

Test Laboratory: UL CCS SAR Lab C

### GSM 850

Communication System: GPRS-FDD (TDMA, GMSK, 1 slot); Frequency: 824.4 MHz; Duty Cycle: 1:8.00018

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

### E-Field/L ch/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 78.894 V/m

Probe Modulation Factor = 2.790

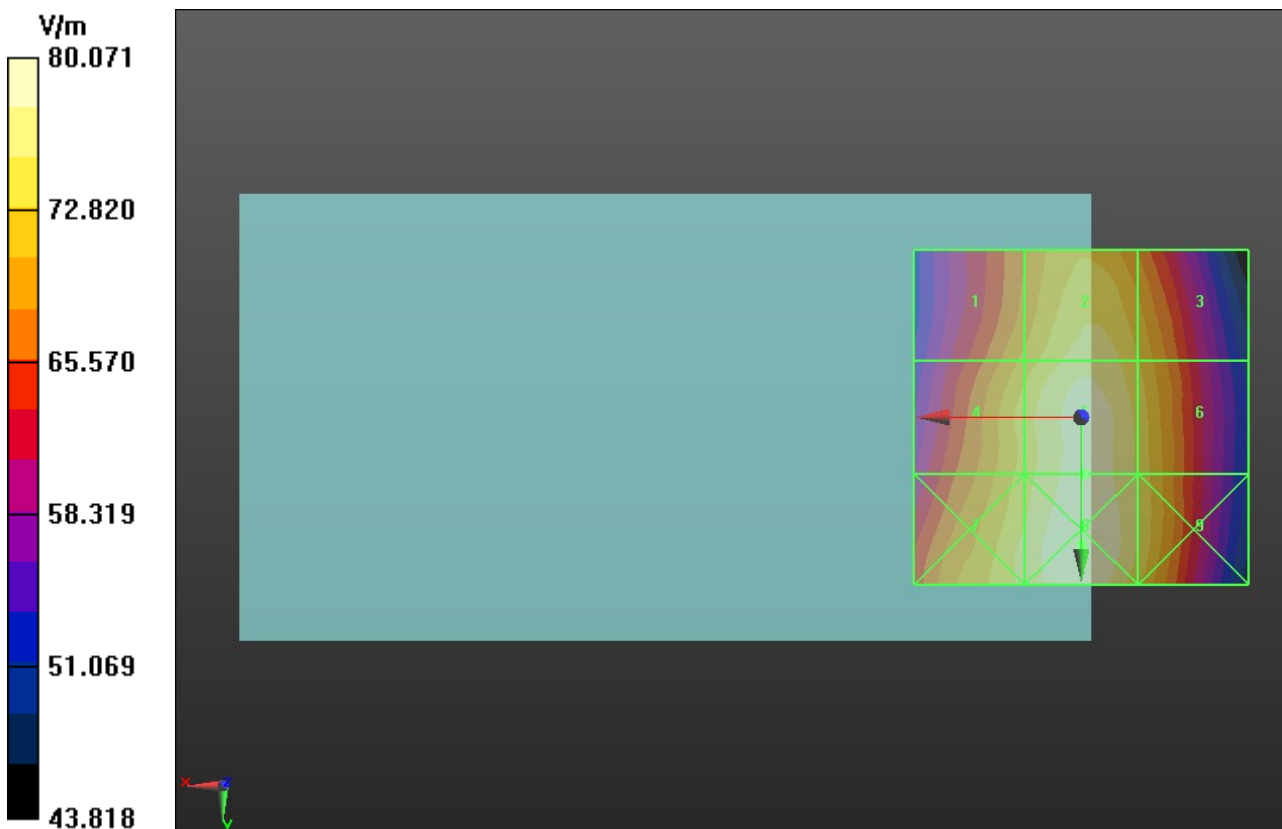
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 36.098 V/m; Power Drift = -0.0034 dB

Hearing Aid Near-Field Category: **M4 (AWF -5 dB)**

Peak E-field in V/m

Grid 1 <b>71.243 M4</b>	Grid 2 <b>76.543 M4</b>	Grid 3 <b>72.983 M4</b>
Grid 4 <b>74.217 M4</b>	Grid 5 <b>78.894 M4</b>	Grid 6 <b>74.869 M4</b>
Grid 7 <b>76.141 M4</b>	Grid 8 <b>80.071 M4</b>	Grid 9 <b>75.348 M4</b>



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**GSM 850**

Communication System: GPRS-FDD (TDMA, GMSK, 1 slot); Frequency: 836.6 MHz; Duty Cycle: 1:8.00018

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/M ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 82.173 V/m

Probe Modulation Factor = 2.790

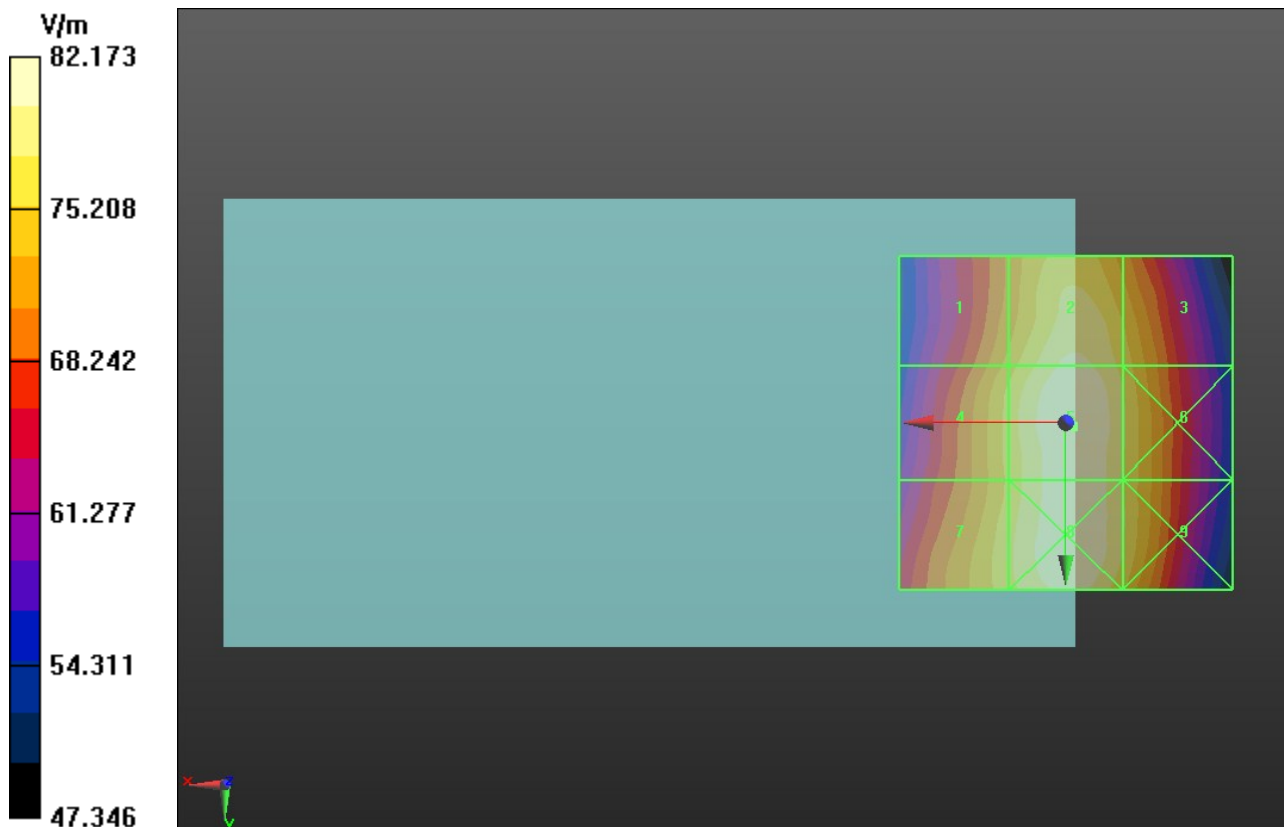
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 37.463 V/m; Power Drift = -0.01 dB

