



REPORT No. : SZ19080141S02

Annex C Plots of T-Coil Test Results

HAC_T-Coil_GSM850_GSM Voice_Ch189_Z

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

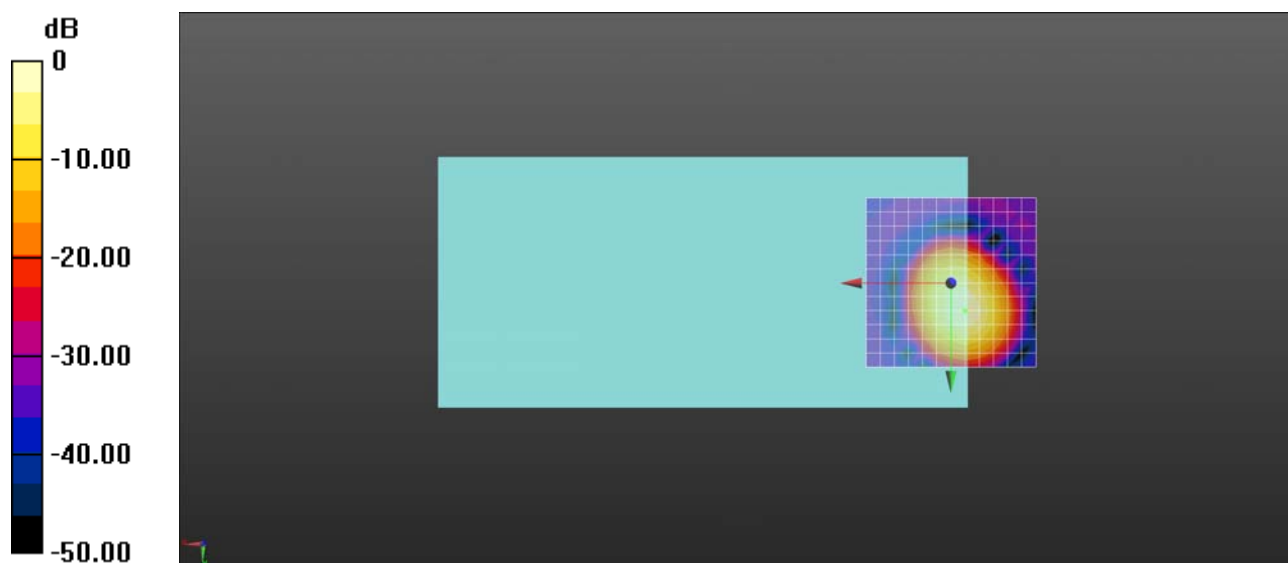
Ch189/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid: dx=10mm, dy=10mm

ABM1/ABM2 = 46.64 dB

ABM1 comp = -2.10 dBA/m

BWC Factor = -0.01 dB

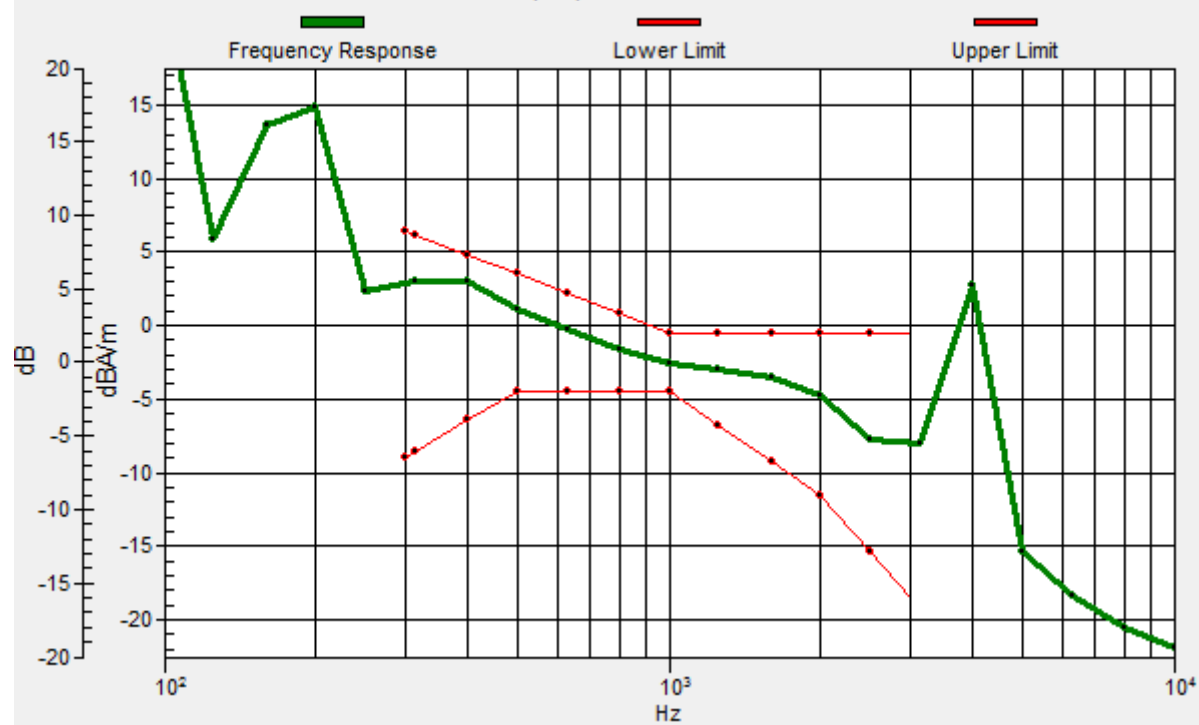
Location: -4.2, 8.3, 3.7 mm



0 dB = 214.8 = 46.64 dB

Ch189/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 8.3, 3.7 mm Diff: 1.75dB



HAC_T-Coil_GSM850_GSM Voice_Ch189_Y

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch189/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

