

Measurement Report for SM-F946D, BACK, GSM 850, GPRS-FDD (TDMA, GMSK, TN 0-1), Channel 190 (836.6 MHz)

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	BACK, 10.00	GSM 850	GSM, 10024-DAC	836.6, 190	9.95	0.910	41.5

Hardware Setup

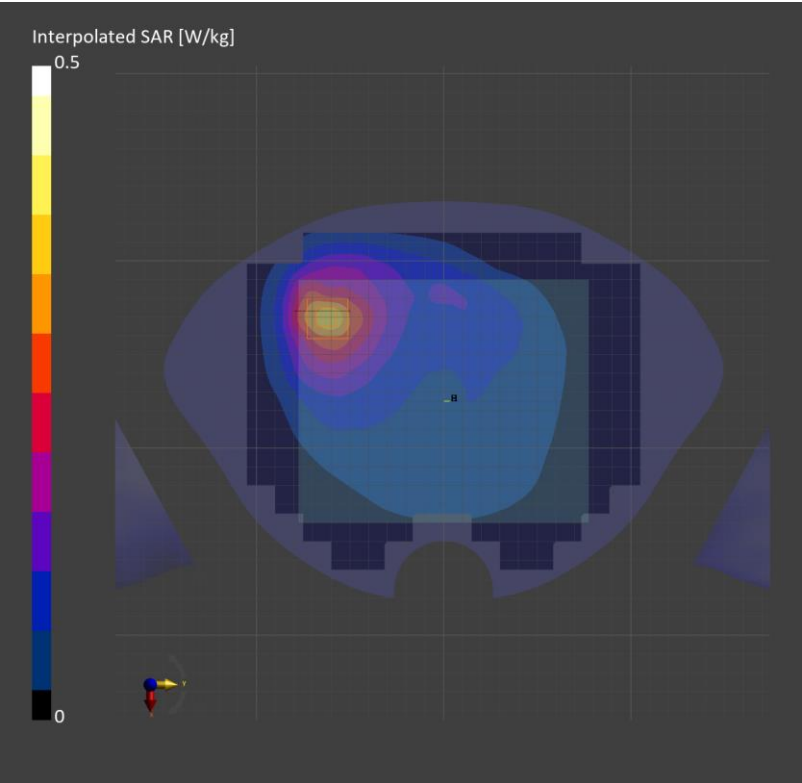
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.314	0.313
psSAR10g [W/Kg]	0.203	0.191
Power Drift [dB]	-0.03	
M2 /M1 [%]		86.0
Dist 3dB Peak [mm]		15.2



Measurement Report for SM-F946D, LEFT, GSM 850, GPRS-FDD (TDMA, GMSK, TN 0-1), Channel 190 (836.6 MHz)

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	LEFT, 0.00	GSM 850	GSM, 10024-DAC	836.6, 190	9.95	0.910	41.5

Hardware Setup

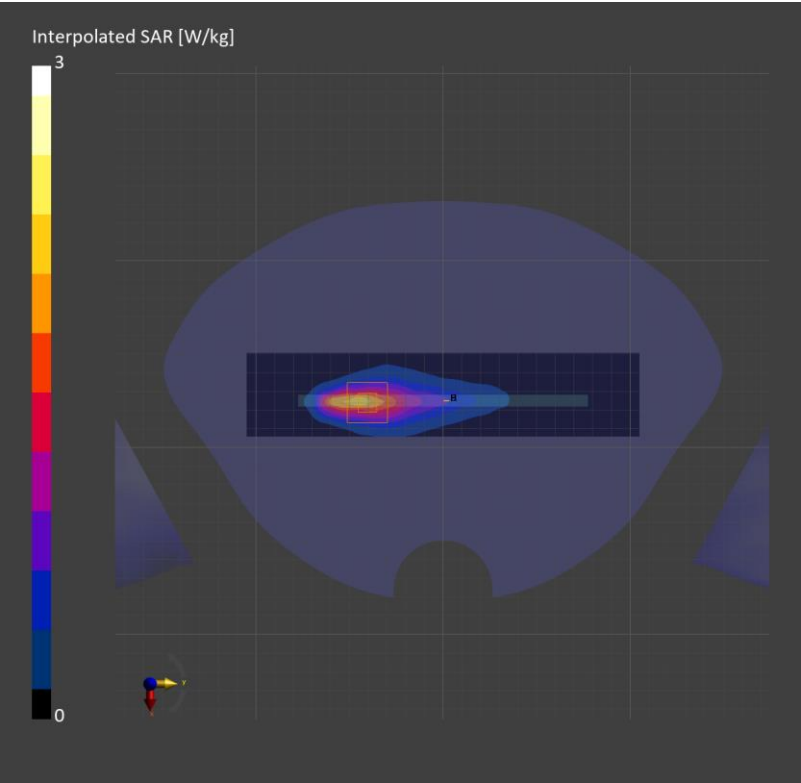
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	4.2 x 4.2 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	1.71	1.86
psSAR10g [W/Kg]	0.889	0.782
Power Drift [dB]	-0.01	
M2 /M1 [%]		64.7
Dist 3dB Peak [mm]		5.1



Measurement Report for SM-F946D, EDGE BOTTOM, PCS 1900, GPRS-FDD (TDMA, GMSK, TN 0-1-2-3), Channel 512 (1850.2 MHz)

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	EDGE BOTTOM, 10.00	PCS 1900	GSM, 10028-DAC	1850.2, 512	7.4	1.41	39.3

Hardware Setup

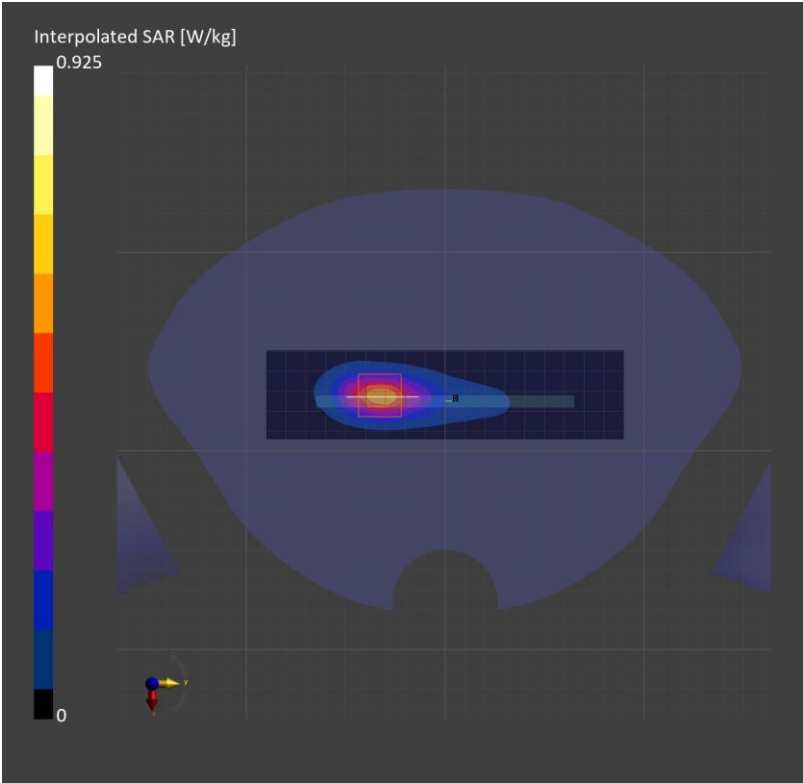
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-16	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.477	0.486
psSAR10g [W/Kg]	0.238	0.243
Power Drift [dB]	0.00	
M2 /M1 [%]		82.4
Dist 3dB Peak [mm]		9.2



Measurement Report for SM-F946D, EDGE BOTTOM, PCS 1900, GPRS-FDD (TDMA, GMSK, TN 0-1-2-3), Channel 512 (1850.2 MHz)

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	EDGE BOTTOM, 0.00	PCS 1900	GSM, 10028-DAC	1850.2, 512	7.4	1.41	39.3

Hardware Setup

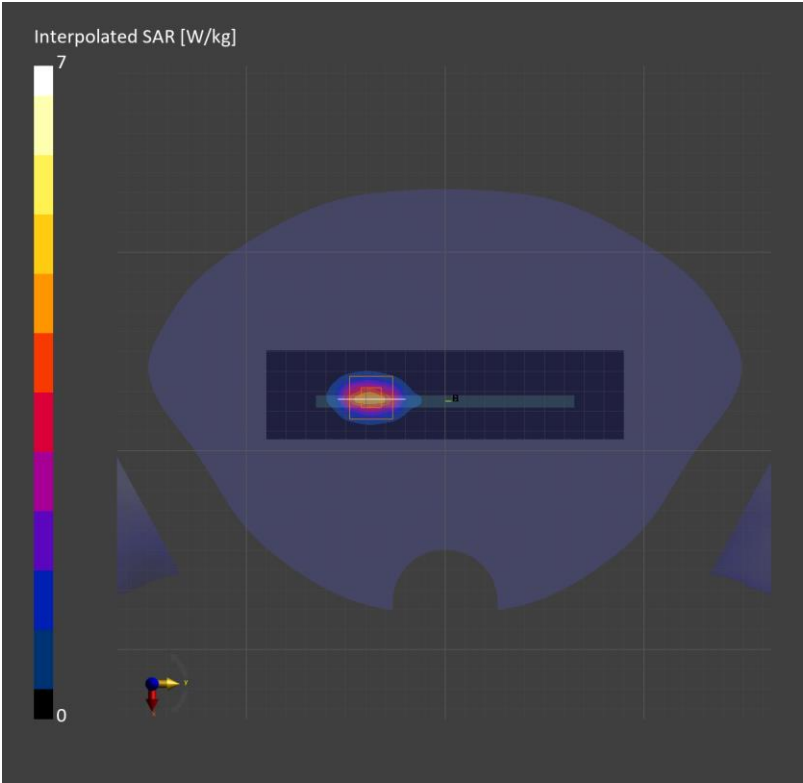
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-16	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	4.9 x 4.9 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	3.58	3.51
psSAR10g [W/Kg]	1.53	1.43
Power Drift [dB]	0.00	
M2 /M1 [%]		72.9
Dist 3dB Peak [mm]		5.8



Measurement Report for SM-F946D, BACK, Band 5, UMTS-FDD (WCDMA), Channel 4183 (836.6 MHz)

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	BACK, 10.00	Band 5	WCDMA, 10011-CAC	836.6, 4183	9.8	0.924	41.5

Hardware Setup

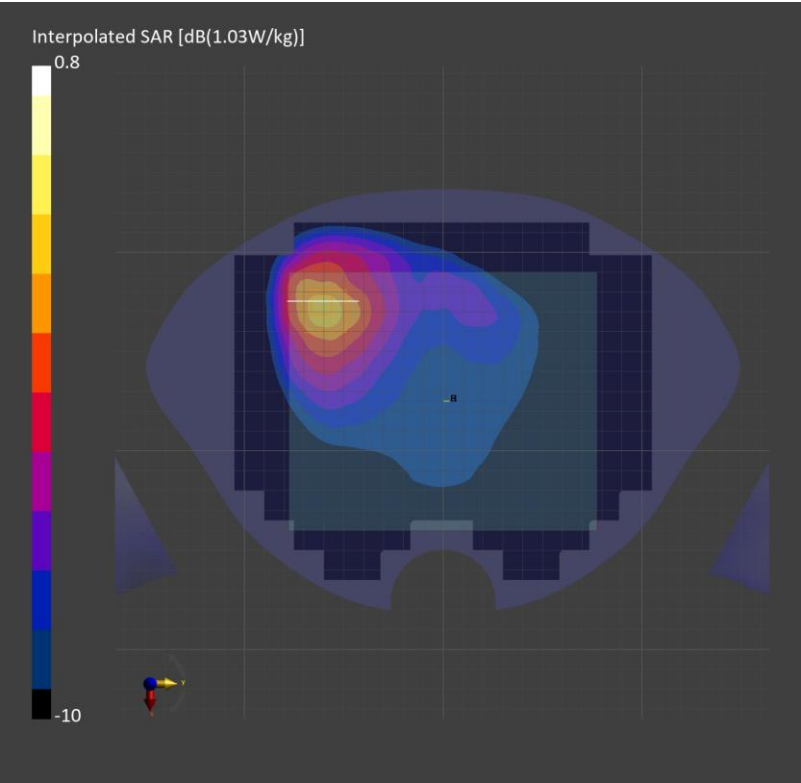
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-07	EX3DV4 - SN7545, 2022-08-19	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.548	0.557
psSAR10g [W/Kg]	0.353	0.334
Power Drift [dB]	-0.01	
M2 /M1 [%]	80.1	
Dist 3dB Peak [mm]	14.0	



Measurement Report for SM-F946D, LEFT, Band 5, UMTS-FDD (WCDMA), Channel 4183 (836.6 MHz)

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	LEFT, 0.00	Band 5	WCDMA, 10011-CAC	836.6, 4183	9.8	0.928	42.7

Hardware Setup

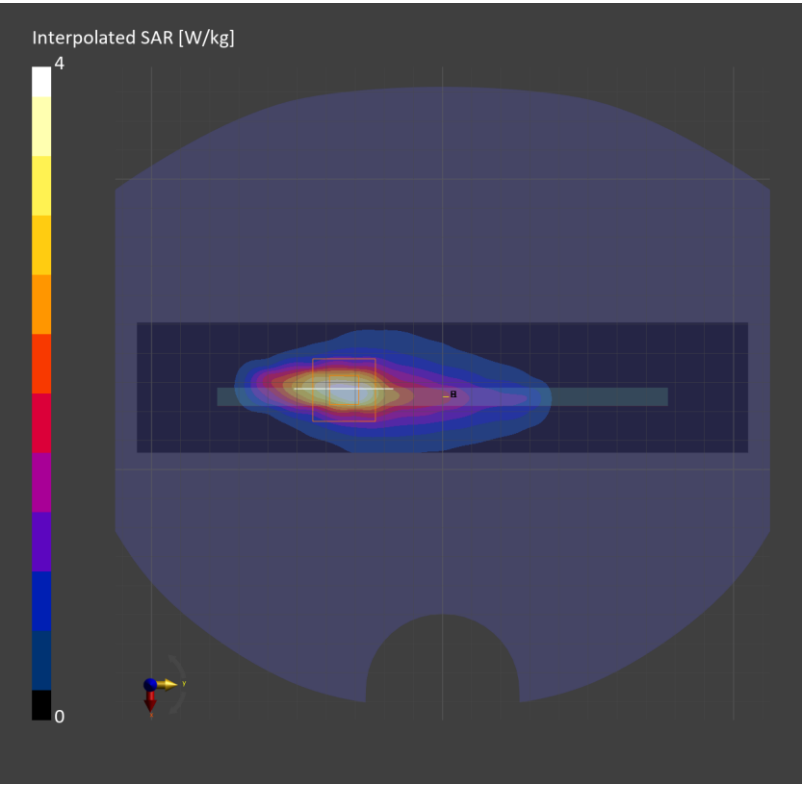
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-14	EX3DV4 - SN7545, 2022-08-19	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 210.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	3.23	3.51
psSAR10g [W/Kg]	1.64	1.37
Power Drift [dB]	0.00	
M2/M1 [%]		53.9
Dist 3dB Peak [mm]		4.1



LTE Band 2

Frequency: 1860 MHz; Communication System Channel Number: 18700; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.368$ S/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn1668; Calibrated: 4/26/2023
- Probe: EX3DV4 - SN7645; ConvF(7.35, 7.35, 7.35) @ 1860 MHz; Calibrated: 11/15/2022
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (Right); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Bottom/QPSK RB 1/0 ch.18700/Area Scan (13x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.553 W/kg

