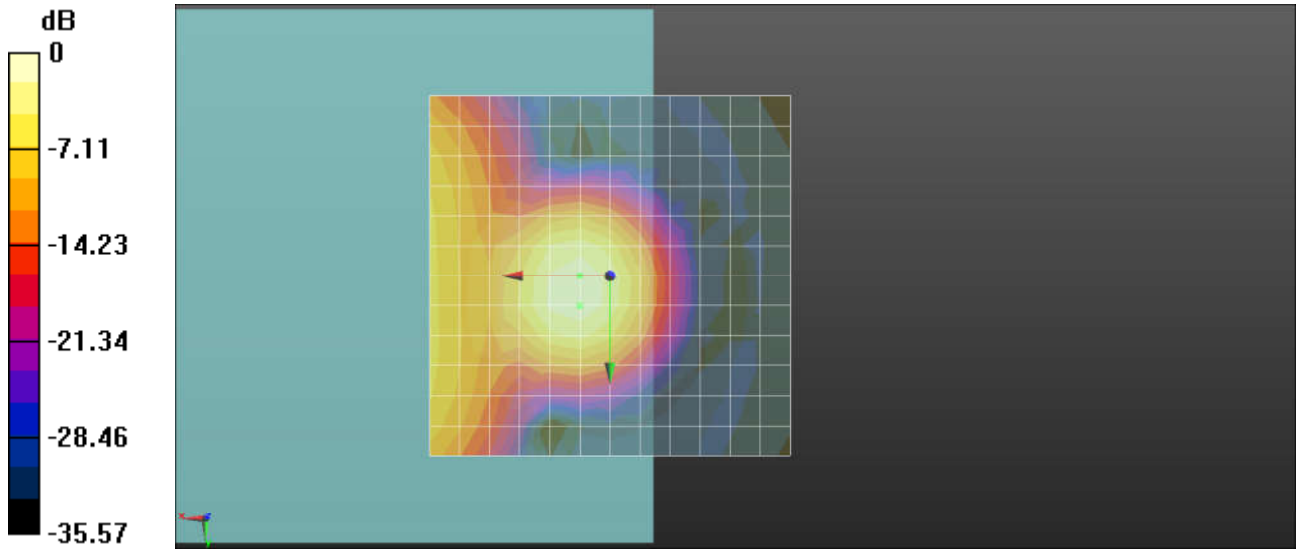
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**01 HAC T-Coil GSM850_Voice_Ch189(Z)**

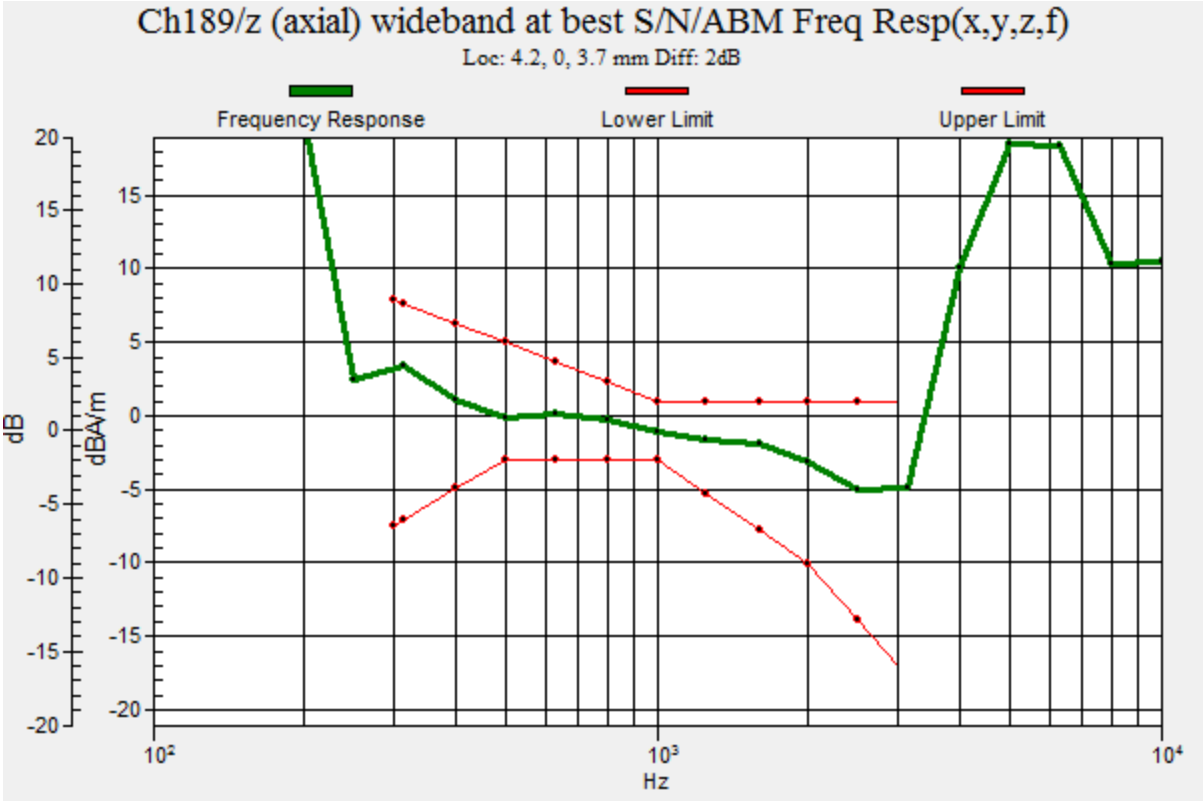
Communication System: UID 0, General GSM (0); Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 24.48 dB
ABM1 comp = -0.74 dBA/m
Location: 4.2, 0, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


Ch189/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 4.2, 0, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

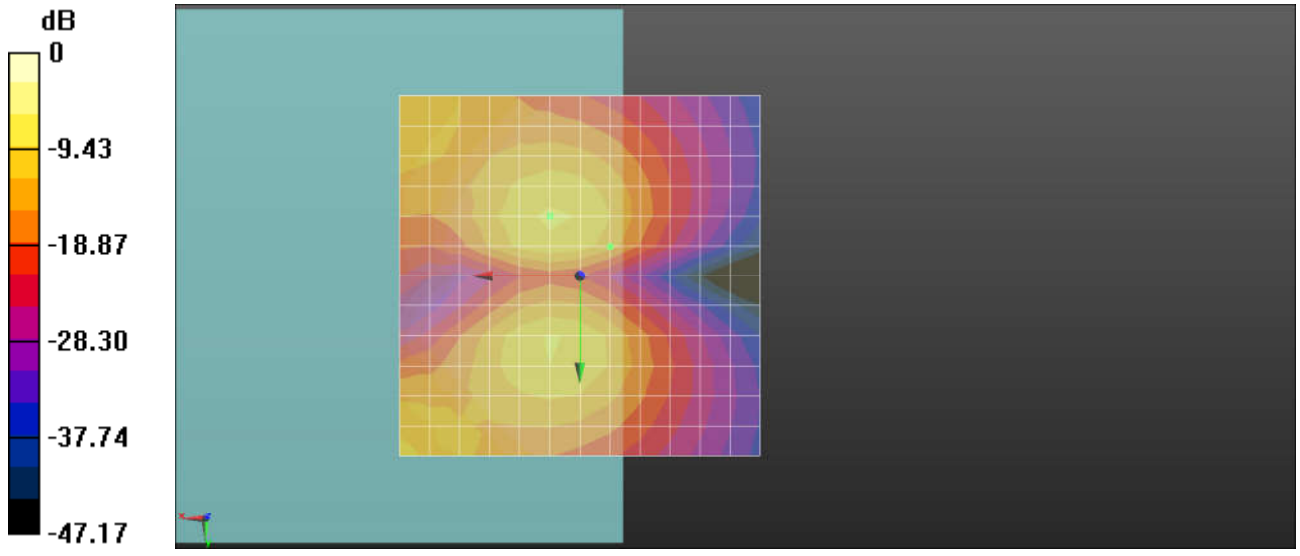
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**01 HAC T-Coil GSM850_Voice_Ch189(Y)**

Communication System: UID 0, General GSM (0); Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 24.57 dB
ABM1 comp = -14.13 dBA/m
Location: -4.2, -4.2, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

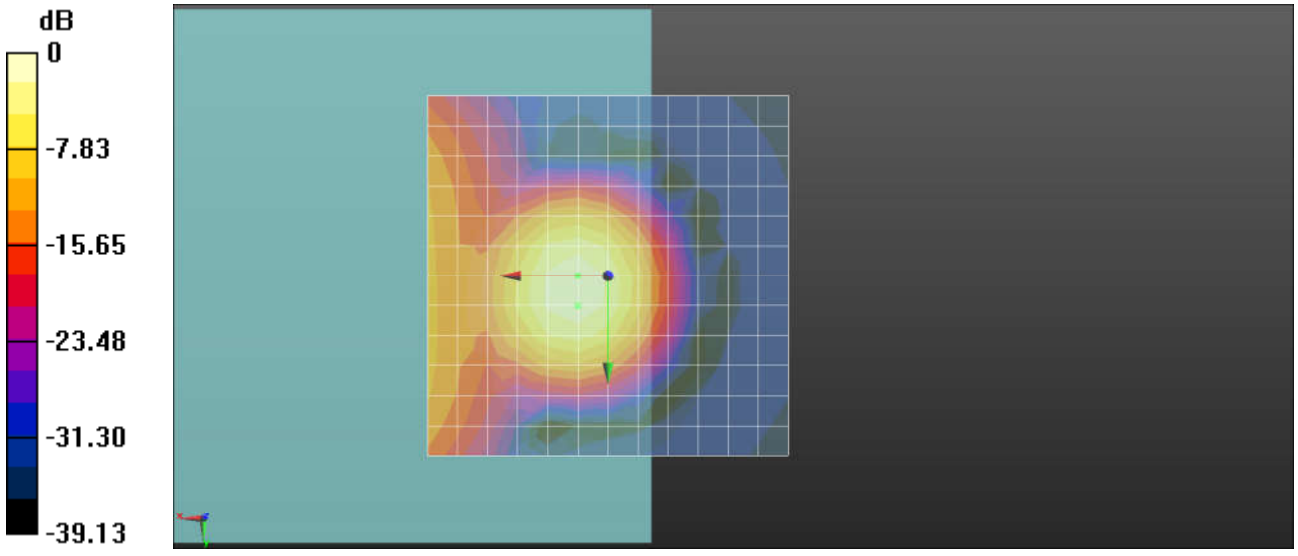
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**02 HAC T-Coil GSM1900_Voice_Ch661(Z)**

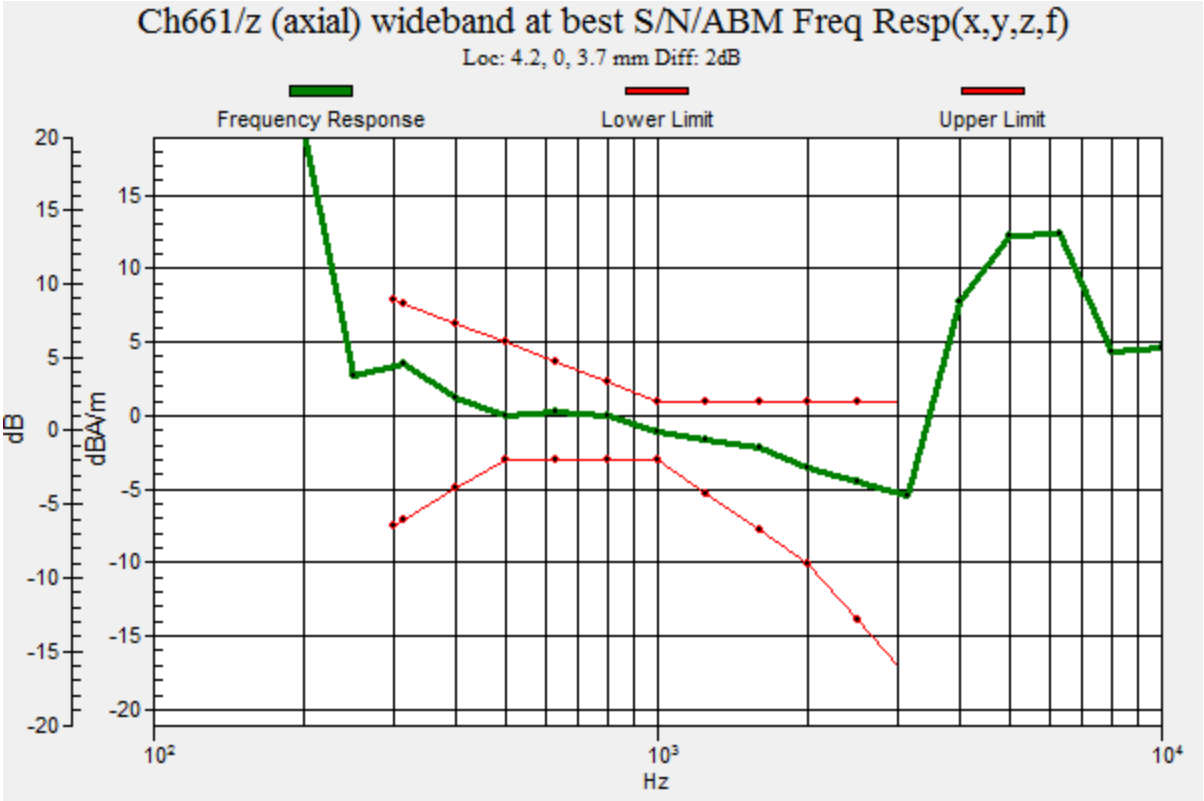
Communication System: UID 0, General GSM (0); Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 29.88 dB
ABM1 comp = -0.68 dBA/m
Location: 4.2, 0, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


Ch661/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 4.2, 0, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

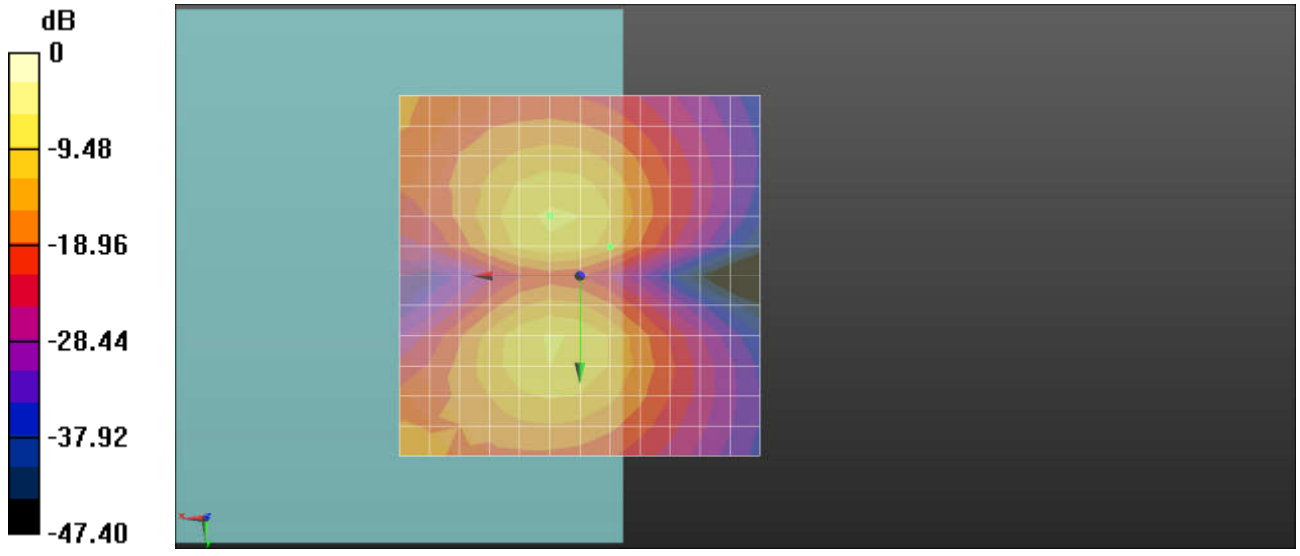
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**02 HAC T-Coil GSM1900_Voice_Ch661(Y)**

Communication System: UID 0, General GSM (0); Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 29.43 dB
ABM1 comp = -14.15 dBA/m
Location: -4.2, -4.2, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

