



Document  
**Annex A to Hearing Aid Compatibility RF Emissions Test  
Report for the BlackBerry® Smartphone model RFN81UW**

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**1 (101)**

Author Data

**Daoud Attayi**

Dates of Test

**Feb. 17, June 28, Dec. 17-18, 2012**

Report No

**RTS-6026-1302-05**

FCC ID

**L6ARFN80UW**

# **Annex A: Measurement data and plots**

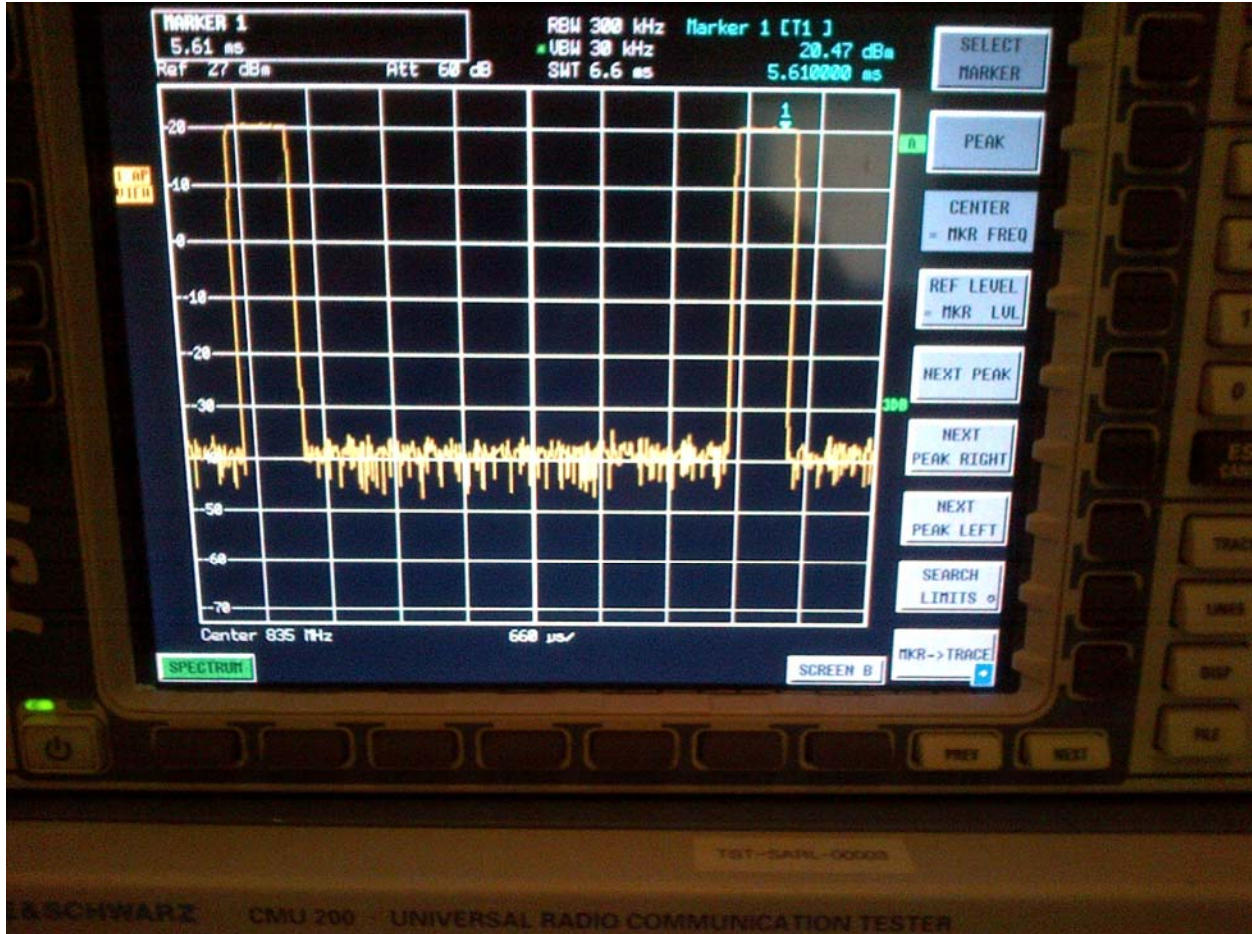
## **A.1 Spectrum analyser plots: GSM/UMTS, CW, 80%AM, signals**

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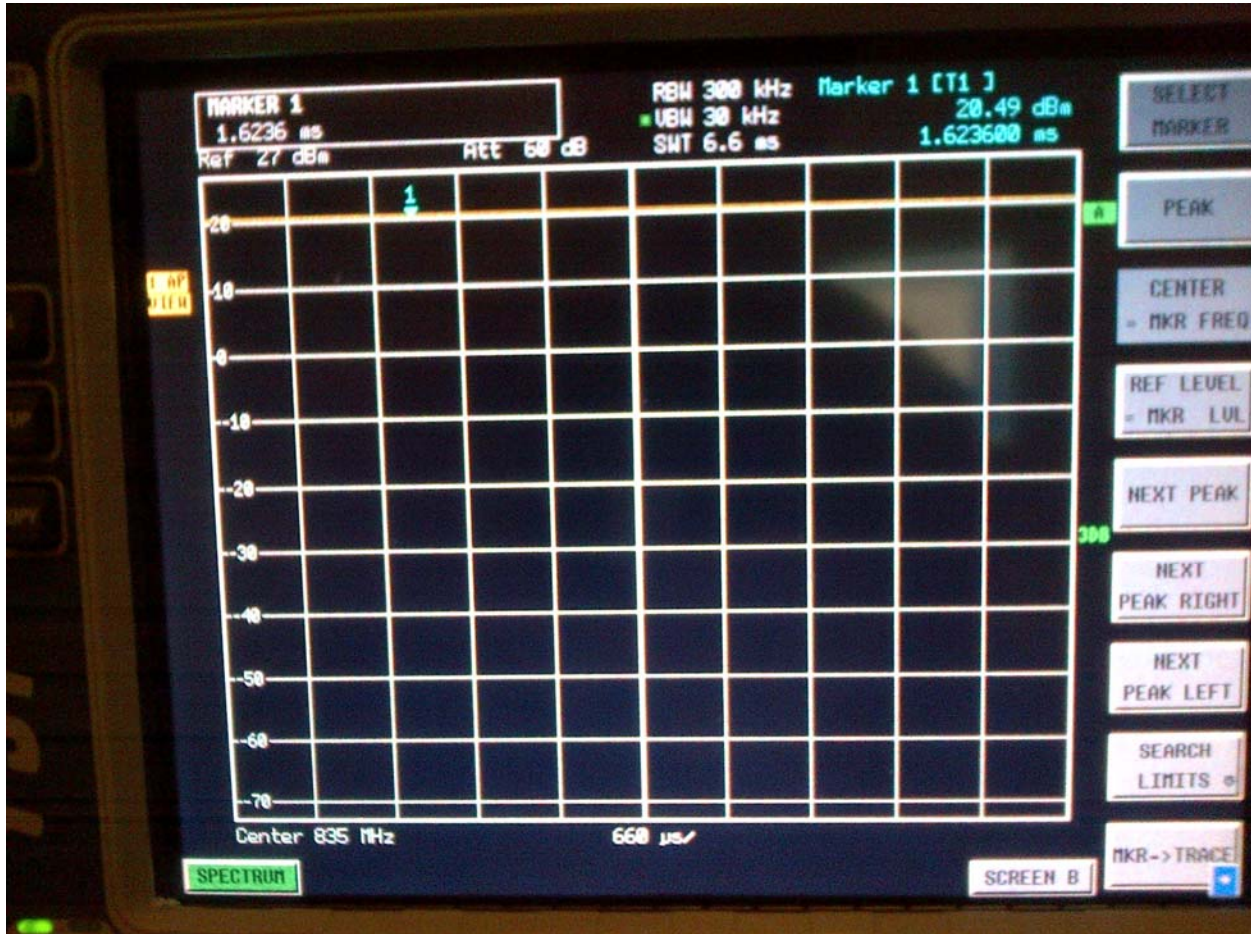
**GSM 835 MHz**

Author Data  
**Daoud Attayi**

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Report No  
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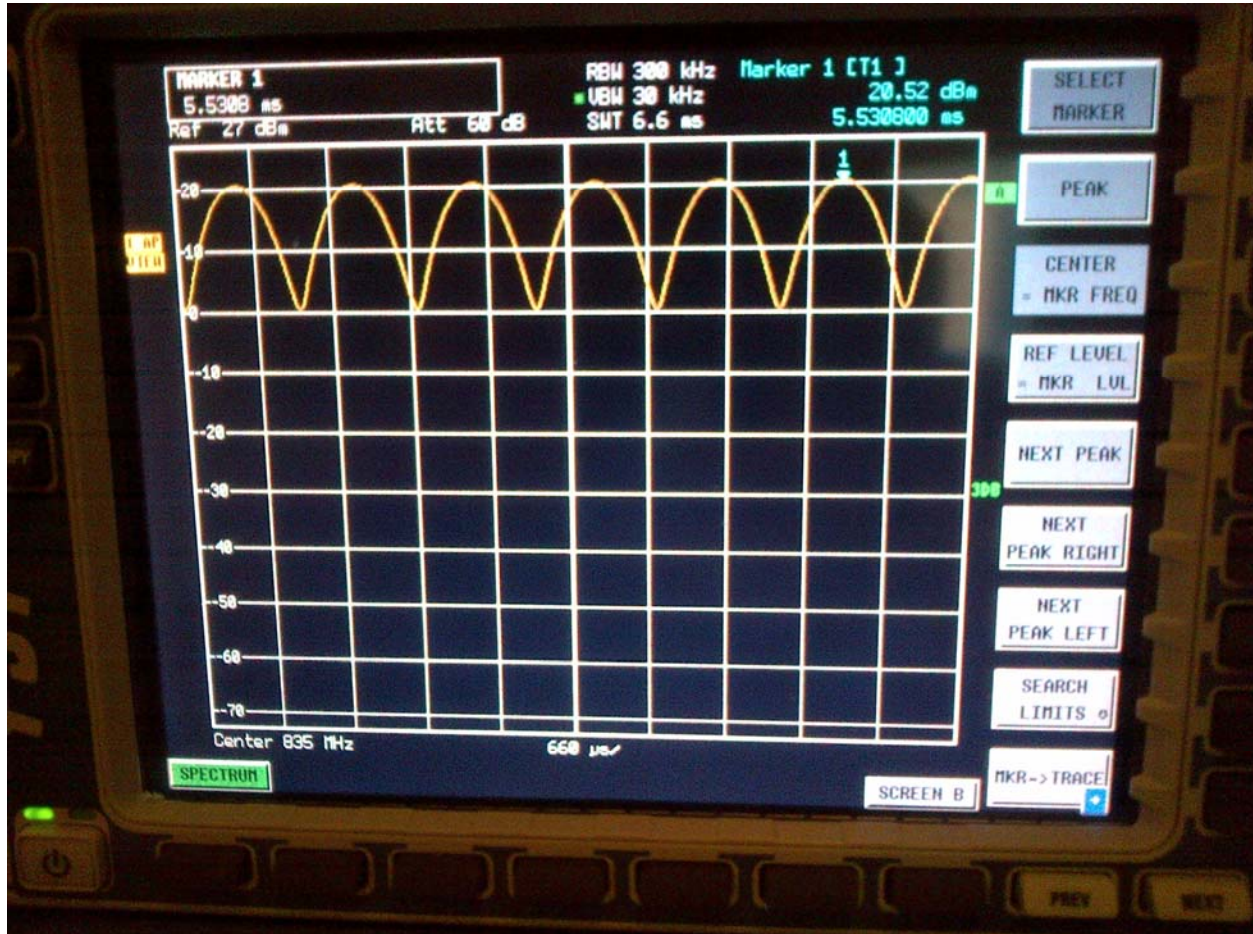
**CW 835 MHz**

Author Data  
**Daoud Attayi**

Dates of Test  
**Feb. 17, June 28, Dec. 17-18, 2012**

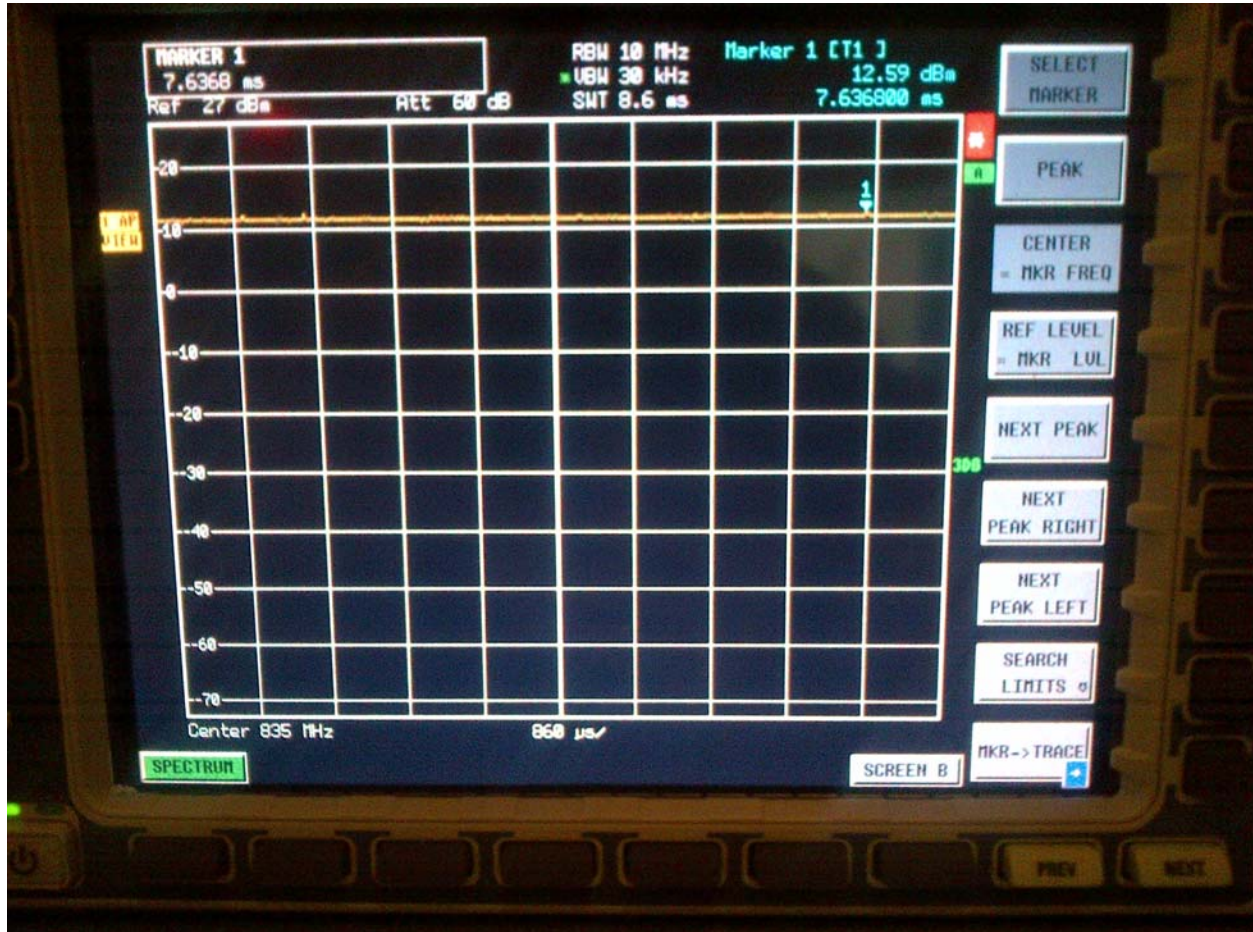
Report No  
**RTS-6026-1302-05**

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**L6ARFN80UW**



**AM 80% 835 MHz**

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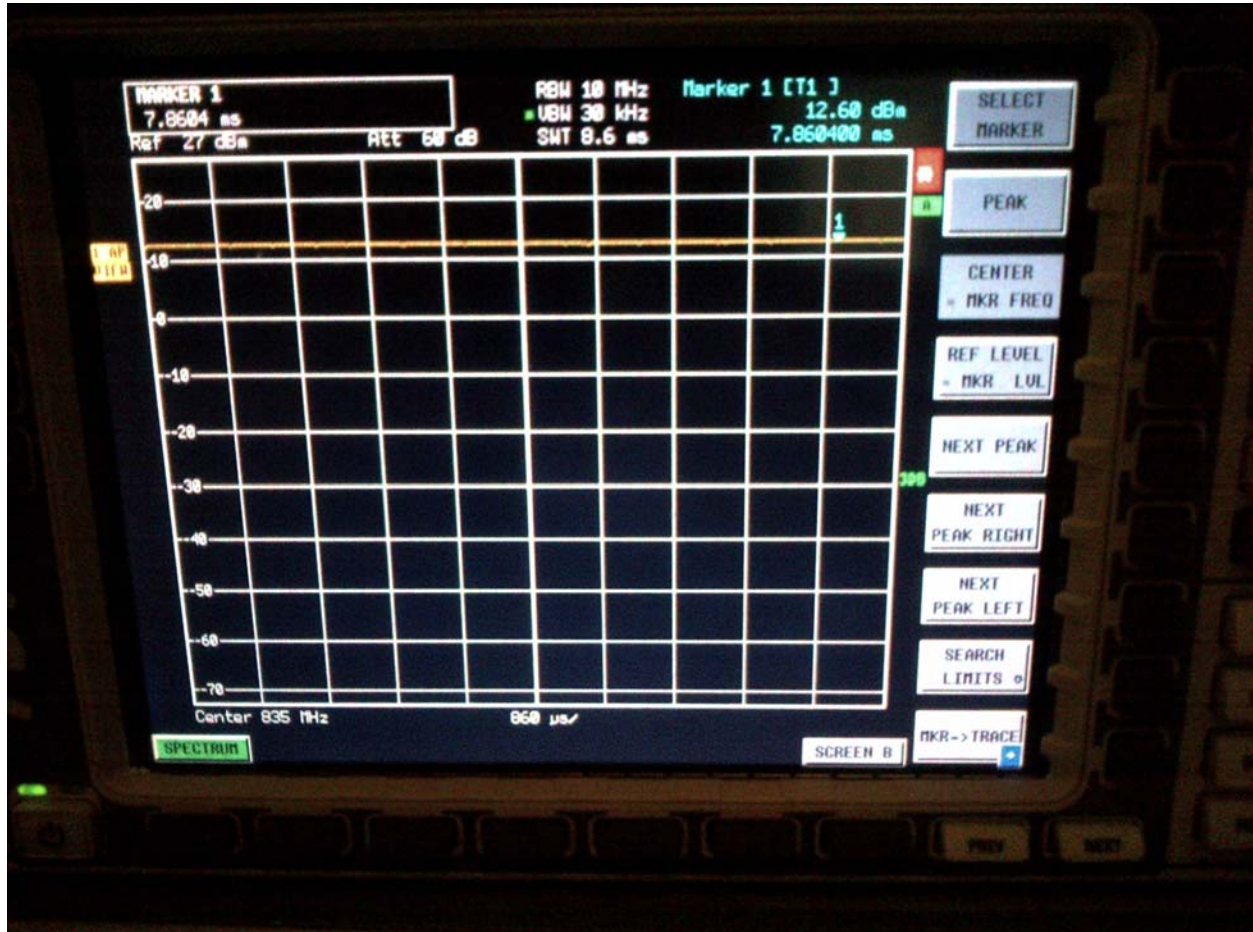
**UMTS 835 MHz**

Author Data  
**Daoud Attayi**

Dates of Test  
**Feb. 17, June 28, Dec. 17-18, 2012**

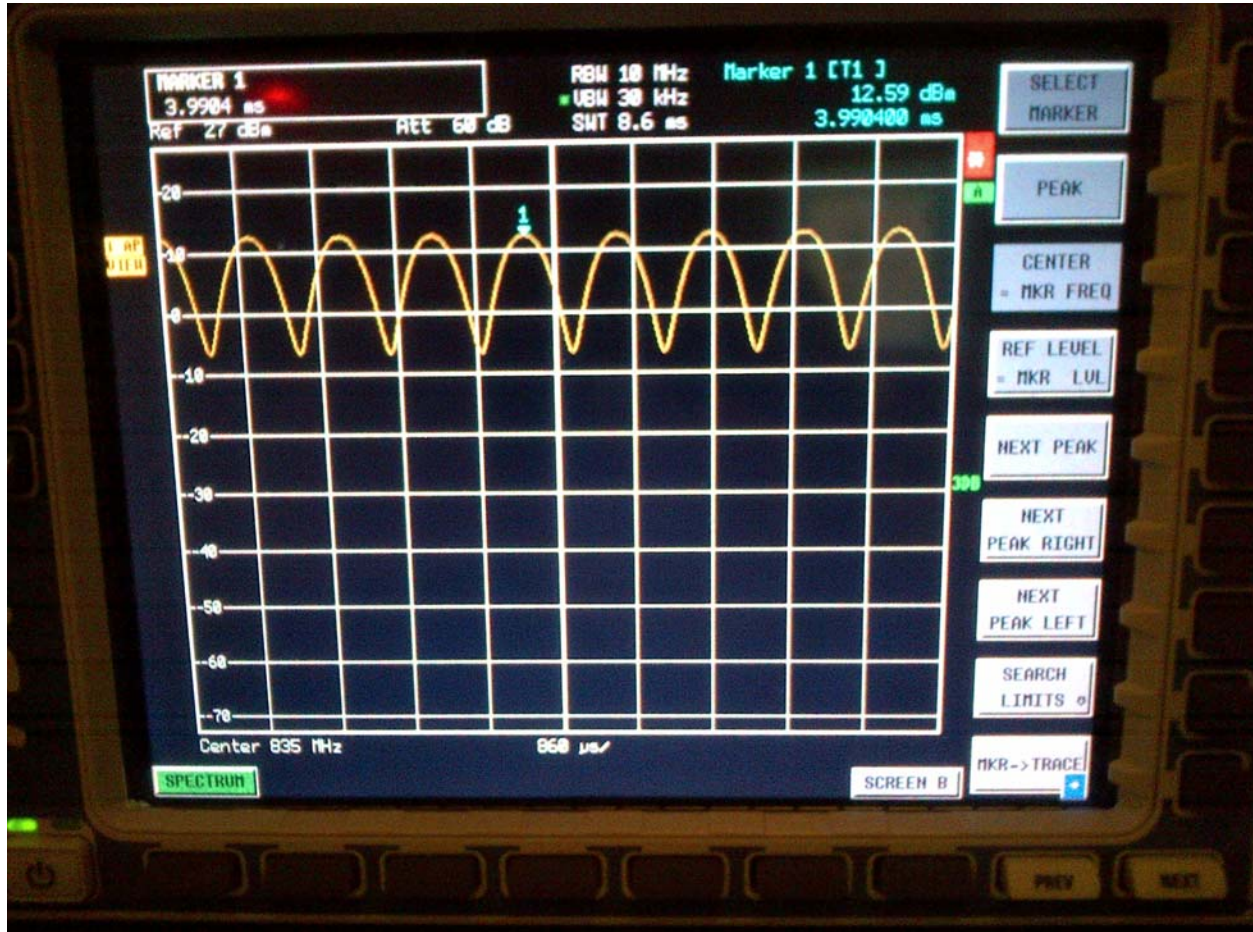
Report No  
**RTS-6026-1302-05**

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**L6ARFN80UW**



**CW 835 MHz**

Author Data <b>Daoud Attayi</b>	Dates of Test <b>Feb. 17, June 28, Dec. 17-18, 2012</b>	Report No <b>RTS-6026-1302-05</b>	FCC ID <b>L6ARFN80UW</b>
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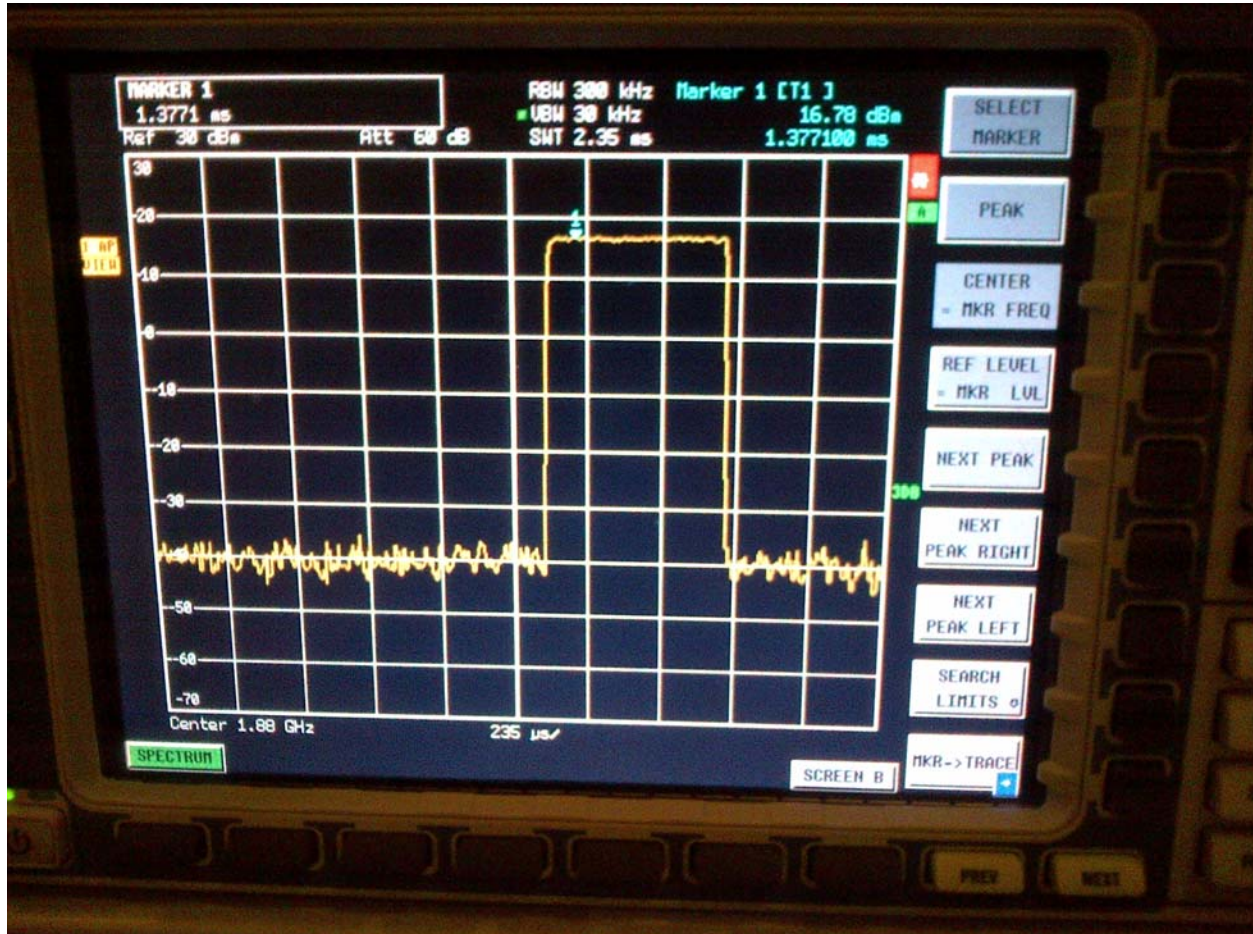
**AM 80% 835 MHz**