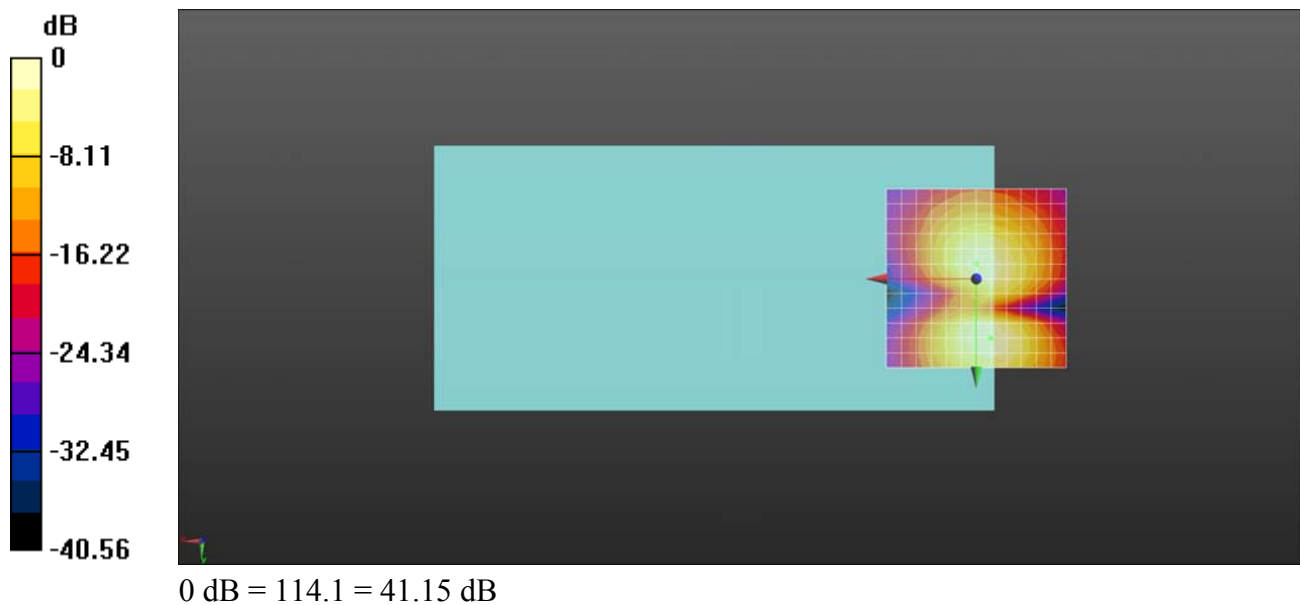
dx=10mm, dy=10mm

ABM1/ABM2 = 41.14 dB

ABM1 comp = -10.86 dBA/m

BWC Factor = -0.01 dB

Location: 0, -4.2, 3.7 mm



HAC_T-Coil_GSM1900_GSM Voice_Ch661_Z

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

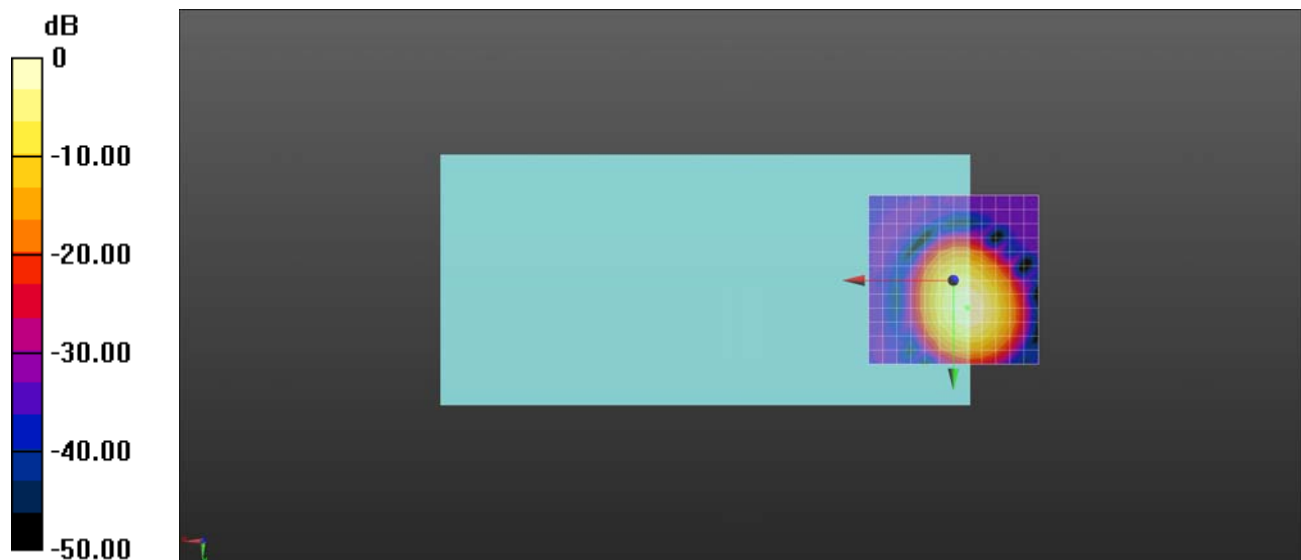
Ch661/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid: dx=10mm, dy=10mm

ABM1/ABM2 = 52.23 dB

ABM1 comp = -1.60 dBA/m

BWC Factor = -0.0089 dB

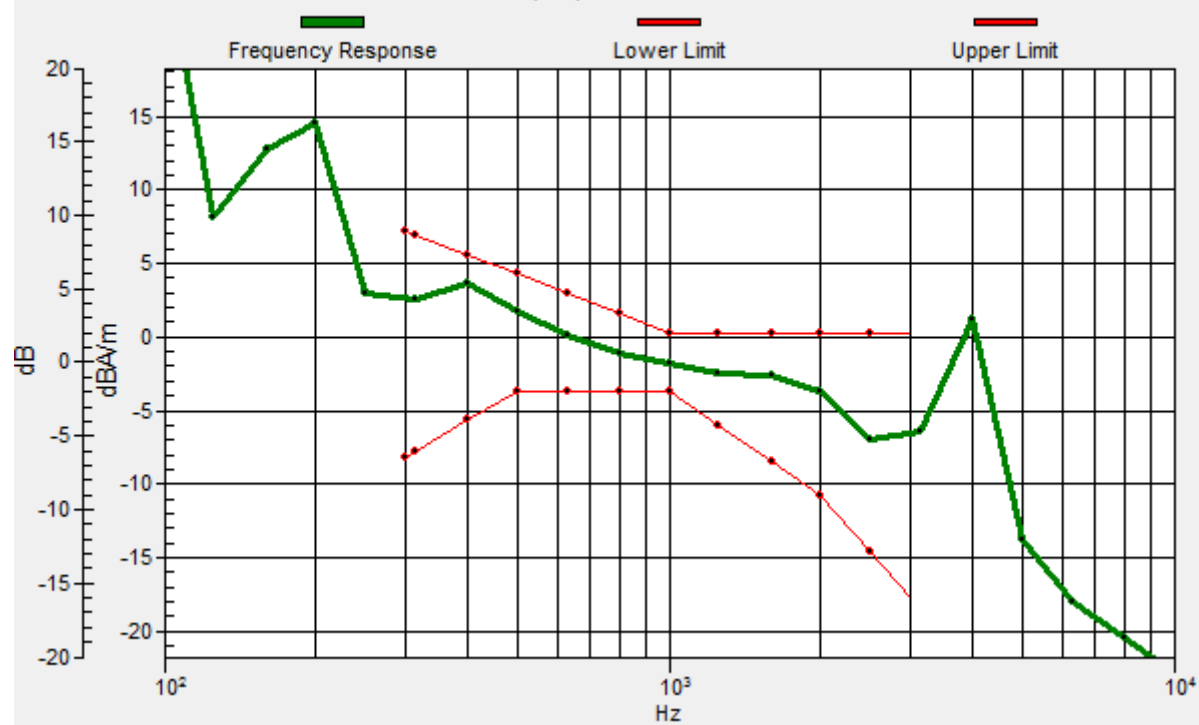
Location: -4.2, 8.3, 3.7 mm



0 dB = 408.7 = 52.23 dB

Ch661/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 8.3, 3.7 mm Diff: 1.98dB



HAC_T-Coil_GSM1900_GSM Voice_Ch661_Y

Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch661/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

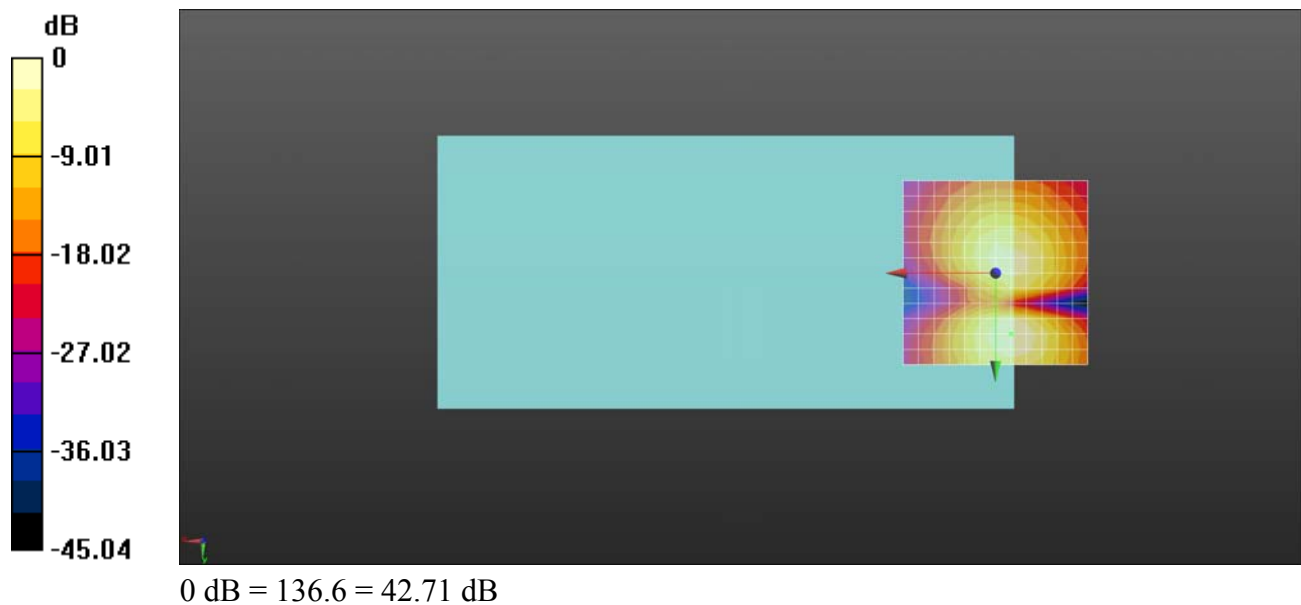
dx=10mm, dy=10mm

ABM1/ABM2 = 42.71 dB

ABM1 comp = -9.43 dBA/m

BWC Factor = -0.0089 dB

Location: -4.2, 16.7, 3.7 mm



HAC_T-Coil_WCDMA Band II AMR 12.12Kbps_Ch9400_Z

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9400/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

