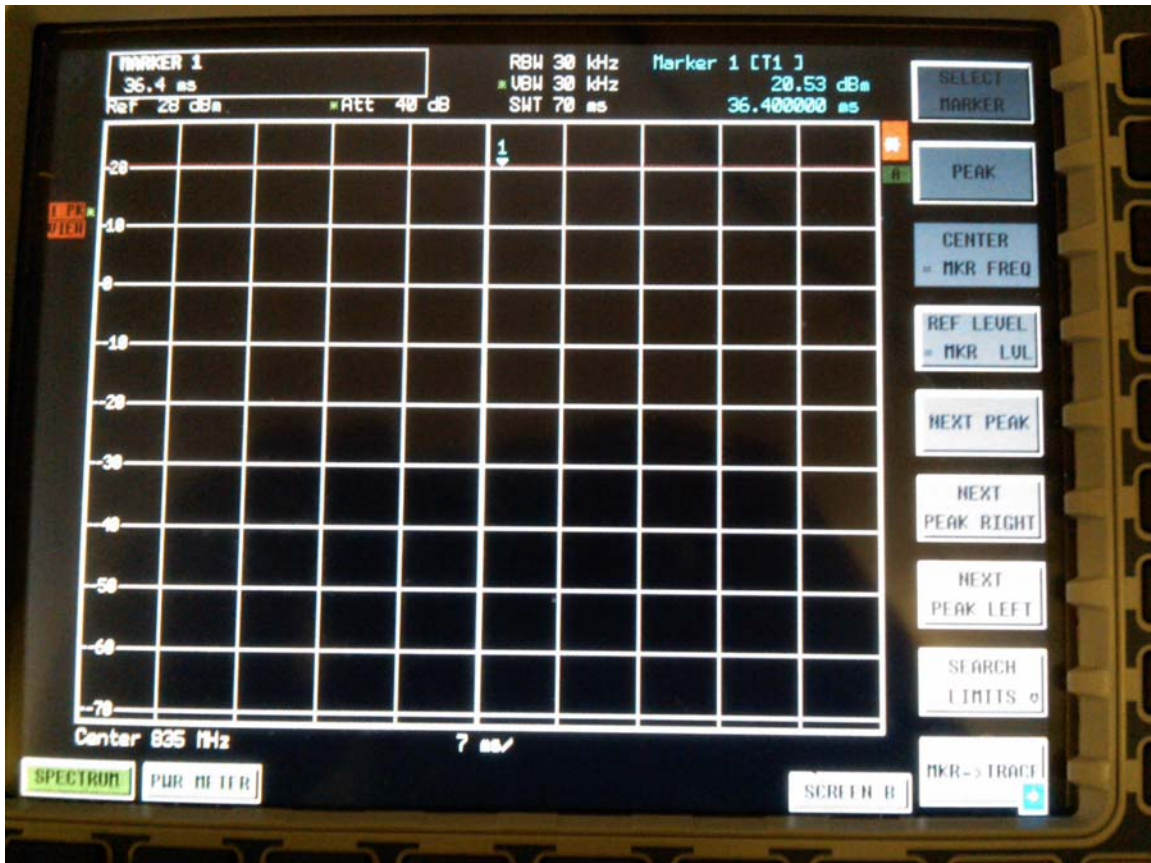


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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>

## Annex A: Measurement data and plots

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



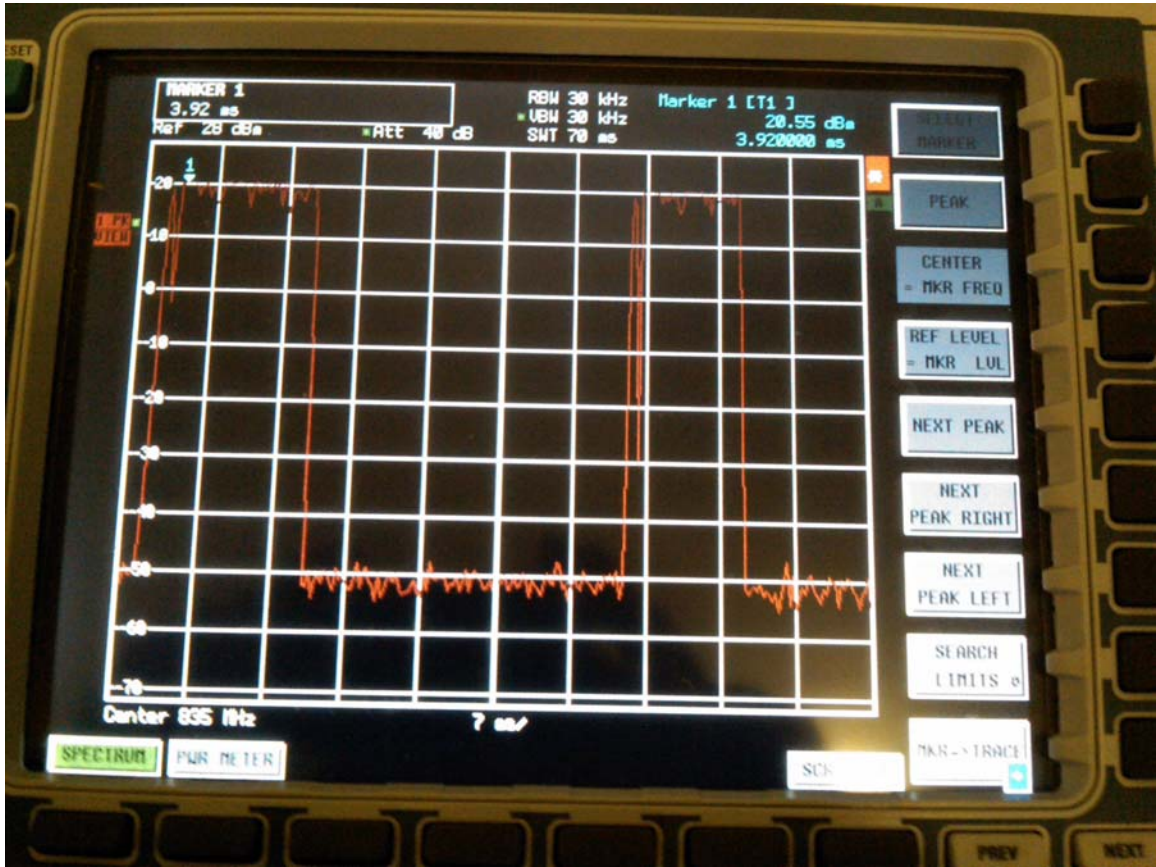
0 Hz Span CW Plot (835MHz)

<b>RTS</b> RIM Testing Services	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 2(108)
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0 Hz Span 80% AM Plot (835MHz)

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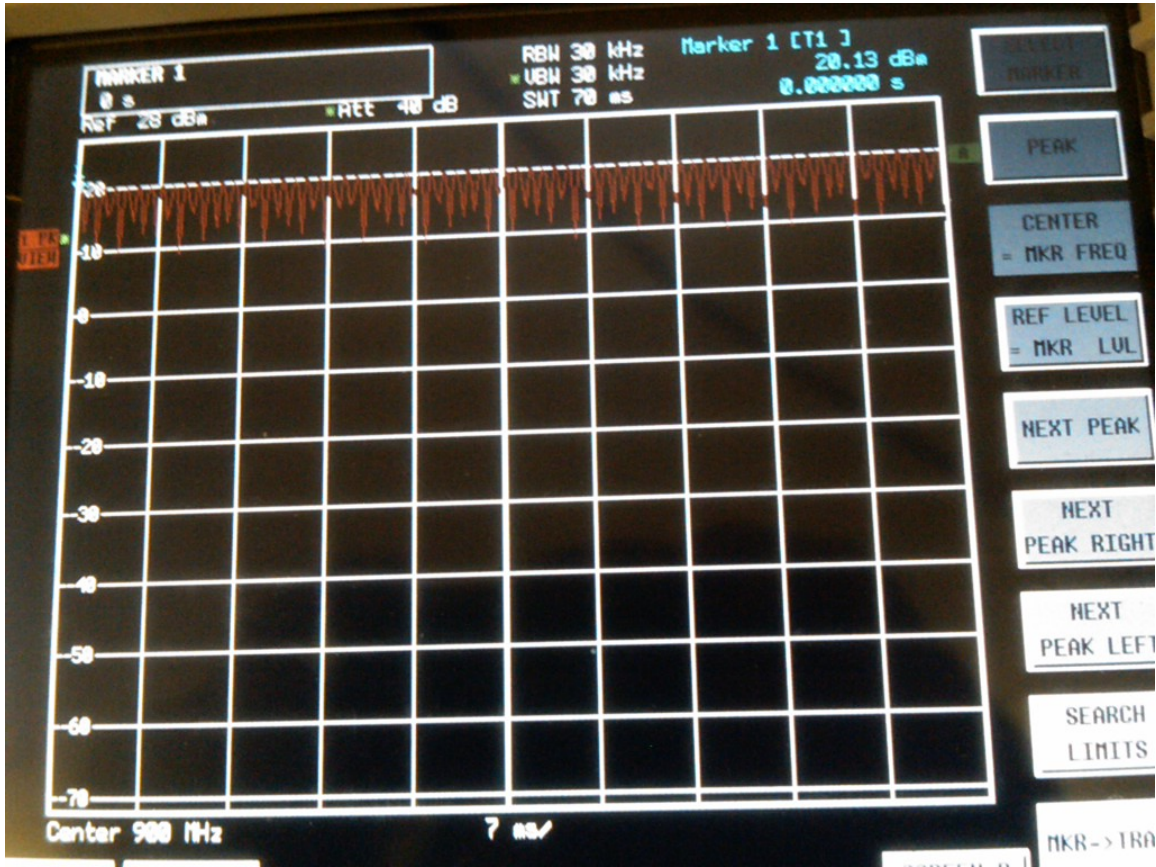
0 Hz Span iDEN (835MHz)

<b>RTS</b> RIM Testing Services	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 4(108)
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0 Hz Span CW Plot (900 MHz)

<b>RTS</b> RIM Testing Services	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 5(108)
	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>



0 Hz Span 80% AM Plot (900MHz)

<b>RTS</b> RIM Testing Services	Document	Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN		Page
	Author Data	Dates of Test	Report No	FCC ID
Daoud Attayi	June 25, Oct 23-24, 2008	RTS-1271-0810-32	L6ARCD20IN	6(108)



0 Hz Span iDEN (900 MHz)

<b>RTS</b> <b>RIM Testing Services</b>	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 7(108)
Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>	FCC ID <b>L6ARCD20IN</b>

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

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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>

Date/Time: 24/10/2008 10:08:50 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_CW835\\_20dBm.da4](#)

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

**Program Name: HAC RF E Dipole**

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

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 115.2 V/m; Power Drift = -0.082 dB

Maximum value of Total (measured) = 147.9 V/m

**E Scan - measurement distance from the probe sensor center to**



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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 148.3 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

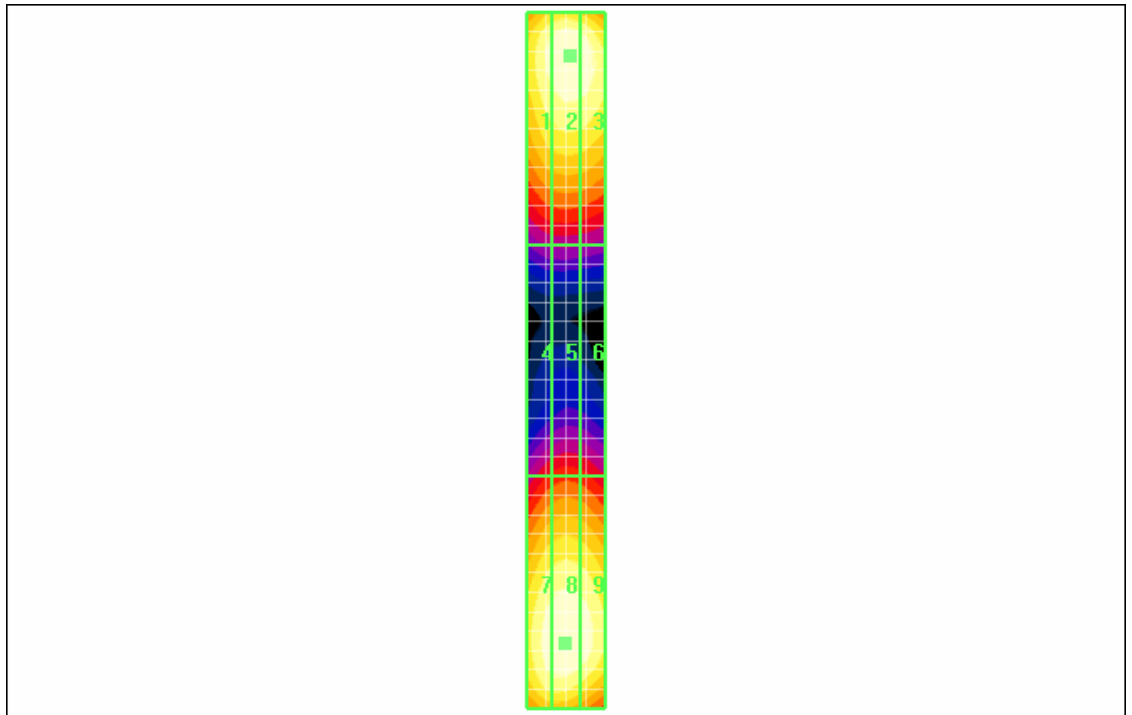
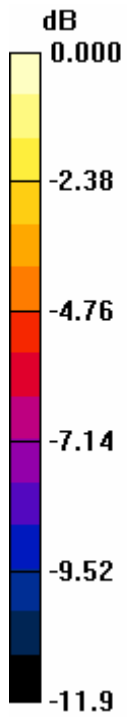
Reference Value = 115.2 V/m; Power Drift = -0.082 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>142.2 M4</b>	<b>148.0 M4</b>	<b>146.5 M4</b>
Grid 4	Grid 5	Grid 6
<b>81.5 M4</b>	<b>84.0 M4</b>	<b>82.5 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 148.3V/m

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Date/Time: 24/10/2008 10:28:11 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_CW835\\_PMF\\_iDEN.da4](#)

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

**Program Name: HAC RF E Dipole**

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

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 123.1 V/m; Power Drift = 0.181 dB

