

Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: GPRS-FDD (TDMA, GMSK 1 slot) (RF Emission only); Frequency: 824.4 MHz; Duty Cycle: 1:8.70964
Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

GSM850/Voice_ch 128/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 45.18 V/m; Power Drift = 0.00 dB

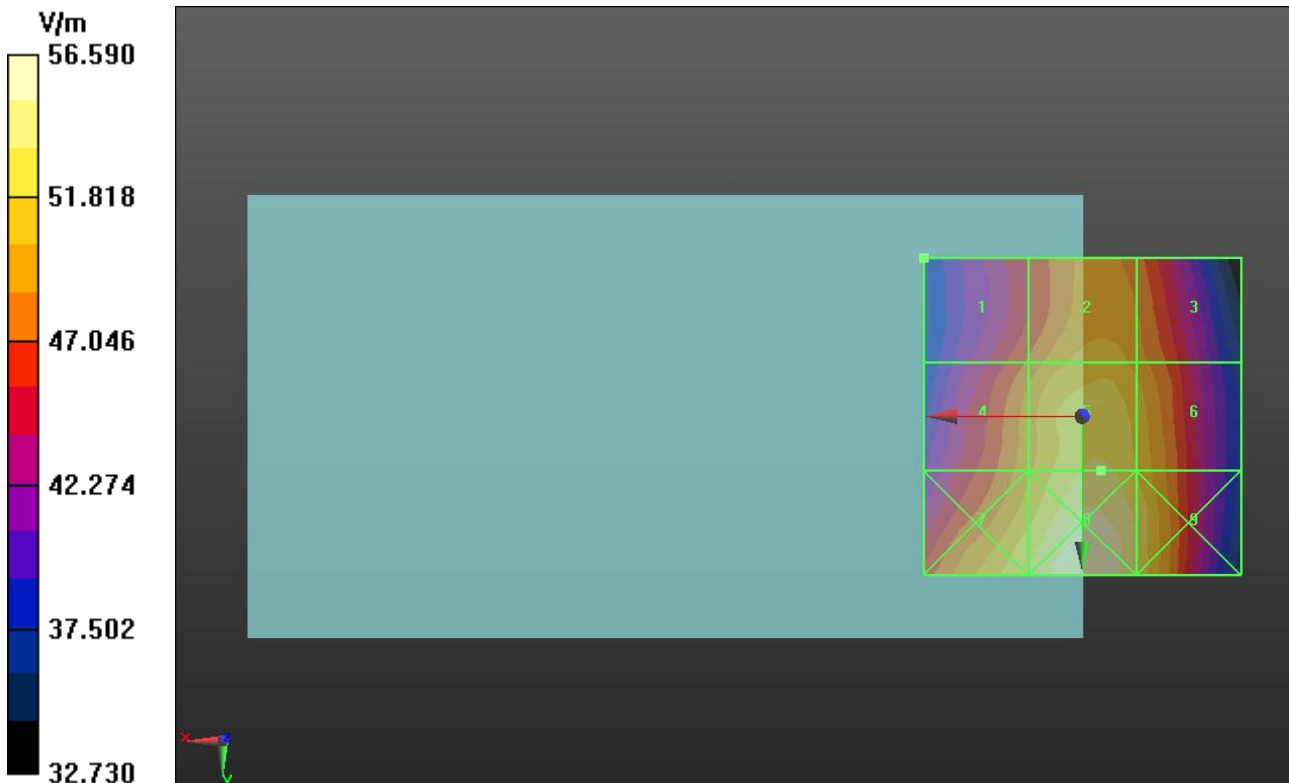
Applied MIF = 3.60 dB

RF audio interference level = 34.60 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 33.52 dBV/m	Grid 2 M4 34.18 dBV/m	Grid 3 M4 33.93 dBV/m
Grid 4 M4 33.97 dBV/m	Grid 5 M4 34.6 dBV/m	Grid 6 M4 34.3 dBV/m
Grid 7 M4 34.59 dBV/m	Grid 8 M4 35.05 dBV/m	Grid 9 M4 34.56 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: GPRS-FDD (TDMA, GMSK 1 slot) (RF Emission only); Frequency: 836.6 MHz; Duty Cycle: 1:8.70964

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

GSM850/Voice_ch 190/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000

mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 50.81 V/m; Power Drift = 0.00 dB