**Hearing Aid Near-Field Category: M4 (AWF -5 dB)**

Peak E-field in V/m

Grid 1 <b>74.056 M4</b>	Grid 2 <b>80.509 M4</b>	Grid 3 <b>76.803 M4</b>
Grid 4 <b>76.212 M4</b>	Grid 5 <b>82.173 M4</b>	Grid 6 <b>78.080 M4</b>
Grid 7 <b>77.114 M4</b>	Grid 8 <b>82.120 M4</b>	Grid 9 <b>77.969 M4</b>



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**GSM 850**

Communication System: GPRS-FDD (TDMA, GMSK, 1 slot); Frequency: 848.8 MHz; Duty Cycle: 1:8.00018

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/H ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 81.168 V/m

Probe Modulation Factor = 2.790

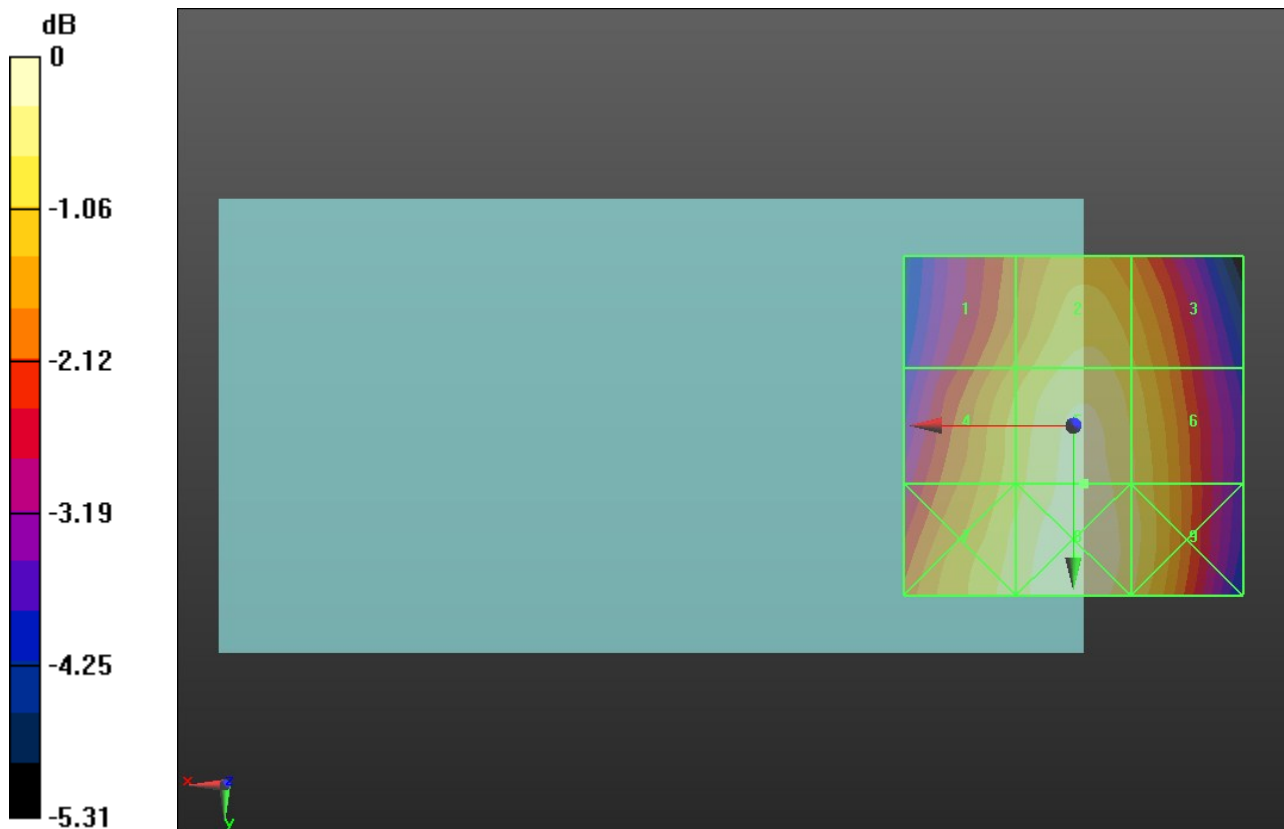
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 36.552 V/m; Power Drift = -0.07 dB

**Hearing Aid Near-Field Category: M4 (AWF -5 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
<b>71.320 M4</b>	<b>77.744 M4</b>	<b>74.341 M4</b>
Grid 4	Grid 5	Grid 6
<b>75.494 M4</b>	<b>81.168 M4</b>	<b>77.247 M4</b>
Grid 7	Grid 8	Grid 9
<b>78.489 M4</b>	<b>83.000 M4</b>	<b>78.176 M4</b>



0 dB = 83.000V/m

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**GSM 1900**

Communication System: GPRS-FDD (TDMA, GMSK, 1 slot); Frequency: 1850.2 MHz; Duty Cycle: 1:8.00018

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/L ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 26.898 V/m

