



REPORT No. : SZ19090323S02

## 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/m<sup>3</sup>

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)

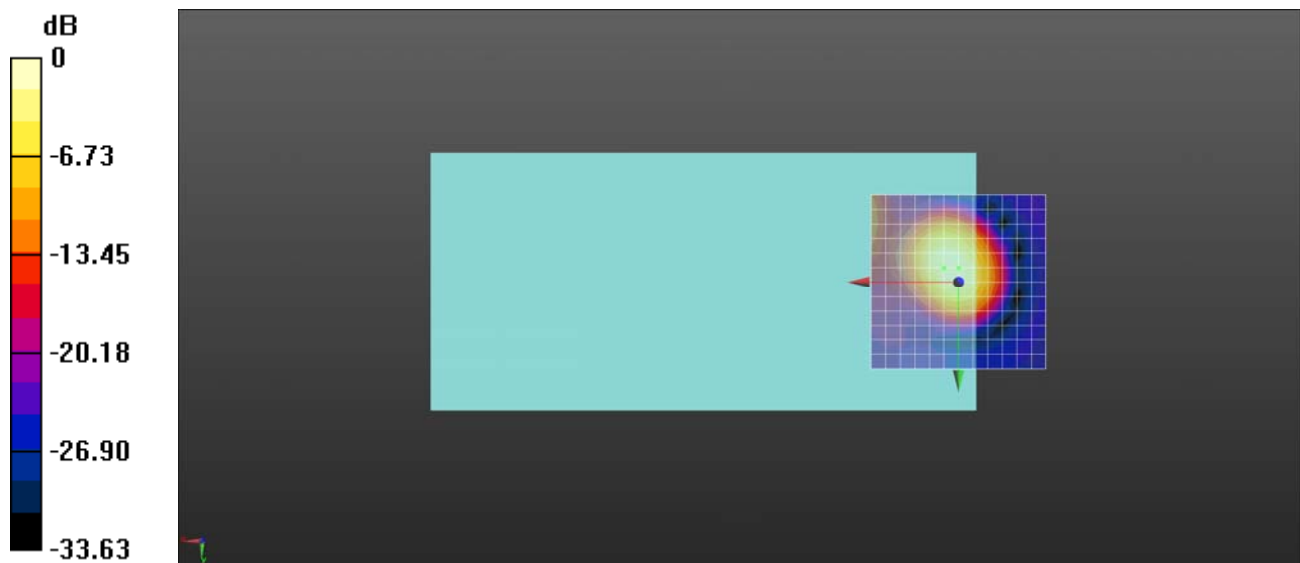
**Ch189/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid: dx=10mm, dy=10mm

ABM1/ABM2 = 26.17 dB

ABM1 comp = -0.91 dBA/m

BWC Factor = 0.03 dB

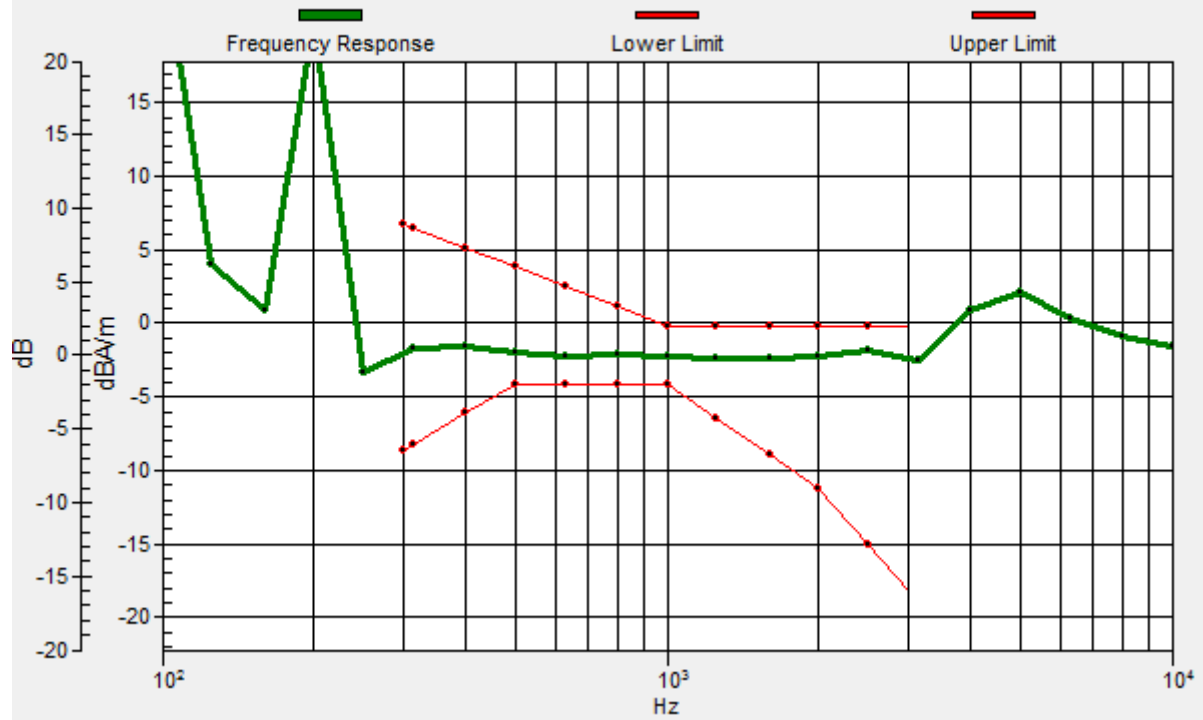
Location: 0, -4.2, 3.7 mm



0 dB = 20.34 = 26.17 dB

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

Loc: 0, -4.2, 3.7 mm Diff: 1.71dB



### 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/m<sup>3</sup>

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:

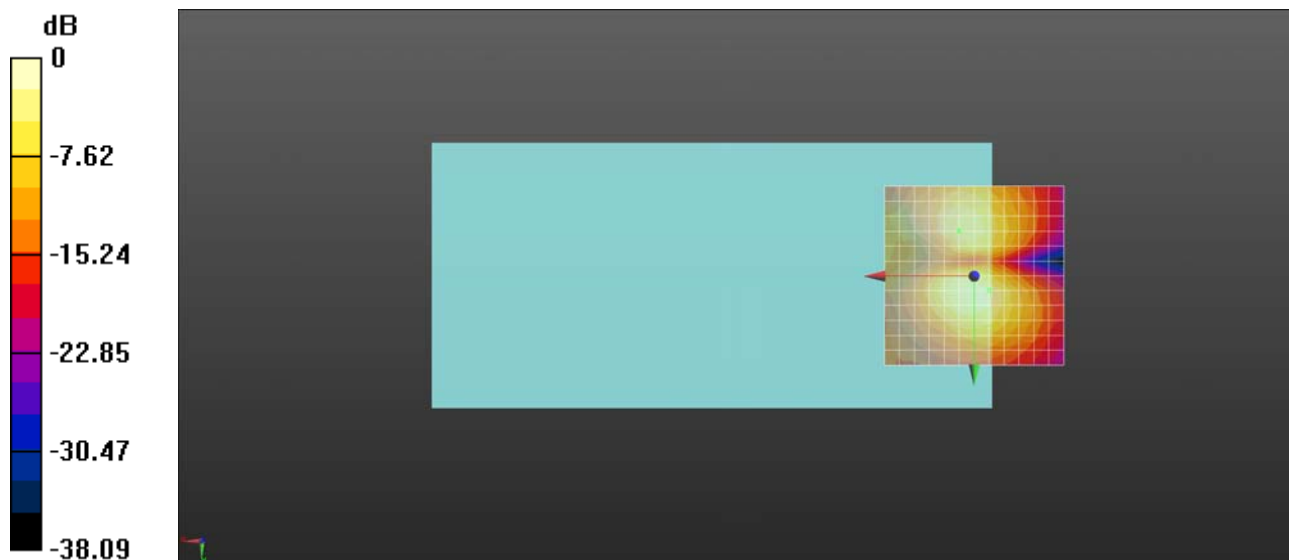
dx=10mm, dy=10mm

ABM1/ABM2 = 30.68 dB

ABM1 comp = -10.35 dBA/m

BWC Factor = 0.03 dB

Location: -4.2, 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/m<sup>3</sup>

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) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1):** Measurement

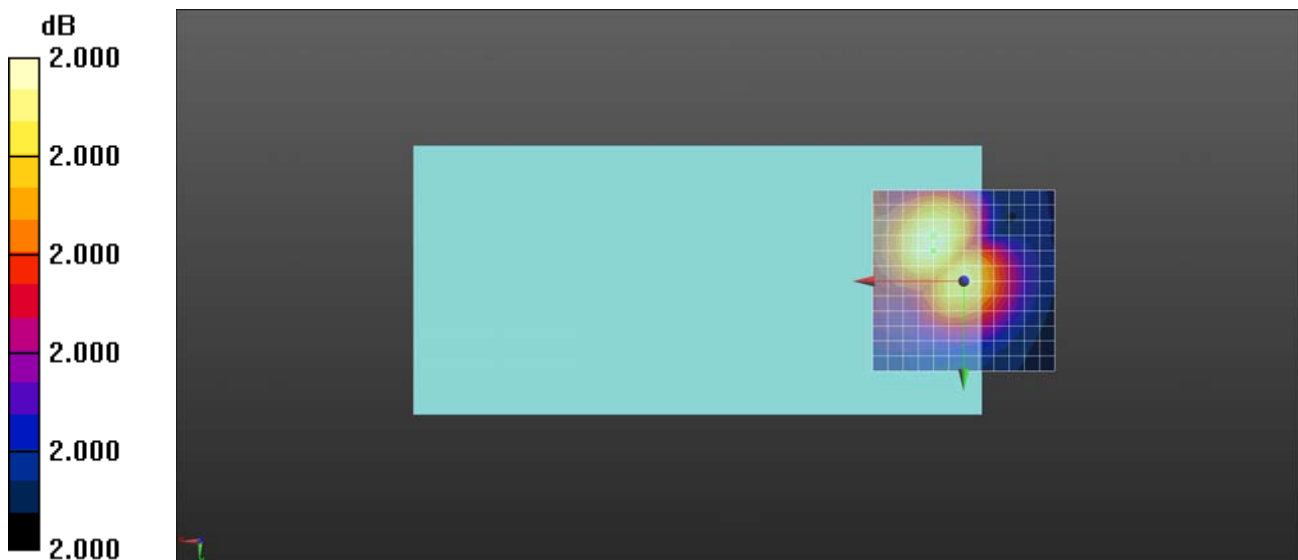
grid: dx=10mm, dy=10mm

ABM1/ABM2 = 22.34 dB

ABM1 comp = -5.95 dBA/m

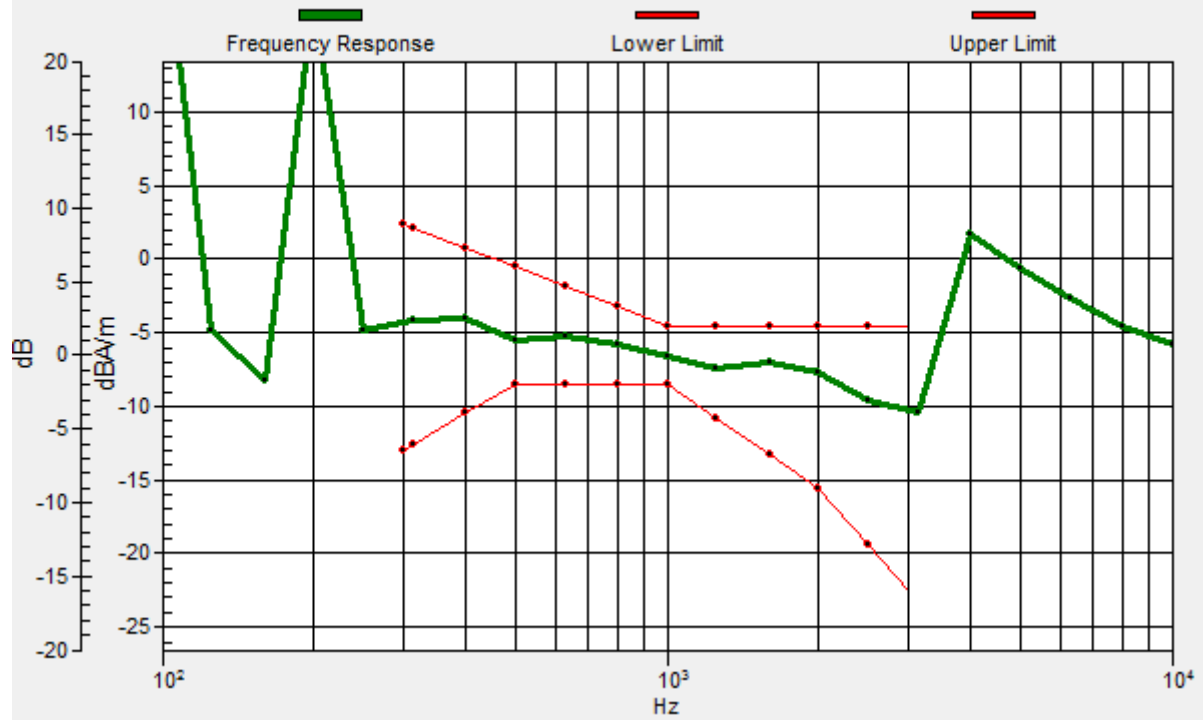
BWC Factor = -0.0049 dB

Location: 8.3, -12.5, 3.7 mm



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

Loc: 8.3, -12.5, 3.7 mm Diff: 2dB



### 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/m<sup>3</sup>

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:

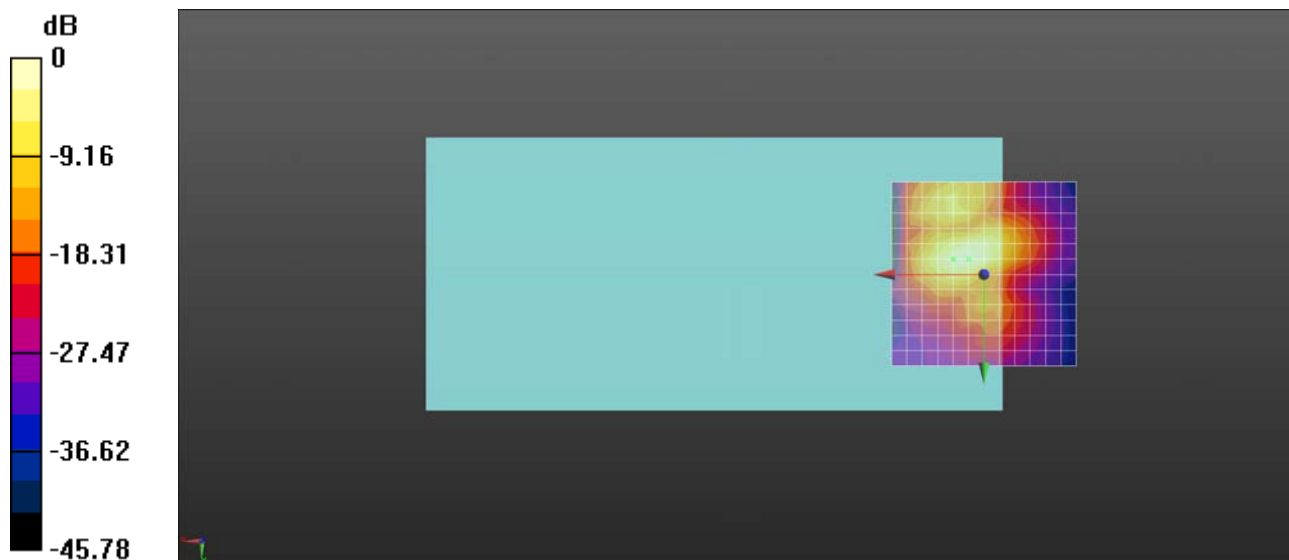
dx=10mm, dy=10mm

ABM1/ABM2 = 38.26 dB

ABM1 comp = -11.20 dBA/m

BWC Factor = -0.0049 dB

Location: 4.2, -4.2, 3.7 mm



0 dB = 81.82 = 38.26 dB

### 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/m<sup>3</sup>

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:

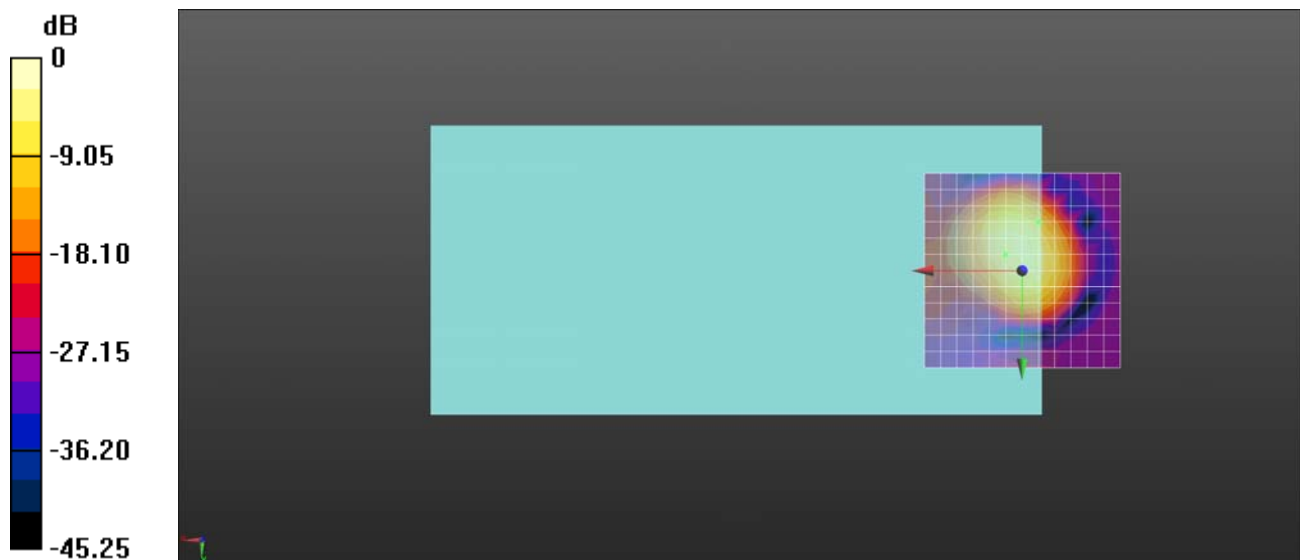
dx=10mm, dy=10mm

ABM1/ABM2 = 36.81 dB

ABM1 comp = -12.36 dBA/m

BWC Factor = 0.05 dB

Location: -4.2, -12.5, 3.7 mm

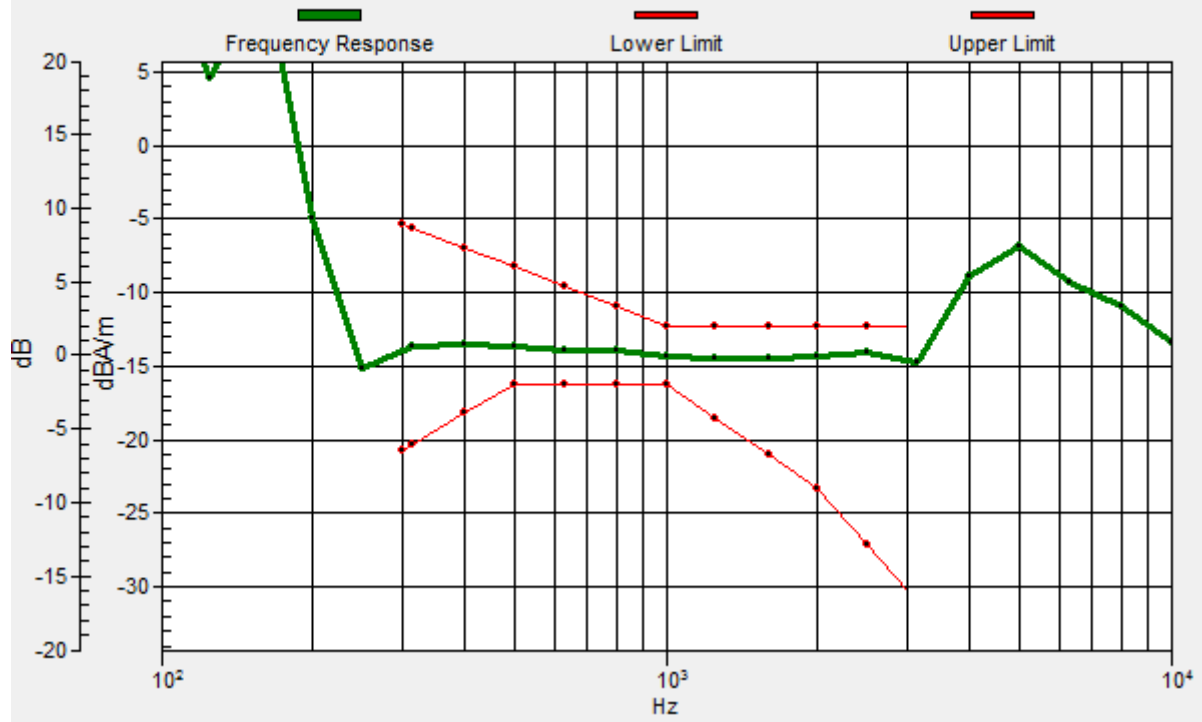


0 dB = 69.24 = 36.81 dB



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

Loc: -4.2, -12.5, 3.7 mm Diff: 1.85dB



### 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/m<sup>3</sup>

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:

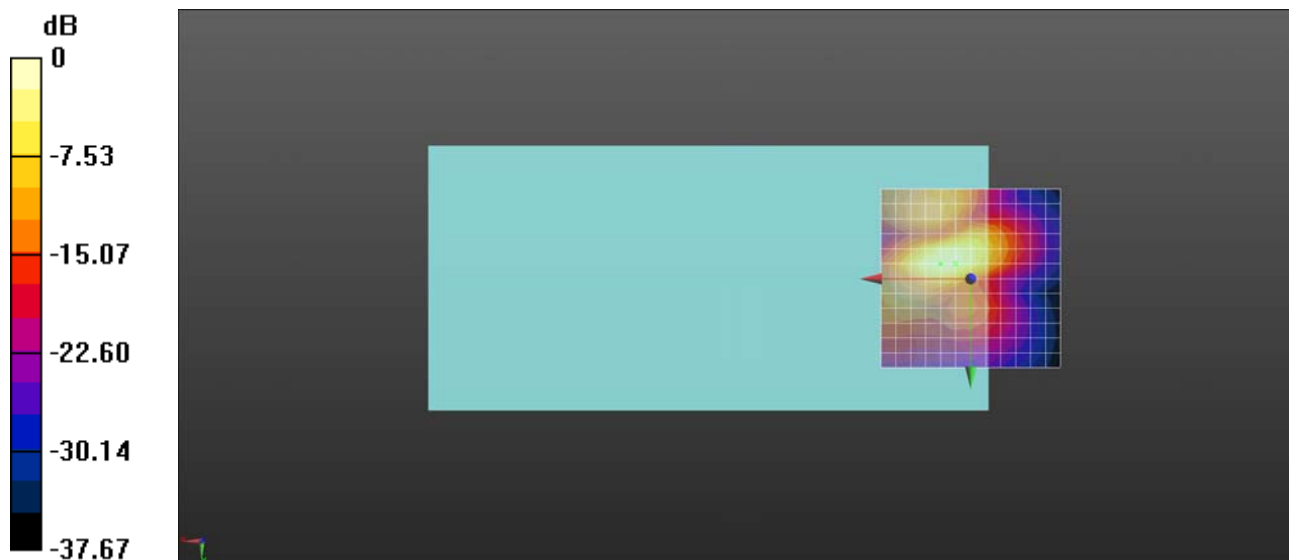
dx=10mm, dy=10mm

ABM1/ABM2 = 33.15 dB

ABM1 comp = -12.83 dBA/m

BWC Factor = -0.0071 dB

Location: 4.2, -4.2, 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/m<sup>3</sup>

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:

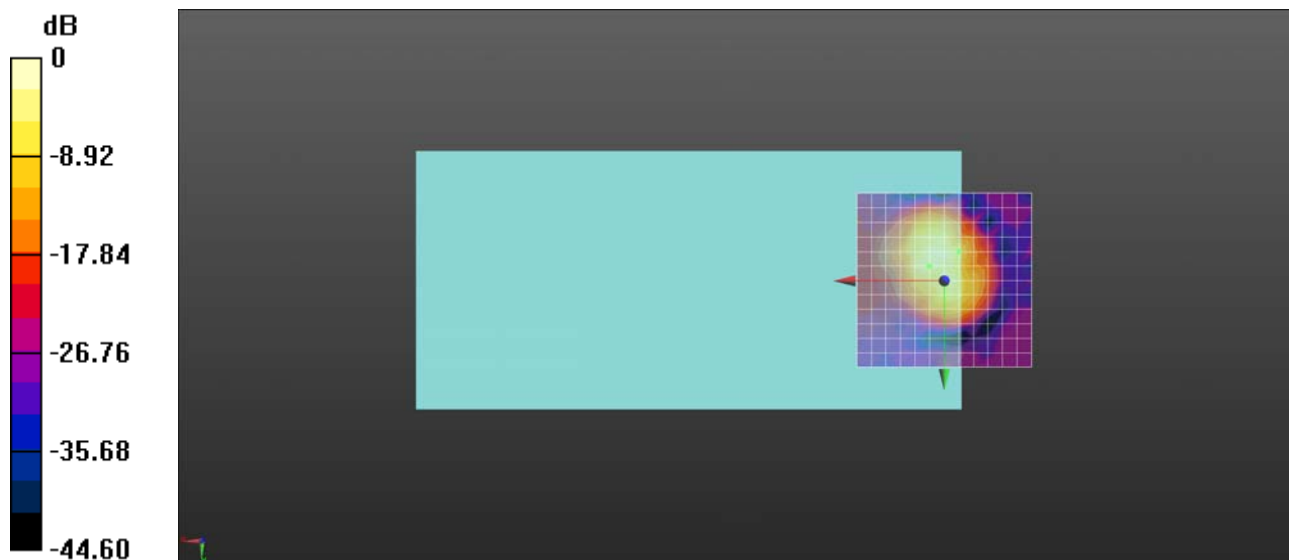
dx=10mm, dy=10mm

ABM1/ABM2 = 35.23 dB

ABM1 comp = -7.95 dBA/m

BWC Factor = 0.02 dB

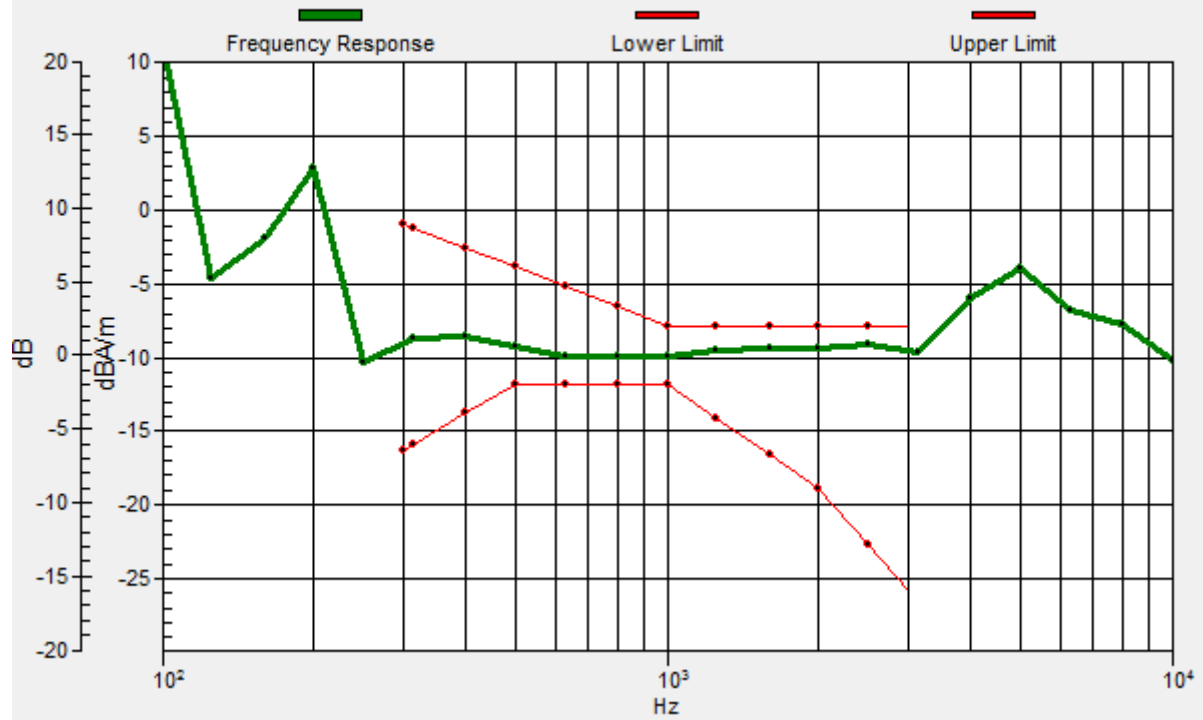
Location: -4.2, -8.3, 3.7 mm



0 dB = 57.76 = 35.23 dB

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

Loc: -4.2, -8.3, 3.7 mm Diff: 1.26dB



### 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/m<sup>3</sup>

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:

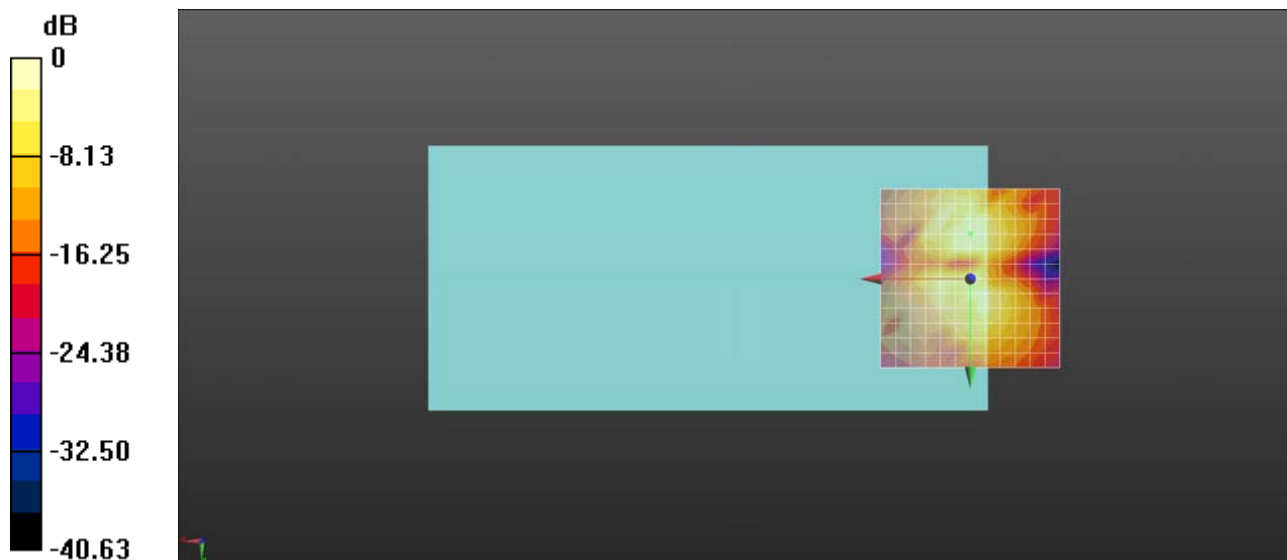
dx=10mm, dy=10mm

ABM1/ABM2 = 31.63 dB

ABM1 comp = -12.60 dBA/m

BWC Factor = 0.02 dB

Location: 0, 0, 3.7 mm



0 dB = 38.16 = 31.63 dB

### 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/m<sup>3</sup>

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:

