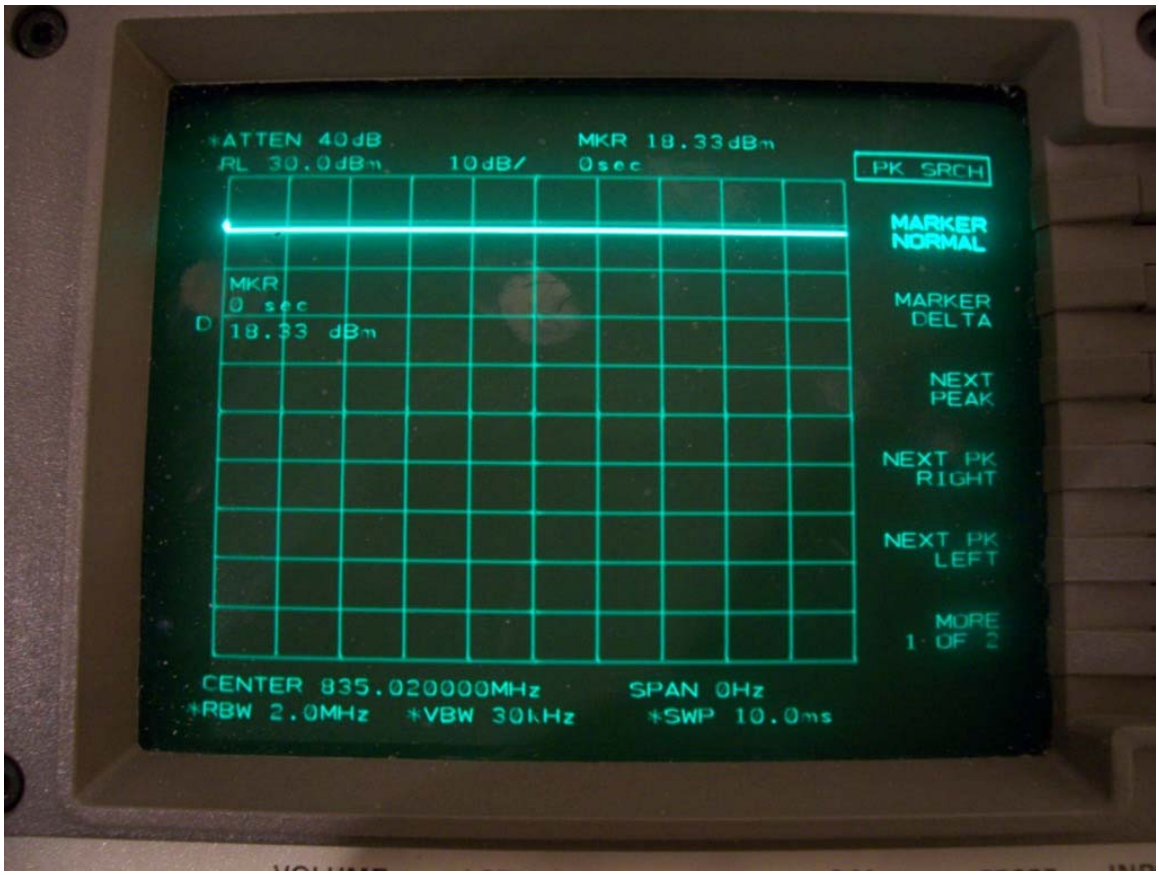
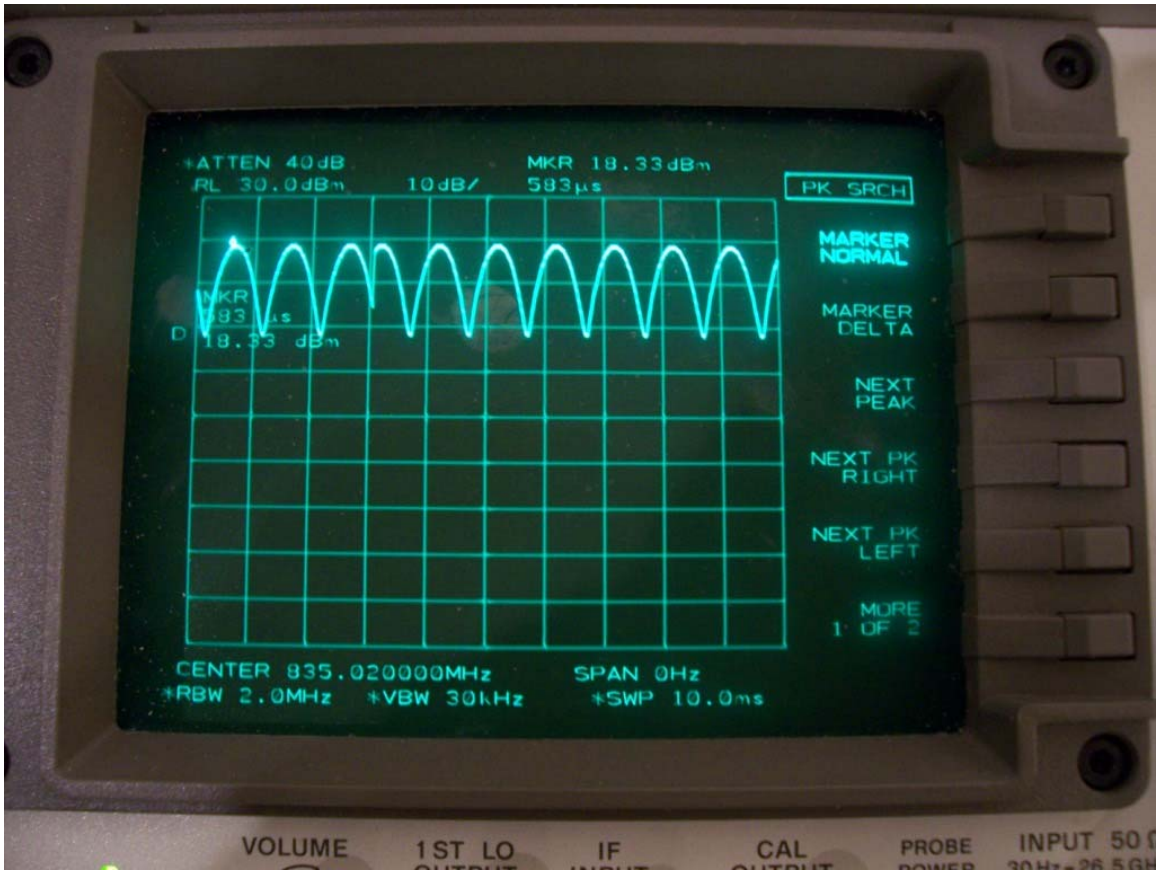
Annex A: Measurement plots and data

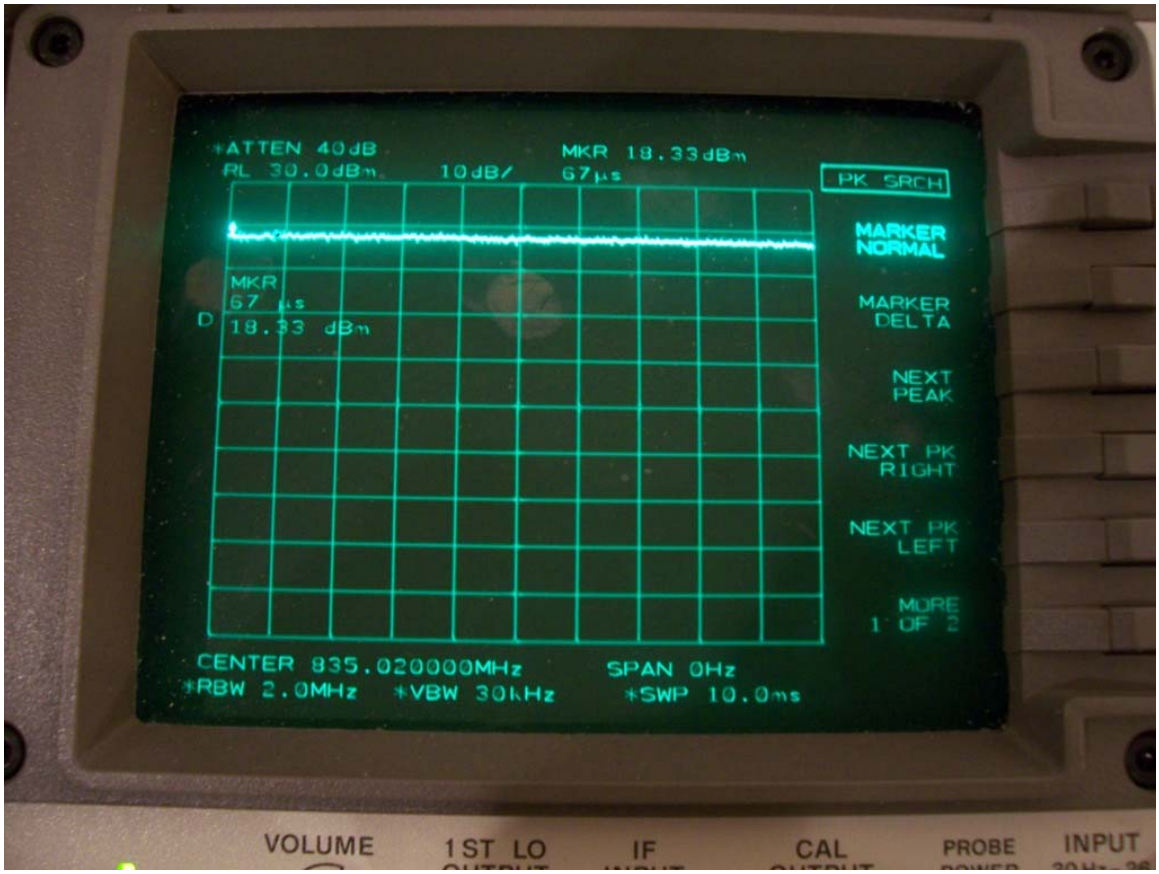
A.1 Spectrum analyser plots: CW, 80% AM and CDMA signals



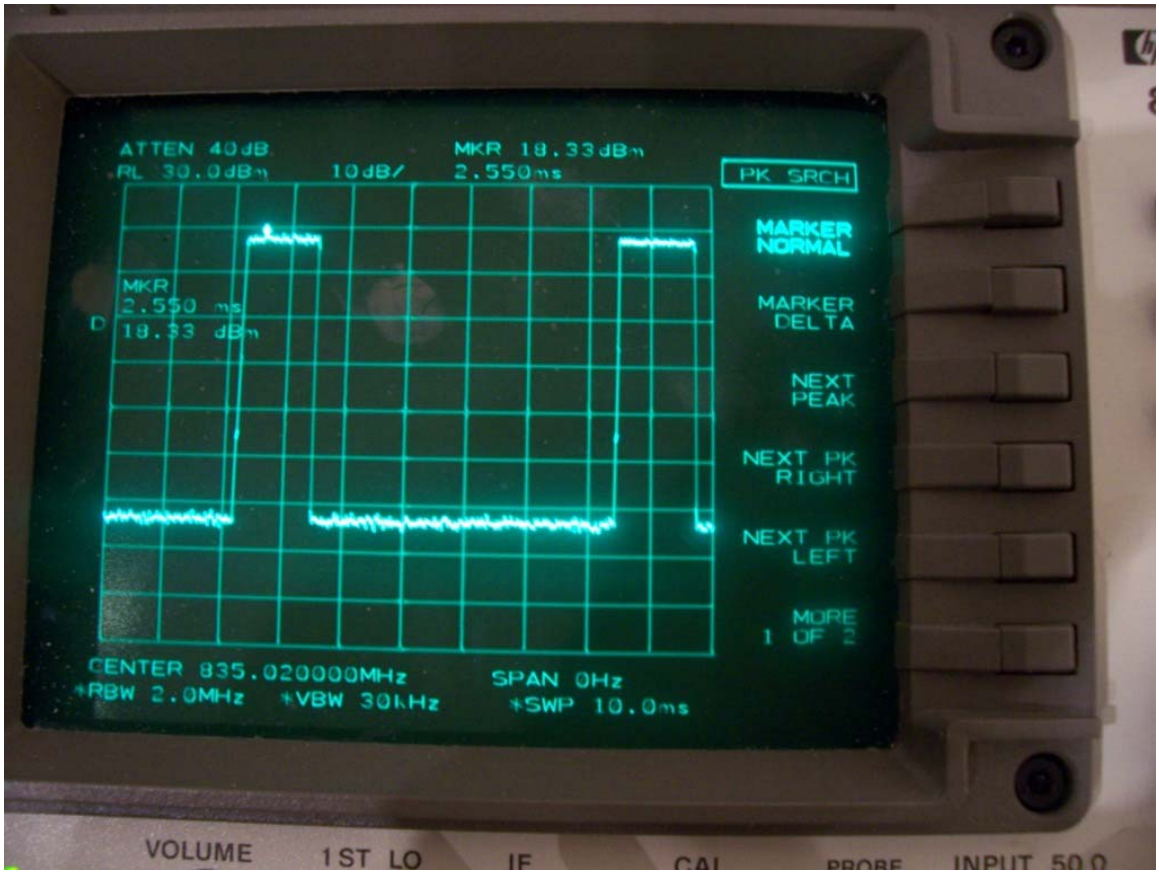
0 Hz Span CW Plot (835MHz)



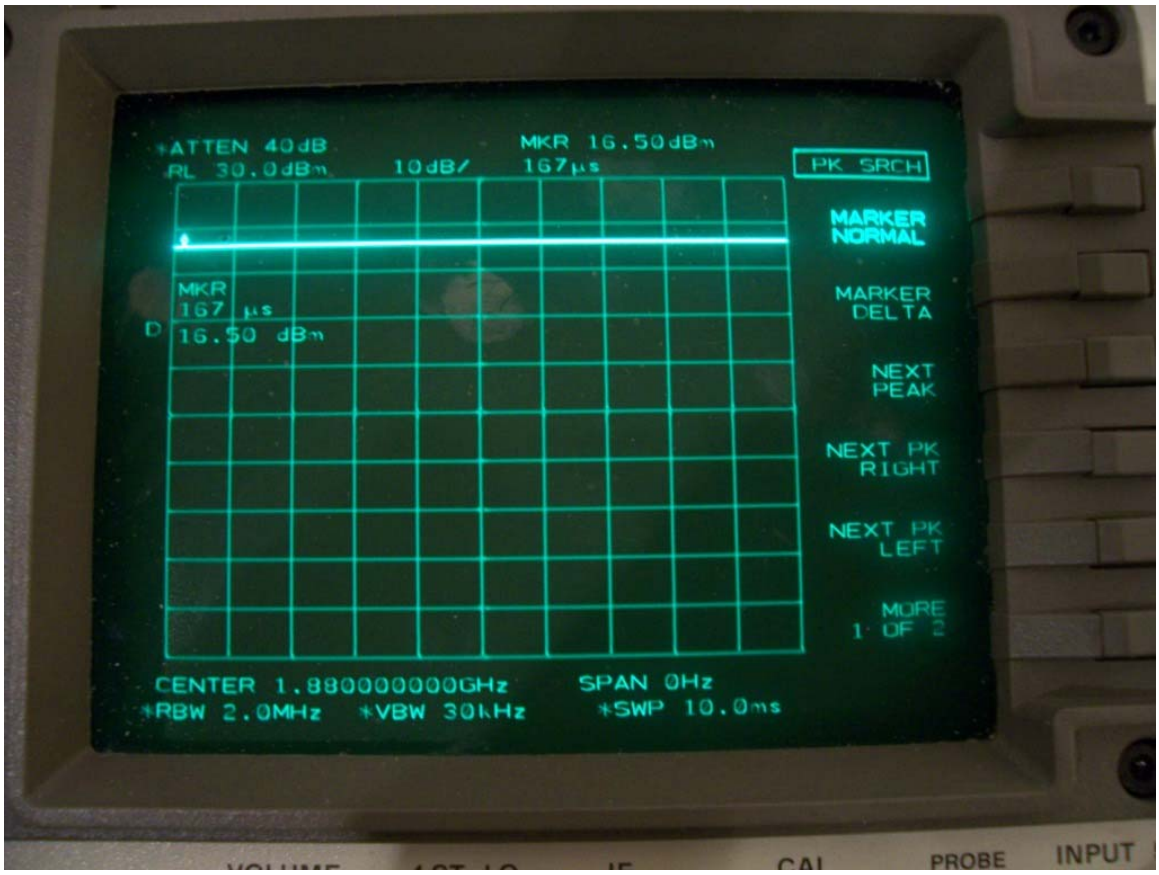
0 Hz Span 80% AM Plot (835MHz)



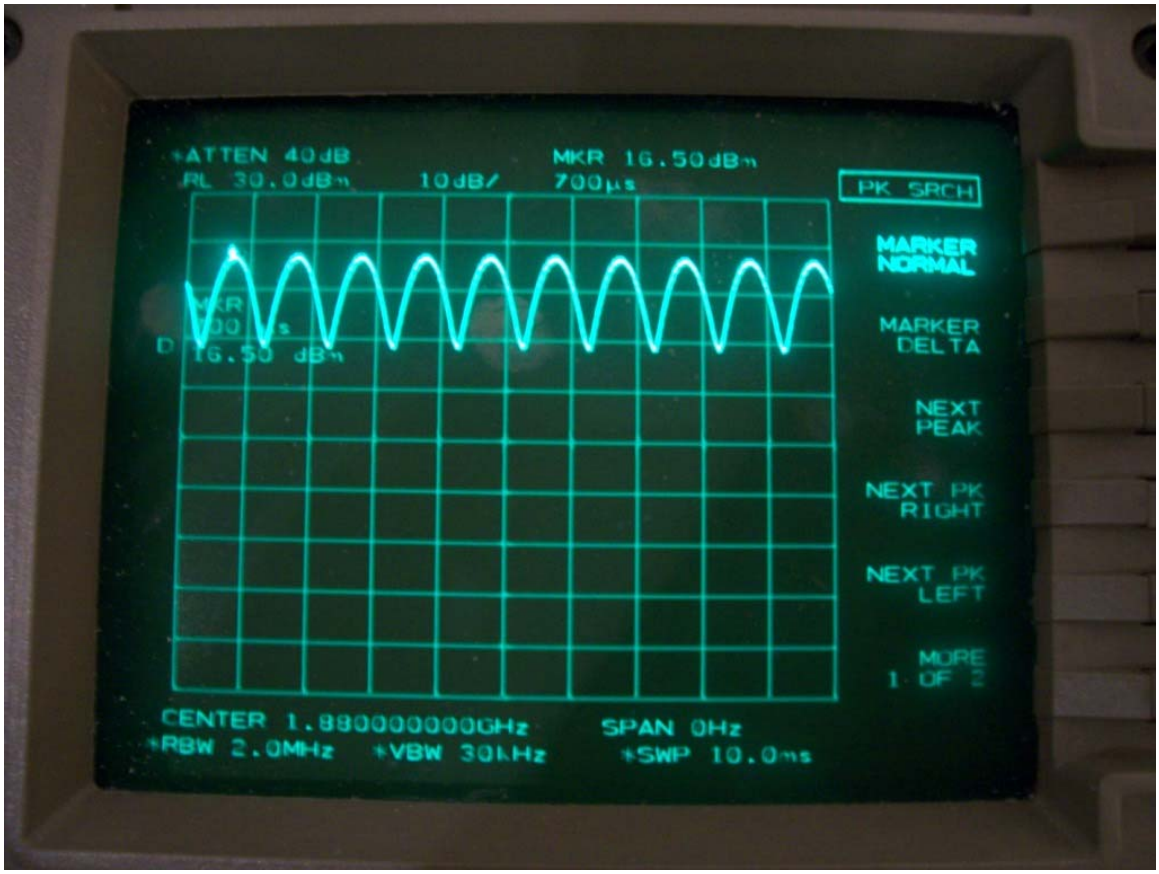
0 Hz Span CDMA Full Rate (835MHz)



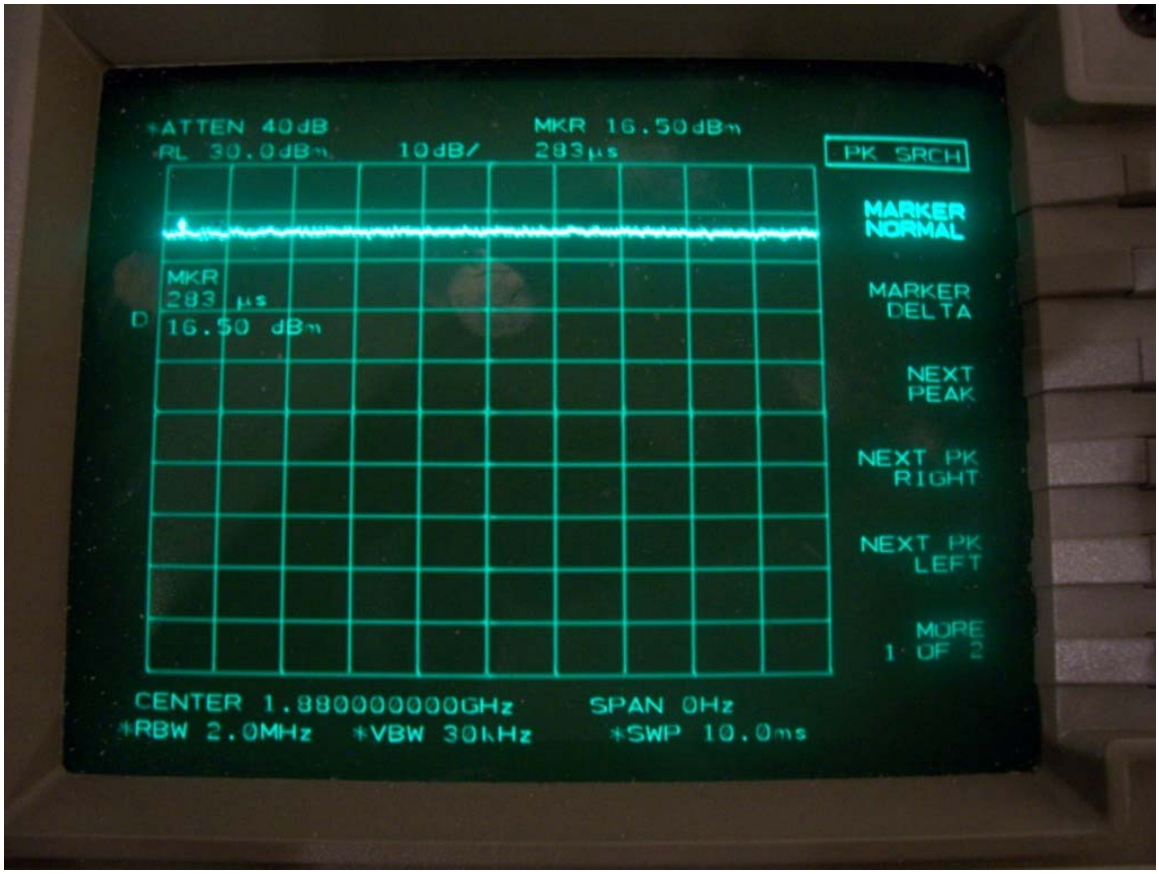
0 Hz Span CDMA 1/8 Rate (835MHz)