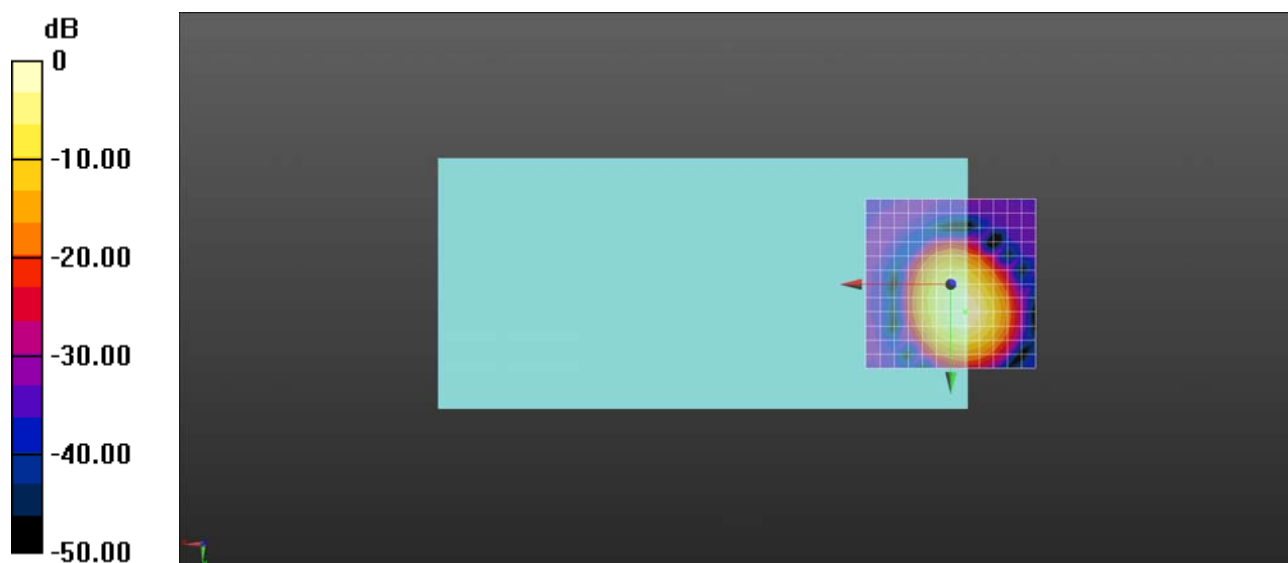
dx=10mm, dy=10mm

ABM1/ABM2 = 56.17 dB

ABM1 comp = -1.57 dBA/m

BWC Factor = -0.01 dB

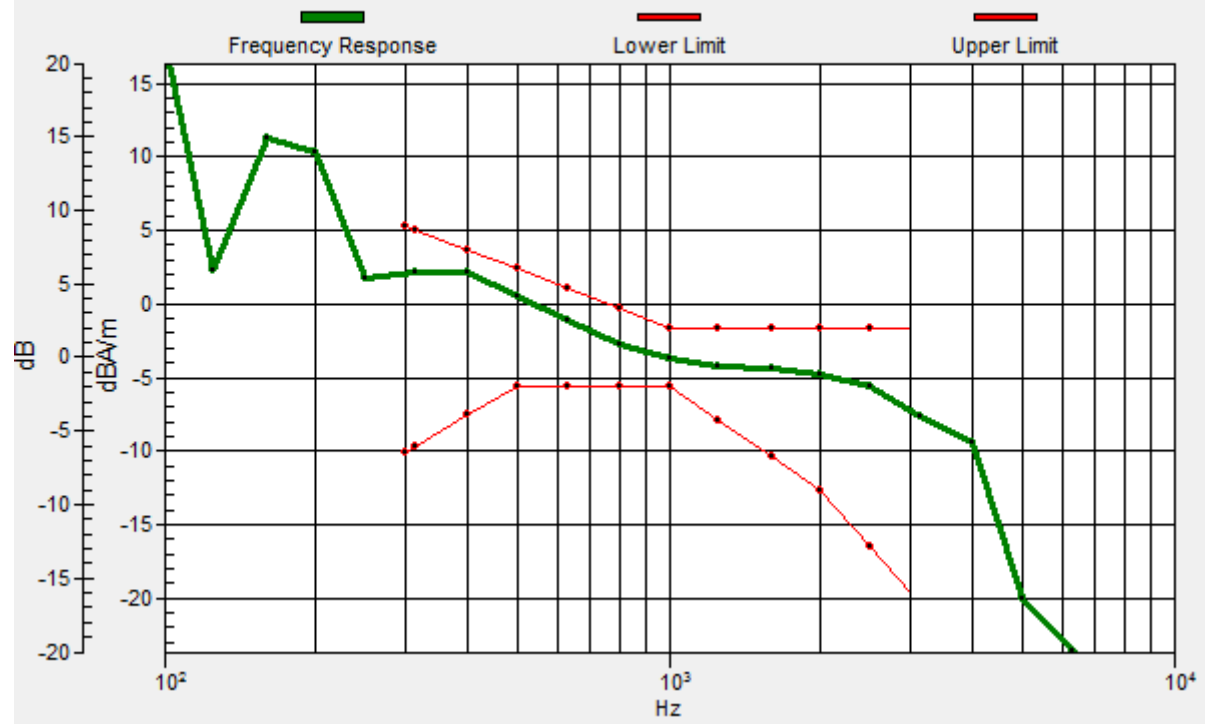
Location: -4.2, 8.3, 3.7 mm



0 dB = 643.4 = 56.17 dB

Ch9400/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 8.3, 3.7 mm Diff: 1.47dB



HAC_T-Coil_WCDMA Band II AMR 12.12Kbps_Ch9400_Y

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9400/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

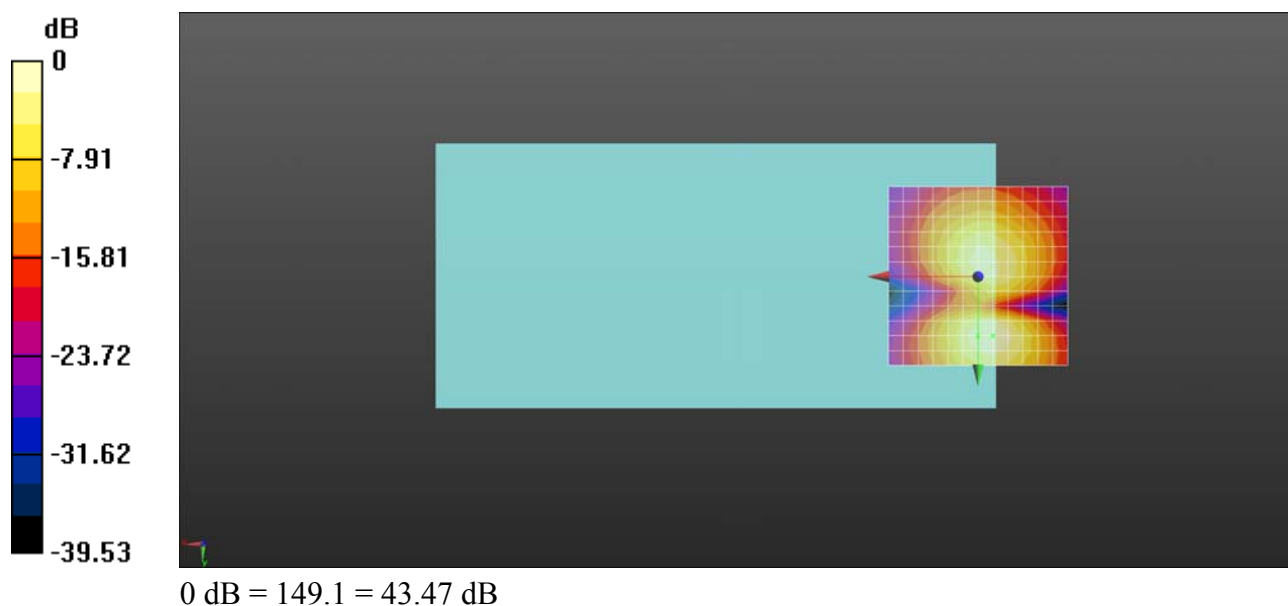
dx=10mm, dy=10mm

ABM1/ABM2 = 43.47 dB

ABM1 comp = -10.01 dBA/m

BWC Factor = -0.01 dB

Location: 0, 16.7, 3.7 mm



HAC_T-Coil_WCDMA Band IV AMR 12.12Kbps_Ch1413_Z

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1413/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