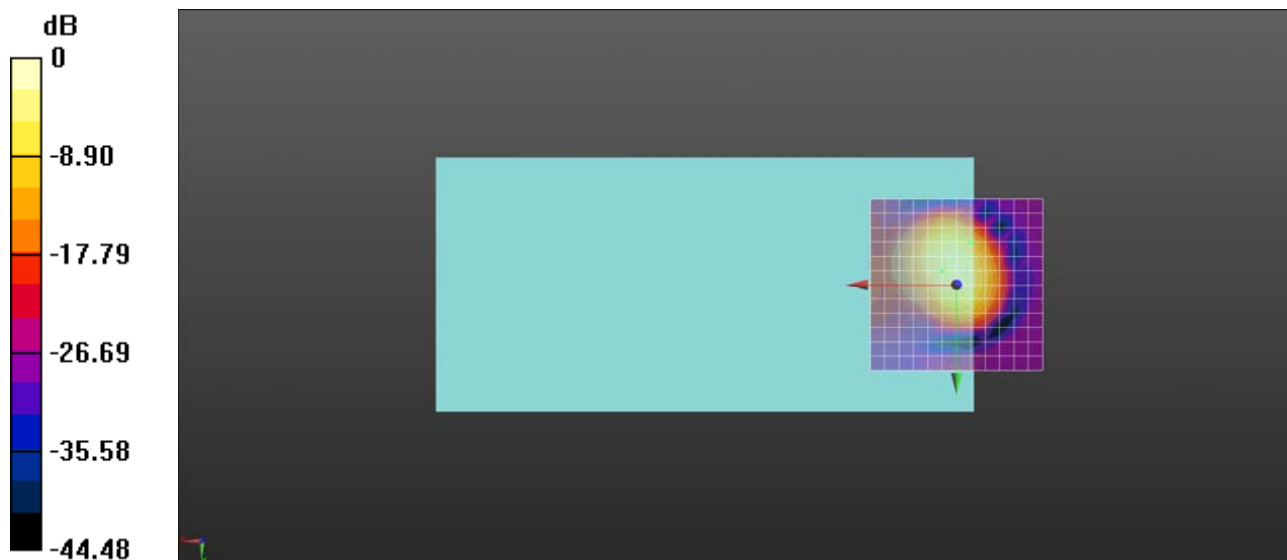
dx=10mm, dy=10mm

ABM1/ABM2 = 36.78 dB

ABM1 comp = -12.69 dBA/m

BWC Factor = 0.02 dB

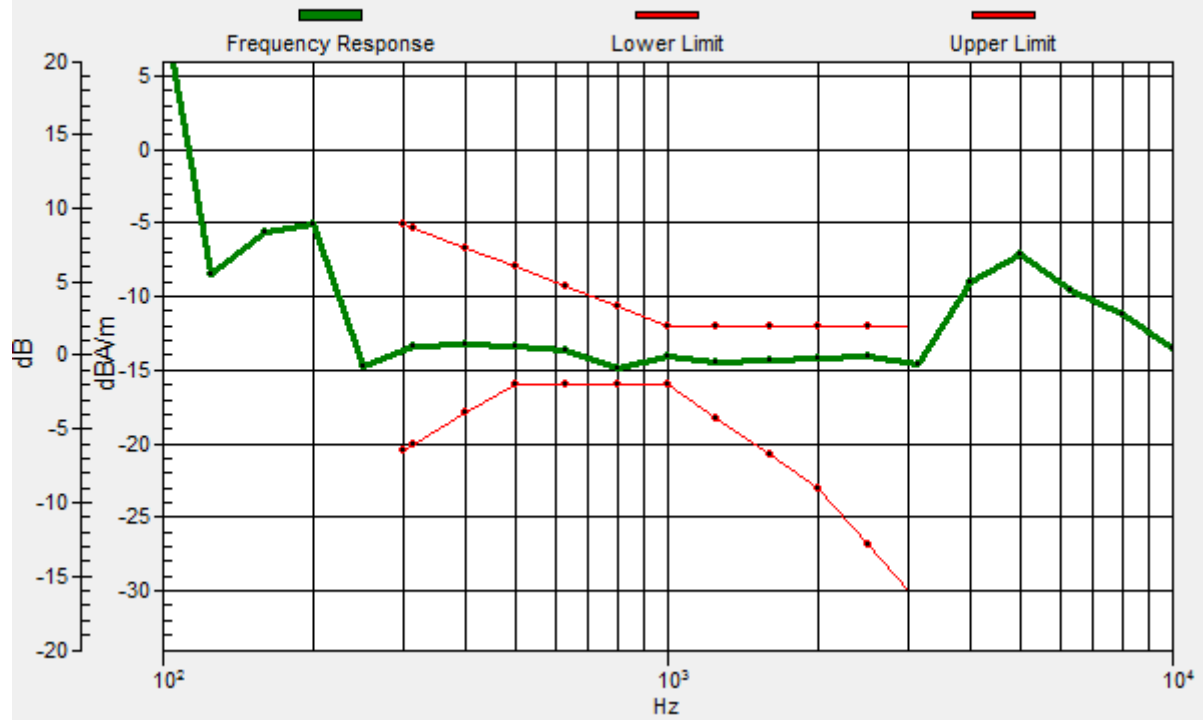
Location: -4.2, -12.5, 3.7 mm



0 dB = 68.99 = 36.78 dB

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

Loc: -4.2, -12.5, 3.7 mm Diff: 1.11dB



### 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/m<sup>3</sup>

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:

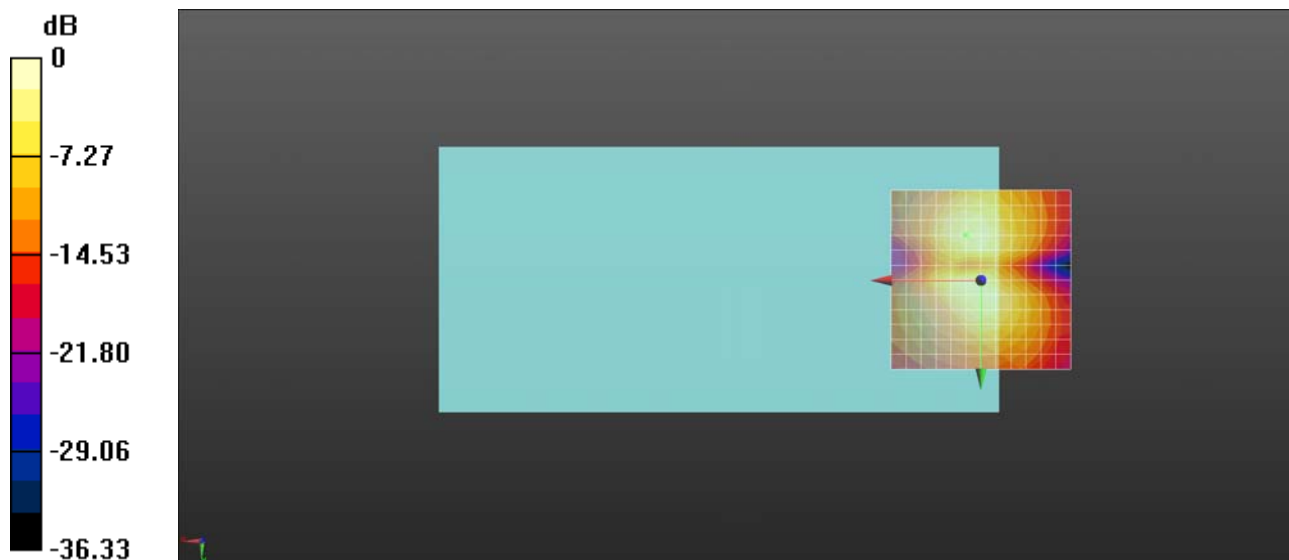
dx=10mm, dy=10mm

ABM1/ABM2 = 31.86 dB

ABM1 comp = -12.49 dBA/m

BWC Factor = 0.02 dB

Location: 0, 0, 3.7 mm



0 dB = 39.17 = 31.86 dB



### HAC\_T-Coil\_CDMA2000 BC0\_RC1 SO3\_Ch384\_Z

Communication System: UID 10295 - AAB, CDMA2000, RC1, SO3, 1/8th Rate 25 fr.; Frequency: 836.52 MHz; Duty Cycle: 1:1

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

Ambient Temperature : 23.2 °C

#### DASY5 Configuration:

- Probe: AM1DV3 - 3128; ; Calibrated: 2019.01.15
- 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)

#### Ch384/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1): Measurement

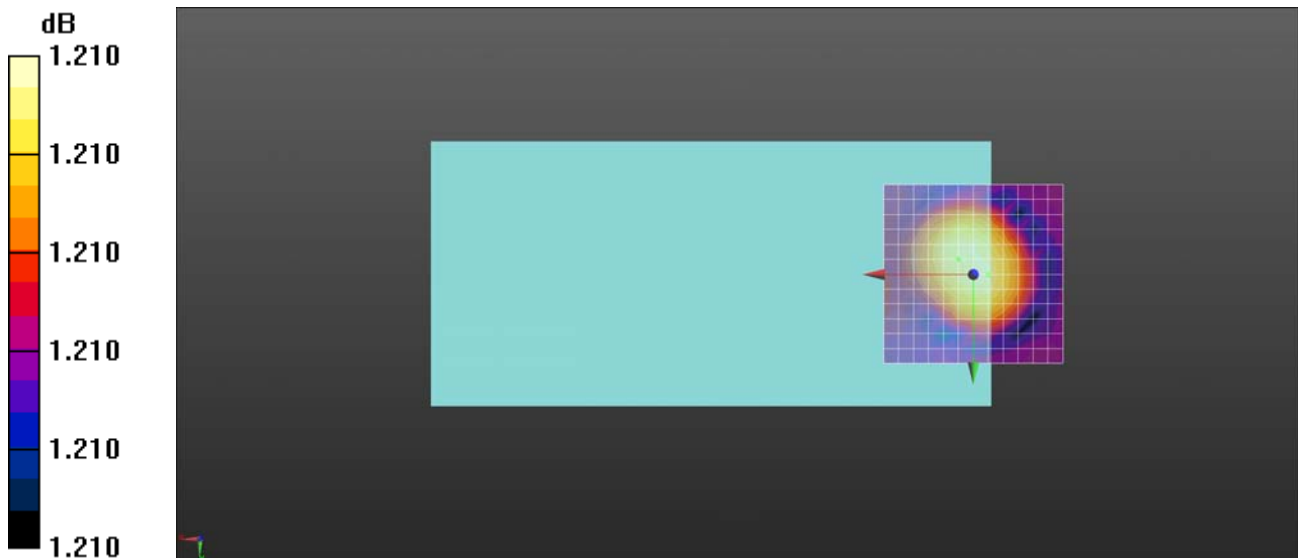
grid: dx=10mm, dy=10mm

ABM1/ABM2 = 38.04 dB

ABM1 comp = -3.67 dBA/m

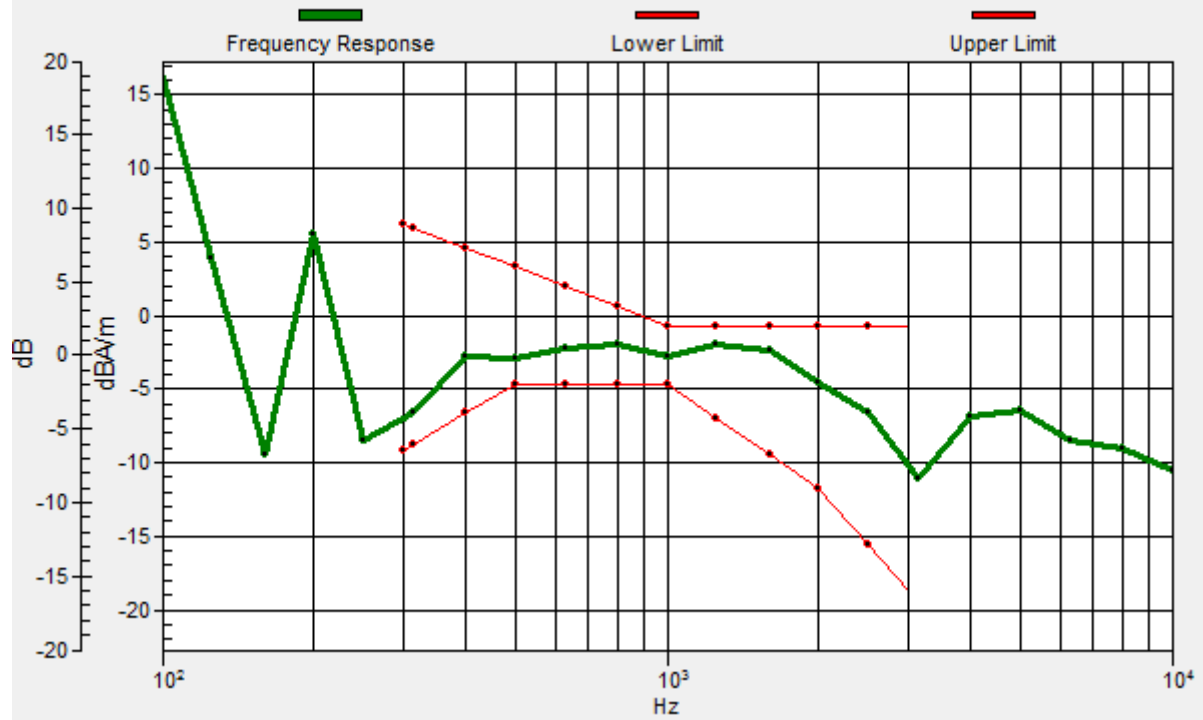
BWC Factor = 0.0012 dB

Location: -4.2, 0, 3.7 mm



# Ch384/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 0, 3.7 mm Diff: 1.21dB



### HAC\_T-Coil\_CDMA2000 BC0\_RC1 SO3\_Ch384\_Y

Communication System: UID 10295 - AAB, CDMA2000, RC1, SO3, 1/8th Rate 25 fr.; Frequency: 836.52 MHz; Duty Cycle: 1:1

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

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)

#### Ch384/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

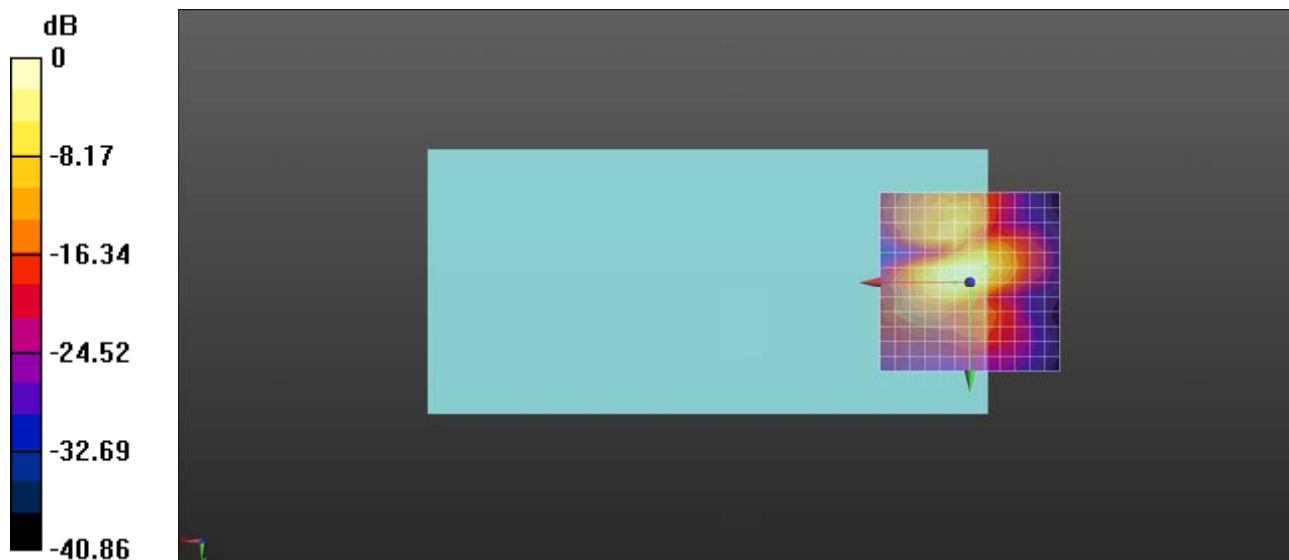
dx=10mm, dy=10mm

ABM1/ABM2 = 32.58 dB

ABM1 comp = -14.51 dBA/m

BWC Factor = 0.0056 dB

Location: -4.2, -4.2, 3.7 mm



0 dB = 42.55 = 32.58 dB

### HAC\_T-Coil\_CDMA2000\_BC1\_RC1\_SO3\_Ch600\_Z

Communication System: UID 10295 - AAB, CDMA2000, RC1, SO3, 1/8th Rate 25 fr.; Frequency: 1880 MHz; Duty Cycle: 1:1

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

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)

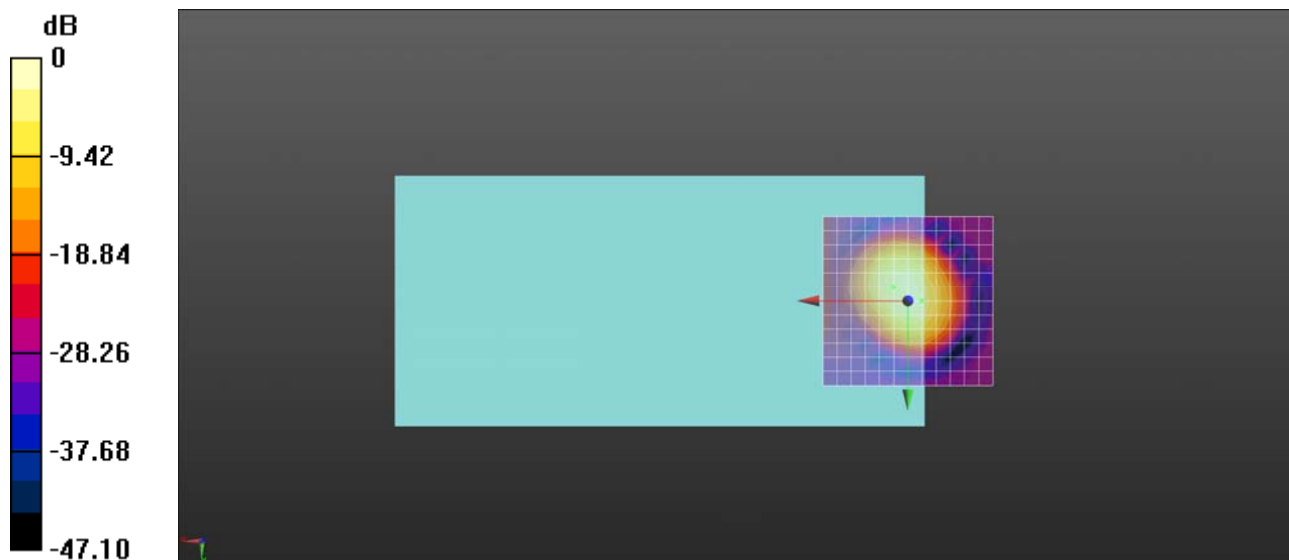
**Ch600/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid: dx=10mm, dy=10mm