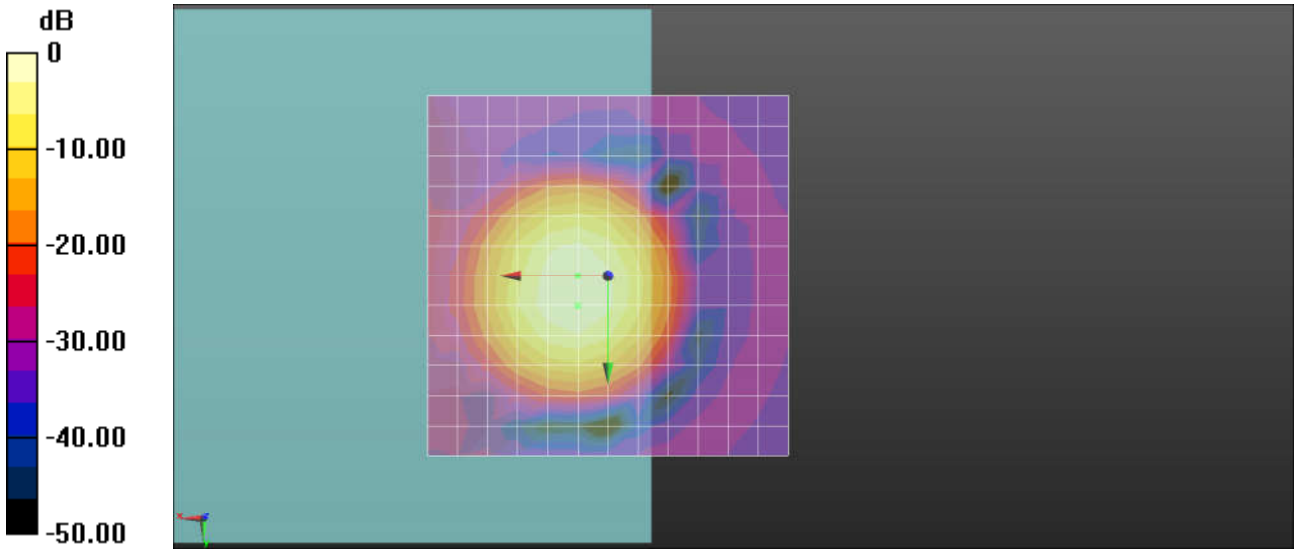
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**03 HAC T-Coil WCDMA V_Voice_Ch4182(Z)**

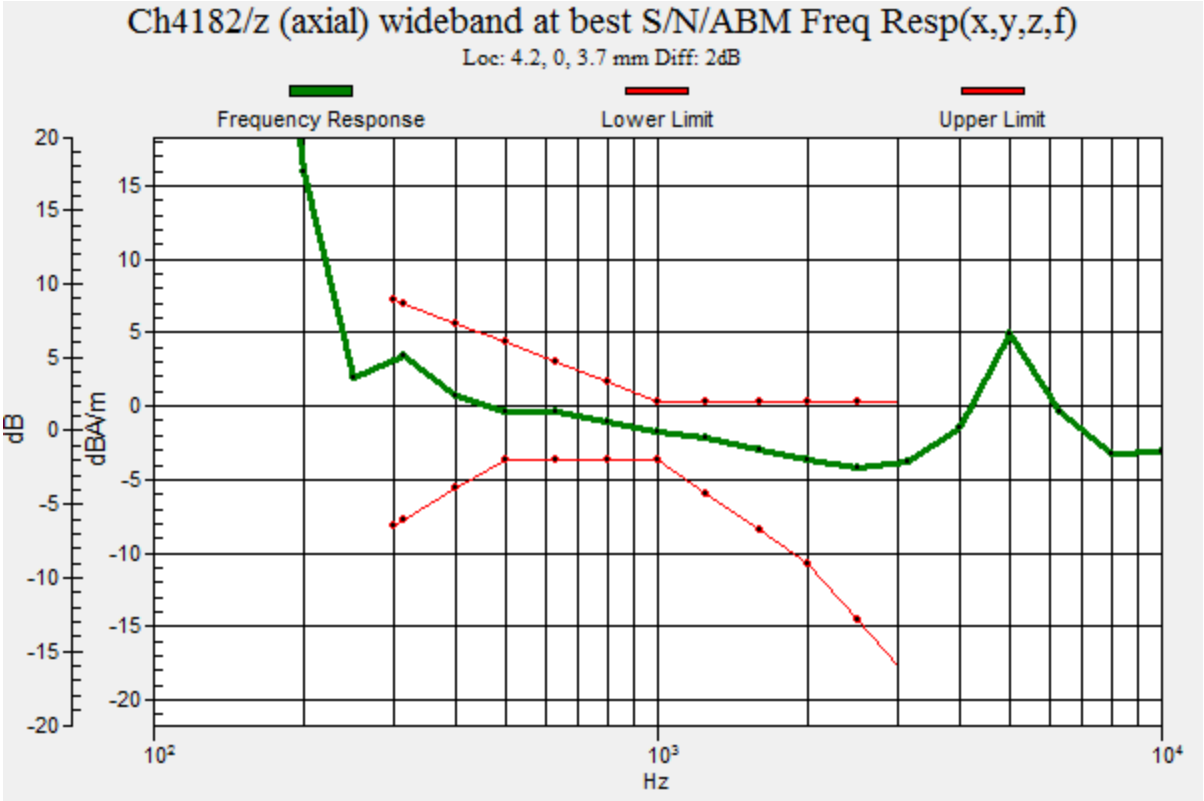
Communication System: UID 0, UMTS (0); Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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)

**Ch4182/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid: dx=10mm, dy=10mm
ABM1/ABM2 = 37.39 dB
ABM1 comp = -0.30 dBA/m
Location: 4.2, 0, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

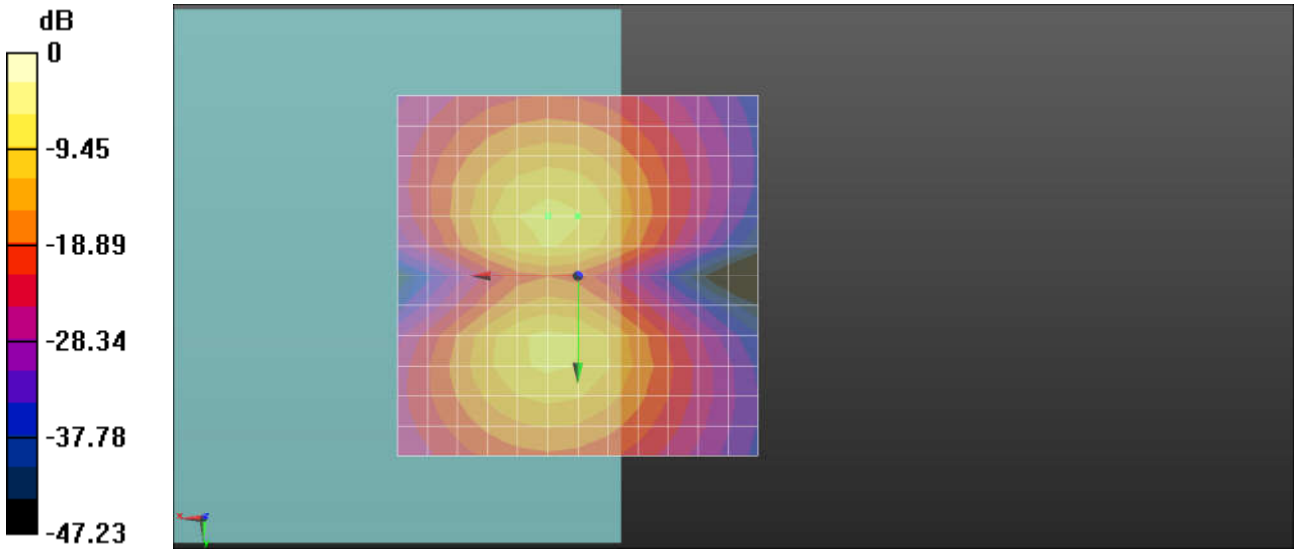

Ch4182/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 4.2, 0, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
10²
10³
10⁴
Hz

**03 HAC T-Coil WCDMA V_Voice_Ch4182(Y)**

Communication System: UID 0, UMTS (0); Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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)

**Ch4182/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid: dx=10mm, dy=10mm
ABM1/ABM2 = 35.38 dB
ABM1 comp = -9.03 dBA/m
Location: 0, -8.3, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

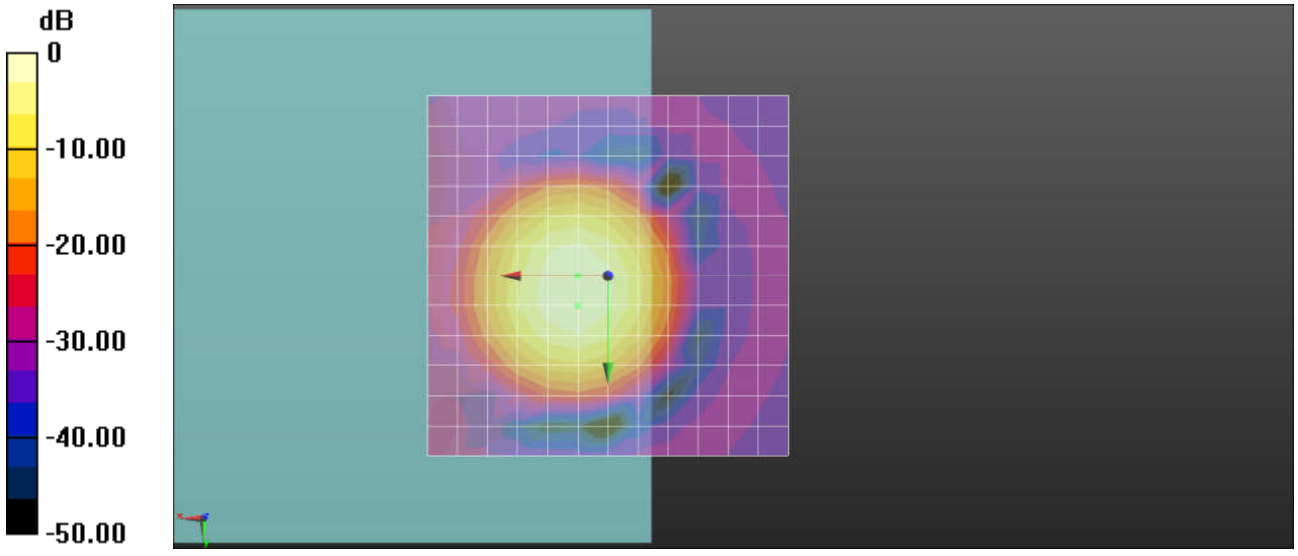
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**04 HAC T-Coil WCDMA IV_Voice_Ch1413(Z)**

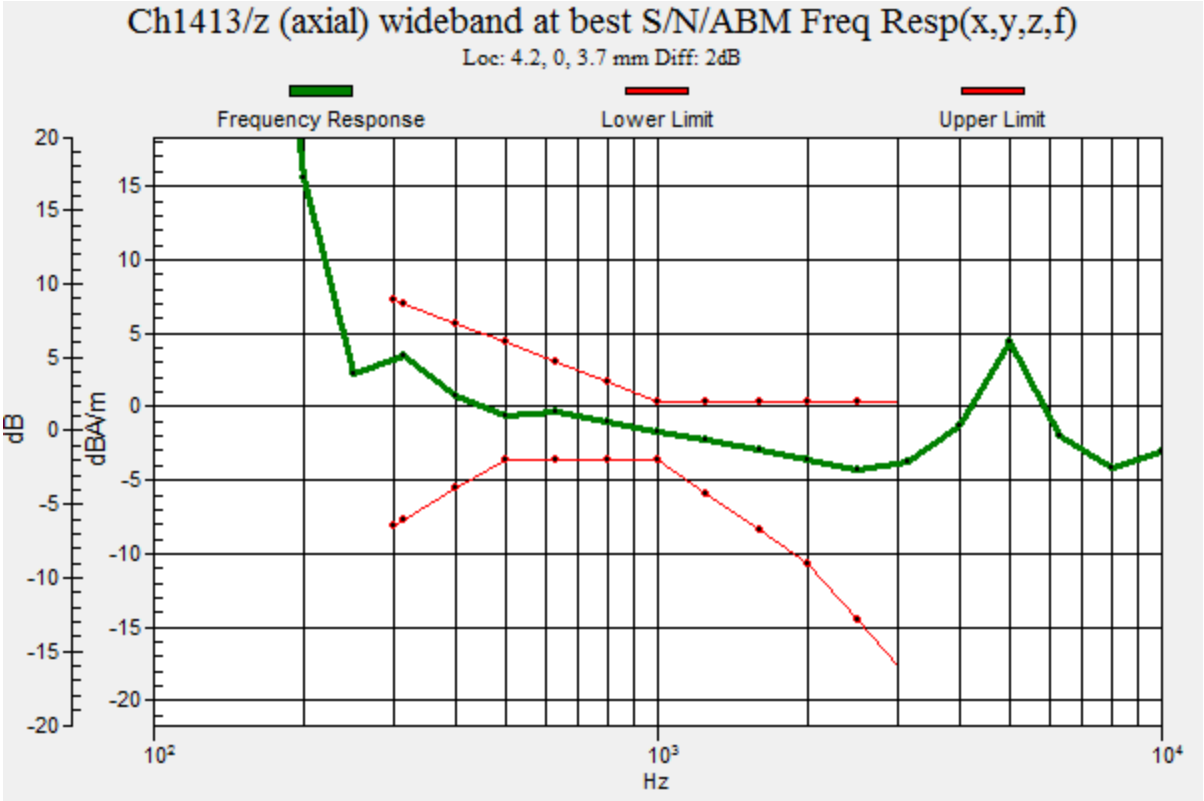
Communication System: UID 0, UMTS (0); Frequency: 1732.6 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 38.24 dB
ABM1 comp = -0.28 dBA/m
Location: 4.2, 0, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


Ch1413/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 4.2, 0, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

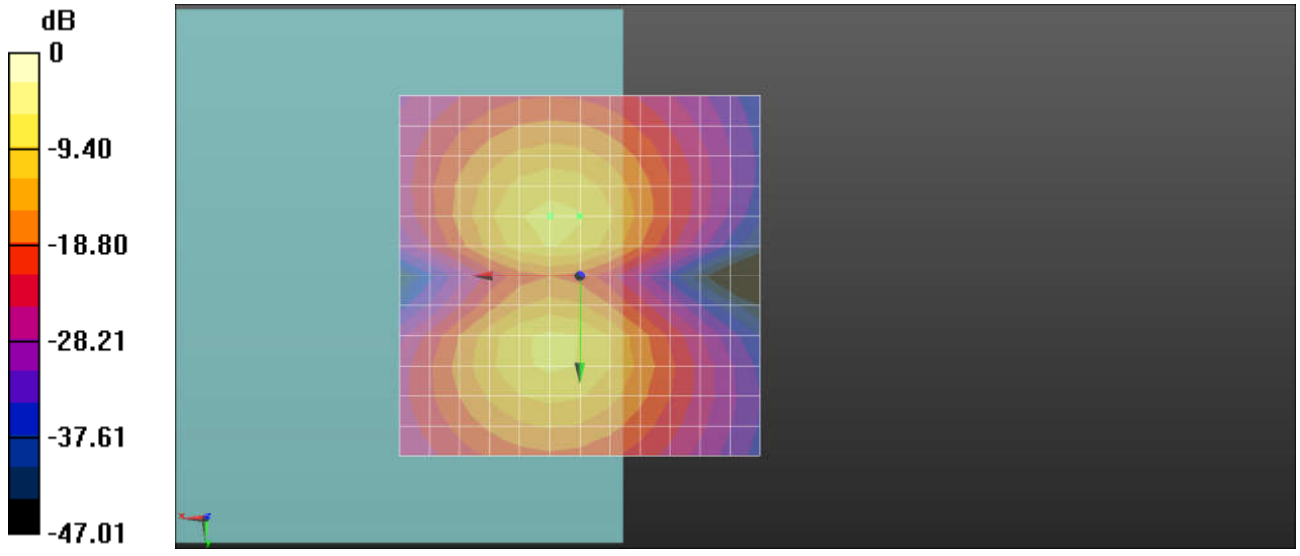
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**04 HAC T-Coil WCDMA IV_Voice_Ch1413(Y)**