Maximum value of Total (measured) = 164.4 V/m

**E Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 164.8 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

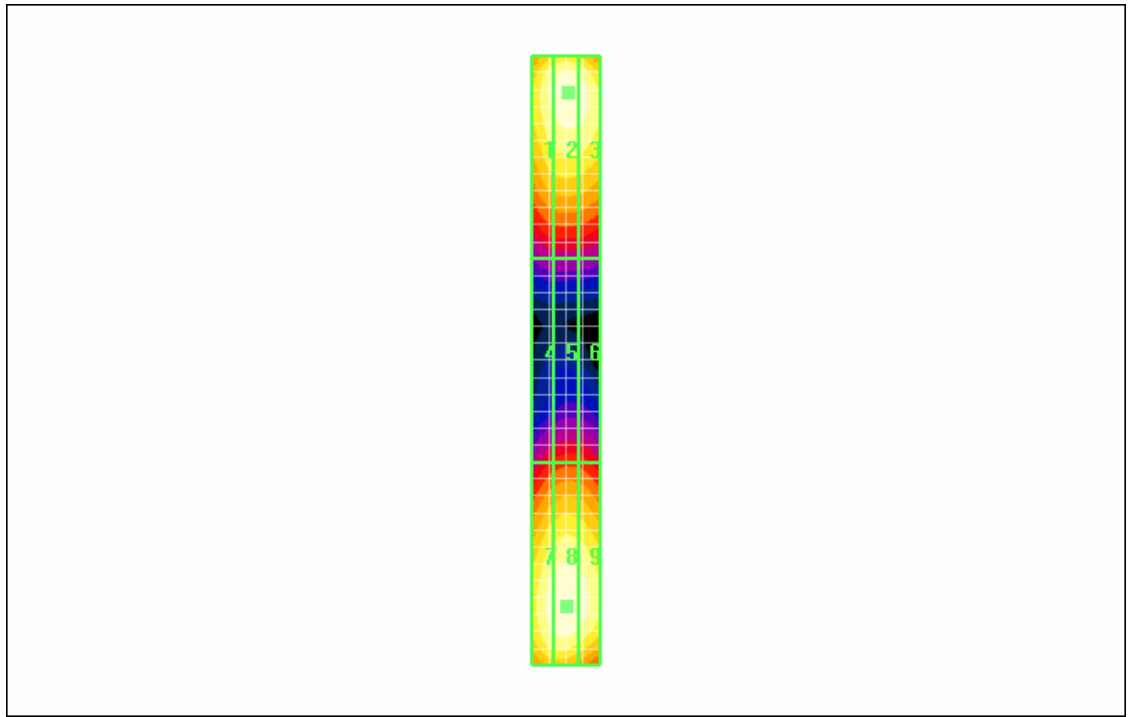
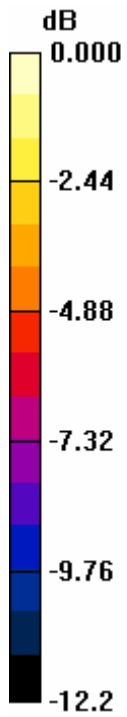
Reference Value = 123.1 V/m; Power Drift = 0.181 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1 <b>156.1 M4</b>	Grid 2 <b>162.0 M4</b>	Grid 3 <b>160.2 M4</b>
Grid 4 <b>88.8 M4</b>	Grid 5 <b>91.9 M4</b>	Grid 6 <b>91.3 M4</b>
Grid 7	Grid 8	Grid 9

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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>



0 dB = 164.8V/m

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Date/Time: 24/10/2008 10:35:27 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_AM80-%\\_835\\_PMF\\_iDEN.da4](#)

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

**Program Name: HAC RF E Dipole**

Communication System: 80% AM; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 78.5 V/m; Power Drift = -0.008 dB

Maximum value of Total (measured) = 100.1 V/m

**E Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 100.6 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

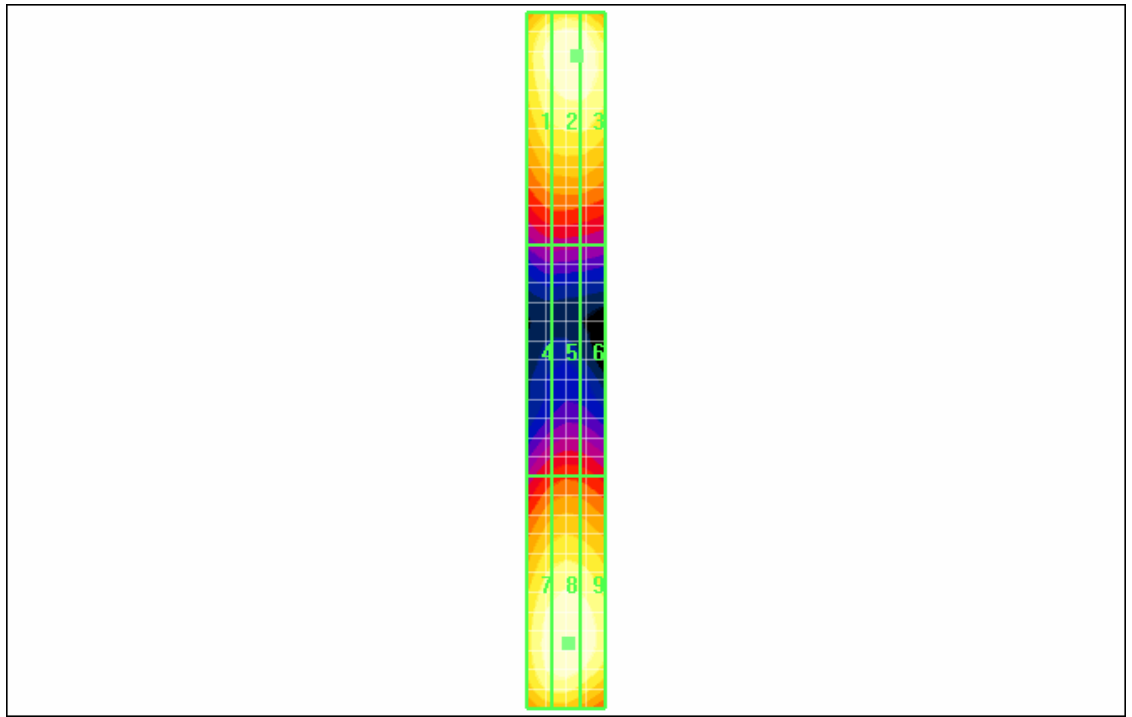
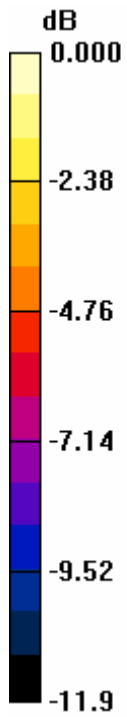
Reference Value = 78.5 V/m; Power Drift = -0.008 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>97.2 M4</b>	<b>100.3 M4</b>	<b>100.3 M4</b>
Grid 4	Grid 5	Grid 6
<b>55.7 M4</b>	<b>57.5 M4</b>	<b>56.8 M4</b>
Grid 7	Grid 8	Grid 9

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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>



0 dB = 100.6V/m



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Date/Time: 24/10/2008 10:46:38 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_835\\_IDEN\\_PMF.da4](#)

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

**Program Name: HAC RF E Dipole**

Communication System: IDEN 835; Frequency: 835 MHz; Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 36.7 V/m; Power Drift = 0.001 dB

Maximum value of Total (measured) = 49.4 V/m

**E Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 49.5 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

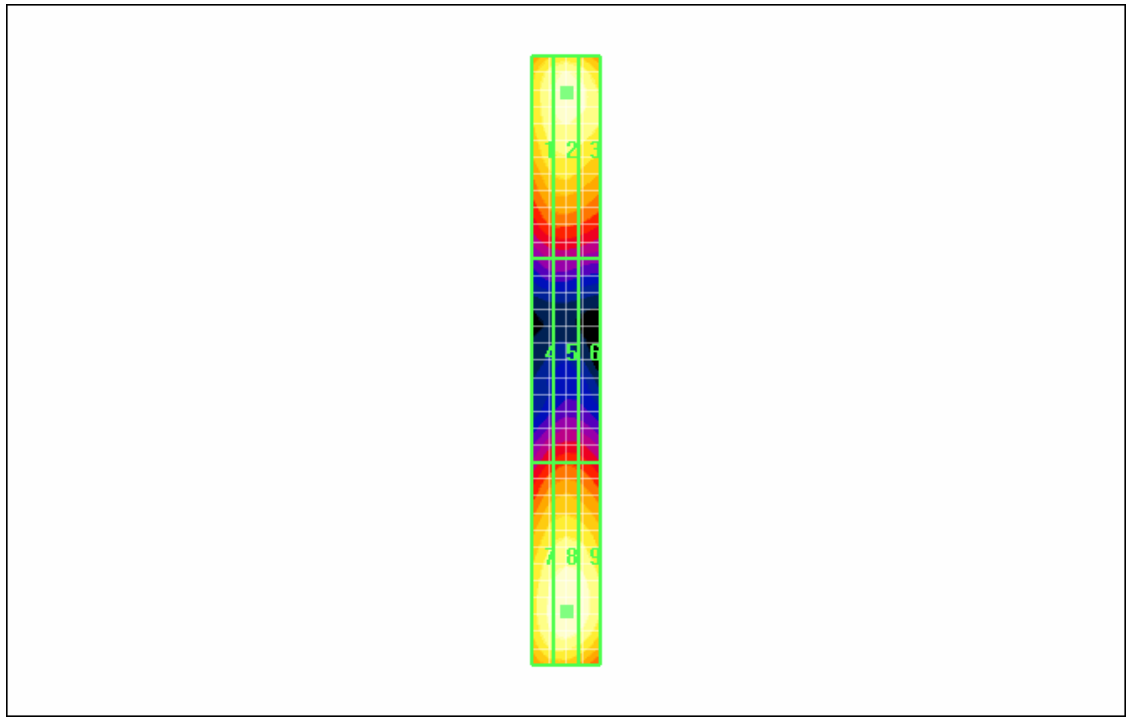
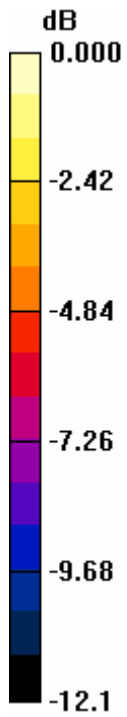
Reference Value = 36.7 V/m; Power Drift = 0.001 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>46.4 M4</b>	<b>48.2 M4</b>	<b>47.3 M4</b>
Grid 4	Grid 5	Grid 6
<b>26.8 M4</b>	<b>28.0 M4</b>	<b>27.4 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 49.5V/m

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Date/Time: 24/10/2008 11:24:21 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_CW900\\_20dBm.da4](#)

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

**Program Name: HAC RF E Dipole**

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 95.7 V/m; Power Drift = 0.096 dB

Maximum value of Total (measured) = 134.7 V/m

**E Scan - measurement distance from the probe sensor center to**

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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 135.5 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

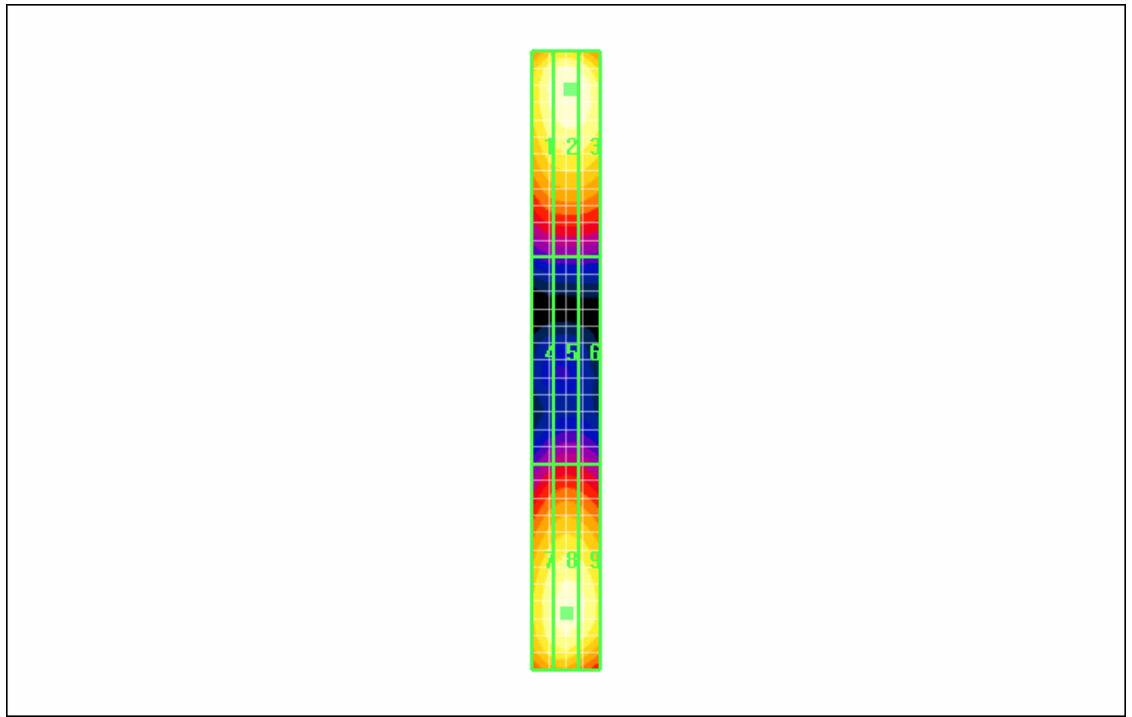
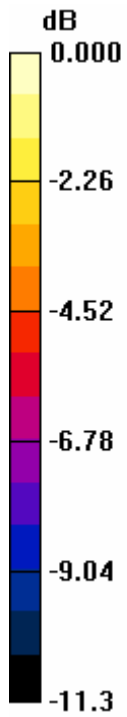
Reference Value = 95.7 V/m; Power Drift = 0.096 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>129.8 M4</b>	<b>135.5 M4</b>	<b>134.5 M4</b>
Grid 4	Grid 5	Grid 6
<b>66.2 M4</b>	<b>68.2 M4</b>	<b>67.2 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 135.5V/m

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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>

Date/Time: 24/10/2008 11:06:25 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_CW900\\_PMF\\_iDEN.da4](#)

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

**Program Name: HAC RF E Dipole**

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 99.8 V/m; Power Drift = 0.032 dB

Maximum value of Total (measured) = 136.3 V/m

**E Scan - measurement distance from the probe sensor center to**

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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 137.6 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 99.8 V/m; Power Drift = 0.032 dB

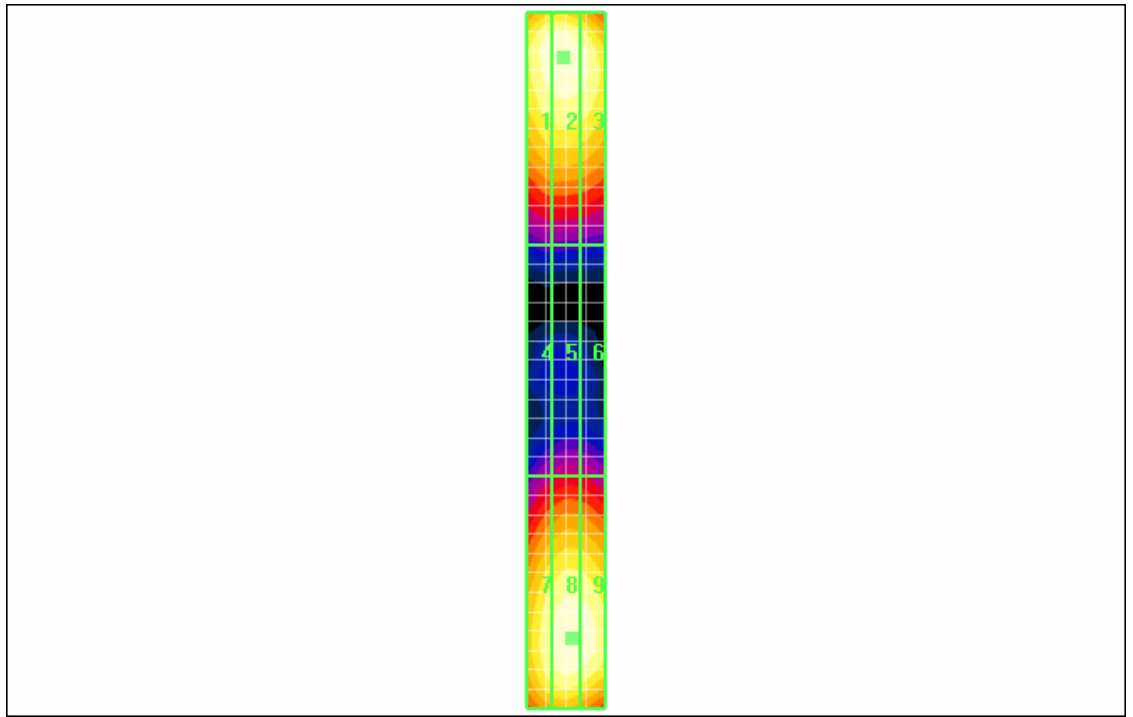
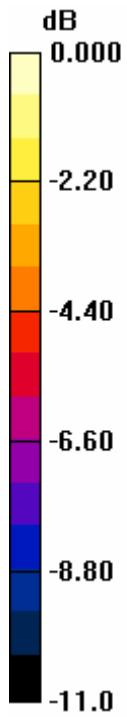
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>135.6 M4</b>	<b>136.9 M4</b>	<b>133.3 M4</b>
Grid 4	Grid 5	Grid 6
<b>68.8 M4</b>	<b>72.3 M4</b>	<b>71.6 M4</b>
Grid 7	Grid 8	Grid 9