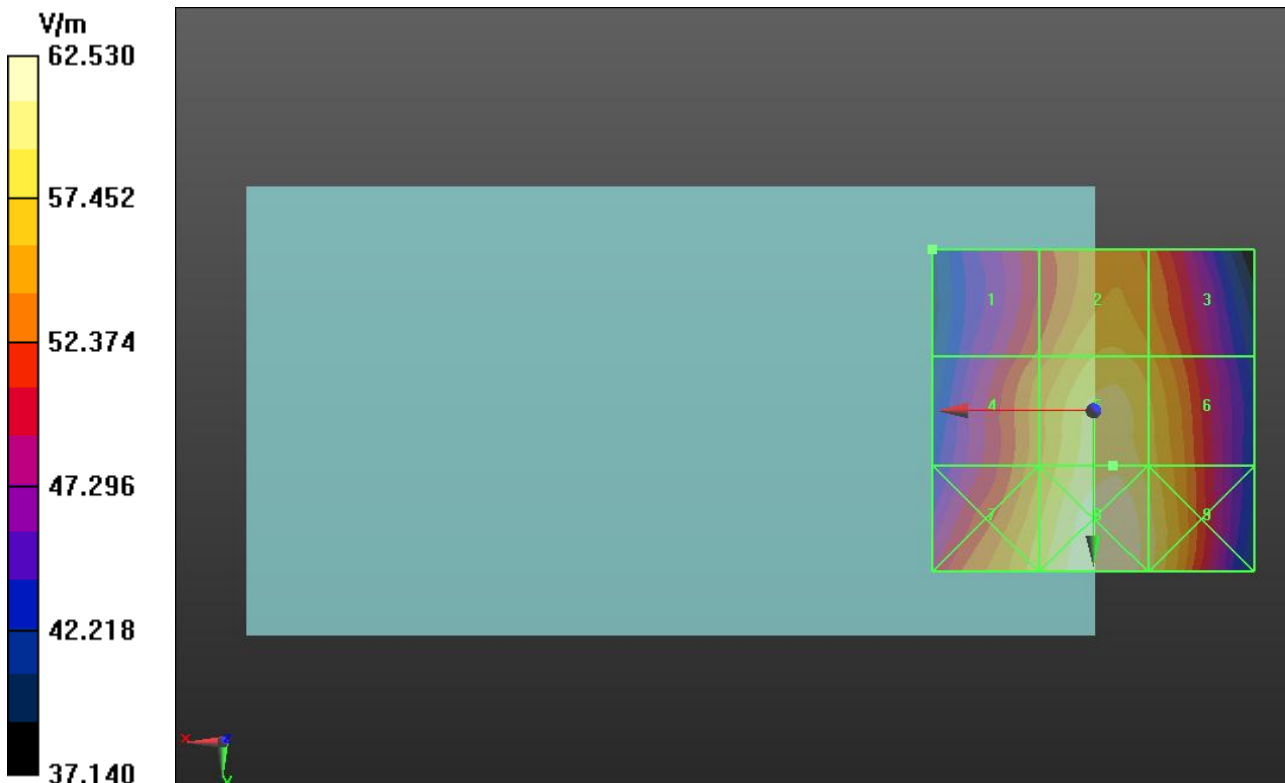
Applied MIF = 3.60 dB

RF audio interference level = 35.64 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 34.48 dBV/m	Grid 2 M4 35.25 dBV/m	Grid 3 M4 35.01 dBV/m
Grid 4 M4 34.9 dBV/m	Grid 5 M4 35.64 dBV/m	Grid 6 M4 35.34 dBV/m
Grid 7 M4 35.35 dBV/m	Grid 8 M4 35.92 dBV/m	Grid 9 M4 35.57 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: GPRS-FDD (TDMA, GMSK 1 slot) (RF Emission only); Frequency: 848.8 MHz; Duty Cycle: 1:18.281

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

GSM850/Voice_ch 251/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000

mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 57.07 V/m; Power Drift = -0.06 dB

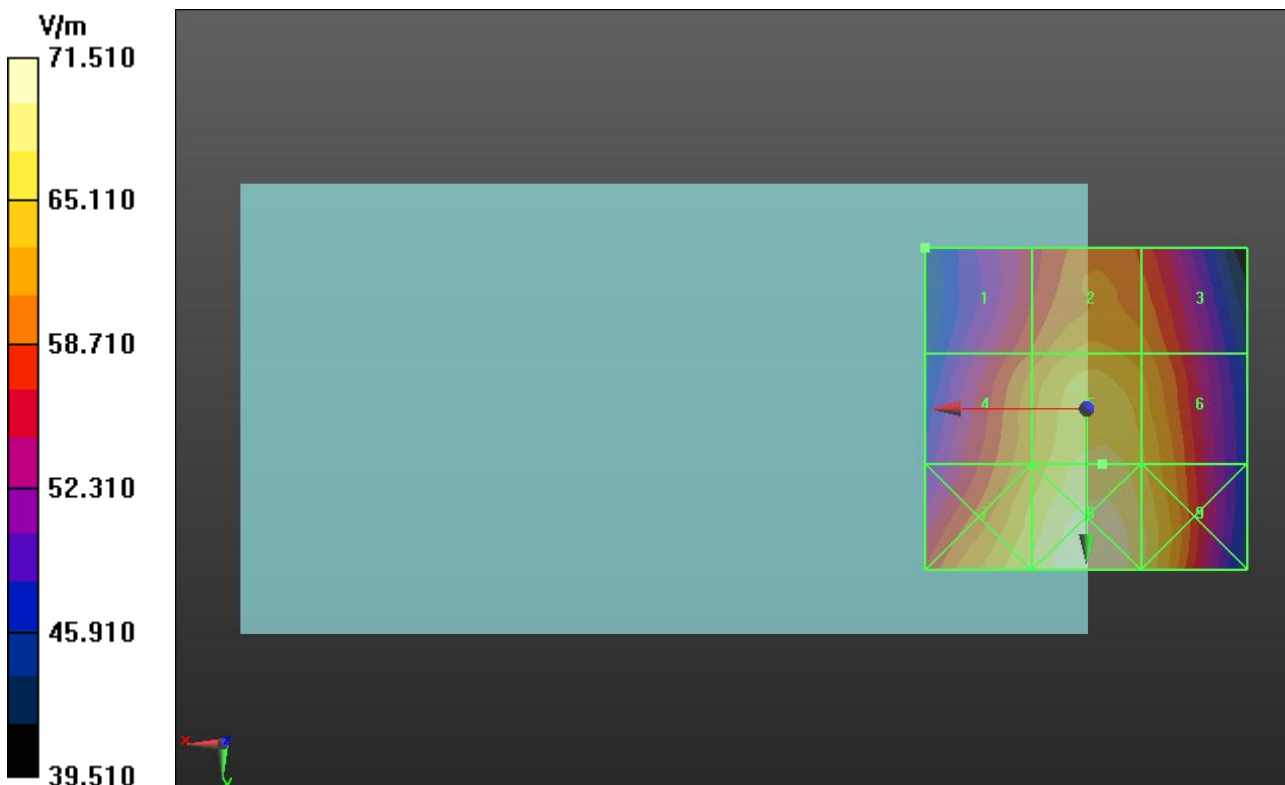
Applied MIF = 3.79 dB

RF audio interference level = 36.66 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 35.46 dBV/m	Grid 2 M4 36.11 dBV/m	Grid 3 M4 35.85 dBV/m
Grid 4 M4 36.02 dBV/m	Grid 5 M4 36.66 dBV/m	Grid 6 M4 36.35 dBV/m
Grid 7 M4 36.63 dBV/m	Grid 8 M4 37.09 dBV/m	Grid 9 M4 36.64 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: GPRS-FDD (TDMA, GMSK 1 slot) (RF Emission only); Frequency: 1850.2 MHz; Duty Cycle: 1:8.70964

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

GSM1900/Voice_ch 512/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 11.32 V/m; Power Drift = -0.17 dB

