A Test Lab Techno Corp.

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HAC T-Coil Report

Test Report No.	:	**0706FH11**
Applicant	:	**Symbol Technologies, Inc.**
Trade Name	:	**Symbol**
Model Name	:	**MC3504**
FCC ID	:	**H9PMC3504**
EUT Type	:	**EDA(Enterprise Digital Assistant)**
Dates of Test	:	**May. 29, 2007**
Test Environment	:	**Ambient Temperature： 22 ± 3 ℃**
		Relative Humidity： 40 - 70 ％
Test Lab	:	**Changan Lab**
HAC T-Coil Standard	:	**ANSI PC63.19-2006**
PC63.19 T-Coil Rated Category	:	**T3 (Audio Band Magnetic)**
Statement of Compliance	:	**FCC 47 CFR §20.19. The measurements were performed to ensure compliance to the ANSI PC63.19-2001 rd 3.12 standard, which is the same as the ANSI C63.19-2006 per the FCC public notice DA 06-1215. It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices.**

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
3. The measurement report has to be written approval of A Test Lab Techno Corp. It may only be reproduced or published in full.

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Testing Center Manager

Sam Chuang 20070604
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Contents

1. Description of Equipment Under Test (EUT)

Applicant： **Symbol Technologies, Inc.**
One Symbol Plaza Holtsville, NY United States 11742-1300

Manufacturer	：	WISTRON CORPORATION
Manufacturer Address	：	21F, 88 Sec. 1 Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
EUT Type	：	EDA(Enterprise Digital Assistant)
Trade Name	：	Symbol
Model Name	：	MC3504
FCC ID	：	H9PMC3504
HW Version	：	MC3574 Rev 1-MV
SW Version	：	X21
Test Device	：	MC3504 (Hearing aid mode active)

2. Description of the Test Procedure

2.1 Test Arch and Device Holder

The test device was placed in the Device Holder (illustrated below) that is supplied by SPEAG. Using this positioner the tested device is positioner under Test Arch.

Figure 1. WD Holder

2.2 Test Positions

The device was positioned such that Device Reference level was touching the bottom of the Test Arch. The speaker output is aligned with the intersection of the Test Arch’s middle bar and dielectric wire. The WD is positioned always this way to ensure repeatability of the measurements. Coordinate system depicted below is used to define exact locations of measurement points relative to the center of the speaker output.

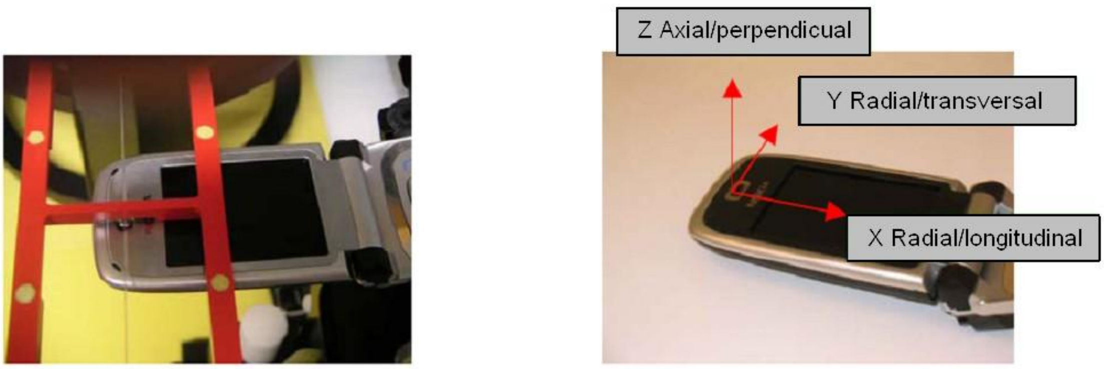


Figure 2. Photo of the device positioned under Test Arch and coordinate system

2.3 T-coil Scan Procedures

Manufacturer can either define measurement locations for WD categorization or optimum locations can be found using following procedure; First, coarse scans in all measurement orientations, centered at the earpiece, are made to find approximate locations of optimum signal. More accurate fine scans are made in these locations to find final measurement points.

2.4 Measurement procedure and used test signals

During measurements signal is fed to WD via communication tester. Proper gain setting is used in software to ensure correct signal level fed to communication tester speech input.

Measurement software compares fed signal and signal from measurement probe and applies proper filtering and integration procedures.

Broadband voice-like signals are used during scans and frequency response measurement to ensure proper operation of WD vocoder and audio enhancement algorithms.

