

Test Laboratory: DEKRA

Date/Time: 2020/04/21

LTE_Band 41_QPSK_20M_40620_1RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band41; Frequency: 2593 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 2593$ MHz; $\sigma = 1.94$ S/m; $\epsilon_r = 39.39$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.0, Liquid Temperature (°C) : 21.9

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.96, 6.96, 6.96); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (7x22x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.805 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

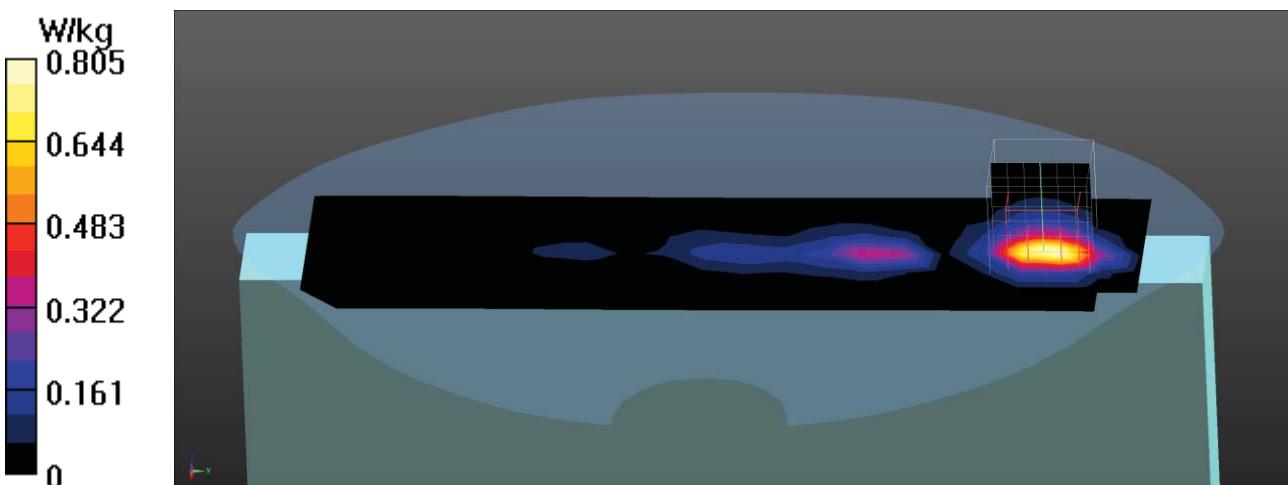
dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.830 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.509 W/kg; SAR(10 g) = 0.217 W/kg

Maximum value of SAR (measured) = 0.860 W/kg



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LTE_Band 41_QPSK_20M_41490_1RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band41; Frequency: 2680 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 2680$ MHz; $\sigma = 2.03$ S/m; $\epsilon_r = 38.57$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.0, Liquid Temperature (°C) : 21.9

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.96, 6.96, 6.96); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x10x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.938 W/kg

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.23 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.610 W/kg; SAR(10 g) = 0.263 W/kg

Maximum value of SAR (measured) = 1.06 W/kg

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid:

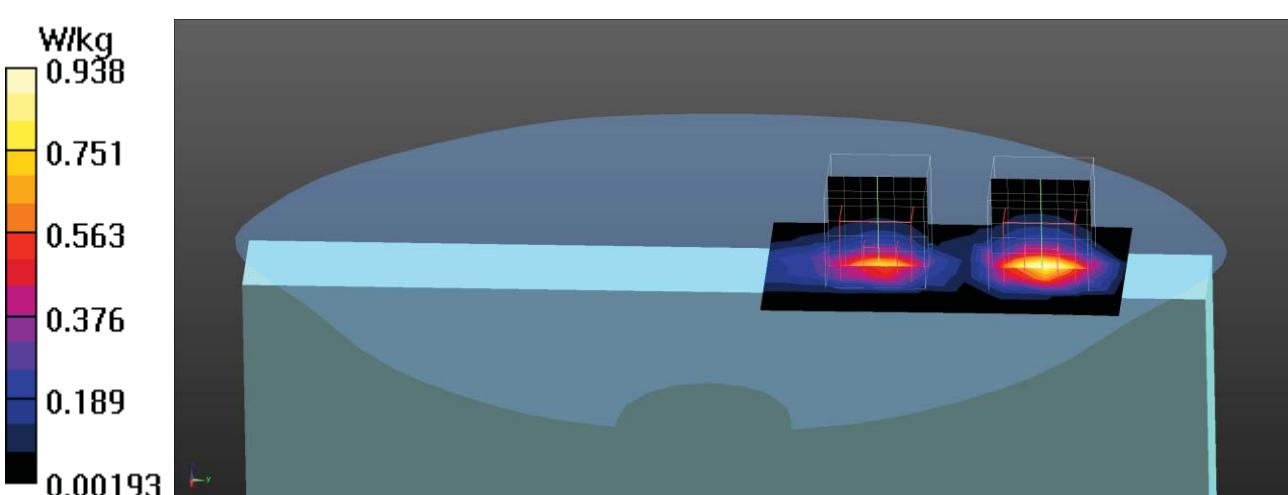
dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.23 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.450 W/kg; SAR(10 g) = 0.187 W/kg

Maximum value of SAR (measured) = 0.798 W/kg



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LTE_Band 41_QPSK_20M_40620_50RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band41; Frequency: 2593 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 2593$ MHz; $\sigma = 1.94$ S/m; $\epsilon_r = 39.39$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.0, Liquid Temperature (°C) : 21.9

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.96, 6.96, 6.96); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.575 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

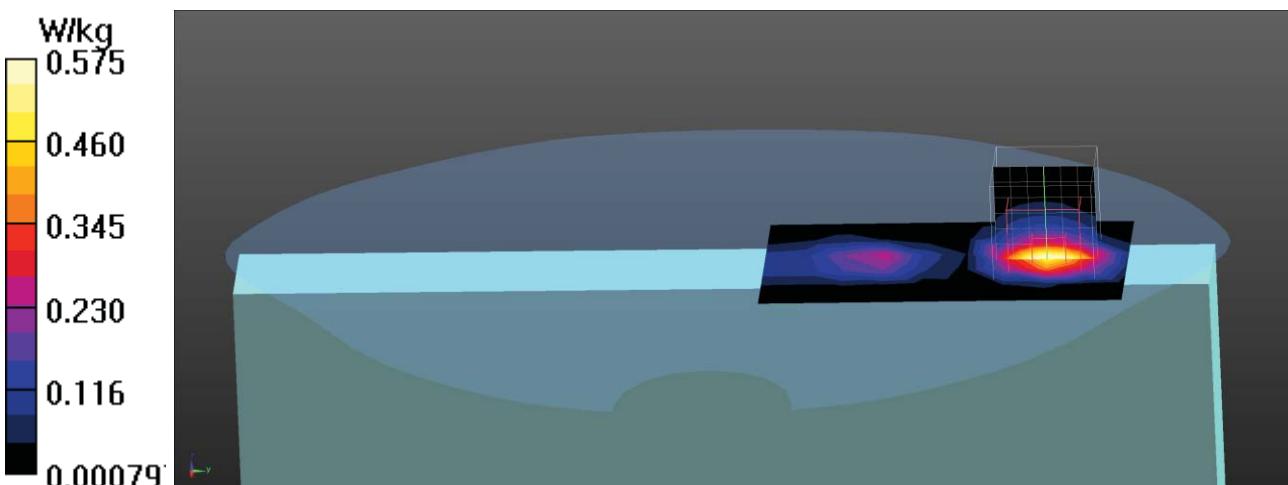
dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.821 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.374 W/kg; SAR(10 g) = 0.162 W/kg

Maximum value of SAR (measured) = 0.643 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/21

LTE_Band 41_QPSK_20M_40620_1RB-0-Right-Side Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band41; Frequency: 2593 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 2593$ MHz; $\sigma = 1.94$ S/m; $\epsilon_r = 39.39$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.0, Liquid Temperature (°C) : 21.9

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.96, 6.96, 6.96); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x18x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.102 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

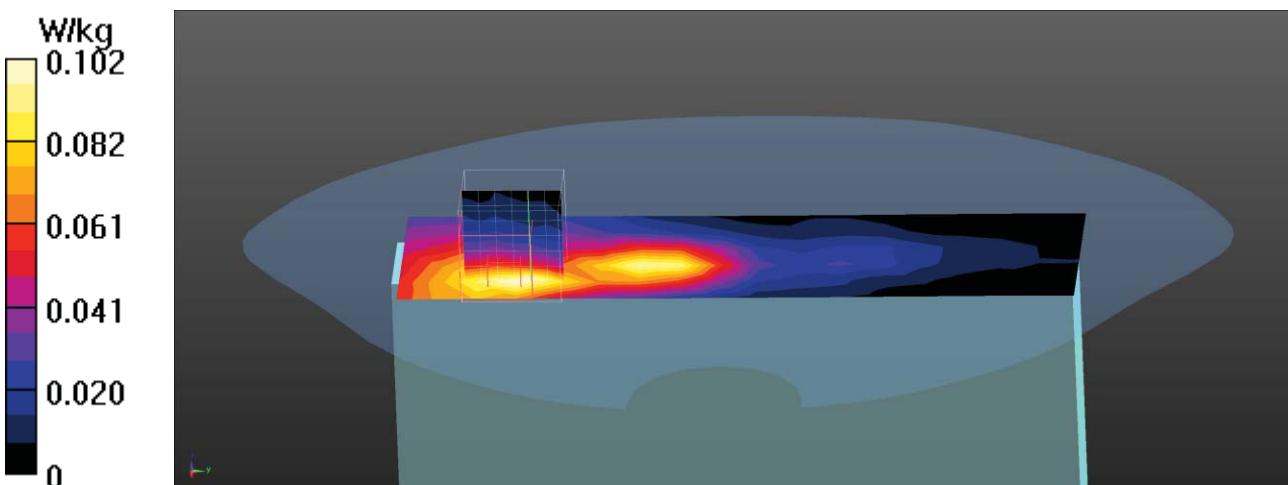
dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.016 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.134 W/kg

SAR(1 g) = 0.070 W/kg; SAR(10 g) = 0.043 W/kg

Maximum value of SAR (measured) = 0.110 W/kg



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LTE_Band 41_2UPCA_QPSK_20M_39750+39948_1RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band41; Frequency: 2506 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 2506$ MHz; $\sigma = 1.88$ S/m; $\epsilon_r = 40.24$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.0, Liquid Temperature (°C) : 21.9

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.96, 6.96, 6.96); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.606 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

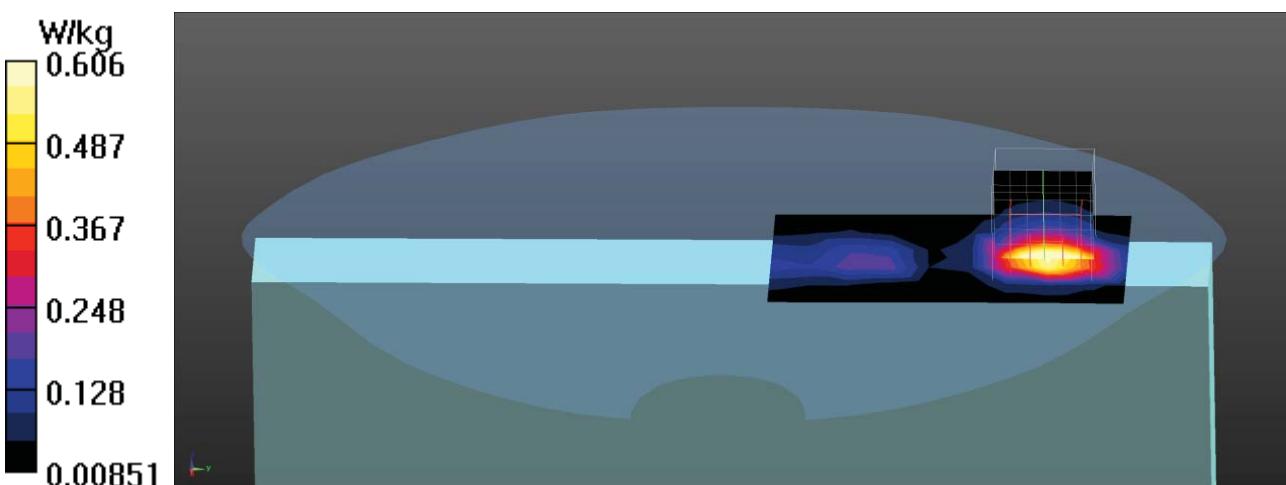
dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.57 V/m; Power Drift = -0.19 dB