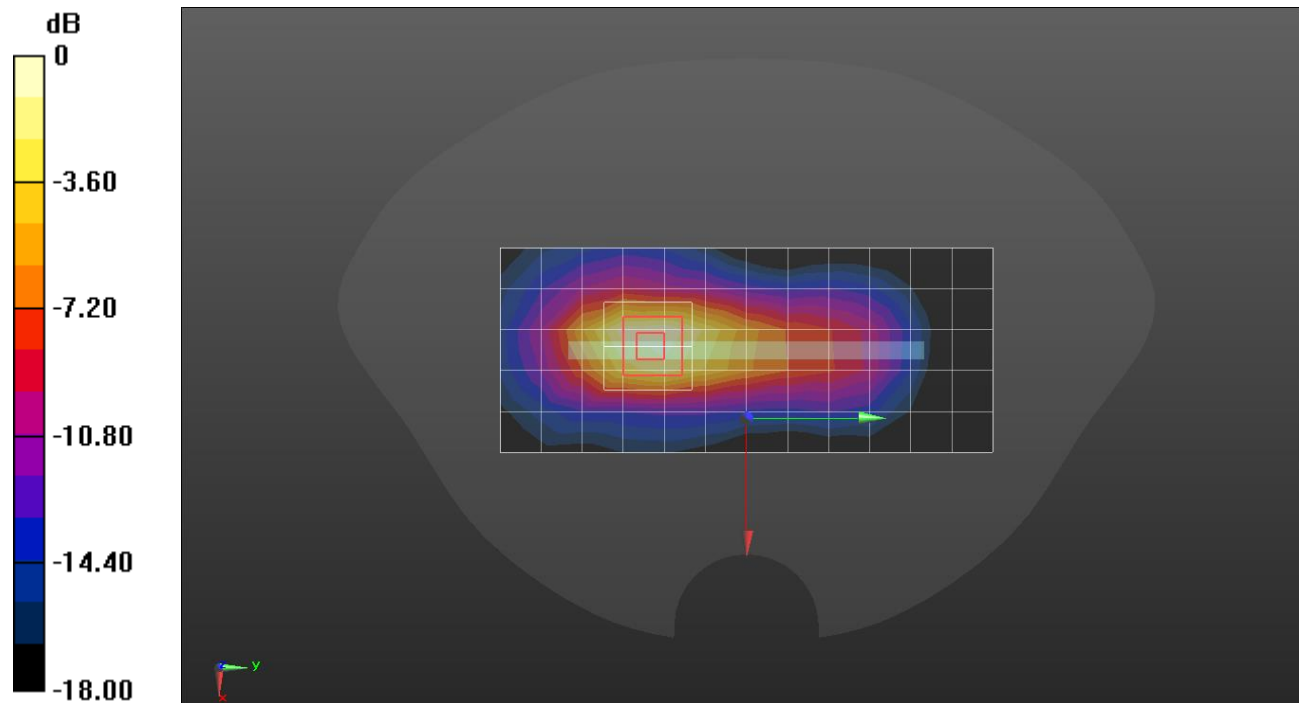
Bottom/QPSK RB 1/0 ch.18700/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.73 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.975 W/kg

SAR(1 g) = 0.511 W/kg; SAR(10 g) = 0.250 W/kg

Maximum value of SAR (measured) = 0.814 W/kg



0 dB = 0.553 W/kg = -2.57 dBW/kg

LTE Band 2

Frequency: 1900 MHz; Communication System Channel Number: 19100; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ S/m; $\epsilon_r = 41.318$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn1668; Calibrated: 4/26/2023
- Probe: EX3DV4 - SN7645; ConvF(7.35, 7.35, 7.35) @ 1900 MHz; Calibrated: 11/15/2022
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (Right); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Bottom/QPSK RB 50/24 ch.19100/Area Scan (13x6x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 7.01 W/kg

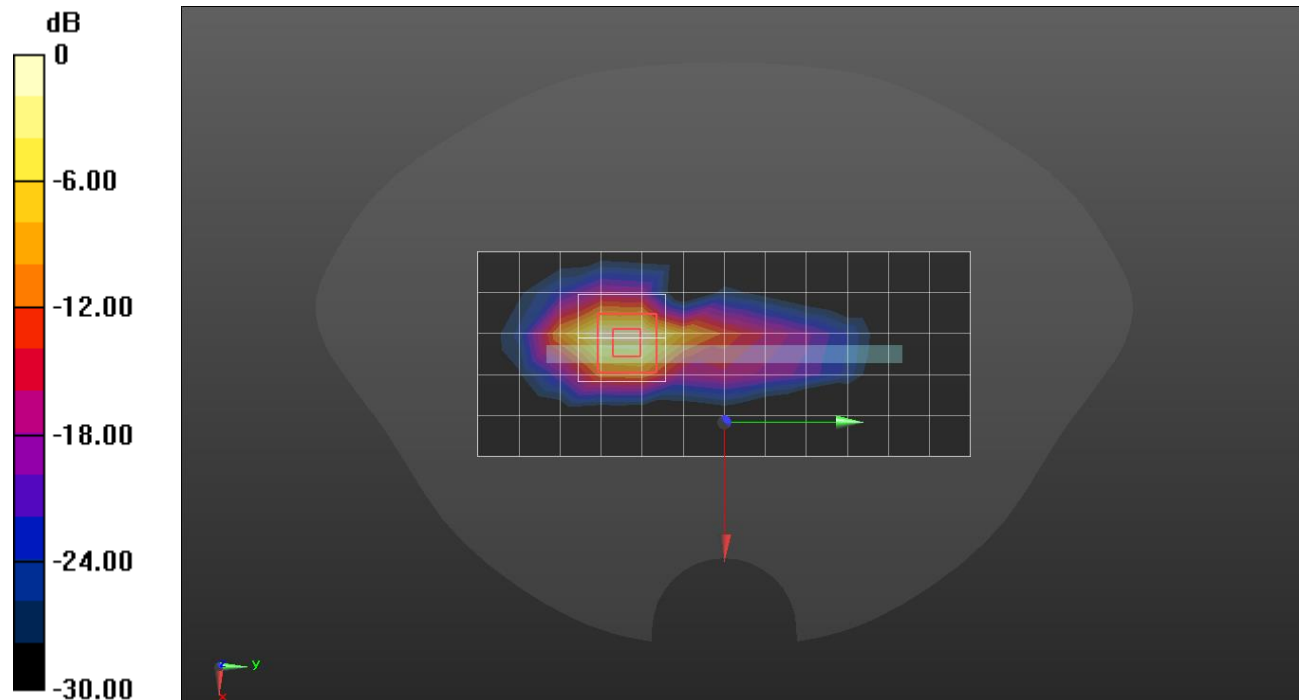
Bottom/QPSK RB 50/24 ch.19100/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 60.47 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 11.9 W/kg

SAR(1 g) = 4.78 W/kg; SAR(10 g) = 1.86 W/kg

Maximum value of SAR (measured) = 9.13 W/kg



0 dB = 7.01 W/kg = 8.46 dBW/kg

Measurement Report for SM-F946D, BACK, Band 5, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 20525 (836.5 MHz)

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	BACK, 10.00	Band 5	LTE-FDD, 10175-CAH	836.5, 20525	9.8	0.924	41.5

Hardware Setup

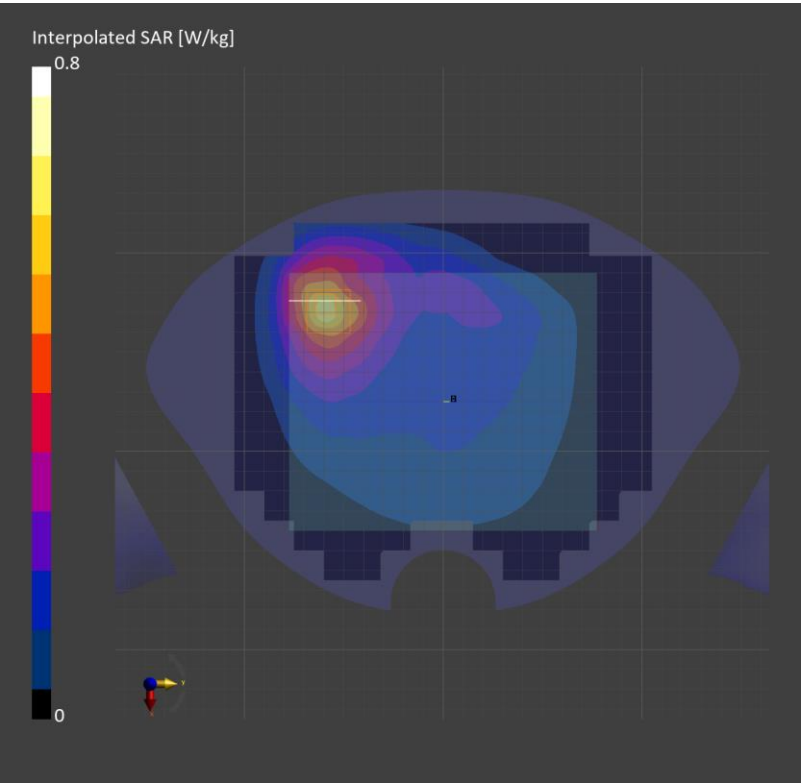
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-07	EX3DV4 - SN7545, 2022-08-19	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.548	0.567
psSAR10g [W/Kg]	0.354	0.342
Power Drift [dB]	0.02	
M2 /M1 [%]		80.3
Dist 3dB Peak [mm]		14.0



Measurement Report for SM-F946D, LEFT, Band 5, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 20525 (836.5 MHz)

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	LEFT, 0.00	Band 5	LTE-FDD, 10175-CAH	836.5, 20525	9.8	0.928	42.7

Hardware Setup

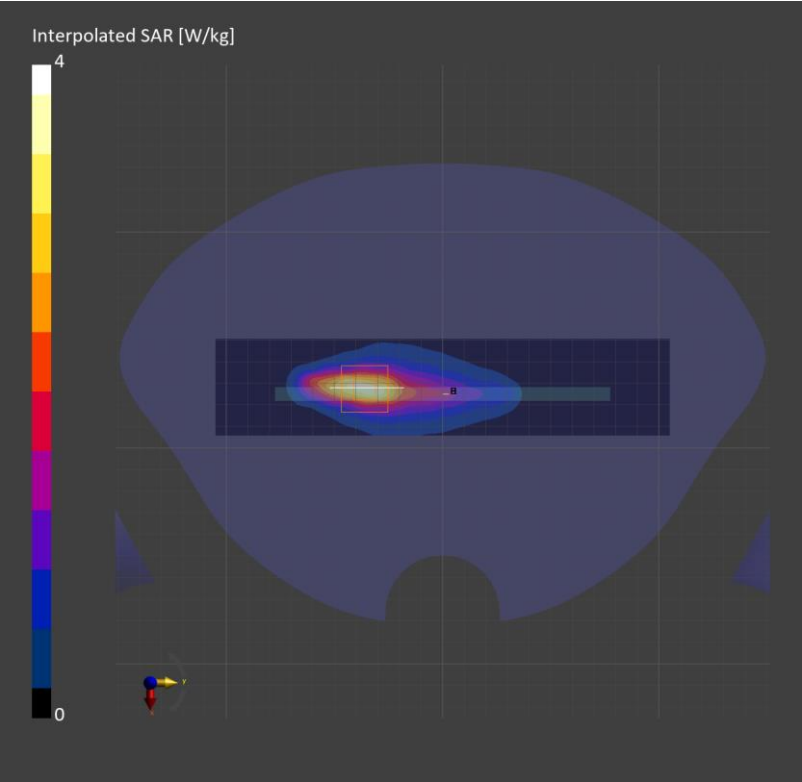
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-14	EX3DV4 - SN7545, 2022-08-19	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 210.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.94	3.42
psSAR10g [W/Kg]	1.54	1.35
Power Drift [dB]	-0.02	
M2/M1 [%]		55.2
Dist 3dB Peak [mm]		4.8



Measurement Report for SM-F946D, BACK, Band 12, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:High AntennaCfg:SISO, Channel 23095 (707.5 MHz)

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	BACK, 10.00	Band 12	LTE-FDD, 10175-CAH	707.5, 23095	10.37	0.859	42.3

Hardware Setup

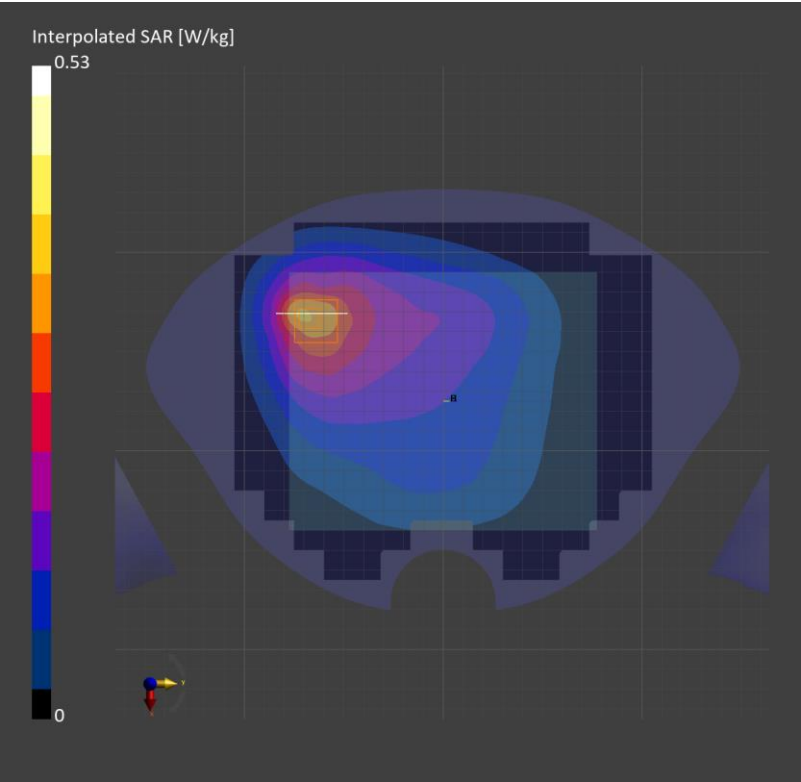
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.316	0.310
psSAR10g [W/Kg]	0.212	0.196
Power Drift [dB]	-0.00	
M2/M1 [%]		85.1
Dist 3dB Peak [mm]		17.4



Measurement Report for SM-F946D, LEFT, Band 12, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:High AntennaCfg:SISO, Channel 23095 (707.5 MHz)

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	LEFT, 0.00	Band 12	LTE-FDD, 10175-CAH	707.5, 23095	10.37	0.859	42.3

Hardware Setup

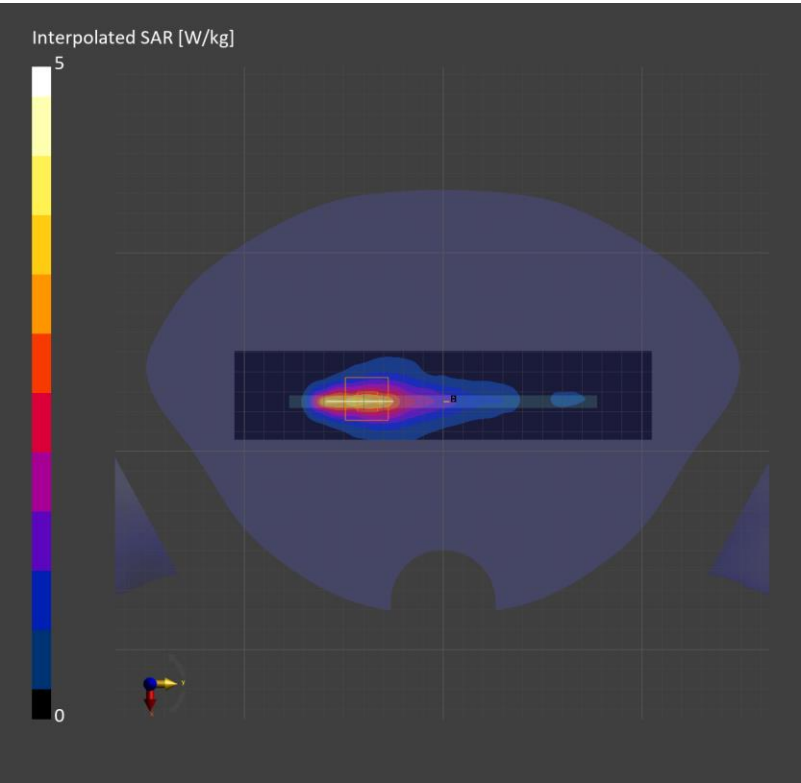
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	4.2 x 4.2 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.88	2.82
psSAR10g [W/Kg]	1.54	1.21
Power Drift [dB]	-0.01	
M2 /M1 [%]		61.4
Dist 3dB Peak [mm]		4.3