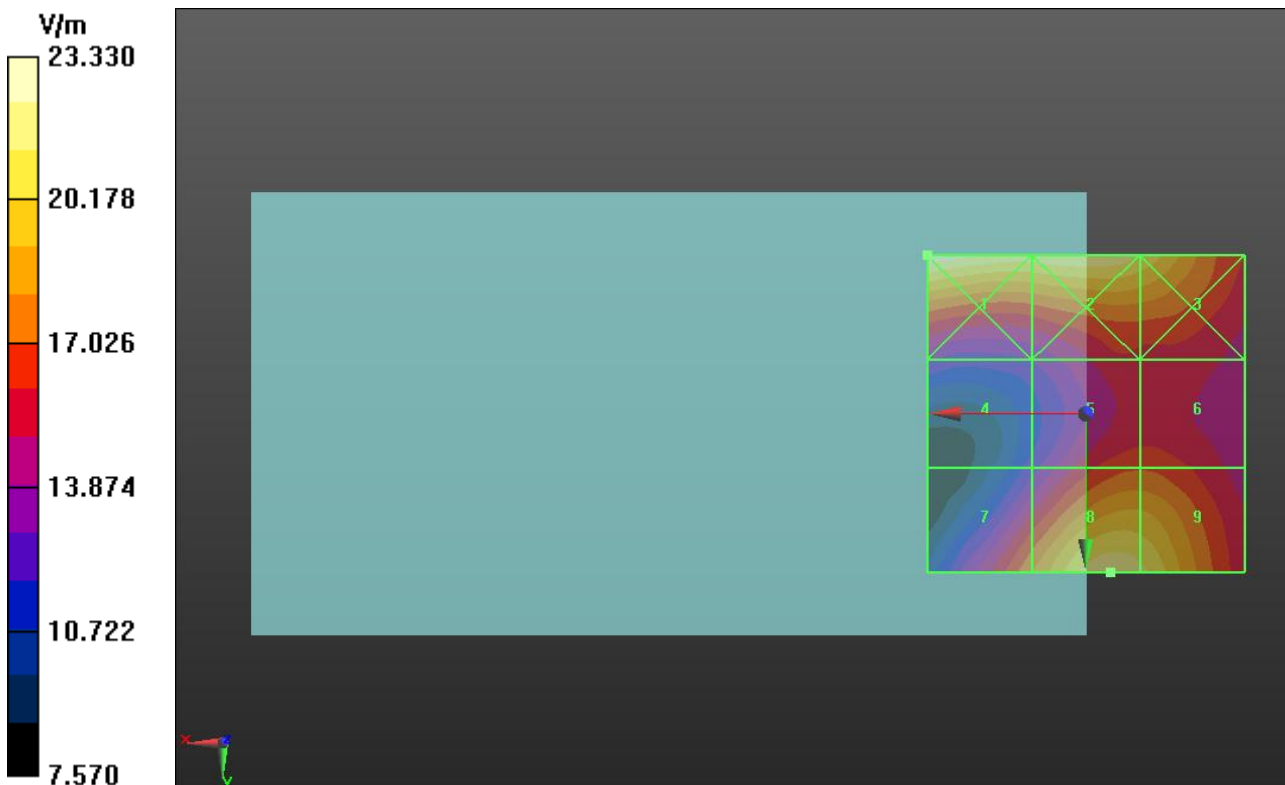
Applied MIF = 3.60 dB

RF audio interference level = 26.87 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 27.36 dBV/m	Grid 2 M4 27.01 dBV/m	Grid 3 M4 26.56 dBV/m
Grid 4 M4 22.36 dBV/m	Grid 5 M4 24.57 dBV/m	Grid 6 M4 24.57 dBV/m
Grid 7 M4 25.14 dBV/m	Grid 8 M4 26.87 dBV/m	Grid 9 M4 26.7 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: GPRS-FDD (TDMA, GMSK 1 slot) (RF Emission only); Frequency: 1880 MHz; Duty Cycle: 1:8.70964

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

GSM1900/Voice_ch 661/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 11.50 V/m; Power Drift = -0.38 dB

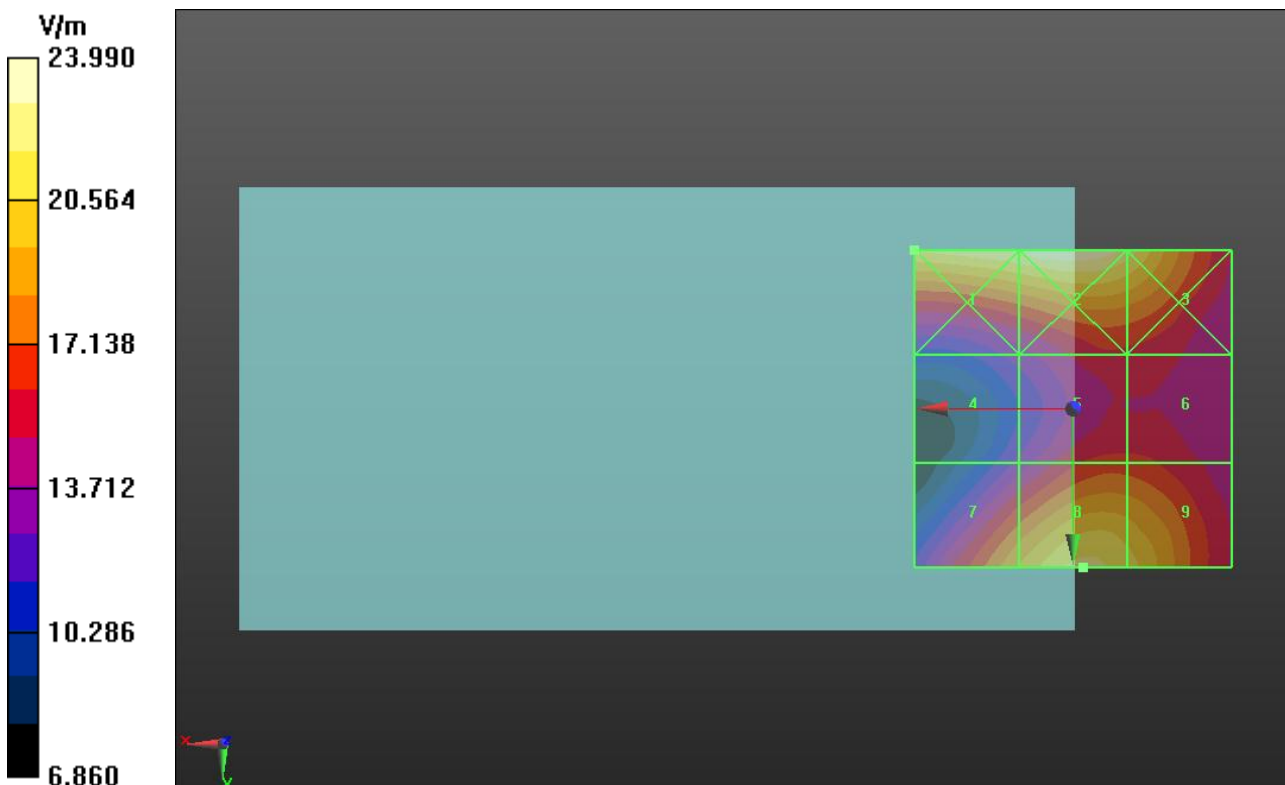
Applied MIF = 3.60 dB

RF audio interference level = 26.87 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 27.33 dBV/m	Grid 2 M4 27.6 dBV/m	Grid 3 M4 26.98 dBV/m
Grid 4 M4 22.42 dBV/m	Grid 5 M4 24.39 dBV/m	Grid 6 M4 24.37 dBV/m
Grid 7 M4 25.84 dBV/m	Grid 8 M4 26.87 dBV/m	Grid 9 M4 26.51 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: GPRS-FDD (TDMA, GMSK 1 slot) (RF Emission only); Frequency: 1909.8 MHz; Duty Cycle: 1:8.70964

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

GSM1900/Voice_ch 810/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 12.64 V/m; Power Drift = 0.05 dB

