## Annex A: Probe sensitivity and reference signal measurement plots

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|---|---|---|
| **RIM Testing Services™** | Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW | **2(117)** |

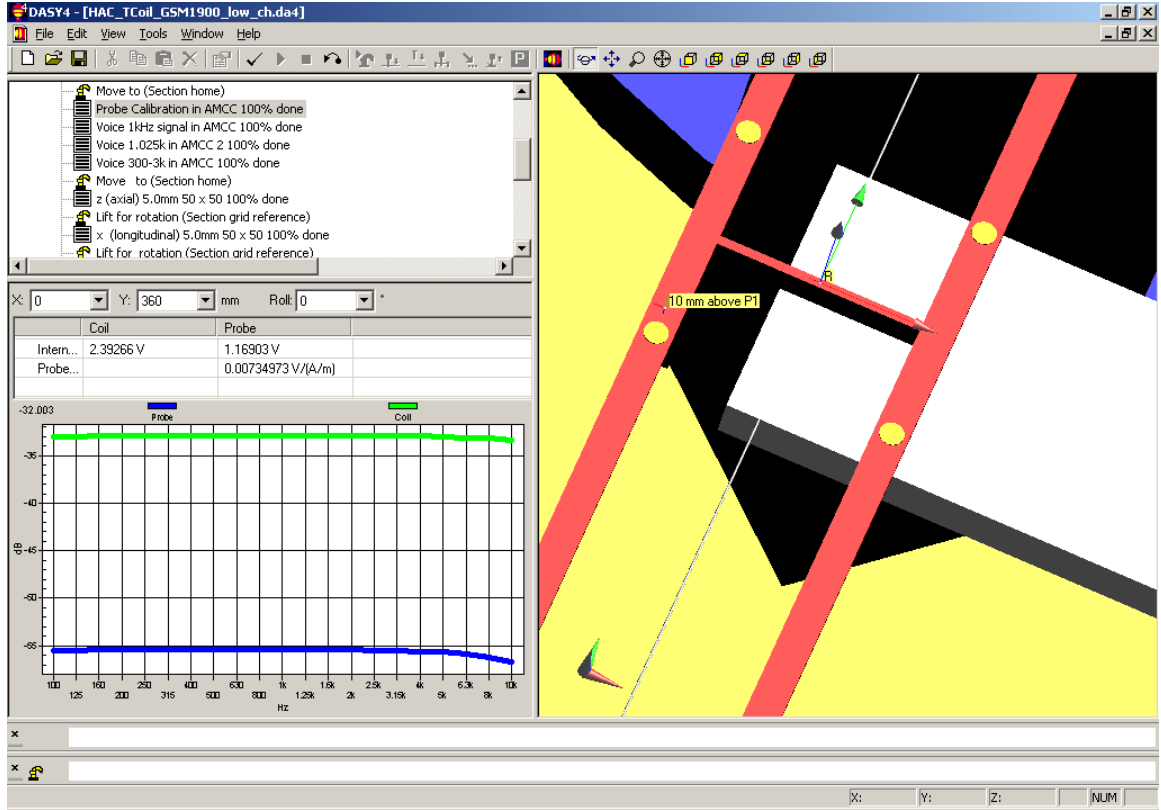| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

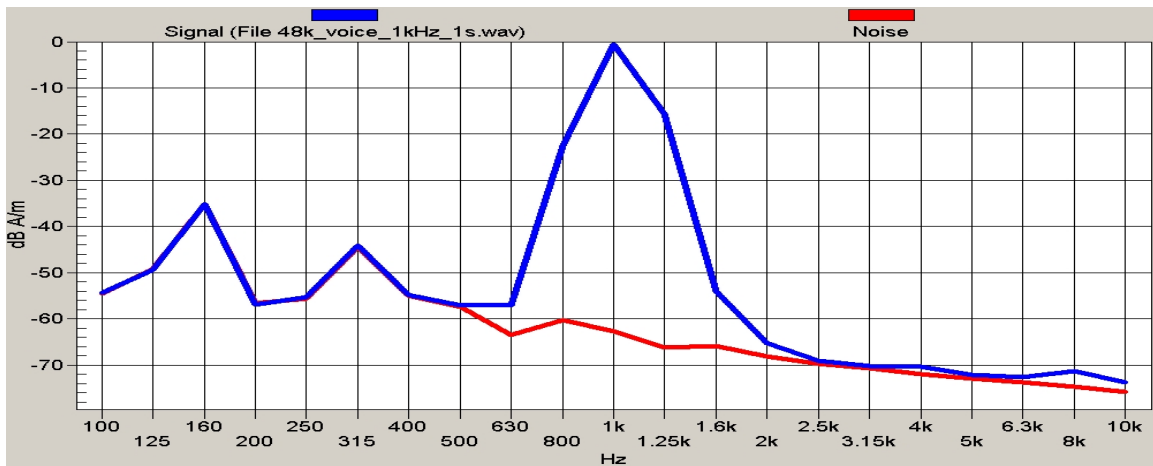**Figure A1: Probe calibration data for coil and probe**



**Figure A2: Reference voice 1 kHz signal and noise**
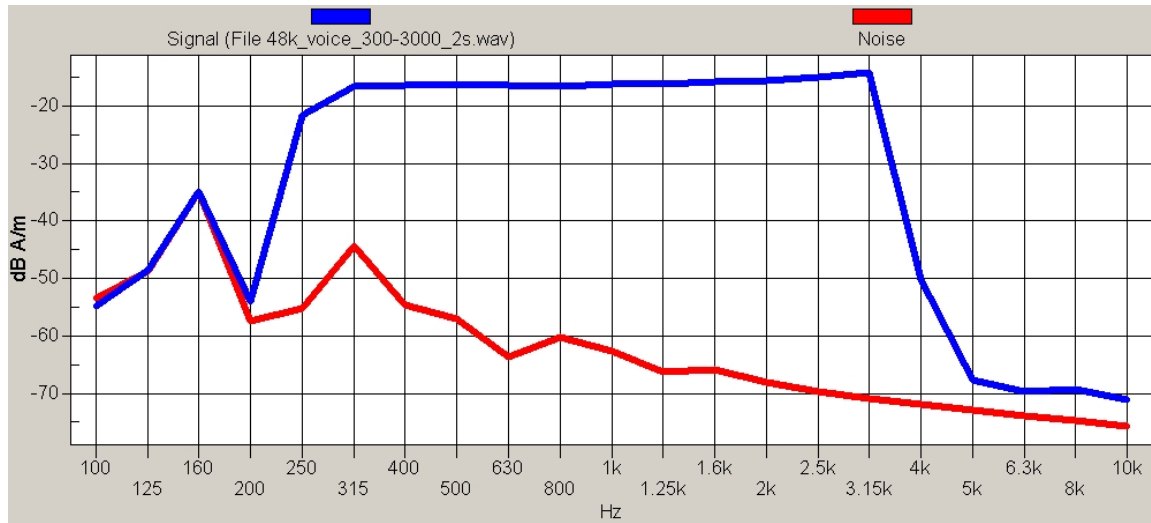
**Figure A3: Reference voice simulated signal and noise**

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| ![RIM Testing Services logo] | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **4(117)** |

| **Author Data** **Daoud Attayi** | Dates of Test **July 06-Aug 06, 2009** | Report No **RTS-1689-0908-38** | FCC ID **L6ARCM70UW** |
|---|---|---|---|

## Annex B: Ambient noise and TMFS system validation data and plots

Date/Time: 06/07/2009 3:59:50 PM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_07_06_09.da4

DUT: TMFS; Type: Sample ; Serial: Not Specified

Program Name: HAC_Tcoil_ProbeCalibration

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

### TMFS Validation Scan with 1kHz/500mVRMS signal level/W z (axial) 8 x 8 step 2/ABM Signal(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: 1 kHz Sine
Output Gain: 35
Measure Window Start: 0ms
Measure Window Length: 1000ms
BWC applied: -0.0038487 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**
ABM1 comp = -20.2 dB A/m
BWC Factor = -0.0038487 dB
Location: 0, 2, 3 mm

Date/Time: 06/07/2009 4:20:41 PM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_07_06_09.da4

**DUT: TMFS; Type: Sample ; Serial: Not Specified**

**Program Name: HAC_Tcoil_ProbeCalibration**

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

# Frequency response measurement/z (axial) at center unshielded/ABM

## Freq Resp(x,y,z,f) (1x1x1):

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

Signal Type: Audio File (.wav) 48k_multisine_50-5000_10s.wav

Output Gain: 87

Measure Window Start: 2000ms

Measure Window Length: 5000ms

BWC applied: 12.5 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **8(117)** |

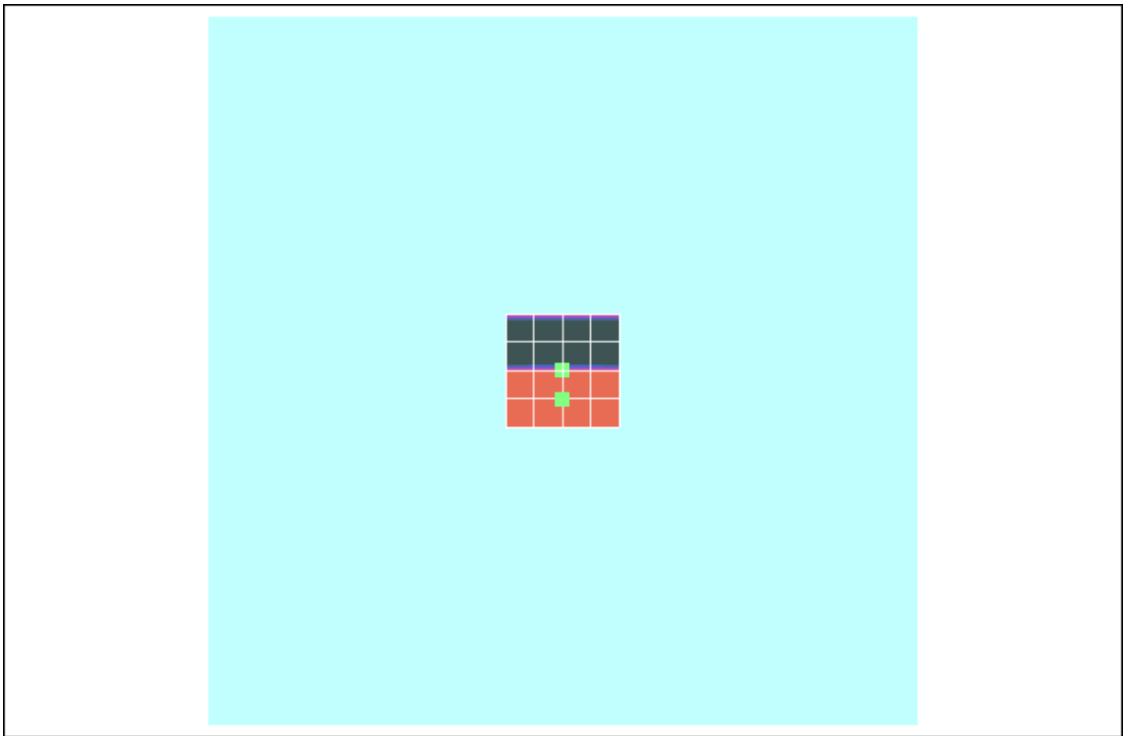| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

Diff = 1.95 dB

BWC Factor = 12.5 dB

Location: 0, 0, 3 mm

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **9(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 06/07/2009 4:04:51 PM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_07_06_09.da4

DUT: TMFS; Type: Sample ; Serial: Not Specified

Program Name: HAC_Tcoil_ProbeCalibration

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186


# TMFS Validation Scan with 1kHz/500mVRMS signal level/W x (longitudinal) 52 x 16 step 4/ABM Signal(x,y,z) (14x5x1):

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

Signal Type: 1 kHz Sine

Output Gain: 35

Measure Window Start: 0ms

Measure Window Length: 1000ms

BWC applied: -0.0038487 dB

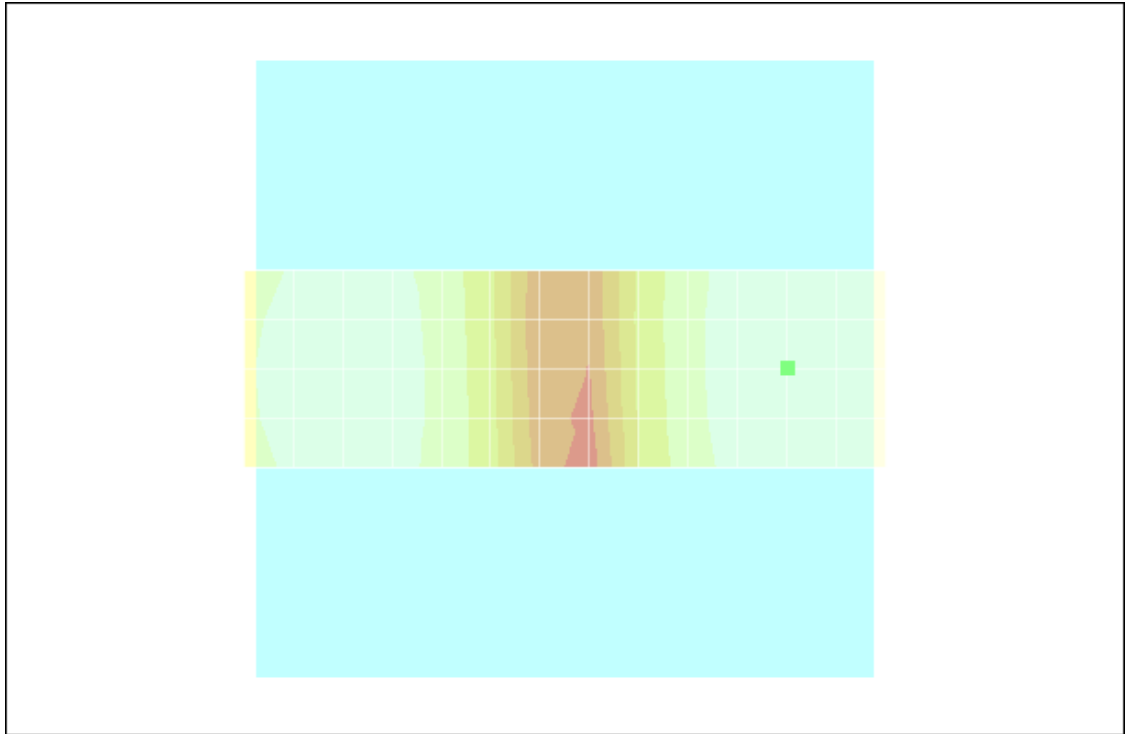Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1 comp = -25.4 dB A/m
BWC Factor = -0.0038487 dB
Location: -18, 0, 3 mm



0 dB = 0.054A/m

Date/Time: 06/07/2009 4:10:52 PM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_07_06_09.da4

**DUT: TMFS; Type: Sample ; Serial: Not Specified**

**Program Name: HAC_Tcoil_ProbeCalibration**

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186


# TMFS Validation Scan with 1kHz/500mVRMS signal level/W y (transversal) 16 x 52 step 4/ABM Signal(x,y,z) (5x14x1):

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

Signal Type: 1 kHz Sine

Output Gain: 35

Measure Window Start: 0ms

Measure Window Length: 1000ms

BWC applied: -0.0038487 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **12(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1 comp = -25.7 dB A/m
BWC Factor = -0.0038487 dB
Location: 0, -18, 3 mm



0 dB = 1.00A/m

Date/Time: 04/08/2009 9:39:06 AM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_08_04_09.da4

DUT: TMFS; Type: Sample ; Serial: Not Specified

Program Name: HAC_Tcoil_ProbeCalibration

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186


# Background Noise 10 mm above Grid Reference/z (axial) noise/ABM Noise(x,y,z) (1x1x1):

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

Signal Type: Off

Output Gain: 100

Measure Window Start: 2000ms

Measure Window Length: 5000ms

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM2 = -52.5 dB A/m
Location: 0, 0, 13 mm

## Background Noise 10 mm above Grid Reference/z (axial) noise/ABM Noise Spectrum(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Off
Output Gain: 100
Measure Window Start: 2000ms
Measure Window Length: 5000ms
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM = -52.5 dB A/m
Location: 0, 0, 13 mm

## Background Noise 10 mm above Grid Reference/x (longitudinal) noise/ABM Noise Spectrum(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Off
Output Gain: 100
Measure Window Start: 2000ms
Measure Window Length: 5000ms
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM = -52.6 dB A/m
Location: 0, 0, 13 mm

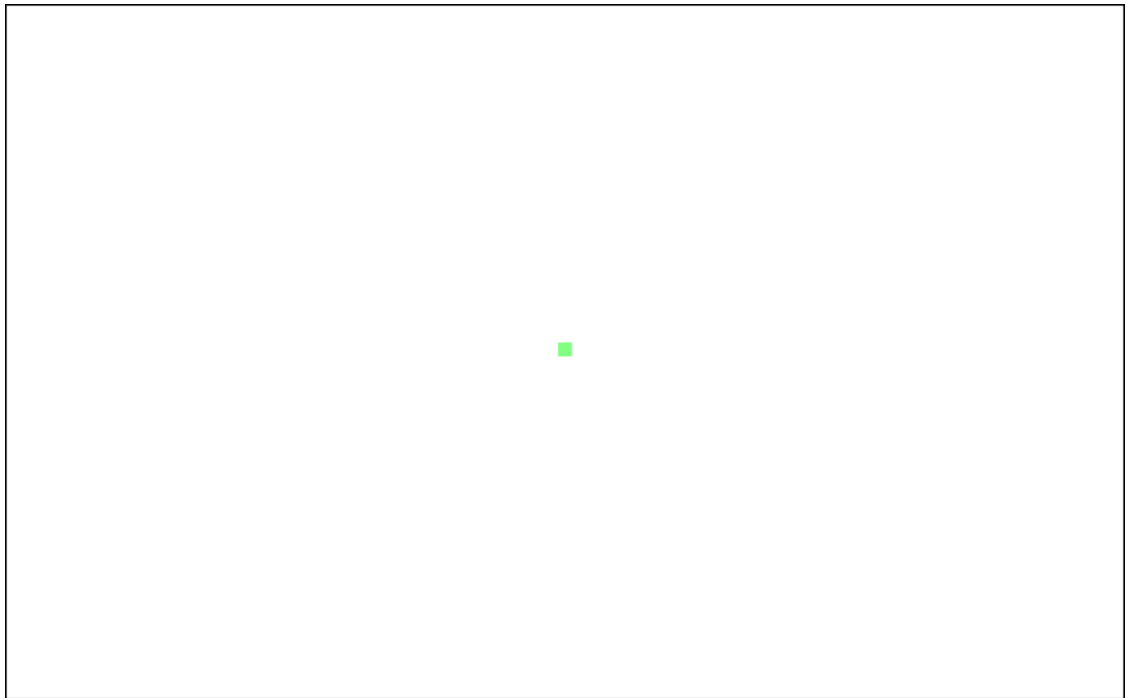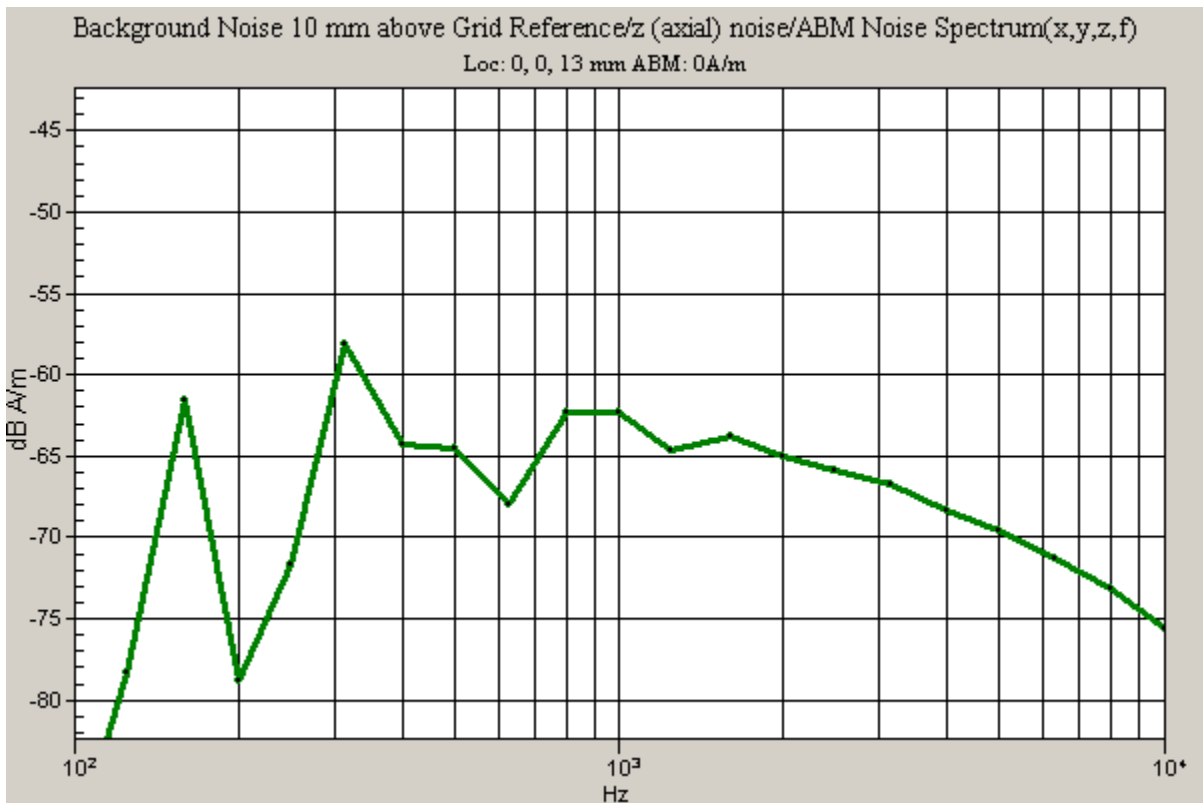## Background Noise 10 mm above Grid Reference/y (transversal) noise/ABM Noise Spectrum(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Off
Output Gain: 100
Measure Window Start: 2000ms
Measure Window Length: 5000ms
Device Reference Point: 0.000, 0.000, -6.30 mm

0 dB = 1.00A/m

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| **RIM** Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **16(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Background Noise 10 mm above Grid Reference/x (longitudinal) noise/ABM Noise Spectrum(x,y,z,f)
Loc: 0, 0, 13 mm ABM: 0A/m