Communication System: UID 0, UMTS (0); Frequency: 1732.6 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 35.23 dB
ABM1 comp = -9.04 dBA/m
Location: 0, -8.3, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

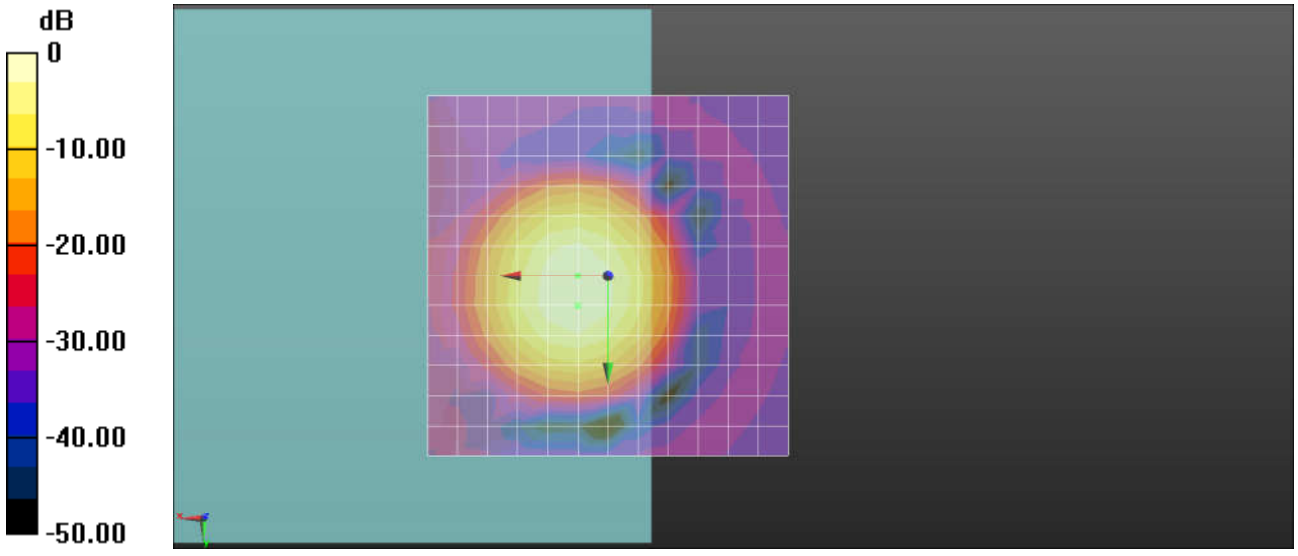
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**05 HAC T-Coil WCDMA II_Voice_Ch9400(Z)**

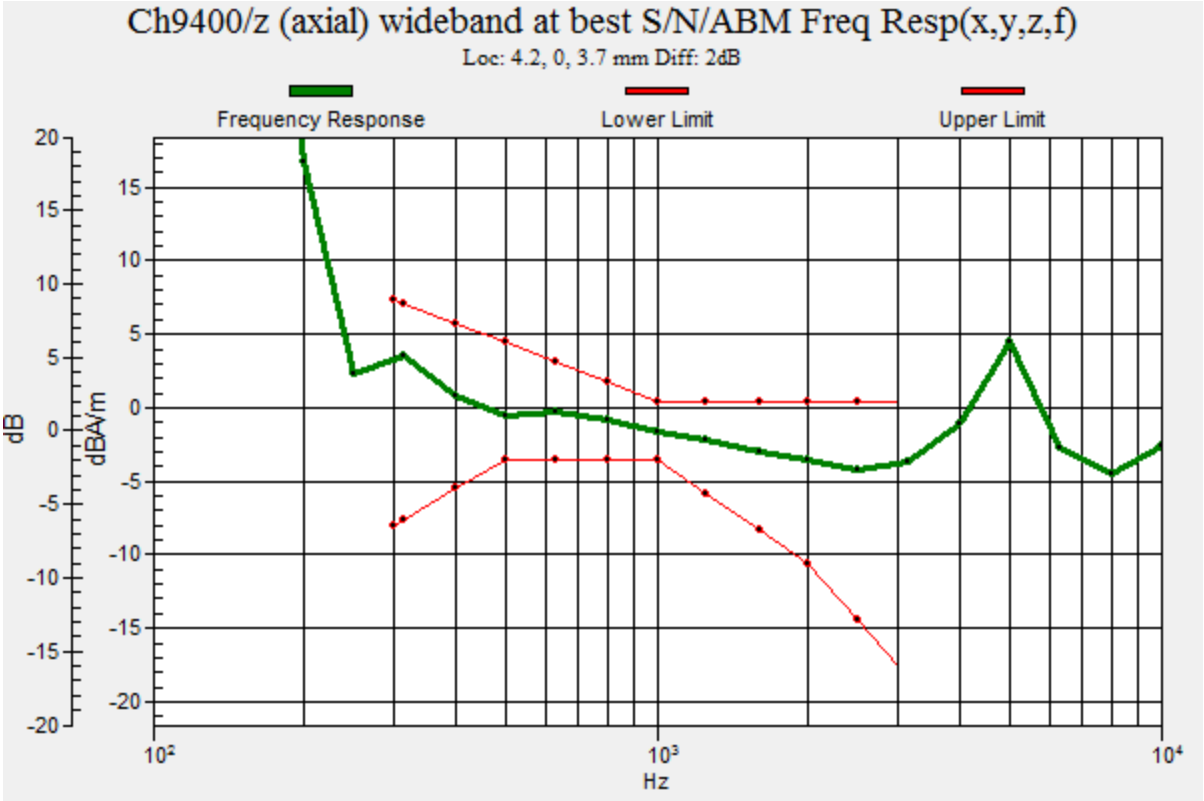
Communication System: UID 0, UMTS (0); Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 38.48 dB
ABM1 comp = -0.27 dBA/m
Location: 4.2, 0, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


Ch9400/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 4.2, 0, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

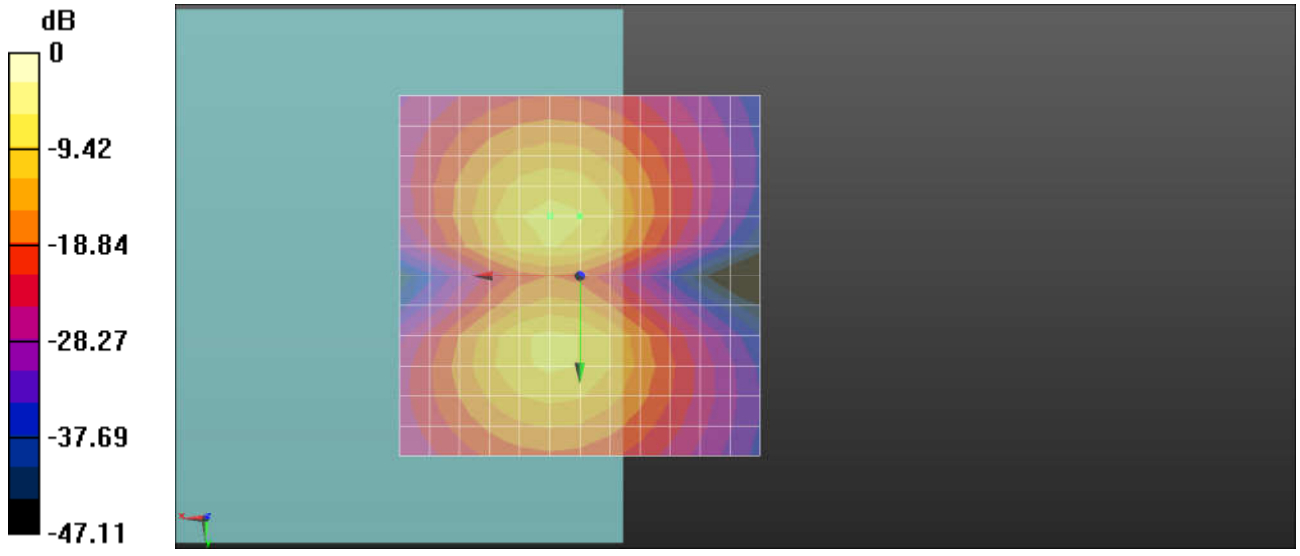
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**05 HAC T-Coil WCDMA II_Voice_Ch9400(Y)**

Communication System: UID 0, UMTS (0); Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 35.01 dB
ABM1 comp = -9.03 dBA/m
Location: 0, -8.3, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

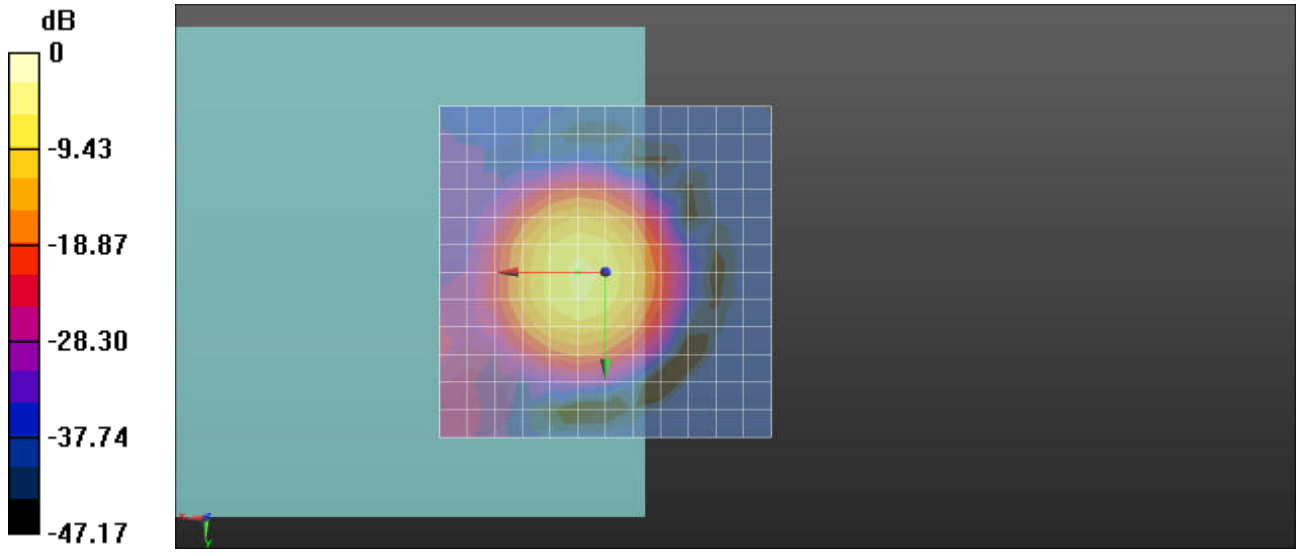
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**06_HAC_T-Coil_LTE Band 2_20M_QPSK_1RB_0Offset_12.2Kbps_Ch18900(Z)**

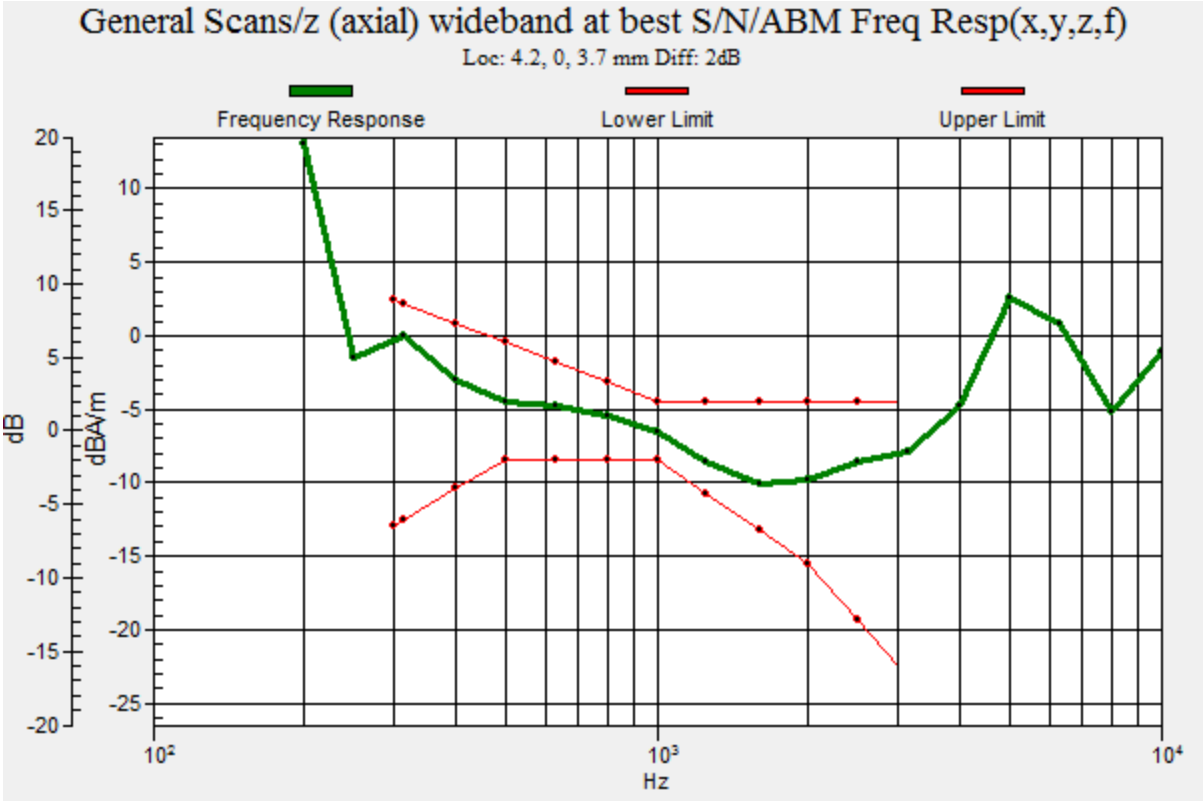
Communication System: UID 0, FDD_LTE (0); Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 34.78 dB
ABM1 comp = -5.28 dBA/m
Location: 4.2, 0, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 4.2, 0, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
Hz
20
15
10
5
0
-5
-10
-15
-20
-25
$10^2$
$10^3$
$10^4$

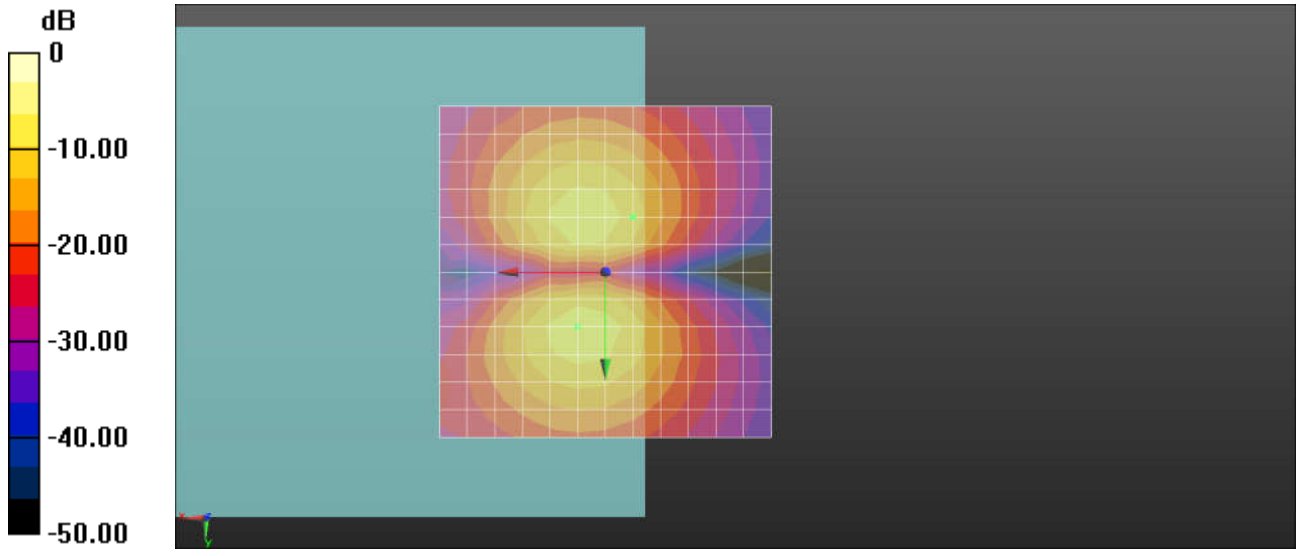
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**06_HAC_T-Coil_LTE Band 2_20M_QPSK_1RB_0Offset_12.2Kbps_Ch18900(Y)**