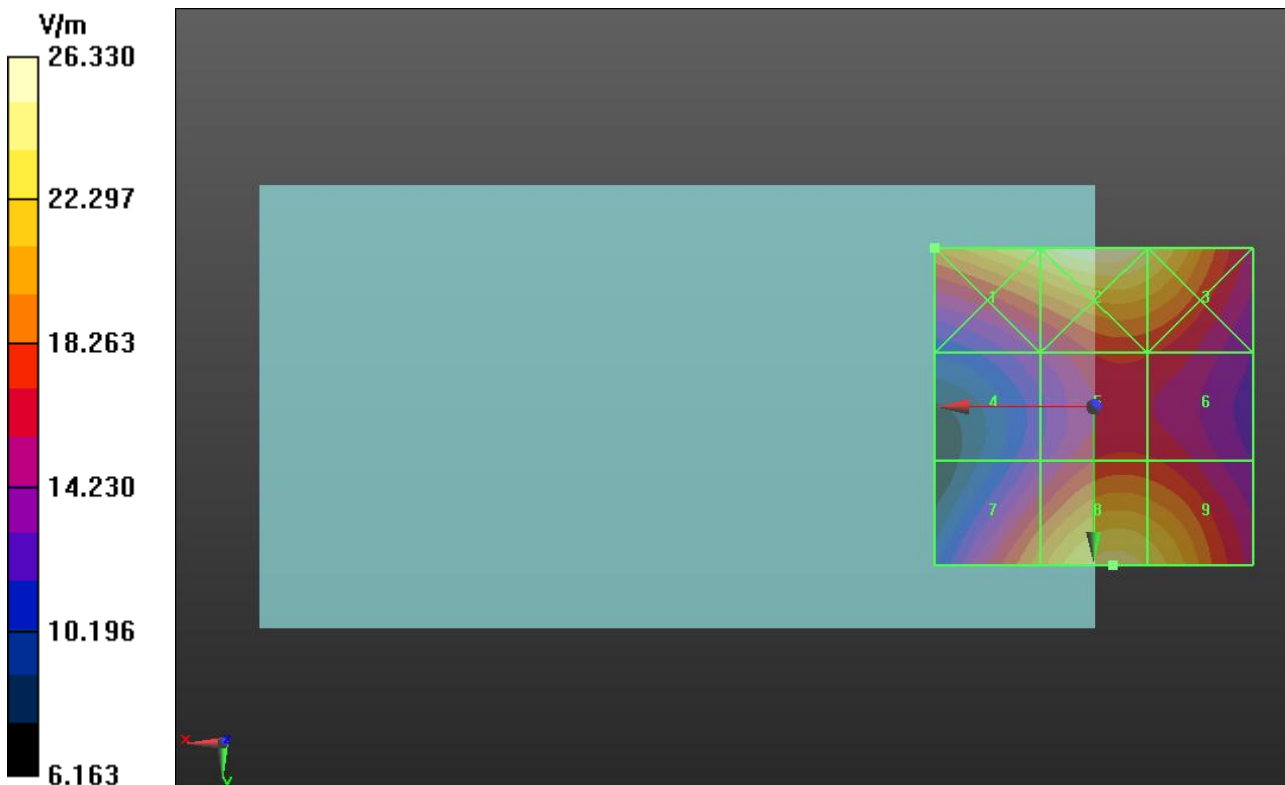
Applied MIF = 3.60 dB

RF audio interference level = 27.73 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 27.82 dBV/m	Grid 2 M4 28.41 dBV/m	Grid 3 M4 27.81 dBV/m
Grid 4 M4 23.21 dBV/m	Grid 5 M4 24.84 dBV/m	Grid 6 M4 24.73 dBV/m
Grid 7 M4 26.22 dBV/m	Grid 8 M4 27.73 dBV/m	Grid 9 M4 27.4 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;

- 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 (3); SEMCAD X Version 14.6.7 (6848)

W-CDMA Band V/R99_ch 4132/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 64.47 V/m; Power Drift = -0.12 dB

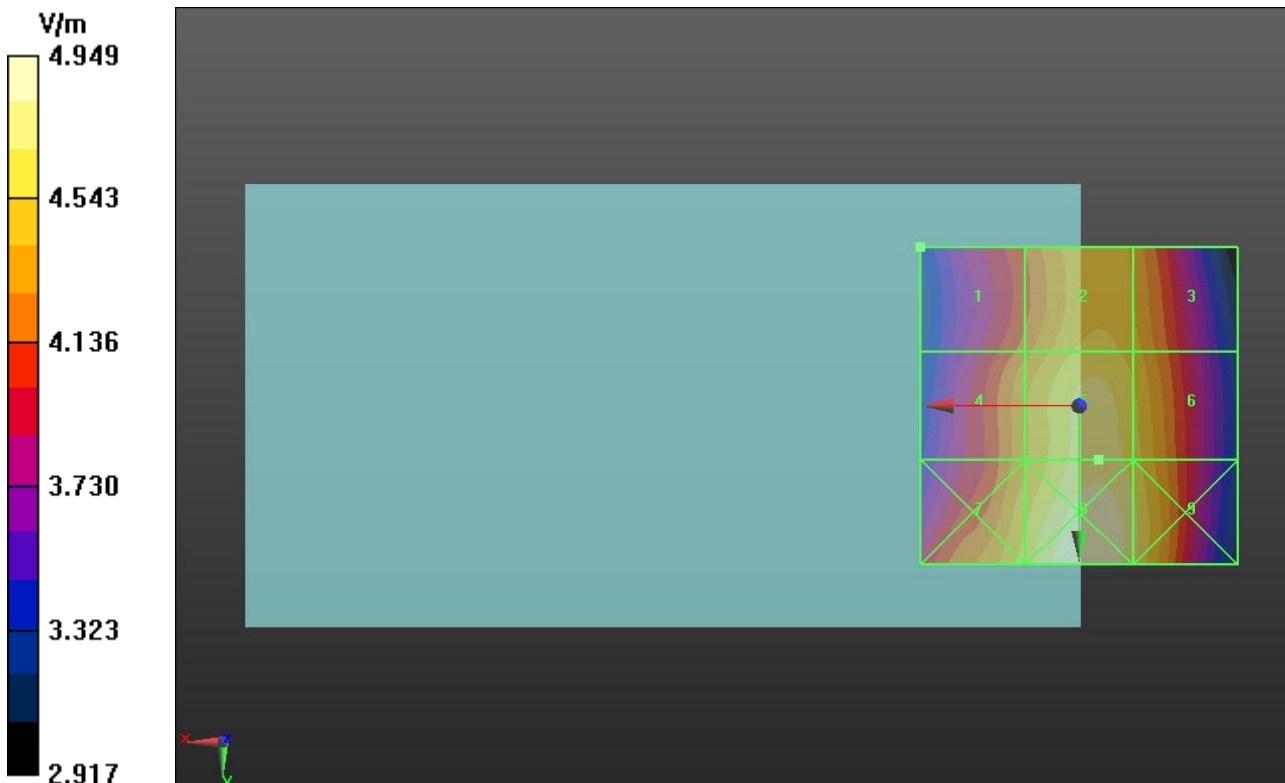
Applied MIF = -20.49 dB

RF audio interference level = 13.57 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 12.52 dBV/m	Grid 2 M4 13.26 dBV/m	Grid 3 M4 13.02 dBV/m
Grid 4 M4 12.87 dBV/m	Grid 5 M4 13.57 dBV/m	Grid 6 M4 13.29 dBV/m
Grid 7 M4 13.29 dBV/m	Grid 8 M4 13.89 dBV/m	Grid 9 M4 13.51 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

