

Appendix B - SAR Measurement

Test Laboratory: TUV Inc.

Date: 2024/3/20

05_WLAN2.4GHz_802.11b 1Mbps_Rear Face_0mm_Ch6_Ant 1

DUT: HTC_2QD4100

Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:1.019

Medium: HSL2450_240320 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.842$ S/m; $\epsilon_r = 40.439$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.7°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2023/4/25
- Probe: EX3DV4 - SN7400; ConvF(7.69, 7.69, 7.69) @ 2437 MHz; Calibrated: 2023/4/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -59.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (12x19x1): Measurement grid: $dx=12$ mm, $dy=12$ mm

Maximum value of SAR (measured) = 0.450 W/kg

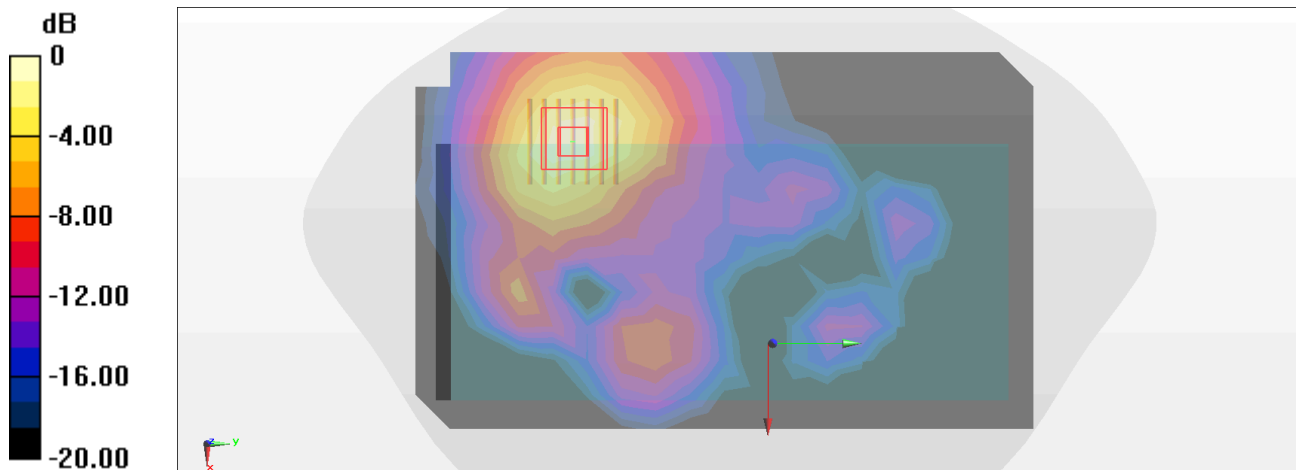
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 13.53 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.327 W/kg; SAR(10 g) = 0.171 W/kg

Maximum value of SAR (measured) = 0.509 W/kg



0 dB = 0.509 W/kg = -2.93 dBW/kg

19_WLAN5GHz_802.11ac-VHT80 MCS0_Rear Face_0mm_Ch58_Ant 1

DUT: HTC_2QD4100

Communication System: WLAN; Frequency: 5290 MHz; Duty Cycle: 1:1.008

Medium: HSL5G_240413 Medium parameters used: $f = 5290$ MHz; $\sigma = 4.702$ S/m; $\epsilon_r = 36.713$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 22.6°C

DASY Configuration:

- Electronics: DAE4 Sn917; Calibrated: 2024/3/11
- Probe: EX3DV4 - SN3804; ConvF(4.44, 4.44, 4.44) @ 5290 MHz; Calibrated: 2023/5/19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -59.0, 24.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (16x22x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 0.489 W/kg

