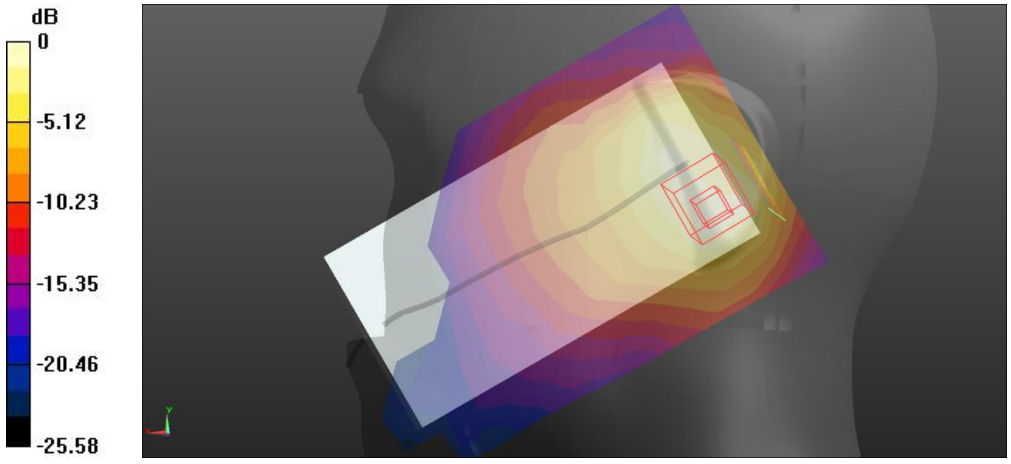
Left Side	Tilt

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps); Frequency: 2437 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.782 S/m; ε_r = 39.236; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.61, 4.61, 4.61); Calibrated: 8/29/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn546; Calibrated: 8/22/2016
- Phantom: SAM 1560; Type: QD000P40CD; Serial: TP:1560
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10
  Head-Section Left HSL WIFI/WIFI tilt M/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.056 W/kg
  Head-Section Left HSL WIFI/WIFI tilt M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 9.24 V/m; Power Drift = 0.03 dB
  Peak SAR (extrapolated) = 0.32 W/kg
  SAR(1 g) = 0.086 W/kg; SAR(10 g) = 0.029 W/kg
  Maximum value of SAR (measured) = 0.074 W/kg



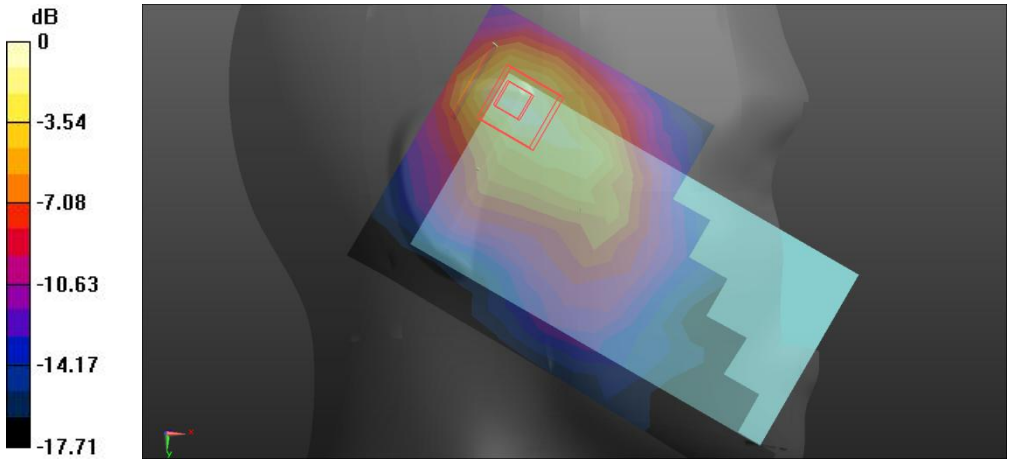
0 dB = 0.074 W/kg = -11.31 dBW/kg

Right Side	Cheek

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps); Frequency: 2437 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.782 S/m; ε_r = 39.236; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.61, 4.61, 4.61); Calibrated: 8/29/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn546; Calibrated: 8/22/2016
- Phantom: SAM 1560; Type: QD000P40CD; Serial: TP:1560
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10
  Head-Section Right HSL WIFI/WIFI touch M/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.084 W/kg
  Head-Section Right HSL WIFI/WIFI touch M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 5.324 V/m; Power Drift = 0.12 dB
  Peak SAR (extrapolated) = 0.186 W/kg
  SAR(1 g) = 0.103 W/kg; SAR(10 g) = 0.048 W/kg
  Maximum value of SAR (measured) = 0.095 W/kg



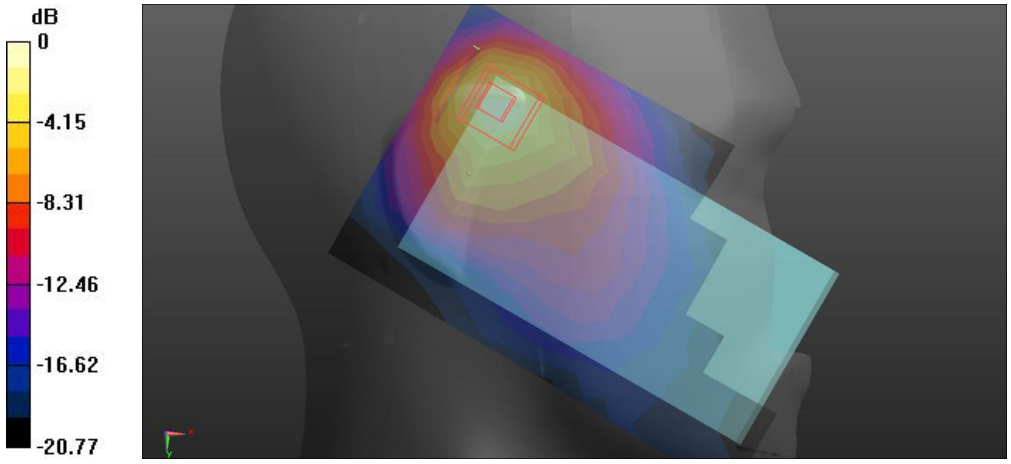
0 dB = 0.095 W/kg = -10.22 dBW/kg

Right Side	Tilt

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps); Frequency: 2437 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.782 S/m; ε_r = 39.236; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.61, 4.61, 4.61); Calibrated: 8/29/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn546; Calibrated: 8/22/2016
- Phantom: SAM 1560; Type: QD000P40CD; Serial: TP:1560
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10
  Head-Section Right HSL WIFI/WIFI tilt M/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.041 W/kg
  Head-Section Right HSL WIFI/WIFI tilt M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 4.243 V/m; Power Drift = -0.15 dB
  Peak SAR (extrapolated) = 0.080 W/kg
  SAR(1 g) = 0.077 W/kg; SAR(10 g) = 0.029 W/kg
  Maximum value of SAR (measured) = 0.043 W/kg