Communication System: UID 0, FDD_LTE (0); Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 33.39 dB
ABM1 comp = -11.28 dBA/m
Location: -4.2, -8.3, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

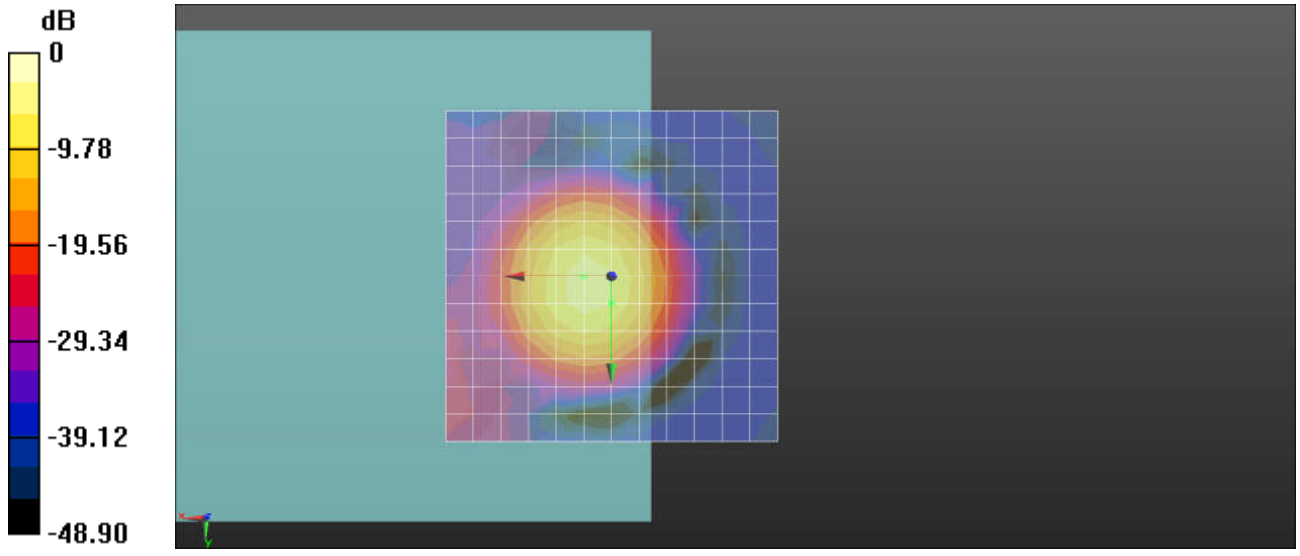
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**07_HAC_T-Coil_LTE Band 4_20M_QPSK_1RB_49Offset_12.2Kbps_Ch20175(Z)**

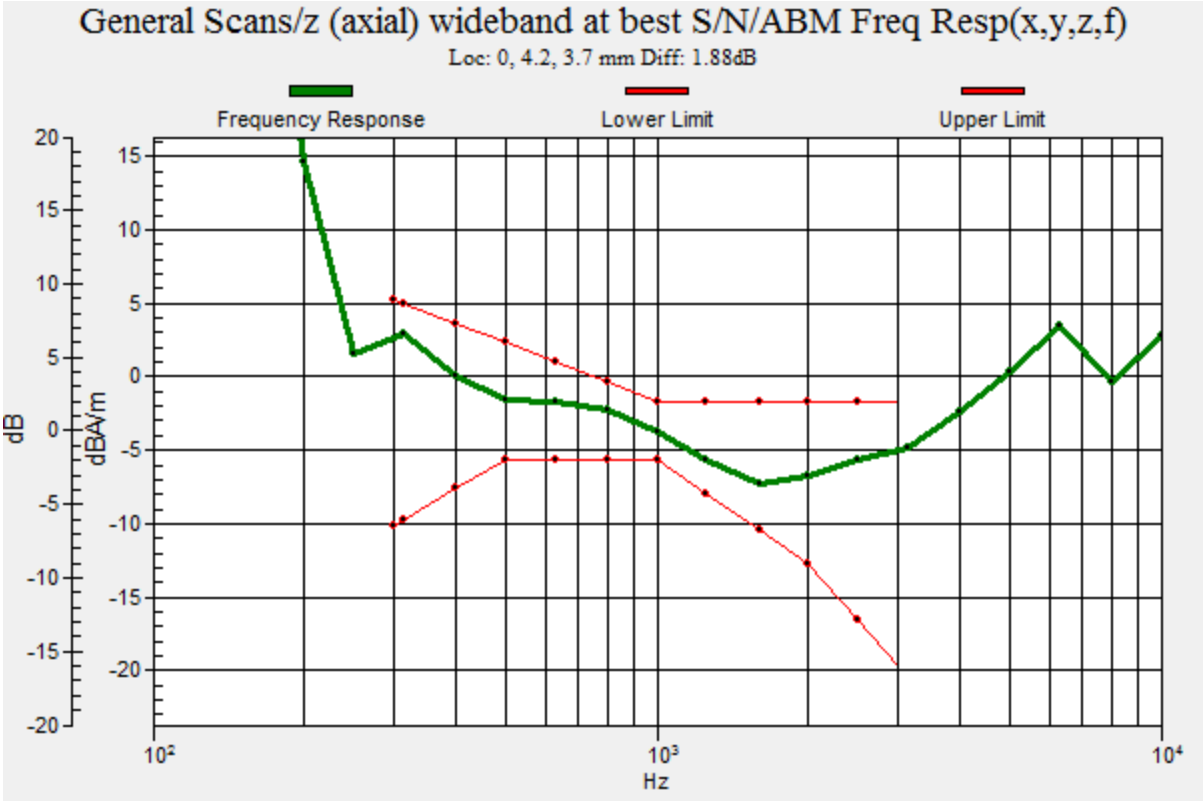
Communication System: UID 0, FDD_LTE (0); Frequency: 1732.5 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 35.29 dB
ABM1 comp = -6.43 dBA/m
Location: 0, 4.2, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 0, 4.2, 3.7 mm Diff: 1.88dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
Hz
20
15
10
5
0
-5
-10
-15
-20
10²
10³
10⁴

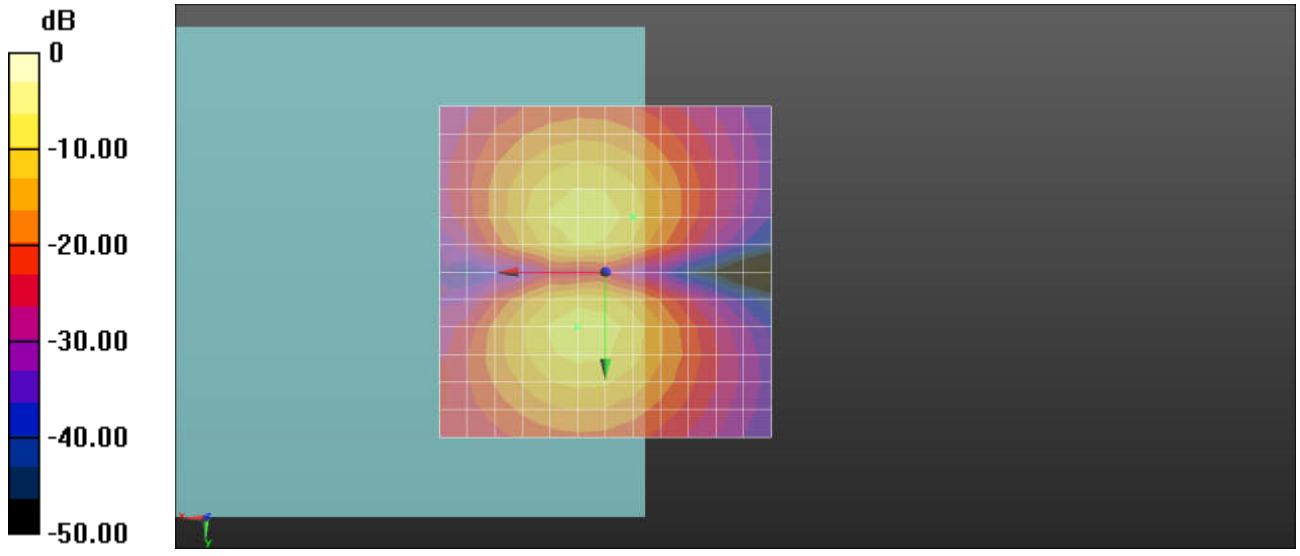
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**07_HAC_T-Coil_LTE Band 4_20M_QPSK_1RB_49Offset_12.2Kbps_Ch20175(Y)**

Communication System: UID 0, FDD_LTE (0); Frequency: 1732.5 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 33.55 dB
ABM1 comp = -11.33 dBA/m
Location: -4.2, -8.3, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

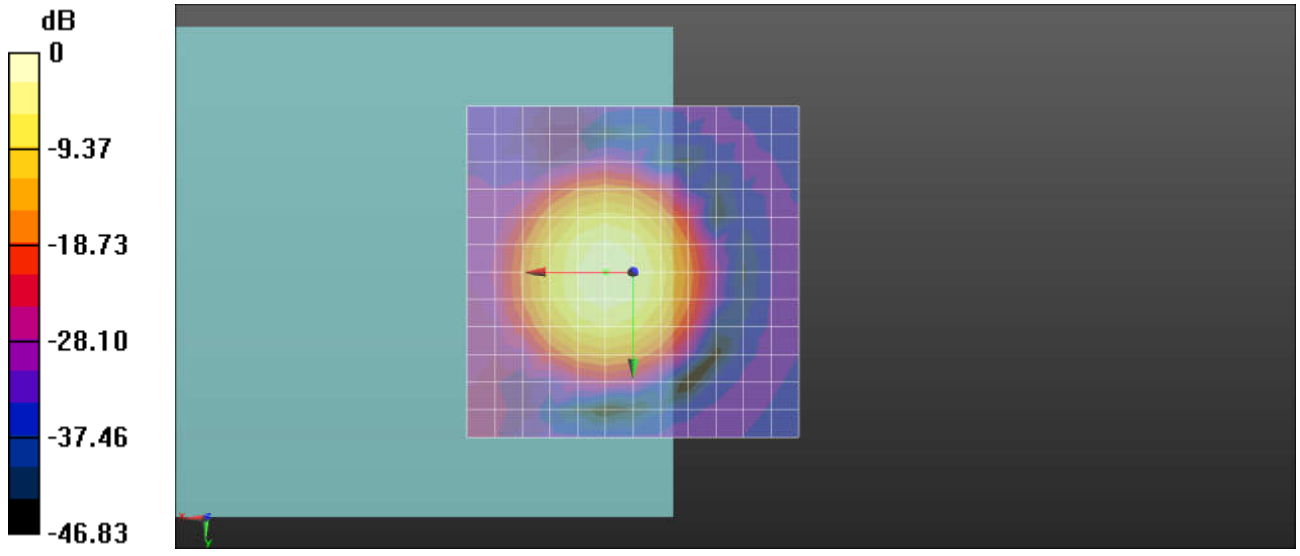
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**08_HAC_T-Coil_LTE Band 5_10M_QPSK_1RB_25Offset_12.2Kbps_Ch20525(Z)**

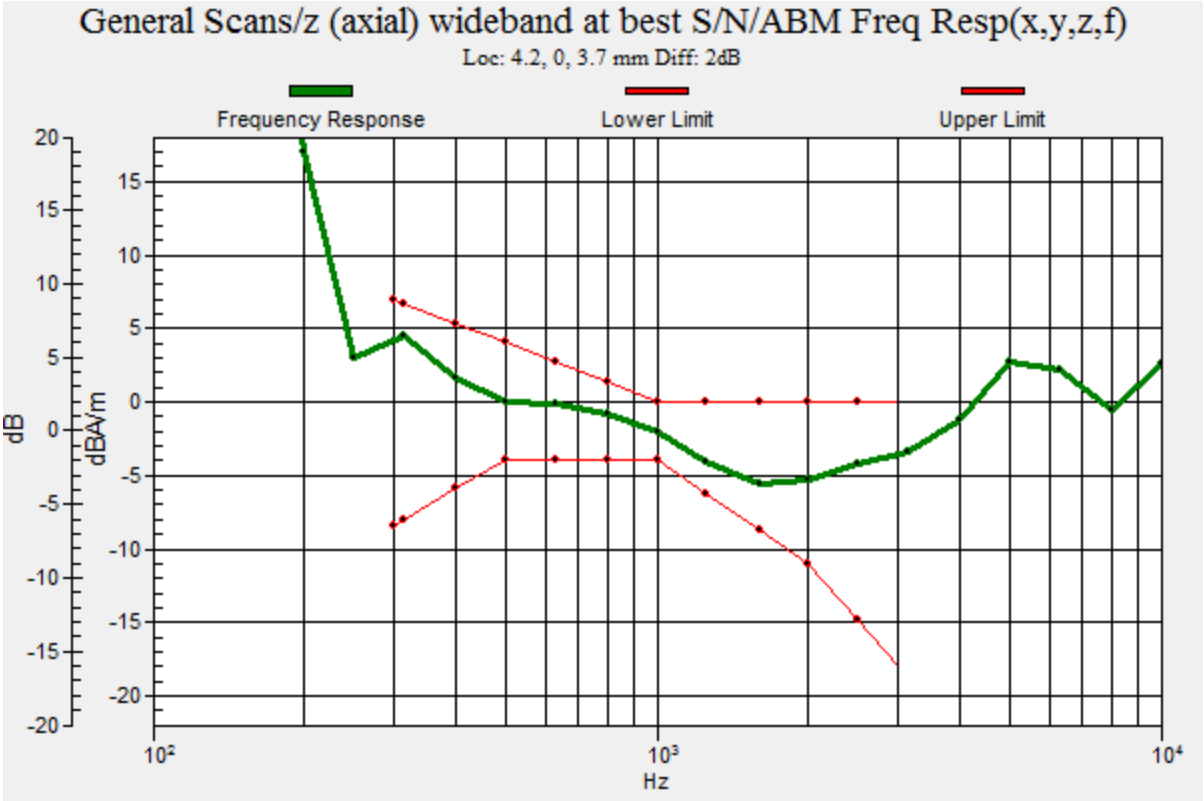
Communication System: UID 0, FDD_LTE (0); Frequency: 836.5 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 44.11 dB
ABM1 comp = -0.73 dBA/m
Location: 4.2, 0, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 4.2, 0, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

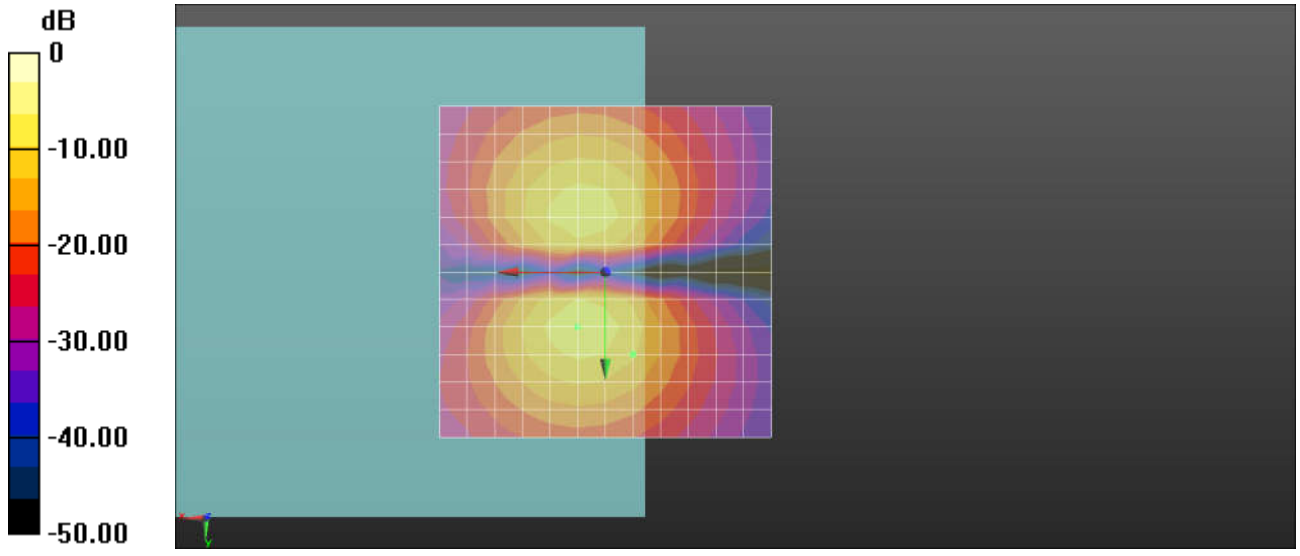
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**08_HAC_T-Coil_LTE Band 5_10M_QPSK_1RB_25Offset_12.2Kbps_Ch20525(Y)**

