

Appendix A. Plots of System Verification

The plots for system verification are shown as follows.

Plots of System Verification

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

S01 System Check_H2450_230529

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

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

Medium: H06T27N4_0529 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.75$ S/m; $\epsilon_r = 41.623$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(8.26, 8.26, 8.26) @ 2450 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

Maximum value of SAR (interpolated) = 4.05 W/kg

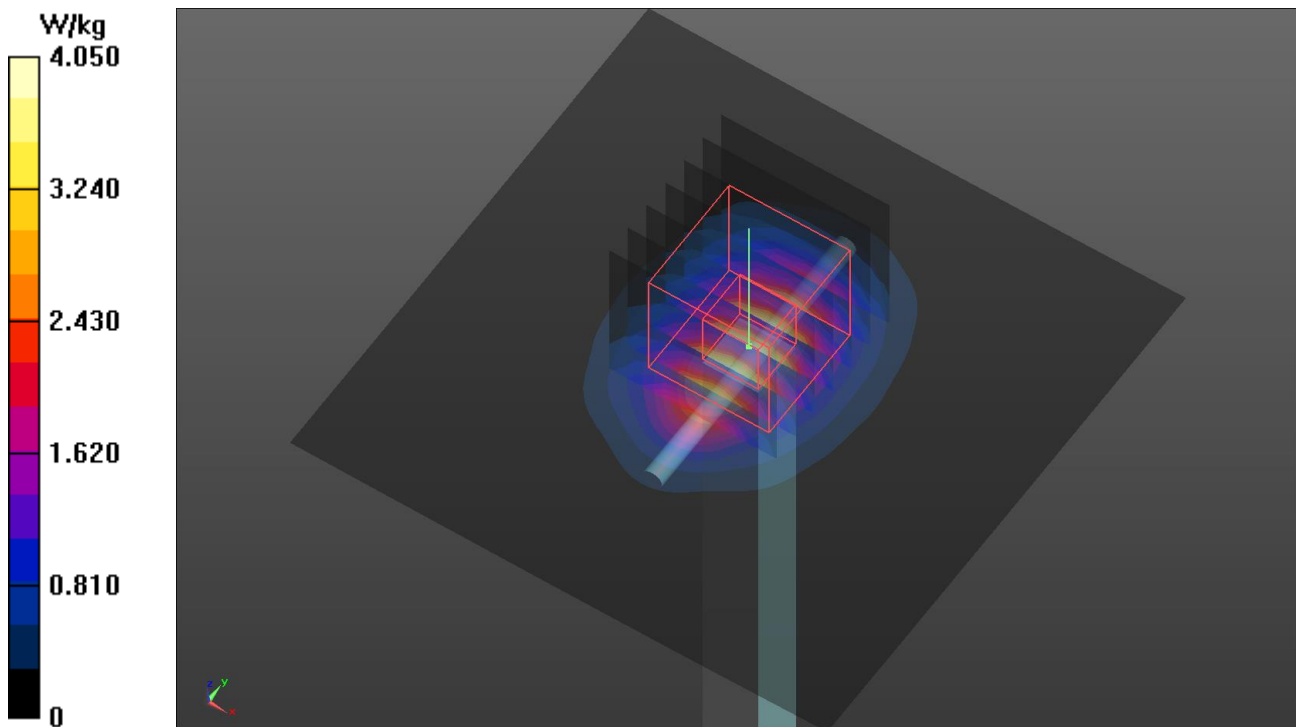
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 47.28 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 5.05 W/kg

SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.11 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.97 W/kg



Plots of System Verification

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

S02 System Check_H5250_230529

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

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

Medium: H51T72N4_0529 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.566$ S/m; $\epsilon_r = 36.543$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(5.24, 5.24, 5.24) @ 5250 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

Maximum value of SAR (interpolated) = 8.87 W/kg

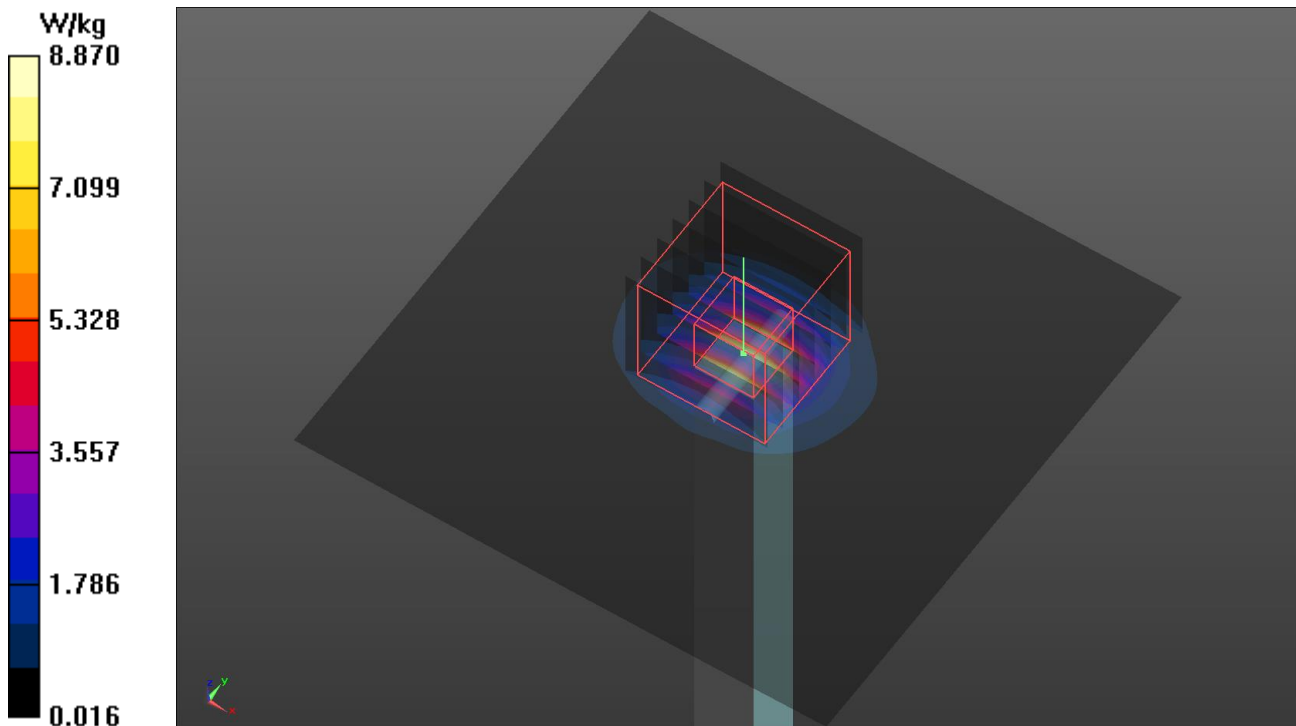
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 47.55 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 14.4 W/kg

SAR(1 g) = 3.93 W/kg; SAR(10 g) = 1.17 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 9.52 W/kg



Plots of System Verification

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

S03 System Check_H5600_230529

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

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: H51T72N4_0529 Medium parameters used: $f = 5600$ MHz; $\sigma = 4.956$ S/m; $\epsilon_r = 35.956$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.95, 4.95, 4.95) @ 5600 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