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0 dB = 137.6V/m

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Date/Time: 24/10/2008 11:14:24 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_AM80%\\_900\\_PMF\\_iDEN.da4](#)

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

**Program Name: HAC RF E Dipole**

Communication System: AM 80%; Frequency: 900 MHz; Duty Cycle: 1:1

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 62.1 V/m; Power Drift = 0.032 dB

Maximum value of Total (measured) = 86.2 V/m

**E Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 86.7 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

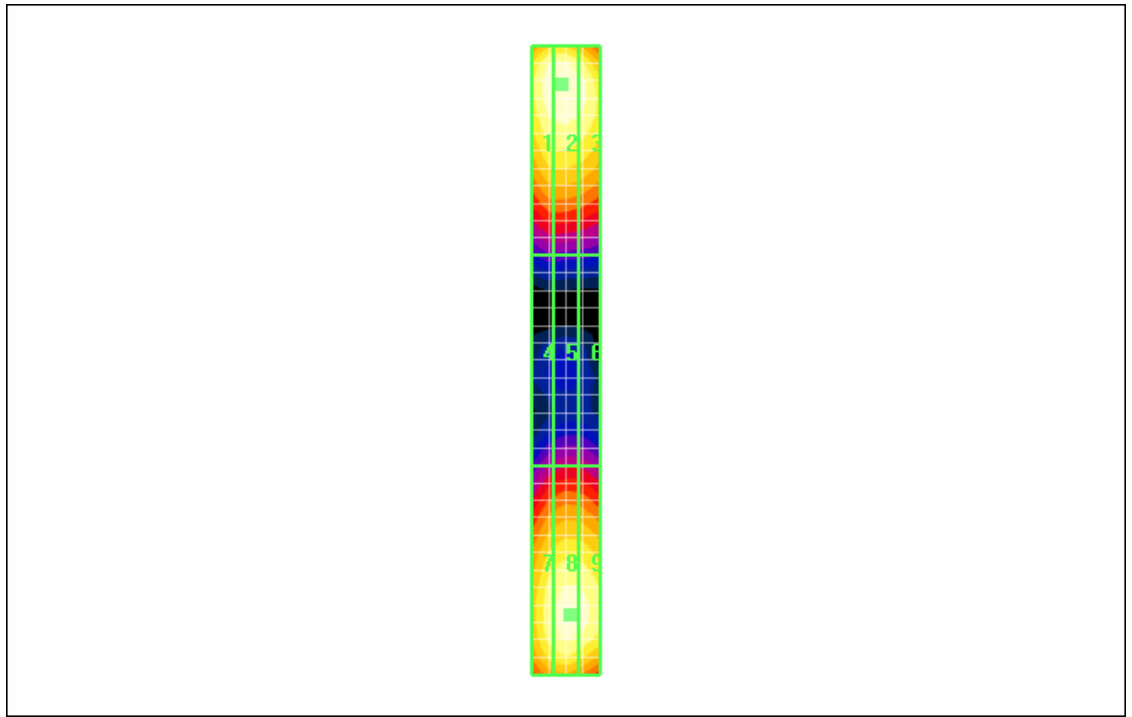
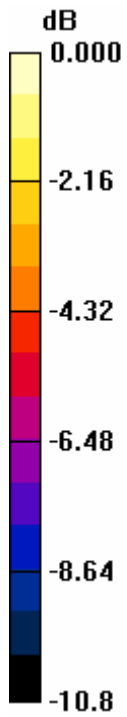
Reference Value = 62.1 V/m; Power Drift = 0.032 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>86.1 M4</b>	<b>86.7 M4</b>	<b>83.9 M4</b>
Grid 4	Grid 5	Grid 6
<b>42.9 M4</b>	<b>44.5 M4</b>	<b>44.1 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 86.7V/m

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Date/Time: 24/10/2008 10:57:51 AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Dipole\\_900\\_IDEN\\_PMF.da4](#)

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

**Program Name: HAC RF E Dipole**

Communication System: IDEN 900; Frequency: 900 MHz; Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 31.2 V/m; Power Drift = 0.084 dB

Maximum value of Total (measured) = 45.2 V/m

**E Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 45.5 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

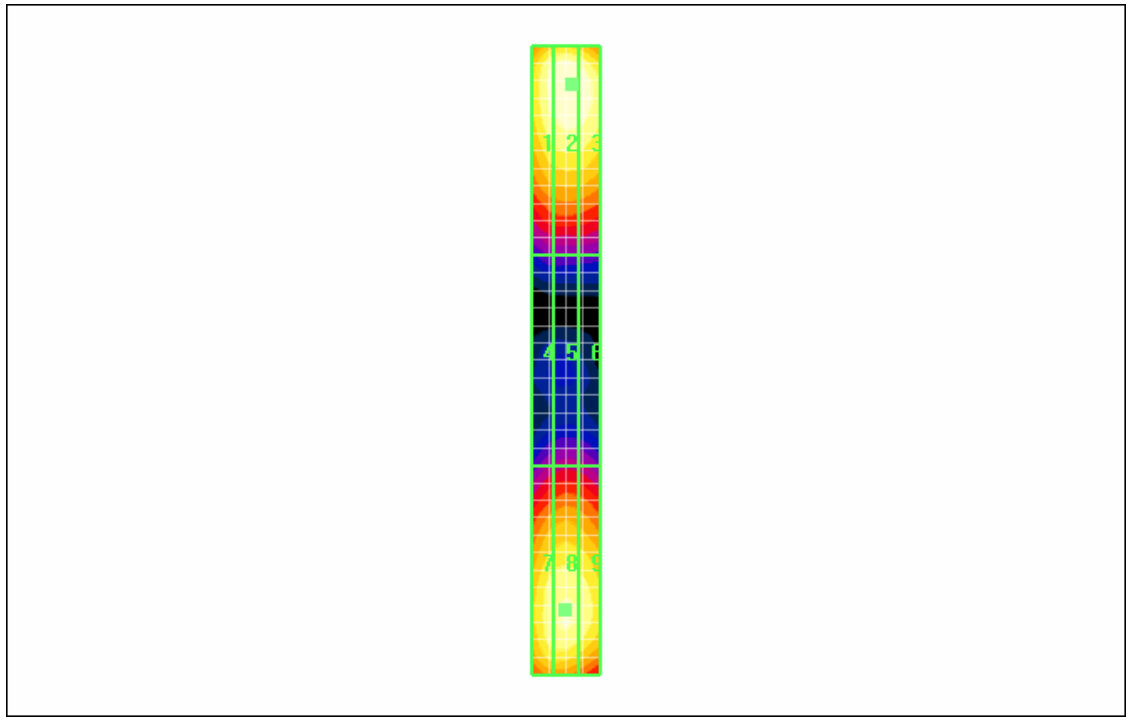
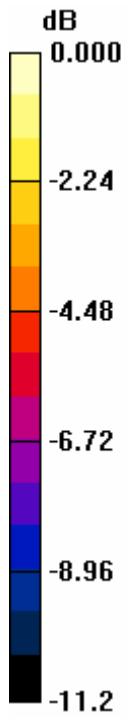
Reference Value = 31.2 V/m; Power Drift = 0.084 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>43.9 M4</b>	<b>45.5 M4</b>	<b>45.2 M4</b>
Grid 4	Grid 5	Grid 6
<b>21.6 M4</b>	<b>22.3 M4</b>	<b>22.0 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 45.5V/m

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Date/Time: 24/10/2008 11:58:51 AM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_CW835\\_20dBm.da4](#)

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.461 A/m; Power Drift = 0.064 dB

Maximum value of Total (measured) = 0.435 A/m

**H Scan - measurement distance from the probe sensor center to**



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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.436 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

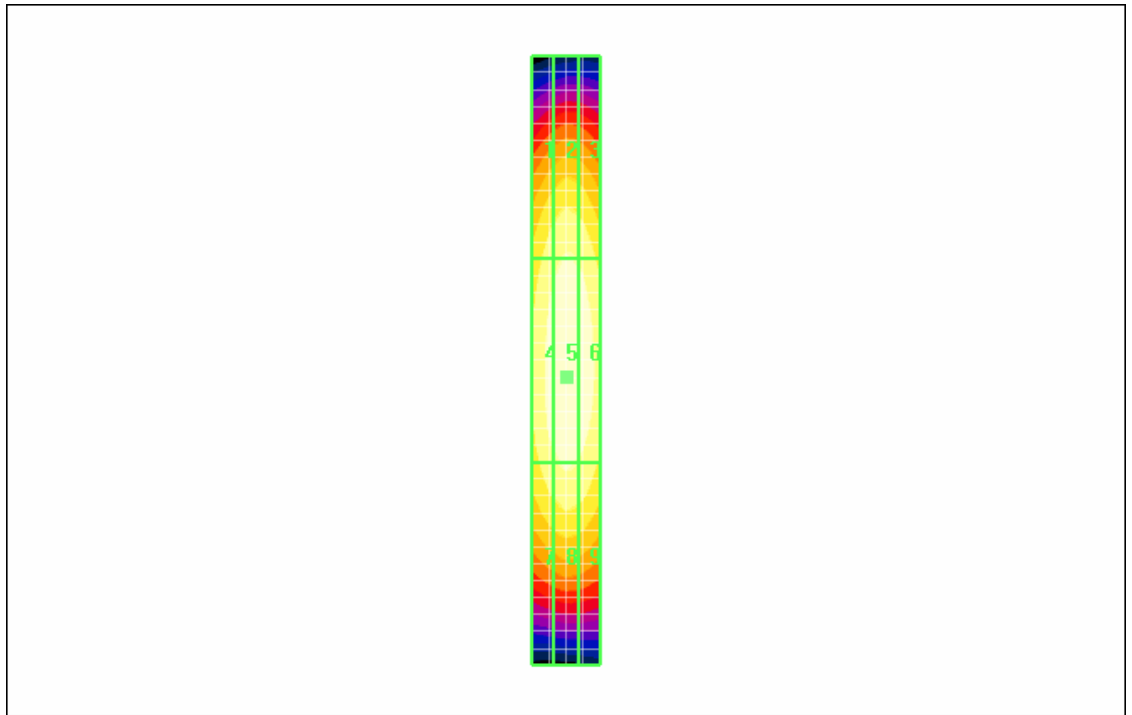
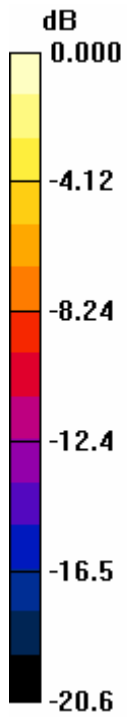
Reference Value = 0.461 A/m; Power Drift = 0.064 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
<b>0.358 M4</b>	<b>0.379 M4</b>	<b>0.370 M4</b>
Grid 4	Grid 5	Grid 6
<b>0.408 M4</b>	<b>0.436 M4</b>	<b>0.422 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 0.436A/m

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Date/Time: 24/10/2008 12:06:21 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_CW835\\_PMF\\_iDEN.da4](#)

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

**Program Name: HAC RF H3DV6 Dipole**

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.499 A/m; Power Drift = 0.052 dB

Maximum value of Total (measured) = 0.474 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.476 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

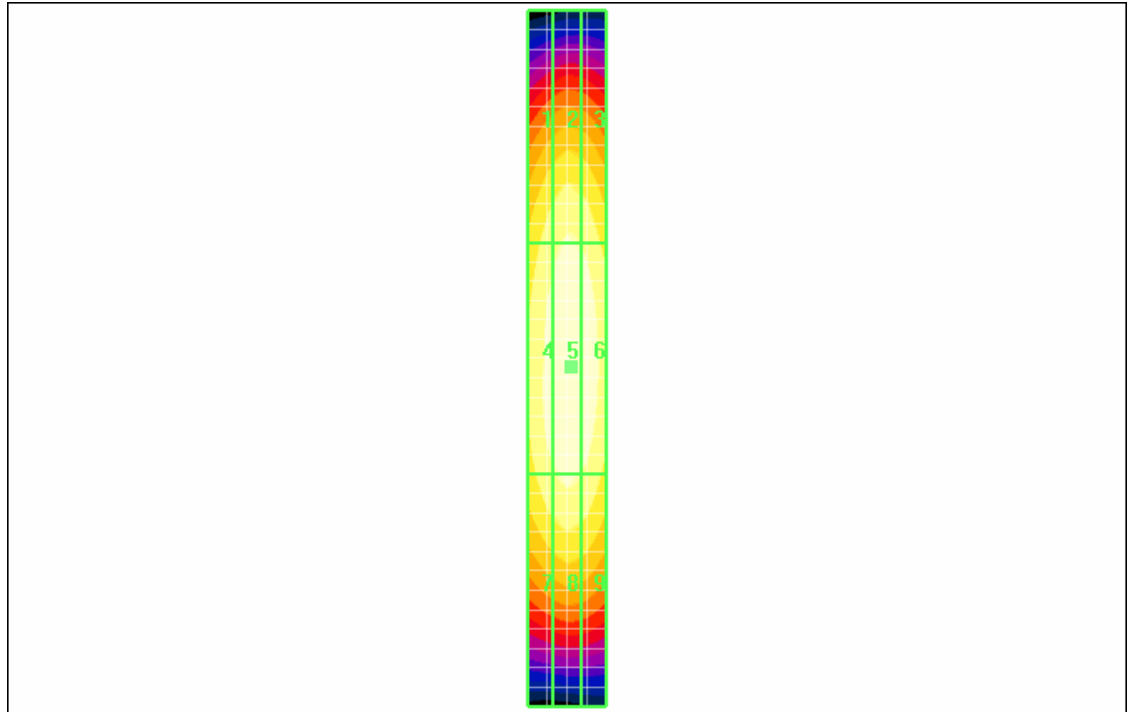
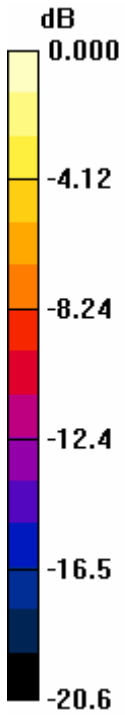
Reference Value = 0.499 A/m; Power Drift = 0.052 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