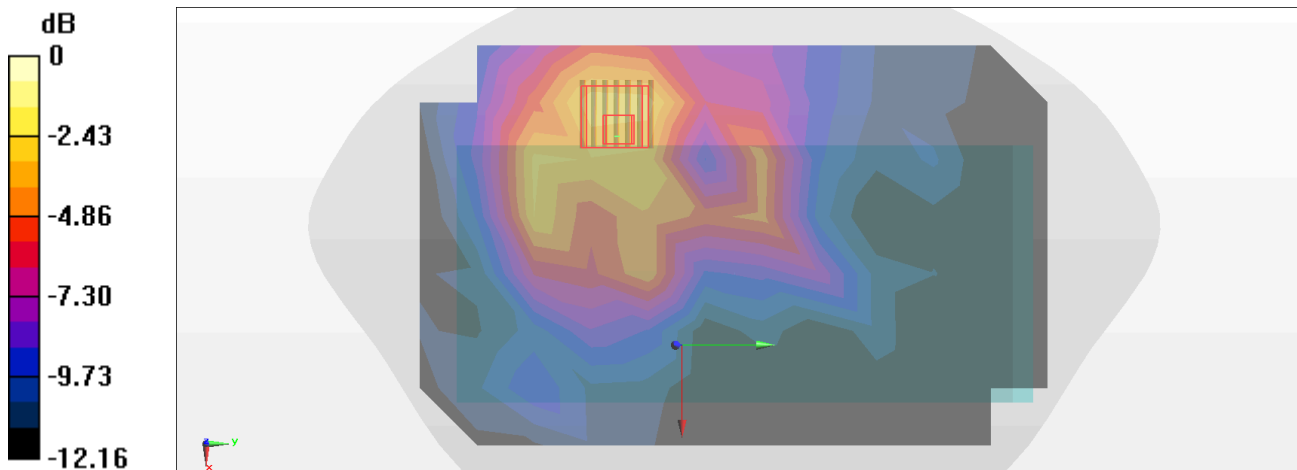
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 5.430 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.378 W/kg; SAR(10 g) = 0.188 W/kg

Maximum value of SAR (measured) = 0.735 W/kg



0 dB = 0.735 W/kg = -1.34 dBW/kg

23_WLAN5GHz_802.11ac-VHT80 MCS0_Rear Face_0mm_Ch122_Ant 1

DUT: HTC_2QD4100

Communication System: WLAN; Frequency: 5610 MHz; Duty Cycle: 1:1.008

Medium: HSL5G_240413 Medium parameters used: $f = 5610$ MHz; $\sigma = 5.057$ S/m; $\epsilon_r = 36.278$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 22.6°C

DASY Configuration:

- Electronics: DAE4 Sn917; Calibrated: 2024/3/11
- Probe: EX3DV4 - SN3804; ConvF(4.17, 4.17, 4.17) @ 5610 MHz; Calibrated: 2023/5/19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -59.0, 24.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (16x22x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 0.905 W/kg

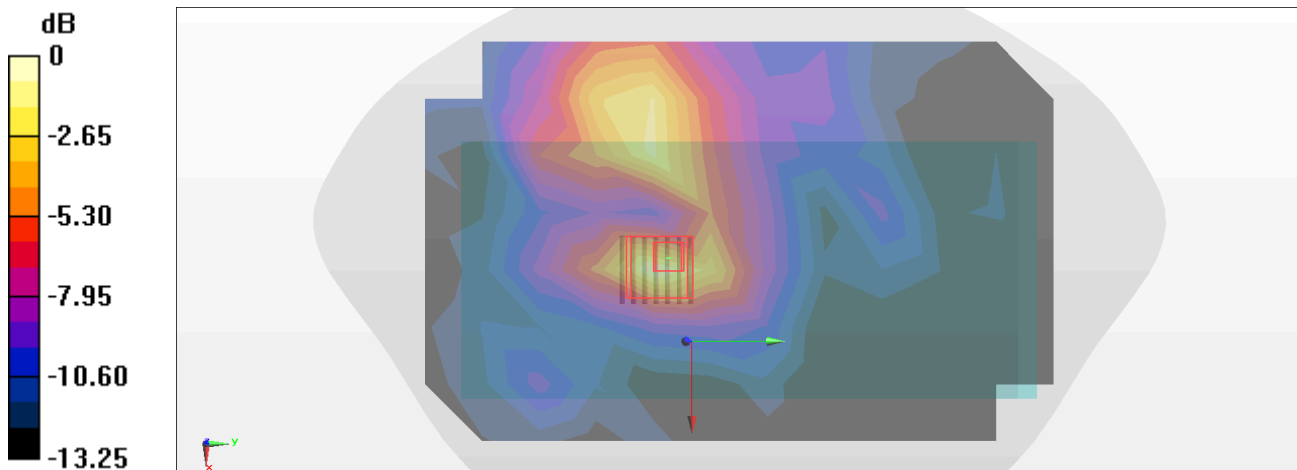
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 7.681 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.216 W/kg