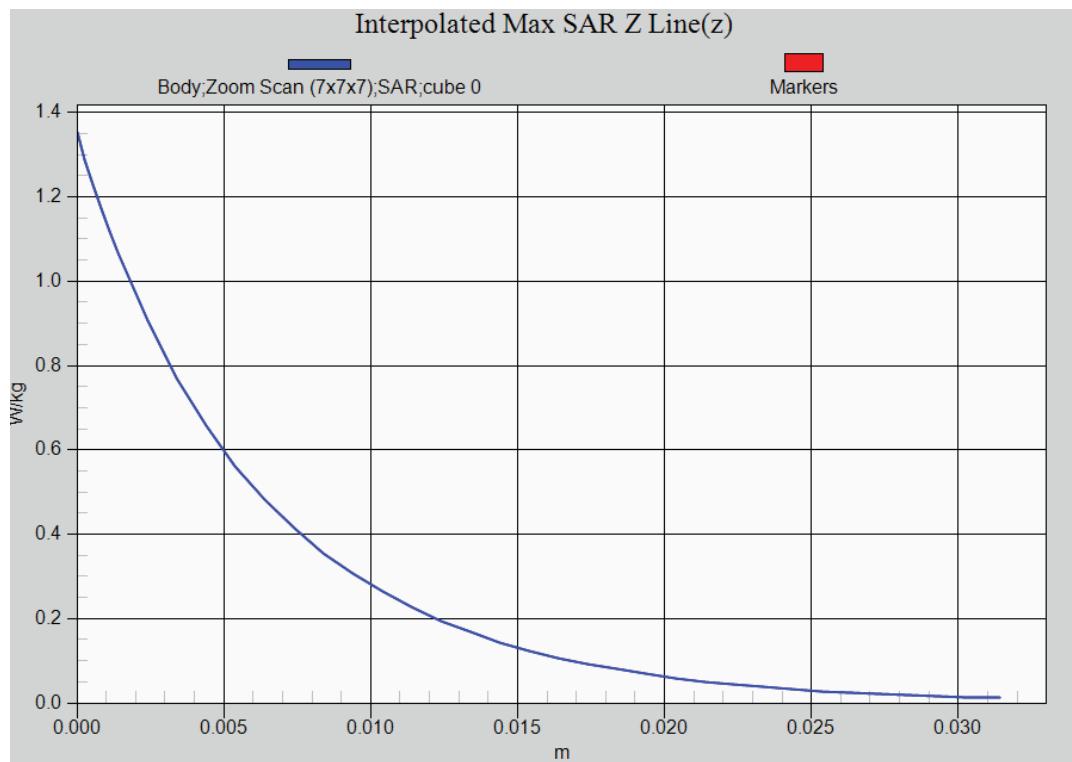
Peak SAR (extrapolated) = 0.977 W/kg

SAR(1 g) = 0.470 W/kg; SAR(10 g) = 0.212 W/kg

Maximum value of SAR (measured) = 0.781 W/kg



LTE Band 41 QPSK 1RB EUT Top (Pwr OFF) Z-Axis plot
Channel: 41490



Test Laboratory: DEKRA

Date/Time: 2020/04/20

LTE_Band 48_QPSK_20M_55990_1RB-0-Back Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band48; Frequency: 3625 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 3625$ MHz; $\sigma = 2.99$ S/m; $\epsilon_r = 37.66$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.22, 6.22, 6.22); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (7x22x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.285 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x8)/Cube 0:** Measurement grid:

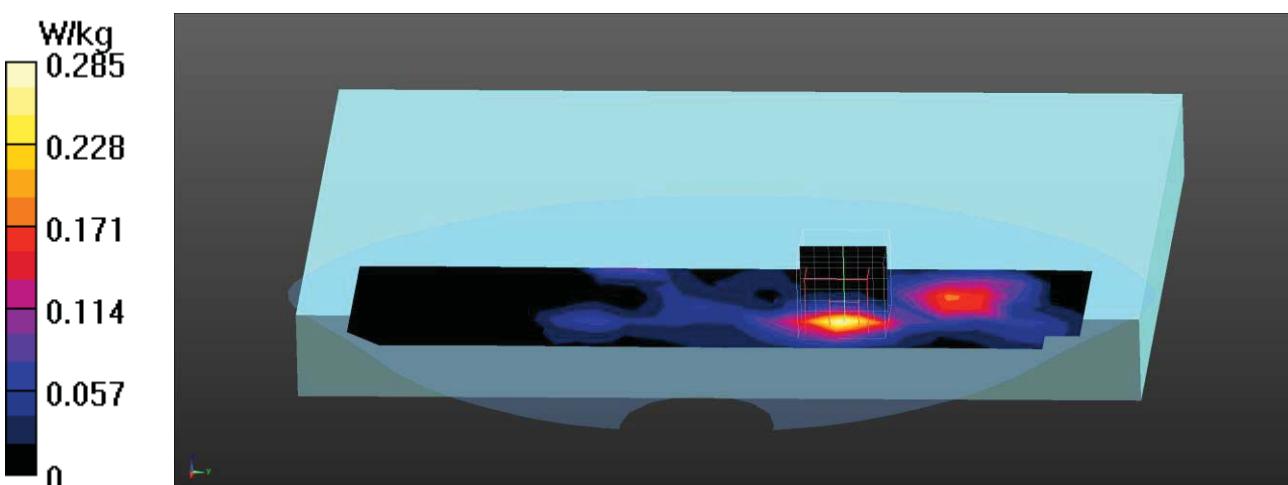
dx=5mm, dy=5mm, dz=4mm

Reference Value = 5.028 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.410 W/kg

SAR(1 g) = 0.145 W/kg; SAR(10 g) = 0.057 W/kg

Maximum value of SAR (measured) = 0.290 W/kg



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LTE_Band 48_QPSK_20M_55340_1RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band48; Frequency: 3560 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 3560$ MHz; $\sigma = 2.95$ S/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.38, 6.38, 6.38); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.436 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x8)/Cube 0:** Measurement grid:

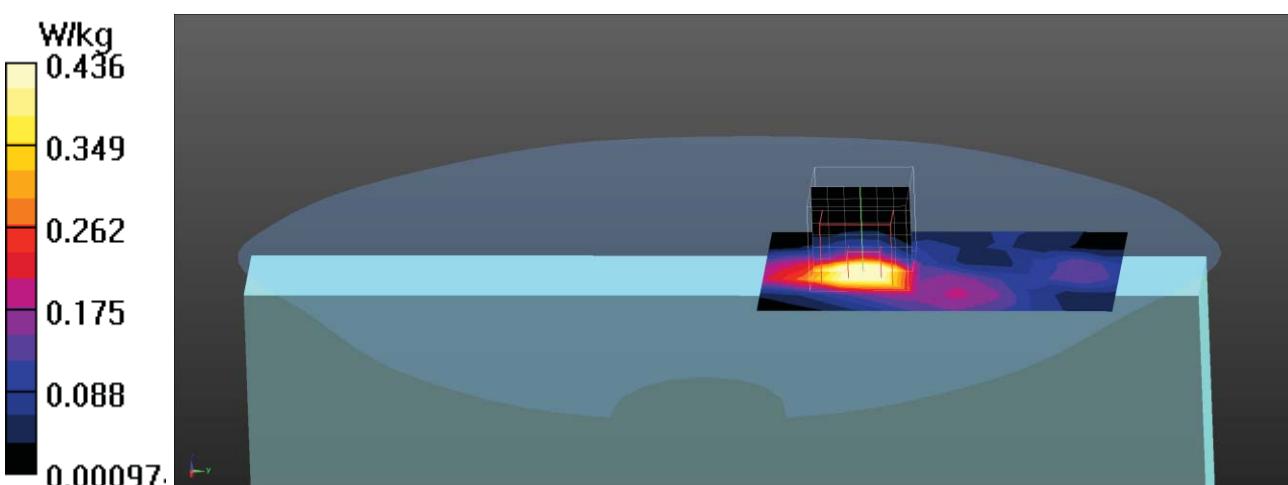
dx=5mm, dy=5mm, dz=4mm

Reference Value = 5.816 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.882 W/kg

SAR(1 g) = 0.312 W/kg; SAR(10 g) = 0.120 W/kg

Maximum value of SAR (measured) = 0.626 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/20

LTE_Band 48_QPSK_20M_55990_1RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band48; Frequency: 3625 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 3625$ MHz; $\sigma = 2.99$ S/m; $\epsilon_r = 37.66$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.22, 6.22, 6.22); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (7x22x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.567 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x8)/Cube 0:** Measurement grid:

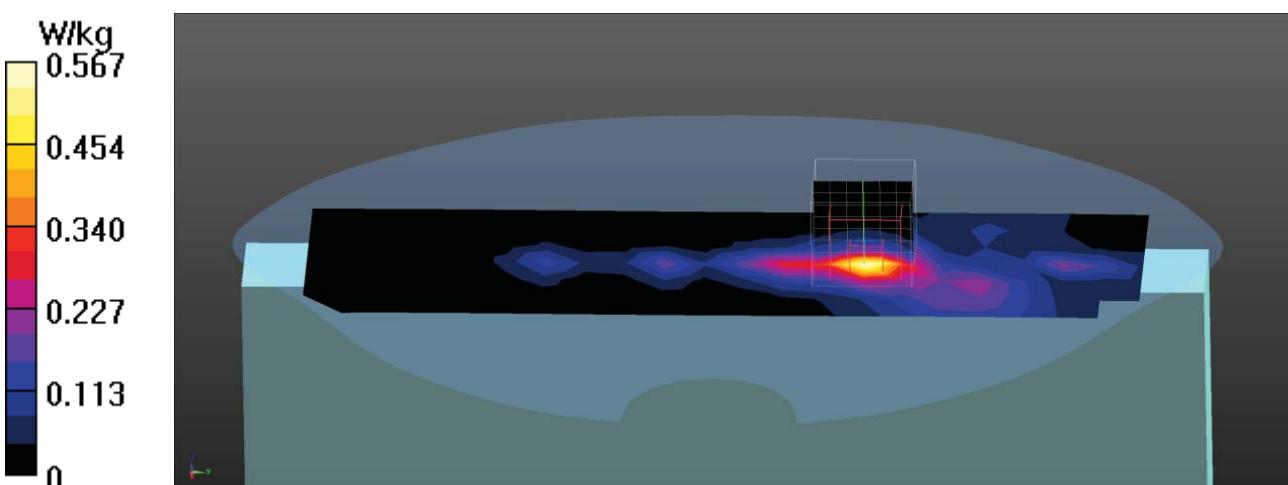
dx=5mm, dy=5mm, dz=4mm

Reference Value = 11.35 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.820 W/kg

SAR(1 g) = 0.281 W/kg; SAR(10 g) = 0.108 W/kg

Maximum value of SAR (measured) = 0.569 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/20

LTE_Band 48_QPSK_20M_56640_1RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band48; Frequency: 3690 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 3690$ MHz; $\sigma = 3.06$ S/m; $\epsilon_r = 37.25$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.22, 6.22, 6.22); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.411 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x8)/Cube 0:** Measurement grid:

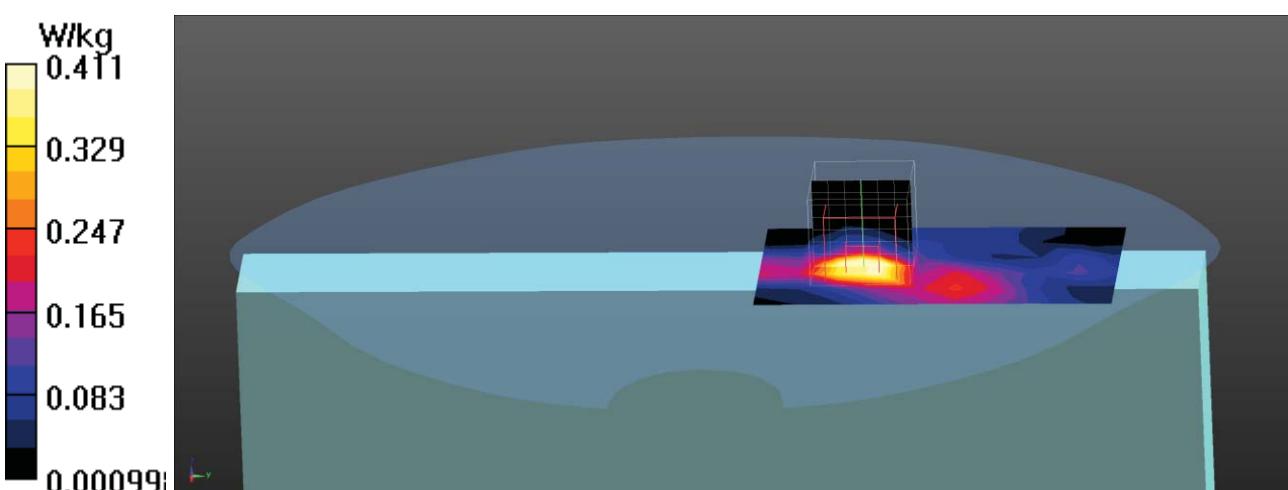
dx=5mm, dy=5mm, dz=4mm

Reference Value = 6.378 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.815 W/kg

SAR(1 g) = 0.276 W/kg; SAR(10 g) = 0.105 W/kg

Maximum value of SAR (measured) = 0.568 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/20

LTE_Band 48_QPSK_20M_55340_50RB-0-Top Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band48; Frequency: 3560 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 3560$ MHz; $\sigma = 2.95$ S/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.38, 6.38, 6.38); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.206 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x8)/Cube 0:** Measurement grid:

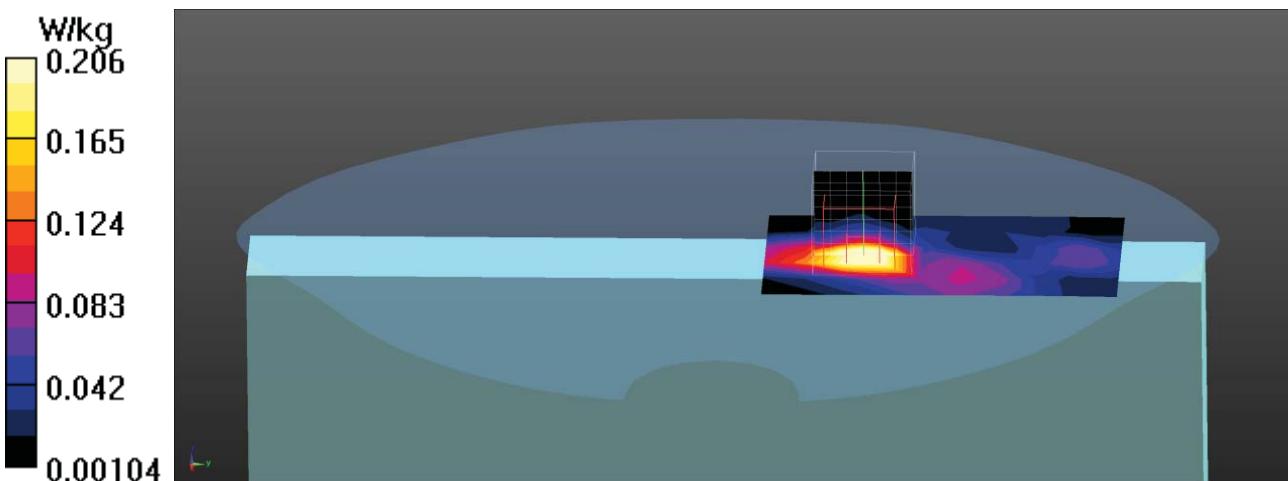
dx=5mm, dy=5mm, dz=4mm

Reference Value = 4.359 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.421 W/kg

