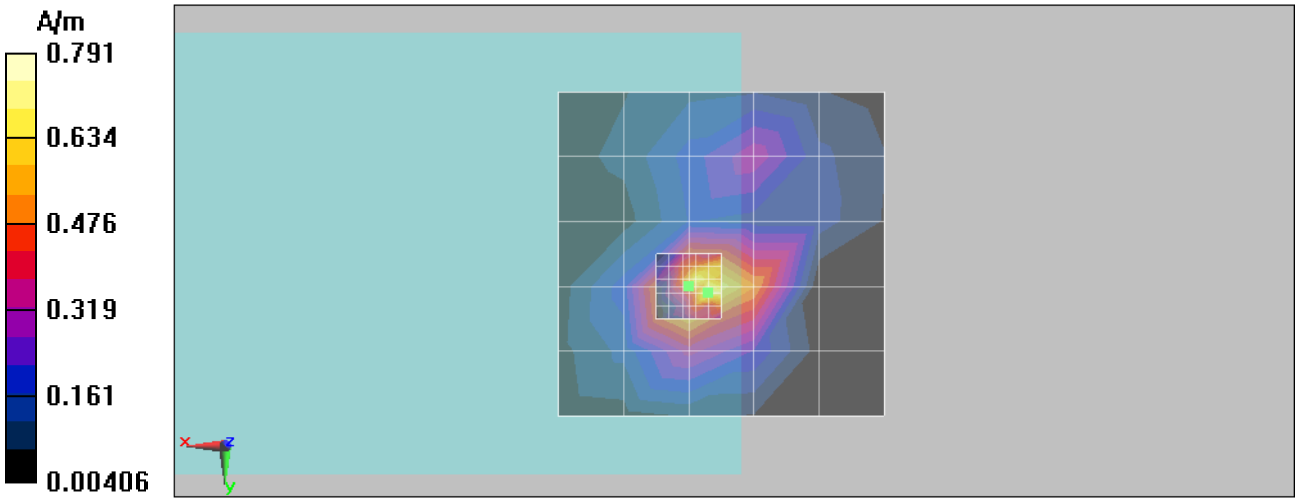
Fine scan/y (transversal) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.133 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = -1.29 dB A/m
BWC Factor = 0.133 dB
Location: 2, 6, 3 mm

Point scan/y (transversal) scan at point with noise/ABM Signal(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134026 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 34 dB
ABM1 comp = -0.630 dB A/m
BWC Factor = 0.134026 dB
Location: 2, 6, 3 mm



Date/Time: 2010/3/8 07:35:31

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch 1013 Axial

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 0 kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Configuration/Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.135993 dB
Device Reference Point: 0, 0, -6.3 mm

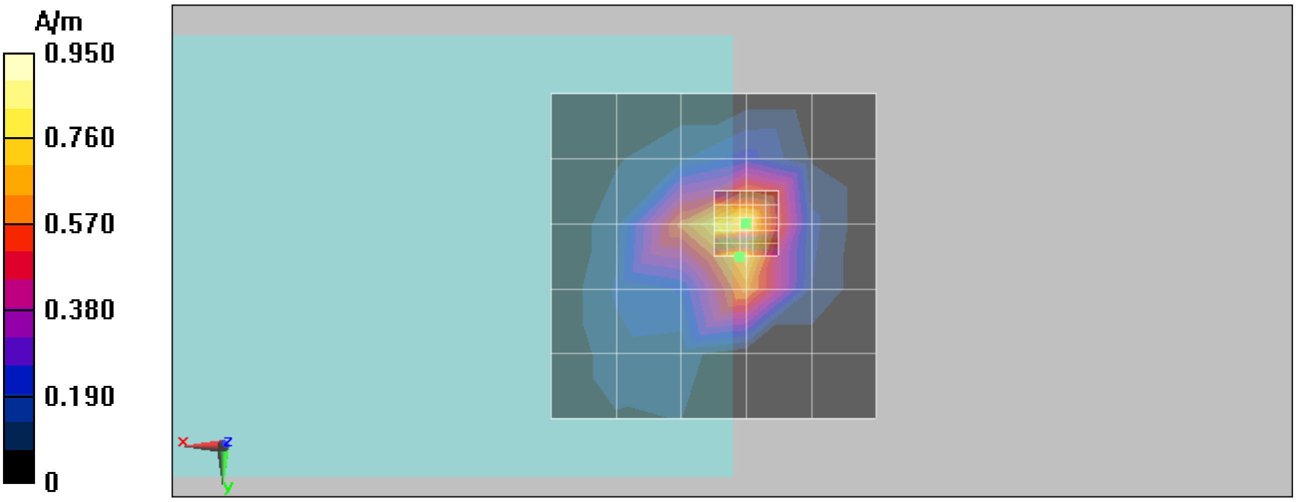
Cursor:
ABM1 comp = -0.448 dB A/m
BWC Factor = 0.135993 dB
Location: -5, -5, 3 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.147017 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 1.04 dB A/m
BWC Factor = 0.147017 dB
Location: -4, 0, 3 mm

Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.141037 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 35.7 dB
ABM1 comp = 2.76 dB A/m
BWC Factor = 0.141037 dB
Location: -4, 0, 3 mm

Point scan/z (axial) 300-3k response at max/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 54.44
Measure Window Start: 2000ms
Measure Window Length: 2000ms
BWC applied: 10.8 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 34.5 dB
ABM1 comp = 1.59 dB A/m
BWC Factor = 10.8 dB
Location: -4, 0, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch 384 Axial

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 0 kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131973 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = 1.91 dB A/m
BWC Factor = 0.131973 dB
Location: -5, -5, 3 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.141037 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 1.95 dB A/m
BWC Factor = 0.141037 dB
Location: -2, 0, 3 mm

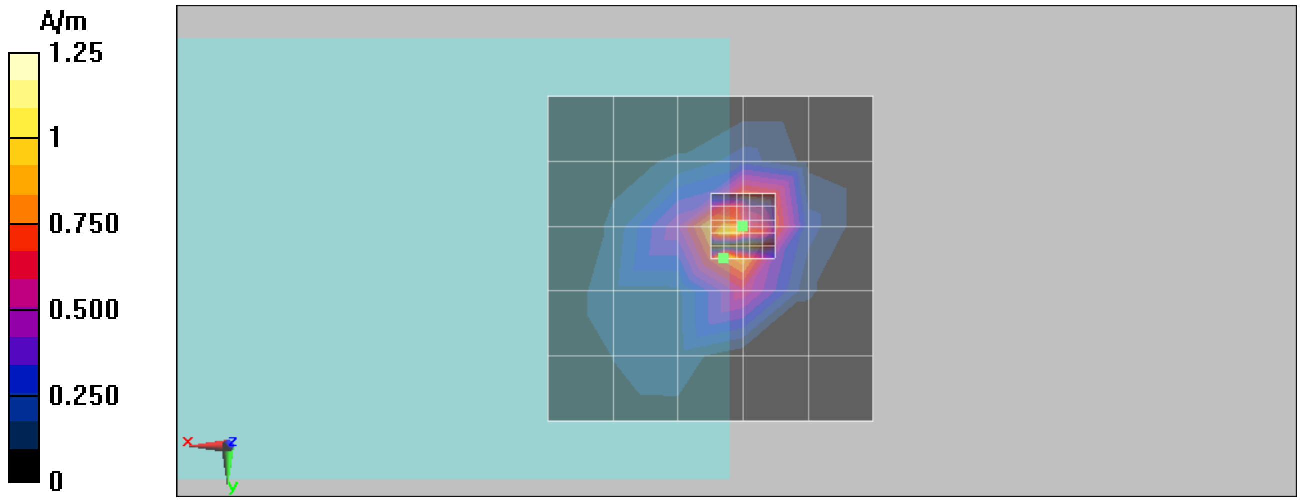
Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.12701 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 33.5 dB
ABM1 comp = 2.11 dB A/m
BWC Factor = 0.12701 dB
Location: -2, 0, 3 mm

Point scan/z (axial) 300-3k response at max/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 54.44
Measure Window Start: 2000ms
Measure Window Length: 2000ms
BWC applied: 10.8 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 33.5 dB
ABM1 comp = 2.1 dB A/m
BWC Factor = 10.8 dB
Location: -2, 0, 3 mm



Date/Time: 2010/3/8 08:19:14

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA850 Ch777 Axial

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.125983 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = 0.439 dB A/m
BWC Factor = 0.125983 dB
Location: -5, -5, 3 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

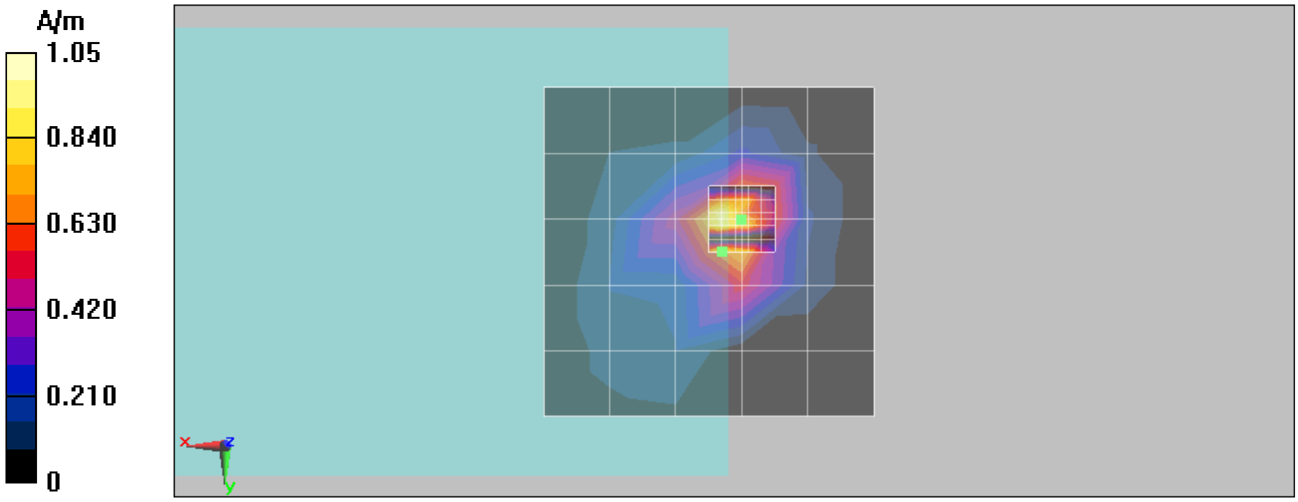
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.130005 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 1.26 dB A/m
BWC Factor = 0.130005 dB
Location: -2, 0, 3 mm

Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134026 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 33.7 dB
ABM1 comp = 1.82 dB A/m
BWC Factor = 0.134026 dB
Location: -2, 0, 3 mm

Point scan/z (axial) 300-3k response at max/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 54.44
Measure Window Start: 2000ms
Measure Window Length: 2000ms
BWC applied: 10.8 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 33.5 dB
ABM1 comp = 1.73 dB A/m
BWC Factor = 10.8 dB
Location: -2, 0, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch25 Axial

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134967 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = 2.24 dB A/m
BWC Factor = 0.134967 dB
Location: -5, -5, 3 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

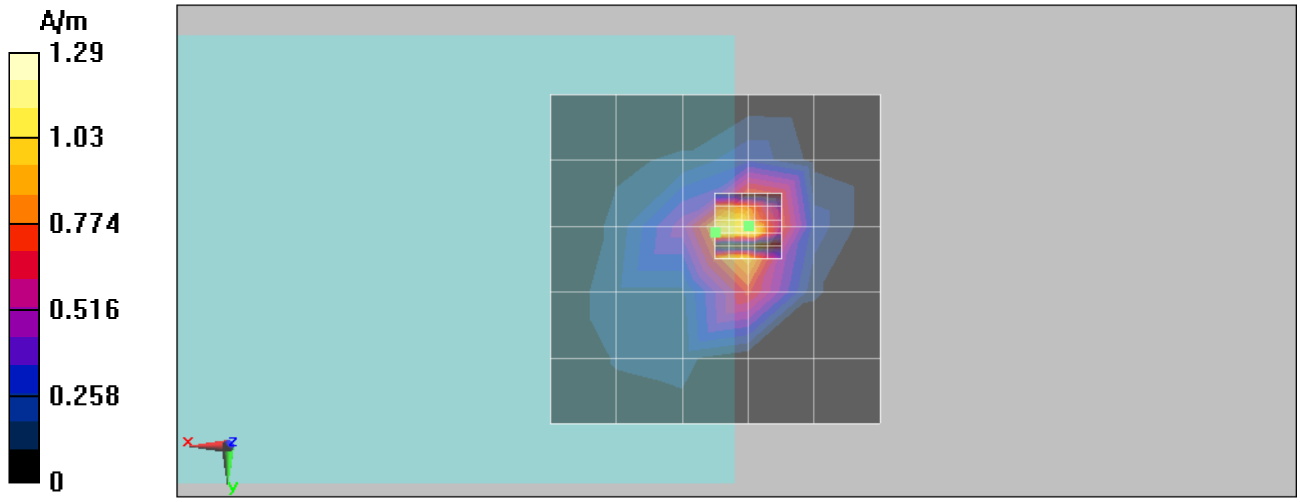
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131973 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 2.28 dB A/m
BWC Factor = 0.131973 dB
Location: 0, -4, 3 mm

Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.143002 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 31.7 dB
ABM1 comp = 3.08 dB A/m
BWC Factor = 0.143002 dB
Location: 0, -4, 3 mm

Point scan/z (axial) 300-3k response at max/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 54.44
Measure Window Start: 2000ms
Measure Window Length: 2000ms
BWC applied: 10.8 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 31 dB
ABM1 comp = 2.33 dB A/m
BWC Factor = 10.8 dB
Location: 0, -4, 3 mm



Date/Time: 2010/3/8 09:28:52

Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch600 Axial

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 0 kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.131032 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = 0.376 dB A/m
BWC Factor = 0.131032 dB
Location: -5, -5, 3 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