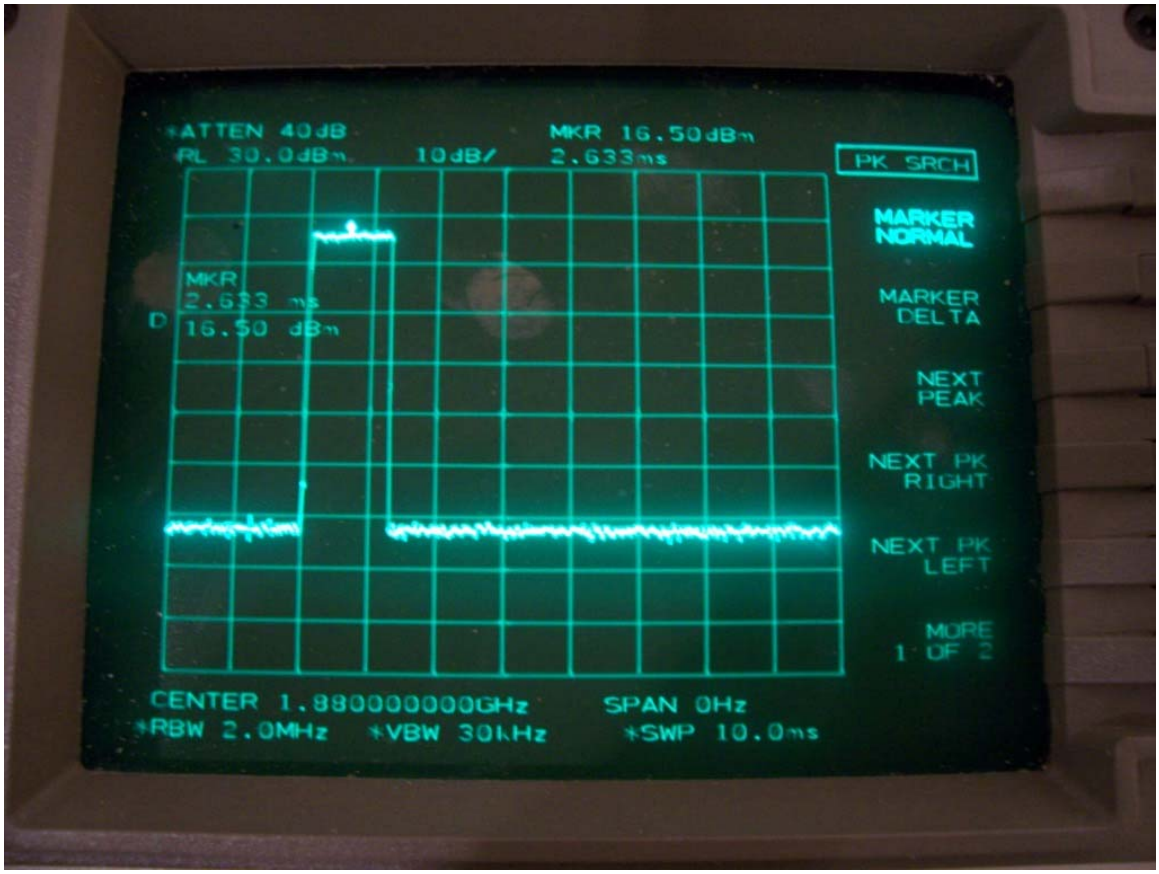
0 Hz Span CW Plot (1880MHz)



0 Hz Span 80% AM Plot (1880MHz)



0 Hz Span CDMA Full Rate (1880MHz)



0 Hz Span CDMA 1/8 Rate (1880MHz)

A.2 Dipole validation and probe modulation factor plots

Date/Time: 26/01/2007 9:17:02 AM

Test Laboratory: RTS

HAC_E_835MHz_CW_20dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

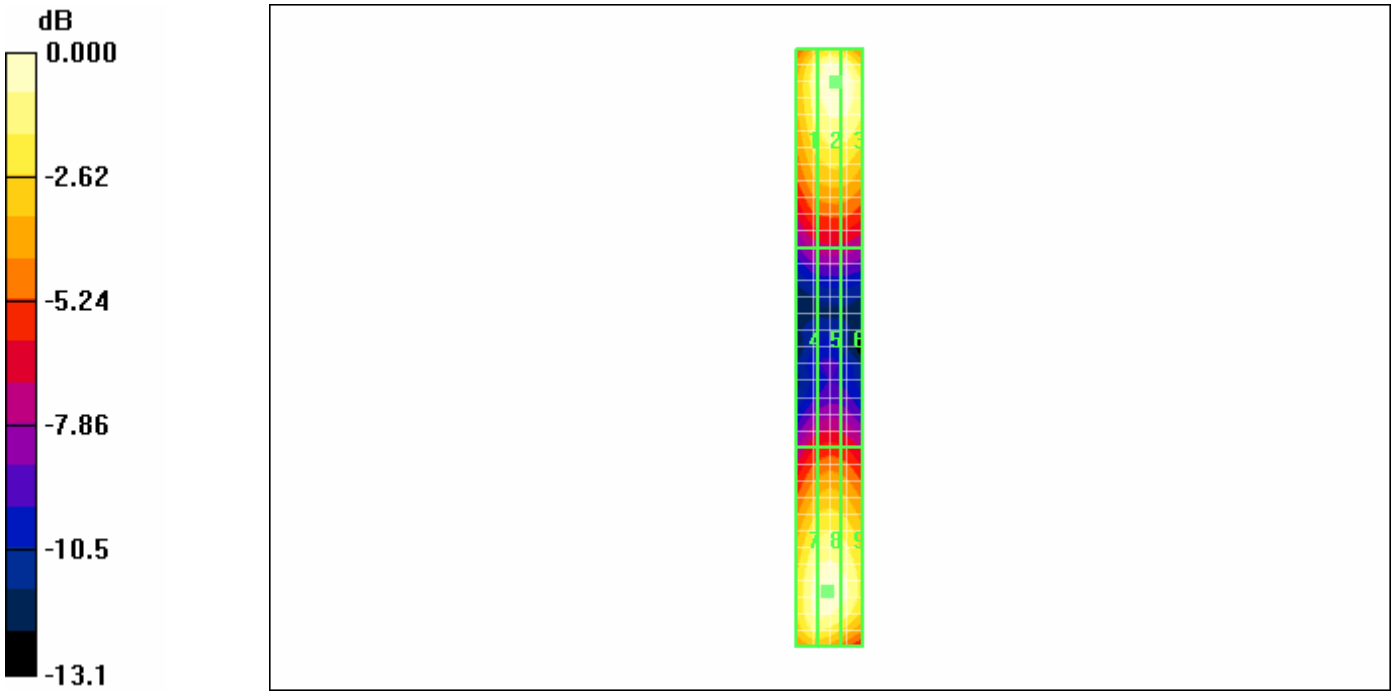
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 54.8 V/m; Power Drift = 0.084 dB
Maximum value of Total (measured) = 174.0 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 176.3 V/m
Probe Modulation Factor = 1.00
Reference Value = 54.8 V/m; Power Drift = 0.084 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **161.2**	Grid **176.3**	Grid **174.9**
Grid **88.9**	Grid **91.1**	Grid **89.1**
Grid	Grid	Grid



0 dB = 176.3V/m

Date/Time: 26/01/2007 9:24:18 AM

Test Laboratory: RTS

HAC_E_835MHz_CW_18_33dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

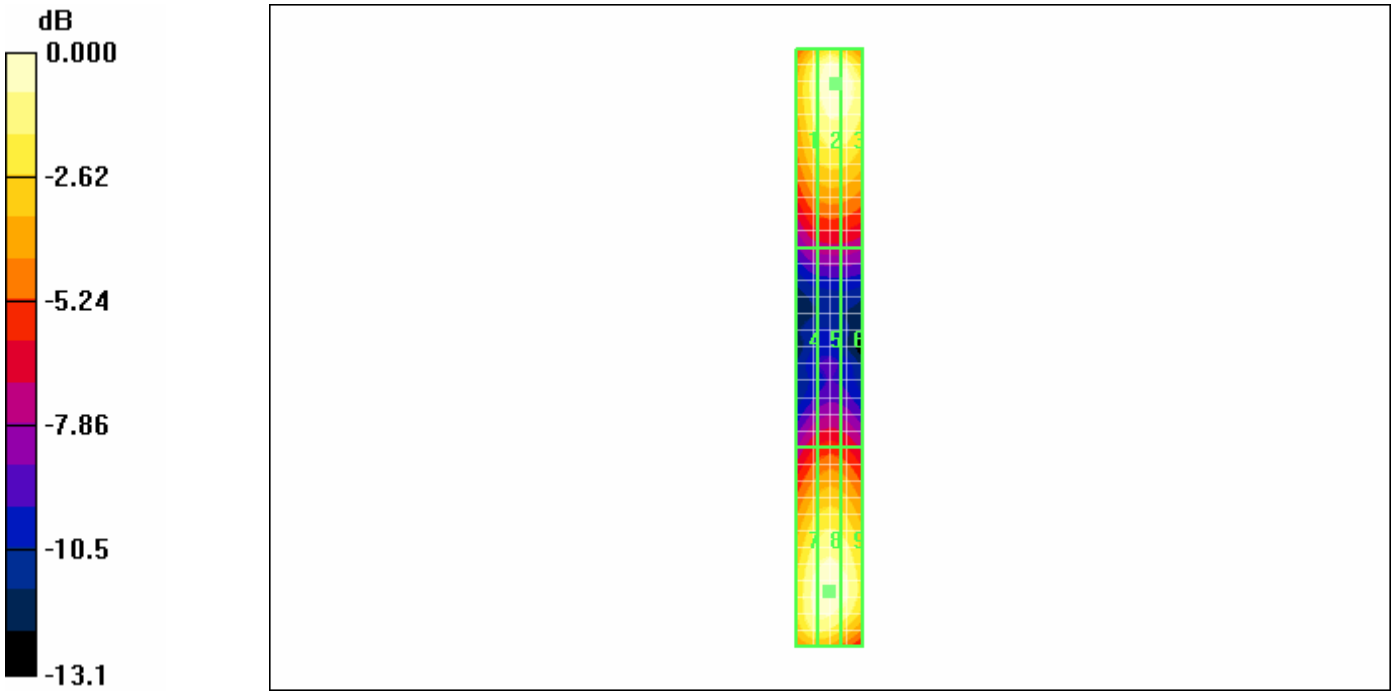
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 48.5 V/m; Power Drift = -0.051 dB
Maximum value of Total (measured) = 149.0 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 150.6 V/m
Probe Modulation Factor = 1.00
Reference Value = 48.5 V/m; Power Drift = -0.051 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **138.4**	Grid **150.6**	Grid **149.1**
Grid **76.5**	Grid **78.6**	Grid **76.8**
Grid	Grid	Grid



0 dB = 150.6V/m

Date/Time: 26/01/2007 9:31:51 AM

Test Laboratory: RTS

HAC_E_835MHz_AM80%_18_33dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: AM80%; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

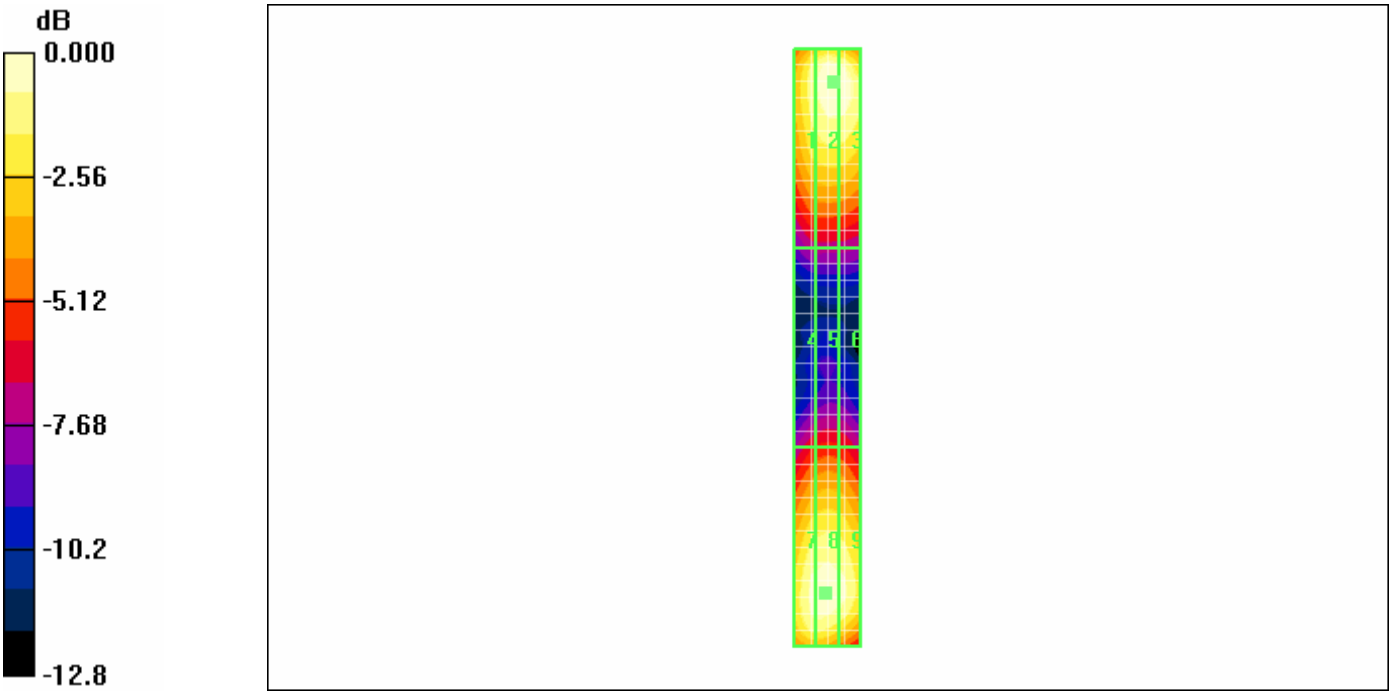
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 31.3 V/m; Power Drift = -0.035 dB
Maximum value of Total (measured) = 93.8 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 94.9 V/m
Probe Modulation Factor = 1.00
Reference Value = 31.3 V/m; Power Drift = -0.035 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **87.6**	Grid **94.9**	Grid **94.2**
Grid **48.8**	Grid **50.0**	Grid **49.0**
Grid	Grid	Grid



0 dB = 94.9V/m

Date/Time: 26/01/2007 9:42:58 AM

Test Laboratory: RTS

HAC_E_CDMA835MHz_FullRate_18_3dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CDMA 800; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

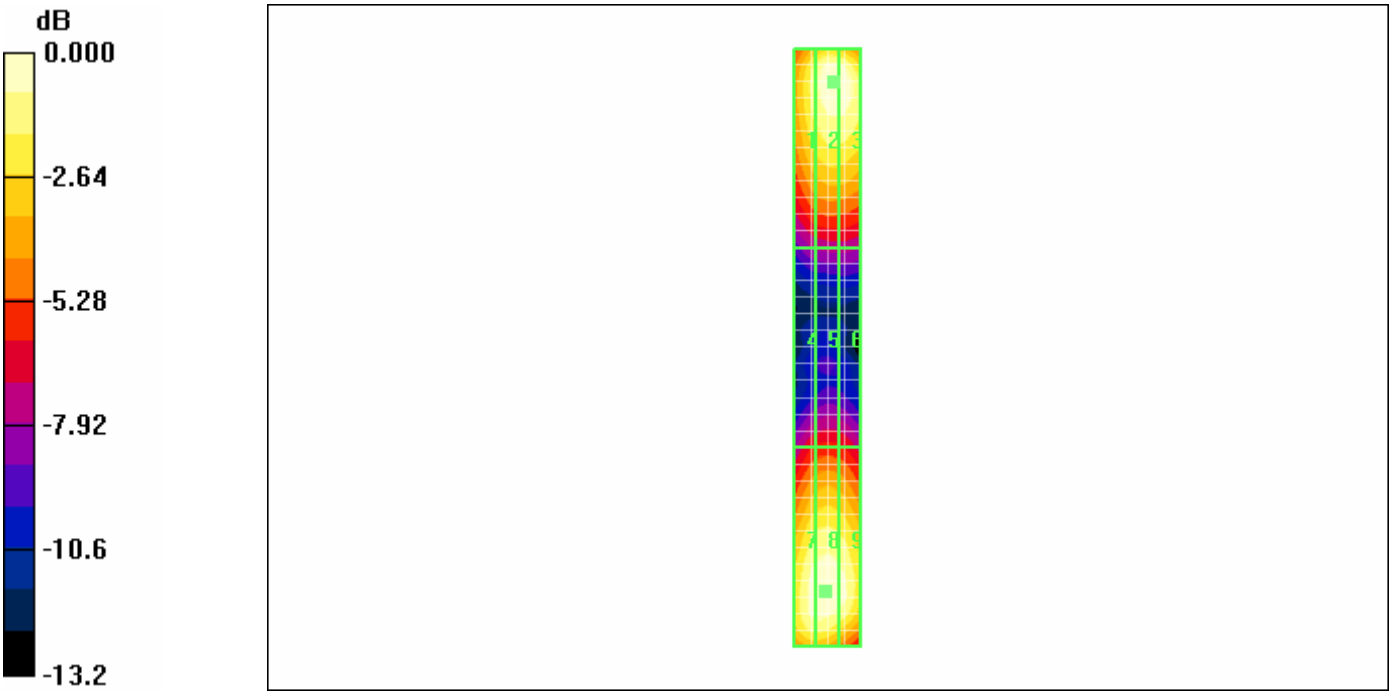
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 47.7 V/m; Power Drift = 0.056 dB
Maximum value of Total (measured) = 147.5 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 150.3 V/m
Probe Modulation Factor = 1.00
Reference Value = 47.7 V/m; Power Drift = 0.056 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **134.7**	Grid **150.3**	Grid **149.2**
Grid **76.4**	Grid **77.5**	Grid **75.8**
Grid	Grid	Grid



0 dB = 150.3V/m

Date/Time: 26/01/2007 9:53:27 AM

Test Laboratory: RTS

HAC_E_CDMA835MHz_eighth_18_3dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CDMA 800; Frequency: 835 MHz;Duty Cycle: 1:8
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

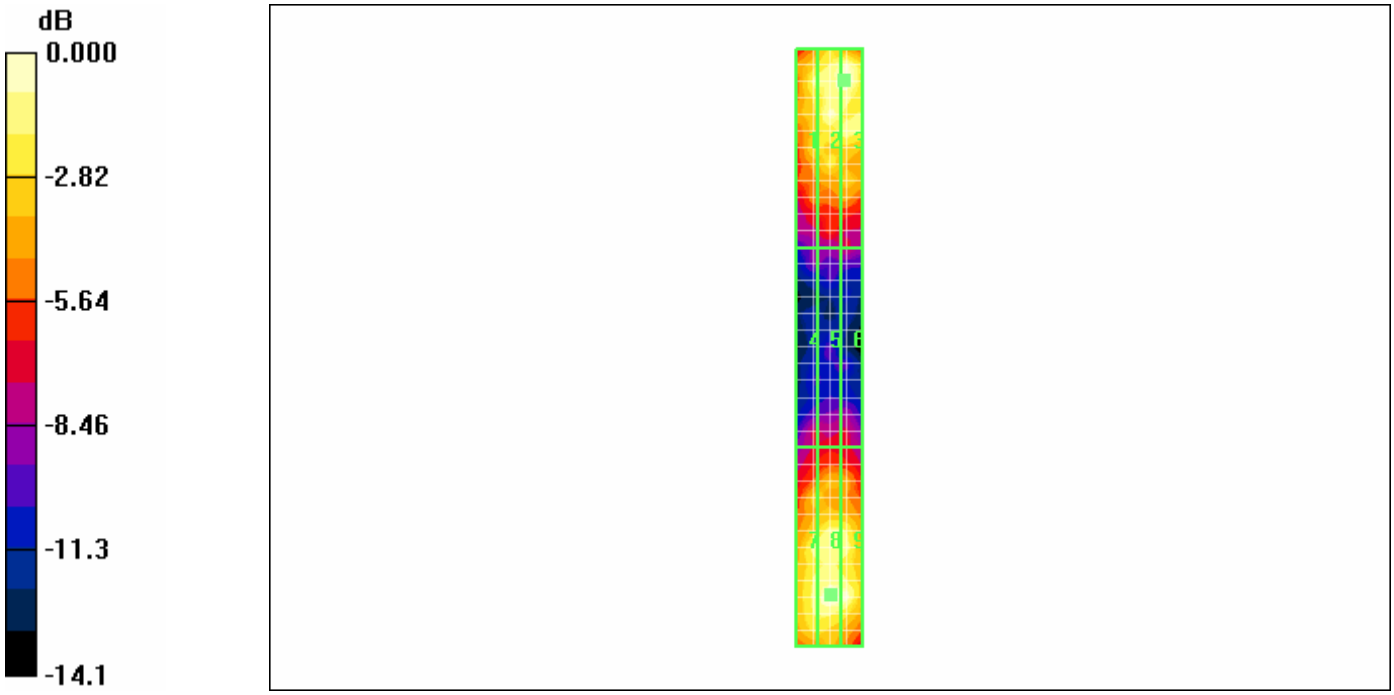
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 16.9 V/m; Power Drift = 0.133 dB
Maximum value of Total (measured) = 60.0 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 60.1 V/m
Probe Modulation Factor = 1.00
Reference Value = 16.9 V/m; Power Drift = 0.133 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **51.6**	Grid **59.0**	Grid **59.8**
Grid **26.7**	Grid **27.6**	Grid **27.0**
Grid	Grid	Grid



0 dB = 60.1V/m

Date/Time: 25/01/2007 11:16:19 AM

Test Laboratory: RTS

HAC_E_1880MHz_CW_20dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

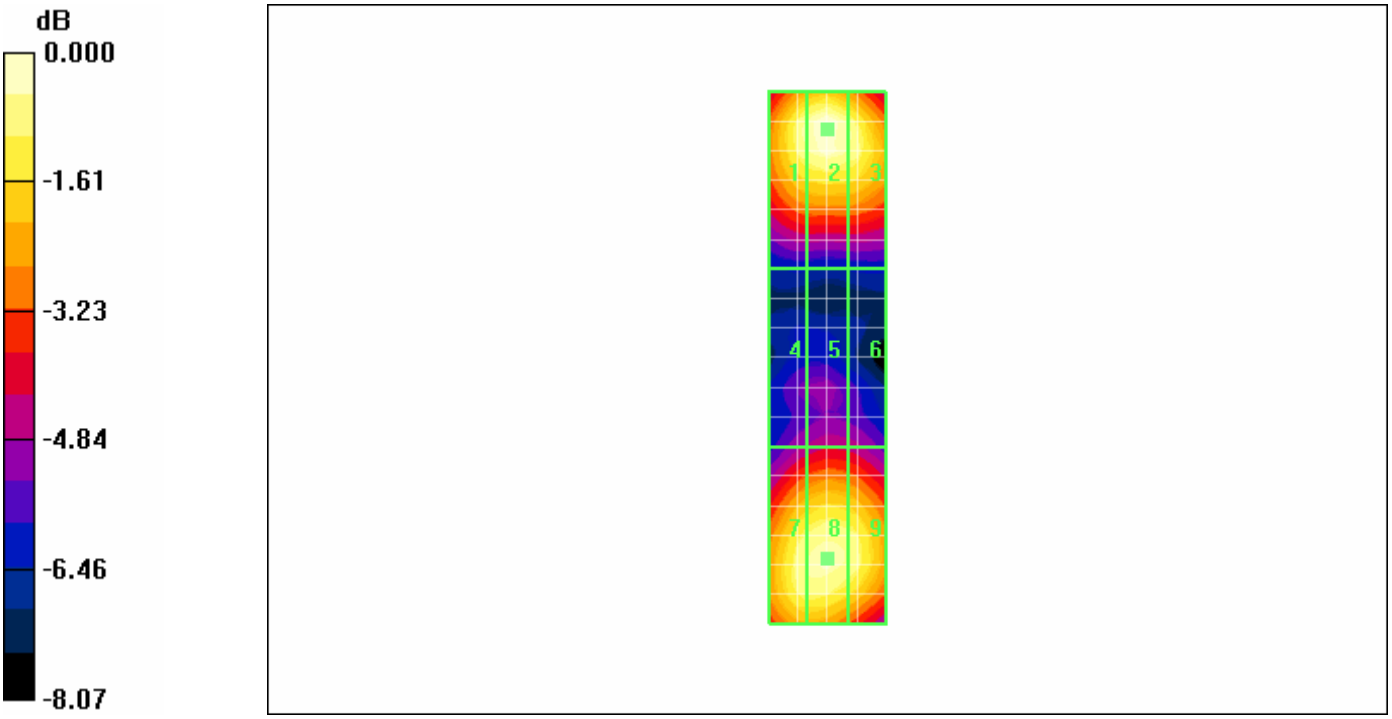
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 71.6 V/m; Power Drift = -0.004 dB
Maximum value of Total (measured) = 139.9 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 142.9 V/m
Probe Modulation Factor = 1.00
Reference Value = 71.6 V/m; Power Drift = -0.004 dB
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

Grid **137.4**	Grid **142.9**	Grid **136.1**
Grid **83.2**	Grid **86.7**	Grid **85.4**
Grid	Grid	Grid



0 dB = 142.9V/m

Date/Time: 25/01/2007 11:22:05 AM

Test Laboratory: RTS

HAC_E_1880MHz_CW_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 57.5 V/m; Power Drift = -0.005 dB
Maximum value of Total (measured) = 112.6 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 110.1 V/m
Probe Modulation Factor = 1.00
Reference Value = 57.5 V/m; Power Drift = -0.005 dB
Hearing Aid Near-Field Category: M3 (AWF 0 dB)