SAR(1 g) = 0.149 W/kg; SAR(10 g) = 0.056 W/kg

Maximum value of SAR (measured) = 0.299 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/20

LTE_Band 48_QPSK_20M_55990_1RB-0-Right-Side Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE-TDD Band48; Frequency: 3625 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 3625$ MHz; $\sigma = 2.99$ S/m; $\epsilon_r = 37.66$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(6.22, 6.22, 6.22); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x21x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.167 W/kg**Configuration/Body/Zoom Scan (7x7x7) (7x7x8)/Cube 0:** Measurement grid:

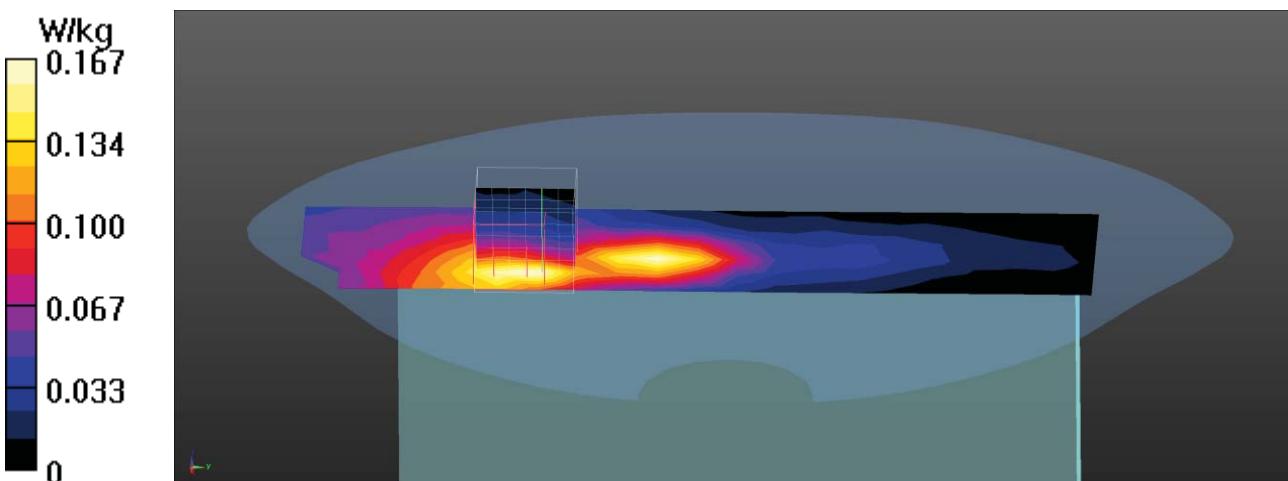
dx=5mm, dy=5mm, dz=4mm

Reference Value = 5.523 V/m; Power Drift = -0.14 dB

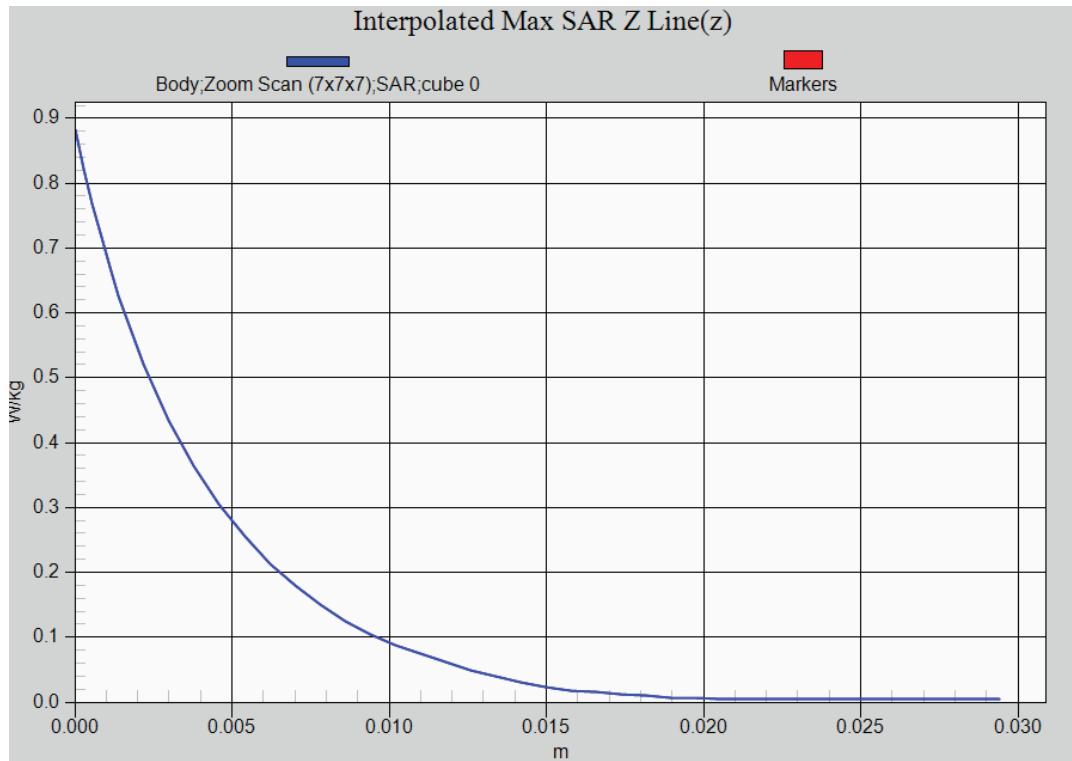
Peak SAR (extrapolated) = 0.208 W/kg

SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.071 W/kg

Maximum value of SAR (measured) = 0.171 W/kg



LTE Band 48 QPSK 1RB EUT Top (Pwr OFF) Z-Axis plot
Channel: 55340



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132072_1RB-0-Back Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, LTE Band66; Frequency: 1720 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.34$ S/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.45 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

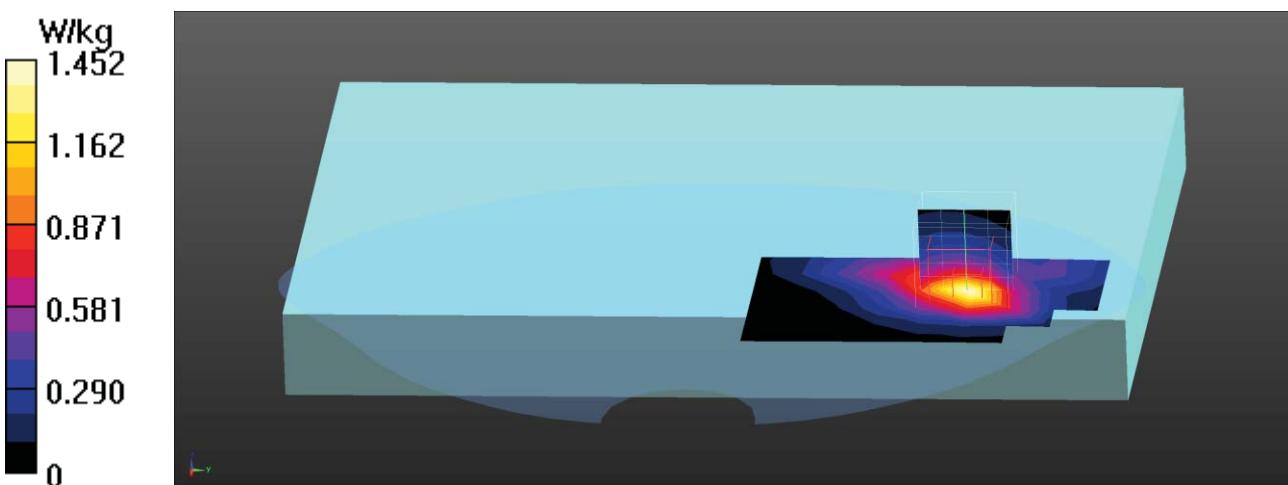
dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.443 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.69 W/kg

SAR(1 g) = 0.887 W/kg; SAR(10 g) = 0.536 W/kg

Maximum value of SAR (measured) = 1.44 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132322_1RB-0-Back Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, LTE Band66; Frequency: 1745 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1745 \text{ MHz}$; $\sigma = 1.37 \text{ S/m}$; $\epsilon_r = 40.74$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature ($^{\circ}\text{C}$) : 23.4, Liquid Temperature ($^{\circ}\text{C}$) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

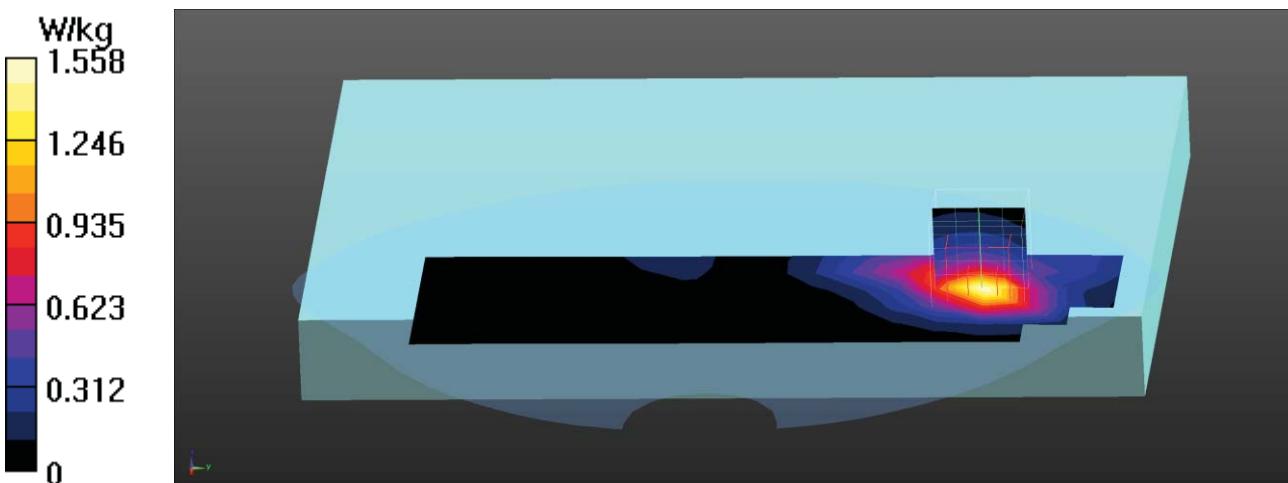
Configuration/Body/Area Scan (6x17x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 1.56 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.067 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 1.82 W/kg

SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.576 W/kg

Maximum value of SAR (measured) = 1.54 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132572_1RB-49-Back Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE Band66; Frequency: 1770 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1770$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 40.38$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.57 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

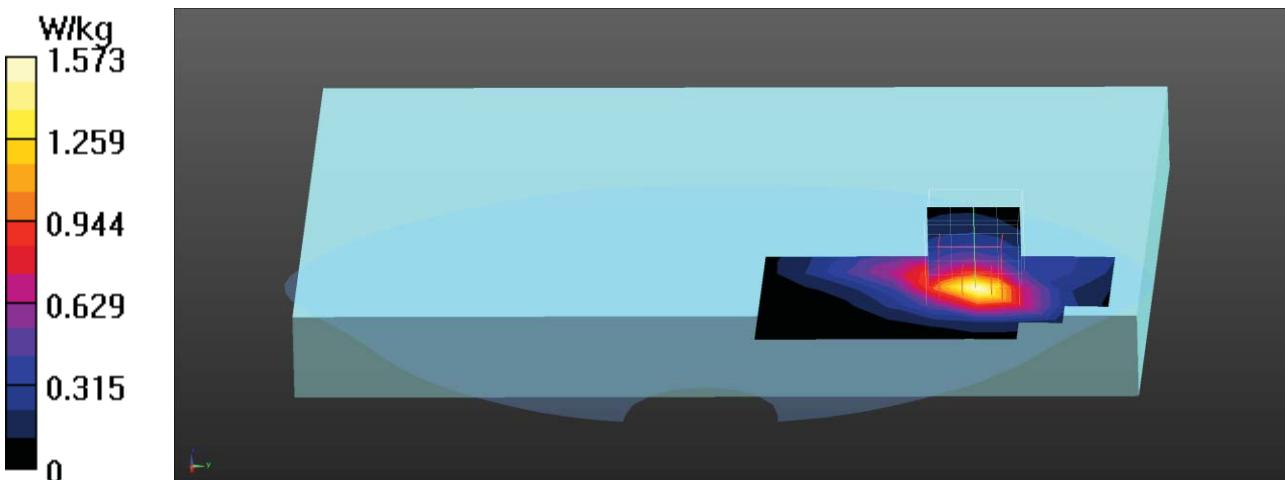
dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.383 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.85 W/kg

SAR(1 g) = 0.906 W/kg; SAR(10 g) = 0.632 W/kg

Maximum value of SAR (measured) = 1.49 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132322_50RB-0-Back Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE Band66; Frequency: 1745 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.37$ S/m; $\epsilon_r = 40.74$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.21 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

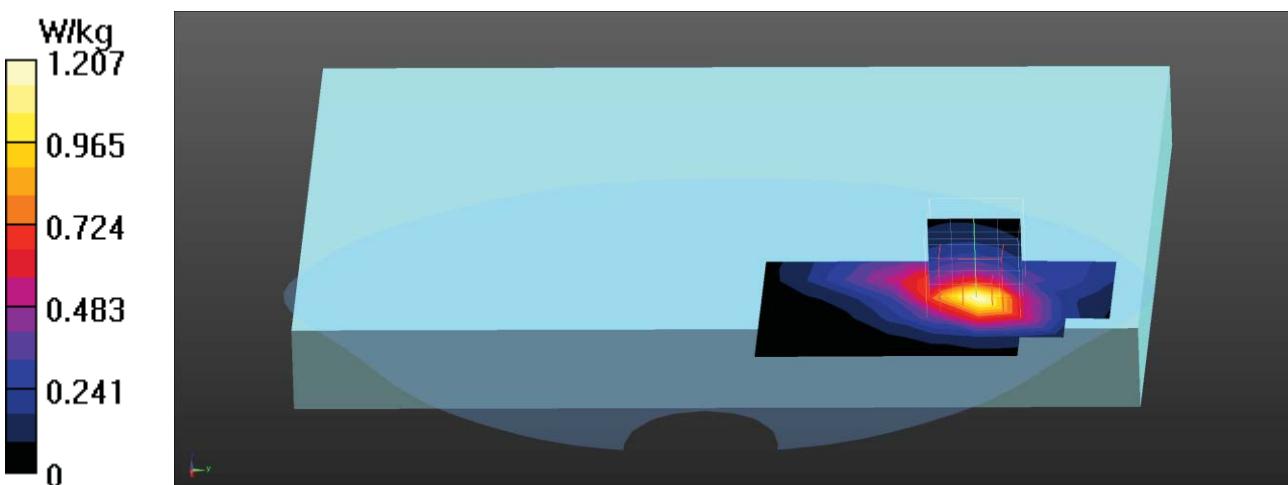
dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.266 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.727 W/kg; SAR(10 g) = 0.415 W/kg

Maximum value of SAR (measured) = 1.22 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132322_1RB-0-Right-Side Pwr OFF**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE Band66; Frequency: 1745 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1745 \text{ MHz}$; $\sigma = 1.37 \text{ S/m}$; $\epsilon_r = 40.74$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature ($^{\circ}\text{C}$) : 23.4, Liquid Temperature ($^{\circ}\text{C}$) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

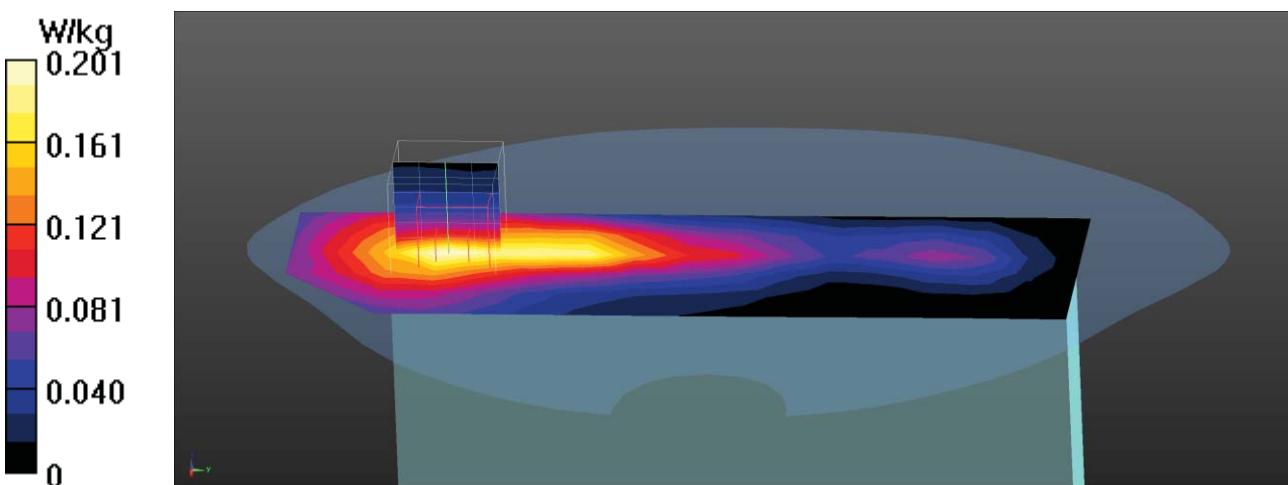
Configuration/Body/Area Scan (6x17x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.201 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.058 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.248 W/kg

SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.090 W/kg

Maximum value of SAR (measured) = 0.211 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132322_1RB-0-Top Pwr OFF 10mm**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE Band66; Frequency: 1745 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1745 \text{ MHz}$; $\sigma = 1.37 \text{ S/m}$; $\epsilon_r = 40.74$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature ($^{\circ}\text{C}$) : 23.4, Liquid Temperature ($^{\circ}\text{C}$) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

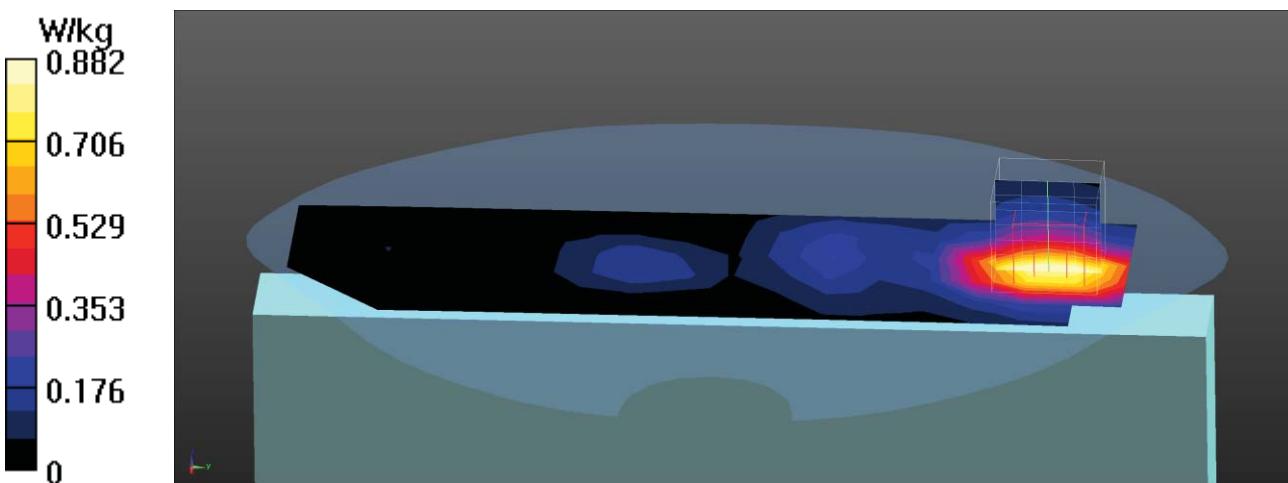
Configuration/Body/Area Scan (6x18x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.882 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.814 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.730 W/kg; SAR(10 g) = 0.443 W/kg

Maximum value of SAR (measured) = 1.01 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132322_1RB-0-Top Pwr ON**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE Band66; Frequency: 1745 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.37$ S/m; $\epsilon_r = 40.74$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x18x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.915 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

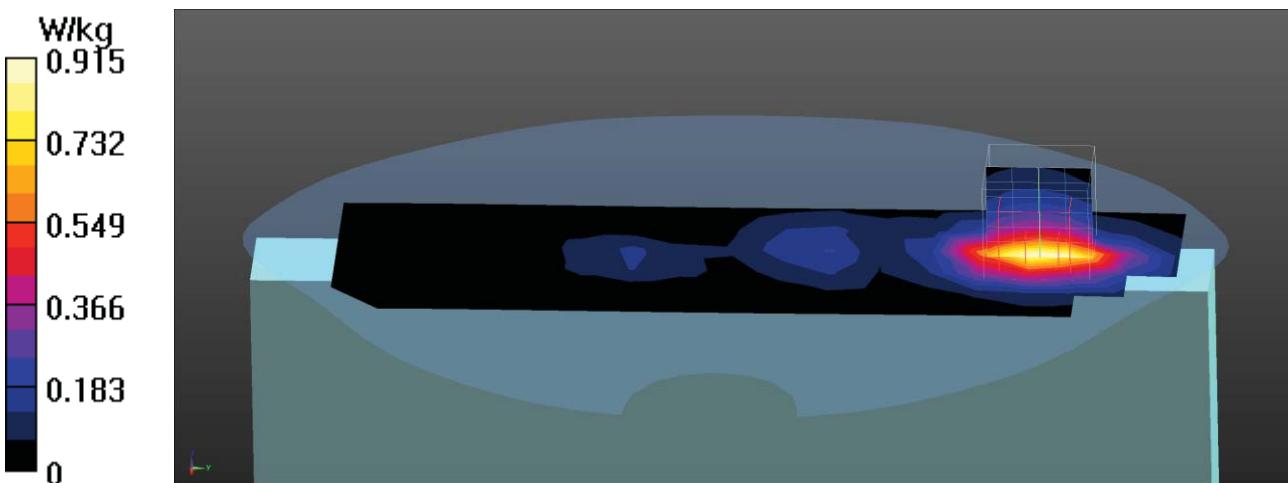
dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.761 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.679 W/kg; SAR(10 g) = 0.386 W/kg

Maximum value of SAR (measured) = 0.985 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132322_50RB-0-Top Pwr ON**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE Band66; Frequency: 1745 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.37$ S/m; $\epsilon_r = 40.74$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.917 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

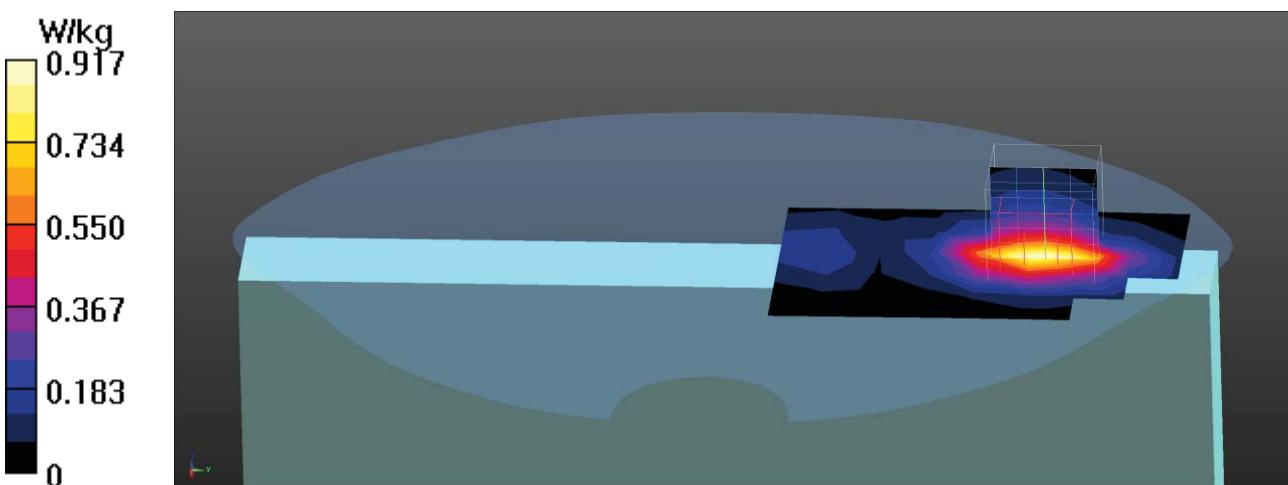
dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.604 V/m; Power Drift = -0.06 dB

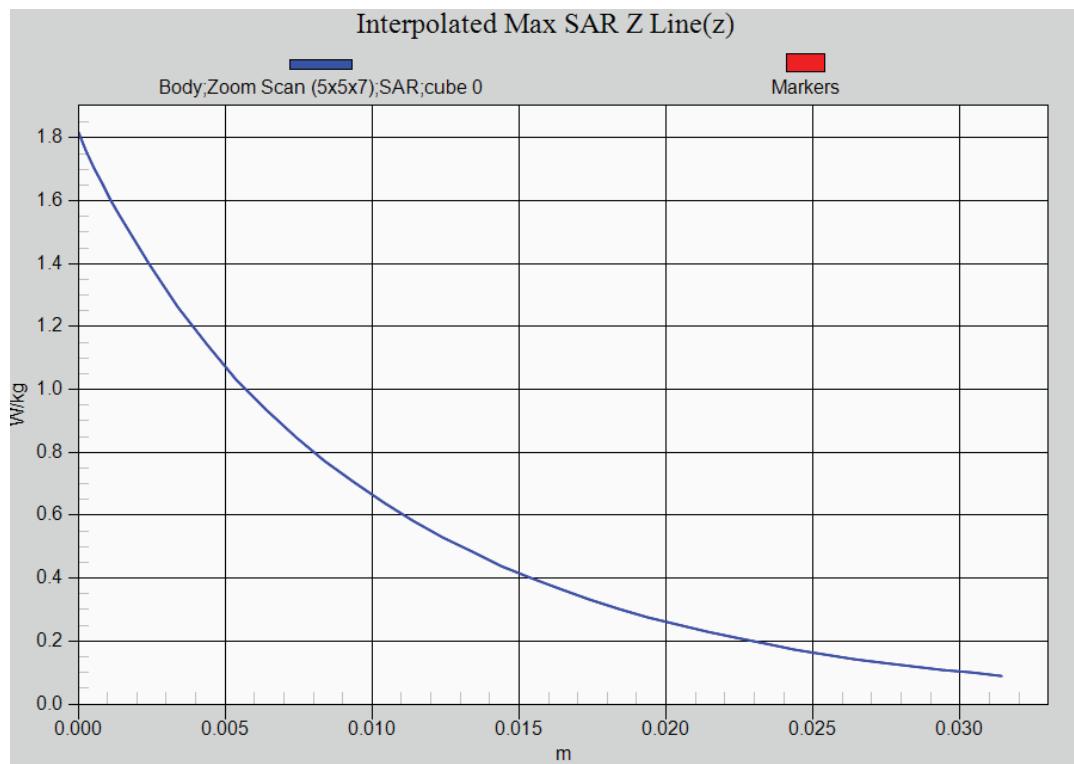
Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.673 W/kg; SAR(10 g) = 0.385 W/kg

Maximum value of SAR (measured) = 0.990 W/kg



LTE Band 66 QPSK 1RB EUT Back (Pwr OFF) Z-Axis plot
Channel: 132322



Test Laboratory: DEKRA

Date/Time: 2020/04/17

WCDMA_Band 2_RMC_9262_-Back Pwr OFF-Verify**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC WCDMA_Band-2; Frequency: 1852.4 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.34$ S/m; $\epsilon_r = 41.18$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.59, 7.59, 7.59); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