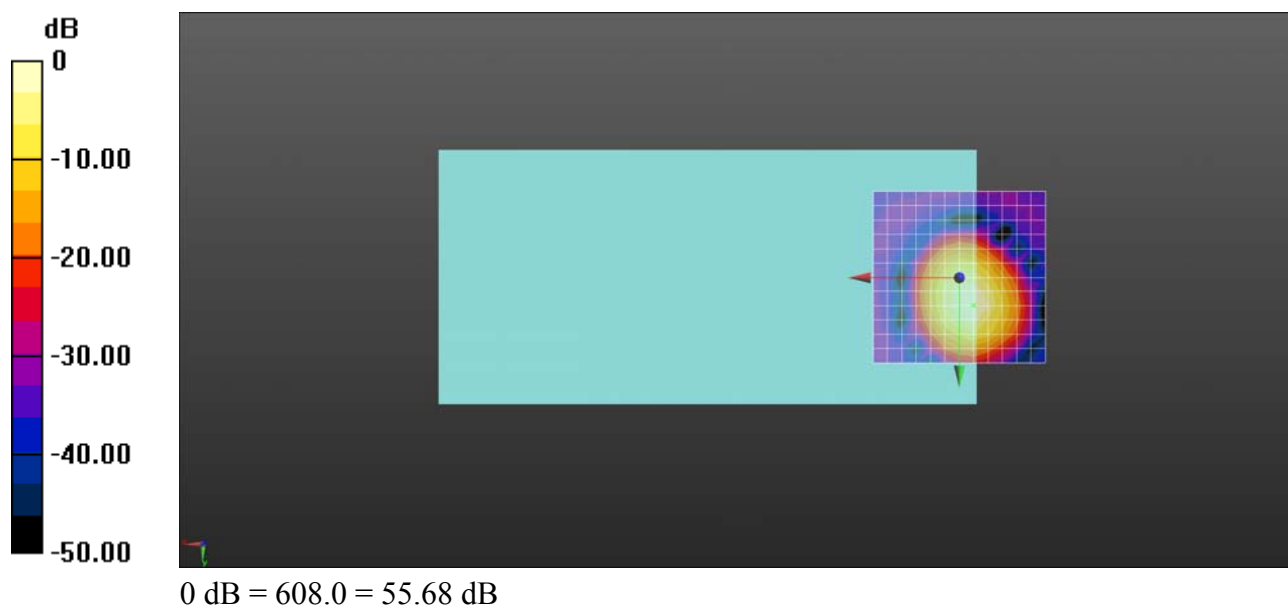
dx=10mm, dy=10mm

ABM1/ABM2 = 55.68 dB

ABM1 comp = -1.74 dBA/m

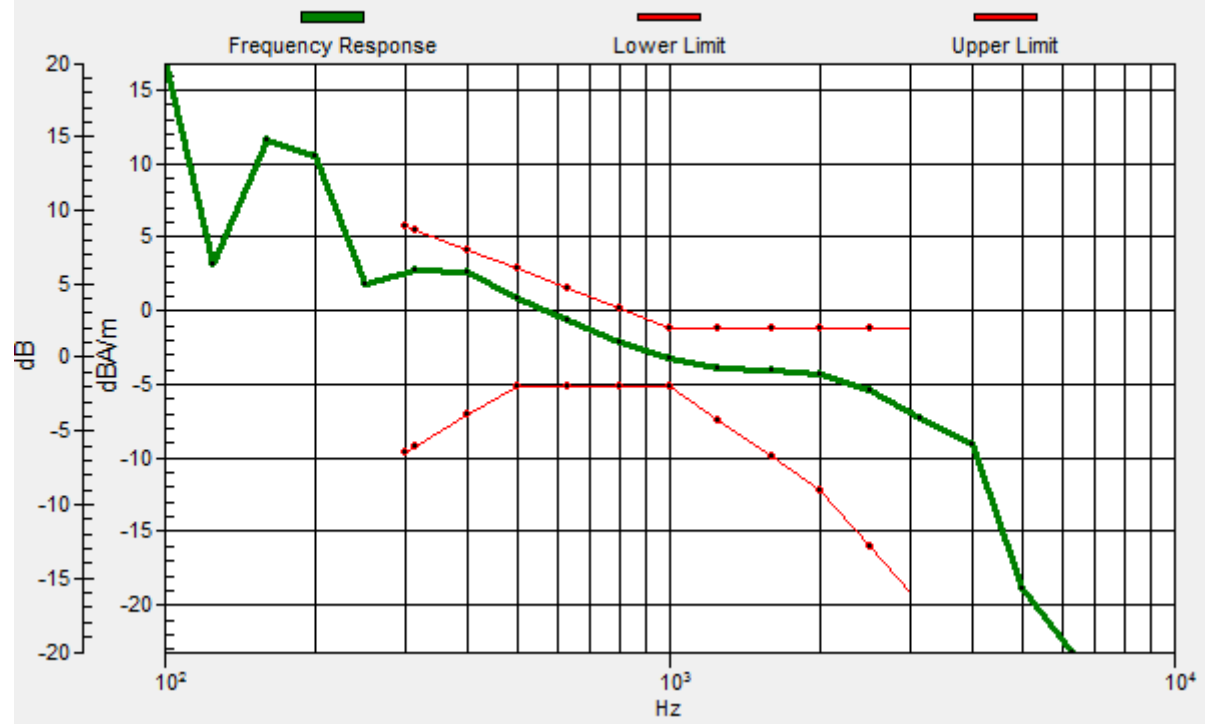
BWC Factor = -0.01 dB

Location: -4.2, 8.3, 3.7 mm



Ch1413/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 8.3, 3.7 mm Diff: 1.52dB



HAC_T-Coil_WCDMA Band IV AMR 12.12Kbps_Ch1413_Y

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1413/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

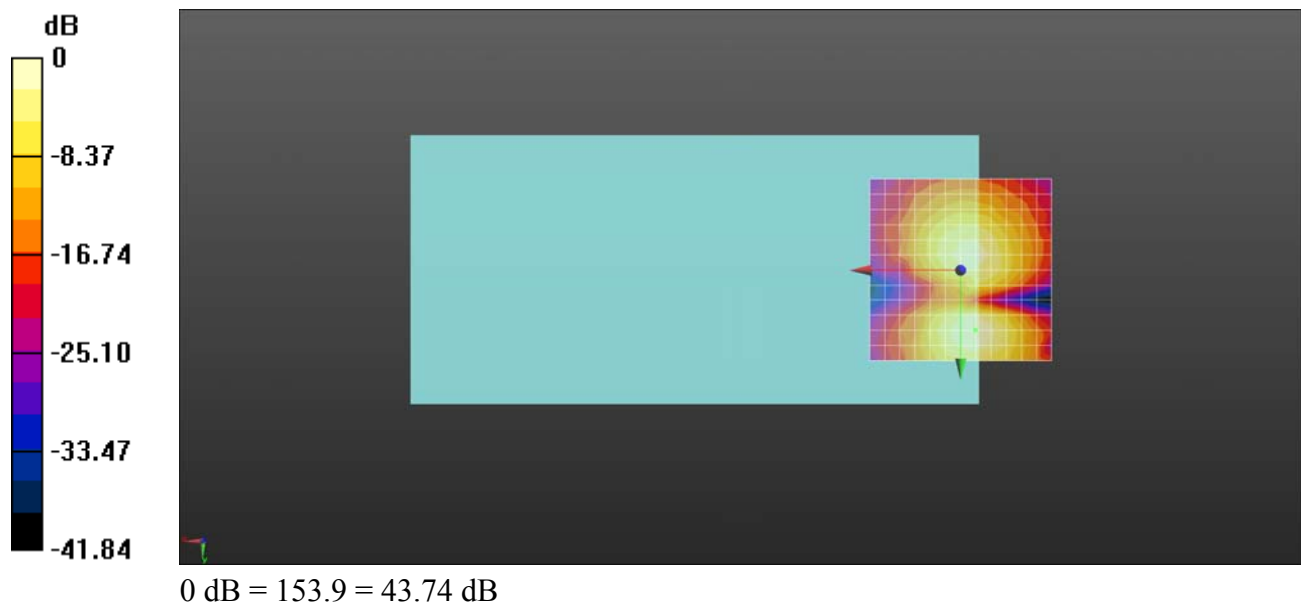
dx=10mm, dy=10mm

ABM1/ABM2 = 43.75 dB

ABM1 comp = -9.49 dBA/m

BWC Factor = -0.01 dB

Location: -4.2, 16.7, 3.7 mm



HAC_T-Coil_WCDMA Band V AMR 12.12Kbps_Ch4183_Z

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4183/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

