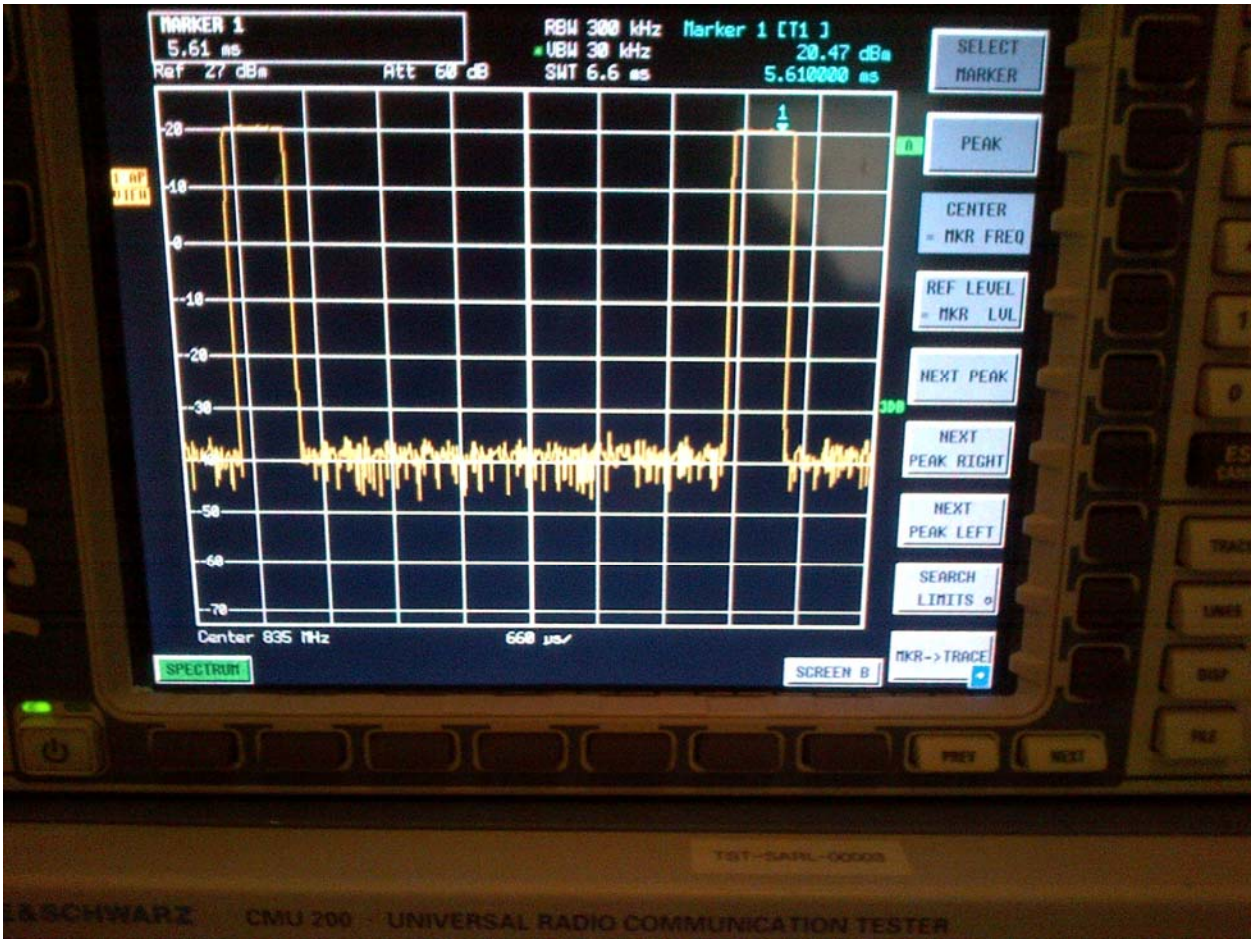
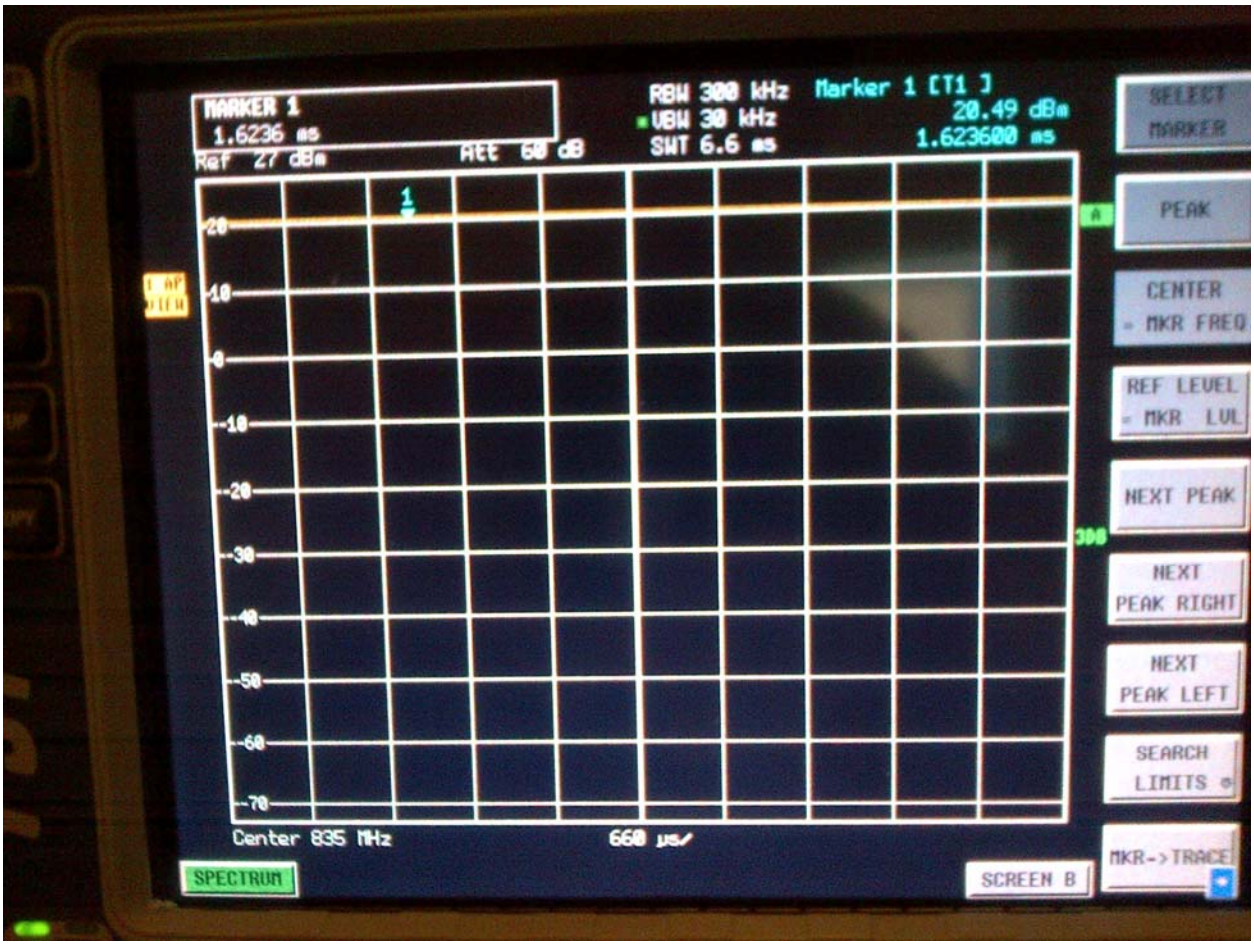
Annex A: Measurement data and plots

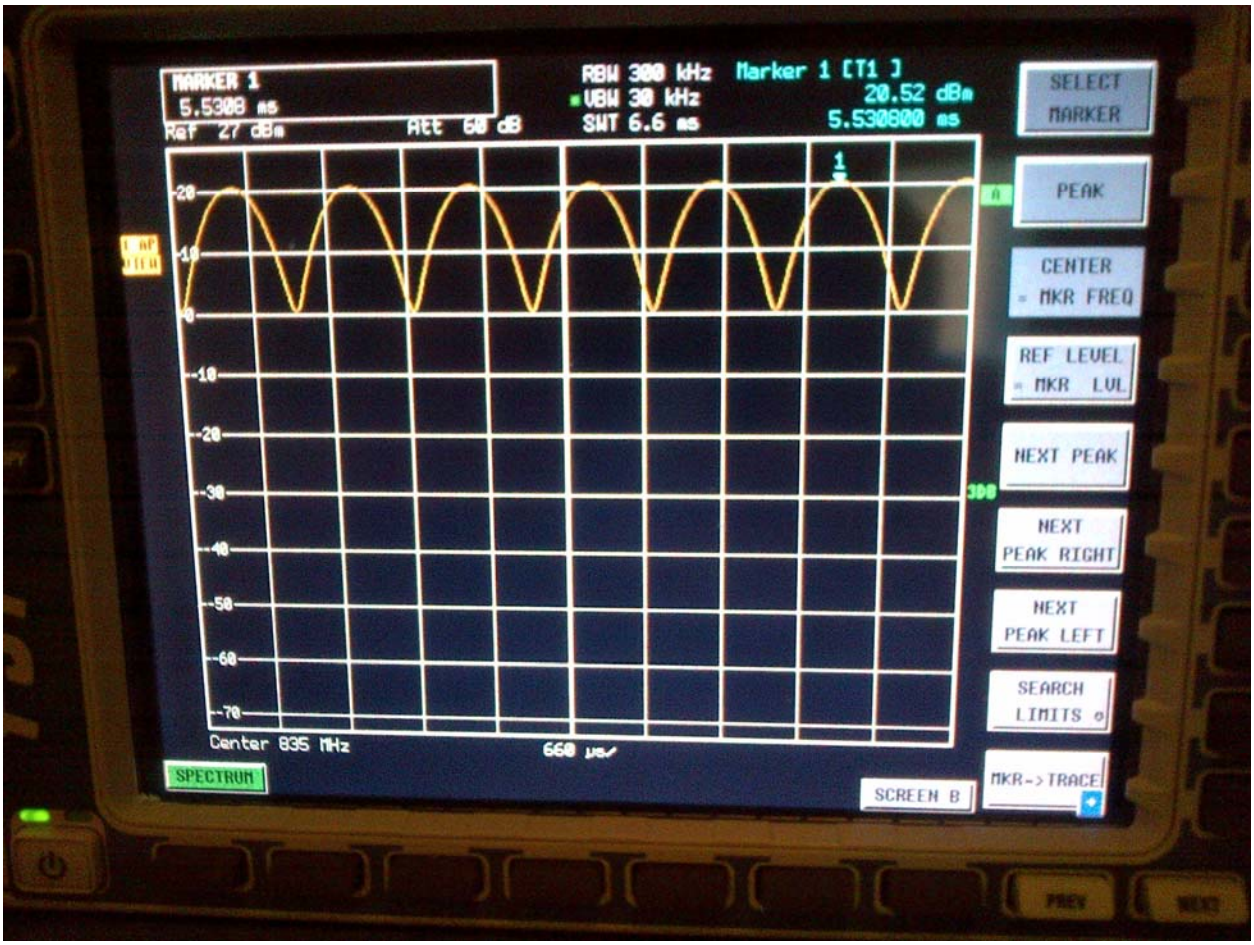
A.1 Spectrum analyser plots: GSM/UMTS, CW, 80%AM, signals