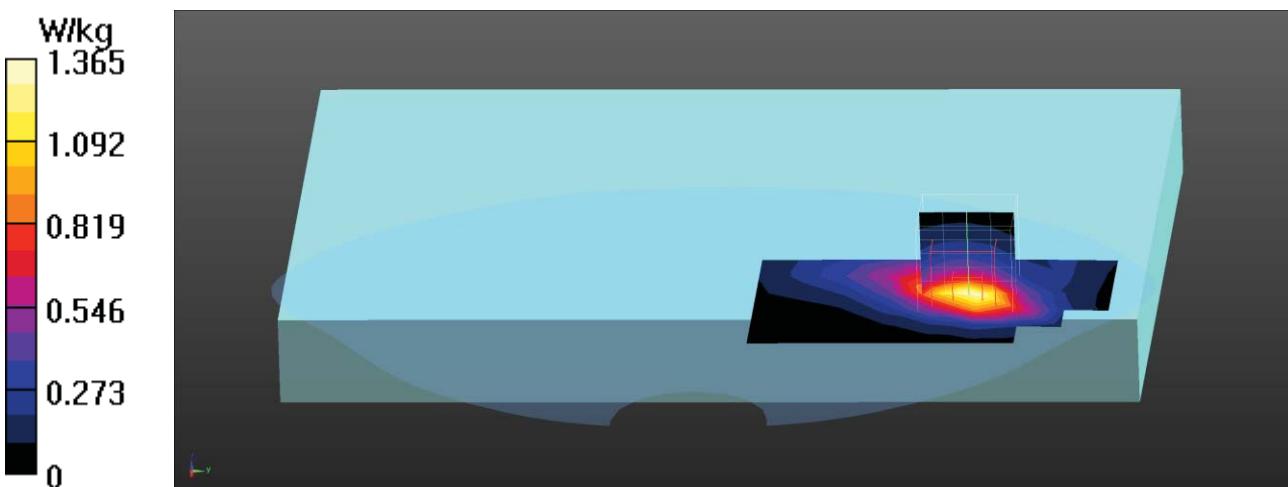
Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.37 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:
dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.735 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.72 W/kg

SAR(1 g) = 0.909 W/kg; SAR(10 g) = 0.503 W/kg

Maximum value of SAR (measured) = 1.43 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

WCDMA_Band 4_RMC_1413_-Back Pwr OFF-verify**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC WCDMA_Band 4; Frequency: 1732.6 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1732.6$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.81$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.45 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

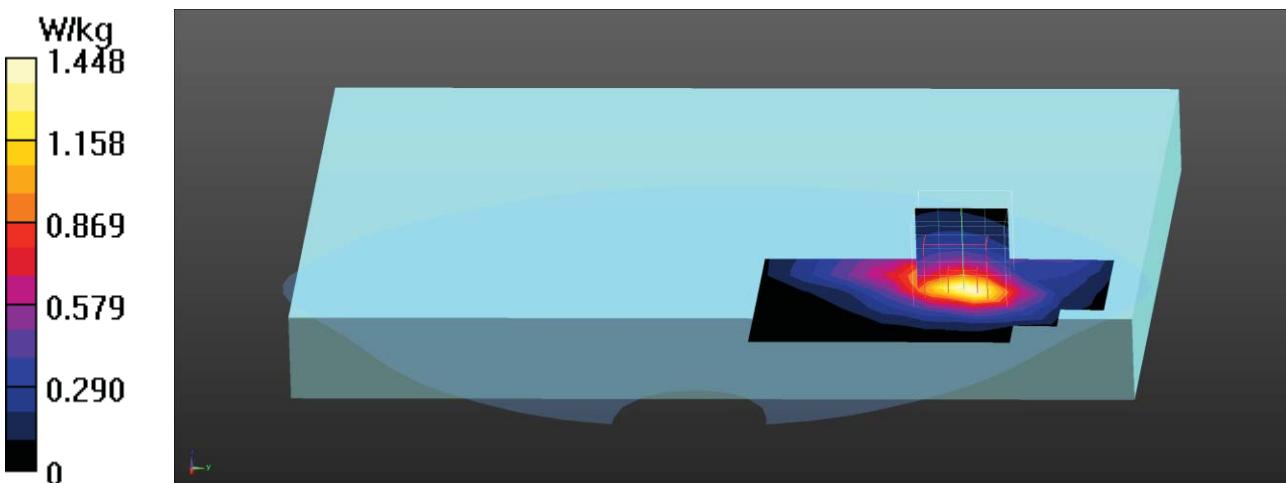
dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.678 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 0.939 W/kg; SAR(10 g) = 0.575 W/kg

Maximum value of SAR (measured) = 1.51 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/11

WCDMA_Band 5_RMC_4233_-Top Pwr OFF-Verify**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC WCDMA_Band-5; Frequency: 846.6 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 846.6$ MHz; $\sigma = 0.91$ S/m; $\epsilon_r = 41.53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.8, Liquid Temperature (°C) : 22.6

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(8.91, 8.91, 8.91); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with right table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.16 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

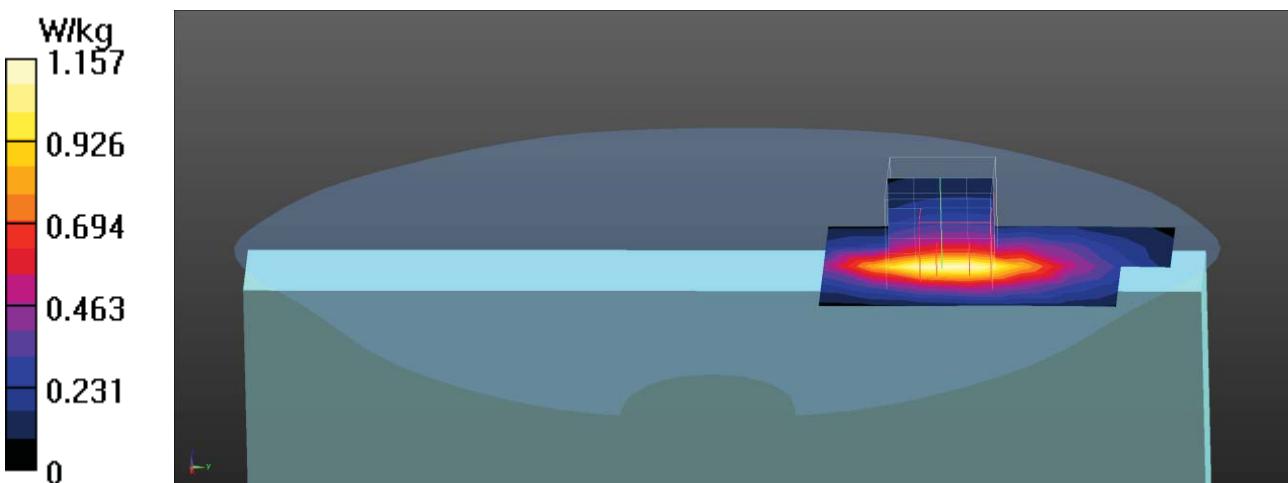
dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.33 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.829 W/kg; SAR(10 g) = 0.497 W/kg

Maximum value of SAR (measured) = 1.20 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/17

LTE_Band 2_QPSK_20M_19100_1RB-0-Back Pwr OFF-Verify**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, LTE Band2; Frequency: 1900 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ S/m; $\epsilon_r = 40.79$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.6, Liquid Temperature (°C) : 22.4

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.59, 7.59, 7.59); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.43 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

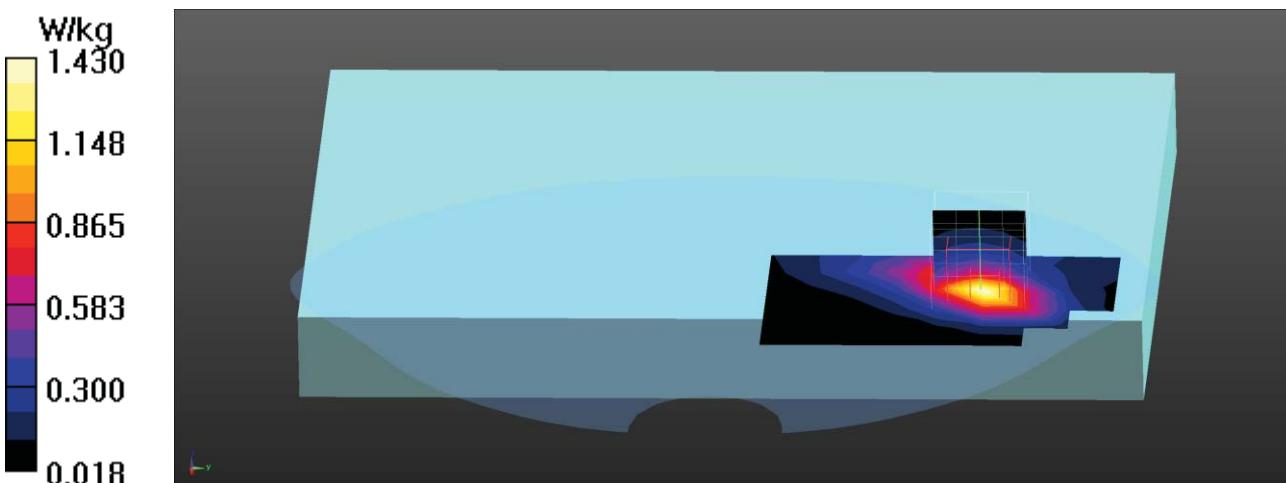
dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.184 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 0.954 W/kg; SAR(10 g) = 0.530 W/kg

Maximum value of SAR (measured) = 1.41 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 4_QPSK_20M_20175_1RB-0-Back Pwr OFF-Verify**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, LTE Band4; Frequency: 1732.5 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.83$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Configuration/Body/Area Scan (6x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.43 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:

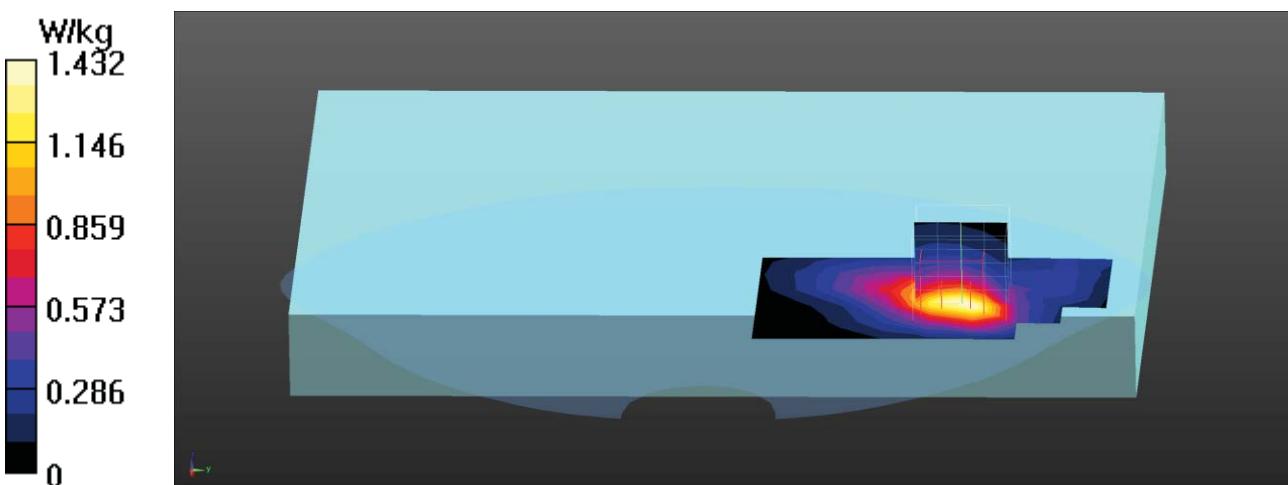
dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.406 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.78 W/kg

SAR(1 g) = 0.958 W/kg; SAR(10 g) = 0.568 W/kg

Maximum value of SAR (measured) = 1.53 W/kg



Test Laboratory: DEKRA

Date/Time: 2020/04/18

LTE_Band 66_QPSK_20M_132322_1RB-0-Back Pwr OFF-Verify**DUT: TABLET PC; Type: PX-501**

Communication System: UID 0, FCC LTE Band66; Frequency: 1745 MHz;

Communication System PAR: 0 dB

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.37$ S/m; $\epsilon_r = 40.74$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature (°C) : 23.4, Liquid Temperature (°C) : 22.3

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY5 Configuration:

- Probe: EX3DV4 - SN3698; ConvF(7.92, 7.92, 7.92); Calibrated: 2019/11/22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 2019/11/14
- Phantom: SAM with left table; Type: SAM;
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

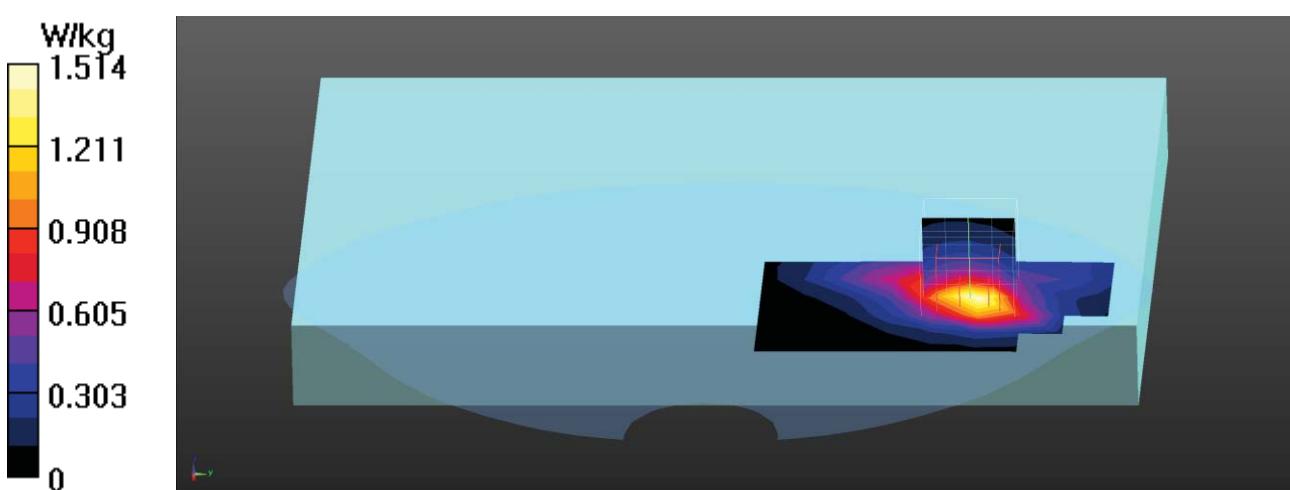
Configuration/Body/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.51 W/kg**Configuration/Body/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.758 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.82 W/kg