Maximum value of SAR (interpolated) = 9.34 W/kg

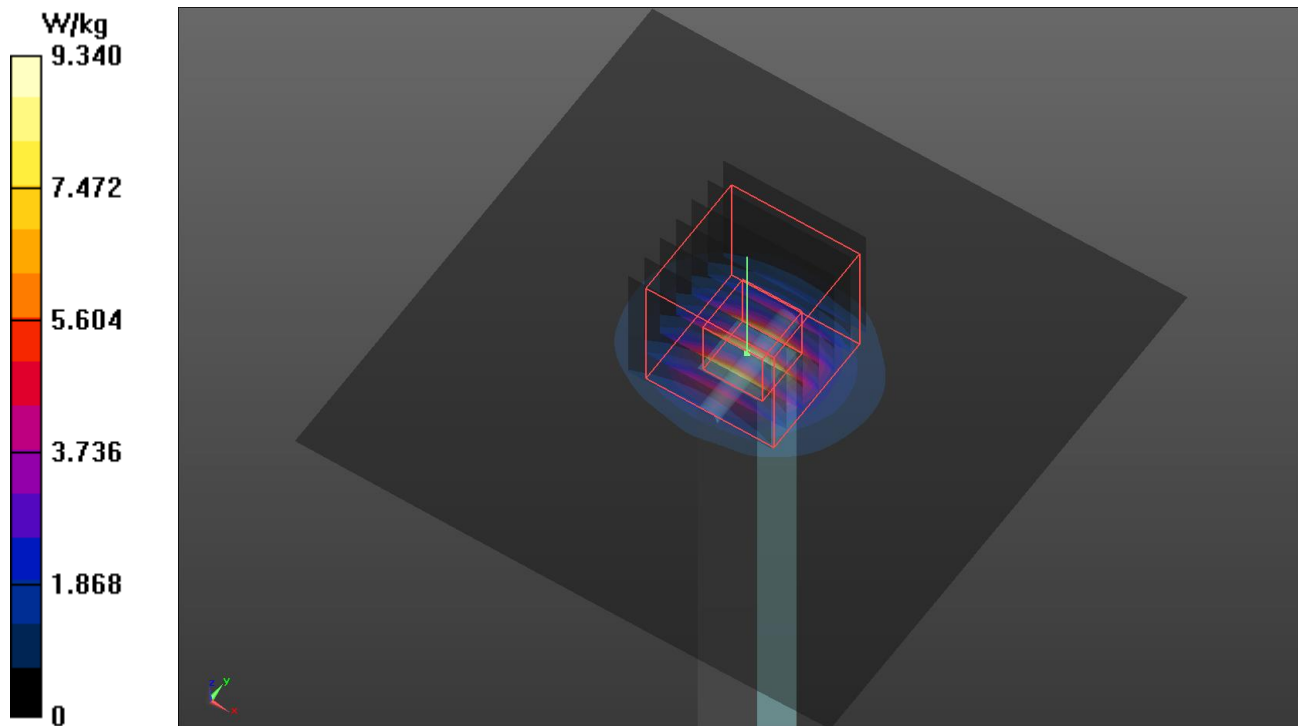
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 47.54 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 16.5 W/kg

SAR(1 g) = 4.08 W/kg; SAR(10 g) = 1.21 W/kg (SAR corrected for target medium)

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



Plots of System Verification

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

S05 System Check_H5800_230529

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

Communication System: UID 0, CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: H51T72N4_0529 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.189$ S/m; $\epsilon_r = 35.622$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.91, 4.91, 4.91) @ 5800 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

Maximum value of SAR (interpolated) = 8.85 W/kg

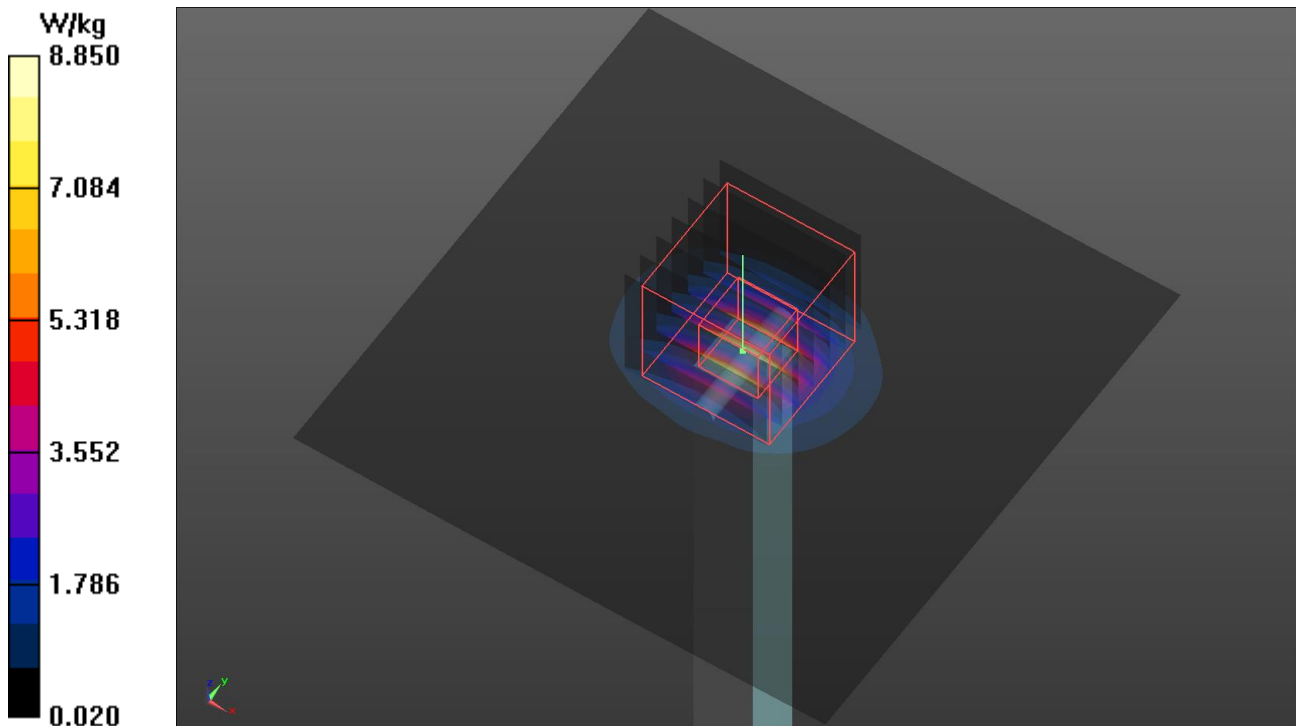
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 44.40 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 15.8 W/kg

SAR(1 g) = 3.75 W/kg; SAR(10 g) = 1.12 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 9.50 W/kg



Plots of System Verification

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/26

S06 System Check_H5800_230526

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

Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: H51T72N4_0526 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.095$ S/m; $\epsilon_r = 36.06$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.91, 4.91, 4.91) @ 5800 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

Maximum value of SAR (interpolated) = 13.2 W/kg

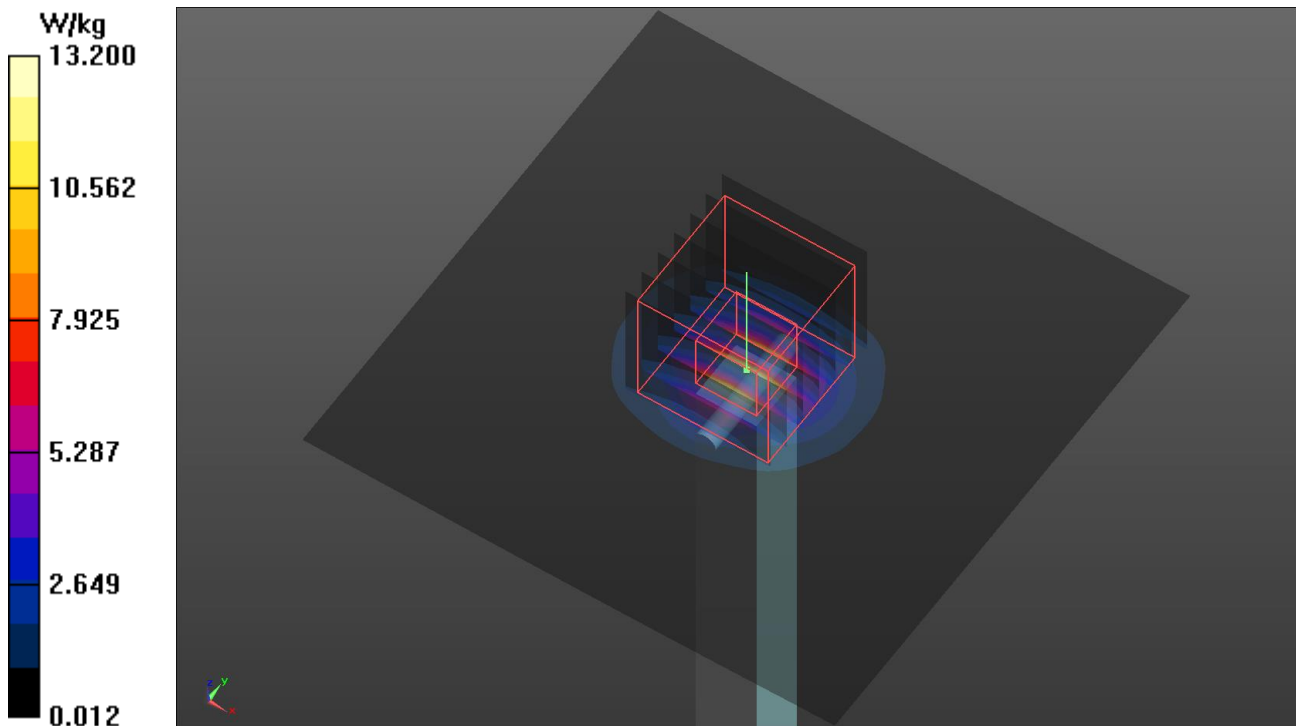
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 56.02 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 22.7 W/kg