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| ![RIM Testing Services] | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **17(117)** |

| **Author Data** | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Background Noise 10 mm above Grid Reference/y (transversal) noise/ABM Noise Spectrum(x,y,z,f)
Loc: 0, 0, 13 mm ABM: 0A/m

Date/Time: 04/08/2009 9:41:54 AM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_08_04_09.da4

**DUT: TMFS; Type: Sample ; Serial: Not Specified**

**Program Name: HAC_Tcoil_ProbeCalibration**

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186


# TMFS Validation Scan with 1kHz/500mVRMS signal level/W z (axial) 8 x 8 step 2/ABM Signal(x,y,z) (5x5x1):

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

Signal Type: 1 kHz Sine

Output Gain: 35

Measure Window Start: 0ms

Measure Window Length: 1000ms

BWC applied: -0.00306666 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1 comp = -20.3 dB A/m
> BWC Factor = -0.00306666 dB
> Location: 0, 0, 3 mm

## Frequency response measurement/Multisine reference signal/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_multisine_50-5000_10s.wav
Output Gain: 80
Measure Window Start: 2000ms
Measure Window Length: 5000ms
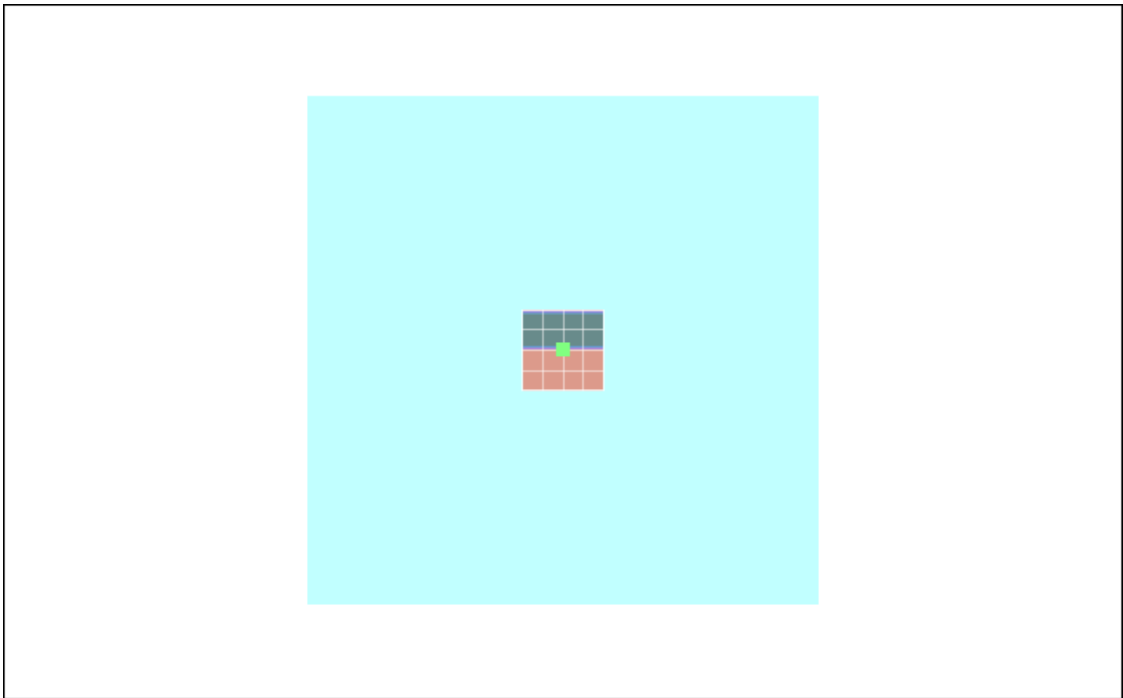Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> Diff = 1.97 dB
> Location: 0, 360, -262 mm

## Frequency response measurement/z (axial) at center unshielded/ABM Freq Resp(x,y,z,f) (1x1x1):
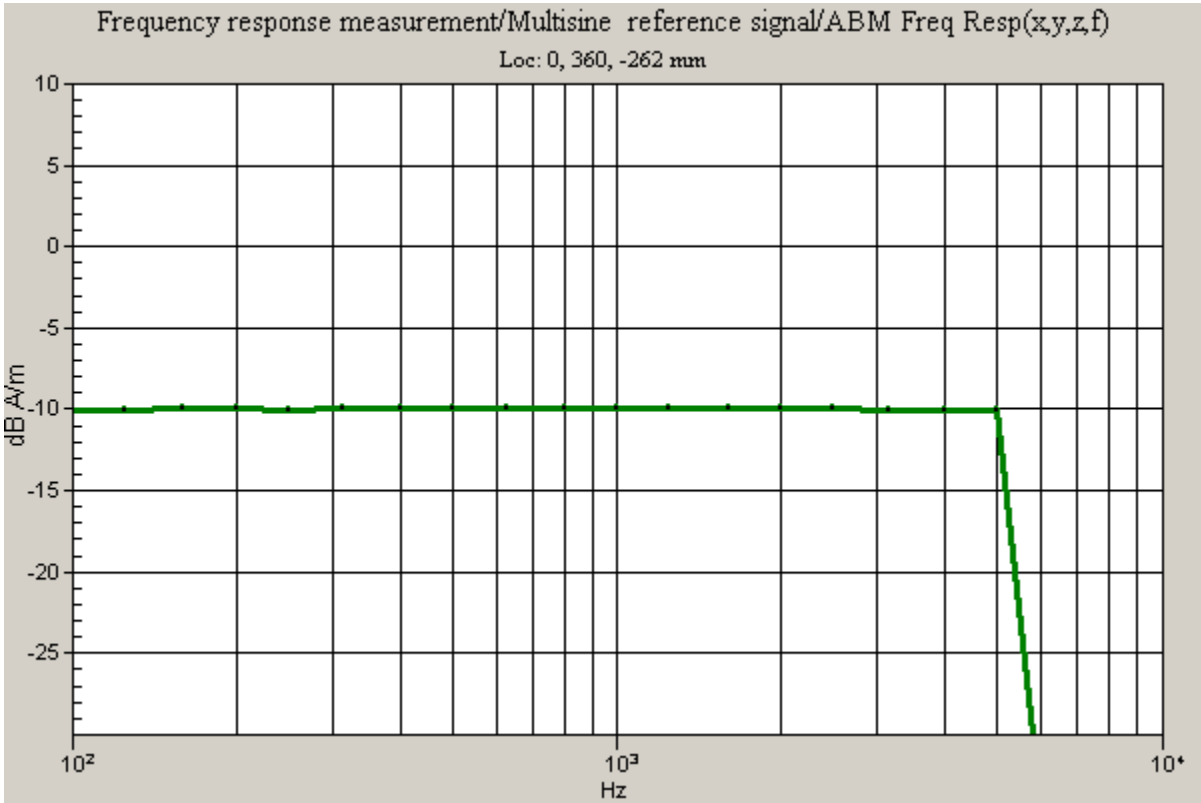
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_multisine_50-5000_10s.wav
Output Gain: 87
Measure Window Start: 2000ms
Measure Window Length: 5000ms
BWC applied: 12.5 dB
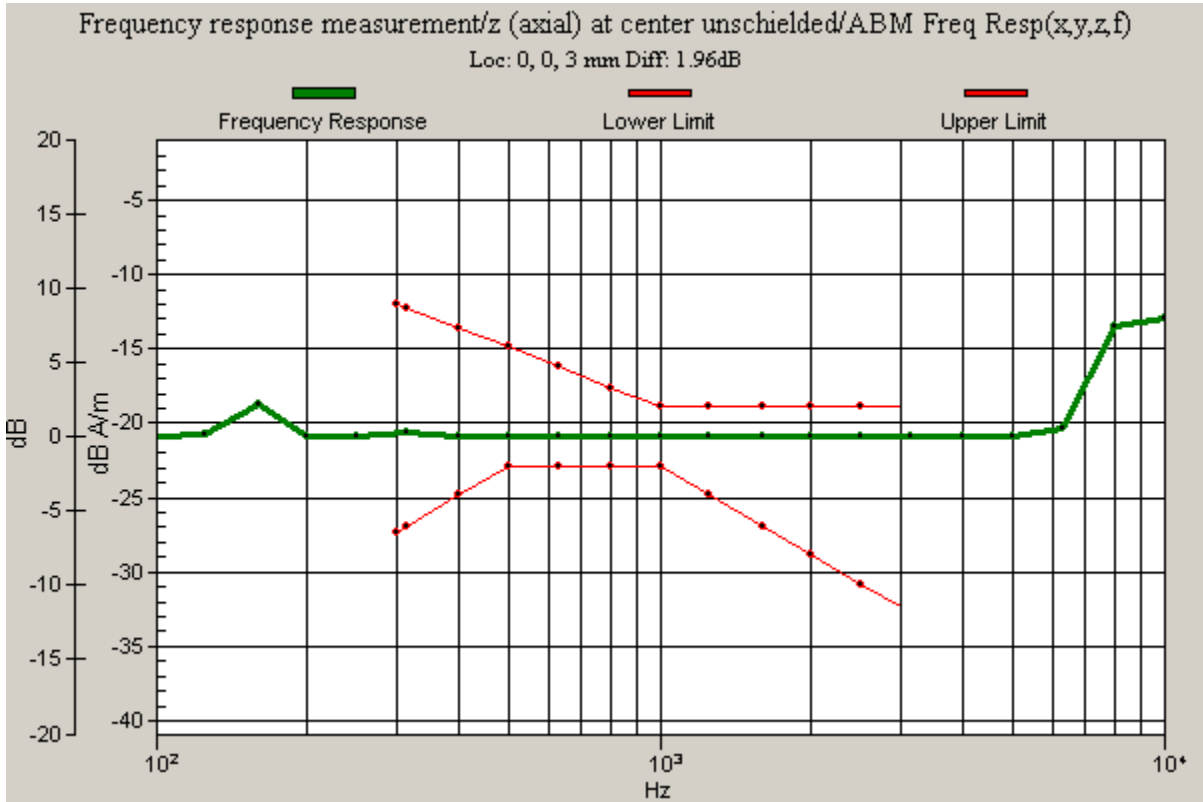Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> Diff = 1.96 dB
> BWC Factor = 12.5 dB
> Location: 0, 0, 3 mm

0 dB = 1.00A/m

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| | Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW | **21(117)** |

| **Author Data** | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Frequency response measurement/z (axial) at center unschielded/ABM Freq Resp(x,y,z,f)
Loc: 0, 0, 3 mm Diff: 1.96dB

Date/Time: 04/08/2009 9:43:50 AM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_08_04_09.da4

DUT: TMFS; Type: Sample ; Serial: Not Specified

Program Name: HAC_Tcoil_ProbeCalibration

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186


# TMFS Validation Scan with 1kHz/500mVRMS signal level/W x (longitudinal) 52 x 16 step 4/ABM Signal(x,y,z) (14x5x1):

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

Signal Type: 1 kHz Sine

Output Gain: 35

Measure Window Start: 0ms

Measure Window Length: 1000ms

BWC applied: -0.00306666 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1 comp = -25.5 dB A/m
BWC Factor = -0.00306666 dB
Location: -18, 0, 3 mm



0 dB = 1.00A/m

Date/Time: 04/08/2009 9:50:00 AM

Test Laboratory: RTS

File Name: TMFS_T_Coil_Validation_08_04_09.da4

DUT: TMFS; Type: Sample ; Serial: Not Specified

Program Name: HAC_Tcoil_ProbeCalibration

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

Medium parameters used: σ = 0 mho/m, ε $_r$ = 1; ρ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

# TMFS Validation Scan with 1kHz/500mVRMS signal level/W y (transversal) 16 x 52 step 4/ABM Signal(x,y,z) (5x14x1):

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

Signal Type: 1 kHz Sine

Output Gain: 35

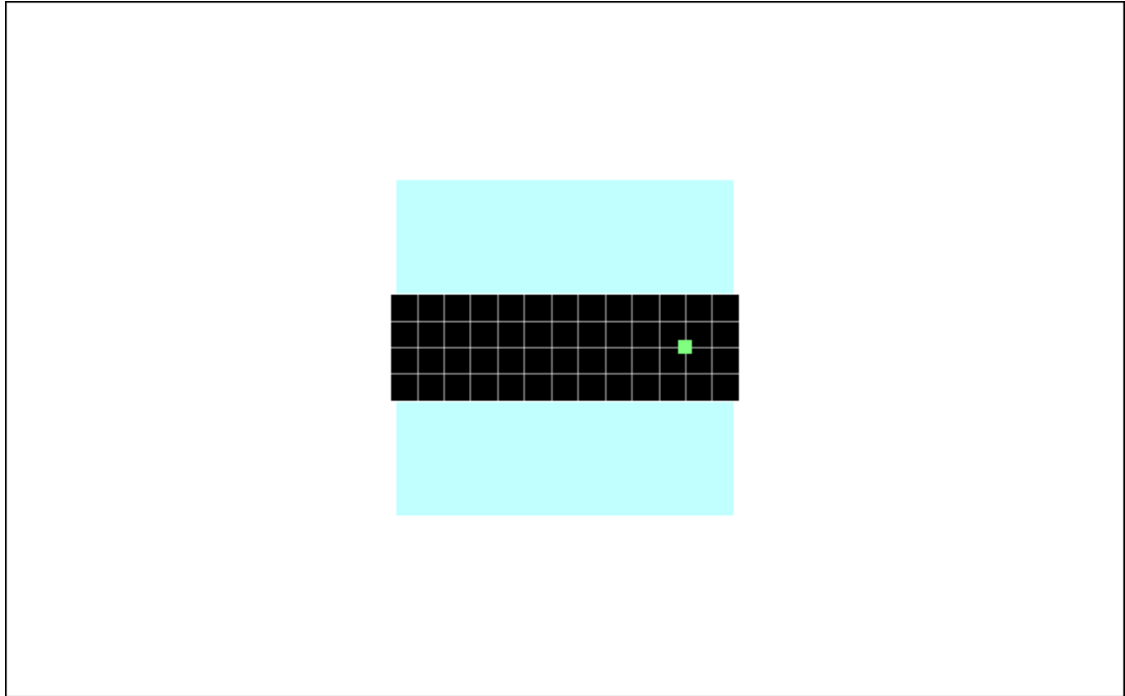Measure Window Start: 0ms

Measure Window Length: 1000ms

BWC applied: -0.00306666 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1 comp = -25.9 dB A/m

BWC Factor = -0.00306666 dB

Location: 0, -18, 3 mm



0 dB = 1.00A/m

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **26(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

## Annex C: Audio Band Magnetic measurement data and plots

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **27(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 3:43:53 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_low_ch_Sanyo_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1/ABM2 = 47.2 dB
> ABM1 comp = 9.21 dB A/m
> BWC Factor = 0.154017 dB
> Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1/ABM2 = 47.2 dB
> ABM1 comp = 8.74 dB A/m
> BWC Factor = 0.154017 dB
> Location: -5, 12, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> Diff = 2.00 dB
> BWC Factor = 10.8 dB
> Location: -5, 12, 3.7 mm

0 dB = 1.00



General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: -5, 12, 3.7 mm Diff: 2dB

Date/Time: 05/08/2009 3:55:37 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_low_ch_Sanyo_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

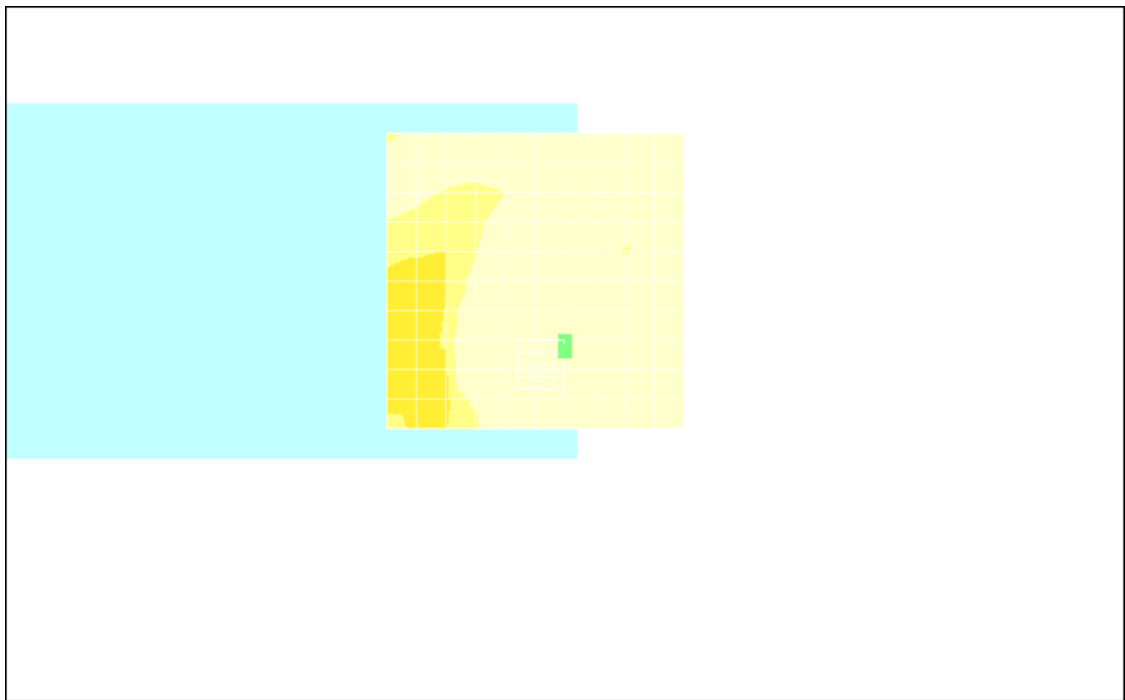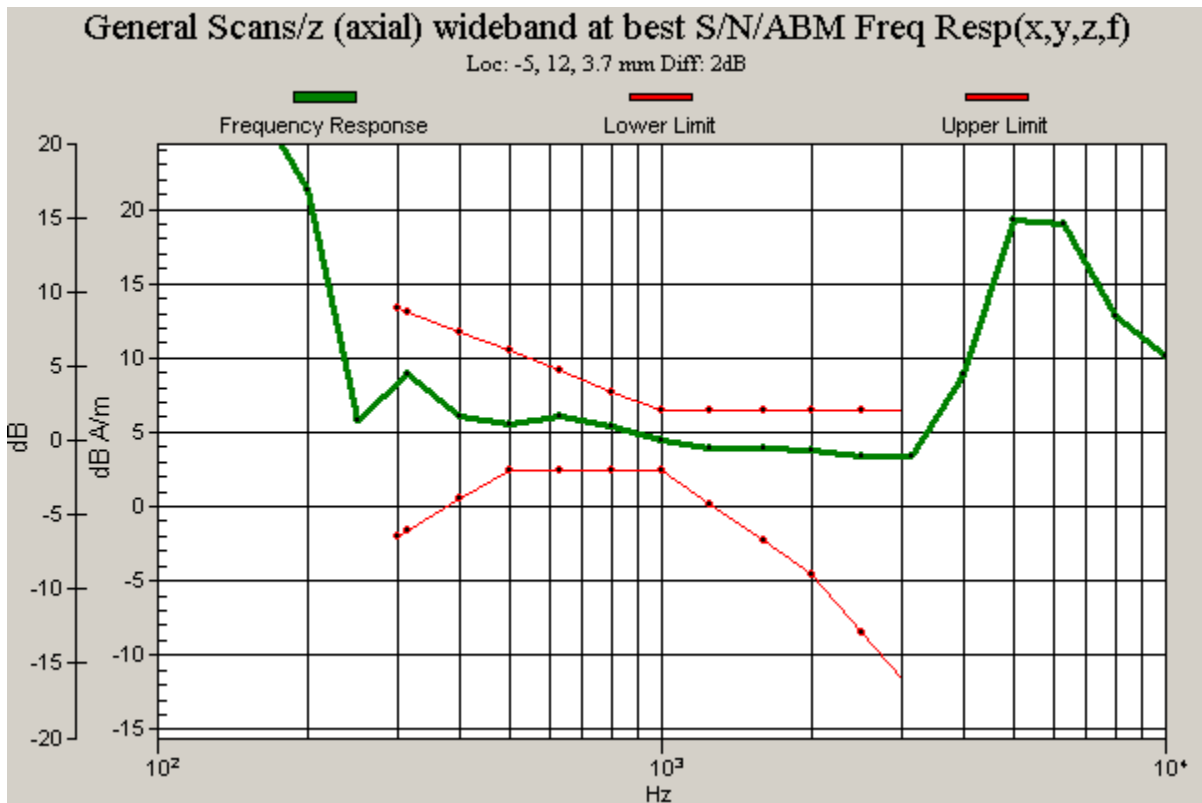Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 25.5 dB
ABM1 comp = 0.215 dB A/m
BWC Factor = 0.154017 dB
Location: -15, 10, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 25.4 dB
ABM1 comp = 1.15 dB A/m
BWC Factor = 0.154017 dB
Location: -13, 12, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 4:07:02 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_low_ch_Sanyo_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

| | **Document** | **Page** |
|---|---|---|
| ![RIM Testing Services logo] | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **33(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 40.7 dB
ABM1 comp = -1.42 dB A/m
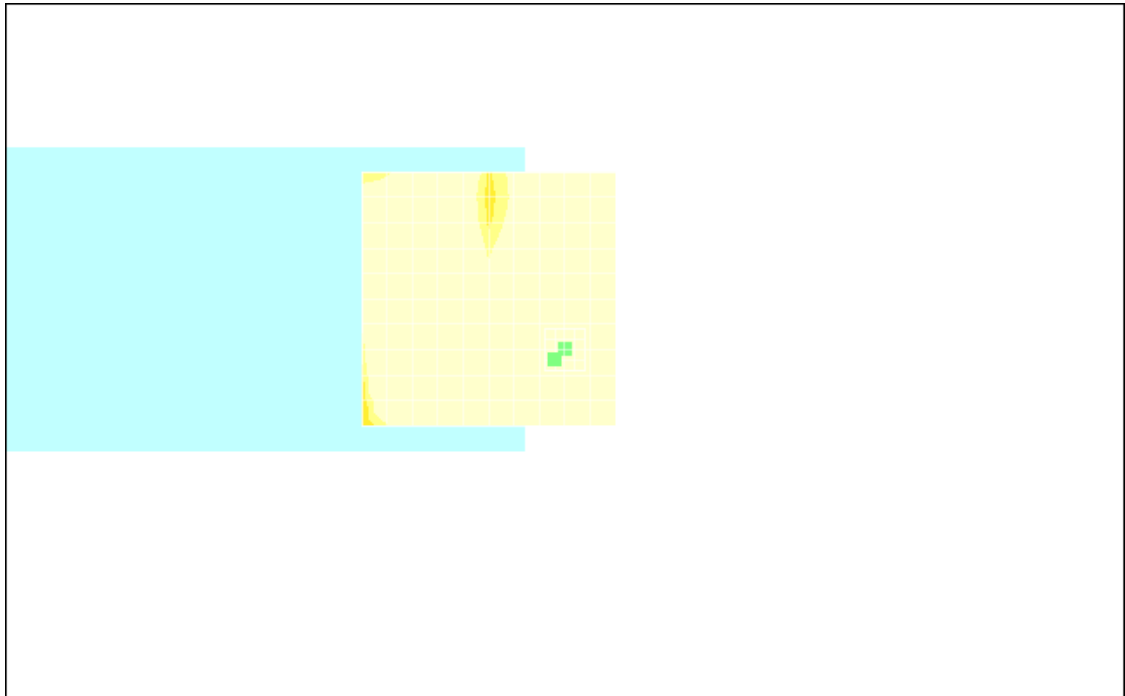BWC Factor = 0.154017 dB
Location: -5, 5, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 40.6 dB
ABM1 comp = -1.65 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 5, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 3:43:53 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_mid_ch_Sanyo_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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|---|---|---|
| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **35(117)** |