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**GSM 1880 MHz**

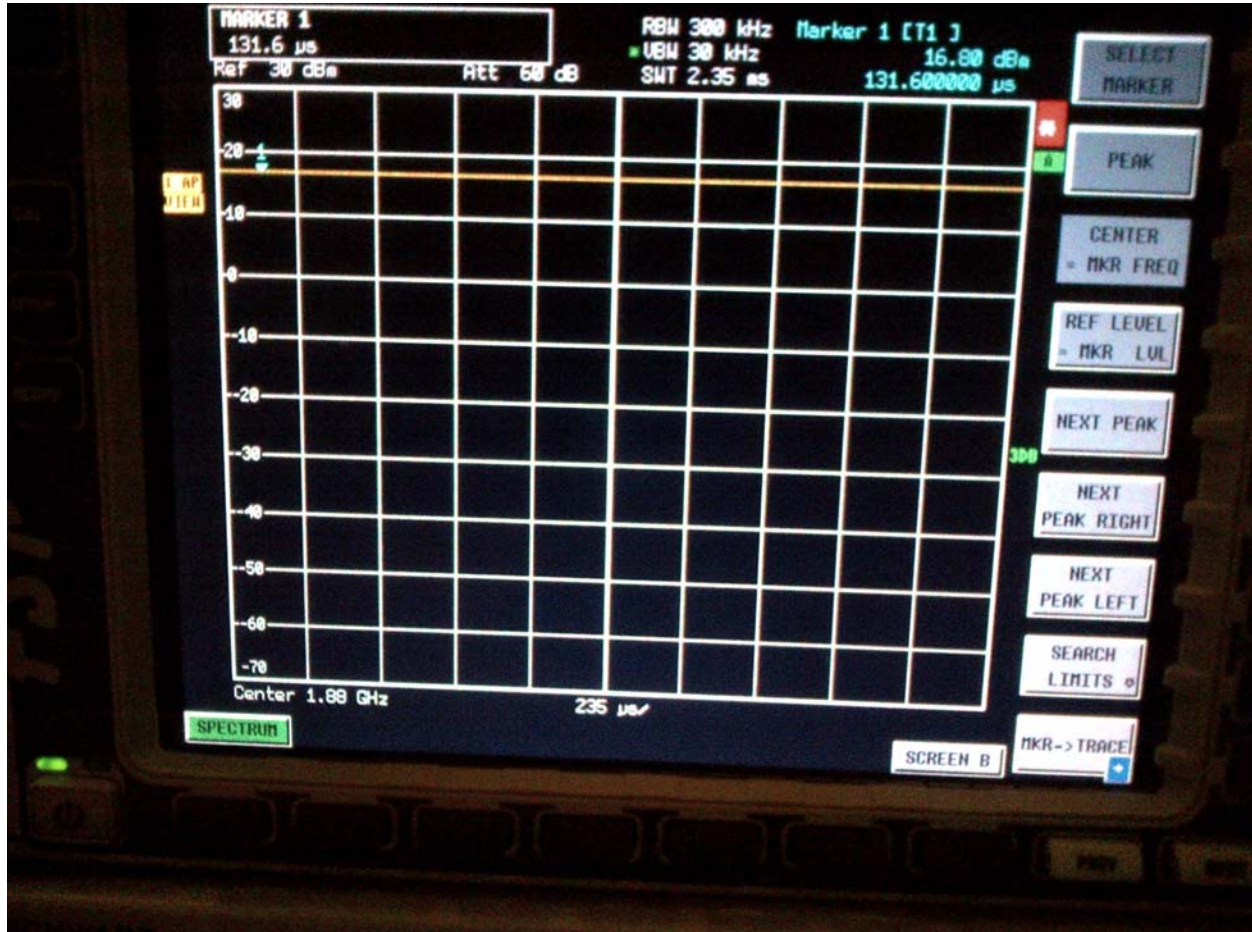


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**CW 1880 MHz**

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**AM 80 % 1880 MHz**

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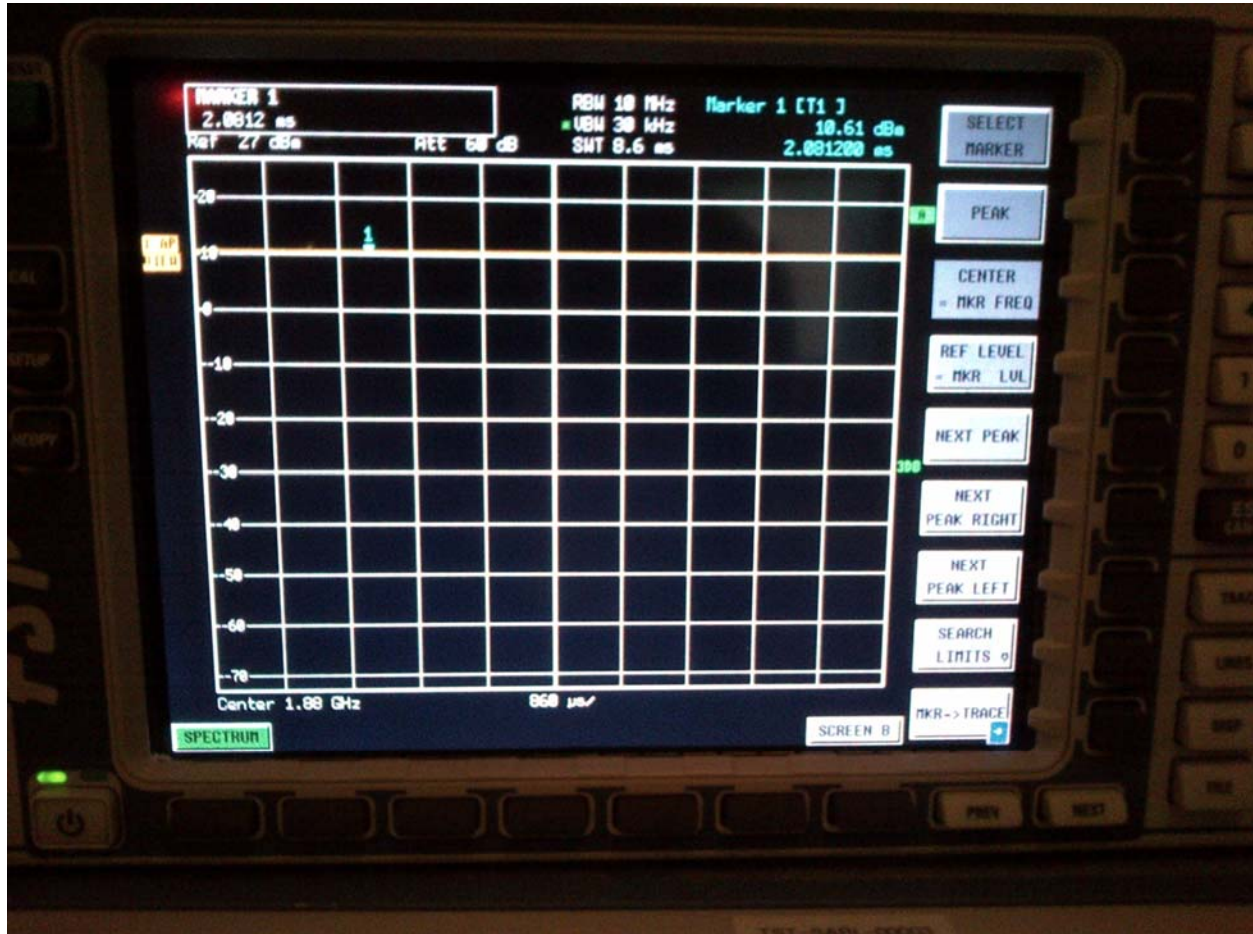
**UMTS 1880 MHz**

Author Data  
**Daoud Attayi**

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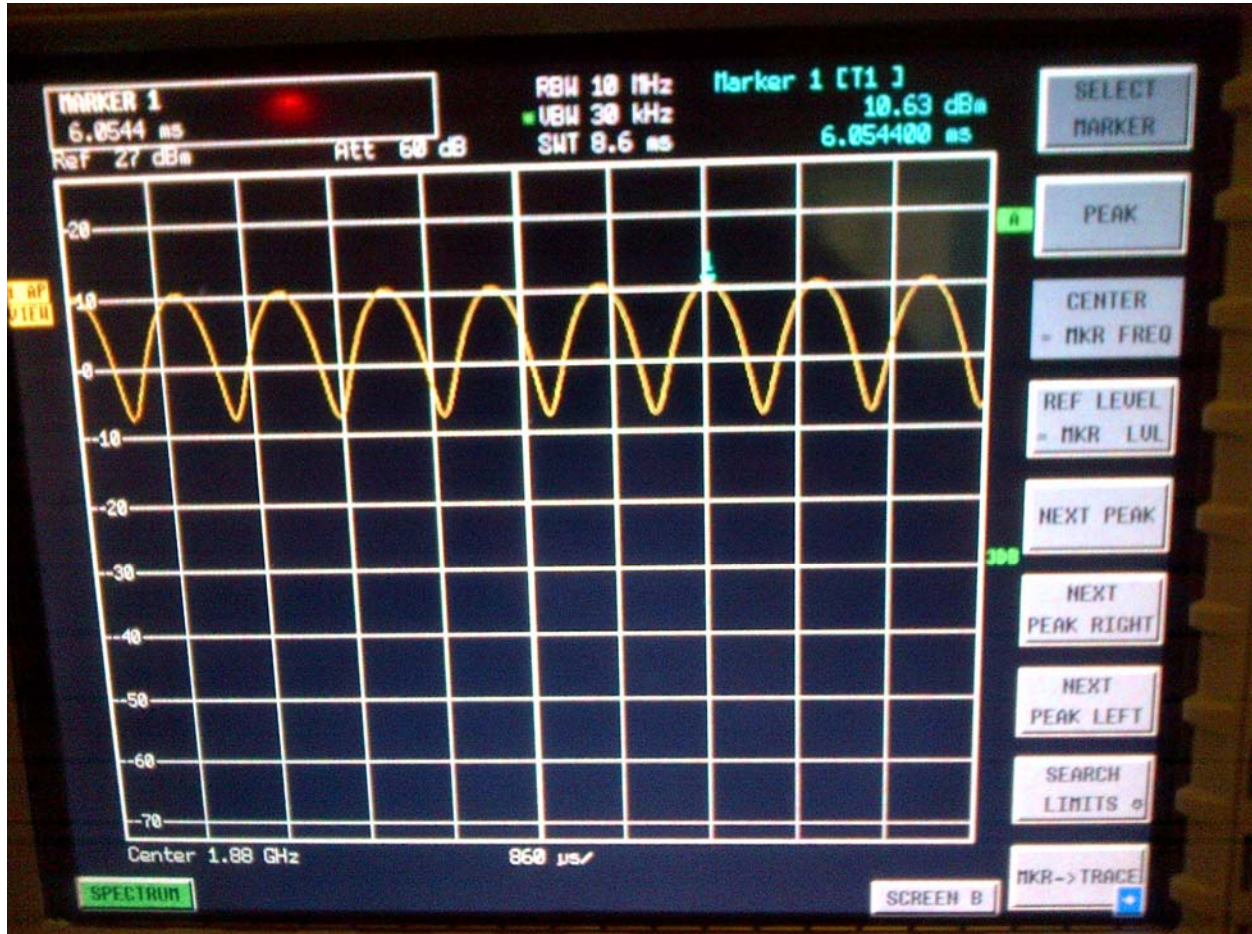
**CW 1880 MHz**

Author Data  
**Daoud Attayi**

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AM 80 % 1880 MHz



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## A.2 Dipole validation and probe modulation factor plots

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Date/Time: 12/17/2012 11:31:29 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_validation\_835 MHz\_12\_17\_12**

**DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011**

Communication System: CW; Frequency: 835 MHz  
Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
Phantom section: RF Section  
Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole E-Field measurement/E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test**

**(41x361x1):** Measurement grid: dx=5mm, dy=5mm  
Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 106.6 V/m; Power Drift = -0.02 dB  
PMR not calibrated. PMF = 1.000 is applied.  
E-field emissions = 168.4 V/m  
**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>144.2 V/m</b>	Grid 2 <b>M4</b> <b>154.3 V/m</b>	Grid 3 <b>M4</b> <b>154.2 V/m</b>
Grid 4 <b>M4</b> <b>80.47 V/m</b>	Grid 5 <b>M4</b> <b>83.31 V/m</b>	Grid 6 <b>M4</b> <b>81.66 V/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>

Author Data  
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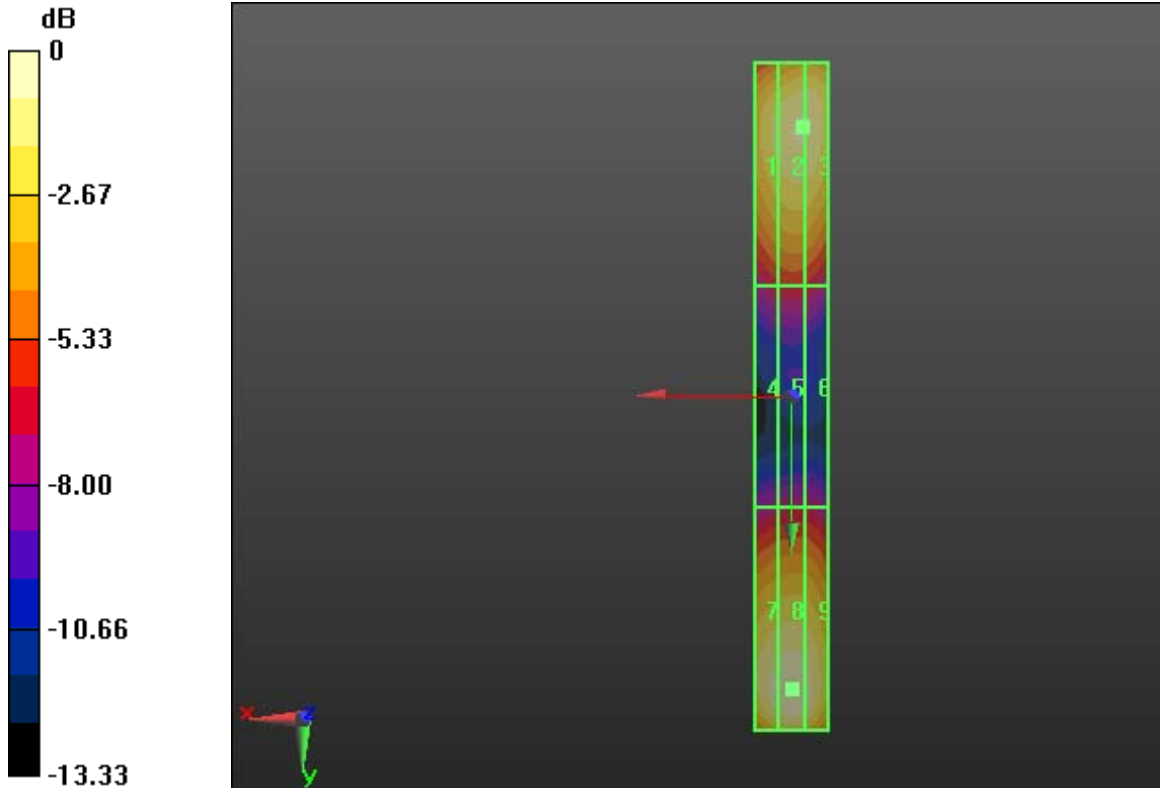
<b>162.8 V/m</b>	<b>168.4 V/m</b>	<b>161.7 V/m</b>
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**Cursor:**

Total = 168.4 V/m


E Category: M4

Location: 0, 79, 4.7 mm



0 dB = 168.4V/m = 44.53 dB V/m



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Date/Time: 6/28/2012 1:13:34 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_PMF\_GSM835 MHz\_06\_28\_12**

**DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011**

Communication System: GSM 835\_PMF, Communication System: CW, Communication System: AM 80%; Frequency: 835 MHz  
Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
Phantom section: RF Section  
Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole E-Field measurement/E Scan - GSM 835\_PMF/Hearing Aid Compatibility Test (41x361x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 34.76 V/m; Power Drift = -0.00 dB  
PMR not calibrated. PMF = 1.000 is applied.  
E-field emissions = 54.25 V/m  
**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>49.26 V/m</b>	Grid 2 <b>M4</b> <b>51.48 V/m</b>	Grid 3 <b>M4</b> <b>51.48 V/m</b>
Grid 4 <b>M4</b> <b>27.95 V/m</b>	Grid 5 <b>M4</b> <b>28.56 V/m</b>	Grid 6 <b>M4</b> <b>28.13 V/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>



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**L6ARFN80UW**

<b>51.48 V/m</b>	<b>54.25 V/m</b>	<b>53.95 V/m</b>
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**Cursor:**

Total = 54.247 V/m  
 E Category: M4  
 Location: -2.5, 80.5, 4.7 mm

**Dipole E-Field measurement/E Scan - CW 835\_PMF/Hearing Aid Compatibility Test (41x361x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 103.0 V/m; Power Drift = -0.02 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 162.8 V/m

Near-field category: **M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>148.5 V/m</b>	Grid 2 <b>M4</b> <b>160.5 V/m</b>	Grid 3 <b>M4</b> <b>160.4 V/m</b>
Grid 4 <b>M4</b> <b>82.74 V/m</b>	Grid 5 <b>M4</b> <b>86.24 V/m</b>	Grid 6 <b>M4</b> <b>84.62 V/m</b>
Grid 7 <b>M4</b> <b>158.1 V/m</b>	Grid 8 <b>M4</b> <b>162.8 V/m</b>	Grid 9 <b>M4</b> <b>155.2 V/m</b>

**Cursor:**

Total = 162.8 V/m  
 E Category: M4  
 Location: 0.5, 79.5, 4.7 mm

**Dipole E-Field measurement/E Scan - AM80%\_ 835\_PMF/Hearing Aid Compatibility Test (41x361x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 64.73 V/m; Power Drift = 0.02 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 102.0 V/m

Near-field category: **M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b>	Grid 2 <b>M4</b>	Grid 3 <b>M4</b>
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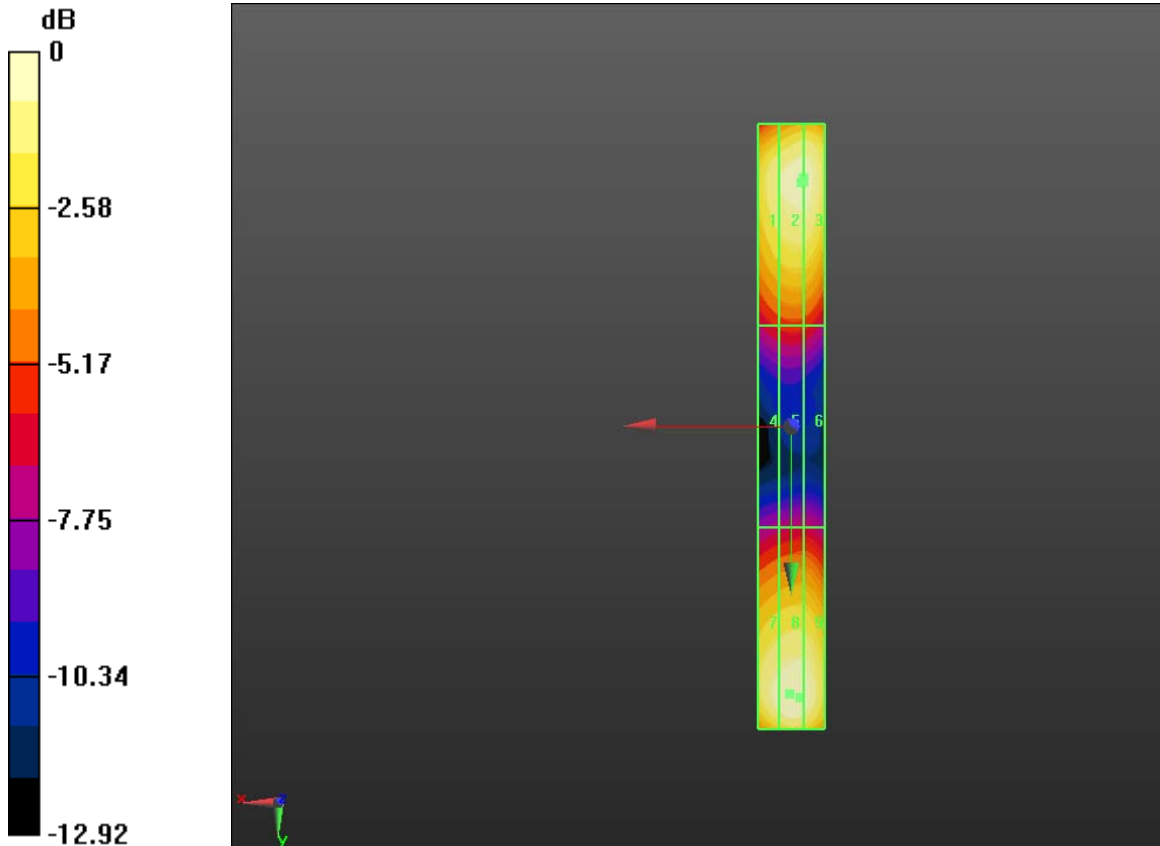
<b>93.30 V/m</b>	<b>100.3 V/m</b>	<b>100.3 V/m</b>
Grid 4 <b>M4</b> <b>52.75 V/m</b>	Grid 5 <b>M4</b> <b>54.62 V/m</b>	Grid 6 <b>M4</b> <b>53.83 V/m</b>
Grid 7 <b>M4</b> <b>99.38 V/m</b>	Grid 8 <b>M4</b> <b>102.0 V/m</b>	Grid 9 <b>M4</b> <b>97.92 V/m</b>

**Cursor:**


Total = 102.0 V/m

E Category: M4

Location: 0.5, 79.5, 4.7 mm



0 dB = 54.250V/m = 34.69 dB V/m

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Date/Time: 2/17/2012 12:24:15 PM

Test Laboratory: RIM Testing Services

### **HAC RF\_E-Field\_PMF\_UMTS835 MHz\_02\_17\_12**

**DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011**

Communication System: WCDMA FDD V, Communication System: CW, Communication System: AM 80%; Frequency: 835 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

### **Dipole E-Field measurement/E Scan - UMTS 835\_PMF/Hearing Aid Compatibility Test (41x361x1):**

Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 41.08 V/m; Power Drift = 0.03 dB

PMR not calibrated. PMF = 1.000 is applied.