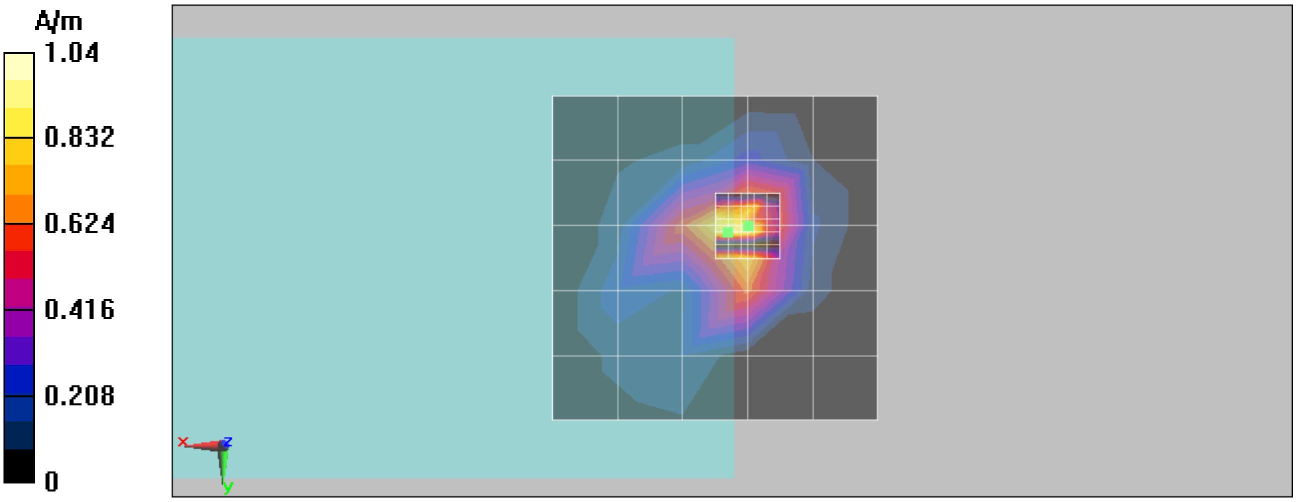
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.135993 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 3.09 dB A/m
BWC Factor = 0.135993 dB
Location: -2, -4, 3 mm

Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.137019 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 34.1 dB
ABM1 comp = 3.44 dB A/m
BWC Factor = 0.137019 dB
Location: -2, -4, 3 mm

Point scan/z (axial) 300-3k response at max/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 54.44
Measure Window Start: 2000ms
Measure Window Length: 2000ms
BWC applied: 10.8 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 33.9 dB
ABM1 comp = 3.38 dB A/m
BWC Factor = 10.8 dB
Location: -2, -4, 3 mm



Test Laboratory: Bureau Veritas ADT

T-Coil CDMA1900 Ch1175 Axial

DUT: Smart Phone

Communication System: CDMA 1x; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: AM1DV3 - 3060; ; Calibrated: 2010/1/21
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE3 Sn579; Calibrated: 2009/7/17
Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
; SEMCAD X Version 14.0 Build 57

Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.137019 dB
Device Reference Point: 0, 0, -6.3 mm

Cursor:
ABM1 comp = 0.108 dB A/m
BWC Factor = 0.137019 dB
Location: -5, -5, 3 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):

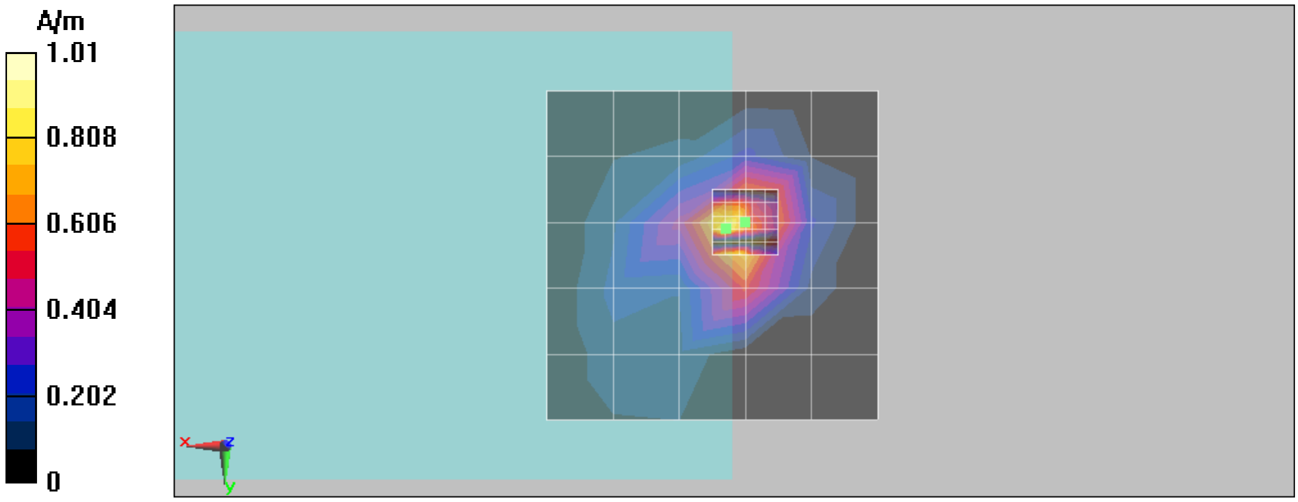
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.133 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1 comp = 4.15 dB A/m
BWC Factor = 0.133 dB
Location: -2, -4, 3 mm

Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):

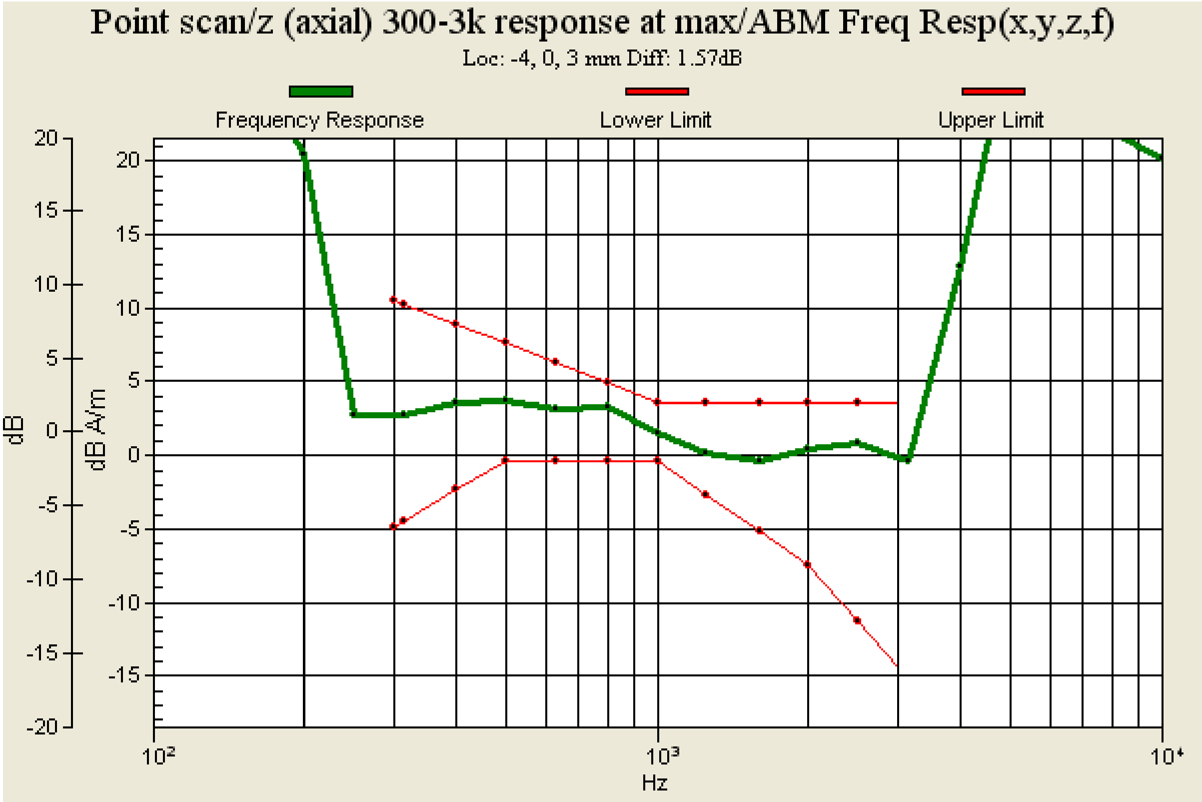
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 27.8
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: 0.134026 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 33.8 dB
ABM1 comp = 4.22 dB A/m
BWC Factor = 0.134026 dB
Location: -2, -4, 3 mm