Both signal (ABM1) and undesired audio noise (ABM2) are measured consequently to enable determination of signal + noise to noise ratio (SNR).
In final measurement sine signal is used to determine signal strength @ 1 kHz.

2.5 T-coil Requirements and Category Limits

RF Emissions

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

Axial Field Intensity

The axial component of the magnetic field shall be ≥-13dB(A/m) at 1 kHz, in 1/3 octave band filter.

Radial Field Intensity

The radial components of the magnetic field shall be ≥-18dB(A/m) at 1 kHz, in 1/3 octave band filter.

Frequency Response

Frequency response of the axial component must follow the frequency curve depicted below:

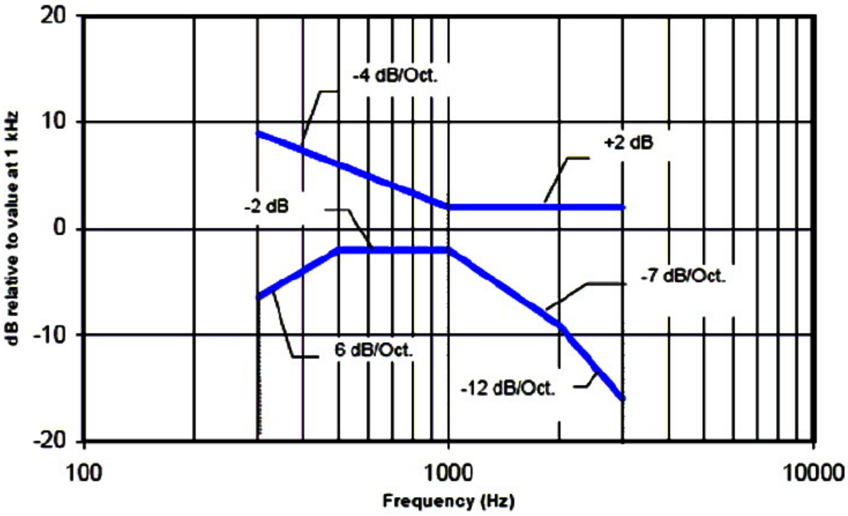


Figure 3. Frequency response window applicable for devices with axial field strength > -10dB(A/m)

Signal Quality

The worst result of three T-coil signal measurements is used to define WD Hearing Aid T-category according to the category limits:

Category	AWF [dB]	Limits for Signal Quality [dB]
T1	0	-20
	-5	-15
T2	0	-10
	-5	-5
T3	0	0
	-5	5
T4	0	10
	-5	15

Table 1. Category Limits

2.6 Measurement Uncertainty

Measurement uncertainty budget presented in Appendix B.

3. Description of The Test Equipment

3.1 Measurement system and components

The measurements were performed using an automated near-field scanning system, DASY 4 software version 4.7, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland.

Components and signal paths of used measurement system are pictured below:

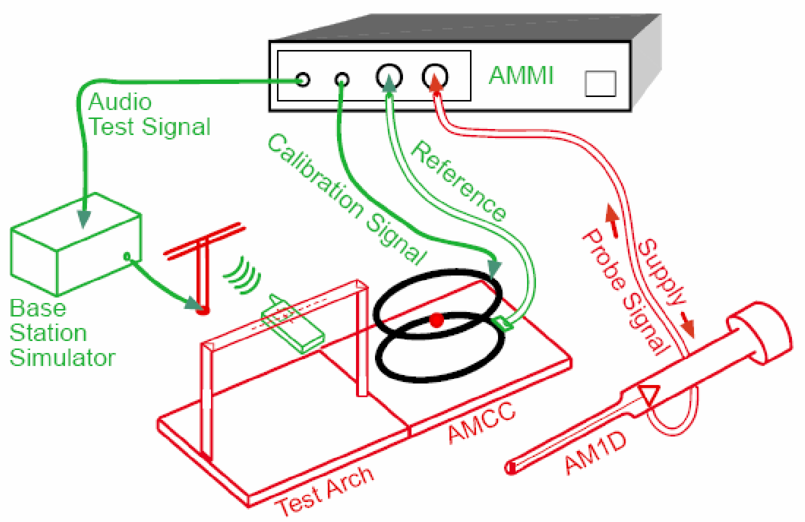


Figure 4. T-Coil Measurement system

The following table lists calibration dates of measurement equipment：

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	Data Acquisition Electronics	DAE3	541	Oct. 16, 2006	Oct. 16, 2007
SPEAG	Audio Magnetic 1D Field Probe AM1DV2	SP AM1 001 AF	1038	Jan. 18, 2007	Jan. 18, 2008
SPEAG	Device Holder	N/A	N/A	NCR	NCR
SPEAG	AMCC	SD HAC P02 AB	1011	NCR	NCR
SPEAG	AMMI	SE UMS 010AA	1001	NCR	NCR
SPEAG	Software	DASY4 V4.7 Build 53	N/A	NCR	NCR
SPEAG	Software	SEMCAD V1.8 Build 172	N/A	NCR	NCR
SPEAG	Measurement Server	SE UMS 001 BA	1021	NCR	NCR
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	112387	Apr. 02, 2007	Apr. 02, 2008
Brüel & Kjær	Frequency Analyzer	2144	2102727	Mar. 04, 2007	Mar. 04, 2008

Table 2. Equipment List

3.1.1 Audio Magnetic Probe AM1DV2

Construction Fully RF shielded metal construction (RF sensitivity < -100dB)

Calibration Calibrated using Helmholtz coil

Frequency 0.1 - 20 kHz Sensitivity < -50 dB A/m

Dimensions Overall length: 290 mm; Tip diameter: 6 mm

3.1.2 Audio Magnetic Measurement Instrument AMMI

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

3.1.3 Audio Magnetic Calibration Coil AMCC

Dimensions 370 x 370 x 196 mm (ANSI-PC63.19 compliant)

3.1.4 WD position

The WD position and Test Arch are manufactured by Speag (http://www.dasy4.com/hac). Test arch is used for all tests i.e. for both validation testing and device testing. The position and test arch conforms to the requirements of ANSI C63.19.

The SPEAG device holder (see Section 4.1) was used to position the test device in all tests.

3.1.5 Verification of the System

Audio Magnetic Probe AM1D is calibrated in AMCC Helmholtz Audio Magnetic Calibration Coil before each measurement procedure using calibration and reference signals.

4. Test Conditions

4.1 Temperature and Humidity

Ambient temperature (°C):	19 to 25
Ambient humidity (RH %):	40 to 70

Table 3. Temperature and Humidity

4.2 WD Control

The transmitter of the device was put into operation by using a call tester. Communications between the device and the call tester were established by air link. EFR speech codec was used during testing.

The device output power was set to maximum power level for all tests; a fully charged battery was used for every test sequence.

In all operating bands the measurements were performed on middle channel.

4.3 WD Parameters

HAC mode was switched on from the WD user interface, volume setting was 1/10 and microphone was muted.

4.4 Audio Band Magnetic

The purpose of the HAC T-Coil Extension is to add the capability of Audio Band Magnetic (ABM) measurements according to standard ANSI-PC63.19 [1]. Together with the HAC RF extension, it allows complete characterization of the emissions of a wireless device (WD). The signals measured during these tests represent the field picked up by the T-Coil of a hearing aid. This application note describes the measurements required for the Wireless device T-Coil signal test that is described in ANSI-PC63.19

Telephone Parameters WD Signal Quality ((Signal + Noise)-to-Noise Ratio in dB)		
Category	**AWF = 0**	**AWF = -5**
T1	-20 to -10 dB	-15 to -5 dB
T2	-10 to 0 dB	-5 to 5 dB
T3	0 to 10 dB	5 to 15 dB
T4	> 10 dB	> 15 dB
Note	T-Coil and WD near-field categories as defined in draft ANSI PC63.19-2001 Revision Draft 3.12 For cases where it can be shown that the audio-band interference is not dominated by the RF pulse rate of the phone, AWF does not apply	

Table 4. WD Signal Quality

4.5 Articulation Weighting Factor (AWF)

Standard	Technology	Articulation Weighing Factor (AWF)
T1/T1P1/3GPP	UMTS (WCDMA)	0
TIA/EIA/IS-2000	CDMA	0
iDENTM	TDMA (22 and 11 Hz)	0
J-STD-007	GSM (217 Hz)	-5

Table 5. Articulation Weighting Factor

4.6 System Specifications

Active Audio Magnetic Field Probe (AM1DV2) Description

The Audio Magnetic Field Probe is a fully shielded magnetic field probe for the frequency range from 100 Hz to 20 kHz. The pickup coil is compliant with the dimensional requirements of [1]. The probe includes a symmetric 40dB low noise amplifier for the signal available at the shielded 3 pin connector at the side. Power is supplied via the same connector (phantom power supply) and monitored via the LED near the connector. The 7 pin connector at the end of the probe does not carry any signals, but determines angle of sensor when mounted on the DAE. The probe supports mechanical detection of the surface. The single sensor in the probe is arranged in a tilt angle allowing measurement of 3 orthogonal field components when rotating the probe by 120。 Around its axis. It is aligned with the perpendicular component of the field, if the probe axis is tilted 35.3 above the measurement plane, using the connector rotation below.