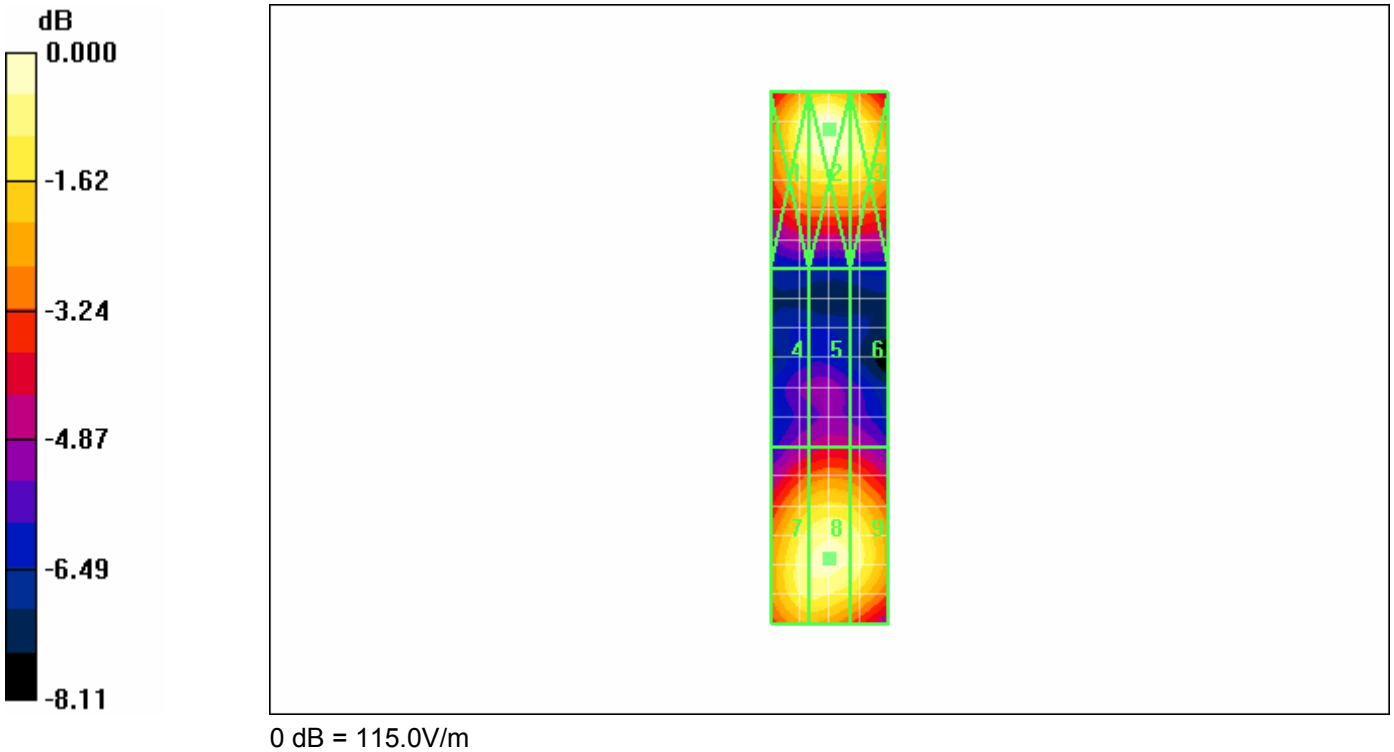
Peak E-field in V/m

Grid **110.4**	Grid **115.0**	Grid **109.5**
Grid **66.9**	Grid **70.1**	Grid **68.8**
Grid	Grid	Grid

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 115.0 V/m
Probe Modulation Factor = 1.00
Reference Value = 57.5 V/m; Power Drift = -0.005 dB
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

Grid **110.4**	Grid **115.0**	Grid **109.5**
Grid **66.9**	Grid **70.1**	Grid **68.8**
Grid	Grid	Grid



0 dB = 115.0V/m

Date/Time: 25/01/2007 11:27:14 AM

Test Laboratory: RTS

HAC_E_1880MHz_80%AM_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: 80%AM; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 37.8 V/m; Power Drift = -0.006 dB
Maximum value of Total (measured) = 73.9 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 72.0 V/m
Probe Modulation Factor = 1.00
Reference Value = 37.8 V/m; Power Drift = -0.006 dB
Hearing Aid Near-Field Category: M3 (AWF 0 dB)

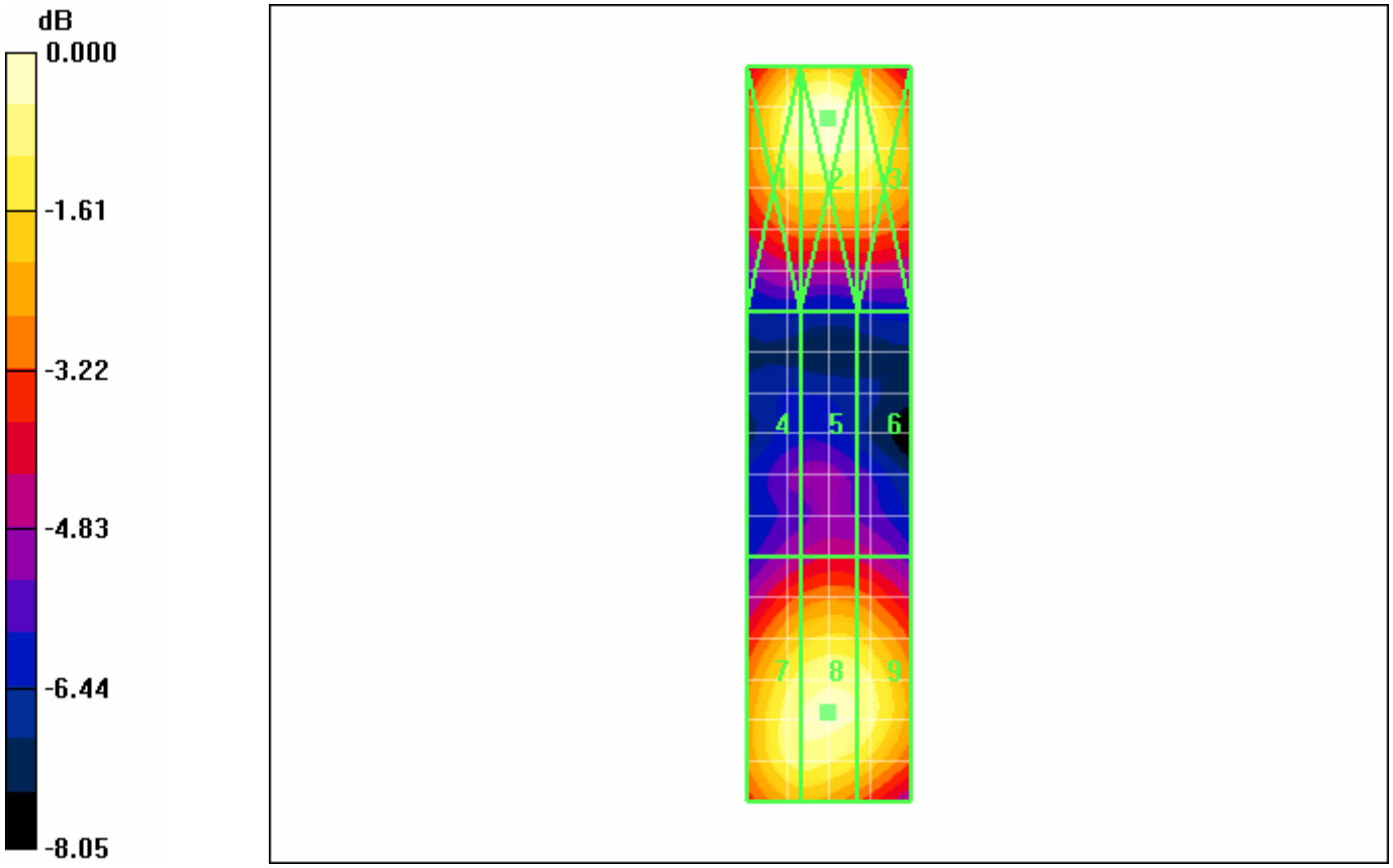
Peak E-field in V/m

Grid **72.7**	Grid **75.4**	Grid **71.8**
Grid **44.2**	Grid **46.3**	Grid **45.5**
Grid	Grid	Grid

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 75.4 V/m
Probe Modulation Factor = 1.00
Reference Value = 37.8 V/m; Power Drift = -0.006 dB
Hearing Aid Near-Field Category: M3 (AWF 0 dB)

Peak E-field in V/m

Grid **72.7**	Grid **75.4**	Grid **71.8**
Grid **44.2**	Grid **46.3**	Grid **45.5**
Grid	Grid	Grid



0 dB = 75.4V/m

Date/Time: 25/01/2007 11:39:53 AM

Test Laboratory: RTS

HAC_E_CDMA1880MHz_FullRate_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

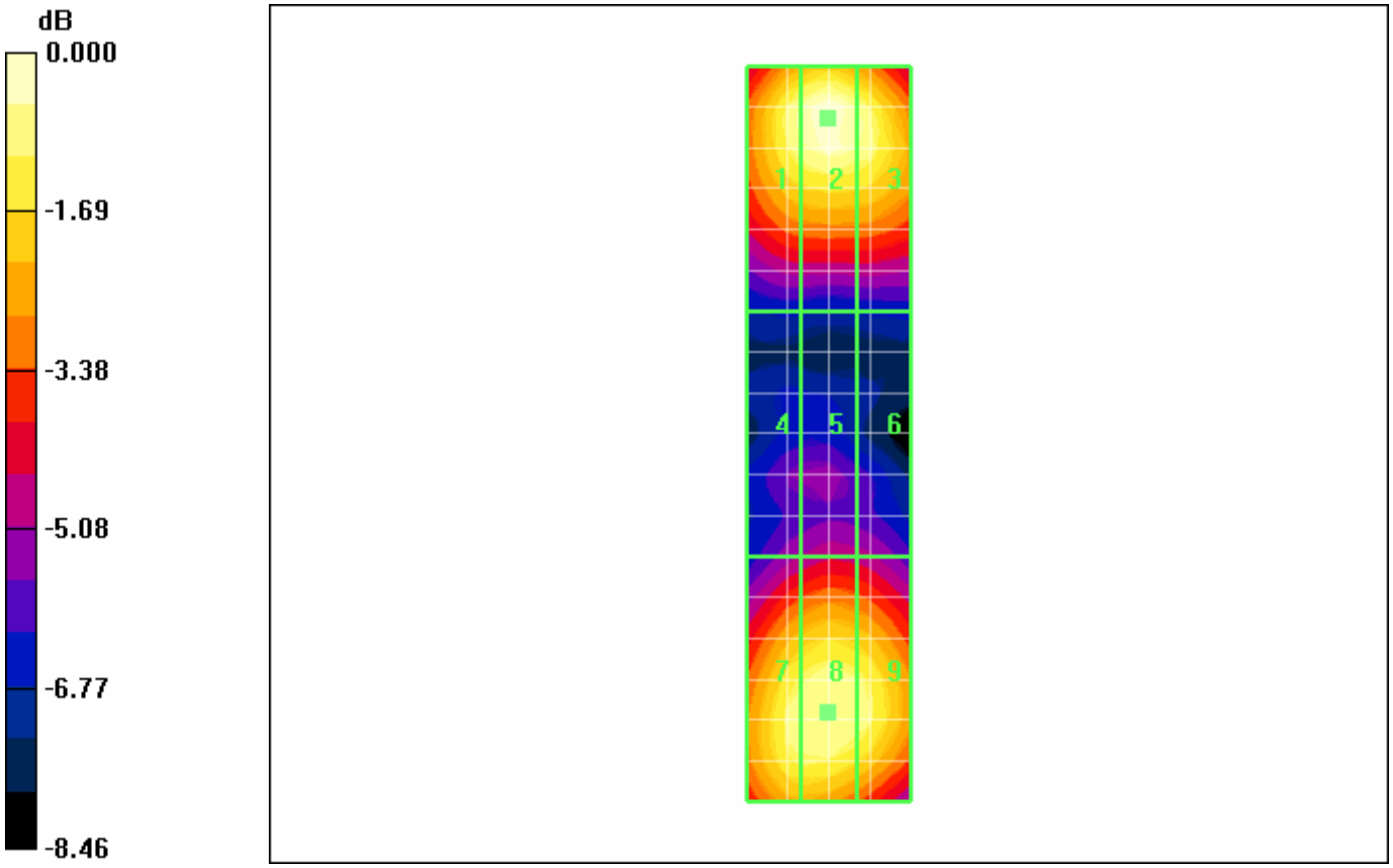
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 50.9 V/m; Power Drift = -0.033 dB
Maximum value of Total (measured) = 103.0 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 105.1 V/m
Probe Modulation Factor = 1.00
Reference Value = 50.9 V/m; Power Drift = -0.033 dB
Hearing Aid Near-Field Category: M3 (AWF 0 dB)

Peak E-field in V/m

Grid **100.0**	Grid **105.1**	Grid **100.1**
Grid **59.1**	Grid **62.1**	Grid **61.0**
Grid	Grid	Grid



0 dB = 105.1V/m

Date/Time: 25/01/2007 3:25:15 PM

Test Laboratory: RTS

HAC_E_CDMA1880MHz_eighth_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

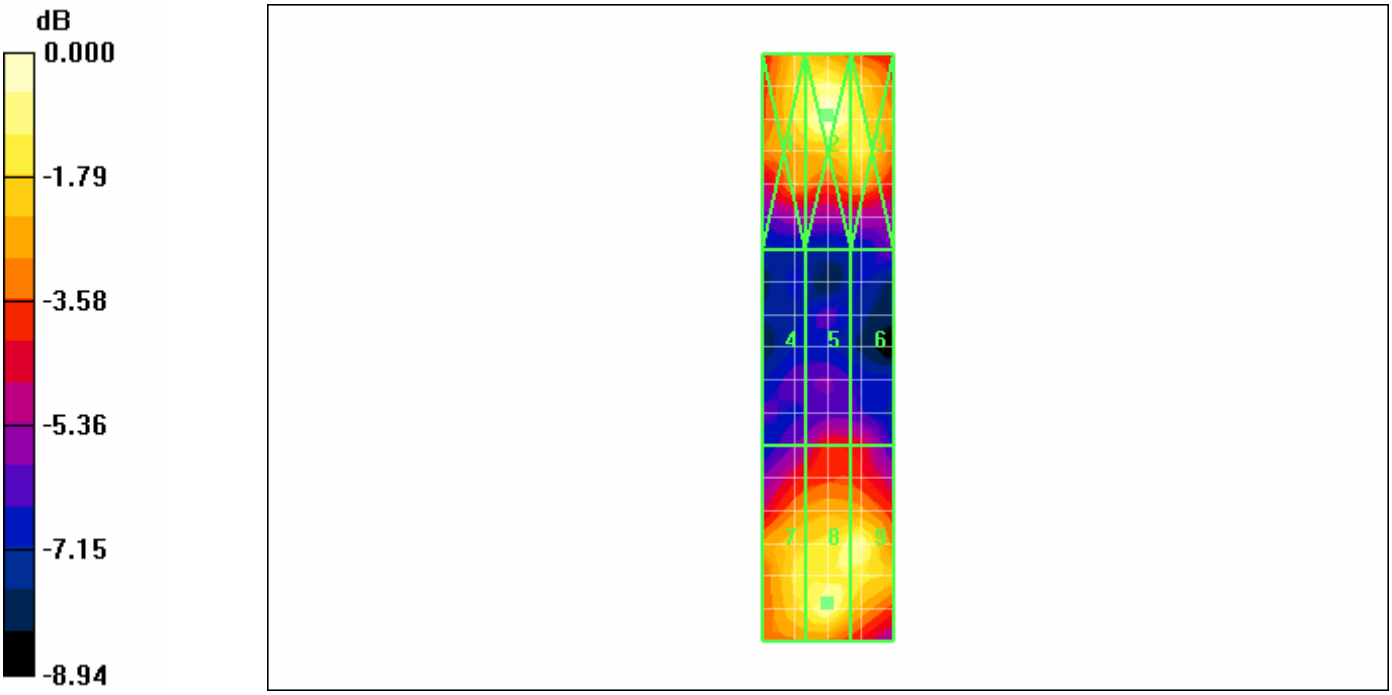
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 18.2 V/m; Power Drift = -0.009 dB
Maximum value of Total (measured) = 39.8 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 37.6 V/m
Probe Modulation Factor = 1.00
Reference Value = 18.2 V/m; Power Drift = -0.009 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **35.5**	Grid **40.0**	Grid **35.4**
Grid **21.3**	Grid **25.3**	Grid **24.9**
Grid	Grid	Grid



0 dB = 40.0V/m

Date/Time: 25/01/2007 5:06:50 PM

Test Laboratory: RTS

HAC_H_835MHz_CW_20dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

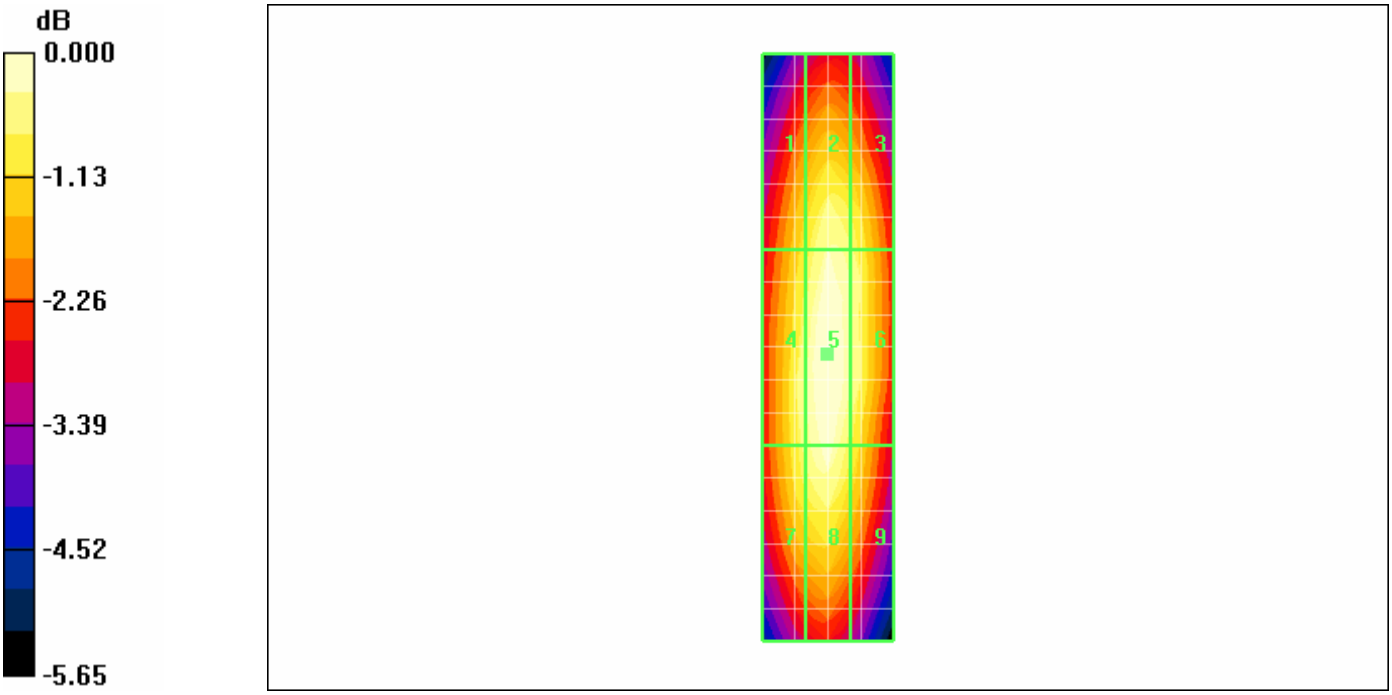
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.467 A/m; Power Drift = -0.130 dB
Maximum value of Total (measured) = 0.436 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.436 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.467 A/m; Power Drift = -0.130 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.394**	Grid **0.419**	Grid **0.410**
Grid **0.416**	Grid **0.436**	Grid **0.419**
Grid	Grid	Grid



0 dB = 0.436A/m

Date/Time: 25/01/2007 6:05:12 PM

Test Laboratory: RTS

HAC_H_835MHz_CW_18_33dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

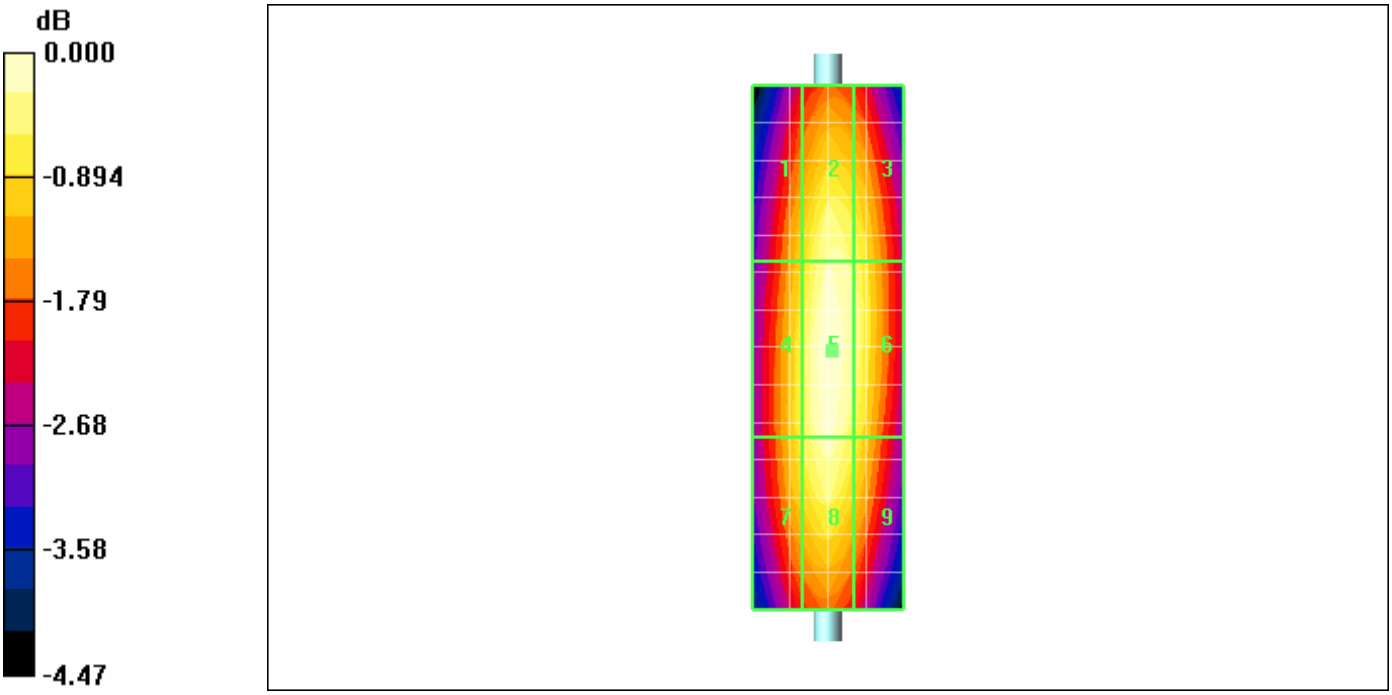
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x15x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.396 A/m; Power Drift = -0.001 dB
Maximum value of Total (measured) = 0.372 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x141x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.372 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.396 A/m; Power Drift = -0.001 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.337**	Grid **0.362**	Grid **0.354**
Grid **0.349**	Grid **0.372**	Grid **0.360**
Grid	Grid	Grid



0 dB = 0.372A/m

Date/Time: 25/01/2007 5:28:48 PM

Test Laboratory: RTS

HAC_H_835MHz_80%am_18_33dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: 80%AM; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