Probe Modulation Factor = 2.820

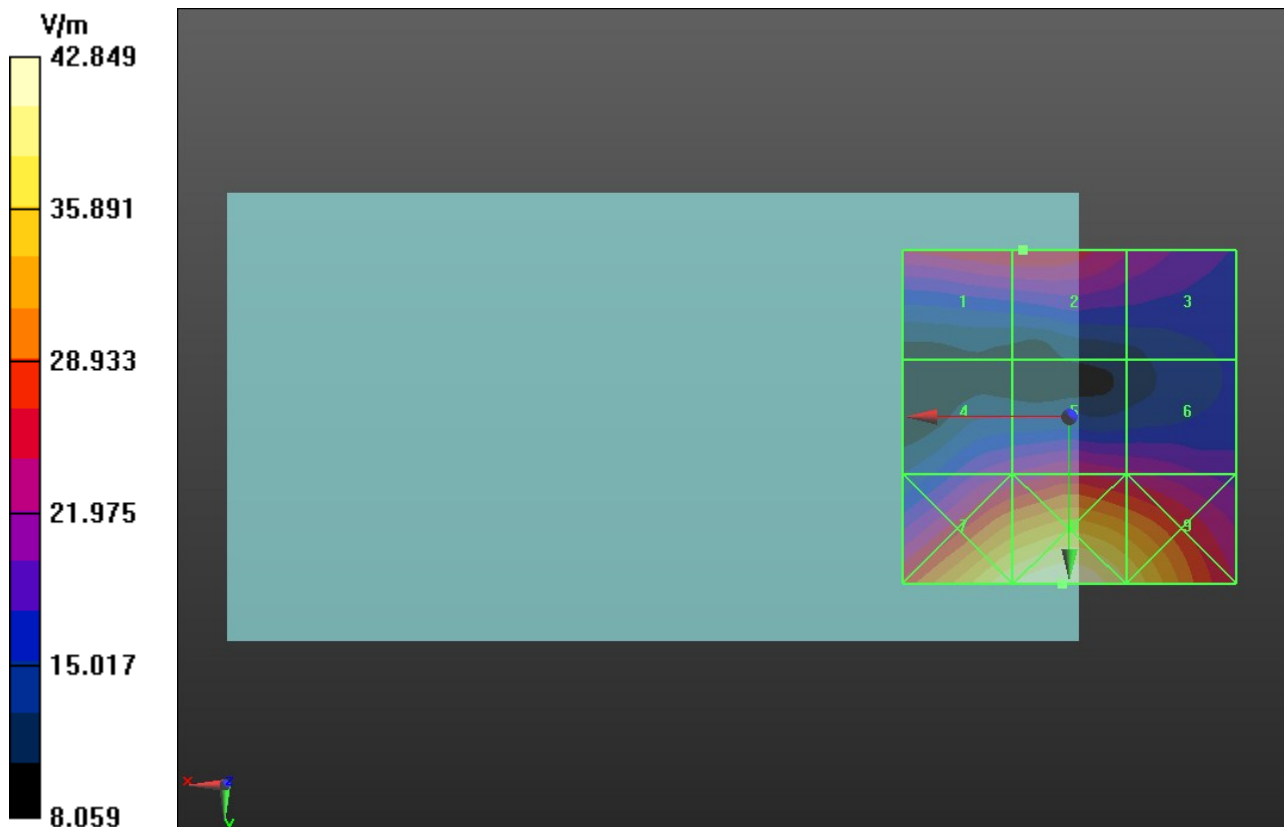
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 5.213 V/m; Power Drift = 0.38 dB

**Hearing Aid Near-Field Category: M4 (AWF -5 dB)**

Peak E-field in V/m

Grid 1 <b>26.851 M4</b>	Grid 2 <b>26.898 M4</b>	Grid 3 <b>22.278 M4</b>
Grid 4 <b>22.220 M4</b>	Grid 5 <b>24.590 M4</b>	Grid 6 <b>22.859 M4</b>
Grid 7 <b>40.626 M4</b>	Grid 8 <b>42.849 M4</b>	Grid 9 <b>38.447 M4</b>



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**GSM 1900**

Communication System: GPRS-FDD (TDMA, GMSK, 1 slot); Frequency: 1880 MHz; Duty Cycle: 1:8.00018

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/M ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 31.849 V/m

Probe Modulation Factor = 2.820

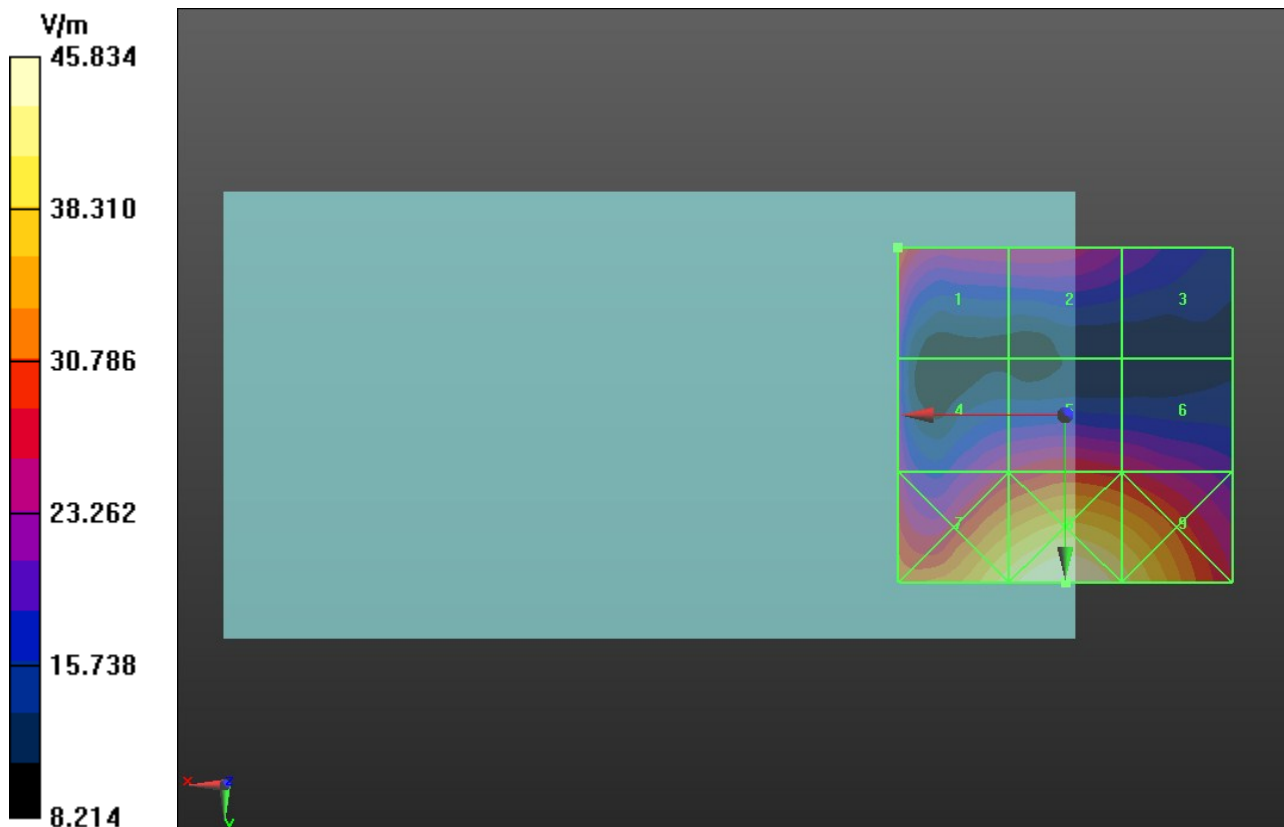
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 7.100 V/m; Power Drift = -0.45 dB