E-field emissions = 64.41 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>53.11 V/m</b>	Grid 2 <b>M4</b> <b>55.59 V/m</b>	Grid 3 <b>M4</b> <b>55.40 V/m</b>
Grid 4 <b>M4</b> <b>29.72 V/m</b>	Grid 5 <b>M4</b> <b>30.66 V/m</b>	Grid 6 <b>M4</b> <b>29.79 V/m</b>
Grid 7 <b>M4</b> <b>61.55 V/m</b>	Grid 8 <b>M4</b> <b>64.41 V/m</b>	Grid 9 <b>M4</b> <b>63.22 V/m</b>

**Cursor:**

Total = 64.412 V/m

E Category: M4

Location: -0.5, 79, 4.7 mm

**Dipole E-Field measurement/E Scan - CW 835\_PMF/Hearing Aid  
 Compatibility Test (41x361x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 43.11 V/m; Power Drift = -0.14 dB

PMR not calibrated. PMF = 1.000 is applied.

E-field emissions = 68.64 V/m

Near-field category: **M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>58.55 V/m</b>	Grid 2 <b>M4</b> <b>59.20 V/m</b>	Grid 3 <b>M4</b> <b>57.13 V/m</b>
Grid 4 <b>M4</b> <b>32.35 V/m</b>	Grid 5 <b>M4</b> <b>32.63 V/m</b>	Grid 6 <b>M4</b> <b>31.24 V/m</b>
Grid 7 <b>M4</b> <b>61.85 V/m</b>	Grid 8 <b>M4</b> <b>68.64 V/m</b>	Grid 9 <b>M4</b> <b>68.56 V/m</b>



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**Cursor:**

Total = 68.635 V/m

E Category: M4

Location: -3, 79.5, 4.7 mm

**Dipole E-Field measurement/E Scan - AM80%\_ 835\_PMF/Hearing  
Aid Compatibility Test (41x361x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 28.41 V/m; Power Drift = 0.09 dB

PMR not calibrated. PMF = 1.000 is applied.

E-field emissions = 45.21 V/m

Near-field category: **M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>38.28 V/m</b>	Grid 2 <b>M4</b> <b>38.73 V/m</b>	Grid 3 <b>M4</b> <b>37.25 V/m</b>
Grid 4 <b>M4</b> <b>21.72 V/m</b>	Grid 5 <b>M4</b> <b>21.89 V/m</b>	Grid 6 <b>M4</b> <b>20.80 V/m</b>
Grid 7 <b>M4</b> <b>40.90 V/m</b>	Grid 8 <b>M4</b> <b>45.21 V/m</b>	Grid 9 <b>M4</b> <b>45.16 V/m</b>

**Cursor:**

Total = 45.209 V/m

E Category: M4

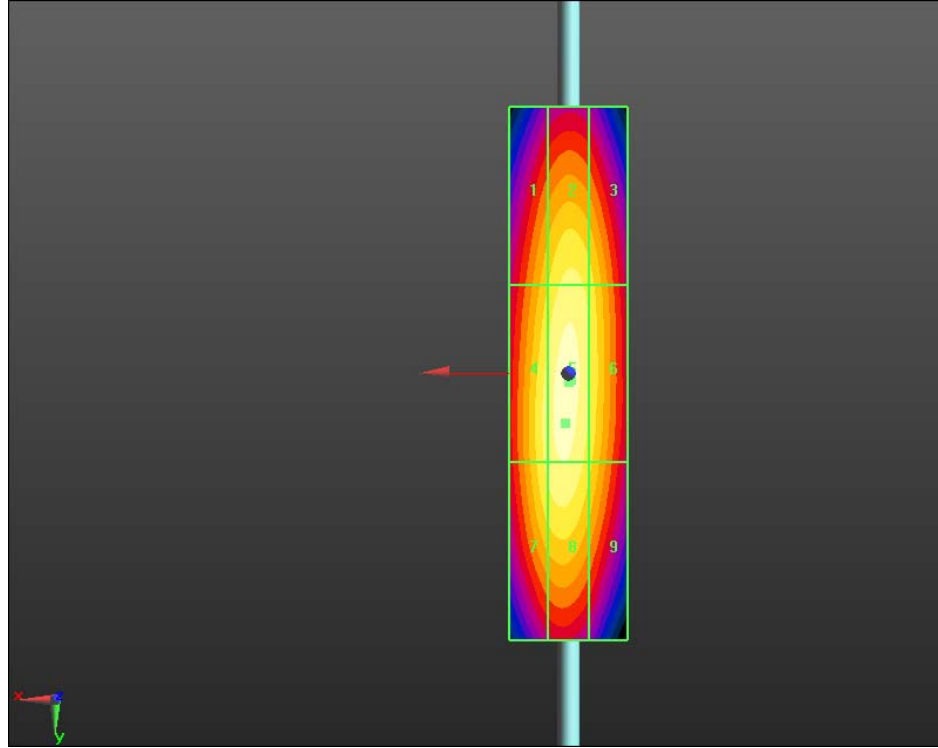
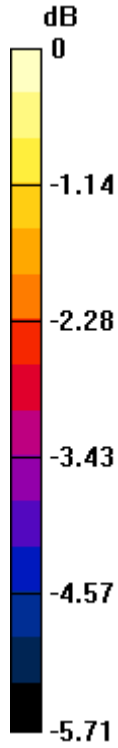
Location: -3, 79.5, 4.7 mm

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0 dB = 0.180A/m = -14.89 dB A/m

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Date/Time: 12/17/2012 11:54:55 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_validation\_1880 MHz\_12\_17\_12**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1008**

Communication System: CW; Frequency: 1880 MHz  
Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
Phantom section: RF Section  
Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole E-Field measurement/E Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test**

**(41x181x1):** Measurement grid: dx=5mm, dy=5mm  
Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 145.2 V/m; Power Drift = -0.03 dB  
PMR not calibrated. PMF = 1.000 is applied.  
E-field emissions = 128.6 V/m  
**Near-field category: M2 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M2</b> <b>117.2 V/m</b>	Grid 2 <b>M2</b> <b>123.0 V/m</b>	Grid 3 <b>M2</b> <b>122.0 V/m</b>
Grid 4 <b>M3</b> <b>87.82 V/m</b>	Grid 5 <b>M3</b> <b>90.83 V/m</b>	Grid 6 <b>M3</b> <b>89.07 V/m</b>
Grid 7 <b>M2</b>	Grid 8 <b>M2</b>	Grid 9 <b>M2</b>



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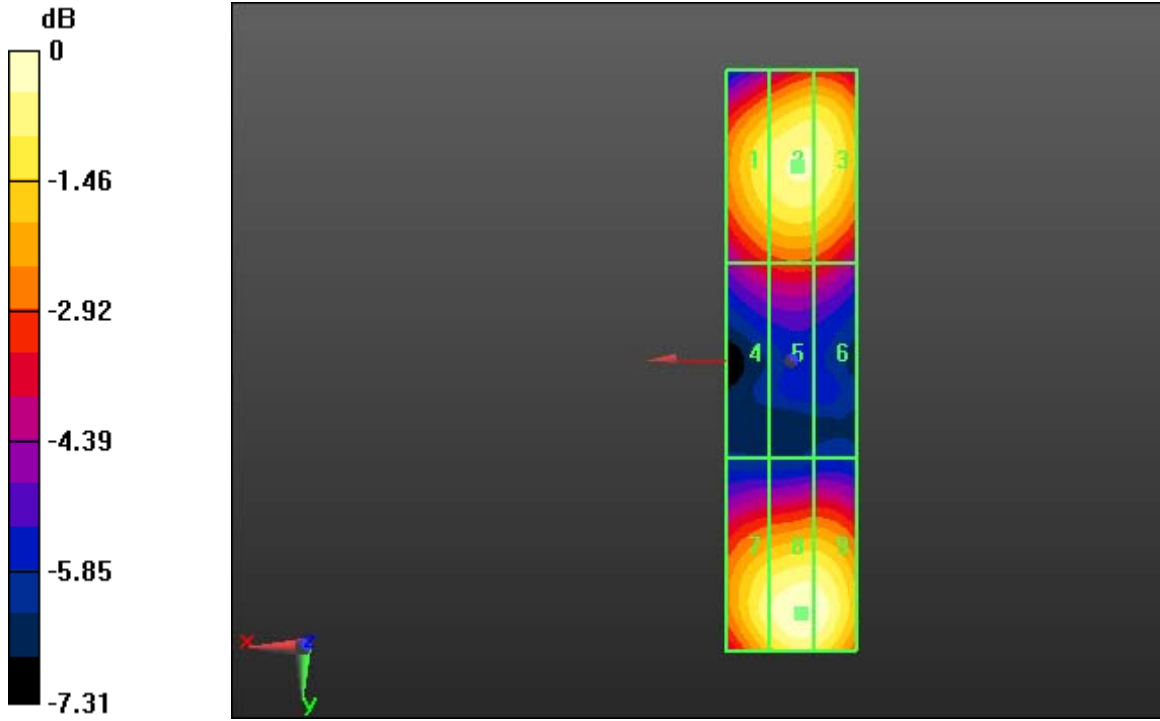
<b>120.5 V/m</b>	<b>128.6 V/m</b>	<b>127.6 V/m</b>
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**Cursor:**


Total = 128.6 V/m

E Category: M2

Location: -1.5, 39, 4.7 mm



0 dB = 128.6V/m = 42.18 dB V/m

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Date/Time: 6/28/2012 12:54:33 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_PMF\_GSM1880 MHz\_06\_28\_12**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1008**

Communication System: GSM 1880, Communication System: CW, Communication System: AM 80%; Frequency: 1880 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole E-Field measurement/E Scan - GSM 1880\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 33.26 V/m; Power Drift = 0.00 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 29.81 V/m  
**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>27.34 V/m</b>	Grid 2 <b>M4</b> <b>28.65 V/m</b>	Grid 3 <b>M4</b> <b>28.59 V/m</b>
Grid 4 <b>M4</b> <b>19.83 V/m</b>	Grid 5 <b>M4</b> <b>20.51 V/m</b>	Grid 6 <b>M4</b> <b>20.10 V/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>



Author Data <b>Daoud Attayi</b>	Dates of Test <b>Feb. 17, June 28, Dec. 17-18, 2012</b>	Report No <b>RTS-6026-1302-05</b>	FCC ID <b>L6ARFN80UW</b>
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<b>28.20 V/m</b>	<b>29.81 V/m</b>	<b>29.37 V/m</b>
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**Cursor:**

Total = 29.810 V/m  
 E Category: M4  
 Location: -1, 38.5, 4.7 mm

**Dipole E-Field measurement/E Scan- CW 1800\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 95.34 V/m; Power Drift = 0.01 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 84.88 V/m

Near-field category: **M3 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M3</b> <b>78.80 V/m</b>	Grid 2 <b>M3</b> <b>82.95 V/m</b>	Grid 3 <b>M3</b> <b>82.43 V/m</b>
Grid 4 <b>M4</b> <b>56.84 V/m</b>	Grid 5 <b>M4</b> <b>58.53 V/m</b>	Grid 6 <b>M4</b> <b>56.53 V/m</b>
Grid 7 <b>M3</b> <b>80.11 V/m</b>	Grid 8 <b>M3</b> <b>84.88 V/m</b>	Grid 9 <b>M3</b> <b>83.31 V/m</b>

**Cursor:**

Total = 84.885 V/m  
 E Category: M3  
 Location: -0.5, 38.5, 4.7 mm

**Dipole E-Field measurement/E Scan - AM80%\_ 1880\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 60.62 V/m; Power Drift = -0.03 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 53.60 V/m

Near-field category: **M4 (AWF 0 dB)**

PMF scaled E-field

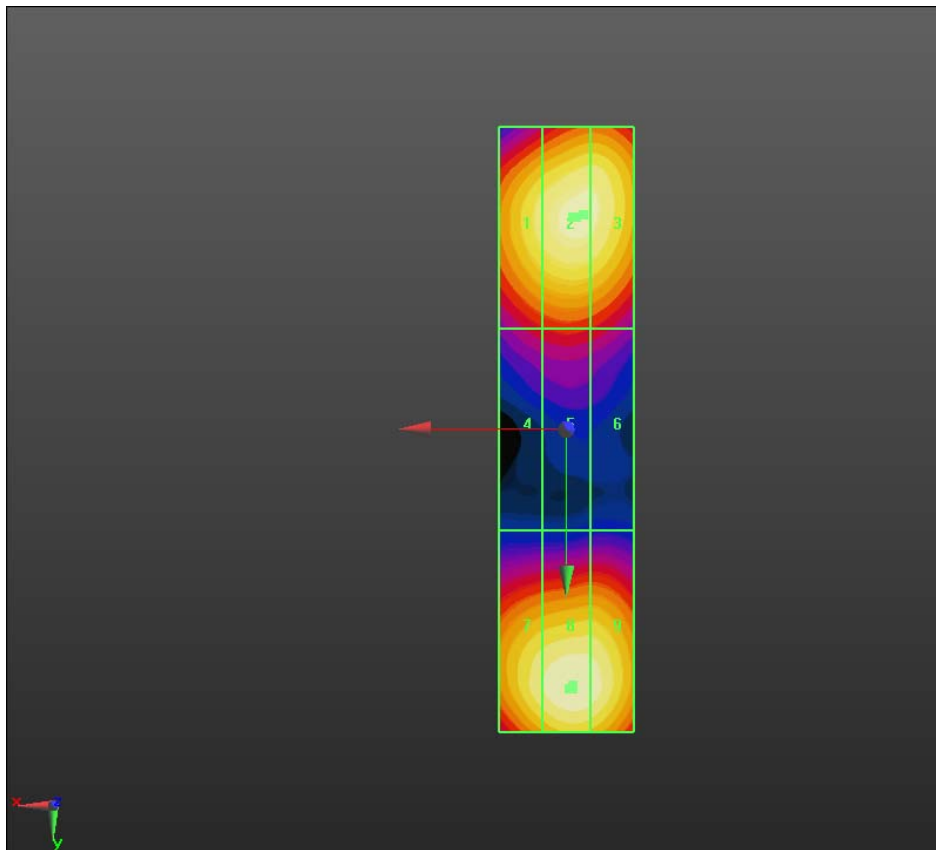
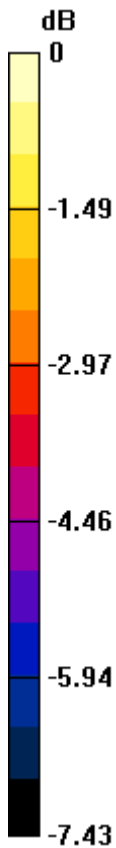
Grid 1 <b>M4</b> <b>49.75 V/m</b>	Grid 2 <b>M4</b> <b>52.55 V/m</b>	Grid 3 <b>M4</b> <b>52.06 V/m</b>
Grid 4 <b>M4</b> <b>35.78 V/m</b>	Grid 5 <b>M4</b> <b>36.92 V/m</b>	Grid 6 <b>M4</b> <b>36.02 V/m</b>
Grid 7 <b>M4</b> <b>50.66 V/m</b>	Grid 8 <b>M4</b> <b>53.60 V/m</b>	Grid 9 <b>M4</b> <b>52.63 V/m</b>

**Cursor:**


Total = 53.599 V/m

E Category: M4

Location: -1, 38, 4.7 mm



0 dB = 29.810V/m = 29.49 dB V/m

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Date/Time: 2/17/2012 2:20:23 PM

Test Laboratory: RIM Testing Services

### **HAC RF\_E-Field\_PMF\_UMTS1880 MHz\_02\_17\_12**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1008**

Communication System: WCDMA FDD II, Communication System: CW, Communication System: AM 80%; Frequency: 1880 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

### **Dipole E-Field measurement/E Scan - UMTS 1880\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 47.02 V/m; Power Drift = 0.01 dB

PMR not calibrated. PMF = 1.000 is applied.

E-field emissions = 42.43 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>37.98 V/m</b>	Grid 2 <b>M4</b> <b>39.42 V/m</b>	Grid 3 <b>M4</b> <b>39.04 V/m</b>
Grid 4 <b>M4</b> <b>26.86 V/m</b>	Grid 5 <b>M4</b> <b>27.50 V/m</b>	Grid 6 <b>M4</b> <b>26.70 V/m</b>
Grid 7 <b>M4</b> <b>39.63 V/m</b>	Grid 8 <b>M4</b> <b>42.43 V/m</b>	Grid 9 <b>M4</b> <b>41.87 V/m</b>

**Cursor:**

Total = 42.427 V/m

E Category: M4

Location: -1, 38, 4.7 mm

**Dipole E-Field measurement/E Scan- CW 1800\_PMF/Hearing Aid  
 Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 47.33 V/m; Power Drift = -0.05 dB

PMR not calibrated. PMF = 1.000 is applied.

E-field emissions = 42.41 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>38.23 V/m</b>	Grid 2 <b>M4</b> <b>39.51 V/m</b>	Grid 3 <b>M4</b> <b>39.41 V/m</b>
Grid 4 <b>M4</b> <b>26.94 V/m</b>	Grid 5 <b>M4</b> <b>27.41 V/m</b>	Grid 6 <b>M4</b> <b>26.77 V/m</b>
Grid 7 <b>M4</b> <b>40.02 V/m</b>	Grid 8 <b>M4</b> <b>42.41 V/m</b>	Grid 9 <b>M4</b> <b>41.99 V/m</b>



Author Data  
**Daoud Attayi**

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**Cursor:**

Total = 42.409 V/m

E Category: M4

Location: -1.5, 38, 4.7 mm

**Dipole E-Field measurement/E Scan - AM80%\_ 1880\_PMF/Hearing  
Aid Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 30.18 V/m; Power Drift = 0.06 dB

PMR not calibrated. PMF = 1.000 is applied.

E-field emissions = 27.40 V/m

Near-field category: **M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>24.40 V/m</b>	Grid 2 <b>M4</b> <b>25.26 V/m</b>	Grid 3 <b>M4</b> <b>24.95 V/m</b>
Grid 4 <b>M4</b> <b>17.20 V/m</b>	Grid 5 <b>M4</b> <b>17.65 V/m</b>	Grid 6 <b>M4</b> <b>17.12 V/m</b>
Grid 7 <b>M4</b> <b>25.54 V/m</b>	Grid 8 <b>M4</b> <b>27.40 V/m</b>	Grid 9 <b>M4</b> <b>27.02 V/m</b>

**Cursor:**

Total = 27.402 V/m

E Category: M4

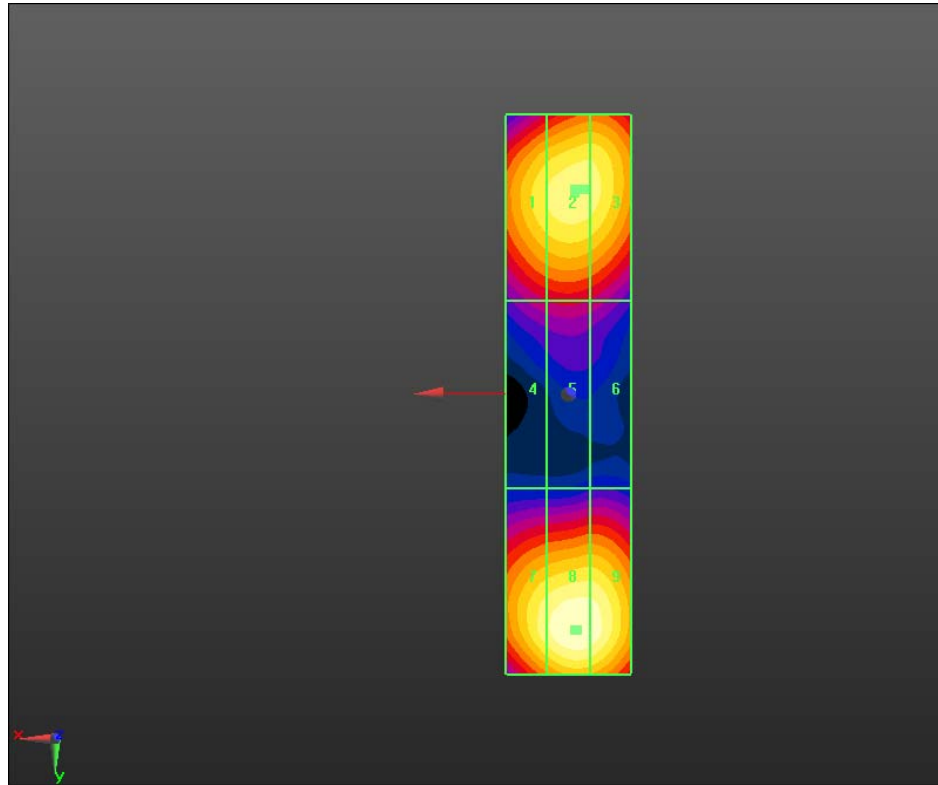
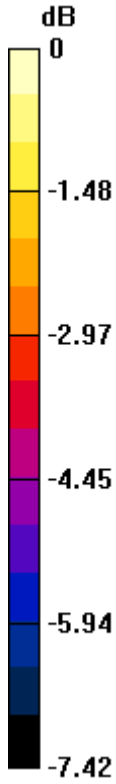
Location: -1, 38, 4.7 mm

Author Data  
**Daoud Attayi**

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0 dB = 42.430V/m = 32.55 dB V/m



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Date/Time: 12/18/2012 12:59:09 PM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_validation\_835 MHz\_12\_18\_12**

**DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011**

Communication System: CW; Frequency: 835 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole H-Field measurement with H3DV6 probe/H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid**

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

Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.47 V/m; Power Drift = 0.10 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.44 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.40 A/m</b>	Grid 2 <b>M4</b> <b>0.42 A/m</b>	Grid 3 <b>M4</b> <b>0.41 A/m</b>
Grid 4 <b>M4</b> <b>0.42 A/m</b>	Grid 5 <b>M4</b> <b>0.44 A/m</b>	Grid 6 <b>M4</b> <b>0.43 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>

Author Data  
**Daoud Attayi**

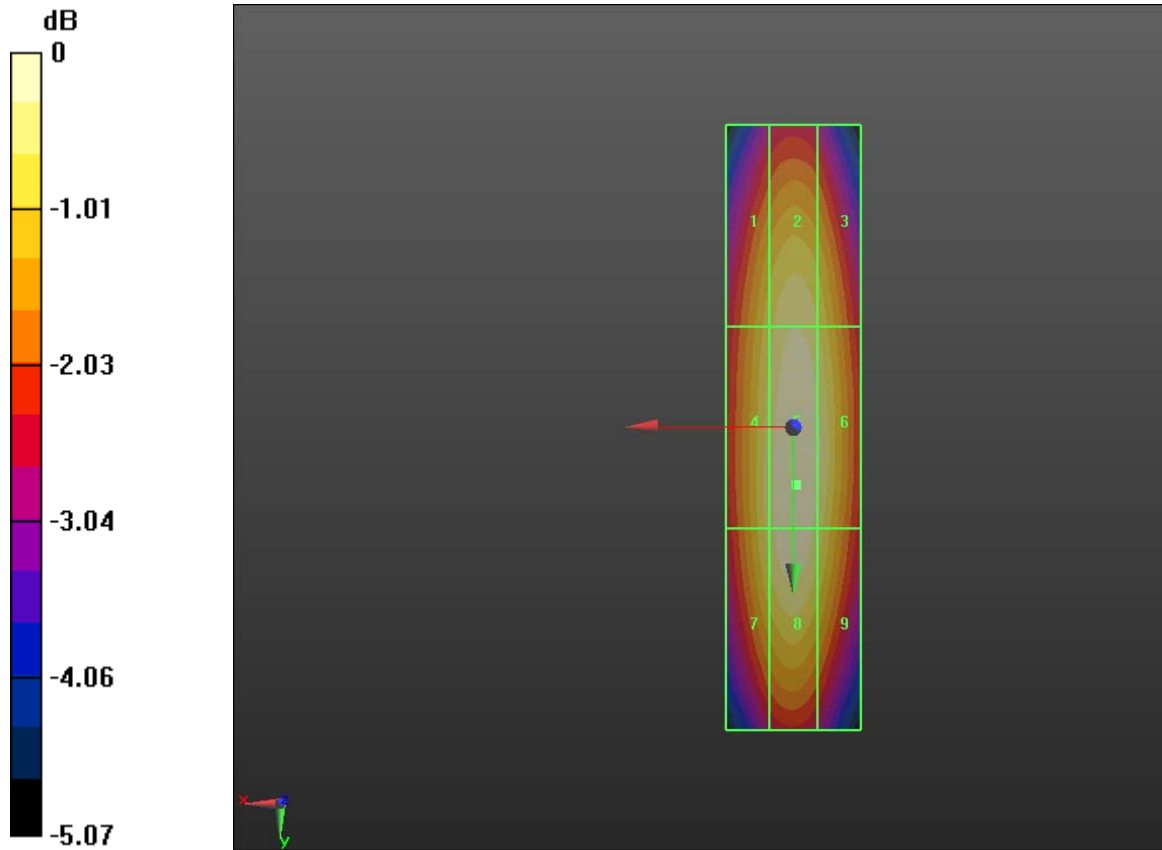
Dates of Test  
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**L6ARFN80UW**