SAR(1 g) = 0.908 W/kg; SAR(10 g) = 0.533 W/kg

Maximum value of SAR (measured) = 1.52 W/kg





Appendix D. Probe Calibration Data

Object: EX3DV4 - SN:3698

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client DEKRA (Auden)

Certificate No: EX3-3698_Nov19

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3698

Calibration procedure(s) QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v5, QA CAL-23.v5,
QA CAL-25.v7
Calibration procedure for dosimetric E-field probes

Calibration date: November 22, 2019

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
Power meter NRP	SN: 104778	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	07-Oct-19 (No. DAE4-660_Oct19)	Oct-20
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

Calibrated by:	Name	Function	Signature
	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: November 25, 2019

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



Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

TS	tissue simulating liquid
NORM x,y,z	sensitivity in free space
ConvF	sensitivity in TS / NORM x,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, ", "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- $NORMx,y,z$: Assessed for E-field polarization $\theta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). $NORMx,y,z$ are only intermediate values, i.e., the uncertainties of $NORMx,y,z$ does not affect the E^2 -field uncertainty inside TS (see below ConvF).
- $NORM(f)x,y,z = NORMx,y,z * frequency_response$ (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- $DCPx,y,z$: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR : PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- $Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z$: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters*: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TS corresponds to $NORMx,y,z * ConvF$ whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the $NORMx$ (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3698

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 ms. V^{-2}	T2 ms. V^{-1}	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	35.2	265.12	36.15	13.79	1.03	5.05	0.00	0.56	1.01
Y	34.5	250.90	33.97	12.38	0.67	5.04	1.57	0.18	1.01
Z	33.4	252.11	36.27	12.92	1.06	5.05	0.28	0.52	1.01

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	45.7
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3698

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	9.82	9.82	9.82	0.16	1.30	± 13.3 %
750	41.9	0.89	9.03	9.03	9.03	0.46	0.80	± 12.0 %
835	41.5	0.90	8.91	8.91	8.91	0.44	0.80	± 12.0 %
900	41.5	0.97	8.67	8.67	8.67	0.41	0.80	± 12.0 %
1450	40.5	1.20	8.25	8.25	8.25	0.50	0.80	± 12.0 %
1640	40.2	1.31	8.02	8.02	8.02	0.32	0.86	± 12.0 %
1750	40.1	1.37	7.92	7.92	7.92	0.38	0.86	± 12.0 %
1950	40.0	1.40	7.59	7.59	7.59	0.26	0.86	± 12.0 %
2300	39.5	1.67	7.33	7.33	7.33	0.33	0.90	± 12.0 %
2450	39.2	1.80	7.06	7.06	7.06	0.32	0.90	± 12.0 %
2600	39.0	1.96	6.96	6.96	6.96	0.40	0.90	± 12.0 %
3500	37.9	2.91	6.38	6.38	6.38	0.35	1.30	± 13.1 %
3700	37.7	3.12	6.22	6.22	6.22	0.35	1.30	± 13.1 %
5250	35.9	4.71	4.73	4.73	4.73	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.43	4.43	4.43	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.60	4.60	4.60	0.40	1.80	± 13.1 %

^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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. 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: EX3DV4 - SN:3698

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)
2450	52.7	1.95	7.14	7.14	7.14	0.34	0.80	± 12.0 %
5250	48.9	5.36	4.18	4.18	4.18	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.78	3.78	3.78	0.50	1.90	± 13.1 %
5800	48.2	6.00	3.91	3.91	3.91	0.50	1.90	± 13.1 %

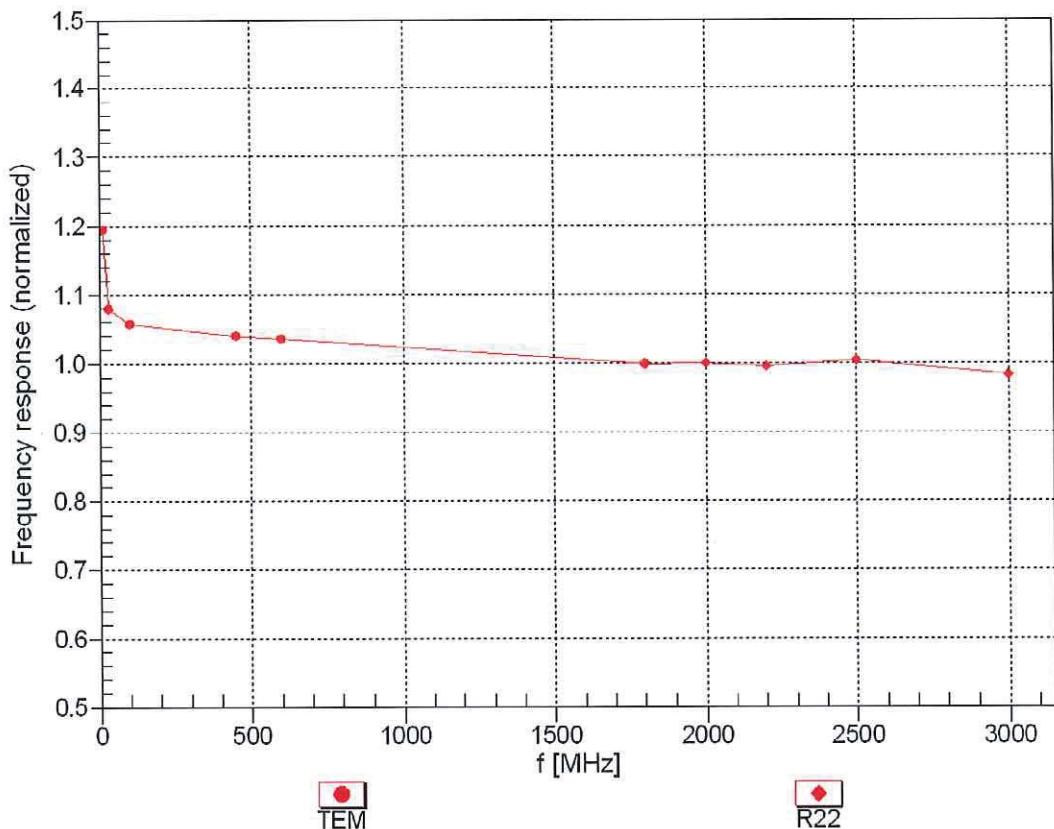
^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. 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.

Frequency Response of E-Field

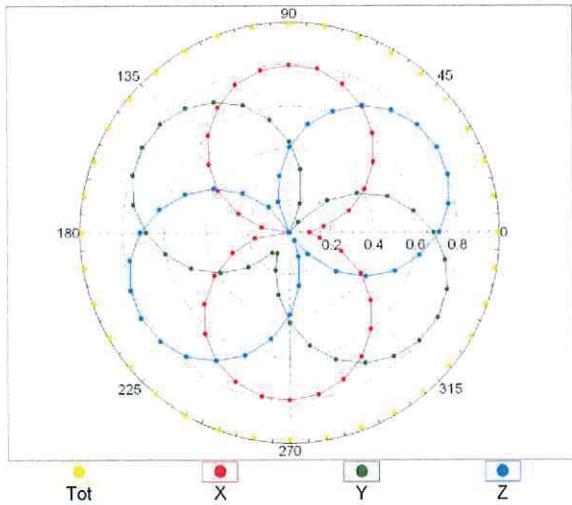
(TEM-Cell:ifi110 EXX, Waveguide: R22)



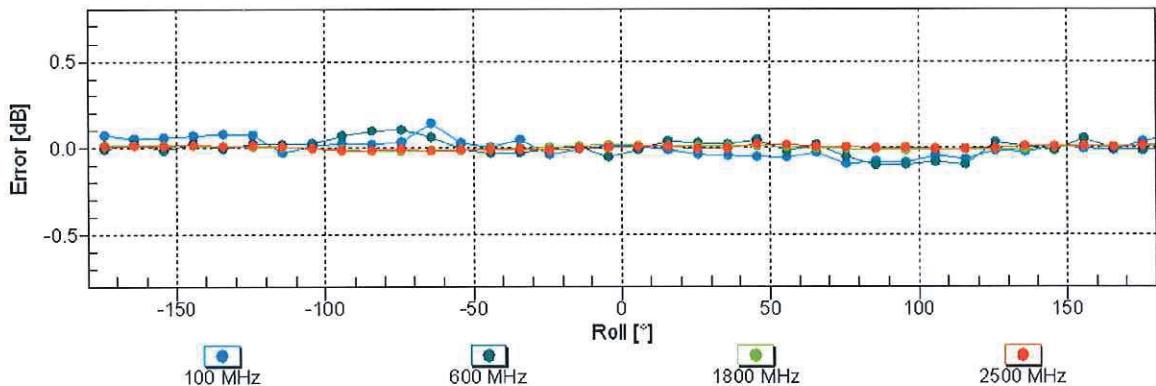
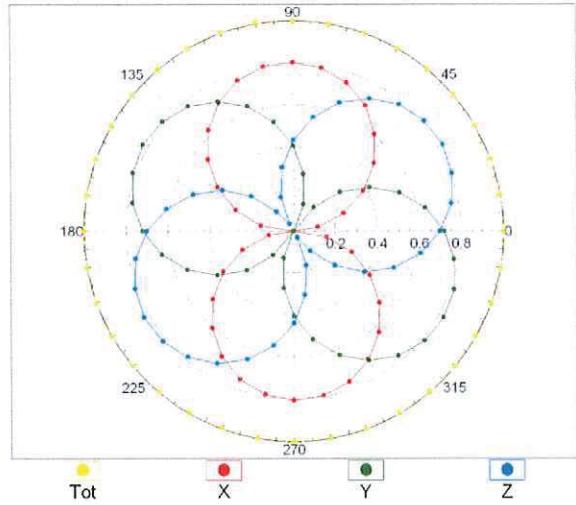
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$

$f=600 \text{ MHz, TEM}$

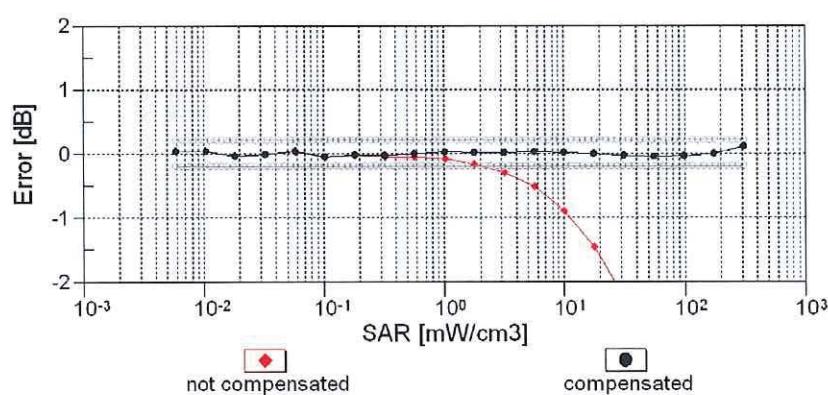
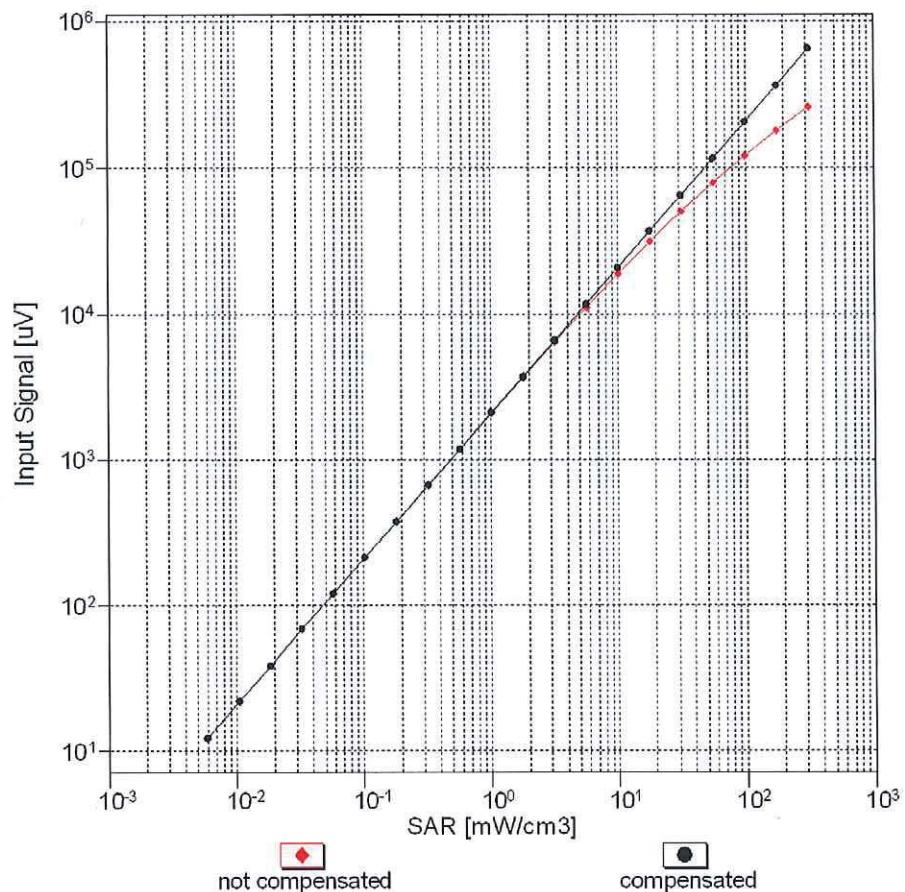


