

Annex A. SAR Plots of System Verification

The plots for system verification are shown as follows.

S01 System Check_H2450_210928

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 835

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0518 Medium parameters used (interpolated): $f = 2450$ MHz; $\sigma = 1.852$ S/m; $\epsilon_r = 38.607$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2450 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.09 W/kg

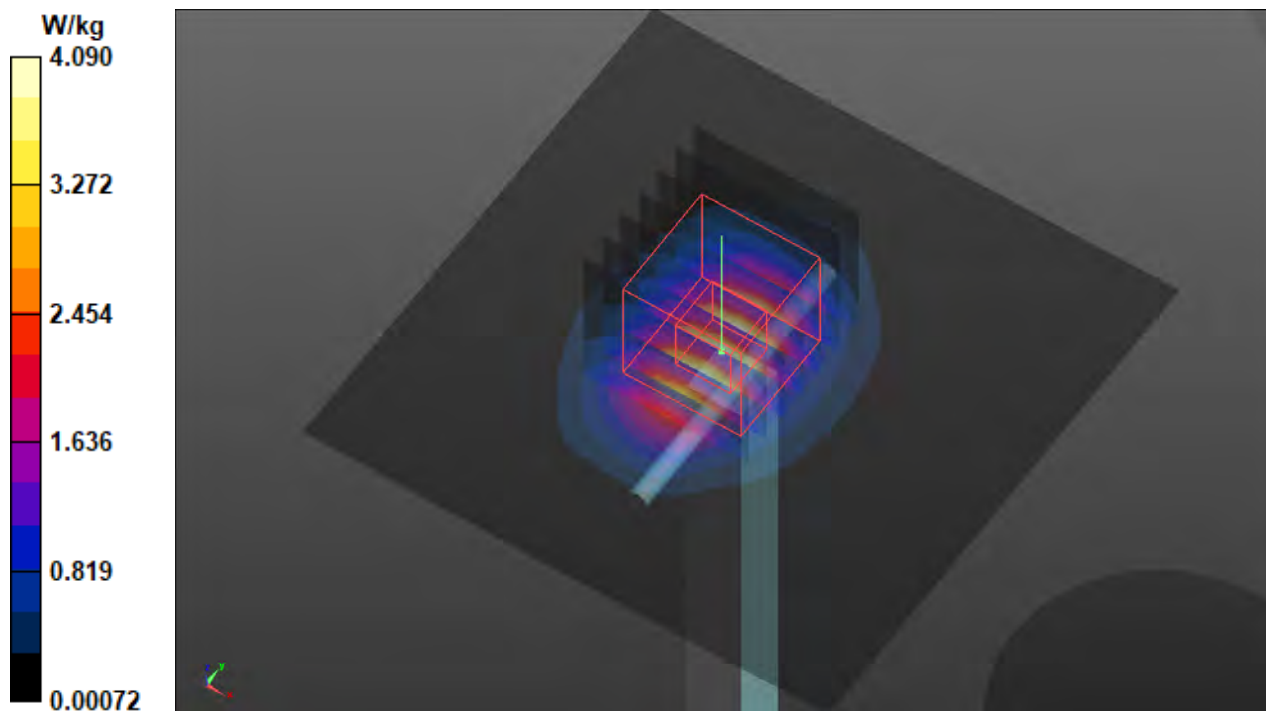
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 45.81 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 5.21 W/kg

SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.15 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.20 W/kg



S02 System Check_H5250_211018

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

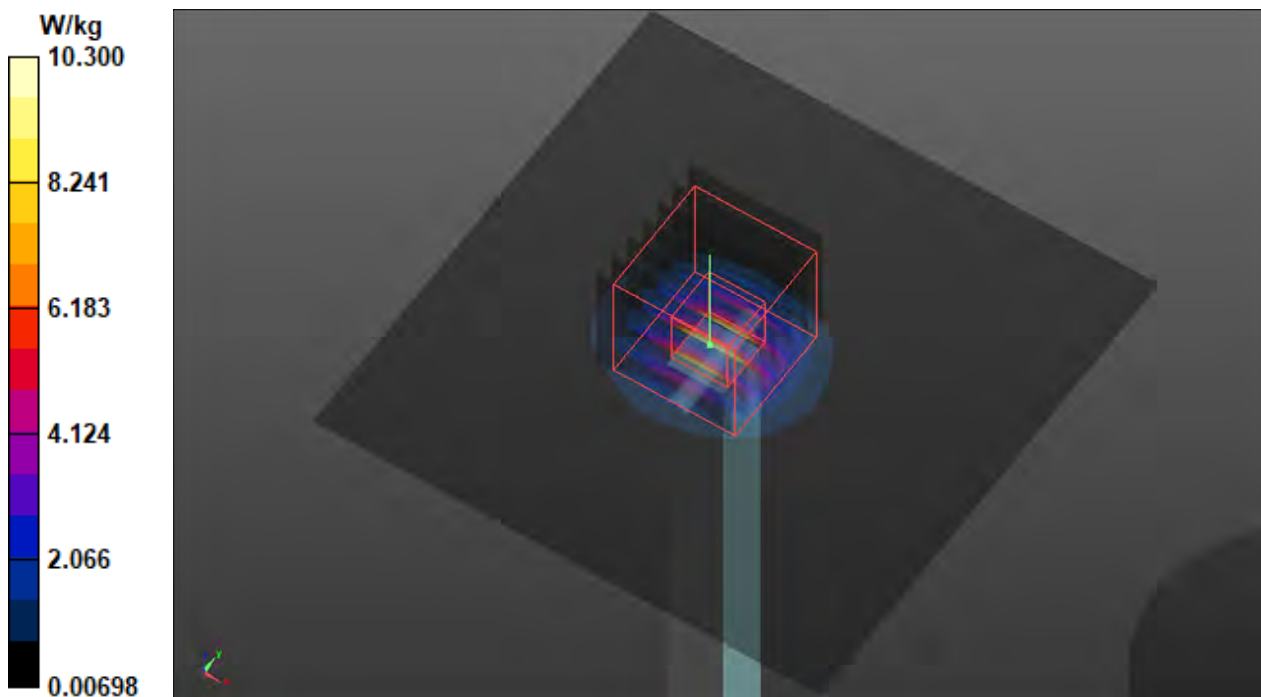
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: H34T60N1_1018 Medium parameters used (interpolated): $f = 5250$ MHz; $\sigma = 4.741$ S/m;
 $\epsilon_r = 36.968$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.29, 5.29, 5.29) @ 5250 MHz; Calibrated: 2021/03/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 10.3 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 47.97 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 16.2 W/kg
SAR(1 g) = 4.38 W/kg; SAR(10 g) = 1.25 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 10.6 W/kg



S03 System Check_H5600_211018

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

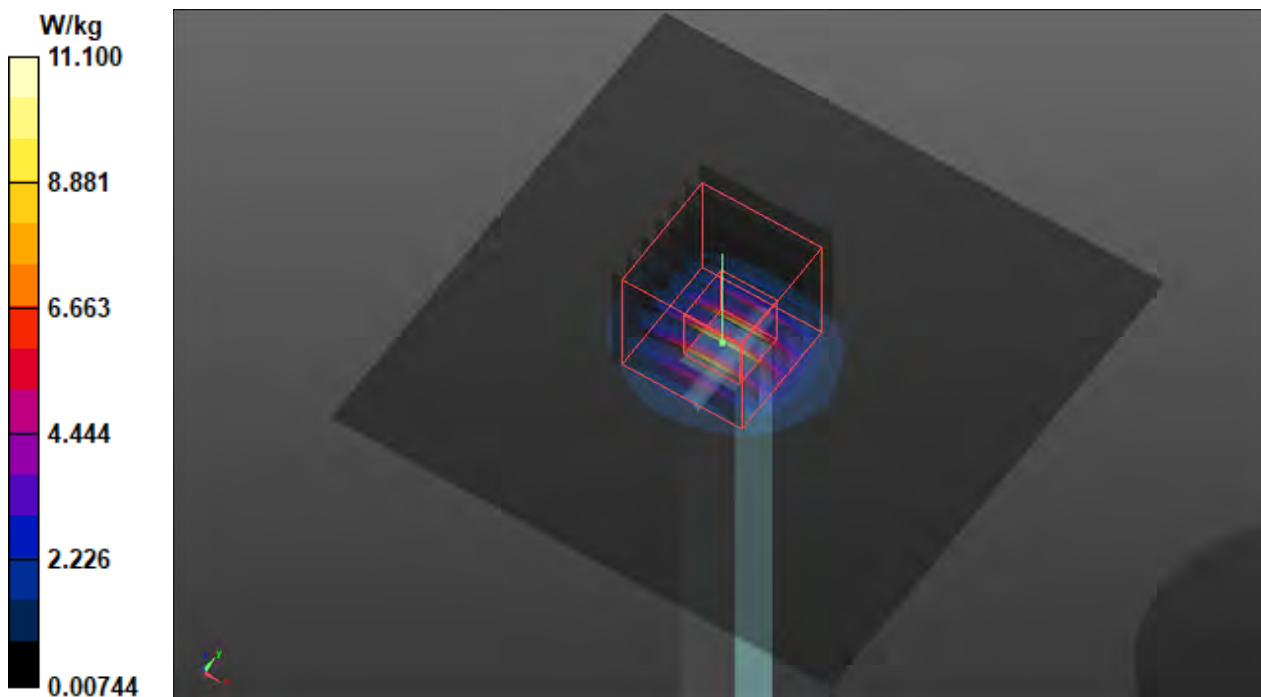
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: H34T60N1_1018 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.096$ S/m; $\epsilon_r = 36.493$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.8, 4.8, 4.8) @ 5600 MHz; Calibrated: 2021/03/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 11.1 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 48.31 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 4.53 W/kg; SAR(10 g) = 1.21 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 11.3 W/kg



S04 System Check_H5750_211018

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

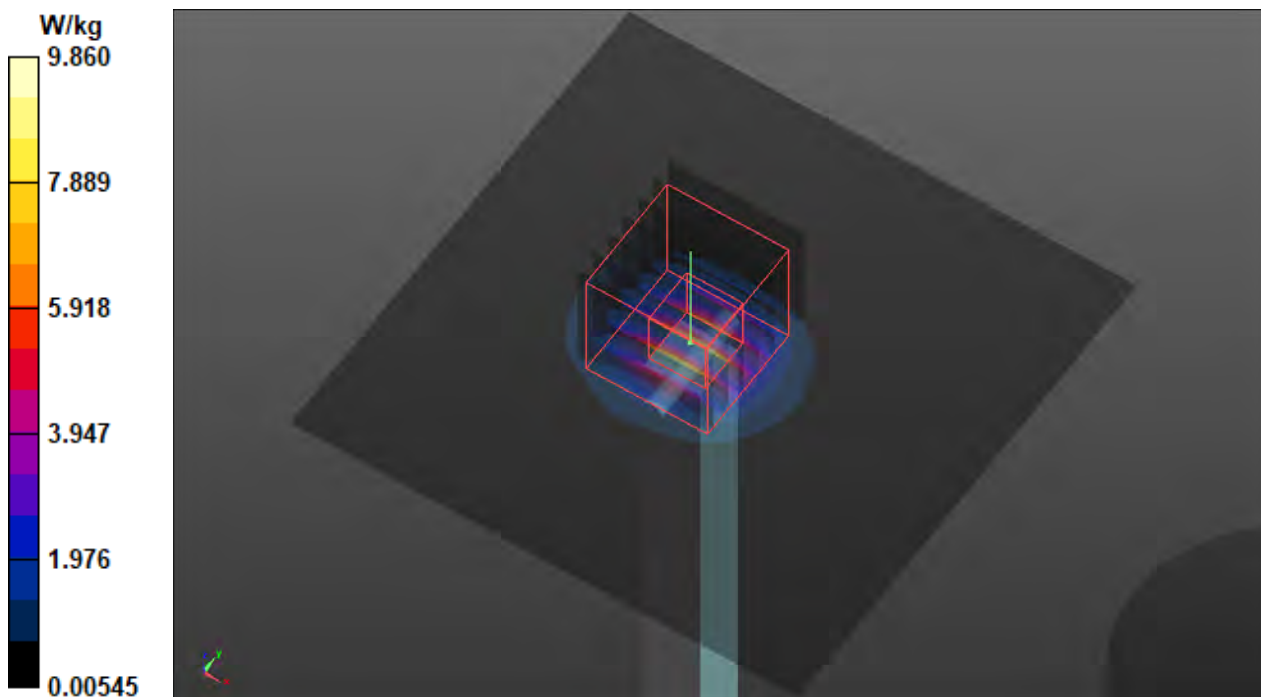
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: H34T60N1_1018 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.256$ S/m; $\epsilon_r = 36.272$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.1, 5.1, 5.1) @ 5750 MHz; Calibrated: 2021/03/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.86 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 44.83 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 16.9 W/kg
SAR(1 g) = 4 W/kg; SAR(10 g) = 1.15 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 10.2 W/kg



S05 System Check_H2450_210929

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 835

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0929 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.805$ S/m; $\epsilon_r = 38.071$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2450 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.60 W/kg

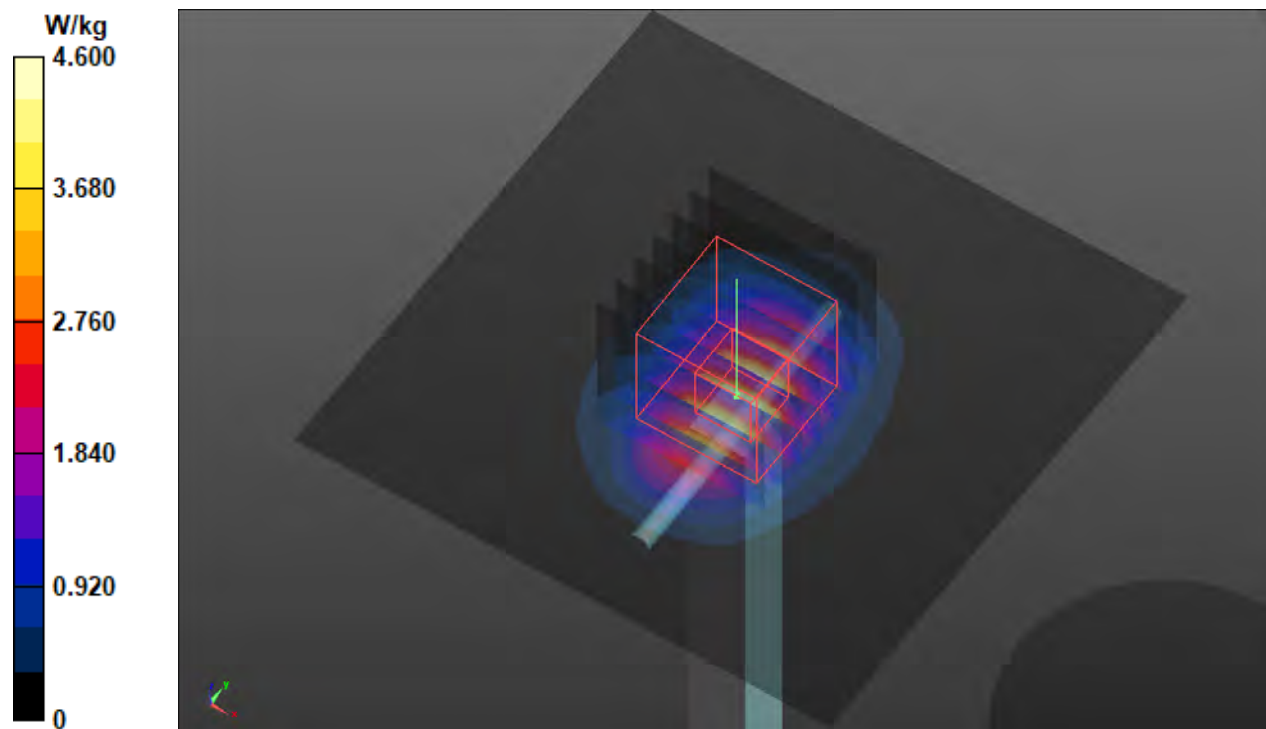
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.49 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 5.80 W/kg

SAR(1 g) = 2.73 W/kg; SAR(10 g) = 1.29 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.66 W/kg