Measurement Report for SM-F946D, BACK, Band 13, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:Low AntennaCfg:SISO, Channel 23230 (782.0 MHz)

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	BACK, 10.00	Band 13	LTE-FDD, 10175-CAH	782.0, 23230	10.37	0.926	41.2

Hardware Setup

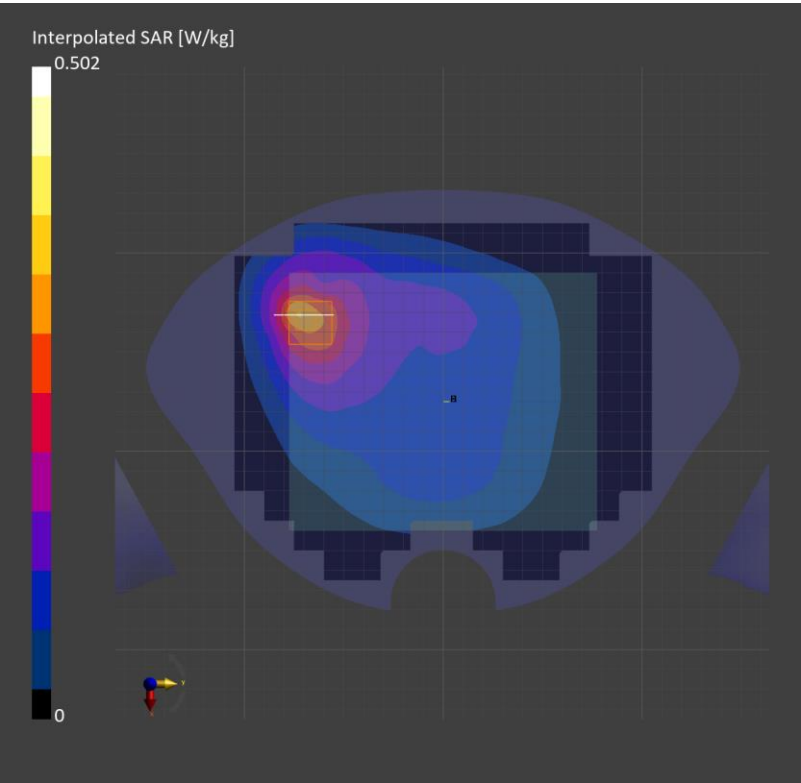
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.288	0.285
psSAR10g [W/Kg]	0.189	0.173
Power Drift [dB]	0.02	
M2 /M1 [%]	82.3	
Dist 3dB Peak [mm]	14.1	



Measurement Report for SM-F946D, LEFT, Band 13, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:Low AntennaCfg:SISO, Channel 23230 (782.0 MHz)

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	LEFT, 0.00	Band 13	LTE-FDD, 10175-CAH	782.0, 23230	10.37	0.926	41.2

Hardware Setup

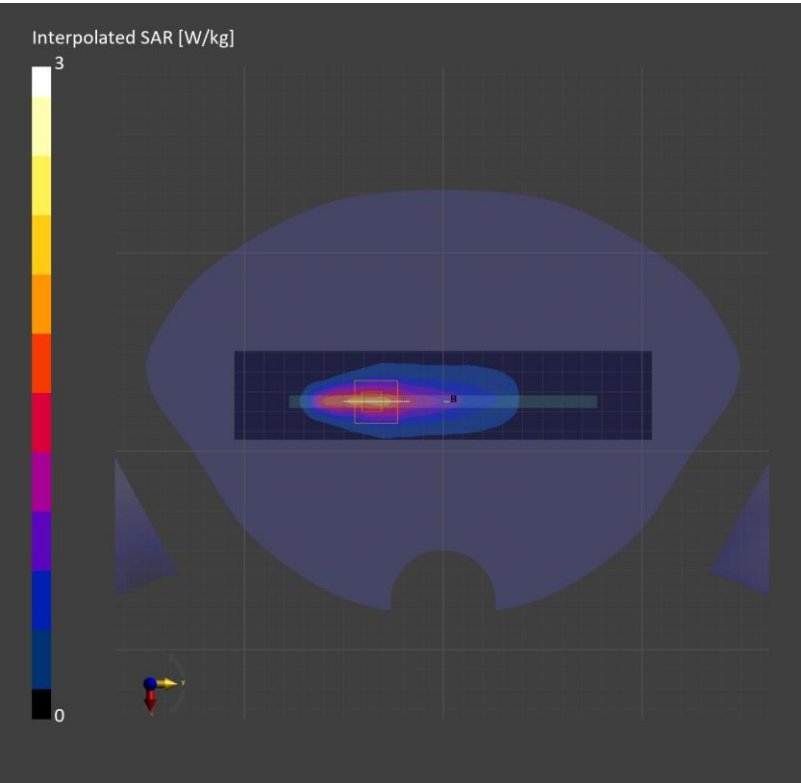
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	4.2 x 4.2 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	1.52	1.69
psSAR10g [W/Kg]	0.812	0.697
Power Drift [dB]	0.01	
M2 /M1 [%]		63.0
Dist 3dB Peak [mm]		5.4



Measurement Report for SM-F946D, BACK, Band 26, LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 26865 (831.5 MHz)

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	BACK, 10.00	Band 26	LTE-FDD, 10181-CAF	831.5, 26865	9.8	0.922	41.5

Hardware Setup

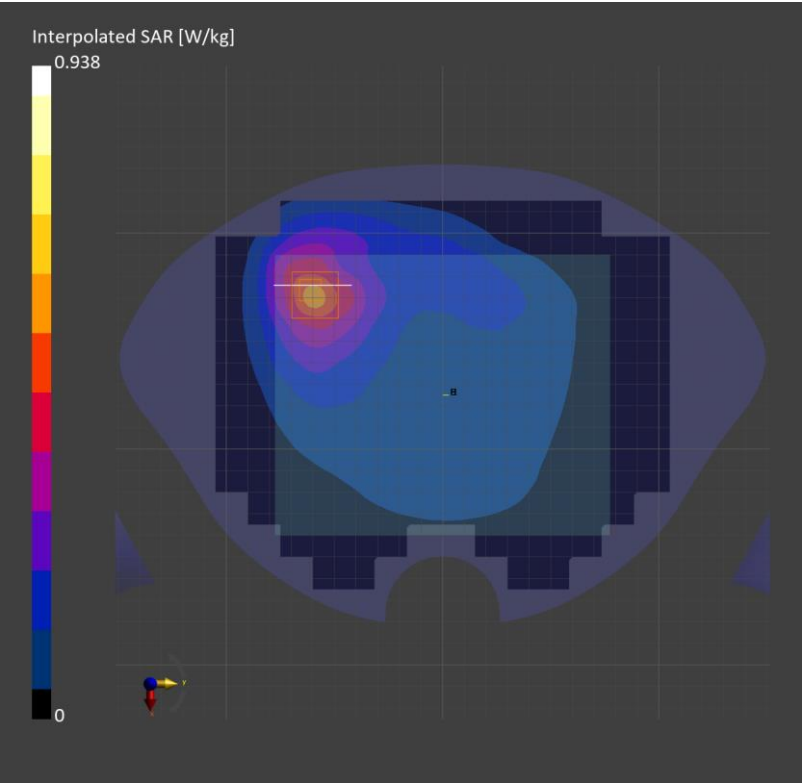
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-07	EX3DV4 - SN7545, 2022-08-19	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.497	0.503
psSAR10g [W/Kg]	0.320	0.301
Power Drift [dB]	0.05	
M2/M1 [%]		79.6
Dist 3dB Peak [mm]		13.0



Measurement Report for SM-F946D, LEFT, Band 26, LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 26865 (831.5 MHz)

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	LEFT, 0.00	Band 26	LTE-FDD, 10181-CAF	831.5, 26865	9.8	0.927	42.7

Hardware Setup

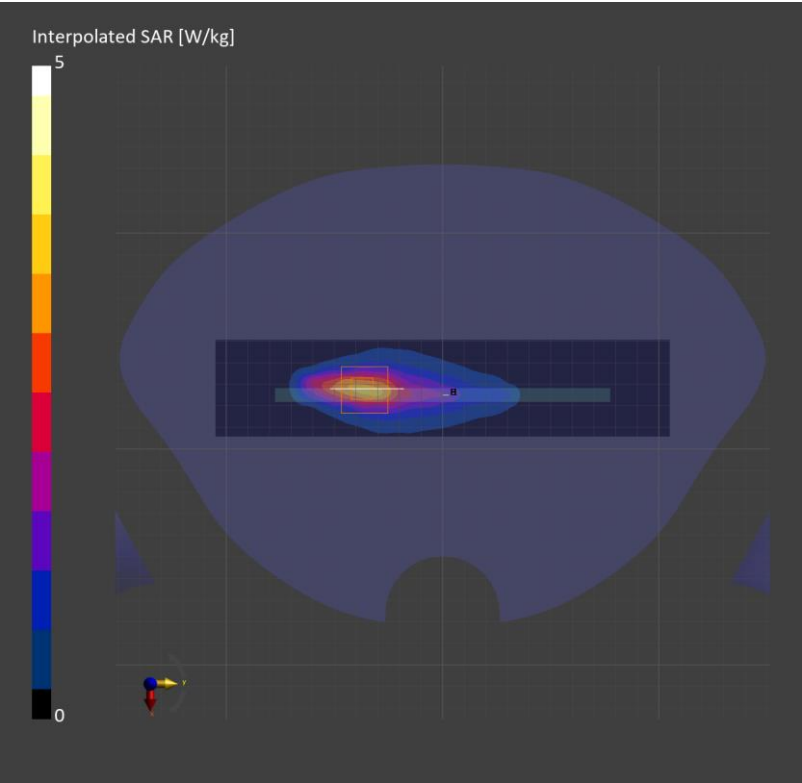
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-14	EX3DV4 - SN7545, 2022-08-19	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 210.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.92	3.41
psSAR10g [W/Kg]	1.54	1.35
Power Drift [dB]	-0.02	
M2 / M1 [%]		56.1
Dist 3dB Peak [mm]		4.8



Measurement Report for SM-F946D, EDGE BOTTOM, Band 41, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Low AntennaCfg:SISO, Channel 40620 (2593.0 MHz)

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	EDGE BOTTOM, 10.00	Band 41	LTE-TDD, 10172-CAH	2593.0, 40620	7.74	1.97	38.4

Hardware Setup

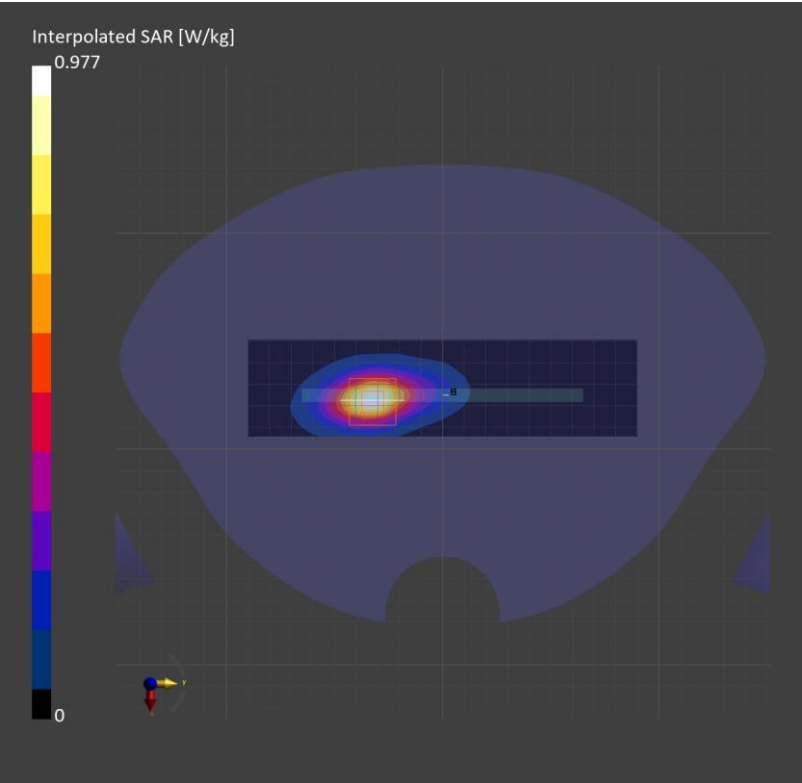
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 1991	HBBL-600-10000, 2023-Jun-12	EX3DV4 - SN7330, 2023-01-24	DAE4 Sn1667, 2023-04-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.740	0.745
psSAR10g [W/Kg]	0.337	0.351
Power Drift [dB]	-0.08	
M2 /M1 [%]		82.2
Dist 3dB Peak [mm]		9.0



Measurement Report for SM-F946D, EDGE BOTTOM, Band 41, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Low AntennaCfg:SISO, Channel 40620 (2593.0 MHz)

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	EDGE BOTTOM, 0.00	Band 41	LTE-TDD, 10172-CAH	2593.0, 40620	7.74	1.97	38.4

Hardware Setup

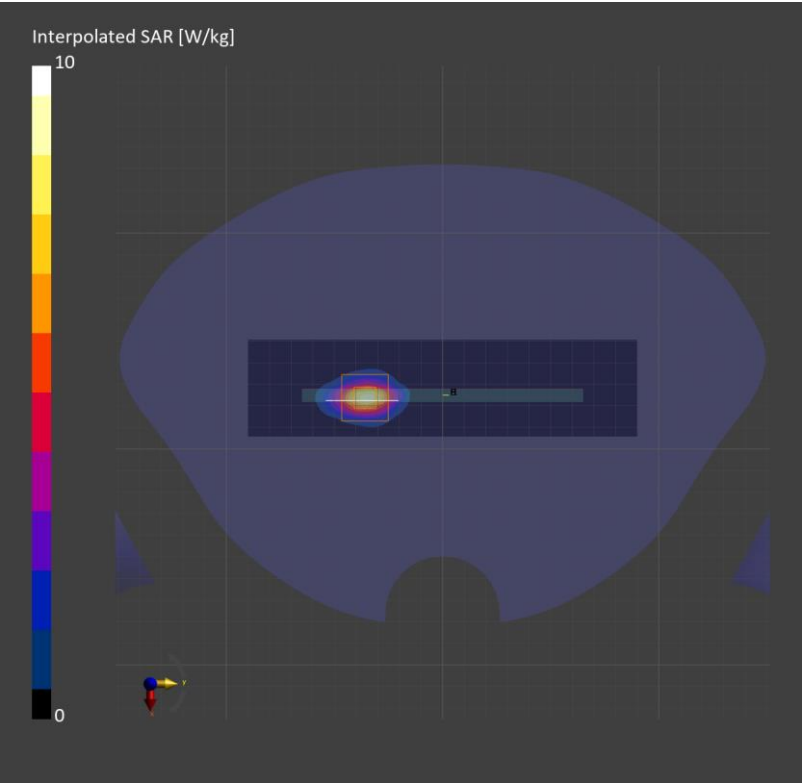
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 1991	HBBL-600-10000, 2023-Jun-12	EX3DV4 - SN7330, 2023-01-24	DAE4 Sn1667, 2023-04-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	4.2 x 4.2 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	6.21	6.09
psSAR10g [W/Kg]	2.32	2.25
Power Drift [dB]	-0.02	
M2 / M1 [%]		79.5
Dist 3dB Peak [mm]		5.9



Measurement Report for SM-F946D, EDGE TOP, Band 41, LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 41490 (2680.0 MHz)

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	EDGE TOP, 10.00	Band 41	LTE-TDD, 10151-CAH	2680.0, 41490	7.29	2.11	39.0