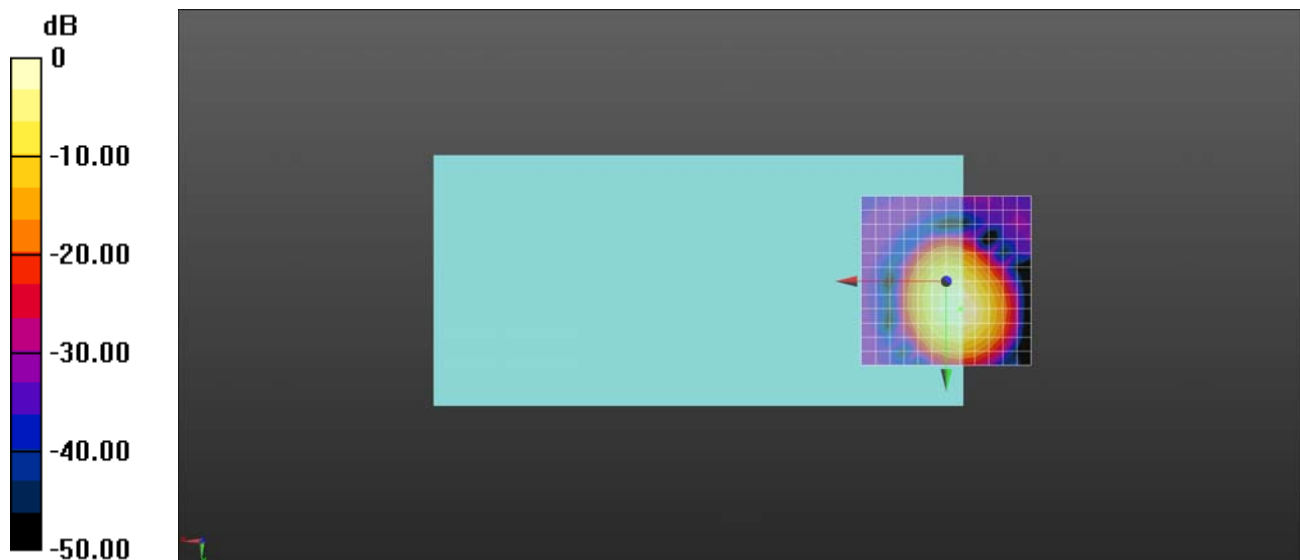
dx=10mm, dy=10mm

ABM1/ABM2 = 55.84 dB

ABM1 comp = -1.93 dBA/m

BWC Factor = -0.01 dB

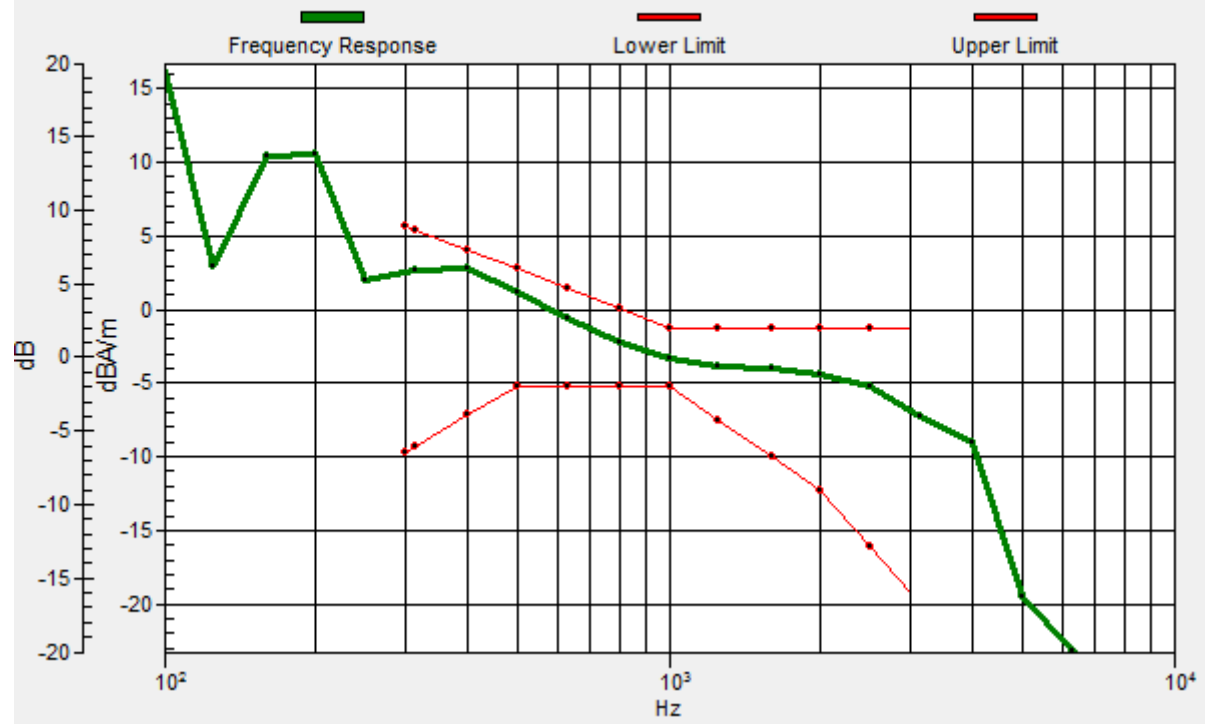
Location: -4.2, 8.3, 3.7 mm



0 dB = 619.6 = 55.84 dB

Ch4183/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 8.3, 3.7 mm Diff: 1.17dB



HAC_T-Coil_WCDMA Band V AMR 12.12Kbps_Ch4183_Y

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn480; Calibrated: 2019.04.11
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4183/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

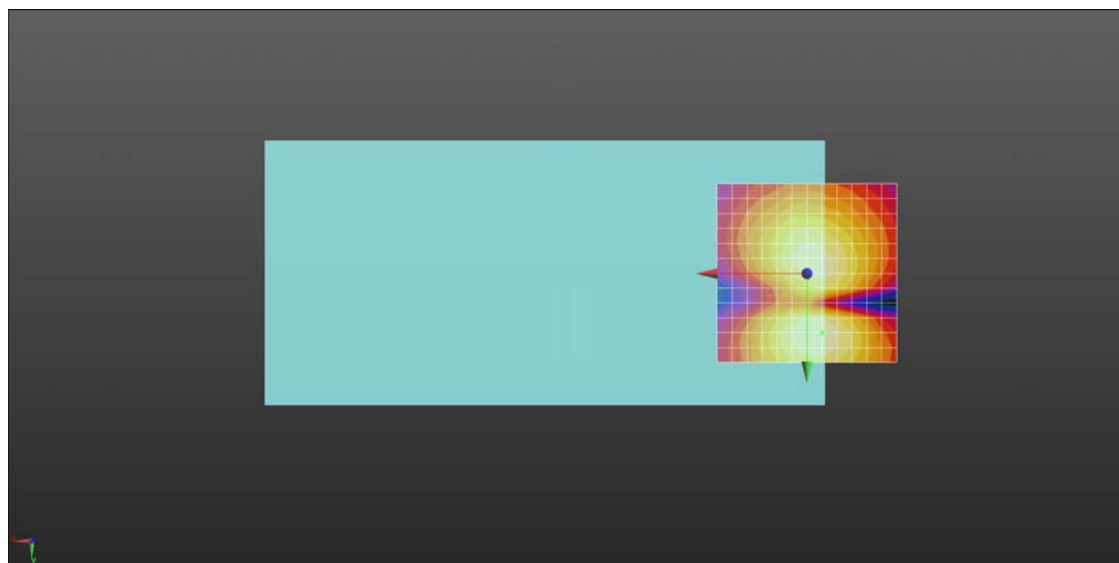
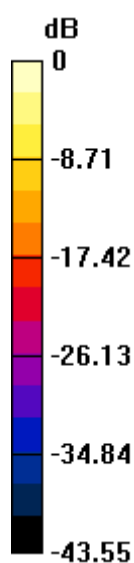
dx=10mm, dy=10mm

ABM1/ABM2 = 43.18 dB

ABM1 comp = -9.29 dBA/m

BWC Factor = -0.01 dB

Location: -4.2, 16.7, 3.7 mm



0 dB = 144.2 = 43.18 dB

HAC_T-Coil_LTE Band 2_20M_QPSK_1RB_0offset_12.2Kbps_Ch18900_Z

Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch18900/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