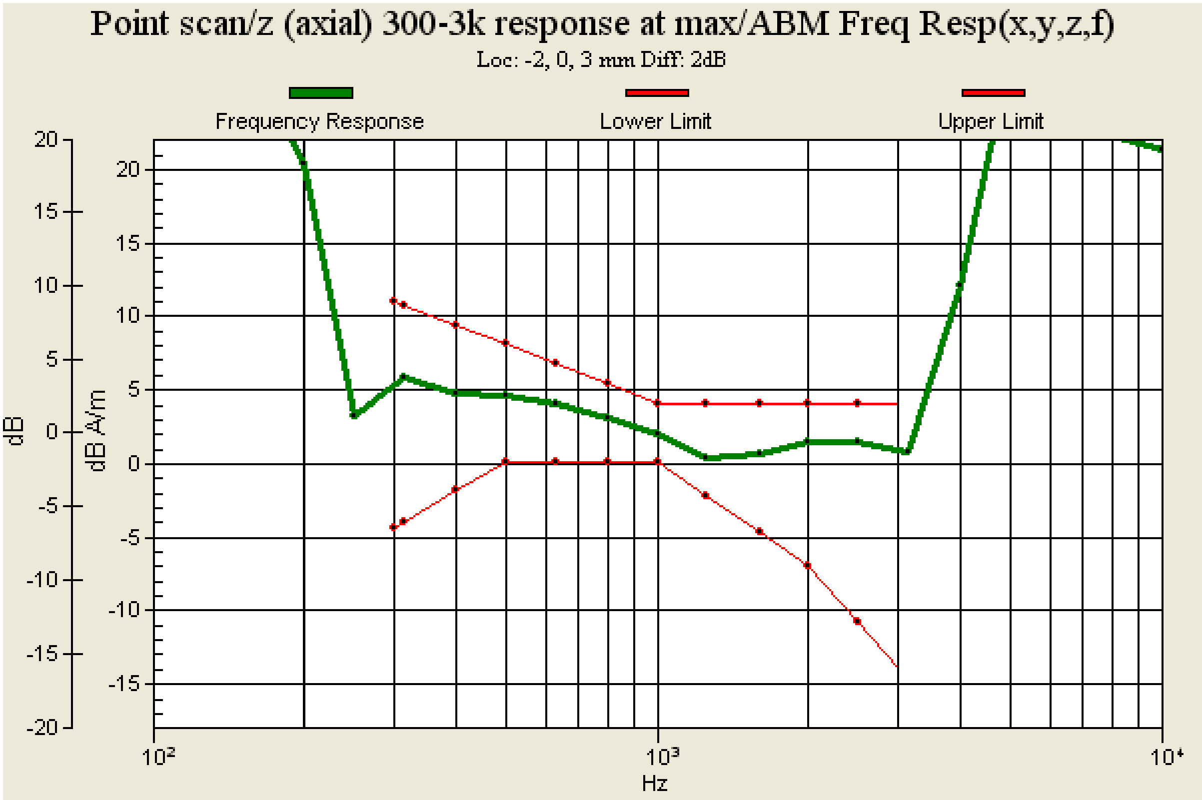
Point scan/z (axial) 300-3k response at max/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 54.44
Measure Window Start: 2000ms
Measure Window Length: 2000ms
BWC applied: 10.8 dB
Device Reference Point: 0, 0, -6.3 mm
Cursor:
ABM1/ABM2 = 32.5 dB
ABM1 comp = 2.8 dB A/m
BWC Factor = 10.8 dB
Location: -2, -4, 3 mm