W-CDMA Band V/R99_ch 4183/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 71.51 V/m; Power Drift = 0.01 dB

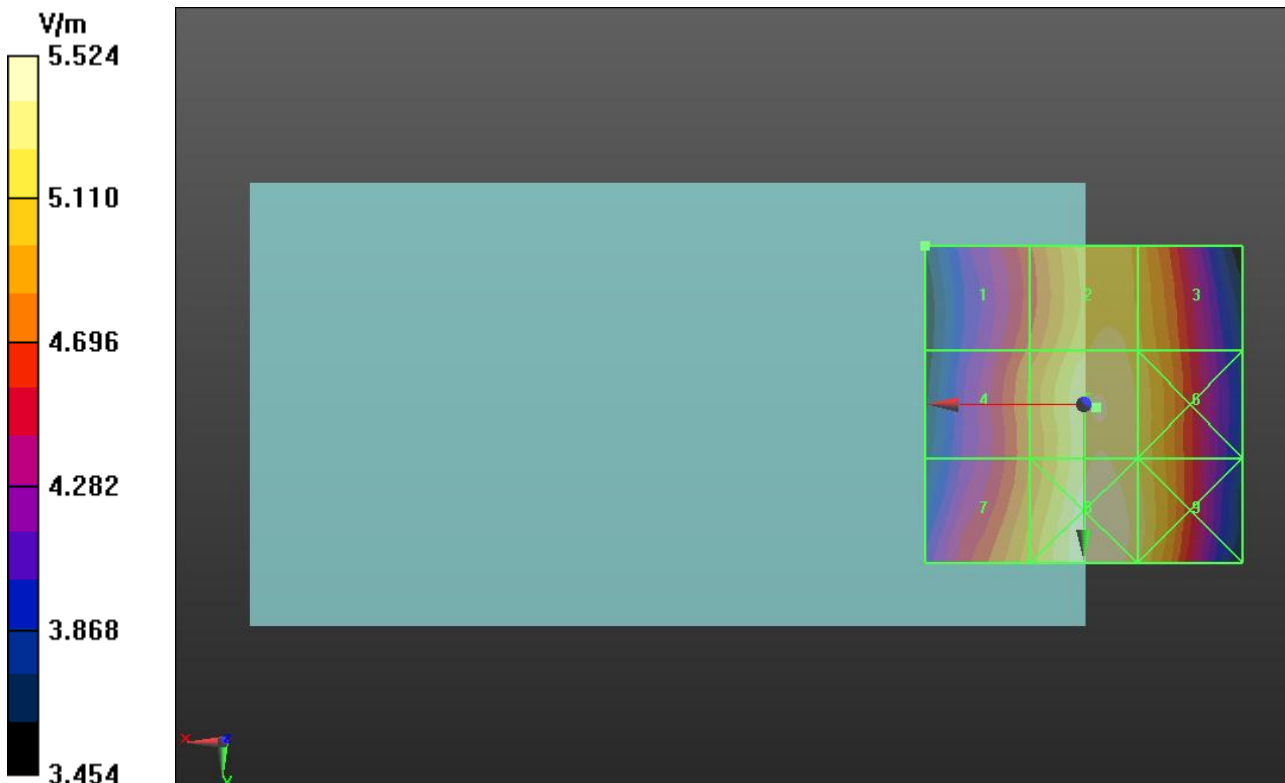
Applied MIF = -20.49 dB

RF audio interference level = 14.64 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 13.52 dBV/m	Grid 2 M4 14.5 dBV/m	Grid 3 M4 14.26 dBV/m
Grid 4 M4 13.76 dBV/m	Grid 5 M4 14.64 dBV/m	Grid 6 M4 14.4 dBV/m
Grid 7 M4 14.09 dBV/m	Grid 8 M4 14.84 dBV/m	Grid 9 M4 14.52 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 846.6 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3);SEMCAD X Version 14.6.7 (6848)

W-CDMA Band V/R99_ch 4233/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 68.64 V/m; Power Drift = 0.08 dB

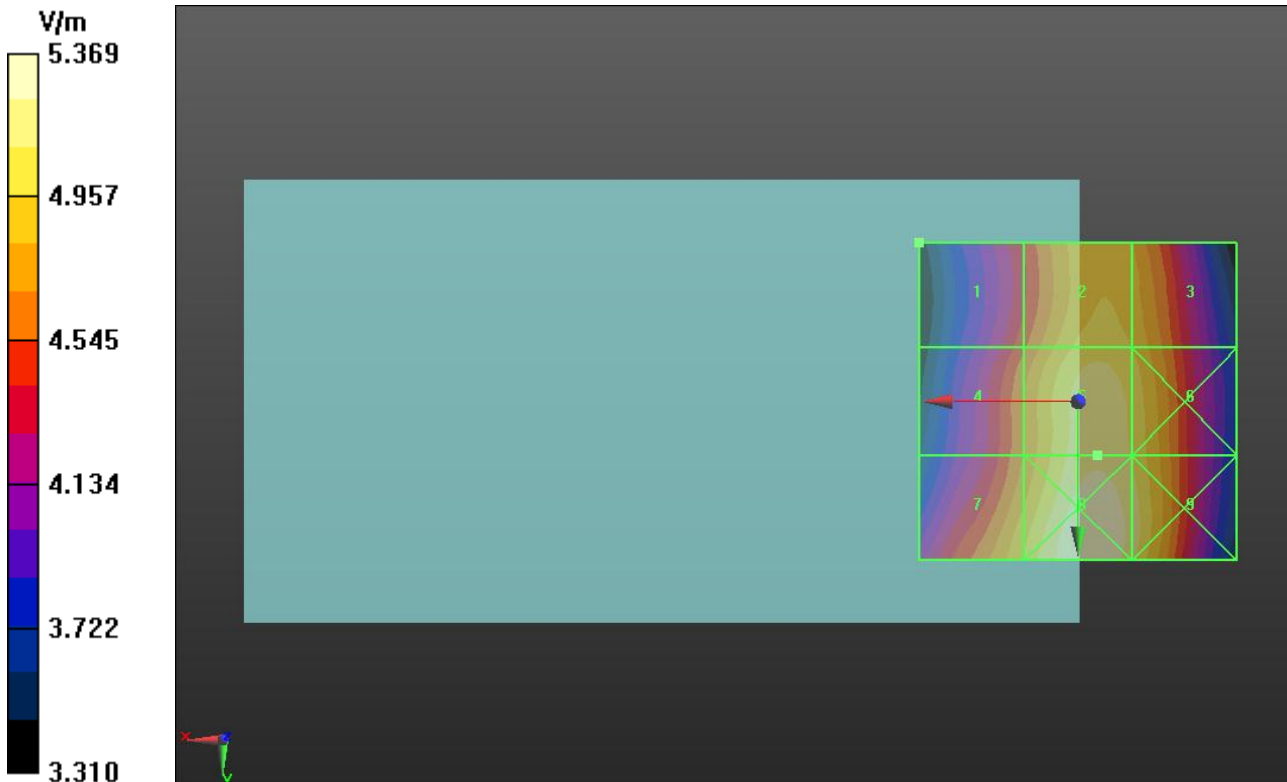
Applied MIF = -20.49 dB

RF audio interference level = 14.33 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 13.12 dBV/m	Grid 2 M4 14.06 dBV/m	Grid 3 M4 13.9 dBV/m
Grid 4 M4 13.44 dBV/m	Grid 5 M4 14.33 dBV/m	Grid 6 M4 14.13 dBV/m
Grid 7 M4 13.94 dBV/m	Grid 8 M4 14.6 dBV/m	Grid 9 M4 14.29 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