ABM1/ABM2 = 35.99 dB

ABM1 comp = -2.88 dBA/m

BWC Factor = 0.0041 dB

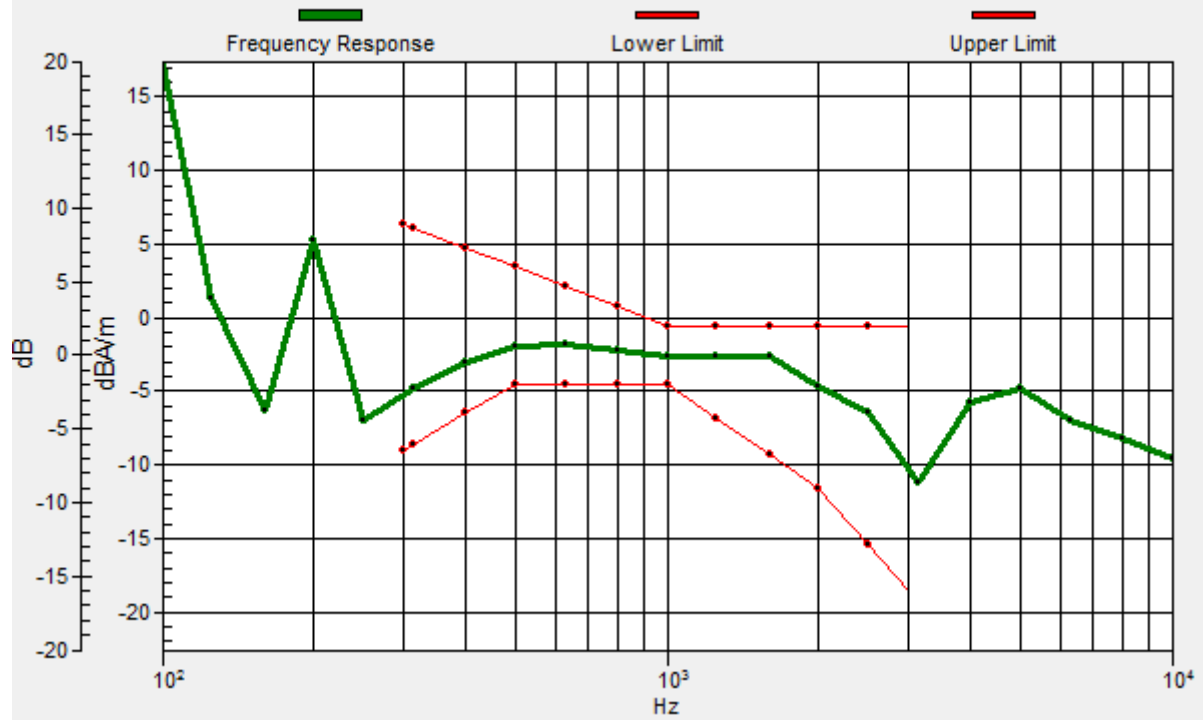
Location: -4.2, 0, 3.7 mm



0 dB = 63.03 = 35.99 dB

# Ch600/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, 0, 3.7 mm Diff: 2dB



### HAC\_T-Coil\_CDMA2000 BC1\_RC1 SO3\_Ch600\_Y

Communication System: UID 10295 - AAB, CDMA2000, RC1, SO3, 1/8th Rate 25 fr.; Frequency: 1880 MHz; Duty Cycle: 1:1

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

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)

**Ch600/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid:

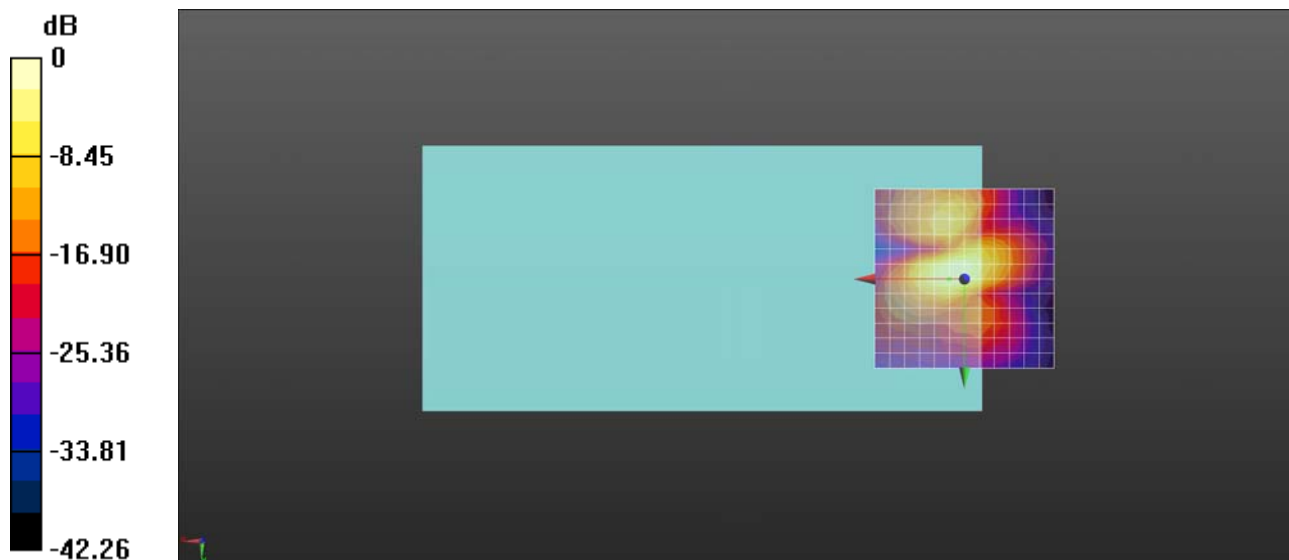
dx=10mm, dy=10mm

ABM1/ABM2 = 33.38 dB

ABM1 comp = -13.31 dBA/m

BWC Factor = 0.0039 dB

Location: 0, 0, 3.7 mm



0 dB = 46.66 = 33.38 dB

### HAC\_T-Coil\_CDMA2000 BC10\_RC1 SO3\_Ch580\_Z

Communication System: UID 10295 - AAB, CDMA2000, RC1, SO3, 1/8th Rate 25 fr.; Frequency: 836.52 MHz; Duty Cycle: 1:1

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

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)

#### Ch580/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1): Measurement

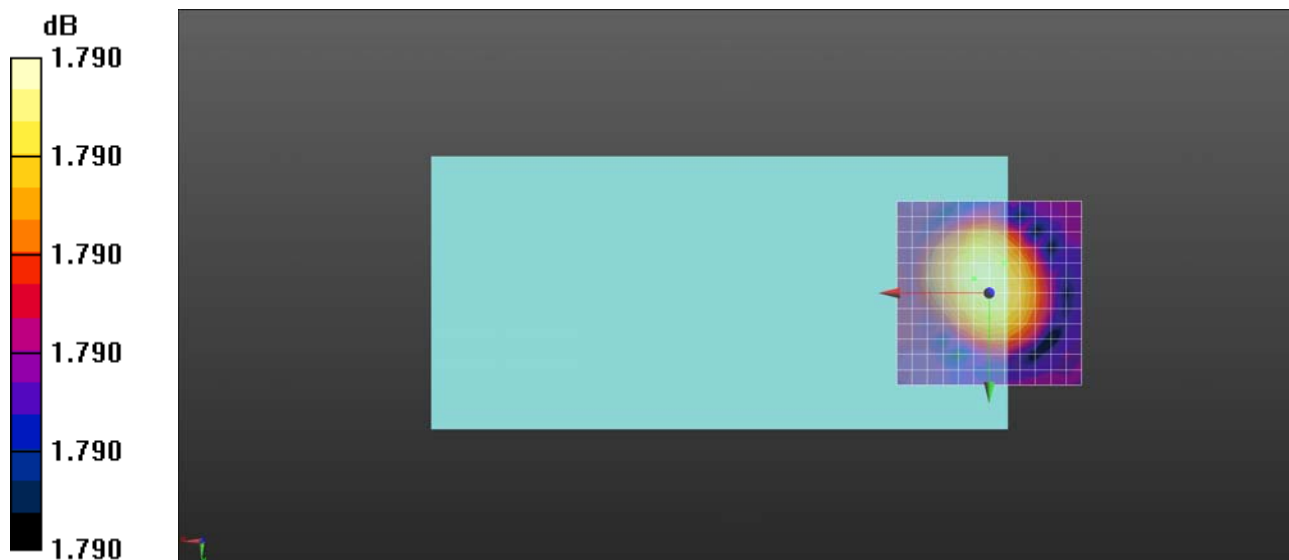
grid: dx=10mm, dy=10mm

ABM1/ABM2 = 44.23 dB

ABM1 comp = -6.78 dBA/m

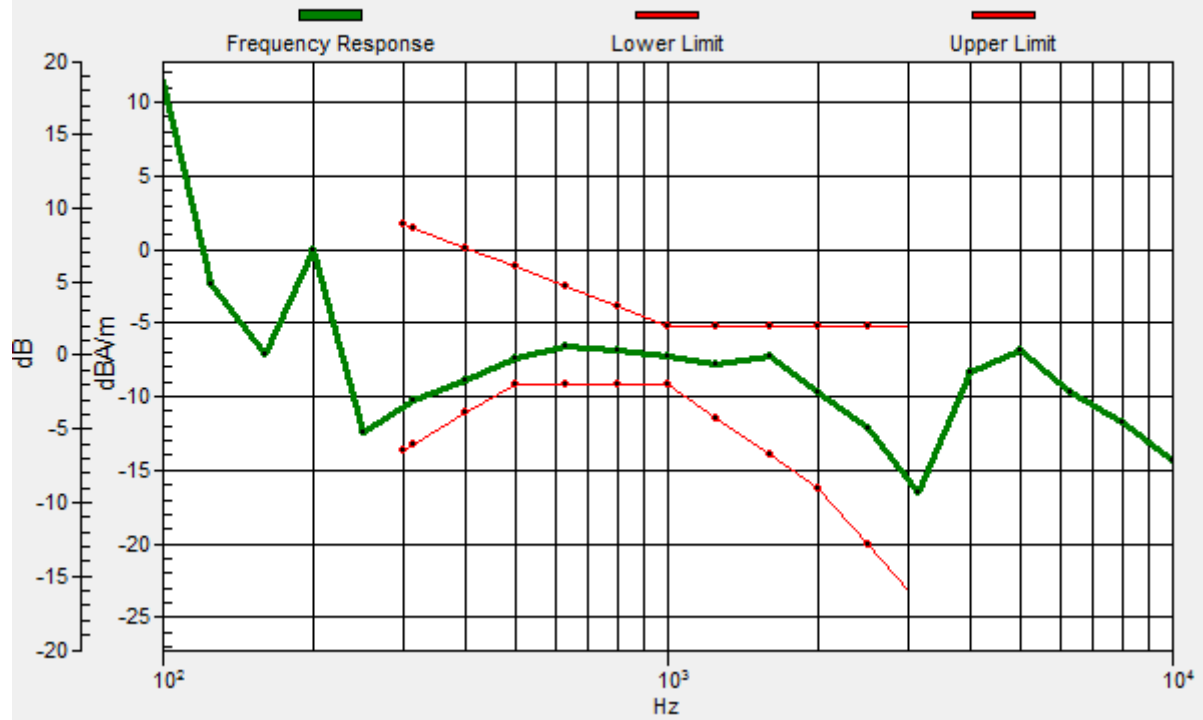
BWC Factor = 0.0036 dB

Location: -4.2, -8.3, 3.7 mm



# Ch580/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, -8.3, 3.7 mm Diff: 1.79dB





### HAC\_T-Coil\_CDMA2000 BC10\_RC1 SO3\_Ch580\_Y

Communication System: UID 10295 - AAB, CDMA2000, RC1, SO3, 1/8th Rate 25 fr.; Frequency: 836.52 MHz; Duty Cycle: 1:1

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

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)

#### Ch580/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

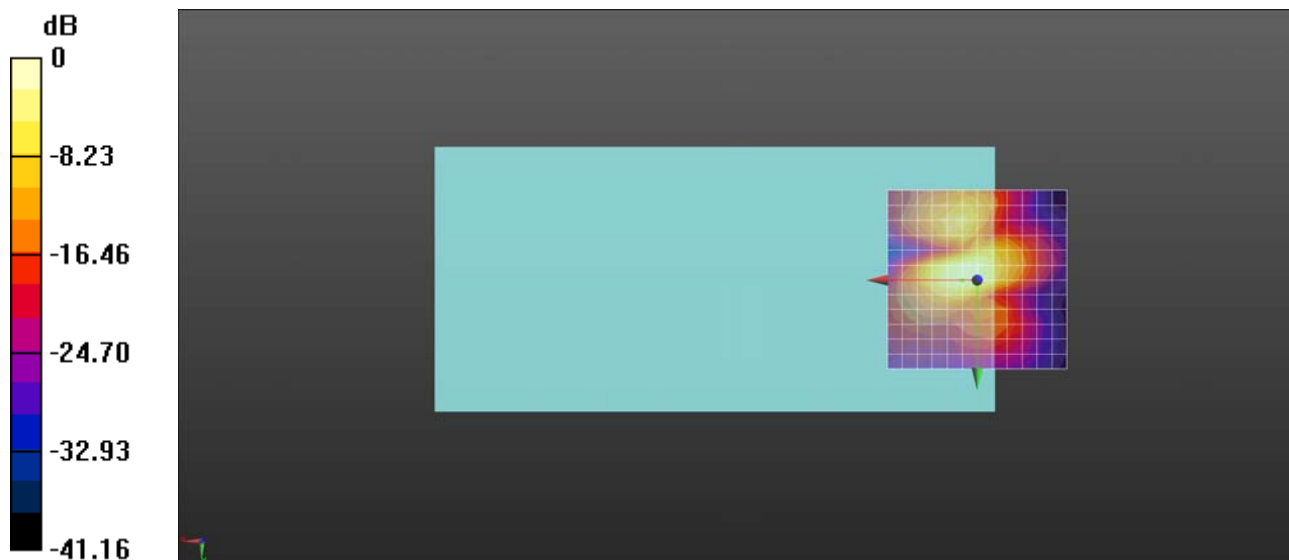
dx=10mm, dy=10mm

ABM1/ABM2 = 32.43 dB

ABM1 comp = -14.44 dBA/m

BWC Factor = 0.0035 dB

Location: 0, 0, 3.7 mm



0 dB = 41.81 = 32.43 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/m<sup>3</sup>

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) wideband at best S/N/ABM Freq Resp(x,y,z,f) (1x1x1): Measurement

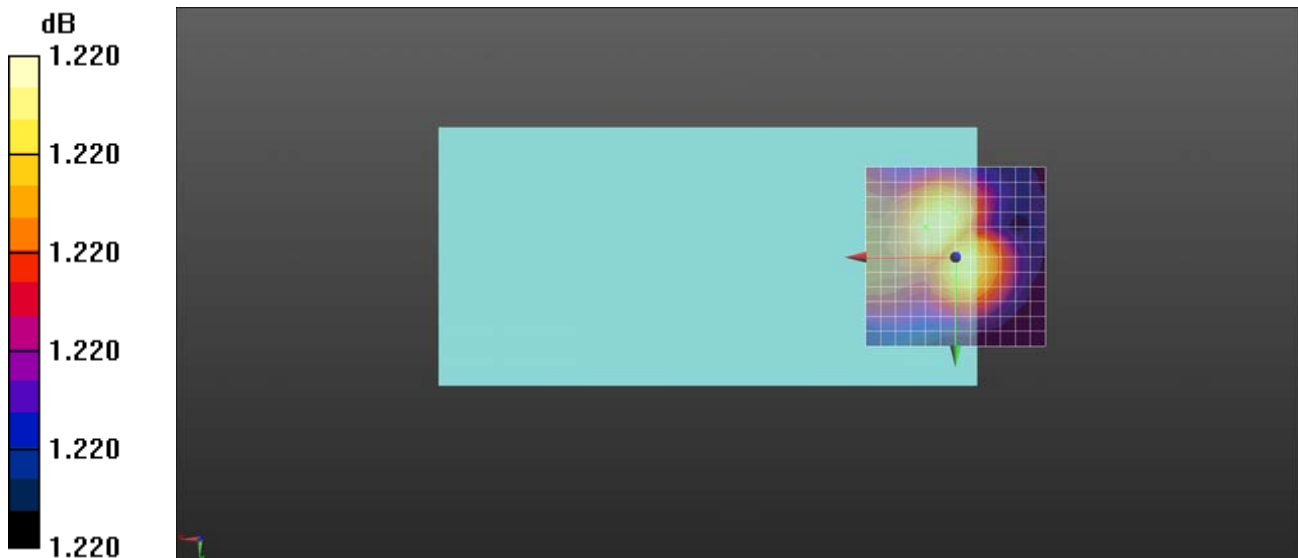
grid: dx=10mm, dy=10mm

ABM1/ABM2 = 28.25 dB

ABM1 comp = -12.98 dBA/m

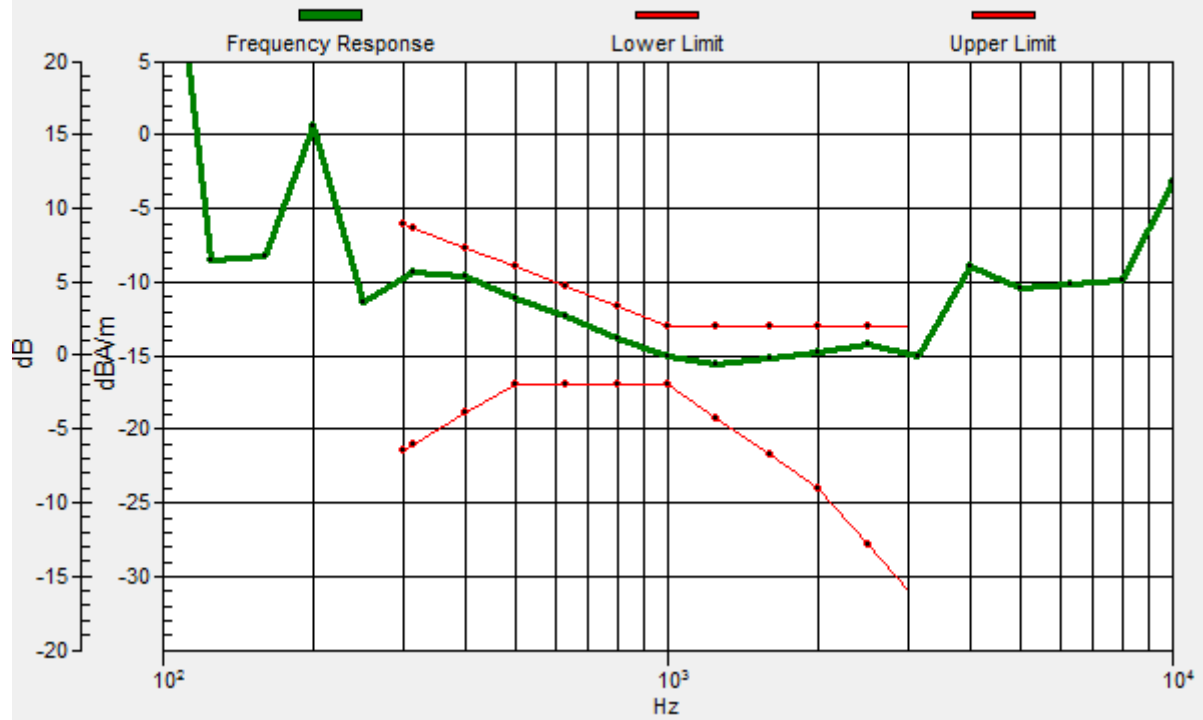
BWC Factor = -0.0033 dB

Location: 0, -12.5, 3.7 mm



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

Loc: 0, -12.5, 3.7 mm Diff: 1.22dB



### 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/m<sup>3</sup>

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:

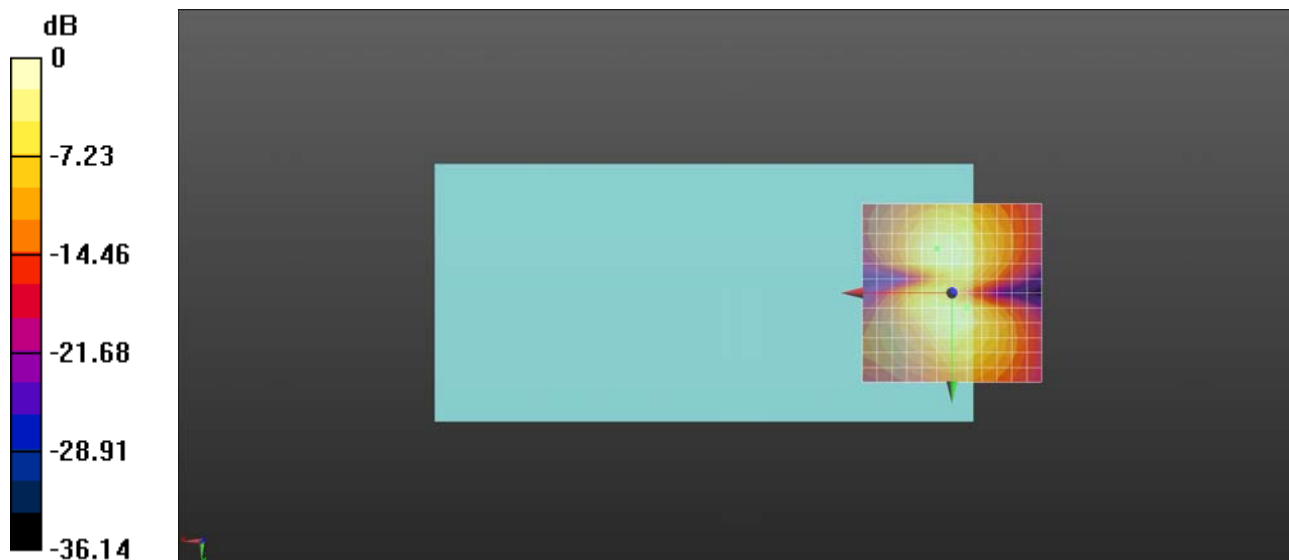
dx=10mm, dy=10mm

ABM1/ABM2 = 30.28 dB

ABM1 comp = -12.05 dBA/m

BWC Factor = -0.01 dB

Location: -4.2, 4.2, 3.7 mm



0 dB = 32.66 = 30.28 dB

### 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: 1732.5 MHz; Duty Cycle: 1:1

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

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:

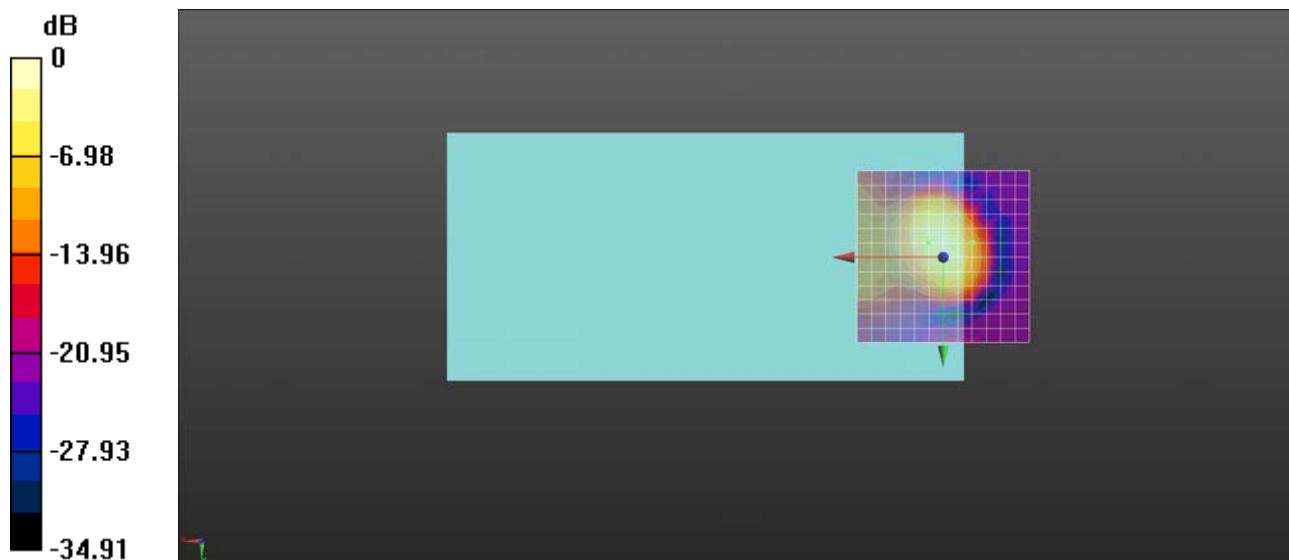
dx=10mm, dy=10mm

ABM1/ABM2 = 27.01 dB

ABM1 comp = -15.90 dBA/m

BWC Factor = -0.0063 dB

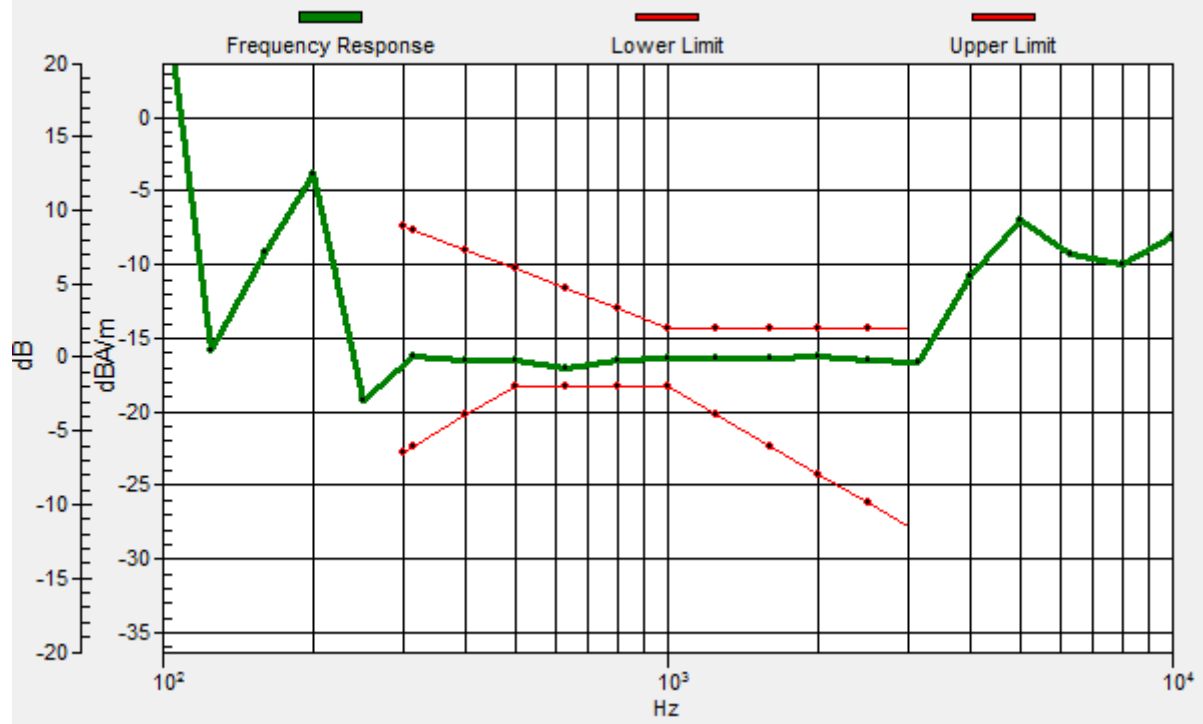
Location: -8.3, -4.2, 3.7 mm



0 dB = 22.40 = 27.01 dB

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

Loc: -8.3, -4.2, 3.7 mm Diff: 1.26dB



### 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: 1732.5 MHz; Duty Cycle: 1:1

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

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:

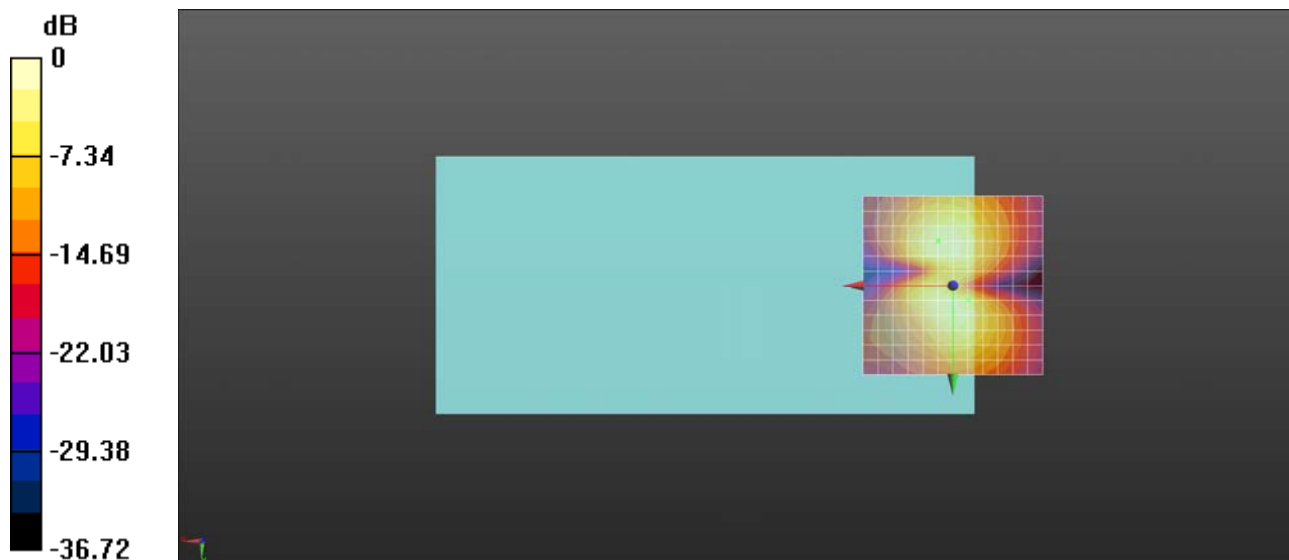
dx=10mm, dy=10mm

ABM1/ABM2 = 30.16 dB

ABM1 comp = -12.08 dBA/m

BWC Factor = -0.0068 dB

Location: -4.2, 4.2, 3.7 mm



0 dB = 32.22 = 30.16 dB

### 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/m<sup>3</sup>

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:

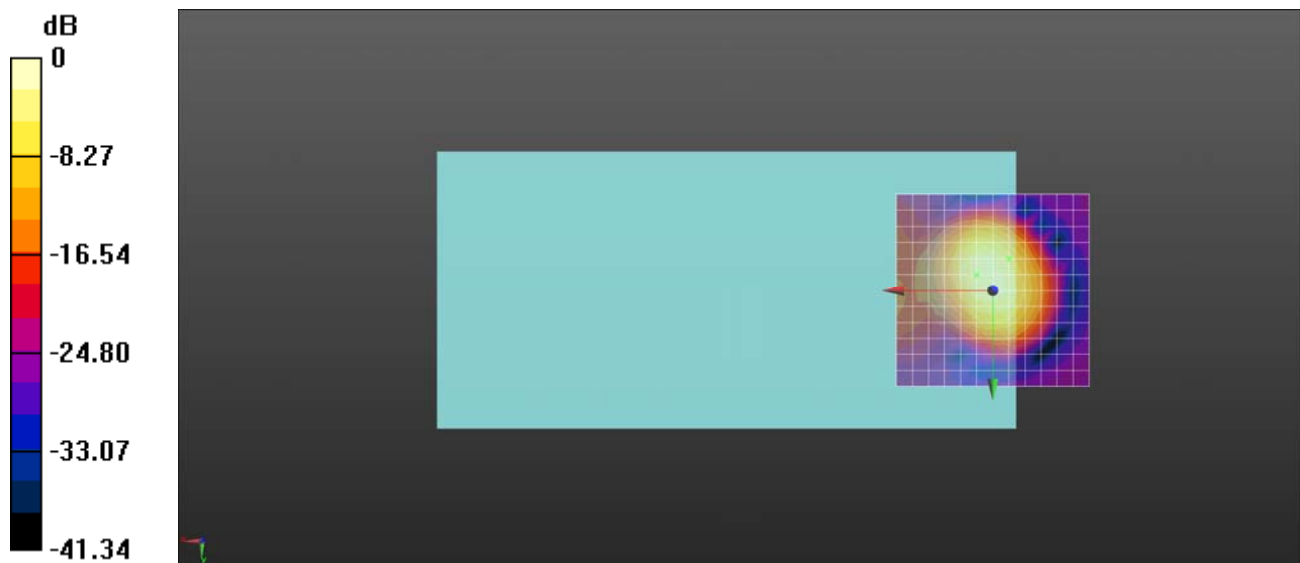
dx=10mm, dy=10mm

ABM1/ABM2 = 35.26 dB

ABM1 comp = -7.58 dBA/m

BWC Factor = 0.00017 dB

Location: -4.2, -8.3, 3.7 mm

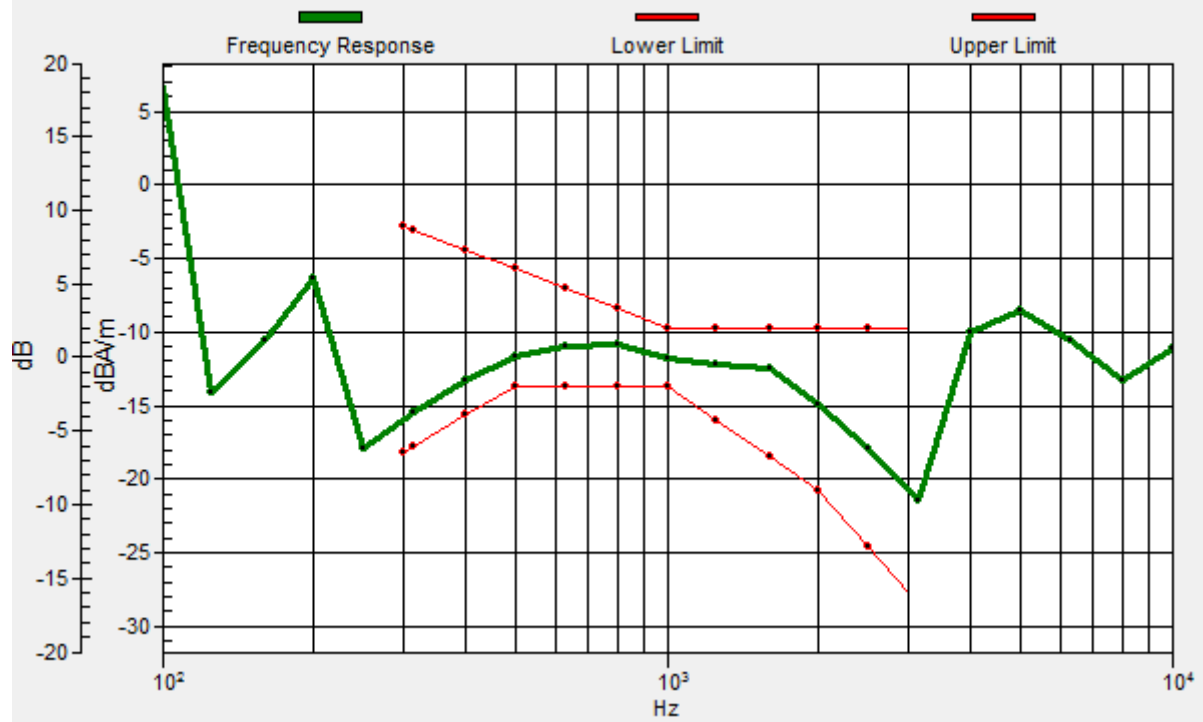


0 dB = 57.93 = 35.26 dB



# Ch20525/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 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/m<sup>3</sup>