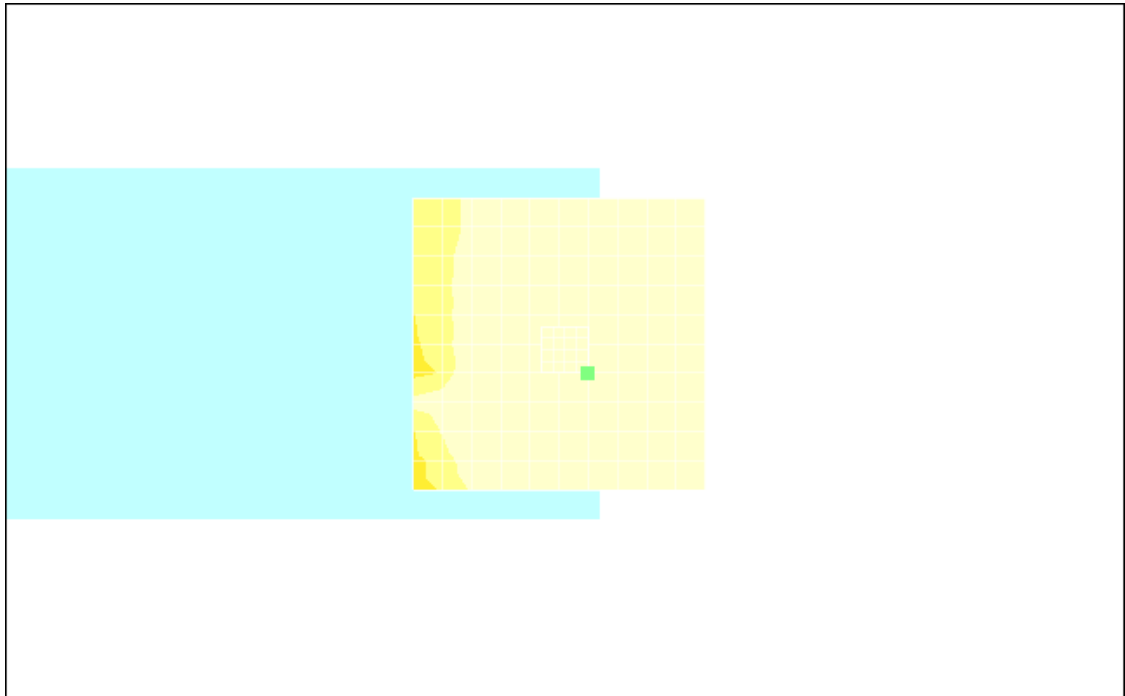| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

>ABM1/ABM2 = 47.2 dB
>ABM1 comp = 9.21 dB A/m
>BWC Factor = 0.154017 dB
>Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

>ABM1/ABM2 = 46.9 dB
>ABM1 comp = 8.49 dB A/m
>BWC Factor = 0.154017 dB
>Location: -5, 12, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

>Diff = 1.57 dB
>BWC Factor = 10.8 dB
>Location: -5, 12, 3.7 mm

0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **37(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 3:55:37 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_mid_ch_Sanyo_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB
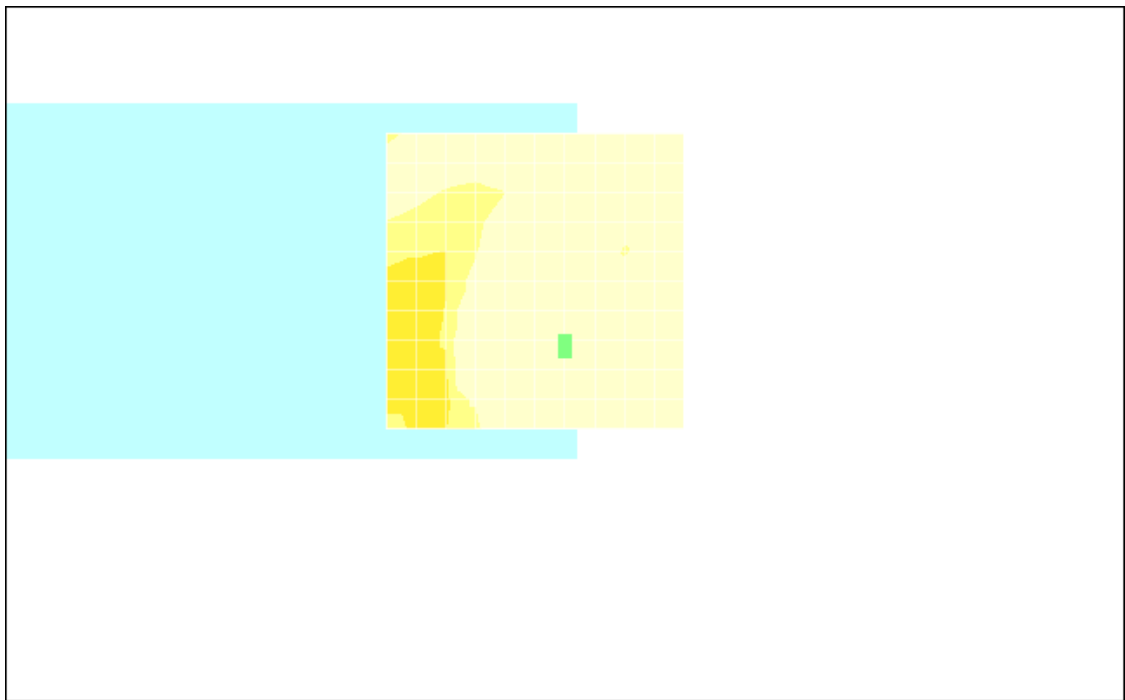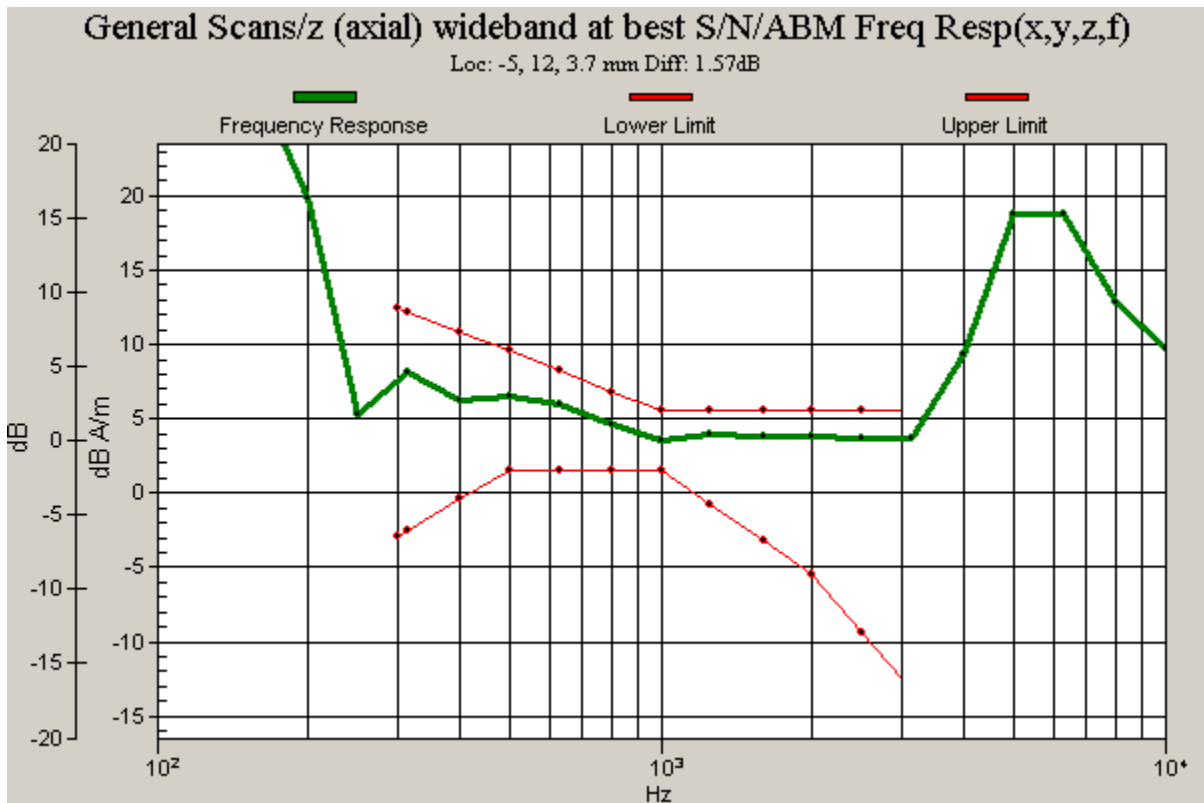
Device Reference Point: 0.000, 0.000, -6.30 mm

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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **38(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 25.5 dB
ABM1 comp = 0.215 dB A/m
BWC Factor = 0.154017 dB
Location: -15, 10, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 25.1 dB
ABM1 comp = 0.436 dB A/m
BWC Factor = 0.154017 dB
Location: -13, 14, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 4:07:02 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_mid_ch_Sanyo_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8
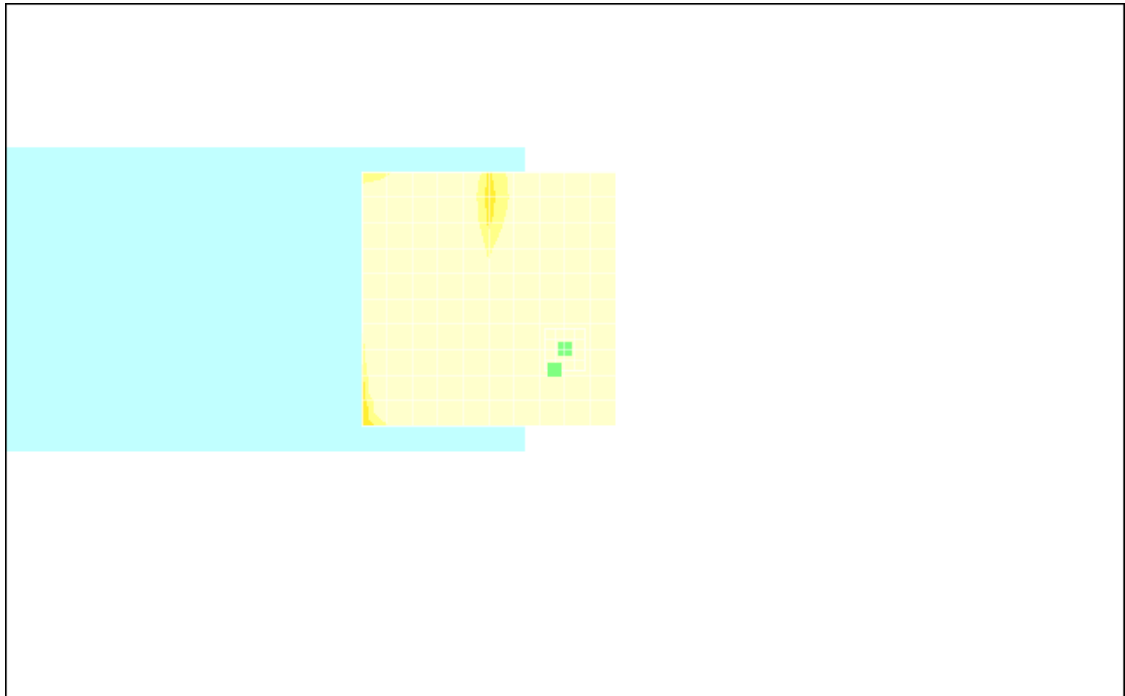
Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| **RIM** Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **40(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

> ABM1/ABM2 = 40.7 dB
> ABM1 comp = -1.42 dB A/m
> BWC Factor = 0.154017 dB
> Location: -5, 5, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1/ABM2 = 40.6 dB
> ABM1 comp = -1.55 dB A/m
> BWC Factor = 0.154017 dB
> Location: -5, 5, 3.7 mm



0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **41(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 3:43:53 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_high_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **42(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 47.2 dB
ABM1 comp = 9.21 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 10, 3.7 mm

### General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 48.4 dB
ABM1 comp = 11.4 dB A/m
BWC Factor = 0.154017 dB
Location: -3, 10, 3.7 mm

### General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
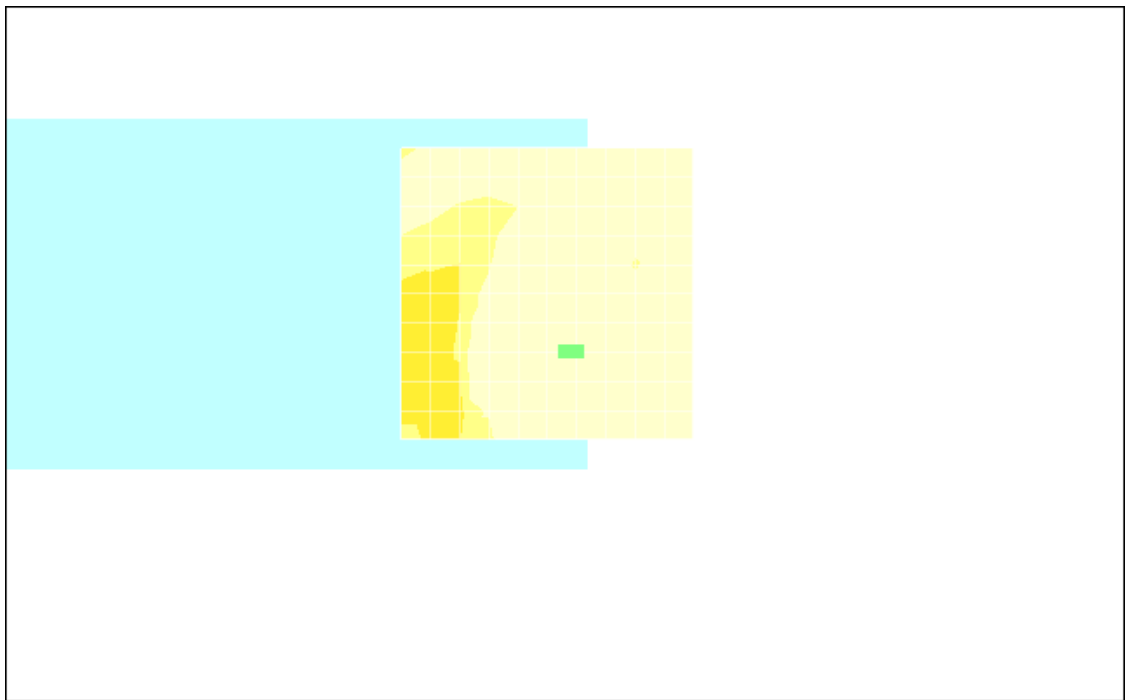Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

Diff = 2.00 dB
BWC Factor = 10.8 dB
Location: -3, 10, 3.7 mm

0 dB = 1.00



General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -3, 10, 3.7 mm Diff: 2dB

Date/Time: 05/08/2009 3:55:37 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_high_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

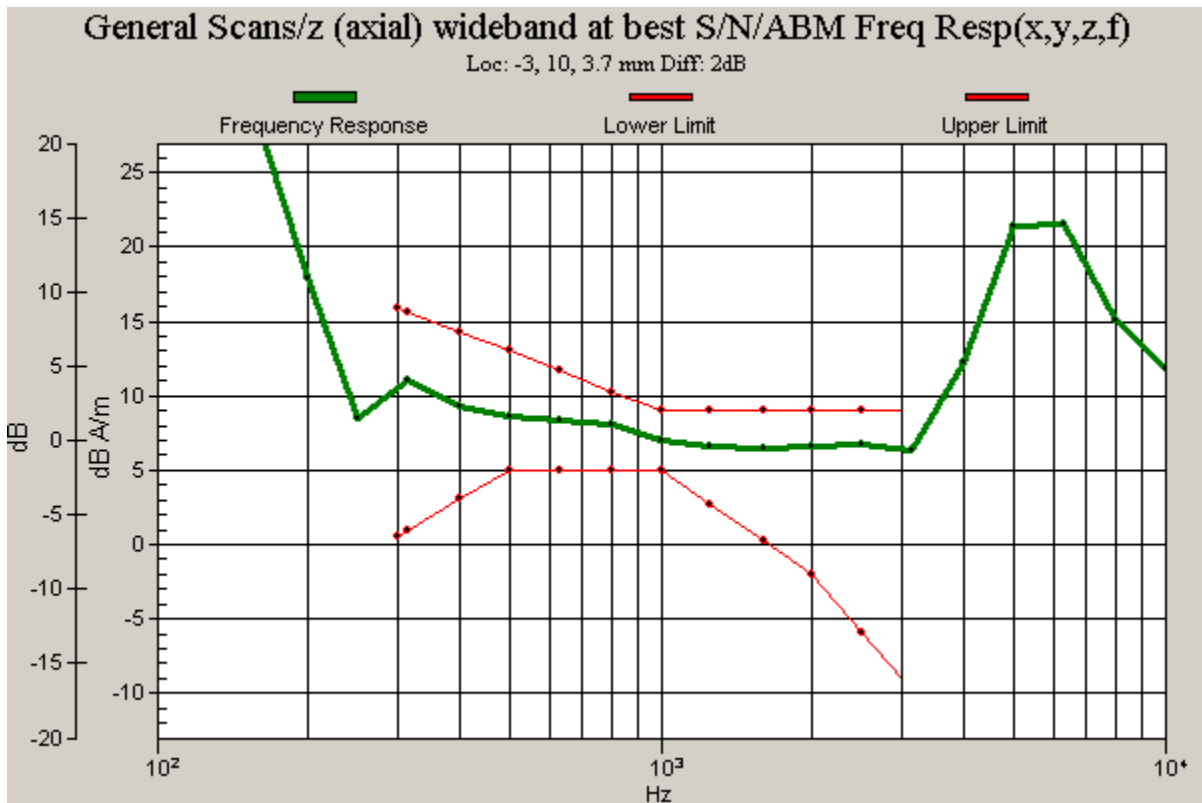## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **45(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 25.5 dB
ABM1 comp = 0.215 dB A/m
BWC Factor = 0.154017 dB
Location: -15, 10, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 22.8 dB
ABM1 comp = 1.96 dB A/m
BWC Factor = 0.154017 dB
Location: -13, 10, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 4:07:02 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM850_high_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
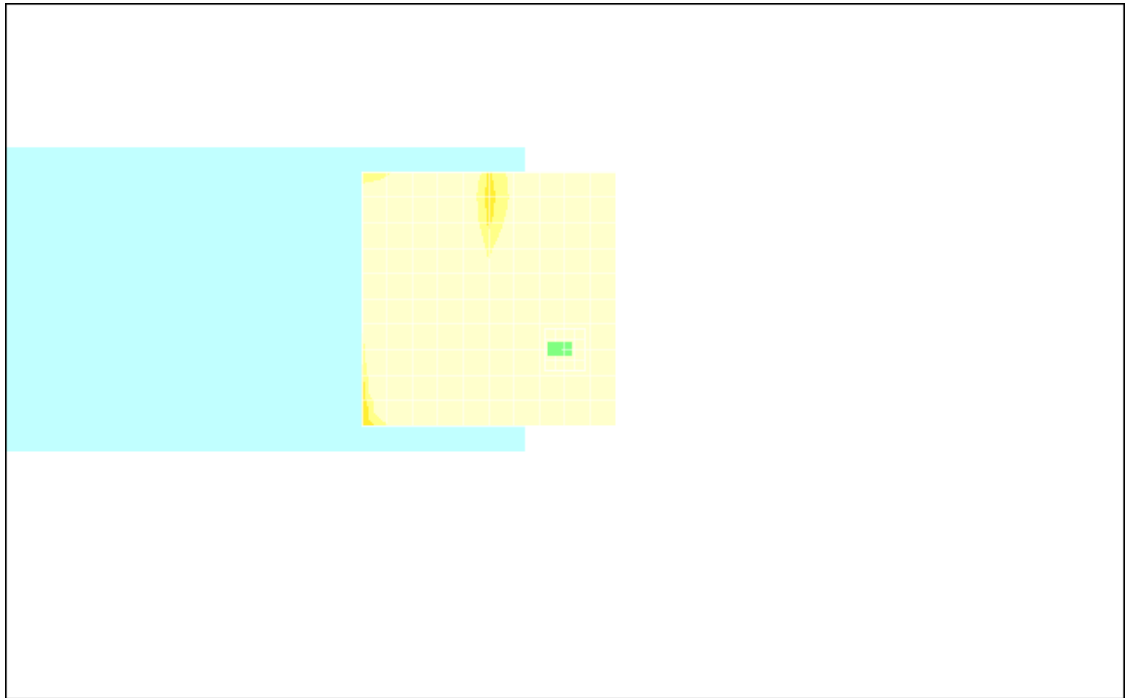
## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **47(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 40.7 dB
ABM1 comp = -1.42 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 5, 3.7 mm

### General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 42.9 dB
ABM1 comp = -0.583 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 3, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 6:01:27 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_low_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **49(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