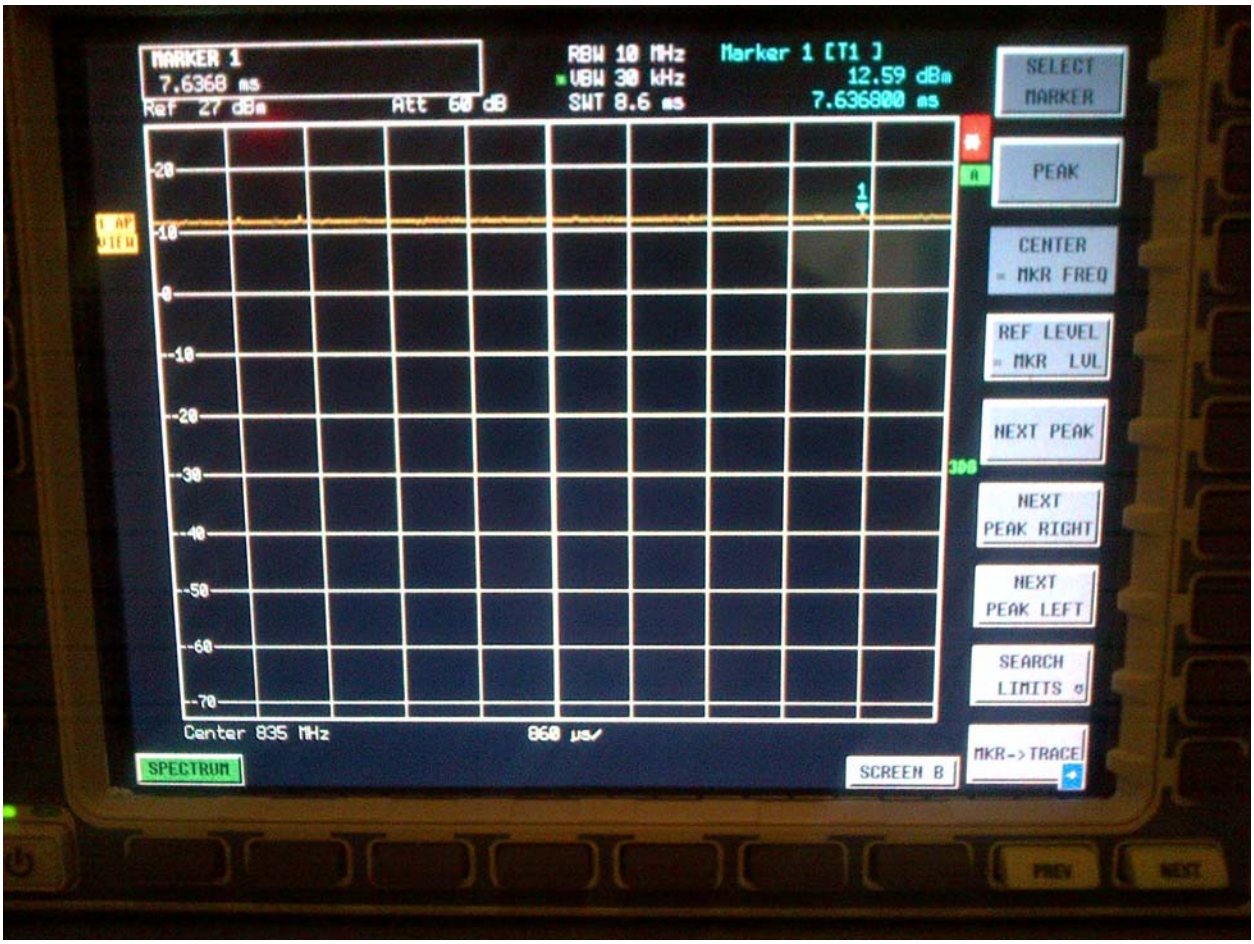
GSM 835 MHz



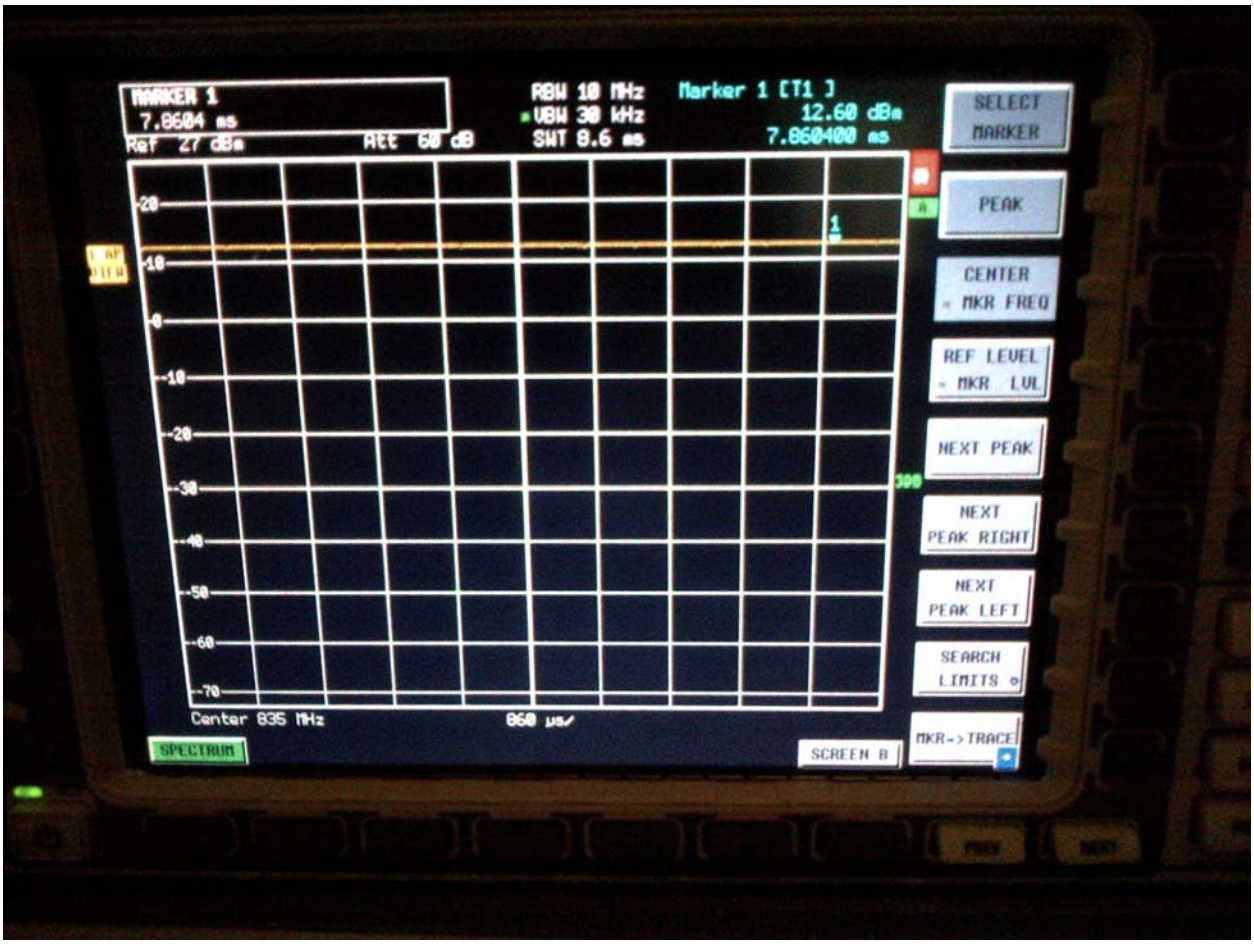
CW 835 MHz



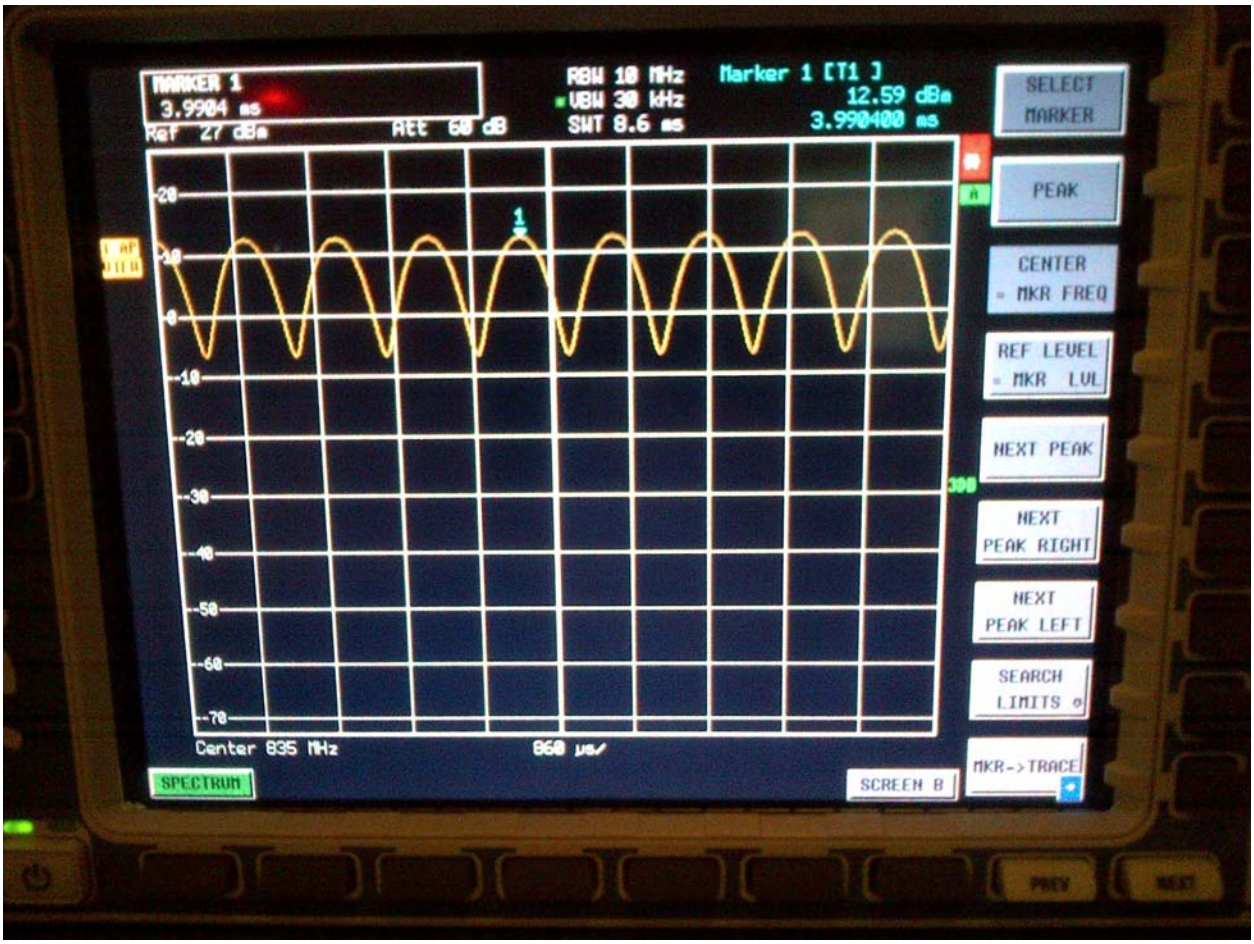
AM 80% 835 MHz



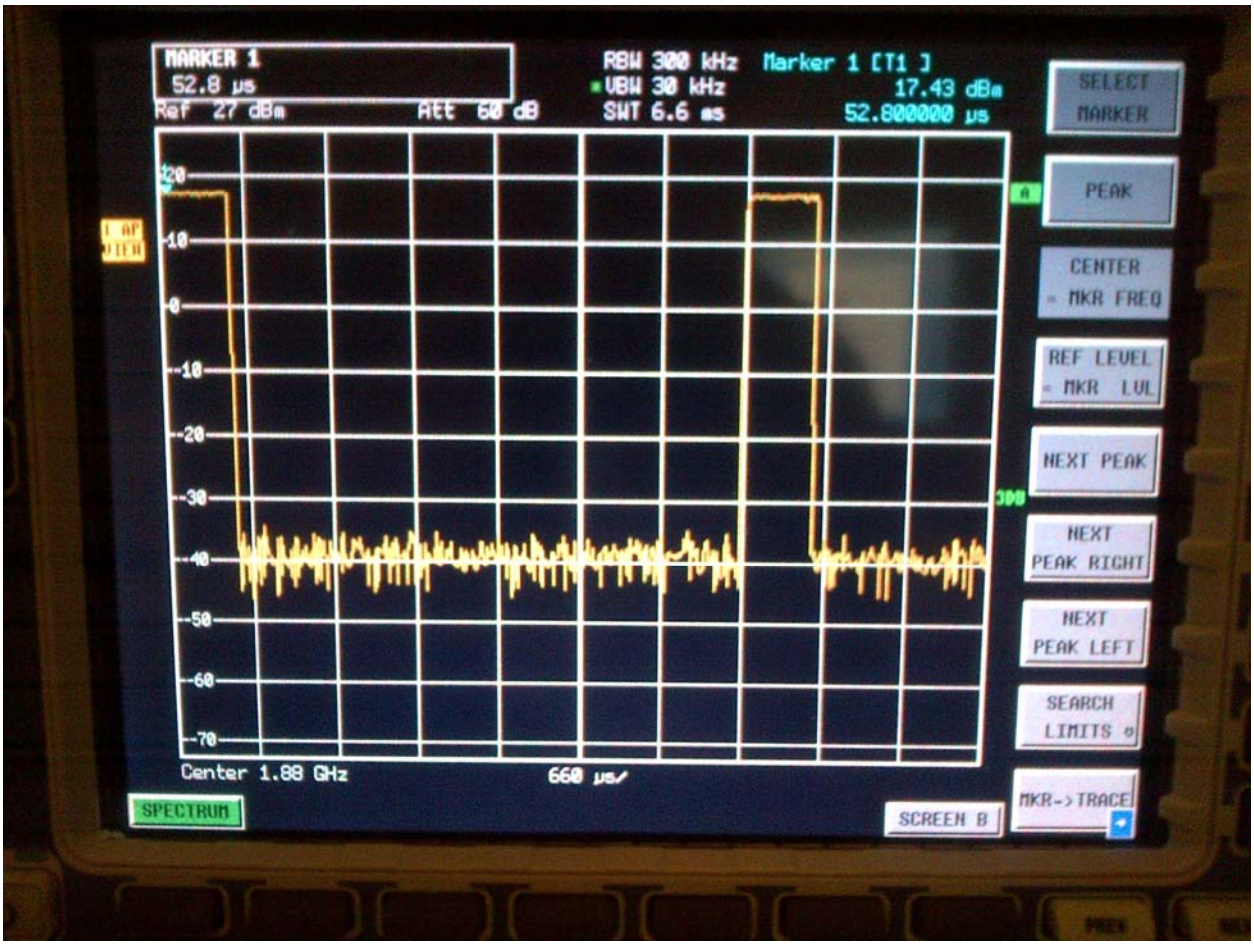
UMTS 835 MHz



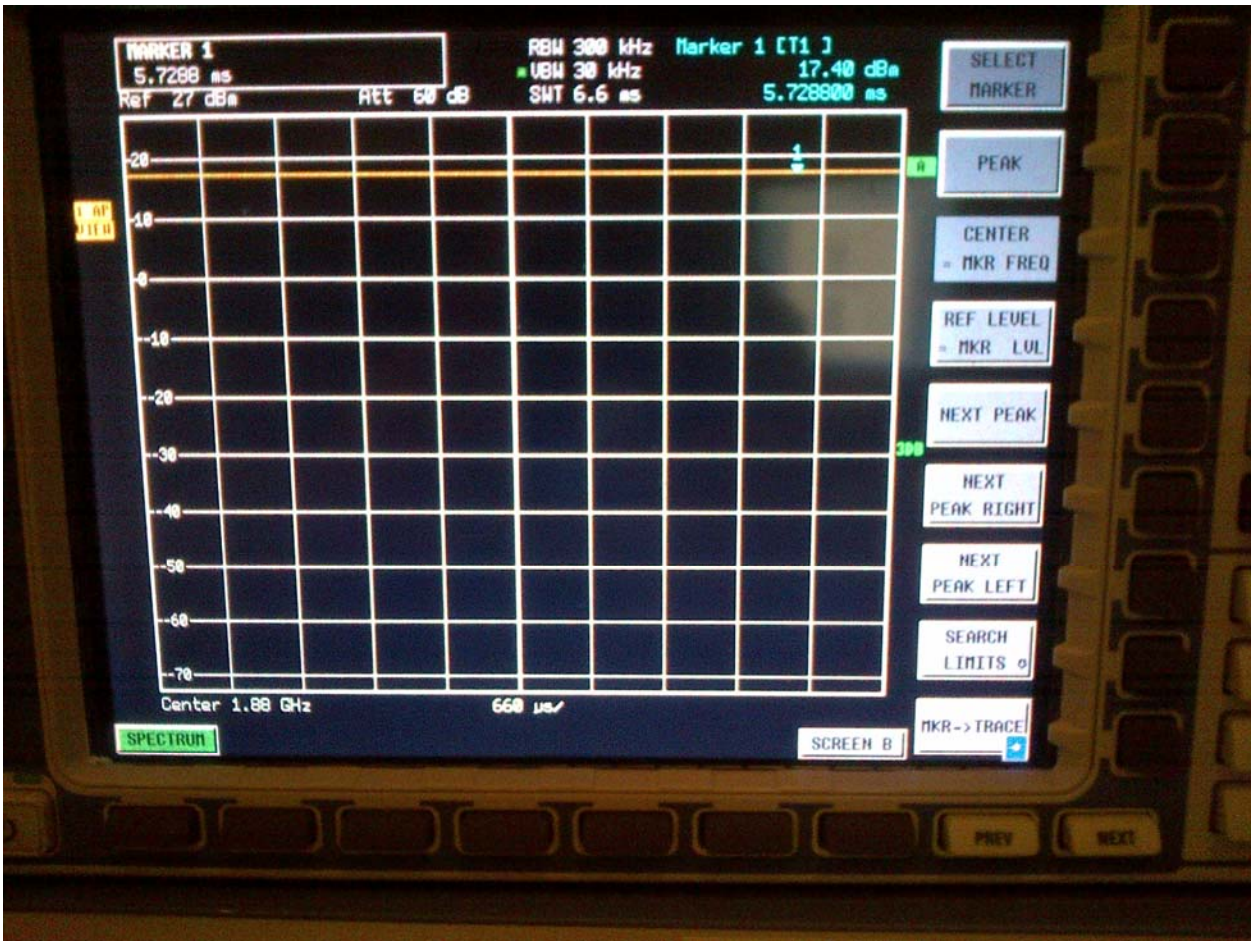
CW 835 MHz



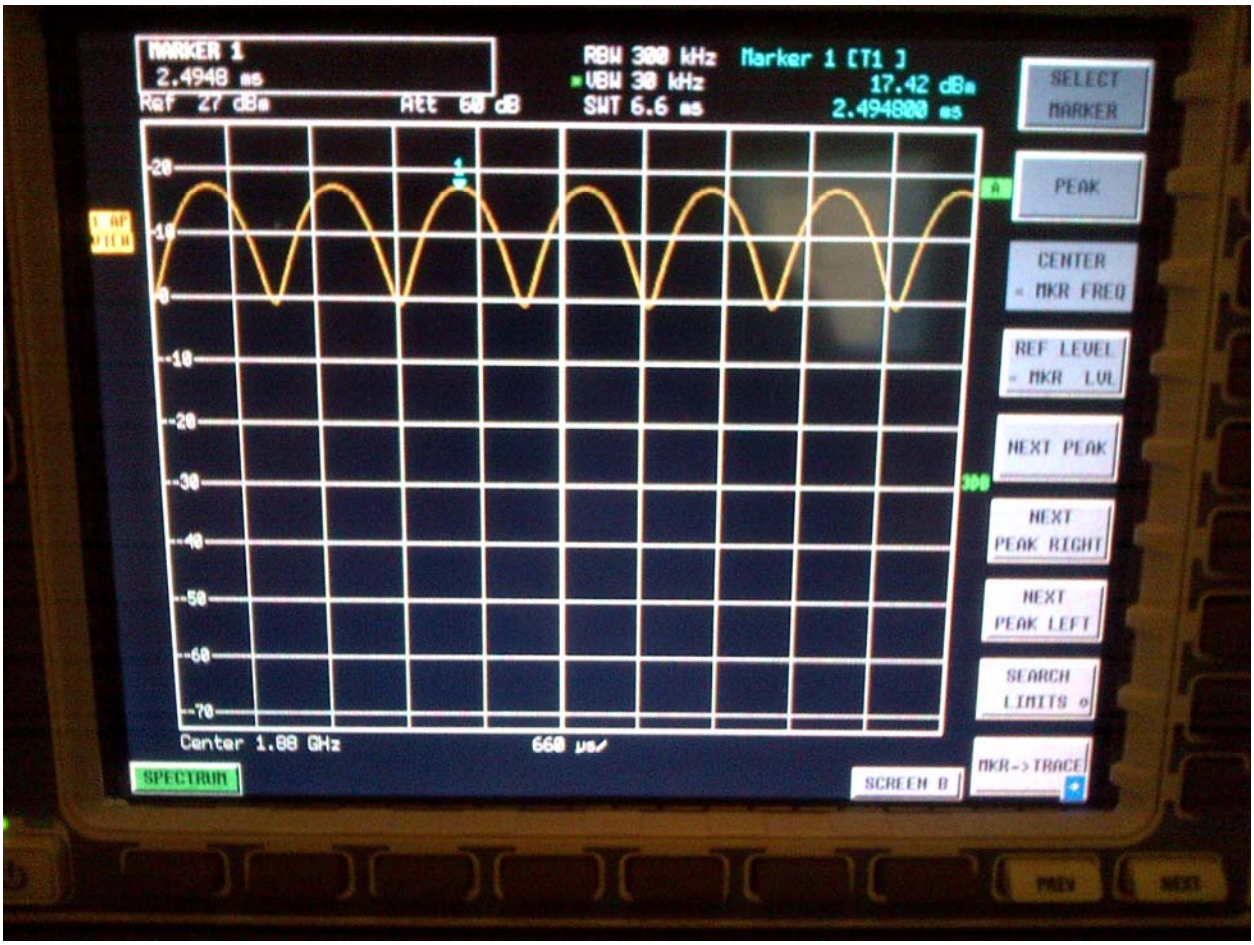
AM 80% 835 MHz



GSM 1880 MHz

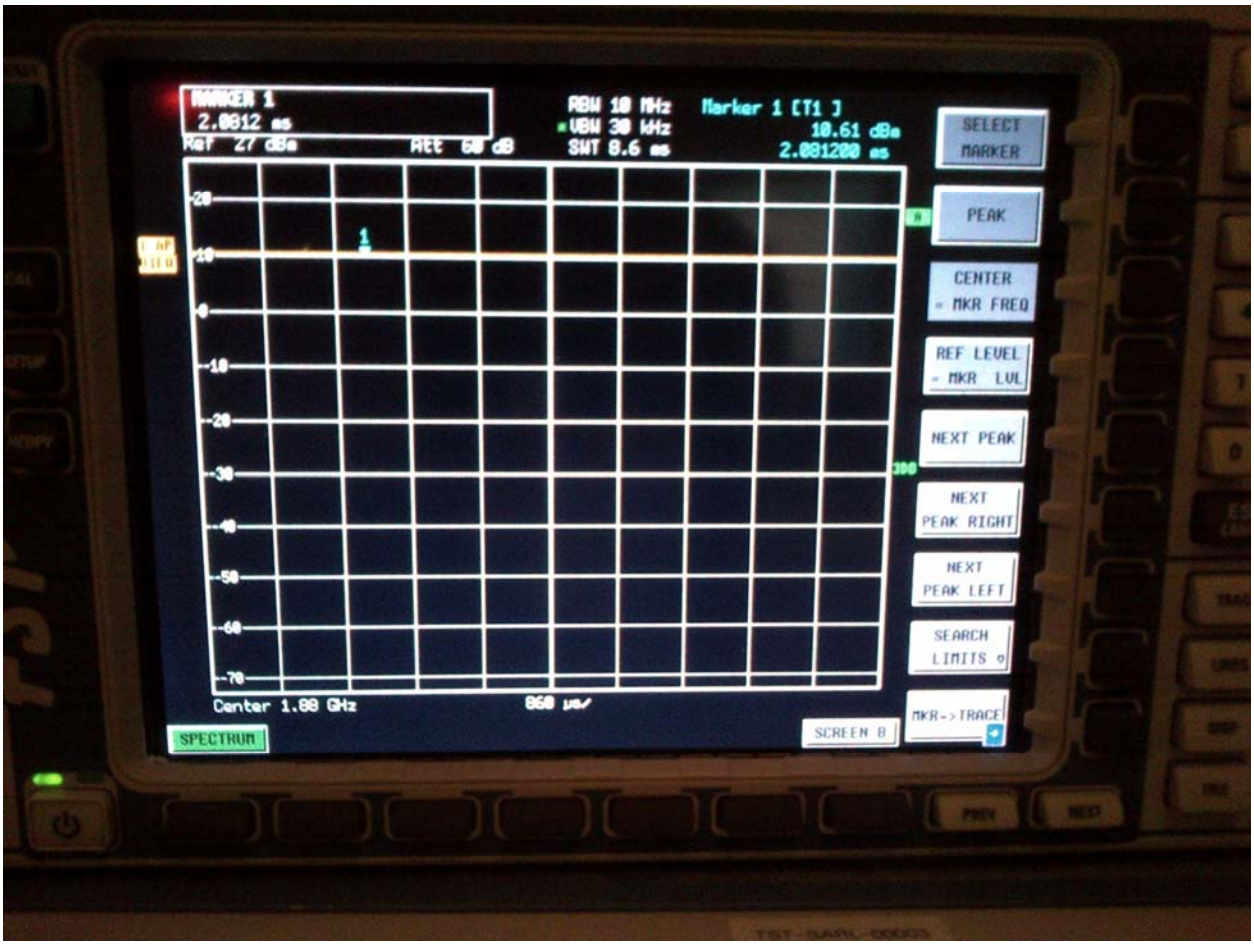


CW 1880 MHz

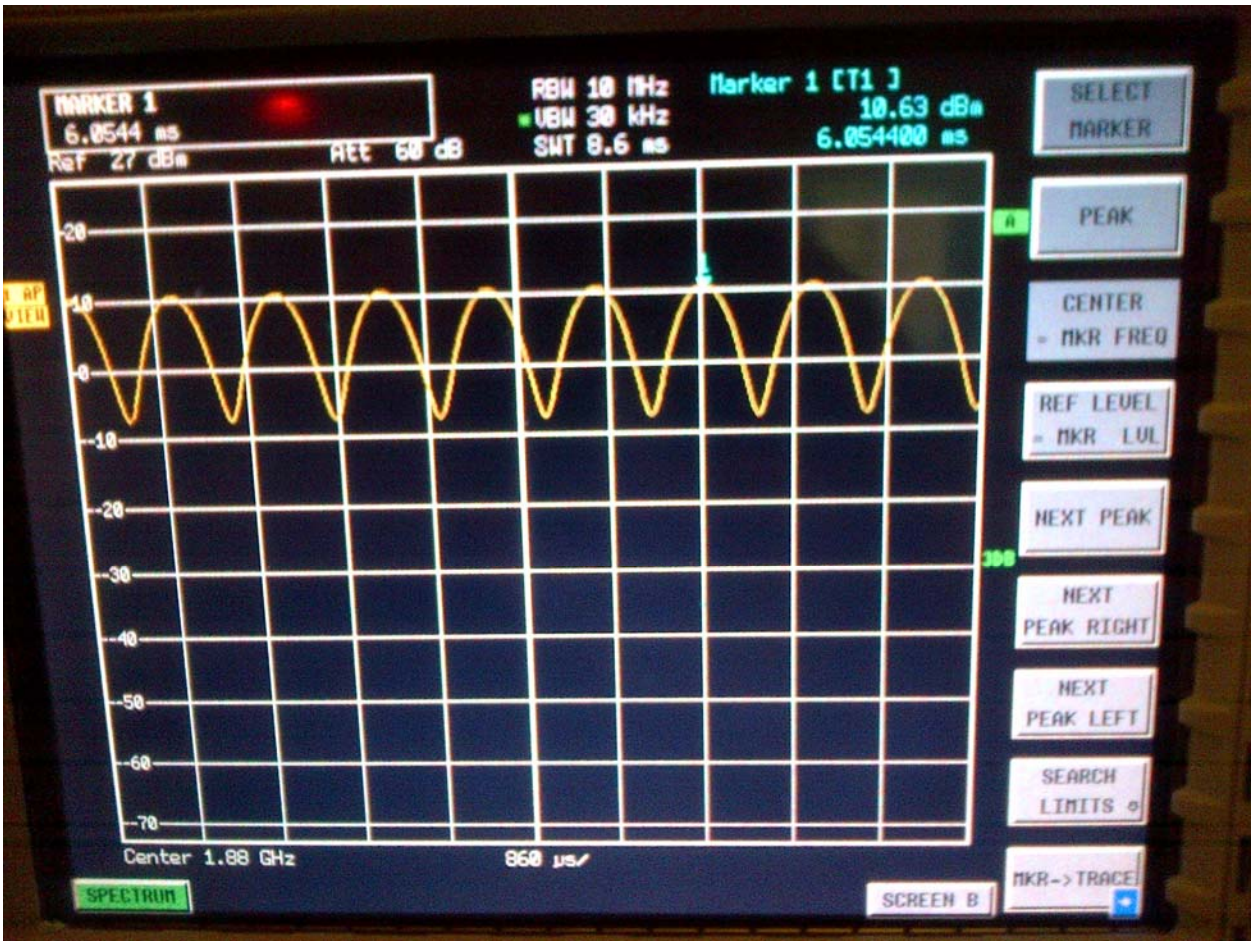


AM 80 % 1880 MHz

UMTS 1880 MHz



CW 1880 MHz



AM 80 % 1880 MHz

A.2 Dipole validation and probe modulation factor plots

Date/Time: 6/1/2012 10:55:21 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_validation_835 MHz_06_01_12

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

Communication System: CW; Frequency: 835 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

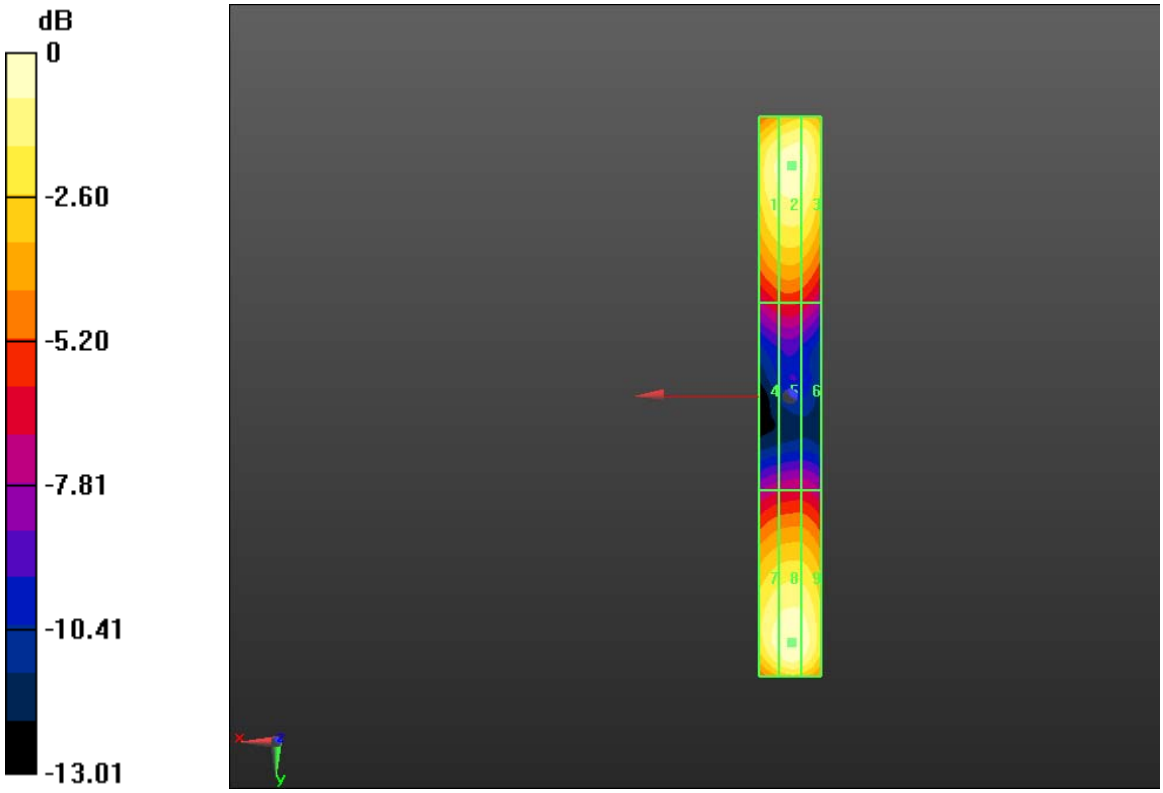
- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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 = 105.1 V/m; Power Drift = 0.15 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 163.0 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **151.9 V/m**	Grid 2 **M4** **156.8 V/m**	Grid 3 **M4** **155.3 V/m**
Grid 4 **M4** **81.20 V/m**	Grid 5 **M4** **83.08 V/m**	Grid 6 **M4** **79.96 V/m**
Grid 7 **M4** **156.2 V/m**	Grid 8 **M4** **163.0 V/m**	Grid 9 **M4** **158.8 V/m**

Cursor:
Total = 163.0 V/m
E Category: M4
Location: -0.5, 79, 4.7 mm



0 dB = 163.0V/m = 44.24 dB V/m

Date/Time: 1/31/2012 2:20:06 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_PMF_GSM835 MHz_01_31_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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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 = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA; Serial: Not Specified
- DASY52 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 = 34.20 V/m; Power Drift = 0.04 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 51.25 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **46.59 V/m**	Grid 2 **M4** **49.14 V/m**	Grid 3 **M4** **49.14 V/m**
Grid 4 **M4** **27.62 V/m**	Grid 5 **M4** **28.27 V/m**	Grid 6 **M4** **28.03 V/m**
Grid 7 **M4** **49.67 V/m**	Grid 8 **M4** **51.25 V/m**	Grid 9 **M4** **50.67 V/m**

Cursor:
Total = 51.249 V/m
E Category: M4