SAR(1 g) = 4.06 W/kg; SAR(10 g) = 1.09 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 13.3 W/kg



Plots of System Verification

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

S07 System Check_H2450_230529

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

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

Medium: H06T27N4_0529 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.75$ S/m; $\epsilon_r = 41.623$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(8.26, 8.26, 8.26) @ 2450 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

Maximum value of SAR (interpolated) = 4.05 W/kg

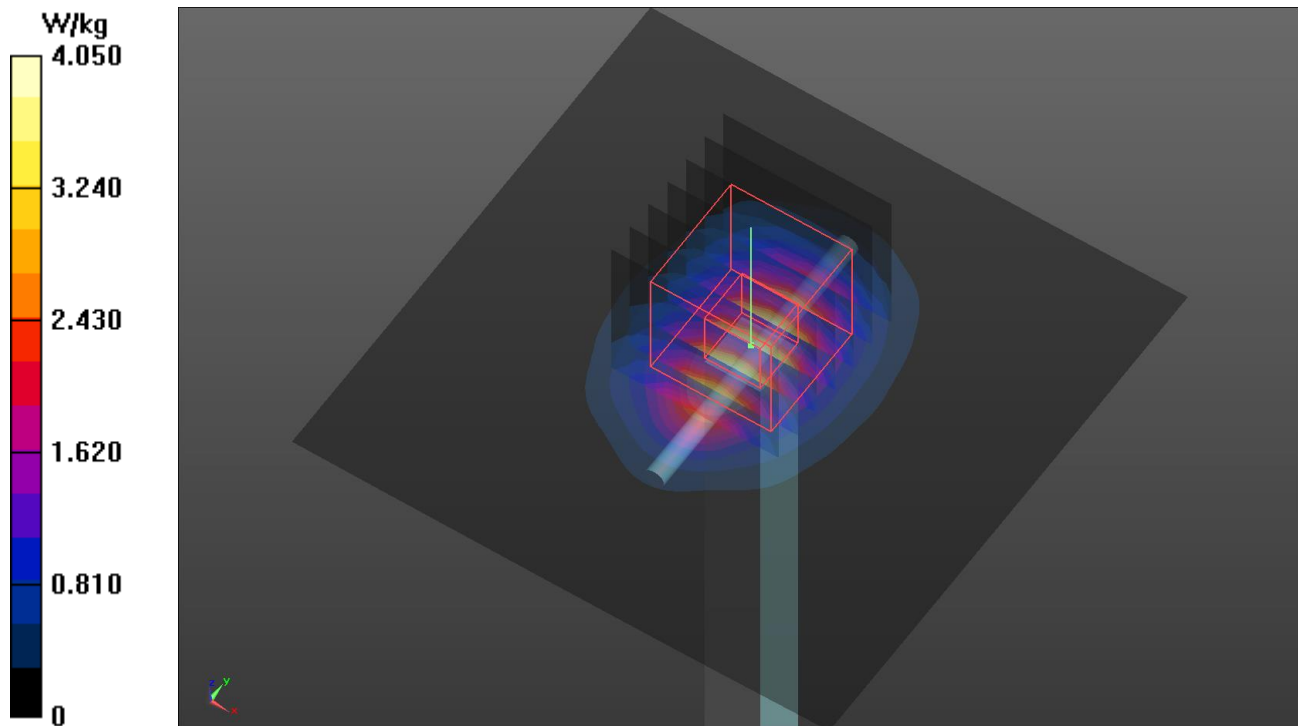
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 47.28 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 5.05 W/kg

SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.11 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.97 W/kg



Plots of System Verification

Measurement Report for Device S08 System Check H6.5GHz_230529 Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Dipole	50.0 x 10.0 x 8.0		6500

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat				6500.0	5.65	6.02	34.5

Hardware Setup

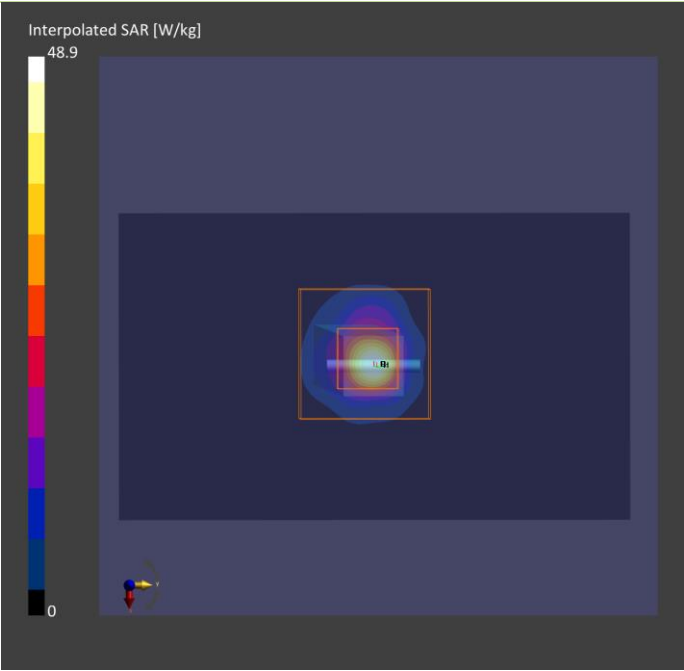
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) - 1204	H51T72N4 , 2023-May-29	EX3DV4 - SN3971, 2023-01-20	DAE4 Sn1277, 2023-01-24

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	45.0 x 90.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	7.5 x 7.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2023-05-29	2023-05-29
psSAR1g [W/kg]	25.5	29.9
psSAR10g [W/kg]	5.03	5.48
psPDab (1.0cm2, sq) [W/m2]		299
psPDab (4.0cm2, sq) [W/m2]		134
Power Drift [dB]	0.01	-0.03



Appendix B. Plots of Measurement

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

Plots of Measurement

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

P01 WLAN2.4G_802.11b_Rear Face_0mm_Ch13_Sample South Star_Ant 0_Battery SKU 3

DUT: BFLF-WTW-P23040124

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps); Frequency: 2472 MHz; Duty Cycle: 1:1.03

Medium: H06T27N4_0529 Medium parameters used: $f = 2472$ MHz; $\sigma = 1.766$ S/m; $\epsilon_r = 41.592$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(8.26, 8.26, 8.26) @ 2472 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (71x321x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.991 W/kg

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

Reference Value = 21.01 V/m; Power Drift = -0.01 dB

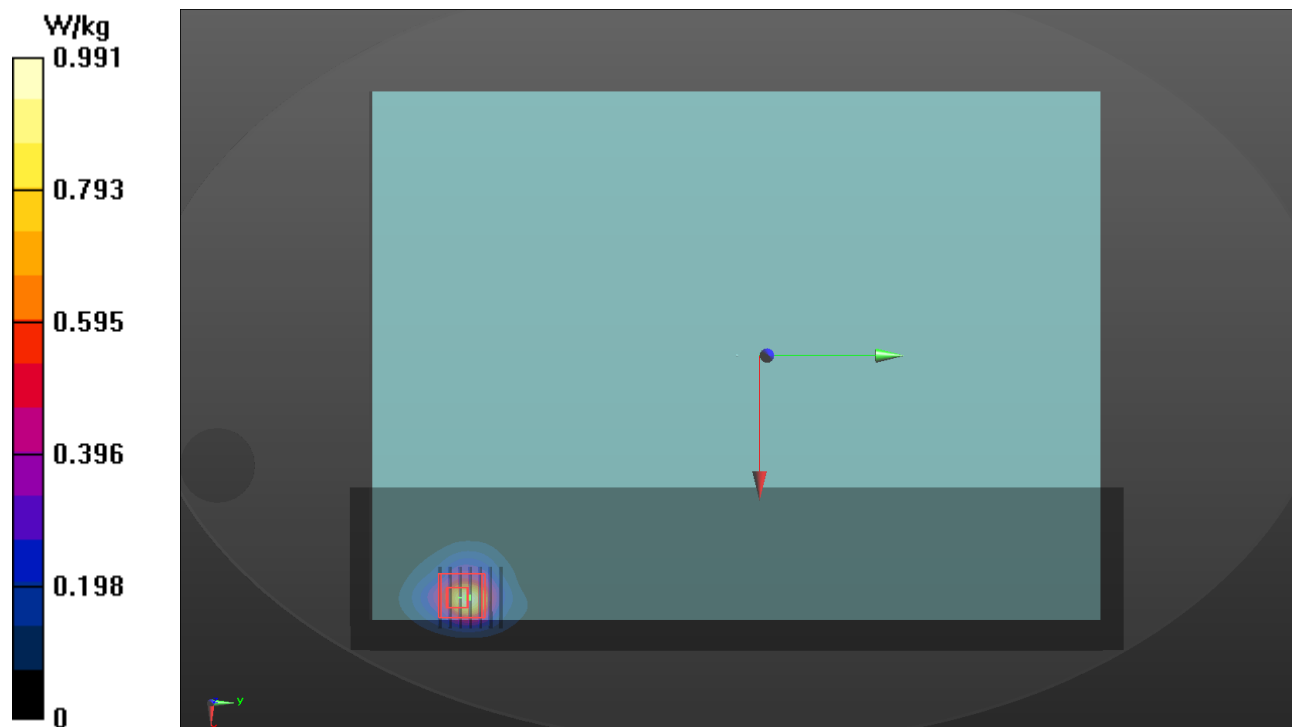
Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 0.702 W/kg; SAR(10 g) = 0.291 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7.6 mm