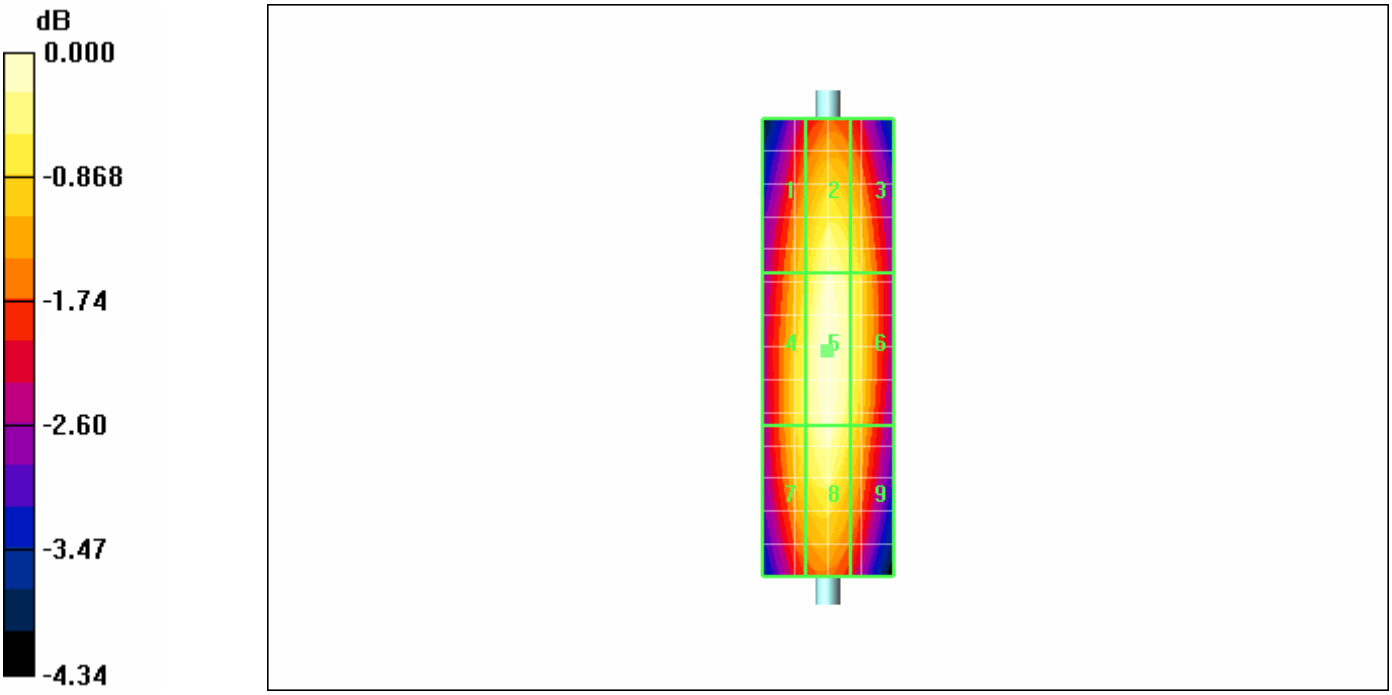
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x15x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.252 A/m; Power Drift = -0.056 dB
Maximum value of Total (measured) = 0.235 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x141x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.235 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.252 A/m; Power Drift = -0.056 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.215**	Grid **0.229**	Grid **0.222**
Grid **0.224**	Grid **0.235**	Grid **0.225**
Grid	Grid	Grid



0 dB = 0.235A/m

Date/Time: 25/01/2007 6:10:57 PM

Test Laboratory: RTS

HAC_H_CDMA_835MHz_18_33dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CDMA 800; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

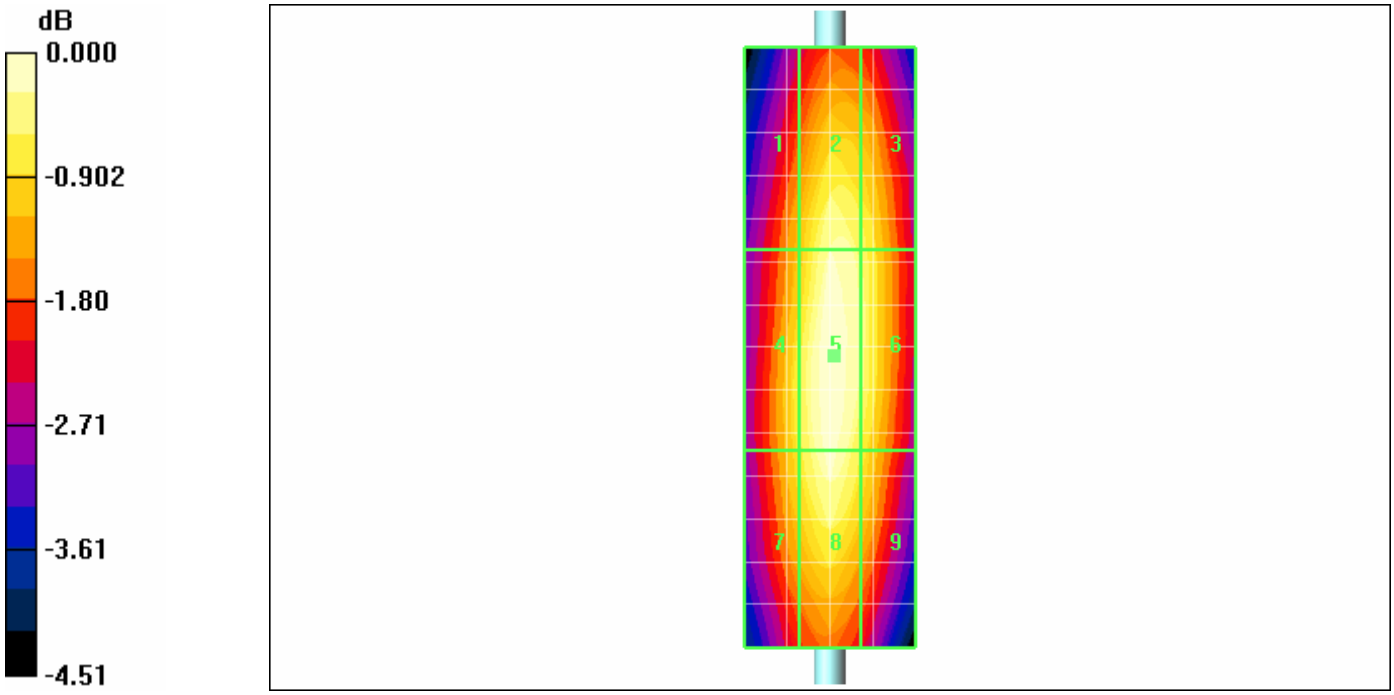
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x15x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.390 A/m; Power Drift = -0.023 dB
Maximum value of Total (measured) = 0.365 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x141x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.366 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.390 A/m; Power Drift = -0.023 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.326**	Grid **0.356**	Grid **0.348**
Grid **0.343**	Grid **0.366**	Grid **0.353**
Grid	Grid	Grid



0 dB = 0.366A/m

Date/Time: 25/01/2007 6:19:28 PM

Test Laboratory: RTS

HAC_H_CDMA_835MHz_eigth_18_33dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Communication System: CDMA 800; Frequency: 835 MHz;Duty Cycle: 1:8
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

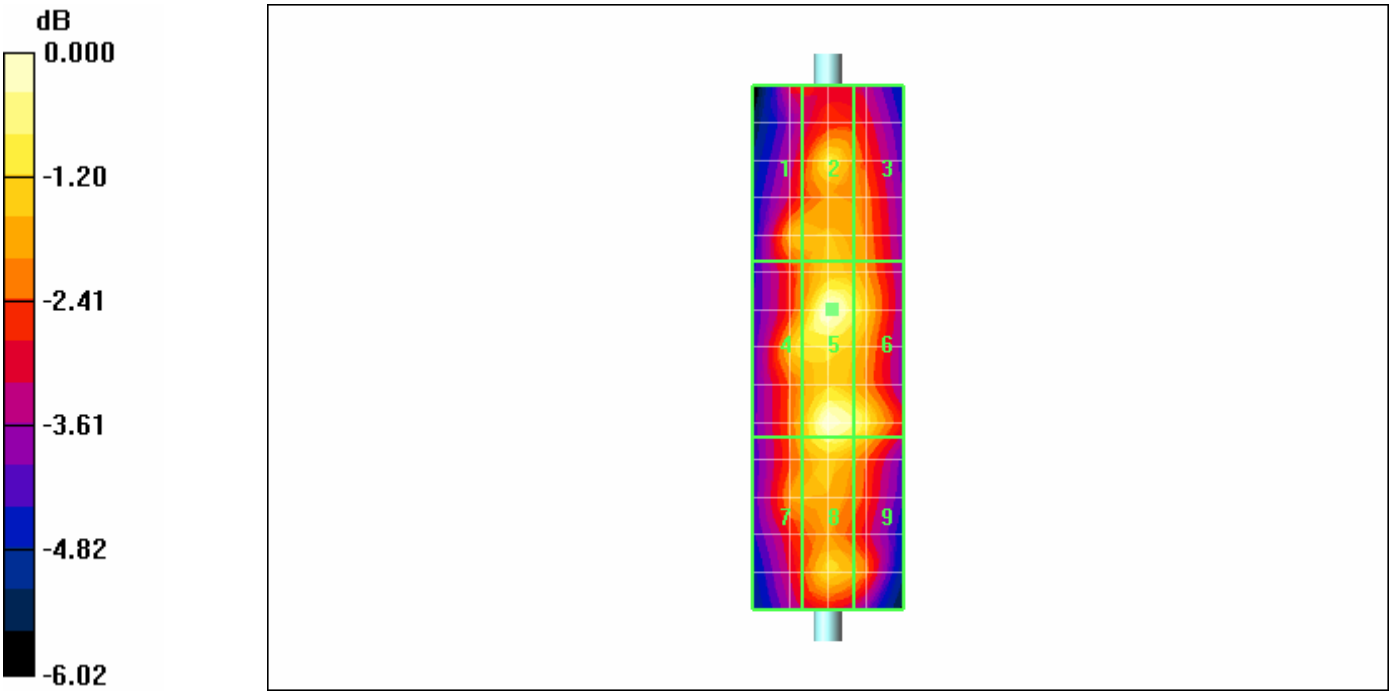
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x15x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.144 A/m; Power Drift = -0.008 dB
Maximum value of Total (measured) = 0.152 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x141x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.153 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.144 A/m; Power Drift = -0.008 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.132**	Grid **0.137**	Grid **0.127**
Grid **0.136**	Grid **0.153**	Grid **0.145**
Grid	Grid	Grid



0 dB = 0.153A/m

Date/Time: 25/01/2007 4:14:43 PM

Test Laboratory: RTS

HAC_H_1880MHz_CW_20dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

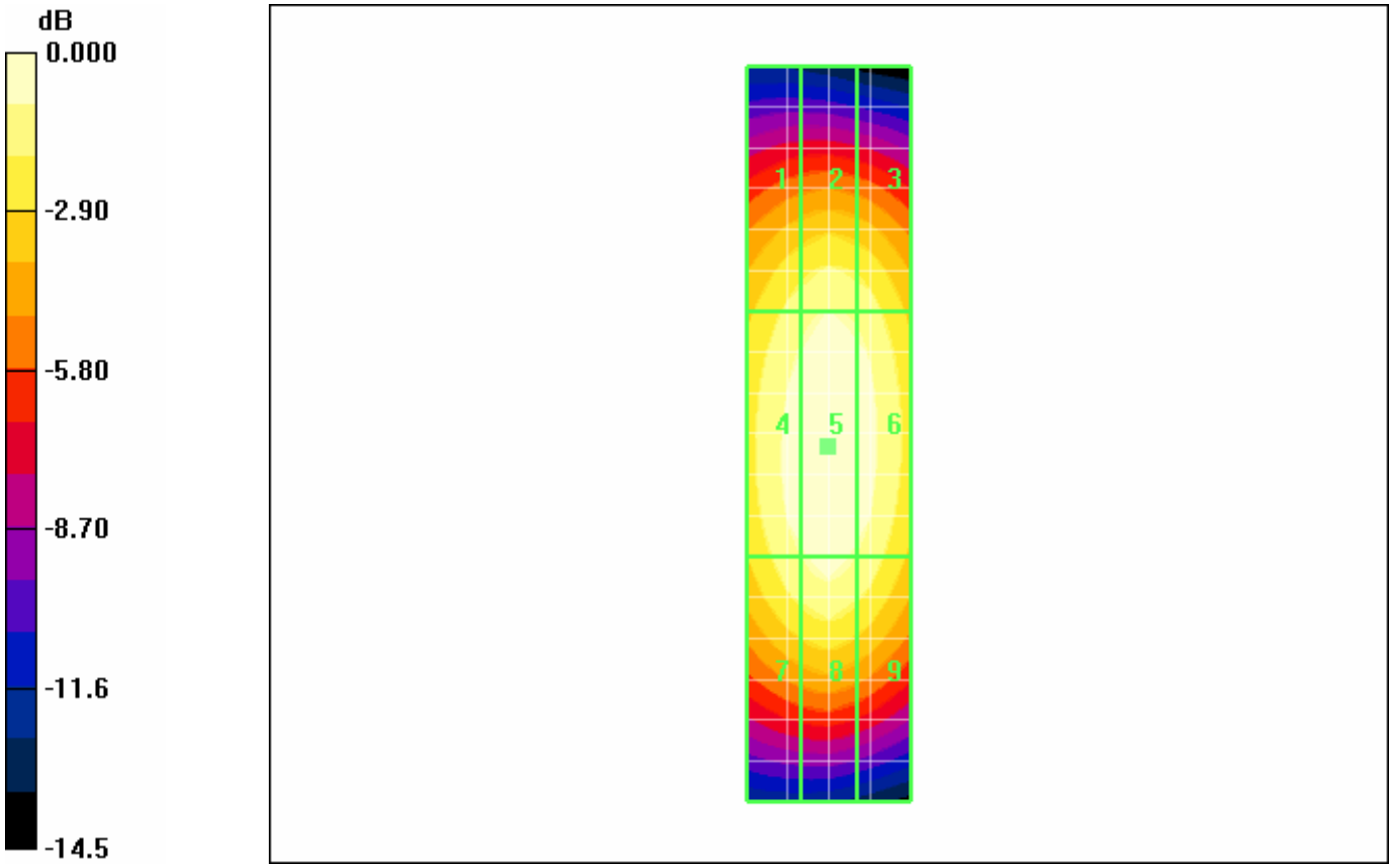
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.454 A/m; Power Drift = 0.006 dB
Maximum value of Total (measured) = 0.429 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.429 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.454 A/m; Power Drift = 0.006 dB
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid **0.366**	Grid **0.386**	Grid **0.374**
Grid **0.409**	Grid **0.429**	Grid **0.411**
Grid	Grid	Grid



0 dB = 0.429A/m

Date/Time: 25/01/2007 4:24:57 PM

Test Laboratory: RTS

HAC_H_1880MHz_CW_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

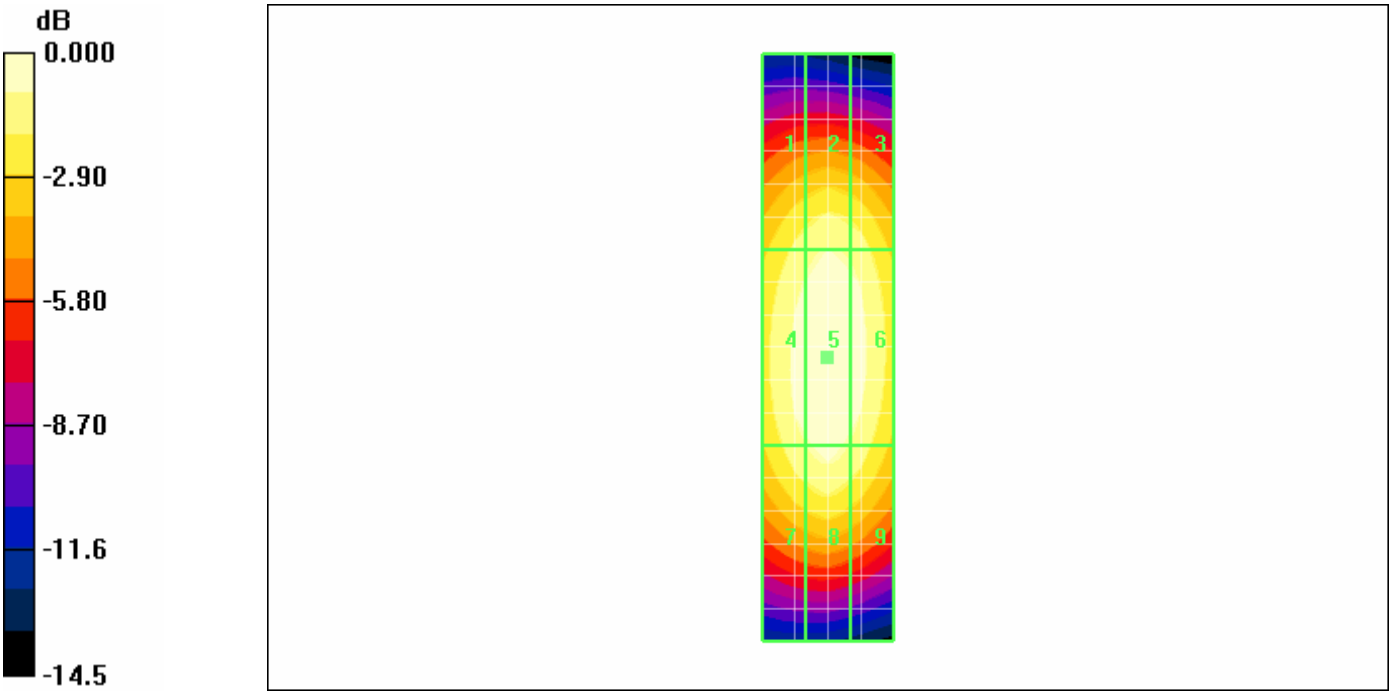
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.364 A/m; Power Drift = -0.005 dB
Maximum value of Total (measured) = 0.344 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.344 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.364 A/m; Power Drift = -0.005 dB
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid **0.293**	Grid **0.309**	Grid **0.300**
Grid **0.328**	Grid **0.344**	Grid **0.330**
Grid	Grid	Grid



0 dB = 0.344A/m

Date/Time: 25/01/2007 4:20:04 PM

Test Laboratory: RTS

HAC_H_1880MHz_80%AM_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: 80%AM; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

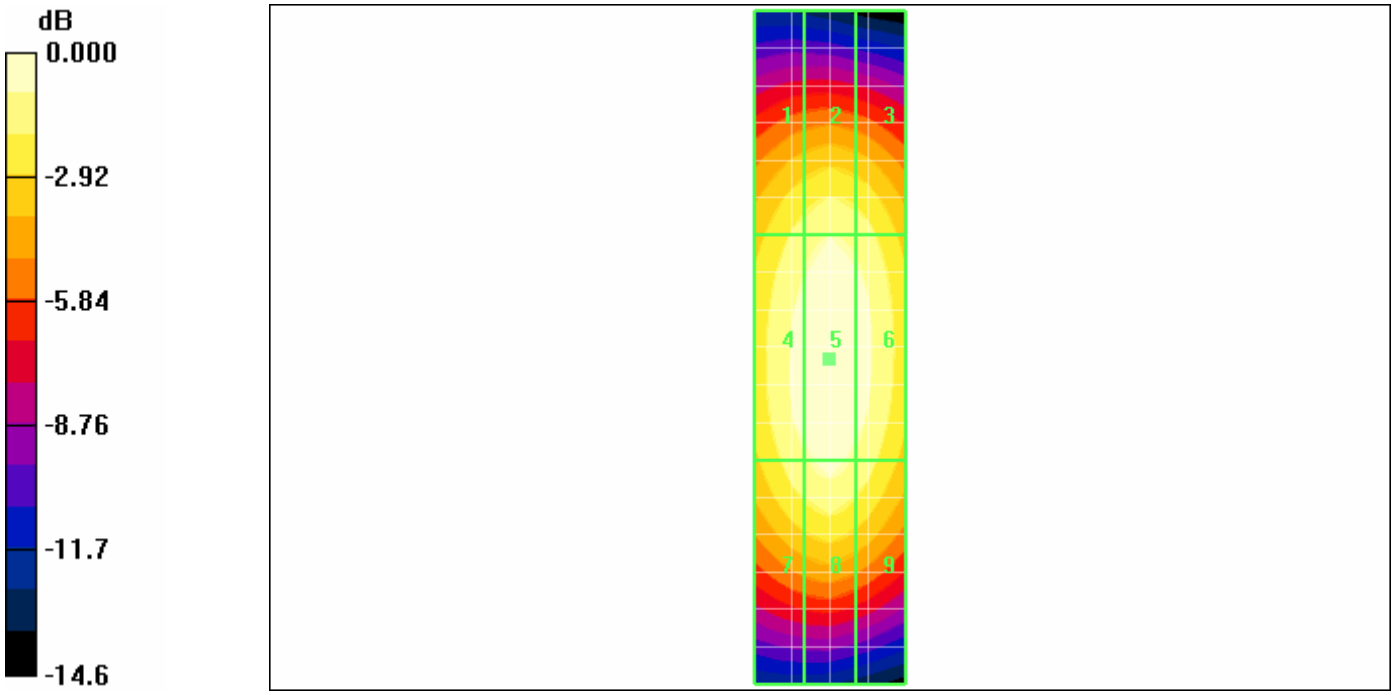
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.245 A/m; Power Drift = 0.013 dB
Maximum value of Total (measured) = 0.230 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.231 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.245 A/m; Power Drift = 0.013 dB
Hearing Aid Near-Field Category: M3 (AWF 0 dB)

Peak H-field in A/m

Grid **0.195**	Grid **0.206**	Grid **0.199**
Grid **0.218**	Grid **0.231**	Grid **0.220**
Grid	Grid	Grid



0 dB = 0.231A/m

Date/Time: 25/01/2007 4:36:47 PM

Test Laboratory: RTS

HAC_H_CDMA1880MHz_FullRate_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

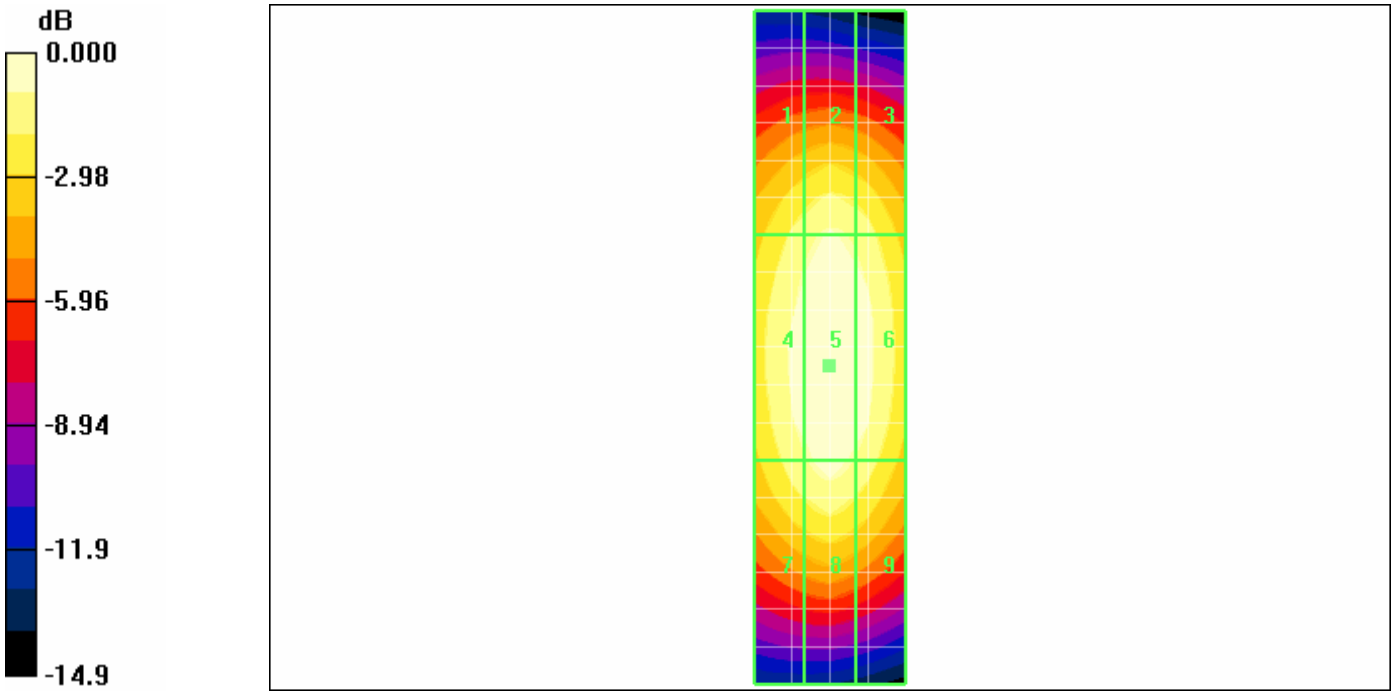
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.343 A/m; Power Drift = -0.059 dB
Maximum value of Total (measured) = 0.319 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.319 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.343 A/m; Power Drift = -0.059 dB
Hearing Aid Near-Field Category: M3 (AWF 0 dB)

Peak H-field in A/m

Grid **0.270**	Grid **0.290**	Grid **0.277**
Grid **0.303**	Grid **0.319**	Grid **0.305**
Grid	Grid	Grid



0 dB = 0.319A/m

Date/Time: 25/01/2007 4:45:53 PM

Test Laboratory: RTS

HAC_H_CDMA1880MHz_eighth_16_5dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1880 MHz;Duty Cycle: 1:8
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