<b>0.42 A/m</b>	<b>0.44 A/m</b>	<b>0.42 A/m</b>
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**Cursor:**  
 Total = 0.444 A/m  
 H Category: M4  
 Location: -0.5, 8.5, 4.7 mm



0 dB = 0.440A/m = -7.13 dB A/m

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Date/Time: 6/28/2012 11:48:13 AM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_PMF\_GSM835 MHz\_06\_28\_12**

**DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011**

Communication System: GSM 835\_PMF, Communication System: CW, Communication System: AM 80%; Frequency: 835 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole H-Field measurement with H3DV6 probe/H Scan - GSM 835\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.17 V/m; Power Drift = -0.01 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.16 A/m  
**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.15 A/m</b>	Grid 2 <b>M4</b> <b>0.16 A/m</b>	Grid 3 <b>M4</b> <b>0.15 A/m</b>
Grid 4 <b>M4</b>	Grid 5 <b>M4</b>	Grid 6 <b>M4</b>

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<b>0.16 A/m</b>	<b>0.16 A/m</b>	<b>0.16 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>
<b>0.15 A/m</b>	<b>0.16 A/m</b>	<b>0.15 A/m</b>

**Cursor:**

Total = 0.163 A/m  
 H Category: M4  
 Location: 0, 8.5, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan - CW  
 835\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid:

dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.28 V/m; Power Drift = 0.08 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.47 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.44 A/m</b>	Grid 2 <b>M4</b> <b>0.46 A/m</b>	Grid 3 <b>M4</b> <b>0.44 A/m</b>
Grid 4 <b>M4</b> <b>0.45 A/m</b>	Grid 5 <b>M4</b> <b>0.47 A/m</b>	Grid 6 <b>M4</b> <b>0.45 A/m</b>
Grid 7 <b>M4</b> <b>0.45 A/m</b>	Grid 8 <b>M4</b> <b>0.47 A/m</b>	Grid 9 <b>M4</b> <b>0.44 A/m</b>

**Cursor:**

Total = 0.471 A/m  
 H Category: M4  
 Location: 0, 8, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan -  
 AM80%\_PMF/Hearing Aid Compatibility Test (41x181x1):**

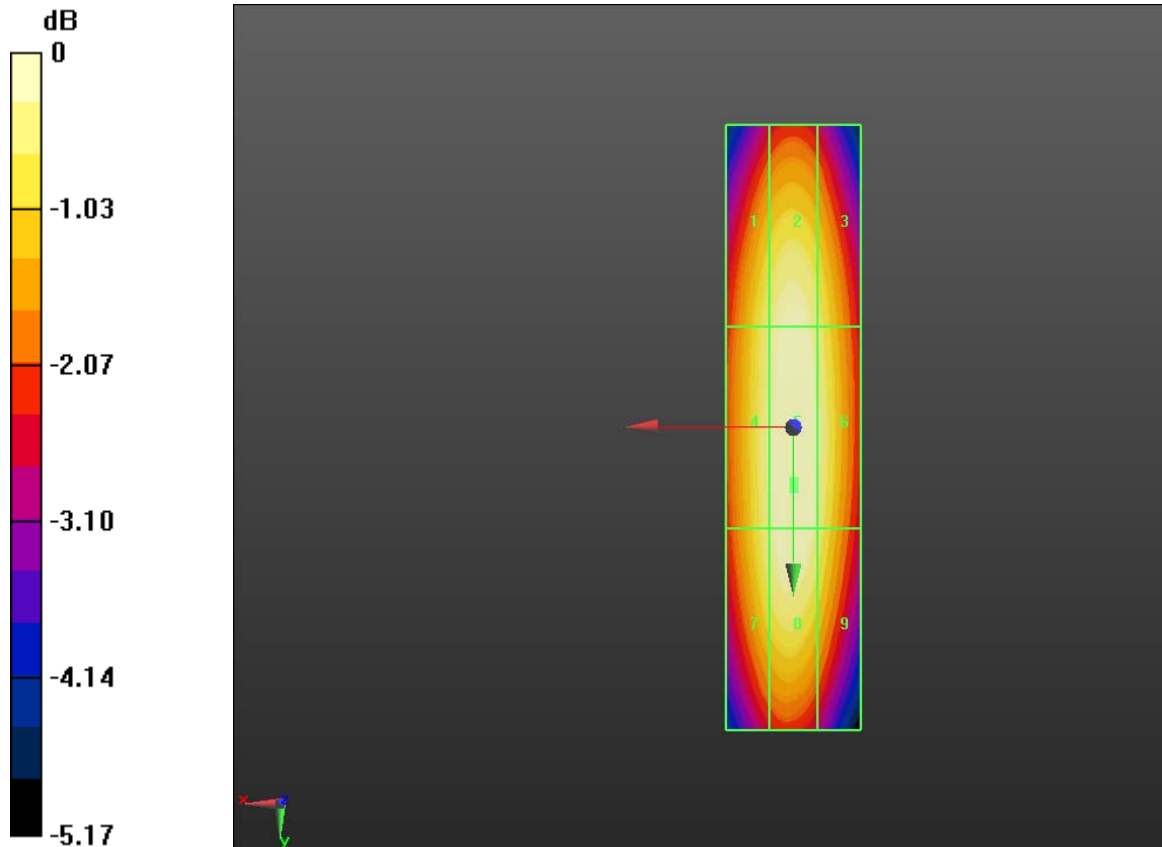
Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.32 V/m; Power Drift = 0.12 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.30 A/m

**Near-field category: M4 (AWF 0 dB)**


PMF scaled H-field

Grid 1 <b>M4</b> <b>0.28 A/m</b>	Grid 2 <b>M4</b> <b>0.29 A/m</b>	Grid 3 <b>M4</b> <b>0.28 A/m</b>
Grid 4 <b>M4</b> <b>0.29 A/m</b>	Grid 5 <b>M4</b> <b>0.30 A/m</b>	Grid 6 <b>M4</b> <b>0.29 A/m</b>
Grid 7 <b>M4</b> <b>0.29 A/m</b>	Grid 8 <b>M4</b> <b>0.30 A/m</b>	Grid 9 <b>M4</b> <b>0.28 A/m</b>

**Cursor:**  
 Total = 0.304 A/m  
 H Category: M4  
 Location: 0, 9, 4.7 mm



0 dB = 0.160A/m = -15.92 dB A/m

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Date/Time: 2/17/2012 4:08:25 PM

Test Laboratory: RIM Testing Services

### **HAC RF\_H-Field\_PMF\_UMTS835 MHz\_02\_17\_12**

**DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: 1011**

Communication System: WCDMA FDD V, Communication System: CW, Communication System: AM 80%; Frequency: 835 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

### **Dipole H-Field measurement with H3DV6 probe/H Scan - UMTS**

**835\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.19 V/m; Power Drift = 0.05 dB

PMR not calibrated. PMF = 1.000 is applied.

H-field emissions = 0.18 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.16 A/m</b>	Grid 2 <b>M4</b> <b>0.17 A/m</b>	Grid 3 <b>M4</b> <b>0.16 A/m</b>
Grid 4 <b>M4</b> <b>0.17 A/m</b>	Grid 5 <b>M4</b> <b>0.18 A/m</b>	Grid 6 <b>M4</b> <b>0.17 A/m</b>
Grid 7 <b>M4</b> <b>0.17 A/m</b>	Grid 8 <b>M4</b> <b>0.18 A/m</b>	Grid 9 <b>M4</b> <b>0.17 A/m</b>

**Cursor:**

Total = 0.181 A/m

H Category: M4

Location: 0.5, 8.5, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan - CW**

**835\_PMF/Hearing Aid Compatibility Test (41x181x1):** Measurement grid:

dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.11 V/m; Power Drift = 0.08 dB

PMR not calibrated. PMF = 1.000 is applied.

H-field emissions = 0.20 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.17 A/m</b>	Grid 2 <b>M4</b> <b>0.19 A/m</b>	Grid 3 <b>M4</b> <b>0.18 A/m</b>
Grid 4 <b>M4</b> <b>0.18 A/m</b>	Grid 5 <b>M4</b> <b>0.20 A/m</b>	Grid 6 <b>M4</b> <b>0.19 A/m</b>
Grid 7 <b>M4</b> <b>0.18 A/m</b>	Grid 8 <b>M4</b> <b>0.19 A/m</b>	Grid 9 <b>M4</b> <b>0.18 A/m</b>



Author Data  
**Daoud Attayi**

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**Cursor:**

Total = 0.197 A/m

H Category: M4

Location: -0.5, 1, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan -  
AM80%\_PMF/Hearing Aid Compatibility Test (41x181x1):**

Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.14 V/m; Power Drift = 0.10 dB

PMR not calibrated. PMF = 1.000 is applied.

H-field emissions = 0.13 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.11 A/m</b>	Grid 2 <b>M4</b> <b>0.12 A/m</b>	Grid 3 <b>M4</b> <b>0.12 A/m</b>
Grid 4 <b>M4</b> <b>0.12 A/m</b>	Grid 5 <b>M4</b> <b>0.13 A/m</b>	Grid 6 <b>M4</b> <b>0.12 A/m</b>
Grid 7 <b>M4</b> <b>0.12 A/m</b>	Grid 8 <b>M4</b> <b>0.12 A/m</b>	Grid 9 <b>M4</b> <b>0.12 A/m</b>

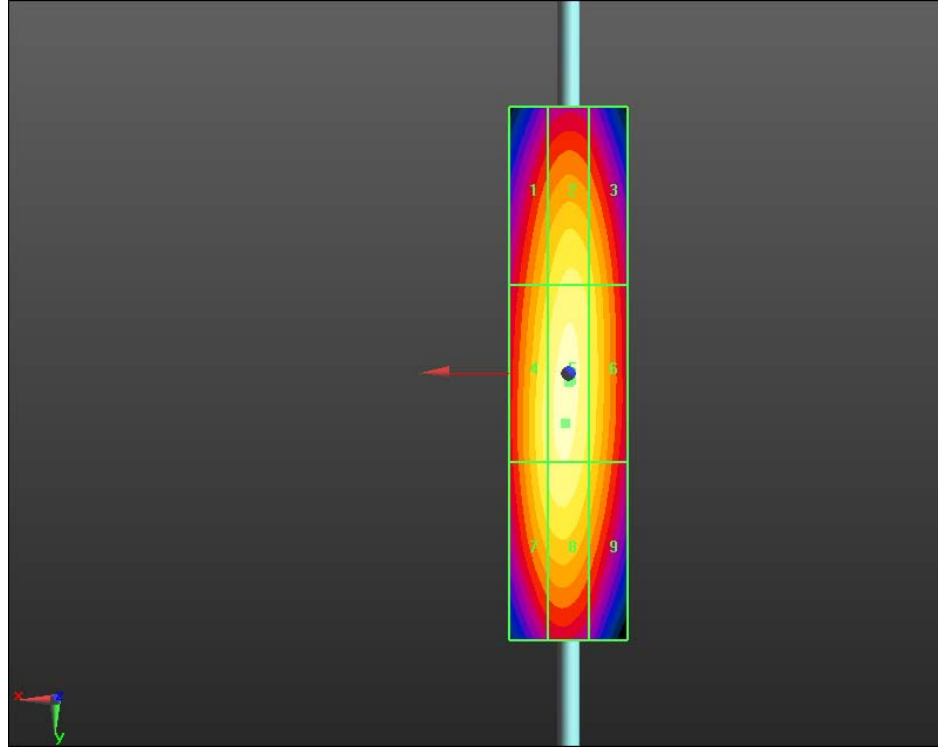
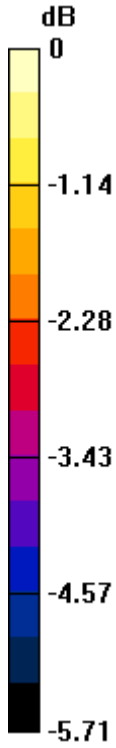
**Cursor:**

Total = 0.127 A/m


H Category: M4

Location: 0, 1.5, 4.7 mm





0 dB = 0.180A/m = -14.89 dB A/m

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Date/Time: 12/18/2012 1:06:37 PM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_validation\_1880 MHz\_12\_18\_12**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1008**

Communication System: CW; Frequency: 1880 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole H-Field measurement with H3DV6 probe/H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid**

**Compatibility Test (41x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.47 V/m; Power Drift = -0.04 dB

PMF = 1.00 is applied.

H-field emissions = 0.446 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.411 A/m</b>	Grid 2 <b>M4</b> <b>0.429 A/m</b>	Grid 3 <b>M4</b> <b>0.420 A/m</b>
Grid 4 <b>M4</b> <b>0.429 A/m</b>	Grid 5 <b>M4</b> <b>0.446 A/m</b>	Grid 6 <b>M4</b> <b>0.429 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>

Author Data  
**Daoud Attayi**

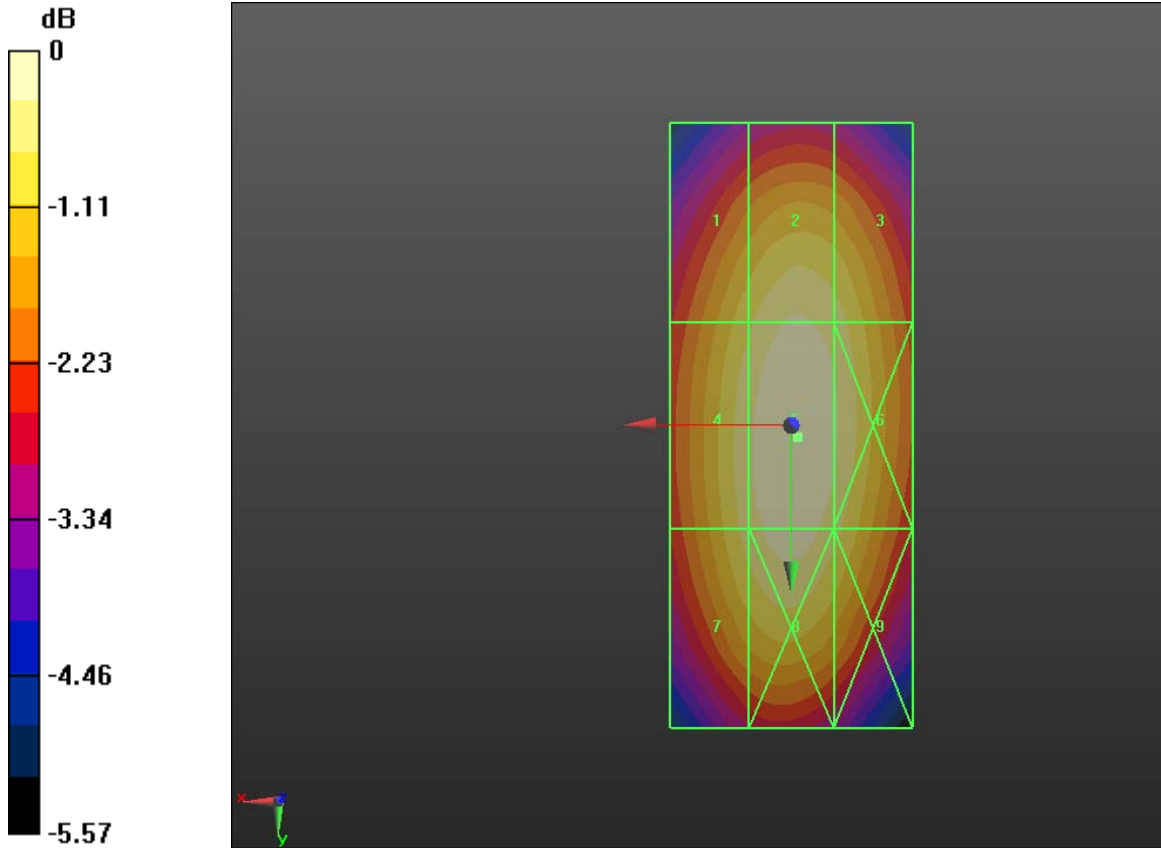
Dates of Test  
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<b>0.420 A/m</b>	<b>0.438 A/m</b>	<b>0.420 A/m</b>
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**Cursor:**  
 Total = 0.446 A/m  
 H Category: M4  
 Location: -0.5, 1, 4.7 mm



0 dB = 0.446A/m = -7.01 dB A/m

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Date/Time: 6/28/2012 12:25:06 PM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_PMF\_GSM1880 MHz\_06\_28\_12**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1008**

Communication System: GSM 1880\_PMF, Communication System: CW, Communication System: AM 80%; Frequency: 1880 MHz  
Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
Phantom section: RF Section  
Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Dipole H-Field measurement with H3DV6 probe/H Scan -GSM 1880\_PMF/Hearing Aid Compatibility Test (41x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 0.11 V/m; Power Drift = -0.01 dB  
PMR not calibrated. PMF = 1.000 is applied.  
H-field emissions = 0.11 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.10 A/m</b>	Grid 2 <b>M4</b> <b>0.10 A/m</b>	Grid 3 <b>M4</b> <b>0.10 A/m</b>
Grid 4 <b>M4</b>	Grid 5 <b>M4</b>	Grid 6 <b>M4</b>



Author Data <b>Daoud Attayi</b>	Dates of Test <b>Feb. 17, June 28, Dec. 17-18, 2012</b>	Report No <b>RTS-6026-1302-05</b>	FCC ID <b>L6ARFN80UW</b>
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<b>0.10 A/m</b>	<b>0.11 A/m</b>	<b>0.10 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>
<b>0.10 A/m</b>	<b>0.10 A/m</b>	<b>0.10 A/m</b>

**Cursor:**

Total = 0.105 A/m  
 H Category: M4  
 Location: 0, 0.5, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan - CW  
 1800\_PMF/Hearing Aid Compatibility Test (41x101x1): Measurement**

grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.32 V/m; Power Drift = 0.00 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.30 A/m

**Near-field category: M3 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M3</b> <b>0.28 A/m</b>	Grid 2 <b>M3</b> <b>0.29 A/m</b>	Grid 3 <b>M3</b> <b>0.28 A/m</b>
Grid 4 <b>M3</b> <b>0.29 A/m</b>	Grid 5 <b>M3</b> <b>0.30 A/m</b>	Grid 6 <b>M3</b> <b>0.29 A/m</b>
Grid 7 <b>M3</b> <b>0.28 A/m</b>	Grid 8 <b>M3</b> <b>0.29 A/m</b>	Grid 9 <b>M3</b> <b>0.28 A/m</b>

**Cursor:**

Total = 0.300 A/m  
 H Category: M3  
 Location: 0, 1, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan -  
 AM80%\_1880\_PMF/Hearing Aid Compatibility Test (41x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.21 V/m; Power Drift = 0.02 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.19 A/m

**Near-field category: M3 (AWF 0 dB)**

PMF scaled H-field

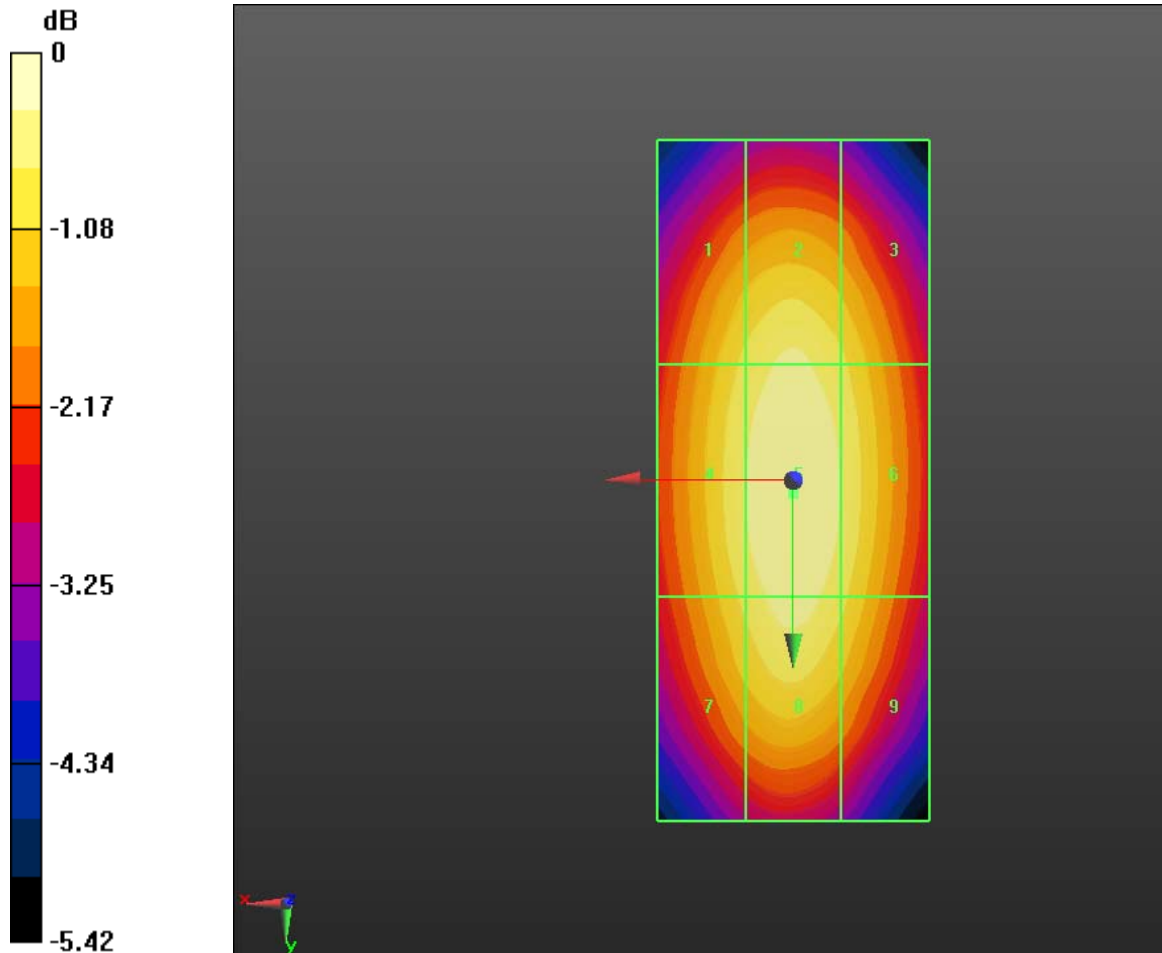
Grid 1 <b>M4</b> <b>0.18 A/m</b>	Grid 2 <b>M4</b> <b>0.19 A/m</b>	Grid 3 <b>M4</b> <b>0.18 A/m</b>
Grid 4 <b>M4</b> <b>0.19 A/m</b>	Grid 5 <b>M3</b> <b>0.19 A/m</b>	Grid 6 <b>M4</b> <b>0.19 A/m</b>
Grid 7 <b>M4</b> <b>0.18 A/m</b>	Grid 8 <b>M3</b> <b>0.19 A/m</b>	Grid 9 <b>M4</b> <b>0.18 A/m</b>


**Cursor:**

Total = 0.194 A/m

H Category: M3

Location: 0, 0.5, 4.7 mm



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0 dB = 0.110A/m = -19.17 dB A/m

Date/Time: 2/17/2012 3:56:44 PM

Test Laboratory: RIM Testing Services

### **HAC RF\_H-Field\_PMF\_UMTS1880 MHz\_02\_17\_12**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1008**

Communication System: WCDMA FDD II, Communication System: CW, Communication System: AM 80%; Frequency: 1880 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

### **Dipole H-Field measurement with H3DV6 probe/H Scan -UMTS**

**1880\_PMF/Hearing Aid Compatibility Test (41x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.16 V/m; Power Drift = 0.06 dB

PMR not calibrated. PMF = 1.000 is applied.