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Peak H-field in A/m

Grid 1	Grid 2	Grid 3
<b>0.390 M4</b>	<b>0.416 M4</b>	<b>0.405 M4</b>
Grid 4	Grid 5	Grid 6
<b>0.444 M4</b>	<b>0.476 M4</b>	<b>0.465 M4</b>
Grid 7	Grid 8	Grid 9



0 dB = 0.476A/m

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Date/Time: 24/10/2008 12:13:15 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_AM80%\\_835\\_PMF\\_iDEN.da4](#)

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

Program Name: HAC RF H3DV6 Dipole

Communication System: AM80%; Frequency: 835 MHz; Duty Cycle: 1:1

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.324 A/m; Power Drift = -0.004 dB

Maximum value of Total (measured) = 0.304 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.305 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

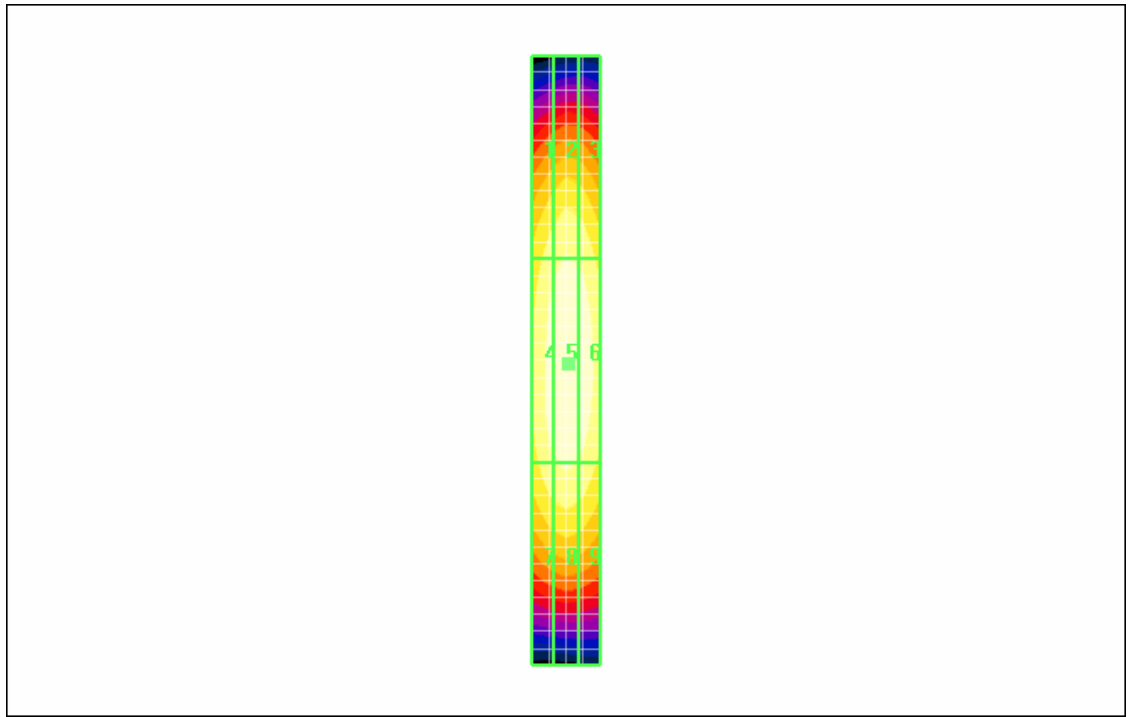
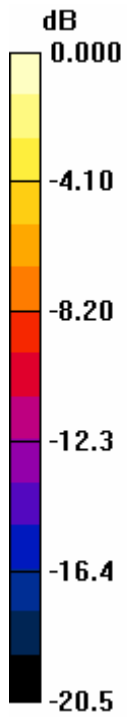
Reference Value = 0.324 A/m; Power Drift = -0.004 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.250 M4</b>	Grid 2 <b>0.264 M4</b>	Grid 3 <b>0.258 M4</b>
Grid 4 <b>0.285 M4</b>	Grid 5 <b>0.305 M4</b>	Grid 6 <b>0.297 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 0.305A/m



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Date/Time: 24/10/2008 12:24:56 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_835\\_IDEN\\_PMF.da4](#)

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

**Program Name: HAC RF H3DV6 Dipole**

Communication System: IDEN ; Frequency: 835 MHz;Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.159 A/m; Power Drift = 0.228 dB

Maximum value of Total (measured) = 0.153 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.154 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

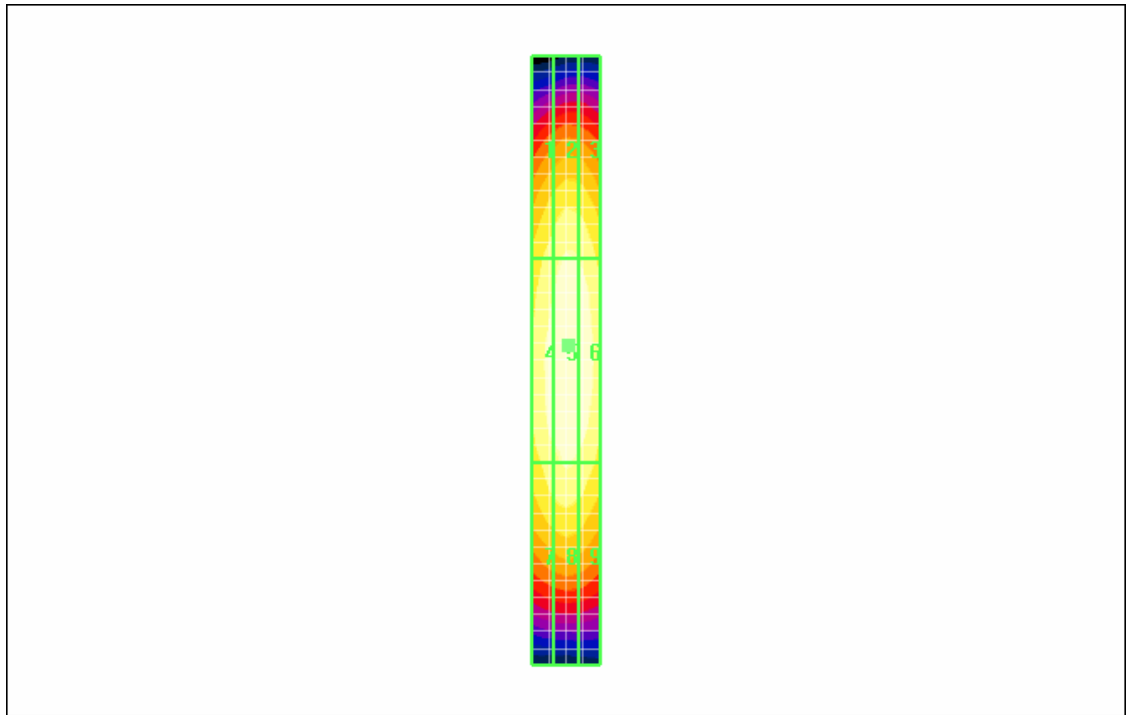
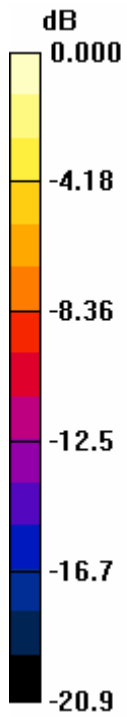
Reference Value = 0.159 A/m; Power Drift = 0.228 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.126 M4</b>	Grid 2 <b>0.135 M4</b>	Grid 3 <b>0.132 M4</b>
Grid 4 <b>0.144 M4</b>	Grid 5 <b>0.154 M4</b>	Grid 6 <b>0.150 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 0.154A/m

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	Author Data <b>Daoud Attayi</b>	Dates of Test <b>June 25, Oct 23-24, 2008</b>	Report No <b>RTS-1271-0810-32</b>

Date/Time: 24/10/2008 11:37:58 AM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_CW900\\_20dBm.da4](#)

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

**Program Name: HAC RF H3DV6 Dipole**

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.413 A/m; Power Drift = 0.083 dB

Maximum value of Total (measured) = 0.394 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.395 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

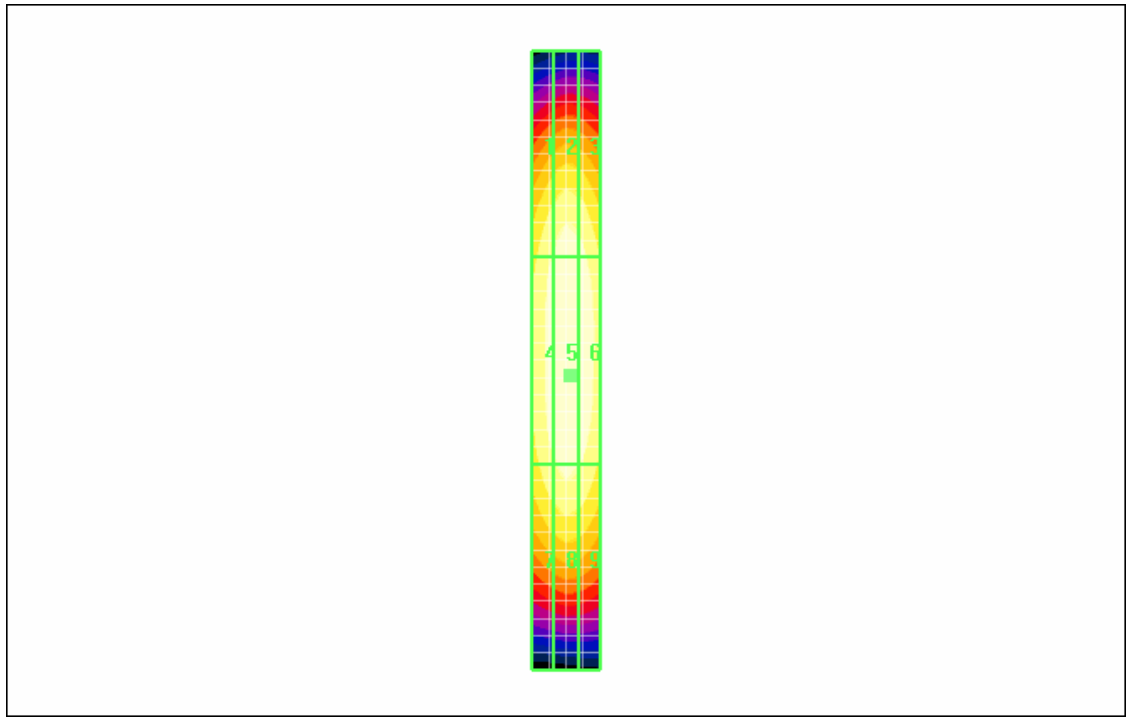
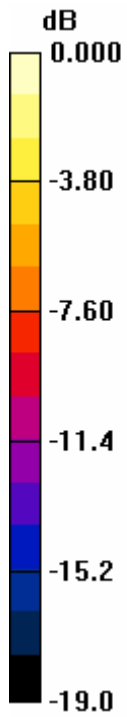
Reference Value = 0.413 A/m; Power Drift = 0.083 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
<b>0.349 M4</b>	<b>0.372 M4</b>	<b>0.363 M4</b>
Grid 4	Grid 5	Grid 6
<b>0.369 M4</b>	<b>0.395 M4</b>	<b>0.387 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 0.395A/m

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Date/Time: 24/10/2008 11:44:58 AM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_CW900\\_PMF\\_iDENda4.da4](#)

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

**Program Name: HAC RF H3DV6 Dipole**

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.426 A/m; Power Drift = 0.021 dB

Maximum value of Total (measured) = 0.408 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.409 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.426 A/m; Power Drift = 0.021 dB

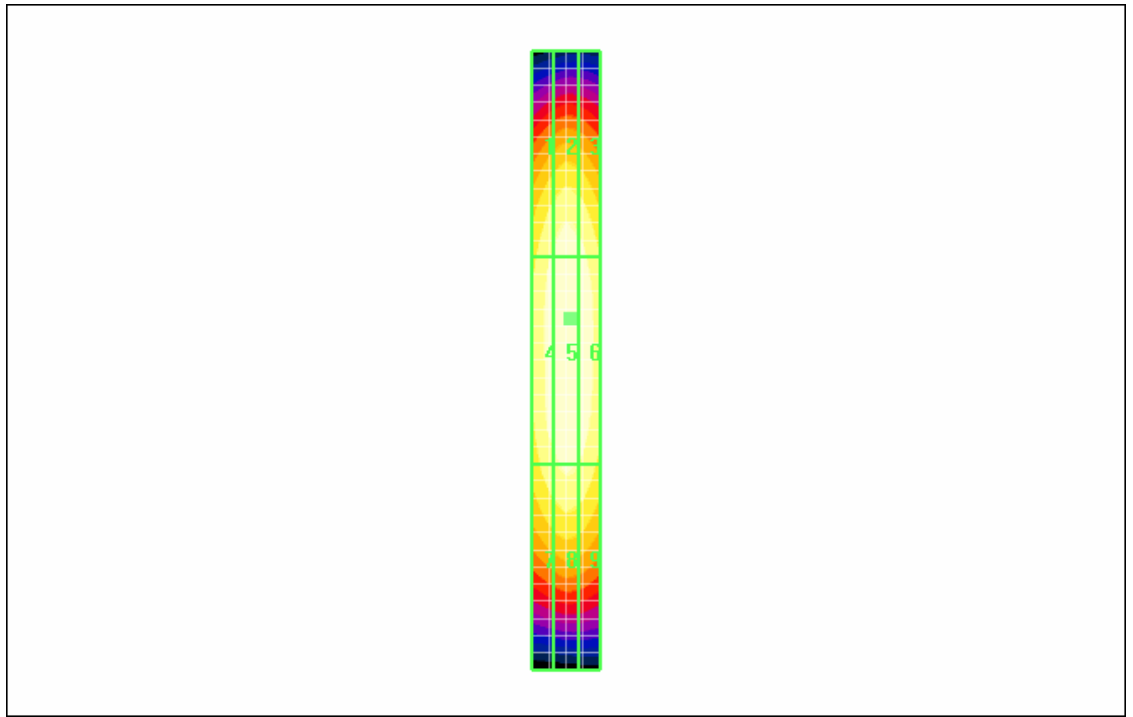
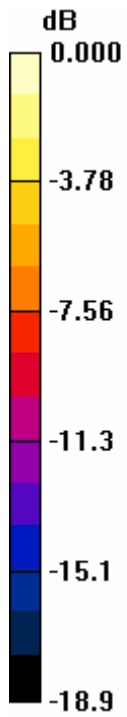
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.366 M4</b>	Grid 2 <b>0.388 M4</b>	Grid 3 <b>0.377 M4</b>
Grid 4 <b>0.386 M4</b>	Grid 5 <b>0.409 M4</b>	Grid 6 <b>0.400 M4</b>
Grid 7	Grid 8	Grid 9



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0 dB = 0.409A/m

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Date/Time: 24/10/2008 11:51:45 AM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_AM80%\\_900\\_PMF\\_iDENda4.da4](#)

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

Program Name: HAC RF H3DV6 Dipole

Communication System: AM\_80%; Frequency: 900 MHz; Duty Cycle: 1:1

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.275 A/m; Power Drift = 0.017 dB

Maximum value of Total (measured) = 0.260 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.261 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