S06 System Check_H2450_210928

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 835

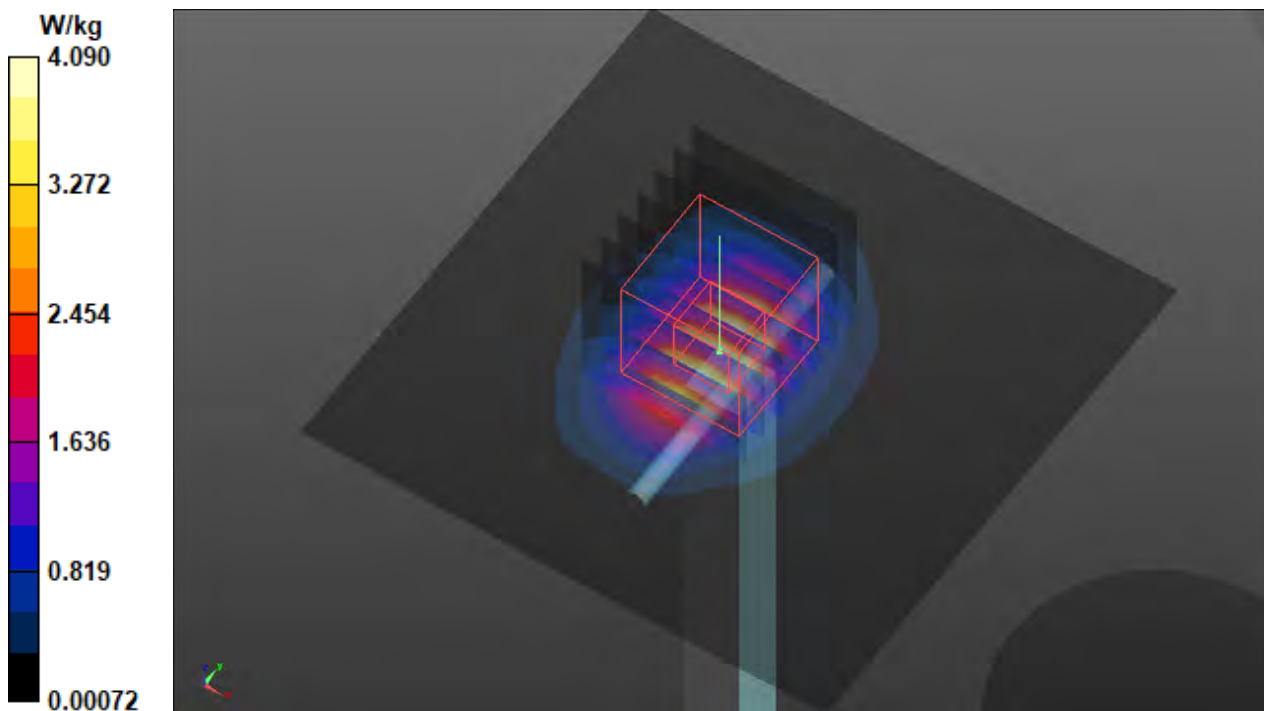
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: H19T27N1_0928 Medium parameters used (interpolated): $f = 2450$ MHz; $\sigma = 1.852$ S/m;
 $\epsilon_r = 38.607$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2450 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.09 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 45.81 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 5.21 W/kg
SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.15 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 4.20 W/kg



S07 System Check_H5250_211018

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: H34T60N1_1018 Medium parameters used (interpolated): $f = 5250$ MHz; $\sigma = 4.741$ S/m; $\epsilon_r = 36.968$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.29, 5.29, 5.29) @ 5250 MHz; Calibrated: 2021/03/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 10.3 W/kg

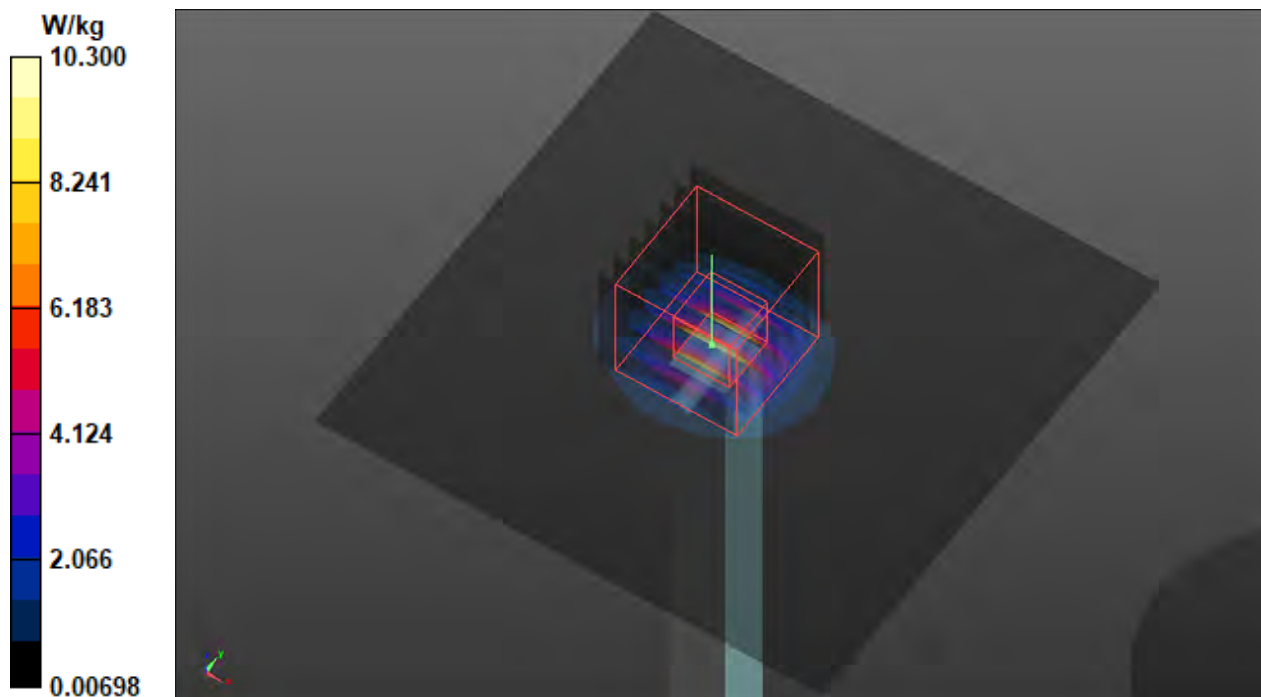
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 47.97 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 16.2 W/kg

SAR(1 g) = 4.38 W/kg; SAR(10 g) = 1.25 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 10.6 W/kg



S08 System Check_H5600_211018

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

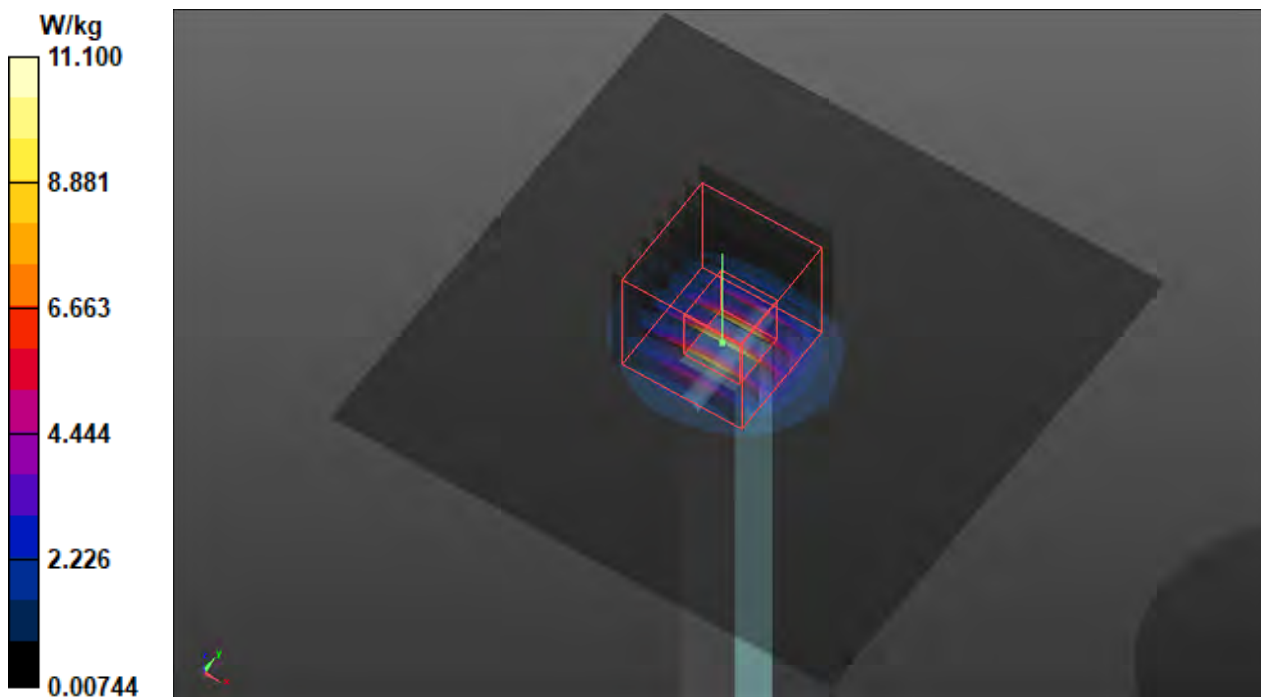
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: H34T60N1_1018 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.096$ S/m; $\epsilon_r = 36.493$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.8, 4.8, 4.8) @ 5600 MHz; Calibrated: 2021/03/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 11.1 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 48.31 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 4.53 W/kg; SAR(10 g) = 1.21 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 11.3 W/kg



S09 System Check_H5750_211018

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: H34T60N1_1018 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.256$ S/m; $\epsilon_r = 36.272$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.1, 5.1, 5.1) @ 5750 MHz; Calibrated: 2021/03/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.86 W/kg

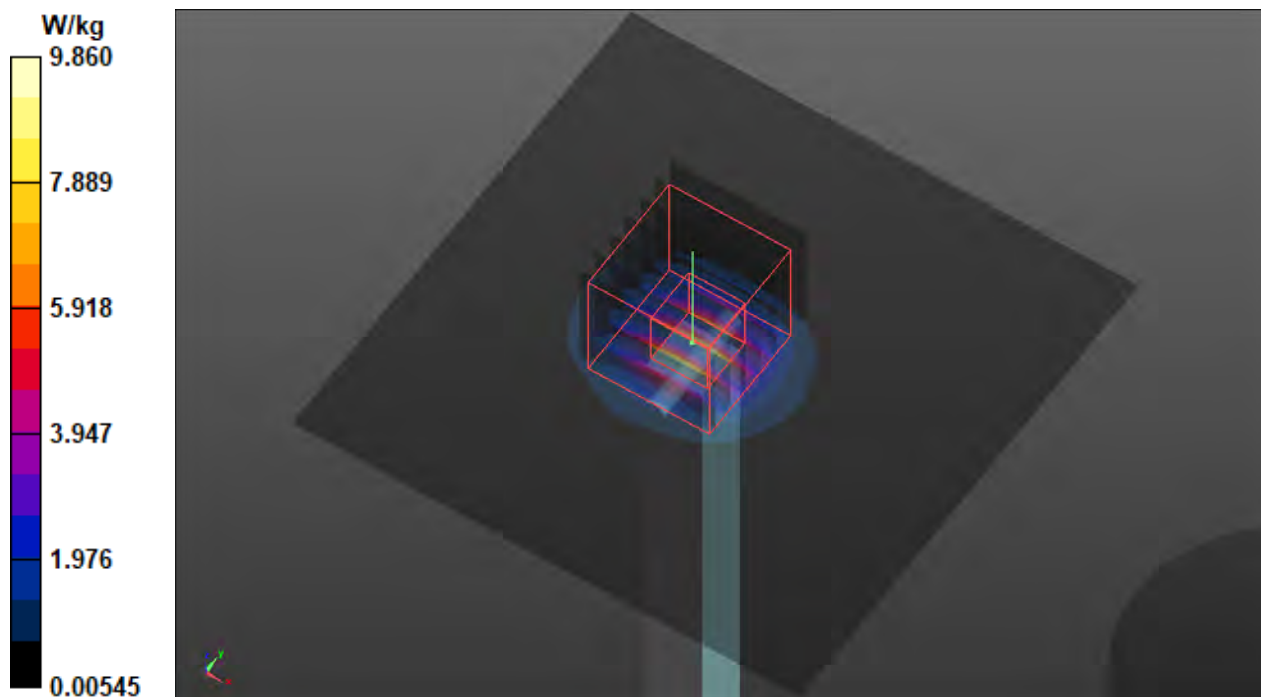
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 44.83 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 4 W/kg; SAR(10 g) = 1.15 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 10.2 W/kg



S10 System Check_H2450_210929

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 835

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0929 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.805$ S/m; $\epsilon_r = 38.071$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2450 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.60 W/kg

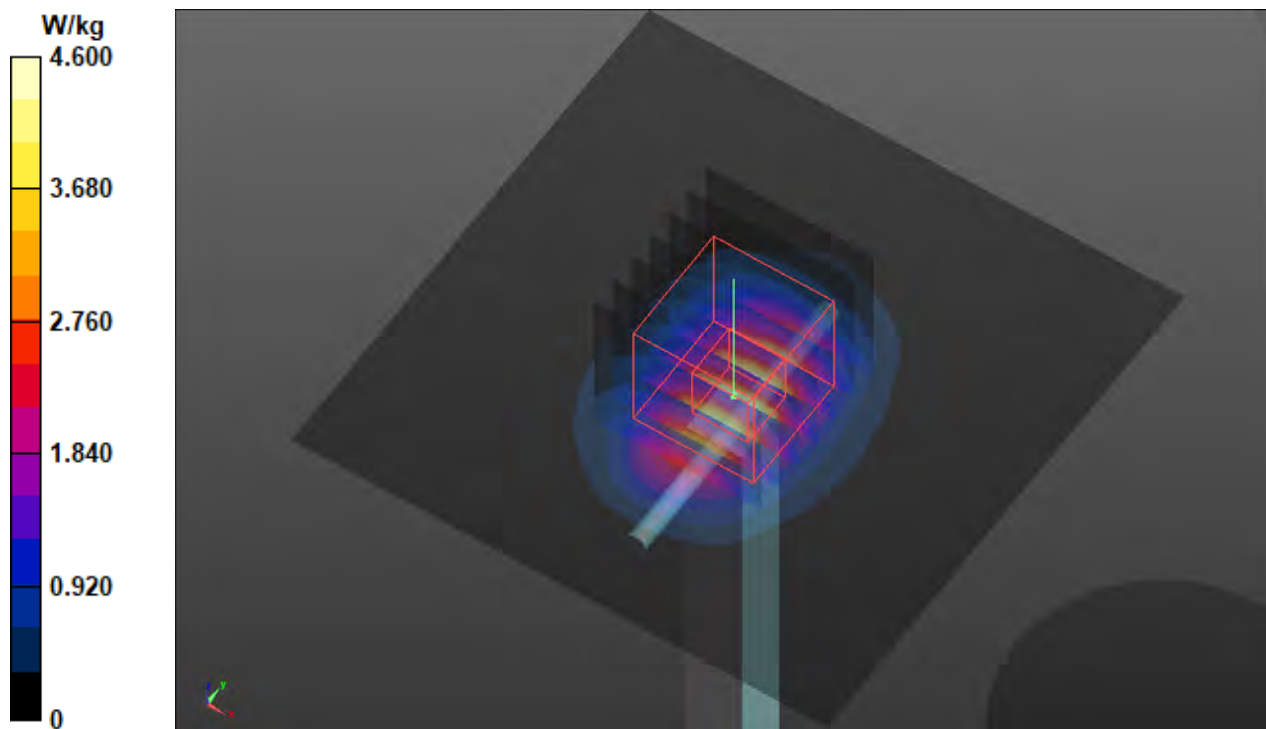
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.49 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 5.80 W/kg

SAR(1 g) = 2.73 W/kg; SAR(10 g) = 1.29 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.66 W/kg



Annex B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination are shown as follows.