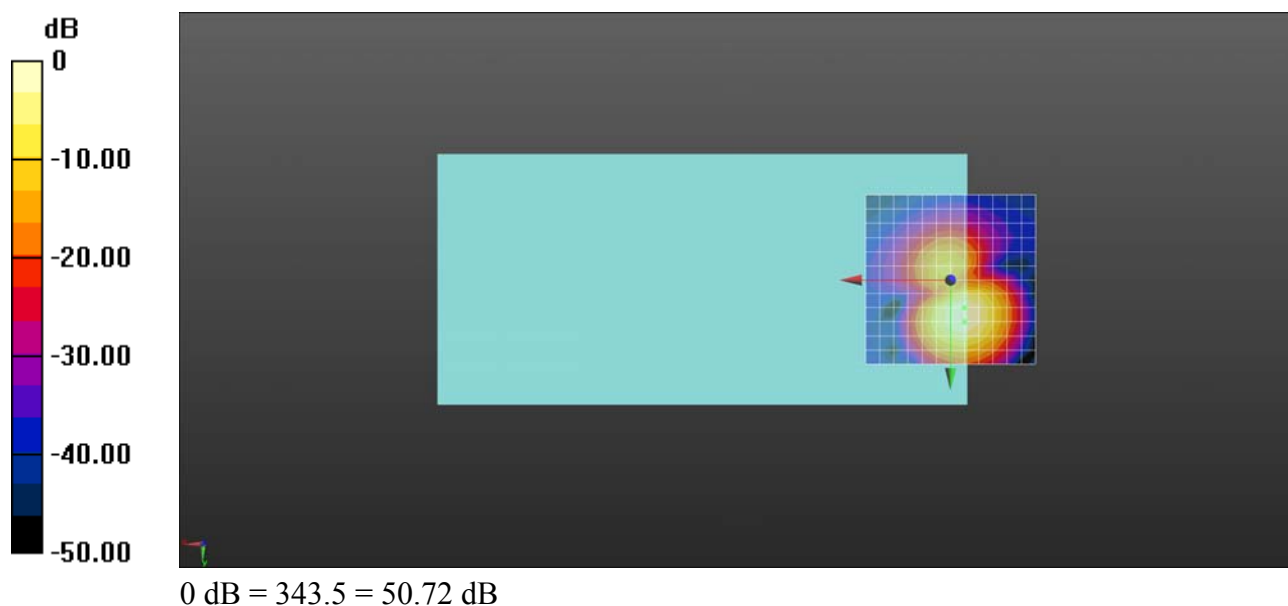
dx=10mm, dy=10mm

ABM1/ABM2 = 50.72 dB

ABM1 comp = -7.11 dBA/m

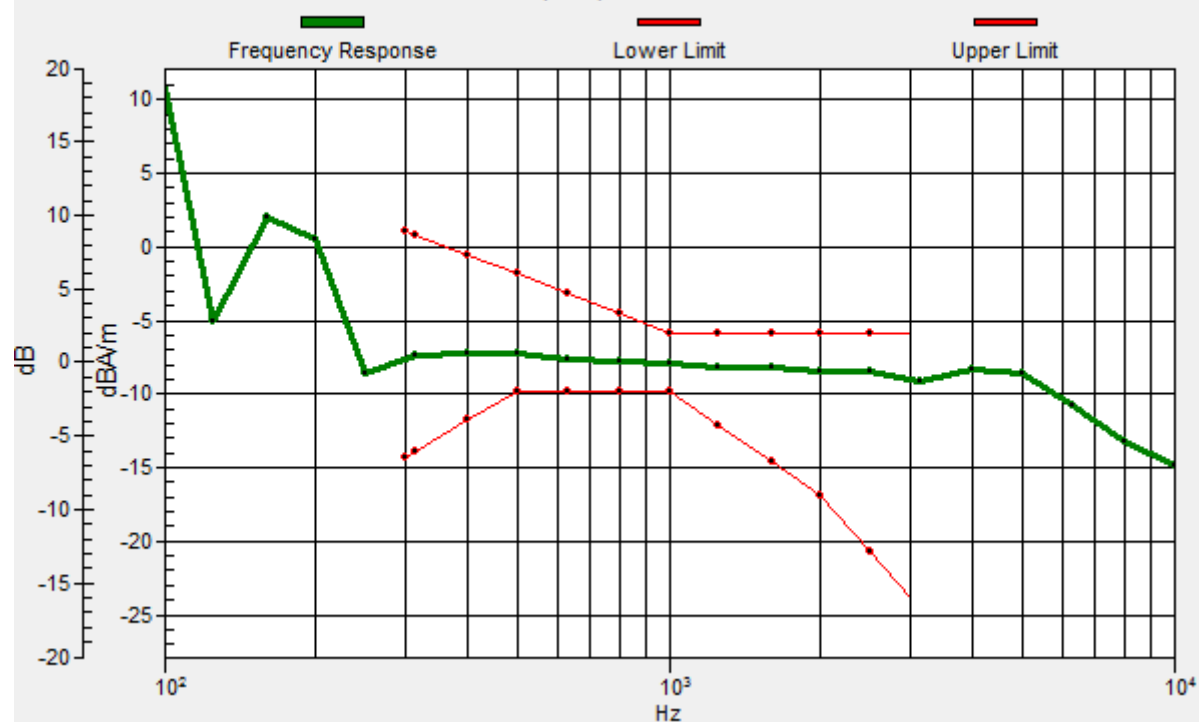
BWC Factor = -0.01 dB

Location: -4.2, 12.5, 3.7 mm



Ch18900/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 12.5, 3.7 mm Diff: 2dB



HAC_T-Coil_LTE Band 2_20M_QPSK_1RB_0offset_12.2Kbps_Ch18900_Y

Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch18900/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

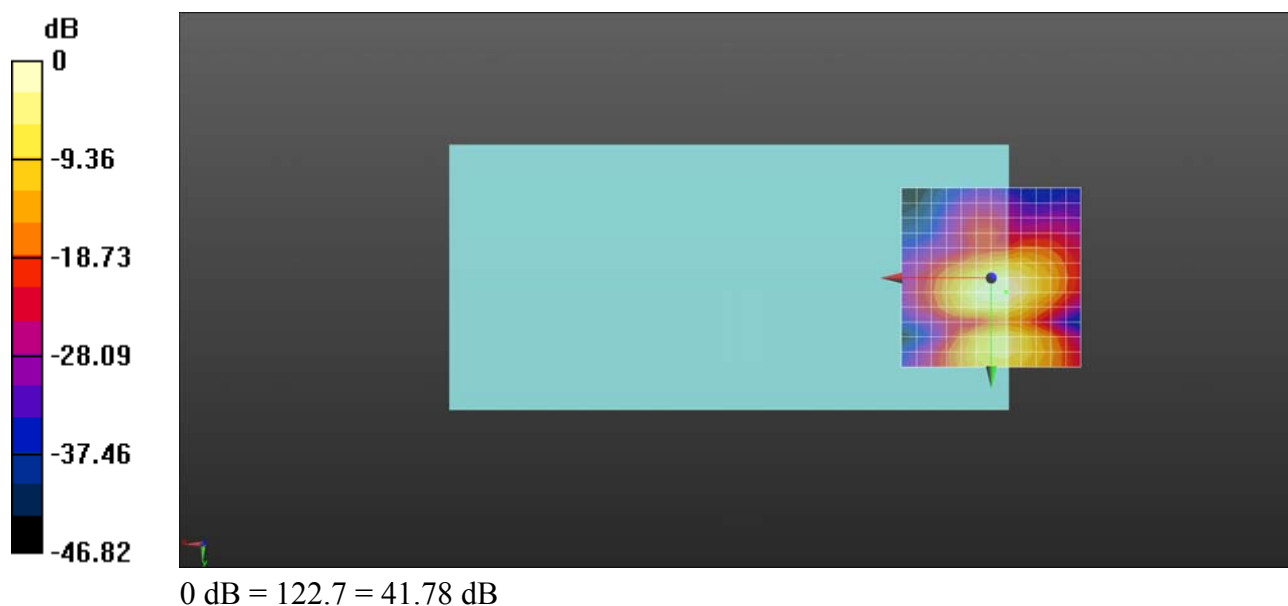
dx=10mm, dy=10mm

ABM1/ABM2 = 41.78 dB

ABM1 comp = -11.84 dBA/m

BWC Factor = -0.01 dB

Location: -4.2, 4.2, 3.7 mm



HAC_T-Coil_LTE Band 4_20M_QPSK_1RB_0offset_12.2Kbps_Ch20175_Z

Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20175/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