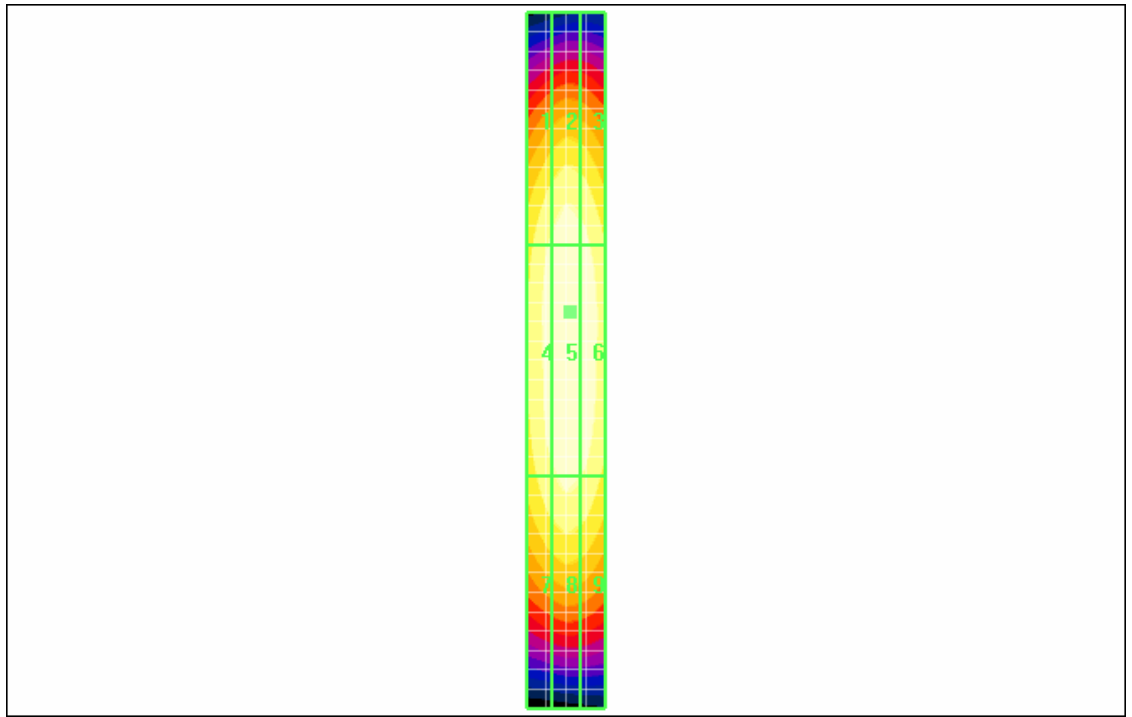
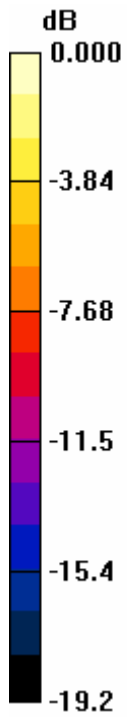
Reference Value = 0.275 A/m; Power Drift = 0.017 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
<b>0.233 M4</b>	<b>0.248 M4</b>	<b>0.241 M4</b>
Grid 4	Grid 5	Grid 6
<b>0.245 M4</b>	<b>0.261 M4</b>	<b>0.256 M4</b>
Grid 7	Grid 8	Grid 9

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0 dB = 0.261A/m

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Date/Time: 24/10/2008 12:34:14 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Dipole\\_900\\_IDEN\\_PMF.da4](#)

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

Program Name: HAC RF H3DV6 Dipole

Communication System: IDEN 900; Frequency: 900 MHz; Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.144 A/m; Power Drift = 0.000 dB

Maximum value of Total (measured) = 0.138 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.139 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

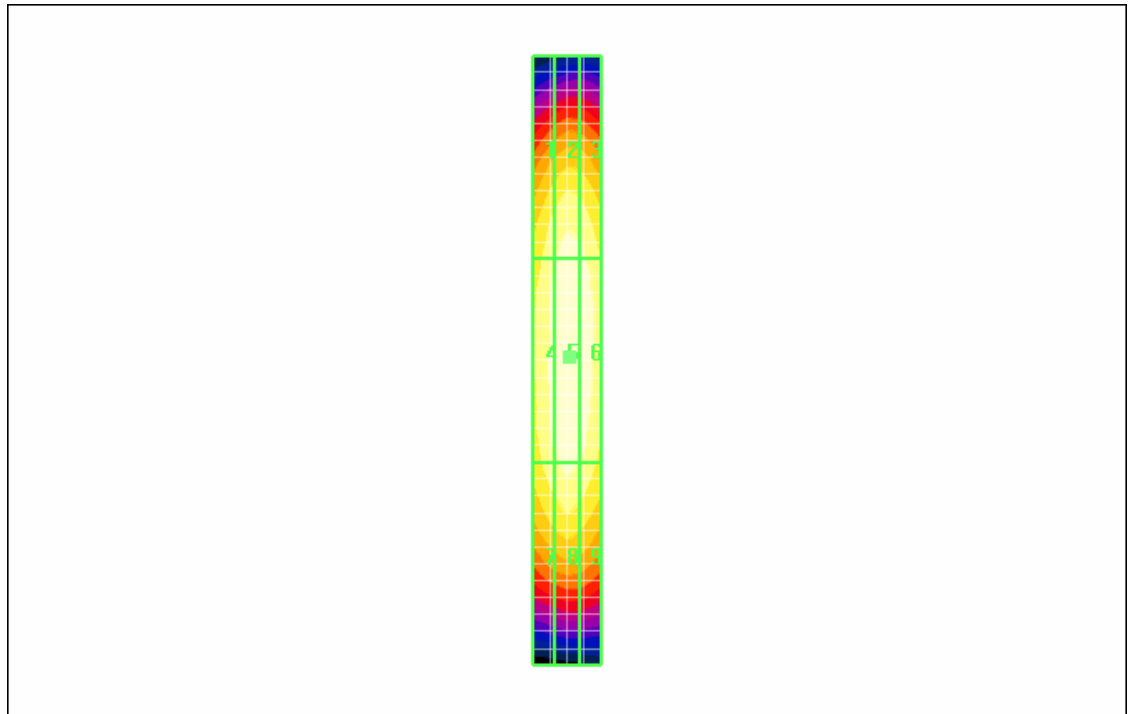
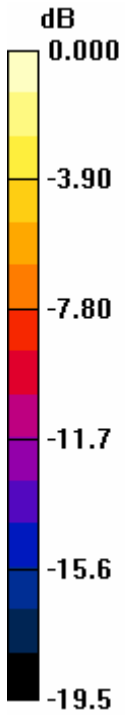
Reference Value = 0.144 A/m; Power Drift = 0.000 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

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Peak H-field in A/m

Grid 1 <b>0.120 M4</b>	Grid 2 <b>0.130 M4</b>	Grid 3 <b>0.126 M4</b>
Grid 4 <b>0.128 M4</b>	Grid 5 <b>0.139 M4</b>	Grid 6 <b>0.136 M4</b>
Grid 7	Grid 8	Grid 9

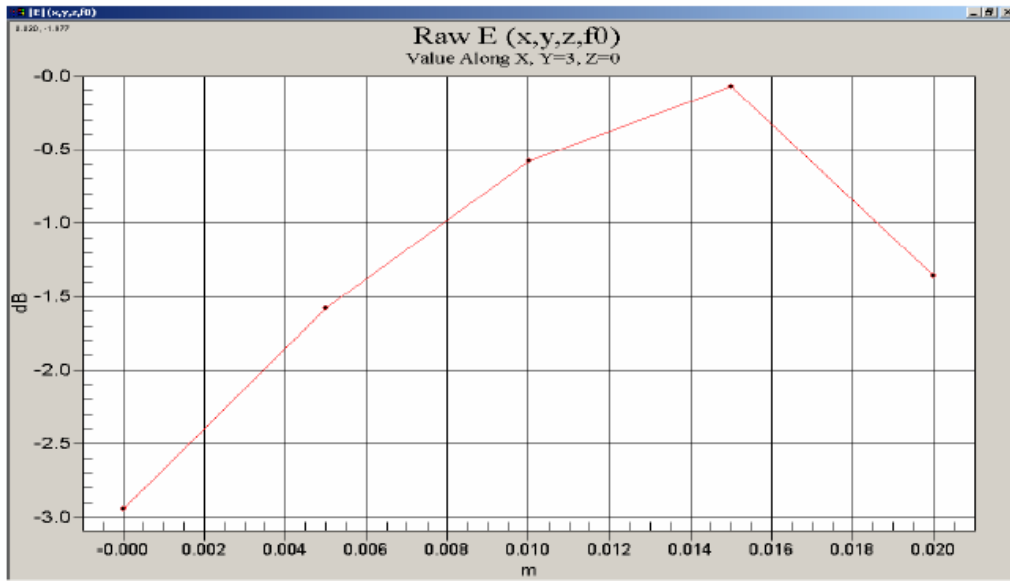


0 dB = 0.139A/m

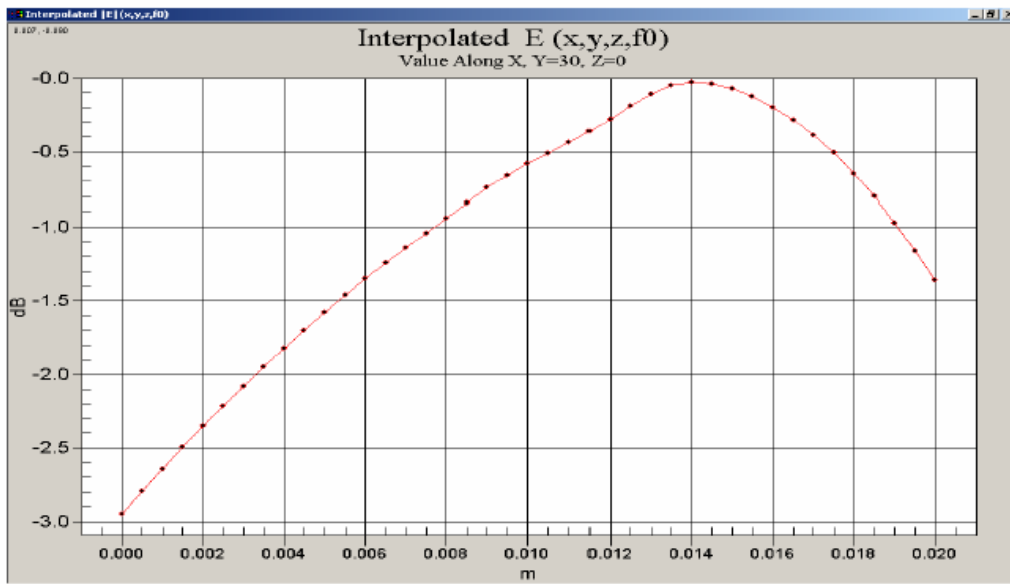
<b>RTS</b> RIM Testing Services	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 56(108)
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### Justification of Step Size and Interpolation

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.



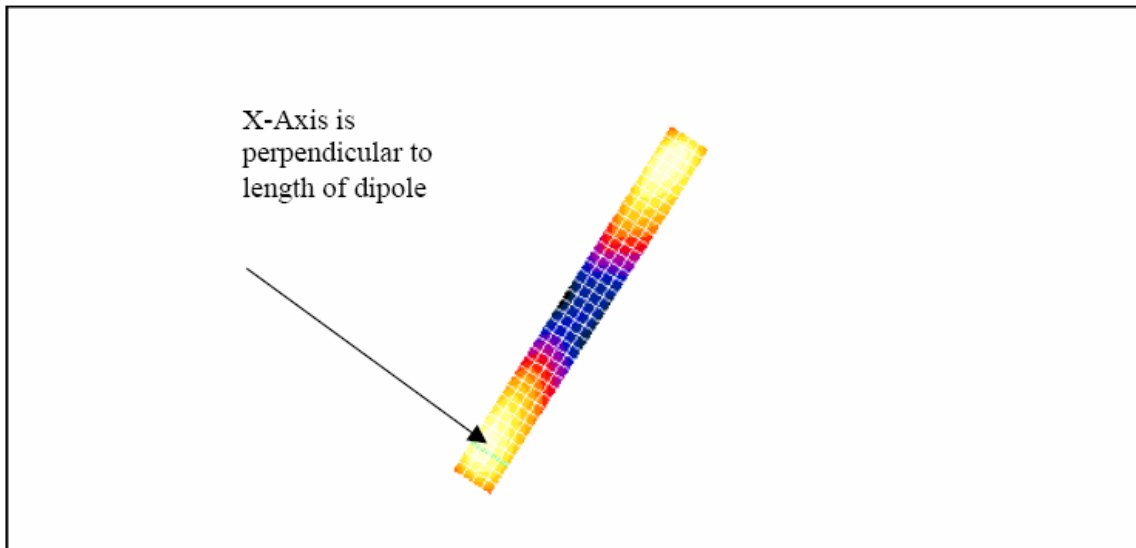
The figure above shows the raw measured field strength perpendicular to the length of the validation dipole. The TCB guidance slides require the 3dB width to be much larger than the step size. The width between -3dB points is > 21mm, at least 4 times the step size.



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



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

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

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

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

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

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

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

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

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

DASY4 Configuration:

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

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

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

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

Measurement grid: dx=5mm, dy=5mm  
 Maximum value of Total field (slot averaged) = 131.0 V/m  
**Hearing Aid Near-Field Category: M2 (AWF 0 dB)**

E in V/m (Time averaged)    E in V/m (Slot averaged)

Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
<b>123.2</b>	<b>138.1</b>	<b>138.4</b>	<b>123.2</b>	<b>138.1</b>	<b>138.4</b>
Grid 4	Grid 5	Grid 6	Grid 4	Grid 5	Grid 6
<b>80.9</b>	<b>92.3</b>	<b>92.2</b>	<b>80.9</b>	<b>92.3</b>	<b>92.2</b>
Grid 7	Grid 8	Grid 9	Grid 7	Grid 8	Grid 9
<b>119.8</b>	<b>131.0</b>	<b>130.7</b>	<b>119.8</b>	<b>131.0</b>	<b>130.7</b>

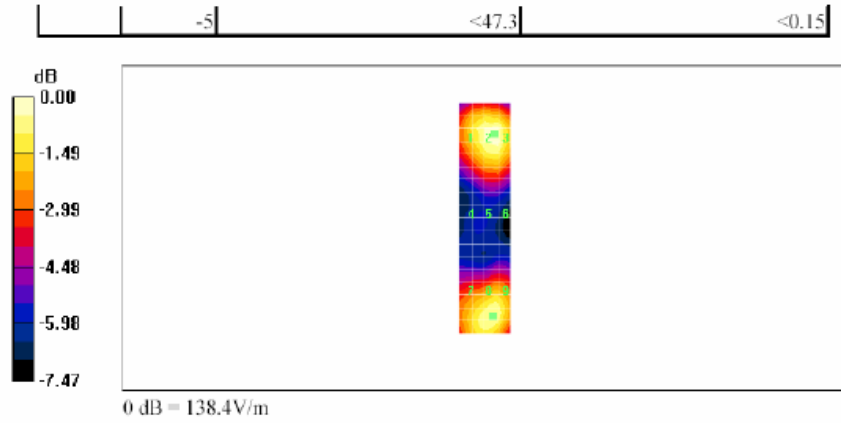
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

<b>RTS</b> RIM Testing Services	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 59(108)
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file://C:\Program%20Files\DASY4\Print\_Templates\Dipole%20Validation%201880%20... 14/07/2005