Location: -0.5, 79.5, 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 = 105.5 V/m; Power Drift = 0.04 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 160.5 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **144.7 V/m**	Grid 2 **M4** **152.0 V/m**	Grid 3 **M4** **151.2 V/m**
Grid 4 **M4** **81.25 V/m**	Grid 5 **M4** **83.39 V/m**	Grid 6 **M4** **81.16 V/m**
Grid 7 **M4** **156.0 V/m**	Grid 8 **M4** **160.5 V/m**	Grid 9 **M4** **155.5 V/m**

Cursor:
Total = 160.5 V/m
E Category: M4
Location: 0, 79, 4.7 mm

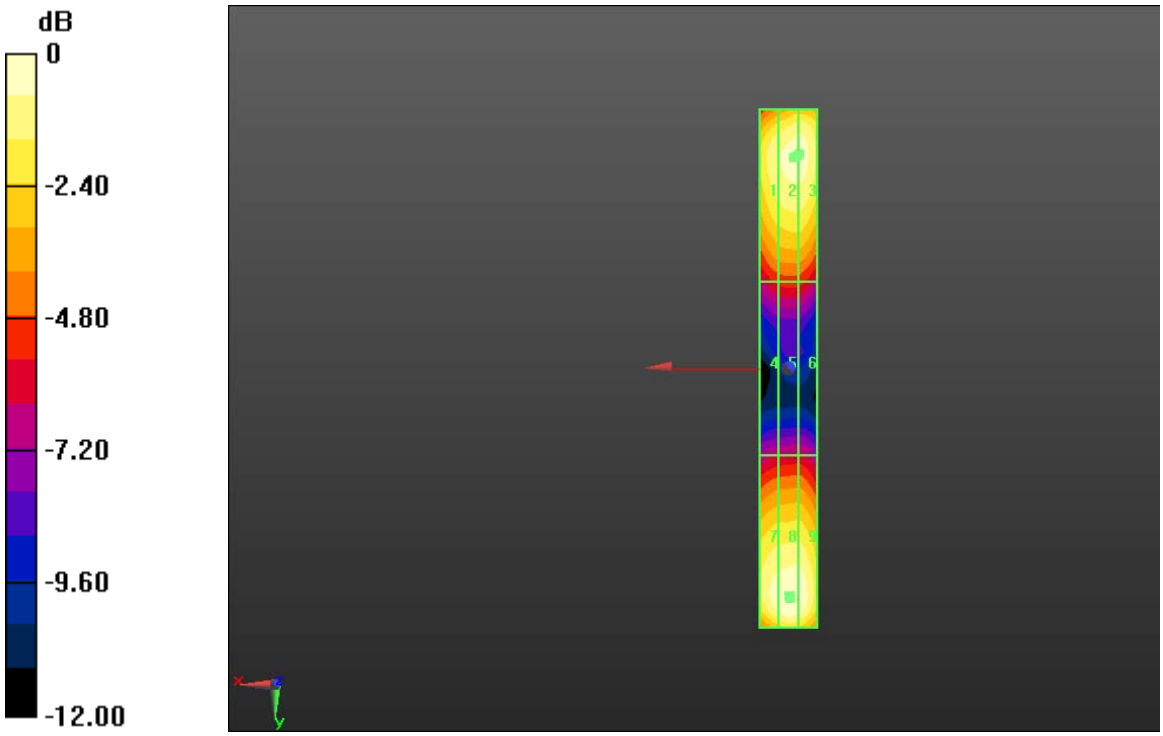
Dipole E-Field measurement/E Scan - AM80%_ 835_PMF/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm
Reference Value = 67.40 V/m; Power Drift = -0.05 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 101.2 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **90.33 V/m**	Grid 2 **M4** **95.24 V/m**	Grid 3 **M4** **95.16 V/m**
Grid 4 **M4** **51.51 V/m**	Grid 5 **M4** **53.10 V/m**	Grid 6 **M4** **51.99 V/m**
Grid 7 **M4** **97.22 V/m**	Grid 8 **M4** **101.2 V/m**	Grid 9 **M4** **98.82 V/m**

Cursor:
Total = 101.2 V/m
E Category: M4
Location: -0.5, 79, 4.7 mm



0 dB = 51.250V/m = 34.19 dB V/m

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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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 = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 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 **M4** **53.11 V/m**	Grid 2 **M4** **55.59 V/m**	Grid 3 **M4** **55.40 V/m**
Grid 4 **M4** **29.72 V/m**	Grid 5 **M4** **30.66 V/m**	Grid 6 **M4** **29.79 V/m**
Grid 7 **M4** **61.55 V/m**	Grid 8 **M4** **64.41 V/m**	Grid 9 **M4** **63.22 V/m**

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

Cursor:
Total = 68.635 V/m
E Category: M4
Location: -3, 79.5, 4.7 mm

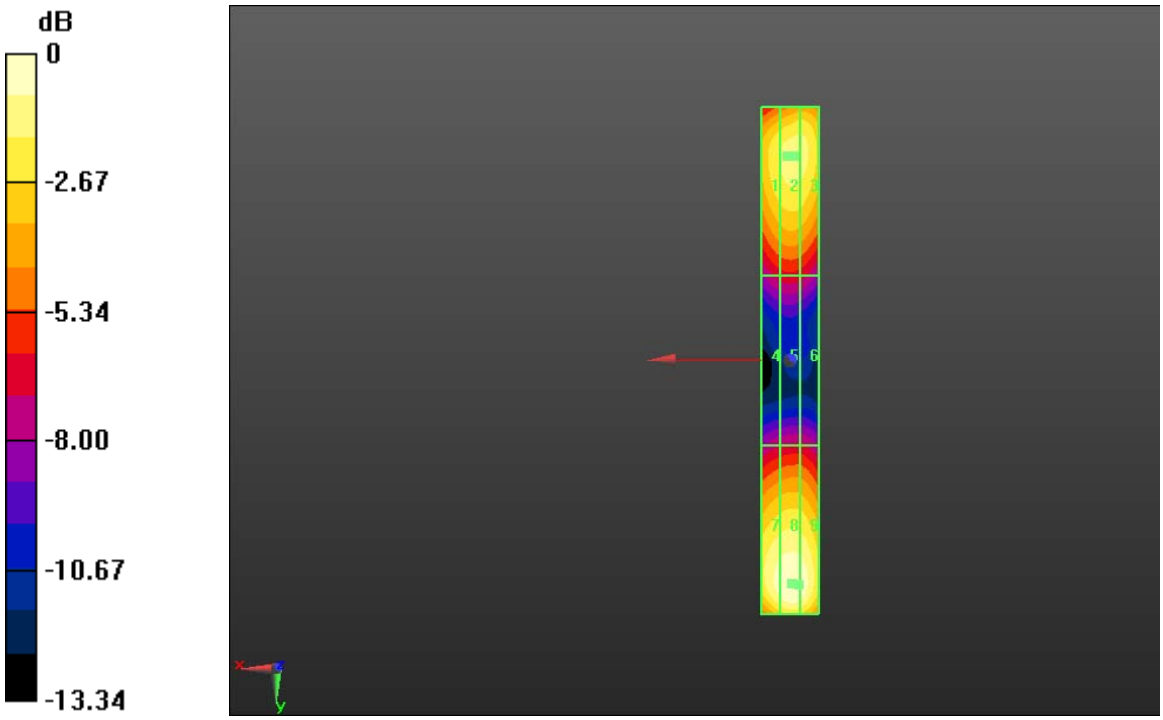
Dipole E-Field measurement/E Scan - AM80%_ 835_PMF/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

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

Cursor:
Total = 45.209 V/m
E Category: M4
Location: -3, 79.5, 4.7 mm



0 dB = 64.410V/m = 36.18 dB V/m

Date/Time: 6/1/2012 10:48:59 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_validation_1880 MHz_06_01_12

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

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

DASY Configuration:

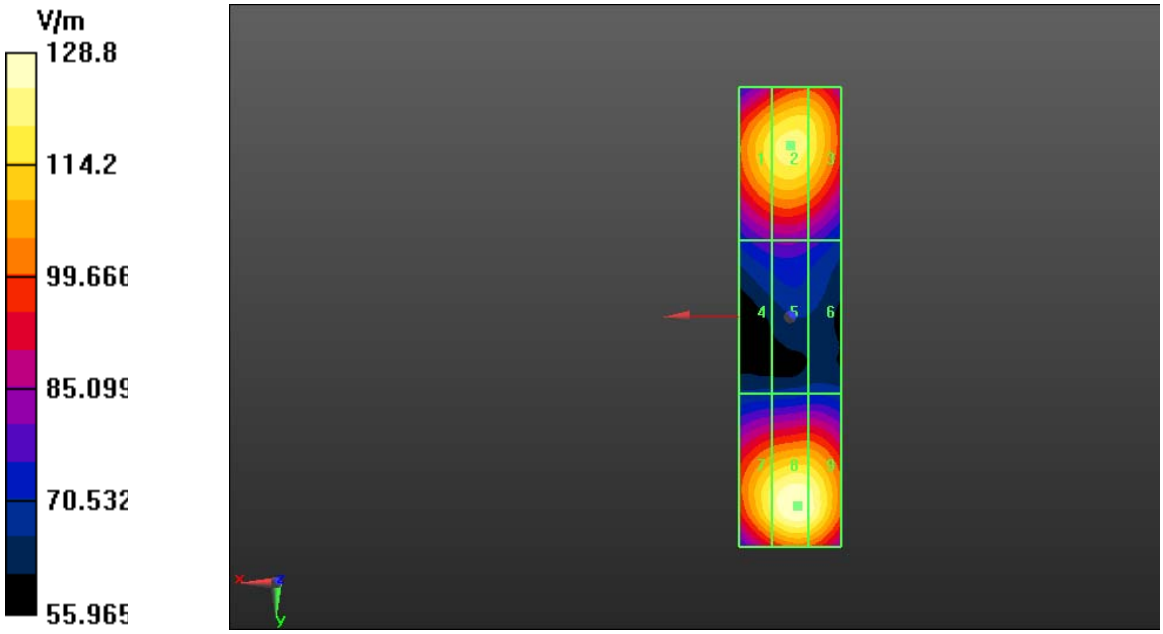
- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/9/2012
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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 = 140.8 V/m; Power Drift = -0.01 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 128.8 V/m
Near-field category: M2 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M2** **118.3 V/m**	Grid 2 **M2** **121.5 V/m**	Grid 3 **M2** **118.8 V/m**
Grid 4 **M3** **81.24 V/m**	Grid 5 **M3** **82.44 V/m**	Grid 6 **M3** **79.52 V/m**
Grid 7 **M2** **121.4 V/m**	Grid 8 **M2** **128.8 V/m**	Grid 9 **M2** **126.9 V/m**

Cursor:
Total = 128.8 V/m
E Category: M2
Location: -1.5, 37, 4.7 mm



Date/Time: 1/31/2012 1:55:07 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_PMF_GSM1880 MHz_01_31_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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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 = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 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 = 34.29 V/m; Power Drift = 0.05 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 30.95 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **27.89 V/m**	Grid 2 **M4** **29.29 V/m**	Grid 3 **M4** **29.22 V/m**
Grid 4 **M4** **19.87 V/m**	Grid 5 **M4** **20.63 V/m**	Grid 6 **M4** **20.20 V/m**
Grid 7 **M4** **29.49 V/m**	Grid 8 **M4** **30.95 V/m**	Grid 9 **M4** **30.55 V/m**

Cursor:
Total = 30.947 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 = 102.4 V/m; Power Drift = -0.11 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 90.42 V/m
Near-field category: M3 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M3** **82.60 V/m**	Grid 2 **M3** **86.68 V/m**	Grid 3 **M3** **86.04 V/m**
Grid 4 **M4** **58.55 V/m**	Grid 5 **M4** **60.47 V/m**	Grid 6 **M4** **58.89 V/m**
Grid 7 **M3** **85.63 V/m**	Grid 8 **M3** **90.42 V/m**	Grid 9 **M3** **88.30 V/m**

Cursor:
Total = 90.419 V/m
E Category: M3
Location: -0.5, 38, 4.7 mm

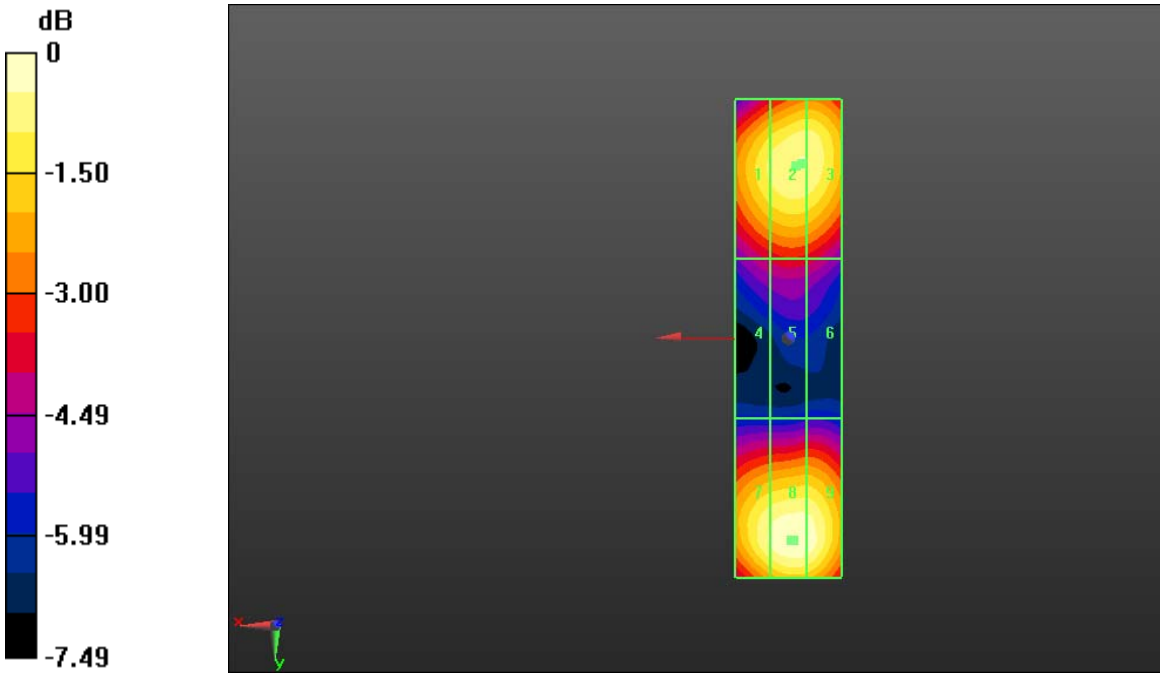
Dipole E-Field measurement/E Scan - AM80%_ 1880_PMF/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm
Reference Value = 64.56 V/m; Power Drift = 0.07 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 58.24 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **52.36 V/m**	Grid 2 **M4** **55.29 V/m**	Grid 3 **M4** **55.10 V/m**
Grid 4 **M4** **37.30 V/m**	Grid 5 **M4** **38.47 V/m**	Grid 6 **M4** **37.60 V/m**
Grid 7 **M4** **55.71 V/m**	Grid 8 **M4** **58.24 V/m**	Grid 9 **M4** **56.94 V/m**

Cursor:
Total = 58.238 V/m
E Category: M4
Location: -0.5, 38, 4.7 mm



0 dB = 30.950V/m = 29.81 dB V/m

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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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 = 4.7
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 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 **M4** **37.98 V/m**	Grid 2 **M4** **39.42 V/m**	Grid 3 **M4** **39.04 V/m**
Grid 4 **M4** **26.86 V/m**	Grid 5 **M4** **27.50 V/m**	Grid 6 **M4** **26.70 V/m**
Grid 7 **M4** **39.63 V/m**	Grid 8 **M4** **42.43 V/m**	Grid 9 **M4** **41.87 V/m**

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

Cursor:
Total = 42.409 V/m
E Category: M4
Location: -1.5, 38, 4.7 mm

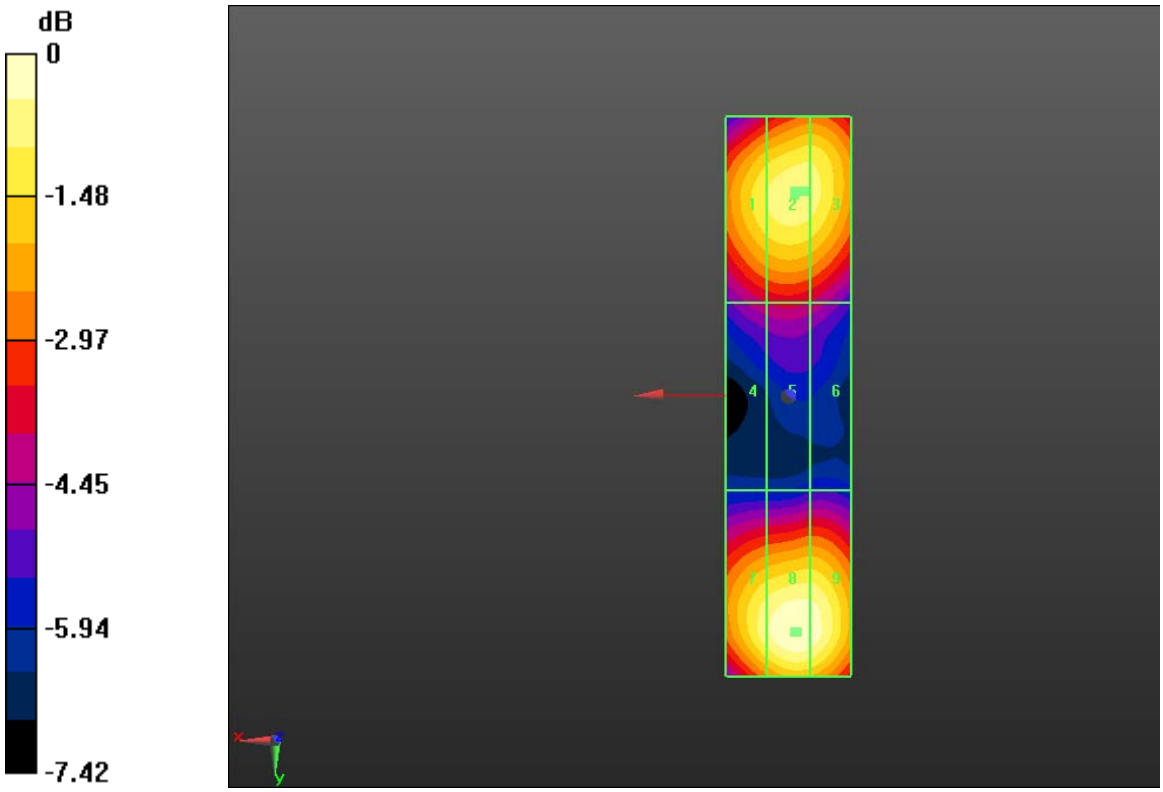
Dipole E-Field measurement/E Scan - AM80%_ 1880_PMF/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

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

Cursor:
Total = 27.402 V/m
E Category: M4
Location: -1, 38, 4.7 mm



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

Date/Time: 6/1/2012 10:21:31 AM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_validation_835 MHz_06_01_12

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

Communication System: CW; Frequency: 835 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

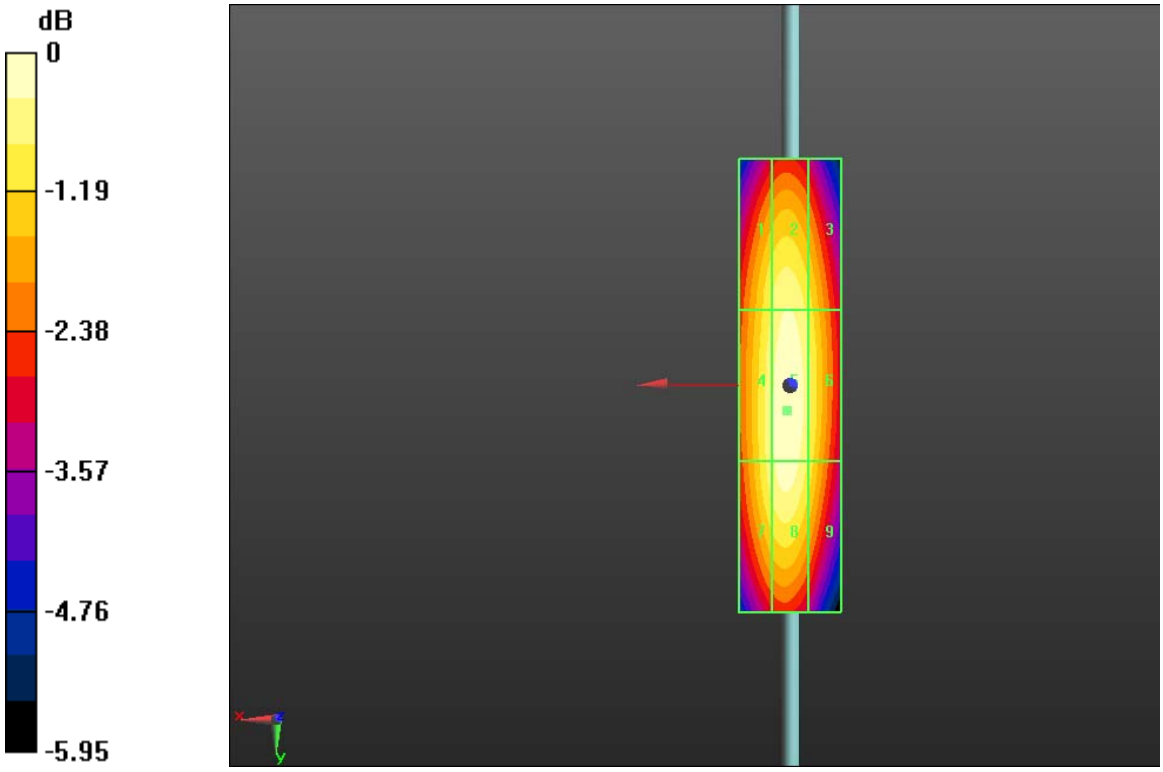
- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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 = 0.50 V/m; Power Drift = 0.03 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 **M4** **0.43 A/m**	Grid 2 **M4** **0.45 A/m**	Grid 3 **M4** **0.42 A/m**
Grid 4 **M4** **0.45 A/m**	Grid 5 **M4** **0.47 A/m**	Grid 6 **M4** **0.44 A/m**
Grid 7 **M4** **0.44 A/m**	Grid 8 **M4** **0.46 A/m**	Grid 9 **M4** **0.43 A/m**

Cursor:
Total = 0.469 A/m
H Category: M4
Location: 0.5, 5, 4.7 mm



0 dB = 0.470A/m = -6.56 dB A/m

Date/Time: 1/31/2012 3:12:15 PM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_PMF_GSM835 MHz_01_31_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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (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
- DASY52 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 = -0.08 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 **M4** **0.15 A/m**	Grid 2 **M4** **0.15 A/m**	Grid 3 **M4** **0.15 A/m**
Grid 4 **M4** **0.15 A/m**	Grid 5 **M4** **0.16 A/m**	Grid 6 **M4** **0.15 A/m**
Grid 7 **M4** **0.15 A/m**	Grid 8 **M4** **0.16 A/m**	Grid 9 **M4** **0.15 A/m**

Cursor:
Total = 0.159 A/m
H Category: M4
Location: 0, 1, 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 = 0.27 V/m; Power Drift = 0.03 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 **M4** **0.43 A/m**	Grid 2 **M4** **0.45 A/m**	Grid 3 **M4** **0.43 A/m**
Grid 4 **M4** **0.45 A/m**	Grid 5 **M4** **0.47 A/m**	Grid 6 **M4** **0.45 A/m**
Grid 7 **M4** **0.44 A/m**	Grid 8 **M4** **0.46 A/m**	Grid 9 **M4** **0.43 A/m**

Cursor:
Total = 0.468 A/m
H Category: M4
Location: 0, 4, 4.7 mm

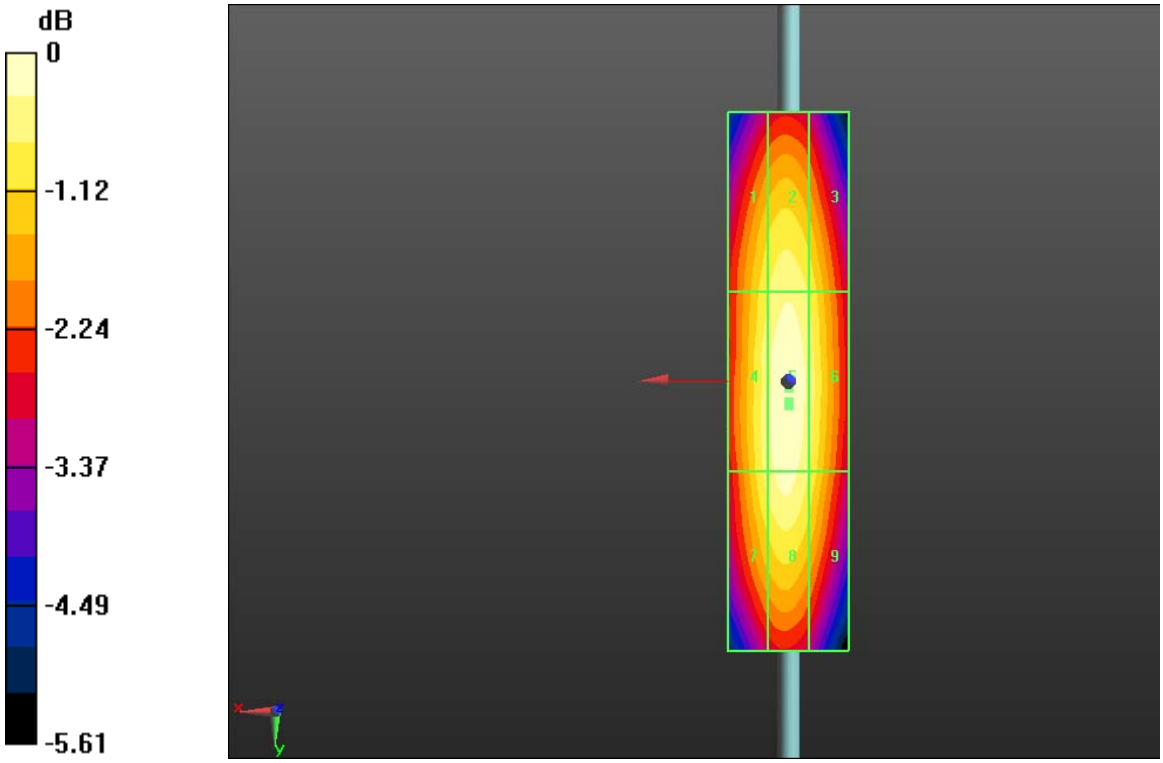
Dipole H-Field measurement with H3DV6 probe/H Scan - AM80%_PMF/Hearing Aid Compatibility Test (41x181x1):