Maximum value of SAR (measured) = 1.04 W/kg



0 dB = 1.04 W/kg = 0.17 dBW/kg

22_WLAN5GHz_802.11n-HT40 MCS0_Rear Face_0mm_Ch151_Ant 1

DUT: HTC_2QD4100

Communication System: WLAN; Frequency: 5755 MHz; Duty Cycle: 1:1.004

Medium: HSL5G_240413 Medium parameters used: $f = 5755$ MHz; $\sigma = 5.213$ S/m; $\epsilon_r = 36.084$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 22.6°C

DASY Configuration:

- Electronics: DAE4 Sn917; Calibrated: 2024/3/11
- Probe: EX3DV4 - SN3804; ConvF(4.34, 4.34, 4.34) @ 5755 MHz; Calibrated: 2023/5/19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -59.0, 24.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (16x22x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 0.691 W/kg

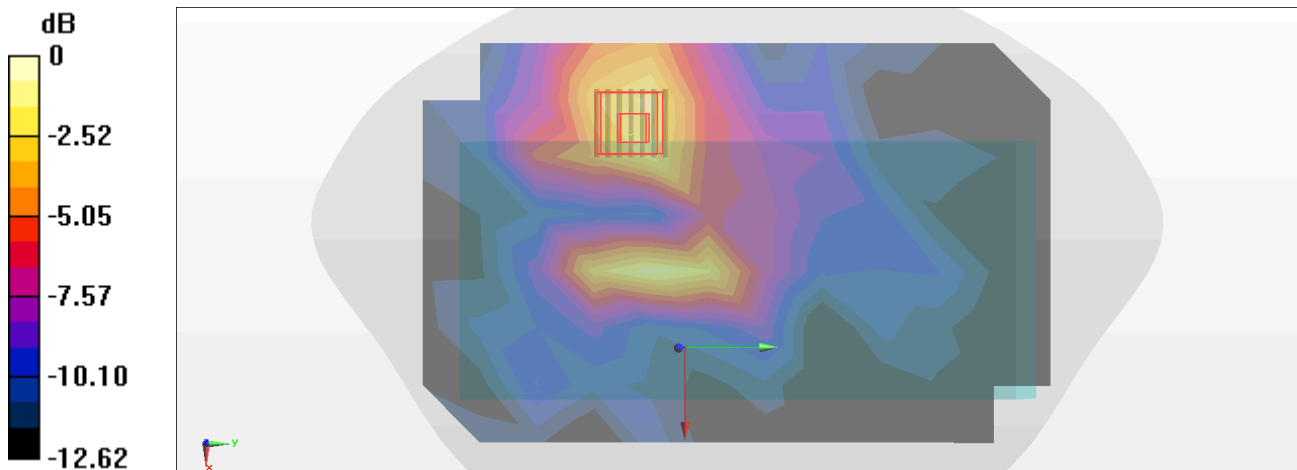
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 7.906 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.435 W/kg; SAR(10 g) = 0.213 W/kg

Maximum value of SAR (measured) = 0.905 W/kg



0 dB = 0.905 W/kg = -0.43 dBW/kg

Test Laboratory: TUV International Inc.

02.WLAN6GHz_802.11ax-HE160 MCS0_Rear Face_0mm_Ch111_Ant1

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device	195.0 x 90.0 x 80.0		Phone

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, HSL	Rear Face, 0.00	U-NII-6	WLAN, 10062-CAE	6505.000, 111	5.3	6.15	33.7