H-field emissions = 0.15 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.14 A/m</b>	Grid 2 <b>M4</b> <b>0.14 A/m</b>	Grid 3 <b>M4</b> <b>0.14 A/m</b>
Grid 4 <b>M4</b> <b>0.14 A/m</b>	Grid 5 <b>M4</b> <b>0.15 A/m</b>	Grid 6 <b>M4</b> <b>0.14 A/m</b>
Grid 7 <b>M4</b> <b>0.14 A/m</b>	Grid 8 <b>M4</b> <b>0.15 A/m</b>	Grid 9 <b>M4</b> <b>0.14 A/m</b>

**Cursor:**

Total = 0.150 A/m

H Category: M4

Location: 0, 0.5, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan - CW**

**1880\_PMF/Hearing Aid Compatibility Test (41x101x1): Measurement**

grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.16 V/m; Power Drift = -0.01 dB

PMR not calibrated. PMF = 1.000 is applied.

H-field emissions = 0.15 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.14 A/m</b>	Grid 2 <b>M4</b> <b>0.14 A/m</b>	Grid 3 <b>M4</b> <b>0.14 A/m</b>
Grid 4 <b>M4</b> <b>0.14 A/m</b>	Grid 5 <b>M4</b> <b>0.15 A/m</b>	Grid 6 <b>M4</b> <b>0.14 A/m</b>
Grid 7 <b>M4</b> <b>0.14 A/m</b>	Grid 8 <b>M4</b> <b>0.15 A/m</b>	Grid 9 <b>M4</b> <b>0.14 A/m</b>



**Cursor:**

Total = 0.149 A/m

H Category: M4

Location: 0, 0.5, 4.7 mm

**Dipole H-Field measurement with H3DV6 probe/H Scan -  
 AM80%\_1880\_PMF/Hearing Aid Compatibility Test (41x101x1):**

Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.10 V/m; Power Drift = -0.07 dB

PMR not calibrated. PMF = 1.000 is applied.

H-field emissions = 0.10 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.09 A/m</b>	Grid 2 <b>M4</b> <b>0.09 A/m</b>	Grid 3 <b>M4</b> <b>0.09 A/m</b>
Grid 4 <b>M4</b> <b>0.09 A/m</b>	Grid 5 <b>M4</b> <b>0.10 A/m</b>	Grid 6 <b>M4</b> <b>0.09 A/m</b>
Grid 7 <b>M4</b> <b>0.09 A/m</b>	Grid 8 <b>M4</b> <b>0.09 A/m</b>	Grid 9 <b>M4</b> <b>0.09 A/m</b>

**Cursor:**

Total = 0.096 A/m

H Category: M4

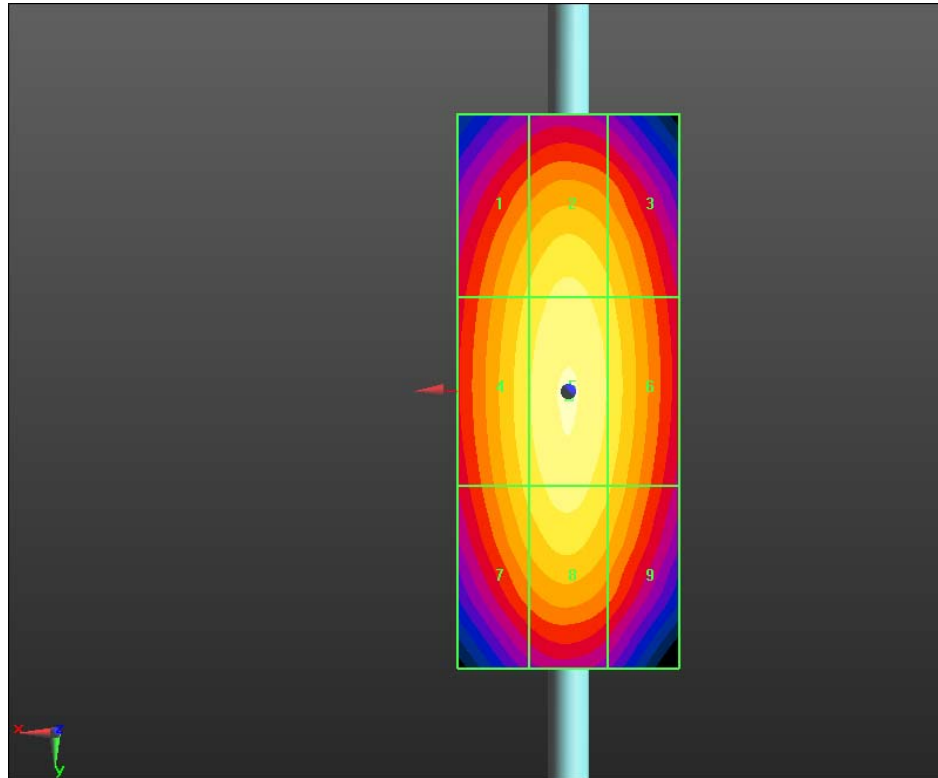
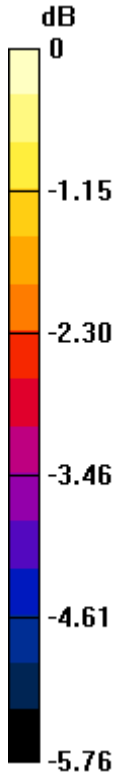
Location: 0, 0, 4.7 mm

Author Data  
**Daoud Attayi**

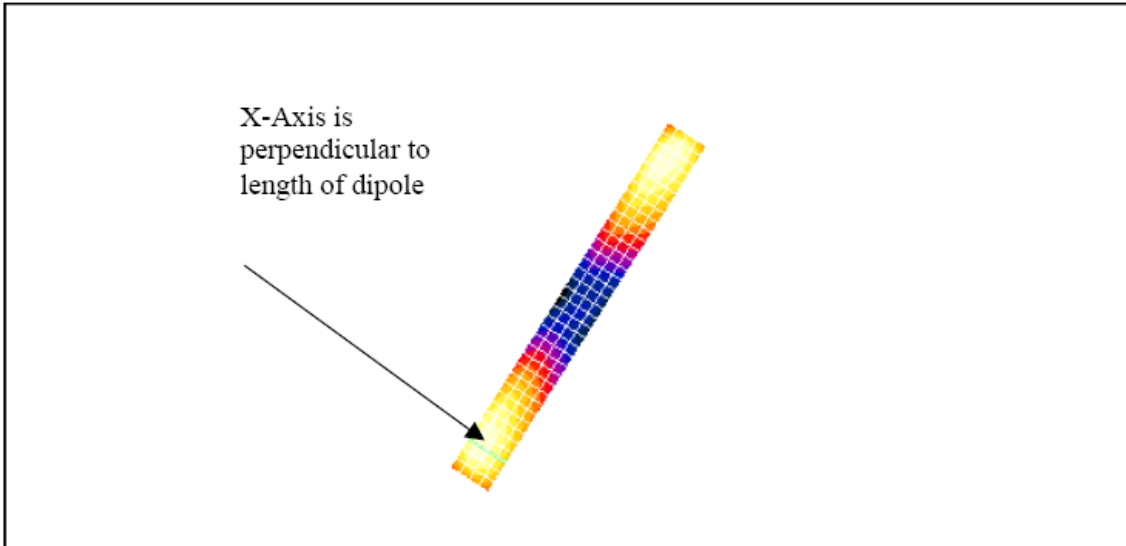
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0 dB = 0.150A/m = -16.48 dB A/m



The green line in this figure shows the axis along which the points lie.

#### Comparison of 5mm and 2mm step sizes

An additional set of measurements was taken: dipole validations were performed using 5mm and 2mm step sizes. The delta between the two readings is insignificant for both field types (< 0.4% for E and 0% for H), demonstrating that 5mm is sufficient. The plots follow.



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Date/Time: 14/07/2005 11:35:24 AM

**Lab: RIM Testing Services (RTS)**

**Dipole Validation 1880 MHz\_E-Field 07\_14\_05**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3**

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1  
 Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: H Device Section

DASY4 Configuration:  
 - Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 10/12/2004  
 - Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)  
 - Electronics: DAE3 Sn472; Calibrated: 03/01/2005  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA;  
 - Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):**

Measurement grid: dx=5mm, dy=5mm  
 Maximum value of Total (measured) = 134.8 V/m

**E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):**

Measurement grid: dx=5mm, dy=5mm  
 Maximum value of Total field (slot averaged) = 131.0 V/m

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

E in V/m (Time averaged)			E in V/m (Slot averaged)		
Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
123.2	138.1	138.4	123.2	138.1	138.4
Grid 4	Grid 5	Grid 6	Grid 4	Grid 5	Grid 6
80.9	92.3	92.2	80.9	92.3	92.2
Grid 7	Grid 8	Grid 9	Grid 7	Grid 8	Grid 9
119.8	131.0	130.7	119.8	131.0	130.7

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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Author Data  
**Daoud Attayi**

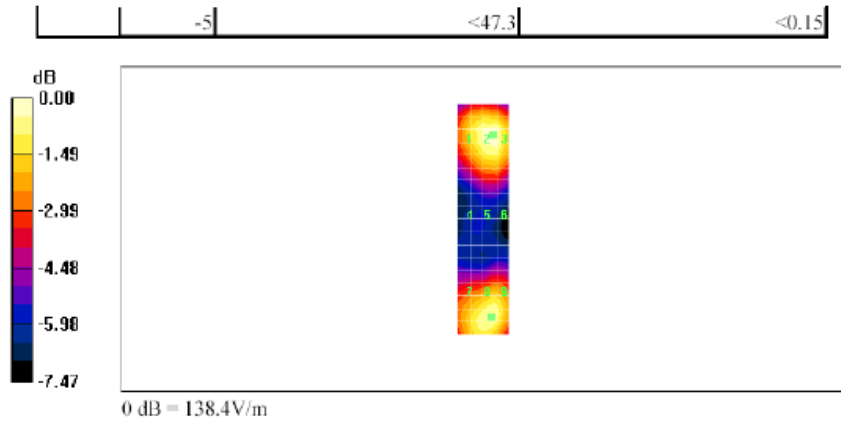
Dates of Test  
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Date/Time: 14/07/2005 11:44:51 AM

**Lab: RIM Testing Services (RTS)**

**Dipole Validation 1880 MHz\_2mm step\_E-Field 07\_14\_05**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3**

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1  
 Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: H Device Section

DASY4 Configuration:  
 - Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 10/12/2004  
 - Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)  
 - Electronics: DAE3 Sn472; Calibrated: 03/01/2005  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA;  
 - Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):**

Measurement grid: dx=2mm, dy=2mm  
 Maximum value of Total (measured) = 138.0 V/m

**E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):**

Measurement grid: dx=2mm, dy=2mm  
 Maximum value of Total field (slot averaged) = 131.2 V/m

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

E in V/m (Time averaged)			E in V/m (Slot averaged)		
Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
123.1	138.6	138.6	123.1	138.6	138.6
Grid 4	Grid 5	Grid 6	Grid 4	Grid 5	Grid 6
81.4	92.1	91.6	81.4	92.1	91.6
Grid 7	Grid 8	Grid 9	Grid 7	Grid 8	Grid 9
121.3	131.2	131.0	121.3	131.2	131.0

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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Author Data  
**Daoud Attayi**

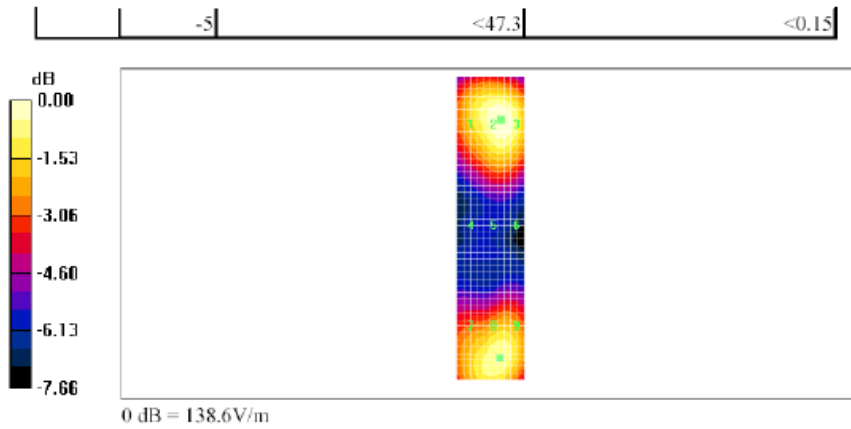
Dates of Test  
**Feb. 17, June 28, Dec. 17-18, 2012**

Report No  
**RTS-6026-1302-05**

FCC ID  
**L6ARFN80UW**

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Date/Time: 14/07/2005 12:43:02 PM

**Lab: RIM Testing Services (RTS)**

**HAC\_H\_Dipole\_CW 1880\_5 mm step\_07\_14\_05**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3**

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1  
 Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Dipole Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):**

Measurement grid: dx=5mm, dy=5mm  
 Maximum value of Total (measured) = 0.406 A/m

**H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):**

Measurement grid: dx=5mm, dy=5mm  
 Maximum value of Total field (slot averaged) = 0.406 A/m

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

H in A/m (Time averaged)    H in A/m (Slot averaged)

Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
<b>0.342</b>	<b>0.359</b>	<b>0.344</b>	<b>0.342</b>	<b>0.359</b>	<b>0.344</b>
Grid 4	Grid 5	Grid 6	Grid 4	Grid 5	Grid 6
<b>0.389</b>	<b>0.406</b>	<b>0.389</b>	<b>0.389</b>	<b>0.406</b>	<b>0.389</b>
Grid 7	Grid 8	Grid 9	Grid 7	Grid 8	Grid 9
<b>0.363</b>	<b>0.378</b>	<b>0.363</b>	<b>0.363</b>	<b>0.378</b>	<b>0.363</b>

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19



Author Data  
**Daoud Attayi**

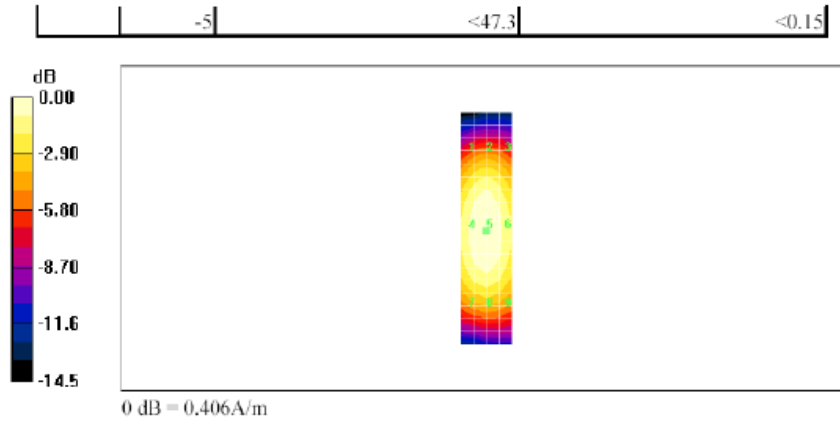
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**Feb. 17, June 28, Dec. 17-18, 2012**

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**RTS-6026-1302-05**

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file://C:\Program%20Files\DASY4\Print\_Templates\HAC\_H\_Dipole\_CW%201880\_5%... 14/07/2005



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Date/Time: 14/07/2005 12:53:40 PM

**Lab: RIM Testing Services (RTS)**

**HAC\_H\_Dipole\_CW 1880\_2 mm step\_07\_14\_05**

**DUT: HAC Dipole 1880 MHz; Type: CD1880V3**

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1  
 Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Dipole Section

DASY4 Configuration:  
 - Probe: H3DV6 - SN6105; ; Calibrated: 10/12/2004  
 - Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)  
 - Electronics: DAE3 Sn472; Calibrated: 03/01/2005  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA;  
 - Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):**

Measurement grid: dx=2mm, dy=2mm  
 Maximum value of Total (measured) = 0.406 A/m

**H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):**

Measurement grid: dx=2mm, dy=2mm  
 Maximum value of Total field (slot averaged) = 0.406 A/m

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

H in A/m (Time averaged)    H in A/m (Slot averaged)

Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
<b>0.347</b>	<b>0.361</b>	<b>0.348</b>	<b>0.347</b>	<b>0.361</b>	<b>0.348</b>
Grid 4	Grid 5	Grid 6	Grid 4	Grid 5	Grid 6
<b>0.394</b>	<b>0.406</b>	<b>0.391</b>	<b>0.394</b>	<b>0.406</b>	<b>0.391</b>
Grid 7	Grid 8	Grid 9	Grid 7	Grid 8	Grid 9
<b>0.367</b>	<b>0.380</b>	<b>0.365</b>	<b>0.367</b>	<b>0.380</b>	<b>0.365</b>

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

file://C:\Program%20Files\DASY4\Print\_Templates\HAC\_H\_Dipole\_CW%201880\_2%... 14/07/2005



Author Data  
**Daoud Attayi**

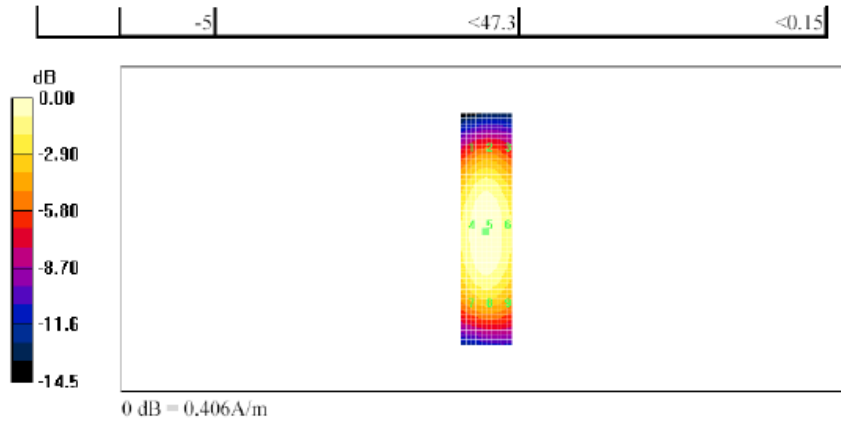
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### **A.3 RF emission field plots**

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Date/Time: 12/18/2012 2:26:46 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_GSM 850**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 850; Frequency: 824.2 MHz, Frequency: 836.8 MHz, Frequency: 848.8 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device E-Field GSM850 measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to Device\_Low\_Chan/Hearing Aid Compatibility Test**

**(101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 80.46 V/m; Power Drift = -0.03 dB

PMR not calibrated. PMF = 3.000 is applied.

E-field emissions = 206.5 V/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

Grid 1 <b>M3</b> <b>177.5 V/m</b>	Grid 2 <b>M3</b> <b>202.4 V/m</b>	Grid 3 <b>M3</b> <b>202.3 V/m</b>
Grid 4 <b>M3</b> <b>177.0 V/m</b>	Grid 5 <b>M3</b> <b>206.5 V/m</b>	Grid 6 <b>M3</b> <b>206.4 V/m</b>



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<b>Grid 7 M3</b> <b>175.9 V/m</b>	<b>Grid 8 M3</b> <b>203.7 V/m</b>	<b>Grid 9 M3</b> <b>203.4 V/m</b>
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**Cursor:**

Total = 206.5 V/m  
 E Category: M3  
 Location: -8, 0.5, 8.7 mm

**Device E-Field GSM850 measurement with ER probe/E Scan -  
 ER3D - 2007: 15 mm from Probe Center to the  
 Device\_Mid\_Chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 78.44 V/m; Power Drift = -0.08 dB  
 PMR not calibrated. PMF = 3.000 is applied.  
 E-field emissions = 204.7 V/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

<b>Grid 1 M3</b> <b>163.5 V/m</b>	<b>Grid 2 M3</b> <b>196.2 V/m</b>	<b>Grid 3 M3</b> <b>196.2 V/m</b>
<b>Grid 4 M3</b> <b>167.5 V/m</b>	<b>Grid 5 M3</b> <b>204.7 V/m</b>	<b>Grid 6 M3</b> <b>204.6 V/m</b>
<b>Grid 7 M3</b> <b>173.4 V/m</b>	<b>Grid 8 M3</b> <b>203.8 V/m</b>	<b>Grid 9 M3</b> <b>203.7 V/m</b>



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**Cursor:**

Total = 204.7 V/m  
 E Category: M3  
 Location: -7.5, 5, 8.7 mm

**Device E-Field GSM850 measurement with ER probe/E Scan -  
 ER3D - 2007: 15 mm from Probe Center to the  
 Device\_High\_Chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 73.32 V/m; Power Drift = -0.04 dB  
 PMR not calibrated. PMF = 3.000 is applied.  
 E-field emissions = 194.2 V/m

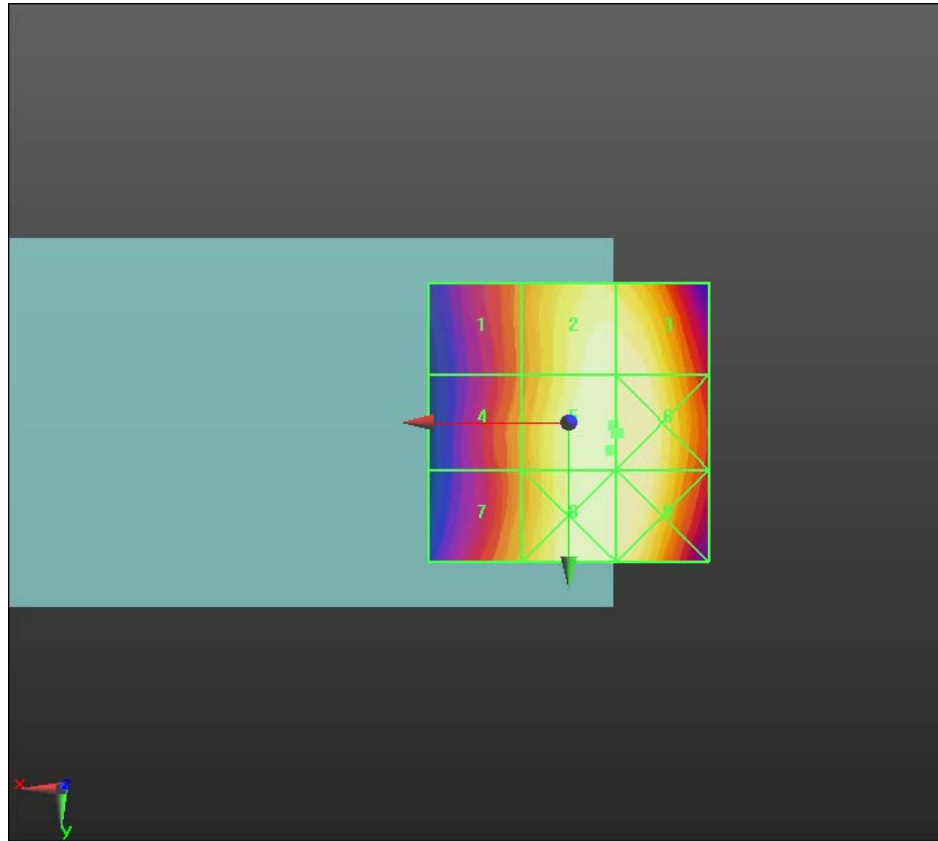
**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

Grid 1 <b>M3</b> <b>153.6 V/m</b>	Grid 2 <b>M3</b> <b>190.0 V/m</b>	Grid 3 <b>M3</b> <b>190.0 V/m</b>
Grid 4 <b>M3</b> <b>155.2 V/m</b>	Grid 5 <b>M3</b> <b>194.2 V/m</b>	Grid 6 <b>M3</b> <b>194.2 V/m</b>
Grid 7 <b>M3</b> <b>158.0 V/m</b>	Grid 8 <b>M3</b> <b>191.9 V/m</b>	Grid 9 <b>M3</b> <b>191.9 V/m</b>


**Cursor:**

Total = 194.2 V/m  
 E Category: M3  
 Location: -9, 2, 8.7 mm



0 dB = 198.3V/m = 45.95 dB V/m



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Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_GSM835\_Telecoil**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 850; Frequency: 824.2 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device E-Field GSM850 measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_telecoil/Hearing Aid Compatibility Test**

**(101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 74.15 V/m; Power Drift = -0.01 dB

PMR not calibrated. PMF = 3.000 is applied.