**Hearing Aid Near-Field Category: M4 (AWF -5 dB)**

Peak E-field in V/m

Grid 1 <b>31.849 M4</b>	Grid 2 <b>25.748 M4</b>	Grid 3 <b>21.101 M4</b>
Grid 4 <b>25.978 M4</b>	Grid 5 <b>28.609 M4</b>	Grid 6 <b>26.718 M4</b>
Grid 7 <b>42.281 M4</b>	Grid 8 <b>45.834 M4</b>	Grid 9 <b>42.056 M4</b>



Test Laboratory: UL CCS SAR Lab C

**GSM 1900**

Communication System: GPRS-FDD (TDMA, GMSK, 1 slot); Frequency: 1909.8 MHz; Duty Cycle: 1:8.00018

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/H ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 27.905 V/m

Probe Modulation Factor = 2.820

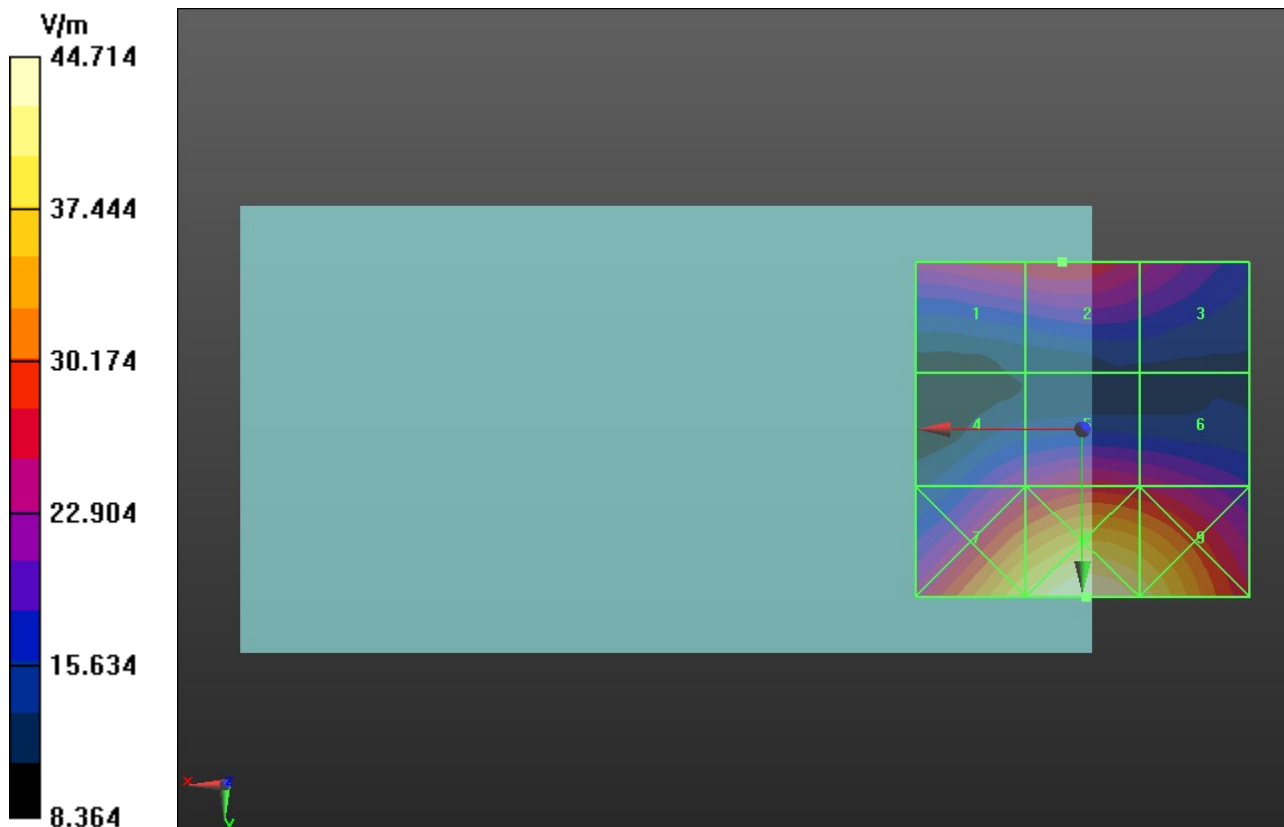
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 6.392 V/m; Power Drift = -0.06 dB

**Hearing Aid Near-Field Category: M4 (AWF -5 dB)**

Peak E-field in V/m

Grid 1 <b>27.350 M4</b>	Grid 2 <b>27.905 M4</b>	Grid 3 <b>24.087 M4</b>
Grid 4 <b>23.528 M4</b>	Grid 5 <b>26.686 M4</b>	Grid 6 <b>25.201 M4</b>
Grid 7 <b>40.248 M4</b>	Grid 8 <b>44.714 M4</b>	Grid 9 <b>41.605 M4</b>



Test Laboratory: UL CCS SAR Lab C

**W-CDMA Band V**

Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/L ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 29.005 V/m

Probe Modulation Factor = 0.890

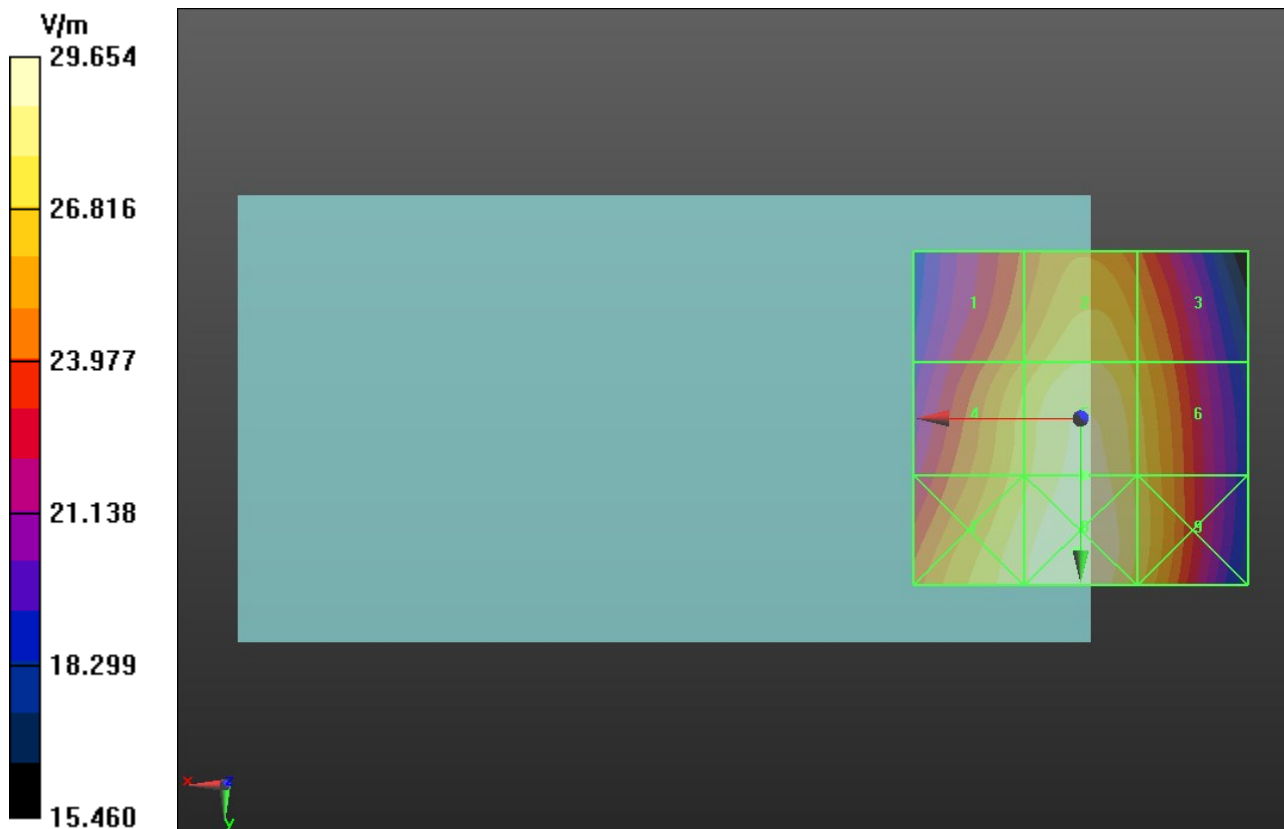
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 41.365 V/m; Power Drift = 0.03 dB