P01 WLAN2.4G_802.11b_Front Face_10mm_Ch11_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps);

Frequency: 2462 MHz; Duty Cycle: 1:1.01

Medium: H19T27N1_0928 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.867$ S/m; $\epsilon_r = 38.595$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2462 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x61x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.802 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.51 V/m; Power Drift = -0.02 dB

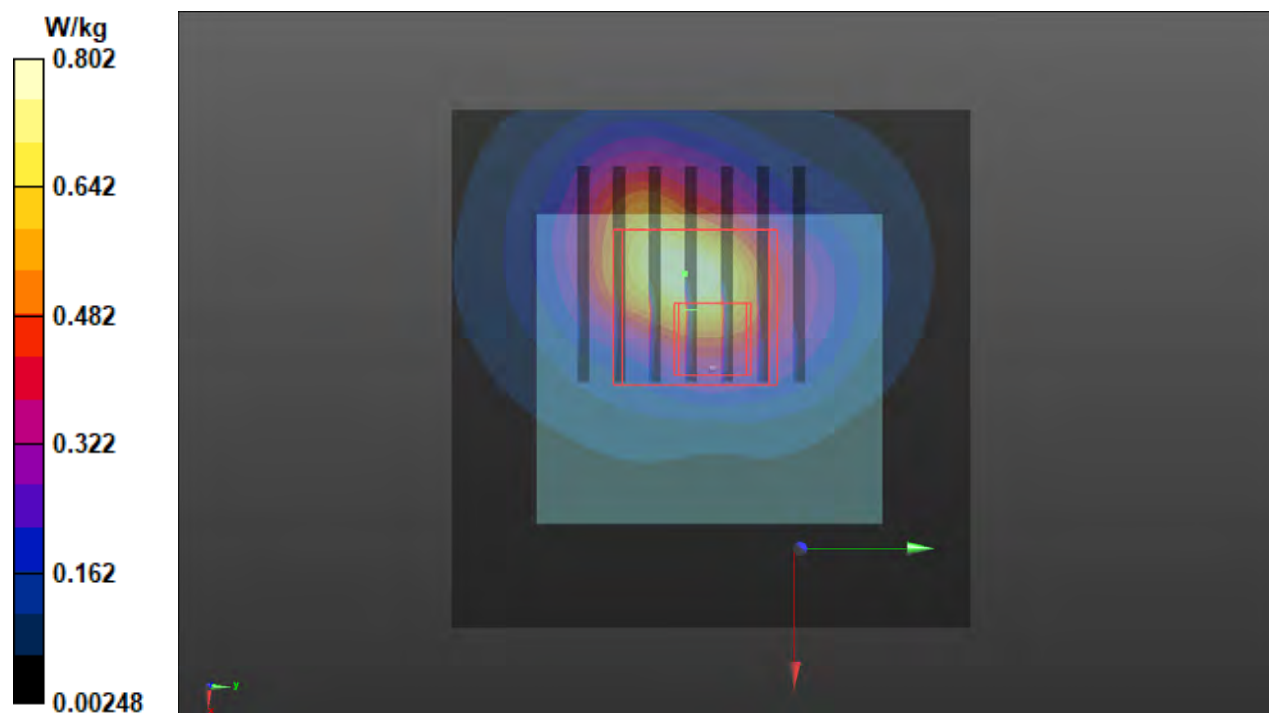
Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.107 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.5 mm

Ratio of SAR at M2 to SAR at M1 = 59.4%

Maximum value of SAR (measured) = 0.650 W/kg



P02 WLAN5.3G_802.11a_Front Face_10mm_Ch56_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10062 - CAD, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps);

Frequency: 5280 MHz; Duty Cycle: 1:1.08

Medium: H34T60N1_1018 Medium parameters used: $f = 5280$ MHz; $\sigma = 4.773$ S/m; $\epsilon_r = 36.937$; $\rho = 1000$ kg/m³

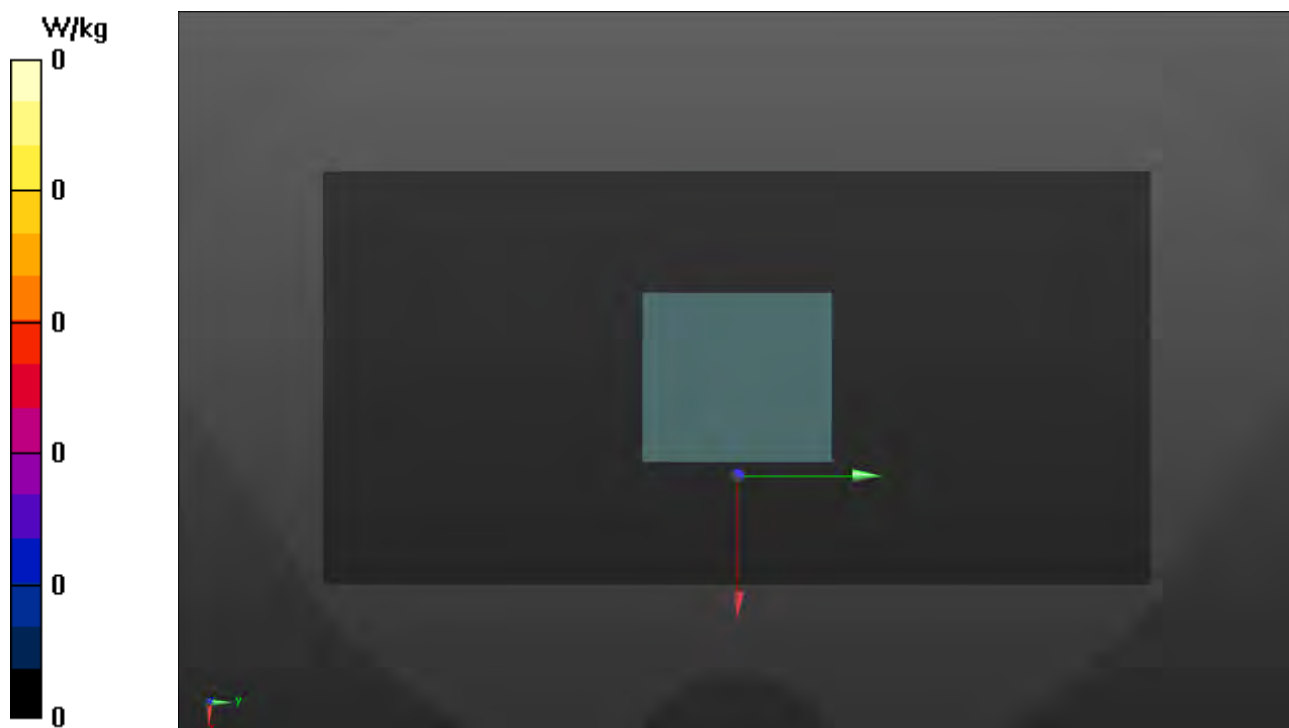
Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.29, 5.29, 5.29) @ 5280 MHz; Calibrated: 2021/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/4/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (111x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0 W/kg



P03 WLAN5.6G_802.11a_Front Face_10mm_Ch116_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10062 - CAD, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps);

Frequency: 5580 MHz; Duty Cycle: 1:1.08

Medium: H34T60N1_1018 Medium parameters used: $f = 5580$ MHz; $\sigma = 5.073$ S/m; $\epsilon_r = 36.515$; $\rho = 1000$ kg/m³

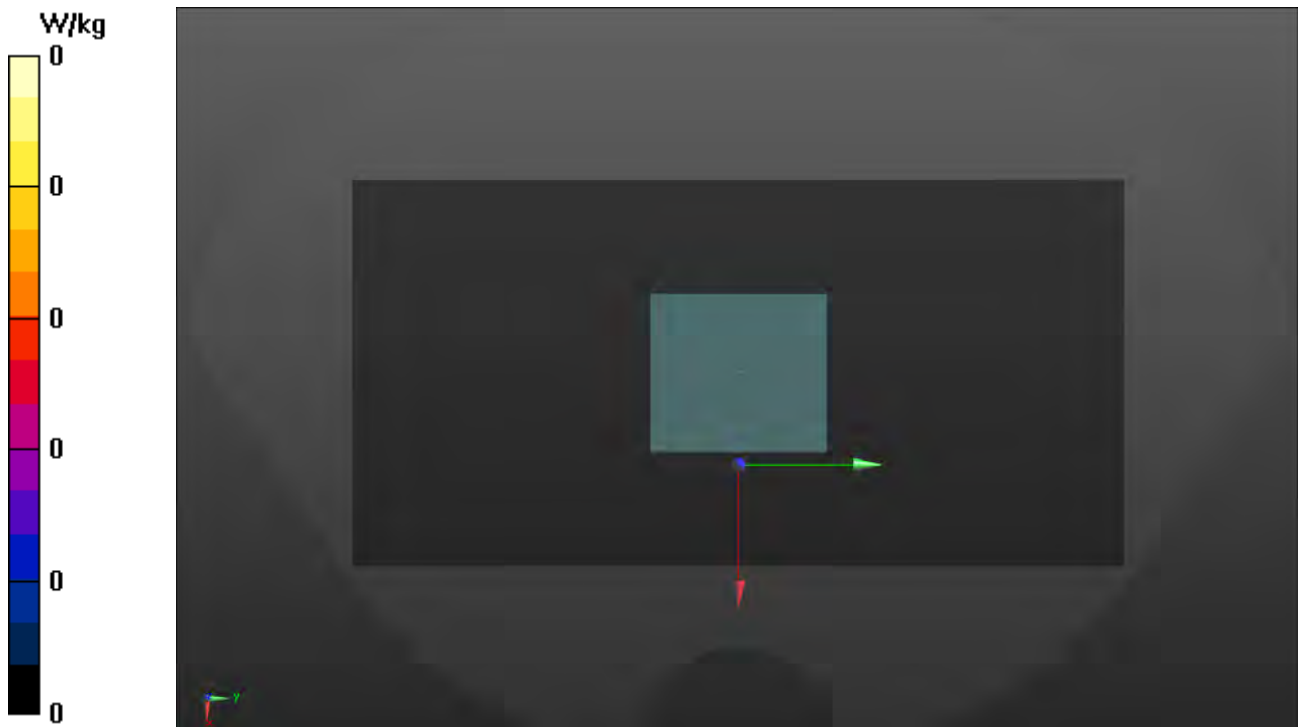
Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.8, 4.8, 4.8) @ 5580 MHz; Calibrated: 2021/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/4/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (111x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0 W/kg



P04 WLAN5.8G_802.11a_Front Face_10mm_Ch157_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10062 - CAD, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps);

Frequency: 5785 MHz; Duty Cycle: 1:1.08

Medium: H34T60N1_1018 Medium parameters used (interpolated): $f = 5785$ MHz; $\sigma = 5.29$ S/m; $\epsilon_r = 36.241$; $\rho = 1000$ kg/m³

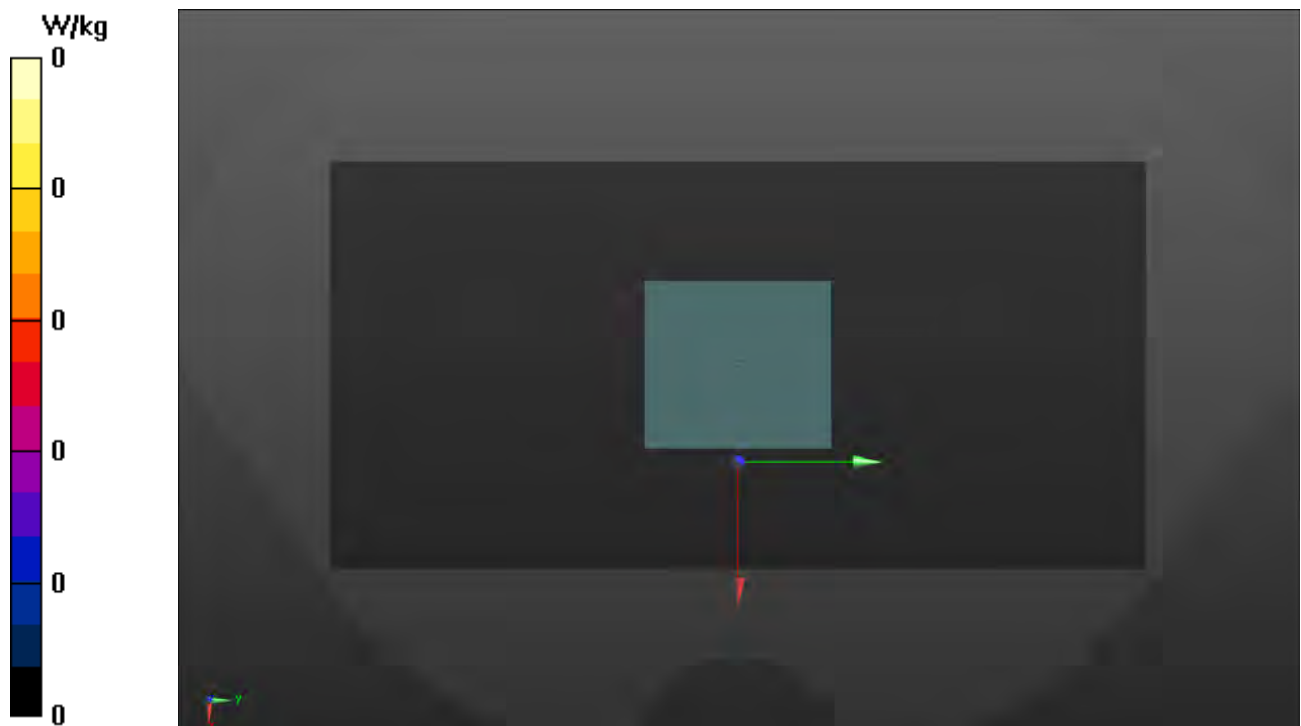
Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.1, 5.1, 5.1) @ 5785 MHz; Calibrated: 2021/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/4/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (111x211x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0 W/kg



P05 BT_BDR_Front Face_10mm_Ch78_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10030 - CAA, IEEE 802.15.1 Bluetooth (GFSK, DH1); Frequency: 2480 MHz; Duty Cycle: 1:3.23

Medium: H19T27N1_0929 Medium parameters used: $f = 2480$ MHz; $\sigma = 1.827$ S/m; $\epsilon_r = 38.01$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2480 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x61x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0654 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.476 V/m; Power Drift = -0.09 dB

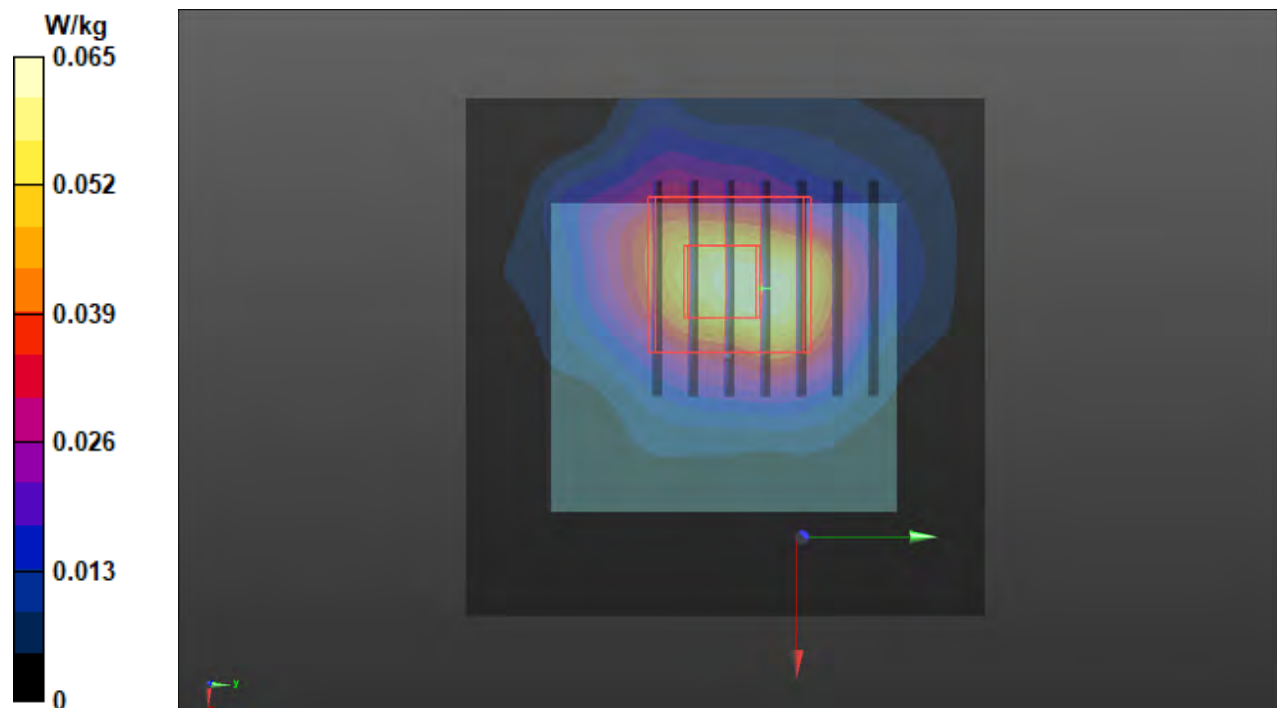
Peak SAR (extrapolated) = 0.0800 W/kg

SAR(1 g) = 0.041 W/kg; SAR(10 g) = 0.017 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 61.9%