$f=1800 \text{ MHz, R22}$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

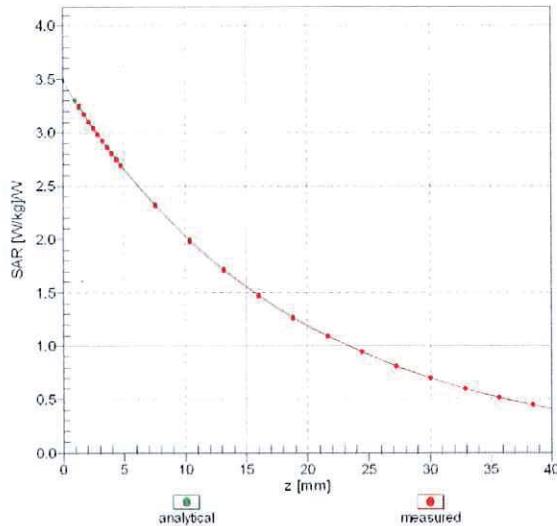
Dynamic Range f(SAR_{head}) (TEM cell , f_{eval}= 1900 MHz)



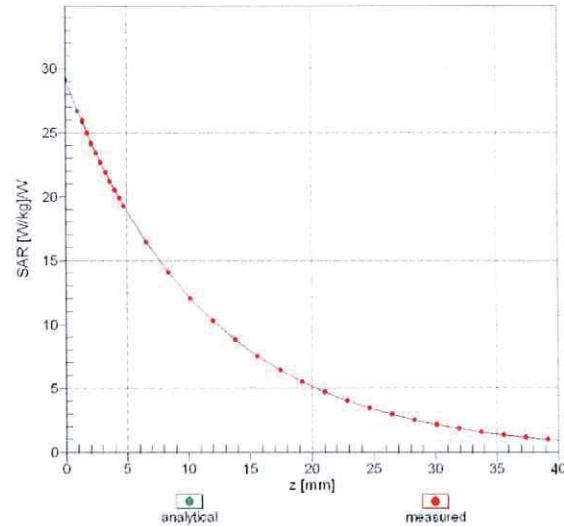
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

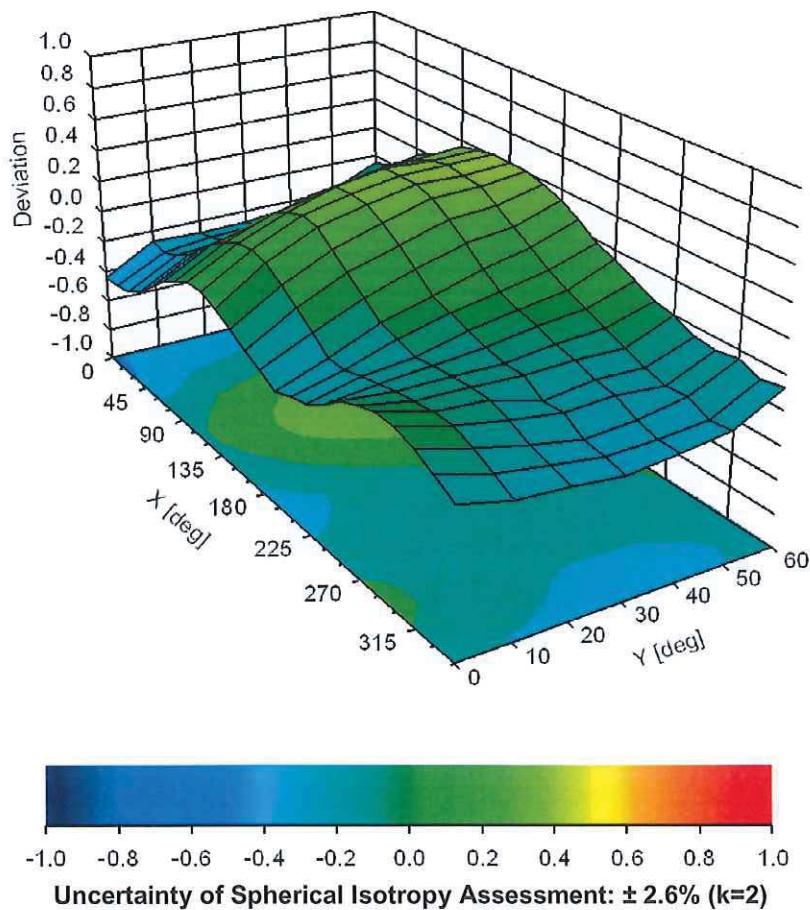
$f = 835 \text{ MHz}, \text{WGLS R9 (H_convF)}$



$f = 1950 \text{ MHz}, \text{WGLS R22 (H_convF)}$



Deviation from Isotropy in Liquid Error (ϕ, θ), $f = 900 \text{ MHz}$



Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^F (k=2)
0		CW	CW	0.00	$\pm 4.7\%$
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	$\pm 9.6\%$
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	$\pm 9.6\%$
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	$\pm 9.6\%$
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	$\pm 9.6\%$
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	$\pm 9.6\%$
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	$\pm 9.6\%$
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	$\pm 9.6\%$
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	$\pm 9.6\%$
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	$\pm 9.6\%$
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	$\pm 9.6\%$
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	$\pm 9.6\%$
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	$\pm 9.6\%$
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	$\pm 9.6\%$
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	$\pm 9.6\%$
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	$\pm 9.6\%$
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	$\pm 9.6\%$
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	$\pm 9.6\%$
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	$\pm 9.6\%$
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	$\pm 9.6\%$
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	$\pm 9.6\%$
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	$\pm 9.6\%$
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	$\pm 9.6\%$
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	$\pm 9.6\%$
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	$\pm 9.6\%$
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	$\pm 9.6\%$
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	$\pm 9.6\%$
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	$\pm 9.6\%$
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	$\pm 9.6\%$
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	$\pm 9.6\%$
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	$\pm 9.6\%$
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	$\pm 9.6\%$
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	$\pm 9.6\%$
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	$\pm 9.6\%$
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	$\pm 9.6\%$
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	$\pm 9.6\%$
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	$\pm 9.6\%$
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	$\pm 9.6\%$
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	$\pm 9.6\%$
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	$\pm 9.6\%$
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	$\pm 9.6\%$
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	$\pm 9.6\%$
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	$\pm 9.6\%$
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	$\pm 9.6\%$
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	$\pm 9.6\%$
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	$\pm 9.6\%$
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	$\pm 9.6\%$
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	$\pm 9.6\%$
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	$\pm 9.6\%$
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	$\pm 9.6\%$
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	$\pm 9.6\%$
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	$\pm 9.6\%$
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	$\pm 9.6\%$
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	$\pm 9.6\%$
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	$\pm 9.6\%$
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	$\pm 9.6\%$
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	$\pm 9.6\%$
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	$\pm 9.6\%$
10105	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	$\pm 9.6\%$
10108	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	$\pm 9.6\%$

10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %

10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	$\pm 9.6\%$
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	$\pm 9.6\%$
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	$\pm 9.6\%$
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	$\pm 9.6\%$
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	$\pm 9.6\%$
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	$\pm 9.6\%$
10226	CAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	$\pm 9.6\%$
10227	CAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	$\pm 9.6\%$
10228	CAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	$\pm 9.6\%$
10229	CAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	$\pm 9.6\%$
10230	CAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	$\pm 9.6\%$
10231	CAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	$\pm 9.6\%$
10232	CAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	$\pm 9.6\%$
10233	CAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	$\pm 9.6\%$
10234	CAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	$\pm 9.6\%$
10235	CAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	$\pm 9.6\%$
10236	CAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	$\pm 9.6\%$
10237	CAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	$\pm 9.6\%$
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	$\pm 9.6\%$
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	$\pm 9.6\%$
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	$\pm 9.6\%$
10241	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	$\pm 9.6\%$
10242	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	$\pm 9.6\%$
10243	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	$\pm 9.6\%$
10244	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	$\pm 9.6\%$
10245	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	$\pm 9.6\%$
10246	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	$\pm 9.6\%$
10247	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	$\pm 9.6\%$
10248	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	$\pm 9.6\%$
10249	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	$\pm 9.6\%$
10250	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	$\pm 9.6\%$
10251	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	$\pm 9.6\%$
10252	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	$\pm 9.6\%$
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	$\pm 9.6\%$
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	$\pm 9.6\%$
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	$\pm 9.6\%$
10256	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	$\pm 9.6\%$
10257	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	$\pm 9.6\%$
10258	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	$\pm 9.6\%$
10259	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	$\pm 9.6\%$
10260	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	$\pm 9.6\%$
10261	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	$\pm 9.6\%$
10262	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	$\pm 9.6\%$
10263	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	$\pm 9.6\%$
10264	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	$\pm 9.6\%$
10265	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	$\pm 9.6\%$
10266	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	$\pm 9.6\%$
10267	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	$\pm 9.6\%$
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	$\pm 9.6\%$
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	$\pm 9.6\%$
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	$\pm 9.6\%$
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	$\pm 9.6\%$
10275	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	$\pm 9.6\%$
10277	CAA	PHS (QPSK)	PHS	11.81	$\pm 9.6\%$
10278	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	$\pm 9.6\%$
10279	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	$\pm 9.6\%$
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	$\pm 9.6\%$
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	$\pm 9.6\%$
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	$\pm 9.6\%$
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	$\pm 9.6\%$
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	$\pm 9.6\%$
10297	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	$\pm 9.6\%$
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	$\pm 9.6\%$
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	$\pm 9.6\%$

10300	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	$\pm 9.6 \%$
10301	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	$\pm 9.6 \%$
10302	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	WiMAX	12.57	$\pm 9.6 \%$
10303	AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	$\pm 9.6 \%$
10304	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	$\pm 9.6 \%$
10305	AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	WiMAX	15.24	$\pm 9.6 \%$
10306	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	$\pm 9.6 \%$
10307	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	WiMAX	14.49	$\pm 9.6 \%$
10308	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	$\pm 9.6 \%$
10309	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	WiMAX	14.58	$\pm 9.6 \%$
10310	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	WiMAX	14.57	$\pm 9.6 \%$
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	$\pm 9.6 \%$
10313	AAA	iDEN 1:3	iDEN	10.51	$\pm 9.6 \%$
10314	AAA	iDEN 1:6	iDEN	13.48	$\pm 9.6 \%$
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	$\pm 9.6 \%$
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	$\pm 9.6 \%$
10317	AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	$\pm 9.6 \%$
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	$\pm 9.6 \%$
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	$\pm 9.6 \%$
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	$\pm 9.6 \%$
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	$\pm 9.6 \%$
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	$\pm 9.6 \%$
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	$\pm 9.6 \%$
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	$\pm 9.6 \%$
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	$\pm 9.6 \%$
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	$\pm 9.6 \%$
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	$\pm 9.6 \%$
10401	AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	$\pm 9.6 \%$
10402	AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	$\pm 9.6 \%$
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	$\pm 9.6 \%$
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	$\pm 9.6 \%$
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	$\pm 9.6 \%$
10410	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	$\pm 9.6 \%$
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	$\pm 9.6 \%$
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	$\pm 9.6 \%$
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	$\pm 9.6 \%$
10417	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	$\pm 9.6 \%$
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)	WLAN	8.14	$\pm 9.6 \%$
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)	WLAN	8.19	$\pm 9.6 \%$
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	$\pm 9.6 \%$
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	$\pm 9.6 \%$
10424	AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	$\pm 9.6 \%$
10425	AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	$\pm 9.6 \%$
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	$\pm 9.6 \%$
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	$\pm 9.6 \%$
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	$\pm 9.6 \%$
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	$\pm 9.6 \%$
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	$\pm 9.6 \%$
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	$\pm 9.6 \%$
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	$\pm 9.6 \%$
10435	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	$\pm 9.6 \%$
10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	$\pm 9.6 \%$
10448	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	$\pm 9.6 \%$
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	$\pm 9.6 \%$
10450	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	$\pm 9.6 \%$

10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	$\pm 9.6\%$
10456	AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	$\pm 9.6\%$
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	$\pm 9.6\%$
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	$\pm 9.6\%$
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	$\pm 9.6\%$
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	$\pm 9.6\%$
10461	AAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	$\pm 9.6\%$
10462	AAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	$\pm 9.6\%$
10463	AAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	$\pm 9.6\%$
10464	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	$\pm 9.6\%$
10465	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	$\pm 9.6\%$
10466	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	$\pm 9.6\%$
10467	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	$\pm 9.6\%$
10468	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	$\pm 9.6\%$
10469	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	$\pm 9.6\%$
10470	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	$\pm 9.6\%$
10471	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	$\pm 9.6\%$
10472	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	$\pm 9.6\%$
10473	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	$\pm 9.6\%$
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	$\pm 9.6\%$
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	$\pm 9.6\%$
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	$\pm 9.6\%$
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	$\pm 9.6\%$
10479	AAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	$\pm 9.6\%$
10480	AAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	$\pm 9.6\%$
10481	AAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	$\pm 9.6\%$
10482	AAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	$\pm 9.6\%$
10483	AAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	$\pm 9.6\%$
10484	AAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	$\pm 9.6\%$
10485	AAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	$\pm 9.6\%$
10486	AAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	$\pm 9.6\%$
10487	AAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	$\pm 9.6\%$
10488	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.70	$\pm 9.6\%$
10489	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	$\pm 9.6\%$
10490	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	$\pm 9.6\%$
10491	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	$\pm 9.6\%$