E-field emissions = 187.9 V/m

**Near-field category: M3 (AWF -5 dB)**

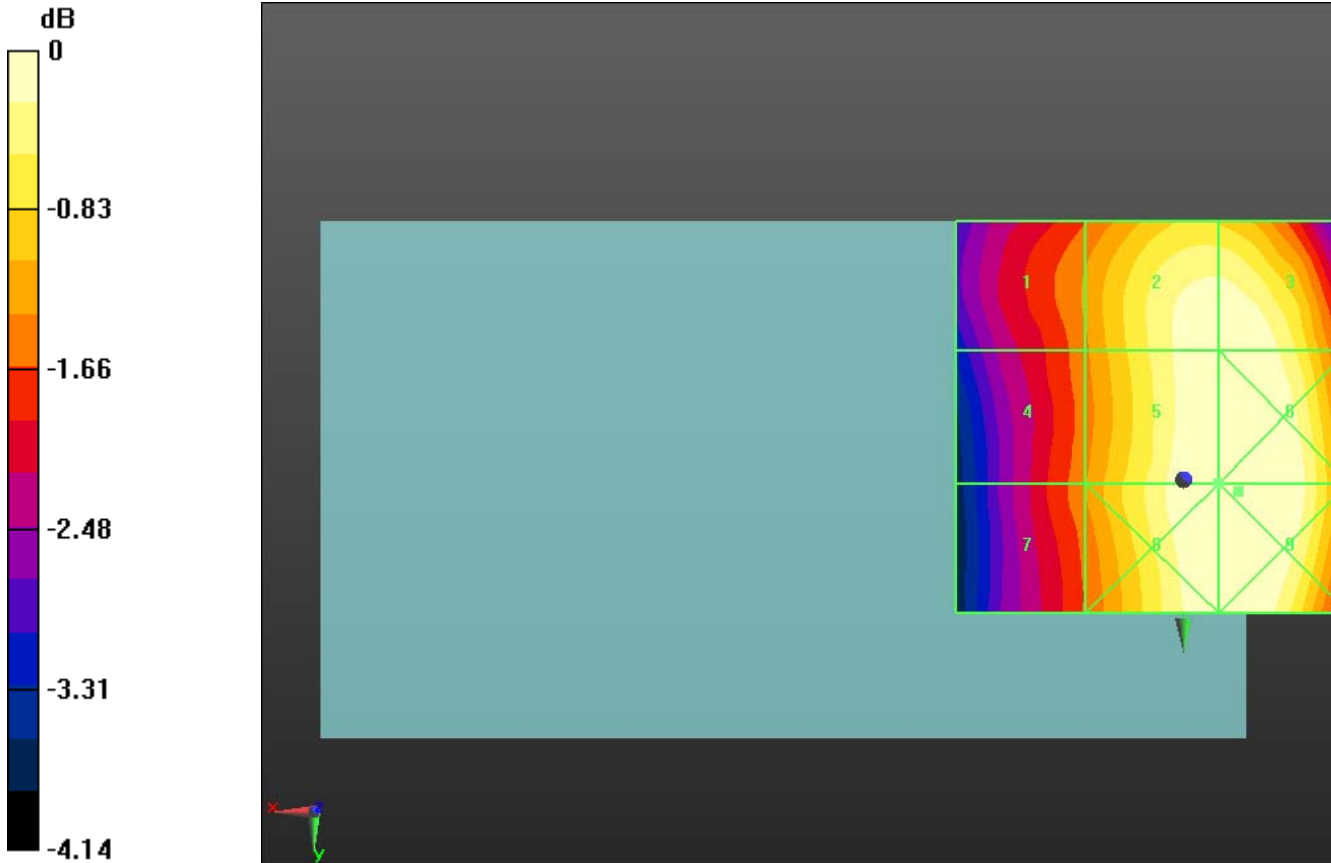
PMF scaled E-field

Grid 1 <b>M3</b> <b>156.1 V/m</b>	Grid 2 <b>M3</b> <b>182.2 V/m</b>	Grid 3 <b>M3</b> <b>182.4 V/m</b>
Grid 4 <b>M3</b> <b>154.9 V/m</b>	Grid 5 <b>M3</b> <b>187.9 V/m</b>	Grid 6 <b>M3</b> <b>189.1 V/m</b>
Grid 7 <b>M3</b>	Grid 8 <b>M3</b>	Grid 9 <b>M3</b>


<b>155.0 V/m</b>	<b>188.0 V/m</b>	<b>189.2 V/m</b>
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**Cursor:**

Total = 189.2 V/m  
 E Category: M3  
 Location: -7, 1.5, 8.7 mm



0 dB = 181.7V/m = 45.19 dB V/m

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Date/Time: 12/18/2012 3:07:07 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_UMTS\_band V**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: WCDMA FDD V; Frequency: 826.4 MHz, Frequency: 836.4 MHz, Frequency: 846.6 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device E-Field UMTS band V measurement with ER probe 2 2/E Scan - ER3D - 2007: 15 mm from Probe Center to Device\_Low\_Chan/Hearing Aid**

**Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 82.24 V/m; Power Drift = -0.01 dB

PMR not calibrated. PMF = 1.070 is applied.

E-field emissions = 75.80 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>61.63 V/m</b>	Grid 2 <b>M4</b> <b>73.00 V/m</b>	Grid 3 <b>M4</b> <b>73.00 V/m</b>
Grid 4 <b>M4</b> <b>62.87 V/m</b>	Grid 5 <b>M4</b> <b>75.80 V/m</b>	Grid 6 <b>M4</b> <b>75.79 V/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>



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<b>64.80 V/m</b>	<b>75.31 V/m</b>	<b>75.29 V/m</b>
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**Cursor:**

Total = 75.799 V/m  
 E Category: M4  
 Location: -8, 4.5, 8.7 mm

**Device E-Field UMTS band V measurement with ER probe 2 2/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_Mid\_Chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 83.58 V/m; Power Drift = -0.02 dB  
 PMR not calibrated. PMF = 1.070 is applied.  
 E-field emissions = 79.83 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>60.89 V/m</b>	Grid 2 <b>M4</b> <b>75.98 V/m</b>	Grid 3 <b>M4</b> <b>76.01 V/m</b>
Grid 4 <b>M4</b> <b>63.40 V/m</b>	Grid 5 <b>M4</b> <b>79.83 V/m</b>	Grid 6 <b>M4</b> <b>79.83 V/m</b>
Grid 7 <b>M4</b> <b>66.19 V/m</b>	Grid 8 <b>M4</b> <b>79.59 V/m</b>	Grid 9 <b>M4</b> <b>79.59 V/m</b>

**Cursor:**

Total = 79.828 V/m  
 E Category: M4  
 Location: -8.5, 5.5, 8.7 mm

**Device E-Field UMTS band V measurement with ER probe 2 2/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_High\_Chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 89.08 V/m; Power Drift = -0.13 dB  
 PMR not calibrated. PMF = 1.070 is applied.  
 E-field emissions = 82.50 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

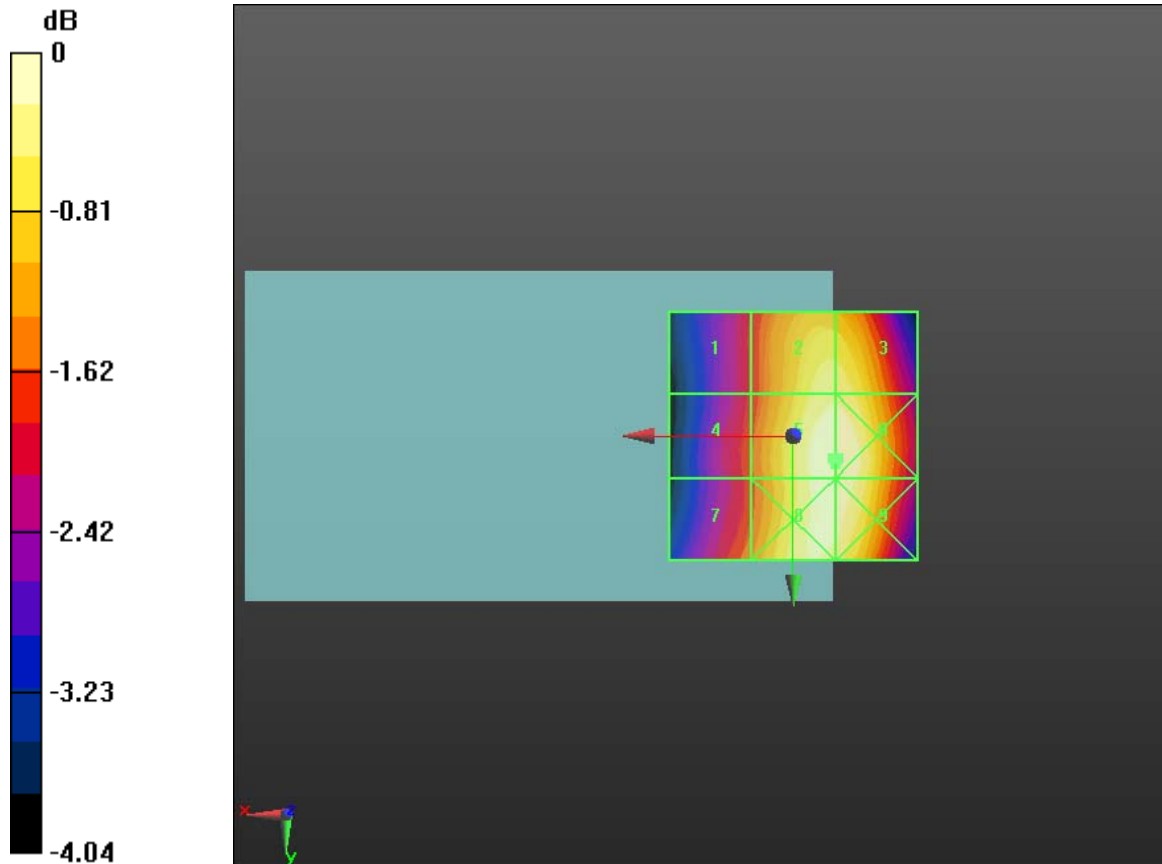
Grid 1 <b>M4</b> <b>65.22 V/m</b>	Grid 2 <b>M4</b> <b>79.36 V/m</b>	Grid 3 <b>M4</b> <b>79.36 V/m</b>
Grid 4 <b>M4</b> <b>66.57 V/m</b>	Grid 5 <b>M4</b> <b>82.50 V/m</b>	Grid 6 <b>M4</b> <b>82.56 V/m</b>
Grid 7 <b>M4</b> <b>69.34 V/m</b>	Grid 8 <b>M4</b> <b>81.94 V/m</b>	Grid 9 <b>M4</b> <b>81.99 V/m</b>

**Cursor:**


Total = 82.560 V/m

E Category: M4

Location: -9, 4.5, 8.7 mm



0 dB = 75.800V/m = 37.59 dB V/m

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Date/Time: 12/18/2012 2:44:01 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_GSM 1900**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 1900; Frequency: 1850.2 MHz, Frequency: 1880 MHz, Frequency: 1909.8 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device E-Field GSM 1900 measurement with ER probe 2/E Scan - ER3D - 2007: 15 mm from Probe Center to Device\_Low\_Chan/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 15.83 V/m; Power Drift = 0.20 dB  
 PMR not calibrated. PMF = 2.850 is applied.  
 E-field emissions = 77.90 V/m  
**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

Grid 1 <b>M3</b> <b>72.78 V/m</b>	Grid 2 <b>M3</b> <b>77.90 V/m</b>	Grid 3 <b>M3</b> <b>73.98 V/m</b>
Grid 4 <b>M4</b> <b>43.29 V/m</b>	Grid 5 <b>M3</b> <b>55.32 V/m</b>	Grid 6 <b>M3</b> <b>57.82 V/m</b>



Author Data <b>Daoud Attayi</b>	Dates of Test <b>Feb. 17, June 28, Dec. 17-18, 2012</b>	Report No <b>RTS-6026-1302-05</b>	FCC ID <b>L6ARFN80UW</b>
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<b>Grid 7 M3</b> <b>67.31 V/m</b>	<b>Grid 8 M2</b> <b>85.44 V/m</b>	<b>Grid 9 M2</b> <b>85.44 V/m</b>
--------------------------------------	--------------------------------------	--------------------------------------

**Cursor:**

Total = 85.438 V/m  
 E Category: M2  
 Location: -8.5, 25, 8.7 mm

**Device E-Field GSM 1900 measurement with ER probe 2/E Scan -  
 ER3D - 2007: 15 mm from Probe Center to the  
 Device\_Mid\_Chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 16.02 V/m; Power Drift = -0.02 dB  
 PMR not calibrated. PMF = 2.850 is applied.  
 E-field emissions = 71.76 V/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

<b>Grid 1 M3</b> <b>66.31 V/m</b>	<b>Grid 2 M3</b> <b>71.76 V/m</b>	<b>Grid 3 M3</b> <b>71.39 V/m</b>
<b>Grid 4 M4</b> <b>42.05 V/m</b>	<b>Grid 5 M3</b> <b>50.97 V/m</b>	<b>Grid 6 M3</b> <b>53.79 V/m</b>
<b>Grid 7 M3</b> <b>55.96 V/m</b>	<b>Grid 8 M3</b> <b>74.91 V/m</b>	<b>Grid 9 M3</b> <b>74.91 V/m</b>



Author Data  
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**Cursor:**

Total = 74.910 V/m  
 E Category: M3  
 Location: -8.5, 25, 8.7 mm

**Device E-Field GSM 1900 measurement with ER probe 2/E Scan -  
 ER3D - 2007: 15 mm from Probe Center to the  
 Device\_High\_Chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 17.00 V/m; Power Drift = -0.17 dB  
 PMR not calibrated. PMF = 2.850 is applied.  
 E-field emissions = 68.16 V/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

Grid 1 <b>M3</b> <b>62.92 V/m</b>	Grid 2 <b>M3</b> <b>68.16 V/m</b>	Grid 3 <b>M3</b> <b>67.57 V/m</b>
Grid 4 <b>M4</b> <b>42.77 V/m</b>	Grid 5 <b>M3</b> <b>48.94 V/m</b>	Grid 6 <b>M3</b> <b>50.06 V/m</b>
Grid 7 <b>M3</b> <b>50.61 V/m</b>	Grid 8 <b>M3</b> <b>68.65 V/m</b>	Grid 9 <b>M3</b> <b>68.63 V/m</b>

**Cursor:**

Total = 68.645 V/m  
 E Category: M3  
 Location: -8, 25, 8.7 mm

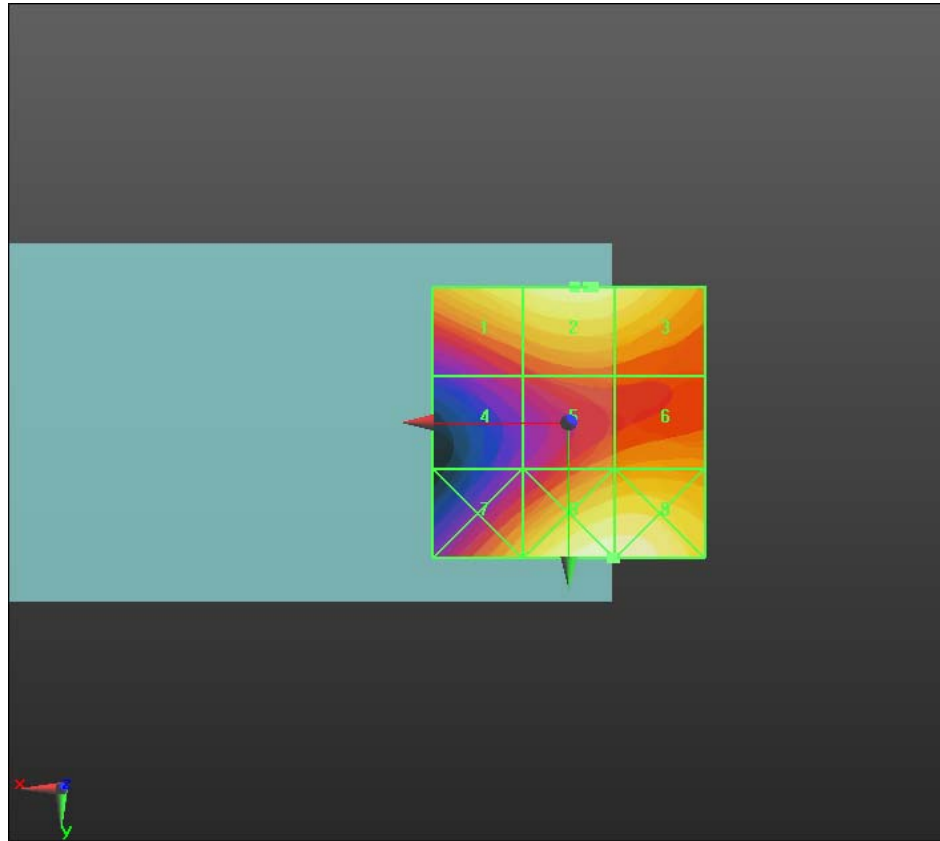
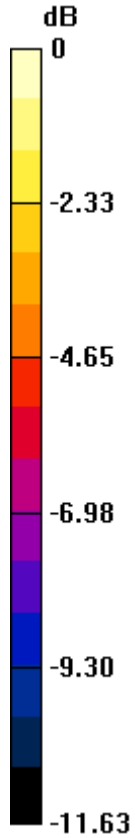


Author Data  
**Daoud Attayi**


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0 dB = 86.370V/m = 38.73 dB V/m

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Date/Time: 12/18/2012 10:23:44 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_GSM1900\_Telecoil**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 1900; Frequency: 1850.2 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_telecoil/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 15.47 V/m; Power Drift = 0.07 dB

PMR not calibrated. PMF = 2.850 is applied.

E-field emissions = 69.05 V/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

Grid 1 <b>M3</b> <b>80.16 V/m</b>	Grid 2 <b>M2</b> <b>87.26 V/m</b>	Grid 3 <b>M2</b> <b>85.73 V/m</b>
Grid 4 <b>M3</b> <b>54.37 V/m</b>	Grid 5 <b>M3</b> <b>61.95 V/m</b>	Grid 6 <b>M3</b> <b>61.64 V/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M3</b>	Grid 9 <b>M3</b>

Author Data  
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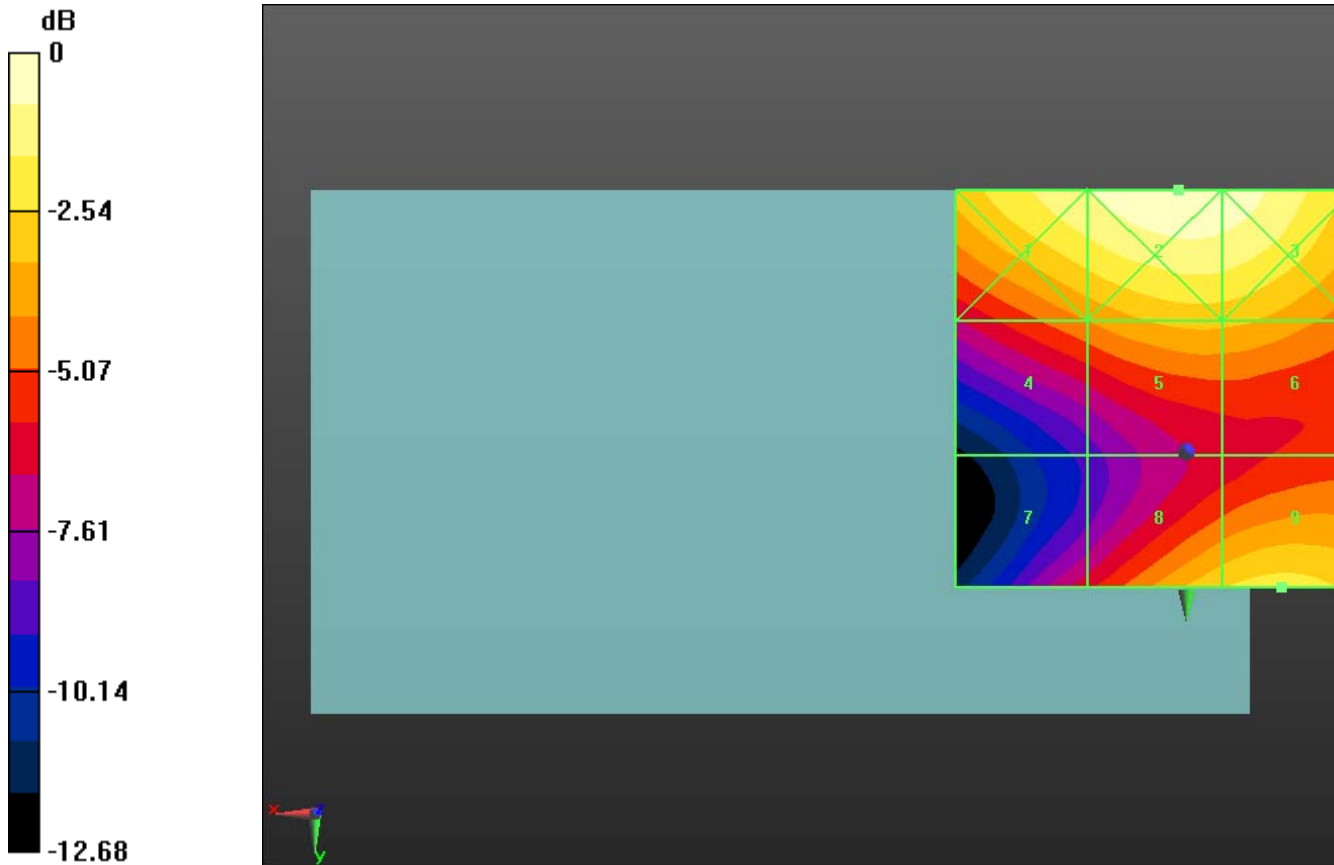
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**L6ARFN80UW**

<b>43.48 V/m</b>	<b>65.41 V/m</b>	<b>69.05 V/m</b>
------------------	------------------	------------------

**Cursor:**

Total = 87.258 V/m  
 E Category: M2  
 Location: 1, -33, 8.7 mm



0 dB = 88.210V/m = 38.91 dB V/m

Date/Time: 12/18/2012 3:22:04 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_UMTS\_band II**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: WCDMA FDD II; Frequency: 1852.4 MHz, Frequency: 1880 MHz, Frequency: 1907.6 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device E-Field UMTS band II measurement with ER probe 2 2 2/E Scan - ER3D - 2007: 15 mm from Probe Center to Device\_Low\_Chan/Hearing Aid**

**Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 25.00 V/m; Power Drift = 0.07 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 30.85 V/m  
**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>28.88 V/m</b>	Grid 2 <b>M4</b> <b>30.85 V/m</b>	Grid 3 <b>M4</b> <b>29.71 V/m</b>
Grid 4 <b>M4</b> <b>18.87 V/m</b>	Grid 5 <b>M4</b> <b>24.00 V/m</b>	Grid 6 <b>M4</b> <b>24.37 V/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>



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<b>26.14 V/m</b>	<b>33.93 V/m</b>	<b>33.90 V/m</b>
------------------	------------------	------------------

**Cursor:**

Total = 33.930 V/m  
 E Category: M4  
 Location: -7.5, 25, 8.7 mm

**Device E-Field UMTS band II measurement with ER probe 2 2 2/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_Mid\_Chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 24.38 V/m; Power Drift = -0.15 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 29.88 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>27.62 V/m</b>	Grid 2 <b>M4</b> <b>29.88 V/m</b>	Grid 3 <b>M4</b> <b>29.22 V/m</b>
Grid 4 <b>M4</b> <b>17.29 V/m</b>	Grid 5 <b>M4</b> <b>25.62 V/m</b>	Grid 6 <b>M4</b> <b>25.96 V/m</b>
Grid 7 <b>M4</b> <b>26.93 V/m</b>	Grid 8 <b>M4</b> <b>35.72 V/m</b>	Grid 9 <b>M4</b> <b>35.67 V/m</b>