Maximum value of SAR (measured) = 0.0629 W/kg



P06 WLAN2.4G_802.11b_Rear Face_0mm_Ch1_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps);

Frequency: 2412 MHz; Duty Cycle: 1:1.01

Medium: H19T27N1_0928 Medium parameters used: $f = 2412$ MHz; $\sigma = 1.813$ S/m; $\epsilon_r = 38.842$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2412 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x61x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 2.36 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 33.89 V/m; Power Drift = -0.14 dB

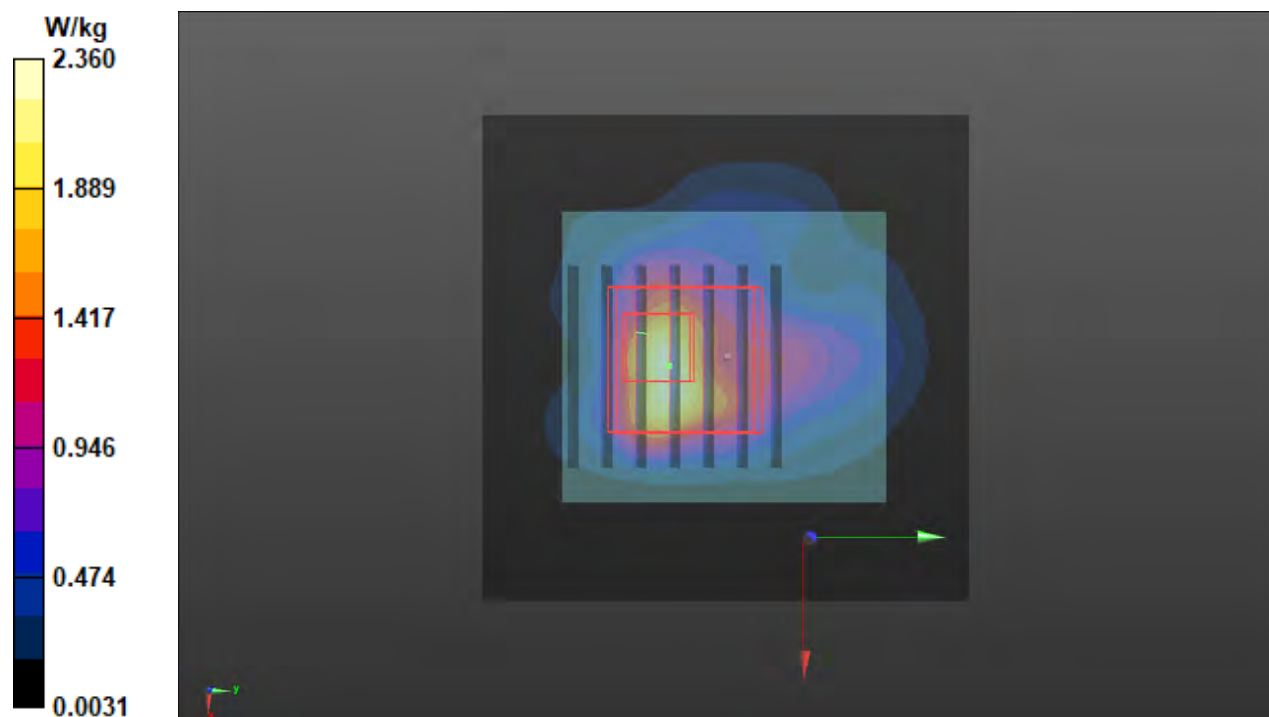
Peak SAR (extrapolated) = 2.46 W/kg

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.567 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.7 mm

Ratio of SAR at M2 to SAR at M1 = 57.7%

Maximum value of SAR (measured) = 1.79 W/kg



P07 WLAN5.3G_802.11a_Rear Face_0mm_Ch60_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10062 - CAD, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps);

Frequency: 5300 MHz; Duty Cycle: 1:1.08

Medium: H34T60N1_1018 Medium parameters used (interpolated): $f = 5300$ MHz; $\sigma = 4.79$ S/m; $\epsilon_r = 36.902$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.29, 5.29, 5.29) @ 5300 MHz; Calibrated: 2021/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/4/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.33 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 17.60 V/m; Power Drift = 0.11 dB

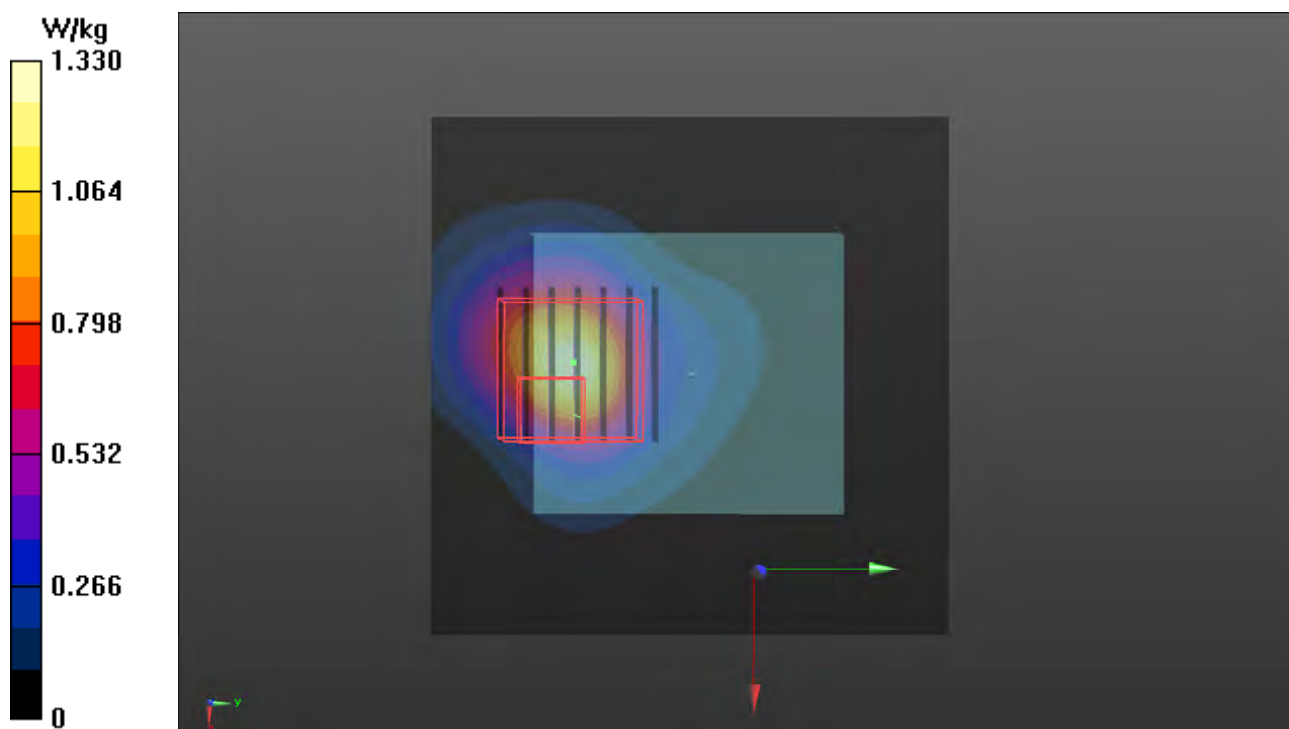
Peak SAR (extrapolated) = 4.33 W/kg

SAR(1 g) = 0.652 W/kg; SAR(10 g) = 0.168 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 4.9 mm

Ratio of SAR at M2 to SAR at M1 = 51.2%

Maximum value of SAR (measured) = 1.97 W/kg



P08 WLAN5.6G_802.11a_Rear Face_0mm_Ch144_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10062 - CAD, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps);

Frequency: 5720 MHz; Duty Cycle: 1:1.08

Medium: H34T60N1_1018 Medium parameters used: $f = 5720$ MHz; $\sigma = 5.219$ S/m; $\epsilon_r = 36.323$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.1, 5.1, 5.1) @ 5720 MHz; Calibrated: 2021/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/4/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.75 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 19.39 V/m; Power Drift = 0.04 dB

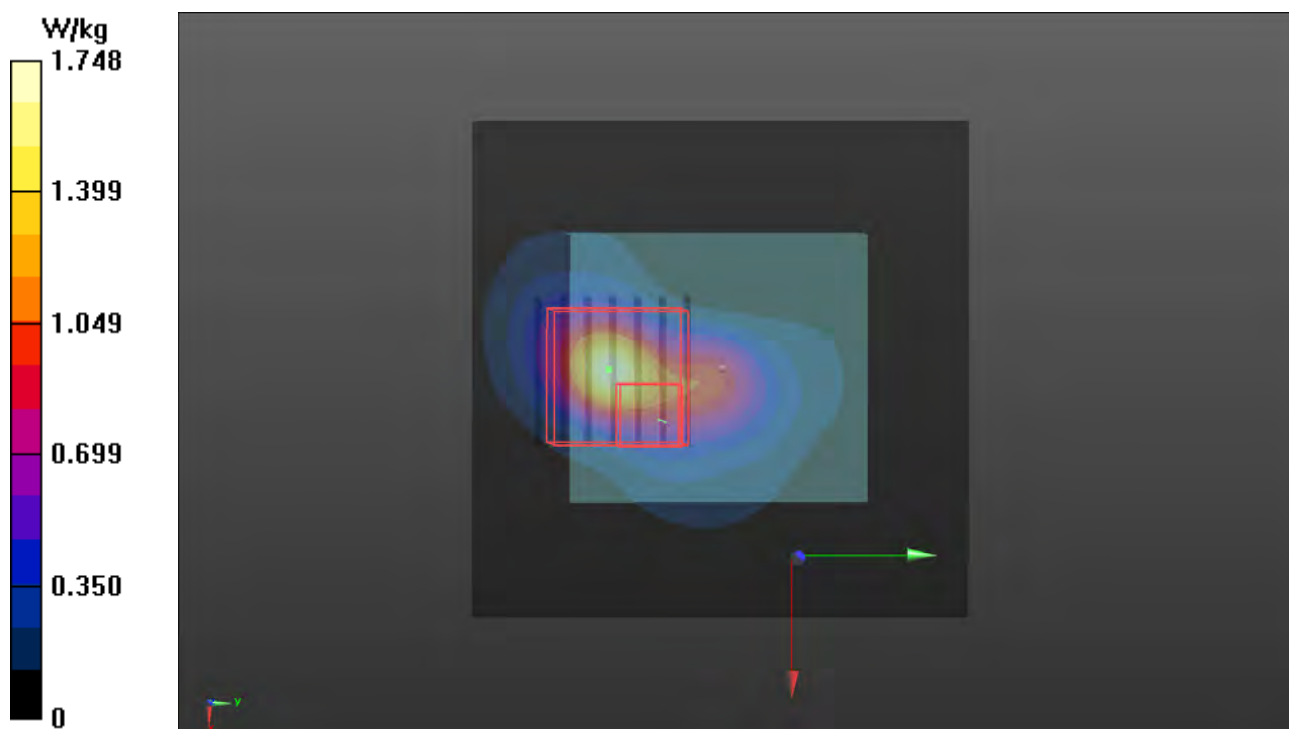
Peak SAR (extrapolated) = 8.42 W/kg

SAR(1 g) = 1.58 W/kg; SAR(10 g) = 0.358 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.8 mm

Ratio of SAR at M2 to SAR at M1 = 58.4%

Maximum value of SAR (measured) = 4.24 W/kg



P09 WLAN5.8G_802.11a_Rear Face_0mm_Ch161_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10062 - CAD, IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps);

Frequency: 5805 MHz; Duty Cycle: 1:1.08

Medium: H34T60N1_1018 Medium parameters used: $f = 5805$ MHz; $\sigma = 5.312$ S/m; $\epsilon_r = 36.218$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(5.1, 5.1, 5.1) @ 5805 MHz; Calibrated: 2021/3/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/4/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.15 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 14.91 V/m; Power Drift = -0.04 dB

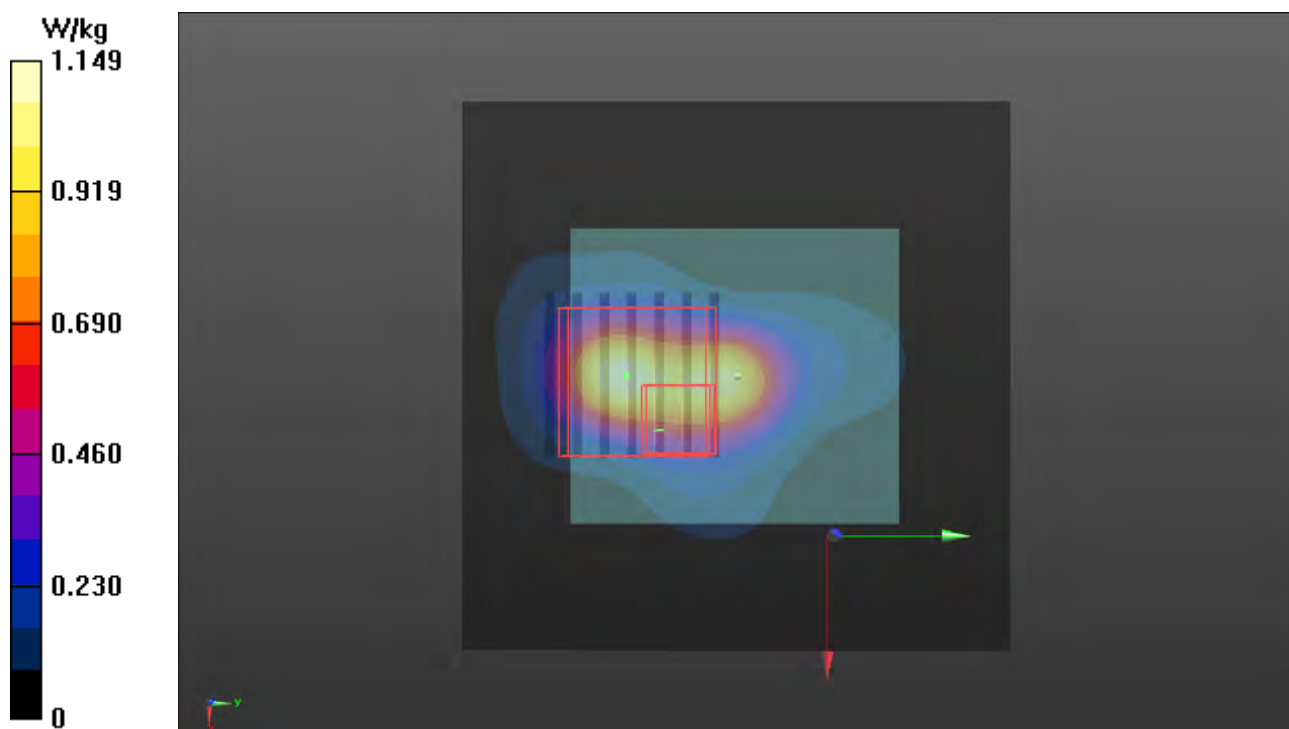
Peak SAR (extrapolated) = 6.66 W/kg

SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.242 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 4.2 mm