0 dB = 0.043 W/kg = -13.67 dBW/kg

NEW TEST

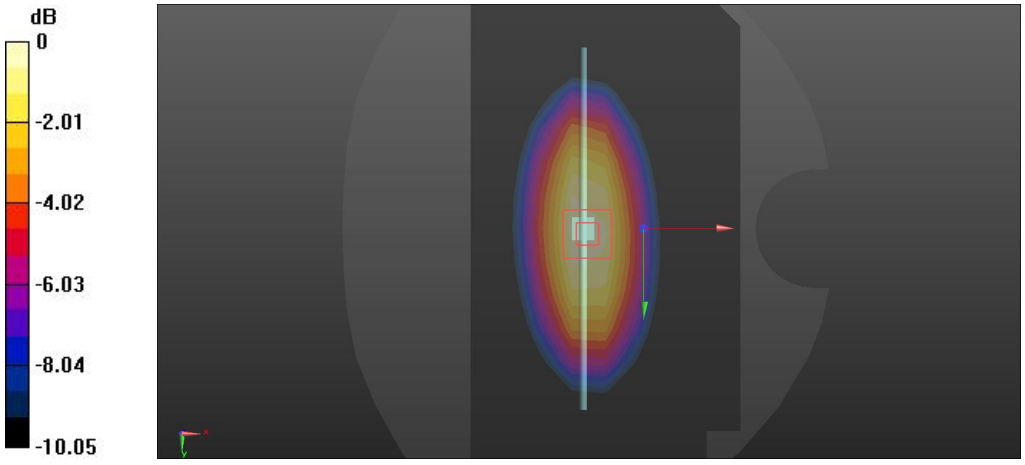
SYSTEM CHECK

SYSTEM CHECKING SCANS	835MHz Flat

Communication System: UID 0, CW (0); Frequency: 835 MHz
Medium parameters used (interpolated): f = 835 MHz; σ = 0.98 S/m; ε_r = 54.36; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  System Performance Check at Frequencies 835MHz Body/d=15mm, Pin=250 mW, dist=4.0mm (ES-Probe)/Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 2.49 W/kg
  System Performance Check at Frequencies 835MHz Body/d=15mm, Pin=250 mW, dist=4.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 47.61 V/m; Power Drift = 0.16 dB
  Peak SAR (extrapolated) = 3.56 W/kg
  SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.61 W/kg
  Maximum value of SAR (measured) = 2.64 W/kg



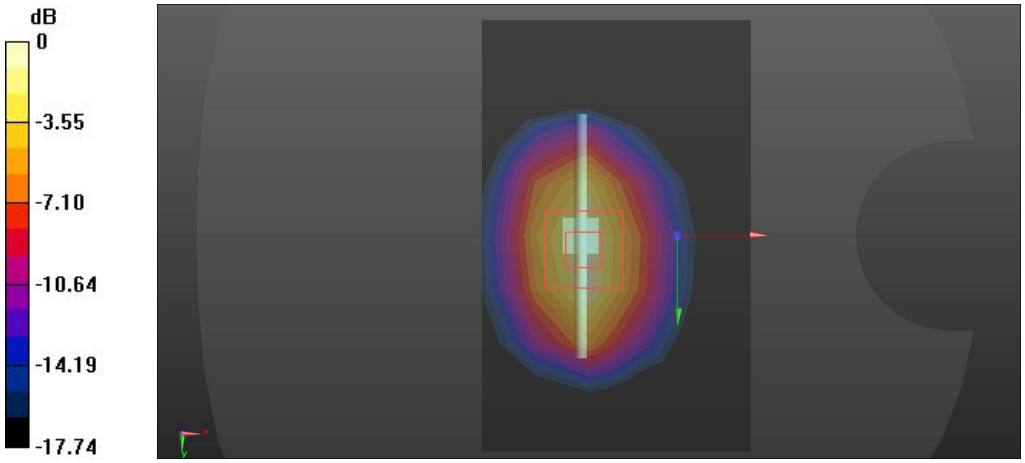
0 dB = 2.64 W/kg = 4.22 dBW/kg

SYSTEM CHECKING SCANS	1900MHz Flat

Communication System: UID 0, CW (0); Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.51 S/m; ε_r = 54.74; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  System Performance Check at Frequencies 1900MHz Body/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 11.7 W/kg
  System Performance Check at Frequencies 1900MHz Body/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 68.14 V/m; Power Drift = 0.04 dB
  Peak SAR (extrapolated) = 17.5 W/kg
  SAR(1 g) = 9.8 W/kg; SAR(10 g) = 5.15 W/kg
  Maximum value of SAR (measured) = 12.4 W/kg



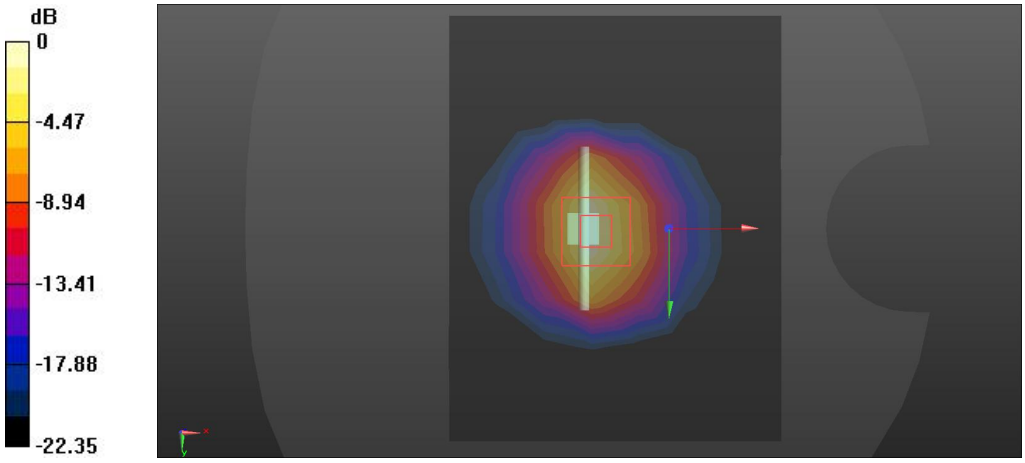
0 dB = 12.4 W/kg = 10.93 dBW/kg

SYSTEM CHECKING SCANS	2450MHz Head

Communication System: UID 0, CW (0); Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.84 S/m; ε_r = 39.95; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.58, 4.58, 4.58); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: SAM 1559; Type: QD 000 P40 CD; Serial: 1559
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  System Performance Check at Frequencies 2450 MHz/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (8x10x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 14.7 W/kg
  System Performance Check at Frequencies 2450 MHz/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 88.14 V/m; Power Drift = 0.12 dB
  Peak SAR (extrapolated) = 25.5 W/kg
  SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.11 W/kg
  Maximum value of SAR (measured) = 16.7 W/kg



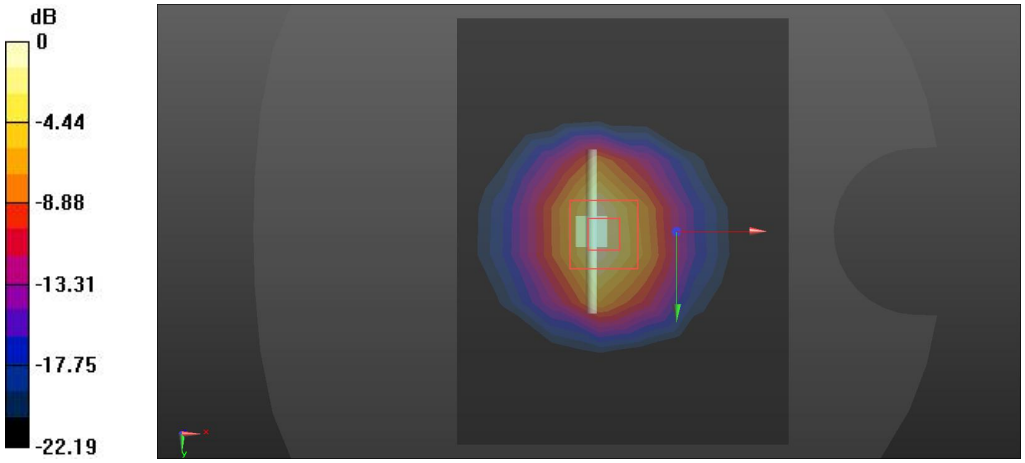
0 dB = 16.7 W/kg = 12.23 dBW/kg

SYSTEM CHECKING SCANS	2450MHz Flat

Communication System: UID 0, CW (0); Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.97 S/m; ε_r = 53.48; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.28, 4.28, 4.28); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  System Performance Check at Frequencies 2450 MHz/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Area Scan (8x10x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 14.5 W/kg
  System Performance Check at Frequencies 2450 MHz/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 81.32 V/m; Power Drift = 0.15 dB
  Peak SAR (extrapolated) = 25.8 W/kg
  SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.81 W/kg
  Maximum value of SAR (measured) = 16.6 W/kg