Hardware Setup

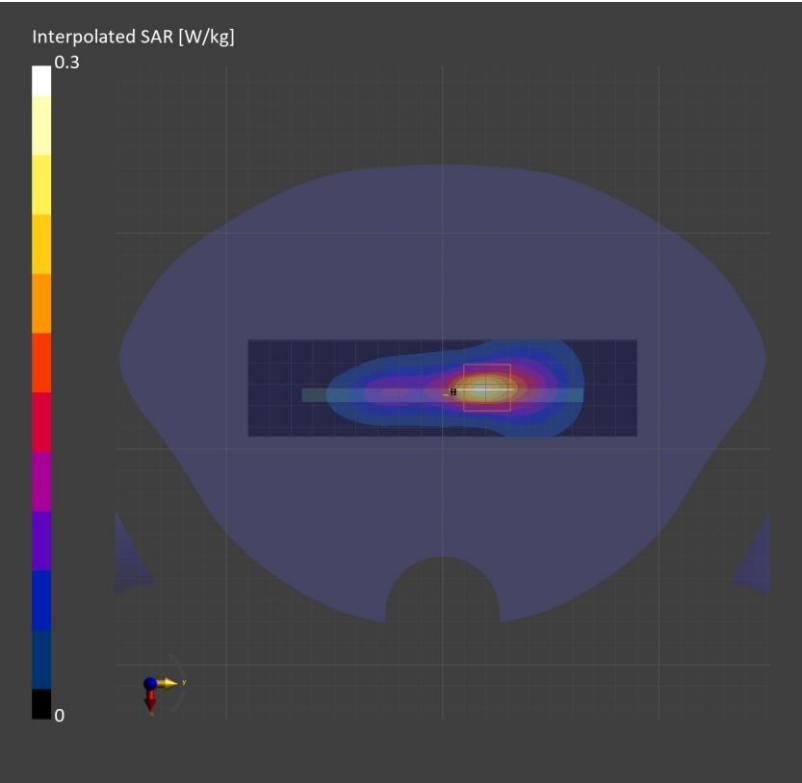
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-30	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.195	0.193
psSAR10g [W/Kg]	0.087	0.082
Power Drift [dB]	-0.06	
M2/M1 [%]		73.9
Dist 3dB Peak [mm]		8.1



Measurement Report for SM-F946D, EDGE TOP, Band 41, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 41490 (2680.0 MHz)

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	EDGE TOP, 0.00	Band 41	LTE-TDD, 10172-CAH	2680.0, 41490	7.29	2.11	39.0

Hardware Setup

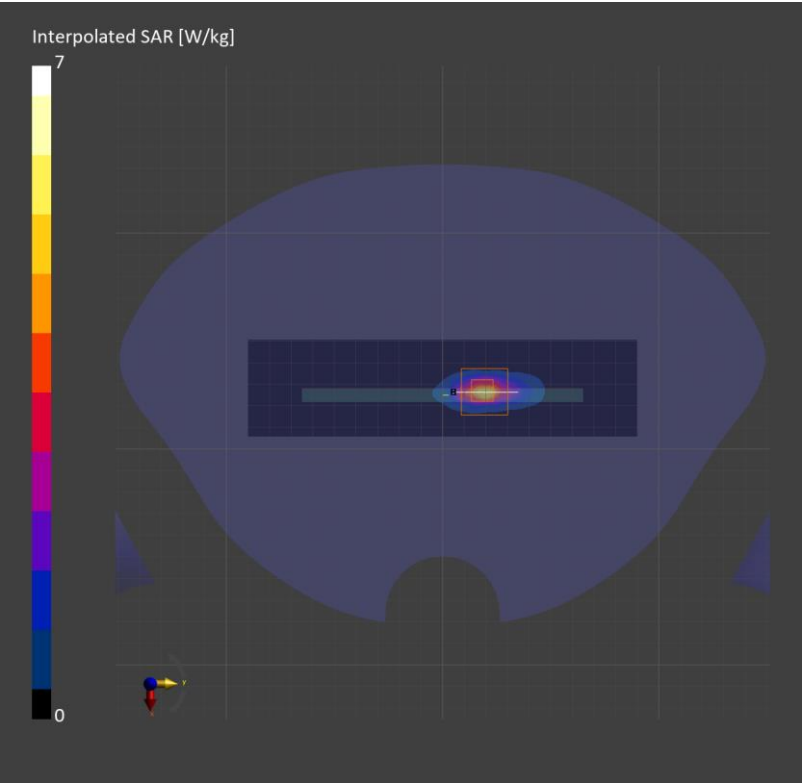
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-30	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	3.38	3.40
psSAR10g [W/Kg]	1.11	0.997
Power Drift [dB]	-0.08	
M2 / M1 [%]		61.2
Dist 3dB Peak [mm]		4.0



LTE Band 66

Frequency: 1745 MHz; Communication System Channel Number: 132322; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.314$ S/m; $\epsilon_r = 41.501$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn1668; Calibrated: 4/26/2023
- Probe: EX3DV4 - SN7645; ConvF(7.74, 7.74, 7.74) @ 1745 MHz; Calibrated: 11/15/2022
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (Right); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Bottom/QPSK RB 1/0 ch.132322/Area Scan (13x6x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.472 W/kg

Bottom/QPSK RB 1/0 ch.132322/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.63 V/m; Power Drift = -0.14 dB

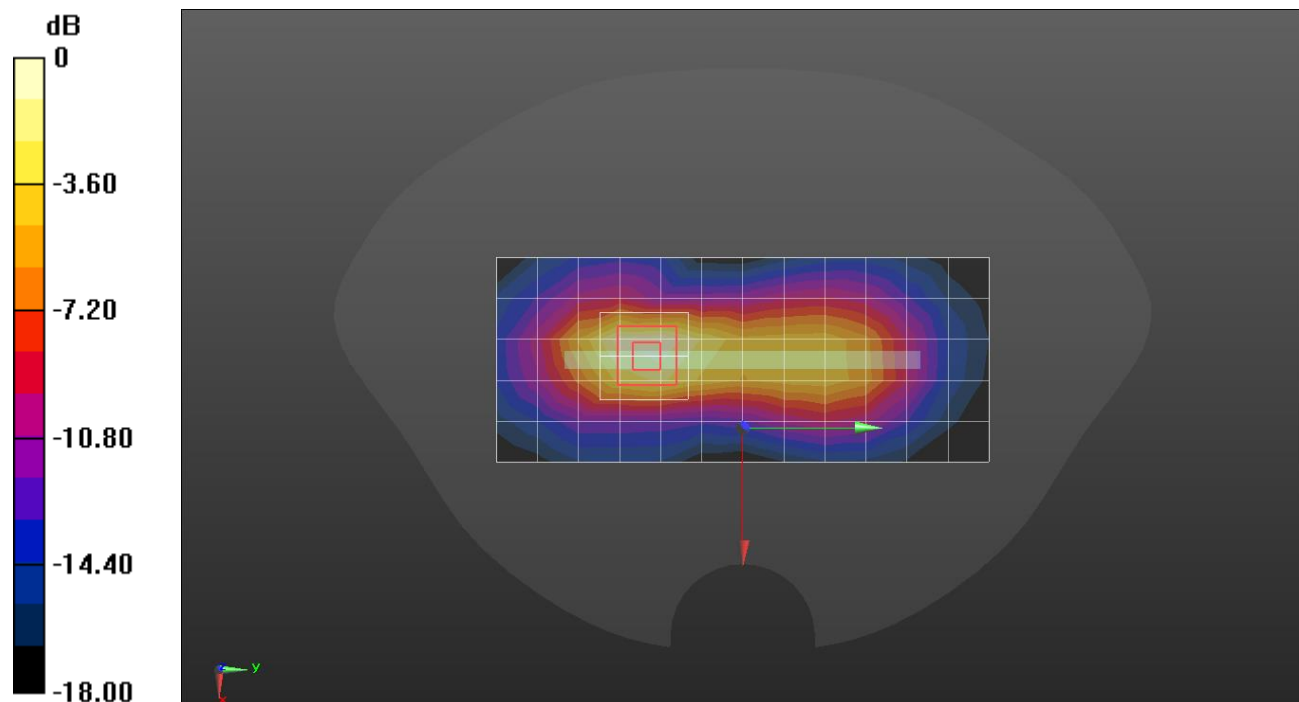
Peak SAR (extrapolated) = 0.870 W/kg

SAR(1 g) = 0.447 W/kg; SAR(10 g) = 0.218 W/kg

Smallest distance from peaks to all points 3 dB below = 8 mm

Ratio of SAR at M2 to SAR at M1 = 53.1%

Maximum value of SAR (measured) = 0.719 W/kg



0 dB = 0.472 W/kg = -3.26 dBW/kg

LTE Band 66

Frequency: 1720 MHz; Communication System Channel Number: 132072; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.3$ S/m; $\epsilon_r = 41.553$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn1668; Calibrated: 4/26/2023
- Probe: EX3DV4 - SN7645; ConvF(7.74, 7.74, 7.74) @ 1720 MHz; Calibrated: 11/15/2022
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (Right); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Bottom/QPSK RB 50/24 ch/132072/Area Scan (13x6x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 3.72 W/kg

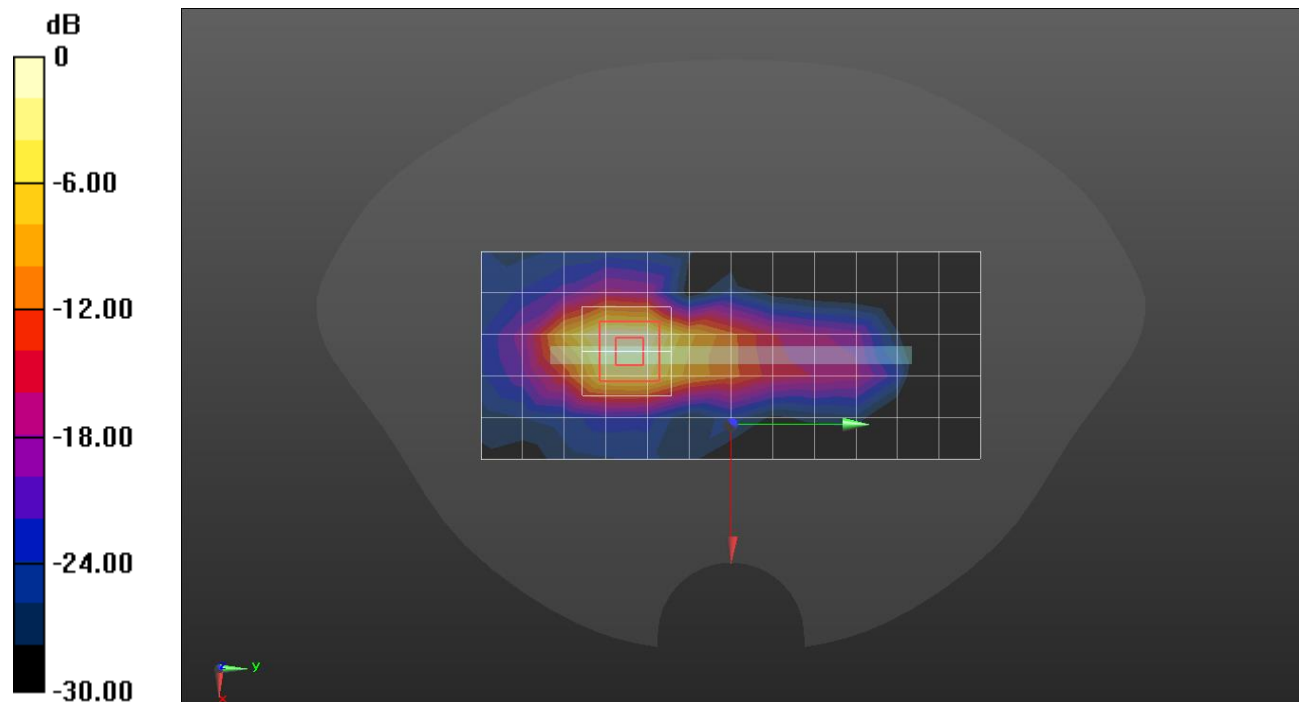
Bottom/QPSK RB 50/24 ch.132072/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 73.11 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 10.6 W/kg

SAR(1 g) = 4.31 W/kg; SAR(10 g) = 1.76 W/kg

Maximum value of SAR (measured) = 8.51 W/kg



0 dB = 3.72 W/kg = 5.71 dBW/kg

Measurement Report for SM-F946D, BACK, Band n5, 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz) RBPosition:Mid AntennaCfg:SISO, Channel 167300 (836.5 MHz)

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	BACK, 10.00	Band n5	5G NR FR1 FDD, 10931-AAC	836.5, 167300	9.95	0.910	41.5

Hardware Setup

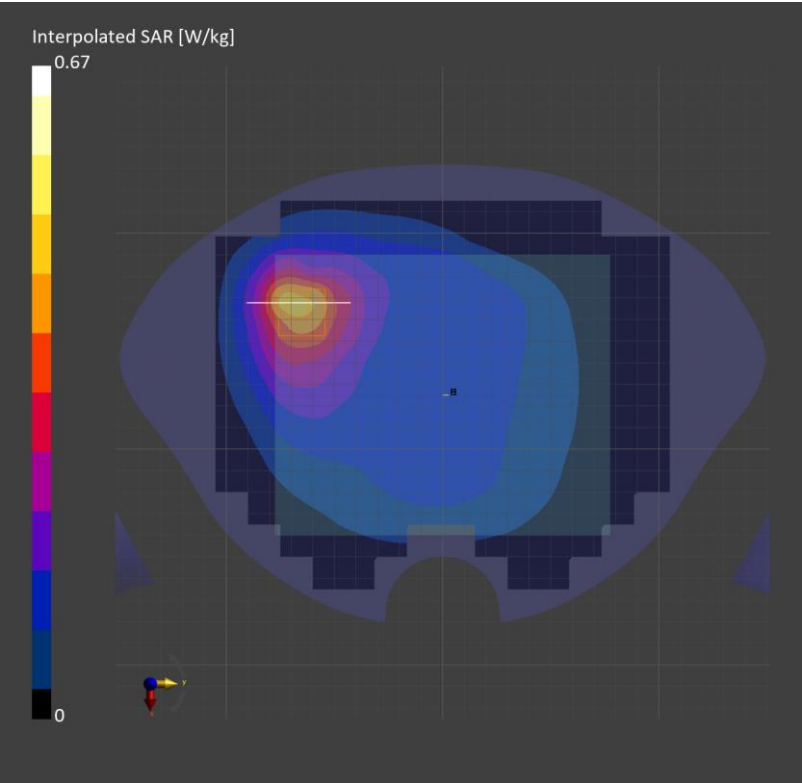
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.415	0.412
psSAR10g [W/Kg]	0.274	0.257
Power Drift [dB]	0.05	
M2 / M1 [%]		86.4
Dist 3dB Peak [mm]		15.6



Measurement Report for SM-F946D, BACK, Band n5, 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz) RBPosition:Mid AntennaCfg:SISO, Channel 167300 (836.5 MHz)

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	BACK, 0.00	Band n5	5G NR FR1 FDD, 10931-AAC	836.5, 167300	9.95	0.910	41.5

Hardware Setup

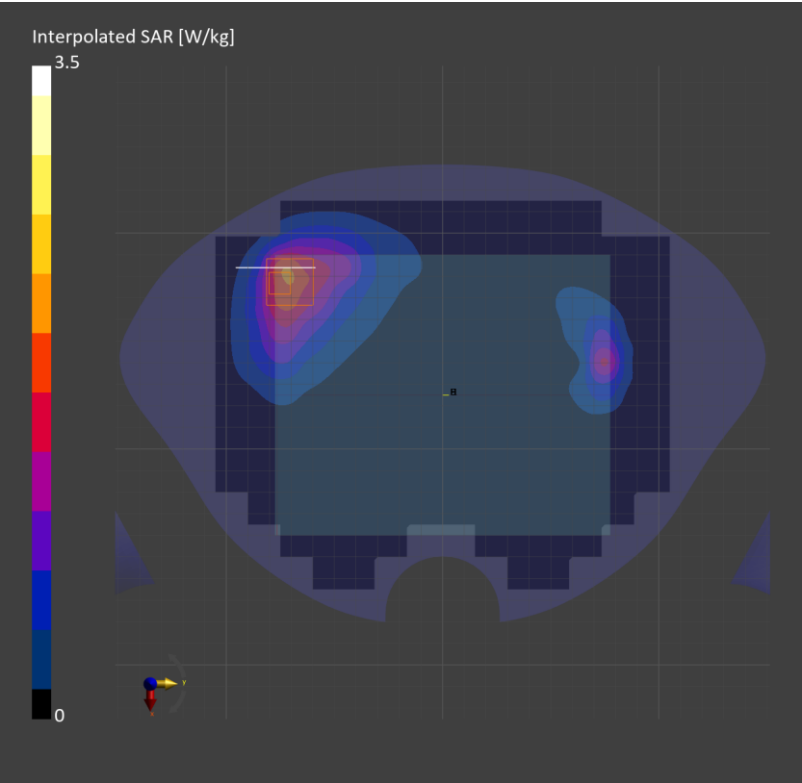
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	4.6 x 4.6 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	1.81	1.84
psSAR10g [W/Kg]	1.16	1.03
Power Drift [dB]	-0.00	
M2/M1 [%]		67.1
Dist 3dB Peak [mm]		5.6