Figure 5.
Audio Magnetic Field Probe

The probe is fully RF shielded when operated with the matching signal cable (shielded) and allows measurement of audio magnetic fields in the close vicinity of RF emitting wireless devices according to [1] without additional shielding.

5. Summary of HAC T-Coil Signal Test Report

5.1 Summary of T-Coil Test Results

5.1.1 Results

Measurement position coordinates are defined as deviation from earpiece center in millimeters. Coordinate system is defined in chapter 4.2

Axial measurement location was defined by the manufacturer of the device.

	Radial 1 (longitudinal)		Radial 2 (transversal)		Axial	
Mode	850	1900	850	1900	850	1900
Measurement position (x,y) [mm]	(8,2)	(-6,2)	(0,-6)	(0,-6)	(0,2)	(0,2)
Signal strength [dB A/m]	-8.0	-8.46	-8.06	-7.87	-0.22	0.00
Ambient back round noise ABM [dB A/m]	59.02	59.02	-48.95	-48.95	54.47	54.47
ABM2 [dB A/m]	-22.51	-26.10	-29.13	-32.62	-30.45	-30.90
Signal quality [dB]	14.51	17.63	21.07	24.75	30.23	30.90

Table 6. Test Results

Plots of the signal strength Measurement scans are presented in Appendix A.

Frequency Responses:

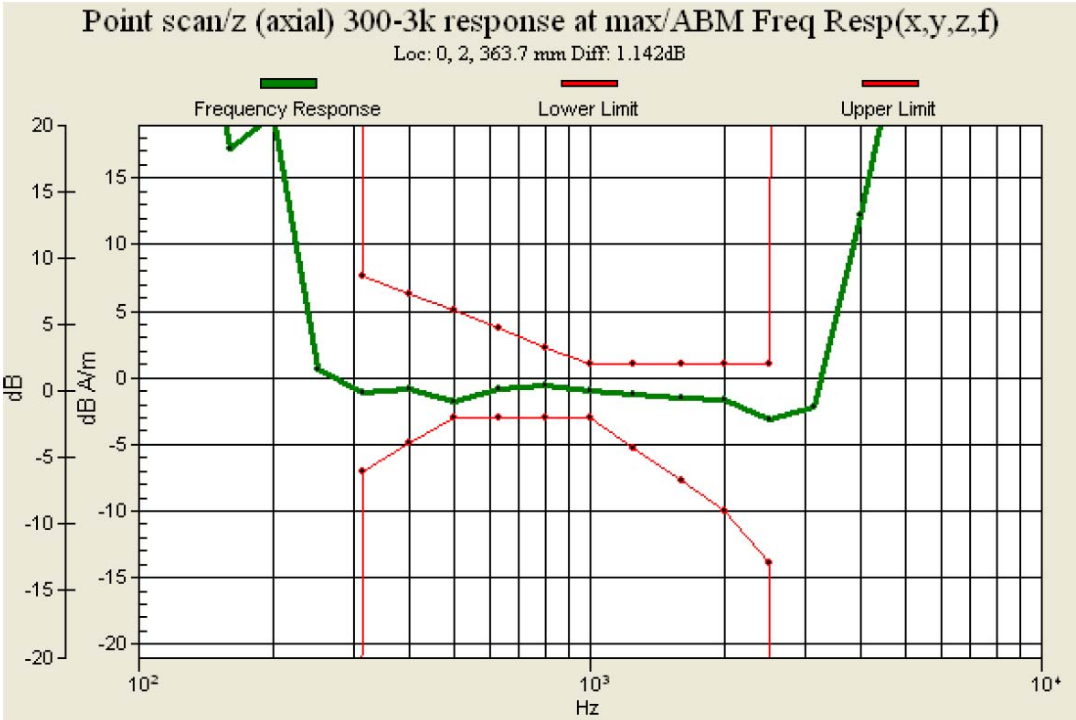


Figure 6. Frequency Response in GSM850

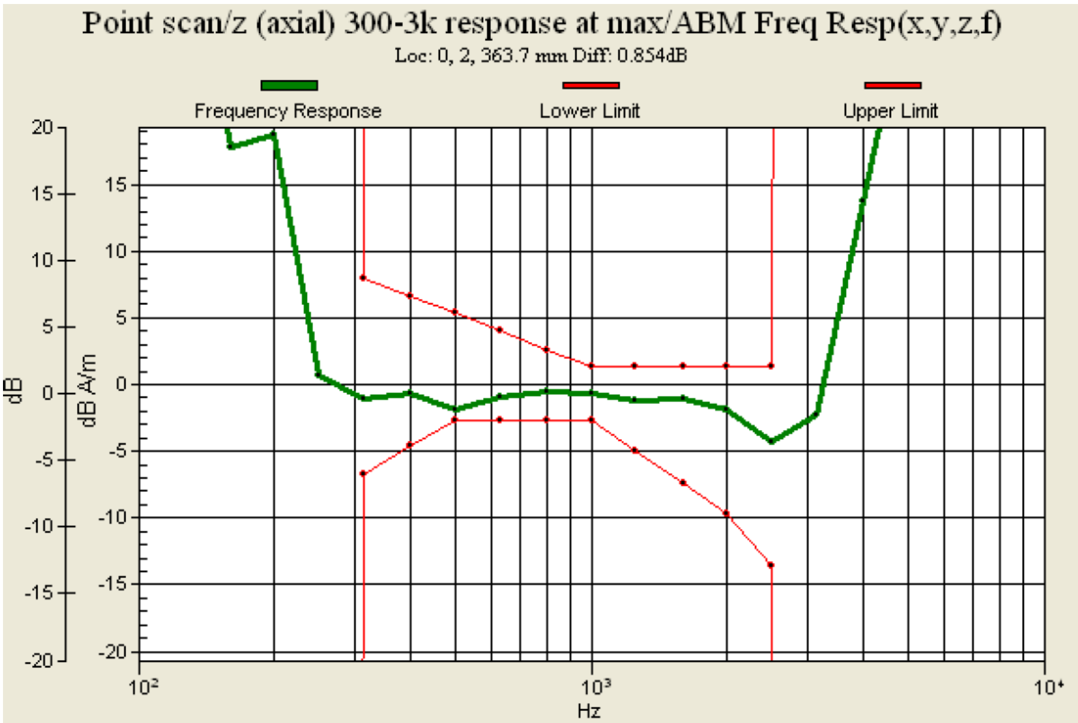


Figure 7. Frequency Response in GSM1900

5.1.2 T-Coil Coupling Field Intensity

5.1.2.1. Axial Field Intensity

Cell Phone Mode	Minimum limit [dB (A/m)]	Result [dB (A/m)]	Verdict
GSM 850	-13	-0.22	Pass
GSM 1900	-13	0.00	Pass

5.1.2.2. Radial Field Intensity

Cell Phone Mode	Minimum limit [dB (A/m)]	Result [dB (A/m)]	Verdict
GSM 850	-18	-8.06	Pass
GSM 1900	-18	-8.46	Pass

5.1.3 Frequency Response at Axial Measurement Point

Cell Phone Mode	Verdict
GSM 850	Pass
GSM 1900	Pass

5.1.4 Signal Quality

Cell Phone Mode	Minimum Limit [dB]				Minimum Result [dB]	Category
	T1	T2	T3	T4		
GSM 850	-15	-5	5	15	14.51	T3
GSM 1900	-15	-5	5	15	17.63	T4

5.2 Description of the Device under Test (DUT)

Modes and Bands of Operation	GSM 850	GSM 1900
Modulation Mode	GMSK	GMSK
Duty Cycle	1/8	1/8
Transmitter Frequency Range (MHz)	824 - 849	1850 - 1910

Outside of USA, tested device is also capable of operating in GSM900 and GSM1800 band, which are not part of this test.

5.2.1 Picture of Device

	
Top view	**Back view**

Figure 8. EUT Picture

5.2.2 Picture of Accessories


Figure 9. AC Power Photo_ PSM11R-050

BTRY-MC35EABOE

BTRY-MC35EABO2

Figure 10. Battery Photo

Appendix A - Measurement Scans

See following Attached Pages for measurement scans.