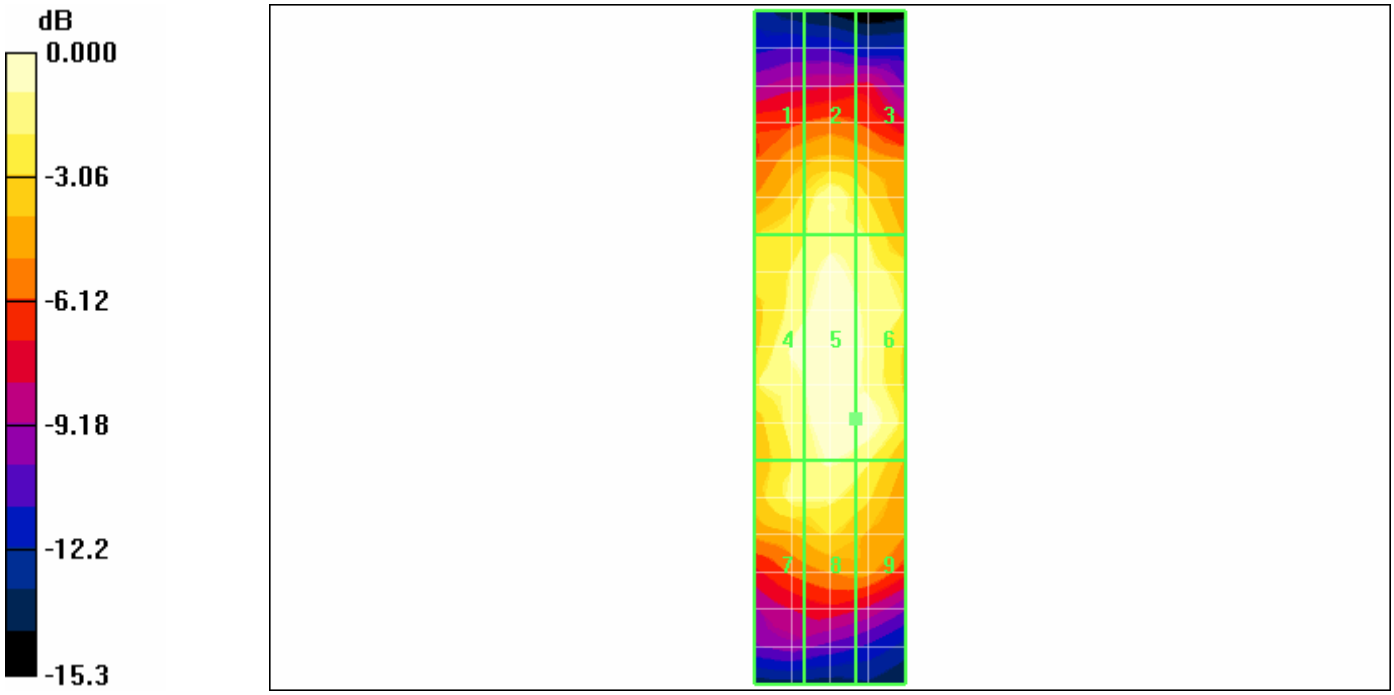
- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.136 A/m; Power Drift = 0.585 dB
Maximum value of Total (measured) = 0.126 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.129 A/m
Probe Modulation Factor = 1.00
Reference Value = 0.136 A/m; Power Drift = 0.585 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

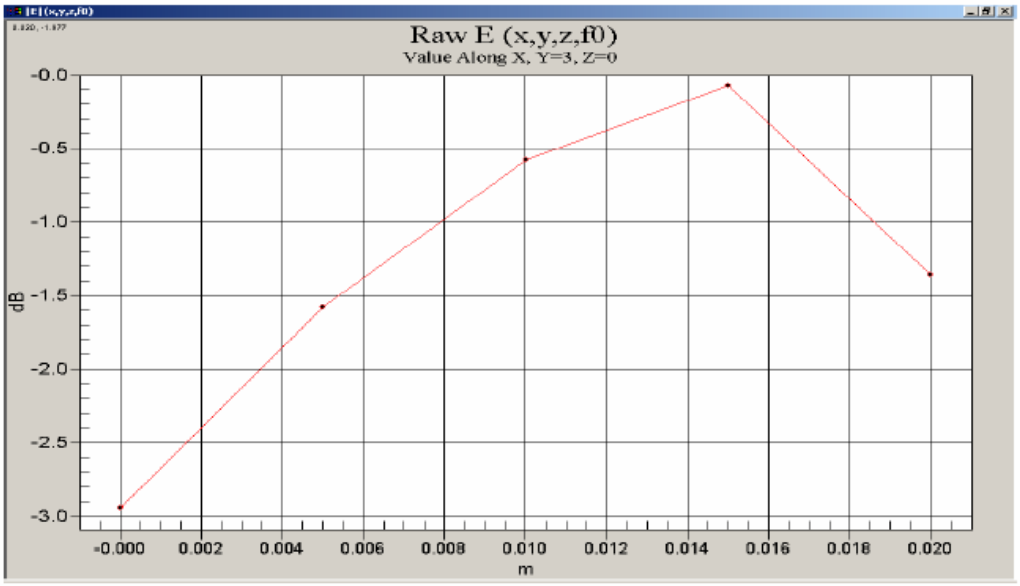
Grid **0.101**	Grid **0.115**	Grid **0.107**
Grid **0.122**	Grid **0.129**	Grid **0.129**
Grid	Grid	Grid



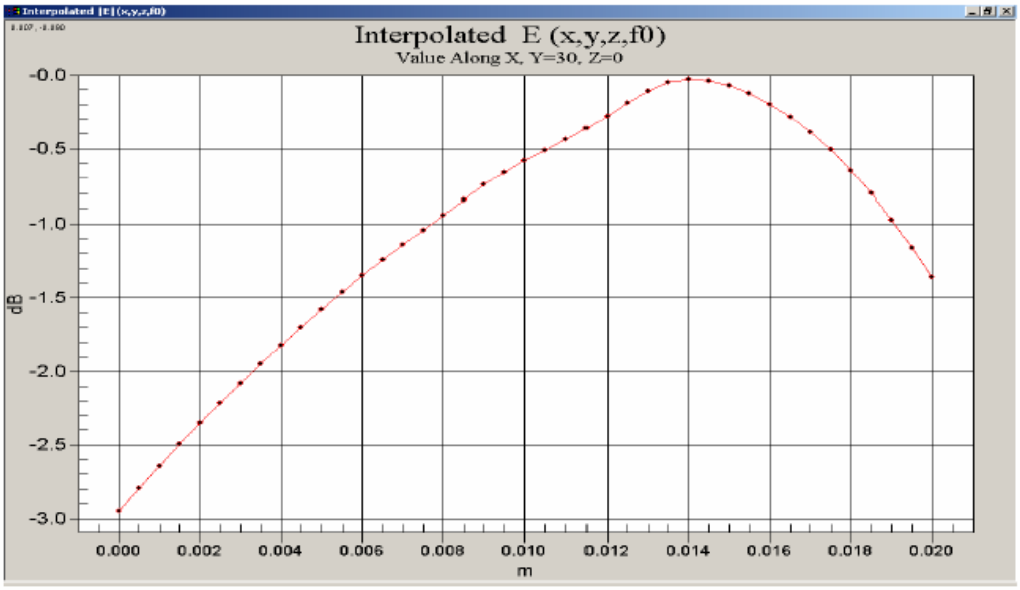
0 dB = 0.129A/m

Justification of Step Size and Interpolation

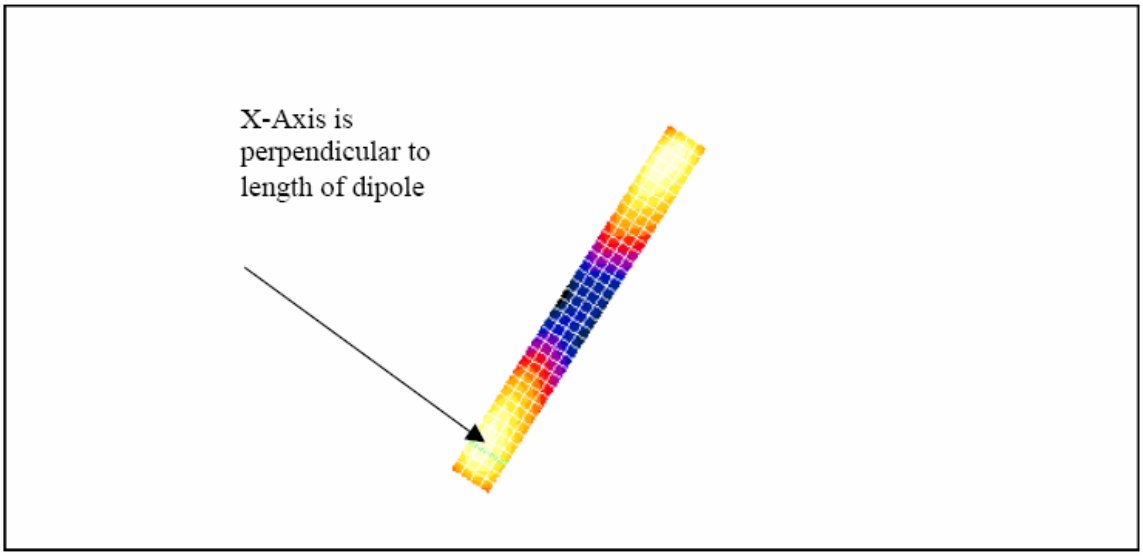
This section demonstrates that a 5mm step size with interpolation provides sufficient resolution for RF emissions measurements. The DASY 4 uses interpolation algorithms to derive 9 interpolated points between every measured point.



The figure above shows the raw measured field strength perpendicular to the length of the validation dipole. The TCB guidance slides require the 3dB width to be much larger than the step size. The width between -3dB points is > 21mm, at least 4 times the step size.



This figure shows the interpolated field strength perpendicular to the dipole. The interpolated points follow the raw points with no inconsistencies.



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: σ = 0 mho/m, ε_r = 1; ρ = 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)

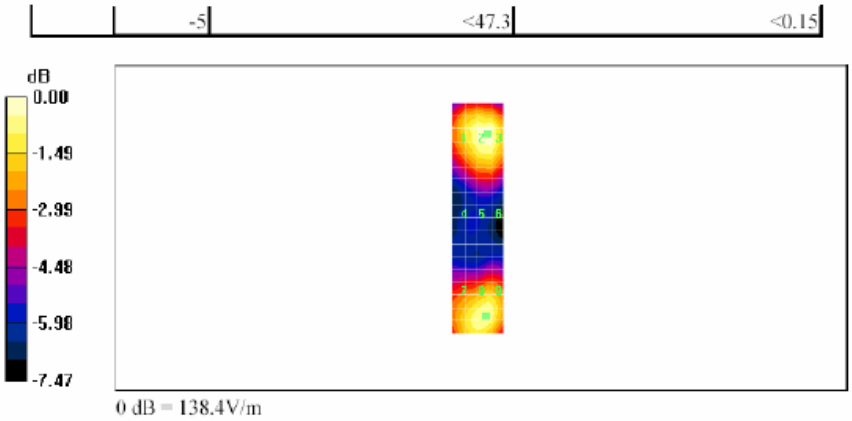
E in V/m (Time averaged)

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

E in V/m (Slot averaged)

Grid 1 **123.2**	Grid 2 **138.1**	Grid 3 **138.4**
Grid 4 **80.9**	Grid 5 **92.3**	Grid 6 **92.2**
Grid 7 **119.8**	Grid 8 **131.0**	Grid 9 **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 11:44:51 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: σ = 0 mho/m, ε_r = 1; ρ = 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)

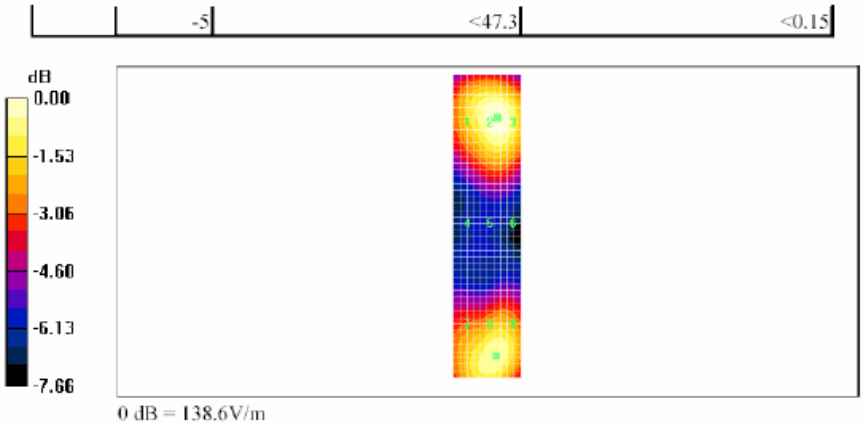
E in V/m (Time averaged)

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



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)

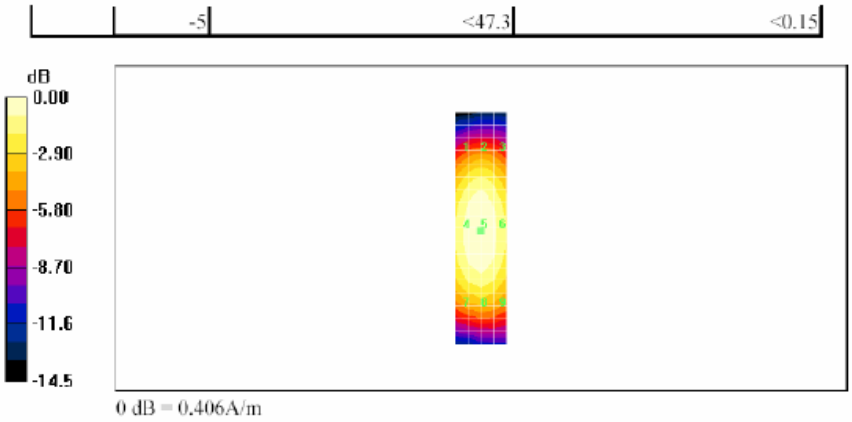
H in A/m (Time averaged)

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



0 dB = 0.406A/m

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: σ = 0 mho/m, ε_r = 1; ρ = 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)

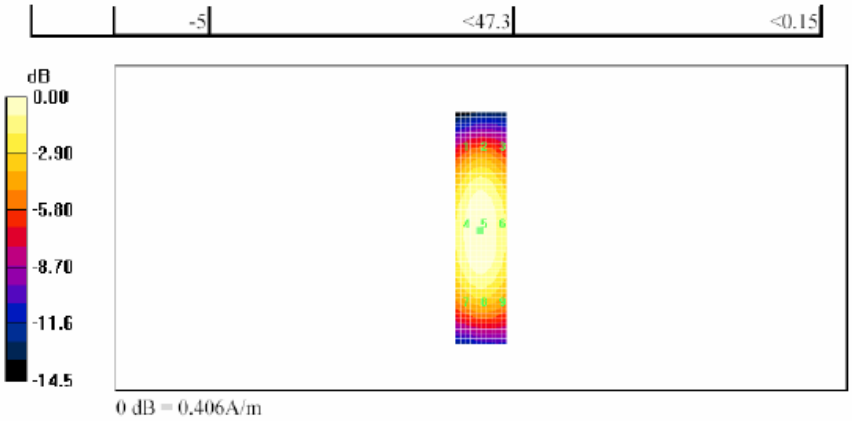
H in A/m (Time averaged)

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

H in A/m (Slot averaged)

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



A.3 RF emission field plots

For plots where the probe was rotated, an arrow is drawn to showing location of the probe rotation after the exclusion block.

Date/Time: 26/01/2007 12:34:18 PM

Test Laboratory: RTS

HAC_E_CDMA800_spkr_cent_mid_chan_RC1_SO2

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 92.1 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 93.5 V/m; Power Drift = 0.198 dB
Maximum value of Total (measured) = 91.0 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 91.2 V/m
Probe Modulation Factor = 1.00
Reference Value = 93.5 V/m; Power Drift = 0.198 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

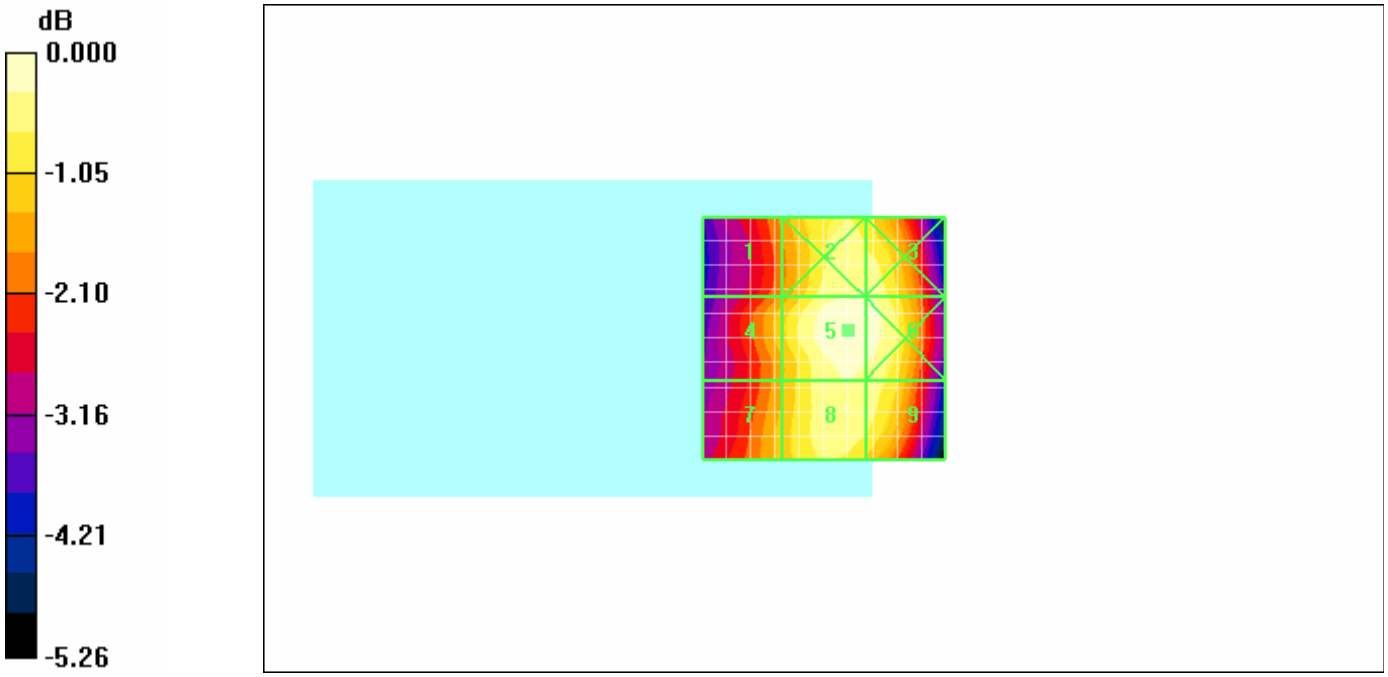
Peak E-field in V/m

Grid **75.9**	Grid **88.4**	Grid **88.3**
Grid **80.5**	Grid **91.2**	Grid **90.5**

Grid	Grid	Grid
79.5	**87.7**	**87.0**

Category	AWF	Limits for E-Field Emissions (V/m) > 960MHz	Limits for H-Field Emissions (A/m) > 960MHz
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	0.14 - 0.25
M4	0	<63.1	<0.19
	-5	<47.3	<0.14

Category	AWF (dB)	Limits for E-Field Emissions (V/m) < 960MHz	Limits for H-Field Emissions (A/m) < 960 MHz
M1	0	631 - 1122	1.91 - 3.39
	-5	473.2 - 841.4	1.43 - 2.54
M2	0	354.8 - 631	1.07 - 1.91
	-5	266.1 - 473.2	0.8 - 1.43
M3	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M4	0	<199.5	<0.6
	-5	<149.6	<0.45



0 dB = 91.2V/m

Date/Time: 26/01/2007 11:42:18 AM

Test Laboratory: RTS

HAC_E_CDMA800_spkr_cent_mid_chan_RC3_SO2

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 92.1 V/m

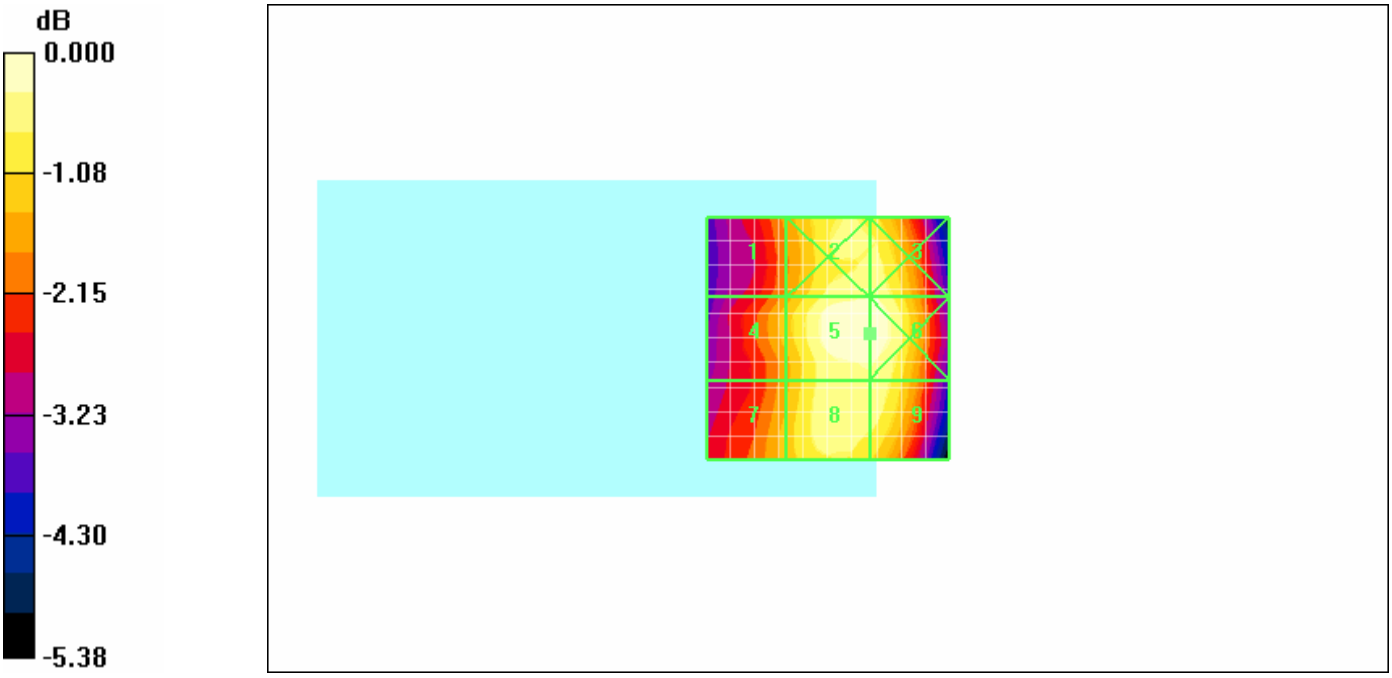
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 93.4 V/m; Power Drift = 0.255 dB
Maximum value of Total (measured) = 89.7 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 90.3 V/m
Probe Modulation Factor = 1.00
Reference Value = 93.4 V/m; Power Drift = 0.255 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **74.9**	Grid **87.0**	Grid **87.0**
Grid **78.8**	Grid **90.3**	Grid **90.3**
Grid	Grid	Grid

78.3	86.8	86.8



0 dB = 90.3V/m

Date/Time: 26/01/2007 12:51:25 PM

Test Laboratory: RTS

HAC_E_CDMA800_spkr_cent_mid_chan_RC1_SO2_one_eigth

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:8
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 35.9 V/m