Measurement Report for SM-F946D, EDGE BOTTOM, Band n41, 5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz) RBPosition:Mid AntennaCfg:SISO, Channel 518598 (2593.0 MHz)

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	EDGE BOTTOM, 10.00	Band n41	5G NR FR1 TDD, 10917-AAD	2593.0, 518598	7.03	1.96	40.4

Hardware Setup

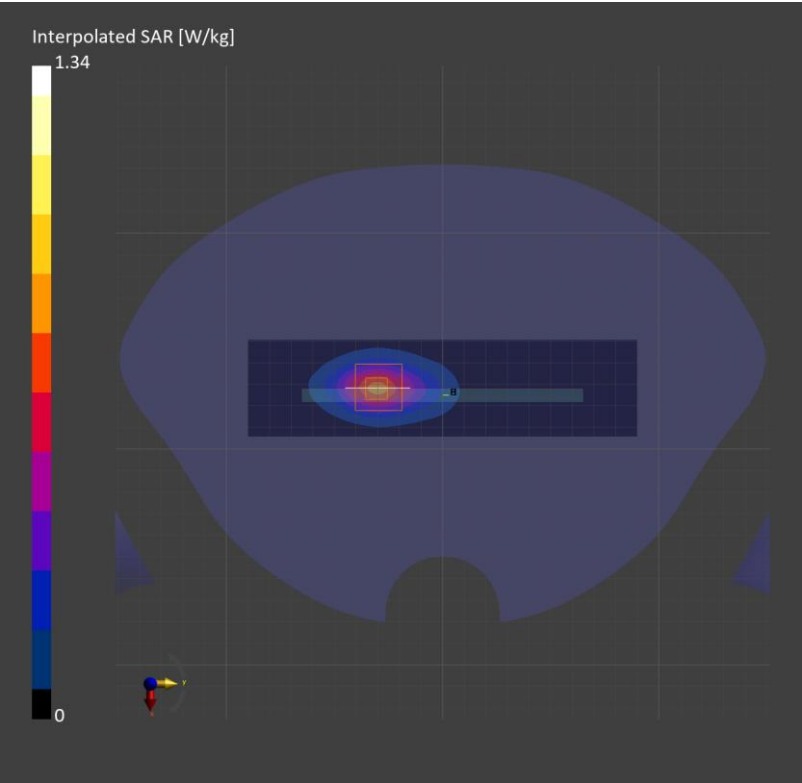
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.628	0.637
psSAR10g [W/Kg]	0.288	0.293
Power Drift [dB]	0.01	
M2/M1 [%]		79.1
Dist 3dB Peak [mm]		9.5



Measurement Report for SM-F946D, EDGE BOTTOM, Band n41, 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz) AntennaCfg:SISO, Channel 518598 (2593.0 MHz)

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	EDGE BOTTOM, 0.00	Band n41	5G NR FR1 TDD, 10868-AAF	2593.0, 518598	7.29	2.00	37.4

Hardware Setup

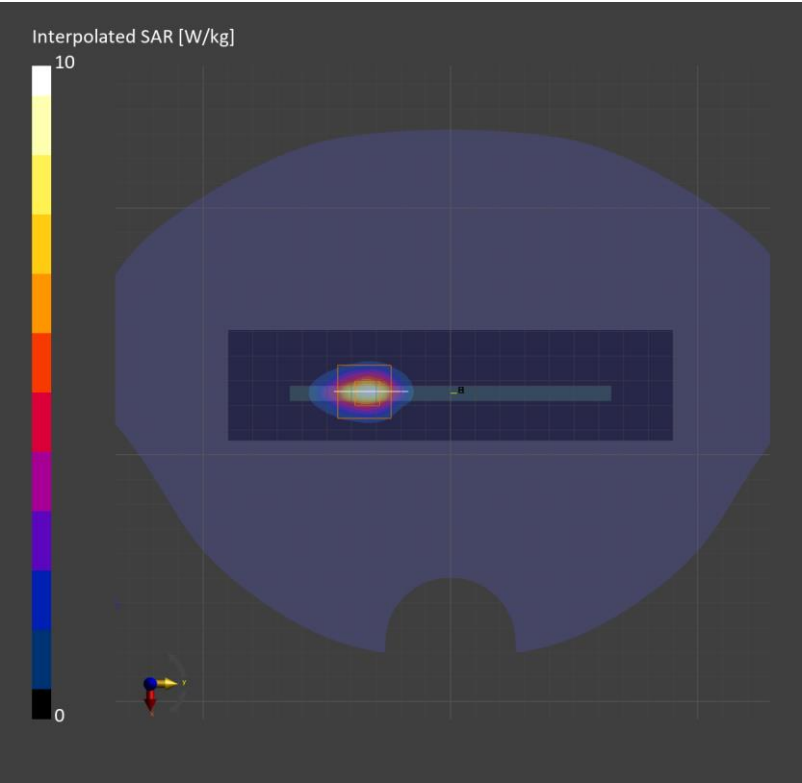
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jul-04	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	6.54	6.66
psSAR10g [W/Kg]	2.32	2.25
Power Drift [dB]	-0.04	
M2 / M1 [%]		71.9
Dist 3dB Peak [mm]		5.0



Measurement Report for SM-F946D, EDGE TOP, Band n41, 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz) RBPosition:Mid AntennaCfg:SISO, Channel 518598 (2593.0 MHz)

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	EDGE TOP, 10.00	Band n41	5G NR FR1 TDD, 10866-AAF	2593.0, 518598	7.03	1.96	40.4

Hardware Setup

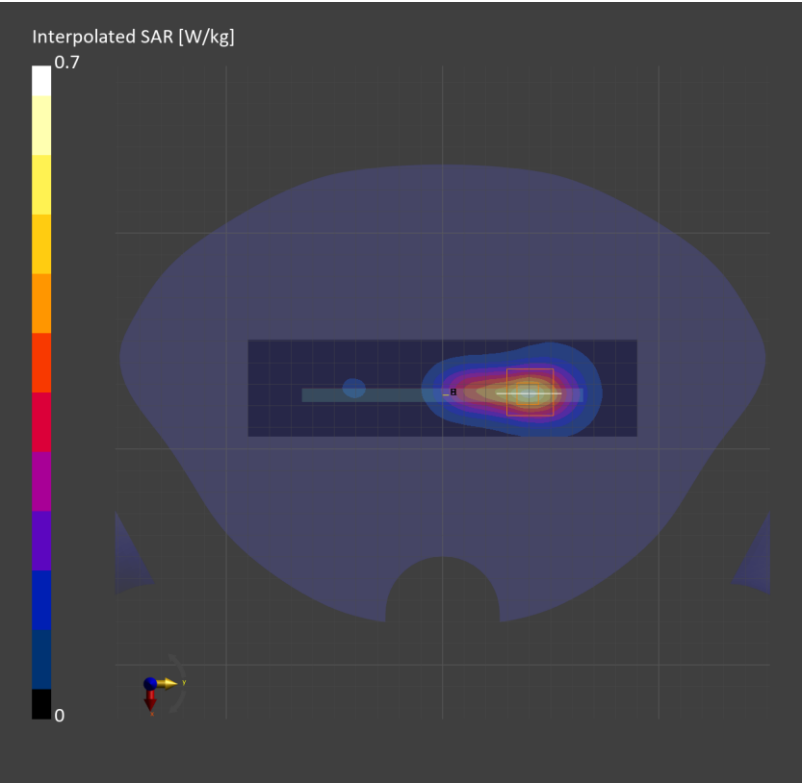
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.454	0.481
psSAR10g [W/Kg]	0.215	0.229
Power Drift [dB]	0.09	
M2/M1 [%]	78.3	
Dist 3dB Peak [mm]	9.1	



Measurement Report for SM-F946D, EDGE TOP, Band n41, 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz) RBPosition:Mid AntennaCfg:SISO, Channel 518598 (2593.0 MHz)

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	EDGE TOP, 0.00	Band n41	5G NR FR1 TDD, 10866-AAF	2593.0, 518598	7.03	1.96	40.4

Hardware Setup

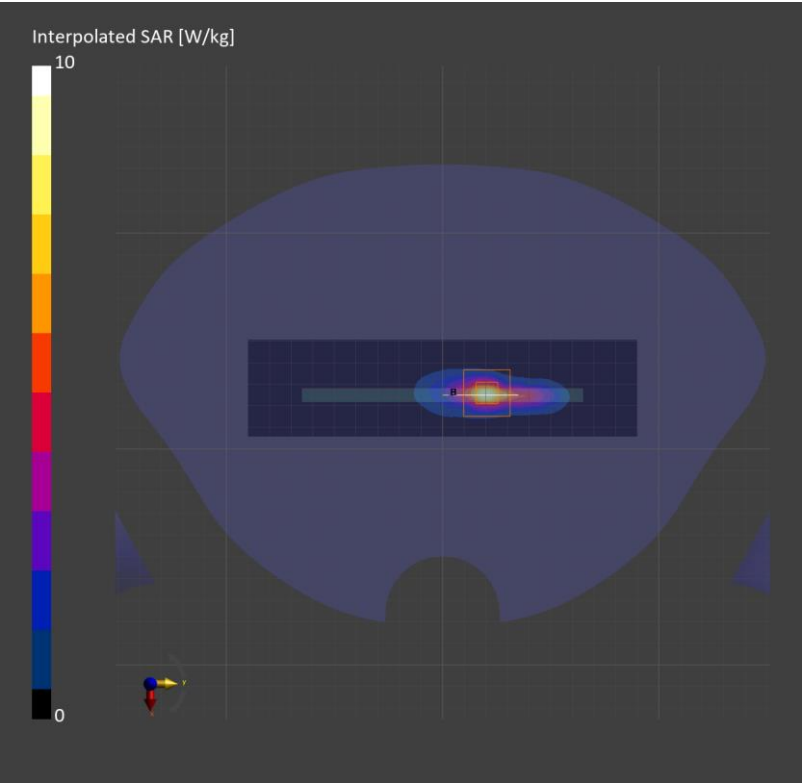
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	6.4 x 10.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	5.74	5.84
psSAR10g [W/Kg]	1.98	1.83
Power Drift [dB]	0.01	
M2/M1 [%]		27.4
Dist 3dB Peak [mm]		4.2



Measurement Report for SM-F946D, EDGE BOTTOM, Band n66, 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz) RBPosition:Mid AntennaCfg:SISO, Channel 349000 (1745.0 MHz)

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	EDGE BOTTOM, 10.00	Band n66	5G NR FR1 FDD, 10942-AAC	1745.0, 349000	7.9	1.37	38.7

Hardware Setup

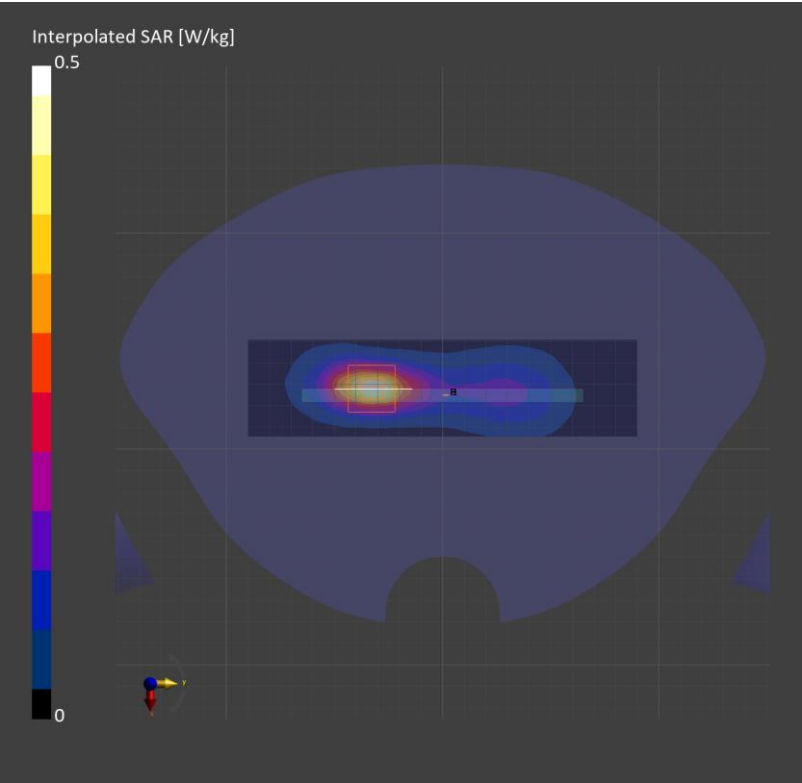
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-22	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.364	0.370
psSAR10g [W/Kg]	0.182	0.185
Power Drift [dB]	-0.00	
M2 /M1 [%]		82.7
Dist 3dB Peak [mm]		8.4



Measurement Report for SM-F946D, EDGE BOTTOM, Band n66, 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz) RBPosition:Mid AntennaCfg:SISO, Channel 349000 (1745.0 MHz)

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	EDGE BOTTOM, 0.00	Band n66	5G NR FR1 FDD, 10942-AAC	1745.0, 349000	7.9	1.37	38.7

Hardware Setup

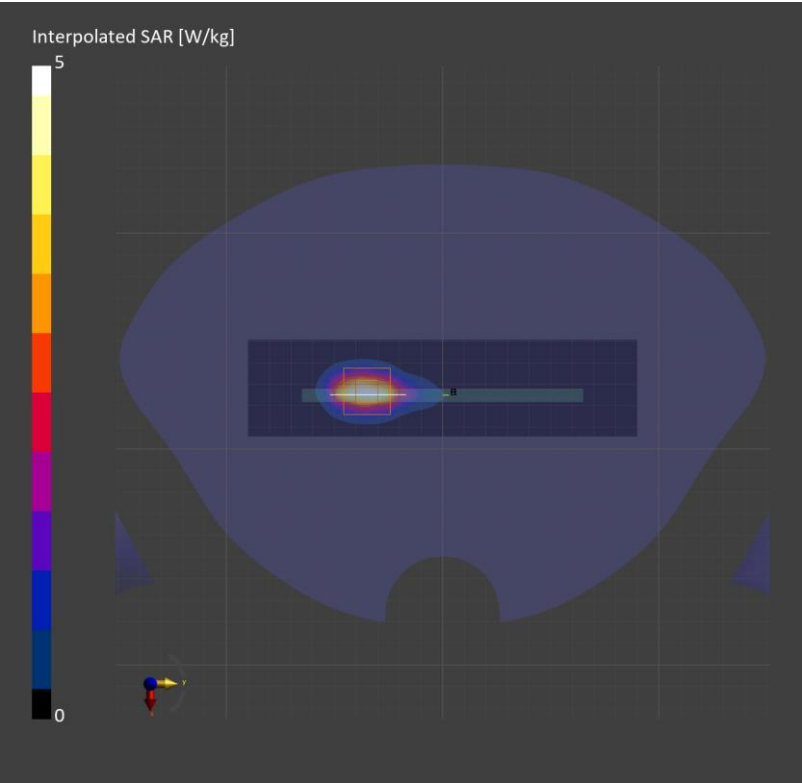
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-22	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	38.4 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	6.4 x 15.0	5.0 x 5.0 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	3.75	3.68
psSAR10g [W/Kg]	1.65	1.53
Power Drift [dB]	-0.02	
M2 /M1 [%]		73.5
Dist 3dB Peak [mm]		6.0



Wi-Fi 2.4 GHz

Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.831$ S/m; $\epsilon_r = 39.779$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2437 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Top/802.11 b mode ch.6 SISO Ant2/Area Scan (16x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.486 W/kg