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

Maximum value of SAR (measured) = 1.27 W/kg



Plots of Measurement

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

P02 WLAN5.3G_802.11ac VHT160_Top Side_0mm_Ch50_Sample South Star_Ant 0_Battery SKU 3

DUT: BFLF-WTW-P23040124

Communication System: UID 10554 - AAD, IEEE 802.11ac WiFi (160MHz, MCS0); Frequency: 5250 MHz; Duty Cycle: 1:1.01

Medium: H51T72N4_0529 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.566$ S/m; $\epsilon_r = 36.543$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(5.24, 5.24, 5.24) @ 5250 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (81x381x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.461 W/kg

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

Reference Value = 9.986 V/m; Power Drift = -0.03 dB

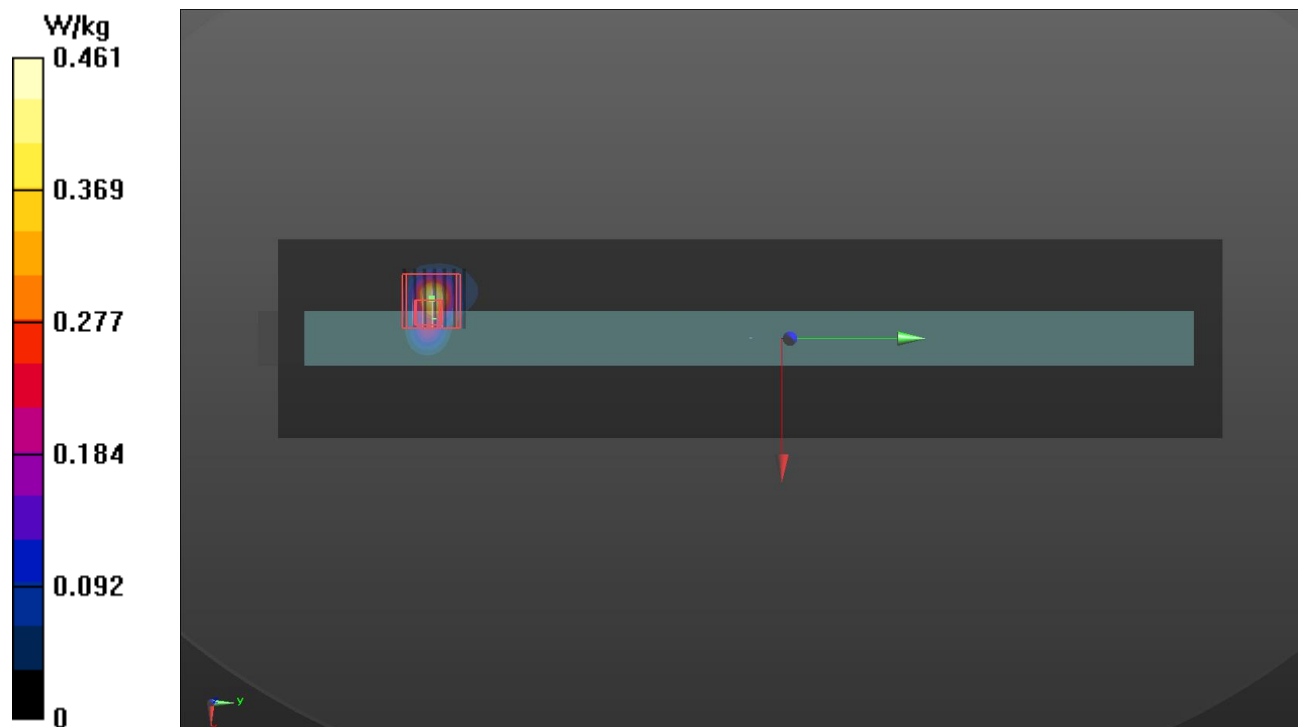
Peak SAR (extrapolated) = 3.41 W/kg

SAR(1 g) = 0.839 W/kg; SAR(10 g) = 0.195 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 4.8 mm

Ratio of SAR at M2 to SAR at M1 = 68.9%

Maximum value of SAR (measured) = 1.93 W/kg



Plots of Measurement

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

P03 WLAN5.6G_802.11ac VHT160_Top Side_0mm_Ch114_Sample South Star_Ant 0_Battery SKU 3

DUT: BFLF-WTW-P23040124

Communication System: UID 10554 - AAD, IEEE 802.11ac WiFi (160MHz, MCS0); Frequency: 5570 MHz; Duty Cycle: 1:1.01

Medium: H51T72N4_0529 Medium parameters used: $f = 5570$ MHz; $\sigma = 4.919$ S/m; $\epsilon_r = 36.011$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.95, 4.95, 4.95) @ 5570 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (81x381x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

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

Reference Value = 9.333 V/m; Power Drift = -0.09 dB

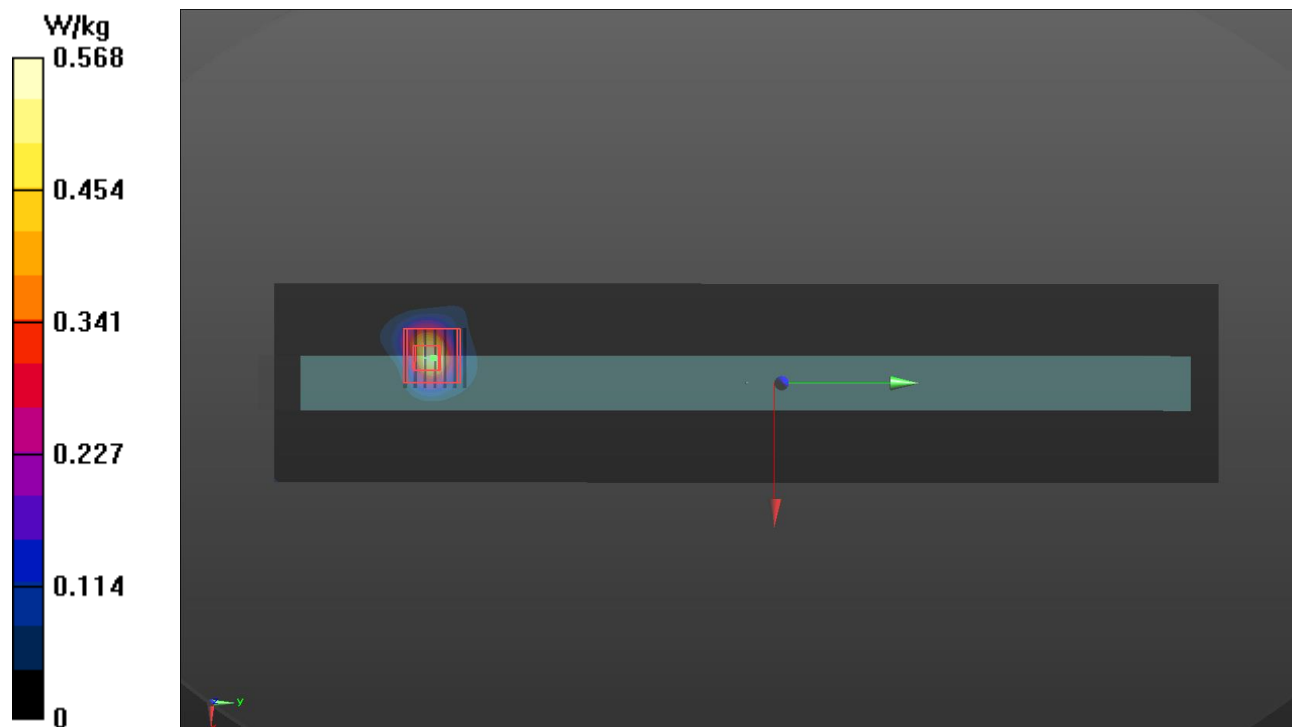
Peak SAR (extrapolated) = 2.69 W/kg

SAR(1 g) = 0.637 W/kg; SAR(10 g) = 0.164 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 = 65.5%