Test Laboratory: A Test Lab Techno Corp.   Date/Time: 5/29/2007 11:53:39 PM

T-Coil_GSM850 CH190_x (longitudinal)

DUT: MC3504; Type: PDA; FCC ID:H9PMC3504

Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: AMB with Coil Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

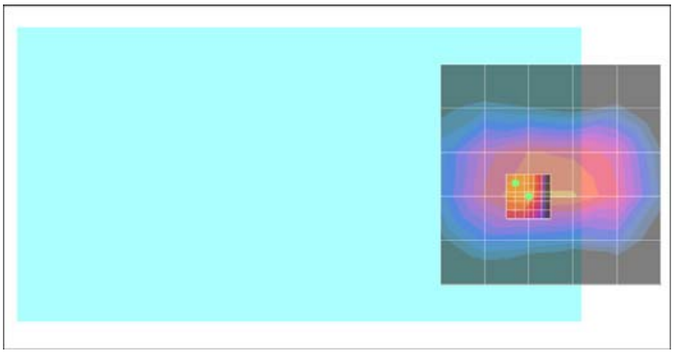
- Probe: AM1DV2 - 1038; ; Calibrated: 1/18/2007
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn541; Calibrated: 10/16/2006
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = -9.63026 dB A/m
BWC Factor = 0.15103 dB
Location: 5, 5, 363.7 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
Cursor:
ABM1 comp = -8.02414 dB A/m
BWC Factor = 0.15103 dB
Location: 8, 2, 363.7 mm

Point scan/x (longitudinal) scan at point with noise/ABM Signal(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 = -7.99994 dB A/m
BWC Factor = 0 dB
Location: 8, 2, 363.7 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1/ABM2 = 14.5115 dB
BWC Factor = 0 dB
Location: 8, 2, 363.7 mm



0 dB = 1.00A/m

Test Laboratory: A Test Lab Techno Corp.   Date/Time: 5/29/2007 11:55:17 PM

T-Coil_GSM850 CH190_y (transversal)

DUT: MC3504; Type: PDA; FCC ID:H9PMC3504

Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: AMB with Coil Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

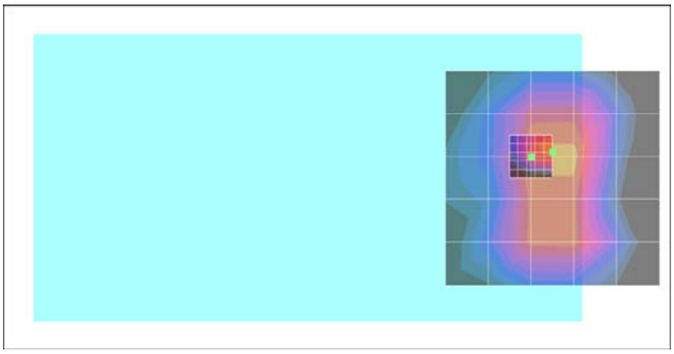
- Probe: AM1DV2 - 1038; ; Calibrated: 1/18/2007
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn541; Calibrated: 10/16/2006
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = -10.123 dB A/m
BWC Factor = 0.15103 dB
Location: 5, -5, 363.7 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
Cursor:
ABM1 comp = -7.92421 dB A/m
BWC Factor = 0.15103 dB
Location: 0, -6, 363.7 mm

Point scan/y (transversal) scan at point with noise/ABM Signal(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 = -8.06259 dB A/m
BWC Factor = 0 dB
Location: 0, -6, 363.7 mm

Point scan/y (transversal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1/ABM2 = 21.0699 dB
BWC Factor = 0 dB
Location: 0, -6, 363.7 mm



0 dB = 1.00A/m

Test Laboratory: A Test Lab Techno Corp.   Date/Time: 5/30/2007 12:08:59 AM

T-Coil_GSM850 CH190_z (axial)

DUT: MC3504; Type: PDA; FCC ID:H9PMC3504

Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: AMB with Coil Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: AM1DV2 - 1038; ; Calibrated: 1/18/2007
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn541; Calibrated: 10/16/2006
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

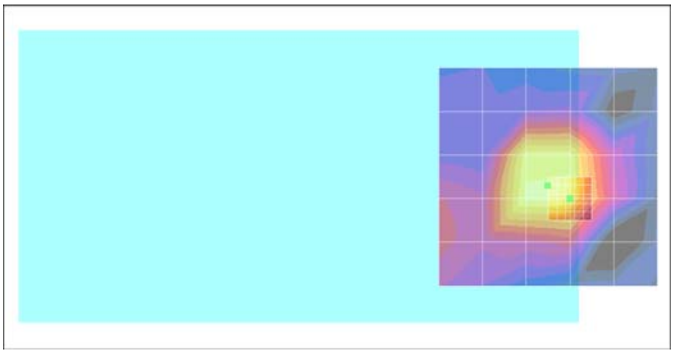
Point scan/z (axial) 300-3k response at max/ABM Freq Resp(x,y,z,f) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
Diff = 1.14161 dB
BWC Factor = 10.8 dB
Location: 0, 2, 363.7 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = 0.14758 dB A/m
BWC Factor = 0.15103 dB
Location: 0, 2, 363.7 mm

Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = -4.43103 dB A/m
BWC Factor = 0.15103 dB
Location: -5, 5, 363.7 mm

Point scan/z (axial) scan at point with noise/ABM Signal(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 = -0.219896 dB A/m
BWC Factor = 0 dB
Location: 0, 2, 363.7 mm

Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1/ABM2 = 30.2253 dB
BWC Factor = 0 dB
Location: 0, 2, 363.7 mm



0 dB = 1.00A/m

Test Laboratory: A Test Lab Techno Corp.   Date/Time: 5/29/2007 7:38:35 PM

T-Coil_PCS CH661_x (longitudinal)

DUT: MC3504; Type: PDA; FCC ID:H9PMC3504

Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: AMB with Coil Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

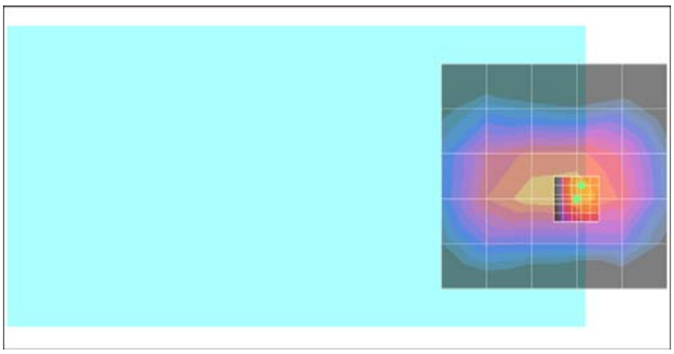
- Probe: AM1DV2 - 1038; ; Calibrated: 1/18/2007
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn541; Calibrated: 10/16/2006
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Coarse Scans/x (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = -9.11039 dB A/m
BWC Factor = 0.15103 dB
Location: -5, 5, 363.7 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
Cursor:
ABM1 comp = -8.00131 dB A/m
BWC Factor = 0.151969 dB
Location: -6, 2, 363.7 mm

Point scan/x (longitudinal) scan at point with noise/ABM Signal(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 = -8.4636 dB A/m
BWC Factor = 0 dB
Location: -6, 2, 363.7 mm

Point scan/x (longitudinal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1/ABM2 = 17.6328 dB
BWC Factor = 0 dB
Location: -6, 2, 363.7 mm



0 dB = 1.00A/m

Test Laboratory: A Test Lab Techno Corp. Date/Time: 5/29/2007 7:40:12 PM

T-Coil_PCS CH661_y (transversal)

DUT: MC3504; Type: PDA; FCC ID:H9PMC3504

Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: AMB with Coil Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

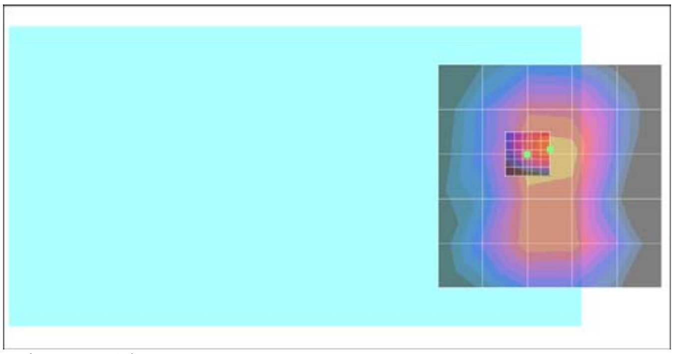
- Probe: AM1DV2 - 1038; ; Calibrated: 1/18/2007
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn541; Calibrated: 10/16/2006
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Coarse Scans/y (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = -9.59669 dB A/m
BWC Factor = 0.15103 dB
Location: 5, -5, 363.7 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
Cursor:
ABM1 comp = -7.74765 dB A/m
BWC Factor = 0.151969 dB
Location: 0, -6, 363.7 mm

Point scan/y (transversal) scan at point with noise/ABM Signal(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 = -7.87441 dB A/m
BWC Factor = 0 dB
Location: 0, -6, 363.7 mm

Point scan/y (transversal) scan at point with noise/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1/ABM2 = 24.7498 dB
BWC Factor = 0 dB
Location: 0, -6, 363.7 mm