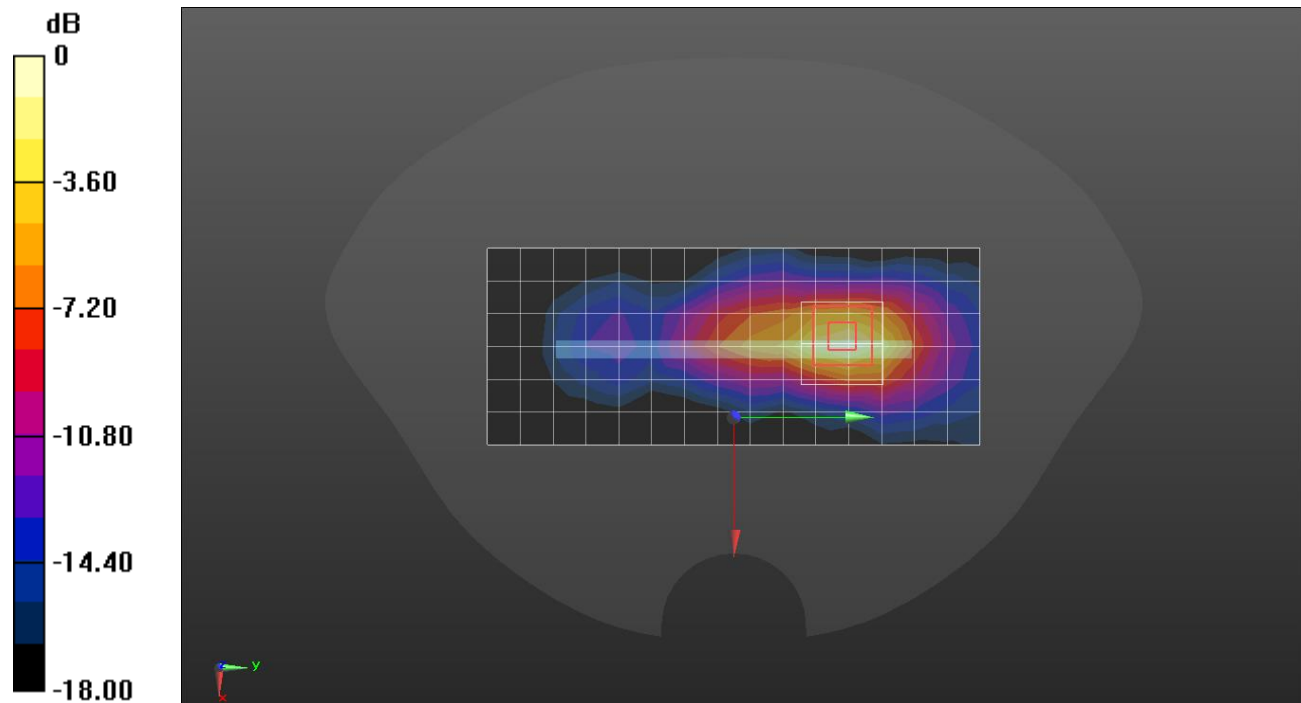
Top/802.11 b mode ch.6 SISO Ant2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.83 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.613 W/kg

SAR(1 g) = 0.282 W/kg; SAR(10 g) = 0.125 W/kg

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



0 dB = 0.486 W/kg = -3.13 dBW/kg

Wi-Fi 2.4 GHz

Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.831$ S/m; $\epsilon_r = 39.779$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2437 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Top/802.11 b mode ch.6 SISO Ant2/Area Scan (16x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 10.1 W/kg

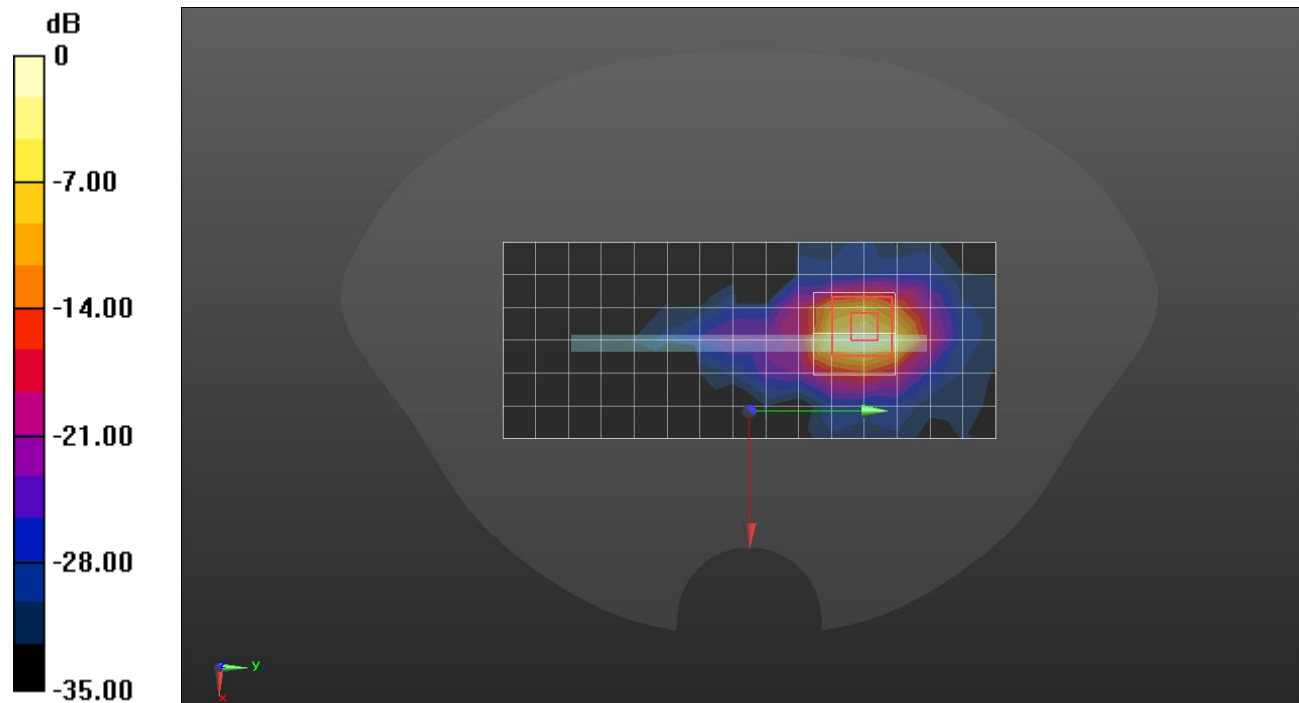
Top/802.11 b mode ch.6 SISO Ant2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 59.97 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 15.5 W/kg

SAR(1 g) = 5.05 W/kg; SAR(10 g) = 1.71 W/kg

Maximum value of SAR (measured) = 9.49 W/kg



0 dB = 10.1 W/kg = 10.04 dBW/kg

Wi-Fi 2.4 GHz

Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.831$ S/m; $\epsilon_r = 39.779$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2437 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Top/802.11 b mode ch.6 MIMO/Area Scan (15x7x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.494 W/kg

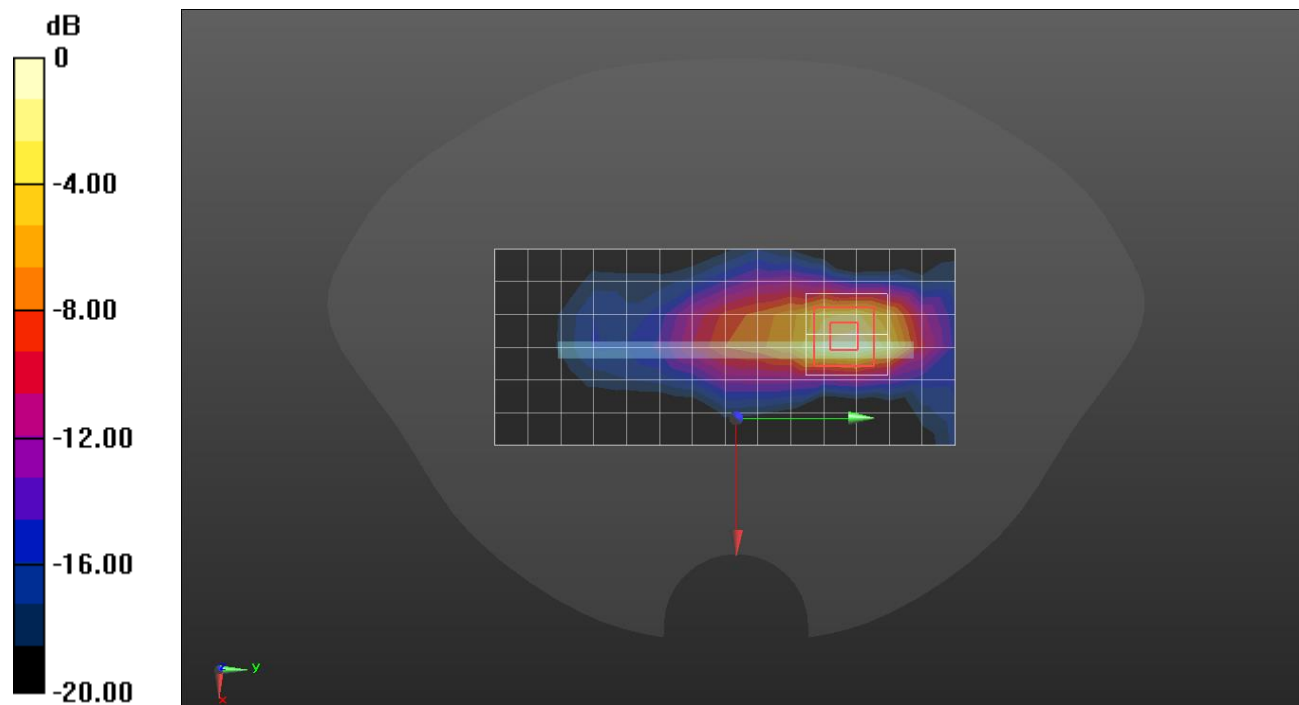
Top/802.11 b mode ch.6 MIMO/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.44 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.811 W/kg

SAR(1 g) = 0.362 W/kg; SAR(10 g) = 0.150 W/kg

Maximum value of SAR (measured) = 0.623 W/kg



0 dB = 0.494 W/kg = -3.06 dBW/kg

Wi-Fi 2.4 GHz

Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.803$ S/m; $\epsilon_r = 38.88$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2437 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Top/802.11 b mode ch.6 MIMO/Area Scan (15x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 4.16 W/kg

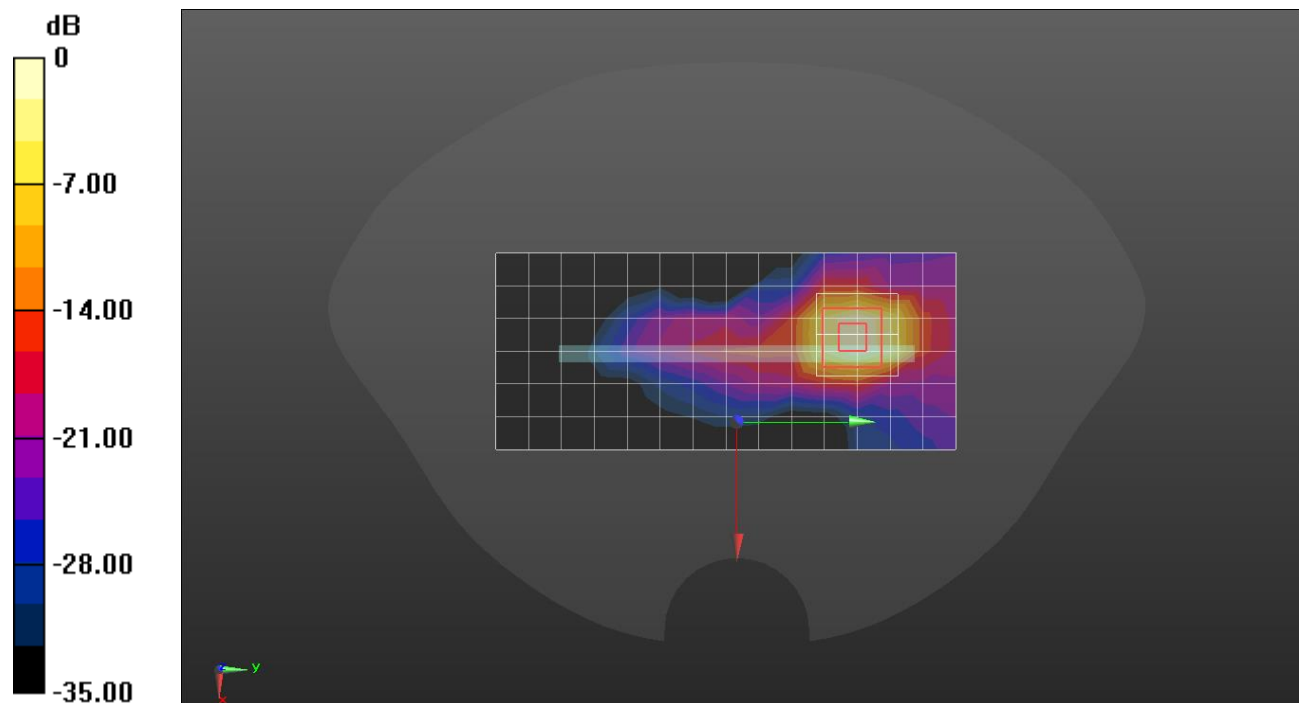
Top/802.11 b mode ch.6 MIMO/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 40.28 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 4.93 W/kg; SAR(10 g) = 1.61 W/kg

Maximum value of SAR (measured) = 10.4 W/kg



0 dB = 4.16 W/kg = 6.19 dBW/kg

Measurement Report for SM-F946D, BACK, U-NII-1, U-NII-2A, IEEE 802.11ac WIFI (80MHz, MCS0, 90pc duty cycle), Channel 58 (5290.0 MHz)

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	BACK, 10.00	U-NII-1, U-NII-2A	WLAN, 10626-AAC	5290.0, 58	5.15	4.57	36.2

Hardware Setup

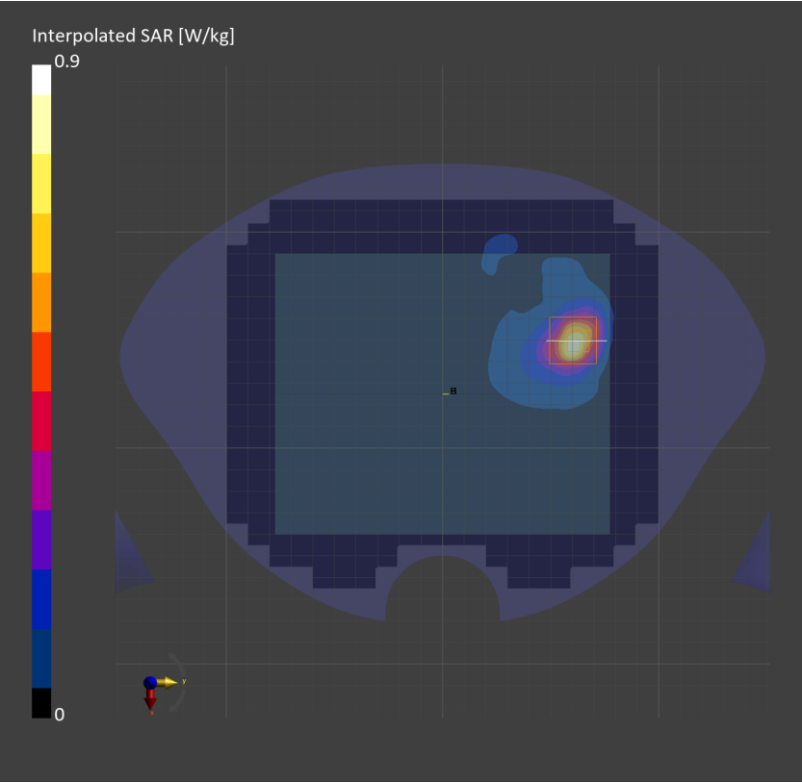
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-08	EX3DV4 - SN7376, 2022-07-27	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.570	0.642
psSAR10g [W/Kg]	0.198	0.208
Power Drift [dB]	0.02	
M2/M1 [%]		69.1
Dist 3dB Peak [mm]		6.9



Measurement Report for SM-F946D, BACK, U-NII-1, U-NII-2A, IEEE 802.11ac WIFI (80MHz, MCS0, 90pc duty cycle), Channel 58 (5290.0 MHz)

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	BACK, 0.00	U-NII-1, U-NII-2A	WLAN, 10626-AAC	5290.0, 58	5.15	4.57	36.2

Hardware Setup

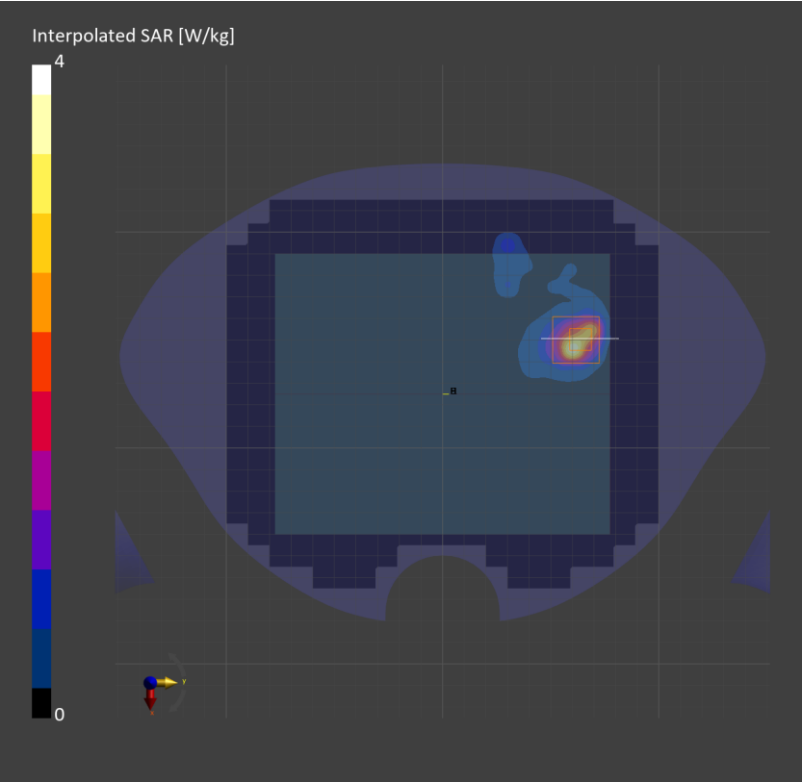
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-08	EX3DV4 - SN7376, 2022-07-27	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.30	3.18
psSAR10g [W/Kg]	0.754	0.855
Power Drift [dB]	-0.00	
M2/M1 [%]		65.3
Dist 3dB Peak [mm]		4.9



Measurement Report for SM-F946D, BACK, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 138 (5690.0 MHz)

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	BACK, 10.00	WLAN 5GHz	WLAN, 10626-AAC	5690.0, 138	4.85	5.33	35.7

Hardware Setup

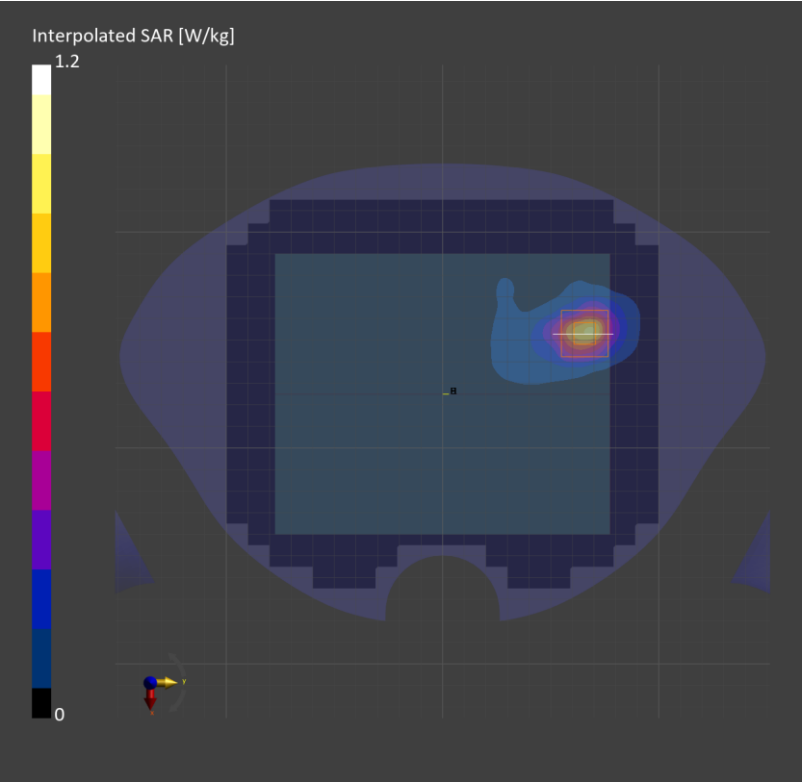
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000 , 2023-Jun-24	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.670	0.736
psSAR10g [W/Kg]	0.237	0.249
Power Drift [dB]	0.03	
M2/M1 [%]		64.0
Dist 3dB Peak [mm]		9.0



Measurement Report SM-F946D, BACK, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 138 (5690.0 MHz)

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	BACK, 0.00	WLAN 5GHz	WLAN, 10626-AAC	5690.0, 138	4.85	5.33	35.7

Hardware Setup

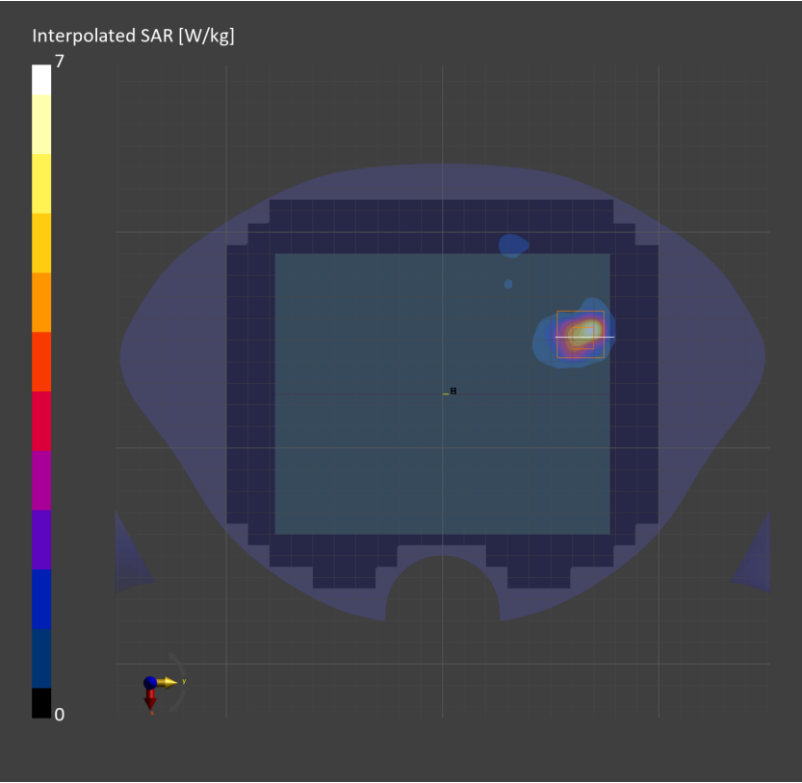
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-24	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	3.9 x 3.9 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	4.29	5.60
psSAR10g [W/Kg]	1.25	1.39
Power Drift [dB]	0.04	
M2/M1 [%]		60.0
Dist 3dB Peak [mm]		4.5



Measurement Report for SM-F946D, BACK, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 155 (5775.0 MHz)

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	BACK, 10.00	WLAN 5GHz	WLAN, 10626-AAC	5775.0, 155	4.85	5.43	35.6

Hardware Setup

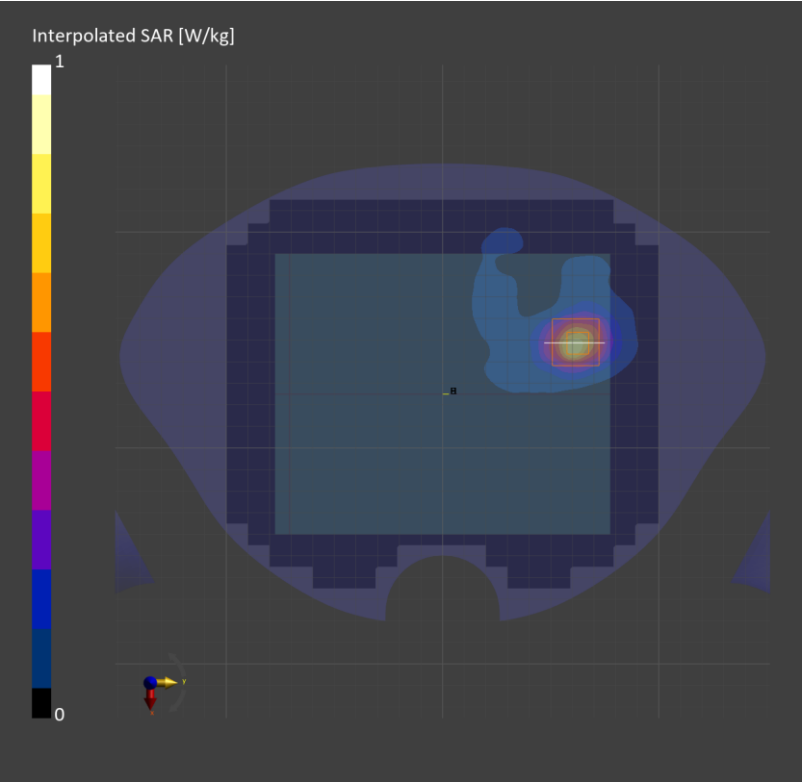
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-25	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.599	0.656
psSAR10g [W/Kg]	0.213	0.223
Power Drift [dB]	-0.02	
M2/M1 [%]		62.8
Dist 3dB Peak [mm]		9.0



Measurement Report for SM-F946D, FRONT, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 155 (5775.0 MHz)

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	FRONT, 0.00	WLAN 5GHz	WLAN, 10626-AAC	5775.0, 155	4.85	5.43	35.6

Hardware Setup

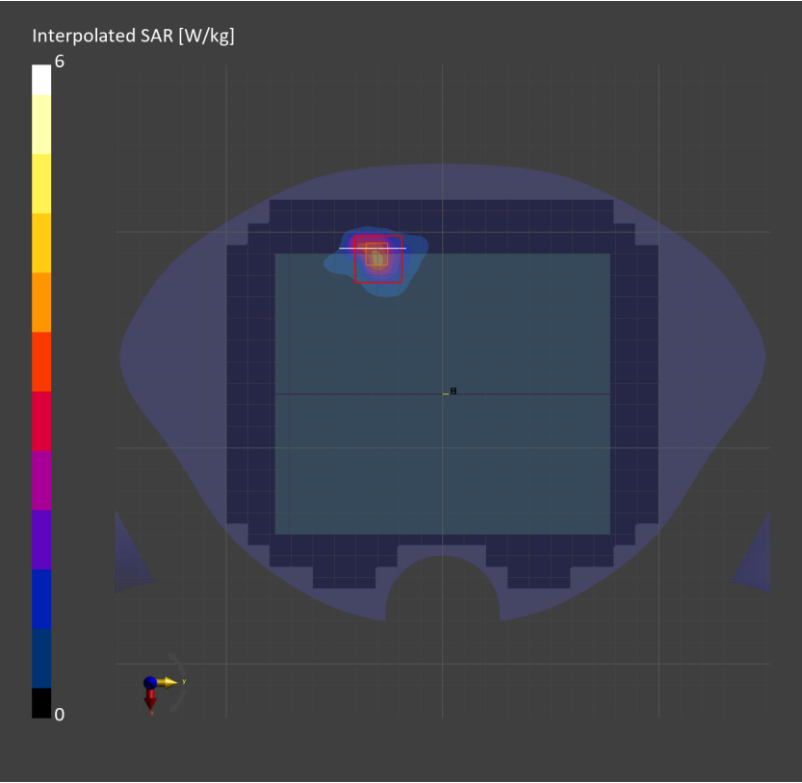
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-25	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	2.2 x 2.2 x 1.2
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.66	3.24
psSAR10g [W/Kg]	0.849	0.924
Power Drift [dB]	-0.00	
M2/M1 [%]		59.5
Dist 3dB Peak [mm]		3.4



Measurement Report for SM-F946D, BACK, Custom Band, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 5855000 (5855.0 MHz)

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	BACK, 10.00	Custom Band	CW, 10626-AAC	5855.0, 5855000	4.8	5.38	34.1

Hardware Setup

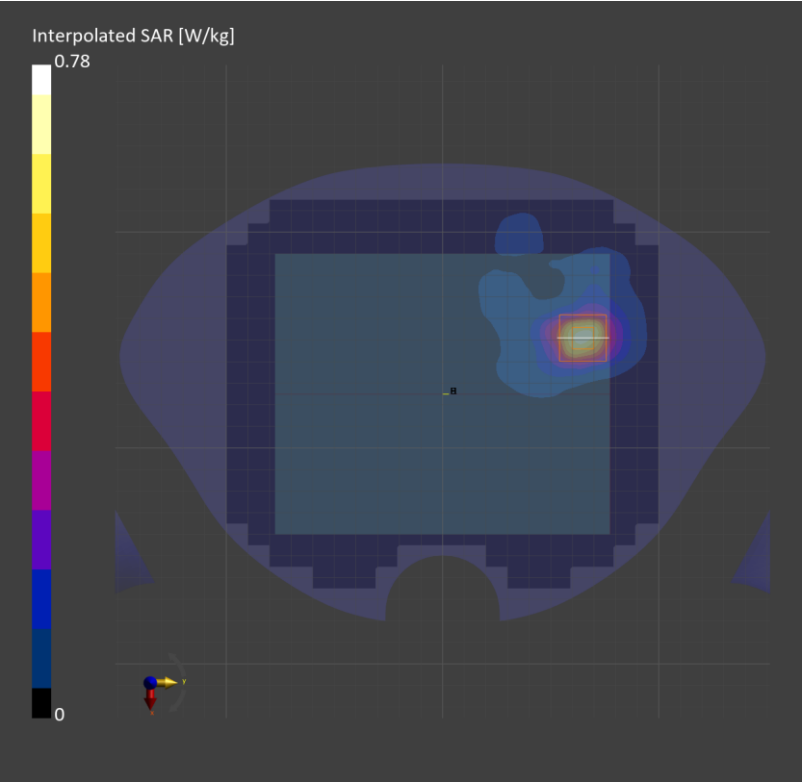
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000 , 2023-Jun-27	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.523	0.584
psSAR10g [W/Kg]	0.190	0.195
Power Drift [dB]	-0.03	
M2/M1 [%]		62.2
Dist 3dB Peak [mm]		8.9



Measurement Report SM-F946D, BACK, Custom Band, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 5855000 (5855.0 MHz)

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	BACK, 0.00	Custom Band	CW, 10626-AAC	5855.0, 5855000	4.8	5.38	34.1

Hardware Setup

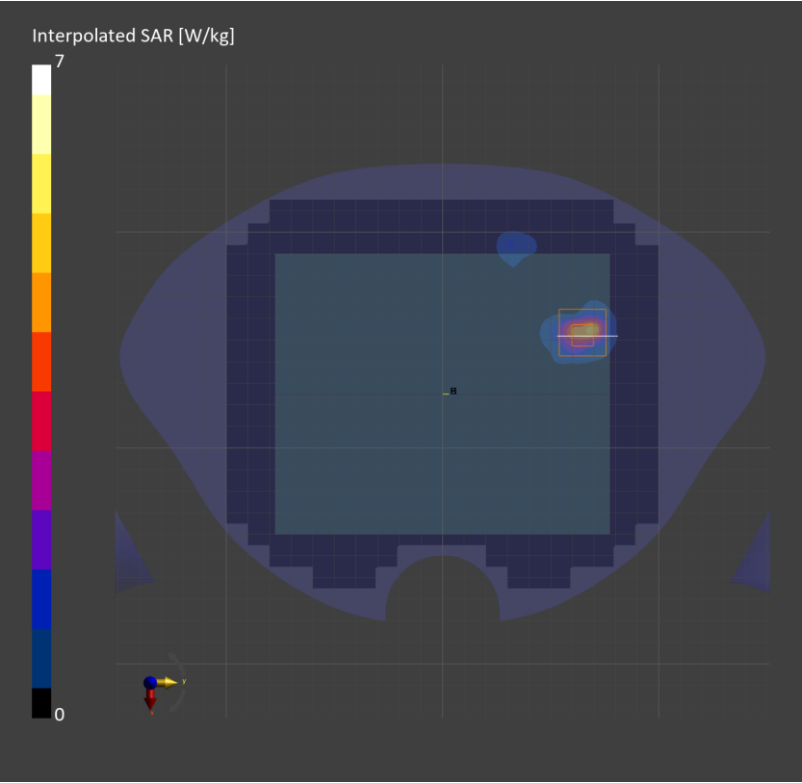
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-27	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 200.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	3.29	3.87
psSAR10g [W/Kg]	0.929	0.996
Power Drift [dB]	0.06	
M2 / M1 [%]		58.5
Dist 3dB Peak [mm]		4.9