Hardware Setup

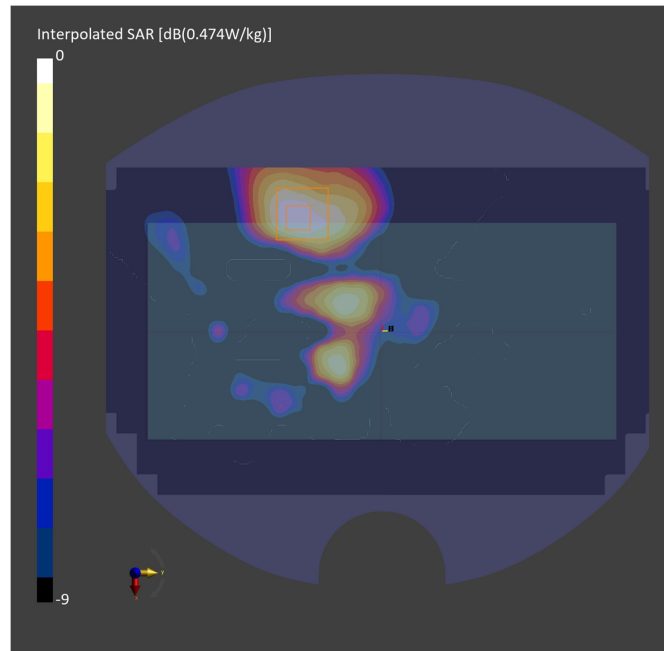
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V4.0 (30deg probe tilt) - 1467	HSL6500_20240401 , --	EX3DV4 - SN7400, 2023-04-28	DAE4 Sn855, 2023-04-25

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	136.0 x 238.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	Y
Surface Detection	All points	All points
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-03-27, 12:02	2024-03-27, 12:29
psSAR1g [W/kg]	0.377	0.406
psSAR10g [W/kg]	0.151	0.167
Power Drift [dB]	-0.08	0.09
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.0
Dist 3dB Peak [mm]		9.5



12_Bluetooth_1Mbps_Rear Face_0mm_Ch78_Ant 0

DUT: HTC_2QD4100

Communication System: Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1.305

Medium: HSL2450_240320 Medium parameters used: $f = 2480$ MHz; $\sigma = 1.881$ S/m; $\epsilon_r = 40.322$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.9°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2023/4/25
- Probe: EX3DV4 - SN7400; ConvF(7.69, 7.69, 7.69) @ 2480 MHz; Calibrated: 2023/4/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -59.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (11x19x1): Measurement grid: $dx=12$ mm, $dy=12$ mm

Maximum value of SAR (measured) = 0.0136 W/kg

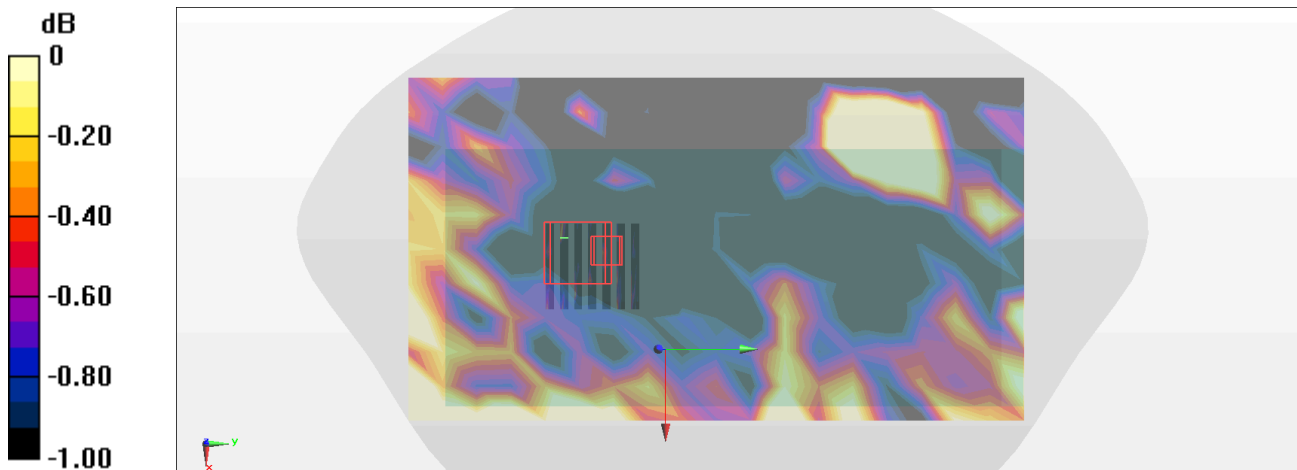
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 2.225 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.0120 W/kg