0 dB = 16.6 W/kg = 12.20 dBW/kg

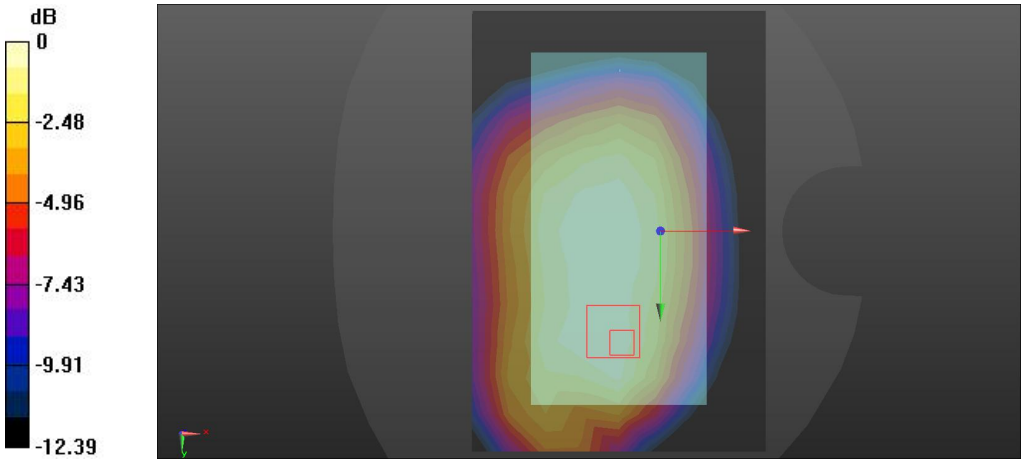
GSM850 (EGPRS)

FLAT	Towards Ground

Communication System: UID 0, Generic GSM (0); Frequency: 836.6 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.976 S/m; ε_r = 55.195; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section GSM850 TG/EGPRS850 TG M/Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.731 W/kg
  Flat-Section GSM850 TG/EGPRS850 TG M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 28.61 V/m; Power Drift = -0.07 dB
  Peak SAR (extrapolated) = 1.09 W/kg
  SAR(1 g) = 0.693 W/kg; SAR(10 g) = 0.388 W/kg
  Maximum value of SAR (measured) = 0.744 W/kg



0 dB = 0.744 W/kg = -1.28 dBW/kg

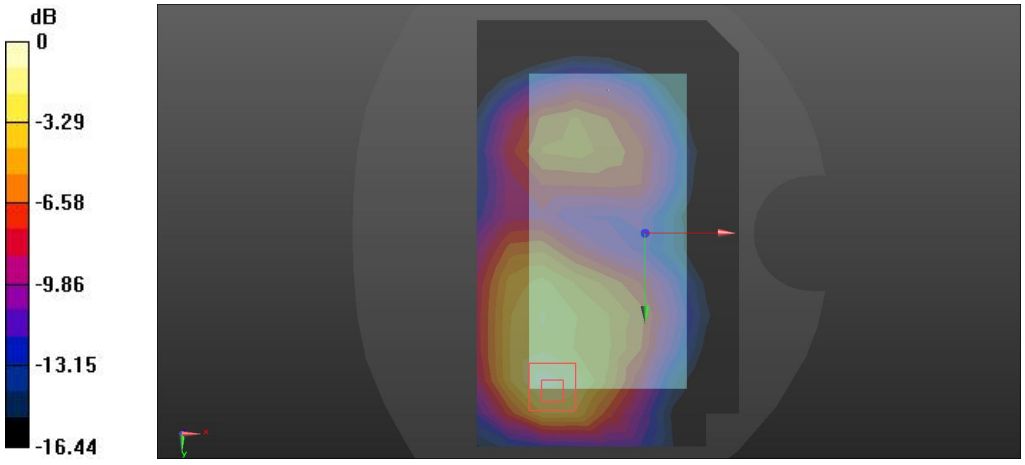
GSM1900 (EGPRS)

FLAT	Towards Ground

Communication System: UID 0, Generic GSM (0); Frequency: 1880 MHz
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.526 S/m; ε_r = 53.291; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section GSM1900 TG/EGPRS1900 TG M/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.538 W/kg
  Flat-Section GSM1900 TG/EGPRS1900 TG M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 6.016 V/m; Power Drift = -0.00 dB
  Peak SAR (extrapolated) = 1.76 W/kg
  SAR(1 g) = 0.575 W/kg; SAR(10 g) = 0.206 W/kg
  Maximum value of SAR (measured) = 0.562 W/kg



0 dB = 0.562 W/kg = -2.50 dBW/kg

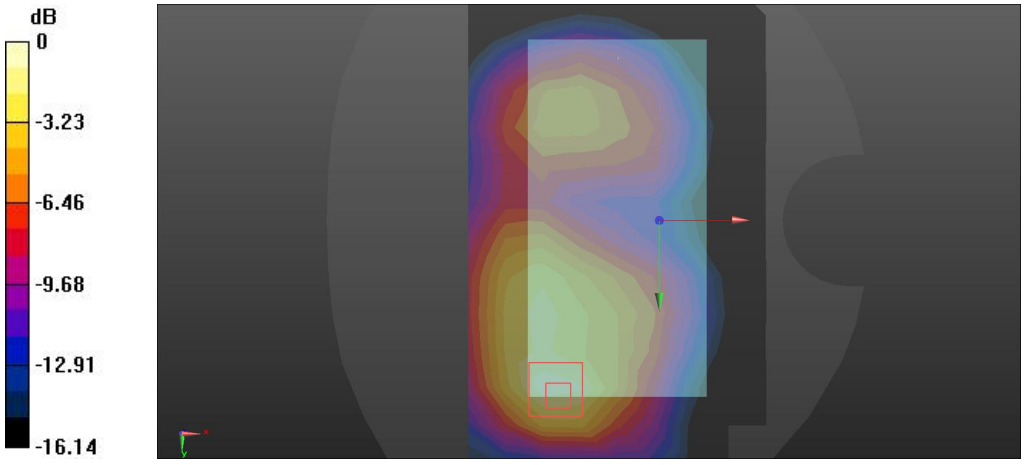
WCDMA Band2 (Voice)

FLAT	Towards Ground

Communication System: UID 0, WCDMA band 02 (0); Frequency: 1880 MHz
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.526 S/m; ε_r = 53.291; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section WCDMA Band2 TG/WCDMA Band2 TG M Voice/Area Scan (9x14x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.615 W/kg
  Flat-Section WCDMA Band2 TG/WCDMA Band2 TG M Voice/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 5.098 V/m; Power Drift = 0.05 dB
  Peak SAR (extrapolated) = 1.02 W/kg
  SAR(1 g) = 0.554 W/kg; SAR(10 g) = 0.301 W/kg
  Maximum value of SAR (measured) = 0.648 W/kg