10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	$\pm 9.6 \%$
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	$\pm 9.6 \%$
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	$\pm 9.6 \%$
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	$\pm 9.6 \%$
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	$\pm 9.6 \%$
10497	AAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	$\pm 9.6 \%$
10498	AAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	$\pm 9.6 \%$
10499	AAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	$\pm 9.6 \%$
10500	AAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	$\pm 9.6 \%$
10501	AAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	$\pm 9.6 \%$
10502	AAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	$\pm 9.6 \%$
10503	AAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	$\pm 9.6 \%$
10504	AAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	$\pm 9.6 \%$
10505	AAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	$\pm 9.6 \%$
10506	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	$\pm 9.6 \%$
10507	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	$\pm 9.6 \%$
10508	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	$\pm 9.6 \%$
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	$\pm 9.6 \%$
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	$\pm 9.6 \%$
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	$\pm 9.6 \%$
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	$\pm 9.6 \%$
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	$\pm 9.6 \%$
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	$\pm 9.6 \%$
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	$\pm 9.6 \%$
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	$\pm 9.6 \%$
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	$\pm 9.6 \%$
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	$\pm 9.6 \%$
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	$\pm 9.6 \%$
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	$\pm 9.6 \%$
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	$\pm 9.6 \%$
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	$\pm 9.6 \%$
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	$\pm 9.6 \%$
10524	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	$\pm 9.6 \%$
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	$\pm 9.6 \%$
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	$\pm 9.6 \%$
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	$\pm 9.6 \%$
10528	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	$\pm 9.6 \%$
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	$\pm 9.6 \%$
10531	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	$\pm 9.6 \%$
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	$\pm 9.6 \%$
10533	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	WLAN	8.38	$\pm 9.6 \%$
10534	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	WLAN	8.45	$\pm 9.6 \%$

10728	AAA	IEEE 802.11ax (80MHz, MCS9, 90pc duty cycle)	WLAN	8.65	$\pm 9.6\%$
10729	AAA	IEEE 802.11ax (80MHz, MCS10, 90pc duty cycle)	WLAN	8.64	$\pm 9.6\%$
10730	AAA	IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)	WLAN	8.67	$\pm 9.6\%$
10731	AAA	IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)	WLAN	8.42	$\pm 9.6\%$
10732	AAA	IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)	WLAN	8.46	$\pm 9.6\%$
10733	AAA	IEEE 802.11ax (80MHz, MCS2, 99pc duty cycle)	WLAN	8.40	$\pm 9.6\%$
10734	AAA	IEEE 802.11ax (80MHz, MCS3, 99pc duty cycle)	WLAN	8.25	$\pm 9.6\%$
10735	AAA	IEEE 802.11ax (80MHz, MCS4, 99pc duty cycle)	WLAN	8.33	$\pm 9.6\%$
10736	AAA	IEEE 802.11ax (80MHz, MCS5, 99pc duty cycle)	WLAN	8.27	$\pm 9.6\%$
10737	AAA	IEEE 802.11ax (80MHz, MCS6, 99pc duty cycle)	WLAN	8.36	$\pm 9.6\%$
10738	AAA	IEEE 802.11ax (80MHz, MCS7, 99pc duty cycle)	WLAN	8.42	$\pm 9.6\%$
10739	AAA	IEEE 802.11ax (80MHz, MCS8, 99pc duty cycle)	WLAN	8.29	$\pm 9.6\%$
10740	AAA	IEEE 802.11ax (80MHz, MCS9, 99pc duty cycle)	WLAN	8.48	$\pm 9.6\%$
10741	AAA	IEEE 802.11ax (80MHz, MCS10, 99pc duty cycle)	WLAN	8.40	$\pm 9.6\%$
10742	AAA	IEEE 802.11ax (80MHz, MCS11, 99pc duty cycle)	WLAN	8.43	$\pm 9.6\%$
10743	AAA	IEEE 802.11ax (160MHz, MCS0, 90pc duty cycle)	WLAN	8.94	$\pm 9.6\%$
10744	AAA	IEEE 802.11ax (160MHz, MCS1, 90pc duty cycle)	WLAN	9.16	$\pm 9.6\%$
10745	AAA	IEEE 802.11ax (160MHz, MCS2, 90pc duty cycle)	WLAN	8.93	$\pm 9.6\%$
10746	AAA	IEEE 802.11ax (160MHz, MCS3, 90pc duty cycle)	WLAN	9.11	$\pm 9.6\%$
10747	AAA	IEEE 802.11ax (160MHz, MCS4, 90pc duty cycle)	WLAN	9.04	$\pm 9.6\%$
10748	AAA	IEEE 802.11ax (160MHz, MCS5, 90pc duty cycle)	WLAN	8.93	$\pm 9.6\%$
10749	AAA	IEEE 802.11ax (160MHz, MCS6, 90pc duty cycle)	WLAN	8.90	$\pm 9.6\%$
10750	AAA	IEEE 802.11ax (160MHz, MCS7, 90pc duty cycle)	WLAN	8.79	$\pm 9.6\%$
10751	AAA	IEEE 802.11ax (160MHz, MCS8, 90pc duty cycle)	WLAN	8.82	$\pm 9.6\%$
10752	AAA	IEEE 802.11ax (160MHz, MCS9, 90pc duty cycle)	WLAN	8.81	$\pm 9.6\%$
10753	AAA	IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle)	WLAN	9.00	$\pm 9.6\%$
10754	AAA	IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle)	WLAN	8.94	$\pm 9.6\%$
10755	AAA	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)	WLAN	8.64	$\pm 9.6\%$
10756	AAA	IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)	WLAN	8.77	$\pm 9.6\%$
10757	AAA	IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)	WLAN	8.77	$\pm 9.6\%$
10758	AAA	IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)	WLAN	8.69	$\pm 9.6\%$
10759	AAA	IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)	WLAN	8.58	$\pm 9.6\%$
10760	AAA	IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)	WLAN	8.49	$\pm 9.6\%$
10761	AAA	IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)	WLAN	8.58	$\pm 9.6\%$
10762	AAA	IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)	WLAN	8.49	$\pm 9.6\%$
10763	AAA	IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)	WLAN	8.53	$\pm 9.6\%$
10764	AAA	IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)	WLAN	8.54	$\pm 9.6\%$
10765	AAA	IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle)	WLAN	8.54	$\pm 9.6\%$
10766	AAA	IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle)	WLAN	8.51	$\pm 9.6\%$
10767	AAA	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	$\pm 9.6\%$
10768	AAA	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	$\pm 9.6\%$
10769	AAA	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	$\pm 9.6\%$
10770	AAA	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	$\pm 9.6\%$
10771	AAA	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	$\pm 9.6\%$
10772	AAA	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	$\pm 9.6\%$
10773	AAA	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	$\pm 9.6\%$
10774	AAA	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	$\pm 9.6\%$
10776	AAA	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	$\pm 9.6\%$
10778	AAA	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6\%$
10780	AAA	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	$\pm 9.6\%$
10781	AAA	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	$\pm 9.6\%$
10782	AAA	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	$\pm 9.6\%$

10783	AAA	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	$\pm 9.6 \%$
10784	AAA	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	$\pm 9.6 \%$
10785	AAA	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	$\pm 9.6 \%$
10786	AAA	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	$\pm 9.6 \%$
10787	AAA	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	$\pm 9.6 \%$
10788	AAA	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	$\pm 9.6 \%$
10789	AAA	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	$\pm 9.6 \%$
10790	AAA	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	$\pm 9.6 \%$
10791	AAA	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	$\pm 9.6 \%$
10792	AAA	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	$\pm 9.6 \%$
10793	AAA	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	$\pm 9.6 \%$
10794	AAA	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	$\pm 9.6 \%$
10795	AAA	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	$\pm 9.6 \%$
10796	AAA	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	$\pm 9.6 \%$
10797	AAA	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	$\pm 9.6 \%$
10798	AAA	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	$\pm 9.6 \%$
10799	AAA	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	$\pm 9.6 \%$
10801	AAA	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	$\pm 9.6 \%$
10802	AAA	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	$\pm 9.6 \%$
10803	AAA	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	$\pm 9.6 \%$
10805	AAA	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6 \%$
10806	AAA	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	$\pm 9.6 \%$
10809	AAA	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6 \%$
10810	AAA	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6 \%$
10812	AAA	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	$\pm 9.6 \%$
10817	AAA	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	$\pm 9.6 \%$
10818	AAA	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6 \%$
10819	AAA	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	$\pm 9.6 \%$
10820	AAA	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	$\pm 9.6 \%$
10821	AAA	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	$\pm 9.6 \%$
10822	AAA	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	$\pm 9.6 \%$
10823	AAA	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	$\pm 9.6 \%$
10824	AAA	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	$\pm 9.6 \%$

10825	AAA	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	$\pm 9.6 \%$
10827	AAA	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	$\pm 9.6 \%$
10828	AAA	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	$\pm 9.6 \%$
10829	AAA	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	$\pm 9.6 \%$
10830	AAA	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.63	$\pm 9.6 \%$
10831	AAA	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.73	$\pm 9.6 \%$
10832	AAA	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.74	$\pm 9.6 \%$
10833	AAA	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	$\pm 9.6 \%$
10834	AAA	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.75	$\pm 9.6 \%$
10835	AAA	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	$\pm 9.6 \%$
10836	AAA	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.66	$\pm 9.6 \%$
10837	AAA	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.68	$\pm 9.6 \%$
10839	AAA	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	$\pm 9.6 \%$
10840	AAA	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.67	$\pm 9.6 \%$
10841	AAA	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.71	$\pm 9.6 \%$
10843	AAA	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.49	$\pm 9.6 \%$
10844	AAA	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6 \%$
10846	AAA	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	$\pm 9.6 \%$
10854	AAA	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6 \%$
10855	AAA	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	$\pm 9.6 \%$
10856	AAA	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	$\pm 9.6 \%$
10857	AAA	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.35	$\pm 9.6 \%$
10858	AAA	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	$\pm 9.6 \%$
10859	AAA	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	$\pm 9.6 \%$
10860	AAA	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	$\pm 9.6 \%$
10861	AAA	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.40	$\pm 9.6 \%$
10863	AAA	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	$\pm 9.6 \%$
10864	AAA	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	$\pm 9.6 \%$
10865	AAA	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	$\pm 9.6 \%$
10866	AAA	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	$\pm 9.6 \%$
10868	AAA	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	$\pm 9.6 \%$
10869	AAA	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	$\pm 9.6 \%$
10870	AAA	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	$\pm 9.6 \%$

10871	AAA	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	$\pm 9.6 \%$
10872	AAA	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	$\pm 9.6 \%$
10873	AAA	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	$\pm 9.6 \%$
10874	AAA	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	$\pm 9.6 \%$
10875	AAA	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	$\pm 9.6 \%$
10876	AAA	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	$\pm 9.6 \%$
10877	AAA	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	$\pm 9.6 \%$
10878	AAA	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	$\pm 9.6 \%$
10879	AAA	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	$\pm 9.6 \%$
10880	AAA	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	$\pm 9.6 \%$
10881	AAA	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	$\pm 9.6 \%$
10882	AAA	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	$\pm 9.6 \%$
10883	AAA	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	$\pm 9.6 \%$
10884	AAA	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	$\pm 9.6 \%$
10885	AAA	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	$\pm 9.6 \%$
10886	AAA	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	$\pm 9.6 \%$
10887	AAA	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	$\pm 9.6 \%$
10888	AAA	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	$\pm 9.6 \%$
10889	AAA	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	$\pm 9.6 \%$
10890	AAA	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	$\pm 9.6 \%$
10891	AAA	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	$\pm 9.6 \%$
10892	AAA	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	$\pm 9.6 \%$

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



Appendix E. Dipole Calibration

	Instrument	Manufacturer	Model No.	Serial No.
	Reference Dipole 450MHz	Speag	D450V3	1108
X	Reference Dipole 750MHz	Speag	D750V3	1031
	Reference Dipole 835Mhz	Speag	ALS-D-835	QTK-315
	Reference Dipole 900MHz	Speag	D900V2	1d176
	Reference Dipole 1450MHz	Speag	D1450V2	1056
	Reference Dipole 1640MHz	Speag	D1640V2	329
X	Reference Dipole 1750MHz	Speag	D1750V2	1113
	Reference Dipole 1800MHz	Speag	D1800V2	2d221
	Reference Dipole 1900MHz	Speag	D1900V2	5d184
X	Reference Dipole 1950MHz	Speag	D1950V3	1213
	Reference Dipole 2300MHz	Speag	D2300V2	1045
X	Reference Dipole 2450MHz	Speag	D2450V2	930
X	Reference Dipole 2600MHz	Speag	ALS-D-2600	QTK-225
X	Reference Dipole 3500MHz	Speag	ALS-D-3500	QTK-228
X	Reference Dipole 3700MHz	Speag	D3700V2	1056
X	Reference Dipole 5GHz	Speag	D5GHzV2	1041

Note: The test dipole antenna marked with "X" are used to measure the final test results.

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**Client **DEKRA (Auden)**Certificate No: **D750V3-1031_May17**

CALIBRATION CERTIFICATE

Object **D750V3 - SN:1031**

Calibration procedure(s) **QA CAL-05.v9**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **May 22, 2017**

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
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02522)	Apr-18
Reference 20 dB Attenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18
Type-N mismatch combination	SN: 5047.2 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
Reference Probe EX3DV4	SN: 7460	19-May-17 (No. EX3-7460_May17)	May-18
DAE4	SN: 601	28-Mar-17 (No. DAE4-601_Mar17)	Mar-18

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17

Calibrated by:	Name	Function	Signature
	Leif Klysner	Laboratory Technician	

Approved by:	Name	Function	Signature
	Katja Pokovic	Technical Manager	

Issued: June 14, 2017

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



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.0 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.10 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.22 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.35 W/kg ± 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.3 ± 6 %	0.96 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.18 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	8.71 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.43 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	5.72 W/kg ± 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.1 Ω - 1.0 $j\Omega$
Return Loss	- 26.2 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.5 Ω - 4.3 $j\Omega$
Return Loss	- 27.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.031 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	May 02, 2011