Communication System: UID 0, FDD_LTE (0); Frequency: 836.5 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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 = 33.81 dB
ABM1 comp = -12.62 dBA/m
Location: -4.2, 12.5, 3.7 mm



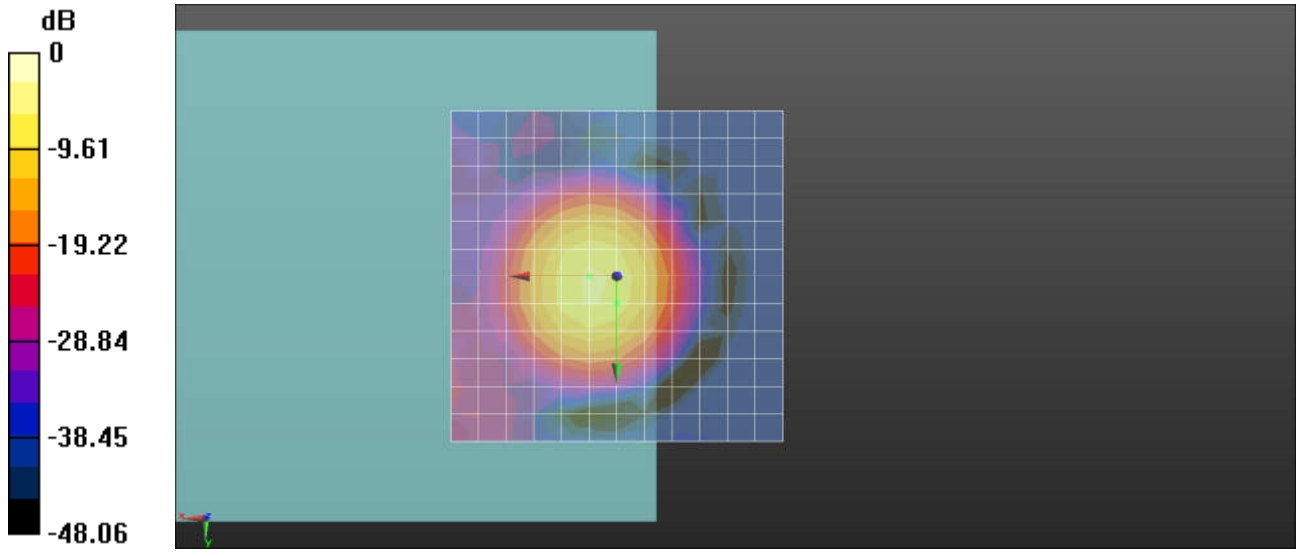

0 dB = 1.000 A/m = 0.00 dBA/m

**09_HAC_T-Coil_LTE Band 7_20M_QPSK_1RB_49Offset_12.2Kbps_Ch21100(Z)**

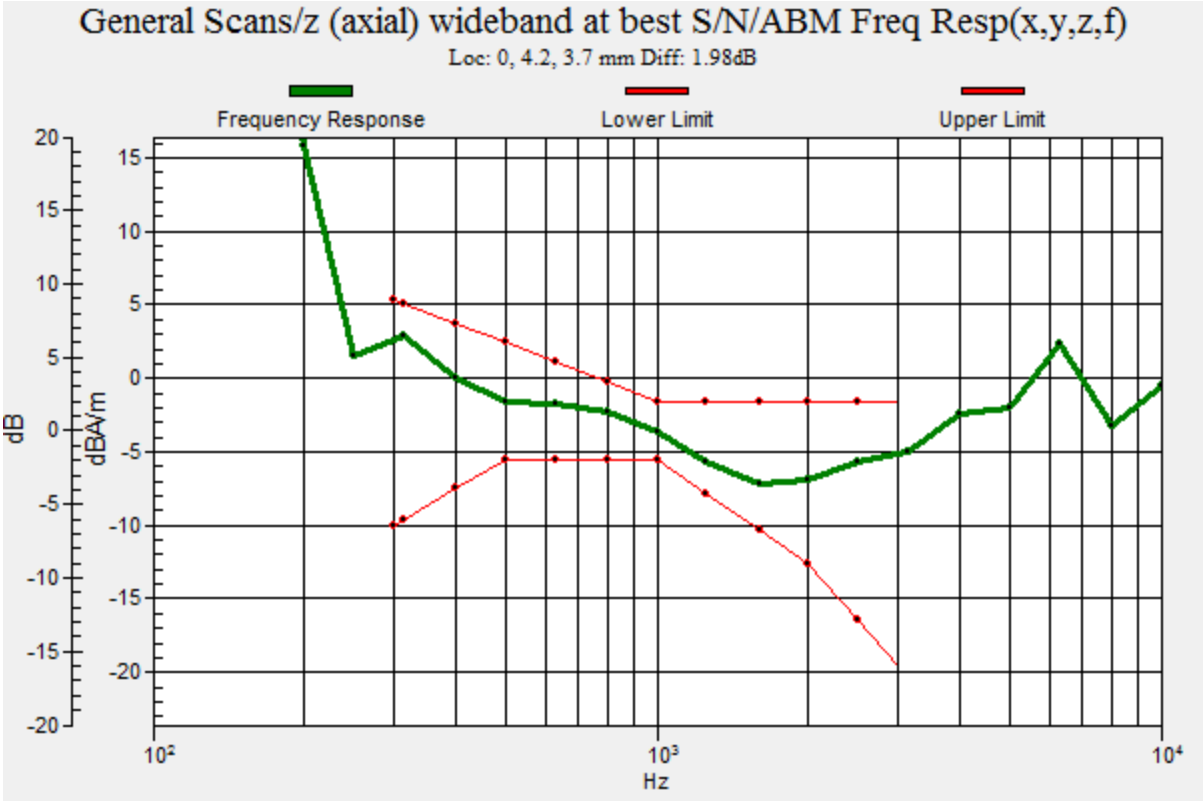
Communication System: UID 0, FDD_LTE (0); Frequency: 2535 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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)

**Ch21100/z (axial) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid: dx=10mm, dy=10mm
ABM1/ABM2 = 38.31 dB
ABM1 comp = -7.26 dBA/m
Location: 0, 4.2, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 0, 4.2, 3.7 mm Diff: 1.98dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
Hz
20
15
10
5
0
-5
-10
-15
-20
10²
10³
10⁴

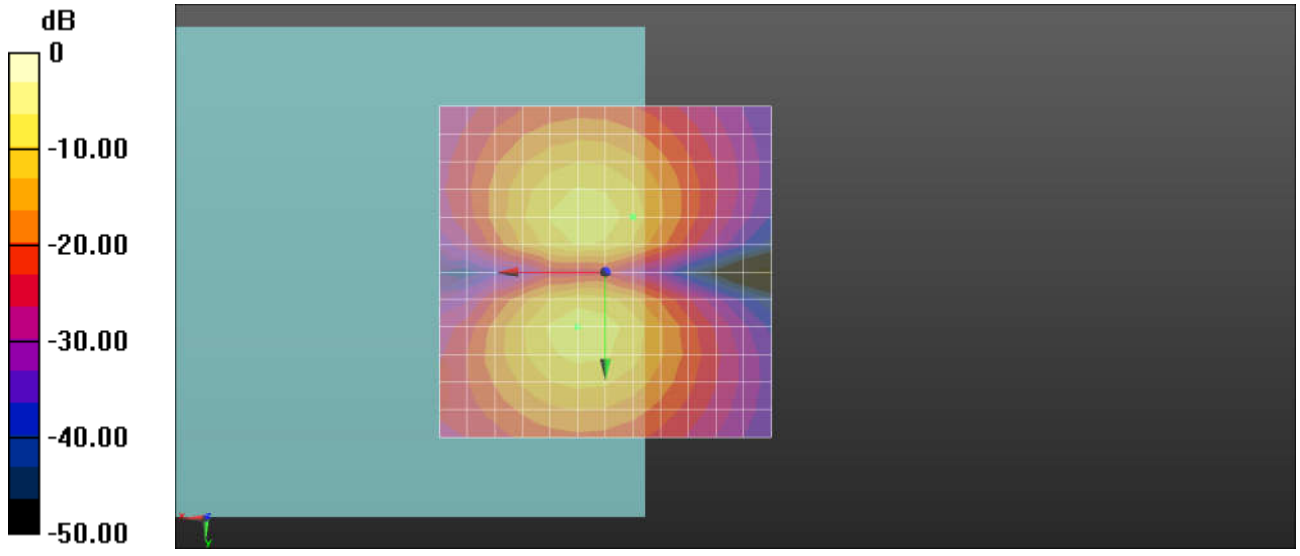
Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2017.12.21

**09_HAC_T-Coil_LTE Band 7_20M_QPSK_1RB_49Offset_12.2Kbps_Ch21100(Y)**

Communication System: UID 0, FDD_LTE (0); Frequency: 2535 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.6 ℃

DASY5 Configuration:
- Probe: AM1DV3 - 3093; ; Calibrated: 2017.5.19
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn1326; Calibrated: 2017.9.15
- 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)

**Ch21100/y (transversal) 4.2mm 50 x 50/ABM SNR(x,y,z) (13x13x1):** Measurement grid: dx=10mm, dy=10mm
ABM1/ABM2 = 35.43 dB
ABM1 comp = -11.37 dBA/m
Location: -4.2, -8.3, 3.7 mm




0 dB = 1.000 A/m = 0.00 dBA/m

# 10_HAC_T-Coil_WLAN2.4GHz_802.11b 1Mbps_AMR12.2Kbps_Ch6_Axial (Z)

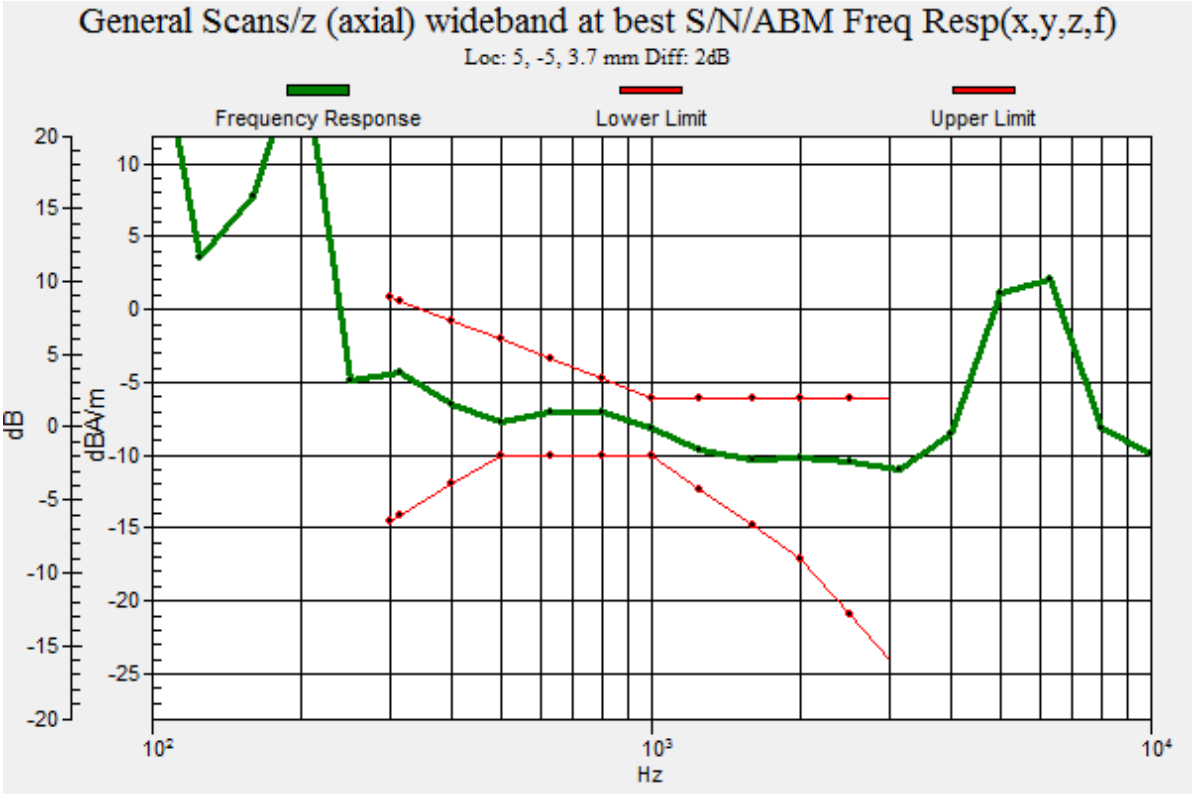
Communication System: 802.11b ; Frequency: 2437 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 28.24 dB
ABM1 comp = -11.38 dBA/m
Location: 3, 0, 3.7 mm


0 dB = 25.81 = 28.24 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, -5, 3.7 mm Diff: 2dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
Hz

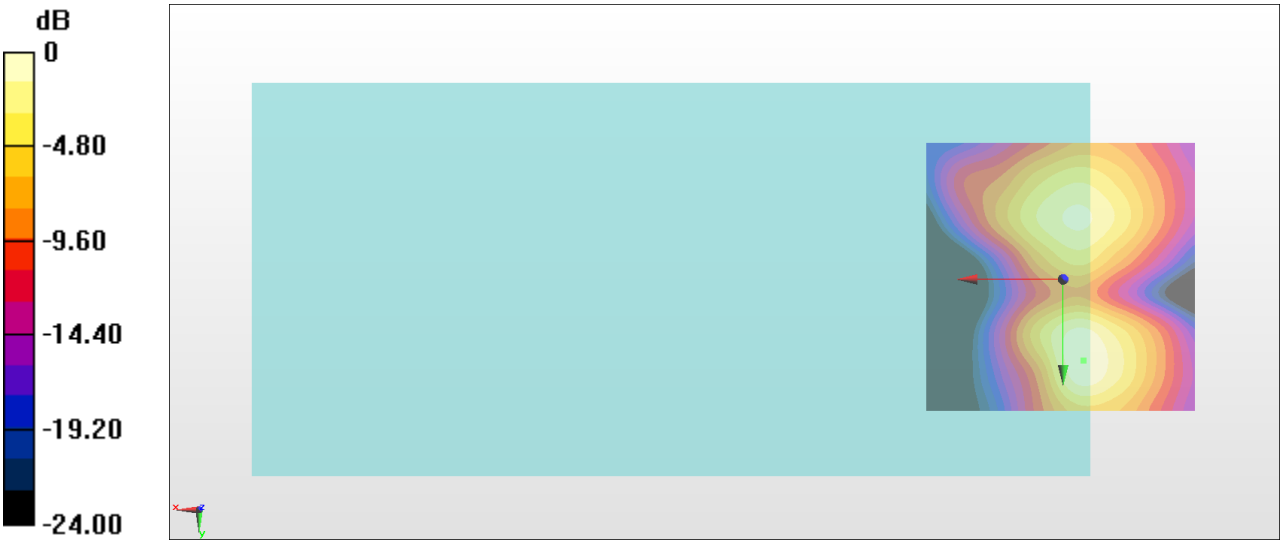
# 10_HAC_T-Coil_WLAN2.4GHz_802.11b 1Mbps_AMR12.2Kbps_Ch6_Transversal (Y)

Communication System: 802.11b ; Frequency: 2437 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 29.14 dB
ABM1 comp = -15.90 dBA/m
Location: -3.7, 14.9, 3.7 mm