0 dB = 0.648 W/kg = -1.88 dBW/kg

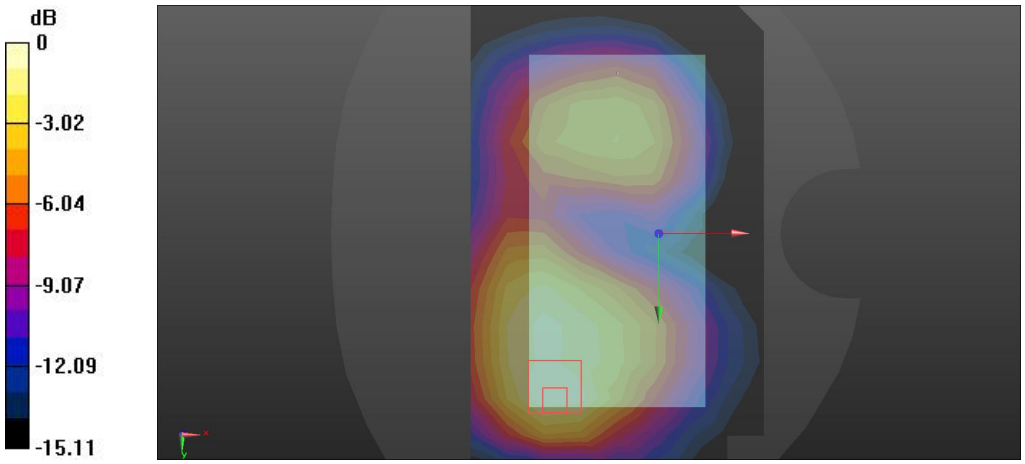
WCDMA Band4 (Data)

FLAT	Towards Ground

Communication System: UID 0, WCDMA band 04 (0); Frequency: 1732.4 MHz
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.477 S/m; ε_r = 53.461; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section WCDMA Band4 TG/WCDMA Band4 TG M Data/Area Scan (9x14x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.493 W/kg
  Flat-Section WCDMA Band4 TG/WCDMA Band4 TG M Data/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 4.935 V/m; Power Drift = -0.04 dB
  Peak SAR (extrapolated) = 0.819 W/kg
  SAR(1 g) = 0.548 W/kg; SAR(10 g) = 0.295 W/kg
  Maximum value of SAR (measured) = 0.504 W/kg



0 dB = 0.504 W/kg = -2.98 dBW/kg

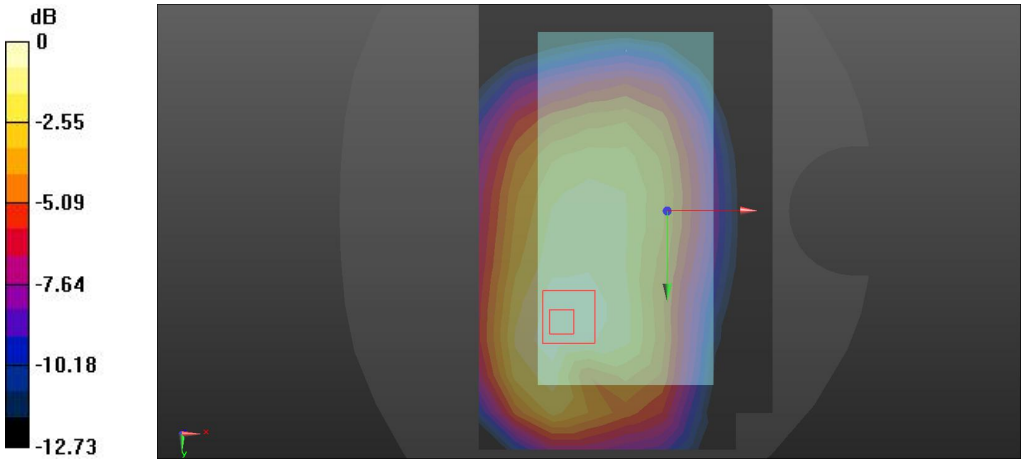
WCDMA Band5 (Voice)

FLAT	Towards Ground

Communication System: UID 0, wcdma band5 (0); Frequency: 836.6 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.976 S/m; ε_r = 55.195; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section WCDMA Band5 TG/WCDMA Band5 TG M Voice/Area Scan (9x14x1):
  Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.316 W/kg
  Flat-Section WCDMA Band5 TG/WCDMA Band5 TG M Voice/Zoom Scan (7x7x7)/Cube 0:
  Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 15.46 V/m; Power Drift = 0.00 dB
  Peak SAR (extrapolated) = 0.441 W/kg
  SAR(1 g) = 0.317 W/kg; SAR(10 g) = 0.210 W/kg
  Maximum value of SAR (measured) = 0.324 W/kg



0 dB = 0.324 W/kg = -4.89 dBW/kg

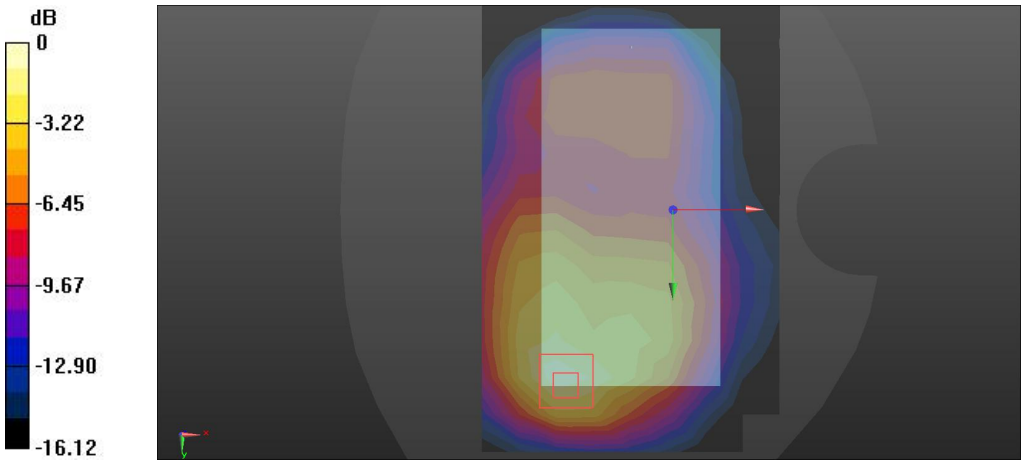
LTE Band2 (1RB)

FLAT	Towards Ground

Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1880 MHz
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.526 S/m; ε_r = 53.291; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section LTE Band2 TG/LTE Band2 TG M 1RB/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.776 W/kg
  Flat-Section LTE Band2 TG/LTE Band2 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 8.187 V/m; Power Drift = -0.11 dB
  Peak SAR (extrapolated) = 1.144 W/kg
  SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.302 W/kg
  Maximum value of SAR (measured) = 0.605 W/kg



0 dB = 0.605 W/kg = -2.18 dBW/kg

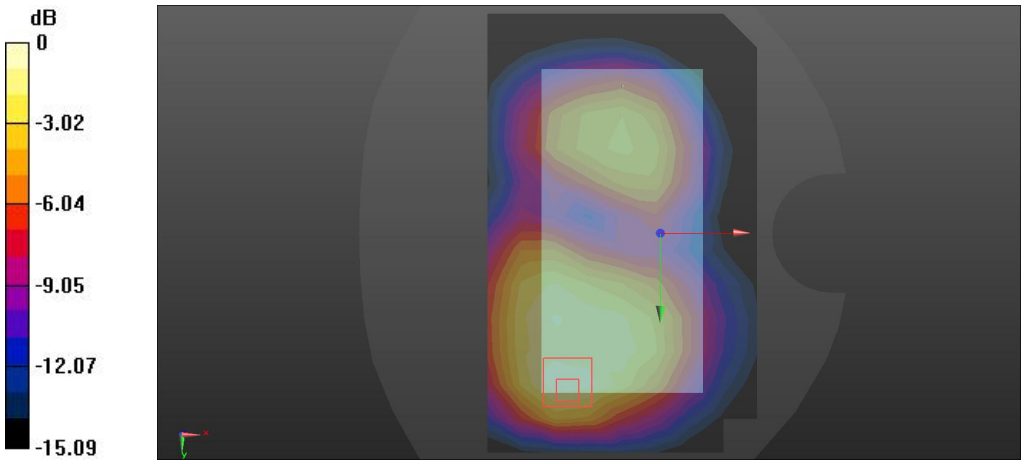
LTE Band4 (50%RB)