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:

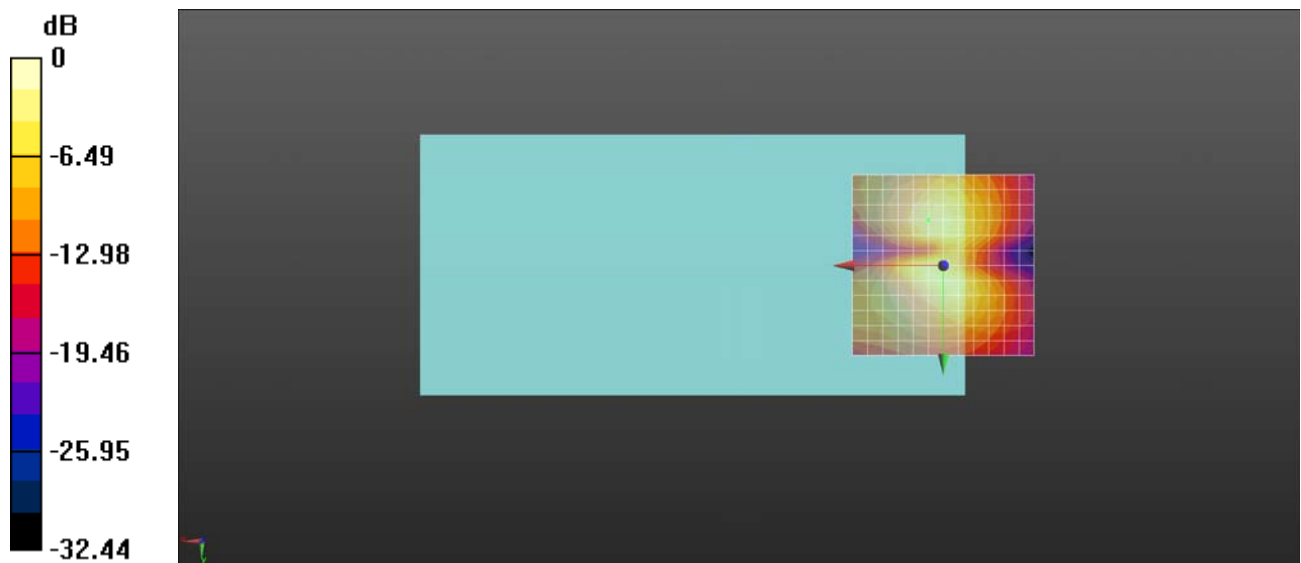
dx=10mm, dy=10mm

ABM1/ABM2 = 26.61 dB

ABM1 comp = -16.80 dBA/m

BWC Factor = -0.00053 dB

Location: 0, 0, 3.7 mm



0 dB = 21.40 = 26.61 dB

### HAC\_T-Coil\_LTE Band 12\_10M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch23095\_Z

Communication System: UID 10175 - CAB, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);  
Frequency: 707.5 MHz; Duty Cycle: 1:1

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

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)

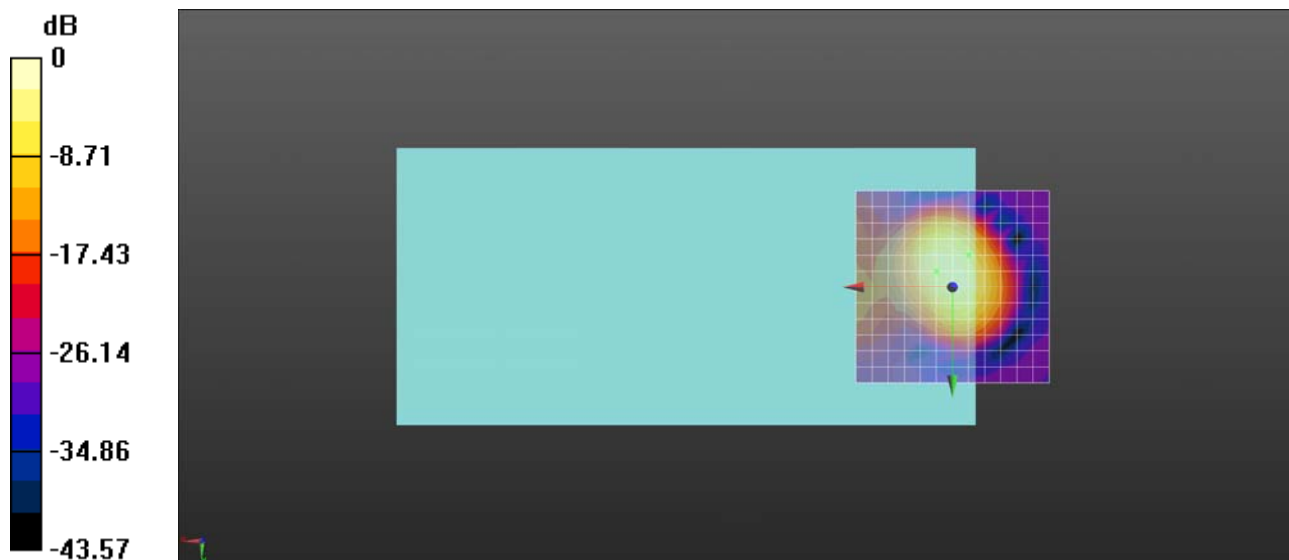
**23095/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid: dx=10mm, dy=10mm

ABM1/ABM2 = 38.73 dB

ABM1 comp = -6.13 dBA/m

BWC Factor = 0.0045 dB

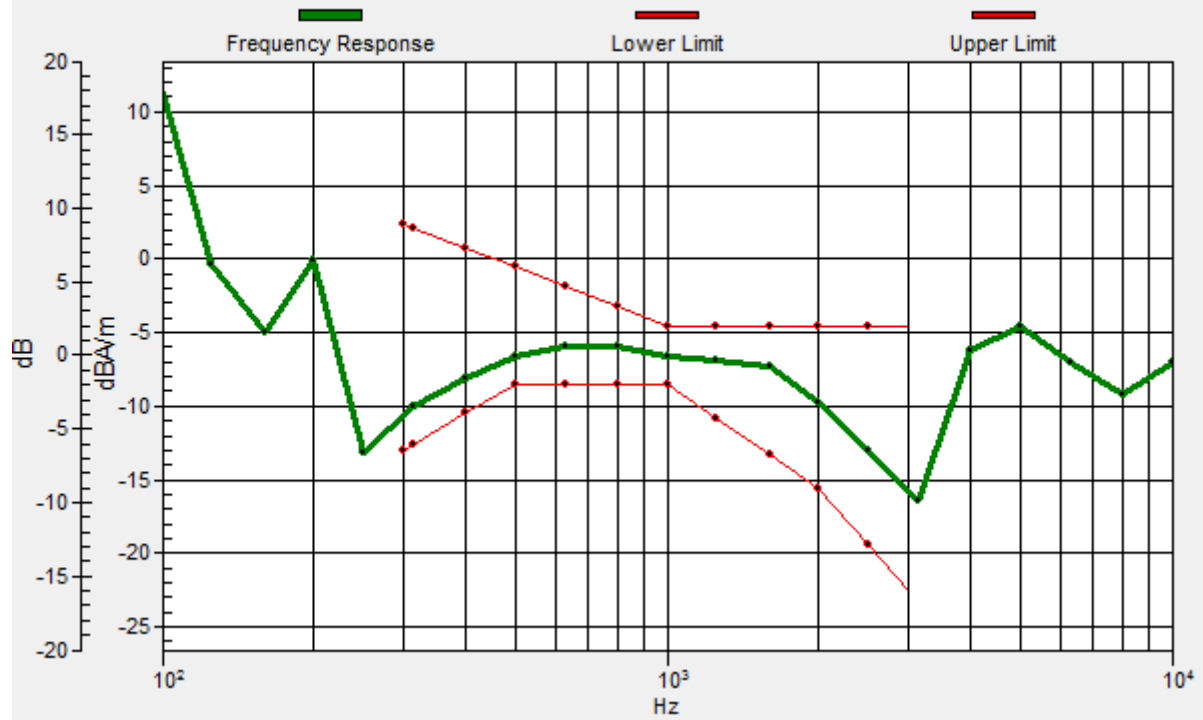
Location: -4.2, -8.3, 3.7 mm



0 dB = 86.45 = 38.74 dB

# 23095/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, -8.3, 3.7 mm Diff: 1.91dB



### HAC\_T-Coil\_LTE Band 12\_10M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch23095\_Y

Communication System: UID 10175 - CAB, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);  
Frequency: 707.5 MHz; Duty Cycle: 1:1

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

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)

#### Ch23095/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

dx=10mm, dy=10mm

ABM1/ABM2 = 27.57 dB

ABM1 comp = -16.64 dBA/m

BWC Factor = 0.0024 dB

Location: 0, 0, 3.7 mm



0 dB = 23.90 = 27.57 dB

### 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/m<sup>3</sup>

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:

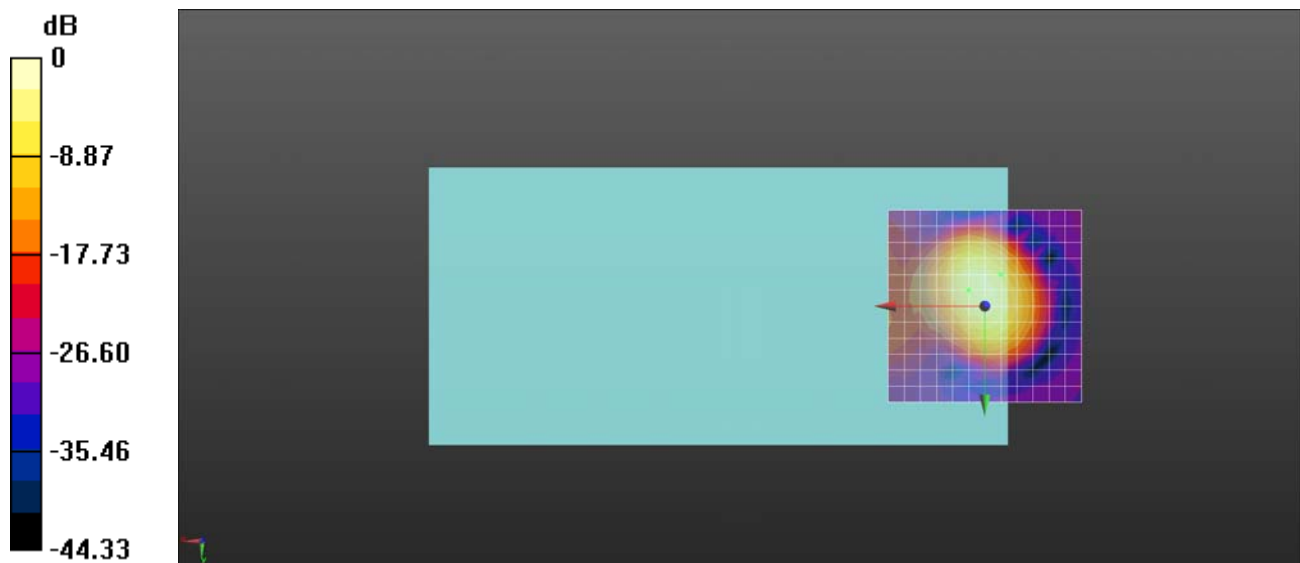
dx=10mm, dy=10mm

ABM1/ABM2 = 38.24 dB

ABM1 comp = -6.39 dBA/m

BWC Factor = 0.0017 dB

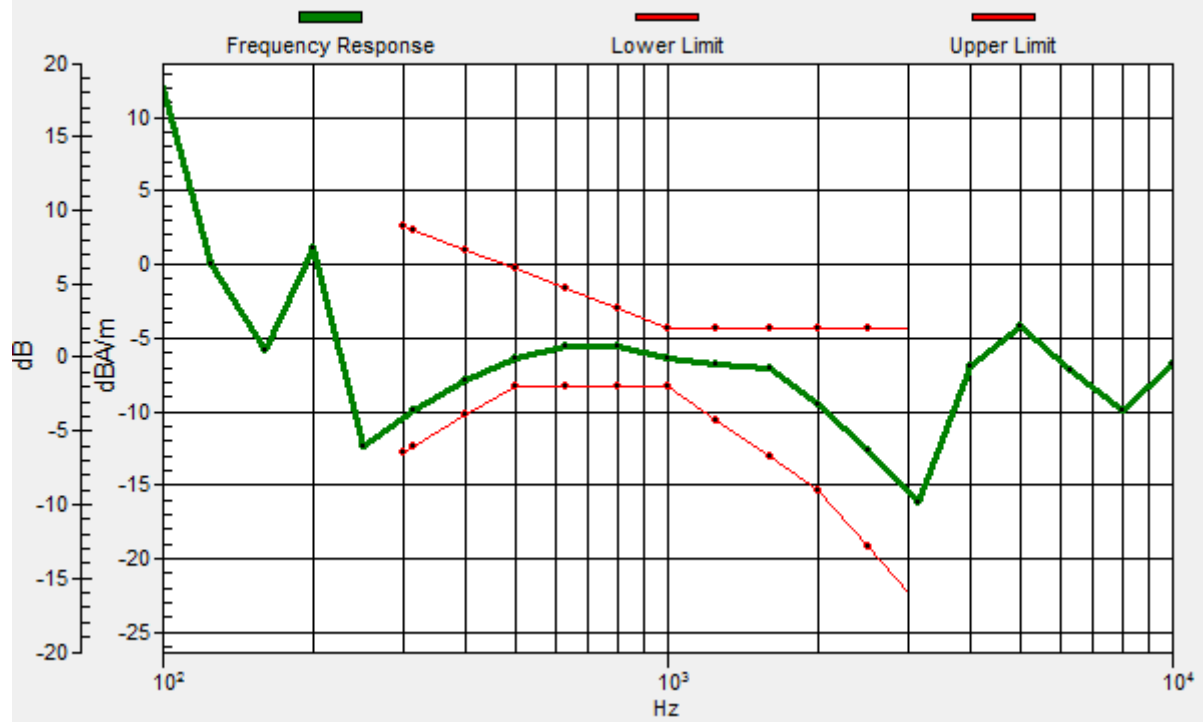
Location: -4.2, -8.3, 3.7 mm



0 dB = 81.70 = 38.24 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: 1.97dB



### 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/m<sup>3</sup>

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:

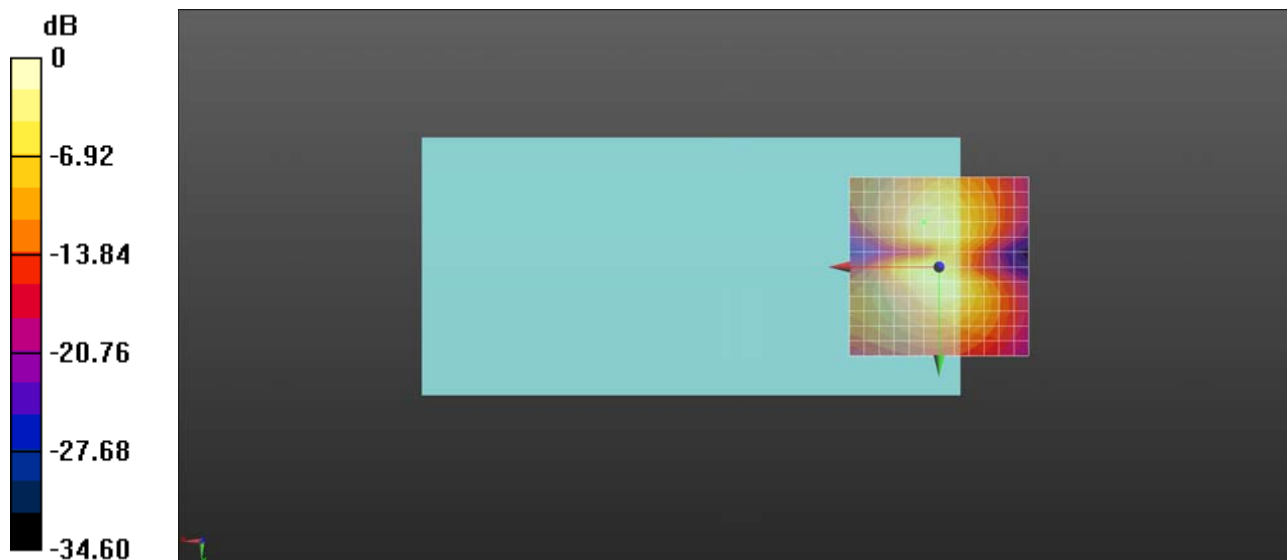
dx=10mm, dy=10mm

ABM1/ABM2 = 26.51 dB

ABM1 comp = -16.86 dBA/m

BWC Factor = 0.0018 dB

Location: 0, 0, 3.7 mm



0 dB = 21.16 = 26.51 dB



### HAC\_T-Coil\_LTE Band 25\_20M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch26340\_Z

Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);  
Frequency: 1882.5 MHz; Duty Cycle: 1:1