Bluetooth

Frequency: 2441 MHz; Communication System Channel Number: 39; Duty Cycle: 1:1.17625

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

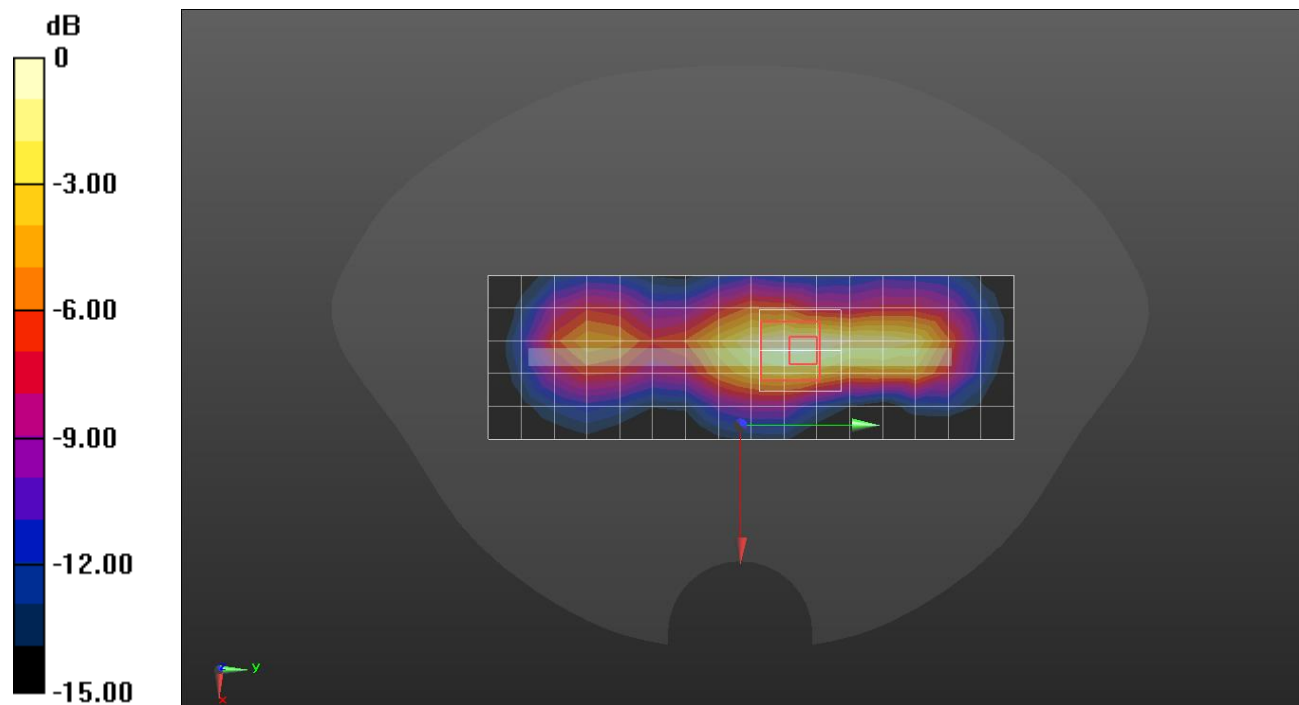
Medium parameters used (interpolated): $f = 2441$ MHz; $\sigma = 1.829$ S/m; $\epsilon_r = 39.234$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2441 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Left/Bluetooth GFSK ch.39 Ant.1/Area Scan (17x6x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.204 W/kg

Left/Bluetooth GFSK ch.39 Ant.1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.704 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.301 W/kg
SAR(1 g) = 0.141 W/kg; SAR(10 g) = 0.070 W/kg
Maximum value of SAR (measured) = 0.236 W/kg



0 dB = 0.204 W/kg = -6.90 dBW/kg

Bluetooth

Frequency: 2441 MHz; Communication System Channel Number: 39; Duty Cycle: 1:1.17625

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

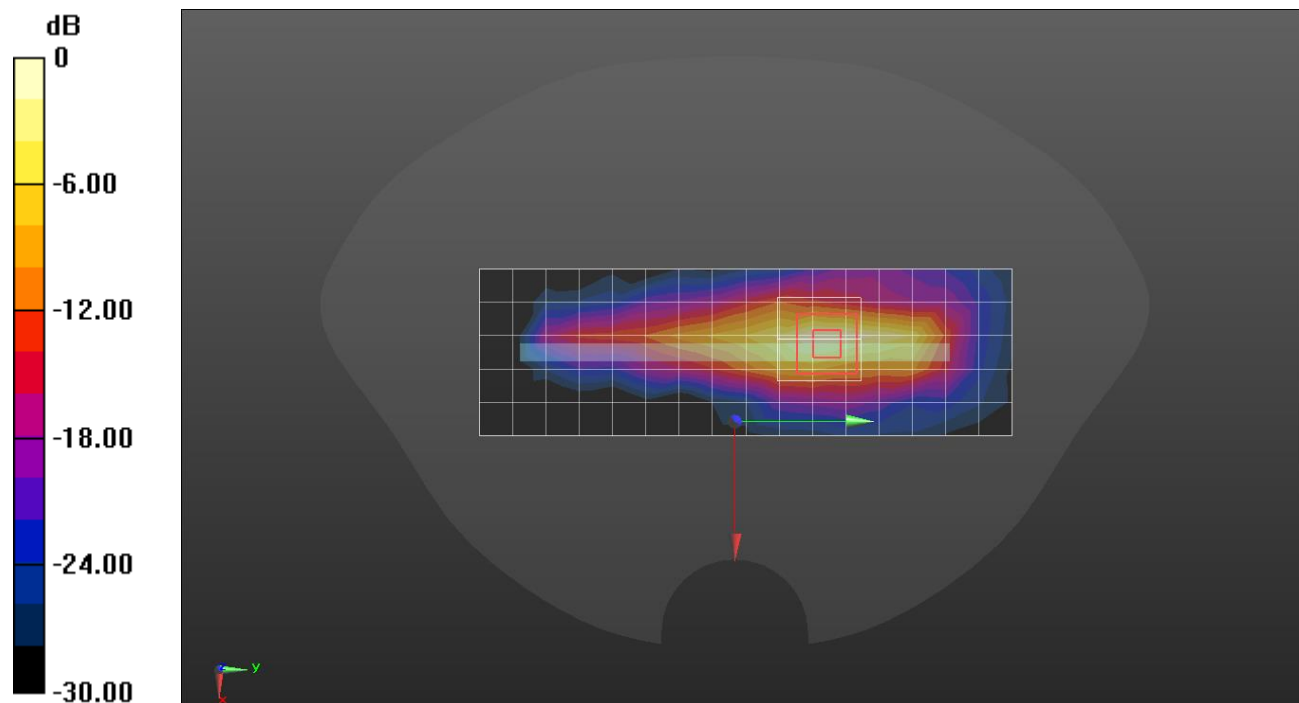
Medium parameters used (interpolated): $f = 2441$ MHz; $\sigma = 1.829$ S/m; $\epsilon_r = 39.234$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2441 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Left/Bluetooth GFSK ch.39 Ant.1/Area Scan (17x6x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 2.24 W/kg

Left/Bluetooth GFSK ch.39 Ant.1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.91 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 4.76 W/kg
SAR(1 g) = 1.35 W/kg; SAR(10 g) = 0.470 W/kg
Maximum value of SAR (measured) = 2.80 W/kg



Bluetooth

Frequency: 2402 MHz; Communication System Channel Number: 0; Duty Cycle: 1:1.17625

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used (interpolated): $f = 2402$ MHz; $\sigma = 1.755$ S/m; $\epsilon_r = 38.696$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2402 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Top/Bluetooth GFSK ch.0 Ant.2/Area Scan (16x6x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.253 W/kg

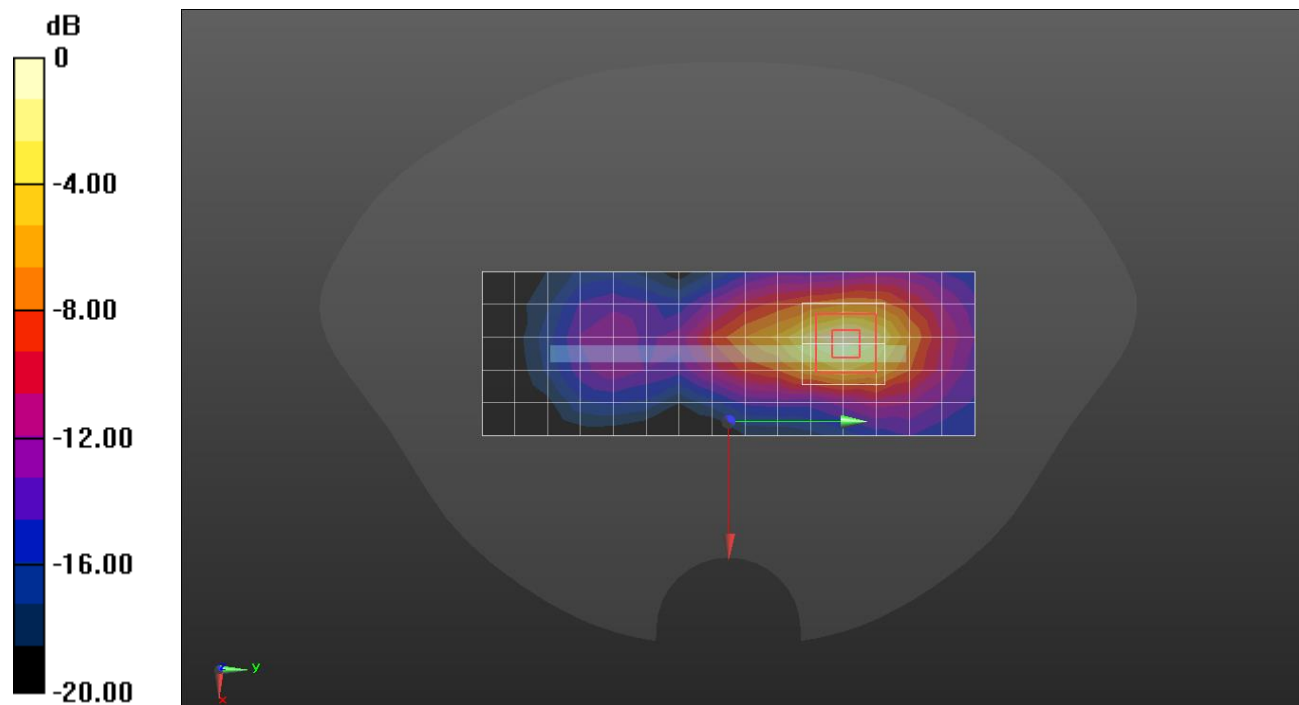
Top/Bluetooth GFSK ch.0 Ant.2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.31 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.329 W/kg

SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.070 W/kg

Maximum value of SAR (measured) = 0.262 W/kg



Bluetooth

Frequency: 2402 MHz; Communication System Channel Number: 0; Duty Cycle: 1:1.17625

Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C

Medium parameters used (interpolated): $f = 2402$ MHz; $\sigma = 1.755$ S/m; $\epsilon_r = 38.696$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Area Scan Setting: Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.012W/kg
- Electronics: DAE4 Sn912; Calibrated: 11/16/2022
- Probe: EX3DV4 - SN7646; ConvF(8.42, 8.42, 8.42) @ 2402 MHz; Calibrated: 3/23/2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Phantom: Twin-SAM V5.0 (20deg probe tilt); Phantom section: Flat Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Top/Bluetooth GFSK ch.0 Ant.2/Area Scan (16x6x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 3.60 W/kg

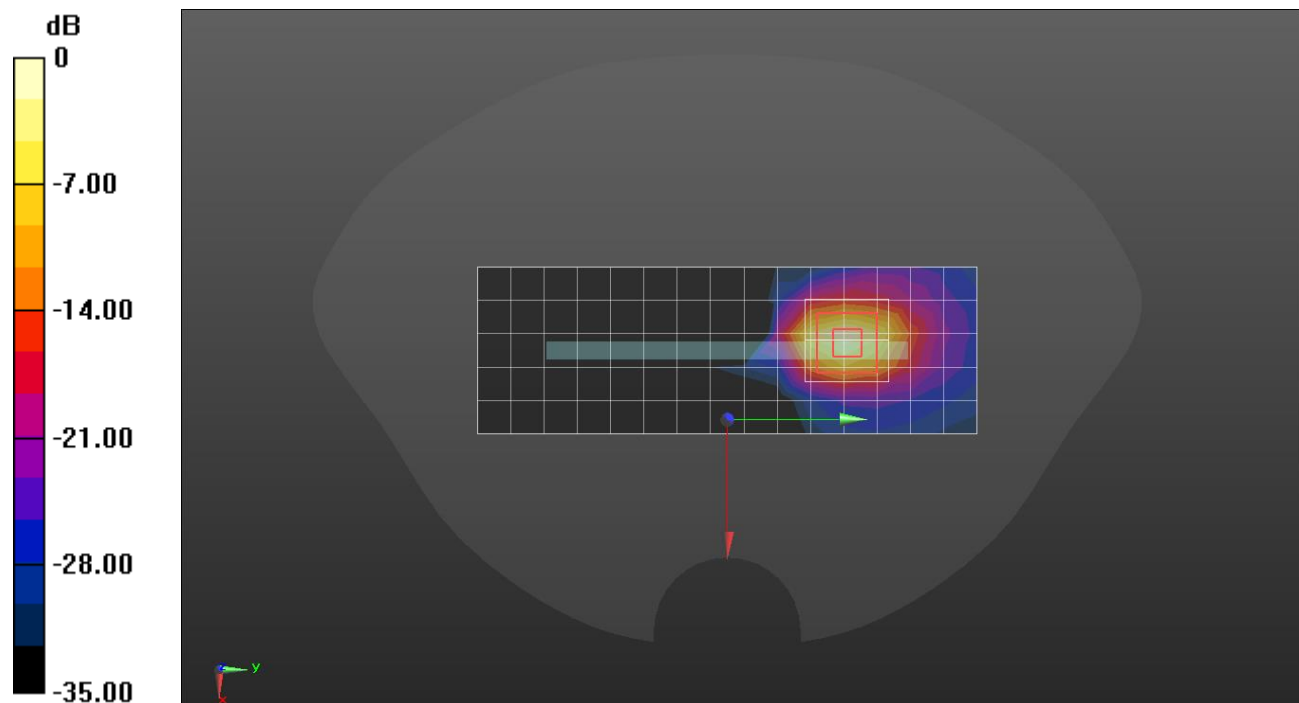
Top/Bluetooth GFSK ch.0 Ant.2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 44.45 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 6.17 W/kg

SAR(1 g) = 2.1 W/kg; SAR(10 g) = 0.711 W/kg

Maximum value of SAR (measured) = 4.34 W/kg



0 dB = 3.60 W/kg = 5.56 dBW/kg

Measurement Report for SM-F946D, BACK, Custom Band, CW, Channel 13600 (13.6 MHz)

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	BACK, 0.00	Custom Band	CW, 0--	13.6, 13600	16.64	0.773	57.0

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V6.0 (20deg probe tilt) – 2005	HBBL4-250V3, 2023-Jun-30	EX3DV4 – SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 210.0	36.0 x 36.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.021	0.032
psSAR10g [W/Kg]	0.014	0.011
Power Drift [dB]	-0.14	
M2 / M1 [%]		55.1
Dist 3dB Peak [mm]		5.0