> ABM1/ABM2 = 47.1 dB
> ABM1 comp = 9.93 dB A/m
> BWC Factor = 0.154017 dB
> Location: -5, 10, 3.7 mm

### General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1/ABM2 = 47.3 dB
> ABM1 comp = 11.0 dB A/m
> BWC Factor = 0.154017 dB
> Location: -3, 12, 3.7 mm

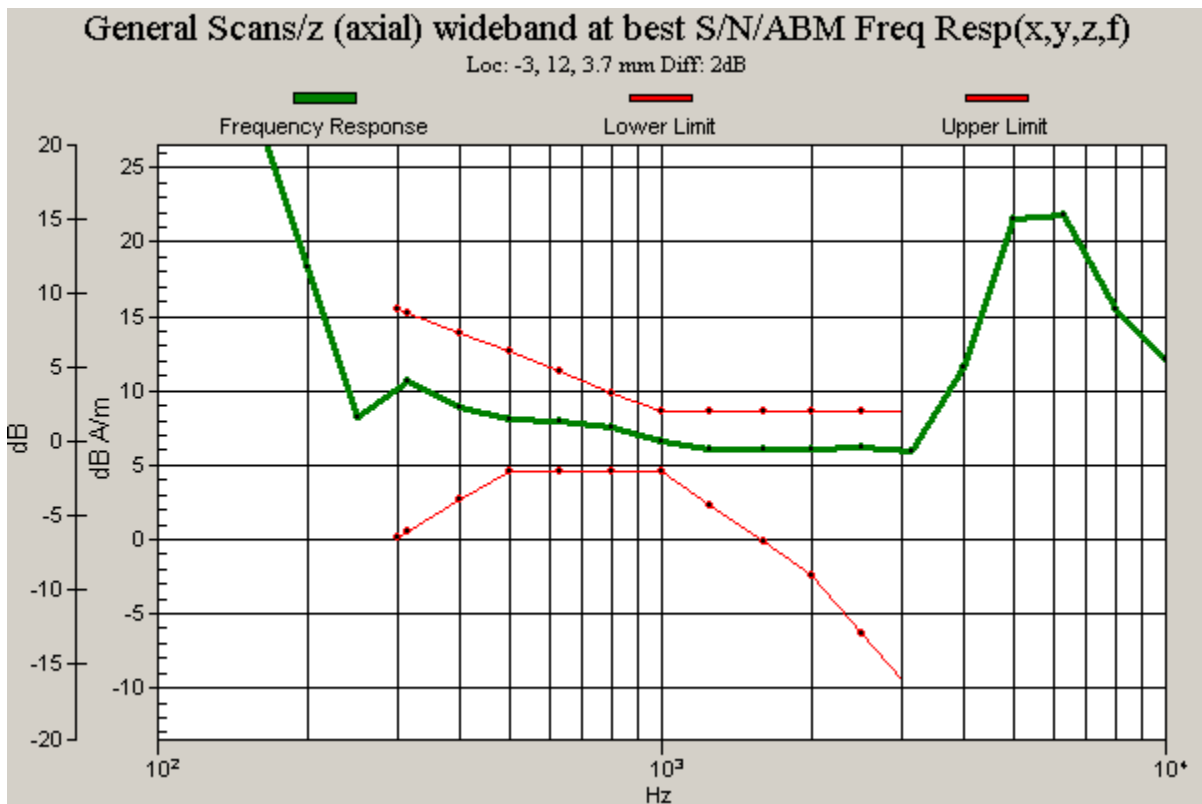### General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> Diff = 2.00 dB
> BWC Factor = 10.8 dB
> Location: -3, 12, 3.7 mm

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| **RIM** Testing Services™ | Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW | **50(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

0 dB = 1.00



General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Date/Time: 05/08/2009 6:12:24 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_low_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 25.8 dB
ABM1 comp = 0.255 dB A/m
BWC Factor = 0.154017 dB
Location: -15, 10, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 26.2 dB
ABM1 comp = 2.89 dB A/m
BWC Factor = 0.154017 dB
Location: -11, 12, 3.7 mm



0 dB = 1.00

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| **RIM** Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **53(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 6:23:42 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_low_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

      ABM1/ABM2 = 42.1 dB
      ABM1 comp = -5.67 dB A/m
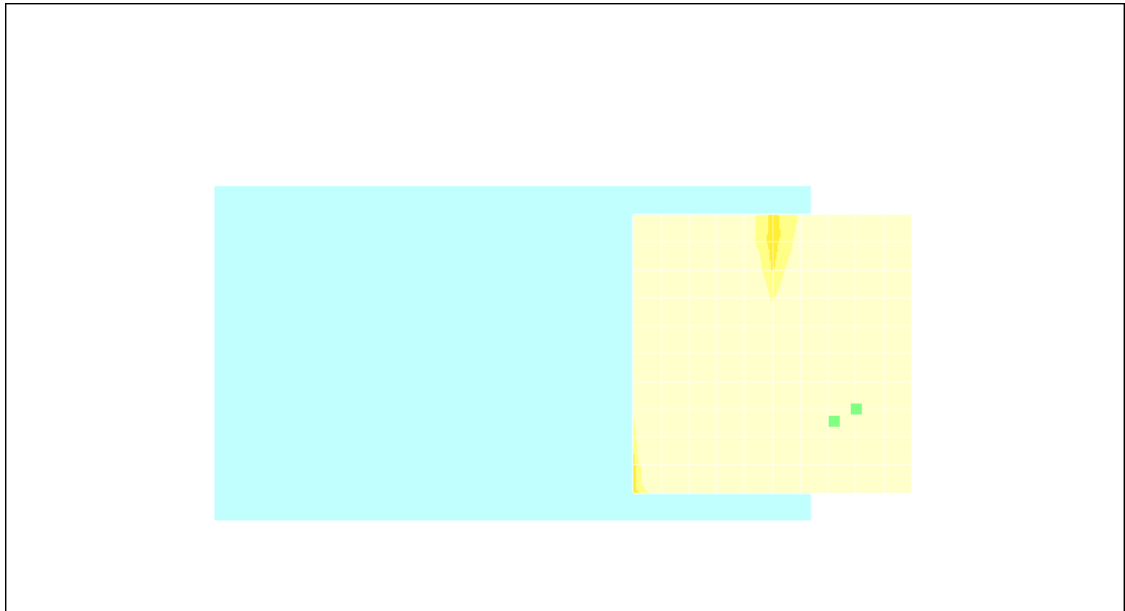      BWC Factor = 0.154017 dB
      Location: -10, 5, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

      ABM1/ABM2 = 43.2 dB
      ABM1 comp = -0.520 dB A/m
      BWC Factor = 0.154017 dB
      Location: -6, 3, 3.7 mm



0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **55(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 6:01:27 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_mid_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186


## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **56(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 47.1 dB
ABM1 comp = 9.93 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
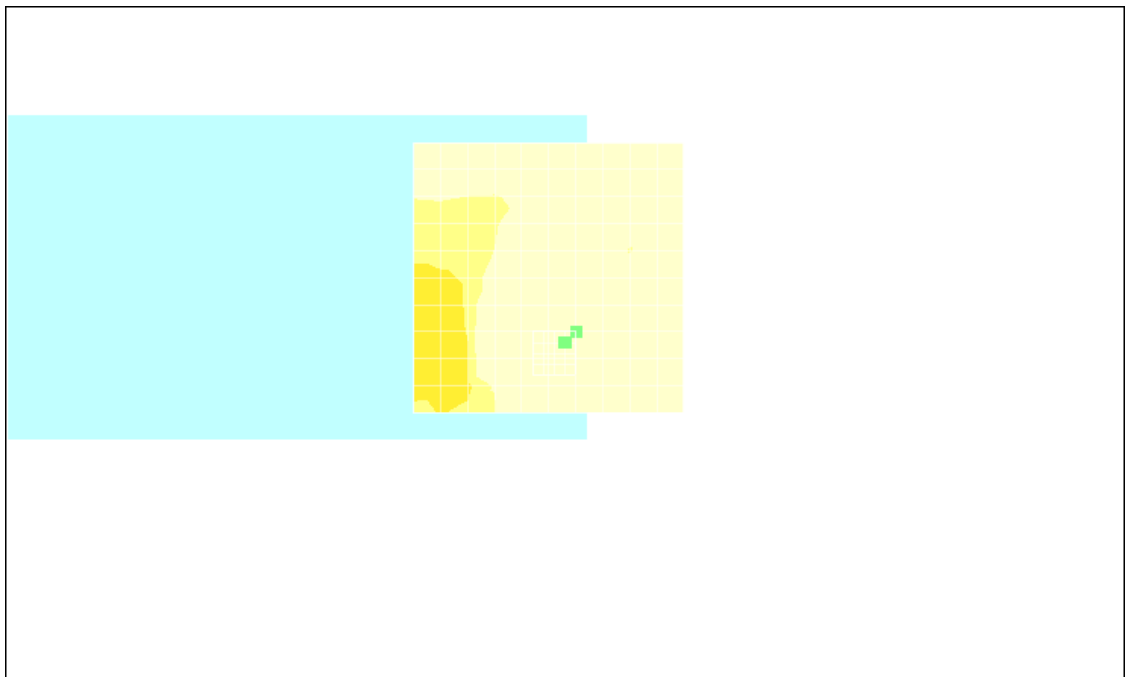Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 47.4 dB
ABM1 comp = 11.1 dB A/m
BWC Factor = 0.154017 dB
Location: -3, 12, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):
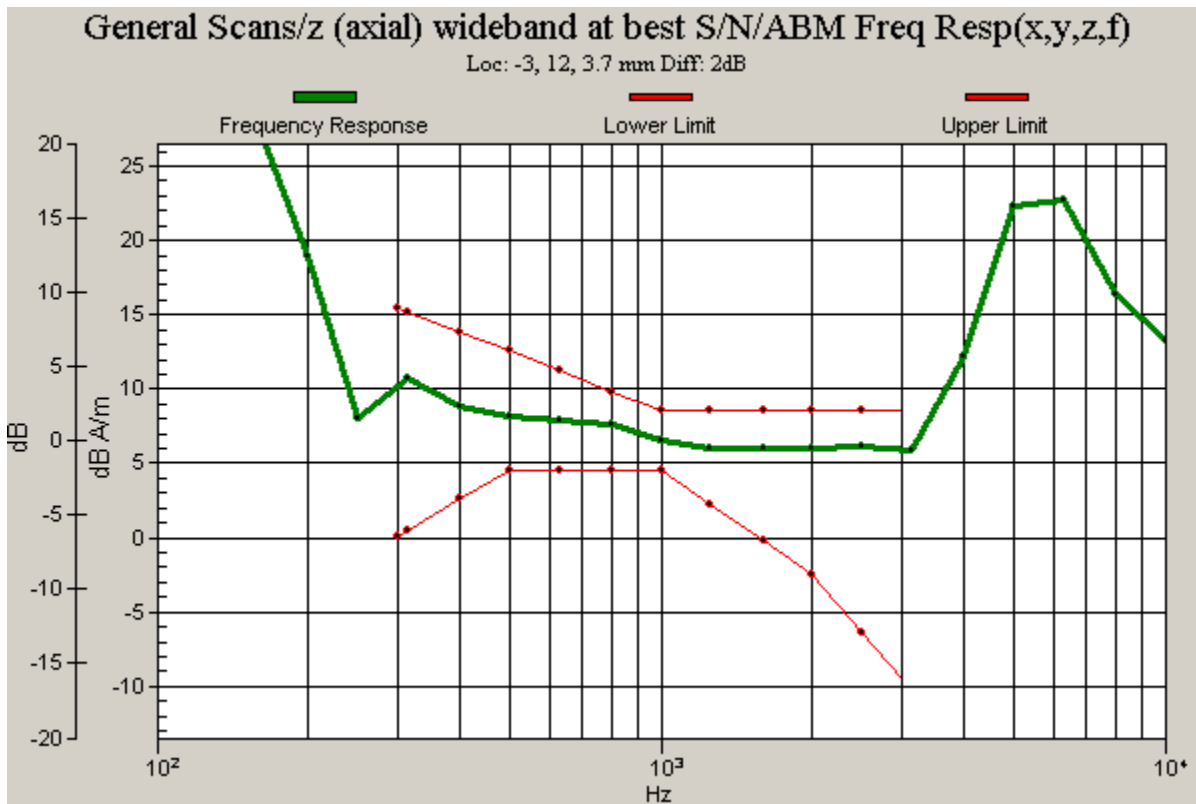
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

Diff = 2.00 dB
BWC Factor = 10.8 dB
Location: -3, 12, 3.7 mm

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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **57(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

0 dB = 1.00



General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: -3, 12, 3.7 mm Diff: 2dB

Date/Time: 05/08/2009 6:12:24 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_mid_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

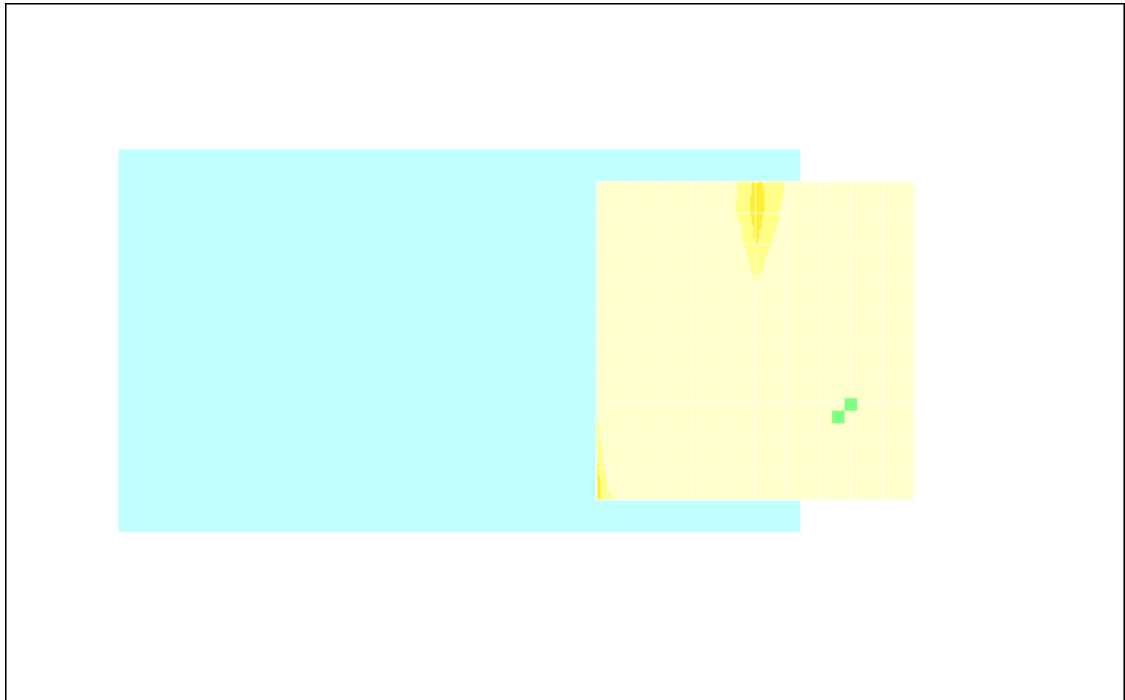Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 25.8 dB
ABM1 comp = 0.255 dB A/m
BWC Factor = 0.154017 dB
Location: -15, 10, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 26.6 dB
ABM1 comp = 1.68 dB A/m
BWC Factor = 0.154017 dB
Location: -13, 12, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 6:23:42 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_mid_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm
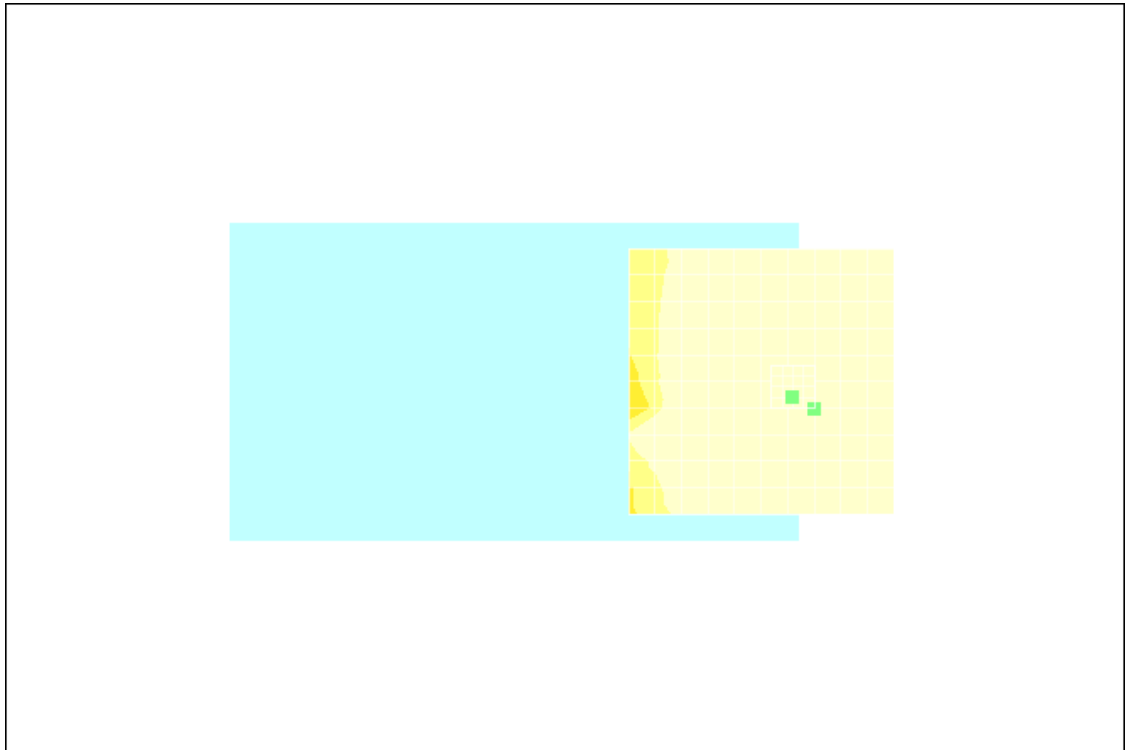
**Cursor:**

    ABM1/ABM2 = 42.1 dB
    ABM1 comp = -5.67 dB A/m
    BWC Factor = 0.154017 dB
    Location: -10, 5, 3.7 mm

### General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 43.3 dB
    ABM1 comp = -0.485 dB A/m
    BWC Factor = 0.154017 dB
    Location: -6, 3, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 6:01:27 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_high_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

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

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **63(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 47.1 dB
ABM1 comp = 9.93 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
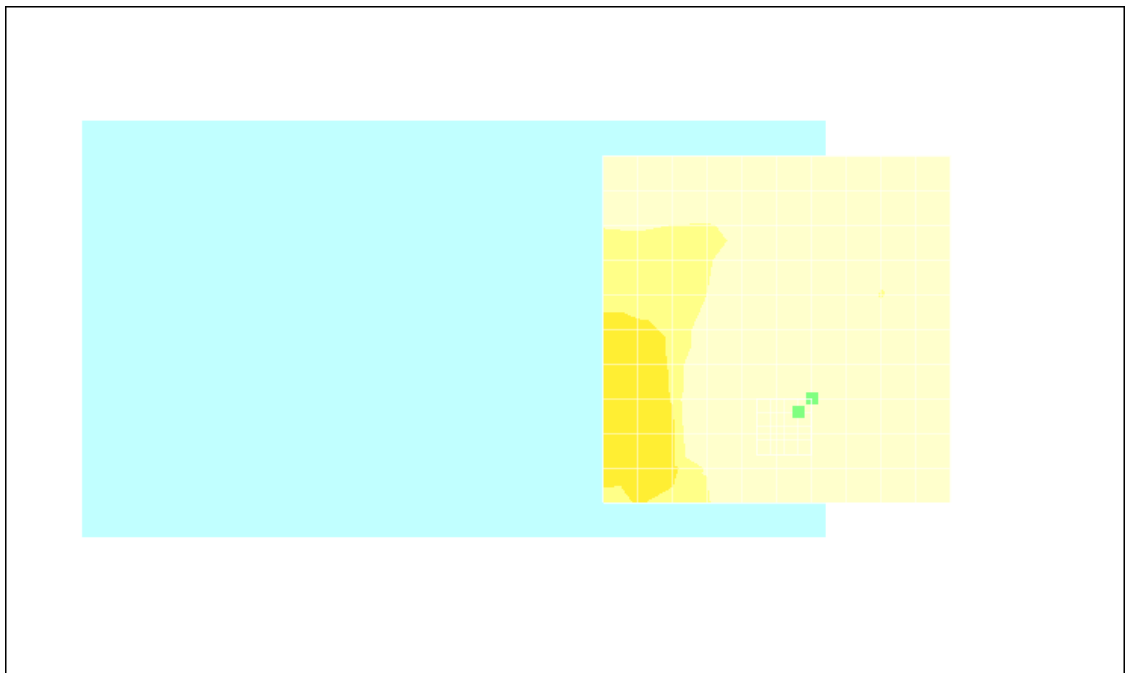Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 47.3 dB
ABM1 comp = 11.0 dB A/m
BWC Factor = 0.154017 dB
Location: -3, 12, 3.7 mm