0 dB = 28.64 = 29.14 dB

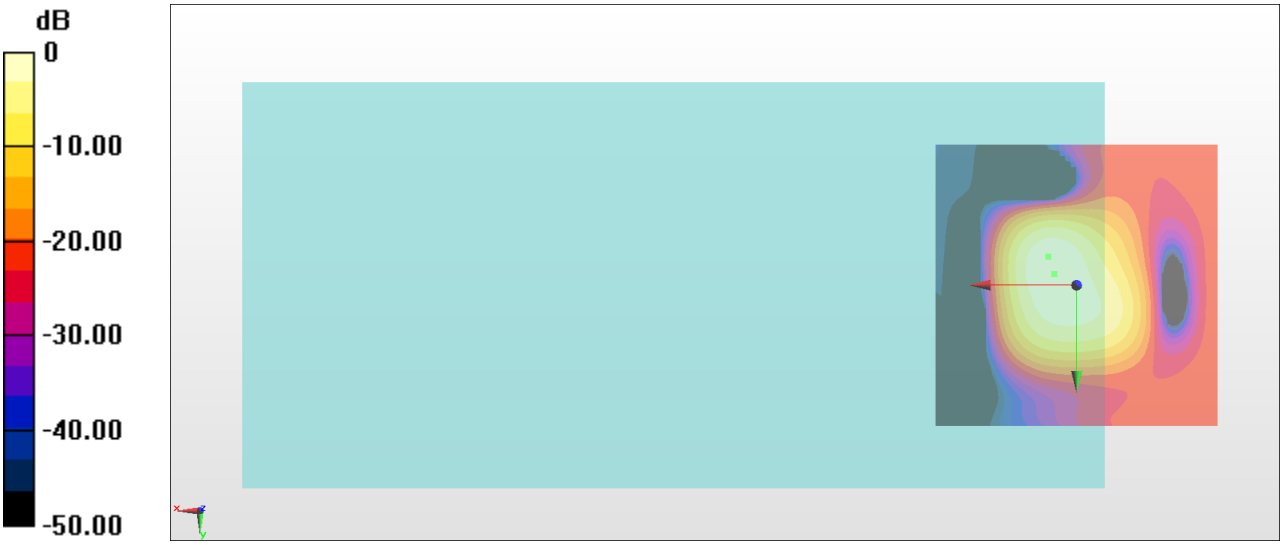
# 11_HAC_T-Coil_GSM850_EDGE 2 Tx slots_Ch189_Axial (Z)

Communication System: GSM850; Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

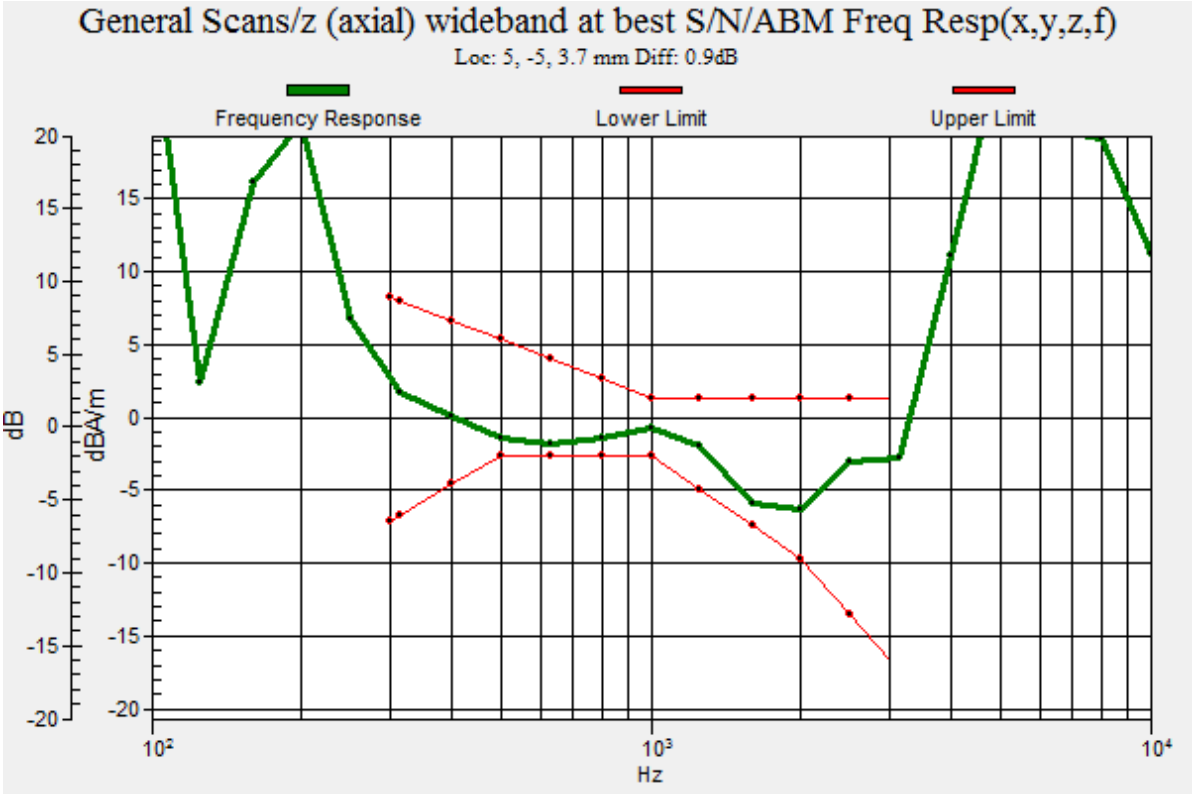
DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 44.71 dB
ABM1 comp = 4.38 dBA/m
Location: 4, -2, 3.7 mm




0 dB = 172.0 = 44.71 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, -5, 3.7 mm Diff: 0.9dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

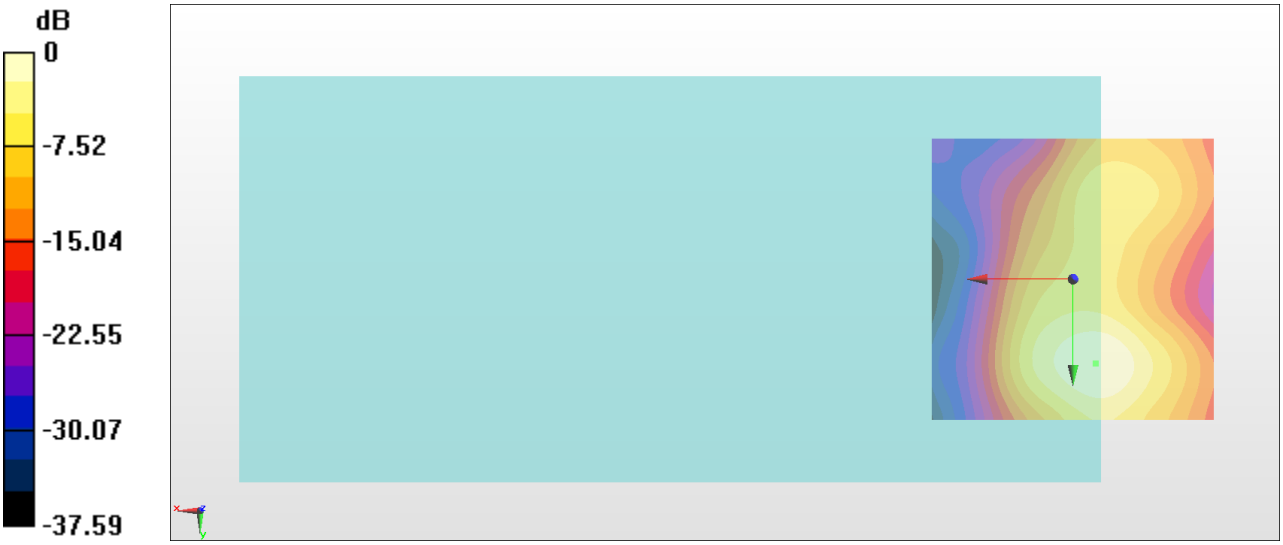
# 11_HAC_T-Coil_GSM850_EDGE 2 Tx slots_Ch189_Transversal (Y)

Communication System: GSM850; Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 37.37 dB
ABM1 comp = -7.51 dBA/m
Location: -4, 15, 3.7 mm




0 dB = 73.91 = 37.37 dB

# 12_HAC_T-Coil_GSM1900_EDGE 2 Tx slots_Ch661_Axial (Z)

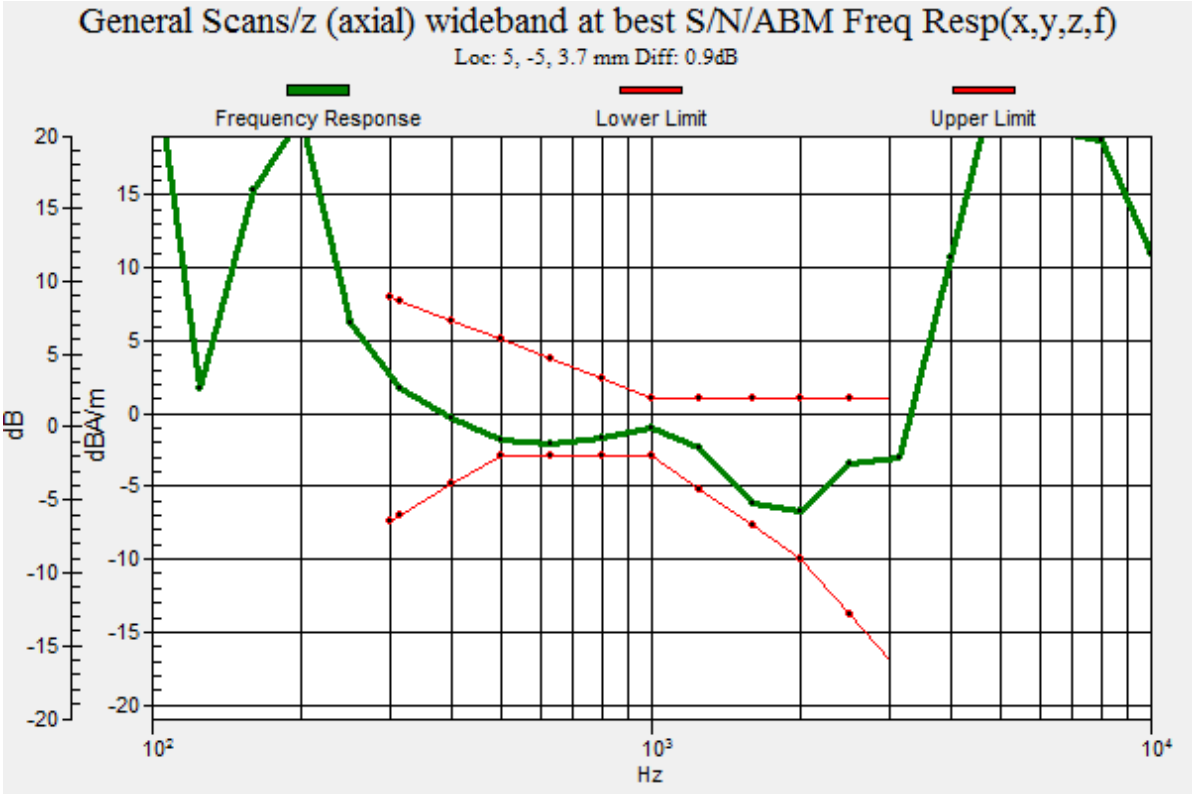
Communication System: PCS; Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 45.05 dB
ABM1 comp = 4.71 dBA/m
Location: 3, -1, 3.7 mm


0 dB = 178.8 = 45.05 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, -5, 3.7 mm Diff: 0.9dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

# 12_HAC_T-Coil_GSM1900_EDGE 2 Tx slots_Ch661_Transversal (Y)

Communication System: PCS; Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 37.79 dB
ABM1 comp = -7.35 dBA/m
Location: -4, 15, 3.7 mm


0 dB = 77.53 = 37.79 dB

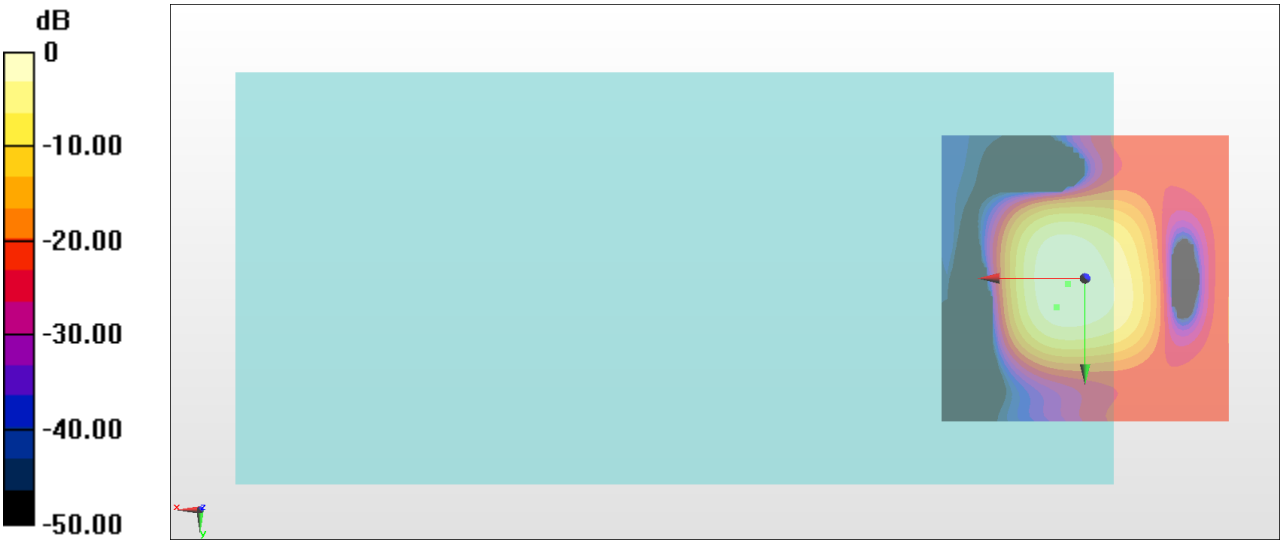
# 13_HAC_T-Coil_WCDMA II_HSPA_Ch9400_Axial (Z)

Communication System: WCDMA; Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

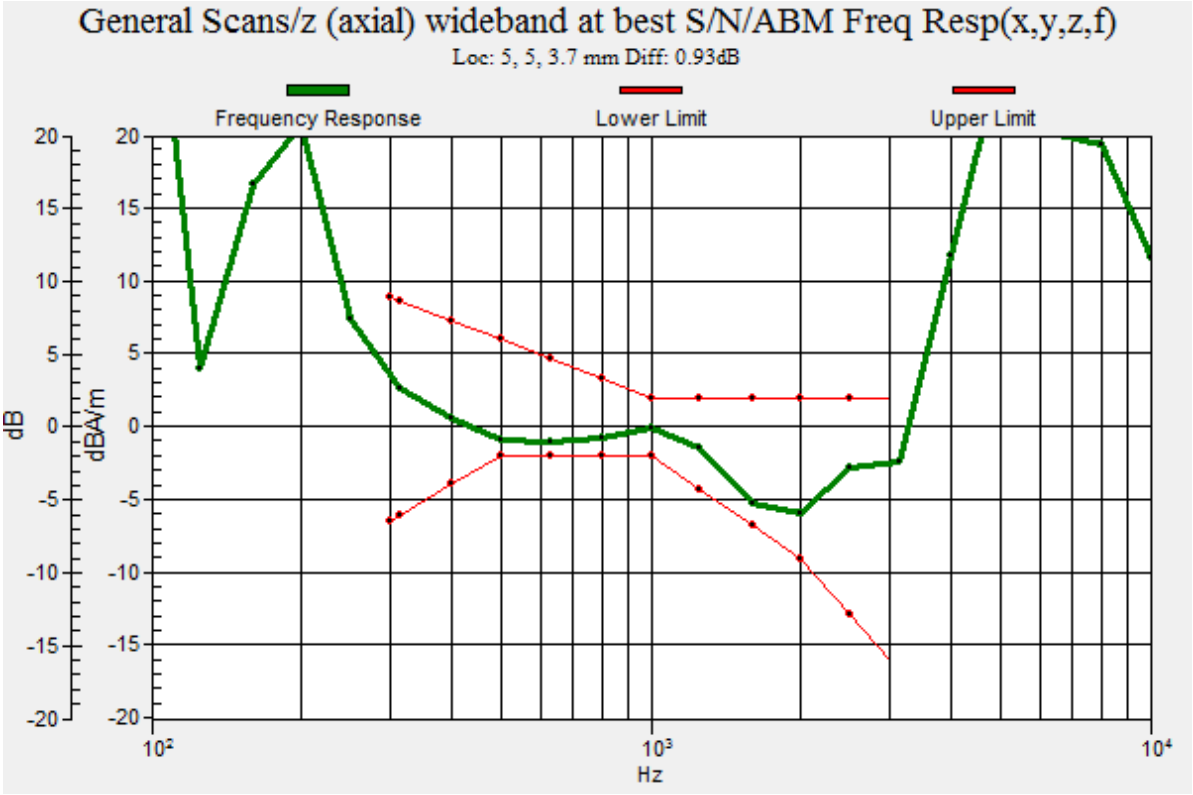
DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 44.54 dB
ABM1 comp = 4.60 dBA/m
Location: 3, 1, 3.7 mm