Ratio of SAR at M2 to SAR at M1 = 54.5%

Maximum value of SAR (measured) = 3.15 W/kg



P10 BT_BDR_Rear Face_0mm_Ch0_Ant 0

DUT: ACHI-WTW-P21090684

Communication System: UID 10030 - CAA, IEEE 802.15.1 Bluetooth (GFSK, DH1); Frequency: 2402 MHz; Duty Cycle: 1:3.23

Medium: H19T27N1_0929 Medium parameters used: $f = 2402$ MHz; $\sigma = 1.769$ S/m; $\epsilon_r = 38.171$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.33, 7.33, 7.33) @ 2402 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2021/04/14
- Phantom: SAM Phantom_1987; Type: QD 000 P41 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x61x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.153 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.303 V/m; Power Drift = 0.05 dB

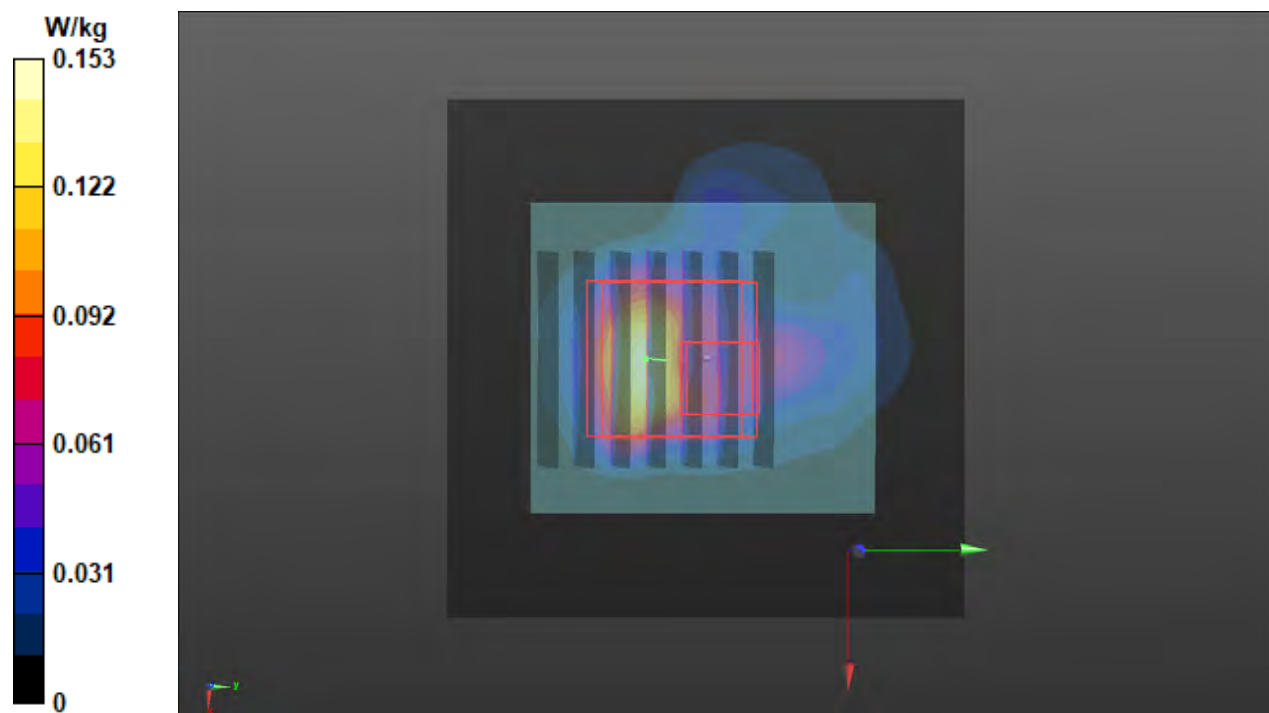
Peak SAR (extrapolated) = 0.349 W/kg

SAR(1 g) = 0.058 W/kg; SAR(10 g) = 0.027 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.2 mm

Ratio of SAR at M2 to SAR at M1 = 34.5%

Maximum value of SAR (measured) = 0.116 W/kg



Annex C. Tissue & System Verification

The measuring results for tissue simulating liquid and system check are shown as below.

Note:

1. For Section 4.3, the dielectric properties of the tissue simulating liquid have been measured within 24 hours before the SAR testing and within ± 10 % of the target values. Liquid temperature during the SAR testing has kept within ± 2 °C.
2. For Section 4.4, The SAR measurement system was validated according to procedures in KDB 865664 D01. The validation status in tabulated summary is as below.
3. For Section 4.5, Comparing to the reference SAR value provided by SPEAG in dipole calibration certificate, the deviation of system check results is within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots please refer to Annex A of this report.

Tissue Verification									Validation for CW			Validation for Modulation			System Validation					Note				
Plot No.	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Targeted Conductivity (σ)	Targeted Permittivity (ε _r)	Deviation Conductivity (σ)	Deviation Permittivity (ε _r)	Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR	Date	Frequency (MHz)	Targeted 1g SAR (W/kg)	Measured 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N	Output Power (dB)
S01	2450	23.2	1.852	38.607	1.8	39.2	2.89	-1.51	Pass	Pass	Pass	OFDM	N/A	Pass	Sep. 28, 2021	2450	52.70	2.45	48.88	-7.24	835	3887	861	17
S02	5250	23.1	4.741	36.968	4.71	35.9	0.66	2.97	Pass	Pass	Pass	OFDM	N/A	Pass	Oct. 18, 2021	5250	80.60	4.38	87.39	8.43	1019	3650	861	17
S03	5600	23.1	5.096	36.493	5.07	35.5	0.51	2.80	Pass	Pass	Pass	OFDM	N/A	Pass	Oct. 18, 2021	5600	82.40	4.53	90.39	9.69	1019	3650	861	17
S04	5750	23.1	5.256	36.272	5.22	35.4	0.69	2.46	Pass	Pass	Pass	OFDM	N/A	Pass	Oct. 18, 2021	5750	79.40	4	79.81	0.52	1019	3650	861	17
S05	2450	23.4	1.805	38.071	1.8	39.2	0.28	-2.88	Pass	Pass	Pass	OFDM	N/A	Pass	Sep. 29, 2021	2450	52.70	2.73	54.47	3.36	835	3887	861	17

Tissue Verification									Validation for CW			Validation for Modulation			Date	System Validation					Note			
Plot No.	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Targeted Conductivity (σ)	Targeted Permittivity (ε _r)	Deviation Conductivity (σ)	Deviation Permittivity (ε _r)	Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR		Frequency (MHz)	Targeted 10g SAR (W/kg)	Measured 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N	Output Power (dB)
S06	2450	23.2	1.852	38.607	1.8	39.2	2.89	-1.51	Pass	Pass	Pass	OFDM	N/A	Pass	Sep. 28, 2021	2450	23.90	1.15	22.95	-3.99	835	3887	861	17
S07	5250	23.1	4.741	36.968	4.71	35.9	0.66	2.97	Pass	Pass	Pass	OFDM	N/A	Pass	Oct. 18, 2021	5250	23.00	1.25	24.94	8.44	1019	3650	861	17
S08	5600	23.1	5.096	36.493	5.07	35.5	0.51	2.80	Pass	Pass	Pass	OFDM	N/A	Pass	Oct. 18, 2021	5600	23.30	1.21	24.14	3.62	1019	3650	861	17
S09	5750	23.1	5.256	36.272	5.22	35.4	0.69	2.46	Pass	Pass	Pass	OFDM	N/A	Pass	Oct. 18, 2021	5750	22.40	1.15	22.95	2.44	1019	3650	861	17
S10	2450	23.4	1.805	38.071	1.8	39.2	0.28	-2.88	Pass	Pass	Pass	OFDM	N/A	Pass	Sep. 29, 2021	2450	23.90	1.29	25.74	7.69	835	3887	861	17

Annex D. Maximum Target Conducted Power

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

WLAN Tune-up Power (Full)			
WLAN 2.4GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11b	1	2412	18.5
	6	2437	18.5
	11	2462	18.5
	12	2467	10.0
	13	2472	10.0
802.11g	1	2412	17.0
	6	2437	17.0
	11	2462	17.0
	12	2467	10.0
	13	2472	10.0
802.11n HT20	1	2412	17.0
	6	2437	17.0
	11	2462	17.0
	12	2467	10.0
	13	2472	10.0

WLAN Tune-up Power (Full)			
Bluetooth			
Mode	Channel	Frequency	Ant 0 Max Tune-up
BDR	0	2402	17.0
	39	2441	17.0
	78	2480	17.0
LE	0	2402	7.5
	19	2440	7.5
	39	2480	7.5

WLAN Tune-up Power (Full)			
WLAN 5.2GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	36	5180	16.0
	40	5200	16.0
	44	5220	16.0
	48	5240	16.0
802.11n HT20	36	5180	16.0
	40	5200	16.0
	44	5220	16.0
	48	5240	16.0

WLAN Tune-up Power (Full)			
WLAN 5.3GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	52	5260	16.0
	56	5280	16.0
	60	5300	16.0
	64	5320	16.0
802.11n HT20	52	5260	16.0
	56	5280	16.0
	60	5300	16.0
	64	5320	16.0

WLAN Tune-up Power (Full)			
WLAN 5.6GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	100	5500	16.0
	116	5580	16.0
	120	5600	16.0
	124	5620	16.0
	132	5660	16.0
	140	5700	16.0
	144	5720	16.0
802.11n HT20	100	5500	16.0
	116	5580	16.0
	120	5600	16.0
	124	5620	16.0
	132	5660	16.0
	140	5700	16.0
	144	5720	16.0

WLAN Tune-up Power (Full)			
WLAN 5.8GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	149	5745	16.0
	153	5765	16.0
	157	5785	16.0
	161	5805	16.0
	165	5825	16.0
802.11n HT20	149	5745	16.0
	153	5765	16.0
	157	5785	16.0
	161	5805	16.0
	165	5825	16.0

Annex E. Measured Conducted Power Result

The measuring conducted power (Unit: dBm) are shown as below.

WLAN Conducted Power (Full)			
WLAN2.4GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11b	1	2412	17.3
	6	2437	18.22
	11	2462	17.79
	12	2467	8.32
	13	2472	8.41
802.11g	1	2412	15.88
	6	2437	16.64
	11	2462	16.15
	12	2467	8.13
802.11n HT20	13	2472	8.16
	1	2412	15.0
	6	2437	15.4
	11	2462	15.38
	12	2467	8.21
	13	2472	8.27

Bluetooth Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
BR / EDR	0	2402	15.88
	39	2441	15.53
	78	2480	15

WLAN 5.3GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11a	52	5260	15.54
	56	5280	15.67
	60	5300	15.59
	64	5320	15.55
802.11n HT20	52	5260	15.41
	56	5280	15.73
	60	5300	15.51
	64	5320	15.51

WLAN 5.6GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11a	100	5500	15.33
	116	5580	15.49
	120	5600	15.15
	124	5620	15.53
	132	5660	15.46
	140	5700	15.21
	144	5720	15.1
802.11n HT20	100	5500	14.67
	116	5580	14.52
	120	5600	14.42
	124	5620	14.37
	132	5660	14.35
	140	5700	14.27
	144	5720	15.23

WLAN 5.8GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11a	149	5745	15.25
	153	5765	15.34
	157	5785	15.45
	161	5805	15.25
	165	5825	15.35
802.11n HT20	149	5745	15.05
	153	5765	15.42
	157	5785	15.37
	161	5805	15.25
	165	5825	15.31

Annex F. SAR Test Result

SAR Results for Body / Extremity Exposure Condition.

Note:

1. SAR testing for WLAN was performed on the maximum power mode.
2. The “< 0.001” means there is no SAR value or the SAR is too low to be measured.

Face SAR Test Result

System & Position						DUT & Accessory		SAR						
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Ant Status	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
1	WLAN2.4G	802.11b	Front Face	10	6	Ant 0	98.78	1.01	18.50	18.22	1.07	0.04	0.312	0.34
	WLAN2.4G	802.11b	Front Face	10	1	Ant 0	98.78	1.01	18.50	17.30	1.32	-0.05	0.318	0.42
	WLAN2.4G	802.11b	Front Face	10	11	Ant 0	98.78	1.01	18.50	17.79	1.18	-0.02	0.405	0.48
	WLAN2.4G	802.11b	Front Face	10	12	Ant 0	98.78	1.01	10.00	8.32	1.47	0.08	0.052	0.08
	WLAN2.4G	802.11b	Front Face	10	13	Ant 0	98.78	1.01	10.00	8.41	1.44	0.03	0.058	0.08
2	WLAN5.3G	802.11a	Front Face	10	56	Ant 0	92.96	1.08	16.00	15.67	1.08	0	<0.001	0.00
	WLAN5.3G	802.11a	Front Face	10	52	Ant 0	92.96	1.08	16.00	15.54	1.11	0	<0.001	0.00
	WLAN5.3G	802.11a	Front Face	10	60	Ant 0	92.96	1.08	16.00	15.59	1.10	0	<0.001	0.00
	WLAN5.3G	802.11a	Front Face	10	64	Ant 0	92.96	1.08	16.00	15.55	1.11	0	<0.001	0.00
3	WLAN5.6G	802.11a	Front Face	10	116	Ant 0	92.96	1.08	16.00	15.49	1.12	0	0.00859	0.00
	WLAN5.6G	802.11a	Front Face	10	100	Ant 0	92.96	1.08	16.00	15.33	1.17	0	<0.001	0.00
	WLAN5.6G	802.11a	Front Face	10	132	Ant 0	92.96	1.08	16.00	15.46	1.13	0	<0.001	0.00
	WLAN5.6G	802.11a	Front Face	10	120	Ant 0	92.96	1.08	16.00	15.15	1.22	0	<0.001	0.00
	WLAN5.6G	802.11a	Front Face	10	124	Ant 0	92.96	1.08	16.00	15.53	1.11	0	<0.001	0.00
	WLAN5.6G	802.11a	Front Face	10	140	Ant 0	92.96	1.08	16.00	15.21	1.20	0	<0.001	0.00
	WLAN5.6G	802.11a	Front Face	10	144	Ant 0	92.96	1.08	16.00	15.10	1.23	0	<0.001	0.00
4	WLAN5.8G	802.11a	Front Face	10	157	Ant 0	92.96	1.08	16.00	15.45	1.14	0	<0.001	0.00
	WLAN5.8G	802.11a	Front Face	10	149	Ant 0	92.96	1.08	16.00	15.25	1.19	0	<0.001	0.00
	WLAN5.8G	802.11a	Front Face	10	153	Ant 0	92.96	1.08	16.00	15.34	1.16	0	<0.001	0.00
	WLAN5.8G	802.11a	Front Face	10	161	Ant 0	92.96	1.08	16.00	15.25	1.19	0	<0.001	0.00
	WLAN5.8G	802.11a	Front Face	10	165	Ant 0	92.96	1.08	16.00	15.35	1.16	0	<0.001	0.00
5	BT	BDR	Front Face	10	0	Ant 0	31.00	3.23	17.00	15.88	1.29	0.05	0.032	0.13
	BT	BDR	Front Face	10	39	Ant 0	31.00	3.23	17.00	15.53	1.40	0.06	0.029	0.13
	BT	BDR	Front Face	10	78	Ant 0	31.00	3.23	17.00	15.00	1.58	-0.09	0.041	0.21