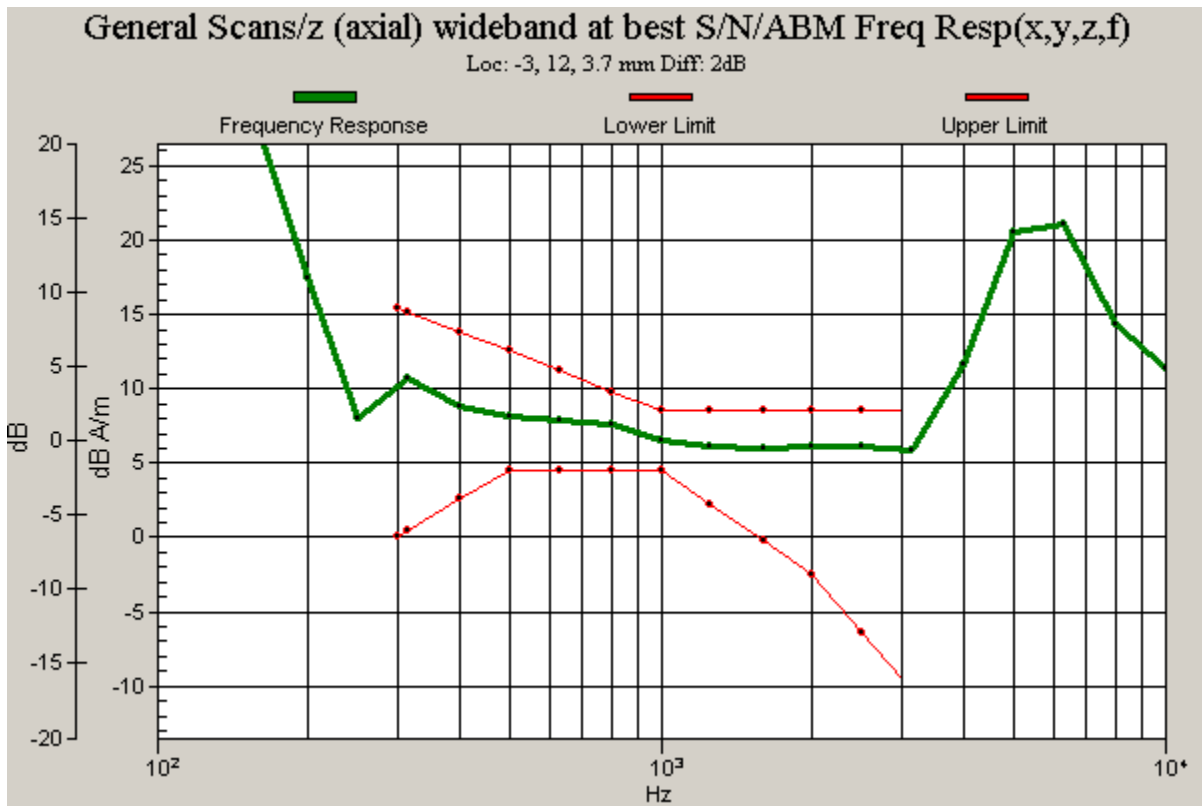## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

Diff = 2.00 dB
BWC Factor = 10.8 dB
Location: -3, 12, 3.7 mm

0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **65(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
| --- | --- | --- | --- |
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 6:12:24 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_high_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

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

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm
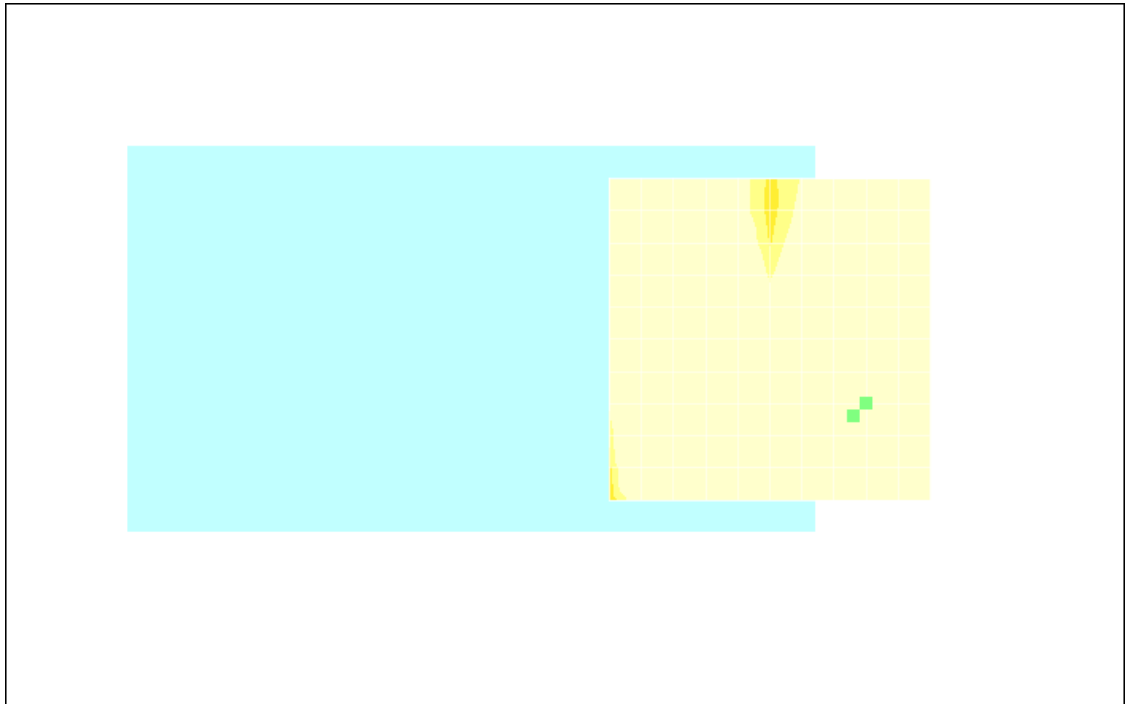
**Cursor:**

    ABM1/ABM2 = 25.8 dB
    ABM1 comp = 0.255 dB A/m
    BWC Factor = 0.154017 dB
    Location: -15, 10, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 27.2 dB
    ABM1 comp = 1.59 dB A/m
    BWC Factor = 0.154017 dB
    Location: -13, 12, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 6:23:42 PM

Test Laboratory: RTS

File Name: HAC_TCoil_GSM1900_high_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **68(117)** |

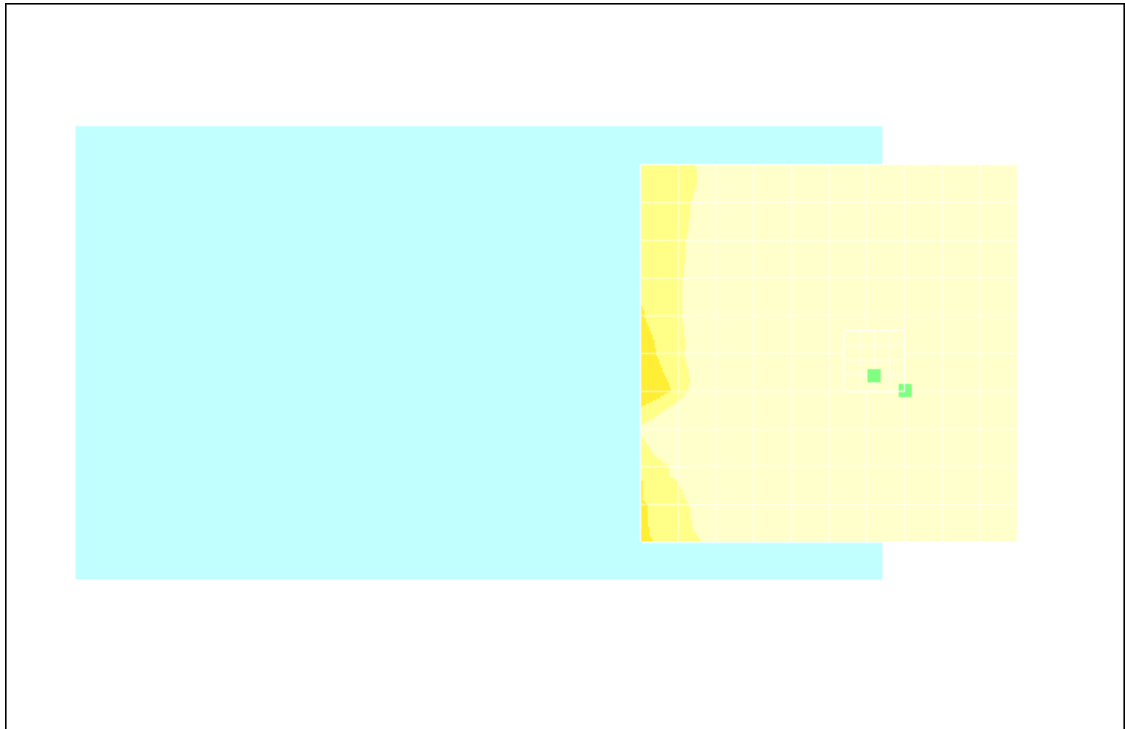| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

    ABM1/ABM2 = 42.1 dB
    ABM1 comp = -5.67 dB A/m
    BWC Factor = 0.154017 dB
    Location: -10, 5, 3.7 mm

### General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 43.6 dB
    ABM1 comp = -0.455 dB A/m
    BWC Factor = 0.154017 dB
    Location: -6, 3, 3.7 mm



0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **69(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 8:36:03 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_low_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

| | **Document** | **Page** |
|---|---|---|
| ![RIM Testing Services logo] | Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW | 70(117) |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 50.0 dB
ABM1 comp = 9.38 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
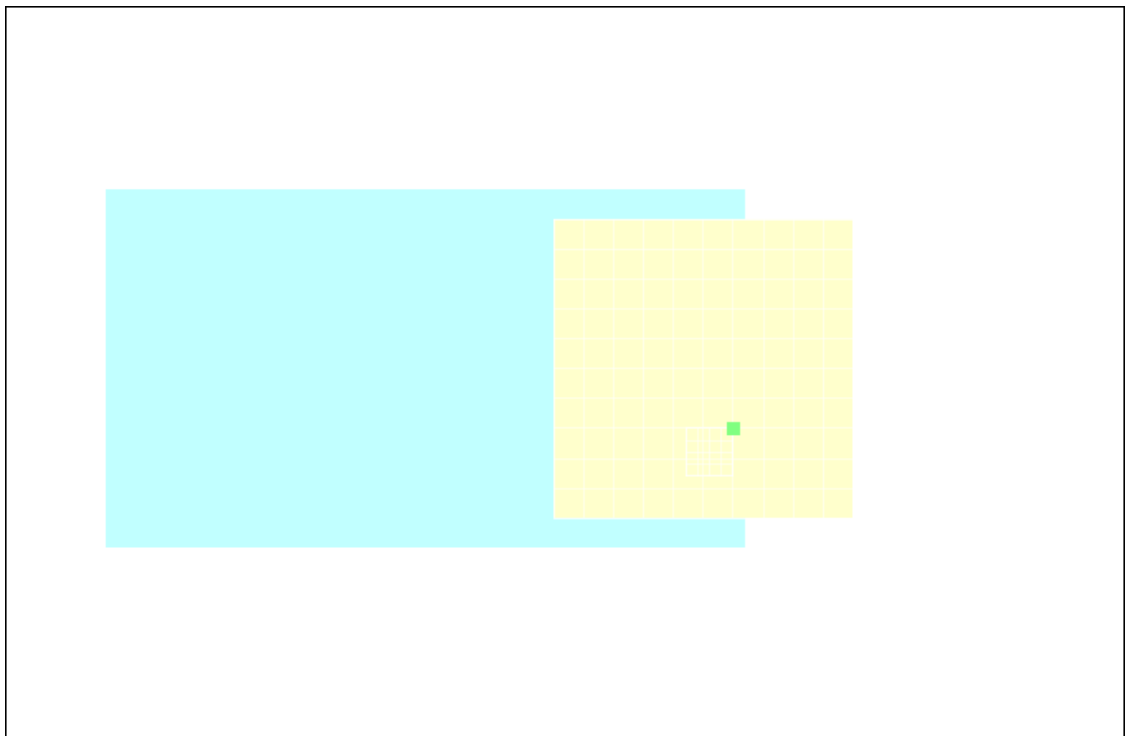Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 50.0 dB
ABM1 comp = 9.36 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 10, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):
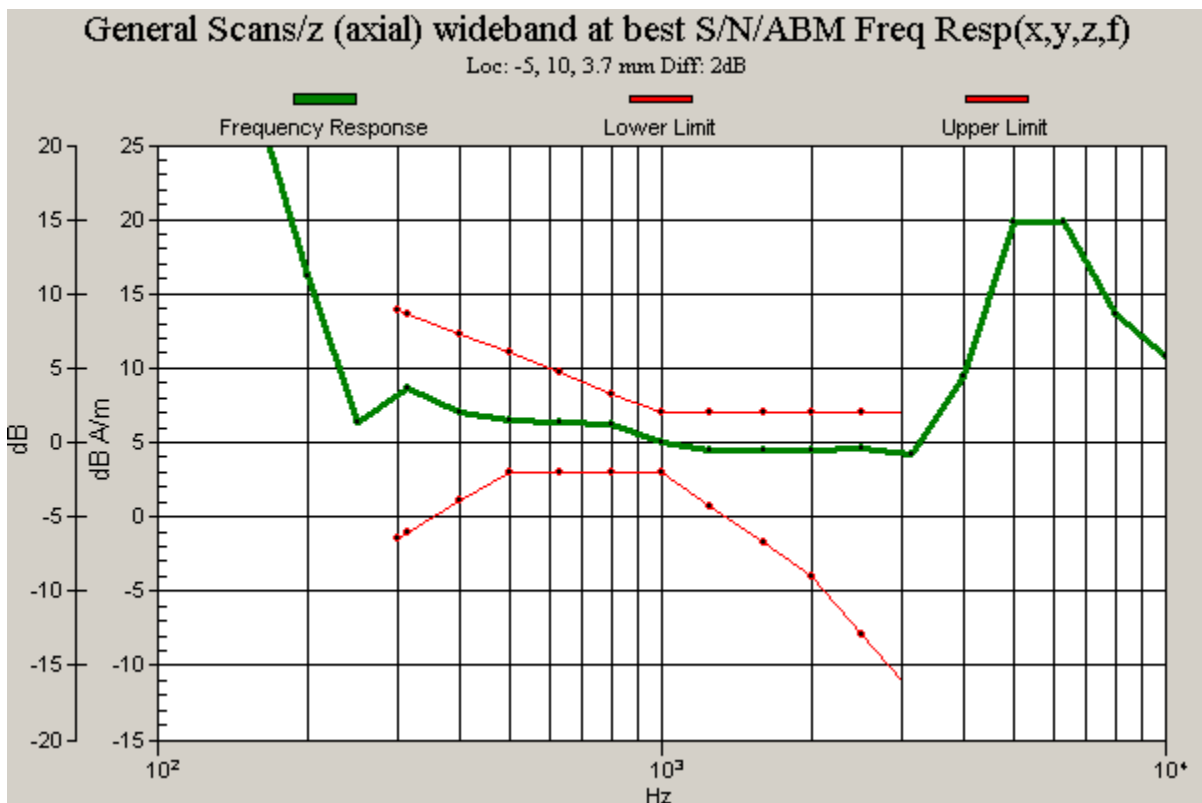
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

Diff = 2.00 dB
BWC Factor = 10.8 dB
Location: -5, 10, 3.7 mm

0 dB = 1.00

Date/Time: 05/08/2009 8:46:55 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_low_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: σ = 0 mho/m, $\varepsilon_r$ = 1; ρ = 1 kg/m³

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1/ABM2 = 45.8 dB
> ABM1 comp = 0.871 dB A/m
> BWC Factor = 0.154017 dB
> Location: 10, 5, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):
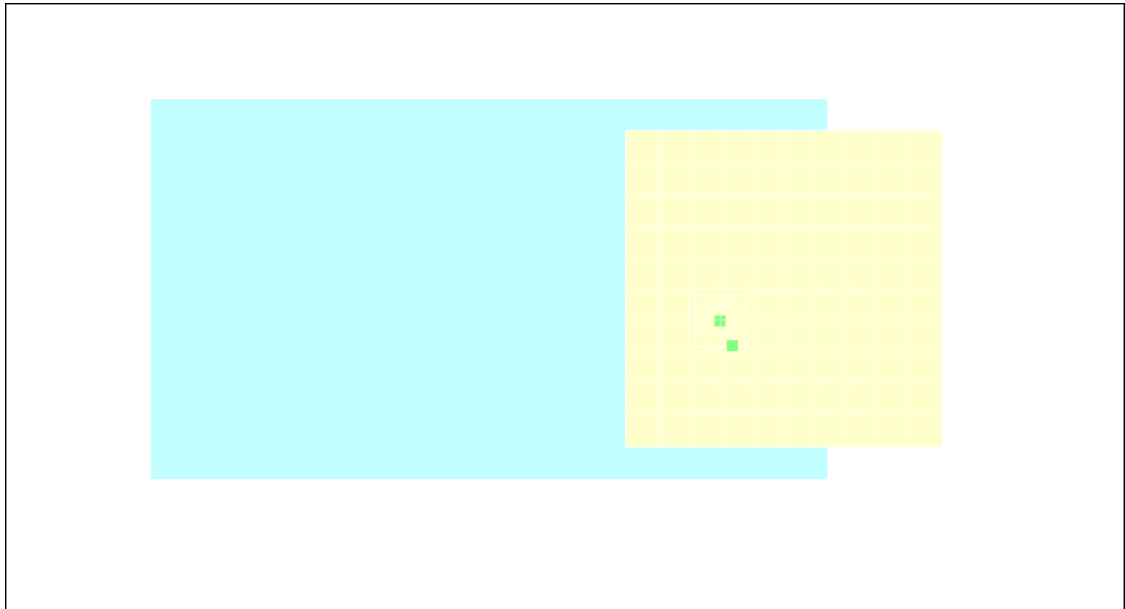
Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1/ABM2 = 46.7 dB
> ABM1 comp = 2.60 dB A/m
> BWC Factor = 0.154017 dB
> Location: 8, 9, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 8:57:59 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_low_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

| | **Document** | **Page** |
|---|---|---|
| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **75(117)** |

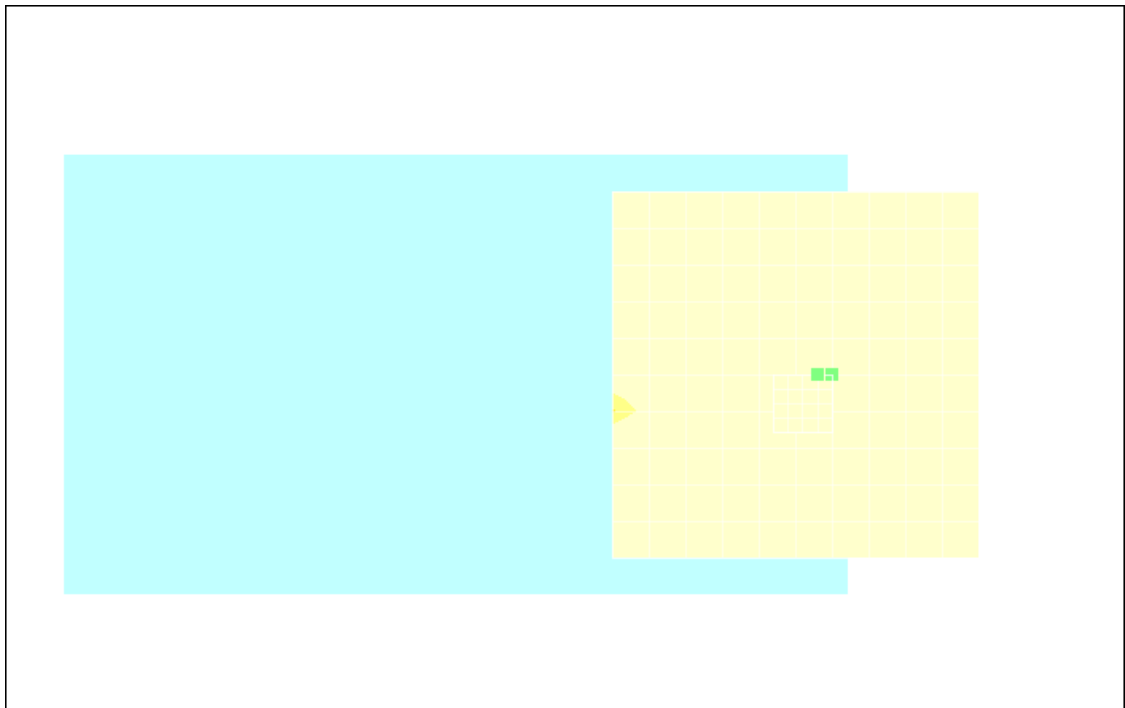| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 47.9 dB
ABM1 comp = -0.315 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 0, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 50.4 dB
ABM1 comp = 10.4 dB A/m
BWC Factor = 0.154017 dB
Location: -3, 0, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 8:36:03 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_mid_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 50.0 dB
ABM1 comp = 9.38 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 49.3 dB
ABM1 comp = 9.70 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 10, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

Diff = 2.00 dB
BWC Factor = 10.8 dB
Location: -5, 10, 3.7 mm

0 dB = 1.00



General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: -5, 10, 3.7 mm Diff: 2dB

Date/Time: 05/08/2009 8:46:55 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_mid_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