0 dB = 1.00A/m

Test Laboratory: A Test Lab Techno Corp.   Date/Time: 5/29/2007 7:54:23 PM

T-Coil_PCS CH661_z (axial)

DUT: MC3504; Type: PDA; FCC ID:H9PMC3504

Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: σ = 0 mho/m, $\varepsilon_r = 1$; ρ = 1 kg/m^3
Phantom section: AMB with Coil Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: AM1DV2 - 1038; ; Calibrated: 1/18/2007
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn541; Calibrated: 10/16/2006
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

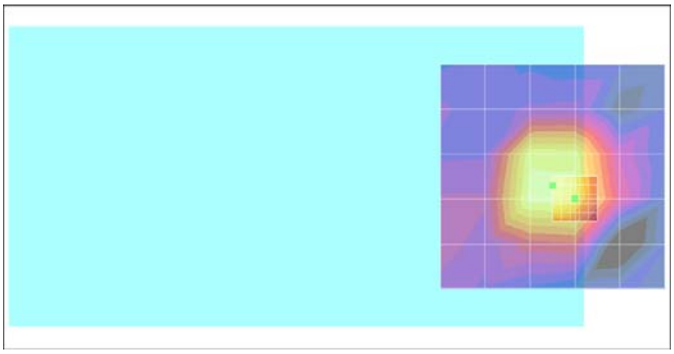
Point scan/z (axial) 300-3k response at max/ABM Freq Resp(x,y,z,f) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
Diff = 0.854407 dB
BWC Factor = 10.8 dB
Location: 0, 2, 363.7 mm

Fine scan/z (axial) scan 10 x 10 (grid 2) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = 0.445933 dB A/m
BWC Factor = 0.151969 dB
Location: 0, 2, 363.7 mm

Coarse Scans/z (axial) scan 50 x 50 (grid 10) with noise/ABM Signal(x,y,z) (6x6x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 comp = -4.24733 dB A/m
BWC Factor = 0.15103 dB
Location: -5, 5, 363.7 mm

Point scan/z (axial) scan at point with noise/ABM Signal(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1 = -0.00460564 dB A/m
BWC Factor = 0 dB
Location: 0, 2, 363.7 mm

Point scan/z (axial) scan at point with noise/ABM SNR(x,y,z) (1x1x1):
Measurement grid: dx=10mm, dy=10mm
Cursor:
ABM1/ABM2 = 30.8954 dB
BWC Factor = 0 dB
Location: 0, 2, 363.7 mm



0 dB = 1.00A/m

Appendix B - Measurement Uncertainty

Error Description	Uncertainty value[%]	Prob. Dist.	Div.	c ABM1	c ABM2	Std. Unc. ABM1	Std. Unc. ABM2
PROBE SENSITIVITY							
Reference level	3.0	N	1.0	1	1	3.0	3.0
AMCC geometry	0.4	R	1.7	1	1	0.2	0.2
AMCC current	0.6	R	1.7	1	1	0.4	0.4
Probe positioning during calibration	1.0	R	1.7	1	1	0.6	0.6
Noise contribution	0.7	R	1.7	0.014	1	0.0	0.4
Frequency slope	5.9	R	1.7	0.1	1.0	0.3	3.5
PROBE SYSTEM							
Repeatability / Drift	1.0	R	1.7	1	1	0.6	0.6
Linearity / Dynamic range	0.6	R	1.7	1	1	0.4	0.4
Acoustic noise	1.0	R	1.7	0.1	1	0.1	0.6
Probe angle	2.3	R	1.7	1	1	1.4	1.4
Spectral processing	0.9	R	1.7	1	1	0.5	0.5
Integration time	0.6	N	1.0	1	5	0.6	3.0
Field disturbation	0.2	R	1.7	1	1	0.1	0.1
TESTT SIGNAL							
Reference signal spectral response	0.6	R	1.7	0	1	0.0	0.4
POSITIONING							
Probe positioning	1.9	R	1.7	1	1	1.1	1.1
Phantom thickness	0.9	R	1.7	1	1	0.5	0.5
DUT positioning	1.9	R	1.7	1	1	1.1	1.1
EXTERNAL CONTRIBUTIONS							
RF interference	0.0	R	1.7	1	1	0.0	0.0
Test signal variation	2.0	R	1.7	1	1	1.2	1.2
COMBINED UNCERTAINTY							
Combined td. Uncertainty (ABM field)						4.1	6.2
Expanded Std. Uncertainty [%]						8.2	12.3

Table 7. Draft T-Coil Uncertainty Budget, provided by SPEAG Jun. 07, 2006