FLAT	Towards Ground

Communication System: UID 10297 - AAA, LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK); Frequency: 1732.5 MHz
Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.477 S/m; ε_r = 53.46; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.83, 4.83, 4.83); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section LTE Band4 TG/LTE Band4 TG M 50%RB/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.308 W/kg
  Flat-Section LTE Band4 TG/LTE Band4 TG M 50%RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 4.725 V/m; Power Drift = -0.12 dB
  Peak SAR (extrapolated) = 0.494 W/kg
  SAR(1 g) = 0.334 W/kg; SAR(10 g) = 0.173 W/kg
  Maximum value of SAR (measured) = 0.323 W/kg



0 dB = 0.323 W/kg = -4.91 dBW/kg

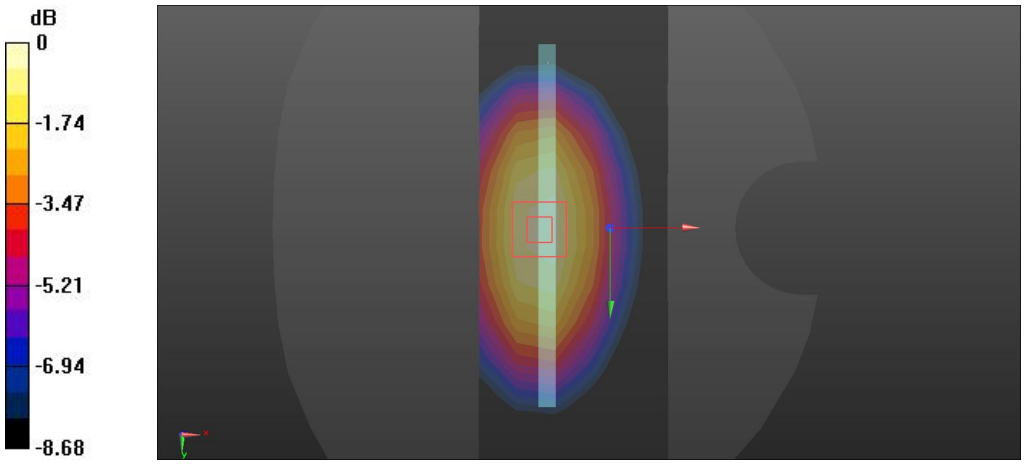
LTE Band5 (1RB)

FLAT	EDGE3

Communication System: UID 10175 - CAC, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 836.5 MHz
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.976 S/m; ε_r = 55.195; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(6.06, 6.06, 6.06); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section LTE Band5 TG/LTE Band5 Edge3 M 1RB/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.218 W/kg
  Flat-Section LTE Band5 TG/LTE Band5 Edge3 M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 14.30 V/m; Power Drift = 0.17 dB
  Peak SAR (extrapolated) = 0.293 W/kg
  SAR(1 g) = 0.208 W/kg; SAR(10 g) = 0.154 W/kg
  Maximum value of SAR (measured) = 0.232 W/kg



0 dB = 0.232 W/kg = -6.35 dBW/kg

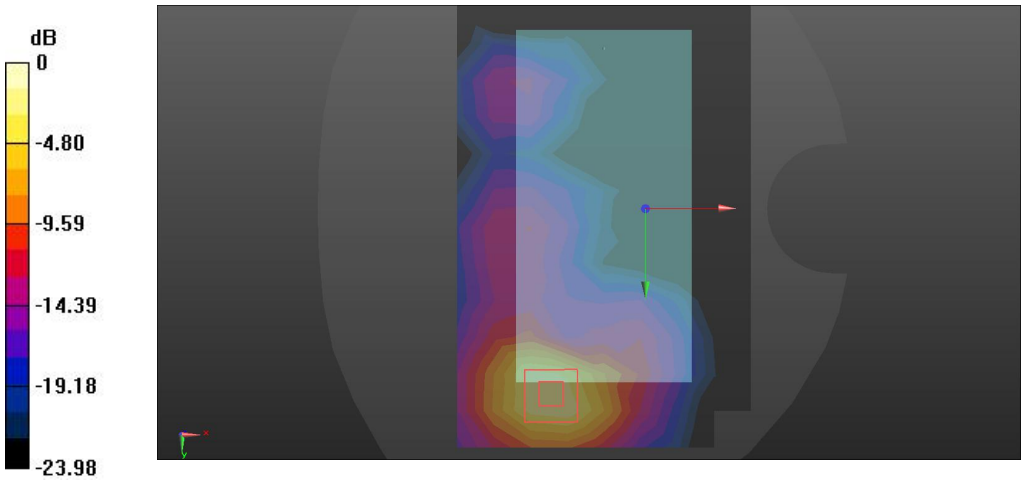
LTE Band7 (1RB)

FLAT	Towards Ground

Communication System: UID 10169 - CAB, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 2535 MHz
Medium parameters used (interpolated): f = 2535 MHz; σ = 2.067 S/m; ε_r = 52.592; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.07, 4.07, 4.07); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = -3.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: Twin-SAM 1560; Type: QD 000 P40 CD; Serial: 1560
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Flat-Section LTE Band7 TG/LTE Band7 TG M 1RB/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.553 W/kg
  Flat-Section LTE Band7 TG/LTE Band7 TG M 1RB/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 3.311 V/m; Power Drift = 0.03 dB
  Peak SAR (extrapolated) = 0.964 W/kg
  SAR(1 g) = 0.651 W/kg; SAR(10 g) = 0.350 W/kg
  Maximum value of SAR (measured) = 0.673 W/kg



0 dB = 0.673 W/kg = -1.72 dBW/kg

Wifi 2.4GHz

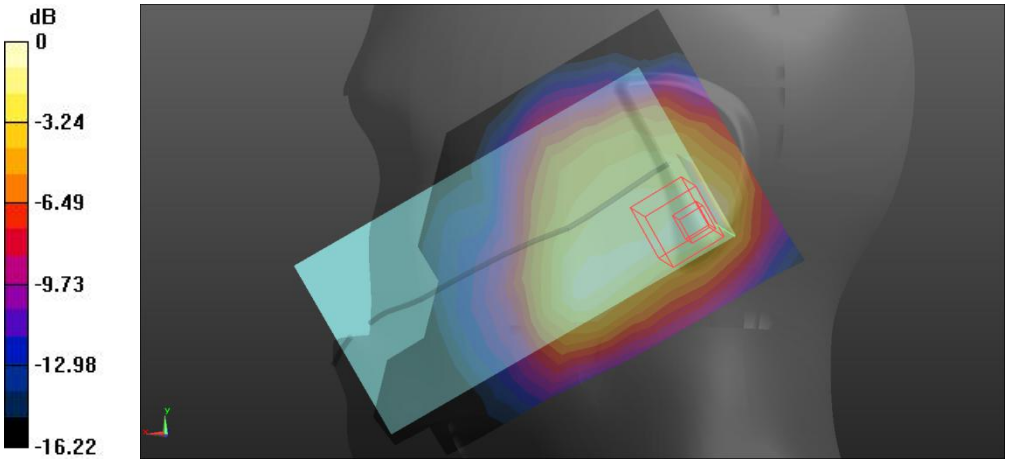
Left Side	Cheek

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps); Frequency: 2437 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.818 S/m; ε_r = 39.619; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3127; ConvF(4.58, 4.58, 4.58); Calibrated: 10/11/2017;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn546; Calibrated: 9/15/2017
- Phantom: SAM 1559; Type: QD 000 P40 CD; Serial: 1559
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)
  Head-Section Left HSL WIFI/WIFI touch M 2/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
  Maximum value of SAR (measured) = 0.108 W/kg
  Head-Section Left HSL WIFI/WIFI touch M 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
  Reference Value = 5.638 V/m; Power Drift = 0.03 dB
  Peak SAR (extrapolated) = 0.203 W/kg
  SAR(1 g) = 0.092 W/kg; SAR(10 g) = 0.052 W/kg