Measurement grid: dx=5mm, dy=5mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 0.32 V/m; Power Drift = 0.04 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 **M4** **0.28 A/m**	Grid 2 **M4** **0.29 A/m**	Grid 3 **M4** **0.27 A/m**
Grid 4 **M4** **0.29 A/m**	Grid 5 **M4** **0.30 A/m**	Grid 6 **M4** **0.28 A/m**
Grid 7 **M4** **0.28 A/m**	Grid 8 **M4** **0.30 A/m**	Grid 9 **M4** **0.28 A/m**

Cursor:
Total = 0.302 A/m
H Category: M4
Location: 0, 3.5, 4.7 mm



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

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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (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
- DASY52 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 **M4** **0.16 A/m**	Grid 2 **M4** **0.17 A/m**	Grid 3 **M4** **0.16 A/m**
Grid 4 **M4** **0.17 A/m**	Grid 5 **M4** **0.18 A/m**	Grid 6 **M4** **0.17 A/m**
Grid 7 **M4** **0.17 A/m**	Grid 8 **M4** **0.18 A/m**	Grid 9 **M4** **0.17 A/m**

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 **M4** **0.17 A/m**	Grid 2 **M4** **0.19 A/m**	Grid 3 **M4** **0.18 A/m**
Grid 4 **M4** **0.18 A/m**	Grid 5 **M4** **0.20 A/m**	Grid 6 **M4** **0.19 A/m**
Grid 7 **M4** **0.18 A/m**	Grid 8 **M4** **0.19 A/m**	Grid 9 **M4** **0.18 A/m**

Cursor:
Total = 0.197 A/m
H Category: M4
Location: -0.5, 1, 4.7 mm

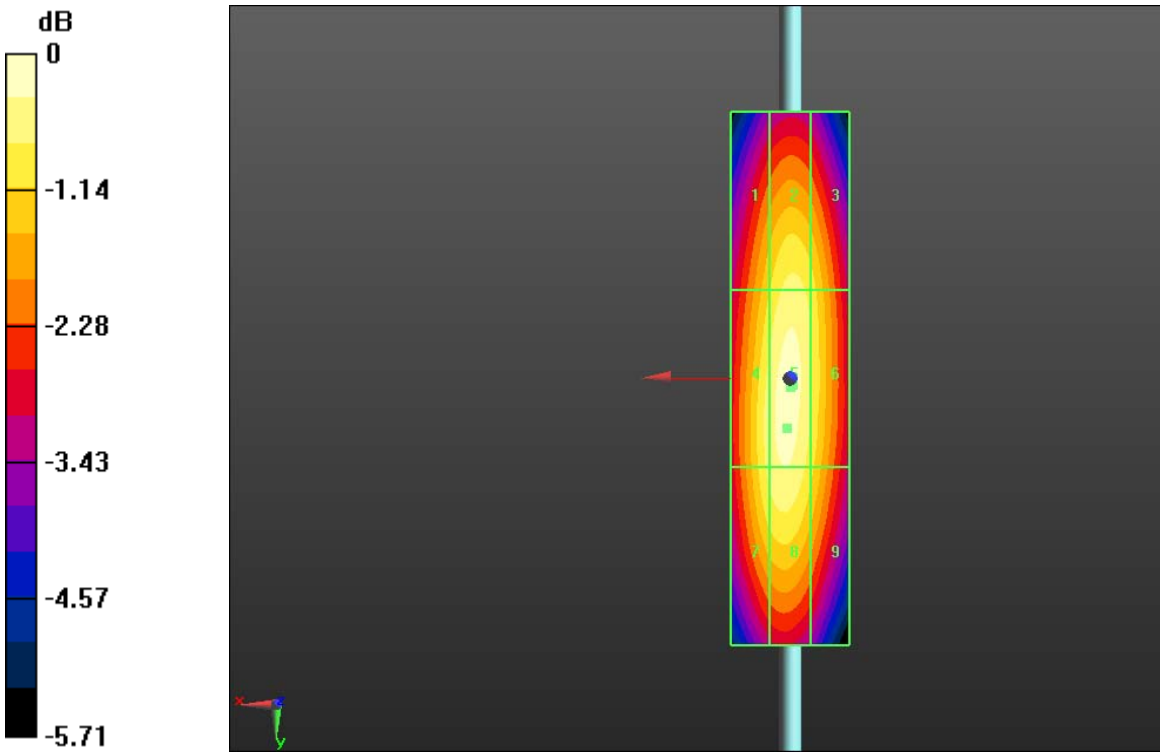
Dipole H-Field measurement with H3DV6 probe/H Scan - AM80%_PMF/Hearing Aid Compatibility Test (41x181x1):

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 **M4** **0.11 A/m**	Grid 2 **M4** **0.12 A/m**	Grid 3 **M4** **0.12 A/m**
Grid 4 **M4** **0.12 A/m**	Grid 5 **M4** **0.13 A/m**	Grid 6 **M4** **0.12 A/m**
Grid 7 **M4** **0.12 A/m**	Grid 8 **M4** **0.12 A/m**	Grid 9 **M4** **0.12 A/m**

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

Date/Time: 6/1/2012 10:29:55 AM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_validation_1880 MHz_06_01_12

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

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

DASY Configuration:

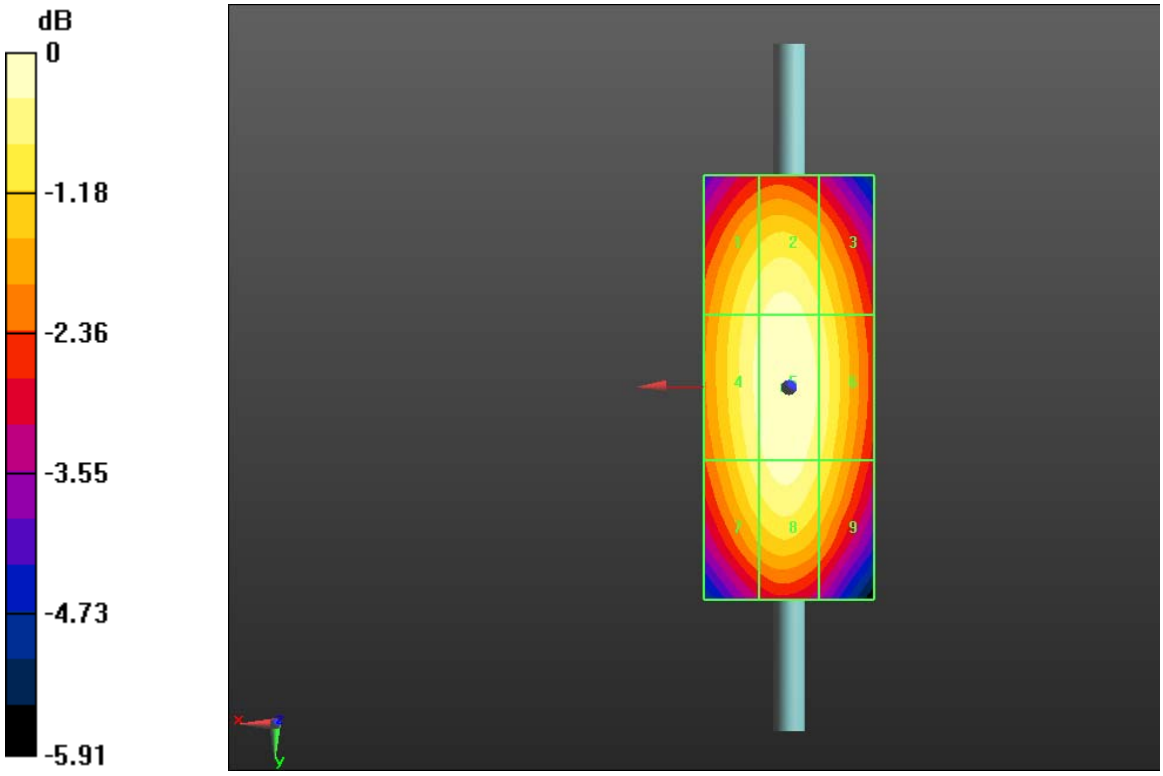
- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- Sensor-Surface: (Fix Surface), z = 4.7
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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 = 0.48 V/m; Power Drift = -0.00 dB
PMR not calibrated. PMF = 1.000 is applied.
H-field emissions = 0.45 A/m
Near-field category: M2 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M2** **0.43 A/m**	Grid 2 **M2** **0.44 A/m**	Grid 3 **M2** **0.42 A/m**
Grid 4 **M2** **0.44 A/m**	Grid 5 **M2** **0.45 A/m**	Grid 6 **M2** **0.43 A/m**
Grid 7 **M2** **0.42 A/m**	Grid 8 **M2** **0.44 A/m**	Grid 9 **M2** **0.41 A/m**

Cursor:
Total = 0.453 A/m
H Category: M2
Location: 0.5, 0, 4.7 mm



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

Date/Time: 1/31/2012 3:44:25 PM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_PMF_GSM1880 MHz_01_31_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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (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
- DASY52 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 = 0.12 V/m; Power Drift = -0.04 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 **M4** **0.10 A/m**	Grid 2 **M4** **0.11 A/m**	Grid 3 **M4** **0.10 A/m**
Grid 4 **M4** **0.10 A/m**	Grid 5 **M4** **0.11 A/m**	Grid 6 **M4** **0.11 A/m**
Grid 7 **M4** **0.10 A/m**	Grid 8 **M4** **0.11 A/m**	Grid 9 **M4** **0.10 A/m**

Cursor:
Total = 0.110 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 = 0.35 V/m; Power Drift = 0.04 dB
PMR not calibrated. PMF = 1.000 is applied.
H-field emissions = 0.33 A/m
Near-field category: M3 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M3** **0.30 A/m**	Grid 2 **M3** **0.32 A/m**	Grid 3 **M3** **0.31 A/m**
Grid 4 **M3** **0.31 A/m**	Grid 5 **M3** **0.33 A/m**	Grid 6 **M3** **0.31 A/m**
Grid 7 **M3** **0.30 A/m**	Grid 8 **M3** **0.32 A/m**	Grid 9 **M3** **0.30 A/m**

Cursor:
Total = 0.327 A/m
H Category: M3
Location: 0, 0.5, 4.7 mm

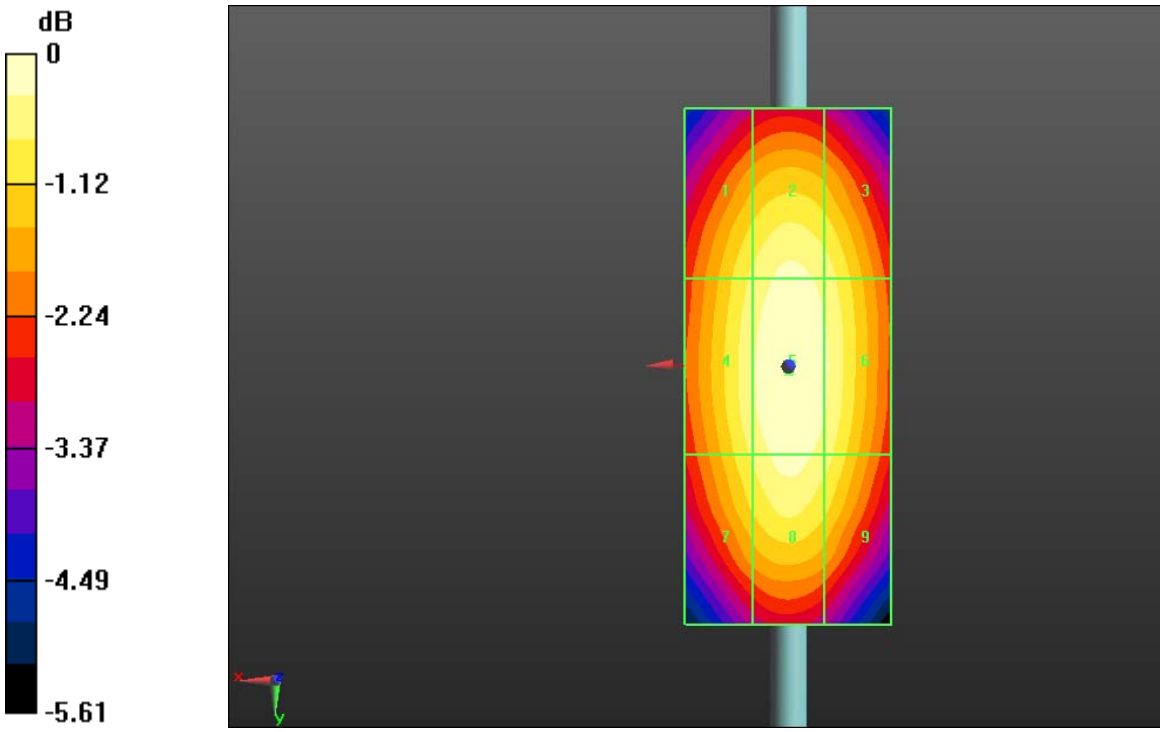
Dipole H-Field measurement with H3DV6 probe/H Scan - AM80%_1880_PMF/Hearing Aid Compatibility Test (41x101x1):

Measurement grid: dx=5mm, dy=5mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 0.23 V/m; Power Drift = 0.05 dB
PMR not calibrated. PMF = 1.000 is applied.
H-field emissions = 0.21 A/m
Near-field category: M3 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M3** **0.20 A/m**	Grid 2 **M3** **0.21 A/m**	Grid 3 **M3** **0.20 A/m**
Grid 4 **M3** **0.20 A/m**	Grid 5 **M3** **0.21 A/m**	Grid 6 **M3** **0.20 A/m**
Grid 7 **M3** **0.20 A/m**	Grid 8 **M3** **0.21 A/m**	Grid 9 **M3** **0.20 A/m**

Cursor:
Total = 0.214 A/m
H Category: M3
Location: 0, 0, 4.7 mm



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, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (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
- DASY52 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 **M4** **0.14 A/m**	Grid 2 **M4** **0.14 A/m**	Grid 3 **M4** **0.14 A/m**
Grid 4 **M4** **0.14 A/m**	Grid 5 **M4** **0.15 A/m**	Grid 6 **M4** **0.14 A/m**
Grid 7 **M4** **0.14 A/m**	Grid 8 **M4** **0.15 A/m**	Grid 9 **M4** **0.14 A/m**

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 **M4** **0.14 A/m**	Grid 2 **M4** **0.14 A/m**	Grid 3 **M4** **0.14 A/m**
Grid 4 **M4** **0.14 A/m**	Grid 5 **M4** **0.15 A/m**	Grid 6 **M4** **0.14 A/m**
Grid 7 **M4** **0.14 A/m**	Grid 8 **M4** **0.15 A/m**	Grid 9 **M4** **0.14 A/m**

Cursor:
Total = 0.149 A/m
H Category: M4
Location: 0, 0.5, 4.7 mm

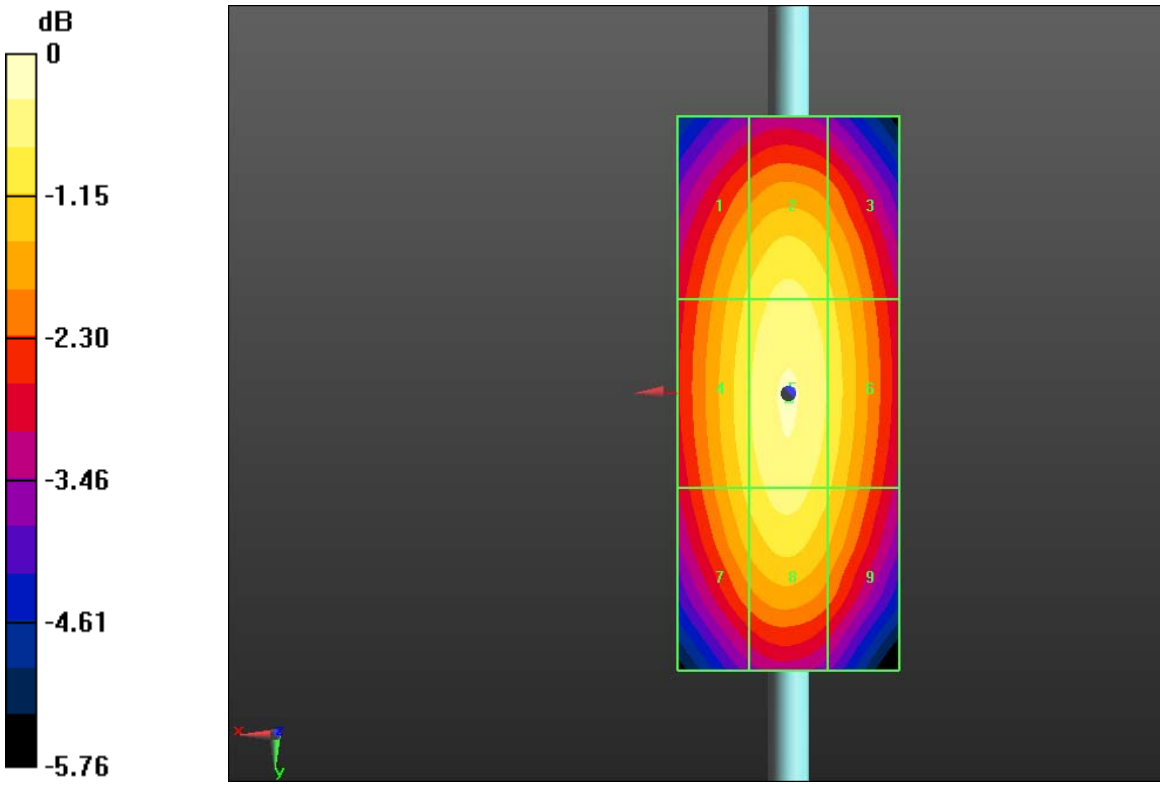
Dipole H-Field measurement with H3DV6 probe/H Scan - AM80%_1880_PMF/Hearing Aid Compatibility Test (41x101x1):