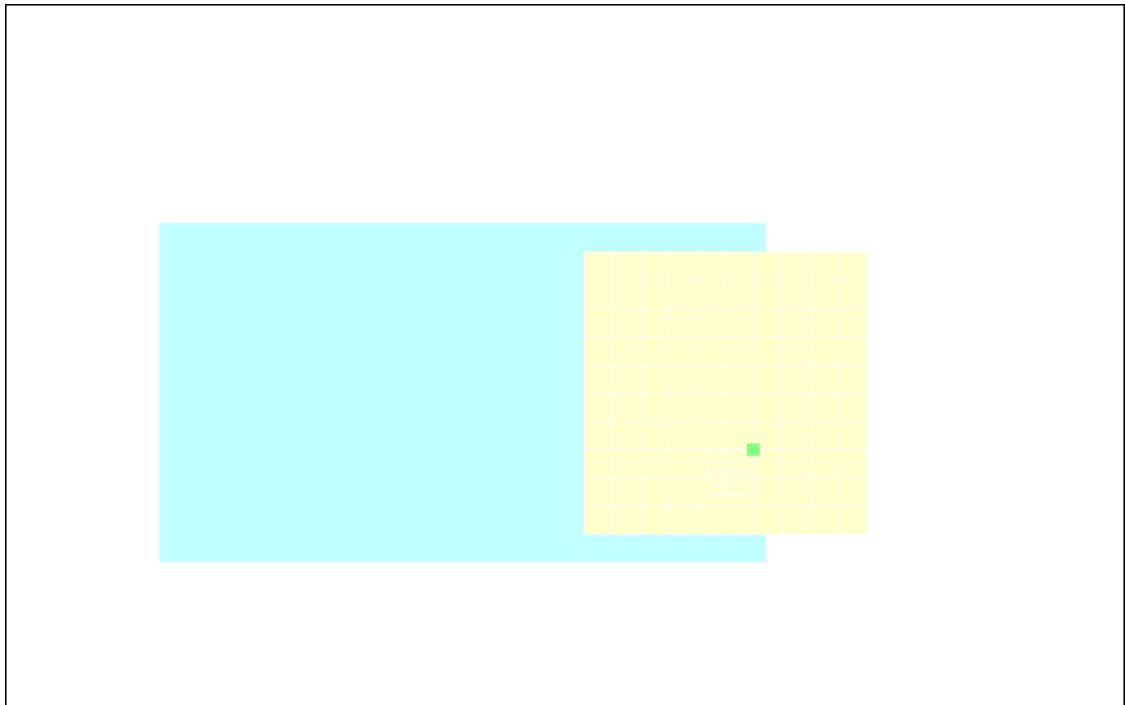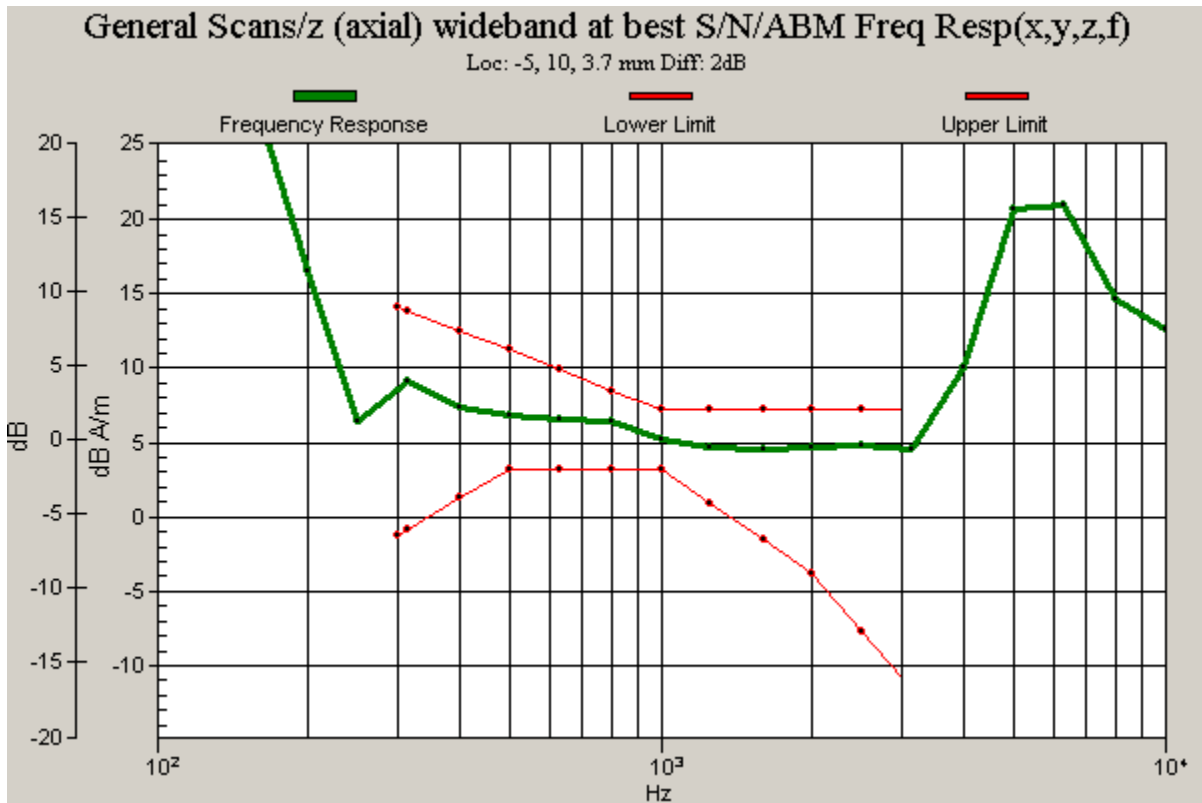Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

  ABM1/ABM2 = 45.8 dB
  ABM1 comp = 0.871 dB A/m
  BWC Factor = 0.154017 dB
  Location: 10, 5, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

  ABM1/ABM2 = 45.0 dB
  ABM1 comp = 0.308 dB A/m
  BWC Factor = 0.154017 dB
  Location: 10, 9, 3.7 mm



0 dB = 1.00

| | **Document** | **Page** |
|---|---|---|
| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **81(117)** |

| **Author Data**<br>**Daoud Attayi** | **Dates of Test**<br>**July 06-Aug 06, 2009** | **Report No**<br>**RTS-1689-0908-38** | **FCC ID**<br>**L6ARCM70UW** |

Date/Time: 05/08/2009 8:57:59 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_mid_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

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

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 47.9 dB
    ABM1 comp = -0.315 dB A/m
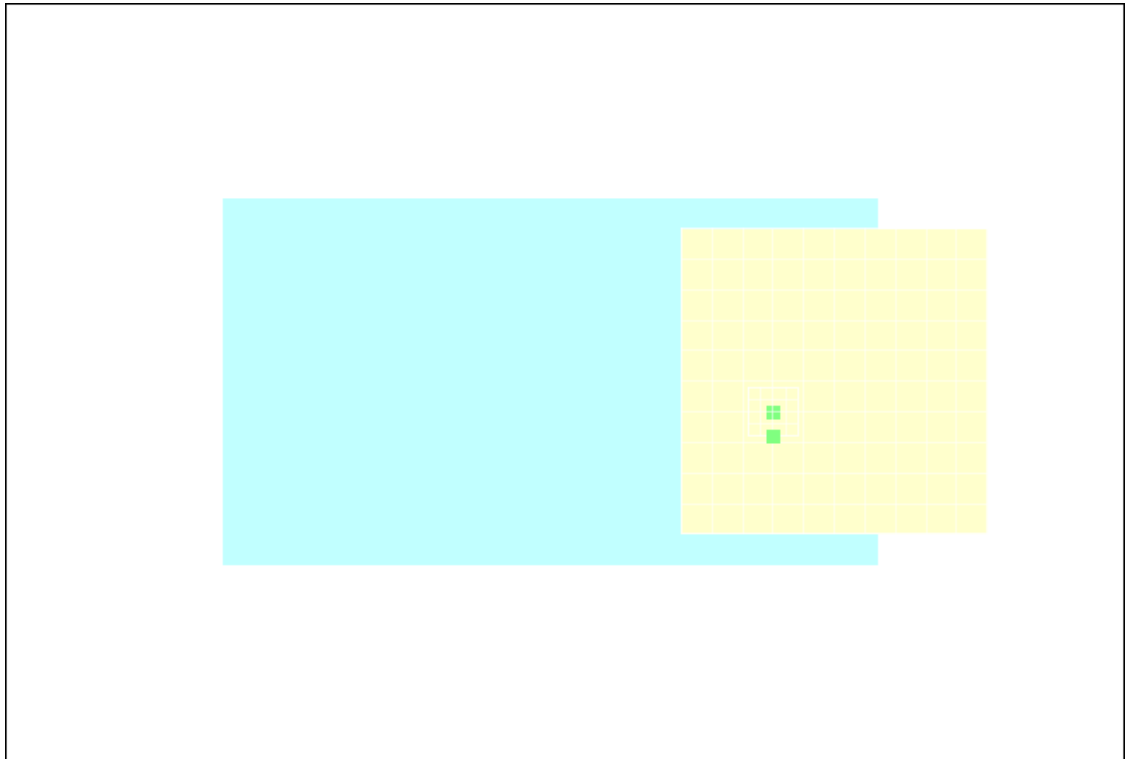    BWC Factor = 0.154017 dB
    Location: -5, 0, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 50.5 dB
    ABM1 comp = 6.55 dB A/m
    BWC Factor = 0.154017 dB
    Location: 3, 0, 3.7 mm



0 dB = 1.00

Date/Time: 05/08/2009 8:36:03 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_high_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm
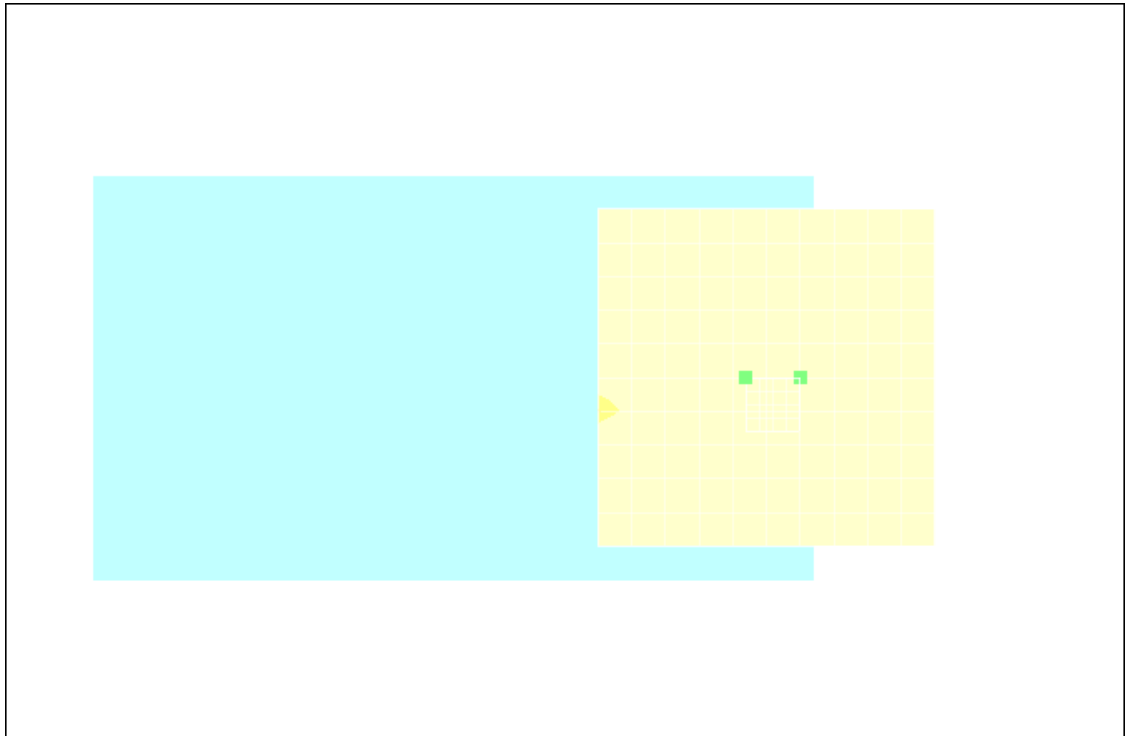
**Cursor:**

> ABM1/ABM2 = 50.0 dB
> ABM1 comp = 9.38 dB A/m
> BWC Factor = 0.154017 dB
> Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> ABM1/ABM2 = 48.9 dB
> ABM1 comp = 8.53 dB A/m
> BWC Factor = 0.154017 dB
> Location: -5, 12, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

> Diff = 2.00 dB
> BWC Factor = 10.8 dB
> Location: -5, 12, 3.7 mm

0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **86(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 8:46:55 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_high_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB
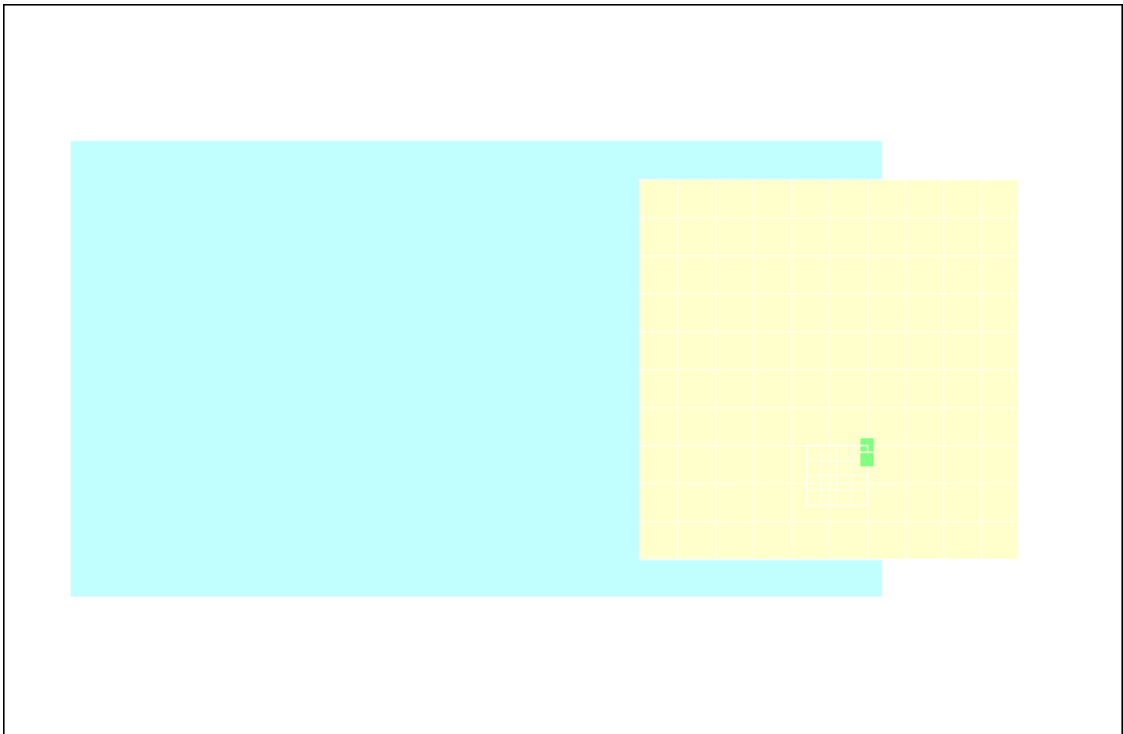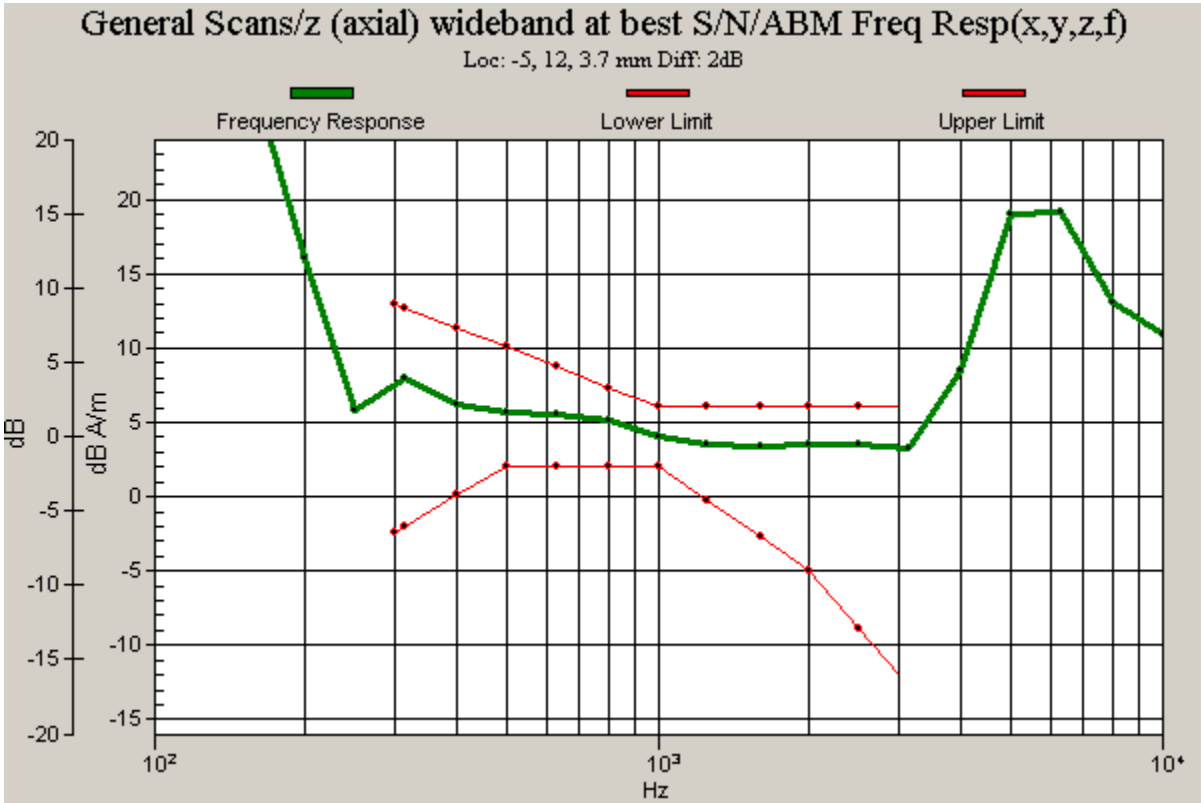
Device Reference Point: 0.000, 0.000, -6.30 mm

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| ![RIM Testing Services logo] | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **87(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 45.8 dB
ABM1 comp = 0.871 dB A/m
BWC Factor = 0.154017 dB
Location: 10, 5, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 45.0 dB
ABM1 comp = -0.004 dB A/m
BWC Factor = 0.154017 dB
Location: 10, 9, 3.7 mm



0 dB = 1.00

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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **88(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 05/08/2009 8:57:59 PM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_V_high_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

Communication System: WCDMA FDD V; Frequency: 826.4 MHz;Duty Cycle: 1:1

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

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
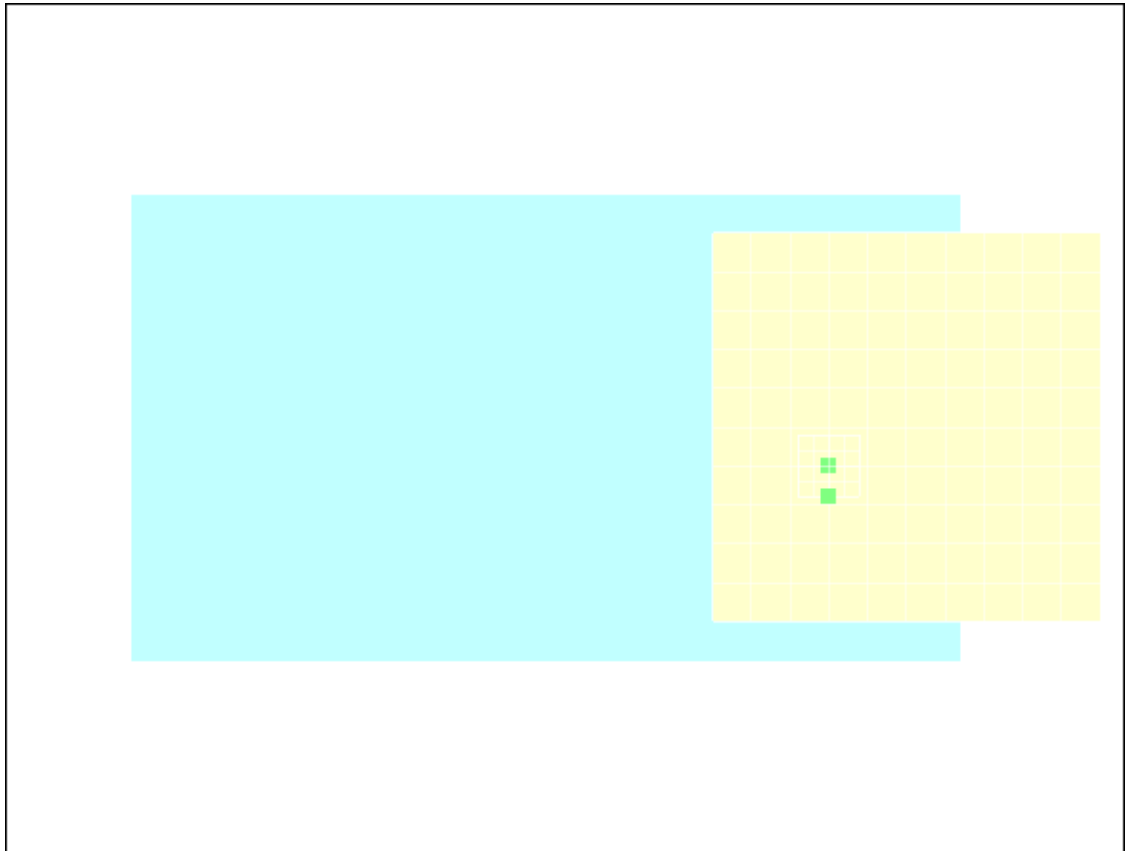
## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.154017 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

| | **Document** | **Page** |
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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **90(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 47.9 dB
ABM1 comp = -0.315 dB A/m
BWC Factor = 0.154017 dB
Location: -5, 0, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.154017 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 49.9 dB
ABM1 comp = 6.41 dB A/m
BWC Factor = 0.154017 dB
Location: 3, 0, 3.7 mm



0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **91(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 06/08/2009 9:32:27 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_low_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **92(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 48.8 dB
ABM1 comp = 8.05 dB A/m
BWC Factor = 0.152993 dB
Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 48.4 dB
ABM1 comp = 7.42 dB A/m
BWC Factor = 0.152993 dB
Location: -5, 12, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

Diff = 2.00 dB
BWC Factor = 10.8 dB
Location: -5, 12, 3.7 mm

0 dB = 1.00



General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: -5, 12, 3.7 mm Diff: 2dB

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **94(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 06/08/2009 9:44:02 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_low_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