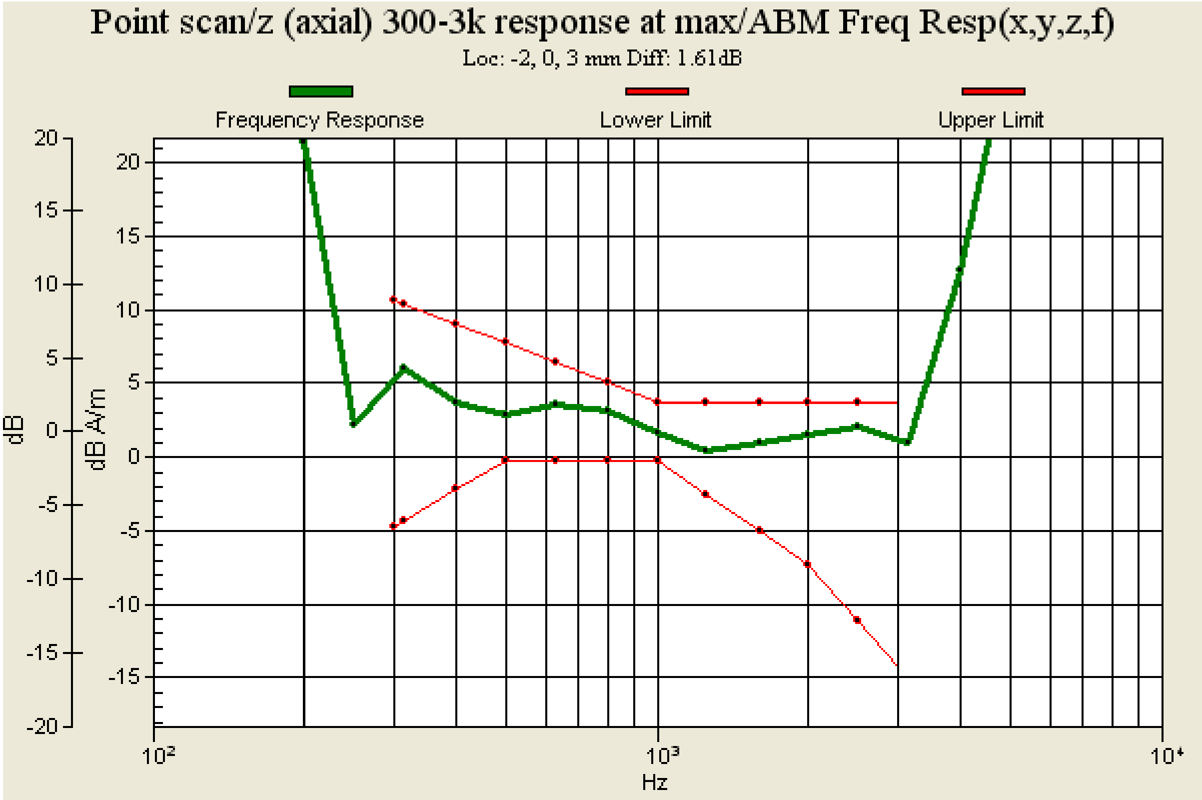
Frequency Response Test Plots



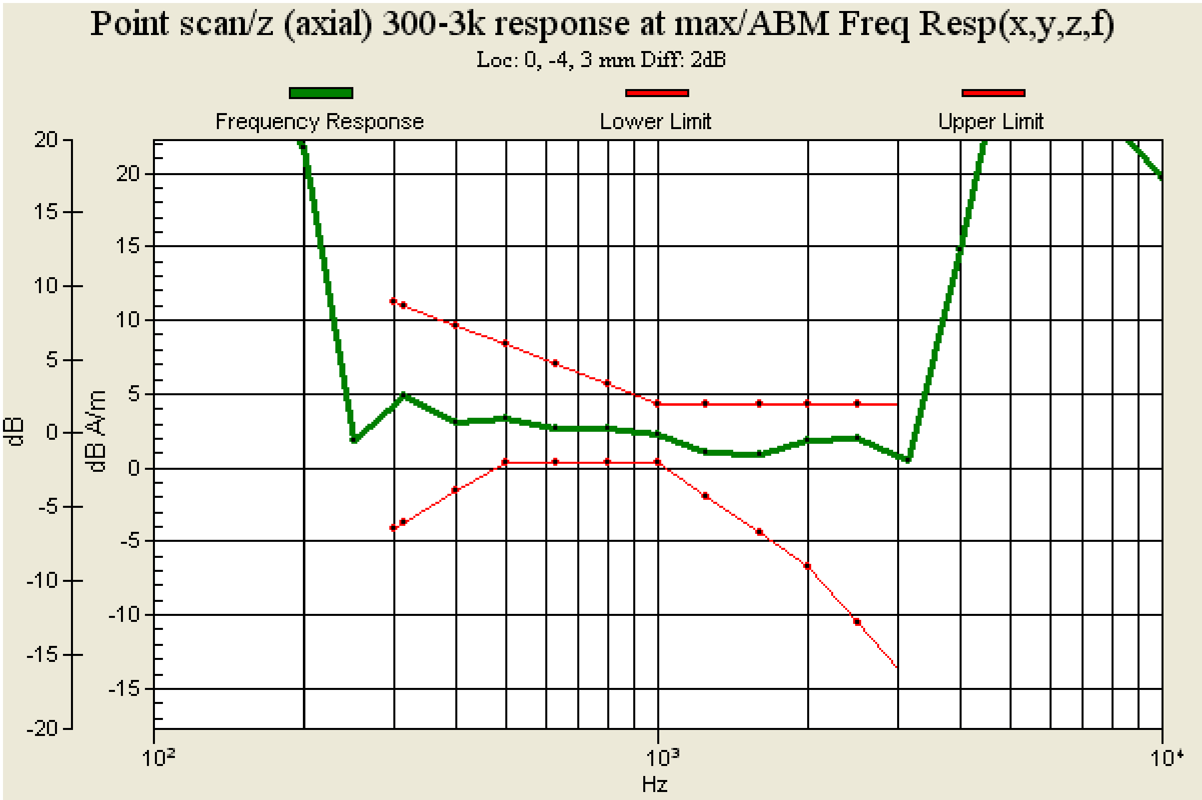
T-Coil CDMA850 Ch1013_Axial Frequency Response



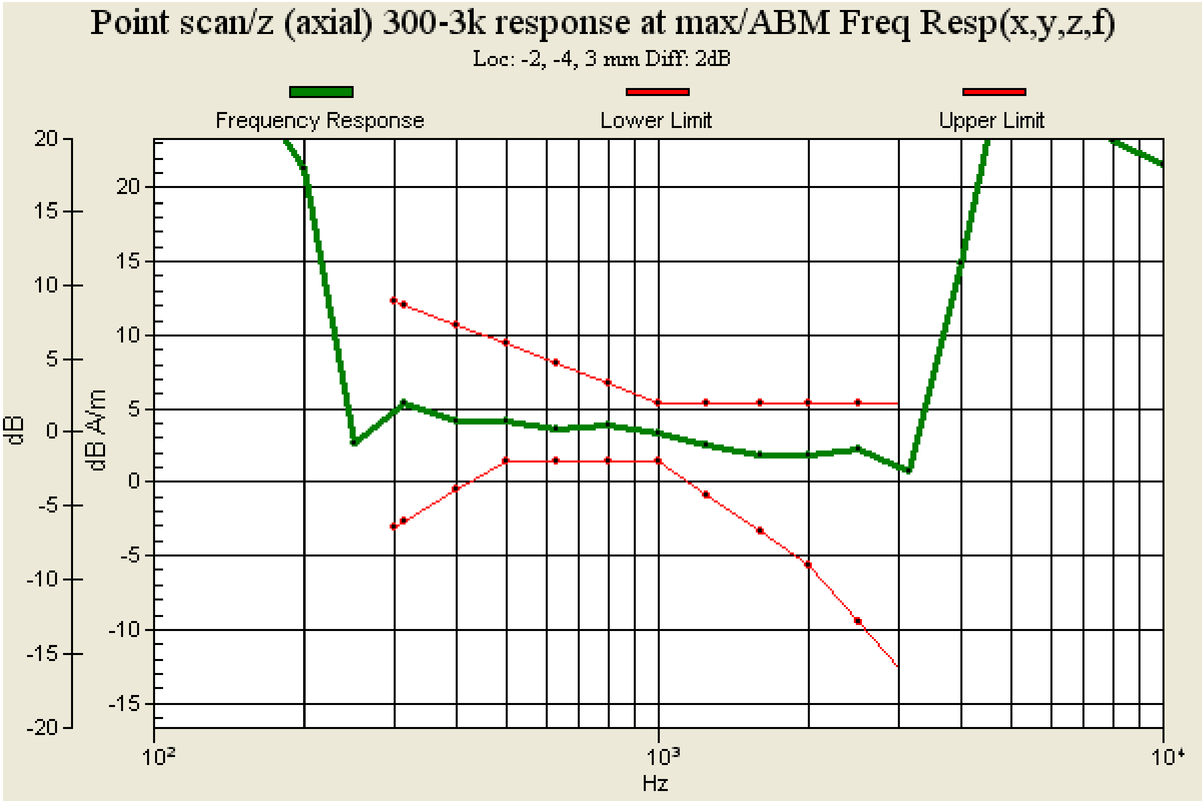
T-Coil CDMA850 Ch384_Axial Frequency Response