0 dB = 168.6 = 44.54 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, 5, 3.7 mm Diff: 0.93dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

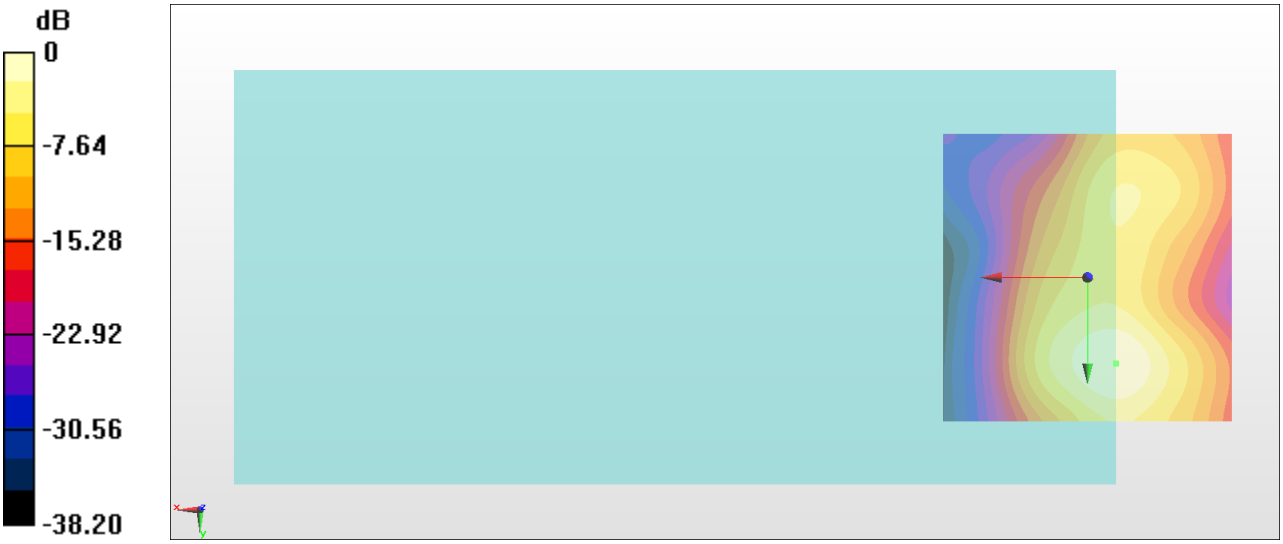
# 13_HAC_T-Coil_WCDMA II_HSPA_Ch9400_Transversal (Y)

Communication System: WCDMA; Frequency: 1880 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 38.20 dB
ABM1 comp = -7.44 dBA/m
Location: -5, 15, 3.7 mm




0 dB = 81.32 = 38.20 dB

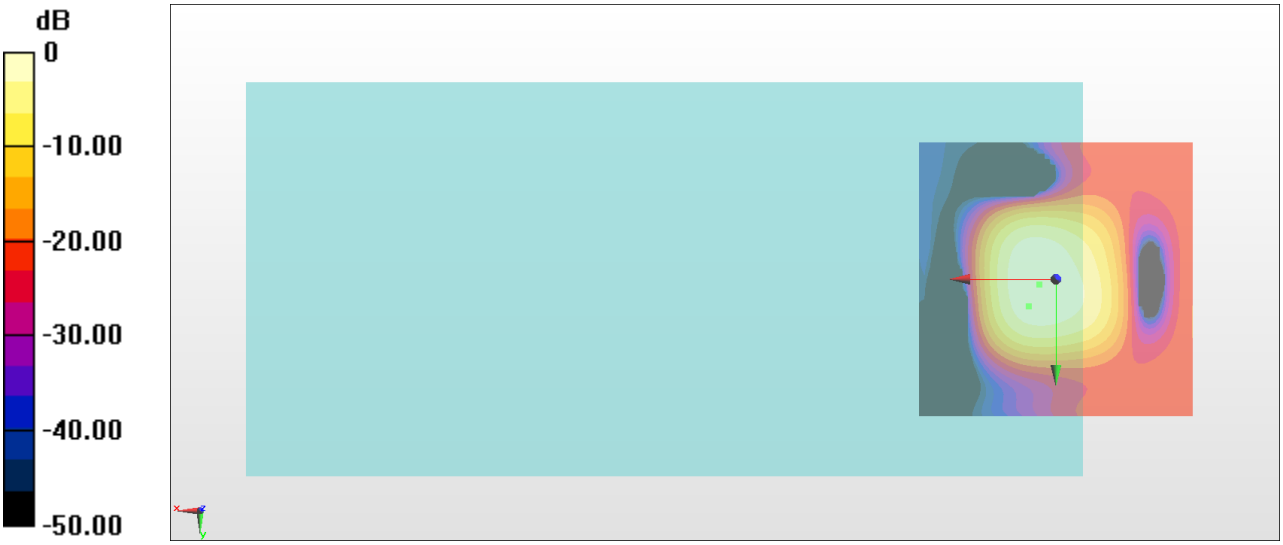
# 14_HAC_T-Coil_WCDMA IV_HSPA_75Kbps_Ch1413_Axial (Z)

Communication System: WCDMA ; Frequency: 1732.6 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

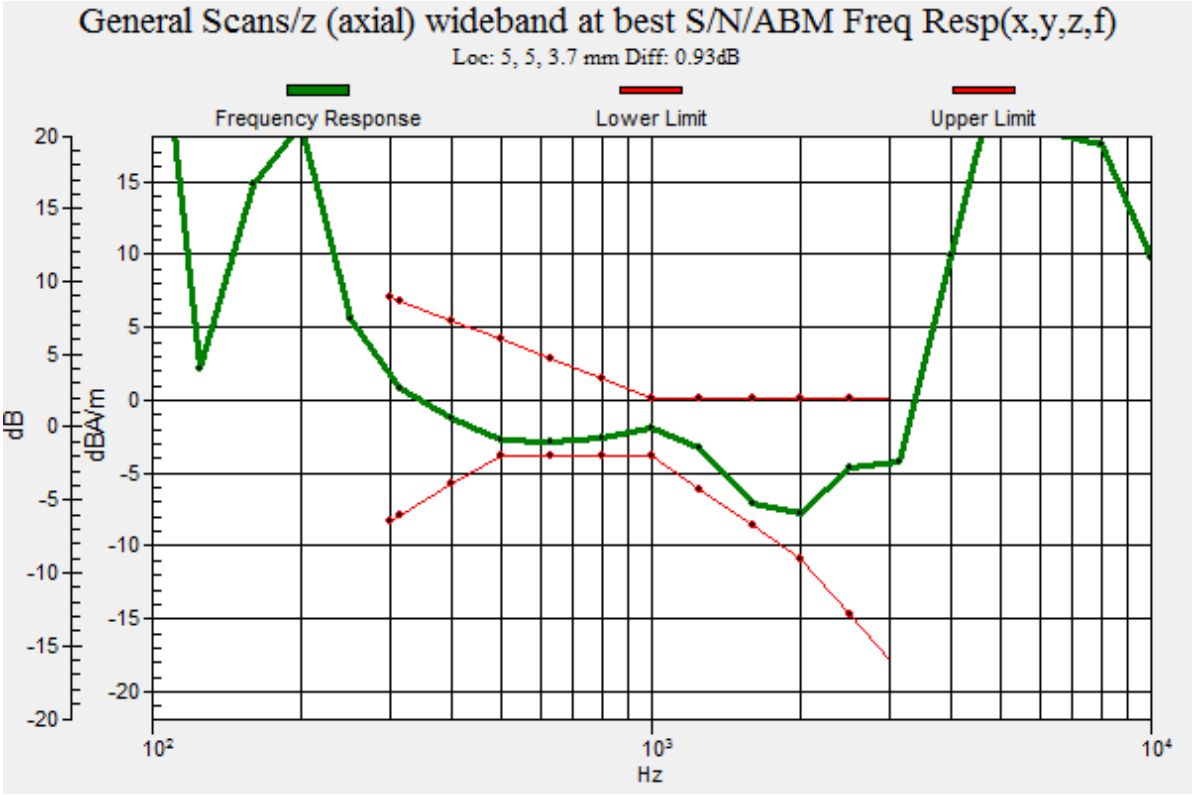
DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 44.48 dB
ABM1 comp = 4.54 dBA/m
Location: 3, 1, 3.7 mm




0 dB = 167.5 = 44.48 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, 5, 3.7 mm Diff: 0.93dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

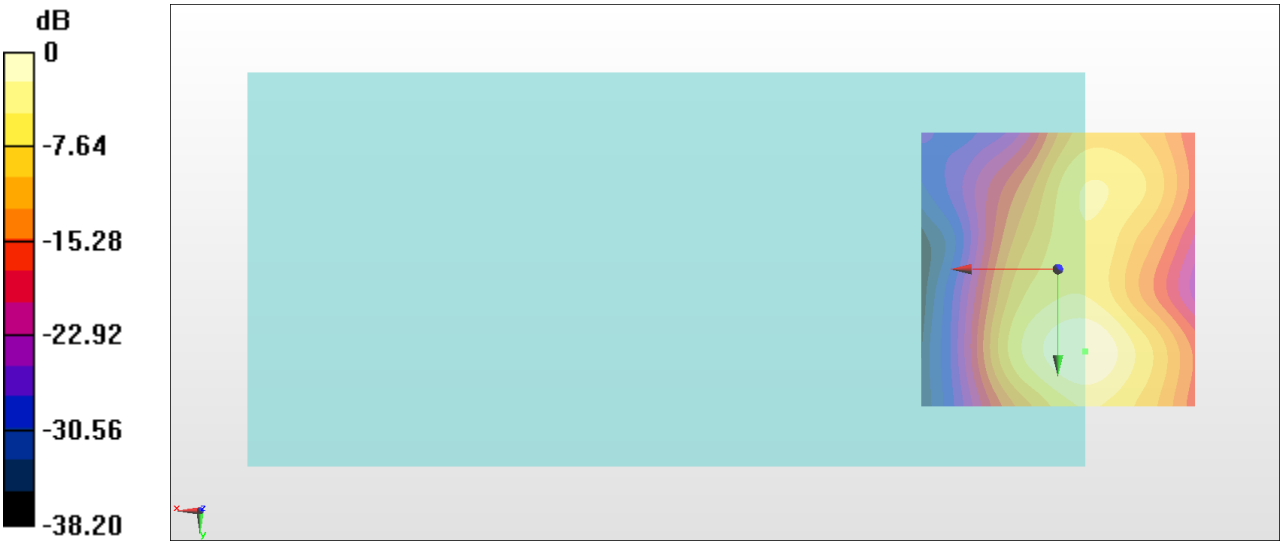
# 14_HAC_T-Coil_WCDMA IV_HSPA_75Kbps_Ch1413_Transversal (Y)

Communication System: WCDMA ; Frequency: 1732.6 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 38.15 dB
ABM1 comp = -7.49 dBA/m
Location: -5, 15, 3.7 mm




0 dB = 80.81 = 38.15 dB

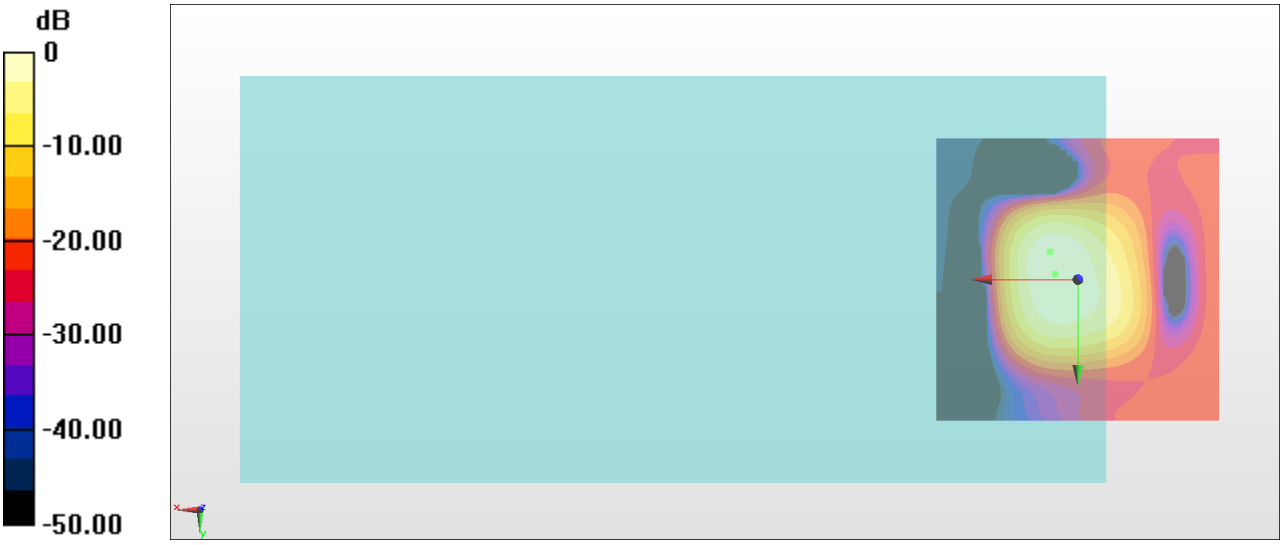
# 15_HAC_T-Coil_WCDMA V_HSPA_Ch4182_Axial (Z)

Communication System: WCDMA ; Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

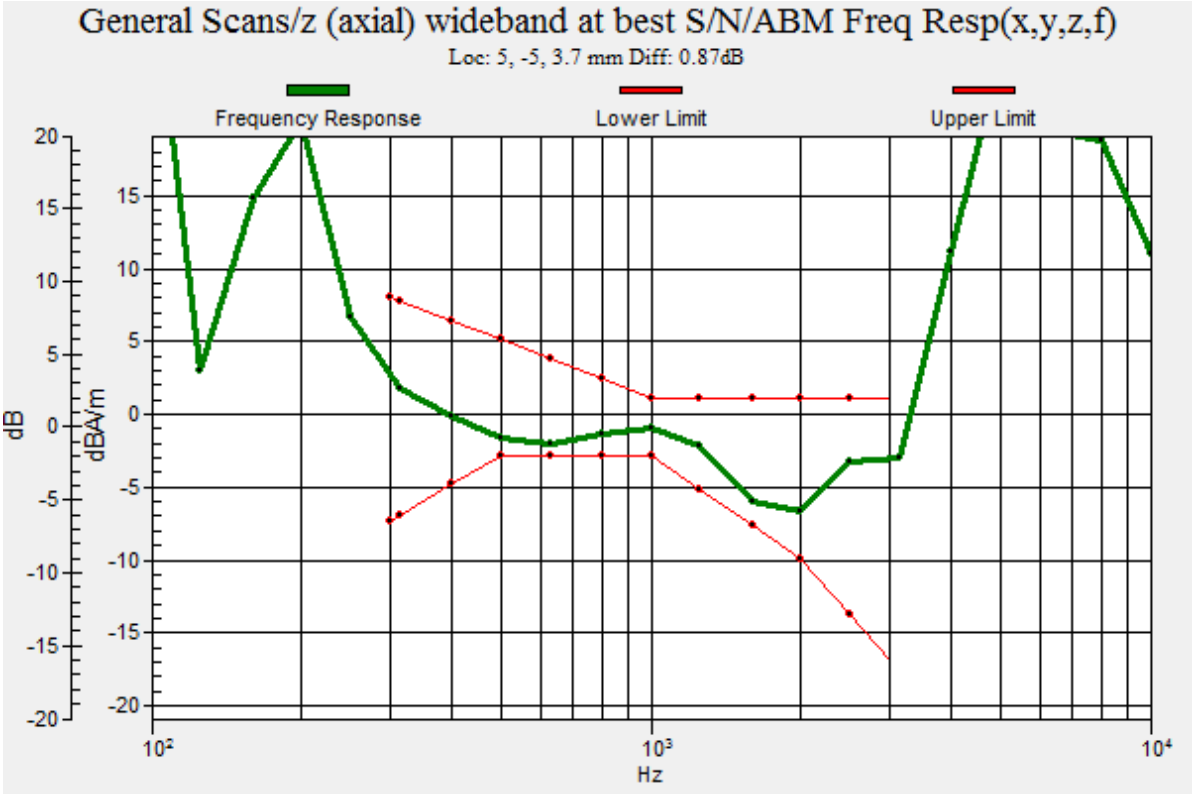
DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 44.70 dB
ABM1 comp = 4.39 dBA/m
Location: 4, -1, 3.7 mm