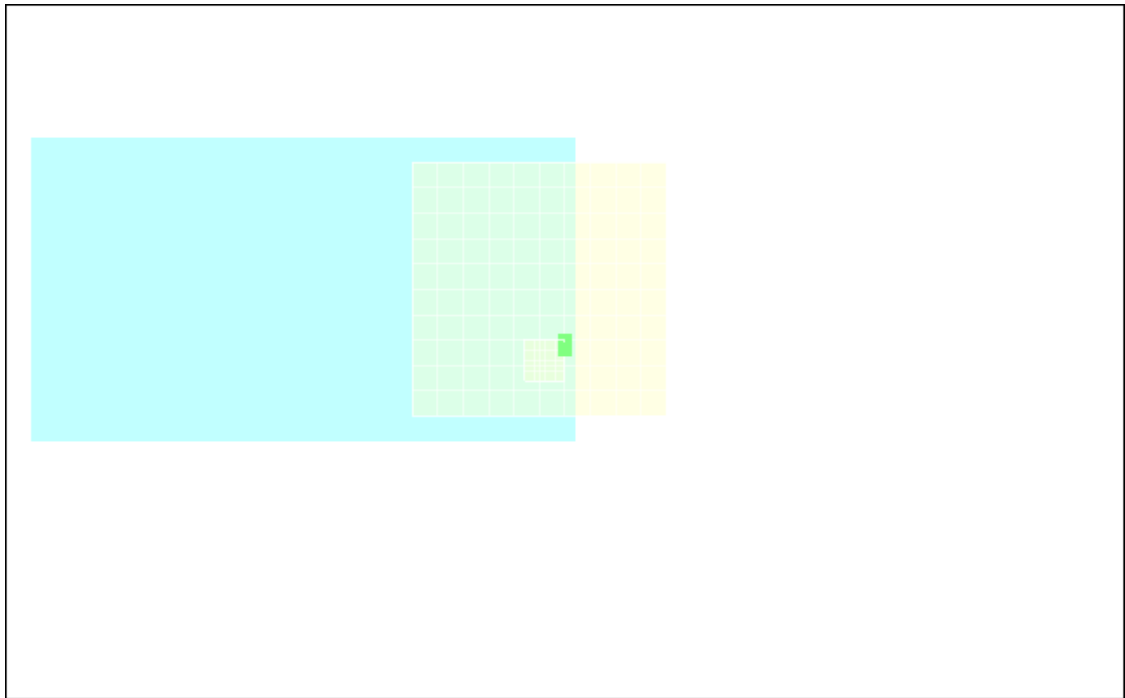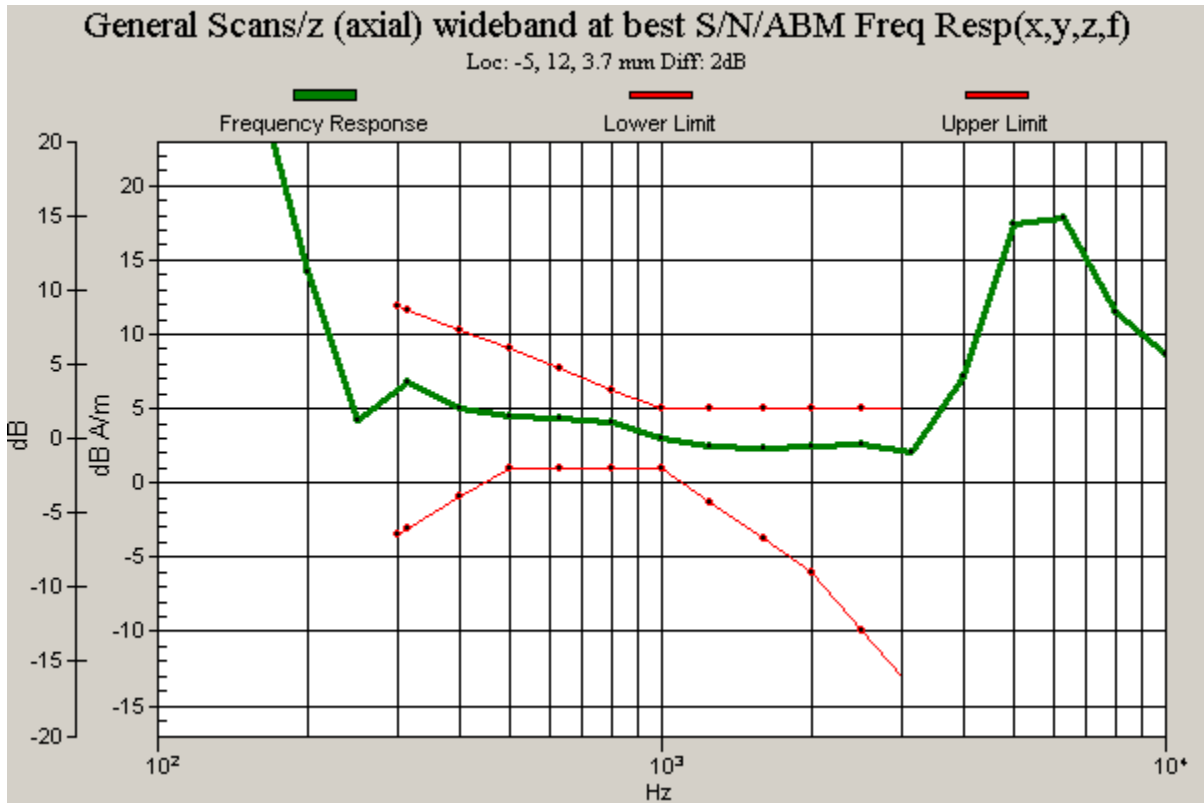Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

      ABM1/ABM2 = 45.2 dB
      ABM1 comp = -0.591 dB A/m
      BWC Factor = 0.152993 dB
      Location: 5, 15, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

      ABM1/ABM2 = 45.7 dB
      ABM1 comp = 1.16 dB A/m
      BWC Factor = 0.152993 dB
      Location: 7, 11, 3.7 mm



0 dB = 1.00

Date/Time: 06/08/2009 9:56:38 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_low_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
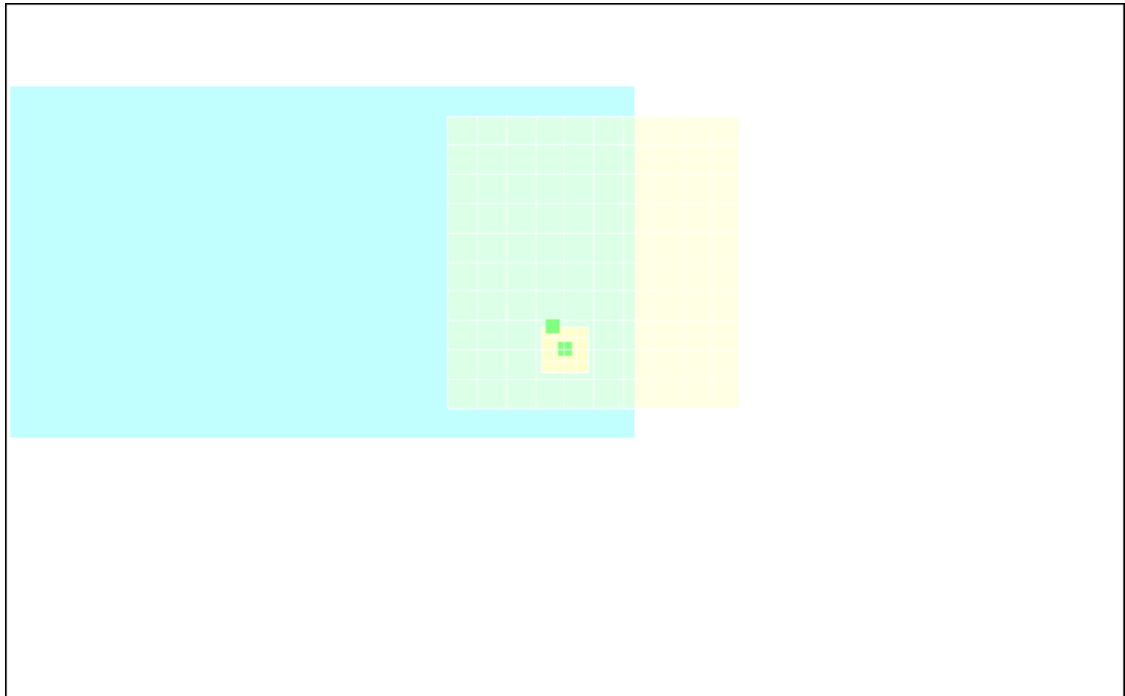
## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

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|---|---|---|
| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **97(117)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

>ABM1/ABM2 = 47.1 dB
>ABM1 comp = -2.08 dB A/m
>BWC Factor = 0.152993 dB
>Location: -5, 0, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

>ABM1/ABM2 = 47.4 dB
>ABM1 comp = -1.97 dB A/m
>BWC Factor = 0.152993 dB
>Location: -5, 0, 3.7 mm



0 dB = 1.00

Date/Time: 06/08/2009 9:32:27 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_mid_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8

Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

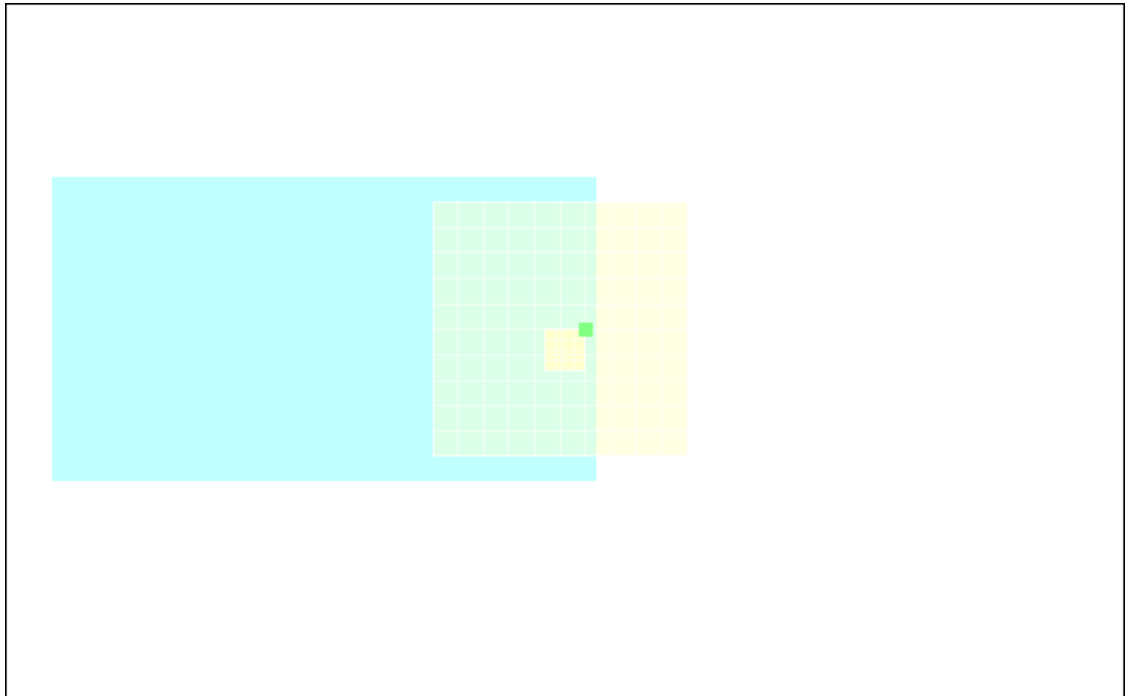Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 48.8 dB
    ABM1 comp = 8.05 dB A/m
    BWC Factor = 0.152993 dB
    Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 48.6 dB
    ABM1 comp = 7.53 dB A/m
    BWC Factor = 0.152993 dB
    Location: -5, 12, 3.7 mm

## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
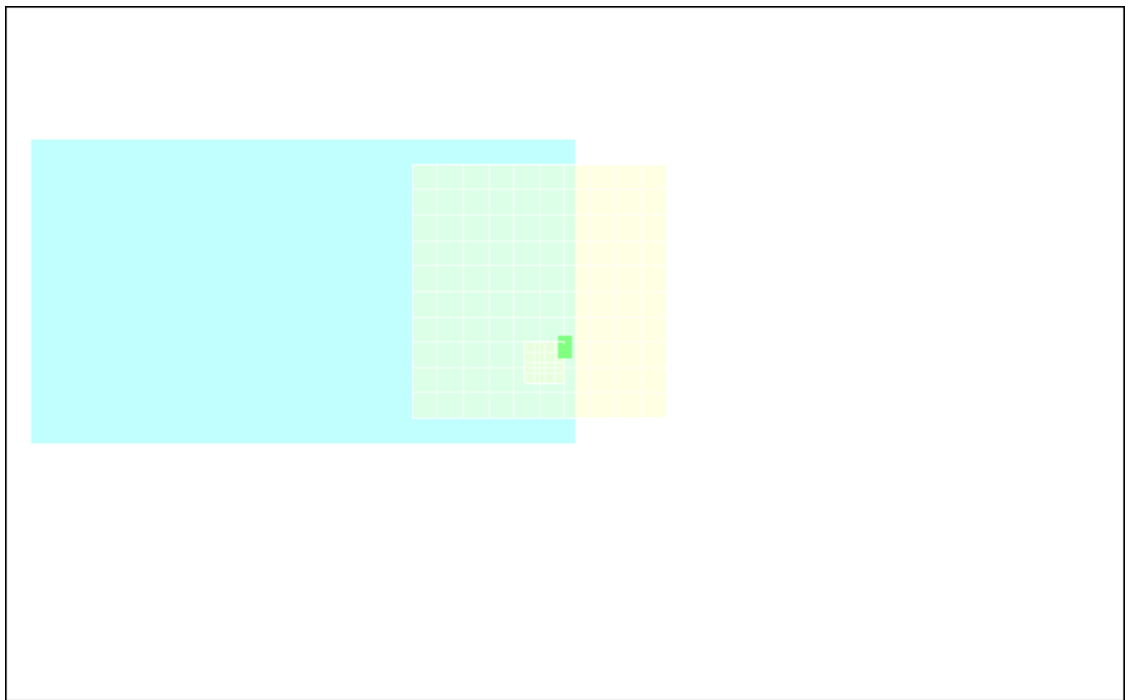Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    Diff = 2.00 dB
    BWC Factor = 10.8 dB
    Location: -5, 12, 3.7 mm

| | **Document** | **Page** |
|---|---|---|
| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **100(117)** |

| **Author Data** | **Dates of Test** | **Report No** | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **101(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 06/08/2009 9:44:02 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_mid_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

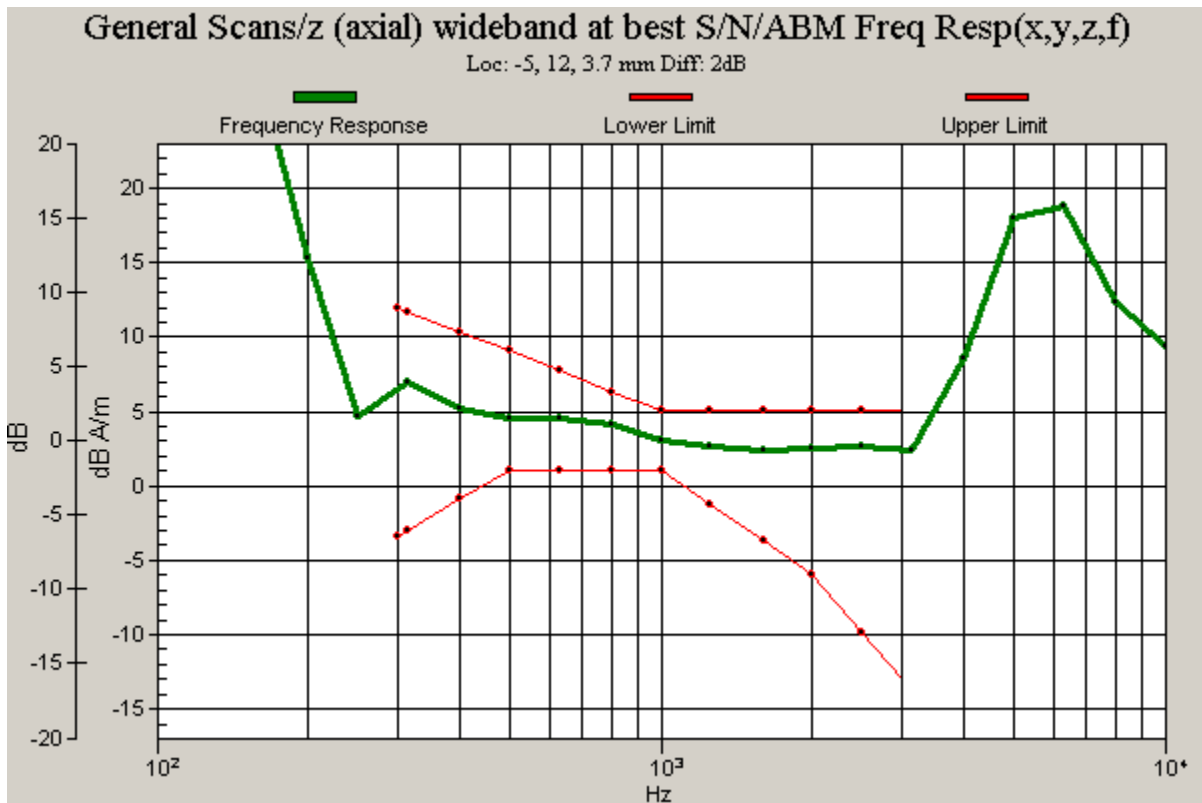## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 45.2 dB
ABM1 comp = -0.591 dB A/m
BWC Factor = 0.152993 dB
Location: 5, 15, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 45.6 dB
ABM1 comp = 1.16 dB A/m
BWC Factor = 0.152993 dB
Location: 7, 11, 3.7 mm



0 dB = 1.00

Date/Time: 06/08/2009 9:56:38 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_mid_ch_Sony_Batt.da4

**DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified**

**Program Name: HAC_TCoil_WD_Emission**

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

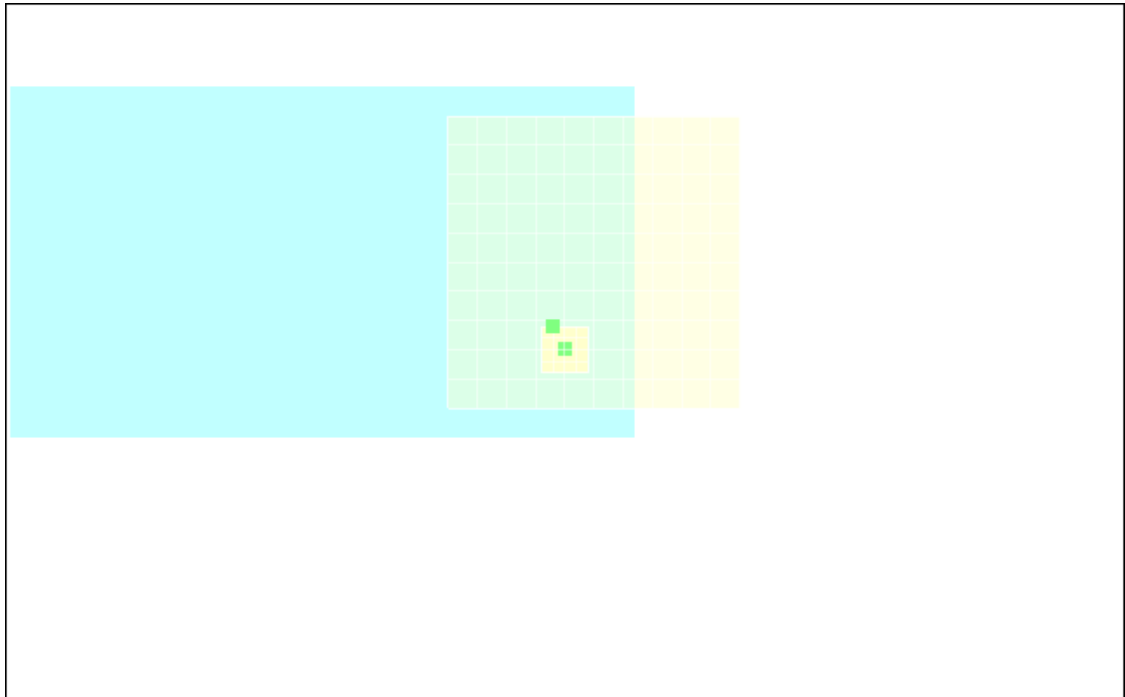- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

| | **Document** | **Page** |
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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **104(11 7)** |

| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

>　ABM1/ABM2 = 47.1 dB
>　ABM1 comp = -2.08 dB A/m
>　BWC Factor = 0.152993 dB
>　Location: -5, 0, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

>　ABM1/ABM2 = 47.5 dB
>　ABM1 comp = -2.05 dB A/m
>　BWC Factor = 0.152993 dB
>　Location: -5, 0, 3.7 mm



0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | 105(117) |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 06/08/2009 9:32:27 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_high_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/z (axial) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

Device Reference Point: 0.000, 0.000, -6.30 mm
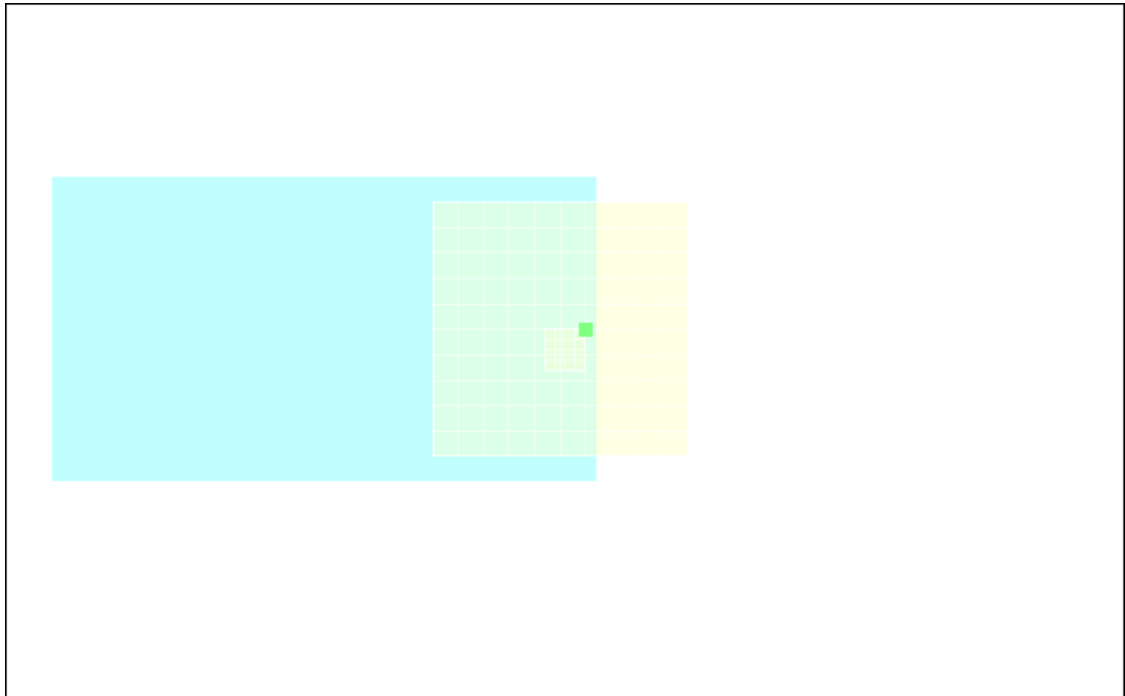
**Cursor:**