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

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

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

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

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: H Device Section

DASY4 Configuration:

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

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

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total (measured) = 138.0 V/m

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

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total field (slot averaged) = 131.2 V/m

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

E in V/m (Time averaged)    E in V/m (Slot averaged)

Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
<b>123.1</b>	<b>138.6</b>	<b>138.6</b>	<b>123.1</b>	<b>138.6</b>	<b>138.6</b>
Grid 4	Grid 5	Grid 6	Grid 4	Grid 5	Grid 6
<b>81.4</b>	<b>92.1</b>	<b>91.6</b>	<b>81.4</b>	<b>92.1</b>	<b>91.6</b>
Grid 7	Grid 8	Grid 9	Grid 7	Grid 8	Grid 9
<b>121.3</b>	<b>131.2</b>	<b>131.0</b>	<b>121.3</b>	<b>131.2</b>	<b>131.0</b>

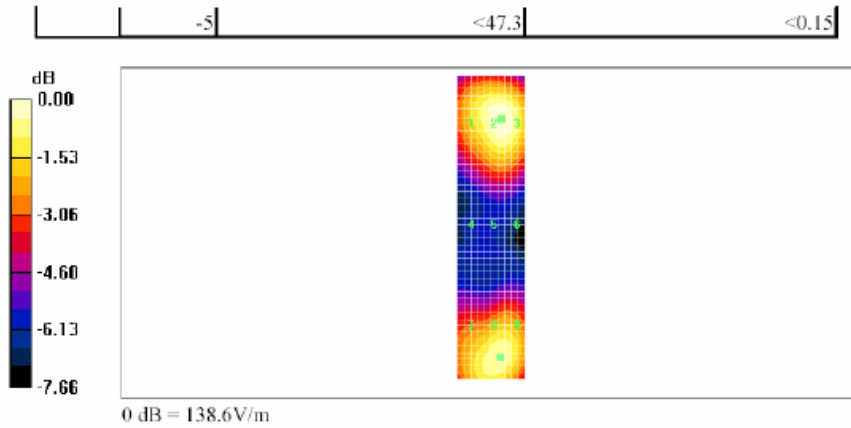
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

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

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

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

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

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

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

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

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

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

Phantom section: H Dipole Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 10/12/2004

- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)

- Electronics: DAE3 Sn472; Calibrated: 03/01/2005

- Phantom: HAC Test Arch; Type: SD HAC P01 BA;

- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

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

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

Maximum value of Total (measured) = 0.406 A/m

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

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

Maximum value of Total field (slot averaged) = 0.406 A/m

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

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

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

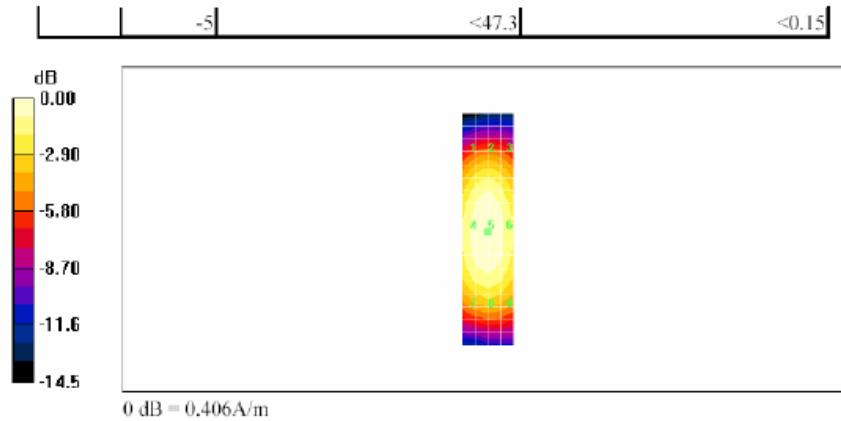
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

<b>RTS</b> RIM Testing Services	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 63(108)
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Date/Time: 14/07/2005 12:43:02 PM

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

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

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

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

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

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

DASY4 Configuration:

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

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

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

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

Measurement grid: dx=2mm, dy=2mm  
 Maximum value of Total field (slot averaged) = 0.406 A/m  
**Hearing Aid Near-Field Category: M2 (AWF 0 dB)**

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

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

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

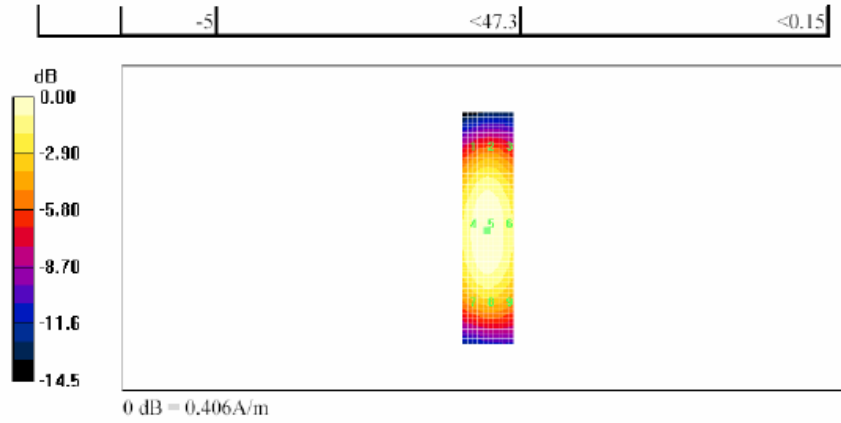
file://C:\Program%20Files\DASY4\Print\_Templates\HAC\_H\_Dipole\_CW%201880\_2%... 14/07/2005



<b>RTS</b> RIM Testing Services	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 65(108)
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Date/Time: 14/07/2005 12:53:40 PM

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

<b>RTS</b> <b>RIM Testing Services</b>	Document <b>Annex A to Hearing Aid Compatibility RF Emissions Test Report for the BlackBerry® Smartphone model RCD21IN</b>		Page 66(108)
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### A.3 RF emissions and ambient noise data/plots

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Date/Time: 24/10/2008 2:48:21 PM

Test Laboratory: RTS

File Name: [HAC\\_E\\_IDEN800\\_Low\\_Chan.da4](#)

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

Program Name: HAC RF ER3D Device

Communication System: IDEN ; Frequency: 806.013 MHz;Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 79.1 V/m; Power Drift = -0.211 dB

Maximum value of Total (measured) = 67.8 V/m

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**E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 225.6 V/m

Probe Modulation Factor = 3.33

Device Reference Point: 0.000, 0.000, 353.7 mm

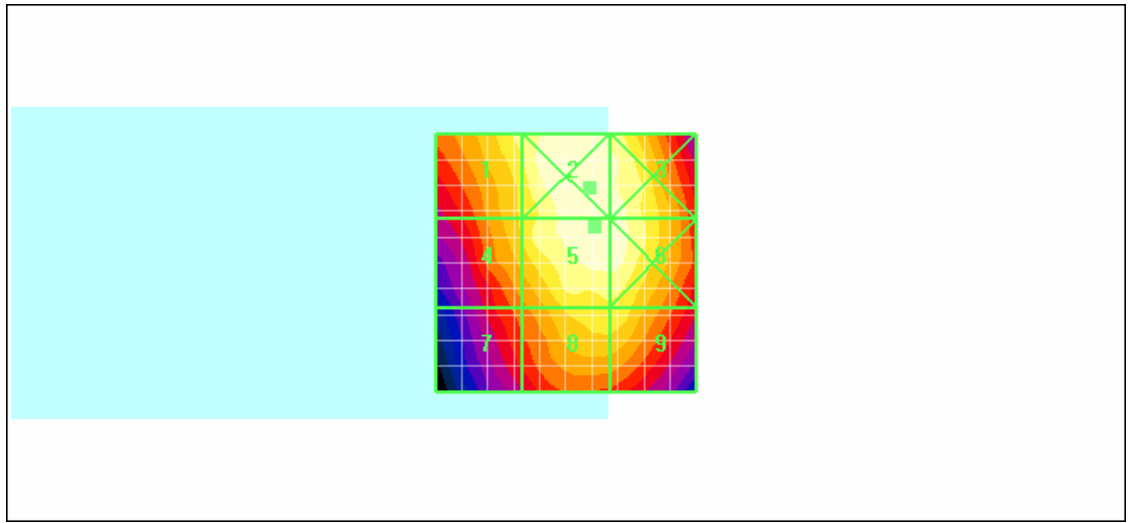
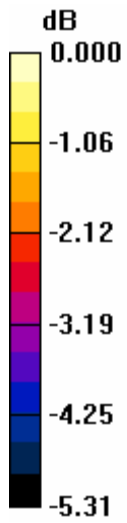
Reference Value = 79.1 V/m; Power Drift = -0.211 dB

**Hearing Aid Near-Field Category: M3 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>212.1 M3</b>	<b>226.1 M3</b>	<b>223.1 M3</b>
Grid 4	Grid 5	Grid 6
<b>201.8 M3</b>	<b>225.6 M3</b>	<b>223.4 M3</b>
Grid 7	Grid 8	Grid 9

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0 dB = 226.1V/m

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Date/Time: 24/10/2008 2:59:52 PM

Test Laboratory: RTS

File Name: [HAC\\_E\\_IDEN800\\_Mid\\_Chan.da4](#)

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

**Program Name: HAC RF ER3D Device**

Communication System: IDEN ; Frequency: 813.5 MHz;Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 72.5 V/m; Power Drift = -0.028 dB

Maximum value of Total (measured) = 62.9 V/m

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 208.8 V/m

Probe Modulation Factor = 3.33

Device Reference Point: 0.000, 0.000, 353.7 mm

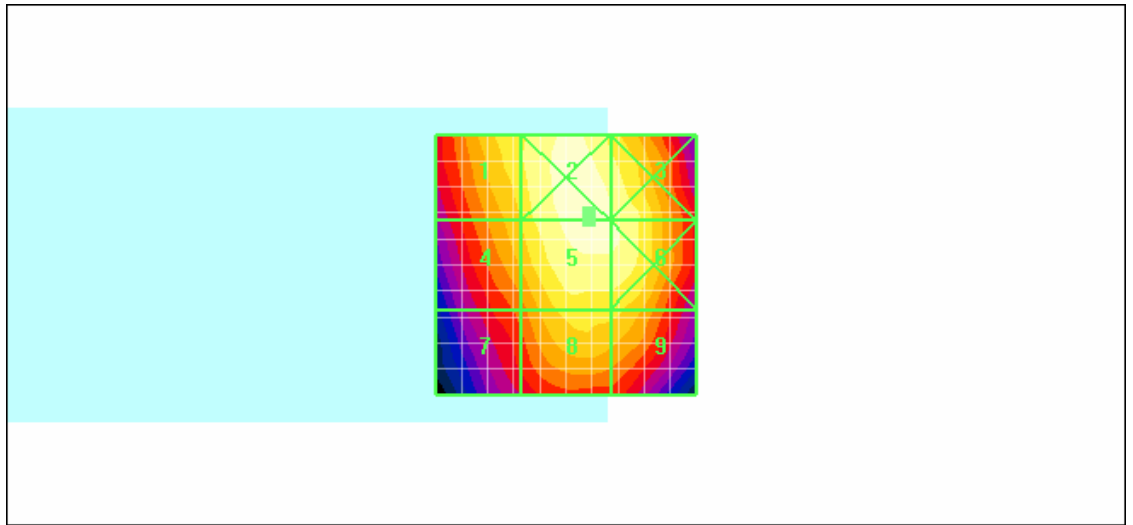
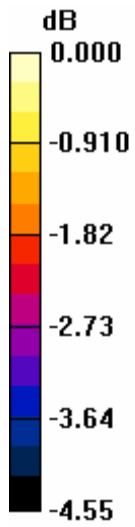
Reference Value = 72.5 V/m; Power Drift = -0.028 dB

**Hearing Aid Near-Field Category: M3 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>195.2 M4</b>	<b>209.7 M3</b>	<b>203.6 M3</b>
Grid 4	Grid 5	Grid 6
<b>189.3 M4</b>	<b>208.8 M3</b>	<b>204.4 M3</b>
Grid 7	Grid 8	Grid 9

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0 dB = 209.7V/m



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Date/Time: 24/10/2008 3:10:16 PM

Test Laboratory: RTS

File Name: [HAC\\_E\\_IDEN800\\_High\\_Chan.da4](#)

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

**Program Name: HAC RF ER3D Device**

Communication System: IDEN ; Frequency: 824.987 MHz;Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 73.9 V/m; Power Drift = 0.227 dB

Maximum value of Total (measured) = 64.1 V/m

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 213.6 V/m

Probe Modulation Factor = 3.33

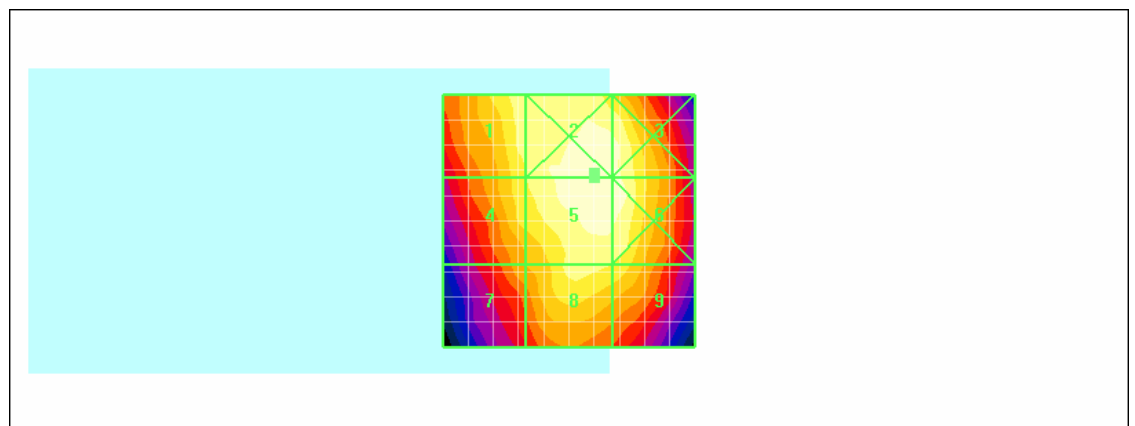
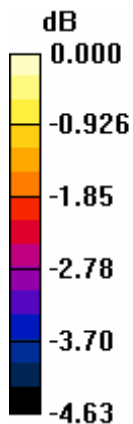
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 73.9 V/m; Power Drift = 0.227 dB

**Hearing Aid Near-Field Category: M3 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>202.8 M3</b>	<b>213.7 M3</b>	<b>210.1 M3</b>
Grid 4	Grid 5	Grid 6
<b>198.8 M4</b>	<b>213.6 M3</b>	<b>212.3 M3</b>
Grid 7	Grid 8	Grid 9



0 dB = 213.7V/m

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Date/Time: 24/10/2008 3:20:01 PM

Test Laboratory: RTS

File Name: [HAC\\_E\\_IDEN900\\_Low\\_Chan.da4](#)

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

**Program Name: HAC RF ER3D Device**

Communication System: IDEN 900; Frequency: 896 MHz; Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 100.4 V/m; Power Drift = -0.021 dB