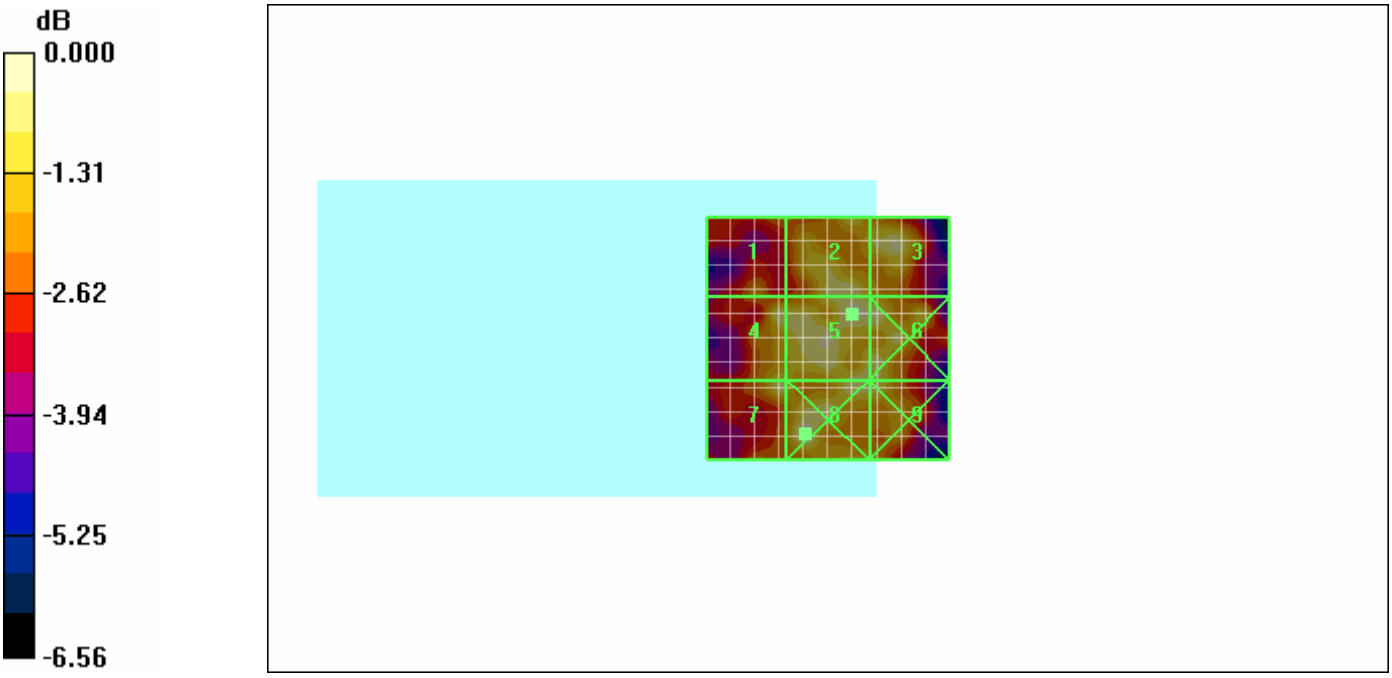
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 33.8 V/m; Power Drift = -0.057 dB
Maximum value of Total (measured) = 35.7 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 86.9 V/m
Probe Modulation Factor = 2.50
Reference Value = 33.8 V/m; Power Drift = -0.057 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **72.5**	Grid **84.8**	Grid **86.6**
Grid **85.4**	Grid **86.9**	Grid **86.1**
Grid	Grid	Grid

84.0	89.9	84.0



0 dB = 89.9V/m

Date/Time: 26/01/2007 2:21:20 PM

Test Laboratory: RTS

HAC_E_CDMA800_spkr_cent_mid_chan_RC2_SO9_FR

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 90.4 V/m

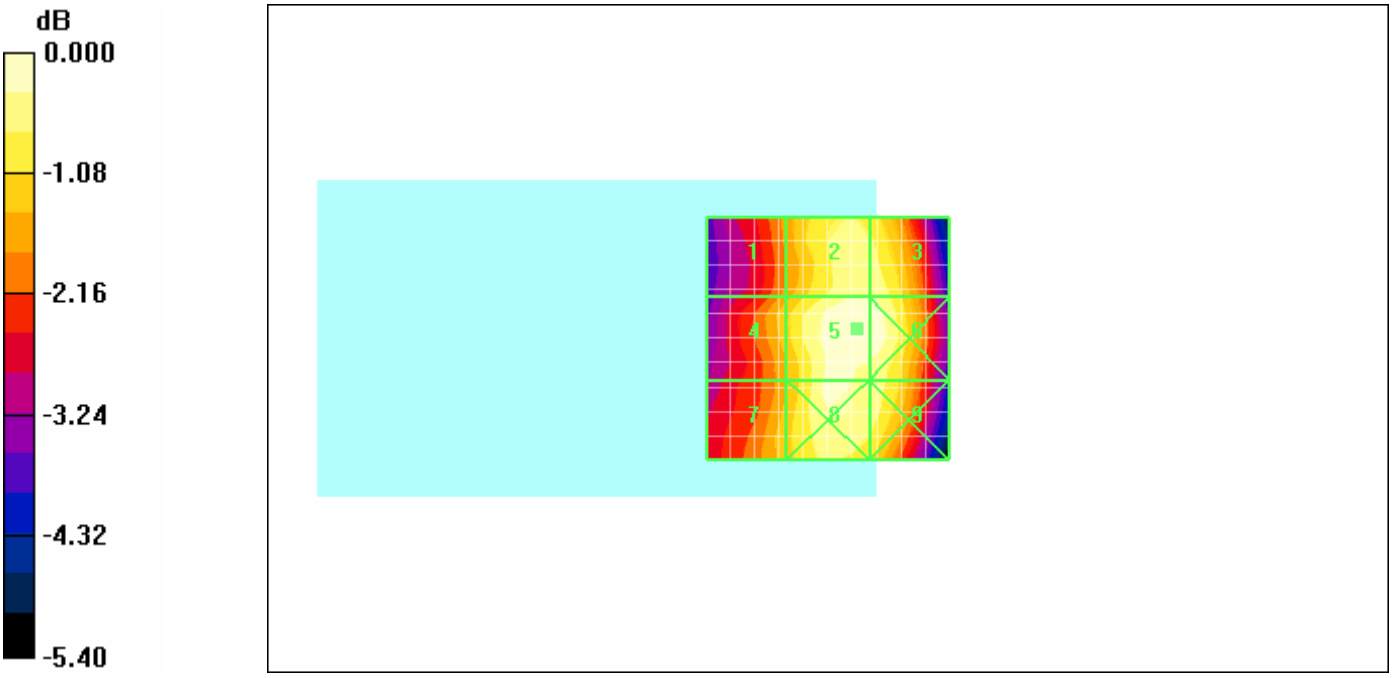
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 94.5 V/m; Power Drift = 0.045 dB
Maximum value of Total (measured) = 89.0 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 89.2 V/m
Probe Modulation Factor = 1.00
Reference Value = 94.5 V/m; Power Drift = 0.045 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **74.5**	Grid **86.0**	Grid **85.9**
Grid **78.5**	Grid **89.2**	Grid **89.0**
Grid	Grid	Grid

78.1	87.5	84.9



0 dB = 89.2V/m

Date/Time: 26/01/2007 2:35:55 PM

Test Laboratory: RTS

HAC_E_CDMA800_spkr_cent_mid_chan_RC1_SO3_one_eigth

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:8
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 29.9 V/m

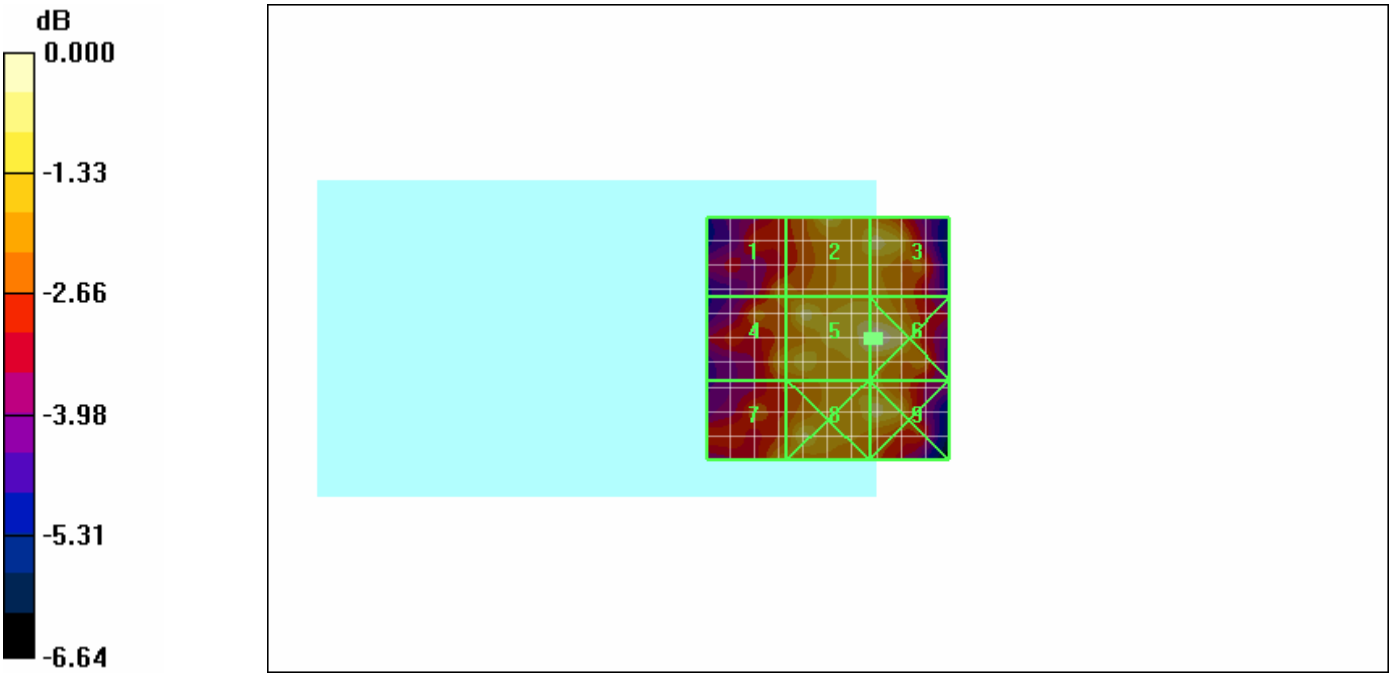
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 33.1 V/m; Power Drift = 0.059 dB
Maximum value of Total (measured) = 36.2 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 88.6 V/m
Probe Modulation Factor = 2.50
Reference Value = 33.1 V/m; Power Drift = 0.059 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **73.0**	Grid **83.4**	Grid **83.7**
Grid **76.2**	Grid **88.6**	Grid **90.4**
Grid	Grid	Grid

76.7	82.5	84.0



0 dB = 90.4V/m

Date/Time: 26/01/2007 2:49:52 PM

Test Laboratory: RTS

HAC_E_CDMA800_spkr_cent_mid_chan_RC3_SO3_FR

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 93.1 V/m

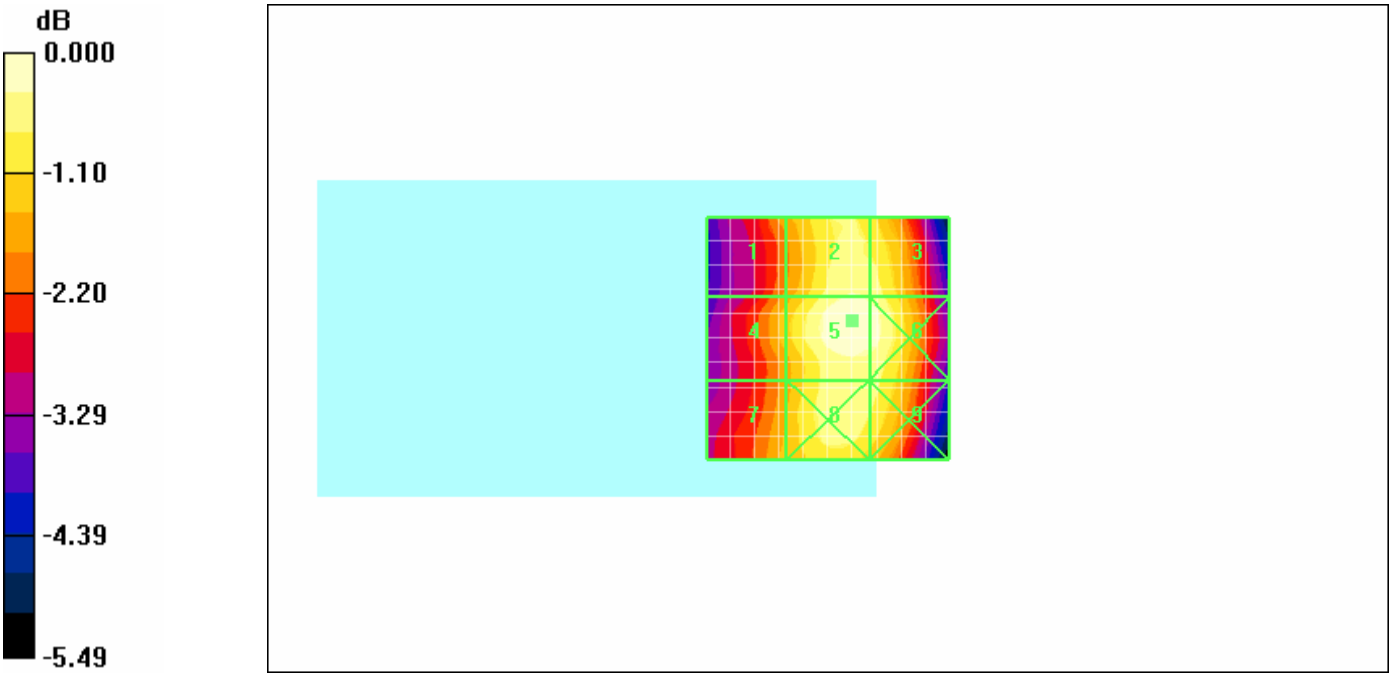
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 94.6 V/m; Power Drift = 0.136 dB
Maximum value of Total (measured) = 92.1 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 92.4 V/m
Probe Modulation Factor = 1.00
Reference Value = 94.6 V/m; Power Drift = 0.136 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **77.7**	Grid **89.2**	Grid **88.2**
Grid **80.7**	Grid **92.4**	Grid **90.9**
Grid	Grid	Grid

79.5	87.7	86.8



0 dB = 92.4V/m

Date/Time: 26/01/2007 2:59:35 PM

Test Laboratory: RTS

HAC_E_CDMA800_T_coil_cent_mid_chan_RC3_SO3_FR
DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified
Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section
DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

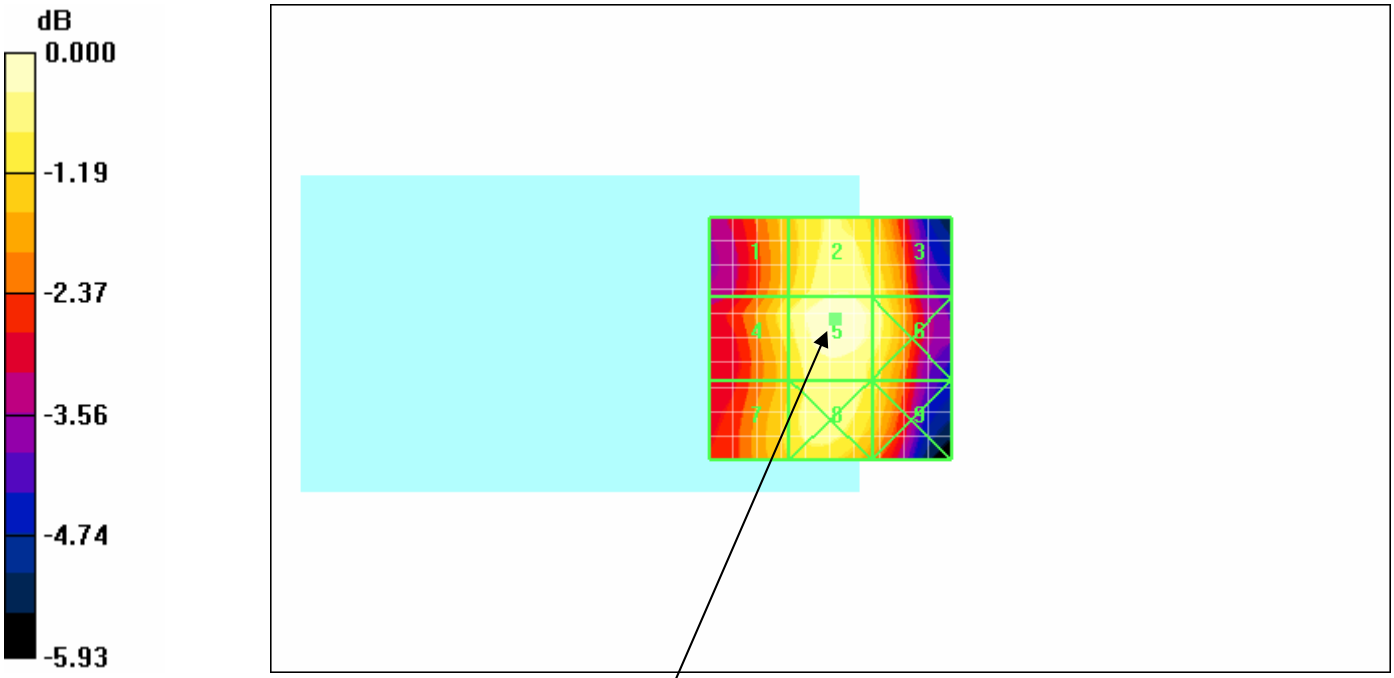
E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 93.1 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 95.7 V/m; Power Drift = 0.030 dB
Maximum value of Total (measured) = 93.2 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 93.5 V/m
Probe Modulation Factor = 1.00
Reference Value = 95.7 V/m; Power Drift = 0.030 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

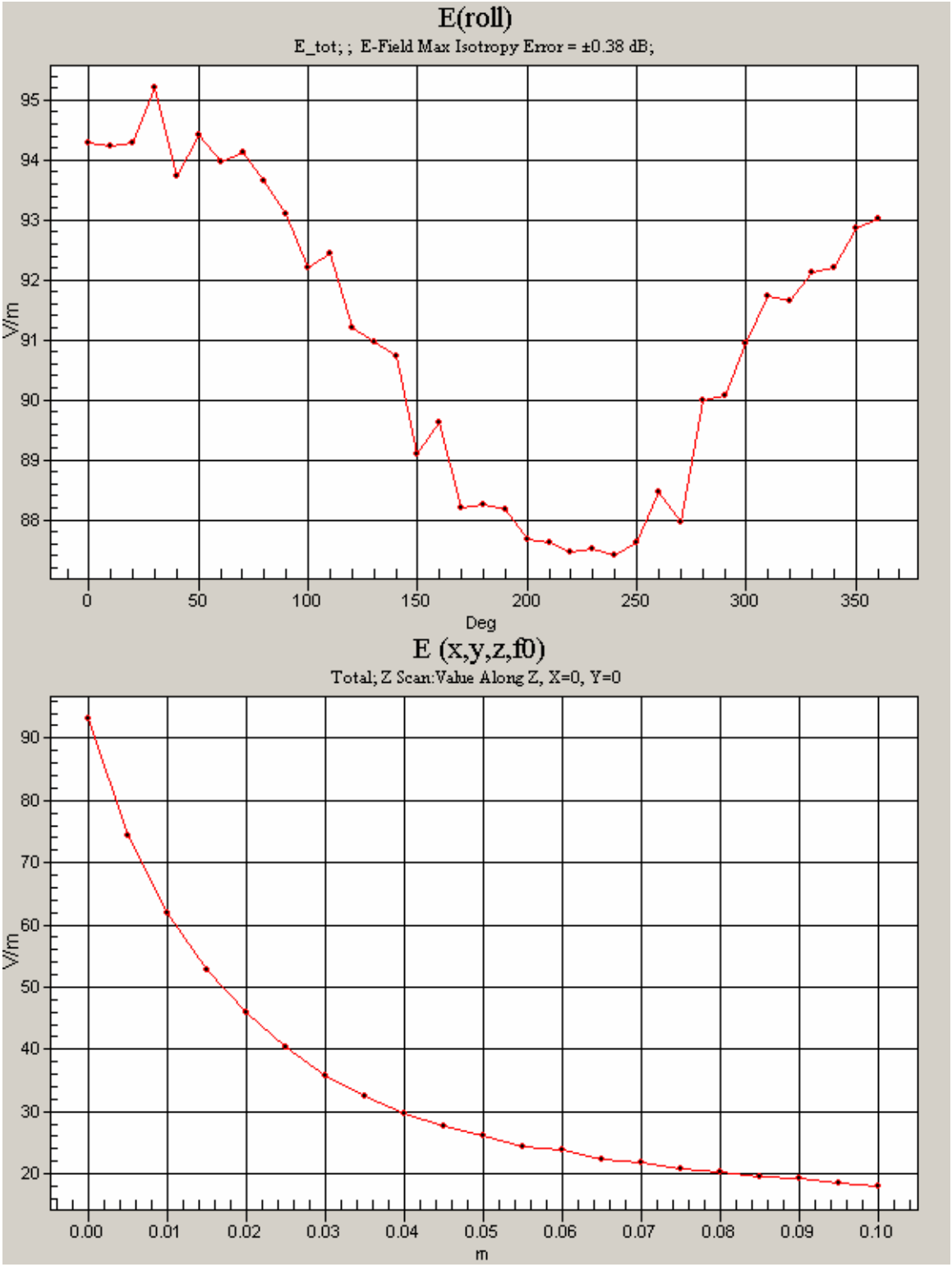
Grid **82.3**	Grid **90.2**	Grid **87.2**
Grid **85.9**	Grid **93.5**	Grid **89.3**
Grid	Grid	Grid



0 dB = 93.5V/m

Location of probe rotation after applying exclusion blocks

E (delta) = (E max - E at zero degress) * PMF
= (95.3 – 94.3) * 1.00
= 1.0 * 1.00
= 1.0 V/m



Date/Time: 26/01/2007 3:11:48 PM

Test Laboratory: RTS

HAC_E_CDMA1900_spkr_cent_low_chan_RC1_SO2_FR
DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified
Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section
DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 56.7 V/m

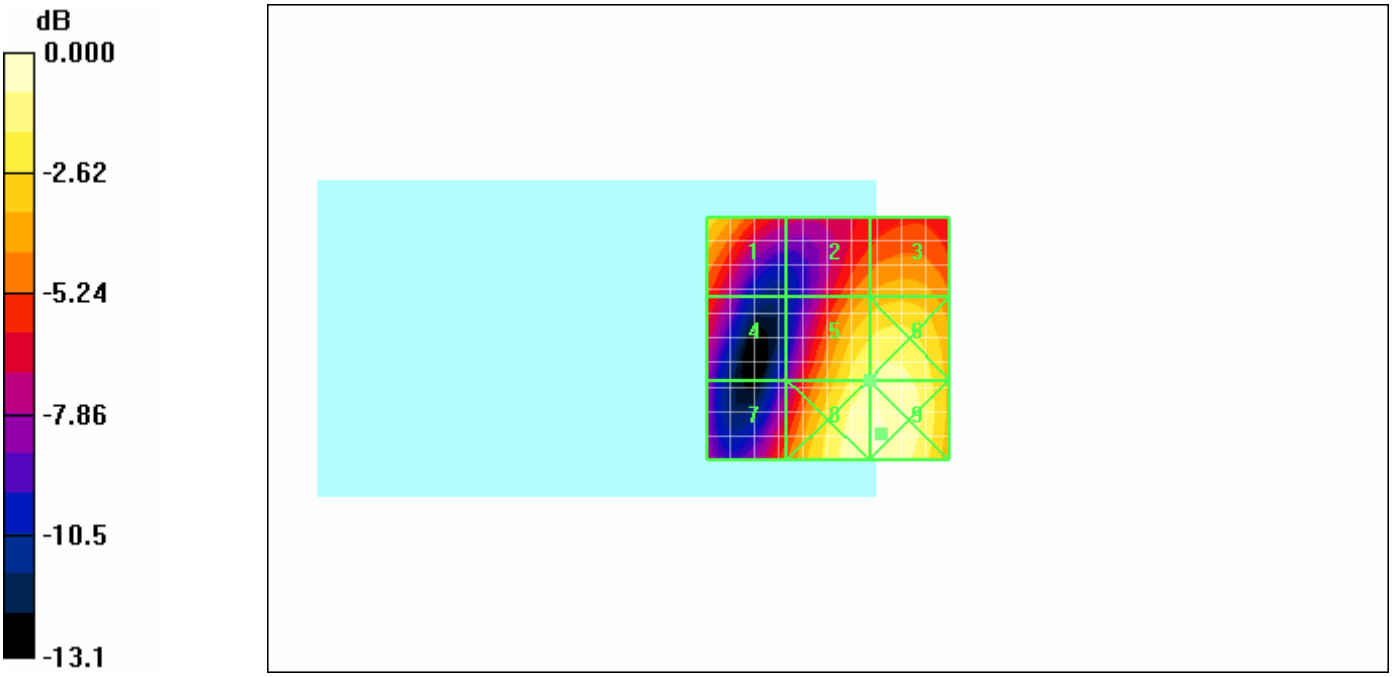
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 40.0 V/m; Power Drift = -0.122 dB
Maximum value of Total (measured) = 62.7 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 62.2 V/m
Probe Modulation Factor = 1.09
Reference Value = 40.0 V/m; Power Drift = -0.122 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **54.5**	Grid **46.3**	Grid **49.5**
Grid	Grid	Grid

Grid	Grid	Grid



0 dB = 68.4V/m

Date/Time: 19/02/2007 2:35:54 PM

Test Laboratory: RTS

HAC_E_CDMA1900_rev03_spkr_cent_low_chan_RC3_SO3_FR_02_19_07

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 18/01/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 54.8 V/m