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

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)

**Ch26340/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid:

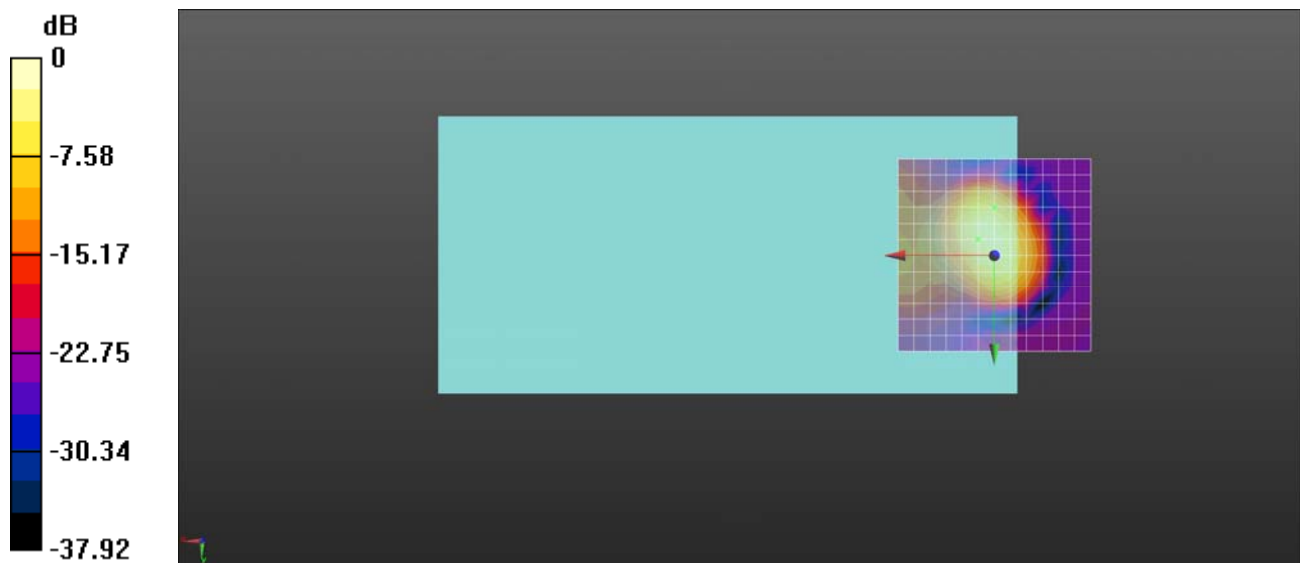
dx=10mm, dy=10mm

ABM1/ABM2 = 29.12 dB

ABM1 comp = -12.54 dBA/m

BWC Factor = -0.0038 dB

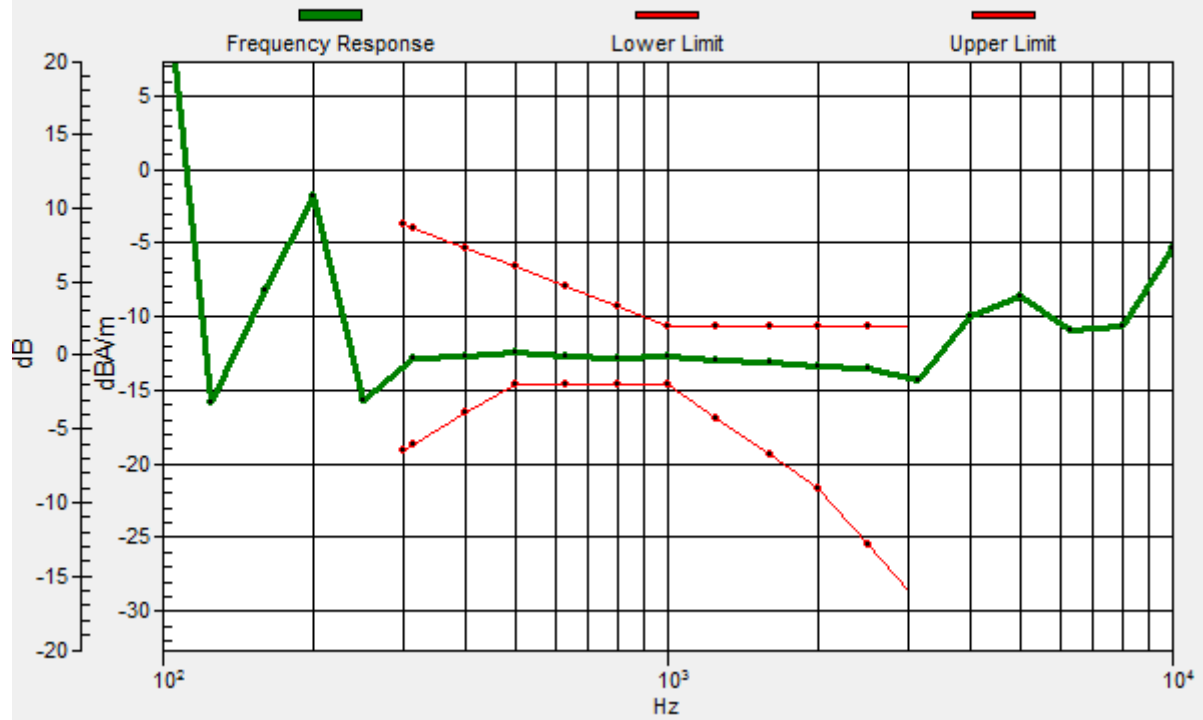
Location: 0, -12.5, 3.7 mm



0 dB = 28.59 = 29.12 dB

# Ch26340/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: 0, -12.5, 3.7 mm Diff: 1.79dB



### HAC\_T-Coil\_LTE Band 25\_20M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch26340\_Y

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

Frequency: 1882.5 MHz; Duty Cycle: 1:1

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

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)

**Ch26340/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid:

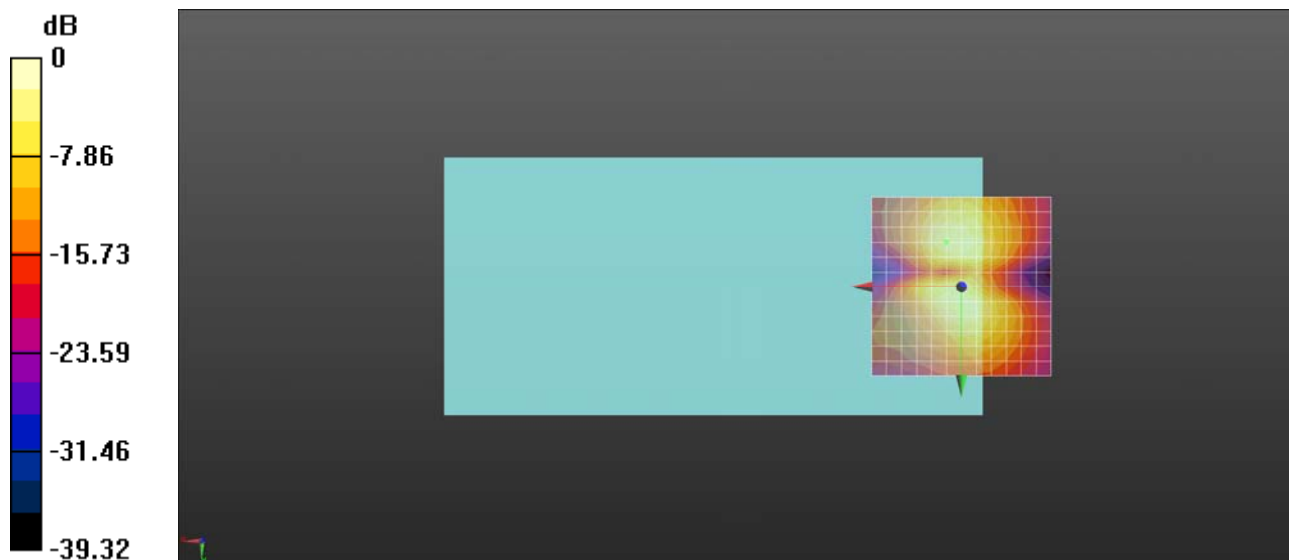
dx=10mm, dy=10mm

ABM1/ABM2 = 34.27 dB

ABM1 comp = -10.72 dBA/m

BWC Factor = -0.0029 dB

Location: 0, 0, 3.7 mm



0 dB = 51.72 = 34.27 dB

### HAC\_T-Coil\_LTE Band 26\_15M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch26865\_Z

Communication System: UID 10181 - CAB, LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK);  
Frequency: 831.5 MHz; Duty Cycle: 1:1

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

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)

#### Ch26865/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

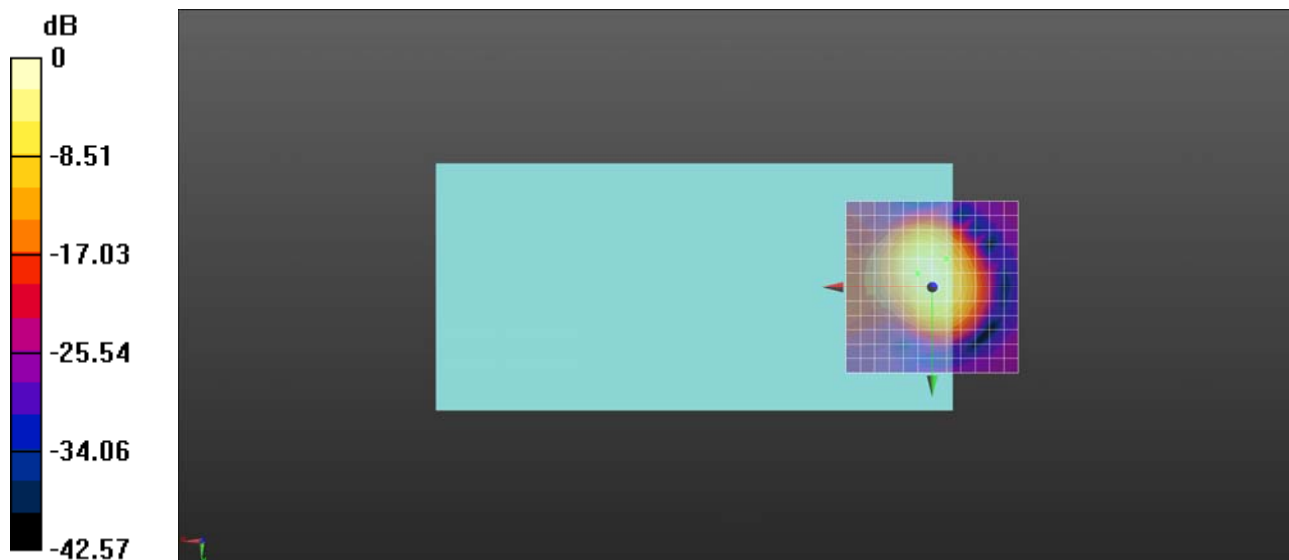
dx=10mm, dy=10mm

ABM1/ABM2 = 36.03 dB

ABM1 comp = -6.82 dBA/m

BWC Factor = 0.0032 dB

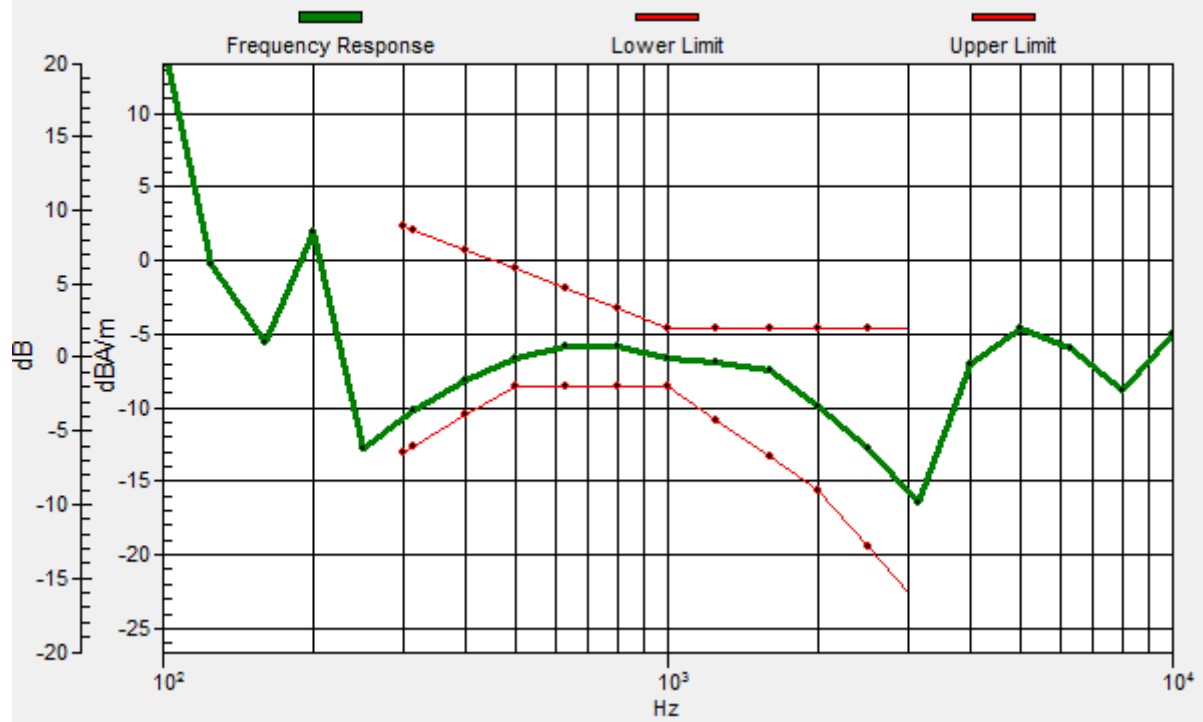
Location: -4.2, -8.3, 3.7 mm



0 dB = 63.32 = 36.03 dB

# Ch26865/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, -8.3, 3.7 mm Diff: 1.96dB



### HAC\_T-Coil\_LTE Band 26\_15M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch26865\_Y

Communication System: UID 10181 - CAB, LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK);  
Frequency: 831.5 MHz; Duty Cycle: 1:1

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

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)

#### Ch26865/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

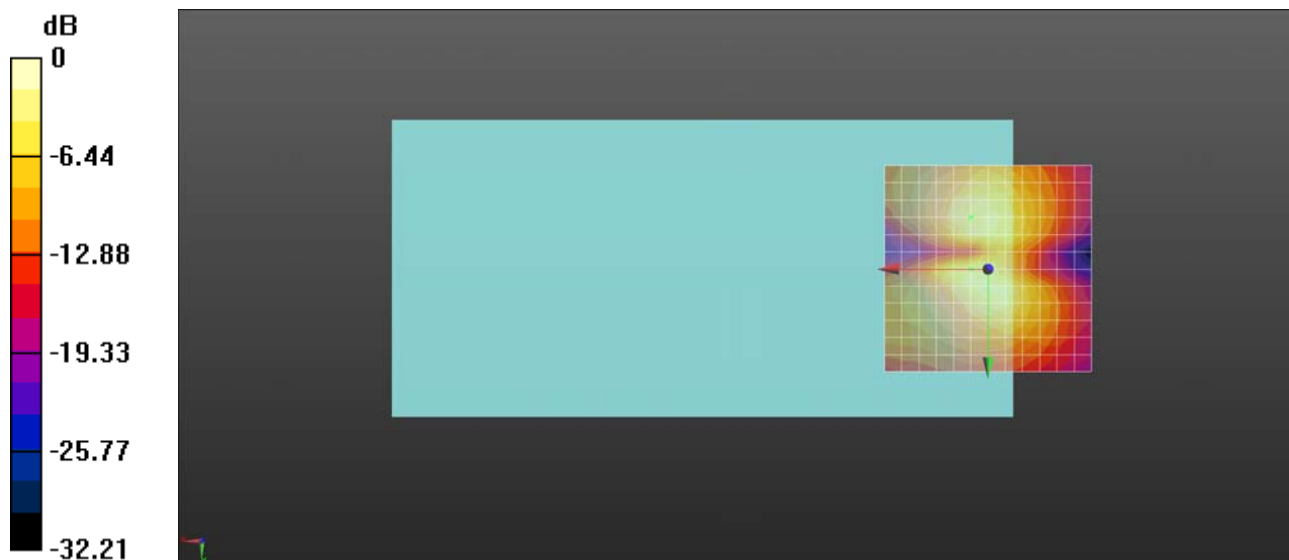
dx=10mm, dy=10mm

ABM1/ABM2 = 26.27 dB

ABM1 comp = -14.56 dBA/m

BWC Factor = -0.0045 dB

Location: 4.2, 0, 3.7 mm



0 dB = 20.58 = 26.27 dB

### HAC\_T-Coil\_LTE Band 41\_20M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch40620\_Z

Communication System: UID 10172 - CAB, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK);  
Frequency: 2593 MHz; Duty Cycle: 1:1.59