**Cursor:**

Total = 35.724 V/m  
 E Category: M4  
 Location: -7.5, 25, 8.7 mm

**Device E-Field UMTS band II measurement with ER probe 2 2 2/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device\_High\_Chan/Hearing Aid Compatibility Test (101x101x1):**

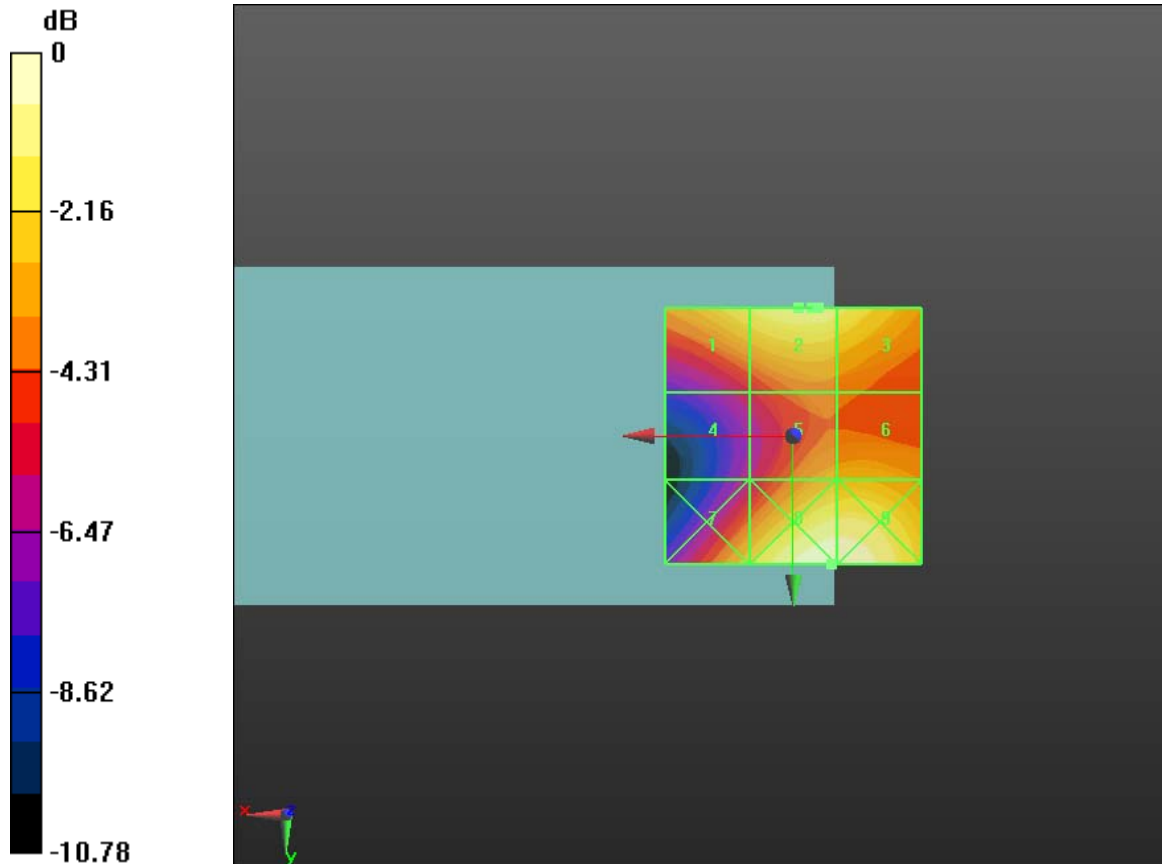
Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 21.66 V/m; Power Drift = 0.02 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 E-field emissions = 32.47 V/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled E-field

Grid 1 <b>M4</b> <b>29.36 V/m</b>	Grid 2 <b>M4</b> <b>32.47 V/m</b>	Grid 3 <b>M4</b> <b>31.96 V/m</b>
Grid 4 <b>M4</b> <b>17.63 V/m</b>	Grid 5 <b>M4</b> <b>25.37 V/m</b>	Grid 6 <b>M4</b> <b>25.89 V/m</b>
Grid 7 <b>M4</b> <b>26.87 V/m</b>	Grid 8 <b>M4</b> <b>36.79 V/m</b>	Grid 9 <b>M4</b> <b>36.75 V/m</b>

**Cursor:**  
 Total = 36.786 V/m  
 E Category: M4  
 Location: -7.5, 25, 8.7 mm



0 dB = 33.930V/m = 30.61 dB V/m



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Date/Time: 12/18/2012 10:49:07 PM

Test Laboratory: RIM Testing Services

**HAC RF\_E-Field\_GSM1900\_2100\_Battery**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 1900; Frequency: 1850.2 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to Device\_Low\_Chan\_2100 Battery/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 16.16 V/m; Power Drift = 0.04 dB

PMR not calibrated. PMF = 2.850 is applied.

E-field emissions = 79.89 V/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled E-field

Grid 1 <b>M3</b> <b>76.48 V/m</b>	Grid 2 <b>M3</b> <b>79.89 V/m</b>	Grid 3 <b>M3</b> <b>75.17 V/m</b>
Grid 4 <b>M4</b> <b>46.07 V/m</b>	Grid 5 <b>M3</b> <b>55.51 V/m</b>	Grid 6 <b>M3</b> <b>58.20 V/m</b>
Grid 7 <b>M3</b>	Grid 8 <b>M2</b>	Grid 9 <b>M2</b>



Author Data  
**Daoud Attayi**

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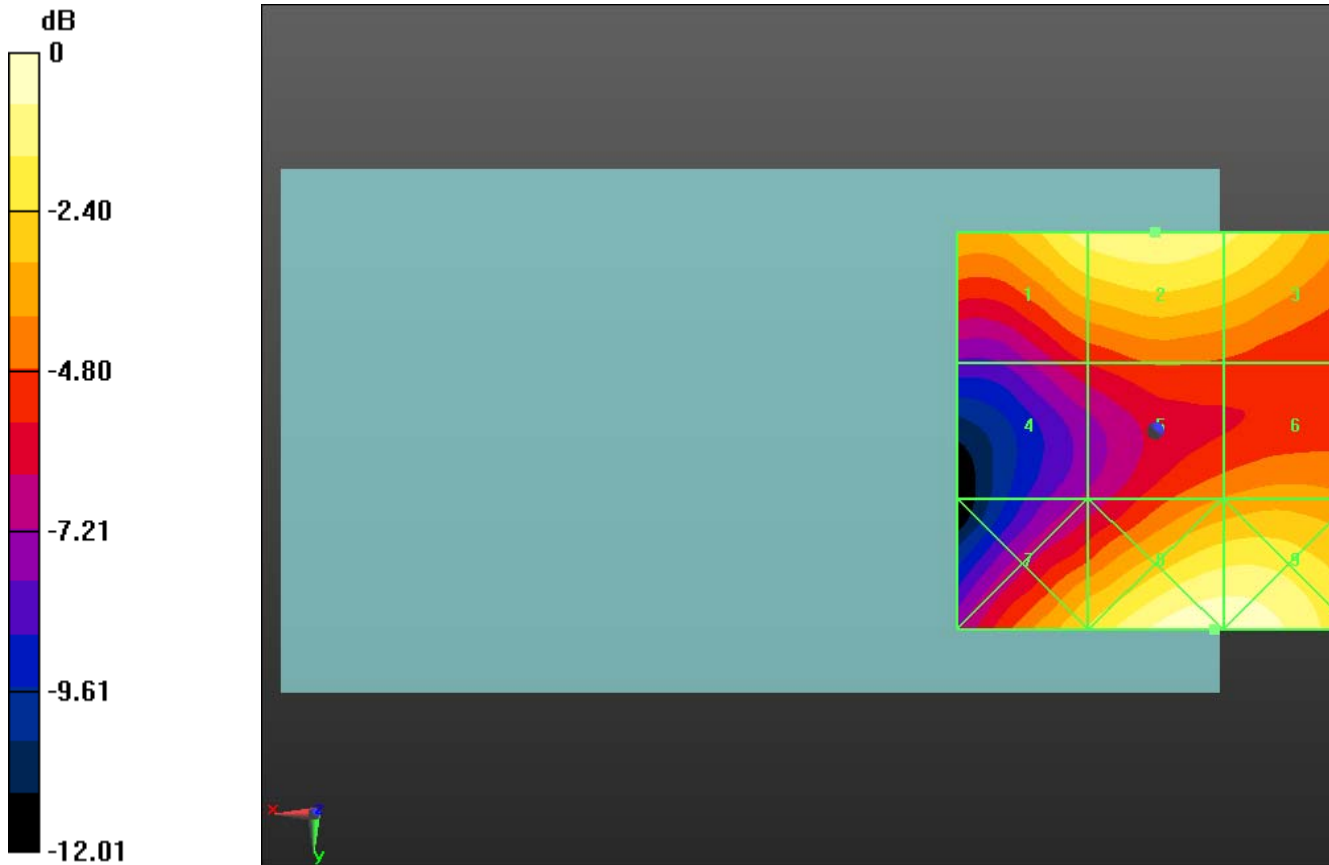
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**67.10 V/m**      **86.51 V/m**      **86.42 V/m**

**Cursor:**

Total = 86.508 V/m  
 E Category: M2  
 Location: -7.5, 25, 8.7 mm



0 dB = 87.450V/m = 38.84 dB V/m

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Date/Time: 12/18/2012 4:17:35 PM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_GSM 850**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 850; Frequency: 824.2 MHz, Frequency: 836.8 MHz, Frequency: 848.8 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device H-Field GSM 850\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_low\_chan/Hearing Aid**

**Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.07 V/m; Power Drift = 0.07 dB

PMR not calibrated. PMF = 2.890 is applied.

H-field emissions = 0.42 A/m

**Near-field category: M4 (AWF -5 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.42 A/m</b>	Grid 2 <b>M4</b> <b>0.30 A/m</b>	Grid 3 <b>M4</b> <b>0.19 A/m</b>
Grid 4 <b>M4</b> <b>0.36 A/m</b>	Grid 5 <b>M4</b> <b>0.26 A/m</b>	Grid 6 <b>M4</b> <b>0.16 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>



Author Data  
**Daoud Attayi**

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**L6ARFN80UW**

<b>0.36 A/m</b>	<b>0.26 A/m</b>	<b>0.16 A/m</b>
-----------------	-----------------	-----------------

**Cursor:**

Total = 0.419 A/m  
H Category: M4  
Location: 25, -25, 8.7 mm

**Device H-Field GSM 850\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_mid\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 0.07 V/m; Power Drift = 0.05 dB  
PMR not calibrated. PMF = 2.890 is applied.  
H-field emissions = 0.41 A/m

**Near-field category: M4 (AWF -5 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.41 A/m</b>	Grid 2 <b>M4</b> <b>0.32 A/m</b>	Grid 3 <b>M4</b> <b>0.21 A/m</b>
Grid 4 <b>M4</b> <b>0.36 A/m</b>	Grid 5 <b>M4</b> <b>0.27 A/m</b>	Grid 6 <b>M4</b> <b>0.18 A/m</b>
Grid 7 <b>M4</b> <b>0.37 A/m</b>	Grid 8 <b>M4</b> <b>0.27 A/m</b>	Grid 9 <b>M4</b> <b>0.17 A/m</b>

**Cursor:**

Total = 0.414 A/m  
H Category: M4  
Location: 25, -25, 8.7 mm

**Device H-Field GSM 850\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_high\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 0.08 V/m; Power Drift = 0.22 dB  
PMR not calibrated. PMF = 2.890 is applied.  
H-field emissions = 0.42 A/m

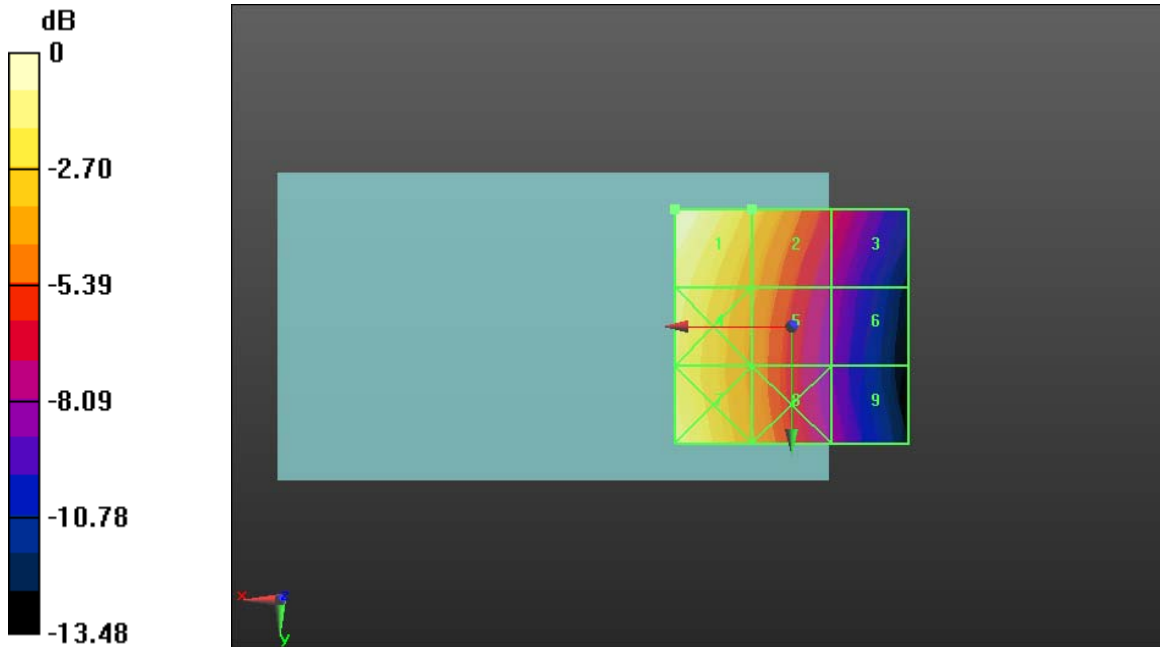
**Near-field category: M4 (AWF -5 dB)**

PMF scaled H-field


Grid 1 <b>M4</b> <b>0.42 A/m</b>	Grid 2 <b>M4</b> <b>0.32 A/m</b>	Grid 3 <b>M4</b> <b>0.21 A/m</b>
Grid 4 <b>M4</b> <b>0.37 A/m</b>	Grid 5 <b>M4</b> <b>0.28 A/m</b>	Grid 6 <b>M4</b> <b>0.19 A/m</b>
Grid 7 <b>M4</b> <b>0.38 A/m</b>	Grid 8 <b>M4</b> <b>0.29 A/m</b>	Grid 9 <b>M4</b> <b>0.20 A/m</b>

**Cursor:**

Total = 0.418 A/m  
 H Category: M4  
 Location: 25, -25, 8.7 mm



0 dB = 0.420A/m = -7.54 dB A/m

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Date/Time: 12/18/2012 4:35:47 PM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_GSM 850\_telecoil\_center**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 850; Frequency: 824.2 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device H-Field GSM 850\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_Centre\_Telecoil/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.07 V/m; Power Drift = 0.06 dB  
 PMR not calibrated. PMF = 2.890 is applied.  
 H-field emissions = 0.46 A/m

**Near-field category: M3 (AWF -5 dB)**

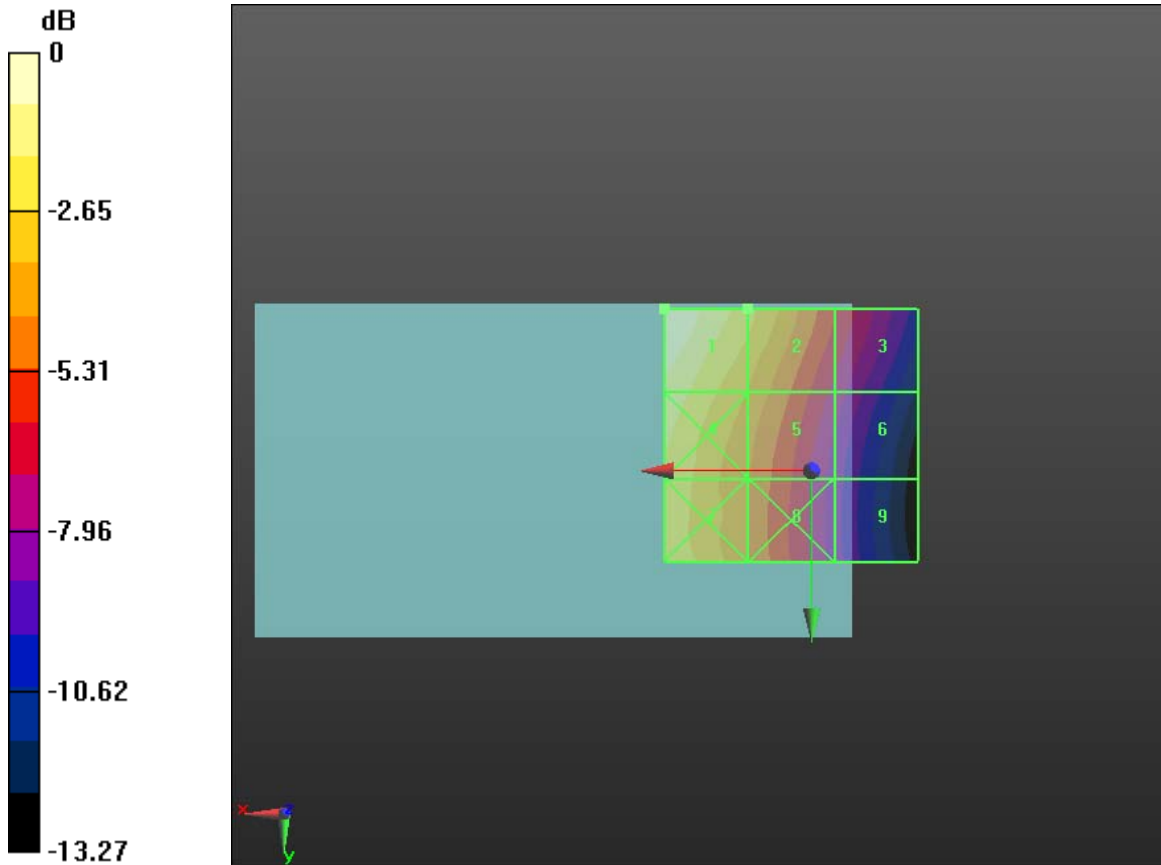
PMF scaled H-field

Grid 1 <b>M3</b> <b>0.46 A/m</b>	Grid 2 <b>M4</b> <b>0.34 A/m</b>	Grid 3 <b>M4</b> <b>0.22 A/m</b>
Grid 4 <b>M4</b> <b>0.40 A/m</b>	Grid 5 <b>M4</b> <b>0.30 A/m</b>	Grid 6 <b>M4</b> <b>0.19 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>


**0.36 A/m      0.27 A/m      0.17 A/m**

**Cursor:**

Total = 0.456 A/m  
 H Category: M3  
 Location: 29, -32, 8.7 mm



0 dB = 0.450A/m = -6.94 dB A/m

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Date/Time: 12/18/2012 6:34:22 PM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_UMTS\_Band\_V**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: WCDMA FDD V; Frequency: 826.4 MHz, Frequency: 836.4 MHz, Frequency: 846.6 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device H-Field UMTS band V\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_low\_chan/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.07 V/m; Power Drift = -0.07 dB

PMR not calibrated. PMF = 1.090 is applied.

H-field emissions = 0.16 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.16 A/m</b>	Grid 2 <b>M4</b> <b>0.12 A/m</b>	Grid 3 <b>M4</b> <b>0.08 A/m</b>
Grid 4 <b>M4</b> <b>0.14 A/m</b>	Grid 5 <b>M4</b> <b>0.10 A/m</b>	Grid 6 <b>M4</b> <b>0.07 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>

<b>0.14 A/m</b>	<b>0.10 A/m</b>	<b>0.06 A/m</b>
-----------------	-----------------	-----------------

**Cursor:**

Total = 0.162 A/m  
 H Category: M4  
 Location: 25, -25, 8.7 mm

**Device H-Field UMTS band V\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_mid\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.08 V/m; Power Drift = 0.07 dB  
 PMR not calibrated. PMF = 1.090 is applied.  
 H-field emissions = 0.17 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.17 A/m</b>	Grid 2 <b>M4</b> <b>0.13 A/m</b>	Grid 3 <b>M4</b> <b>0.09 A/m</b>
Grid 4 <b>M4</b> <b>0.15 A/m</b>	Grid 5 <b>M4</b> <b>0.11 A/m</b>	Grid 6 <b>M4</b> <b>0.08 A/m</b>
Grid 7 <b>M4</b> <b>0.15 A/m</b>	Grid 8 <b>M4</b> <b>0.11 A/m</b>	Grid 9 <b>M4</b> <b>0.07 A/m</b>

**Cursor:**

Total = 0.172 A/m  
 H Category: M4  
 Location: 25, -25, 8.7 mm

**Device H-Field UMTS band V\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_high\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.10 V/m; Power Drift = -0.19 dB  
 PMR not calibrated. PMF = 1.090 is applied.  
 H-field emissions = 0.19 A/m

**Near-field category: M4 (AWF 0 dB)**



PMF scaled H-field

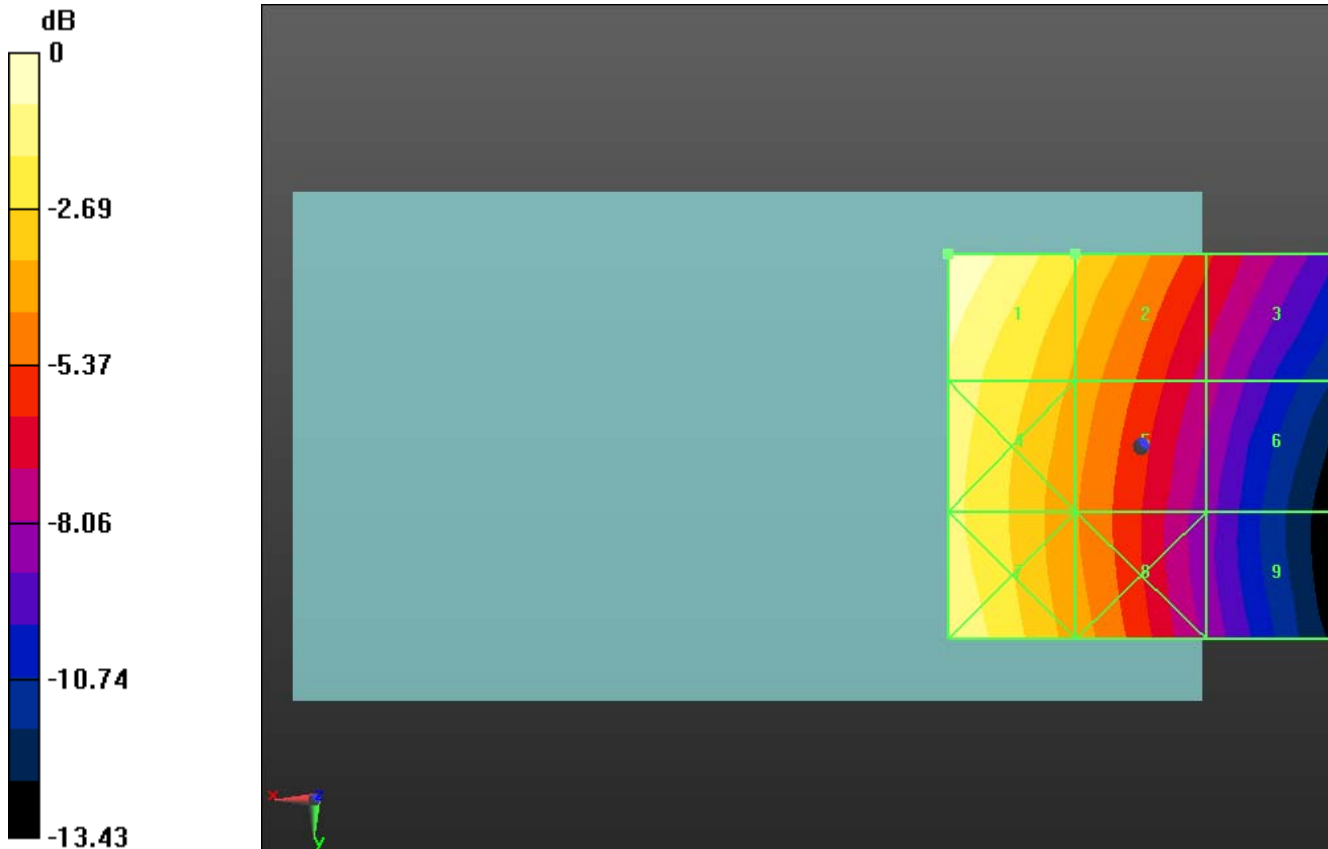
Grid 1 <b>M4</b> <b>0.19 A/m</b>	Grid 2 <b>M4</b> <b>0.14 A/m</b>	Grid 3 <b>M4</b> <b>0.10 A/m</b>
Grid 4 <b>M4</b> <b>0.16 A/m</b>	Grid 5 <b>M4</b> <b>0.13 A/m</b>	Grid 6 <b>M4</b> <b>0.09 A/m</b>
Grid 7 <b>M4</b> <b>0.17 A/m</b>	Grid 8 <b>M4</b> <b>0.13 A/m</b>	Grid 9 <b>M4</b> <b>0.08 A/m</b>