Maximum value of Total (measured) = 84.0 V/m

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 253.6 V/m

Probe Modulation Factor = 3.02

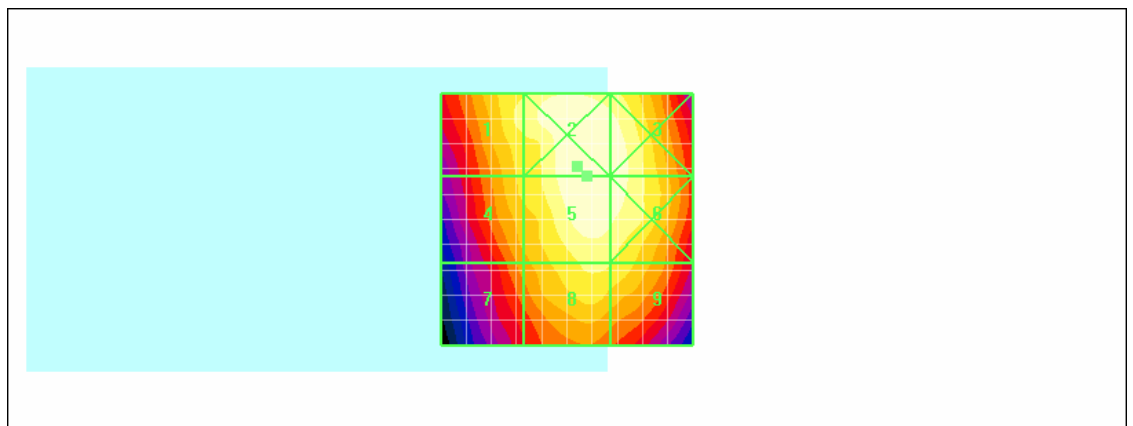
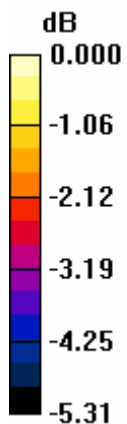
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 100.4 V/m; Power Drift = -0.021 dB

**Hearing Aid Near-Field Category: M3 (AWF 0 dB)**

Peak E-field in V/m

Grid 1 <b>239.5 M3</b>	Grid 2 <b>254.1 M3</b>	Grid 3 <b>251.7 M3</b>
Grid 4 <b>228.5 M3</b>	Grid 5 <b>253.6 M3</b>	Grid 6 <b>251.3 M3</b>
Grid 7	Grid 8	Grid 9



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Date/Time: 24/10/2008 3:28:32 PM

Test Laboratory: RTS

File Name: [HAC\\_E\\_IDEN900\\_Mid\\_Chan.da4](#)

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

**Program Name: HAC RF ER3D Device**

Communication System: IDEN 900; Frequency: 898.5 MHz; Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 73.4 V/m; Power Drift = 0.066 dB

Maximum value of Total (measured) = 65.3 V/m

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 195.9 V/m

Probe Modulation Factor = 3.02

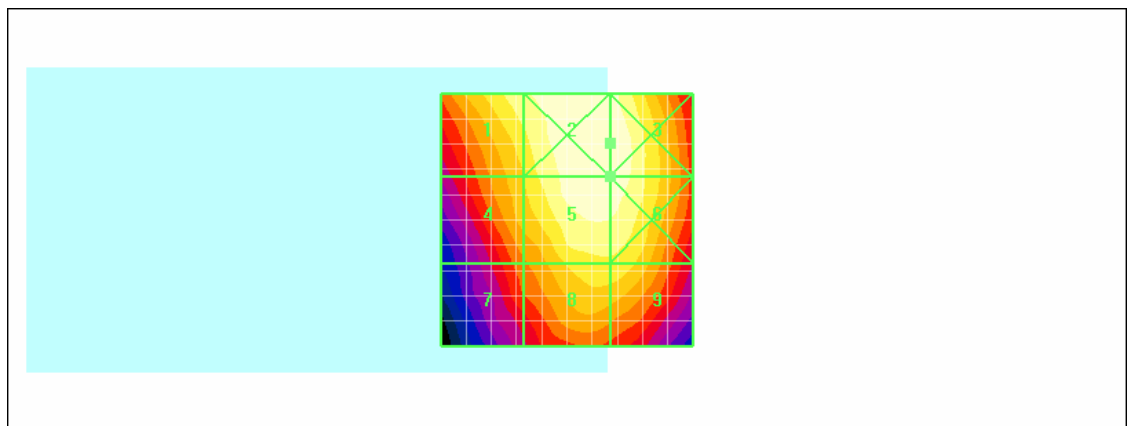
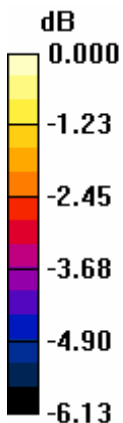
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 73.4 V/m; Power Drift = 0.066 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1 <b>187.9 M4</b>	Grid 2 <b>198.6 M4</b>	Grid 3 <b>198.6 M4</b>
Grid 4 <b>172.7 M4</b>	Grid 5 <b>195.9 M4</b>	Grid 6 <b>195.9 M4</b>
Grid 7 <b>155.9 M4</b>	Grid 8 <b>179.3 M4</b>	Grid 9





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0 dB = 198.5V/m

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Date/Time: 24/10/2008 3:37:13 PM

Test Laboratory: RTS

File Name: [HAC\\_E\\_IDEN900\\_High\\_Chan.da4](#)

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

**Program Name: HAC RF ER3D Device**

Communication System: IDEN 900; Frequency: 901 MHz; Duty Cycle: 1:3

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 07/03/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 73.8 V/m; Power Drift = -0.227 dB

Maximum value of Total (measured) = 62.1 V/m

**E Scan - ER3D - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 187.4 V/m

Probe Modulation Factor = 3.02

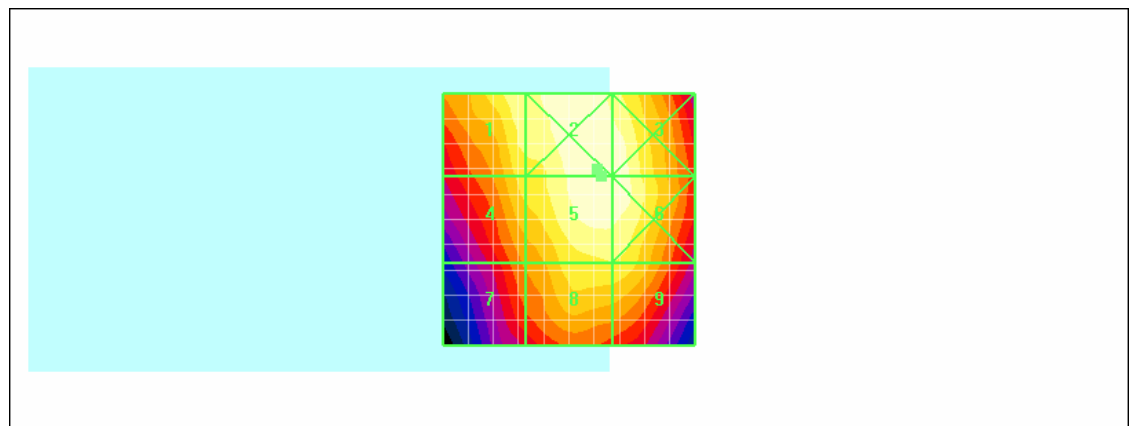
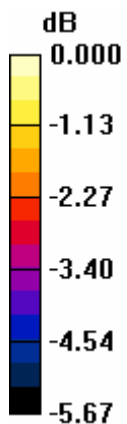
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 73.8 V/m; Power Drift = -0.227 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>179.4 M4</b>	<b>187.6 M4</b>	<b>186.7 M4</b>
Grid 4	Grid 5	Grid 6
<b>168.9 M4</b>	<b>187.4 M4</b>	<b>187.3 M4</b>
Grid 7	Grid 8	Grid 9



0 dB = 187.6V/m

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Date/Time: 24/10/2008 4:22:42 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_IDEN800\\_Low\\_Chan.da4](#)

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

**Program Name: HAC RF H3DV6 Device**

Communication System: IDEN 800; Frequency: 806.013 MHz; Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.093 A/m; Power Drift = -0.024 dB

Maximum value of Total (measured) = 0.153 A/m

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.454 A/m

Probe Modulation Factor = 3.09

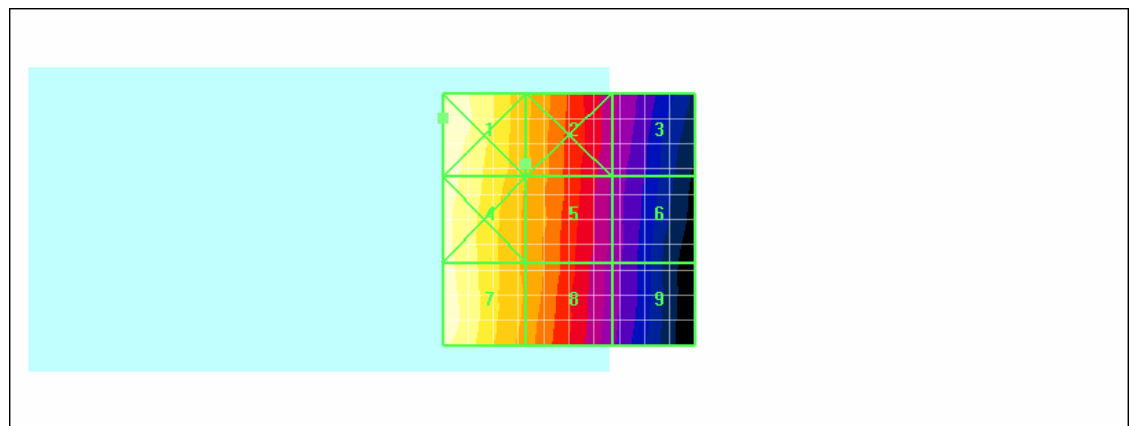
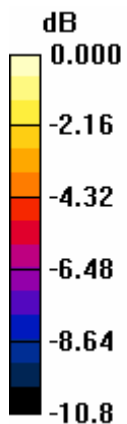
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.093 A/m; Power Drift = -0.024 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.472 M4</b>	Grid 2 <b>0.346 M4</b>	Grid 3 <b>0.230 M4</b>
Grid 4 <b>0.451 M4</b>	Grid 5 <b>0.344 M4</b>	Grid 6 <b>0.222 M4</b>
Grid 7	Grid 8	Grid 9



0 dB = 0.472A/m

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Date/Time: 24/10/2008 4:30:44 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_IDEN800\\_Mid\\_Chan.da4](#)

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

**Program Name: HAC RF H3DV6 Device**

Communication System: IDEN 800; Frequency: 813.5 MHz; Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.096 A/m; Power Drift = -0.165 dB

Maximum value of Total (measured) = 0.167 A/m

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**



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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.517 A/m

Probe Modulation Factor = 3.09

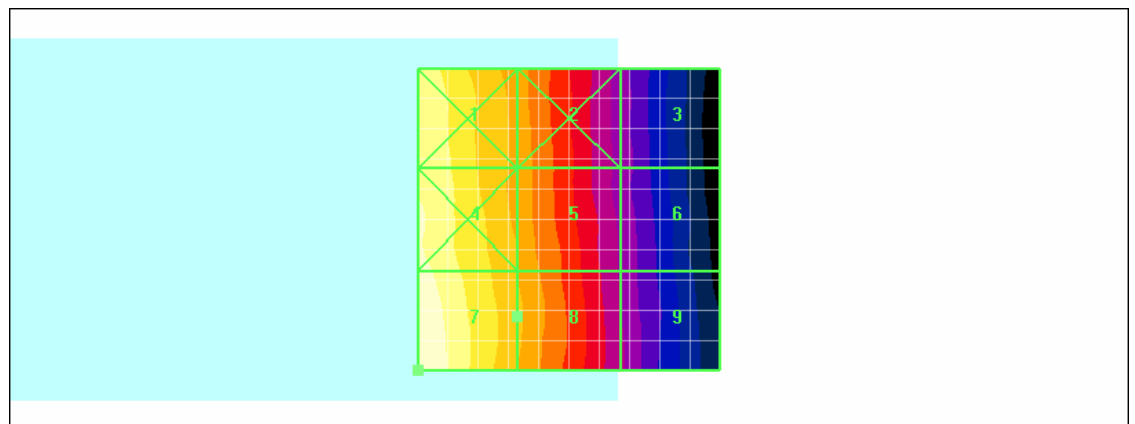
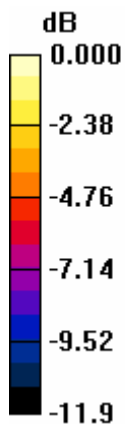
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.096 A/m; Power Drift = -0.165 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.471 M4</b>	Grid 2 <b>0.348 M4</b>	Grid 3 <b>0.222 M4</b>
Grid 4 <b>0.495 M4</b>	Grid 5 <b>0.360 M4</b>	Grid 6 <b>0.226 M4</b>
Grid 7	Grid 8	Grid 9



0 dB = 0.517A/m

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Date/Time: 24/10/2008 4:38:25 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_IDEN800\\_High\\_Chan.da4](#)

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

**Program Name: HAC RF H3DV6 Device**

Communication System: IDEN 800; Frequency: 824.987 MHz; Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.089 A/m; Power Drift = -0.122 dB

Maximum value of Total (measured) = 0.154 A/m

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.476 A/m

Probe Modulation Factor = 3.09

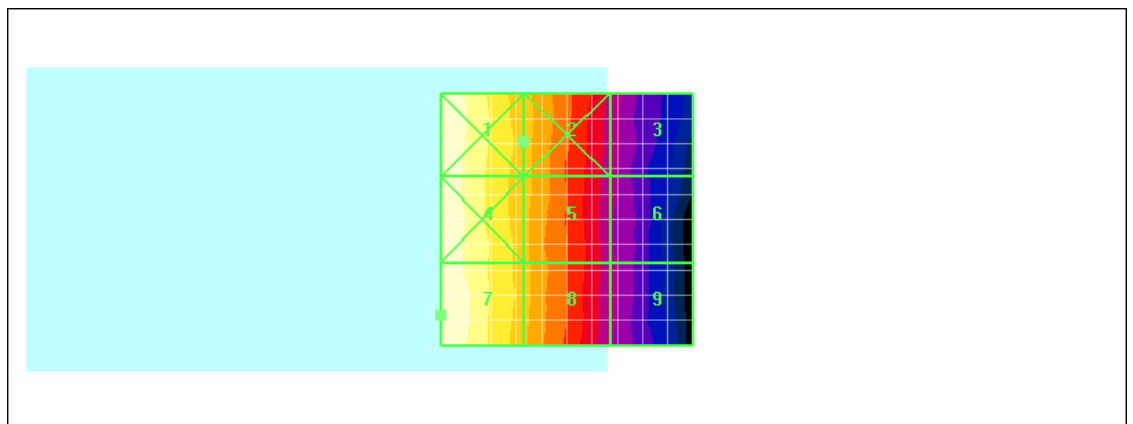
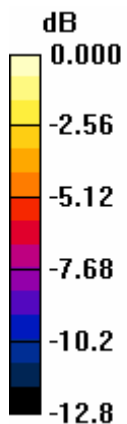
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.089 A/m; Power Drift = -0.122 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.473 M4</b>	Grid 2 <b>0.337 M4</b>	Grid 3 <b>0.215 M4</b>
Grid 4 <b>0.468 M4</b>	Grid 5 <b>0.334 M4</b>	Grid 6 <b>0.206 M4</b>
Grid 7	Grid 8	Grid 9



0 dB = 0.476A/m

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Date/Time: 24/10/2008 4:14:09 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_IDEN900\\_Low\\_Chan.da4](#)