W-CDMA Band II/R99_ch 9262/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 22.86 V/m; Power Drift = 0.05 dB

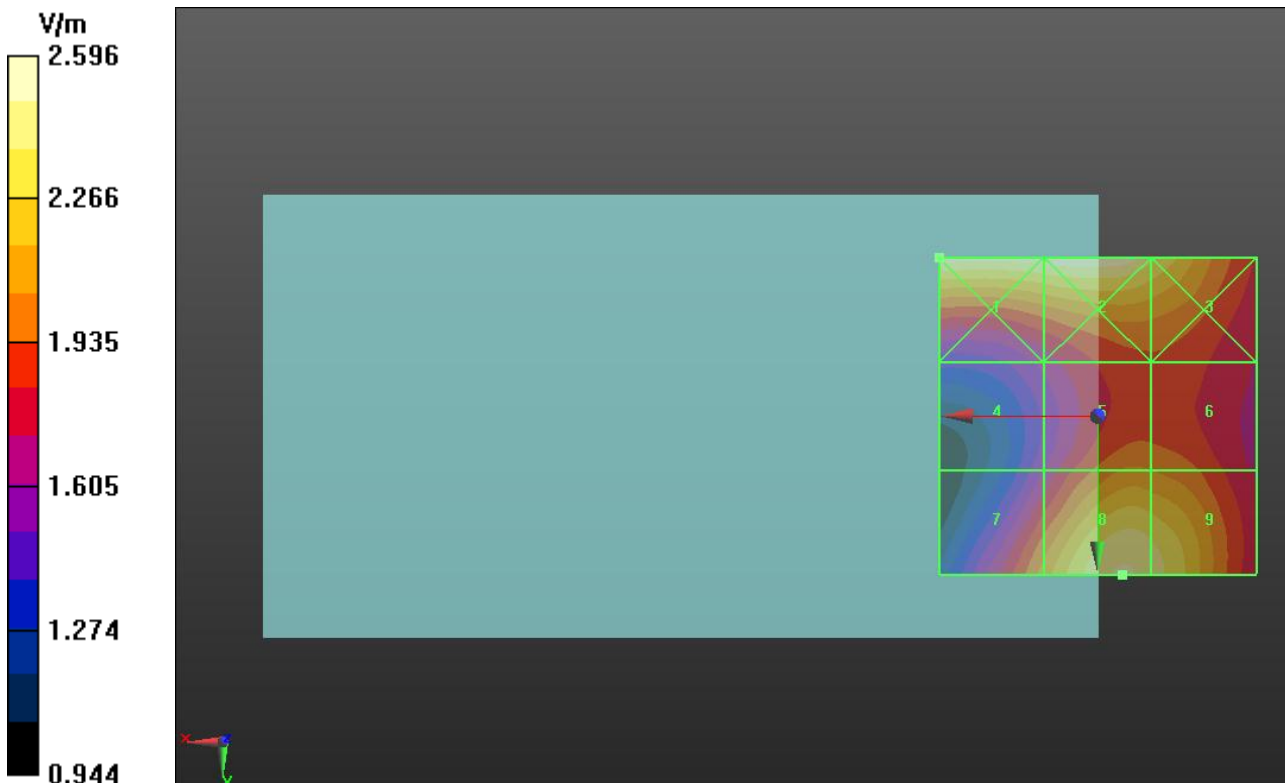
Applied MIF = -20.49 dB

RF audio interference level = 7.95 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 8.18 dBV/m	Grid 2 M4 8.29 dBV/m	Grid 3 M4 7.67 dBV/m
Grid 4 M4 4.35 dBV/m	Grid 5 M4 6.32 dBV/m	Grid 6 M4 6.22 dBV/m
Grid 7 M4 6.45 dBV/m	Grid 8 M4 7.95 dBV/m	Grid 9 M4 7.73 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 1880 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3);SEMCAD X Version 14.6.7 (6848)

W-CDMA Band II/R99_ch 9400/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 22.84 V/m; Power Drift = 0.10 dB

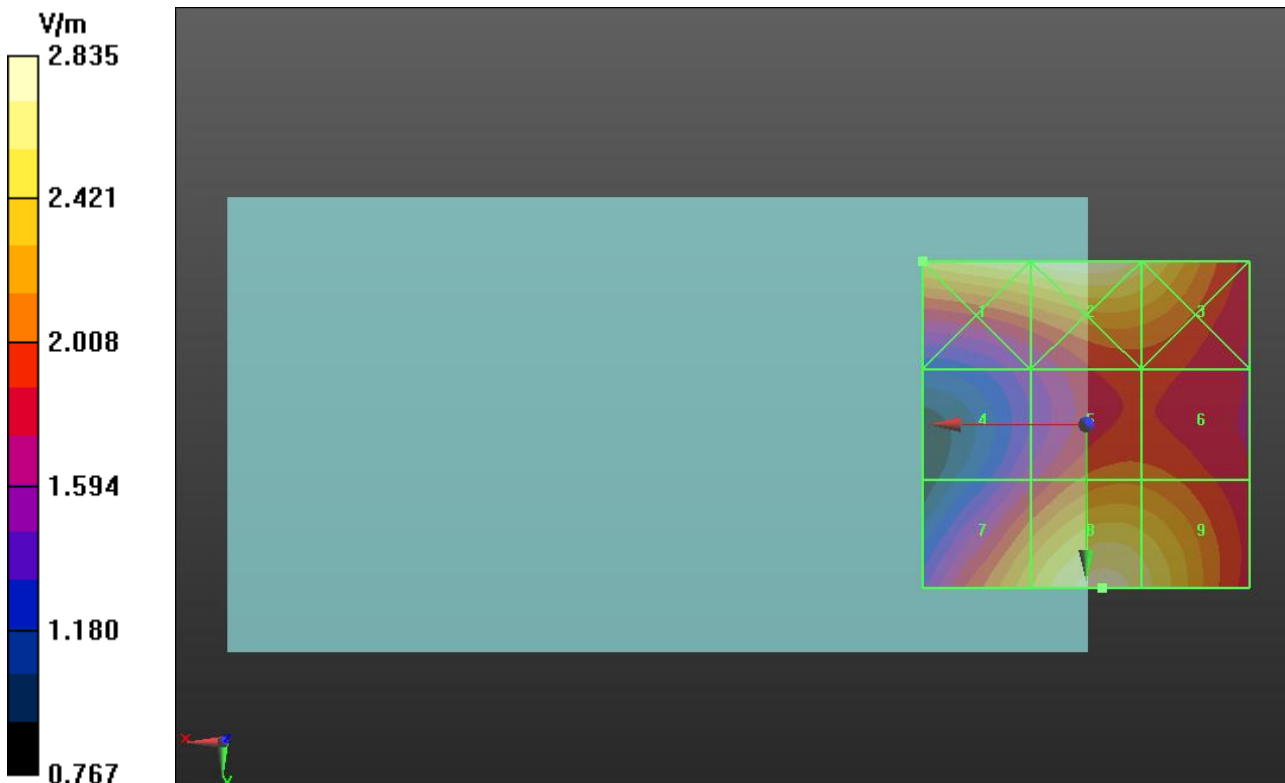
Applied MIF = -20.49 dB

RF audio interference level = 8.81 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 8.77 dBV/m	Grid 2 M4 9.05 dBV/m	Grid 3 M4 8.45 dBV/m
Grid 4 M4 4.61 dBV/m	Grid 5 M4 6.55 dBV/m	Grid 6 M4 6.49 dBV/m
Grid 7 M4 7.65 dBV/m	Grid 8 M4 8.81 dBV/m	Grid 9 M4 8.4 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 1907.6 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

W-CDMA Band II/R99_ch 9538/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 25.79 V/m; Power Drift = -0.30 dB

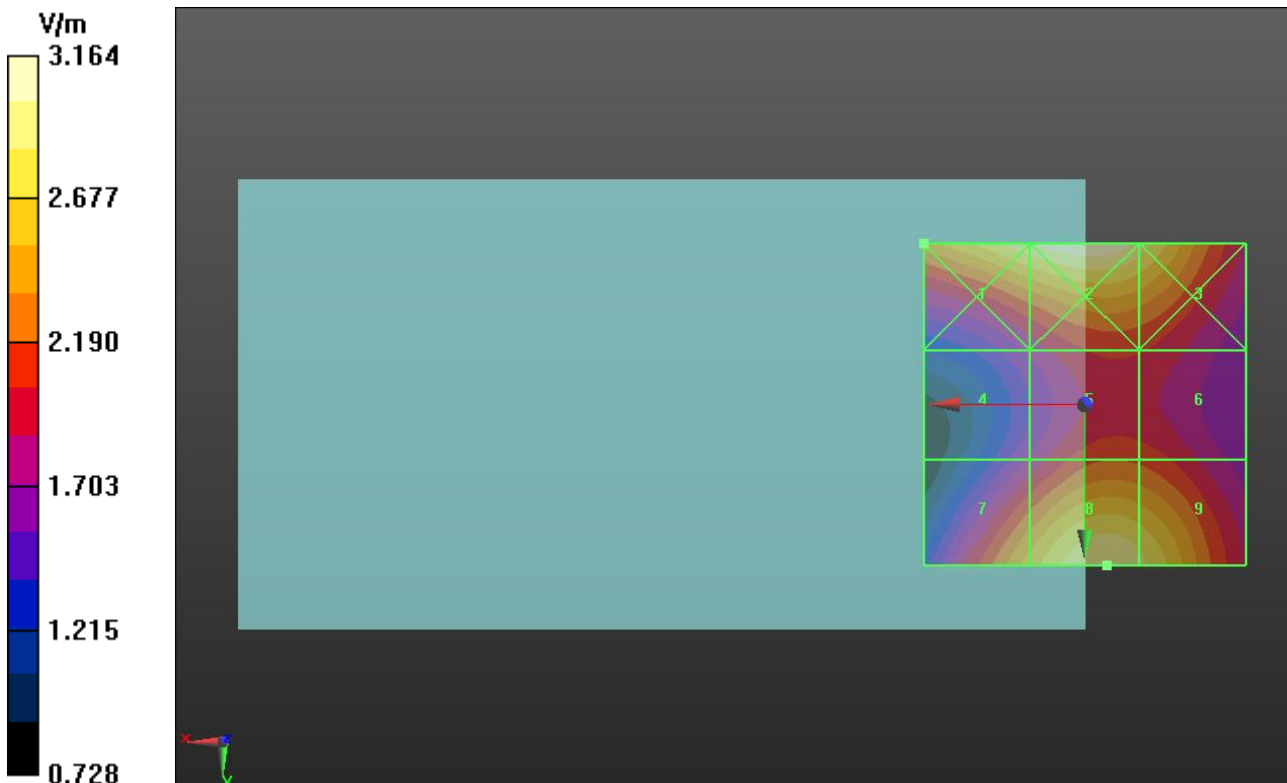
Applied MIF = -20.49 dB

RF audio interference level = 9.61 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 9.56 dBV/m	Grid 2 M4 10.01 dBV/m	Grid 3 M4 9.38 dBV/m
Grid 4 M4 4.88 dBV/m	Grid 5 M4 6.8 dBV/m	Grid 6 M4 6.66 dBV/m
Grid 7 M4 8.33 dBV/m	Grid 8 M4 9.61 dBV/m	Grid 9 M4 9.25 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 1712.4 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

W-CDMA Band IV/R99_ch 1312/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 23.38 V/m; Power Drift = 0.14 dB