  Maximum value of SAR (measured) = 0.108 W/kg



0 dB = 0.108 W/kg = -9.67 dBW/kg

ANNEX B - RELEVANT PAGES FROM CALIBRATION REPORTS

DAE4 Sn:546

Calibration Laboratory of
Schmid & Partner
Engineering AG

Accreditation No.: SCS 0108

Client: SRTC (Vitec) Certificate No: DAE4-546_Aug16

CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BM - SN: 546

Calibration procedure(s): QA CAL-06.v29
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: August 22, 2016

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

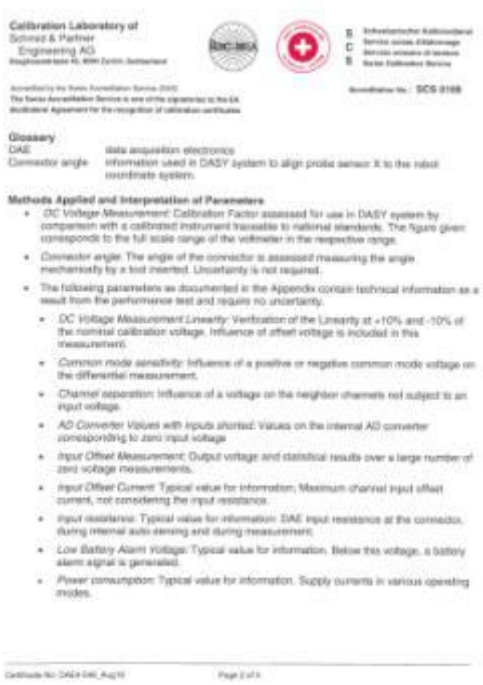
Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Agilent Multimeter Type 2001	SN: 3632478	08-Apr-15 (No. 17132)	Apr-16
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Auto DAE Calibration Unit	SD 3 UNS 003 AA 1001	06-Jun-16 (in house check)	In house check: Jun-17
Calibrator Box V2.1	SD 3 UNS 056 AA 1002	06-Jun-16 (in house check)	In house check: Jun-17

Name	Function	Signature
Calibrated by: Dominique Steffen	Technician	
Approved by: Fin Bomholt	Deputy Technical Manager	

Issued: August 24, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: DAE4-546_Aug16 Page 1 of 5



Calibration Laboratory of
Schmid & Partner
Engineering AG

Accreditation No.: SCS 0108

Glossary

DAE data acquisition electronics
Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement*: Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity*: Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity*: Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation*: Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD-Converter Values with inputs shorted*: Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current*: Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance*: Typical value for information; DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage*: Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption*: Typical value for information. Supply currents in various operating modes.

Certificate No: DAE4-546_Aug16 Page 2 of 5

Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	200031.74	-2.15	-0.00
Channel X	+ Input	20003.66	-0.75	-0.00
Channel X	- Input	-20001.68	3.77	-0.02
Channel Y	+ Input	200021.10	-12.53	-0.01
Channel Y	+ Input	20002.22	-2.13	-0.01
Channel Y	- Input	-20003.78	1.68	-0.01
Channel Z	+ Input	200025.91	-7.99	-0.00
Channel Z	+ Input	19999.97	-4.36	-0.02
Channel Z	- Input	-20005.55	0.07	-0.00

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2000.62	-0.12	-0.01
Channel X	+ Input	201.00	0.23	0.11
Channel X	- Input	-198.76	0.38	-0.19
Channel Y	+ Input	2000.36	-0.29	-0.01
Channel Y	+ Input	200.22	-0.57	-0.29
Channel Y	- Input	-200.24	-0.93	0.47
Channel Z	+ Input	2000.61	0.13	0.01
Channel Z	+ Input	199.06	-1.52	-0.76
Channel Z	- Input	-201.43	-1.99	1.00

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	1.49	0.15
	- 200	1.41	-0.23
Channel Y	200	-0.40	-0.13
	- 200	-1.08	-1.50
Channel Z	200	2.19	2.17
	- 200	-4.93	-4.90

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	-3.01	-3.43
Channel Y	200	9.77	-	-1.00
Channel Z	200	5.39	7.02	-

Certificate No: DAE4-546_Aug16 Page 4 of 5

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	15845	16442
Channel Y	16150	14493
Channel Z	15907	16531

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	1.22	0.21	1.94	0.35
Channel Y	0.27	-1.07	1.43	0.50
Channel Z	-0.65	-1.46	0.11	0.35

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

Certificate No: DAE4-546_Aug16 Page 5 of 5

DAE4 Sn:546

4. **AD-Converter Values with inputs shorted**
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	15845	16442
Channel Y	16150	14493
Channel Z	15907	16531

5. **Input Offset Measurement**
DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	1.22	0.21	1.94	0.35
Channel Y	0.27	-1.07	1.43	0.50
Channel Z	-0.65	-1.46	0.11	0.35

6. **Input Offset Current**
Nominal Input circuitry offset current on all channels: <25fA

7. **Input Resistance** (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. **Low Battery Alarm Voltage** (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. **Power Consumption** (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	–0.01	-8	-9

Certificate No: DAE4-546_Aug16 Page 5 of 5

DAE4 Sn:720


Calibration Laboratory of
Schmid & Partner
Engineering AG

CALIBRATION CERTIFICATE

DAE4 Sn:720

Calibration Laboratory of
Schmid & Partner
Engineering AG

Glossary

DAE: data acquisition electronics
Connector angle: information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement*: Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity*: Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity*: Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation*: Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD Converter Values with inputs shorted*: Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current*: Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance*: Typical value for information; DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage*: Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption*: Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

Connector Angle

Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range		Reading (µV)	Difference (µV)	Error (%)
Channel X	+ Input	200030.00	-2.83	-0.00
Channel X	+ Input	20005.59	1.21	0.01
Channel X	- Input	-20002.63	2.74	-0.01
Channel Y	+ Input	200031.46	-1.44	-0.00
Channel Y	+ Input	20003.49	-0.90	-0.00
Channel Y	- Input	-20003.62	1.72	-0.01
Channel Z	+ Input	200030.86	-1.63	-0.00
Channel Z	+ Input	20001.58	-2.67	-0.01
Channel Z	- Input	-20009.93	-4.50	0.02

Low Range		Reading (µV)	Difference (µV)	Error (%)
Channel X	+ Input	1999.86	-0.99	-0.05
Channel X	+ Input	200.42	-0.42	-0.21
Channel X	- Input	-199.45	-0.24	0.12
Channel Y	+ Input	2000.78	-0.01	-0.00
Channel Y	+ Input	200.66	-0.06	-0.03
Channel Y	- Input	-199.50	-0.28	0.14
Channel Z	+ Input	2000.45	-0.29	-0.01
Channel Z	+ Input	199.41	-1.33	-0.66
Channel Z	- Input	-200.21	-0.92	0.46

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (µV)	Low Range Average Reading (µV)
Channel X	200	-2.59	-3.72
	- 200	7.16	5.57
Channel Y	200	15.89	15.62
	- 200	-16.62	-17.01
Channel Z	200	-16.19	-16.08
	- 200	14.56	14.81