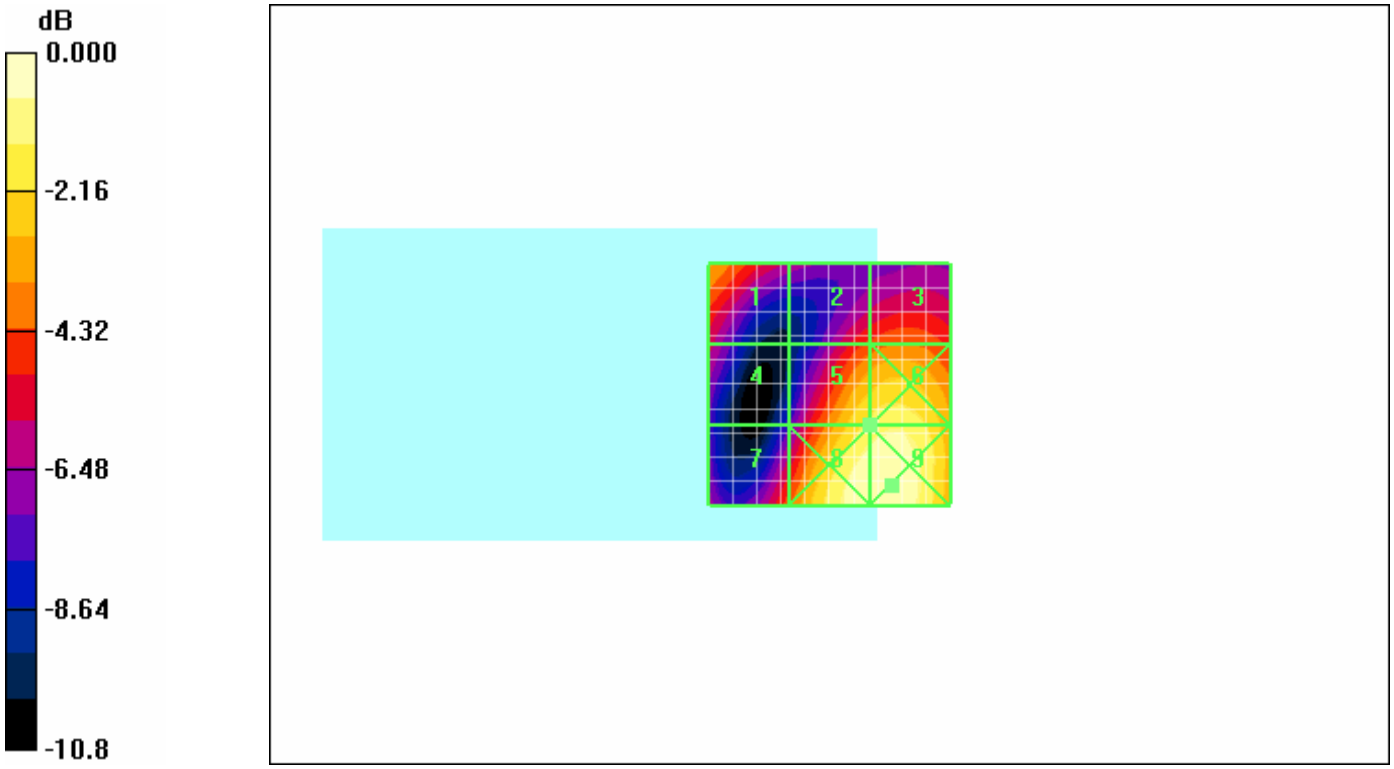
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 38.3 V/m; Power Drift = -0.182 dB
Maximum value of Total (measured) = 62.5 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 60.3 V/m
Probe Modulation Factor = 1.09
Reference Value = 38.3 V/m; Power Drift = -0.182 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **50.4**	Grid **42.9**	Grid **45.7**
Grid **37.0**	Grid **60.3**	Grid **62.7**
Grid	Grid	Grid

44.2	67.9	68.7



0 dB = 68.7V/m

Date/Time: 19/02/2007 2:46:37 PM

Test Laboratory: RTS

HAC_E_CDMA1900_rev03_T_Coil_cent_low_chan_RC3_SO3_FR_02_19_07

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 18/01/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 57.7 V/m

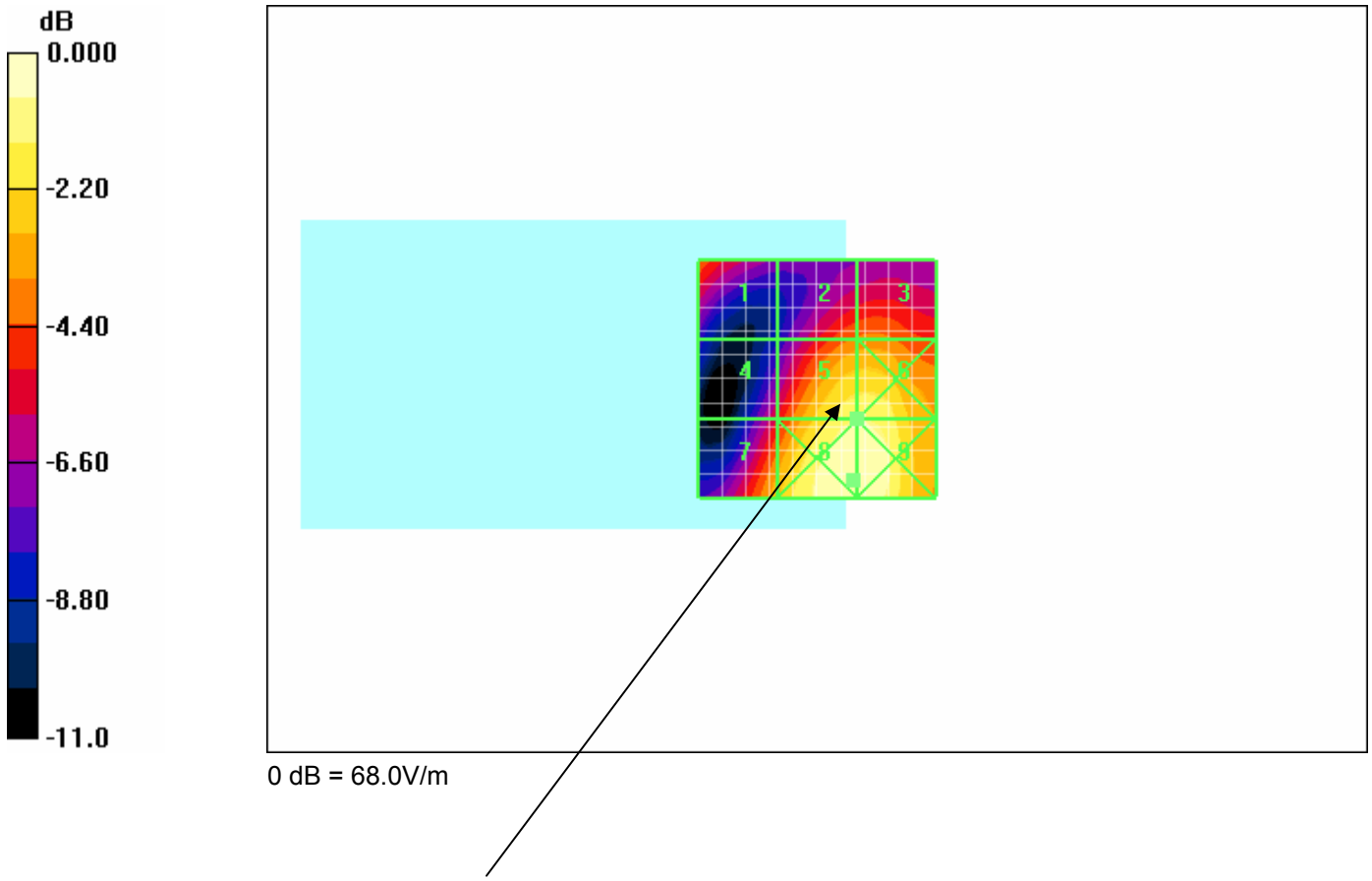
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 37.9 V/m; Power Drift = -0.141 dB
Maximum value of Total (measured) = 61.9 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 62.4 V/m
Probe Modulation Factor = 1.09
Reference Value = 37.9 V/m; Power Drift = -0.141 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

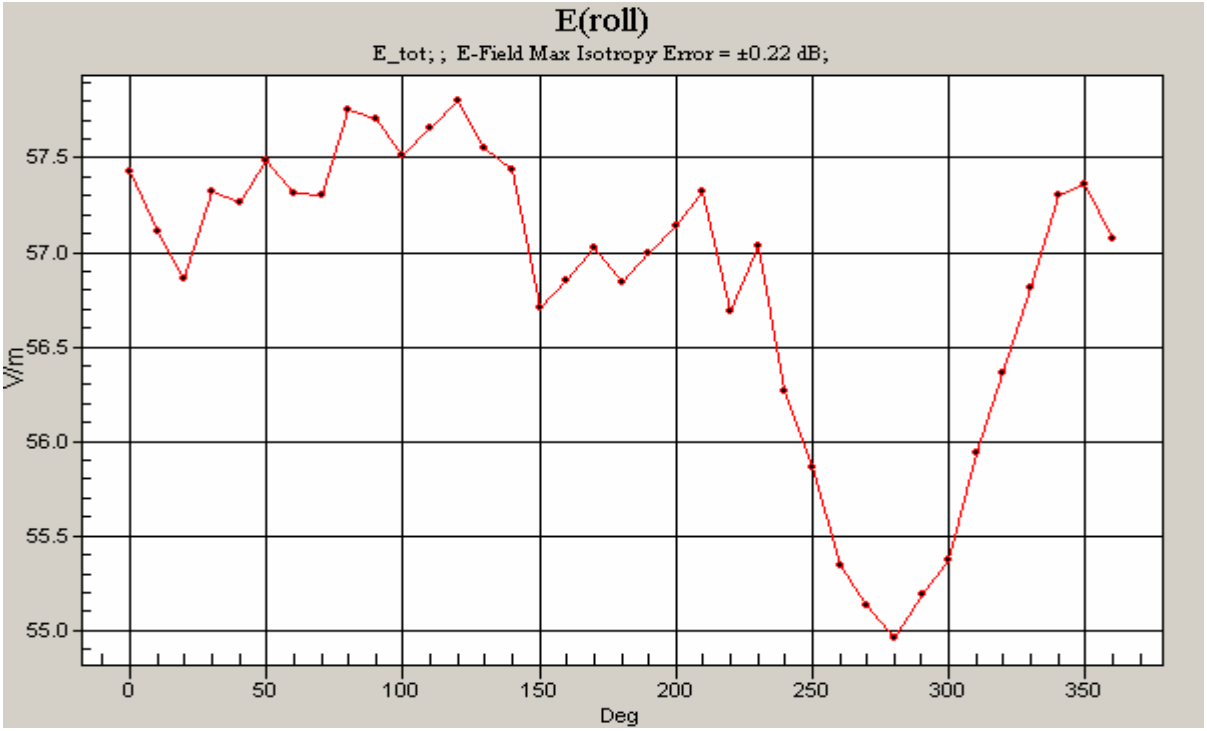
Grid **44.4**	Grid **45.5**	Grid **46.3**
Grid **38.3**	Grid **62.4**	Grid **62.5**
Grid	Grid	Grid

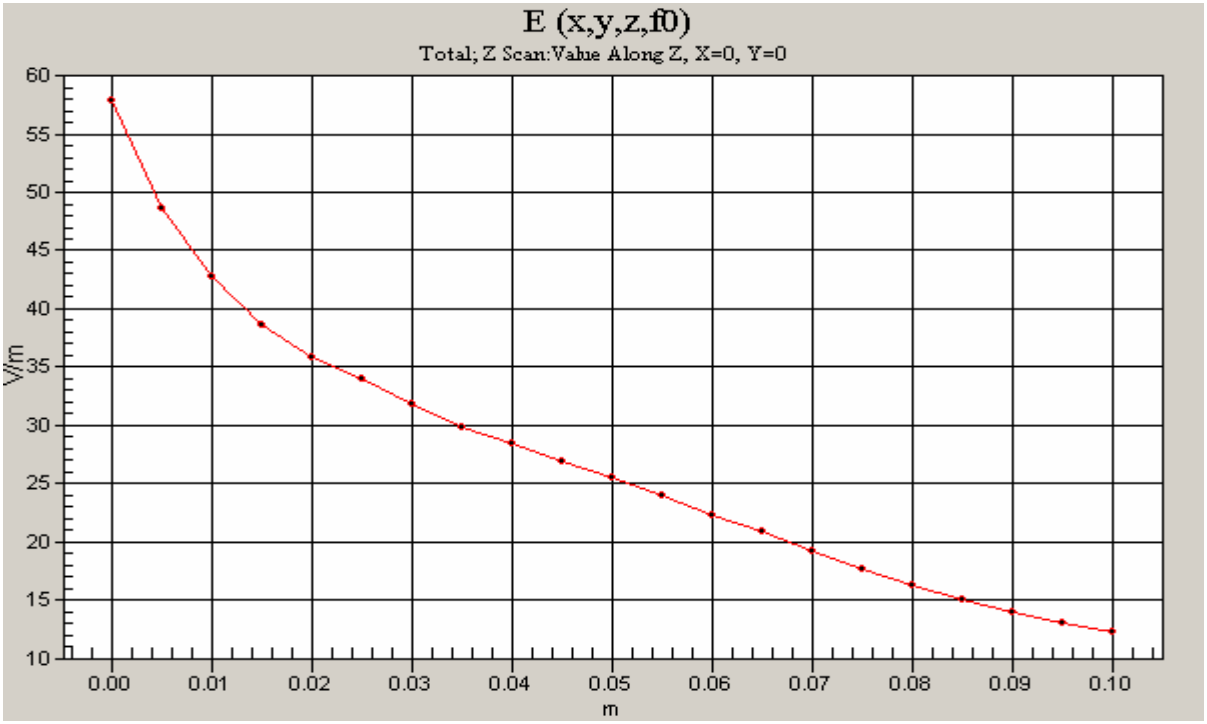
51.9	68.0	68.0



Location of probe rotation after applying exclusion blocks

E (delta) = (E max - E at zero degress) * PMF
= (57.8 – 57.4) * 1.09
= 0.4 * 1.09
= 0.44 V/m





Date/Time: 19/02/2007 2:56:05 PM

Test Laboratory: RTS

HAC_E_CDMA1900_rev03_spkr_cent_low_chan_RC1_SO2_FR_02_19_07

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 27/04/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 18/01/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 55.4 V/m

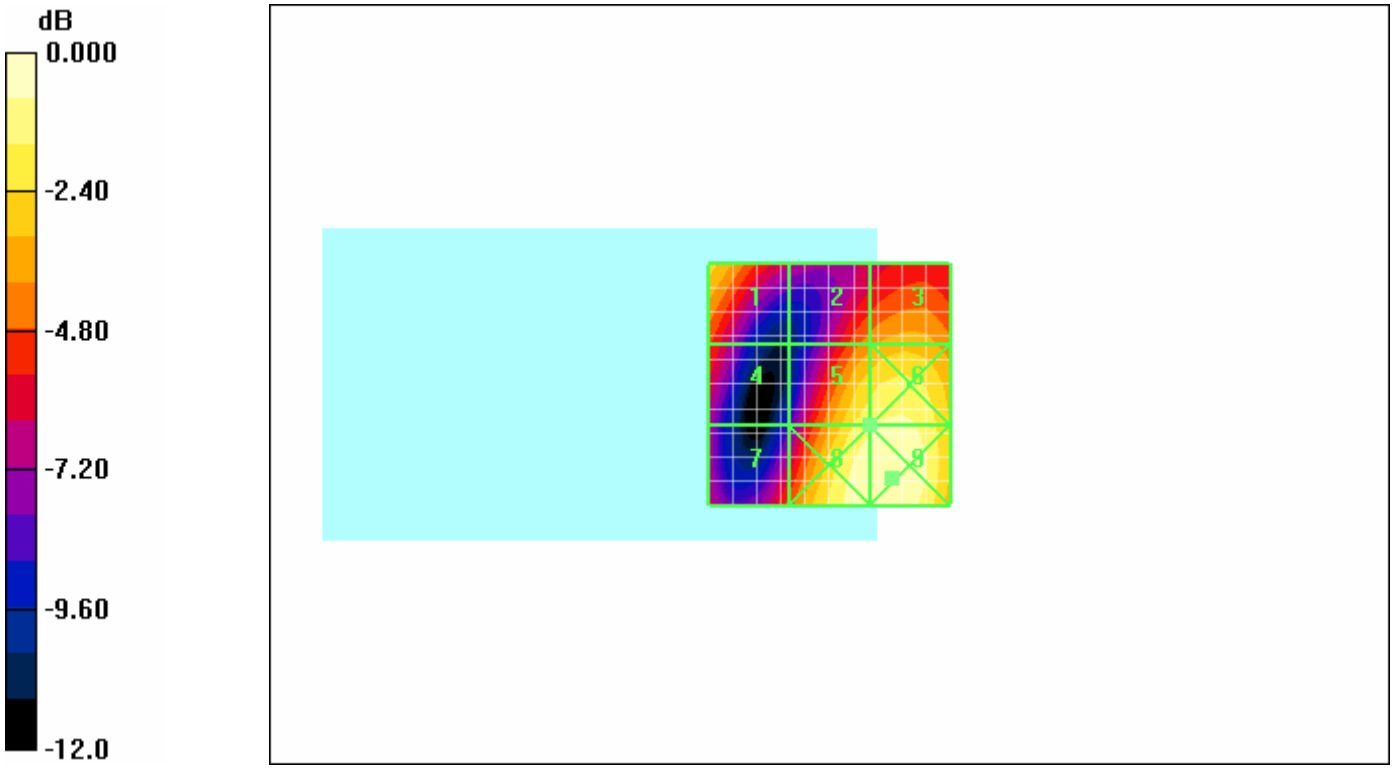
E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 37.3 V/m; Power Drift = 0.153 dB
Maximum value of Total (measured) = 60.3 V/m

E Scan - ER probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 59.6 V/m
Probe Modulation Factor = 1.09
Reference Value = 37.3 V/m; Power Drift = 0.153 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid **52.7**	Grid **44.5**	Grid **48.4**
Grid **39.1**	Grid **59.6**	Grid **62.4**
Grid	Grid	Grid

39.7	65.3	66.4



0 dB = 66.4V/m

Date/Time: 26/01/2007 5:13:36 PM

Test Laboratory: RTS

HAC_H_CDMA800_spkr_cent_high_chan_RC3_SO3_FR

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 848.52 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.034 A/m; Power Drift = 0.111 dB
Maximum value of Total (measured) = 0.100 A/m

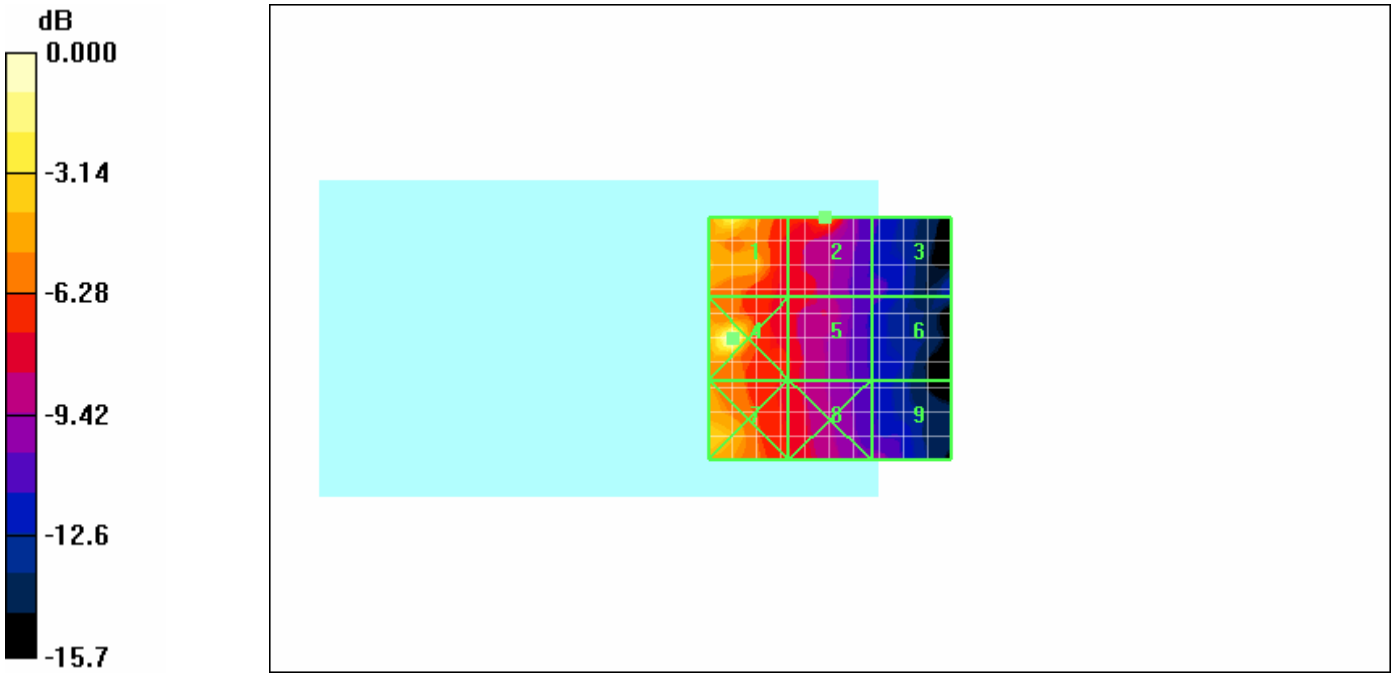
H Scan - H3DV5 probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 0.059 A/m

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.083 A/m
Probe Modulation Factor = 1.02
Reference Value = 0.034 A/m; Power Drift = 0.111 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.083**	Grid **0.059**	Grid **0.030**
Grid **0.102**	Grid **0.045**	Grid **0.029**

Grid	Grid	Grid
0.069	0.045	0.033



0 dB = 0.102A/m

Date/Time: 29/01/2007 10:01:29 AM

Test Laboratory: RTS

HAC_H_CDMA800_spkr_cent_high_chan_RC1_SO2_FR

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 848.52 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.094 A/m; Power Drift = 0.179 dB
Maximum value of Total (measured) = 0.170 A/m

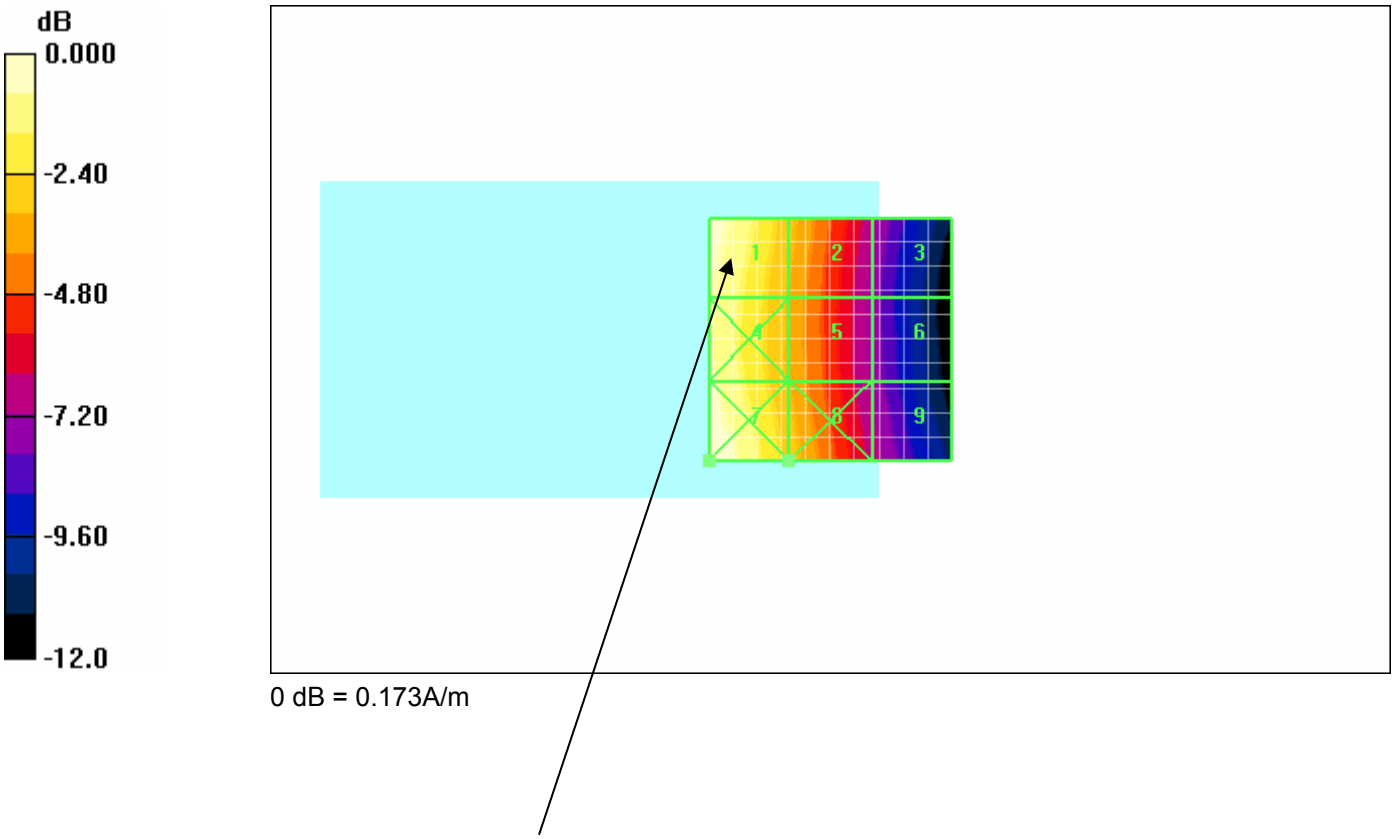
H Scan - H3DV5 probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 0.171 A/m