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)

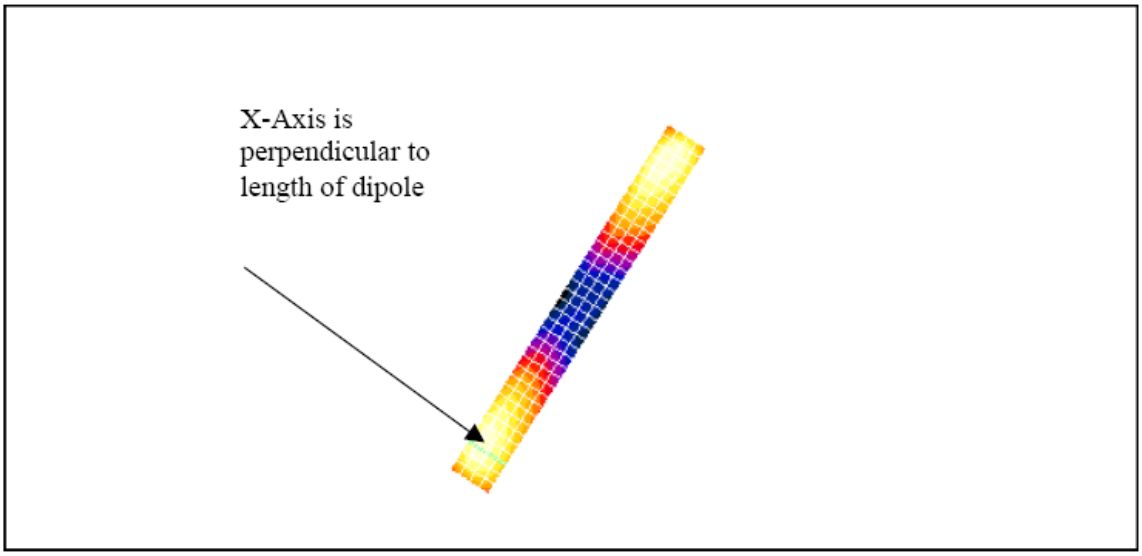
PMF scaled H-field

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

Cursor:
Total = 0.096 A/m
H Category: M4
Location: 0, 0, 4.7 mm



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.

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, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
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)

Grid 1	Grid 2	Grid 3
123.2	**138.1**	**138.4**
Grid 4	Grid 5	Grid 6
80.9	**92.3**	**92.2**
Grid 7	Grid 8	Grid 9
119.8	**131.0**	**130.7**

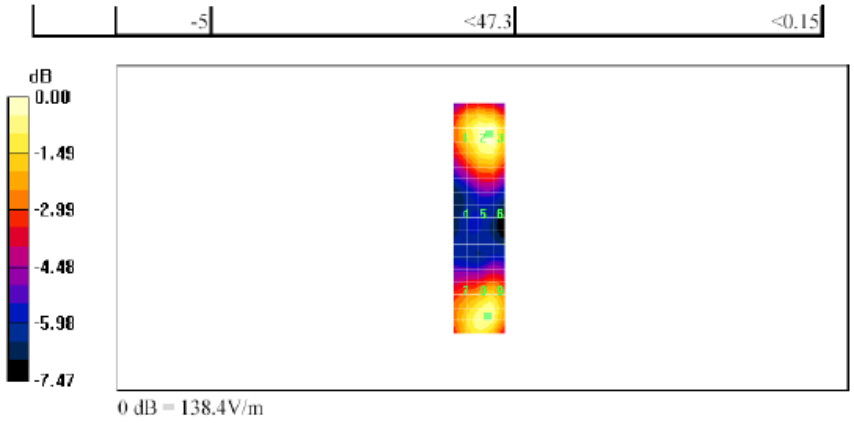
E in V/m (Slot averaged)

Grid 1	Grid 2	Grid 3
123.2	**138.1**	**138.4**
Grid 4	Grid 5	Grid 6
80.9	**92.3**	**92.2**
Grid 7	Grid 8	Grid 9
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

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

Page 2 of 2



file://C:\Program%20Files\DASY4\Print_Templates\Dipole%20Validation%201880%20... 14/07/2005

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, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
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)

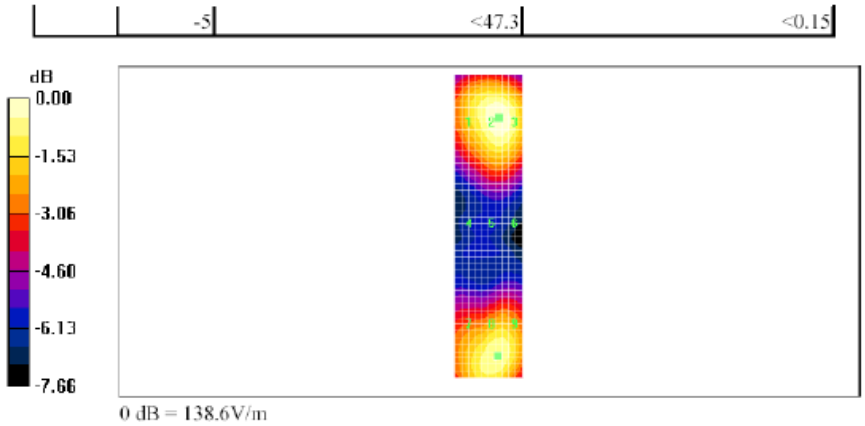
Grid 1	Grid 2	Grid 3
123.1	**138.6**	**138.6**
Grid 4	Grid 5	Grid 6
81.4	**92.1**	**91.6**
Grid 7	Grid 8	Grid 9
121.3	**131.2**	**131.0**

E in V/m (Slot averaged)

Grid 1	Grid 2	Grid 3
123.1	**138.6**	**138.6**
Grid 4	Grid 5	Grid 6
81.4	**92.1**	**91.6**
Grid 7	Grid 8	Grid 9
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

Date/Time: 14/07/2005 11:44:51 AM



0 dB = 138.6V/m

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, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
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)

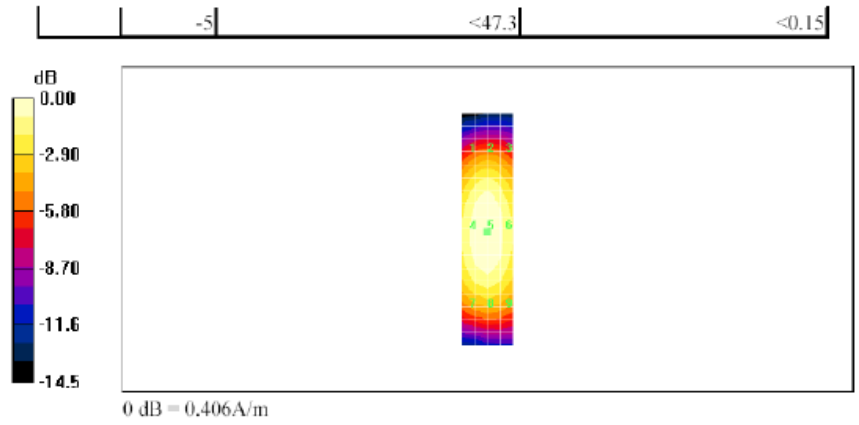
H in A/m (Time averaged)

Grid 1	Grid 2	Grid 3
0.342	**0.359**	**0.344**
Grid 4	Grid 5	Grid 6
0.389	**0.406**	**0.389**
Grid 7	Grid 8	Grid 9
0.363	**0.378**	**0.363**

H in A/m (Slot averaged)

Grid 1	Grid 2	Grid 3
0.342	**0.359**	**0.344**
Grid 4	Grid 5	Grid 6
0.389	**0.406**	**0.389**
Grid 7	Grid 8	Grid 9
0.363	**0.378**	**0.363**

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



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, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
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)

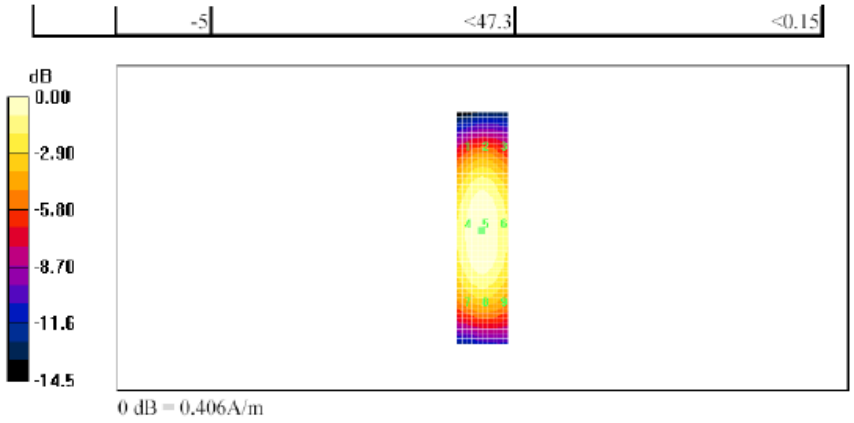
Grid 1	Grid 2	Grid 3
0.347	**0.361**	**0.348**
Grid 4	Grid 5	Grid 6
0.394	**0.406**	**0.391**
Grid 7	Grid 8	Grid 9
0.367	**0.380**	**0.365**

H in A/m (Slot averaged)

Grid 1	Grid 2	Grid 3
0.347	**0.361**	**0.348**
Grid 4	Grid 5	Grid 6
0.394	**0.406**	**0.391**
Grid 7	Grid 8	Grid 9
0.367	**0.380**	**0.365**

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

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



0 dB = 0.406A/m

A.3 RF emission field plots

Date/Time: 5/31/2012 8:04:24 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_GSM850

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: GSM 850; Frequency: 824.2 MHz, Frequency: 836.8 MHz, Frequency: 848.8 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device E-Field 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 = 84.13 V/m; Power Drift = -0.05 dB
PMR not calibrated. PMF = 3.130 is applied.
E-field emissions = 205.5 V/m
Near-field category: M3 (AWF -5 dB)

PMF scaled E-field

Grid 1 **M3** **176.7 V/m**	Grid 2 **M3** **192.4 V/m**	Grid 3 **M3** **188.3 V/m**
Grid 4 **M3** **191.0 V/m**	Grid 5 **M3** **205.5 V/m**	Grid 6 **M3** **199.1 V/m**
Grid 7 **M3** **208.9 V/m**	Grid 8 **M3** **217.7 V/m**	Grid 9 **M3** **201.1 V/m**

Cursor:

Total = 217.7 V/m
E Category: M3
Location: 1, 25, 8.7 mm

Device E-Field 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 = 98.57 V/m; Power Drift = -0.00 dB
PMR not calibrated. PMF = 3.130 is applied.
E-field emissions = 244.5 V/m
Near-field category: M3 (AWF -5 dB)

PMF scaled E-field

Grid 1 **M3** **198.6 V/m**	Grid 2 **M3** **228.5 V/m**	Grid 3 **M3** **226.8 V/m**
Grid 4 **M3** **219.7 V/m**	Grid 5 **M3** **244.5 V/m**	Grid 6 **M3** **239.8 V/m**
Grid 7 **M3** **243.9 V/m**	Grid 8 **M3** **259.0 V/m**	Grid 9 **M3** **244.2 V/m**

Cursor:

Total = 259.0 V/m
E Category: M3
Location: 0, 25, 8.7 mm

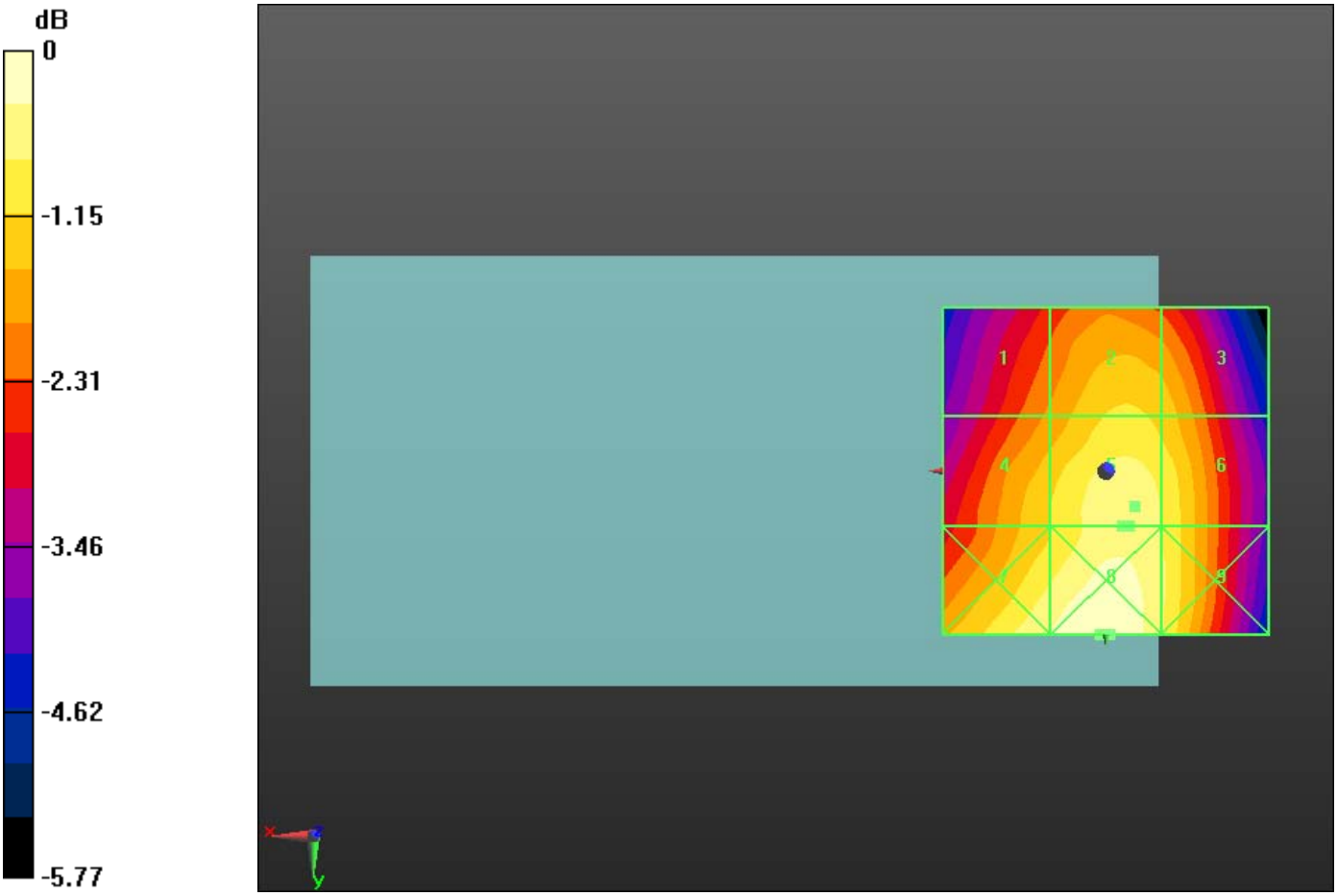
Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 93.28 V/m; Power Drift = -0.03 dB
PMR not calibrated. PMF = 3.130 is applied.
E-field emissions = 226.9 V/m
Near-field category: M3 (AWF -5 dB)

PMF scaled E-field

Grid 1 **M3** **190.9 V/m**	Grid 2 **M3** **220.0 V/m**	Grid 3 **M3** **217.0 V/m**
Grid 4 **M3** **202.0 V/m**	Grid 5 **M3** **226.9 V/m**	Grid 6 **M3** **222.0 V/m**
Grid 7 **M3** **216.1 V/m**	Grid 8 **M3** **230.9 V/m**	Grid 9 **M3** **221.7 V/m**

Cursor:

Total = 230.9 V/m
E Category: M3
Location: -0.5, 25, 8.7 mm



0 dB = 217.7V/m = 46.76 dB V/m

Date/Time: 5/31/2012 9:47:11 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_Band_V

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: WCDMA FDD V; Frequency: 826.4 MHz, Frequency: 836.4 MHz, Frequency: 846.6 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device E-Field 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 = 85.43 V/m; Power Drift = -0.03 dB
PMR not calibrated. PMF = 1.070 is applied.
E-field emissions = 72.06 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **60.40 V/m**	Grid 2 **M4** **67.36 V/m**	Grid 3 **M4** **66.34 V/m**
Grid 4 **M4** **66.08 V/m**	Grid 5 **M4** **72.06 V/m**	Grid 6 **M4** **69.86 V/m**
Grid 7 **M4** **72.76 V/m**	Grid 8 **M4** **76.49 V/m**	Grid 9 **M4** **70.93 V/m**

Cursor:
Total = 76.488 V/m
E Category: M4
Location: 0.5, 25, 8.7 mm

Device E-Field 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 = 92.50 V/m; Power Drift = -0.01 dB
PMR not calibrated. PMF = 1.070 is applied.
E-field emissions = 79.48 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **64.19 V/m**	Grid 2 **M4** **73.81 V/m**	Grid 3 **M4** **73.25 V/m**
Grid 4 **M4** **71.22 V/m**	Grid 5 **M4** **79.48 V/m**	Grid 6 **M4** **78.66 V/m**
Grid 7 **M4** **79.28 V/m**	Grid 8 **M4** **84.40 V/m**	Grid 9 **M4** **80.36 V/m**