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (µV)	Channel Y (µV)	Channel Z (µV)
Channel X	200	-	0.26	-3.89
Channel Y	200	8.74	-	0.77
Channel Z	200	6.36	7.07	-

Certificate No: DAE4-720_Oct16 Page 4 of 5

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16156	16521
Channel Y	16178	16048
Channel Z	16424	15774

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (µV)	min. Offset (µV)	max. Offset (µV)	Std. Deviation (µV)
Channel X	0.75	-1.14	2.77	0.62
Channel Y	-0.03	-1.04	0.90	0.43
Channel Z	-0.18	-2.07	1.75	0.69

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

Certificate No: DAE4-720_Oct16 Page 5 of 5

ES3DV3 Sn:3127

Calibration Laboratory of
Schmid & Partner
Engineering AG

CALIBRATION CERTIFICATE

Calibration Laboratory of
Schmid & Partner
Engineering AG

Glossary:

Calibration is Performed According to the Following Standards:

Methods Applied and Interpretation of Parameters:

ES3DV3 – SN:3127

August 29, 2016

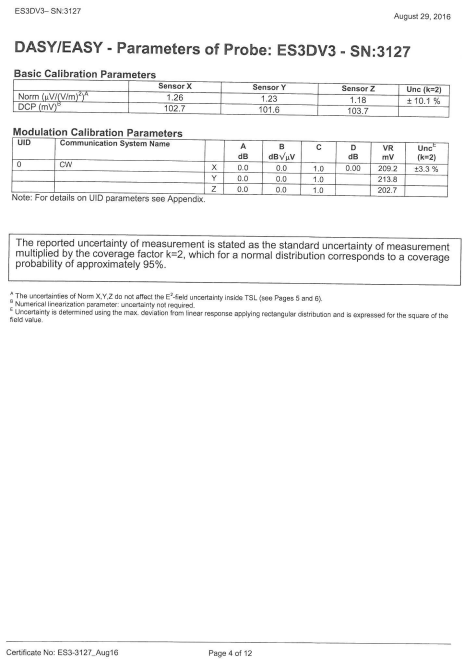
Probe ES3DV3

SN:3127

Manufactured: July 11, 2006
Calibrated: August 29, 2016

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

Certificate No: ES3-3127_Aug16 Page 3 of 12



ES3DV3– SN:3127

August 29, 2016

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3127

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.26	1.23	1.18	± 10.1 %
DCP (mV)[B]	102.7	101.6	103.7	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dBvµV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	209.2	±3.3 %
		Y	0.0	0.0	1.0		213.8	
		Z	0.0	0.0	1.0		202.7	

Note: For details on UID parameters see Appendix.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

Certificate No: ES3-3127_Aug16 Page 4 of 12

ES3DV3 Sn:3127

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3127

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
450	43.5	0.87	6.74	6.74	6.74	0.21	2.30	± 13.3 %
750	41.9	0.89	6.55	6.55	6.55	0.62	1.37	± 12.0 %
900	41.5	0.97	6.20	6.20	6.20	0.54	1.41	± 12.0 %
1450	40.5	1.20	5.44	5.44	5.44	0.80	1.06	± 12.0 %
1810	40.0	1.40	5.15	5.15	5.15	0.80	1.16	± 12.0 %
2000	40.0	1.40	5.11	5.11	5.11	0.68	1.28	± 12.0 %
2300	39.5	1.67	4.83	4.83	4.83	0.80	1.19	± 12.0 %
2450	39.2	1.80	4.61	4.61	4.61	0.67	1.38	± 12.0 %
2600	39.0	1.96	4.40	4.40	4.40	0.70	1.36	± 12.0 %

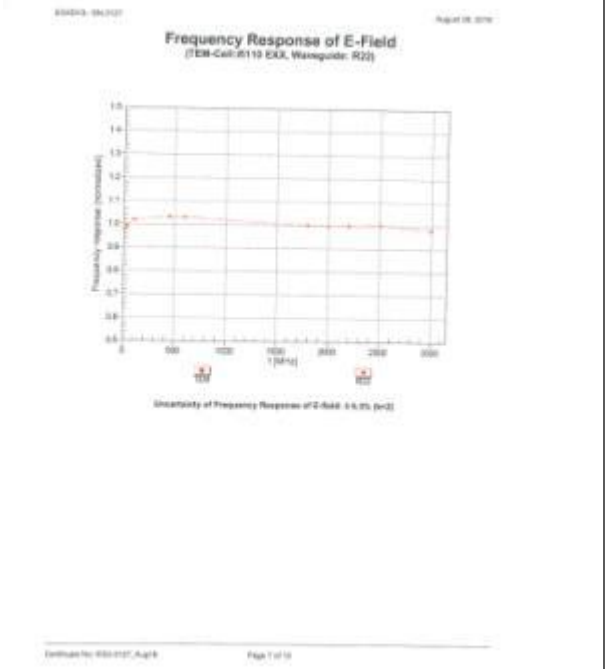
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

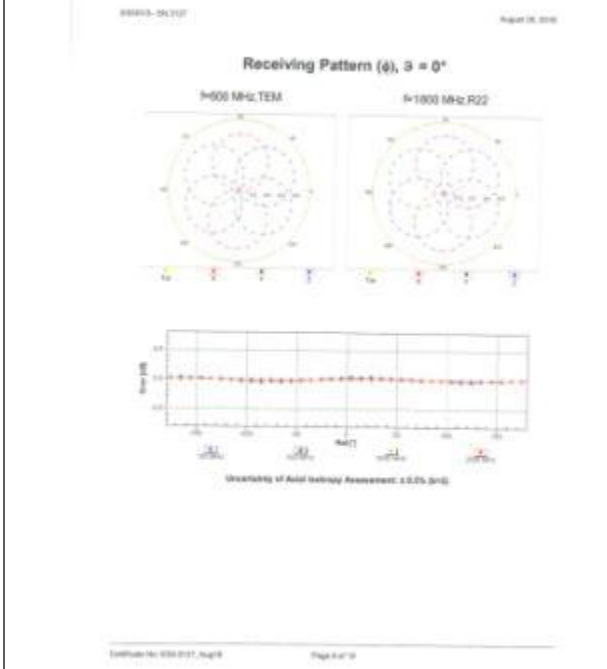
DASY/EASY - Parameters of Probe: ES3DV3 - SN:3127

Calibration Parameter Determined in Body Tissue Simulating Media

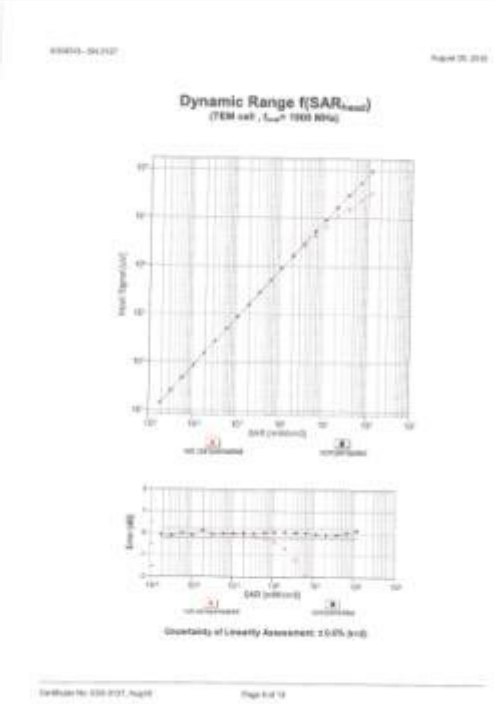
f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
450	56.7	0.94	6.99	6.99	6.99	0.12	2.10	± 13.3 %
750	55.5	0.96	6.12	6.12	6.12	0.80	1.14	± 12.0 %
900	55.0	1.05	6.16	6.16	6.16	0.46	1.53	± 12.0 %
1450	54.0	1.30	5.29	5.29	5.29	0.74	1.21	± 12.0 %
1810	53.3	1.52	4.90	4.90	4.90	0.43	1.69	± 12.0 %
2000	53.3	1.52	4.92	4.92	4.92	0.55	1.48	± 12.0 %
2300	52.9	1.81	4.63	4.63	4.63	0.80	1.24	± 12.0 %
2450	52.7	1.95	4.36	4.36	4.36	0.71	1.22	± 12.0 %
2600	52.5	2.16	4.17	4.17	4.17	0.80	1.11	± 12.0 %