Extremity SAR Test Result

System & Position						DUT & Accessory		SAR						
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Ant Status	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-10g (W/kg)	Scaled SAR-10g (W/kg)
6	WLAN2.4G	802.11b	Rear Face	0	6	Ant 0	98.78	1.01	18.50	18.22	1.07	0.12	0.466	0.50
	WLAN2.4G	802.11b	Rear Face	0	1	Ant 0	98.78	1.01	18.50	17.30	1.32	-0.14	0.567	0.76
	WLAN2.4G	802.11b	Rear Face	0	11	Ant 0	98.78	1.01	18.50	17.79	1.18	-0.09	0.512	0.61
	WLAN2.4G	802.11b	Rear Face	0	12	Ant 0	98.78	1.01	10.00	8.32	1.47	0.06	0.063	0.09
	WLAN2.4G	802.11b	Rear Face	0	13	Ant 0	98.78	1.01	10.00	8.41	1.44	-0.03	0.055	0.08
7	WLAN5.3G	802.11a	Rear Face	0	56	Ant 0	92.96	1.08	16.00	15.67	1.08	0.04	0.151	0.18
	WLAN5.3G	802.11a	Rear Face	0	52	Ant 0	92.96	1.08	16.00	15.54	1.11	-0.11	0.132	0.16
	WLAN5.3G	802.11a	Rear Face	0	60	Ant 0	92.96	1.08	16.00	15.59	1.10	0.11	0.168	0.20
	WLAN5.3G	802.11a	Rear Face	0	64	Ant 0	92.96	1.08	16.00	15.55	1.11	0.13	0.129	0.15
8	WLAN5.6G	802.11a	Rear Face	0	116	Ant 0	92.96	1.08	16.00	15.49	1.12	0.06	0.171	0.21
	WLAN5.6G	802.11a	Rear Face	0	100	Ant 0	92.96	1.08	16.00	15.33	1.17	0.08	0.176	0.22
	WLAN5.6G	802.11a	Rear Face	0	132	Ant 0	92.96	1.08	16.00	15.46	1.13	0.06	0.251	0.31
	WLAN5.6G	802.11a	Rear Face	0	120	Ant 0	92.96	1.08	16.00	15.15	1.22	-0.04	0.241	0.32
	WLAN5.6G	802.11a	Rear Face	0	124	Ant 0	92.96	1.08	16.00	15.53	1.11	0.08	0.239	0.29
	WLAN5.6G	802.11a	Rear Face	0	140	Ant 0	92.96	1.08	16.00	15.21	1.20	-0.13	0.281	0.36
	WLAN5.6G	802.11a	Rear Face	0	144	Ant 0	92.96	1.08	16.00	15.10	1.23	0.04	0.358	0.48
9	WLAN5.8G	802.11a	Rear Face	0	157	Ant 0	92.96	1.08	16.00	15.45	1.14	0.16	0.186	0.23
	WLAN5.8G	802.11a	Rear Face	0	149	Ant 0	92.96	1.08	16.00	15.25	1.19	0.09	0.201	0.26
	WLAN5.8G	802.11a	Rear Face	0	153	Ant 0	92.96	1.08	16.00	15.34	1.16	0.04	0.225	0.28
	WLAN5.8G	802.11a	Rear Face	0	161	Ant 0	92.96	1.08	16.00	15.25	1.19	-0.04	0.242	0.31
	WLAN5.8G	802.11a	Rear Face	0	165	Ant 0	92.96	1.08	16.00	15.35	1.16	-0.08	0.231	0.29
10	BT	BDR	Rear Face	0	0	Ant 0	31.00	3.23	17.00	15.88	1.29	0.05	0.027	0.11
	BT	BDR	Rear Face	0	39	Ant 0	31.00	3.23	17.00	15.53	1.40	0.02	0.015	0.07
	BT	BDR	Rear Face	0	78	Ant 0	31.00	3.23	17.00	15.00	1.58	-0.07	0.019	0.10

Annex G. SAR Measurement Variability

Since all the measured SAR_{1g} are less than 0.8 W/kg, the repeated measurement is not required.

Since all the measured SAR_{10g} are less than 2.0 W/kg, the repeated measurement is not required.

Annex H. Analysis of Simultaneous Transmission SAR.

The analysis of simultaneous transmission SAR are shown as below.

<Possibilities of Simultaneous Transmission>

The simultaneous transmission possibilities for this device are listed as below.

Simultaneous TX Combination	Capable Transmit Configurations	Face Exposure Condition	Extremity Exposure Condition
A	WWAN + WLAN 2.4G	Yes	Yes
B	WWAN + WLAN 5G	Yes	Yes
C	WWAN + BT	Yes	Yes
D	BT + WLAN5G	Yes	Yes
E	WWAN + WLAN 5G + BT	Yes	Yes

Notes

1. The WLAN 2.4G and WLAN 5G cannot transmit simultaneously.
2. Simultaneous TX Combination B, C and D can be covered by E

Simultaneous Transmission SAR Evaluation (Face)							
Band	Position	1	2	3	4	A(1+2)	B(1+3+4)
		Max WWAN	WLAN 2.4GHz Ant 0	WLAN 5GHz Ant 0	BT Ant 0	Summimg result 1g SAR W/kg	Summimg result 1g SAR W/kg
		1g SAR W/kg	1g SAR W/kg	1g SAR W/kg	1g SAR W/kg		
WCDMA II	Front Face	0.523	0.48	0.00	0.21	1.003	0.733
WCDMA IV	Front Face	0.305	0.48	0.00	0.21	0.785	0.515
WCDMA V	Front Face	0.011	0.48	0.00	0.21	0.491	0.221
LTE 2	Front Face	0.833	0.48	0.00	0.21	1.313	1.043
LTE 5	Front Face	0.009	0.48	0.00	0.21	0.489	0.219
LTE 12	Front Face	0.005	0.48	0.00	0.21	0.485	0.215
LTE 13	Front Face	0.001	0.48	0.00	0.21	0.481	0.211
LTE 25	Front Face	0.625	0.48	0.00	0.21	1.105	0.835
LTE 26	Front Face	0.008	0.48	0.00	0.21	0.488	0.218
LTE 66	Front Face	0.316	0.48	0.00	0.21	0.796	0.526
LTE 71	Front Face	0.002	0.48	0.00	0.21	0.482	0.212

Simultaneous Transmission SAR Evaluation (Extremity)

Band	Position	1	2	3	4	A(1+2)	B(1+3+4)
		Max WWAN	WLAN 2.4GHz Ant 0	WLAN 5GHz Ant 0	BT Ant 0	Summimg result 10g SAR W/kg	Summimg result 10g SAR W/kg
		10g SAR W/kg	10g SAR W/kg	10g SAR W/kg	10g SAR W/kg		
WCDMA II	Rear Face	1.185	0.76	0.48	0.11	1.945	1.775
WCDMA IV	Rear Face	0.863	0.76	0.48	0.11	1.623	1.453
WCDMA V	Rear Face	0.339	0.76	0.48	0.11	1.099	0.929
LTE 2	Rear Face	1.542	0.76	0.48	0.11	2.302	2.132
LTE 5	Rear Face	0.278	0.76	0.48	0.11	1.038	0.868
LTE 12	Rear Face	0.211	0.76	0.48	0.11	0.971	0.801
LTE 13	Rear Face	0.277	0.76	0.48	0.11	1.037	0.867
LTE 25	Rear Face	1.295	0.76	0.48	0.11	2.055	1.885
LTE 26	Rear Face	0.305	0.76	0.48	0.11	1.065	0.895
LTE 66	Rear Face	0.985	0.76	0.48	0.11	1.745	1.575
LTE 71	Rear Face	0.158	0.76	0.48	0.11	0.918	0.748

Annex I. SAR to Peak Location Separation Ratio Analysis.

Since sum of simultaneous transmission SAR is less than the SAR limit for Body / Head : SAR_{1g} 1.6 W/kg ;
Extremity SAR_{10g} 4.0 W/kg. There is no requirement for SAR to Peak Location Separation Ratio Analysis.

Annex J. Calibration of Test Equipment List

Calibration of Test Equipment List are shown as below.

Equipment for SAR Test

Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D2450V2	835	Jun. 22, 2021	1 Year
System Validation Dipole	SPEAG	D5GHzV2	1019	Mar. 19, 2021	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3887	Oct. 22, 2020	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3650	Mar. 26, 2021	1 Year
Data Acquisition Electronics	SPEAG	DAE4	861	Apr. 14, 2021	1 Year
Spectrum Analyzer	R&S	FSL6	102006	Apr. 06, 2021	1 Year
Universal Wireless Test Set	Anritsu	MT8870A/MU887000A	6201699387	Sep. 28, 2020	1 Year
Thermometer	YFE	YF-160A	191100743	Apr. 12, 2021	1 Year
Dielectric Assessment Kit	SPEAG	DAKS-3.5	1151	Jul. 14, 2021	1 Year
Powersource1	SPEAG	SE_UMS_160 BA	4010	Jul. 13, 2021	1 Year

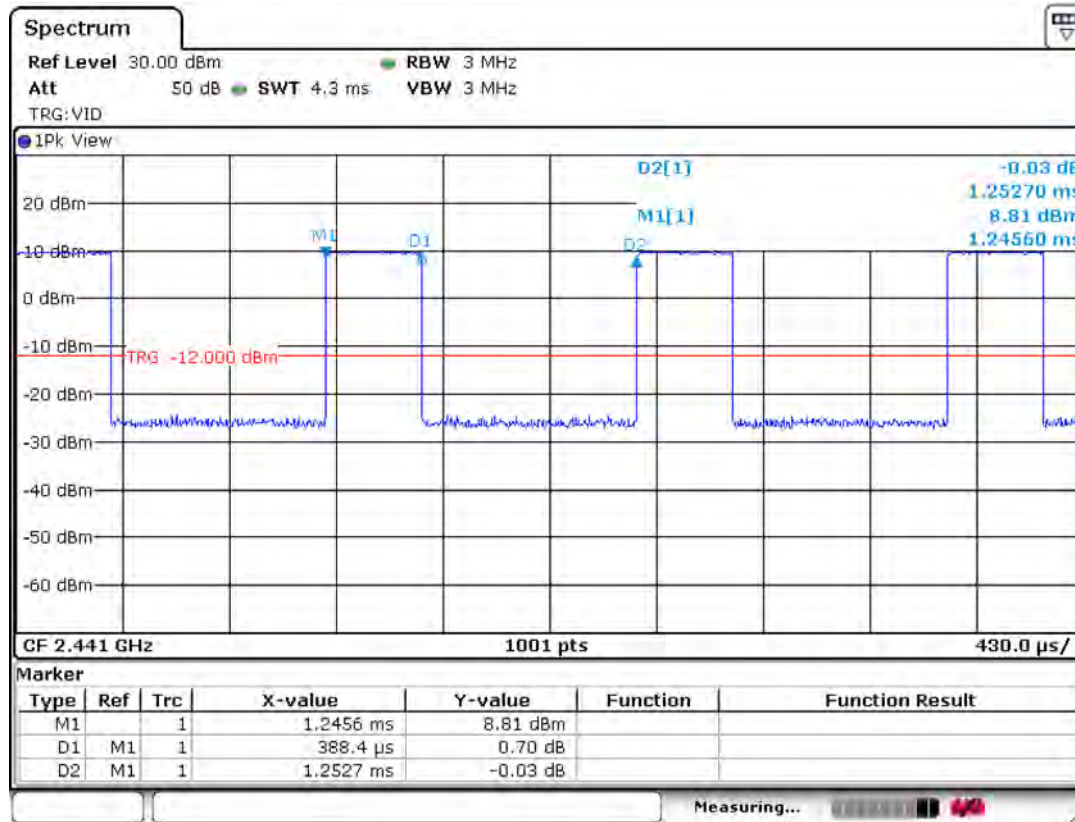
Annex K. Considerations Related to Bluetooth for Setup and Testing

This device has installed Bluetooth engineering testing software which can provide continuous transmitting RF signal. During Bluetooth SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

The Bluetooth call box has been used during SAR measurement and the EUT was set to DH5 mode at the maximum output power. Its duty factor was calculated as below and the measured SAR for Bluetooth would be scaled to the 100% transmission duty factor to determine compliance.

The duty factor of Bluetooth signal are shown as below.

<Time-domain plot for Bluetooth transmission signal>



The duty factor of Bluetooth signal has been calculated as following.
 Duty Factor = Pulse Width / Total Period = 0.3884 / 1.2527 = 31.01%

Annex Z. Calibration Certificate for Probe and Dipole

The SPEAG calibration certificates are shown as follows.



In Collaboration with
s p e a g
CALIBRATION LABORATORY



中国认可
国际互认
校准
CALIBRATION
CNAS L0570

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, Chi
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

Client **AUDEN**

Certificate No: **Z21-60241**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 835**

Calibration Procedure(s) **FF-Z11-003-01**
Calibration Procedures for dipole validation kits

Calibration date: **June 22, 2021**

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 (Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106277	23-Sep-20 (CTTL, No.J20X08336)	Sep-21
Power sensor NRP8S	104291	23-Sep-20 (CTTL, No.J20X08336)	Sep-21
Reference Probe EX3DV4	SN 3846	26-Apr-21(CTTL-SPEAG,No.Z21-60084)	Apr-22
DAE4	SN 549	08-Jan-21(CTTL-SPEAG,No.Z21-60002)	Jan-22
Secondary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	01-Feb-21 (CTTL, No.J21X00593)	Jan-22
NetworkAnalyzer E5071C	MY46110673	14-Jan-21 (CTTL, No.J21X00232)	Jan-22

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: June 26, 2021

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

Certificate No: Z21-60241

Page 1 of 6

Report No. : SFACHI-WTW-P21090684



In Collaboration with

s p e a g
CALIBRATION LABORATORY

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

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:

- 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
- IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

- 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%.



Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
 Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
 E-mail: cttl@chinattl.com http://www.chinattl.cn

Measurement Conditions

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

DASY Version	DASY52	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.3 ± 6 %	1.78 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.1 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	52.7 W/kg ± 18.8 % (k=2)
SAR averaged over 10 cm³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.96 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.9 W/kg ± 18.7 % (k=2)



Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.7Ω+ 3.65jΩ
Return Loss	- 24.9dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.072 ns
----------------------------------	----------

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
-----------------	-------



Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

DASY5 Validation Report for Head TSL

Date: 06.22.2021

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 835

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.784$ S/m; $\epsilon_r = 39.31$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(7.45, 7.45, 7.45) @ 2450 MHz; Calibrated: 2021-04-26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2021-01-08
- Phantom: MFP_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 98.68 V/m; Power Drift = -0.05 dB