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

Peak E-field in V/m

Grid 1 <b>25.950 M4</b>	Grid 2 <b>27.796 M4</b>	Grid 3 <b>26.444 M4</b>
Grid 4 <b>27.495 M4</b>	Grid 5 <b>29.005 M4</b>	Grid 6 <b>27.502 M4</b>
Grid 7 <b>28.583 M4</b>	Grid 8 <b>29.654 M4</b>	Grid 9 <b>27.750 M4</b>



Test Laboratory: UL CCS SAR Lab C

**W-CDMA Band V**

Communication System: UMTS-FDD (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012

- Sensor-Surface: (Fix Surface)

- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012

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

- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/M ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 28.446 V/m

Probe Modulation Factor = 0.890

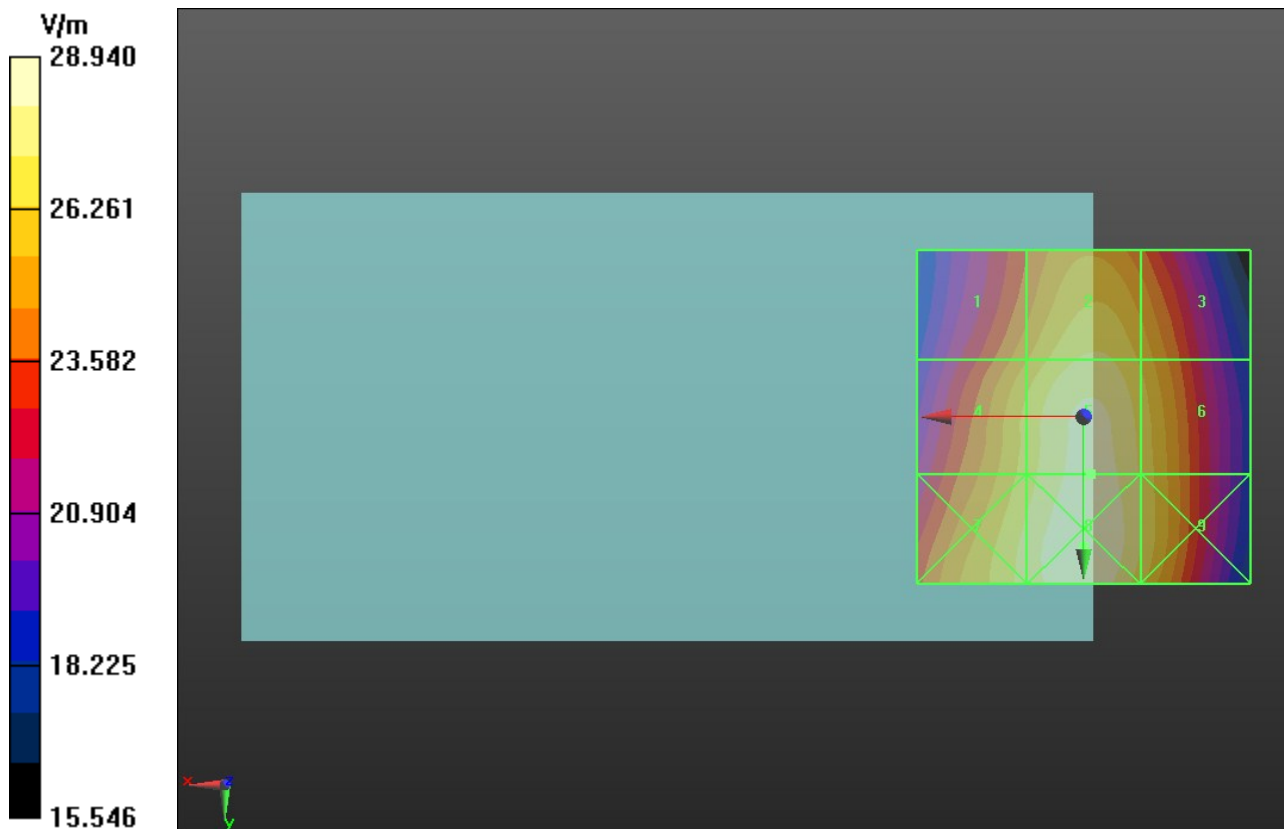
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 40.781 V/m; Power Drift = -0.04 dB

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

Peak E-field in V/m

Grid 1 <b>25.351 M4</b>	Grid 2 <b>27.339 M4</b>	Grid 3 <b>26.131 M4</b>
Grid 4 <b>26.743 M4</b>	Grid 5 <b>28.446 M4</b>	Grid 6 <b>27.066 M4</b>
Grid 7 <b>27.553 M4</b>	Grid 8 <b>28.940 M4</b>	Grid 9 <b>27.257 M4</b>





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## W-CDMA Band V

Communication System: UMTS-FDD (WCDMA); Frequency: 846.6 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