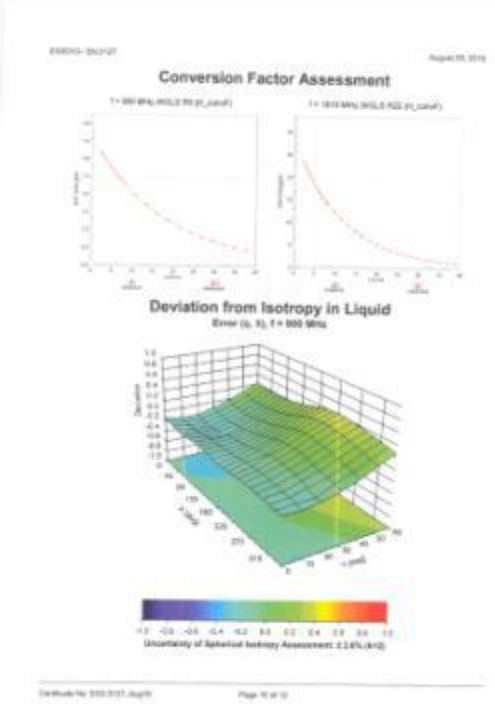
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.





ES3DV3 Sn:3127





ES3DV3– SN:3127 August 29, 2016

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3127

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-15.8
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

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Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[F] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	209.2	±3.3 %
		Y	0.0	0.0	1.0		213.8	
		Z	0.0	0.0	1.0		202.7	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	3.29	71.4	20.2	1.87	125.8	±0.7 %
		Y	2.75	67.3	17.9		129.9	
		Z	3.10	70.4	19.7		120.2	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.43	67.7	20.1	5.80	137.8	±1.4 %
		Y	6.43	67.5	19.7		144.6	
		Z	6.36	67.6	20.0		131.5	
10110-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	6.17	67.4	20.0	5.75	134.4	±1.4 %
		Y	6.14	67.0	19.6		141.5	
		Z	6.02	67.0	19.7		128.3	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.13	67.3	19.9	5.75	133.5	±1.2 %
		Y	6.19	67.3	19.8		140.3	
		Z	6.04	67.1	19.8		128.2	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	5.00	66.8	19.8	5.73	117.2	±0.9 %
		Y	5.04	66.9	19.7		120.3	
		Z	4.89	66.5	19.7		111.8	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.97	66.8	19.7	5.72	117.2	±0.9 %
		Y	4.93	66.3	19.4		120.2	
		Z	4.87	66.5	19.6		111.6	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.51	68.0	20.3	5.81	137.1	±1.4 %
		Y	6.46	67.6	19.9		140.9	
		Z	6.37	67.6	20.0		130.4	

[F] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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EX3DV4 Sn:3708

Calibration Laboratory of
Schmid & Partner
Engineering AG

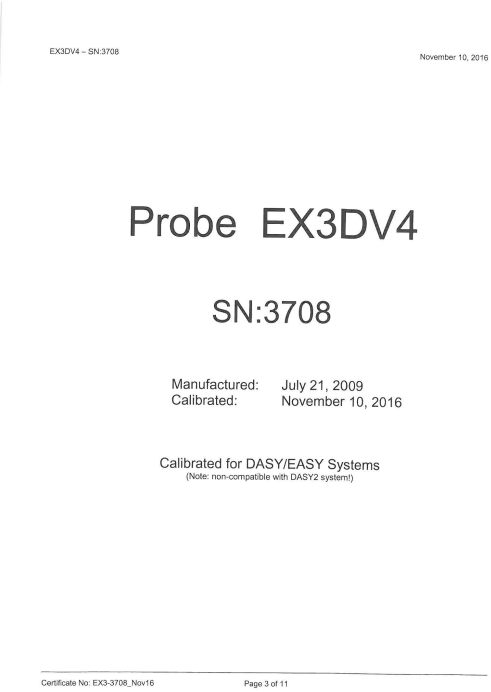
CALIBRATION CERTIFICATE

Calibration Laboratory of
Schmid & Partner
Engineering AG

Glossary:

Calibration is Performed According to the Following Standards:

Methods Applied and Interpretation of Parameters:



EX3DV4 – SN:3708

November 10, 2016

Probe EX3DV4

SN:3708

Manufactured: July 21, 2009
Calibrated: November 10, 2016

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

Certificate No: EX3-3708_Nov16 Page 3 of 11

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3708

Basic Calibration Parameters

Modulation Calibration Parameters

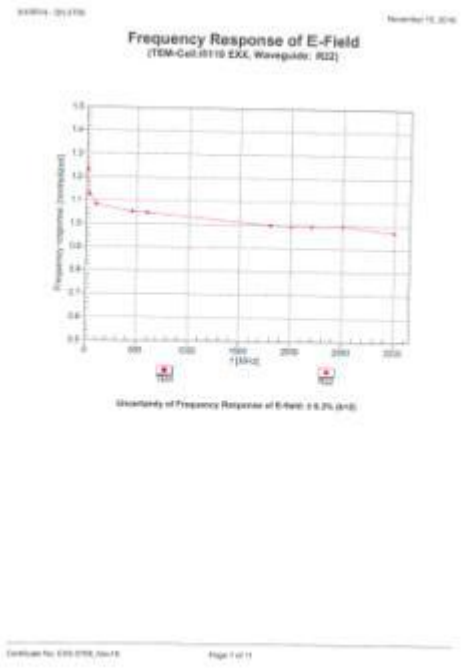
EX3DV4 Sn:3708

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3708

Calibration Parameter Determined in Head Tissue Simulating Media

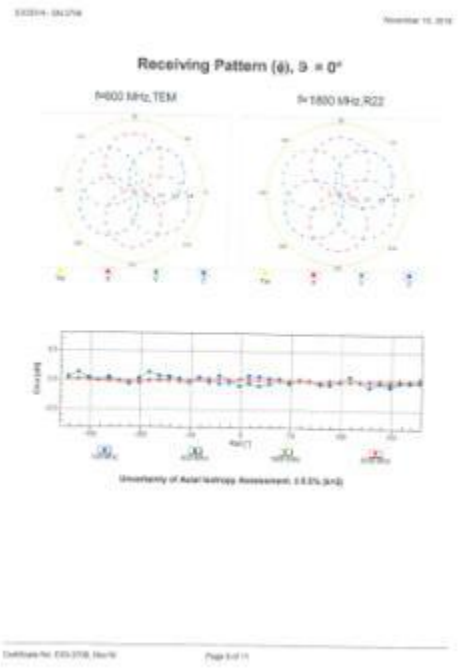
DASY/EASY - Parameters of Probe: EX3DV4 - SN:3708

Calibration Parameter Determined in Body Tissue Simulating Media



Frequency Response of E-Field

(TEM-Cell.f5110 EXX, Waveguide: R22)



Receiving Pattern (θ), ϑ = 0°

f=600 MHz,TEM

f=1800 MHz,R22