Cursor:
Total = 84.399 V/m
E Category: M4
Location: -1, 25, 8.7 mm

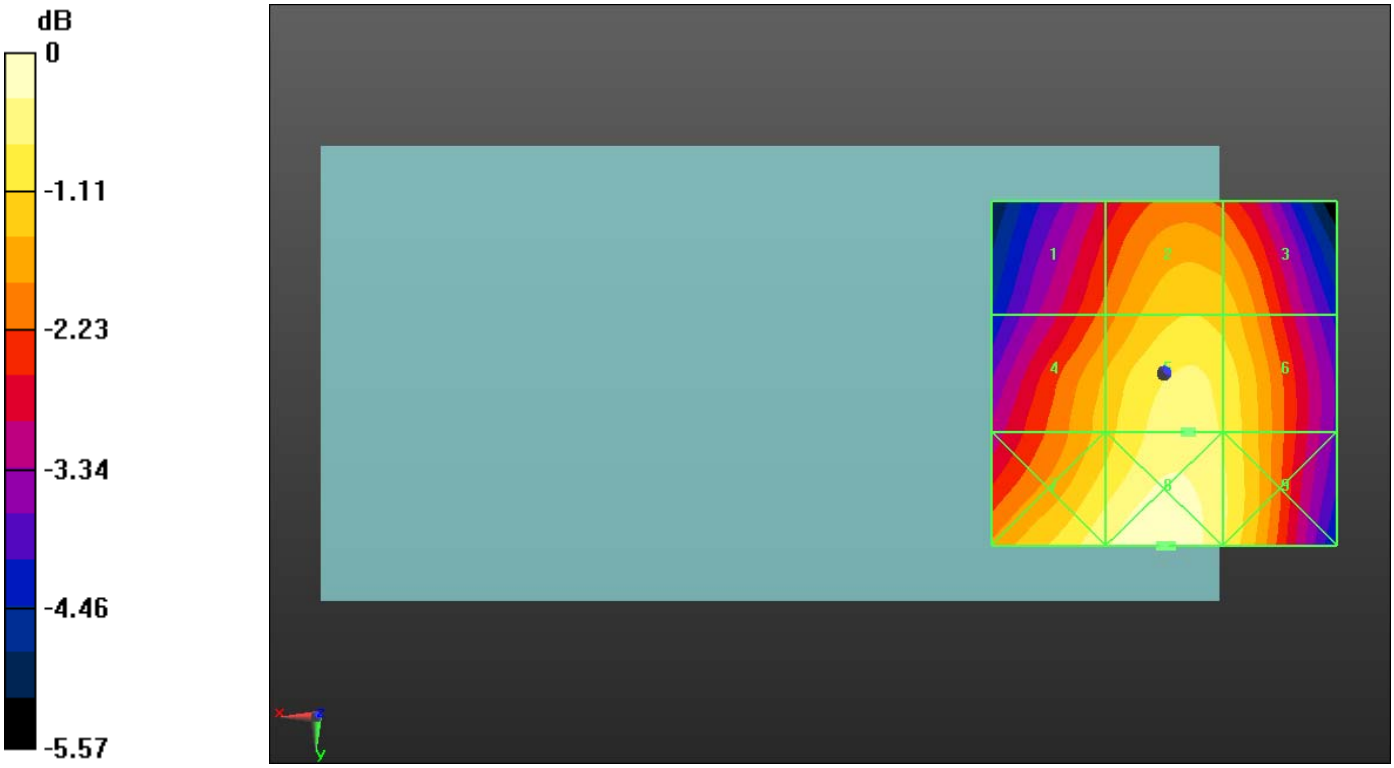
Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm
Reference Value = 103.8 V/m; Power Drift = 0.01 dB
PMR not calibrated. PMF = 1.070 is applied.
E-field emissions = 87.99 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **72.81 V/m**	Grid 2 **M4** **83.19 V/m**	Grid 3 **M4** **82.27 V/m**
Grid 4 **M4** **78.96 V/m**	Grid 5 **M4** **87.99 V/m**	Grid 6 **M4** **86.28 V/m**
Grid 7 **M4** **86.09 V/m**	Grid 8 **M4** **91.96 V/m**	Grid 9 **M4** **87.26 V/m**

Cursor:
Total = 91.963 V/m
E Category: M4
Location: 0, 25, 8.7 mm



0 dB = 76.490V/m = 37.67 dB V/m

Date/Time: 5/31/2012 9:24:49 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_GSM1900

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: GSM 1900; Frequency: 1850.2 MHz, Frequency: 1880 MHz, Frequency: 1909.8 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device E-Field 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 = 17.02 V/m; Power Drift = -0.09 dB
PMR not calibrated. PMF = 2.921 is applied.
E-field emissions = 60.76 V/m
Near-field category: M3 (AWF -5 dB)

PMF scaled E-field

Grid 1 **M3** **60.76 V/m**	Grid 2 **M3** **53.30 V/m**	Grid 3 **M4** **42.58 V/m**
Grid 4 **M4** **43.99 V/m**	Grid 5 **M3** **59.74 V/m**	Grid 6 **M3** **60.63 V/m**
Grid 7 **M4** **42.94 V/m**	Grid 8 **M3** **69.61 V/m**	Grid 9 **M3** **69.61 V/m**

Cursor:

Total = 69.607 V/m
E Category: M3
Location: -8, 25, 8.7 mm

Device E-Field 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 = 25.24 V/m; Power Drift = 0.06 dB
PMR not calibrated. PMF = 2.921 is applied.
E-field emissions = 76.83 V/m
Near-field category: M3 (AWF -5 dB)

PMF scaled E-field

Grid 1 **M3** **70.14 V/m**	Grid 2 **M3** **67.00 V/m**	Grid 3 **M3** **67.00 V/m**
Grid 4 **M3** **47.34 V/m**	Grid 5 **M3** **76.83 V/m**	Grid 6 **M3** **77.93 V/m**
Grid 7 **M4** **42.92 V/m**	Grid 8 **M3** **79.74 V/m**	Grid 9 **M3** **80.22 V/m**

Cursor:

Total = 80.218 V/m
E Category: M3
Location: -10.5, 18.5, 8.7 mm

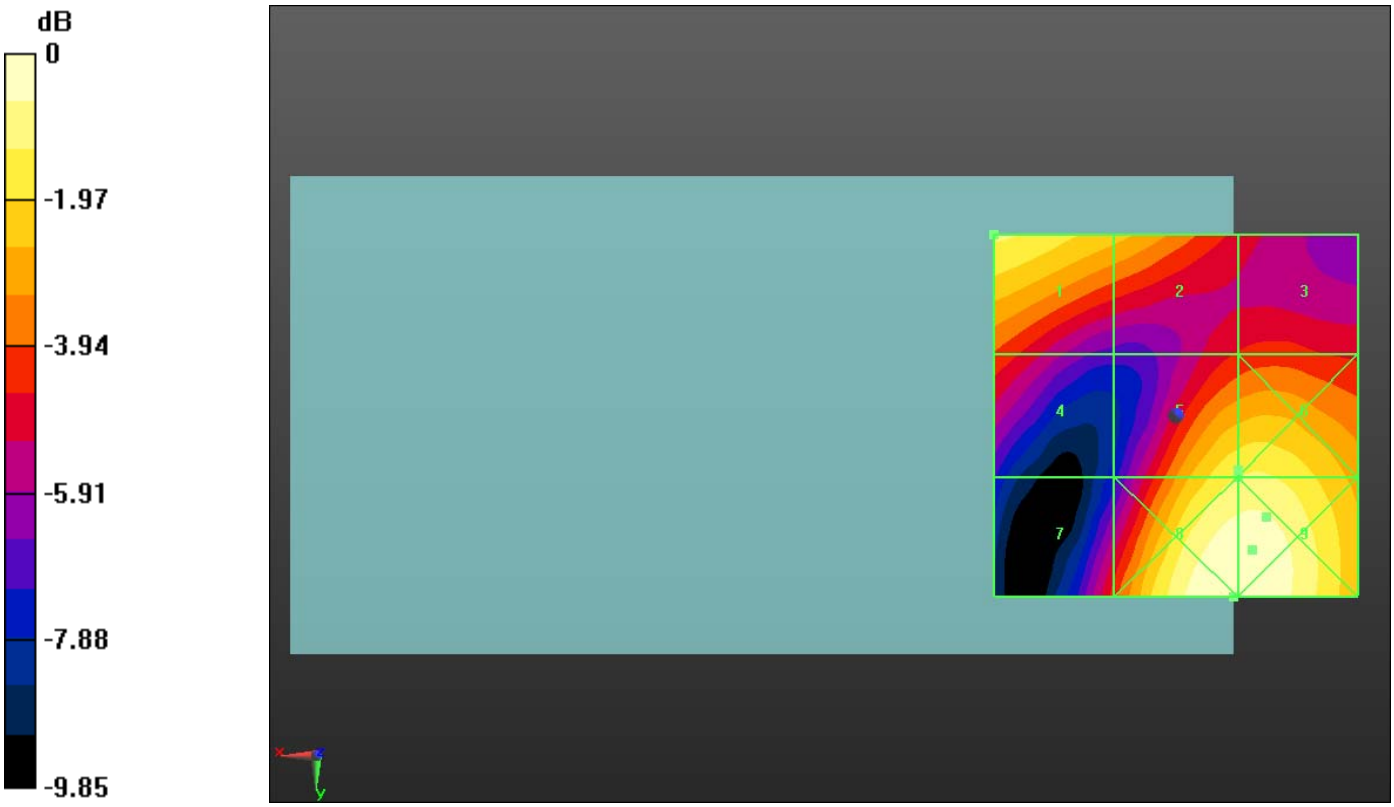
Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 17.32 V/m; Power Drift = 0.03 dB
PMR not calibrated. PMF = 2.921 is applied.
E-field emissions = 51.67 V/m
Near-field category: M3 (AWF -5 dB)

PMF scaled E-field

Grid 1 **M3** **50.34 V/m**	Grid 2 **M3** **49.29 V/m**	Grid 3 **M3** **49.14 V/m**
Grid 4 **M4** **40.02 V/m**	Grid 5 **M3** **51.67 V/m**	Grid 6 **M3** **52.97 V/m**
Grid 7 **M4** **32.15 V/m**	Grid 8 **M3** **52.12 V/m**	Grid 9 **M3** **53.39 V/m**

Cursor:

Total = 53.395 V/m
E Category: M3
Location: -12.5, 14, 8.7 mm



0 dB = 69.610V/m = 36.85 dB V/m

Date/Time: 5/31/2012 10:17:04 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_Band_II

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: WCDMA FDD II; Frequency: 1852.4 MHz, Frequency: 1880 MHz, Frequency: 1907.6 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
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; Serial: Not Specified
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device E-Field 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 = 25.56 V/m; Power Drift = -0.02 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 30.10 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **29.76 V/m**	Grid 2 **M4** **27.33 V/m**	Grid 3 **M4** **22.41 V/m**
Grid 4 **M4** **20.87 V/m**	Grid 5 **M4** **30.10 V/m**	Grid 6 **M4** **30.65 V/m**
Grid 7 **M4** **21.15 V/m**	Grid 8 **M4** **35.00 V/m**	Grid 9 **M4** **35.00 V/m**

Cursor:
Total = 35.002 V/m
E Category: M4
Location: -9, 24, 8.7 mm

Device E-Field 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 = 26.36 V/m; Power Drift = -0.07 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 28.30 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **27.22 V/m**	Grid 2 **M4** **23.85 V/m**	Grid 3 **M4** **24.34 V/m**
Grid 4 **M4** **19.20 V/m**	Grid 5 **M4** **28.30 V/m**	Grid 6 **M4** **28.85 V/m**
Grid 7 **M4** **16.11 V/m**	Grid 8 **M4** **29.69 V/m**	Grid 9 **M4** **29.92 V/m**

Cursor:
Total = 29.915 V/m
E Category: M4
Location: -10.5, 19, 8.7 mm

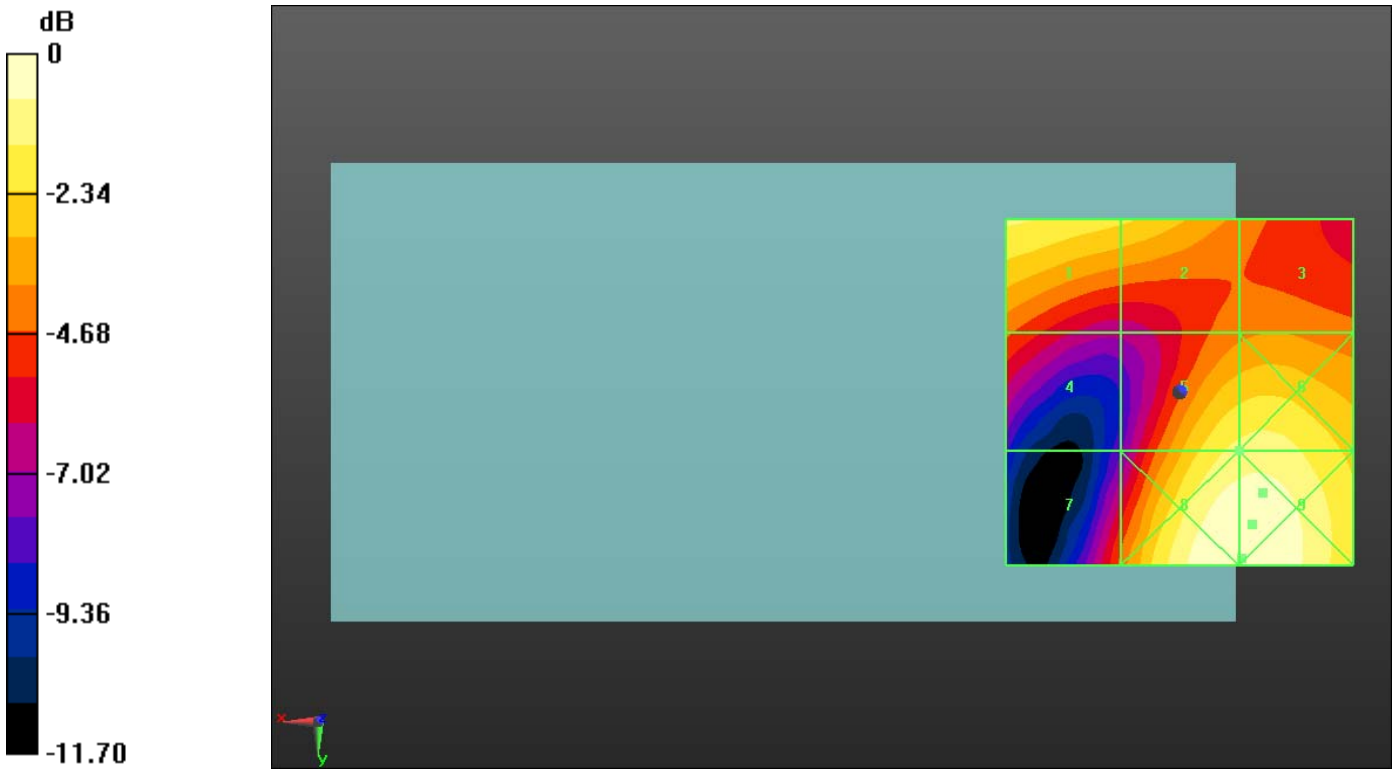
Device E-Field measurement with ER probe/E Scan - ER3D - 2007: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Device Reference Point: 0, 0, -6.3 mm
Reference Value = 23.01 V/m; Power Drift = 0.02 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 24.04 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **23.60 V/m**	Grid 2 **M4** **21.71 V/m**	Grid 3 **M4** **22.22 V/m**
Grid 4 **M4** **18.18 V/m**	Grid 5 **M4** **24.04 V/m**	Grid 6 **M4** **24.72 V/m**
Grid 7 **M4** **14.31 V/m**	Grid 8 **M4** **24.43 V/m**	Grid 9 **M4** **25.00 V/m**

Cursor:
Total = 24.999 V/m
E Category: M4
Location: -12, 14.5, 8.7 mm



0 dB = 35.000V/m = 30.88 dB V/m

Date/Time: 6/1/2012 12:16:55 AM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_GSM_850

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: GSM 850; Frequency: 824.2 MHz, Frequency: 836.8 MHz, Frequency: 848.8 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- 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
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device H-Field 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 = 0.05 dB
PMR not calibrated. PMF = 2.940 is applied.
H-field emissions = 0.30 A/m
Near-field category: M4 (AWF -5 dB)

PMF scaled H-field

Grid 1 **M4** **0.40 A/m**	Grid 2 **M4** **0.30 A/m**	Grid 3 **M4** **0.20 A/m**
Grid 4 **M4** **0.37 A/m**	Grid 5 **M4** **0.27 A/m**	Grid 6 **M4** **0.18 A/m**
Grid 7 **M4** **0.39 A/m**	Grid 8 **M4** **0.27 A/m**	Grid 9 **M4** **0.17 A/m**

Cursor:

Total = 0.402 A/m
H Category: M4
Location: 25, -25, 8.7 mm

Device H-Field 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 = 0.09 dB
PMR not calibrated. PMF = 2.940 is applied.
H-field emissions = 0.37 A/m
Near-field category: M4 (AWF -5 dB)

PMF scaled H-field

Grid 1 **M3** **0.50 A/m**	Grid 2 **M4** **0.37 A/m**	Grid 3 **M4** **0.25 A/m**
Grid 4 **M3** **0.46 A/m**	Grid 5 **M4** **0.34 A/m**	Grid 6 **M4** **0.22 A/m**
Grid 7 **M3** **0.49 A/m**	Grid 8 **M4** **0.35 A/m**	Grid 9 **M4** **0.22 A/m**

Cursor:

Total = 0.503 A/m
H Category: M3
Location: 25, -25, 8.7 mm

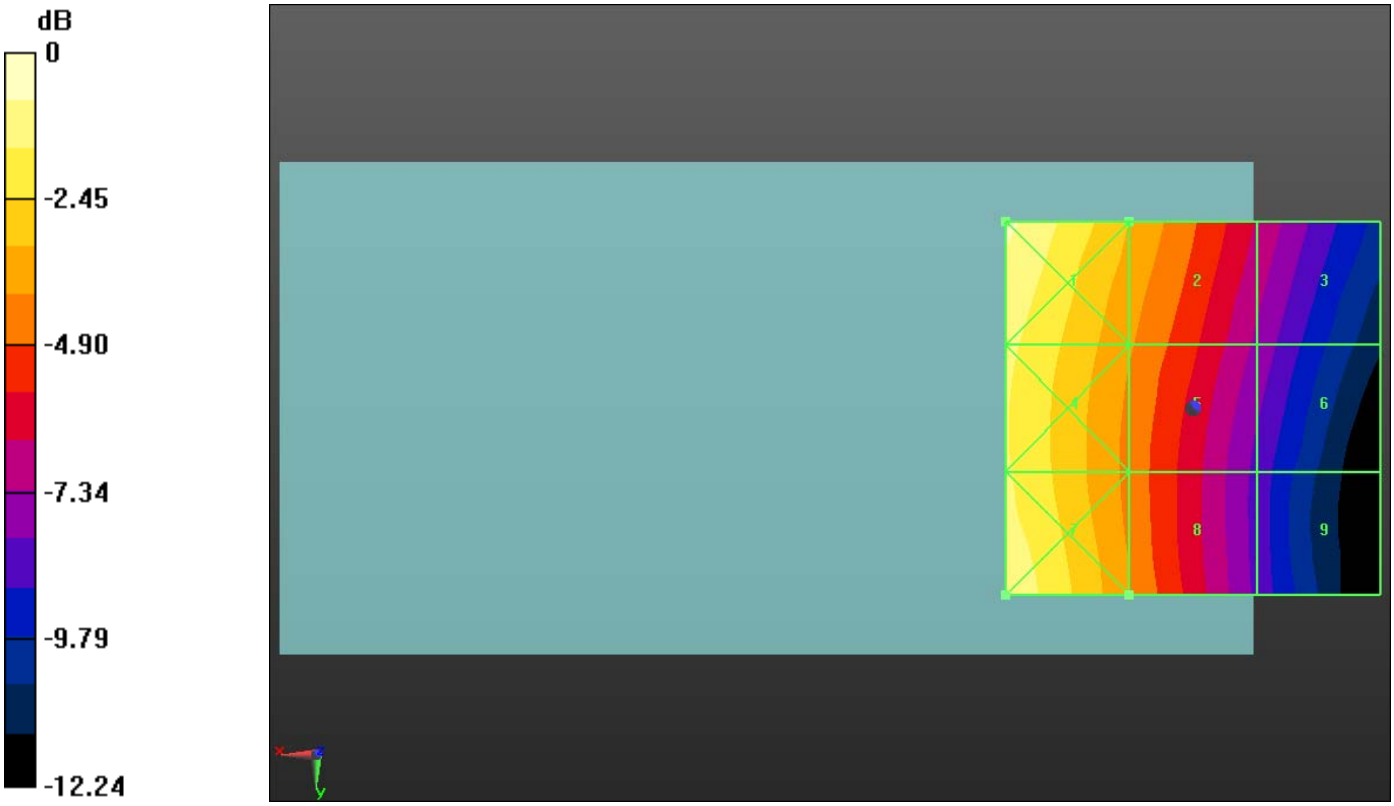
Device H-Field measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device_high_chan/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 0.10 V/m; Power Drift = 0.05 dB
PMR not calibrated. PMF = 2.940 is applied.
H-field emissions = 0.38 A/m
Near-field category: M4 (AWF -5 dB)

PMF scaled H-field

Grid 1 **M3** **0.50 A/m**	Grid 2 **M4** **0.37 A/m**	Grid 3 **M4** **0.25 A/m**
Grid 4 **M3** **0.47 A/m**	Grid 5 **M4** **0.35 A/m**	Grid 6 **M4** **0.24 A/m**
Grid 7 **M3** **0.52 A/m**	Grid 8 **M4** **0.38 A/m**	Grid 9 **M4** **0.25 A/m**

Cursor:

Total = 0.518 A/m
H Category: M3
Location: 25, 25, 8.7 mm



0 dB = 0.430A/m = -7.33 dB A/m

Date/Time: 5/31/2012 11:38:02 PM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_UMTS_Band_V

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: WCDMA FDD V; Frequency: 826.4 MHz, Frequency: 836.4 MHz, Frequency: 846.6 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- 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
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device H-Field 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 = -0.02 dB
PMR not calibrated. PMF = 1.090 is applied.
H-field emissions = 0.11 A/m
Near-field category: M4 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M4** **0.14 A/m**	Grid 2 **M4** **0.11 A/m**	Grid 3 **M4** **0.07 A/m**
Grid 4 **M4** **0.13 A/m**	Grid 5 **M4** **0.10 A/m**	Grid 6 **M4** **0.06 A/m**
Grid 7 **M4** **0.15 A/m**	Grid 8 **M4** **0.11 A/m**	Grid 9 **M4** **0.07 A/m**

Cursor:
Total = 0.148 A/m
H Category: M4
Location: 25, 25, 8.7 mm

Device H-Field 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 = 1.090 is applied.
H-field emissions = 0.12 A/m
Near-field category: M4 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M4** **0.16 A/m**	Grid 2 **M4** **0.12 A/m**	Grid 3 **M4** **0.08 A/m**
Grid 4 **M4** **0.15 A/m**	Grid 5 **M4** **0.11 A/m**	Grid 6 **M4** **0.07 A/m**
Grid 7 **M4** **0.17 A/m**	Grid 8 **M4** **0.12 A/m**	Grid 9 **M4** **0.07 A/m**

Cursor:
Total = 0.165 A/m
H Category: M4
Location: 25, 25, 8.7 mm

Device H-Field 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 = 0.06 dB
PMR not calibrated. PMF = 1.090 is applied.
H-field emissions = 0.15 A/m
Near-field category: M4 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M4** **0.19 A/m**	Grid 2 **M4** **0.14 A/m**	Grid 3 **M4** **0.10 A/m**
Grid 4 **M4** **0.18 A/m**	Grid 5 **M4** **0.14 A/m**	Grid 6 **M4** **0.09 A/m**
Grid 7 **M4** **0.20 A/m**	Grid 8 **M4** **0.15 A/m**	Grid 9 **M4** **0.09 A/m**

Cursor:
Total = 0.200 A/m
H Category: M4
Location: 25, 25, 8.7 mm

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

Date/Time: 6/1/2012 12:33:46 AM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_GSM_1900

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: GSM 1900; Frequency: 1850.2 MHz, Frequency: 1880 MHz, Frequency: 1909.8 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- 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
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device H-Field 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 = 0.06 V/m; Power Drift = 0.20 dB
PMR not calibrated. PMF = 2.970 is applied.
H-field emissions = 0.17 A/m
Near-field category: M3 (AWF -5 dB)

PMF scaled H-field

Grid 1 **M3** **0.16 A/m**	Grid 2 **M3** **0.17 A/m**	Grid 3 **M3** **0.17 A/m**
Grid 4 **M3** **0.16 A/m**	Grid 5 **M3** **0.17 A/m**	Grid 6 **M3** **0.17 A/m**
Grid 7 **M3** **0.18 A/m**	Grid 8 **M3** **0.17 A/m**	Grid 9 **M4** **0.14 A/m**

Cursor:

Total = 0.178 A/m
H Category: M3
Location: 18.5, 25, 8.7 mm

Device H-Field 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 = -0.06 dB
PMR not calibrated. PMF = 2.970 is applied.
H-field emissions = 0.23 A/m

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

PMF scaled H-field

Grid 1 **M3** **0.23 A/m**	Grid 2 **M3** **0.22 A/m**	Grid 3 **M3** **0.21 A/m**
Grid 4 **M3** **0.21 A/m**	Grid 5 **M3** **0.22 A/m**	Grid 6 **M3** **0.20 A/m**
Grid 7 **M3** **0.23 A/m**	Grid 8 **M3** **0.22 A/m**	Grid 9 **M3** **0.18 A/m**

Cursor:

Total = 0.232 A/m
H Category: M3
Location: 25, -25, 8.7 mm

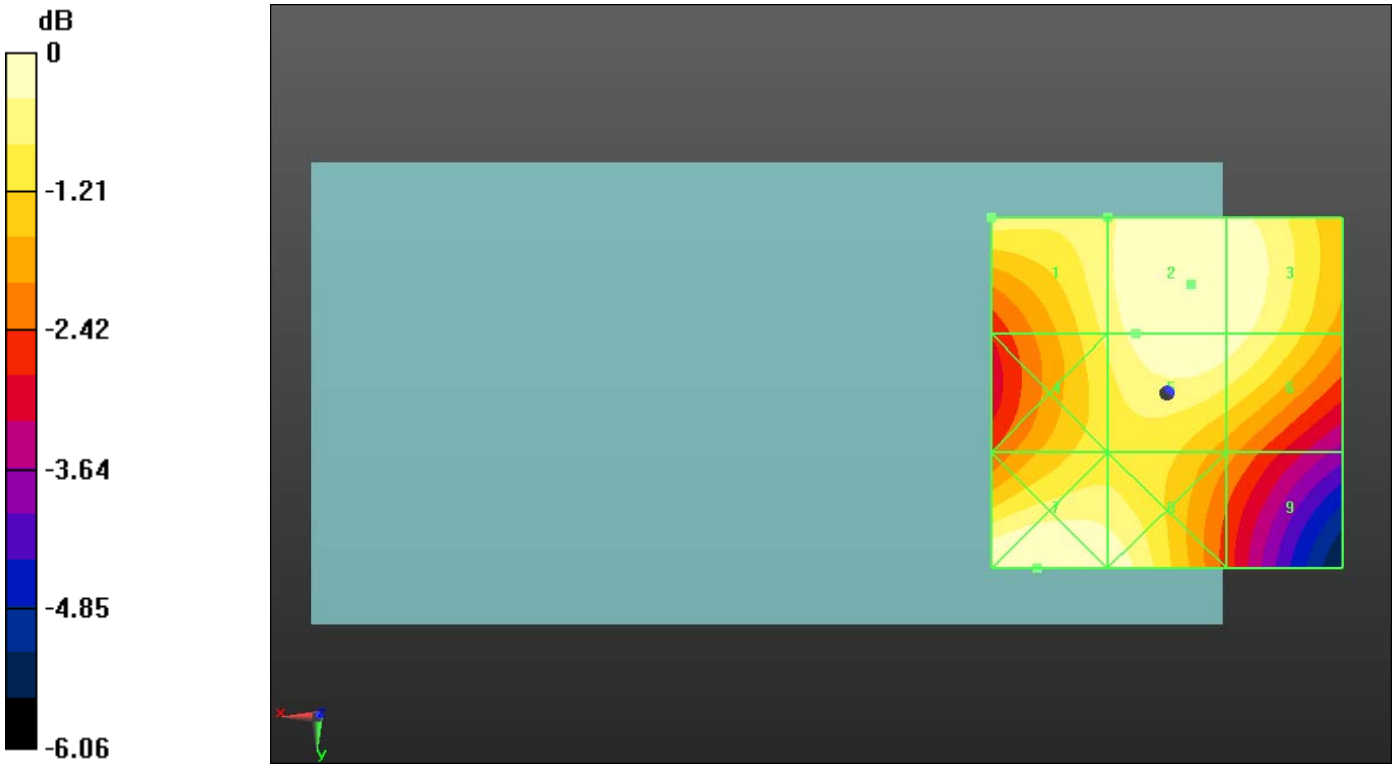
Device H-Field measurement with H3DV6 probe/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device_high_chan/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 0.06 V/m; Power Drift = -0.06 dB
PMR not calibrated. PMF = 2.970 is applied.
H-field emissions = 0.20 A/m
Near-field category: M3 (AWF -5 dB)

PMF scaled H-field

Grid 1 **M3** **0.20 A/m**	Grid 2 **M3** **0.18 A/m**	Grid 3 **M3** **0.16 A/m**
Grid 4 **M3** **0.18 A/m**	Grid 5 **M3** **0.18 A/m**	Grid 6 **M3** **0.16 A/m**
Grid 7 **M3** **0.17 A/m**	Grid 8 **M3** **0.17 A/m**	Grid 9 **M3** **0.14 A/m**

Cursor:

Total = 0.195 A/m
H Category: M3
Location: 25, -25, 8.7 mm



0 dB = 0.170A/m = -15.39 dB A/m

Date/Time: 5/31/2012 11:23:23 PM

Test Laboratory: RIM Testing Services

HAC RF_H-Field_UMTS_Band_II

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2A099B03

Communication System: WCDMA FDD II; Frequency: 1852.4 MHz, Frequency: 1880 MHz, Frequency: 1907.6 MHz
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/8/2011
- 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
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Device H-Field 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 = 0.07 dB
PMR not calibrated. PMF = 1.000 is applied.
H-field emissions = 0.08 A/m
Near-field category: M4 (AWF 0 dB)

PMF scaled H-field

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

Cursor:
Total = 0.088 A/m
H Category: M4
Location: 19.5, 25, 8.7 mm

Device H-Field 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 = 0.04 dB
PMR not calibrated. PMF = 1.000 is applied.
H-field emissions = 0.08 A/m
Near-field category: M4 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M4** **0.08 A/m**	Grid 2 **M4** **0.08 A/m**	Grid 3 **M4** **0.08 A/m**
Grid 4 **M4** **0.07 A/m**	Grid 5 **M4** **0.08 A/m**	Grid 6 **M4** **0.07 A/m**
Grid 7 **M4** **0.08 A/m**	Grid 8 **M4** **0.08 A/m**	Grid 9 **M4** **0.06 A/m**

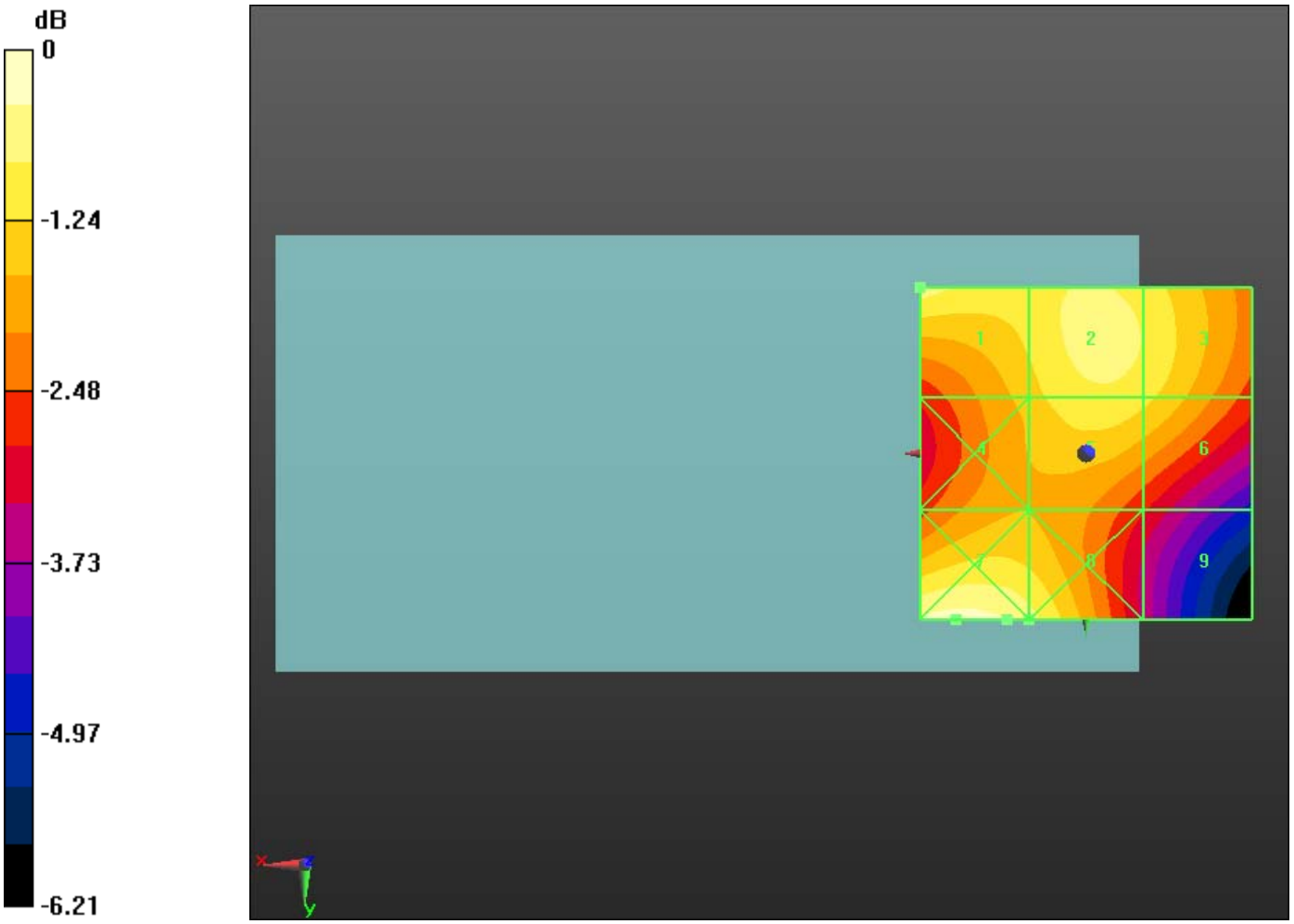
Cursor:
Total = 0.083 A/m
H Category: M4
Location: 25, -25, 8.7 mm

Device H-Field 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 = -0.12 dB
PMR not calibrated. PMF = 1.000 is applied.
H-field emissions = 0.08 A/m
Near-field category: M4 (AWF 0 dB)

PMF scaled H-field

Grid 1 **M4** **0.08 A/m**	Grid 2 **M4** **0.08 A/m**	Grid 3 **M4** **0.07 A/m**
Grid 4 **M4** **0.07 A/m**	Grid 5 **M4** **0.07 A/m**	Grid 6 **M4** **0.07 A/m**
Grid 7 **M4** **0.08 A/m**	Grid 8 **M4** **0.07 A/m**	Grid 9 **M4** **0.06 A/m**



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