### E-Field/H ch/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 28.400 V/m

Probe Modulation Factor = 0.890

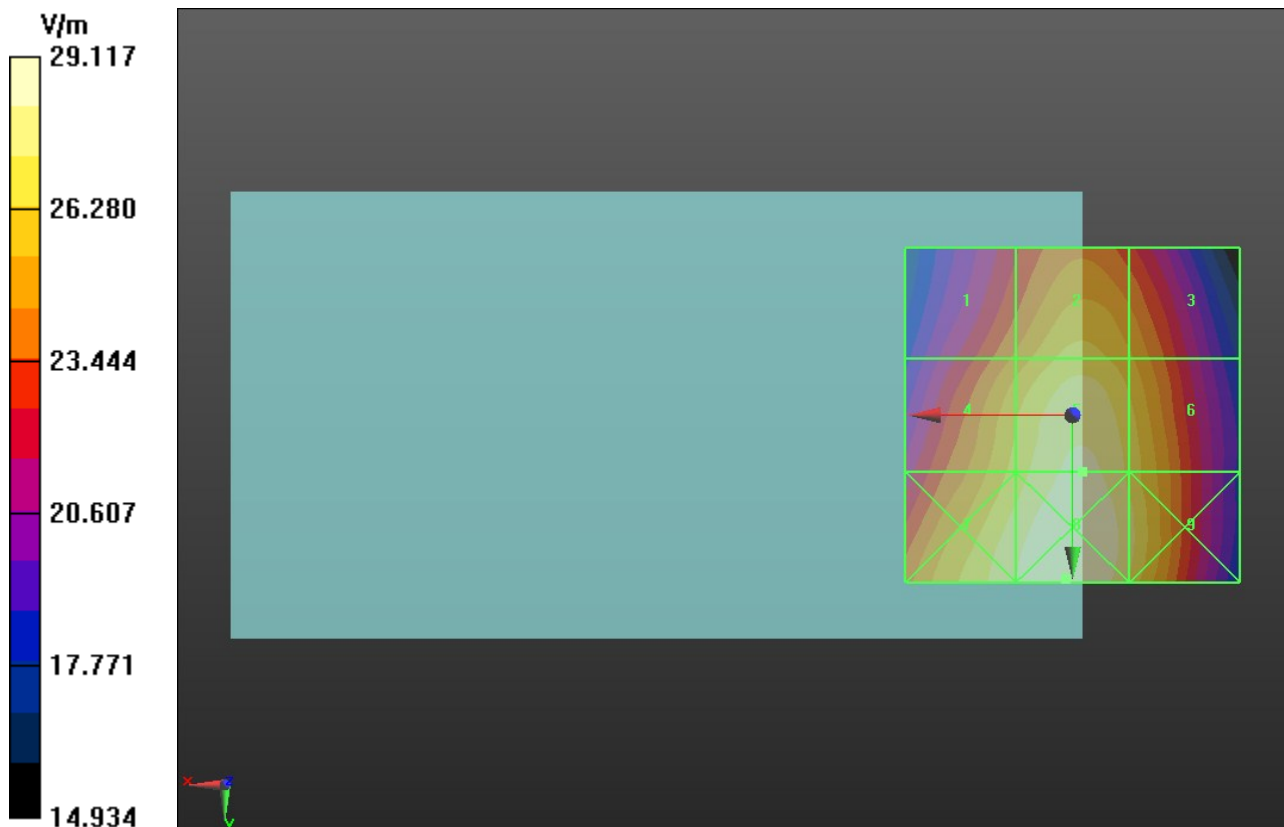
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 40.073 V/m; Power Drift = 0.09 dB

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

Peak E-field in V/m

Grid 1 <b>24.677 M4</b>	Grid 2 <b>26.739 M4</b>	Grid 3 <b>25.556 M4</b>
Grid 4 <b>26.702 M4</b>	Grid 5 <b>28.400 M4</b>	Grid 6 <b>26.988 M4</b>
Grid 7 <b>28.153 M4</b>	Grid 8 <b>29.117 M4</b>	Grid 9 <b>27.567 M4</b>



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**W-CDMA Band IV**

Communication System: UMTS-FDD (WCDMA); Frequency: 1712.4 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/L ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 18.413 V/m

Probe Modulation Factor = 0.960

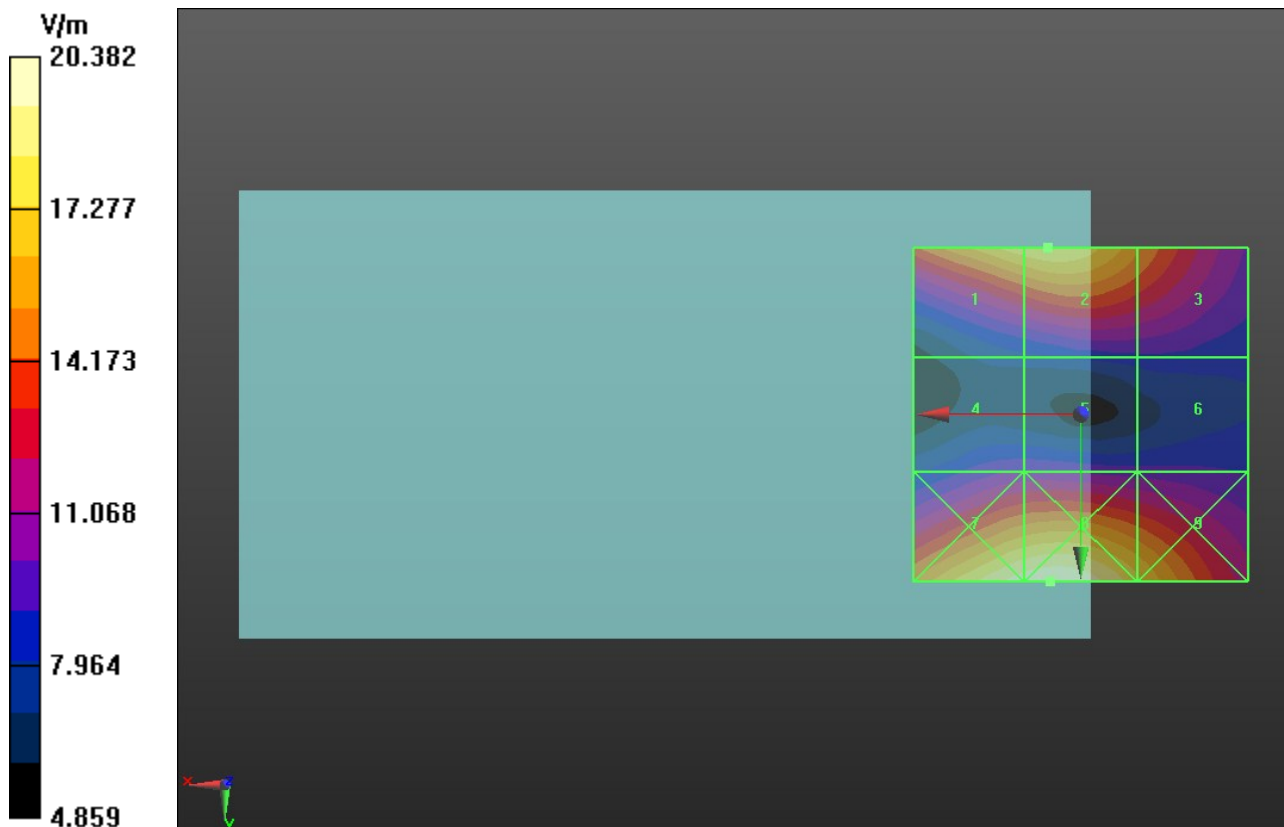
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 4.651 V/m; Power Drift = -0.28 dB