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.169 A/m
Probe Modulation Factor = 1.02
Reference Value = 0.094 A/m; Power Drift = 0.179 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

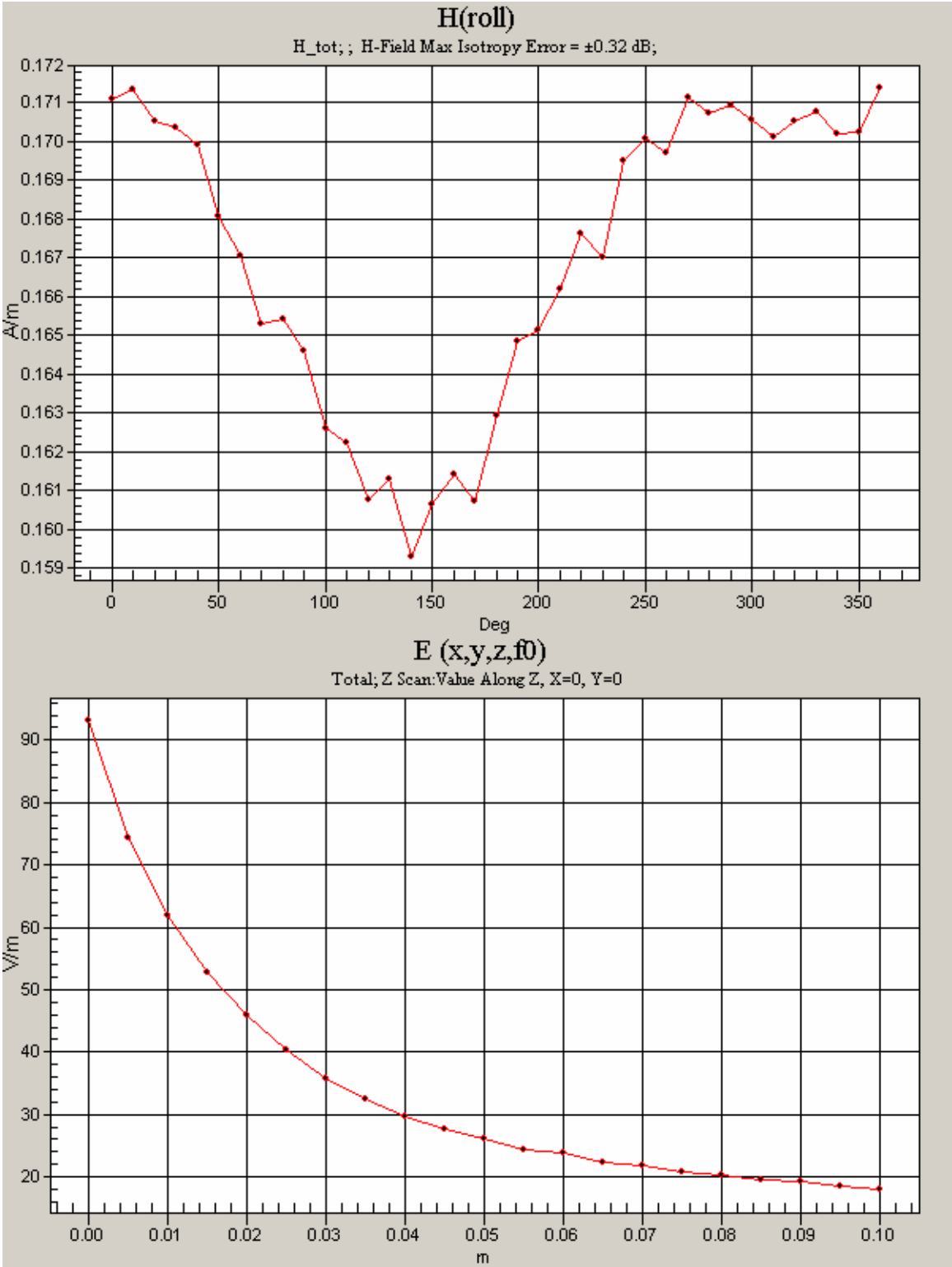
Grid **0.169**	Grid **0.125**	Grid **0.078**
Grid **0.164**	Grid **0.121**	Grid **0.075**
Grid	Grid	Grid

0.173	0.128	0.081



Location of the probe rotation after applying exclusion blocks

H (delta) = (H max - H at zero degress) * PMF
= (0.1715 – 0.171) * 1.02
= 0.005 * 1.02
= 0.006



Date/Time: 29/01/2007 10:09:48 AM

Test Laboratory: RTS

HAC_H_CDMA800_spkr_cent_high_chan_RC1_SO3_eighth

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 848.52 MHz;Duty Cycle: 1:8
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.035 A/m; Power Drift = 0.224 dB
Maximum value of Total (measured) = 0.067 A/m

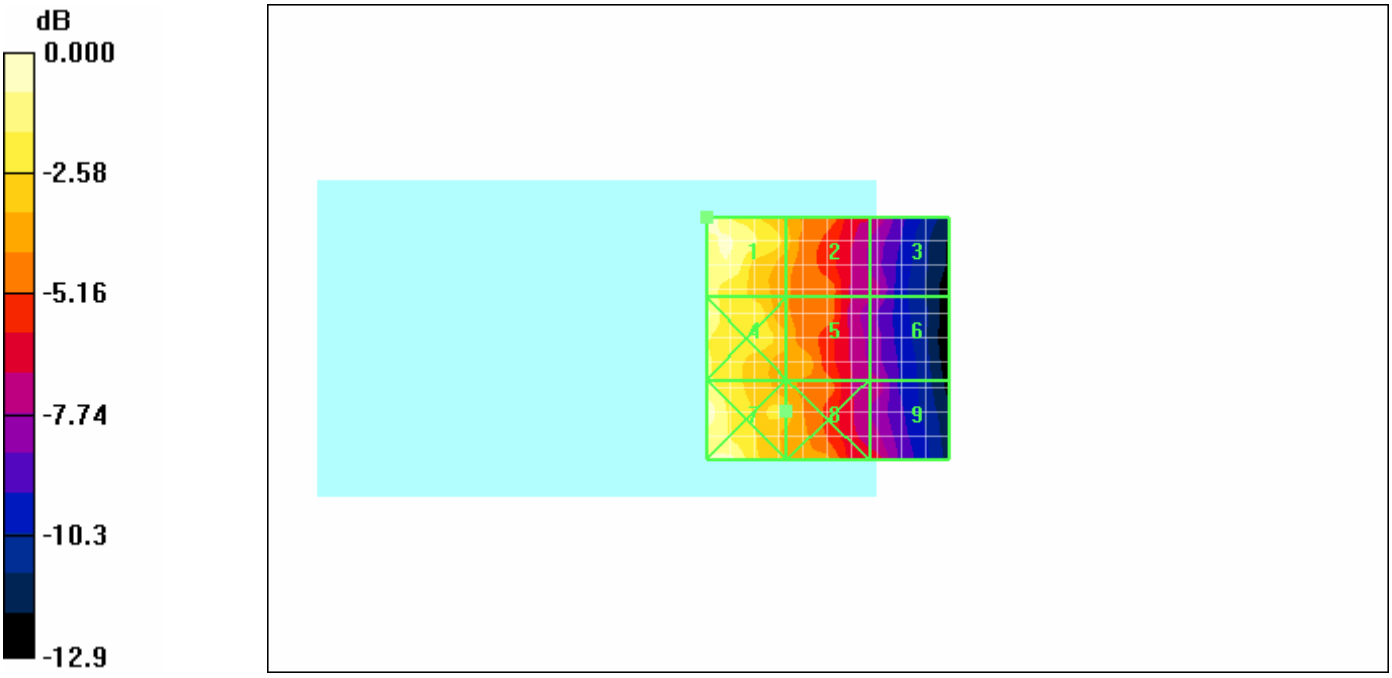
H Scan - H3DV5 probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 0.069 A/m

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.162 A/m
Probe Modulation Factor = 2.43
Reference Value = 0.035 A/m; Power Drift = 0.224 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.162**	Grid **0.114**	Grid **0.076**
Grid **0.152**	Grid **0.111**	Grid **0.071**
Grid	Grid	Grid

0.160	0.116	0.080



0 dB = 0.162A/m

Date/Time: 29/01/2007 10:19:34 AM

Test Laboratory: RTS

HAC_H_CDMA800_T_coil_cent_high_chan_RC1_SO2_FR

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 800; Frequency: 848.52 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.097 A/m; Power Drift = -0.105 dB
Maximum value of Total (measured) = 0.159 A/m

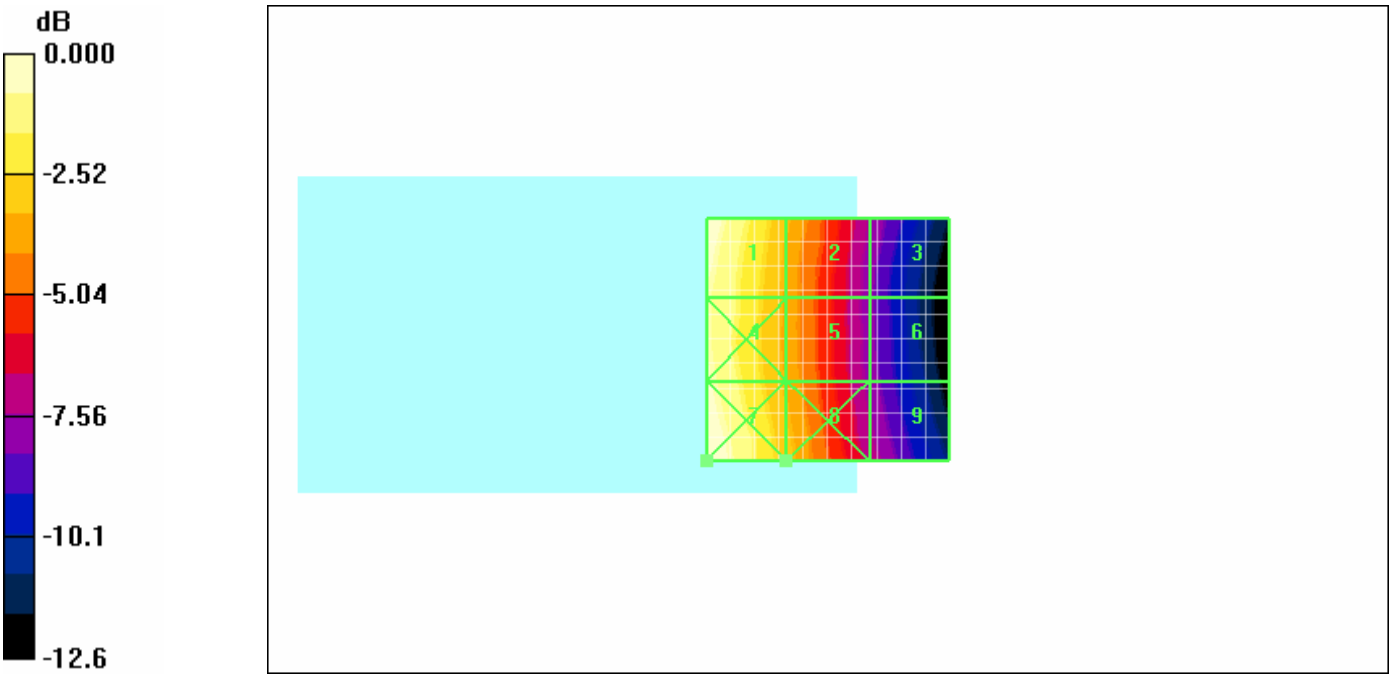
H Scan - H3DV5 probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 0.160 A/m

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.158 A/m
Probe Modulation Factor = 1.02
Reference Value = 0.097 A/m; Power Drift = -0.105 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.158**	Grid **0.113**	Grid **0.069**
Grid **0.153**	Grid **0.109**	Grid **0.067**
Grid	Grid	Grid

0.162	0.116	0.073



0 dB = 0.162A/m

Date/Time: 29/01/2007 10:32:18 AM

Test Laboratory: RTS

HAC_H_CDMA1900_spkr_cent_low_chan_RC1_SO2_FR

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.142 A/m; Power Drift = -0.064 dB
Maximum value of Total (measured) = 0.177 A/m

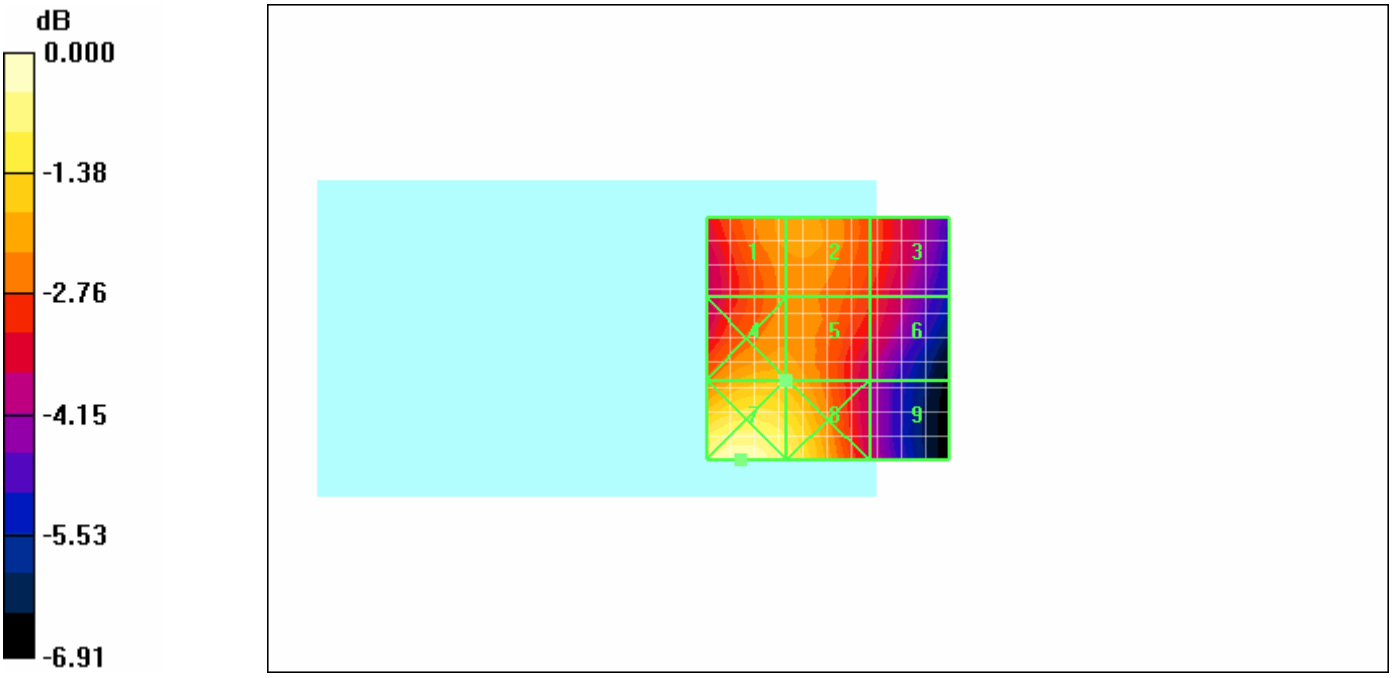
H Scan - H3DV5 probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 0.178 A/m

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.161 A/m
Probe Modulation Factor = 1.08
Reference Value = 0.142 A/m; Power Drift = -0.064 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.157**	Grid **0.158**	Grid **0.145**
Grid **0.163**	Grid **0.161**	Grid **0.140**
Grid	Grid	Grid

0.192	0.181	0.130



0 dB = 0.192A/m

Date/Time: 29/01/2007 11:00:57 AM

Test Laboratory: RTS

HAC_H_CDMA1900_spkr_cent_low_chan_RC1_SO3_eighth

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1908.5 MHz;Duty Cycle: 1:8
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.050 A/m; Power Drift = 1.22 dB
Maximum value of Total (measured) = 0.064 A/m

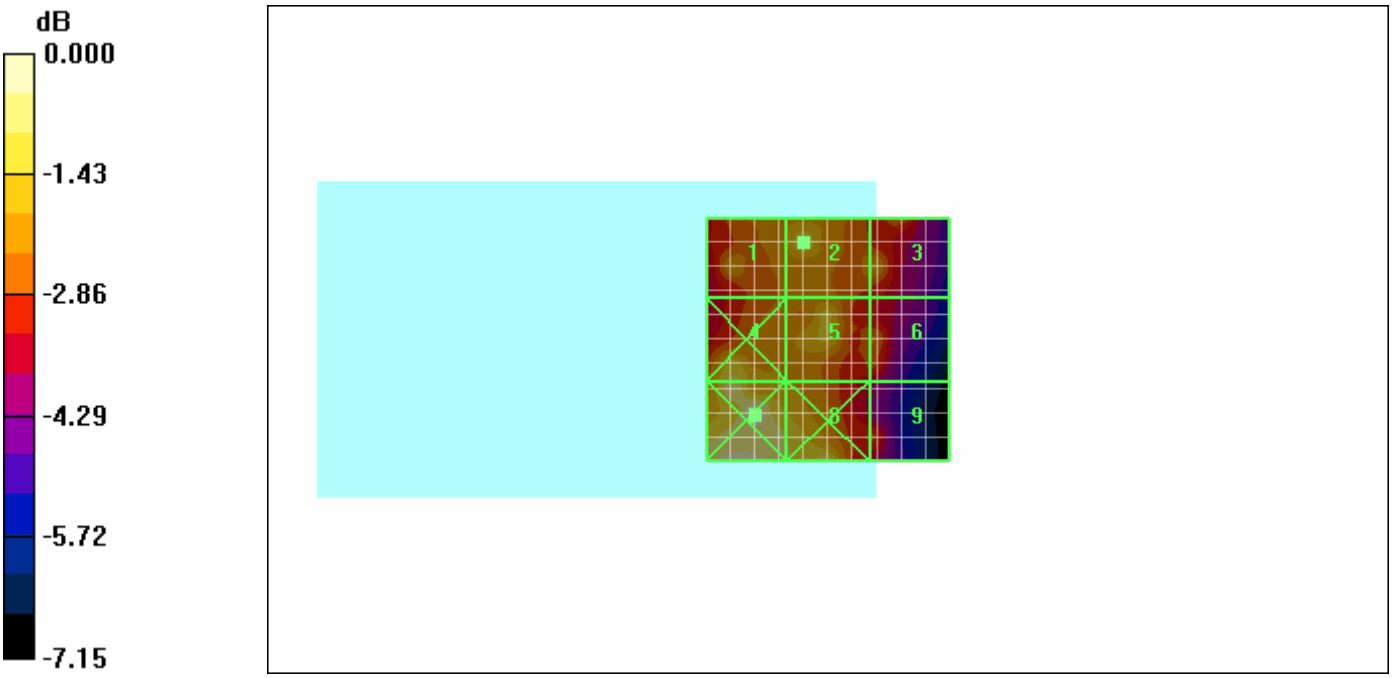
H Scan - H3DV5 probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of Total (measured) = 0.058 A/m

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.154 A/m
Probe Modulation Factor = 2.67
Reference Value = 0.050 A/m; Power Drift = 1.22 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.139**	Grid **0.154**	Grid **0.139**
Grid **0.157**	Grid **0.149**	Grid **0.132**
Grid	Grid	Grid

0.172	0.160	0.125



0 dB = 0.172A/m

Date/Time: 29/01/2007 11:12:25 AM

Test Laboratory: RTS

HAC_H_CDMA1900_T_coil_cent_low_chan_RC1_SO2_FR

DUT: BlackBerry Wireless Handheld; Type: Sample ; Serial: Not Specified

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 16/03/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 25/04/2006
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm
Probe Modulation Factor = 1.00
Reference Value = 0.143 A/m; Power Drift = -0.050 dB
Maximum value of Total (measured) = 0.180 A/m

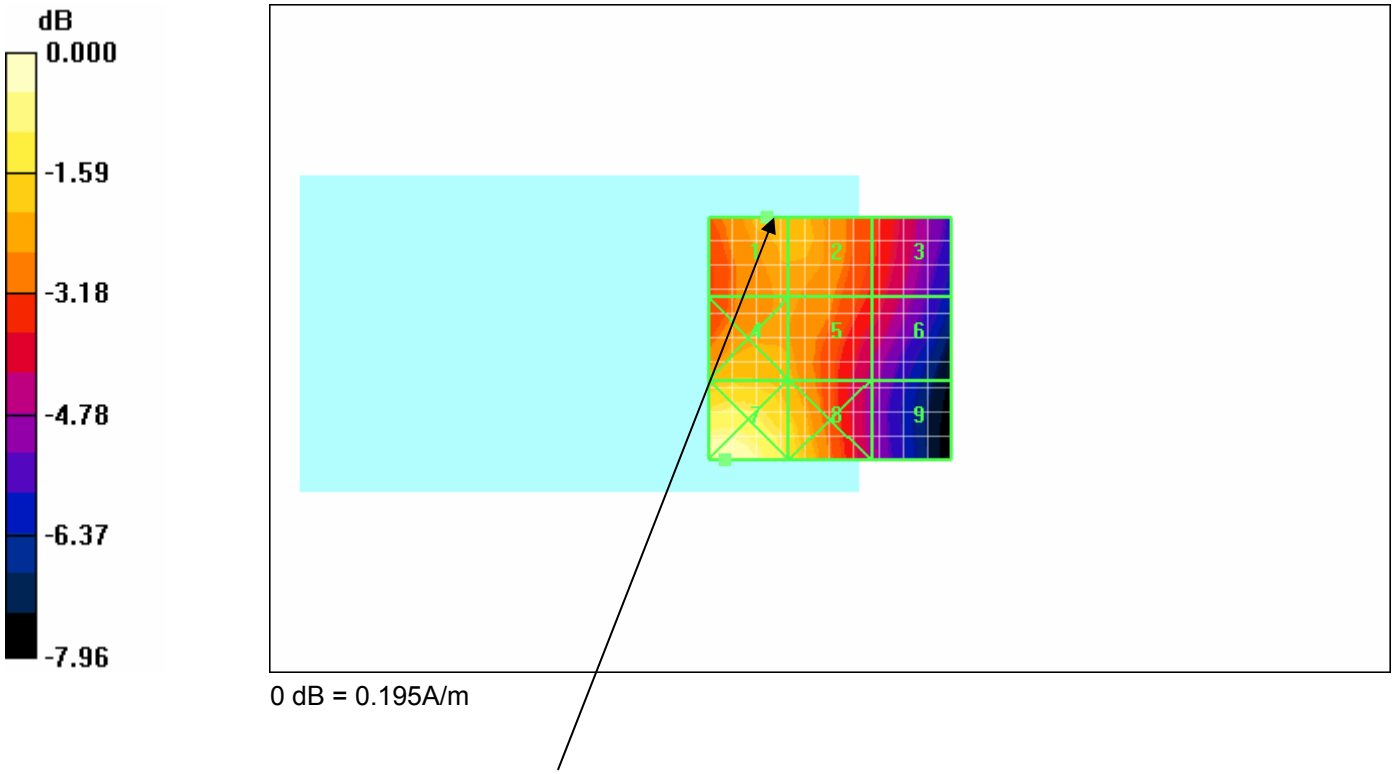
H Scan - H3DV5 probe tip 10mm above Device Reference/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

H Scan - H3DV5 probe tip 10mm above Device Reference/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.158 A/m
Probe Modulation Factor = 1.08
Reference Value = 0.143 A/m; Power Drift = -0.050 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid **0.158**	Grid **0.158**	Grid **0.139**
Grid	Grid	Grid

Grid	Grid	Grid



Location of the probe rotation after applying exclusion blocks

H (delta) = (H max - H at zero degress) * PMF
= (0.1815 – 0.18) * 1.08
= 0.0015 * 1.02
= 0.002