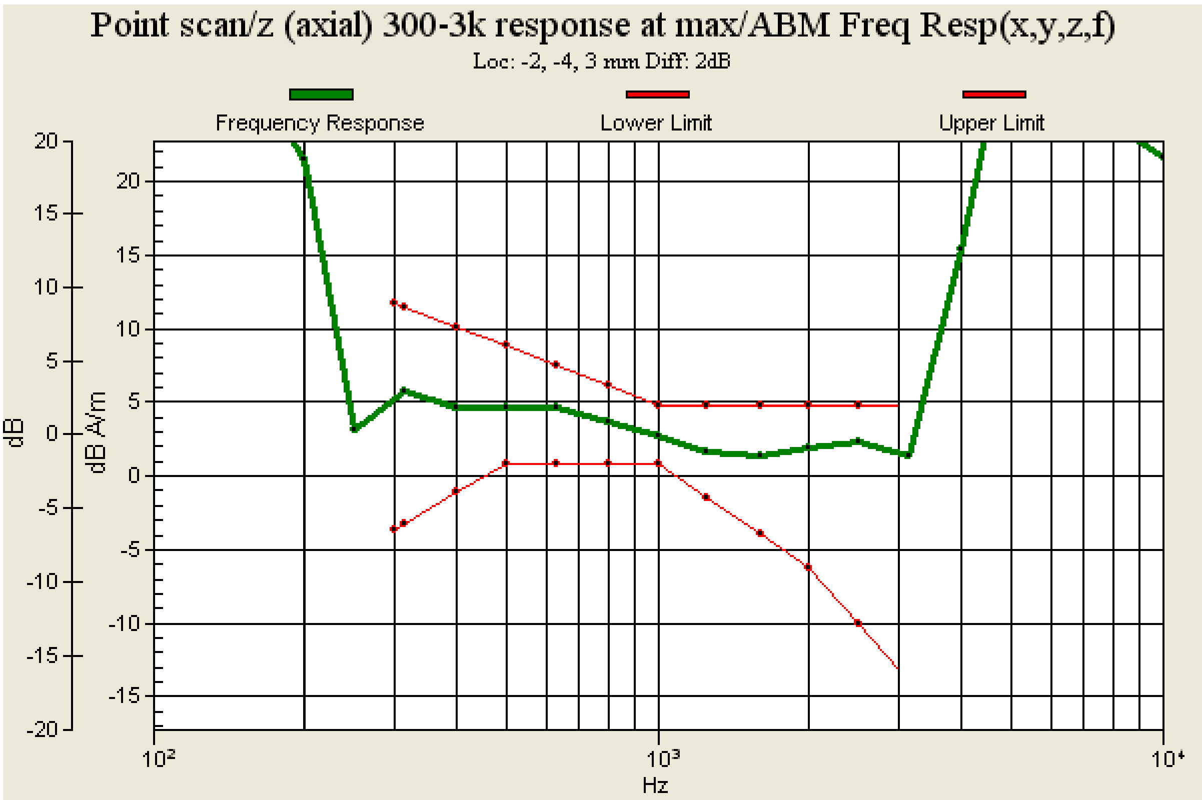
T-Coil CDMA850 Ch777_Axial Frequency Response



T-Coil CDMA1900 Ch25_Axial Frequency Response



T-Coil CDMA1900 Ch600_Axial Frequency Response



T-Coil CDMA1900 Ch1175_Axial Frequency Response