Maximum value of SAR (measured) = 1.68 W/kg



Plots of Measurement

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

P05 WLAN5.8G_802.11ac VHT80_Top Side_0mm_Ch155_Sample South Star_Ant 1_Battery SKU 3

DUT: BFLF-WTW-P23040124

Communication System: UID 10544 - AAC, IEEE 802.11ac WiFi (80MHz, MCS0); Frequency: 5775 MHz; Duty Cycle: 1:1.03

Medium: H51T72N4_0529 Medium parameters used: $f = 5775$ MHz; $\sigma = 5.159$ S/m; $\epsilon_r = 35.663$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.91, 4.91, 4.91) @ 5775 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (81x381x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.835 W/kg

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

Reference Value = 11.41 V/m; Power Drift = 0.09 dB

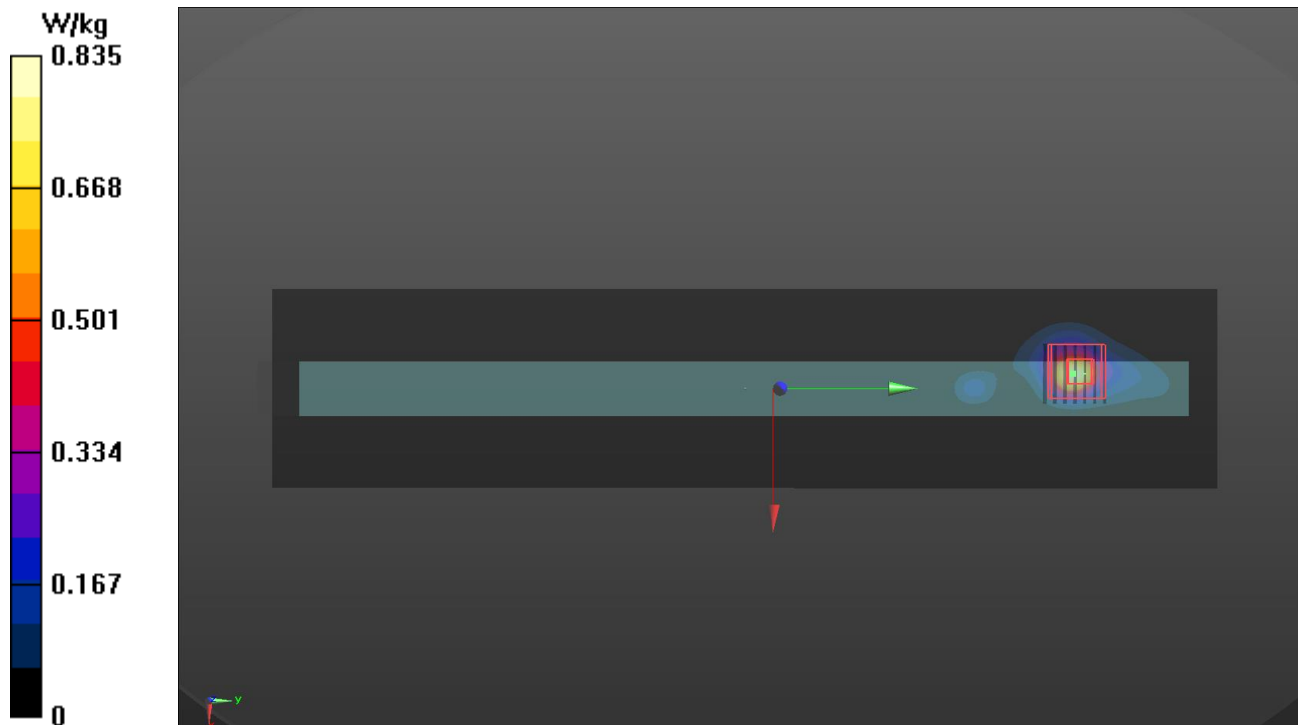
Peak SAR (extrapolated) = 3.62 W/kg

SAR(1 g) = 0.787 W/kg; SAR(10 g) = 0.188 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.6 mm

Ratio of SAR at M2 to SAR at M1 = 63%

Maximum value of SAR (measured) = 2.13 W/kg



Plots of Measurement

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/26

P06 WLAN5.9G_802.11ax HE160_Top Side_0mm_Ch163_Sample South Star_Ant 0_Battery SKU 3

DUT: BFLF-WTW-P23040124

Communication System: UID 10755 - AAC, IEEE 802.11ax (160MHz, MCS0); Frequency: 5815 MHz; Duty Cycle: 1:1.03

Medium: H51T72N4_0526 Medium parameters used: $f = 5815$ MHz; $\sigma = 5.087$ S/m; $\epsilon_r = 36.093$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.91, 4.91, 4.91) @ 5815 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (61x381x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.86 W/kg

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

Reference Value = 25.25 V/m; Power Drift = 0.01 dB

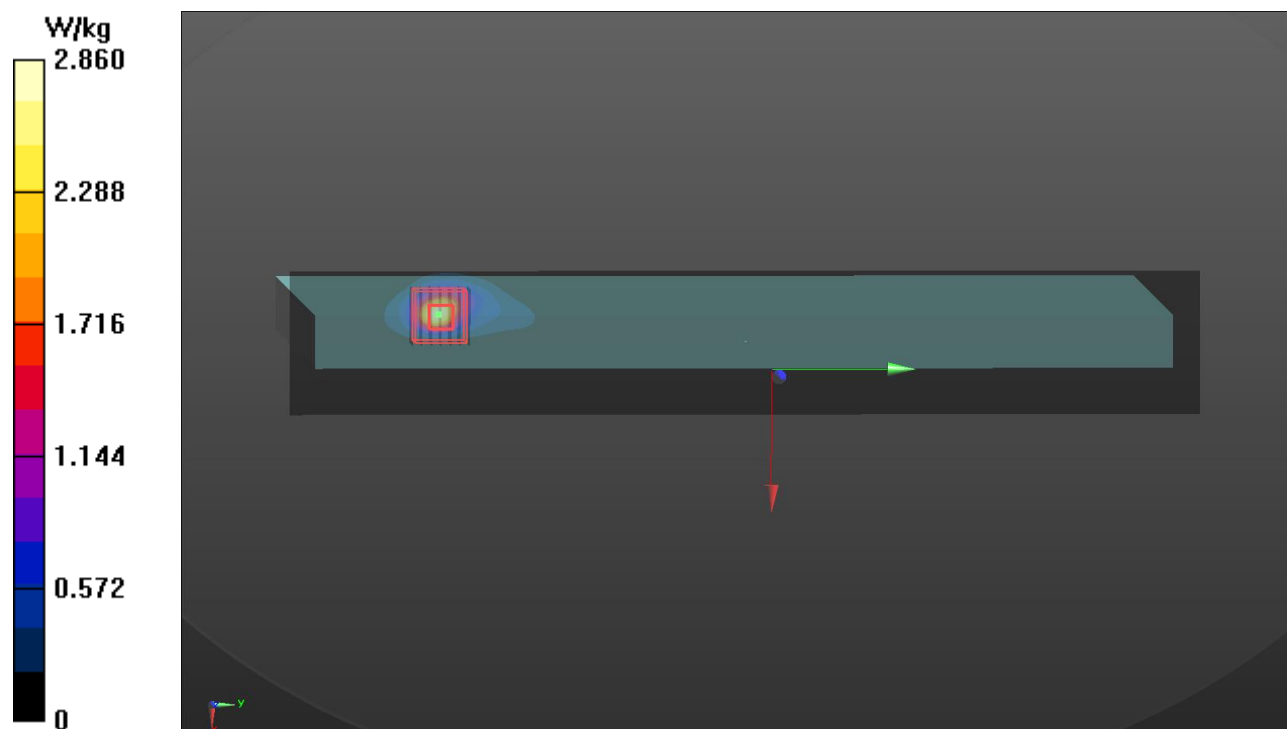
Peak SAR (extrapolated) = 5.35 W/kg

SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.289 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 64.1%

Maximum value of SAR (measured) = 2.89 W/kg



Plots of Measurement

Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab

Date: 2023/05/29

P07 BT_BDR_Rear Face_0mm_Ch78_Sample South Star_Ant 0_Battery SKU 3

DUT: BFLF-WTW-P23040124

Communication System: UID 10032 - CAA, IEEE 802.15.1 Bluetooth (GFSK, DH5); Frequency: 2480 MHz; Duty Cycle: 1:1.30