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

**Program Name: HAC RF H3DV6 Device**

Communication System: IDEN 900; Frequency: 896 MHz; Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.114 A/m; Power Drift = -0.194 dB

Maximum value of Total (measured) = 0.186 A/m

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.546 A/m

Probe Modulation Factor = 2.94

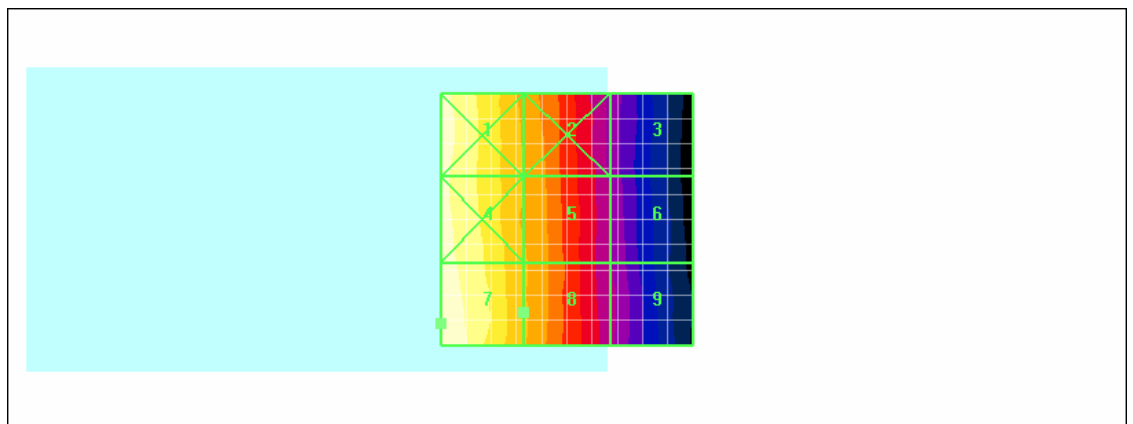
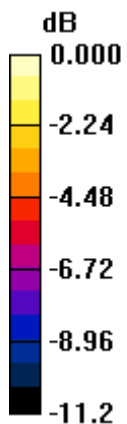
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.114 A/m; Power Drift = -0.194 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.529 M4</b>	Grid 2 <b>0.388 M4</b>	Grid 3 <b>0.249 M4</b>
Grid 4 <b>0.522 M4</b>	Grid 5 <b>0.391 M4</b>	Grid 6 <b>0.256 M4</b>
Grid 7	Grid 8	Grid 9



0 dB = 0.546A/m

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Date/Time: 24/10/2008 4:06:10 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_IDEN900\\_Mid\\_Chan.da4](#)

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

**Program Name: HAC RF H3DV6 Device**

Communication System: IDEN 900; Frequency: 898.5 MHz; Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.117 A/m; Power Drift = 0.178 dB

Maximum value of Total (measured) = 0.182 A/m

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.536 A/m

Probe Modulation Factor = 2.94

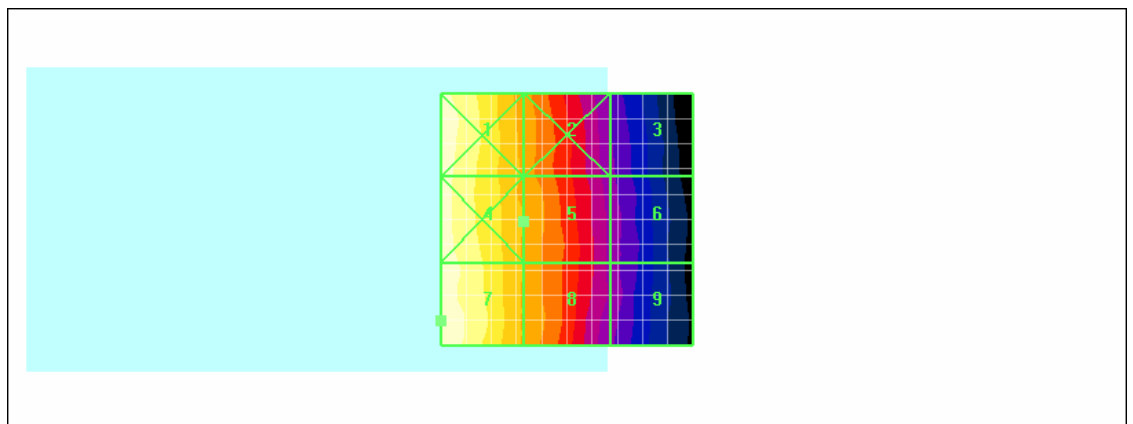
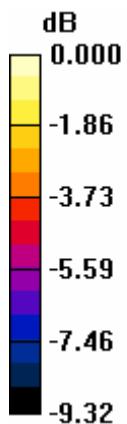
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.117 A/m; Power Drift = 0.178 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.521 M4</b>	Grid 2 <b>0.396 M4</b>	Grid 3 <b>0.270 M4</b>
Grid 4 <b>0.525 M4</b>	Grid 5 <b>0.403 M4</b>	Grid 6 <b>0.278 M4</b>
Grid 7	Grid 8	Grid 9



0 dB = 0.536A/m

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Date/Time: 24/10/2008 3:52:19 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_IDEN900\\_High\\_Chan.da4](#)

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

**Program Name: HAC RF H3DV6 Device**

Communication System: IDEN 900; Frequency: 901 MHz; Duty Cycle: 1:3

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

**Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid:**

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.100 A/m; Power Drift = -0.083 dB

Maximum value of Total (measured) = 0.160 A/m

**H Scan - H3DV6 - 2007: 15 mm from Probe Center to the**

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**Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:**

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.453 A/m

Probe Modulation Factor = 2.94

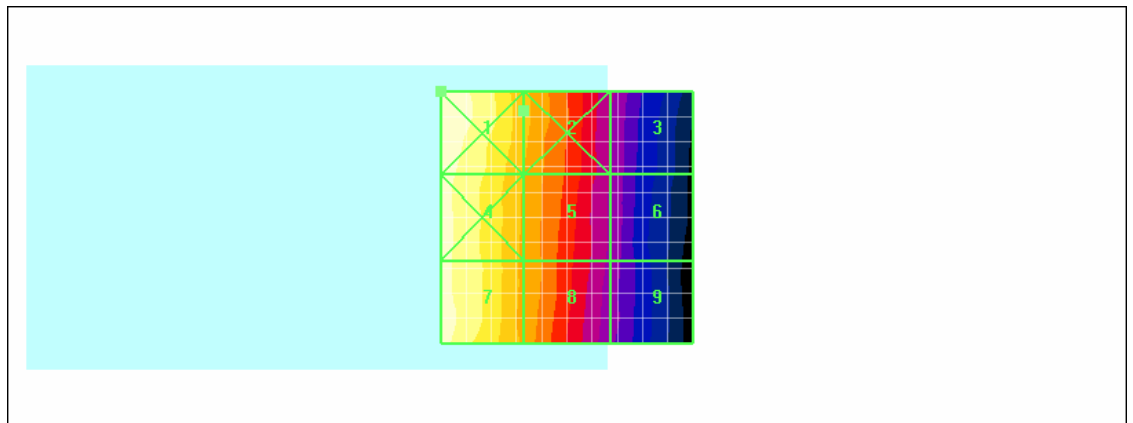
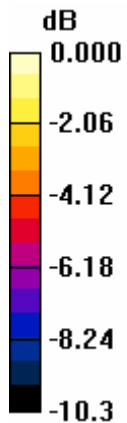
Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.100 A/m; Power Drift = -0.083 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.470 M4</b>	Grid 2 <b>0.353 M4</b>	Grid 3 <b>0.237 M4</b>
Grid 4 <b>0.455 M4</b>	Grid 5 <b>0.342 M4</b>	Grid 6 <b>0.231 M4</b>
Grid 7 <b>0.453 M4</b>	Grid 8 <b>0.337 M4</b>	Grid 9 <b>0.227 M4</b>



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0 dB = 0.470A/m

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Date/Time: 25/06/2008 10:44:08

AM

Test Laboratory: RTS

File Name: [HAC\\_E\\_Ambient Noise\\_835MHz.da4](#)

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

**Program Name: HAC RF E Dipole**

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

Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ; density = 1000 kg/m<sup>3</sup>

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 21/01/2008
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.000 V/m; Power Drift = 999.0 dB

Maximum value of Total (measured) = 1.68 V/m

**E Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 1.68 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.000 V/m; Power Drift = 999.0 dB

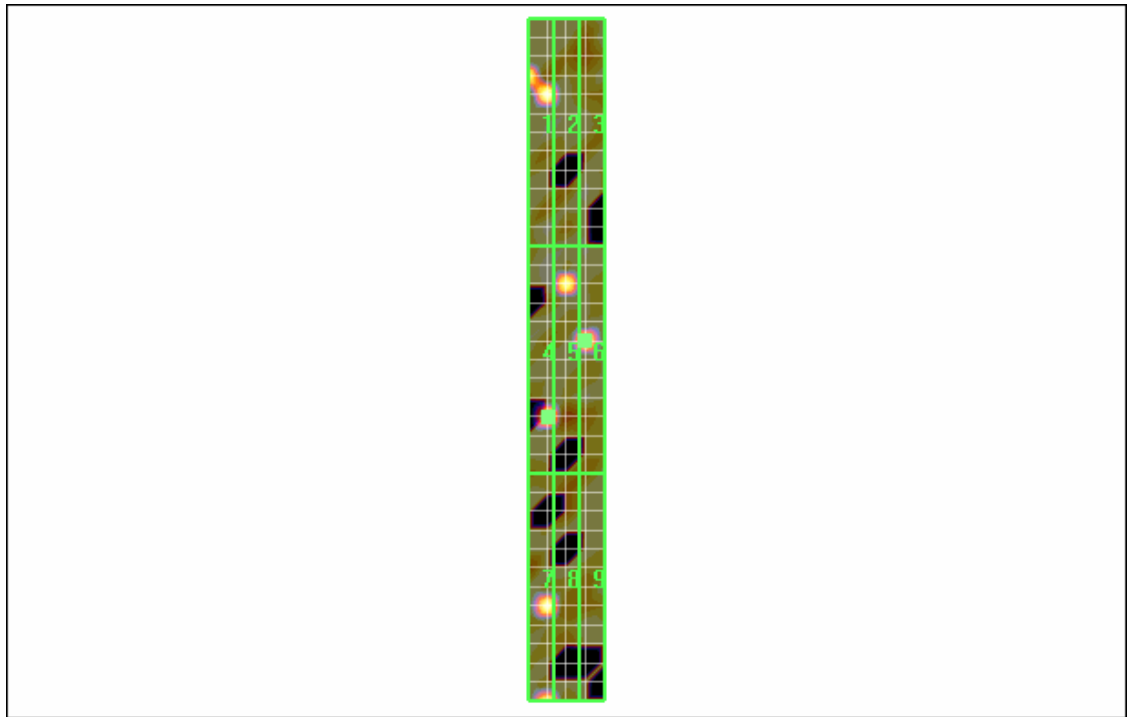
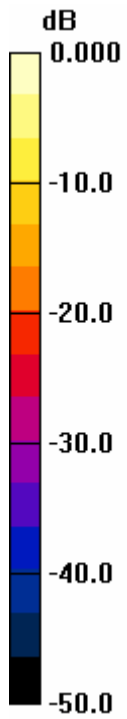
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1 <b>1.57 M4</b>	Grid 2 <b>0.408 M4</b>	Grid 3 <b>0.000 M4</b>
Grid 4 <b>1.59 M4</b>	Grid 5 <b>1.18 M4</b>	Grid 6 <b>1.68 M4</b>
Grid 7 <b>1.50 M4</b>	Grid 8 <b>0.596 M4</b>	Grid 9 <b>0.000 M4</b>



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0 dB = 1.68V/m

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Date/Time: 25/06/2008 2:32:22 PM

Test Laboratory: RTS

File Name: [HAC\\_H\\_Ambient Noise\\_835MHz.da4](#)

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 09/11/2007
- Sensor-Surface: 0mm (Fix Surface) Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 05/03/2008
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**H Scan - measurement distance from the probe sensor center to**

**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):**

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

Reference Value = 0.003 A/m; Power Drift = 1.02 dB

Maximum value of Total (measured) = 0.007 A/m

**H Scan - measurement distance from the probe sensor center to**

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**CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):**

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

Maximum value of peak Total field = 0.007 A/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, 353.7 mm

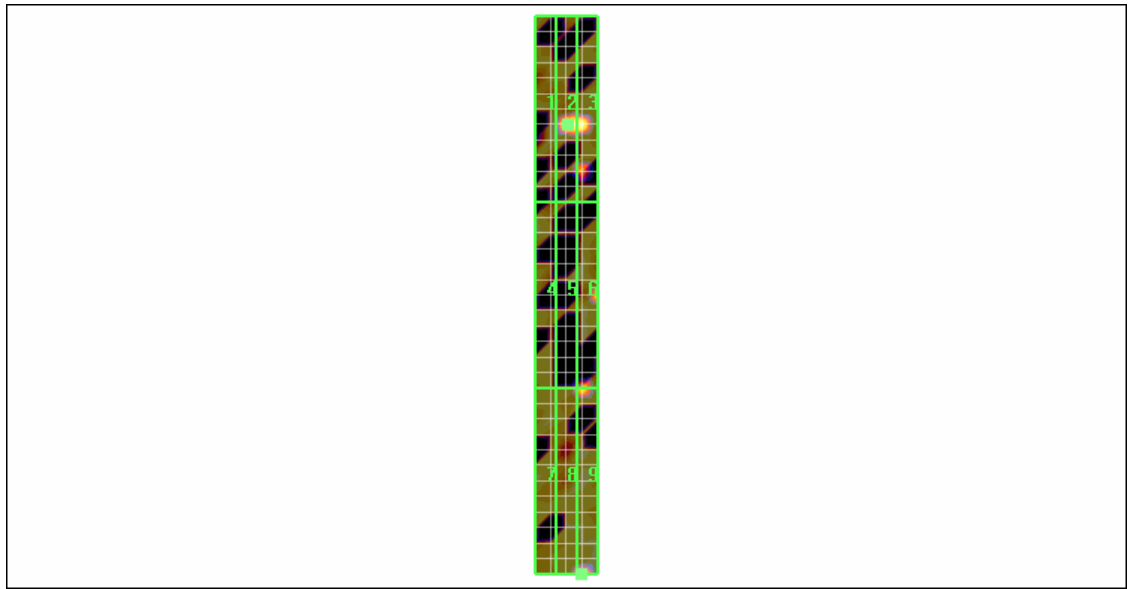
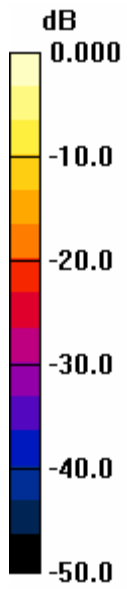
Reference Value = 0.003 A/m; Power Drift = 1.02 dB

**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1 <b>0.000 M4</b>	Grid 2 <b>0.006 M4</b>	Grid 3 <b>0.005 M4</b>
Grid 4 <b>0.000 M4</b>	Grid 5 <b>0.001 M4</b>	Grid 6 <b>0.002 M4</b>
Grid 7 <b>0.000 M4</b>	Grid 8 <b>0.003 M4</b>	Grid 9 <b>0.007 M4</b>

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0 dB = 0.007A/m