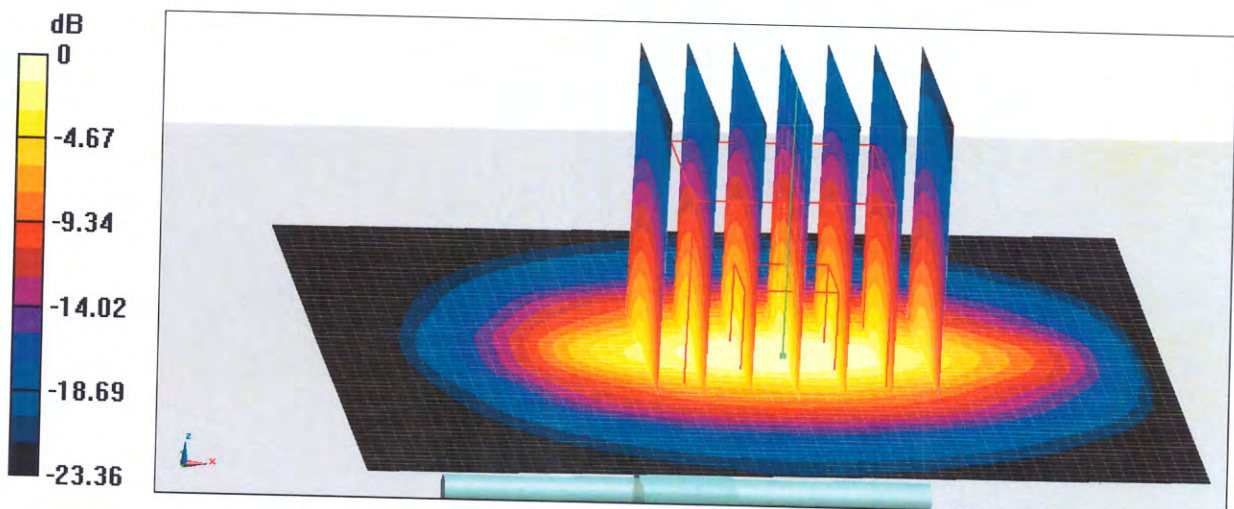
Peak SAR (extrapolated) = 28.5 W/kg

SAR(1 g) = 13.1 W/kg; SAR(10 g) = 5.96 W/kg

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 45.4%

Maximum value of SAR (measured) = 22.7 W/kg

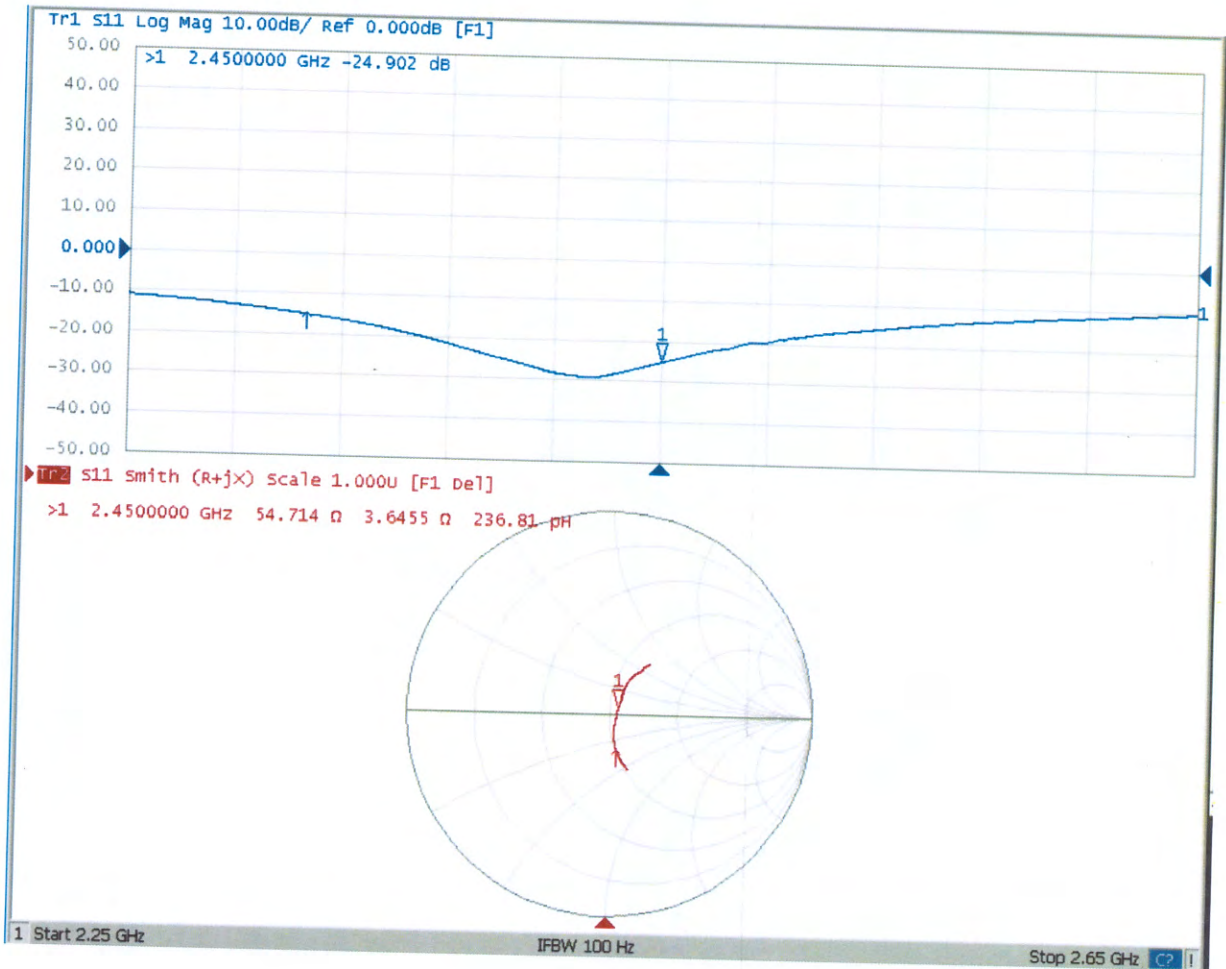


0 dB = 22.7 W/kg = 13.56 dBW/kg



Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

Impedance Measurement Plot for Head TSL





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 **B.V. ADT (Auden)**

Certificate No: **D5GHzV2-1019_Mar21**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN:1019**

Calibration procedure(s) **QA CAL-22.v6
Calibration Procedure for SAR Validation Sources between 3-10 GHz**

Calibration date: **March 19, 2021**

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 $(22 \pm 3)^\circ\text{C}$ 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	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: BH9394 (20k)	31-Mar-20 (No. 217-03106)	Apr-21
Type-N mismatch combination	SN: 310982 / 06327	31-Mar-20 (No. 217-03104)	Apr-21
Reference Probe EX3DV4	SN: 3503	30-Dec-20 (No. EX3-3503_Dec20)	Dec-21
DAE4	SN: 601	02-Nov-20 (No. DAE4-601_Nov20)	Nov-21
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	30-Oct-14 (in house check Oct-20)	In house check: Oct-22
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-20)	In house check: Oct-22
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-20)	In house check: Oct-22
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-20)	In house check: Oct-22
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

Calibrated by: **Claudio Leubler** **Laboratory Technician**

Signature

Approved by: **Katja Pokovic** **Technical Manager**

Issued: March 19, 2021

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

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:

- 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
- 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
- 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
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- 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	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5250 MHz ± 1 MHz 5600 MHz ± 1 MHz 5750 MHz ± 1 MHz	

Head TSL parameters at 5250 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.71 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.7 ± 6 %	4.51 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5250 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.13 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	80.6 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.0 W/kg ± 19.5 % (k=2)

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.2 ± 6 %	4.86 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	82.4 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.3 W/kg ± 19.5 % (k=2)

Head TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.4	5.22 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.0 ± 6 %	5.01 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5750 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.02 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	79.4 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.27 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.4 W/kg ± 19.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL at 5250 MHz

Impedance, transformed to feed point	54.1 Ω - 6.4 j Ω
Return Loss	- 22.7 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	57.6 Ω - 2.5 j Ω
Return Loss	- 22.6 dB

Antenna Parameters with Head TSL at 5750 MHz

Impedance, transformed to feed point	57.9 Ω + 3.1 j Ω
Return Loss	- 22.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.203 ns
----------------------------------	----------

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
-----------------	-------

DASY5 Validation Report for Head TSL

Date: 19.03.2021

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1019

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.51$ S/m; $\epsilon_r = 34.7$; $\rho = 1000$ kg/m³

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.86$ S/m; $\epsilon_r = 34.2$; $\rho = 1000$ kg/m³

Medium parameters used: $f = 5750$ MHz; $\sigma = 5.01$ S/m; $\epsilon_r = 34$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.5, 5.5, 5.5) @ 5250 MHz, ConvF(5.1, 5.1, 5.1) @ 5600 MHz, ConvF(5.08, 5.08, 5.08) @ 5750 MHz; Calibrated: 30.12.2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.11.2020
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5250 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 79.20 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 27.6 W/kg

SAR(1 g) = 8.13 W/kg; SAR(10 g) = 2.32 W/kg

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 70.7%

Maximum value of SAR (measured) = 18.1 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 77.00 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 31.0 W/kg

SAR(1 g) = 8.32 W/kg; SAR(10 g) = 2.36 W/kg

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 66.9%

Maximum value of SAR (measured) = 19.6 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 74.22 V/m; Power Drift = -0.08 dB

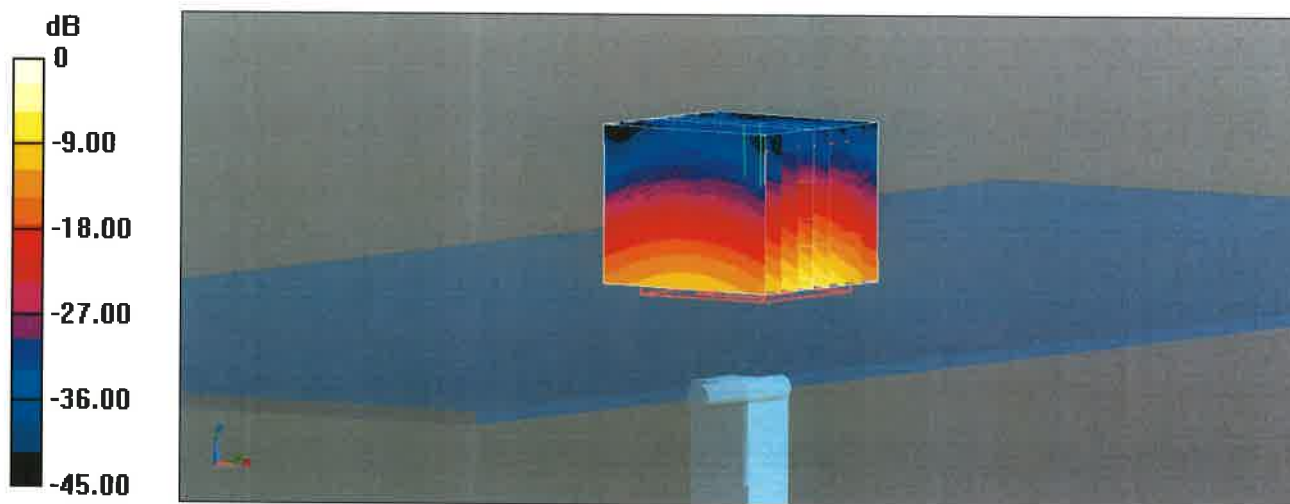
Peak SAR (extrapolated) = 31.6 W/kg

SAR(1 g) = 8.02 W/kg; SAR(10 g) = 2.27 W/kg

Smallest distance from peaks to all points 3 dB below = 7.2 mm

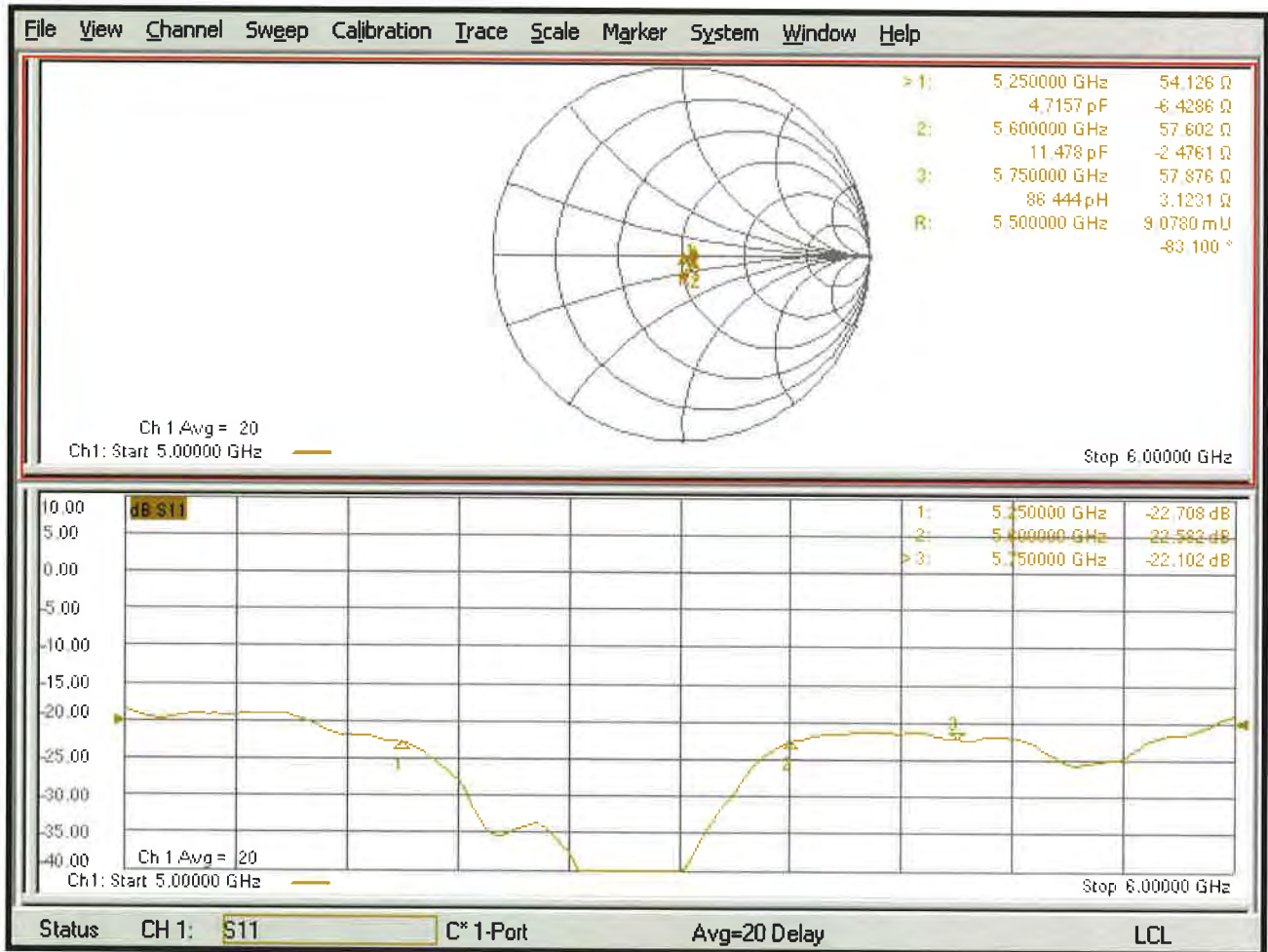
Ratio of SAR at M2 to SAR at M1 = 65%

Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.6 W/kg = 12.92 dBW/kg

Impedance Measurement Plot for Head TSL



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 **Auden**

Certificate No: **EX3-3887_Oct20**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3887**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v6, QA CAL-23.v5, QA CAL-25.v7
Calibration procedure for dosimetric E-field probes**

Calibration date: **October 22, 2020**

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 $(22 \pm 3)^\circ\text{C}$ 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	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-20)	In house check: Jun-22
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

Calibrated by:	Name Claudio Leubler	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature
			Issued: October 23, 2020
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:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / 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., $\vartheta = 0$ 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:

- 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
- 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
- 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
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,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.
- DCP_{x,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
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,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 TSL corresponds to NORM_{x,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 NORM_x (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3887

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.37	0.39	0.48	$\pm 10.1 \%$
DCP (mV) ^B	103.0	100.4	99.8	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB μV	C	D dB	VR mV	Max dev.	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	135.3	$\pm 2.5 \%$	$\pm 4.7 \%$
		Y	0.00	0.00	1.00		136.1		
		Z	0.00	0.00	1.00		136.9		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	6.82	77.08	16.27	10.00	60.0	$\pm 3.3 \%$	$\pm 9.6 \%$
		Y	20.00	97.15	24.21		60.0		
		Z	20.00	91.97	20.80		60.0		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	10.17	83.09	17.10	6.99	80.0	$\pm 1.7 \%$	$\pm 9.6 \%$
		Y	20.00	100.85	25.05		80.0		
		Z	20.00	96.27	21.78		80.0		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	20.00	91.82	18.49	3.98	95.0	$\pm 1.3 \%$	$\pm 9.6 \%$
		Y	20.00	110.61	28.44		95.0		
		Z	20.00	105.64	24.88		95.0		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	12.49	92.62	18.75	2.22	120.0	$\pm 1.3 \%$	$\pm 9.6 \%$
		Y	20.00	122.95	32.75		120.0		
		Z	20.00	115.84	28.30		120.0		
10387-AAA	QPSK Waveform, 1 MHz	X	1.71	65.76	14.77	1.00	150.0	$\pm 2.2 \%$	$\pm 9.6 \%$
		Y	1.79	66.76	15.63		150.0		
		Z	1.55	65.54	14.47		150.0		
10388-AAA	QPSK Waveform, 10 MHz	X	2.24	67.66	15.44	0.00	150.0	$\pm 0.9 \%$	$\pm 9.6 \%$
		Y	2.37	68.79	16.30		150.0		
		Z	2.02	66.51	15.06		150.0		
10396-AAA	64-QAM Waveform, 100 kHz	X	2.94	70.38	18.52	3.01	150.0	$\pm 0.7 \%$	$\pm 9.6 \%$
		Y	3.07	71.33	19.34		150.0		
		Z	2.90	70.93	19.27		150.0		
10399-AAA	64-QAM Waveform, 40 MHz	X	3.40	66.48	15.34	0.00	150.0	$\pm 0.8 \%$	$\pm 9.6 \%$
		Y	3.62	67.55	16.08		150.0		
		Z	3.39	66.52	15.45		150.0		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.80	65.34	15.24	0.00	150.0	$\pm 1.5 \%$	$\pm 9.6 \%$
		Y	4.80	65.30	15.40		150.0		
		Z	4.73	65.42	15.36		150.0		

Note: For details on UID parameters see Appendix

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

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 5).