Medium: H06T27N4_0529 Medium parameters used: $f = 2480$ MHz; $\sigma = 1.772$ S/m; $\epsilon_r = 41.583$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.8 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(8.26, 8.26, 8.26) @ 2480 MHz; Calibrated: 2023/01/20
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2023/01/24
- Phantom: ELI_Phantom_1204; Type: QD OVA 002 Ax; Serial: 1204
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (71x321x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.460 W/kg

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

Reference Value = 14.35 V/m; Power Drift = -0.03 dB

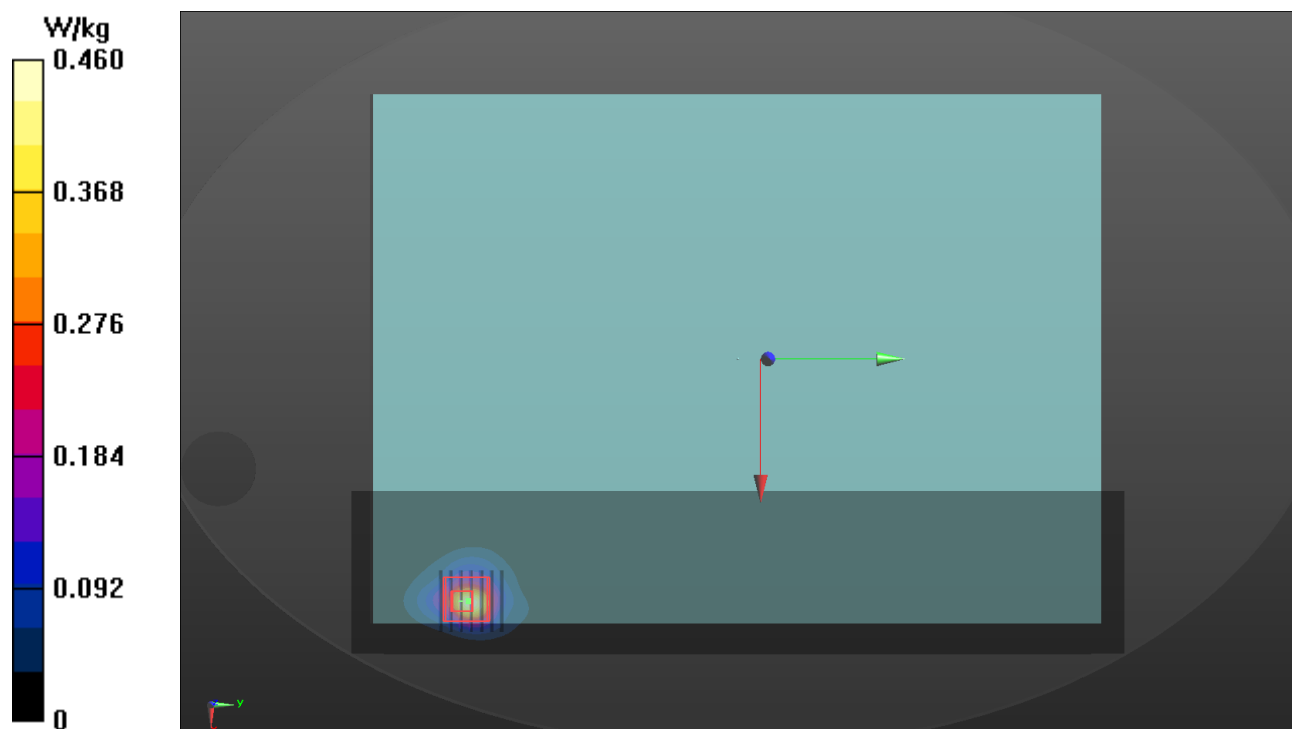
Peak SAR (extrapolated) = 0.729 W/kg

SAR(1 g) = 0.293 W/kg; SAR(10 g) = 0.129 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7.6 mm

Ratio of SAR at M2 to SAR at M1 = 44.5%

Maximum value of SAR (measured) = 0.562 W/kg



Plots of Measurement

Measurement Report

P08 UNII-5_802.11ax HE160_Rear Face_0mm_Ch47_Sample South Star_Ant 1_Battery SKU 3

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
BFLF-WTW-P23040124	358.0 x 260.0 x 22.0		Tablet

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat,	Rear Face, 0.00	U-NII-5	WLAN, 10755-AAC	6185.0, 47	5.65	5.65	35.0

Hardware Setup

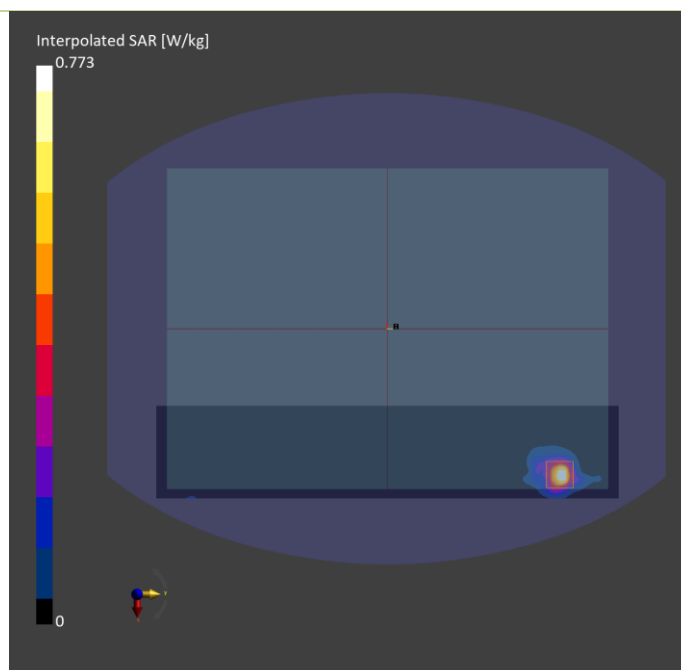
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) - 1204	H51T72N4 , 2023-May-29	EX3DV4 - SN3971, 2023-01-20	DAE4 Sn1277, 2023-01-24

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	75.0 x 375.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	7.5 x 7.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2023-05-29	2023-05-29
psSAR1g [W/kg]	0.555	0.562
psSAR10g [W/kg]	0.170	0.167
psAPD (1.0cm2, sq) [W/m2]		5.62
psAPD (4.0cm2, sq) [W/m2]		3.87
Power Drift [dB]	0.04	-0.03
M2/M1 [%]		57.0
Dist 3dB Peak [mm]		6.5



Appendix 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 FCC KDB 865664 D0. 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 Appendix A of this report.

Tissue Verification									Validation for CW			Validation for Modulation				System Check					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
S01	2450	21.6	1.75	41.623	1.8	39.2	-2.78	6.18	Pass	Pass	Pass	OFDM	N/A	Pass	May 29, 2023	2450	50.40	2.4	47.89	-4.99	737	3971	1277
S02	5250	21.6	4.566	36.543	4.71	35.9	-3.06	1.79	Pass	Pass	Pass	OFDM	N/A	Pass	May 29, 2023	5250	80.10	3.93	78.41	-2.11	1019	3971	1277
S03	5600	21.6	4.956	35.956	5.07	35.5	-2.25	1.28	Pass	Pass	Pass	OFDM	N/A	Pass	May 29, 2023	5600	83.00	4.08	81.41	-1.92	1019	3971	1277
S05	5800	21.6	5.189	35.622	5.27	35.3	-1.54	0.91	Pass	Pass	Pass	OFDM	N/A	Pass	May 29, 2023	5800	80.20	3.75	74.82	-6.71	1019	3971	1277
S06	5800	21.5	5.095	36.06	5.27	35.3	-3.32	2.15	Pass	Pass	Pass	OFDM	N/A	Pass	May 26, 2023	5800	80.20	4.06	81.01	1.01	1019	3971	1277
S07	2450	21.6	1.75	41.623	1.8	39.2	-2.78	6.18	Pass	Pass	Pass	OFDM	N/A	Pass	May 29, 2023	2450	50.40	2.4	47.89	-4.99	737	3971	1277
S08	6500	21.6	6.02	34.5	6.07	34.5	-0.82	0.00	Pass	Pass	Pass	OFDM	N/A	Pass	May 29, 2023	6500	289.00	29.9	299.00	3.46	1008	3971	1277

Appendix D. Maximum Target Conducted Power

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

Tune-up Power (Laptop Mode)				
WLAN 5.9GHz				
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up
802.11a	169	5845	10.5	10.5
	173	5865	10.5	10.5
	177	5885	10.5	10.5
802.11n HT20	169	5845	10.5	10.5
	173	5865	10.5	10.5
	177	5885	10.5	10.5
802.11n HT40	167	5835	10.5	10.5
	175	5875	10.5	10.5
802.11ac VHT80	171	5855	10.5	10.5
802.11ac VHT160	163	5815	10.5	10.5
802.11ax HE20	169	5845	10.5	10.5
	173	5865	10.5	10.5
	177	5885	10.5	10.5
802.11ax HE40	167	5835	10.5	10.5
	175	5875	10.5	10.5
802.11ax HE80	171	5855	10.5	10.5
802.11ax HE160	163	5815	10.5	10.5