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

Peak E-field in V/m

Grid 1 <b>18.089 M4</b>	Grid 2 <b>18.413 M4</b>	Grid 3 <b>15.403 M4</b>
Grid 4 <b>10.168 M4</b>	Grid 5 <b>10.200 M4</b>	Grid 6 <b>9.543 M4</b>
Grid 7 <b>19.995 M4</b>	Grid 8 <b>20.382 M4</b>	Grid 9 <b>17.563 M4</b>



Test Laboratory: UL CCS SAR Lab C

**W-CDMA Band IV**

Communication System: UMTS-FDD (WCDMA); Frequency: 1732.4 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/M ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 16.824 V/m

Probe Modulation Factor = 0.960

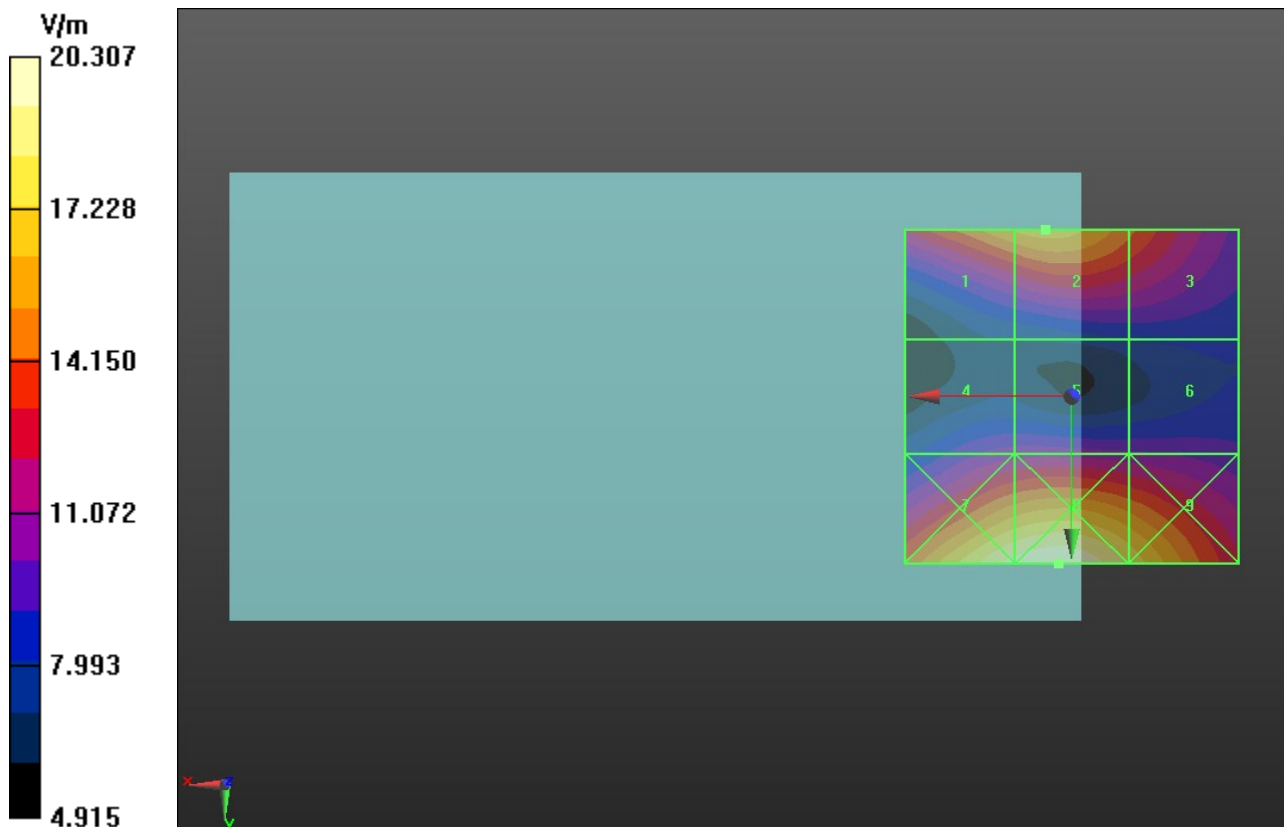
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 5.585 V/m; Power Drift = 0.03 dB

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

Peak E-field in V/m

Grid 1 <b>16.448 M4</b>	Grid 2 <b>16.824 M4</b>	Grid 3 <b>14.517 M4</b>
Grid 4 <b>10.677 M4</b>	Grid 5 <b>10.798 M4</b>	Grid 6 <b>10.301 M4</b>
Grid 7 <b>19.774 M4</b>	Grid 8 <b>20.307 M4</b>	Grid 9 <b>18.120 M4</b>



Test Laboratory: UL CCS SAR Lab C

**W-CDMA Band IV**

Communication System: UMTS-FDD (WCDMA); Frequency: 1752.5 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/H ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 15.877 V/m

Probe Modulation Factor = 0.960

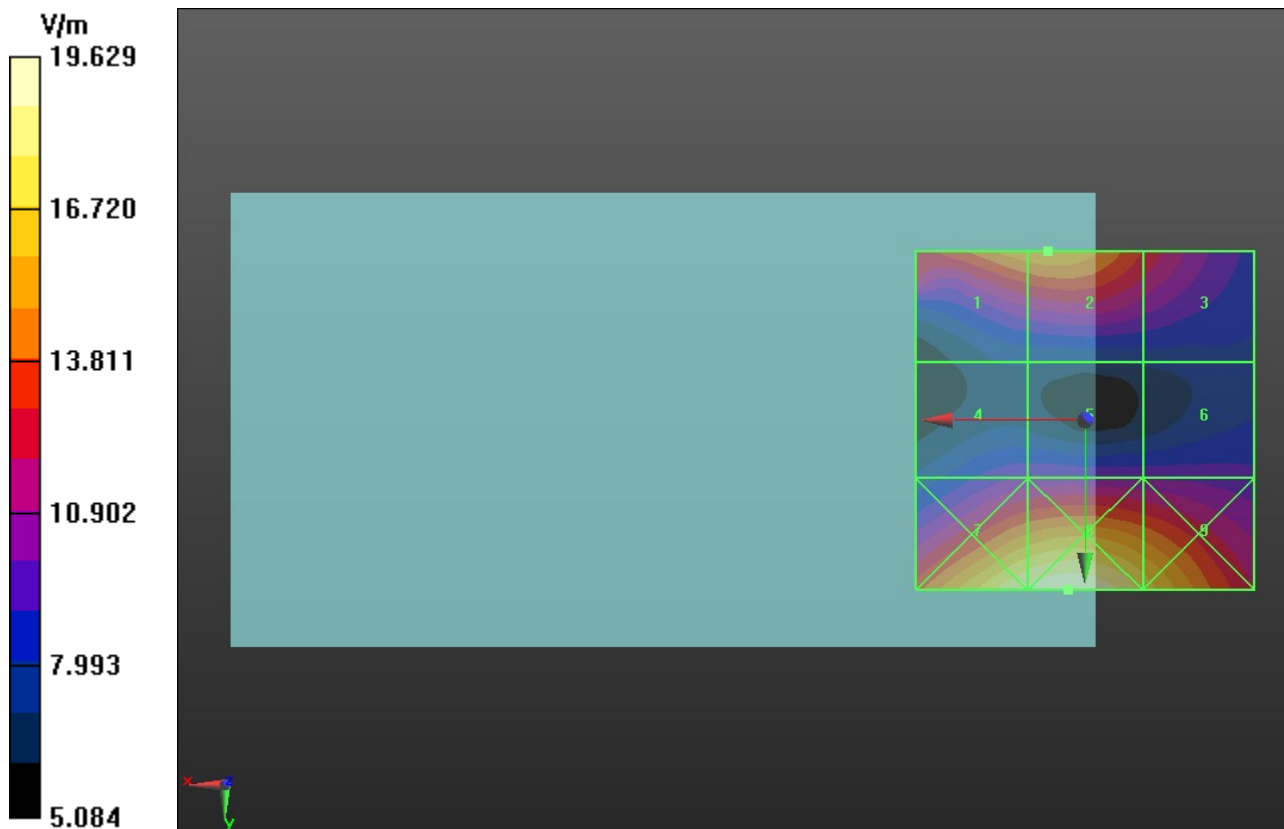
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 5.495 V/m; Power Drift = -0.04 dB

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

Peak E-field in V/m

Grid 1 <b>15.683 M4</b>	Grid 2 <b>15.877 M4</b>	Grid 3 <b>12.855 M4</b>
Grid 4 <b>10.166 M4</b>	Grid 5 <b>10.231 M4</b>	Grid 6 <b>9.963 M4</b>
Grid 7 <b>19.029 M4</b>	Grid 8 <b>19.629 M4</b>	Grid 9 <b>17.459 M4</b>



Test Laboratory: UL CCS SAR Lab C

**W-CDMA Band II**

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BB
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

**E-Field/L ch/Hearing Aid Compatibility Test (101x101x1):** Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 13.672 V/m

Probe Modulation Factor = 0.960

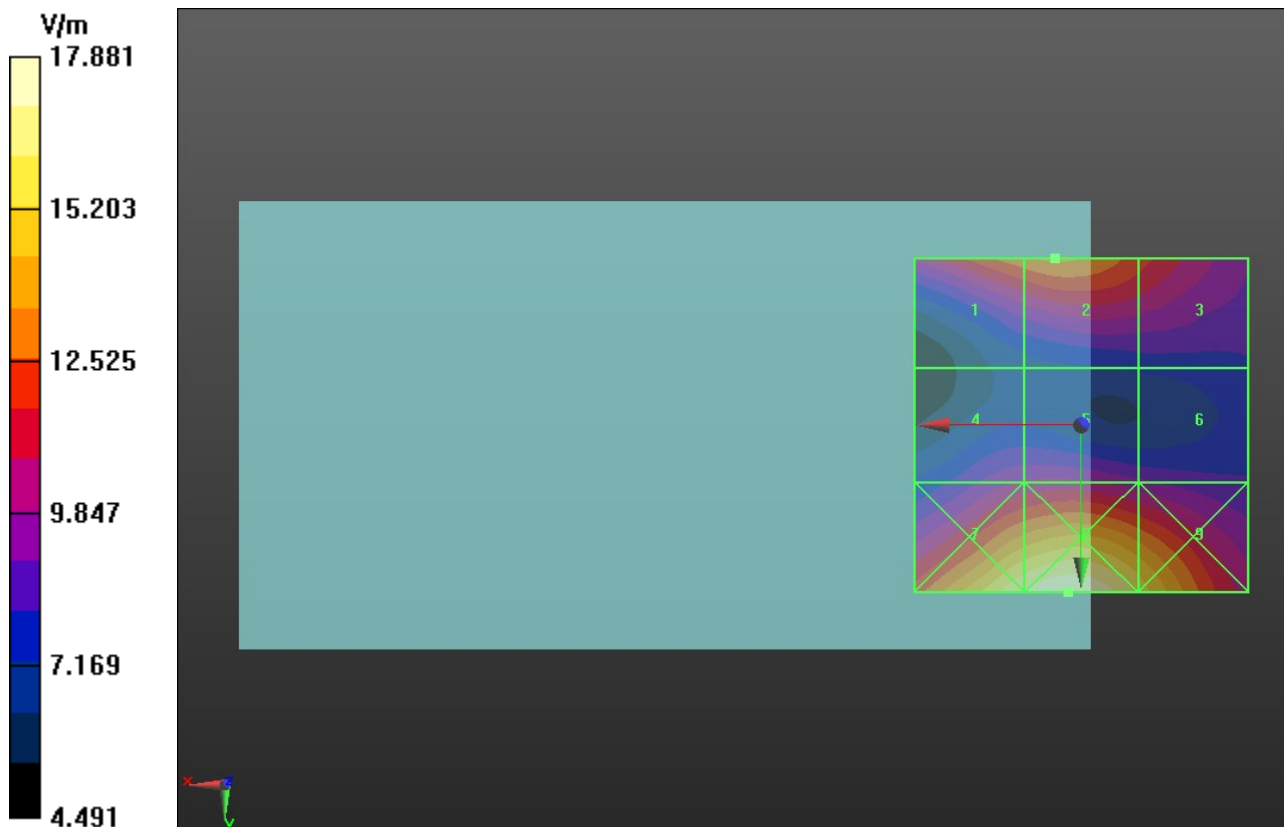
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 7.576 V/m; Power Drift = 0.04 dB

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

Peak E-field in V/m

Grid 1 <b>13.282 M4</b>	Grid 2 <b>13.672 M4</b>	Grid 3 <b>12.105 M4</b>
Grid 4 <b>10.021 M4</b>	Grid 5 <b>10.177 M4</b>	Grid 6 <b>9.247 M4</b>
Grid 7 <b>17.141 M4</b>	Grid 8 <b>17.881 M4</b>	Grid 9 <b>15.834 M4</b>



Date: 8/12/2012

Test Laboratory: UL CCS SAR Lab C

## W-CDMA Band II

Communication System: UMTS-FDD (WCDMA); Frequency: 1880 MHz; Duty Cycle: 1:1

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2339; ConvF(1, 1, 1); Calibrated: 1/20/2012

- Sensor-Surface: (Fix Surface)

- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012

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

- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.4.5 (3634)

### E-Field/M ch/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 12.865 V/m

Probe Modulation Factor = 0.960

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 9.218 V/m; Power Drift = 0.02 dB

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

Peak E-field in V/m

Grid 1 <b>12.595 M4</b>	Grid 2 <b>12.865 M4</b>	Grid 3 <b>11.102 M4</b>
Grid 4 <b>11.601 M4</b>	Grid 5 <b>12.047 M4</b>	Grid 6 <b>10.953 M4</b>
Grid 7 <b>18.373 M4</b>	Grid 8 <b>19.370 M4</b>	Grid 9 <b>17.331 M4</b>