0 dB = 171.8 = 44.70 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, -5, 3.7 mm Diff: 0.87dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

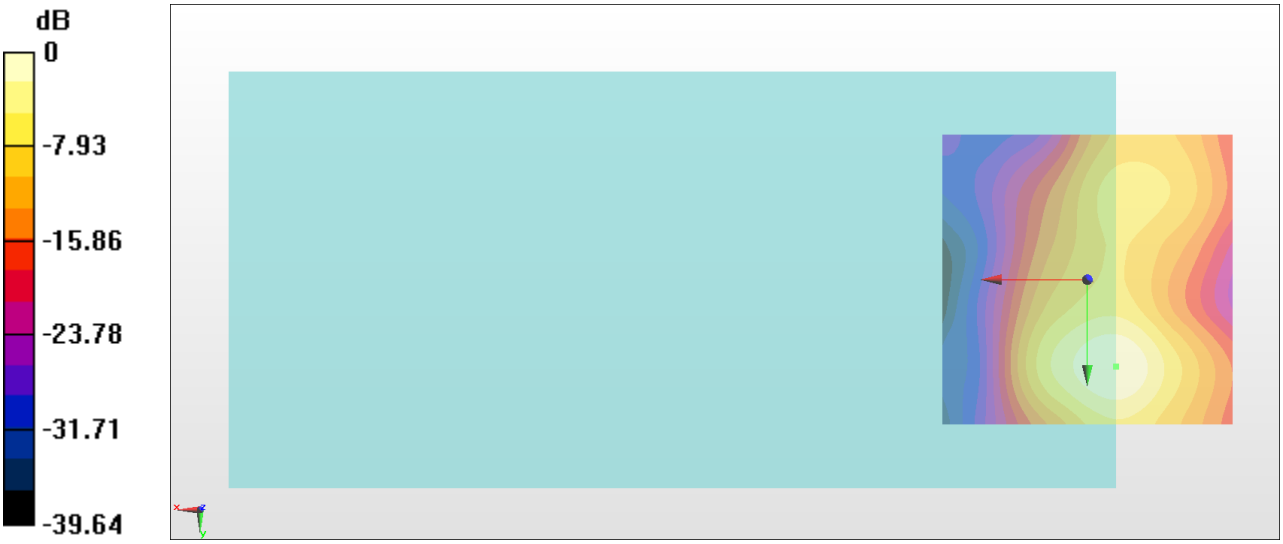
# 15_HAC_T-Coil_WCDMA V_HSPA_Ch4182_Transversal (Y)

Communication System: WCDMA ; Frequency: 836.4 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 38.82 dB
ABM1 comp = -7.49 dBA/m
Location: -5, 15, 3.7 mm




0 dB = 87.29 = 38.82 dB

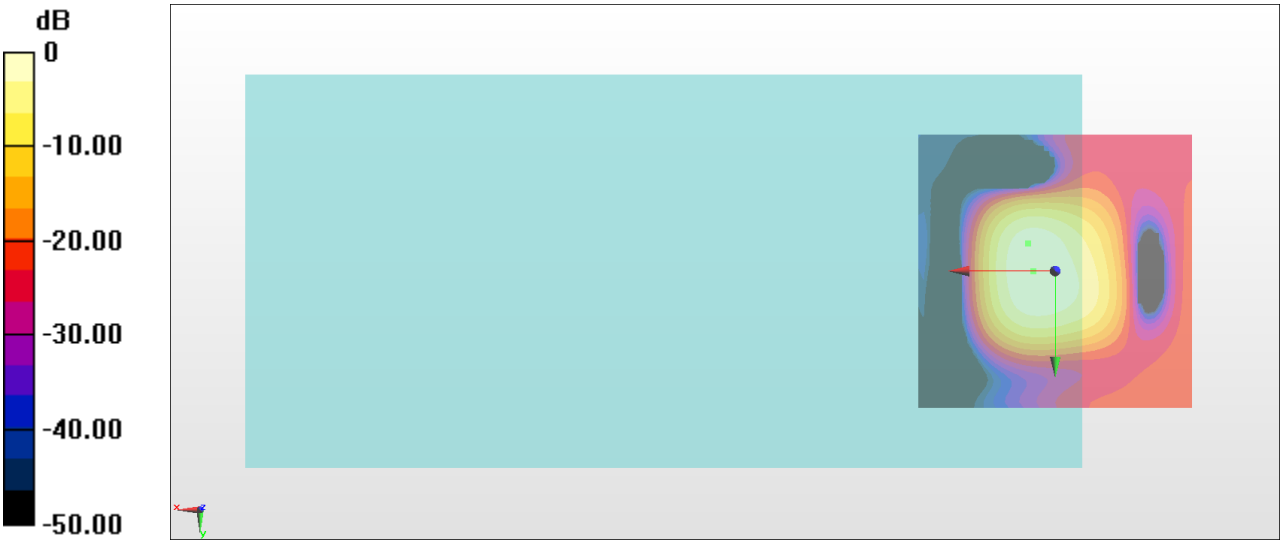
# 16_HAC_T-Coil_LTE Band 4_20M_QPSK_1RB_0offset_Ch20175_Axial (Z)

Communication System: LTE ; Frequency: 1732.5 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

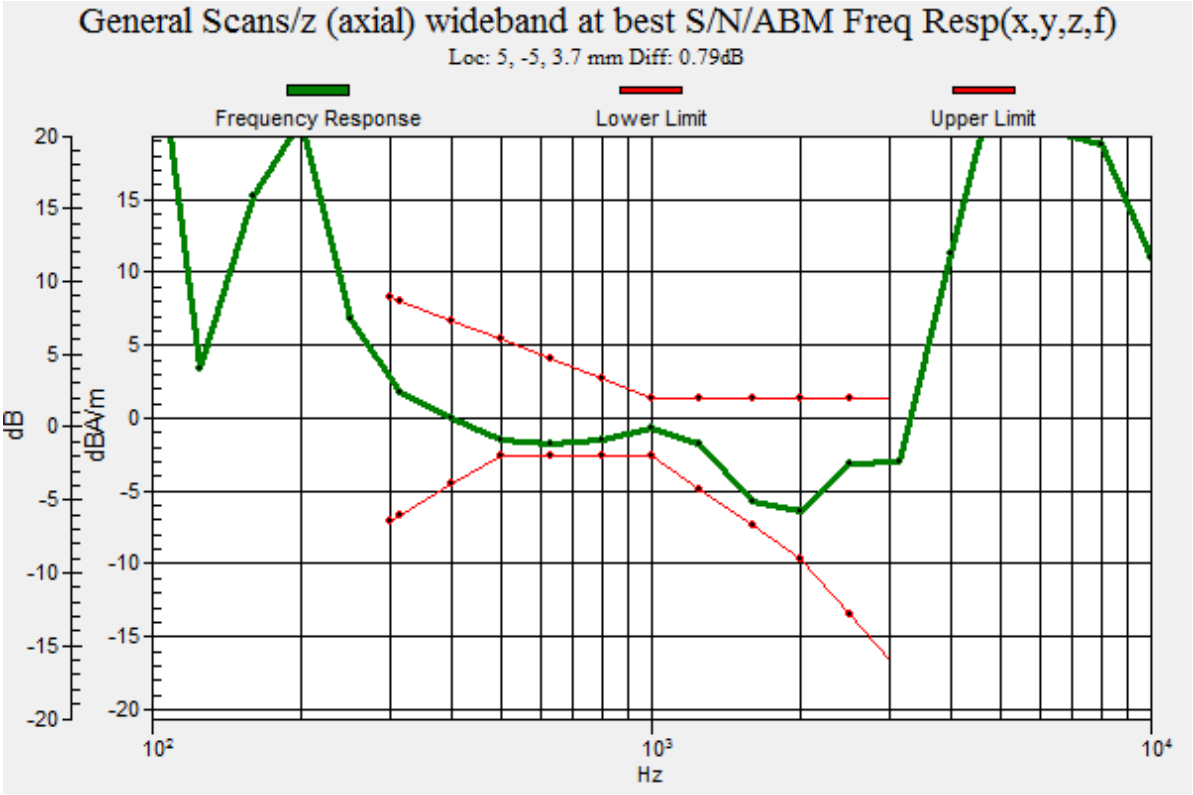
DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 44.51 dB
ABM1 comp = 4.72 dBA/m
Location: 4, 0, 3.7 mm




0 dB = 168.2 = 44.52 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, -5, 3.7 mm Diff: 0.79dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

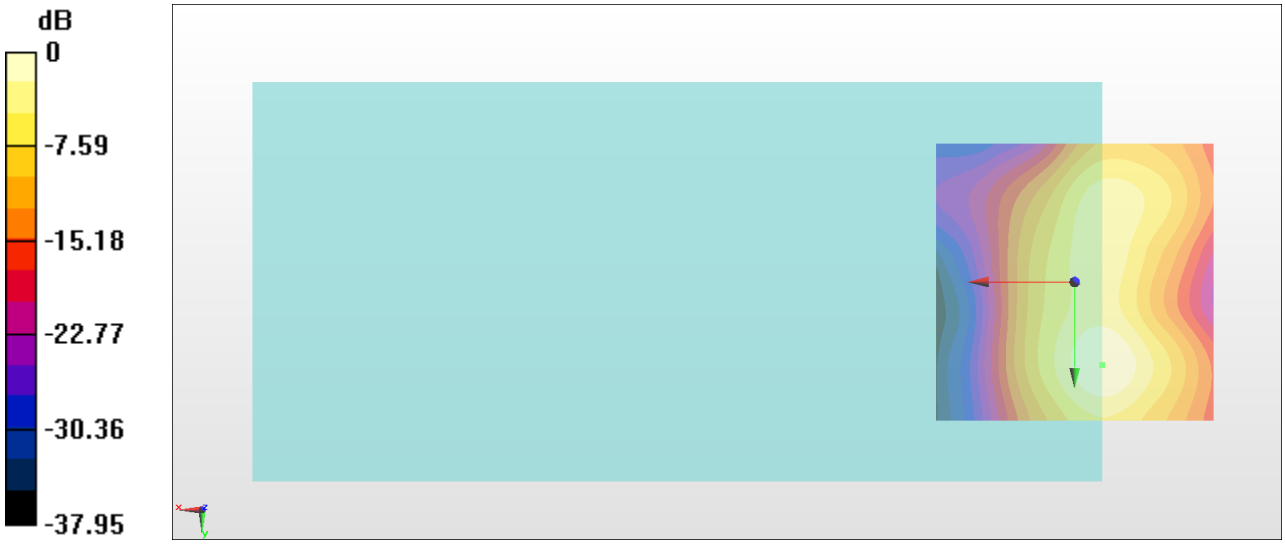
# 16_HAC_T-Coil_LTE Band 4_20M_QPSK_1RB_0offset_Ch20175_Transversal (Y)

Communication System: LTE ; Frequency: 1732.5 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 37.76 dB
ABM1 comp = -7.75 dBA/m
Location: -5, 15, 3.7 mm




0 dB = 77.27 = 37.76 dB

# 17_HAC_T-Coil_WLNA2.4GHz_802.11b 1Mbps_Ch6_Axial (Z)

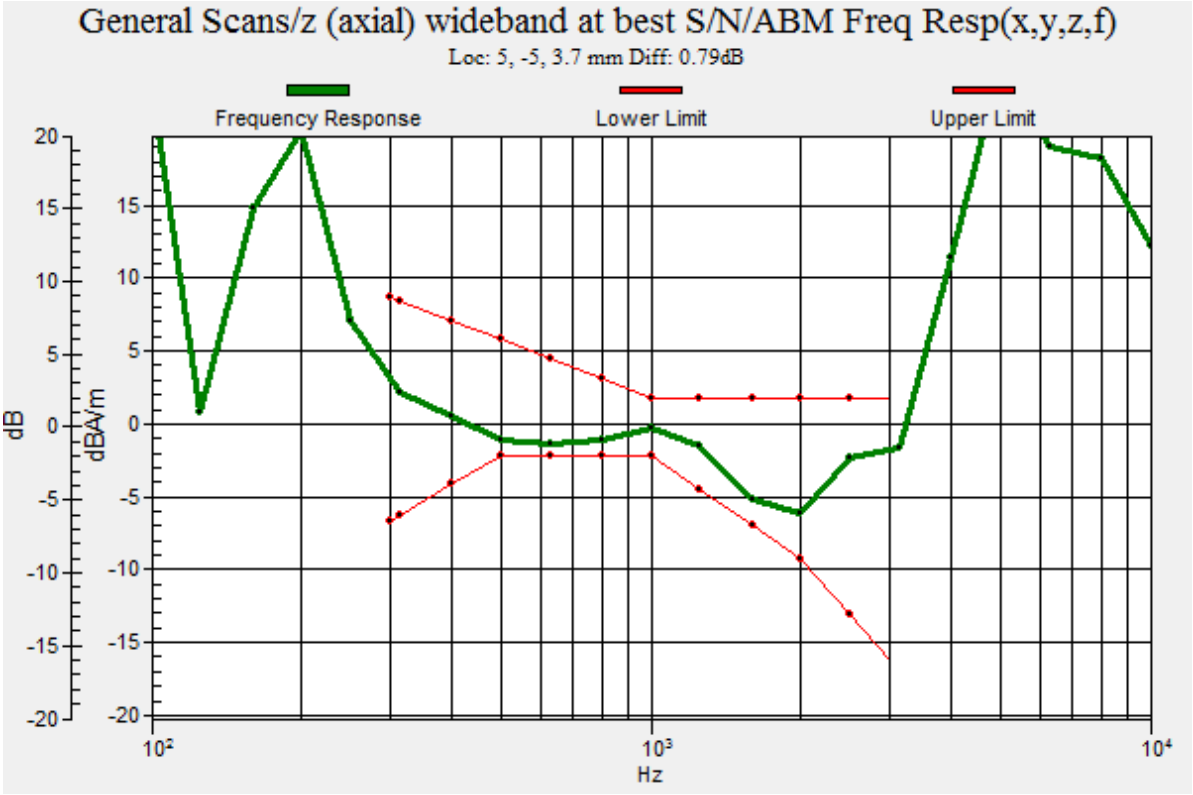
Communication System: 802.11b ; Frequency: 2437 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/z (axial) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 48.18 dB
ABM1 comp = 5.23 dBA/m
Location: 5, -2, 3.7 mm


0 dB = 256.5 = 48.18 dB


General Scans/z (axial) wideband at best S/N/ABM Freq Resp(x,y,z,f)
Loc: 5, -5, 3.7 mm Diff: 0.79dB
Frequency Response
Lower Limit
Upper Limit
dB
dBA/m
20
15
10
5
0
-5
-10
-15
-20
$10^2$
$10^3$
$10^4$
Hz

# 17_HAC_T-Coil_WLNA2.4GHz_802.11b 1Mbps_Ch6_Transversal (Y)

Communication System: 802.11b ; Frequency: 2437 MHz
Medium: Air Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m$^3$
Ambient Temperature：23.2 ℃

DASY5 Configuration
- Probe: AM1DV3 - 3130; ; Calibrated: 2017/11/21
- Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn854; Calibrated: 2017/5/2
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7373)

## General Scans/y (transversal) 4.2mm 50 x 50/ABM Interpolated SNR(x,y,z) (121x121x1):

Interpolated grid: dx=1.000 mm, dy=1.000 mm
ABM1/ABM2 = 39.86 dB
ABM1 comp = -7.21 dBA/m
Location: -5, 15, 3.7 mm


0 dB = 98.36 = 39.86 dB