**Cursor:**


Total = 0.189 A/m

H Category: M4

Location: 25, -25, 8.7 mm



0 dB = 0.160A/m = -15.92 dB A/m

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Date/Time: 12/18/2012 4:46:56 PM

Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_GSM 1900**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 1900; Frequency: 1880 MHz, Frequency: 1909.8 MHz  
Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
Phantom section: RF Section  
Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA; Serial: **Not Specified**
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device H-Field GSM 1900\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_low\_chan/Hearing Aid**

**Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 0.07 V/m; Power Drift = 0.13 dB  
PMR not calibrated. PMF = 2.860 is applied.  
H-field emissions = 0.19 A/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled H-field

<b>Grid 1 M3</b> <b>0.21 A/m</b>	<b>Grid 2 M3</b> <b>0.19 A/m</b>	<b>Grid 3 M3</b> <b>0.19 A/m</b>
<b>Grid 4 M3</b> <b>0.16 A/m</b>	<b>Grid 5 M3</b> <b>0.19 A/m</b>	<b>Grid 6 M3</b> <b>0.19 A/m</b>
<b>Grid 7 M3</b>	<b>Grid 8 M3</b>	<b>Grid 9 M3</b>

<b>0.18 A/m</b>	<b>0.18 A/m</b>	<b>0.18 A/m</b>
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**Cursor:**  
 Total = 0.207 A/m  
 H Category: M3  
 Location: 25, -25, 8.7 mm

**Device H-Field GSM 1900\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_mid\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.07 V/m; Power Drift = -0.03 dB  
 PMR not calibrated. PMF = 2.860 is applied.  
 H-field emissions = 0.19 A/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled H-field

<b>Grid 1 M3 0.21 A/m</b>	<b>Grid 2 M3 0.19 A/m</b>	<b>Grid 3 M3 0.19 A/m</b>
<b>Grid 4 M3 0.16 A/m</b>	<b>Grid 5 M3 0.19 A/m</b>	<b>Grid 6 M3 0.19 A/m</b>
<b>Grid 7 M3 0.18 A/m</b>	<b>Grid 8 M3 0.18 A/m</b>	<b>Grid 9 M3 0.18 A/m</b>

**Cursor:**  
 Total = 0.213 A/m  
 H Category: M3  
 Location: 25, -25, 8.7 mm

**Device H-Field GSM 1900\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_high\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.07 V/m; Power Drift = -0.16 dB  
 PMR not calibrated. PMF = 2.860 is applied.  
 H-field emissions = 0.18 A/m

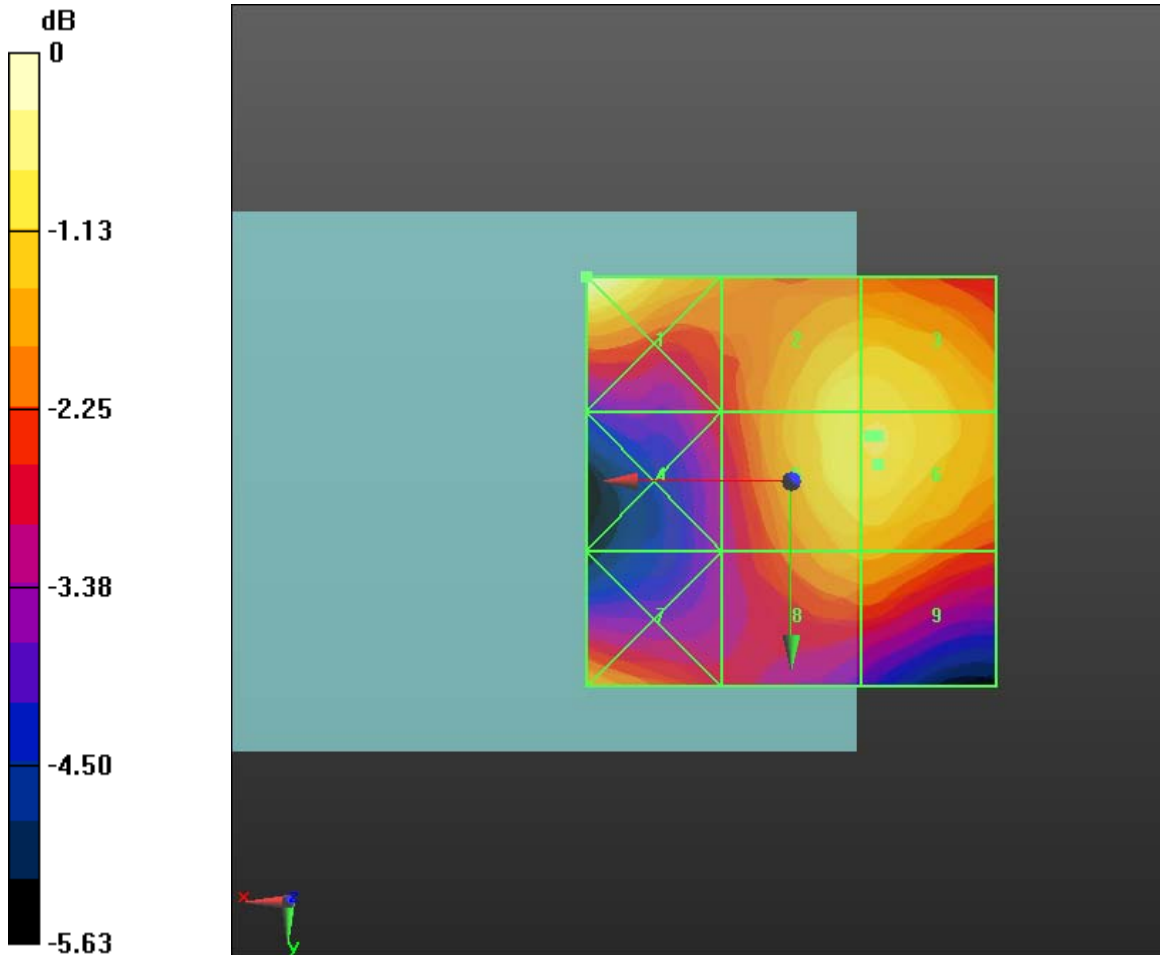
**Near-field category: M3 (AWF -5 dB)**

PMF scaled H-field

<b>Grid 1 M3 0.19 A/m</b>	Grid 2 M3 <b>0.18 A/m</b>	Grid 3 M3 <b>0.18 A/m</b>
Grid 4 M3 <b>0.14 A/m</b>	<b>Grid 5 M3 0.18 A/m</b>	Grid 6 M3 <b>0.18 A/m</b>
Grid 7 M3 <b>0.16 A/m</b>	Grid 8 M3 <b>0.17 A/m</b>	Grid 9 M3 <b>0.17 A/m</b>

**Cursor:**

Total = 0.190 A/m  
 H Category: M3  
 Location: 25, -25, 8.7 mm





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0 dB = 0.210A/m = -13.56 dB A/m

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Date/Time: 12/18/2012 5:04:53 PM

Test Laboratory: RIM Testing Services

### HAC RF\_H-Field\_GSM1900\_Telecoil

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 1900; Frequency: 1880 MHz  
Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
Phantom section: RF Section  
Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

### Device H-Field GSM 1900\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_Centre\_Telecoil/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm  
Reference Value = 0.07 V/m; Power Drift = 0.19 dB  
PMR not calibrated. PMF = 2.860 is applied.  
H-field emissions = 0.20 A/m

**Near-field category: M3 (AWF -5 dB)**

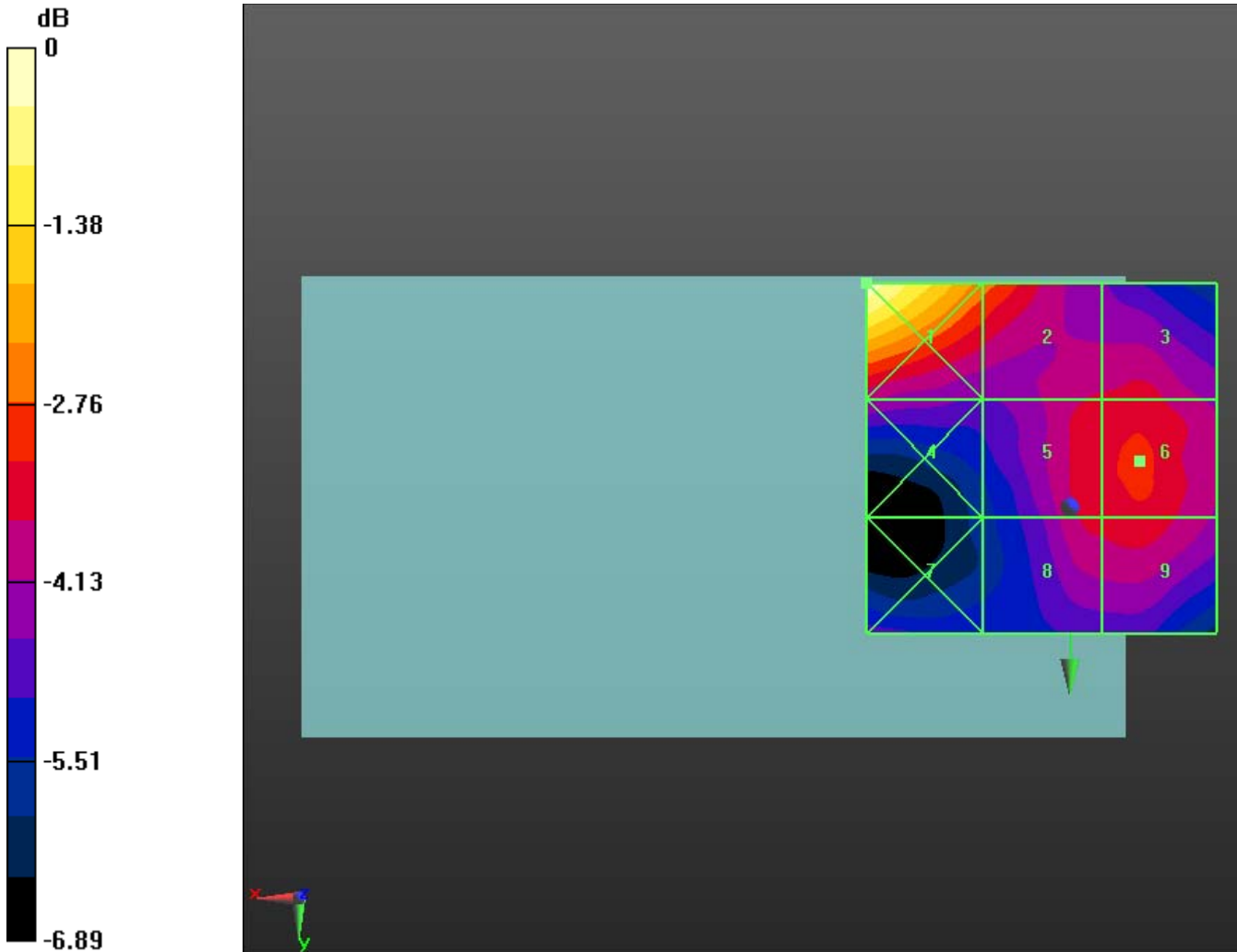
PMF scaled H-field

Grid 1 <b>M2</b> <b>0.27 A/m</b>	Grid 2 <b>M3</b> <b>0.20 A/m</b>	Grid 3 <b>M3</b> <b>0.18 A/m</b>
Grid 4 <b>M3</b> <b>0.17 A/m</b>	Grid 5 <b>M3</b> <b>0.18 A/m</b>	Grid 6 <b>M3</b> <b>0.19 A/m</b>
Grid 7 <b>M3</b>	Grid 8 <b>M3</b>	Grid 9 <b>M3</b>


<b>0.16 A/m</b>	<b>0.18 A/m</b>	<b>0.18 A/m</b>
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**Cursor:**

Total = 0.266 A/m  
 H Category: M2  
 Location: 29, -32, 8.7 mm



0 dB = 0.270A/m = -11.37 dB A/m

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Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_UMTS\_Band\_II**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: WCDMA FDD II; Frequency: 1852.4 MHz, Frequency: 1880 MHz, Frequency: 1907.6 MHz

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>

Phantom section: RF Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device H-Field UMTS band II\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_low\_chan/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.08 V/m; Power Drift = -0.11 dB

PMR not calibrated. PMF = 1.000 is applied.

H-field emissions = 0.09 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.09 A/m</b>	Grid 2 <b>M4</b> <b>0.08 A/m</b>	Grid 3 <b>M4</b> <b>0.08 A/m</b>
Grid 4 <b>M4</b> <b>0.07 A/m</b>	Grid 5 <b>M4</b> <b>0.08 A/m</b>	Grid 6 <b>M4</b> <b>0.08 A/m</b>
Grid 7 <b>M4</b>	Grid 8 <b>M4</b>	Grid 9 <b>M4</b>





<b>0.08 A/m</b>	<b>0.07 A/m</b>	<b>0.07 A/m</b>
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**Cursor:**

Total = 0.088 A/m  
 H Category: M4  
 Location: 25, -25, 8.7 mm

**Device H-Field UMTS band II\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_mid\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.09 V/m; Power Drift = -0.01 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.09 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

Grid 1 <b>M4</b> <b>0.09 A/m</b>	Grid 2 <b>M4</b> <b>0.08 A/m</b>	Grid 3 <b>M4</b> <b>0.08 A/m</b>
Grid 4 <b>M4</b> <b>0.07 A/m</b>	Grid 5 <b>M4</b> <b>0.08 A/m</b>	Grid 6 <b>M4</b> <b>0.08 A/m</b>
Grid 7 <b>M4</b> <b>0.09 A/m</b>	Grid 8 <b>M4</b> <b>0.08 A/m</b>	Grid 9 <b>M4</b> <b>0.08 A/m</b>

**Cursor:**

Total = 0.087 A/m  
 H Category: M4  
 Location: 25, -25, 8.7 mm

**Device H-Field UMTS band II\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_high\_chan/Hearing Aid Compatibility Test (101x101x1):**

Measurement grid: dx=5mm, dy=5mm  
 Device Reference Point: 0, 0, -6.3 mm  
 Reference Value = 0.09 V/m; Power Drift = 0.04 dB  
 PMR not calibrated. PMF = 1.000 is applied.  
 H-field emissions = 0.09 A/m

**Near-field category: M4 (AWF 0 dB)**

PMF scaled H-field

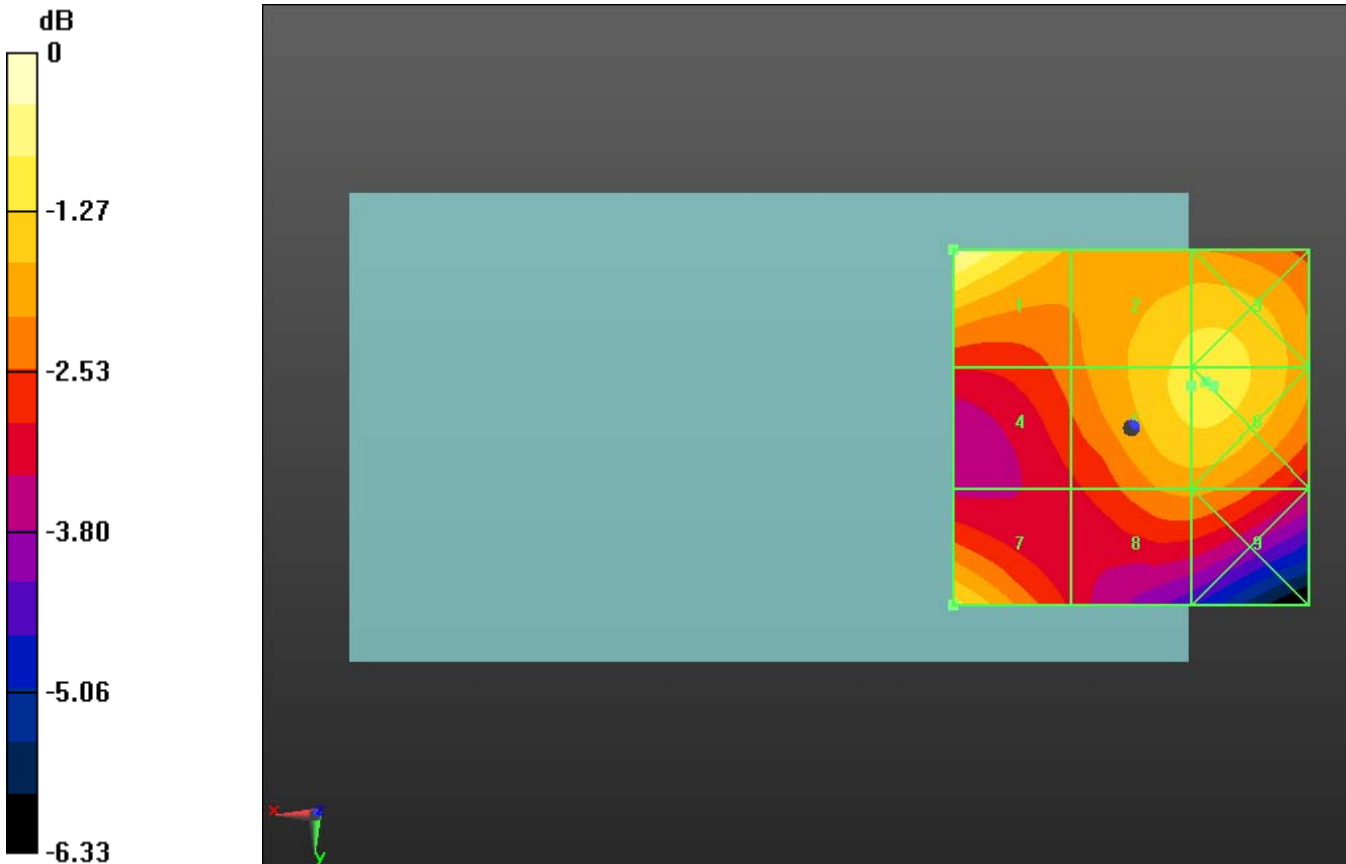
Grid 1 <b>M4</b> <b>0.09 A/m</b>	Grid 2 <b>M4</b> <b>0.09 A/m</b>	Grid 3 <b>M4</b> <b>0.09 A/m</b>
Grid 4 <b>M4</b> <b>0.07 A/m</b>	Grid 5 <b>M4</b> <b>0.09 A/m</b>	Grid 6 <b>M4</b> <b>0.09 A/m</b>
Grid 7 <b>M4</b> <b>0.09 A/m</b>	Grid 8 <b>M4</b> <b>0.08 A/m</b>	Grid 9 <b>M4</b> <b>0.08 A/m</b>

**Cursor:**

Total = 0.091 A/m

H Category: M4

Location: -11.5, -6, 8.7 mm



0 dB = 0.090A/m = -20.92 dB A/m



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**Daoud Attayi**

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Test Laboratory: RIM Testing Services

**HAC RF\_H-Field\_GSM1900\_Telecoil\_2100\_Battery**

**DUT: BlackBerry Smartphone; Type: Sample ; Serial: 25CF0BA5**

Communication System: GSM 1900; Frequency: 1880 MHz  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 0$  kg/m<sup>3</sup>  
 Phantom section: RF Section  
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/9/2012
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

**Device H-Field GSM 1900\_measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device\_Centre\_Telecoil\_2100\_Battery/Hearing Aid Compatibility Test**

**(101x101x1):** Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.07 V/m; Power Drift = -0.11 dB

PMR not calibrated. PMF = 2.860 is applied.

H-field emissions = 0.21 A/m

**Near-field category: M3 (AWF -5 dB)**

PMF scaled H-field

<b>Grid 1 M2</b> <b>0.28 A/m</b>	<b>Grid 2 M3</b> <b>0.21 A/m</b>	<b>Grid 3 M3</b> <b>0.19 A/m</b>
<b>Grid 4 M3</b> <b>0.18 A/m</b>	<b>Grid 5 M3</b> <b>0.19 A/m</b>	<b>Grid 6 M3</b> <b>0.20 A/m</b>

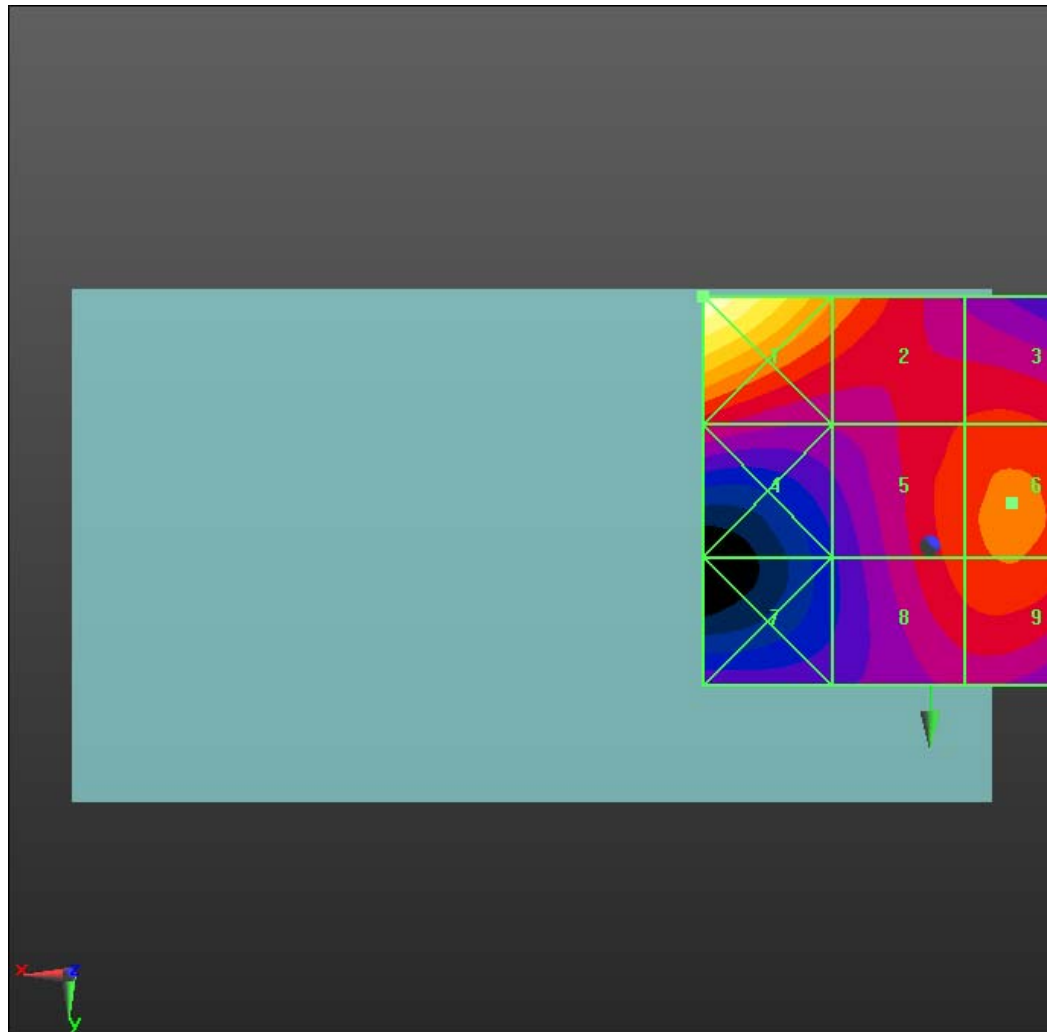
Author Data  
**Daoud Attayi**

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Grid 7 <b>M3</b> <b>0.16 A/m</b>	Grid 8 <b>M3</b> <b>0.19 A/m</b>	Grid 9 <b>M3</b> <b>0.20 A/m</b>
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0 dB = 0.280A/m = -11.06 dB A/m