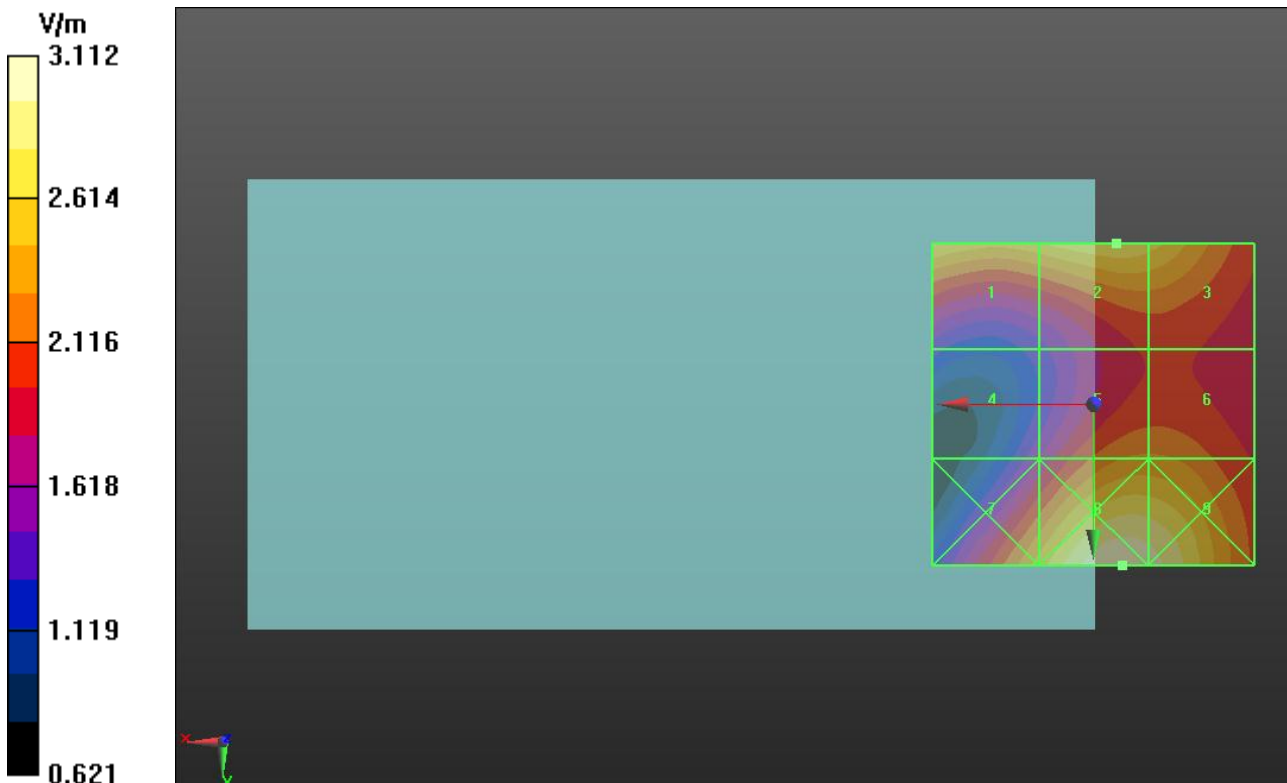
Applied MIF = -20.49 dB

RF audio interference level = 8.92 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 8.5 dBV/m	Grid 2 M4 8.92 dBV/m	Grid 3 M4 8.63 dBV/m
Grid 4 M4 4.25 dBV/m	Grid 5 M4 7.32 dBV/m	Grid 6 M4 7.32 dBV/m
Grid 7 M4 8.06 dBV/m	Grid 8 M4 9.86 dBV/m	Grid 9 M4 9.64 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 1732.6 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;
- 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 (3); SEMCAD X Version 14.6.7 (6848)

W-CDMA Band IV/R99_ch 1413/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 20.57 V/m; Power Drift = -0.05 dB

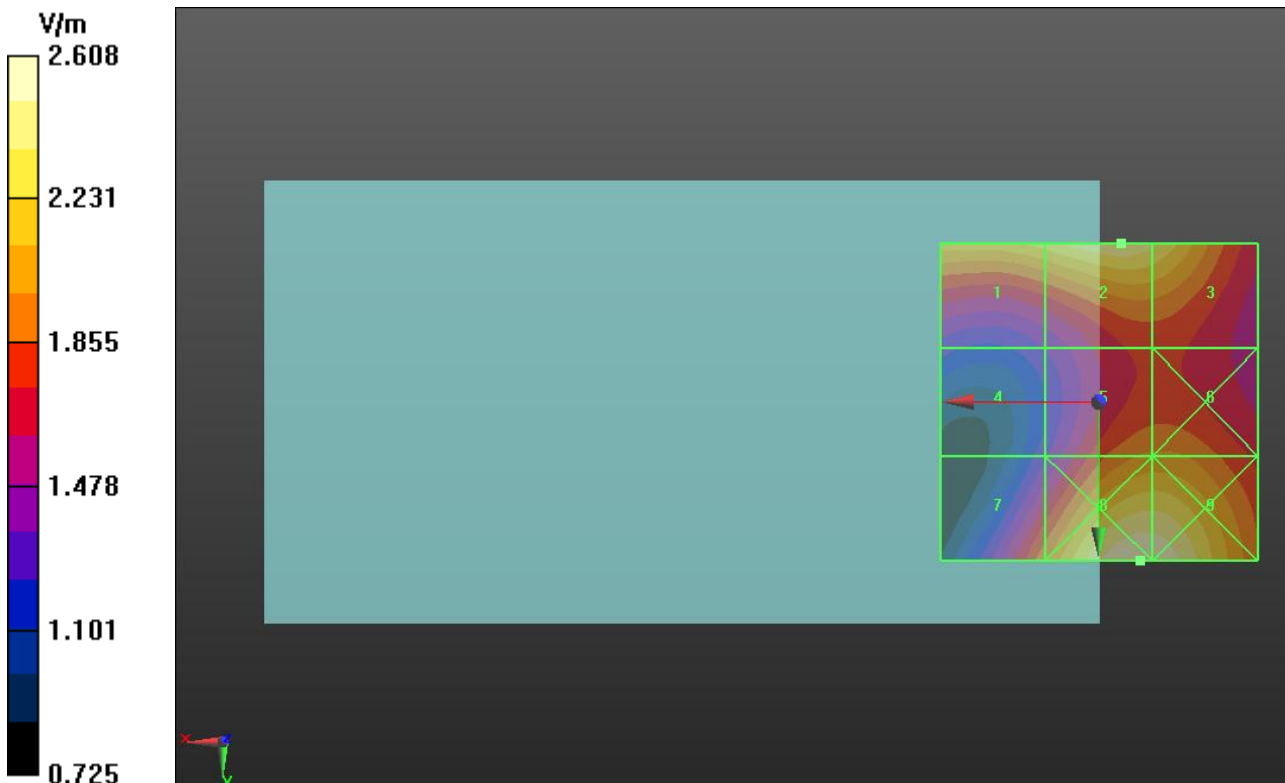
Applied MIF = -20.49 dB

RF audio interference level = 7.92 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 7.26 dBV/m	Grid 2 M4 7.92 dBV/m	Grid 3 M4 7.58 dBV/m
Grid 4 M4 2.7 dBV/m	Grid 5 M4 6.06 dBV/m	Grid 6 M4 6.08 dBV/m
Grid 7 M4 5.87 dBV/m	Grid 8 M4 8.33 dBV/m	Grid 9 M4 8.28 dBV/m



Test Laboratory: UL CCS SAR Lab C

HAC-RF Emission

Communication System: UMTS-FDD (WCDMA); Frequency: 1752.6 MHz; Duty Cycle: 1:2.18776

Phantom section: RF Section

DASY5 Configuration:

- Probe: ER3DV6 - SN2509; ConvF(1, 1, 1); Calibrated: 6/20/2012;

- 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 (3); SEMCAD X Version 14.6.7 (6848)

W-CDMA Band IV/R99_ch 1513/Hearing Aid Compatibility Test (101x101x1): Interpolated grid:

dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 21.65 V/m; Power Drift = -0.13 dB

Applied MIF = -20.49 dB

RF audio interference level = 8.12 dBV/m

Emission category: **M4**

MIF scaled E-field

Grid 1 M4 7.67 dBV/m	Grid 2 M4 8.56 dBV/m	Grid 3 M4 8.29 dBV/m
Grid 4 M4 2.91 dBV/m	Grid 5 M4 6.03 dBV/m	Grid 6 M4 6.06 dBV/m
Grid 7 M4 5.55 dBV/m	Grid 8 M4 8.12 dBV/m	Grid 9 M4 8.06 dBV/m