SAR(1 g) = 0.00798 W/kg; SAR(10 g) = 0.00663 W/kg

Maximum value of SAR (measured) = 0.00918 W/kg



0 dB = 0.00918 W/kg = -20.37 dBW/kg

09_SRD 2.4GHz_Rear Face_0mm_Ch39_Ant 2

DUT: HTC_2QD4100

Communication System: SRD; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium: HSL2450_240320 Medium parameters used: $f = 2480$ MHz; $\sigma = 1.881$ S/m; $\epsilon_r = 40.322$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.1 °C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2023/4/25
- Probe: EX3DV4 - SN7400; ConvF(7.69, 7.69, 7.69) @ 2480 MHz; Calibrated: 2023/4/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -59.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (11x19x1): Measurement grid: $dx=12$ mm, $dy=12$ mm

Maximum value of SAR (measured) = 0.00667 W/kg

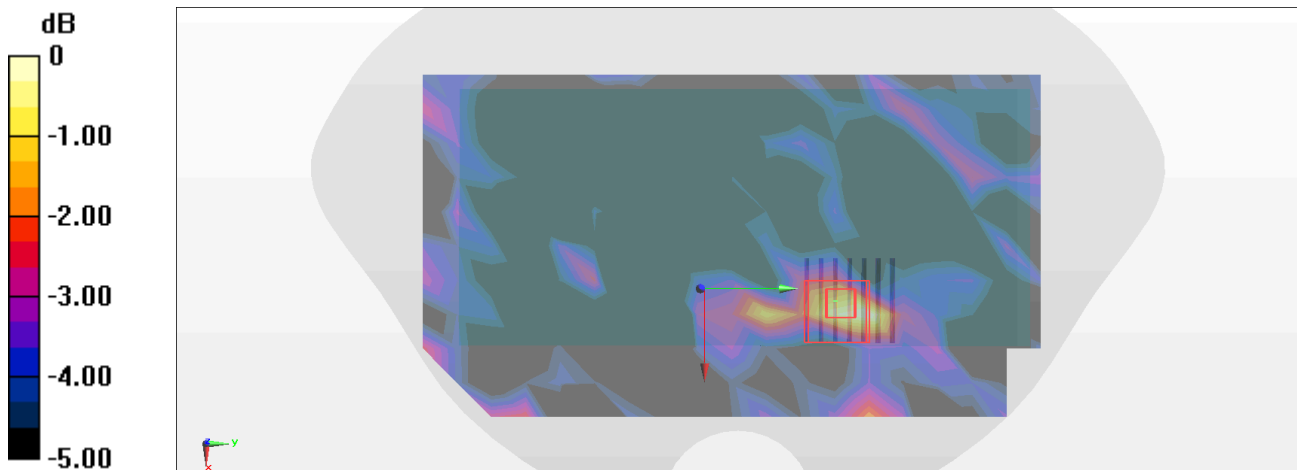
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 0.6230 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.00754 W/kg

SAR(1 g) = 0.00464 W/kg; SAR(10 g) = 0.00289 W/kg

Maximum value of SAR (measured) = 0.00653 W/kg



0 dB = 0.00653 W/kg = -21.85 dBW/kg

Test Laboratory: TÜV Rheinland Inc.

01.PD_WLAN6GHz_802.11ax-HE160 MCS0_6505_Rear Face_2mm_Ch111_Ant 1

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device	195.0 x 90.0 x 80.0		Phone

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	Rear Face, 2.00	U-NII-6	WLAN, 10062-CAE	6505.0, 111	1.0

Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave- 1089	---Air	EUmmWV4 - SN9599_F1-55GHz, 2023-04-19	DAE4 Sn855, 2023-04-25

Scan Setup

	5G Scan
Grid Extents [mm]	50.0 x 100.0
Grid Steps [lambda]	0.05 x 0.05
Sensor Surface [mm]	2.0
MAIA	Y

Measurement Results

	5G Scan
Date	2024-04-01, 14:20
Avg. Area [cm ²]	4.00
psPDn+ [W/m ²]	3.35
psPDtot+ [W/m ²]	5.64
psPDmod+ [W/m ²]	6.86
E _{max} [V/m]	54.8
Power Drift [dB]	-0.08