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

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)

#### Ch40620/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement grid:

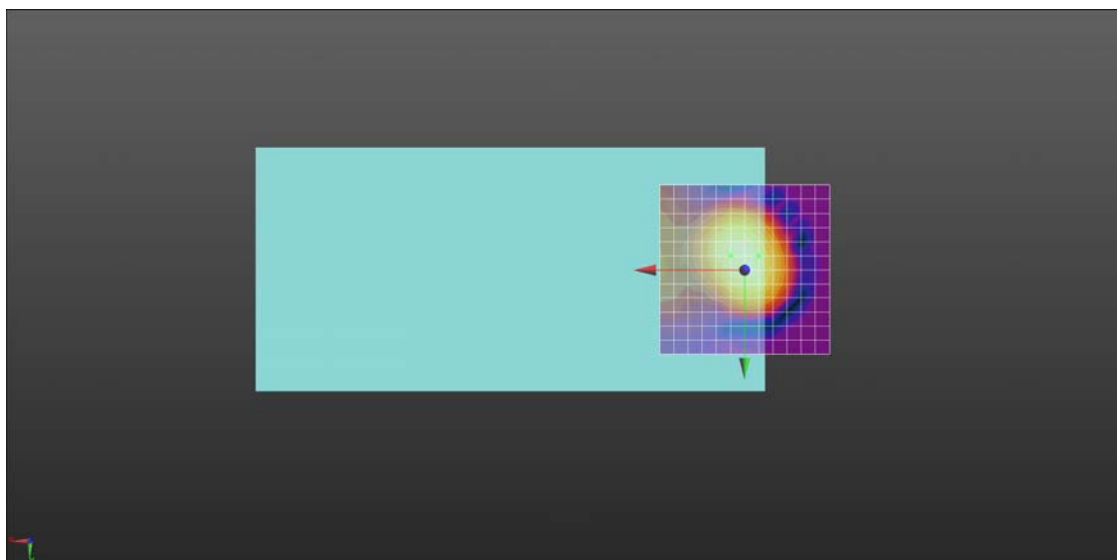
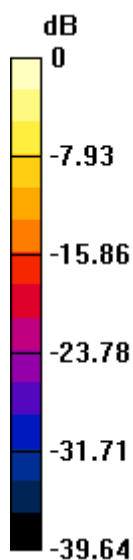
dx=10mm, dy=10mm

ABM1/ABM2 = 23.98 dB

ABM1 comp = -8.14 dBA/m

BWC Factor = -0.0048 dB

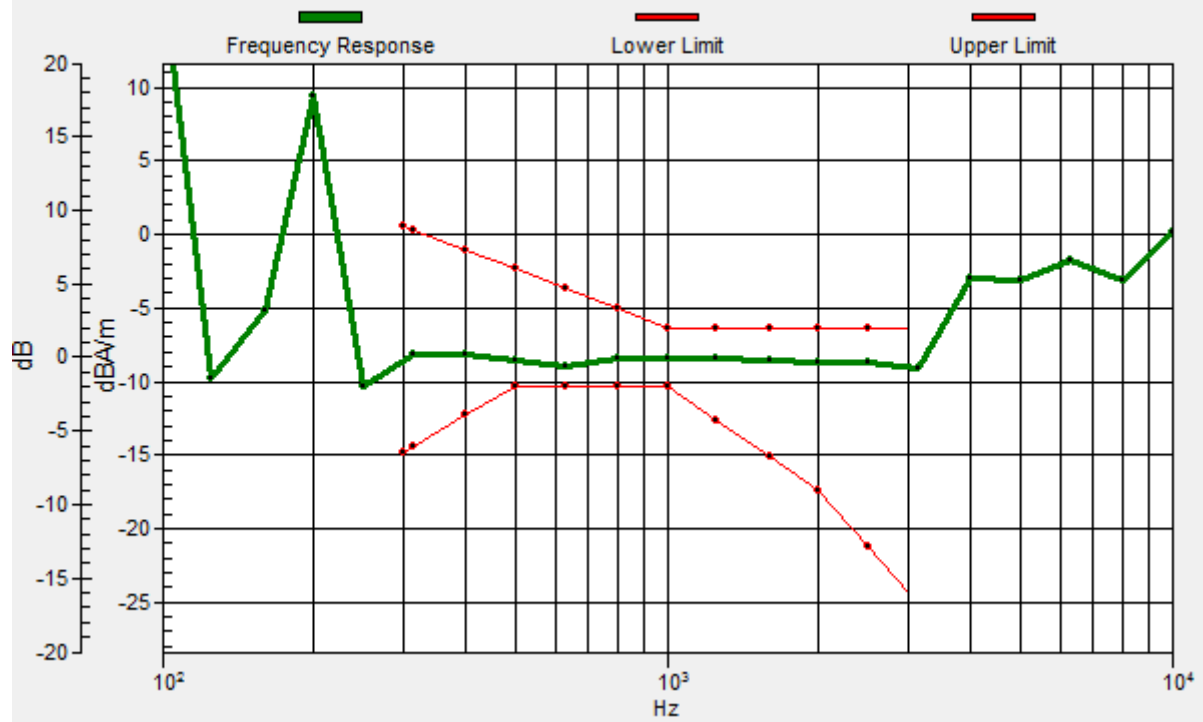
Location: -4.2, -4.2, 3.7 mm



0 dB = 15.81 = 23.98 dB

# Ch40620/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, -4.2, 3.7 mm Diff: 1.44dB





### HAC\_T-Coil\_LTE Band 41\_20M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch40620\_Y

Communication System: UID 10172 - CAB, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK);  
Frequency: 2593 MHz; Duty Cycle: 1:1.59

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

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)

**Ch40620/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid:

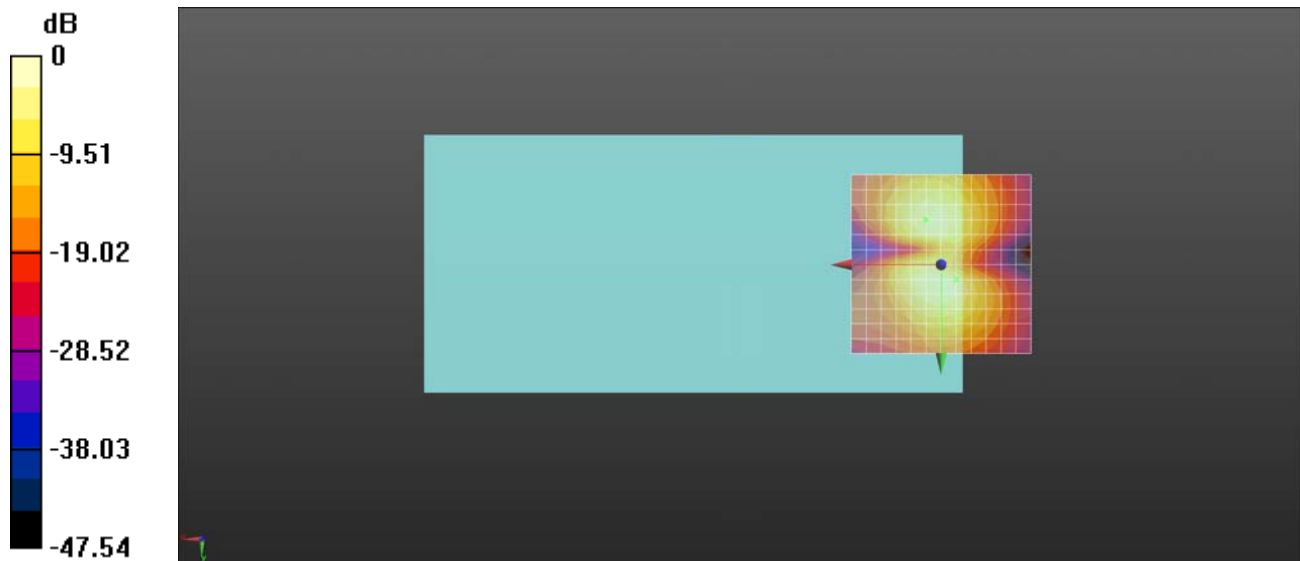
dx=10mm, dy=10mm

ABM1/ABM2 = 25.76 dB

ABM1 comp = -14.53 dBA/m

BWC Factor = -0.0048 dB

Location: -4.2, 4.2, 3.7 mm



0 dB = 12.24 = 25.76 dB

### HAC\_T-Coil\_LTE Band 66\_20M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch132322\_Z

Communication System: UID 0, LTE-FDD (SC-FDMA, 1RB, 20MHz, QPSK) (0); Frequency: 1745 MHz; Duty Cycle: 1:1

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

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)

**Ch132322/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid:

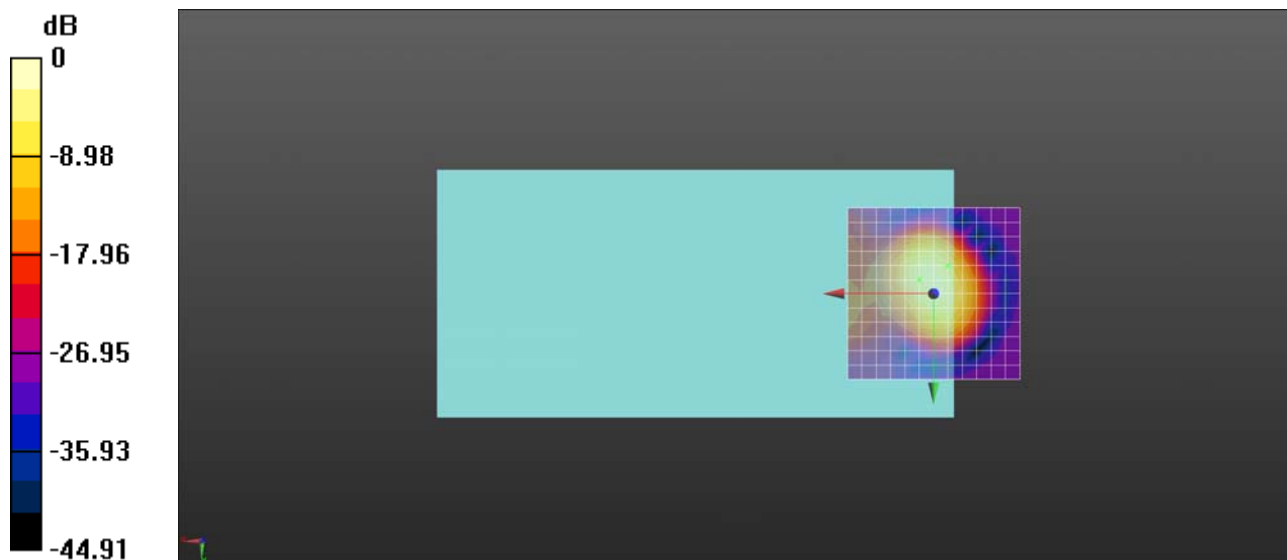
dx=10mm, dy=10mm

ABM1/ABM2 = 38.40 dB

ABM1 comp = -7.49 dBA/m

BWC Factor = -0.00091 dB

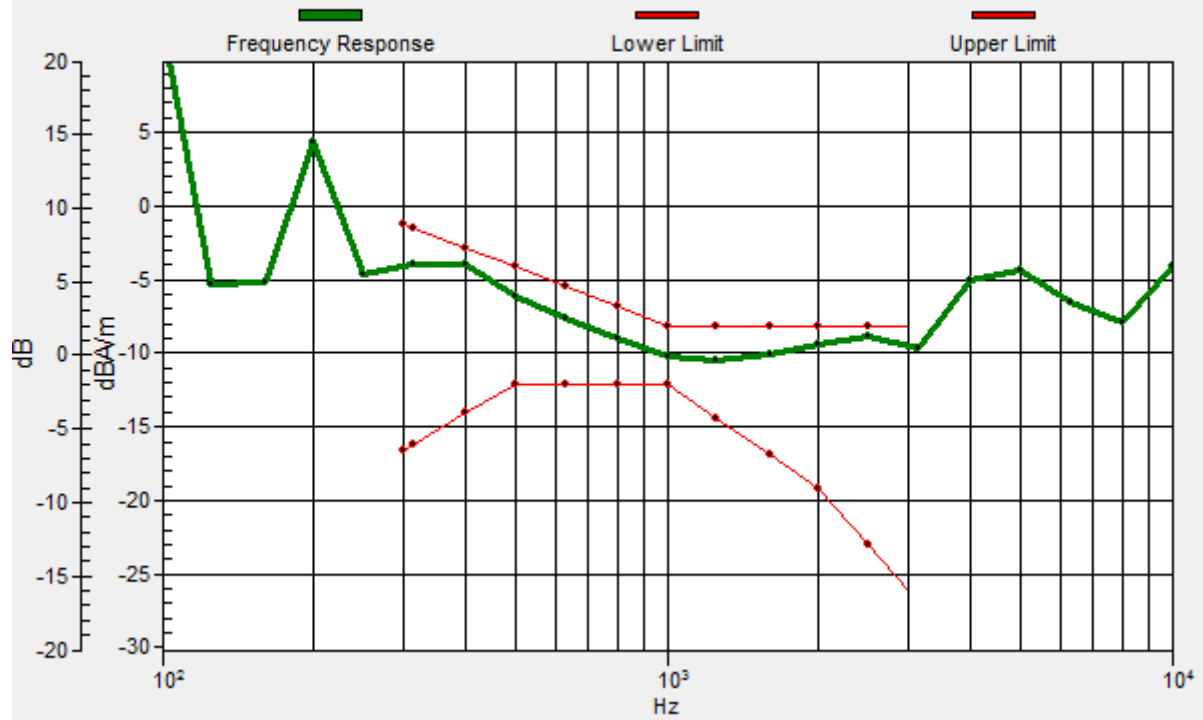
Location: -4.2, -8.3, 3.7 mm



0 dB = 83.15 = 38.40 dB

# Ch132322/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)

Loc: -4.2, -8.3, 3.7 mm Diff: 0.67dB



### HAC\_T-Coil\_LTE Band 66\_20M\_QPSK\_1RB\_0offset\_12.2Kbps\_Ch132322\_Y

Communication System: UID 0, LTE-FDD (SC-FDMA, 1RB, 20MHz, QPSK) (0); Frequency: 1745 MHz; Duty Cycle: 1:1

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

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)

#### Ch132322/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1): Measurement

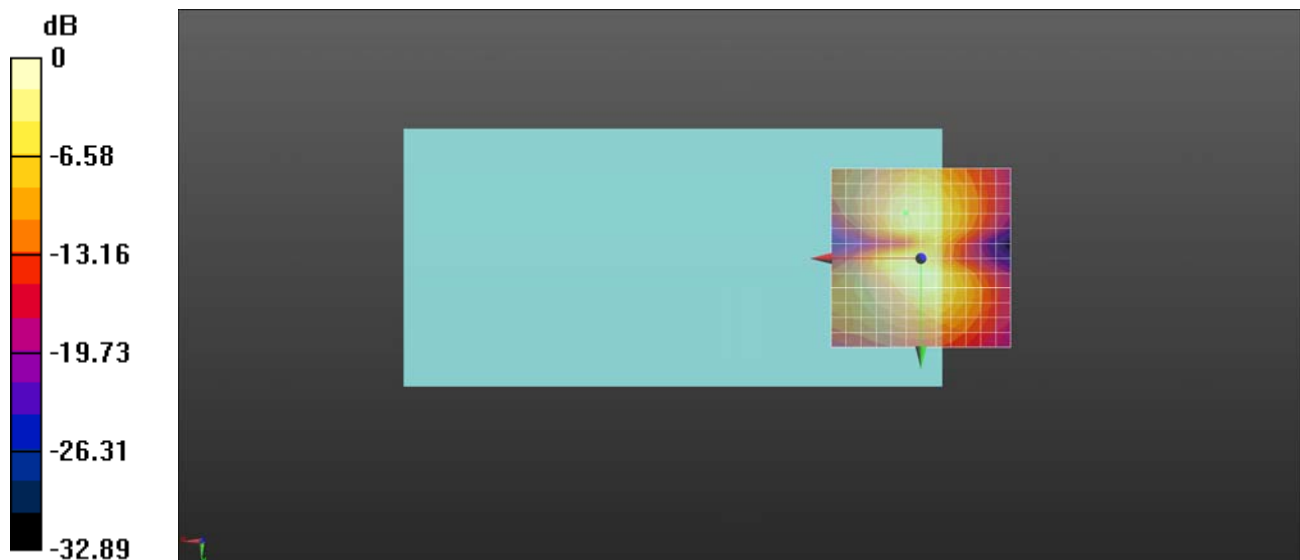
grid: dx=10mm, dy=10mm

ABM1/ABM2 = 25.88 dB

ABM1 comp = -16.80 dBA/m

BWC Factor = 0.0038 dB

Location: 0, 0, 3.7 mm



0 dB = 19.68 = 25.88 dB