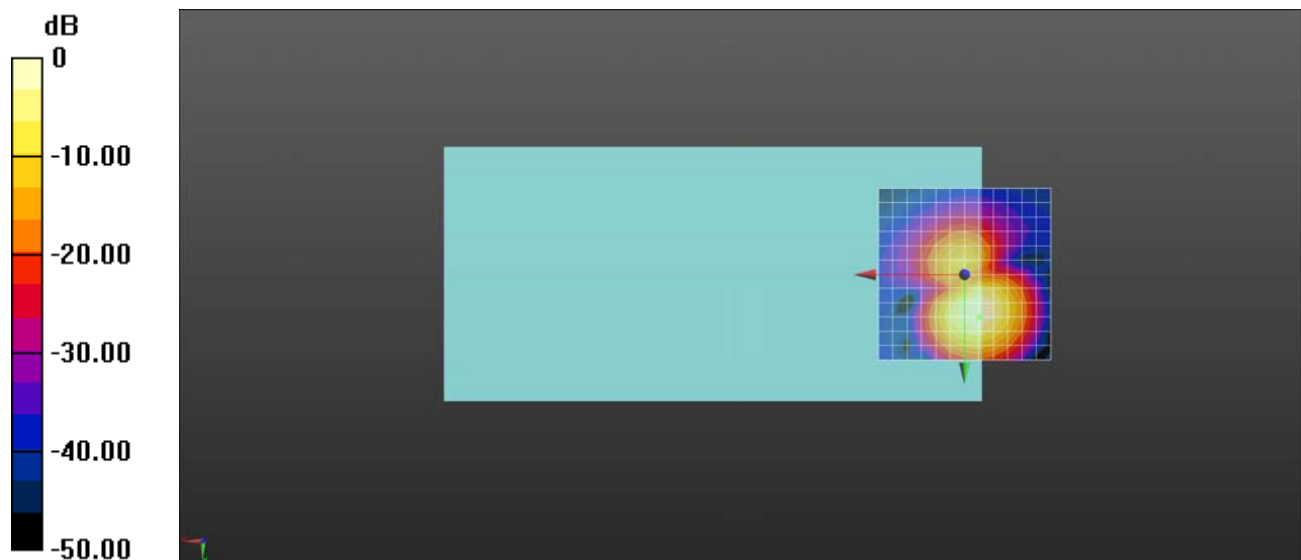
dx=10mm, dy=10mm

ABM1/ABM2 = 50.74 dB

ABM1 comp = -7.10 dBA/m

BWC Factor = -0.02 dB

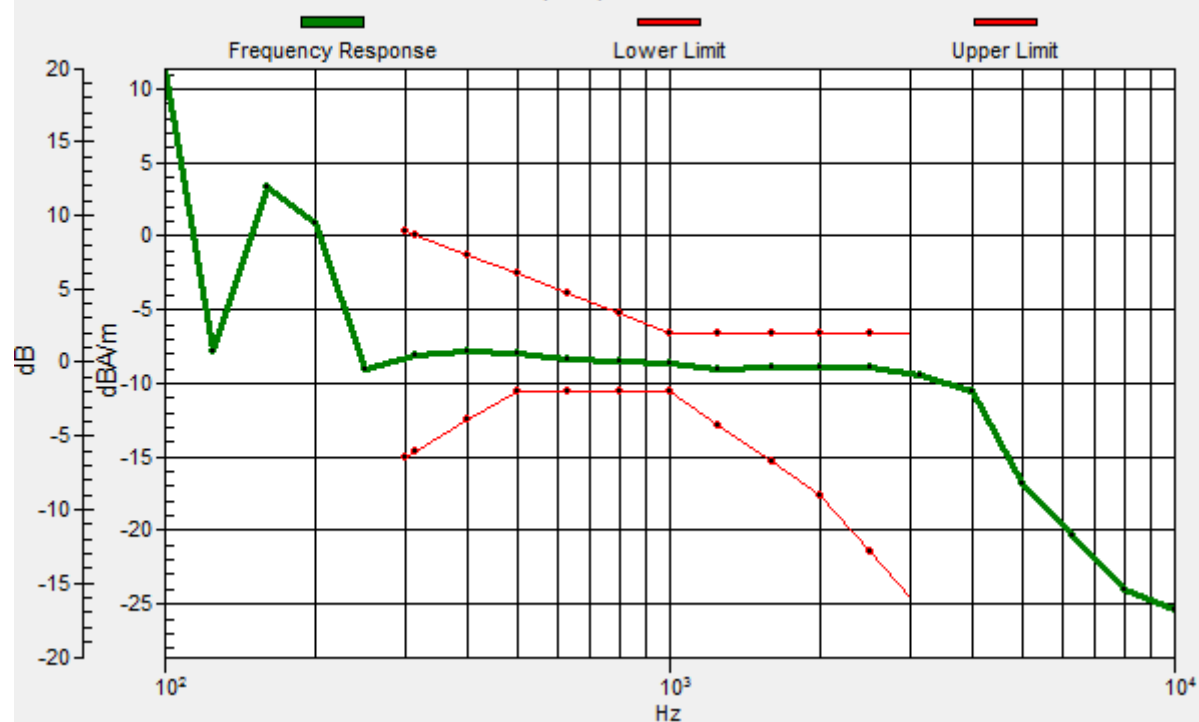
Location: -4.2, 12.5, 3.7 mm



0 dB = 344.5 = 50.74 dB

Ch20175/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 12.5, 3.7 mm Diff: 2dB



HAC_T-Coil_LTE Band 4_20M_QPSK_1RB_0offset_12.2Kbps_Ch20175_Y

Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20175/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

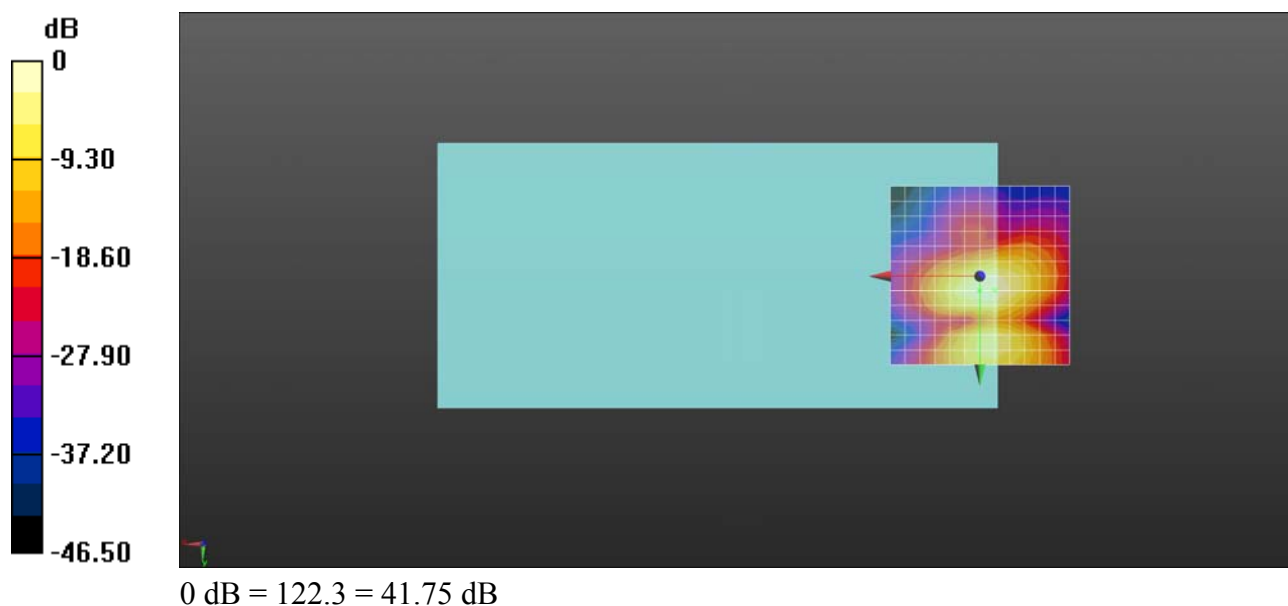
dx=10mm, dy=10mm

ABM1/ABM2 = 41.75 dB

ABM1 comp = -12.23 dBA/m

BWC Factor = -0.02 dB

Location: -4.2, 4.2, 3.7 mm



HAC_T-Coil_LTE Band 5_10M_QPSK_1RB_0offset_12.2Kbps_Ch20525_Z

Communication System: UID 10175 - CAB, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

dx=10mm, dy=10mm

ABM1/ABM2 = 56.23 dB

ABM1 comp = -0.76 dBA/m

BWC Factor = -0.02 dB

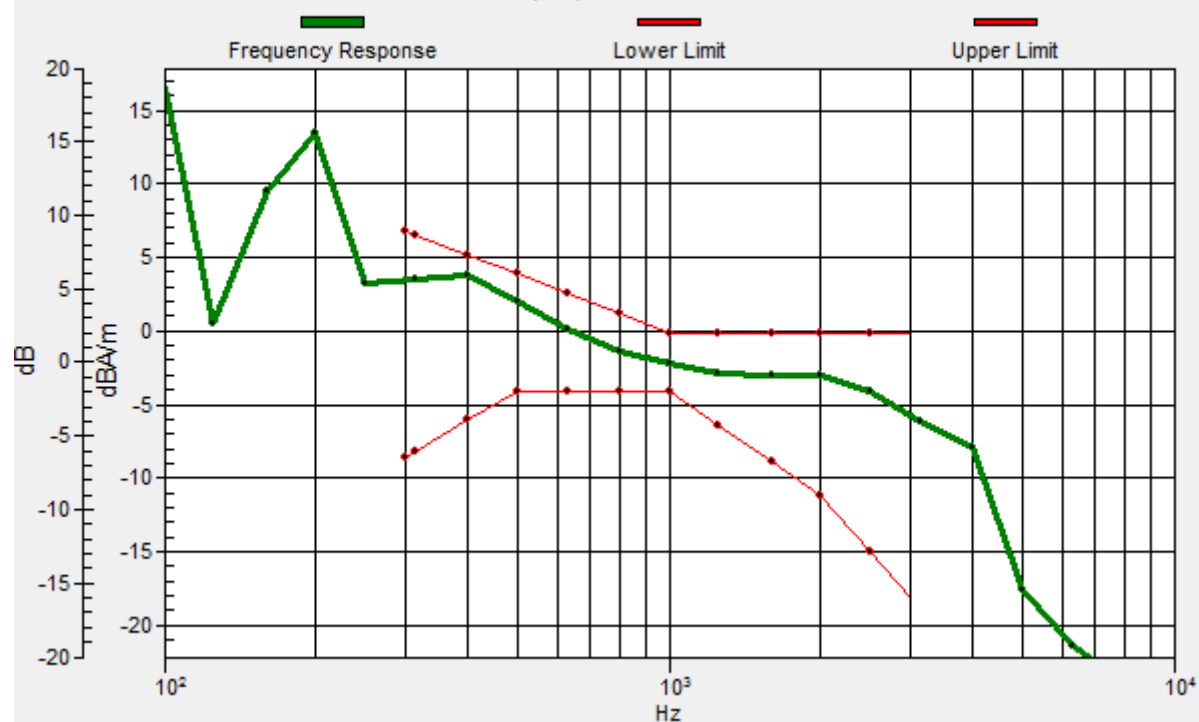
Location: -4.2, 8.3, 3.7 mm



0 dB = 648.0 = 56.23 dB

Ch20525/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 8.3, 3.7 mm Diff: 1.36dB



HAC_T-Coil_LTE Band 5_10M_QPSK_1RB_0offset_12.2Kbps_Ch20525_Y

Communication System: UID 10175 - CAB, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