Tune-up Power (Tablet Mode)				
WLAN 5.9GHz				
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up
802.11a	169	5845	10.5	10.0
	173	5865	10.5	10.0
	177	5885	10.5	10.0
802.11n HT20	169	5845	10.5	10.0
	173	5865	10.5	10.0
	177	5885	10.5	10.0
802.11n HT40	167	5835	10.5	10.0
	175	5875	10.5	10.0
802.11ac VHT80	171	5855	10.5	10.0
802.11ac VHT160	163	5815	9.5	10.5
802.11ax HE20	169	5845	10.5	10.0
	173	5865	10.5	10.0
	177	5885	10.5	10.0
802.11ax HE40	167	5835	10.5	10.0
	175	5875	10.5	10.0
802.11ax HE80	171	5855	10.5	10.0
802.11ax HE160	163	5815	10.5	10.0

Appendix E. Measured Conducted Power Result

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

Conducted Power (Laptop Mode)			
WLAN 5.9GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11a	169	5845	10.17
	173	5865	10.33
	177	5885	10.14
802.11n HT20	169	5845	10.17
	173	5865	10.16
	177	5885	10.11
802.11n HT40	167	5835	10.14
	175	5875	10.07
802.11ac VHT80	171	5855	10.30
802.11ac VHT160	163	5815	9.81
802.11ax HE20	169	5845	10.12
	173	5865	10.17
	177	5885	10.10
802.11ax HE40	167	5835	10.13
	175	5875	10.11
802.11ax HE80	171	5855	10.14
802.11ax HE160	163	5815	10.49

Conducted Power (Laptop Mode)			
WLAN 5.9GHz Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11a	169	5845	10.24
	173	5865	10.21
	177	5885	10.25
802.11n HT20	169	5845	10.19
	173	5865	10.27
	177	5885	10.28
802.11n HT40	167	5835	10.21
	175	5875	10.05
802.11ac VHT80	171	5855	10.29
802.11ac VHT160	163	5815	10.44
802.11ax HE20	169	5845	10.39
	173	5865	10.41
	177	5885	10.18
802.11ax HE40	167	5835	10.32
	175	5875	10.25
802.11ax HE80	171	5855	10.12
802.11ax HE160	163	5815	10.48

Conducted Power (Tablet Mode)			
WLAN 5.9GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11a	169	5845	10.22
	173	5865	10.2
	177	5885	10.24
802.11n HT20	169	5845	10.2
	173	5865	10.26
	177	5885	10.21
802.11n HT40	167	5835	10.27
	175	5875	10.21
802.11ac VHT80	171	5855	10.28
802.11ac VHT160	163	5815	9.28
802.11ax HE20	169	5845	10.22
	173	5865	10.27
	177	5885	10.23
802.11ax HE40	167	5835	10.27
	175	5875	10.23
802.11ax HE80	171	5855	10.29
802.11ax HE160	163	5815	10.47

Conducted Power (Tablet Mode)			
WLAN 5.9GHz Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11a	169	5845	9.87
	173	5865	9.81
	177	5885	9.85
802.11n HT20	169	5845	9.84
	173	5865	9.81
	177	5885	9.83
802.11n HT40	167	5835	9.85
	175	5875	9.89
802.11ac VHT80	171	5855	9.81
802.11ac VHT160	163	5815	10.47
802.11ax HE20	169	5845	9.84
	173	5865	9.86
	177	5885	9.89
802.11ax HE40	167	5835	9.82
	175	5875	9.89
802.11ax HE80	171	5855	9.84
802.11ax HE160	163	5815	9.9

Appendix F. SAR and Incident Power Density Test Result

SAR Results for Body Exposure Condition.

Note:

1. SAR testing for WLAN / BT 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.
3. Per KDB 388624 APPENDIX OVER6G, the minimum of 5 channels to perform IPD across U-NII 5,6,7 and 8. and measured results were scaled by factor 1.545 to reported power density when measurement uncertainty exceed 30%.
4. The SAR testing was verified on the worst case of original report to ensure compliance.
5. The difference compared with original report is adding WLAN5.9G. Therefore, this report verified the worst case of the other band.

Body SAR Test Result

System & Position						DUT Configuration			SAR							
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Sample	Ant Status	Battery	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	Rear Face	0	13	South Star	Ant 0	3	97.38	1.03	13.00	12.93	1.02	-0.01	0.702	0.74
2	WLAN5.3G	802.11ac VHT160	Top Side	0	50	South Star	Ant 0	3	98.60	1.01	8.50	8.48	1.00	-0.03	0.839	0.85
3	WLAN5.6G	802.11ac VHT160	Top Side	0	114	South Star	Ant 0	3	98.60	1.01	9.50	9.42	1.02	-0.09	0.637	0.66
5	WLAN5.8G	802.11ac VHT80	Top Side	0	155	South Star	Ant 1	3	97.17	1.03	10.00	9.97	1.01	0.09	0.787	0.82
	WLAN5.9G	802.11ax HE160	Front for Laptop	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.49	1.00	0.02	0.696	0.72
	WLAN5.9G	802.11ax HE160	Front for Laptop	0	163	South Star	Ant 1	3	97.32	1.03	10.50	10.48	1.00	-0.01	1.14	1.17
	WLAN5.9G	802.11ax HE160	Bottom for Laptop	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.49	1.00	0.19	0.08	0.08
	WLAN5.9G	802.11ax HE160	Bottom for Laptop	0	163	South Star	Ant 1	3	97.32	1.03	10.50	10.48	1.00	-0.17	0.19	0.20
	WLAN5.9G	802.11ax HE160	Rear Face	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.47	1.01	-0.09	0.873	0.91
	WLAN5.9G	802.11ax HE160	Left Side	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.47	1.01	0	<0.001	0.00
	WLAN5.9G	802.11ax HE160	Right Side	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.47	1.01	0	<0.001	0.00
6	WLAN5.9G	802.11ax HE160	Top Side	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.47	1.01	0.01	1.13	1.18
	WLAN5.9G	802.11ax HE160	Bottom Side	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.47	1.01	0	<0.001	0.00
	WLAN5.9G	802.11ac VHT160	Rear Face	0	163	South Star	Ant 1	3	98.60	1.01	10.50	10.47	1.01	0.05	1.09	1.11
	WLAN5.9G	802.11ac VHT160	Left Side	0	163	South Star	Ant 1	3	98.60	1.01	10.50	10.47	1.01	0	<0.001	0.00
	WLAN5.9G	802.11ac VHT160	Right Side	0	163	South Star	Ant 1	3	98.60	1.01	10.50	10.47	1.01	0	<0.001	0.00
	WLAN5.9G	802.11ac VHT160	Top Side	0	163	South Star	Ant 1	3	98.60	1.01	10.50	10.47	1.01	0.09	1.04	1.06
	WLAN5.9G	802.11ac VHT160	Bottom Side	0	163	South Star	Ant 1	3	98.60	1.01	10.50	10.47	1.01	0	<0.001	0.00
	WLAN5.9G	802.11ax HE160	Front for Laptop	0	163	Pulse	Ant 1	3	97.32	1.03	10.50	10.48	1.00	0.19	1.08	1.11
	WLAN5.9G	802.11ax HE160	Rear Face	0	163	Pulse	Ant 0	3	97.34	1.03	10.50	10.47	1.01	0.08	0.841	0.87
	WLAN5.9G	802.11ax HE160	Top Side	0	163	Pulse	Ant 0	3	97.34	1.03	10.50	10.47	1.01	0.11	1.01	1.05
	WLAN5.9G	802.11ac VHT160	Rear Face	0	163	Pulse	Ant 1	3	98.60	1.01	10.50	10.47	1.01	-0.02	1.03	1.05
	WLAN5.9G	802.11ac VHT160	Top Side	0	163	Pulse	Ant 1	3	98.60	1.01	10.50	10.47	1.01	-0.14	0.982	1.00
	WLAN5.9G	802.11ax HE160	Top Side	0	163	South Star	Ant 0	1	97.34	1.03	10.50	10.47	1.01	0.02	1.06	1.10
	WLAN5.9G	802.11ax HE160	Top Side	0	163	South Star	Ant 0	3	97.34	1.03	10.50	10.47	1.01	0.05	1.11	1.15
7	BT	BDR	Rear Face	0	78	South Star	Ant 0	3	76.73	1.30	10.50	10.37	1.03	-0.03	0.293	0.39



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SAR and APD Test Result																		
System & Position						DUT Configuration			SAR									
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Sample	Ant Status	Battery	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)	Measured APD W/m ² (4cm ²)	Scaled APD W/m ² (4cm ²)
8	UNII-5	802.11ax HE160	Rear Face	0	47	South Star	Ant 1	3	98.36	1.02	11.00	10.95	1.01	-0.03	0.562	0.58	3.87	3.99

Appendix G. SAR Measurement Variability

SAR repeated measurement are shown as below.