      ABM1/ABM2 = 48.8 dB
      ABM1 comp = 8.05 dB A/m
      BWC Factor = 0.152993 dB
      Location: -5, 10, 3.7 mm

## General Scans/z (axial) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm
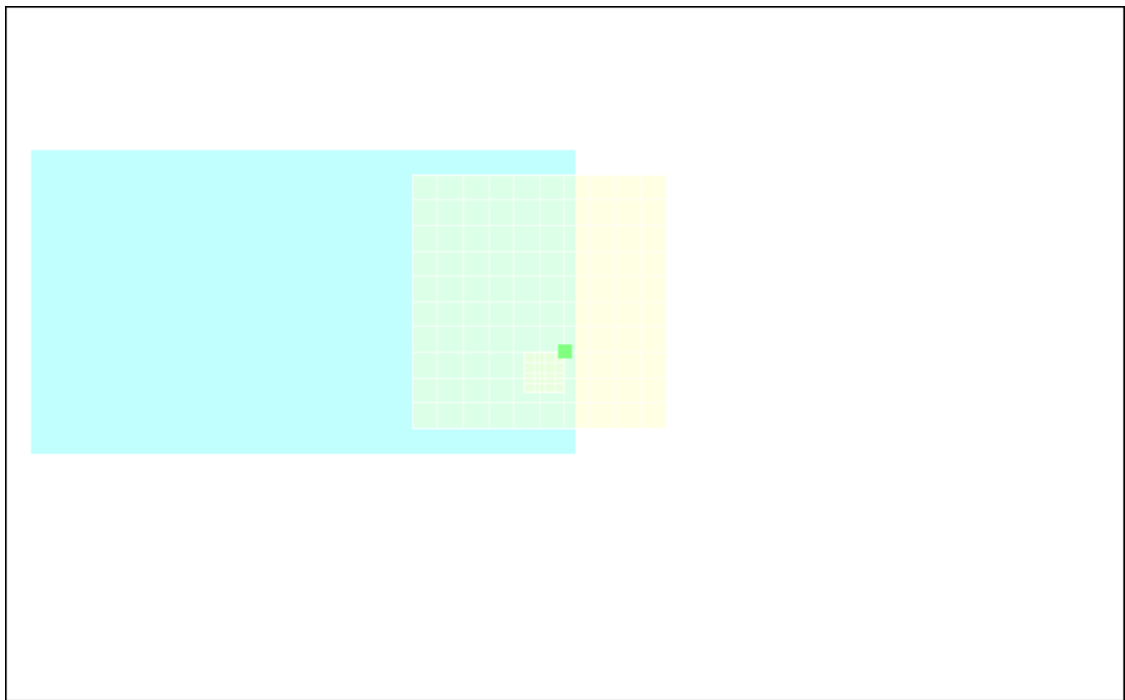
**Cursor:**

      ABM1/ABM2 = 50.1 dB
      ABM1 comp = 9.17 dB A/m
      BWC Factor = 0.152993 dB
      Location: -5, 10, 3.7 mm

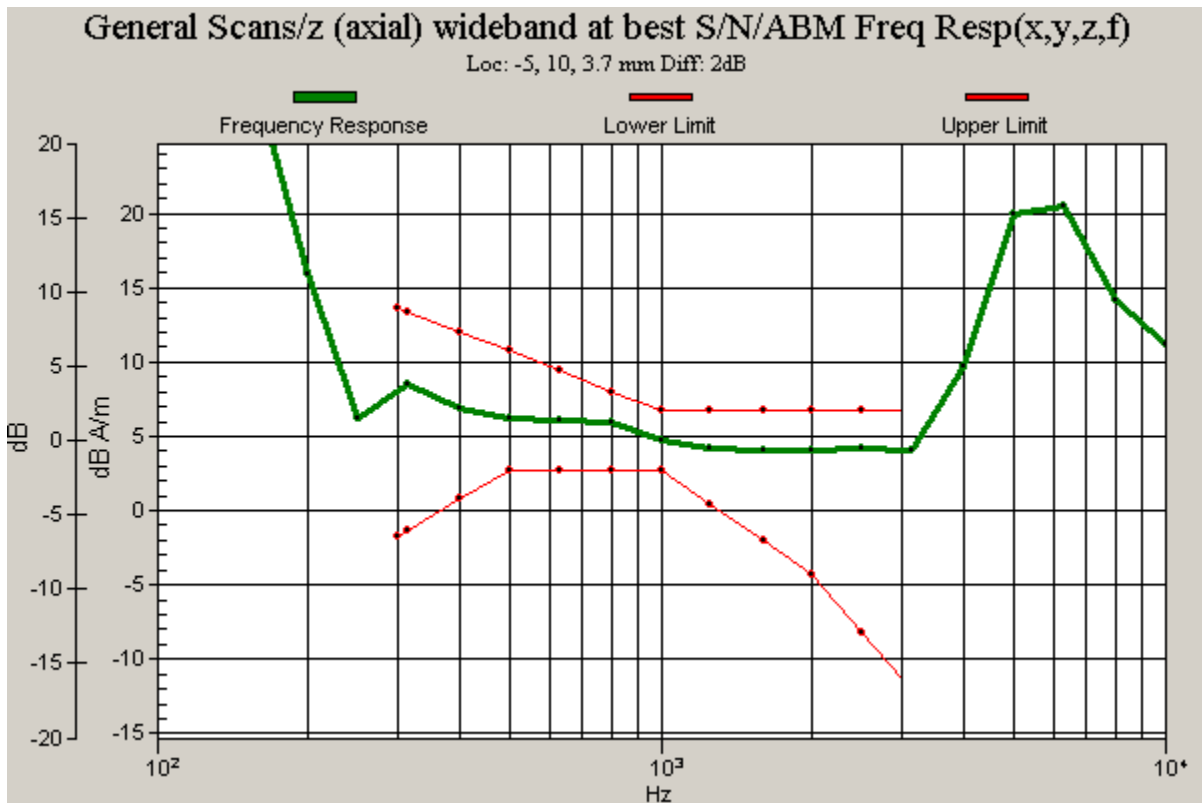## General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_300-3000_2s.wav
Output Gain: 69.2
Measure Window Start: 2000ms
Measure Window Length: 4000ms
BWC applied: 10.8 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

      Diff = 2.00 dB
      BWC Factor = 10.8 dB
      Location: -5, 10, 3.7 mm

0 dB = 1.00

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| **RIM Testing Services™** | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **108(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 06/08/2009 9:44:02 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_high_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/x (longitudinal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

Device Reference Point: 0.000, 0.000, -6.30 mm

| | **Document** | **Page** |
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| RIM Testing Services™ | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **109(11 7)** |

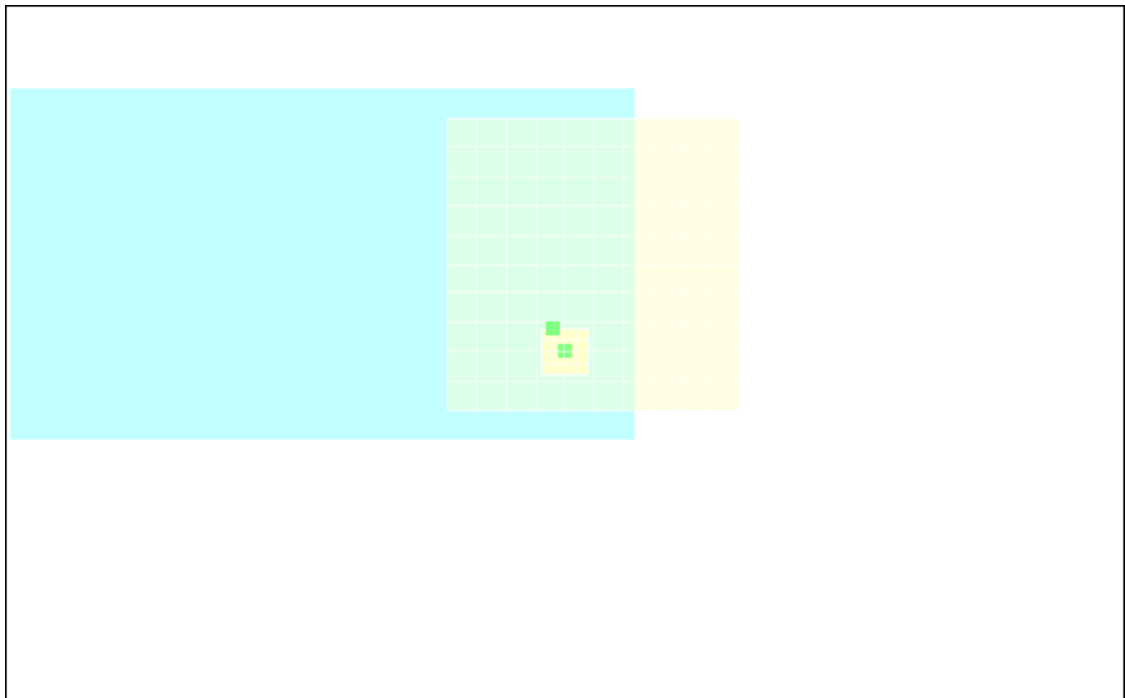| **Author Data** | Dates of Test | Report No | **FCC ID** |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

**Cursor:**

ABM1/ABM2 = 45.2 dB
ABM1 comp = -0.591 dB A/m
BWC Factor = 0.152993 dB
Location: 5, 15, 3.7 mm

## General Scans/x (longitudinal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

ABM1/ABM2 = 46.4 dB
ABM1 comp = 2.19 dB A/m
BWC Factor = 0.152993 dB
Location: 7, 11, 3.7 mm



0 dB = 1.00

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| ![RIM Testing Services logo] | **Annex A-C to Hearing Aid Compatibility Audio Band Magnetic (ABM) T-Coil Test Report for BlackBerry® Smartphone model RCM71UW** | **110(117)** |

| Author Data | Dates of Test | Report No | FCC ID |
|---|---|---|---|
| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

Date/Time: 06/08/2009 9:56:38 AM

Test Laboratory: RTS

File Name: HAC_TCoil_UMTS_Band_II_high_ch_Sony_Batt.da4

DUT: BlackBerry Smartphone; Type: Not Specified; Serial: Not Specified

Program Name: HAC_TCoil_WD_Emission

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

Medium parameters used: $\sigma$ = 0 mho/m, $\varepsilon_r$ = 1; $\rho$ = 1 kg/m$^3$

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: AM1DV3 - 3062; ; Calibrated: 16/06/2009

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/03/2009

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

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

## General Scans/y (transversal) 5.0mm 50 x 50/ABM SNR(x,y,z) (11x11x1):

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

Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav

Output Gain: 35

Measure Window Start: 300ms

Measure Window Length: 1000ms

BWC applied: 0.152993 dB

Device Reference Point: 0.000, 0.000, -6.30 mm
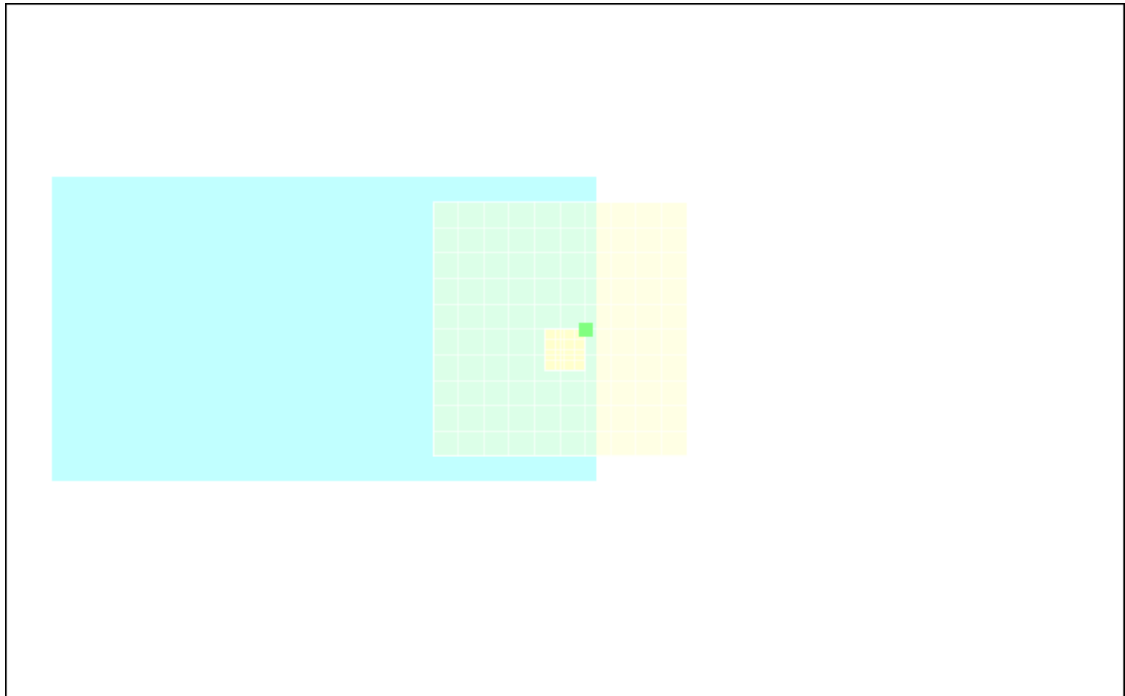
**Cursor:**

    ABM1/ABM2 = 47.1 dB
    ABM1 comp = -2.08 dB A/m
    BWC Factor = 0.152993 dB
    Location: -5, 0, 3.7 mm

## General Scans/y (transversal) fine 2mm 8 x 8/ABM SNR(x,y,z) (5x5x1):

Measurement grid: dx=10mm, dy=10mm
Signal Type: Audio File (.wav) 48k_voice_1kHz_1s.wav
Output Gain: 35
Measure Window Start: 300ms
Measure Window Length: 2000ms
BWC applied: 0.152993 dB
Device Reference Point: 0.000, 0.000, -6.30 mm

**Cursor:**

    ABM1/ABM2 = 48.2 dB
    ABM1 comp = -0.914 dB A/m
    BWC Factor = 0.152993 dB
    Location: -5, 0, 3.7 mm



0 dB = 1.00

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| **Author Data** | Dates of Test | Report No | FCC ID |
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| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

## Annex D: Probe certificate and equipment spec

**Calibration Laboratory of**
**Schmid & Partner**
**Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland

ilac-MRA

S  Schweizerischer Kalibrierdienst
C  Service suisse d'étalonnage
S  Servizio svizzero di taratura
   Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **RIM**                                Certificate No: **AM1DV3-3062_Jun09**

## CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | **AM1DV3 - SN: 3062** |
| Calibration procedure(s) | **QA CAL-24.v2** **Calibration procedure for AM1D magnetic field probes and TMFS in the audio range** |
| Calibration date: | **June 16, 2009** |
| Condition of the calibrated item | **In Tolerance** |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Keithley Multimeter Type 2001 | SN: 0810278 | 30-Sep-08 (No: 7670) | Sep-09 |
| Reference Probe AM1DV3 | SN: 3000 | 22-Oct-08 (No. AM1D-3000_Oct08) | Oct-09 |
| DAE4 | SN: 781 | 20-Feb-09 (No. DAE4-781_Feb09) | Feb-10 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| AMCC | 1050 | 15-Aug-08 (in house check Aug-08) | Aug-09 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Mike Meili | RF Technician | |
| Approved by: | Fin Bomholt | R&D Director | |

Issued: June 16, 2009

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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## References

[1]    ANSI C63.19-2007
American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.

[2]    DASY4 manual, Chapter: Hearing Aid Compatibility (HAC) T-Coil Extension

## Description of the AM1D probe

The AM1D 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 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 the angle of the 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 nominally 35.3° above the measurement plane, using the connector rotation and sensor angle stated below.

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.

## Handling of the item

The probe is manufactured from stainless steel. In order to maintain the performance and calibration of the probe, it must not be opened. The probe is designed for operation in air and shall not be exposed to humidity or liquids. For proper operation of the surface detection and emergency stop functions in a DASY system, the probe must be operated with the special probe cup provided (larger diameter).

## Methods Applied and Interpretation of Parameters

- *Coordinate System:* The AM1D probe is mounted in the DASY system for operation with a HAC Test Arch phantom with AMCC Helmholtz calibration coil according to [2], with the tip pointing to "southwest" orientation.

- *Functional Test:* The functional test preceding calibration includes test of
Noise level
RF immunity (1kHz AM modulated signal). The shield of the probe cable must be well connected.
Frequency response verification from 100 Hz to 10 kHz.

- *Connector Rotation:* The connector at the end of the probe does not carry any signals and is used for fixation to the DAE only. The probe is operated in the center of the AMCC Helmholtz coil using a 1 kHz magnetic field signal. Its angle is determined from the two minima at nominally +120° and −120° rotation, so the sensor in the tip of the probe is aligned to the vertical plane in z-direction, corresponding to the field maximum in the AMCC Helmholtz calibration coil.

- *Sensor Angle:* The sensor tilting in the vertical plane from the ideal vertical direction is determined from the two minima at nominally +120° and −120°. DASY system uses this angle to align the sensor for radial measurements to the x and y axis in the horizontal plane.

- *Sensitivity:* With the probe sensor aligned to the z-field in the AMCC, the output of the probe is compared to the magnetic field in the AMCC at 1 kHz. The field in the AMCC Helmholtz coil is given by the geometry and the current through the coil, which is monitored on the precision shunt resistor of the coil.

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| **Daoud Attayi** | **July 06-Aug 06, 2009** | **RTS-1689-0908-38** | **L6ARCM70UW** |

## AM1D probe identification and configuration data

| Item | **AM1DV3** Audio Magnetic 1D Field Probe |
|---|---|
| Type No | SP AM1 001 BA |
| Serial No | **3062** |

| Overall length | 296 mm |
|---|---|
| Tip diameter | 6.0 mm (at the tip) |
| Sensor offset | 3.0 mm (centre of sensor from tip) |
| Internal Amplifier | 20 dB |

| Manufacturer / Origin | Schmid & Partner Engineering AG, Zürich, Switzerland |
|---|---|
| Manufacturing date | Oct-2008 |
| Last calibration date | n/a |

## Calibration data

| | | | |
|---|---|---|---|
| Connector rotation angle | (in DASY system) | **61.1 °** | +/- 3.6 ° (k=2) |
| Sensor angle | (in DASY system) | **0.07 °** | +/- 0.5 ° (k=2) |
| Sensitivity at 1 kHz | (in DASY system) | **0.00741 V / (A/m)** | +/- 2.2 % (k=2) |

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Schmid & Partner Engineering AG

**s p e a g**

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

## Certificate of conformity

| Item | Audio Magnetic Calibration Coil AMCC |
|---|---|
| Type No | **SD HAC P02 A** |
| Series No | 1001 ff. |
| Manufacturer / Origin | Schmid & Partner Engineering AG Zurich, Switzerland |

**Description of the item**
The Audio Magnetic Calibration coil (AMCC) is a Helmholtz Coil designed according to standard [1], section D.9 for calibration of the AM1D probe. Two horizontal coils are positioned above a non-metallic base plate and generate a homogeneous magnetic field in the z direction (normal to it).

**Configuration**
The AMCC consists of two parallel coils of 20 turns with radius 143 mm connected in parallel in a distance of 143 mm. With this design, a current of 10 mA produces a field of 1 A/m.
The DC input resistance at the input BNC socket is adjusted by a series resistor to a DC resistance of approximately 50 Ohm. The voltage required to produce a field of 1 A/m is consequently approx. 500 mV.
To current through the coil is monitored via a shunt resistor of 10 Ohm +/- 1%. The voltage is available on a BNO socket with 100 mV corresponding to 1 A/m.

**Handling of the item**
The coil shall be positioned in a non-metallic environment to avoid distortion of the magnetic field.

**Tests**

| Test | Requirement | Details | Units tested |
|---|---|---|---|
| Number of turns | N = 20 per coil | Resistance measurment | all |
| Orientation of coils | parallel coils with same direction of windings | Magnetic field variation in the AMCC axis | all |
| Coil radius | r = 143 mm | mechanical dimension | First article |
| Coil distance | d = 143 mm distance between coil centers | mechanical dimension | First article |
| Input resistance | 51.7 +/- 2 Ohm | DC resistance at BNC input connector | all |
| Shunt resistance | R = 10.0 Ohm +/- 1 % | DC resistance at BNO output connector | all |
| Shunt sensitivity | Hc = 1 A/m per 100 mV according to formula $Hc = (U / R) * N / r / (1.25^{1.5})$ | Field measurement compared with Narda ELT400 + BN2300/90.10 | First article |

**Standards**
[1]   ANSI PC63.19-2006 Draft 3.12

**Conformity**
Based on the tests above, we certify that this item is in compliance with the requirements of [1].

**Date**                                        22.5.2006

**Stamp / Signature**

**s p e a g**
Schmid & Partner Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

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## Specifications

### Audio Magnetic Field Probe AM1D

The AM1D probe is an active probe with a single sensor according to [1] section D.8. It is fully RF shielded and has a rounded tip of 6 mm diameter incorporating a pickup coil with its center offset 3mm from the tip and the sides.

SPEAG, the manufacturer of the T-Coil system tested the probe frequency response and its dynamic range. The compliance is stated in the Certificate of conformity document `880-SPAM1001A-A`. Also the probe frequency has been verified and the response deviation from the ideal differentiator was within +0.05 and - 0.46 dB in the range 100 Hz to 10 kHz on the center frequencies of the third-octave bands. Note that it includes the probe preamplifier and also with the AMMI internal preamplifiers, filters and processing.

### Dynamic range:
maximum + 21 dB A/m @ 1 kHz
Noise level typically -70 dB A/m @ 1 kHz
ABM2 typically -60 dB A/m

### Linearity
Within < 0.1 dB from 5 dB
below limitation to 16 dB above noise level

### Sensitivity
Typically -24 dBV / A/m @ 1 kHz probe output

### 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
dimensions 482 x 65 x 270 mm

### Helmholtz Calibration Coil (AMCC)
dimensions 370 x 370 x 196 mm, according to ANSI-PC63.19
The Audio Magnetic Calibration coil is a Helmholtz Coil designed according to [1], section D.9 for calibration of the AM1D probe. The two horizontal coils generate a homogeneous magnetic field in the z direction.

Shunt sensitivity Hc = 1 A/m per 100mV according to formula:

$$Hc = (U / R) * N / r / (1.25 ^ 1.5)$$

Number of turns N = 20 per coil
Coil radius r = 143 mm
Shunt resistance R = 10.00 Ohm