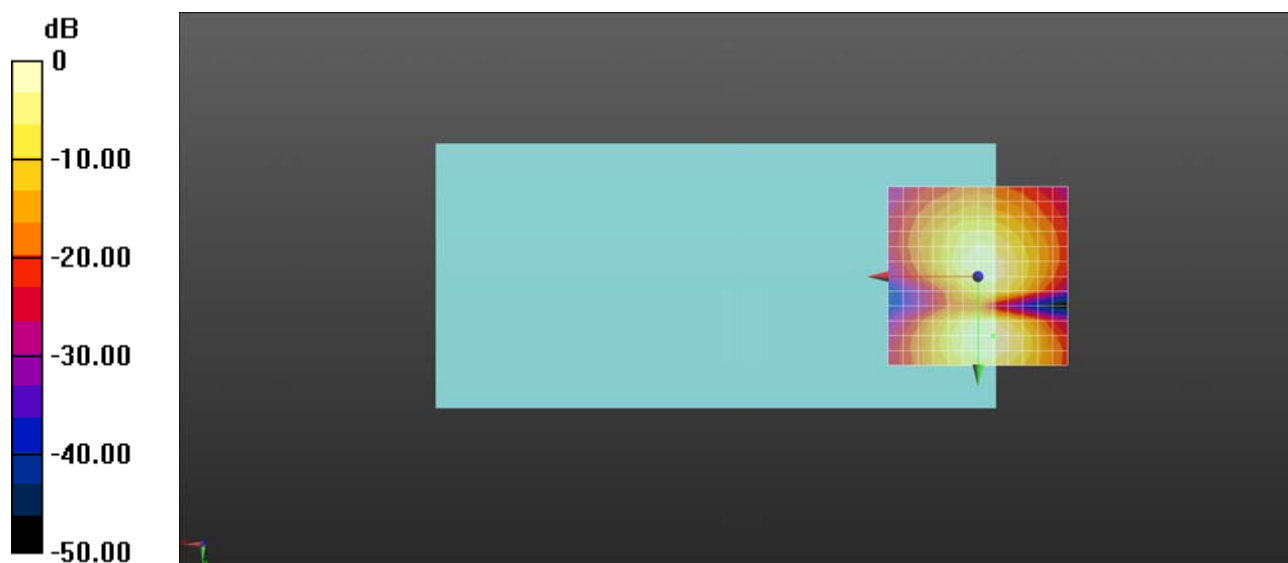
dx=10mm, dy=10mm

ABM1/ABM2 = 44.83 dB

ABM1 comp = -8.69 dBA/m

BWC Factor = -0.02 dB

Location: -4.2, 16.7, 3.7 mm



HAC_T-Coil_LTE Band 13_10M_QPSK_1RB_0offset_12.2Kbps_Ch23230_Z

Communication System: UID 10175 - CAB, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 782 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23230/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

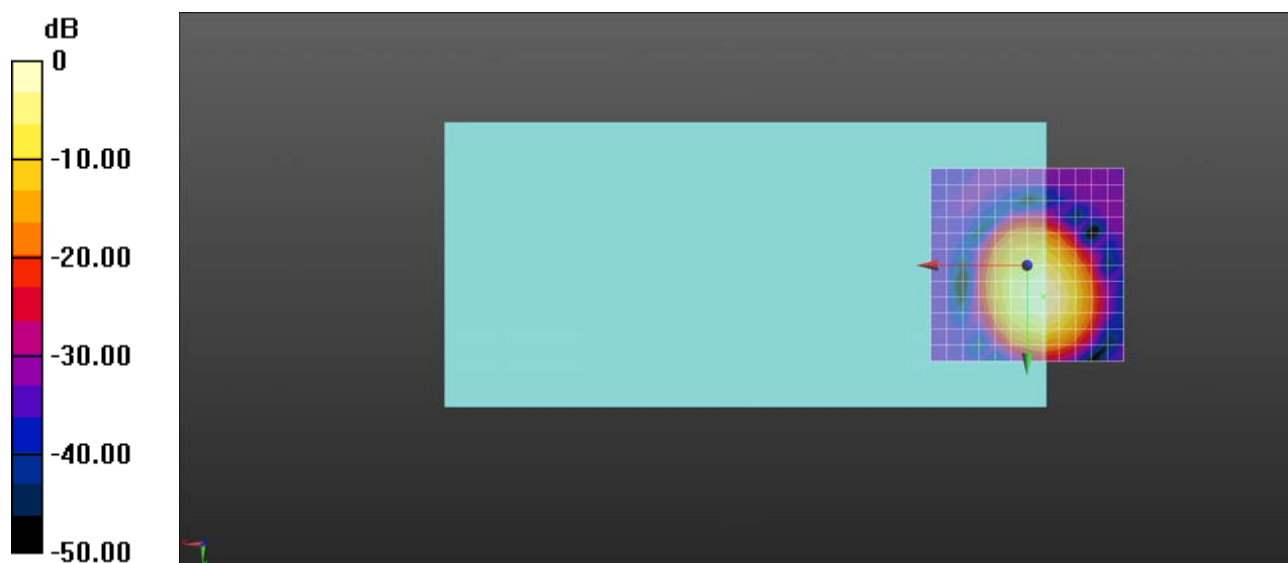
dx=10mm, dy=10mm

ABM1/ABM2 = 55.95 dB

ABM1 comp = -0.89 dBA/m

BWC Factor = -0.01 dB

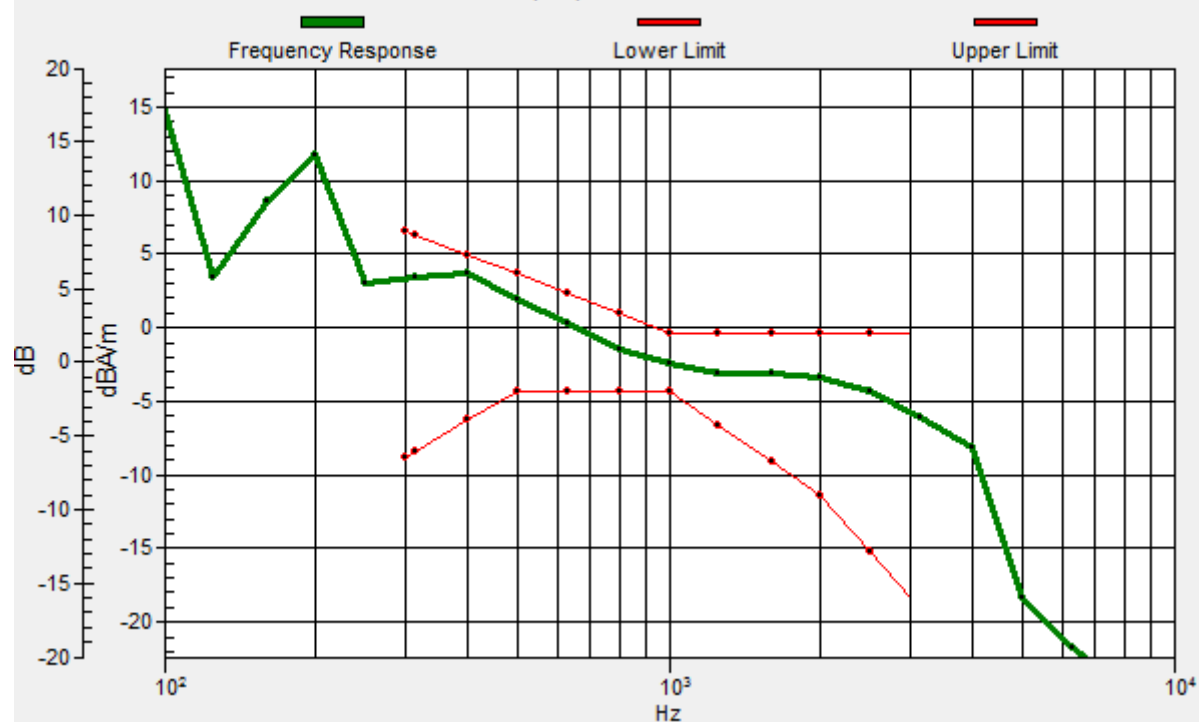
Location: -4.2, 8.3, 3.7 mm



0 dB = 627.2 = 55.95 dB

Ch23230/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 8.3, 3.7 mm Diff: 1.24dB



HAC_T-Coil_LTE Band 13_10M_QPSK_1RB_0offset_12.2Kbps_Ch23230_Y

Communication System: UID 10175 - CAB, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 782 MHz; Duty Cycle: 1:1

Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 0$ kg/m³

Ambient Temperature : 23.2 °C

DASY5 Configuration:

- Probe: AM1DV2 - 1048; ; Calibrated: 2018.10.24

- Sensor-Surface: 0mm (Fix Surface)

- Electronics: DAE4 Sn480; Calibrated: 2019.04.11

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

- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23230/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

dx=10mm, dy=10mm

ABM1/ABM2 = 43.64 dB

ABM1 comp = -8.64 dBA/m

BWC Factor = -0.01 dB

Location: -4.2, 16.7, 3.7 mm