Repeated SAR							
Plot	Band	Mode	Test Position	Ch.	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio
R06	WLAN5.9G	802.11ac VHT160	Top Side	163	1.13	1.11	1.02

Appendix H. Analysis of Simultaneous Transmission.

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	Body Exposure Condition
A	WLAN 5G_Ant 1 + BT_Ant 0	Yes
B	WLAN 5G_Ant 0 + WLAN 5G_Ant 1	Yes
C	WLAN 5G_Ant 0 + WLAN 5G_Ant 1 + BT_Ant 0	Yes

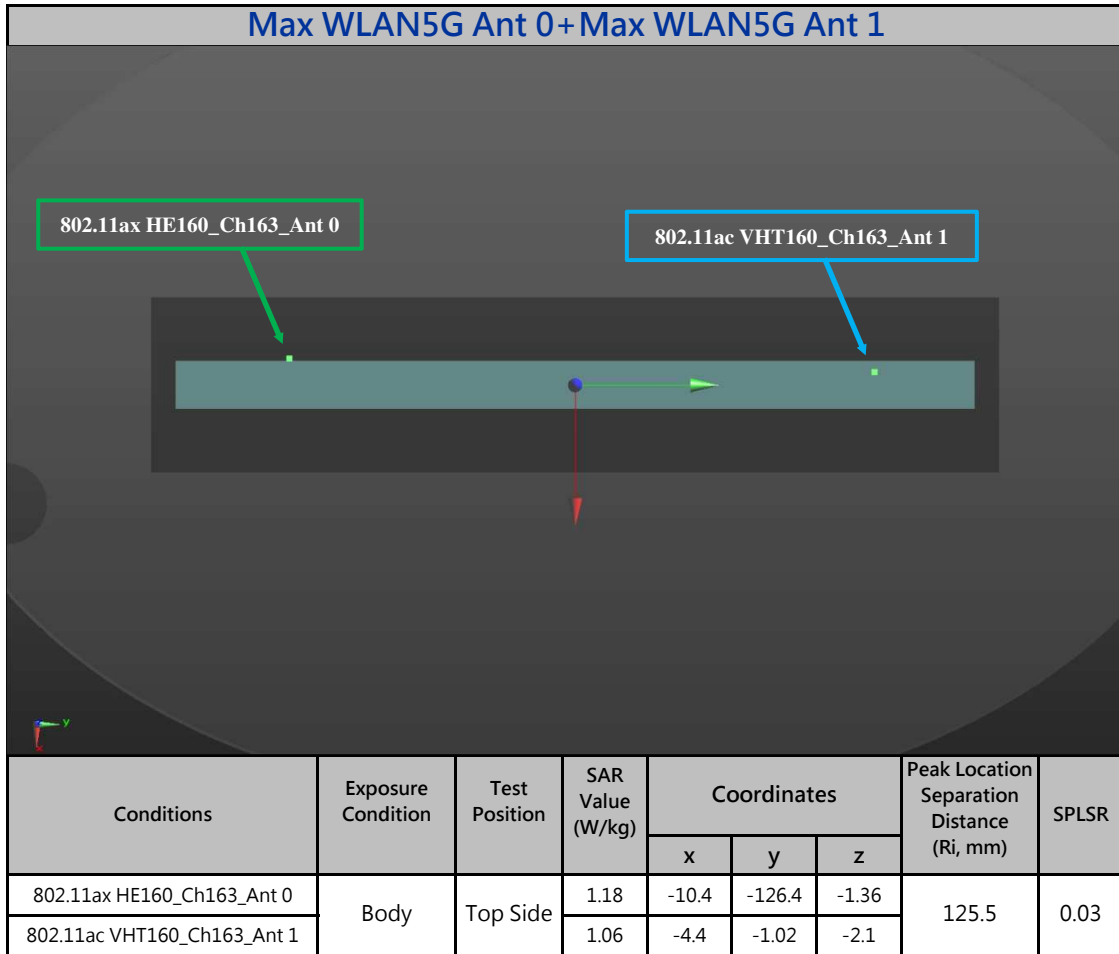
Notes

1. Simultaneous TX Combination A B can be covered by C

Simultaneous Transmission SAR Evaluation				
Position	1	2	3	A (1+2+3)
	WLAN 5.9GHz Ant 0	WLAN 5.9GHz Ant 1	Max BT Ant 0	Summimg result 1g SAR W/kg
	1g SAR W/kg	1g SAR W/kg	1g SAR W/kg	
Front for Laptop	0.72	1.17	0.20	2.09
Bottom for Laptop	0.08	0.20	0.13	0.41
Rear Face	0.91	1.11	0.40	2.42
Left Side	0.00	0.00	0.05	0.05
Right Side	0.00	0.00	0.00	0.00
Top Side	1.18	1.06	0.24	2.48
Bottom Side	0.00	0.00	0.00	0.00

Appendix I. SAR to Peak Location Separation Ratio Analysis.

The result of SAR to Peak Location Separation Ratio Analysis are shown as below.



Appendix 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	737	Feb. 20, 2023	1 Year
System Validation Dipole	SPEAG	D5GHzV2	1019	Feb. 22, 2023	1 Year
System Validation Dipole	SPEAG	D6.5GHzV2	1008	Sep. 23, 2022	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3971	Jan. 20, 2023	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1277	Jan. 24, 2023	1 Year
Analog Signal Generator	R&S	SMA100B	104417	Oct. 21, 2022	1 Year
Mini-Circuits Wideband Amplifier	Mini-Circuits	ZVA-183-S+	434502031A	Jul. 09, 2022	1 Year
Universal Wireless Test Set	Anritsu	MT8870A	6201699387	Sep. 21, 2022	1 Year
Thermometer	YFE	YF-160A	120702365	Aug. 09, 2022	1 Year
Dielectric Assessment Kit	SPEAG	DAKS-3.5	1151	Jul. 25, 2022	1 Year
Powersource1	SPEAG	SE_UMS_160 BA	4010	Jul. 25, 2022	1 Year

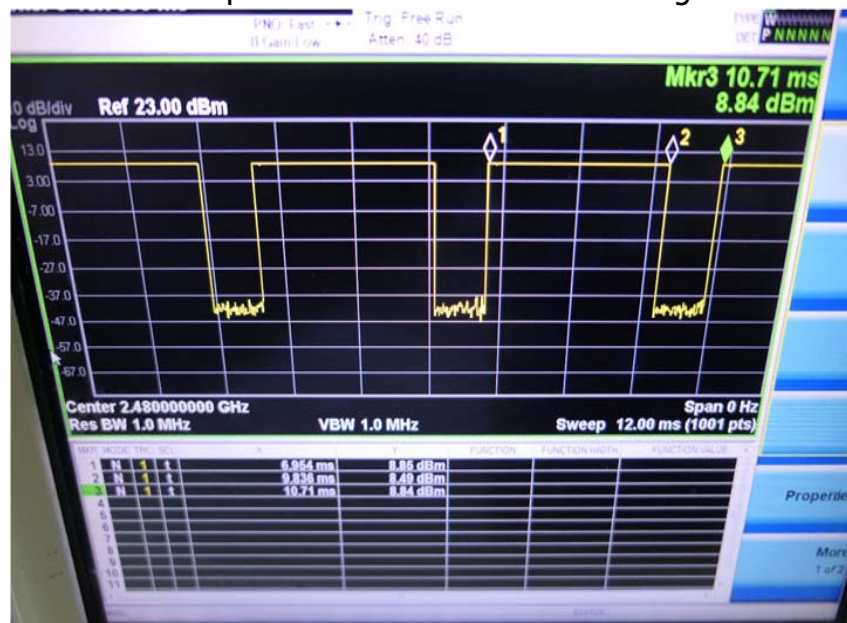
Appendix K. Considerations Related to Bluetooth for Setup and Testing

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>



Time-domain plot for Bluetooth transmission signal

The duty factor of Bluetooth signal has been calculated as following.

$$\text{Duty Factor} = \text{Pulse Width} / \text{Total Period} = (9.836 - 6.954) / (10.71 - 6.954) = 76.73\%$$