^B Numerical linearization parameter: uncertainty not required.

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3887

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	46.3	335.09	33.54	10.31	0.60	4.98	2.00	0.10	1.01
Y	47.6	350.46	34.74	15.06	0.08	5.10	1.36	0.21	1.01
Z	36.7	269.23	34.43	8.82	0.00	5.04	1.84	0.06	1.01

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-121.2
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

Note: Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3887

Calibration Parameter Determined in Head Tissue Simulating Media

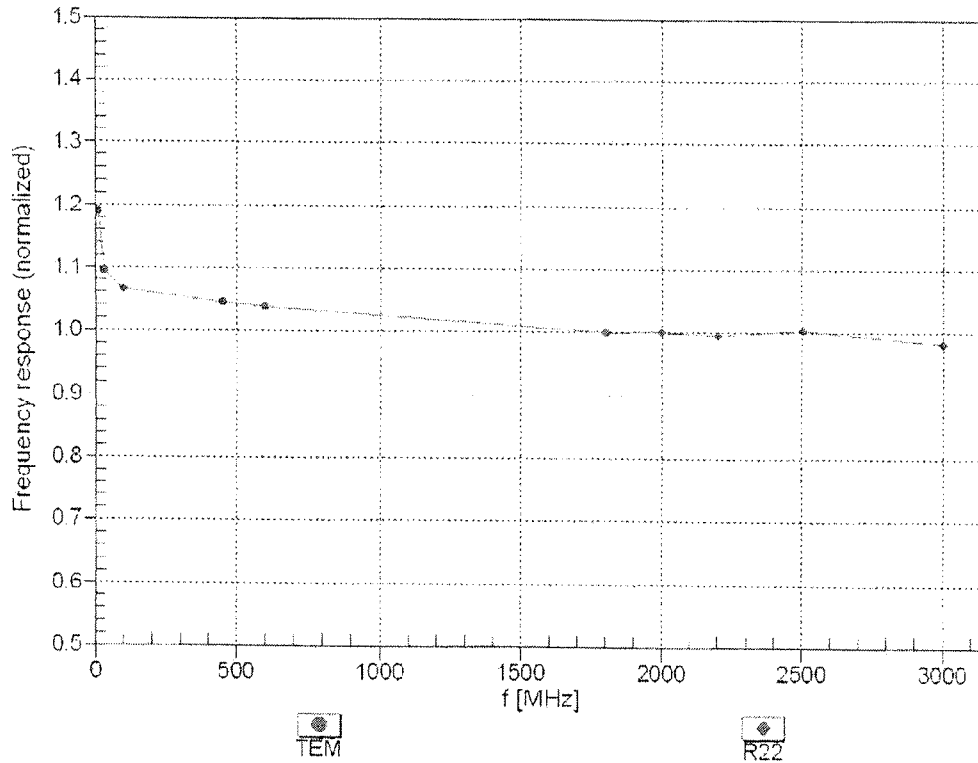
f (MHz) ^c	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	41.9	0.89	9.49	9.49	9.49	0.52	0.80	± 12.0 %
835	41.5	0.90	9.20	9.20	9.20	0.28	1.18	± 12.0 %
900	41.5	0.97	9.06	9.06	9.06	0.42	0.88	± 12.0 %
1450	40.5	1.20	8.34	8.34	8.34	0.30	0.80	± 12.0 %
1750	40.1	1.37	8.24	8.24	8.24	0.33	0.86	± 12.0 %
1900	40.0	1.40	7.98	7.98	7.98	0.28	0.94	± 12.0 %
2000	40.0	1.40	7.86	7.86	7.86	0.28	0.86	± 12.0 %
2300	39.5	1.67	7.70	7.70	7.70	0.30	0.90	± 12.0 %
2450	39.2	1.80	7.33	7.33	7.33	0.32	0.90	± 12.0 %
2600	39.0	1.96	7.21	7.21	7.21	0.36	0.90	± 12.0 %
3300	38.2	2.71	6.80	6.80	6.80	0.35	1.30	± 13.1 %
3500	37.9	2.91	6.64	6.64	6.64	0.35	1.30	± 13.1 %
3700	37.7	3.12	6.39	6.39	6.39	0.35	1.30	± 13.1 %
3900	37.5	3.32	6.14	6.14	6.14	0.40	1.60	± 13.1 %
4100	37.2	3.53	5.92	5.92	5.92	0.40	1.60	± 13.1 %
4200	37.1	3.63	5.76	5.76	5.76	0.40	1.70	± 13.1 %
4400	36.9	3.84	5.74	5.74	5.74	0.38	1.33	± 13.1 %
4600	36.7	4.04	5.54	5.54	5.54	0.40	1.70	± 13.1 %
4800	36.4	4.25	5.45	5.45	5.45	0.40	1.80	± 13.1 %
4950	36.3	4.40	5.32	5.32	5.32	0.40	1.80	± 13.1 %
5250	35.9	4.71	4.71	4.71	4.71	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.24	4.24	4.24	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.36	4.36	4.36	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

Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

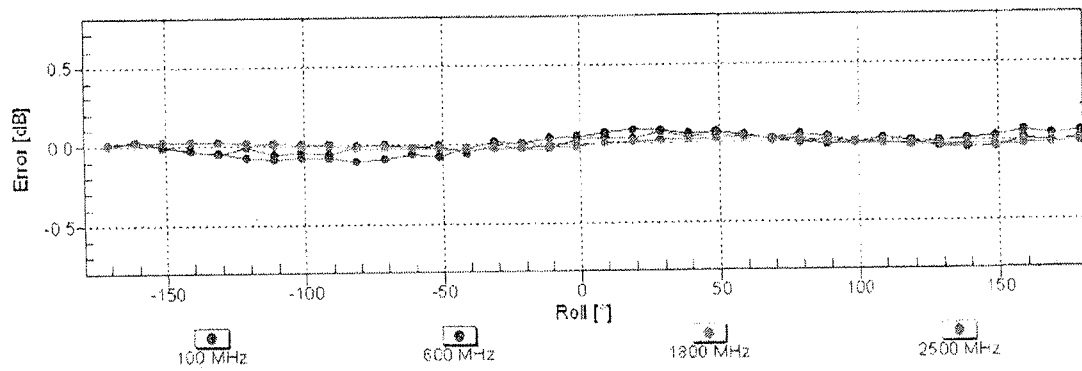
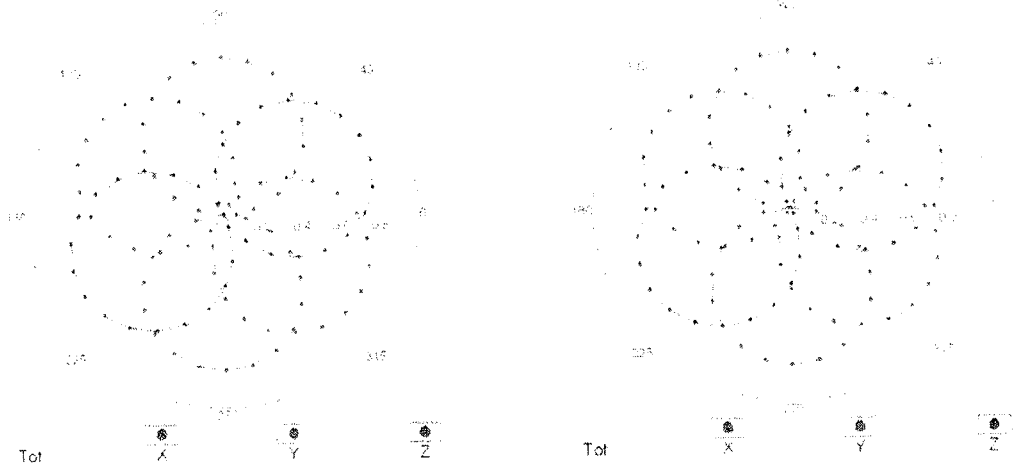


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

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

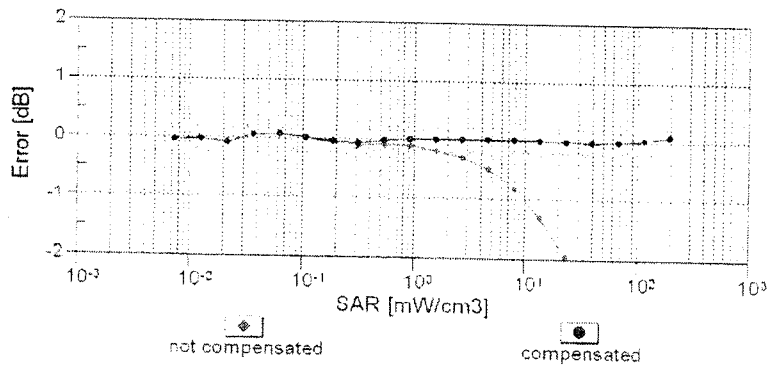
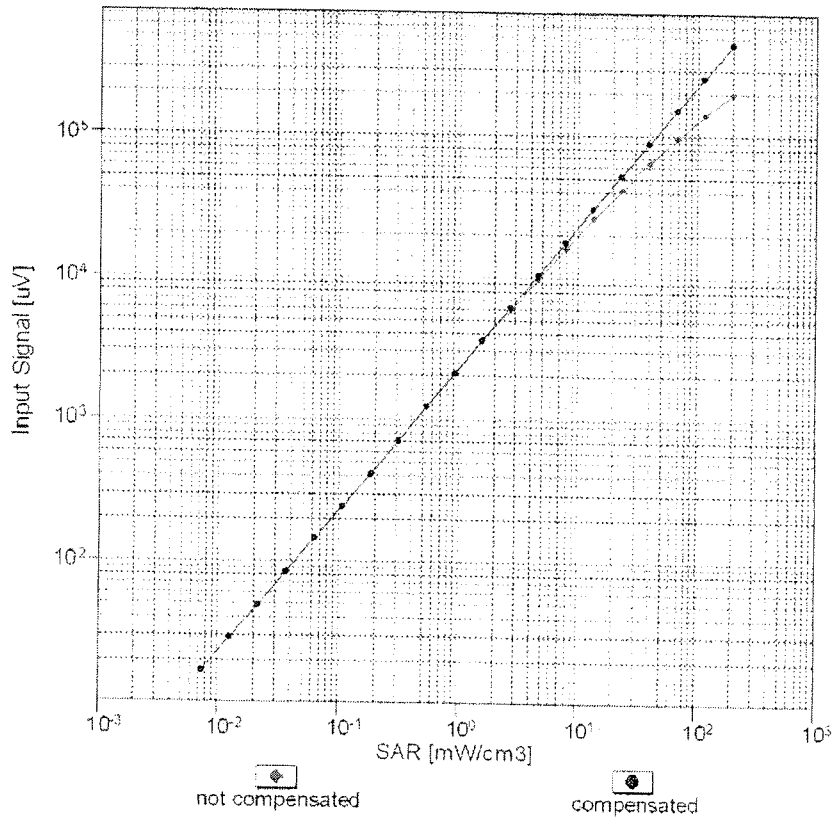
f=600 MHz,TEM

f=1800 MHz,R22



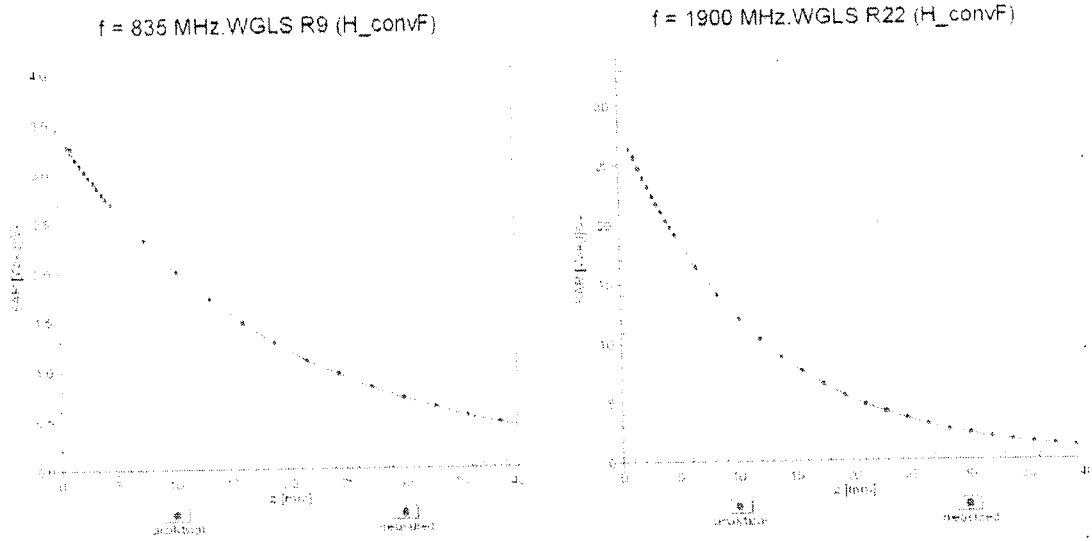
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

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

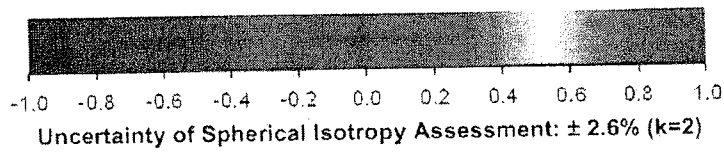
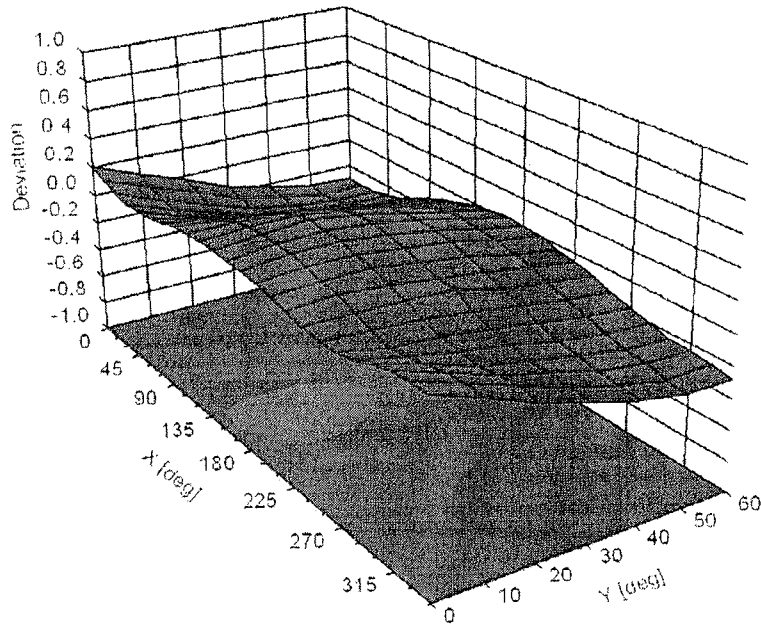


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, θ), f = 900 MHz



Appendix: Modulation Calibration Parameters

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

10099	CAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	DAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 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	CAG	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAG	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAG	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAG	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAD	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAD	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAC	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	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAE	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	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	AAE	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	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAI	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	AAD	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	AAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAF	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAF	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %
10220	AAF	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAD	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAD	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAD	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	DAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %

10260	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAD	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAD	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAD	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAG	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	CAG	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	CAG	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	CAG	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	CAG	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	CAG	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %
10300	CAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	CAC	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	CAB	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL)	WiMAX	12.57	± 9.6 %
10303	CAB	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	CAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	CAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	15.24	± 9.6 %
10306	CAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	14.67	± 9.6 %
10307	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC)	WiMAX	14.49	± 9.6 %
10308	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3)	WiMAX	14.58	± 9.6 %
10310	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3)	WiMAX	14.57	± 9.6 %
10311	AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAD	iDEN 1:3	iDEN	10.51	± 9.6 %
10314	AAD	iDEN 1:6	iDEN	13.48	± 9.6 %
10315	AAD	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)	WLAN	1.71	± 9.6 %
10316	AAD	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10317	AAA	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc)	WLAN	8.37	± 9.6 %
10401	AAA	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)	WLAN	8.60	± 9.6 %
10402	AAA	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAD	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %