

Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	GSM 850	GSM, 10024-DAC	836.6, 190	9.95	0.939	41.7

Hardware Setup

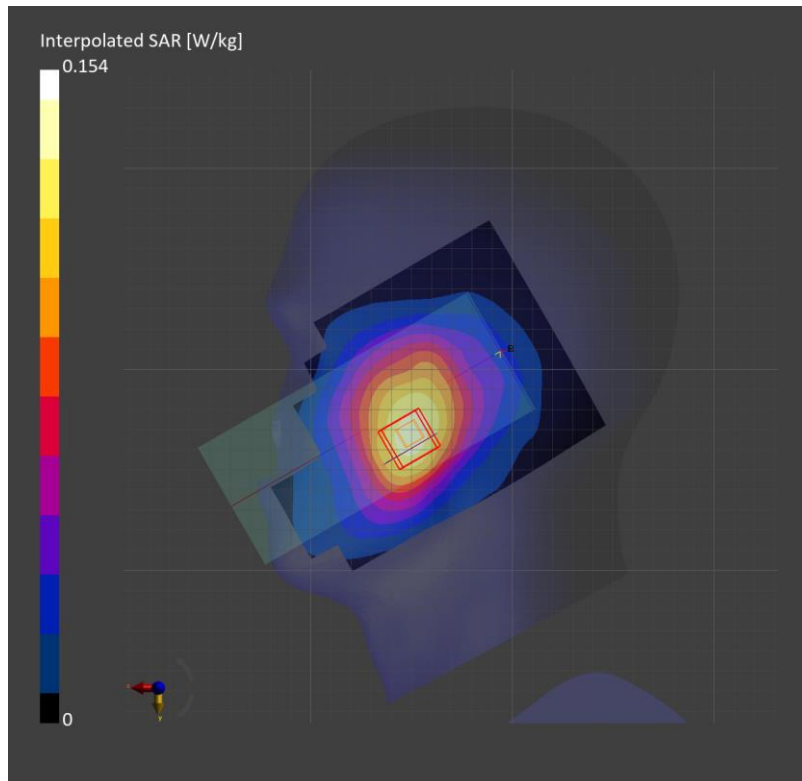
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jul-03	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1671, 2023-05-25

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.120	0.124
psSAR10g [W/Kg]	0.082	0.093
Power Drift [dB]		-0.03
M2/M1 [%]		94.3
Dist 3dB Peak [mm]		> 15.0



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	0.939	41.7

Hardware Setup

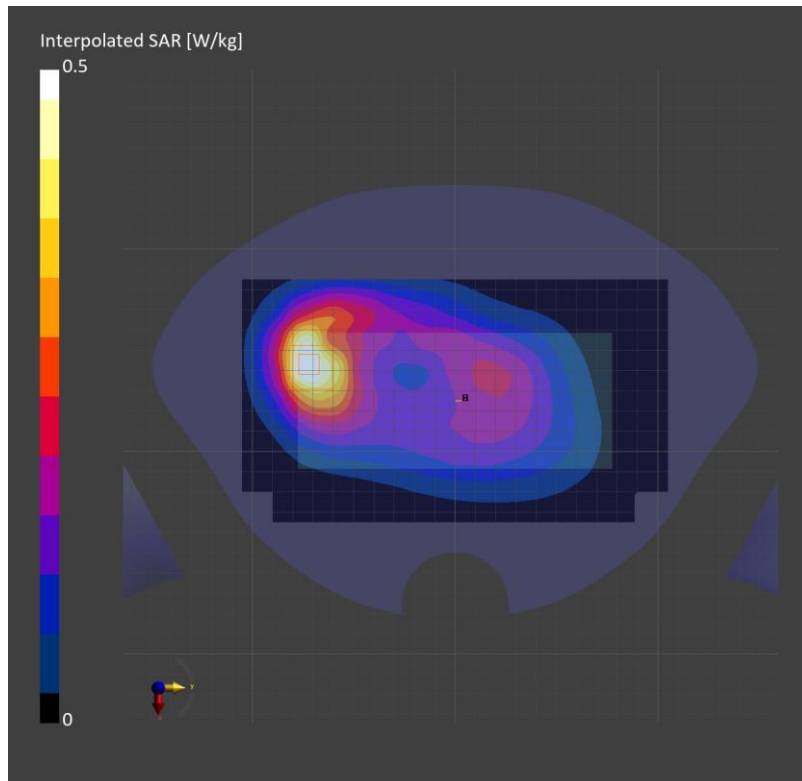
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jul-03	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1671, 2023-05-25

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.442	0.451
psSAR10g [W/Kg]	0.281	0.261
Power Drift [dB]	0.04	
M2/M1 [%]	83.5	
Dist 3dB Peak [mm]	13.0	



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

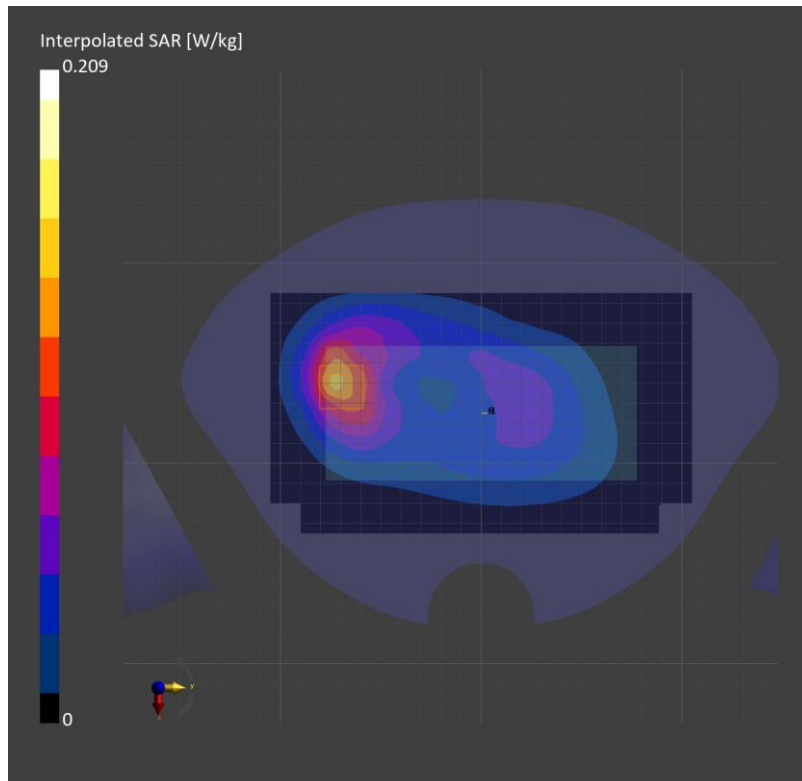
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.123	0.121
psSAR10g [W/Kg]	0.079	0.071
Power Drift [dB]		-0.02
M2/M1 [%]		85.2
Dist 3dB Peak [mm]		14.0



Measurement Report for SM-F946D, CHEEK, PCS 1900, GPRS-FDD (TDMA, GMSK, TN 0-1-2), Channel 661 (1880.0 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
RightHead, HSL	CHEEK, 0.00	PCS 1900	GSM, 10027-DAC	1880.0, 661	7.4	1.41	38.8

Hardware Setup

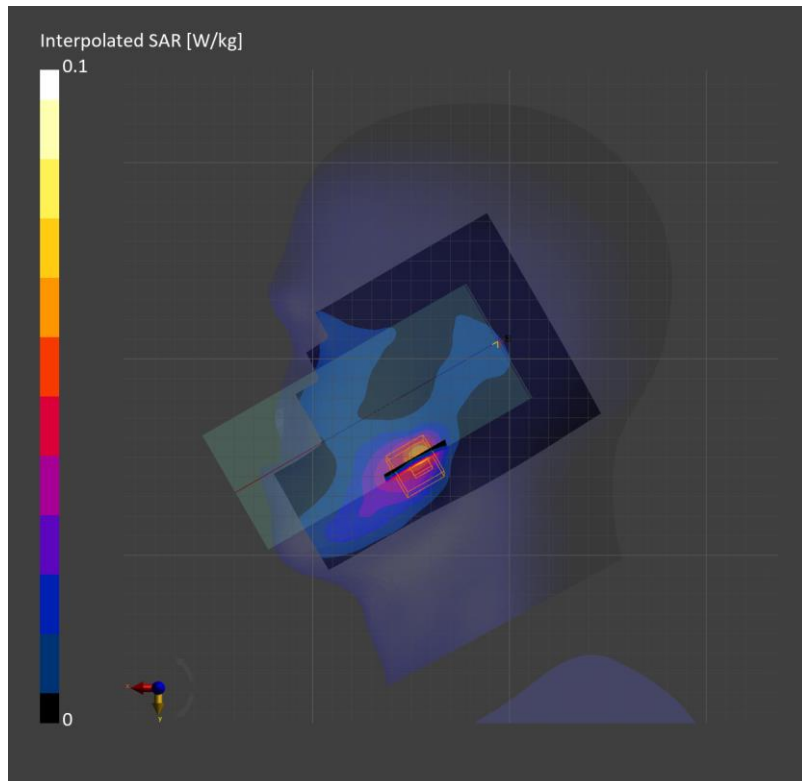
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-24	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.050	0.060
psSAR10g [W/Kg]	0.026	0.031
Power Drift [dB]		0.13
M2/M1 [%]		83.9
Dist 3dB Peak [mm]		8.2



Measurement Report for SM-F946D, EDGE BOTTOM, PCS 1900, GPRS-FDD (TDMA, GMSK, TN 0-1-2-3), Channel 512 (1850.3 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	1880.0, 661	7.4	1.41	38.8

Hardware Setup

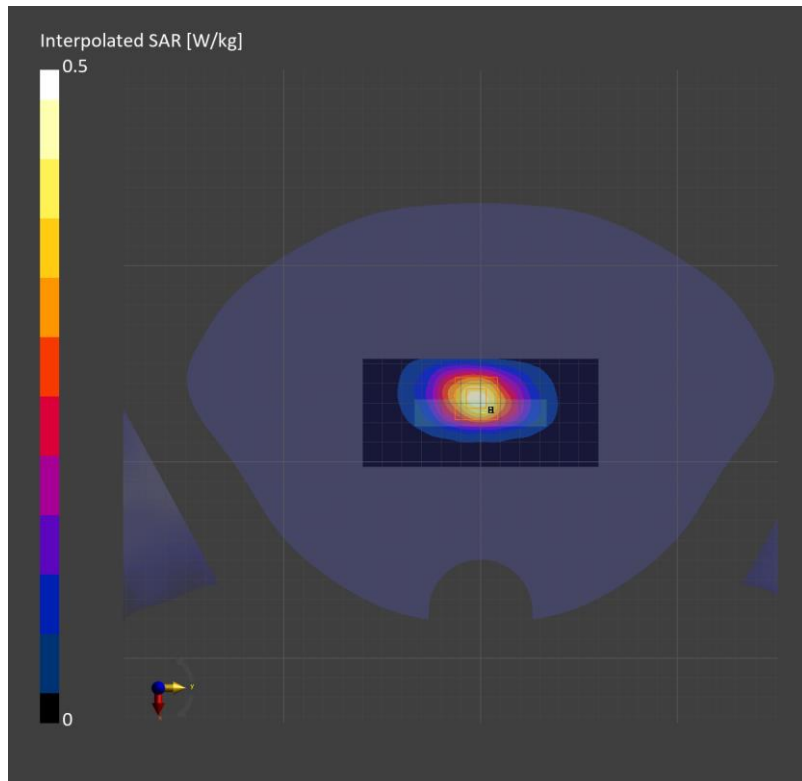
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-24	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	55.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	13.76 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]	0.357	0.441
psSAR10g [W/Kg]	0.197	0.224
Power Drift [dB]		-0.16
M2/M1 [%]		82.6
Dist 3dB Peak [mm]		9.6



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	9.95	0.939	41.7

Hardware Setup

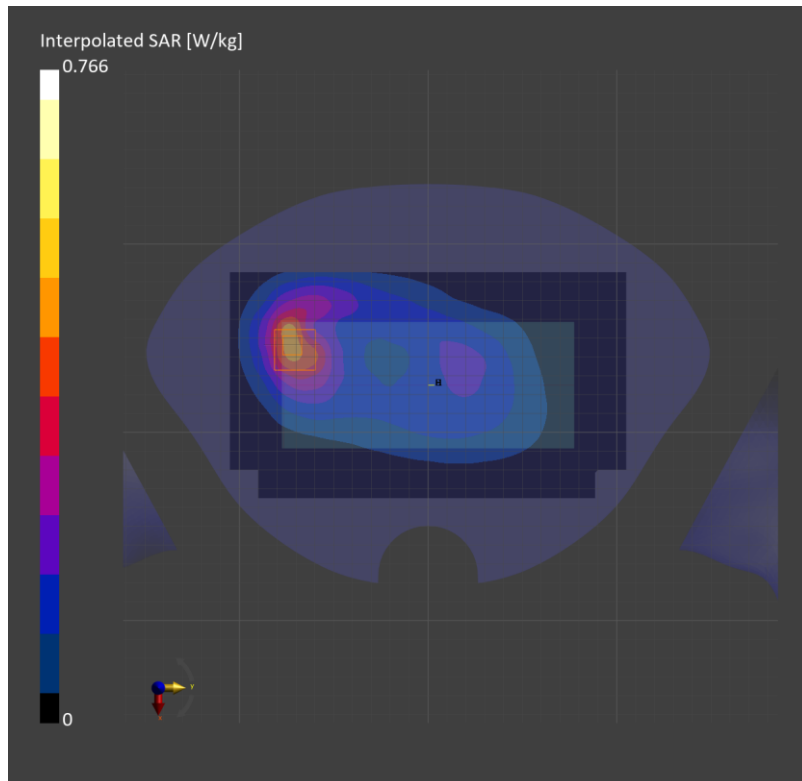
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jul-03	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1671, 2023-05-25

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.416	0.432
psSAR10g [W/Kg]	0.267	0.251
Power Drift [dB]		-0.01
M2/M1 [%]		83.3
Dist 3dB Peak [mm]		12.8



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band 5	WCDMA, 10011-CAC	836.6, 4183	9.95	0.910	41.5

Hardware Setup

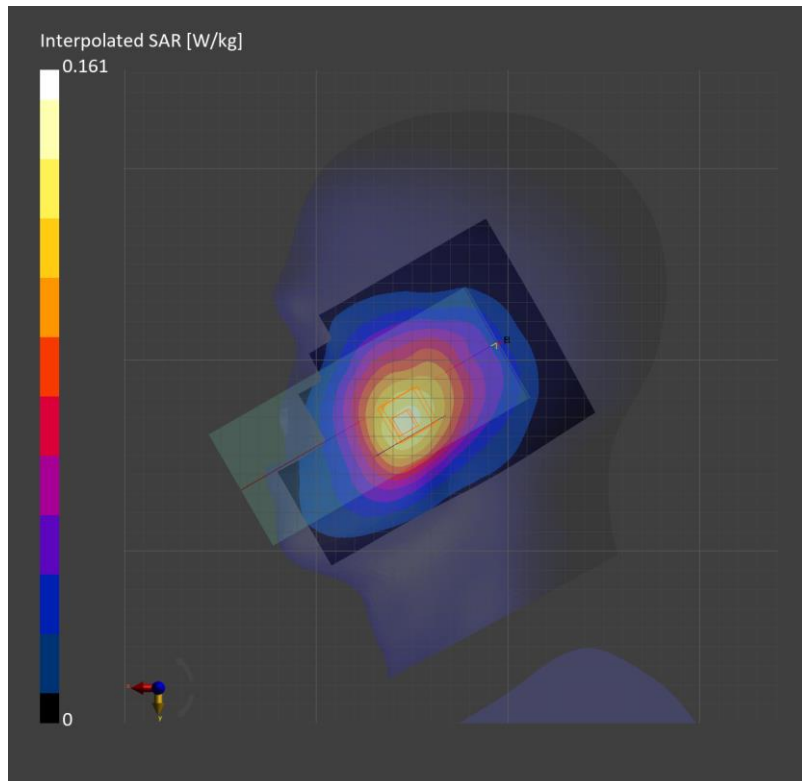
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.122	0.126
psSAR10g [W/Kg]	0.085	0.097
Power Drift [dB]		-0.01
M2/M1 [%]		94.0
Dist 3dB Peak [mm]		21.4



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	9.95	0.910	41.5

Hardware Setup

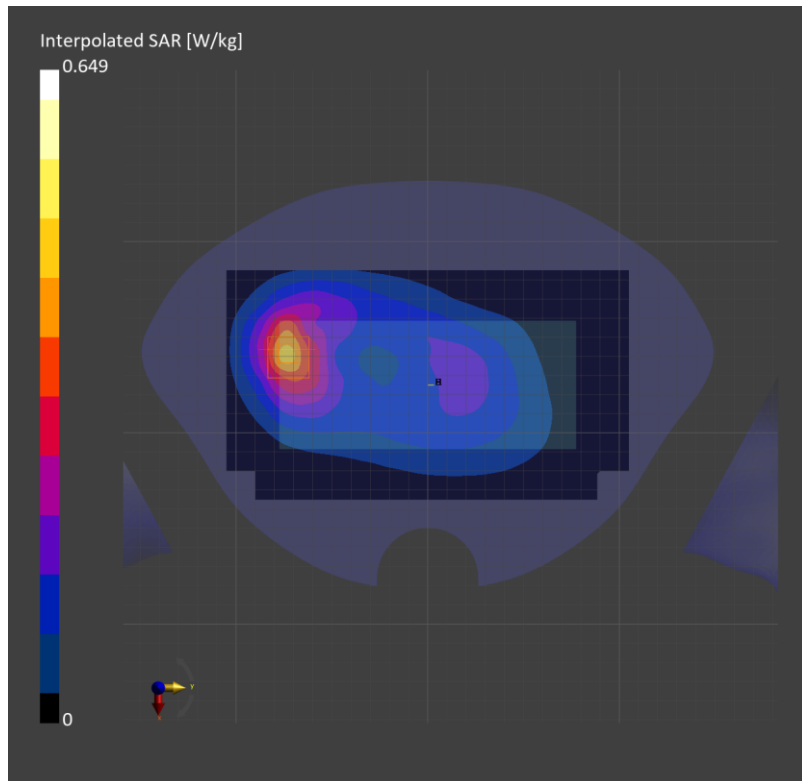
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.387	0.376
psSAR10g [W/Kg]	0.243	0.222
Power Drift [dB]		-0.03
M2/M1 [%]		84.8
Dist 3dB Peak [mm]		13.7



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; $\sigma = 1.394$ S/m; $\epsilon_r = 40.018$; $\rho = 1000$ 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: Right Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

RHS/Touch QPSK 1/0 ch.18700/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 0.182 W/kg

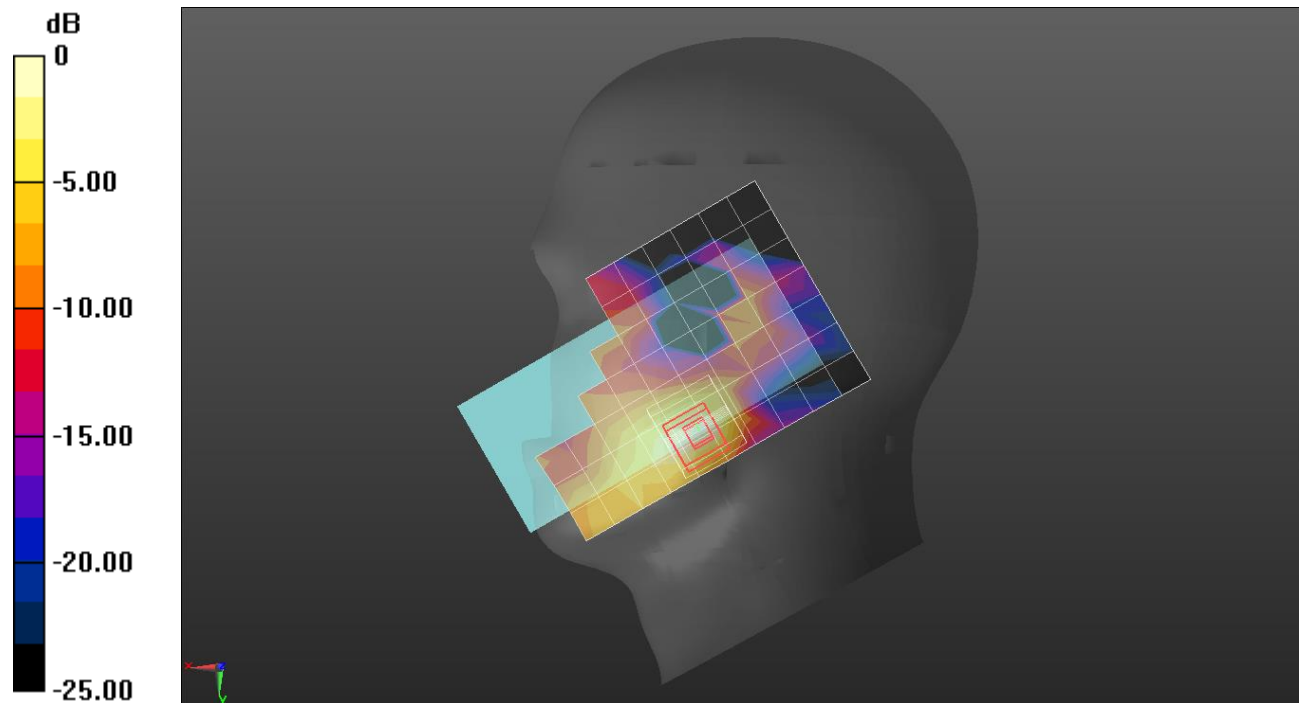
RHS/Touch QPSK 1/0 ch.18700/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.20 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.292 W/kg

SAR(1 g) = 0.141 W/kg; SAR(10 g) = 0.072 W/kg

Maximum value of SAR (measured) = 0.238 W/kg



0 dB = 0.182 W/kg = -7.40 dBW/kg

LTE Band 2

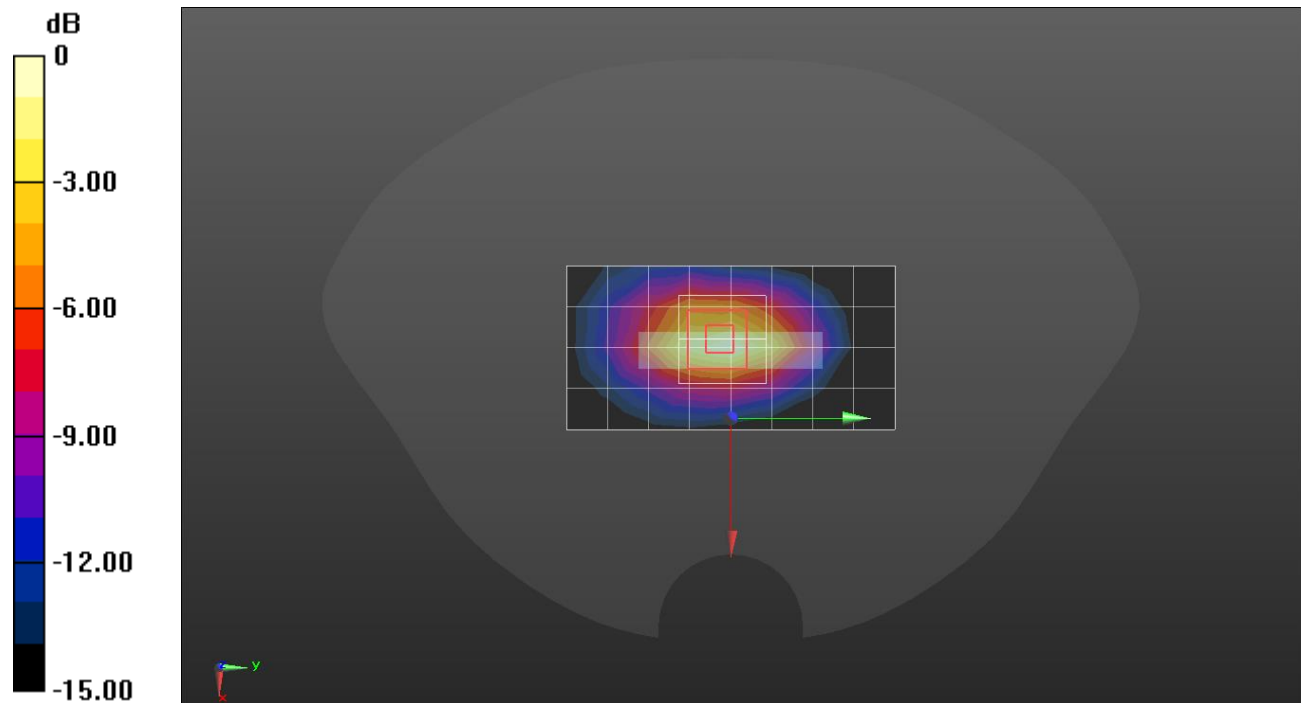
Frequency: 1860 MHz; Communication System Channel Number: 18700; Duty Cycle: 1:1
 Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C
 Medium parameters used: $f = 1860$ MHz; $\sigma = 1.394$ S/m; $\epsilon_r = 40.018$; $\rho = 1000$ kg/m³

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 (9x5x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 0.813 W/kg

Bottom/QPSK RB 1/0 ch.18700/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
 Reference Value = 23.61 V/m; Power Drift = -0.02 dB
 Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.572 W/kg; SAR(10 g) = 0.291 W/kg
 Maximum value of SAR (measured) = 0.882 W/kg



0 dB = 0.813 W/kg = -0.90 dBW/kg

Measurement Report for SM-F946D, CHEEK, Band 5, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:Low 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
RightHead, HSL	CHEEK, 0.00	Band 5	LTE-FDD, 10175-CAH	836.5, 20525	9.95	0.910	41.5

Hardware Setup

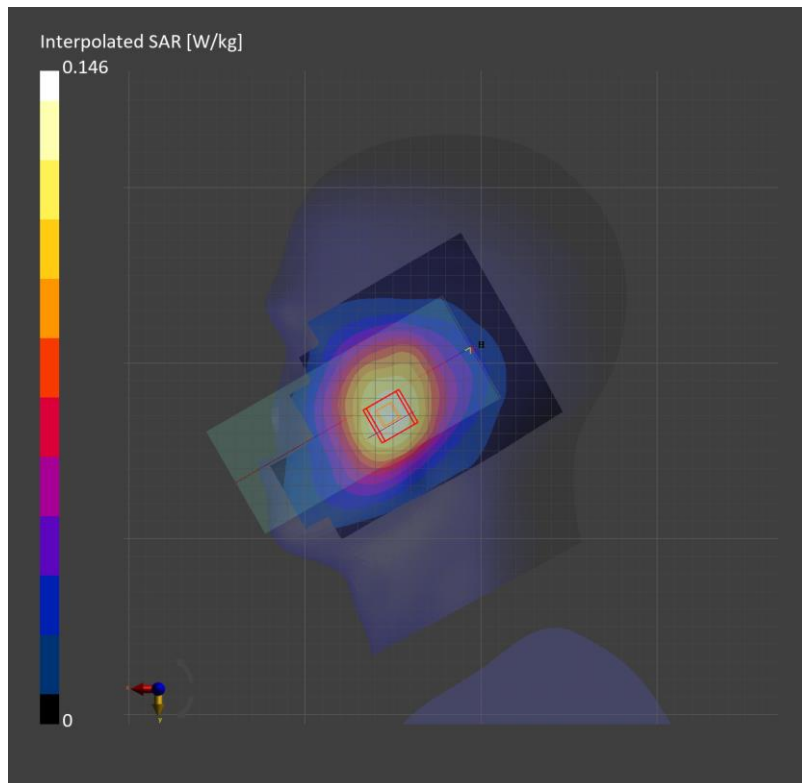
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.118	0.121
psSAR10g [W/Kg]	0.082	0.094
Power Drift [dB]		-0.02
M2 / M1 [%]		95.7
Dist 3dB Peak [mm]		> 15.0



Measurement Report for SM-F946D, BACK, Band 5, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) RBPosition:Low 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	9.95	0.939	41.7

Hardware Setup

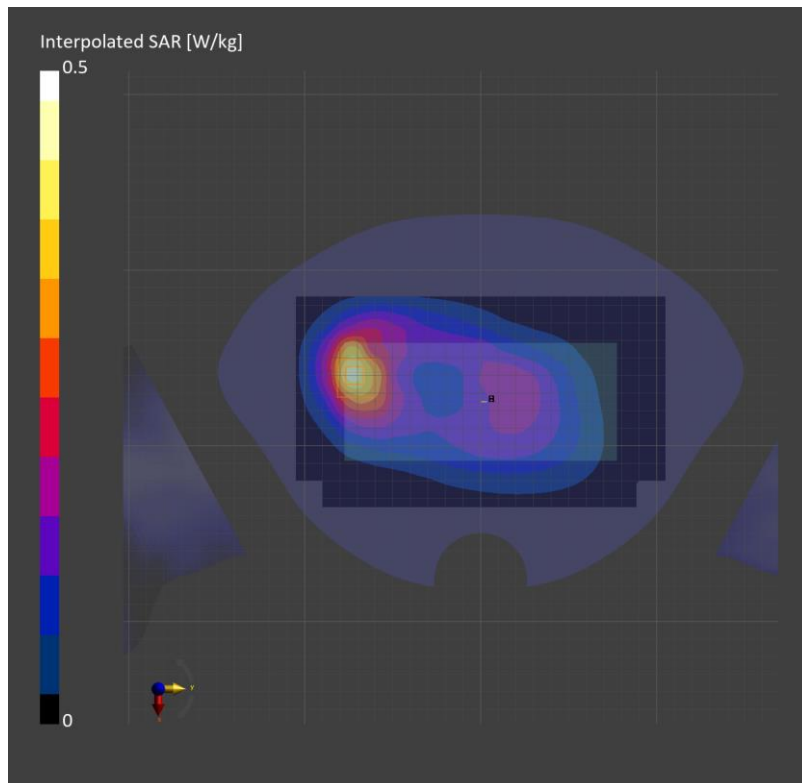
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jul-03	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1671, 2023-05-25

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.371	0.368
psSAR10g [W/Kg]	0.235	0.216
Power Drift [dB]		-0.02
M2/M1 [%]		84.4
Dist 3dB Peak [mm]		13.0



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	9.95	0.910	41.5

Hardware Setup

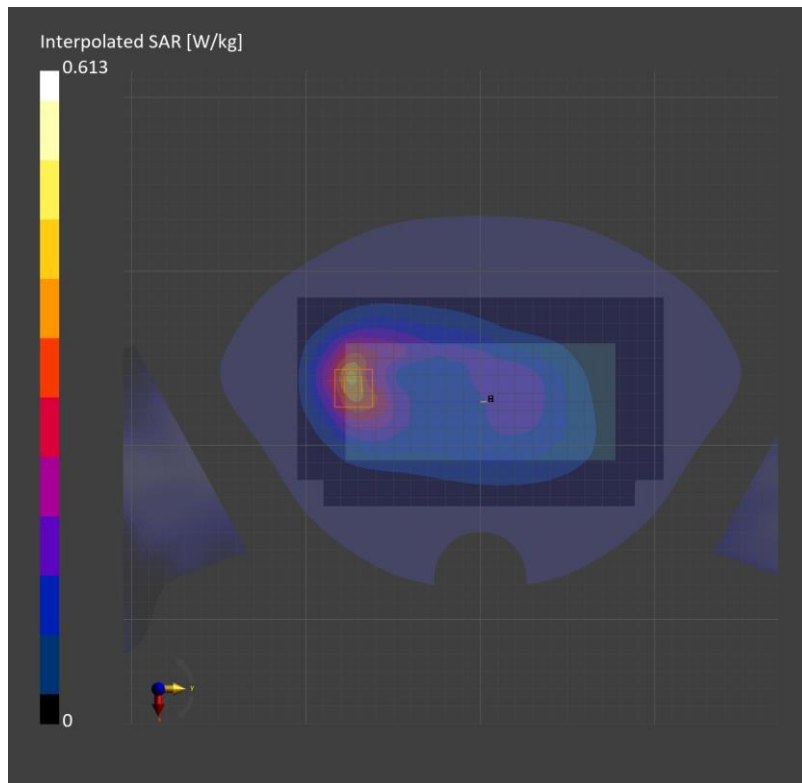
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.354	0.360
psSAR10g [W/Kg]	0.227	0.214
Power Drift [dB]		-0.01
M2/M1 [%]		83.8
Dist 3dB Peak [mm]		13.7



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band 12	LTE-FDD, 10175-CAH	707.5, 23095	10.37	0.859	42.3

Hardware Setup

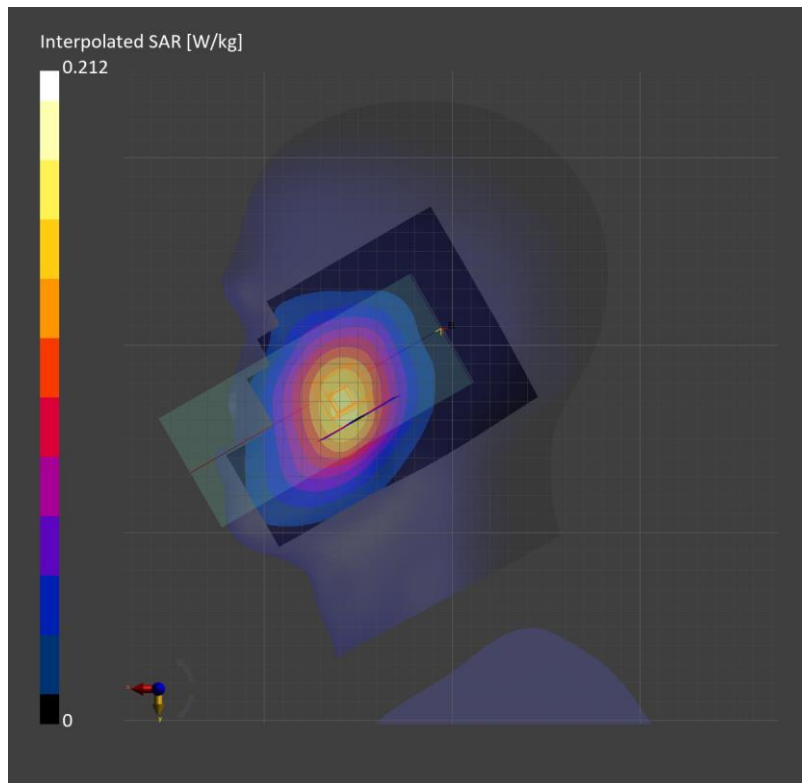
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.149	0.154
psSAR10g [W/Kg]	0.103	0.118
Power Drift [dB]		-0.09
M2/M1 [%]		93.4
Dist 3dB Peak [mm]		21.3



Measurement Report for SM-F946D, EDGE 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	EDGE LEFT, 10.00	Band 12	LTE-FDD, 10175-CAH	707.5, 23095	10.37	0.859	42.3

Hardware Setup

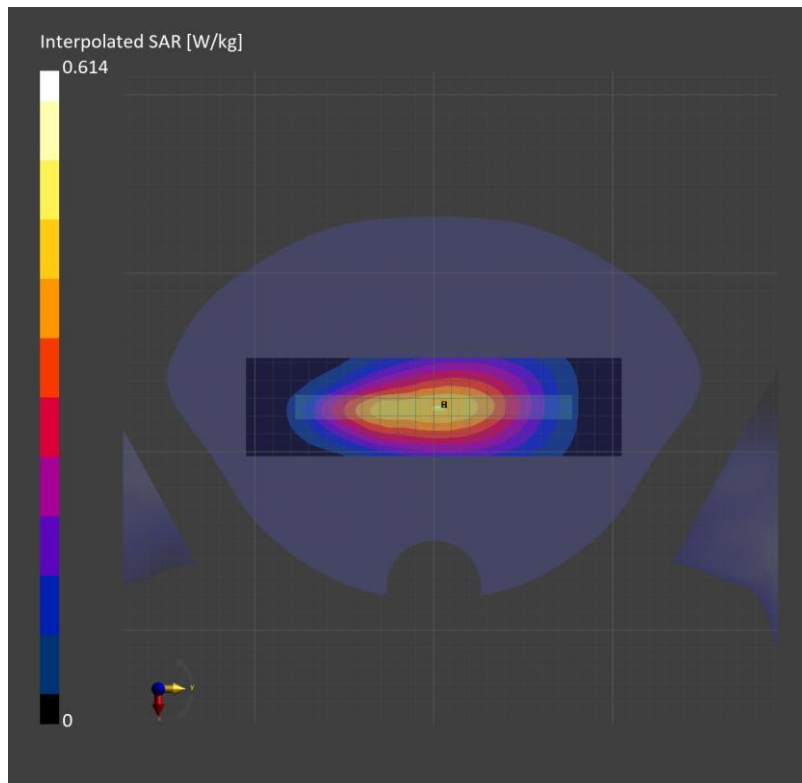
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-1000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	55.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	13.76 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]	0.406	0.415
psSAR10g [W/Kg]	0.278	0.290
Power Drift [dB]	0.01	
M2 / M1 [%]	86.9	
Dist 3dB Peak [mm]	> 15.0	



Measurement Report for SM-F946D, EDGE 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	EDGE LEFT, 10.00	Band 12	LTE-FDD, 10175-CAH	707.5, 23095	10.37	0.859	42.3

Hardware Setup

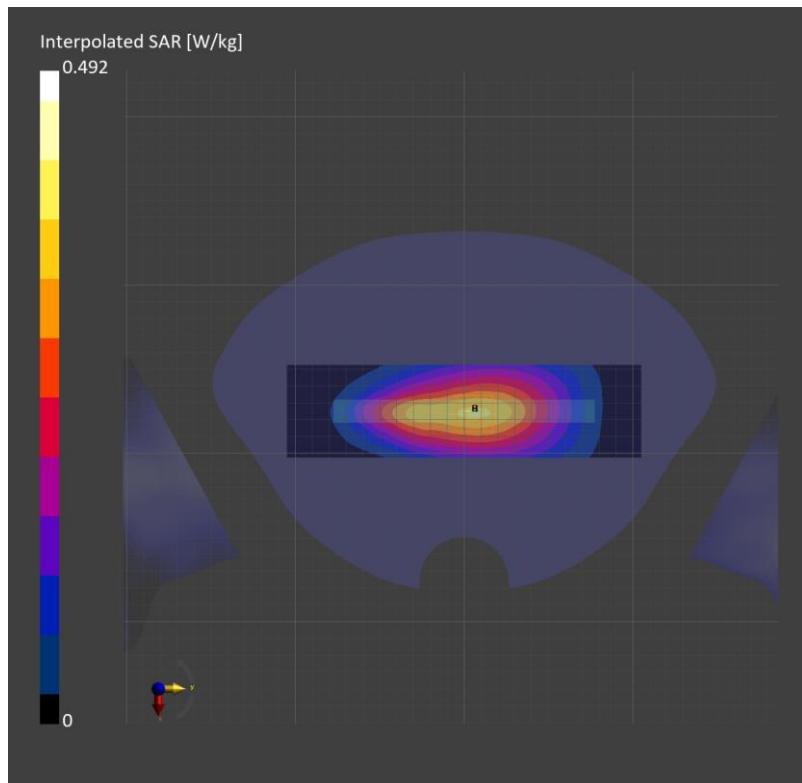
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	55.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	13.76 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]	0.331	0.336
psSAR10g [W/Kg]	0.227	0.236
Power Drift [dB]	0.01	
M2/M1 [%]	88.2	
Dist 3dB Peak [mm]	> 15.0	



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band 13	LTE-FDD, 10175-CAH	782.0, 23230	10.37	0.926	41.2

Hardware Setup

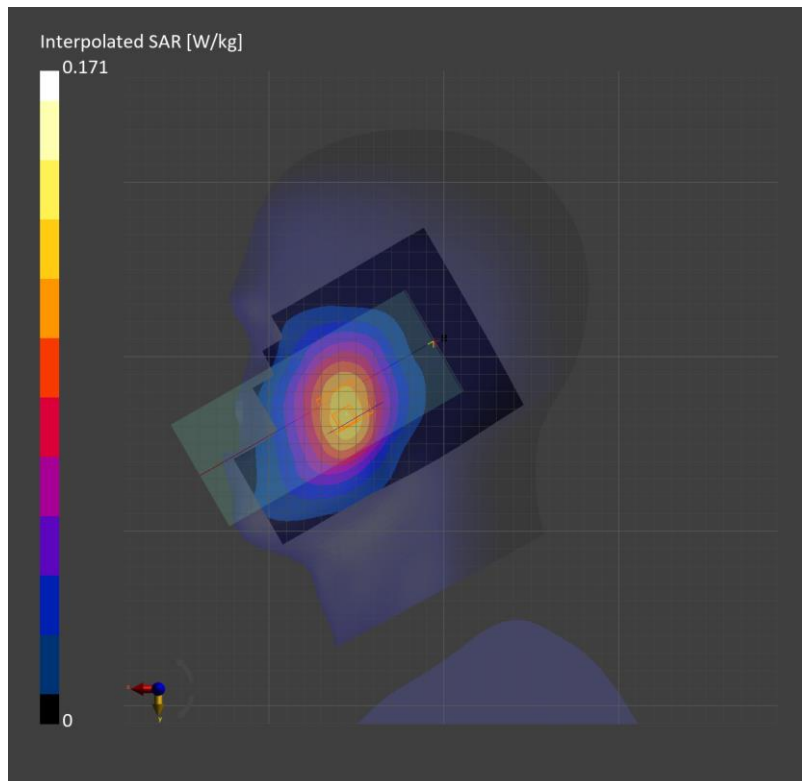
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.112	0.118
psSAR10g [W/Kg]	0.077	0.087
Power Drift [dB]	0.14	
M2/M1 [%]	91.9	
Dist 3dB Peak [mm]	4.8	



Measurement Report for SM-F946D, EDGE 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	EDGE LEFT, 10.00	Band 13	LTE-FDD, 10175-CAH	782.0, 23230	10.37	0.926	41.2

Hardware Setup

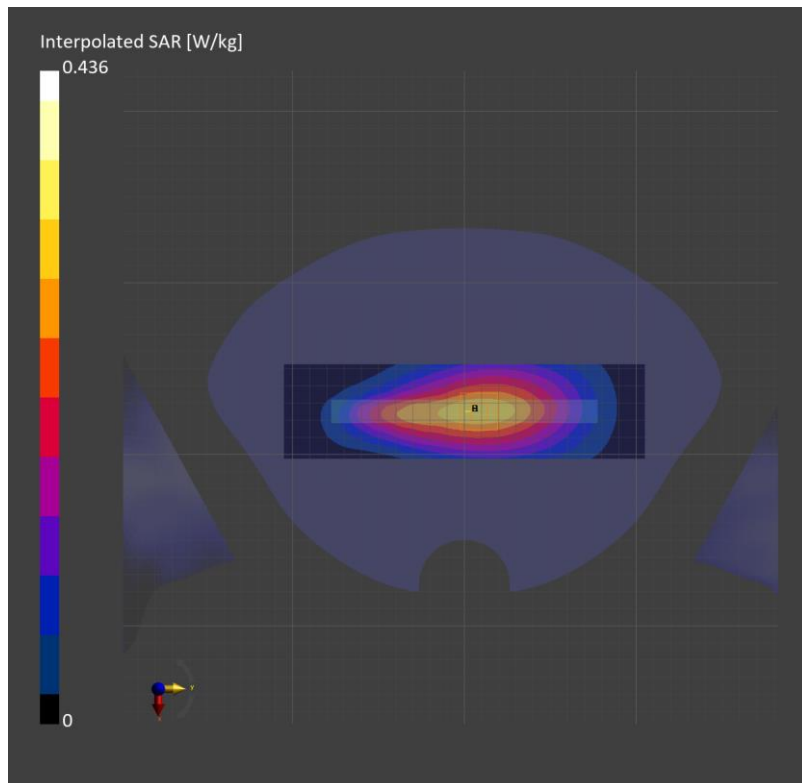
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	55.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	13.76 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]	0.285	0.289
psSAR10g [W/Kg]	0.193	0.198
Power Drift [dB]		-0.00
M2 / M1 [%]		86.0
Dist 3dB Peak [mm]		> 15.0



Measurement Report for SM-F946D, EDGE 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	EDGE LEFT, 10.00	Band 13	LTE-FDD, 10175-CAH	782.0, 23230	10.37	0.926	41.2

Hardware Setup

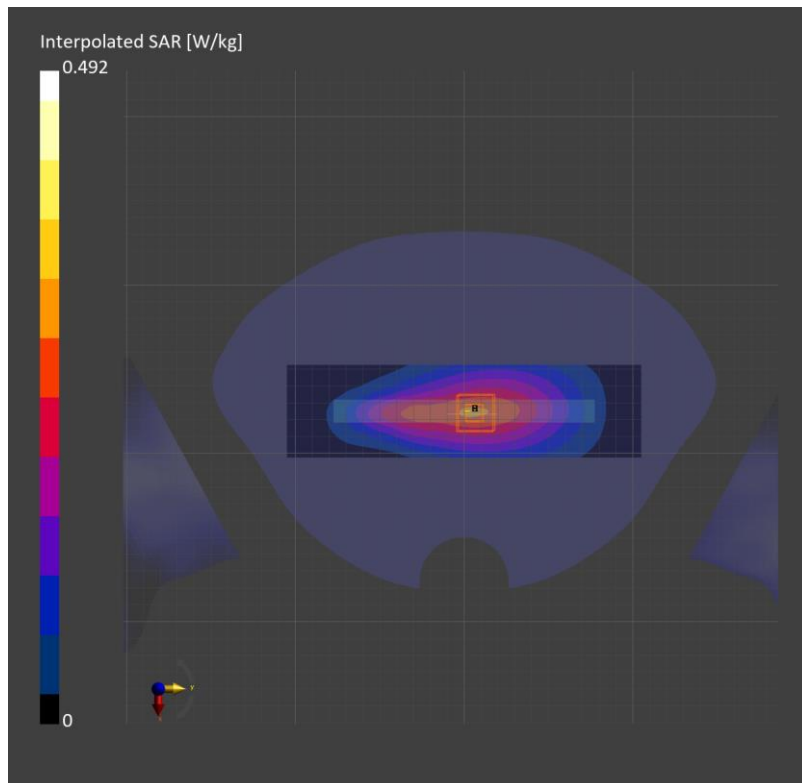
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-23	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	55.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	13.76 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]	0.255	0.256
psSAR10g [W/Kg]	0.172	0.175
Power Drift [dB]		-0.03
M2/M1 [%]		87.2
Dist 3dB Peak [mm]		> 15.0



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band 26	LTE-FDD, 10181-CAF	831.5, 26865	9.95	0.906	41.5

Hardware Setup

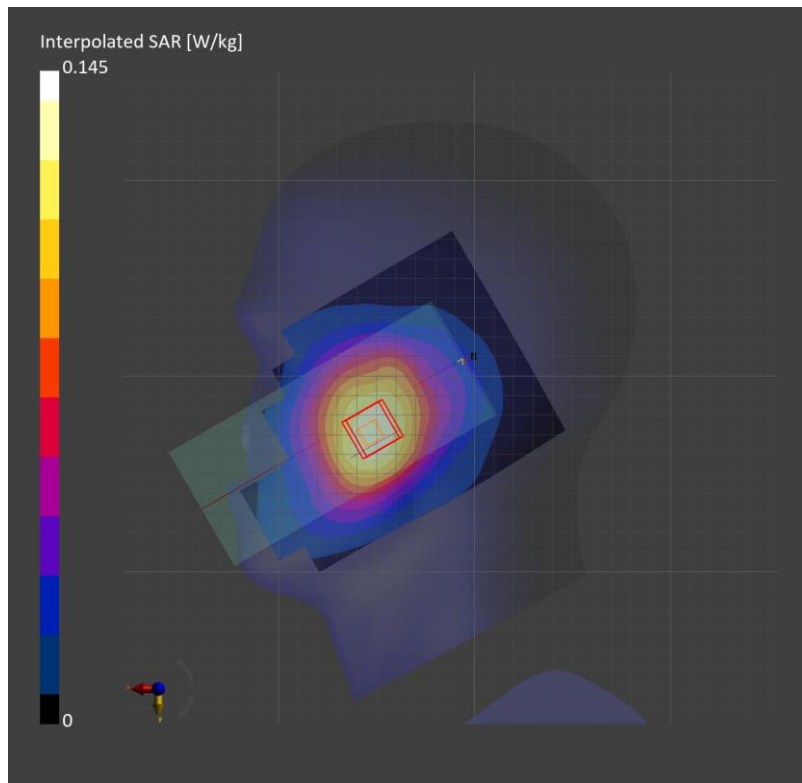
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.116	0.119
psSAR10g [W/Kg]	0.081	0.094
Power Drift [dB]		0.06
M2/M1 [%]		93.2
Dist 3dB Peak [mm]		> 15.0



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	9.95	0.937	41.7

Hardware Setup

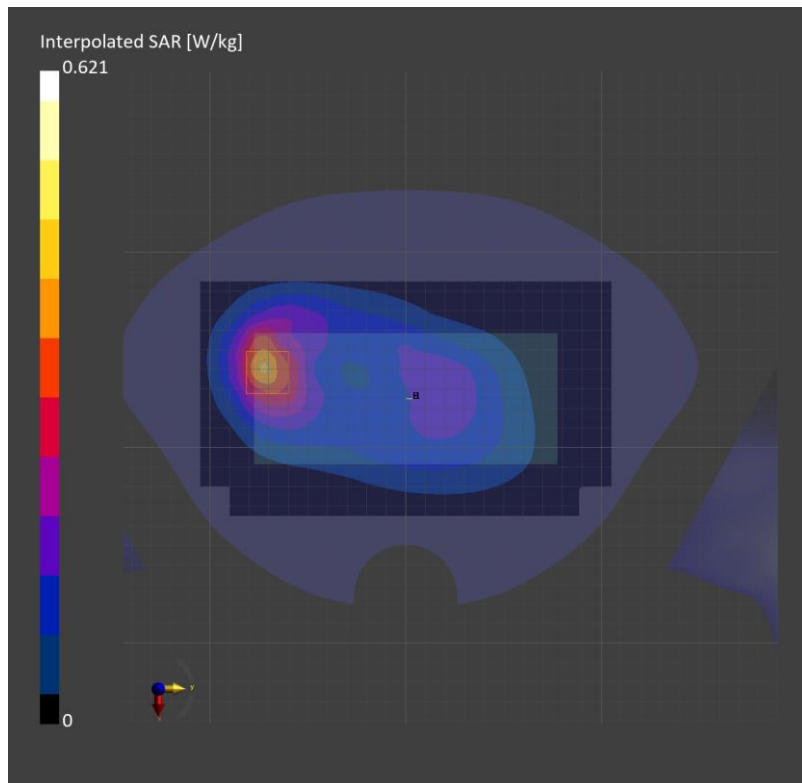
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jul-03	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1671, 2023-05-25

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.356	0.355
psSAR10g [W/Kg]	0.226	0.208
Power Drift [dB]	0.01	
M2/M1 [%]	84.3	
Dist 3dB Peak [mm]	12.8	



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	9.95	0.906	41.5

Hardware Setup

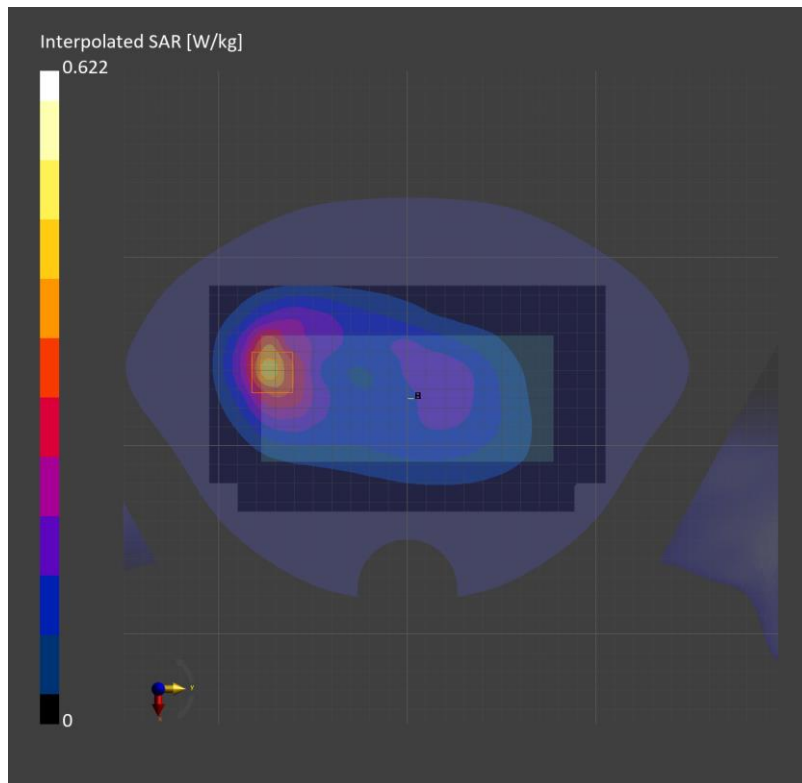
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.377	0.364
psSAR10g [W/Kg]	0.238	0.216
Power Drift [dB]		-0.09
M2/M1 [%]		85.0
Dist 3dB Peak [mm]		13.7



Measurement Report for SM-F946D, EDGE BOTTOM, Band 41, LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 41 490 (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 BOTTOM, 10.00	Band 41	LTE-TDD, 10151-CAH	2680.0, 41490	7.74	1.98	39.2

Hardware Setup

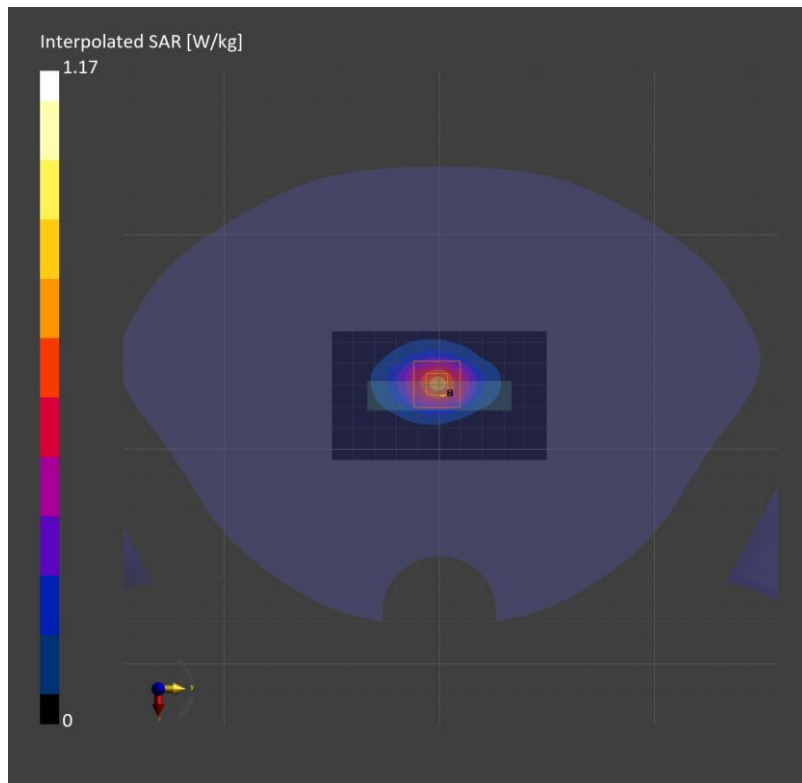
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 1991	HBBL-600-10000, 2023-Jun-08	EX3DV4 - SN7330, 2023-01-24	DAE4 Sn1667, 2023-04-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	60.0 x 100.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.564	0.596
psSAR10g [W/Kg]	0.266	0.278
Power Drift [dB]	0.05	
M2/M1 [%]	81.9	
Dist 3dB Peak [mm]	9.0	



Measurement Report for SM-F946D, CHEEK, Band 41, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:Mid AntennaCfg:SISO, Channel 41055 (2636.5 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
RightHead, HSL	CHEEK, 0.00	Band 41	LTE-TDD, 10172-CAH	2636.5, 41055	7.29	2.06	39.1

Hardware Setup

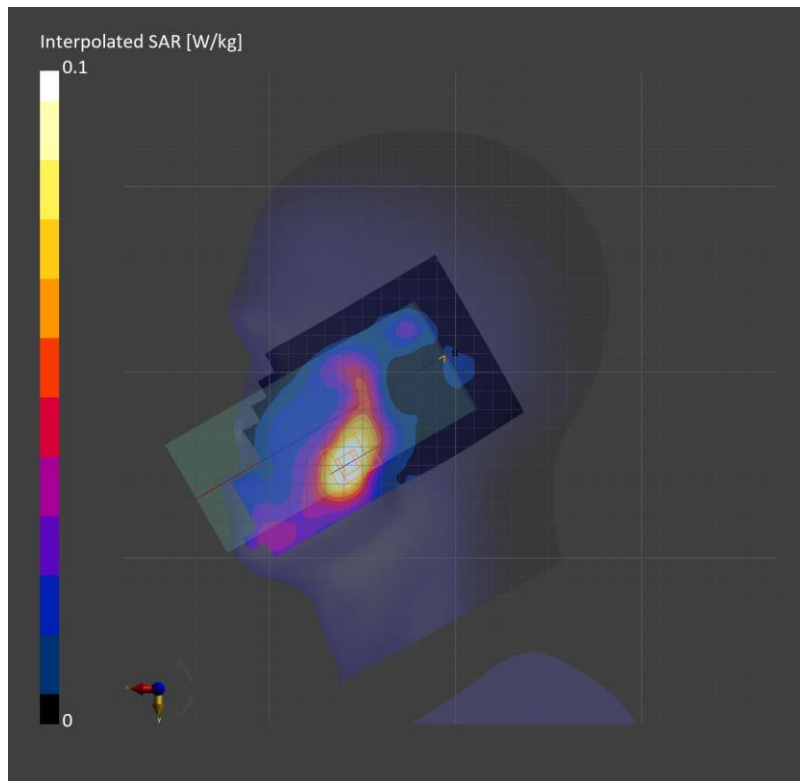
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-30	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 200.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.089	0.097
psSAR10g [W/Kg]	0.045	0.049
Power Drift [dB]		-0.06
M2/M1 [%]		78.0
Dist 3dB Peak [mm]		10.5



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band 41	LTE-TDD, 10172-CAH	2680.0, 41490	7.29	2.11	39.0

Hardware Setup

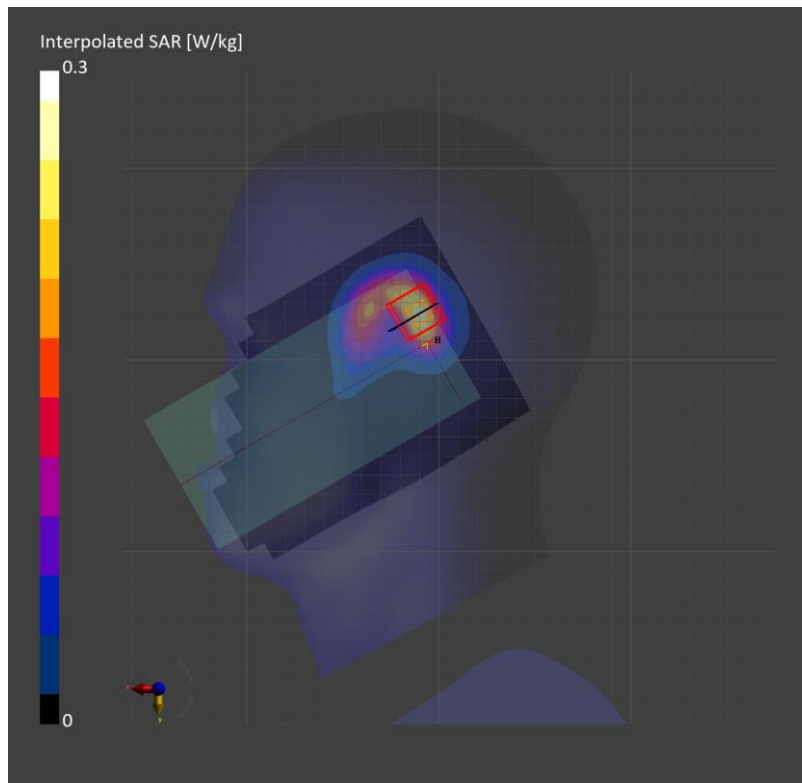
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-29	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 200.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.186	0.204
psSAR10g [W/Kg]	0.094	0.094
Power Drift [dB]		0.12
M2 / M1 [%]		76.5
Dist 3dB Peak [mm]		8.6



Measurement Report for SM-F946D, EDGE TOP, Band 41, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK) RBPosition:High 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, 10172-CAH	2680.0, 41490	7.29	2.11	39.0

Hardware Setup

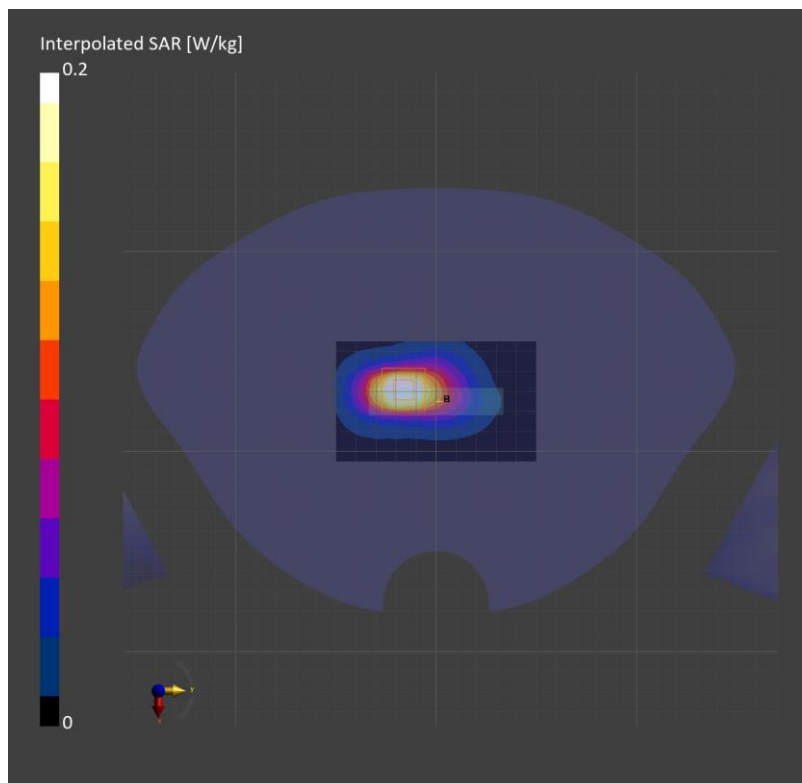
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	60.0 x 100.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.170	0.182
psSAR10g [W/Kg]	0.081	0.079
Power Drift [dB]	0.06	
M2 / M1 [%]	75.4	
Dist 3dB Peak [mm]	8.0	



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; $\sigma = 1.337$ S/m; $\epsilon_r = 40.192$; $\rho = 1000$ 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: Right Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

RHS/Touch QPSK 1/0 ch.132322/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.170 W/kg

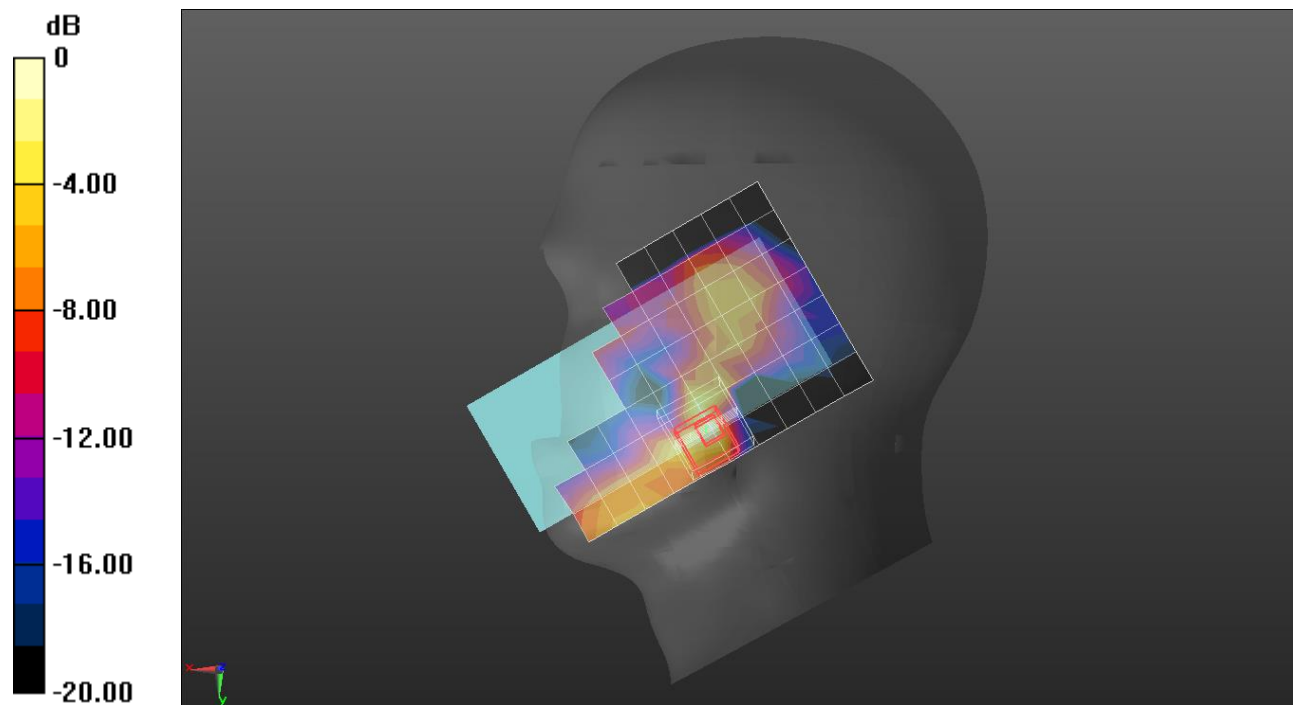
RHS/Touch QPSK 1/0 ch.132322/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.04 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.224 W/kg

SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.044 W/kg

Maximum value of SAR (measured) = 0.184 W/kg



0 dB = 0.170 W/kg = -7.70 dBW/kg

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; $\sigma = 1.337$ S/m; $\epsilon_r = 40.192$; $\rho = 1000$ 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 (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.132322/Area Scan (9x5x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.508 W/kg

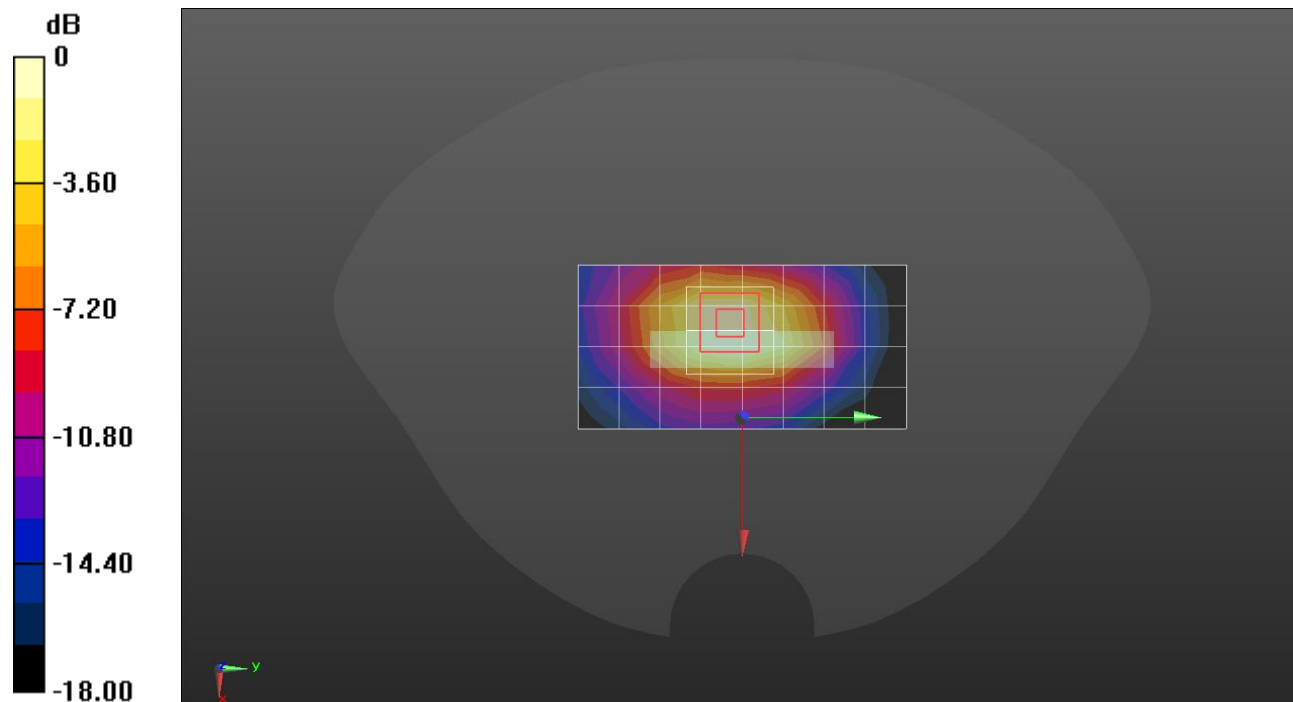
Bottom/QPSK RB 50/24 ch.132322/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.29 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.874 W/kg

SAR(1 g) = 0.484 W/kg; SAR(10 g) = 0.253 W/kg

Maximum value of SAR (measured) = 0.696 W/kg



0 dB = 0.508 W/kg = -2.94 dBW/kg

Measurement Report for SM-F946D, TILT, 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
RightHead, HSL	TILT, 0.00	Band n5	5G NR FR1 FDD, 10931-AAC	836.5, 167300	10.12	0.908	41.2

Hardware Setup

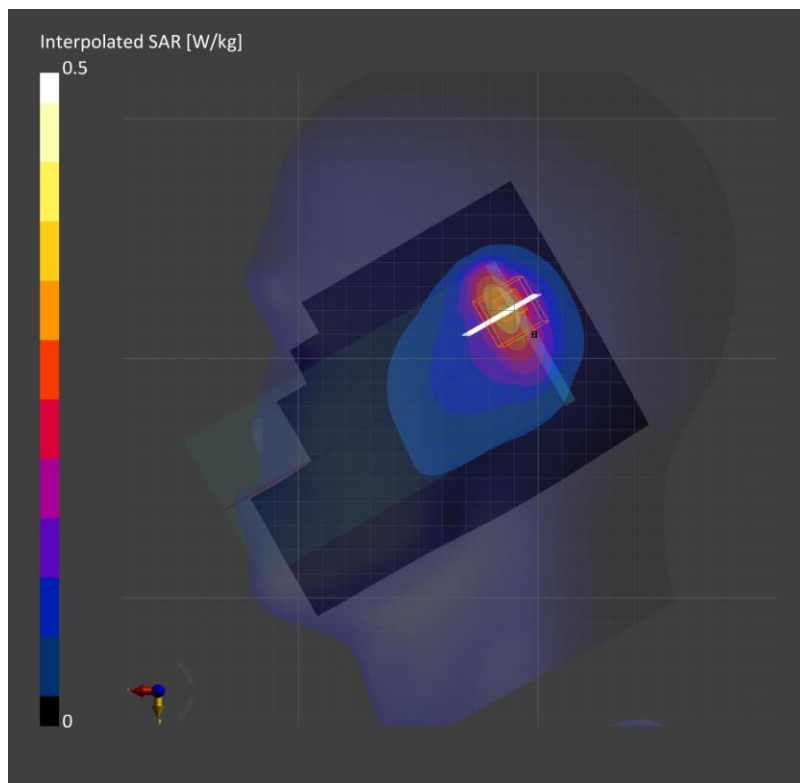
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-30	EX3DV4 - SN7646, 2023-03-23	DAE4 Sn1468, 2022-08-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 210.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 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]	0.287	0.300
psSAR10g [W/Kg]	0.174	0.137
Power Drift [dB]		0.01
M2/M1 [%]		73.0
Dist 3dB Peak [mm]		6.2



Measurement Report for SM-F946D, BACK, Band n5, 5G NR (DFT-s-OFDM, 50% 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, 10939-AAC	836.5, 167300	10.12	0.908	41.2

Hardware Setup

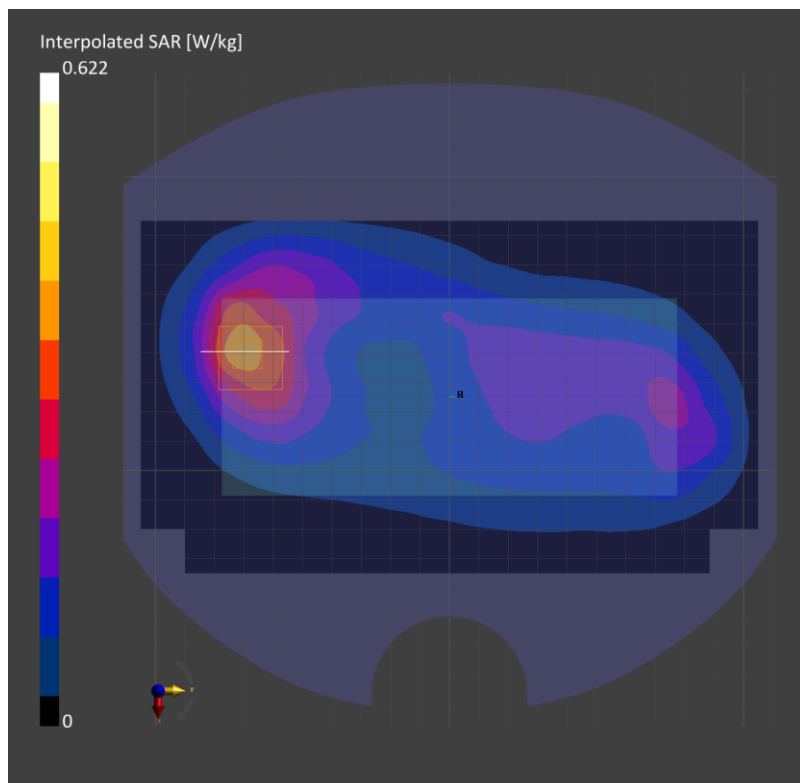
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-30	EX3DV4 - SN7646, 2023-03-23	DAE4 Sn1468, 2022-08-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.344	0.352
psSAR10g [W/Kg]	0.225	0.207
Power Drift [dB]		0.02
M2/M1 [%]		83.8
Dist 3dB Peak [mm]		13.6



Measurement Report for SM-F946D, BACK, Band n5, 5G NR (DFT-s-OFDM, 50% 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, 10939-AAC	836.5, 167300	9.95	0.910	41.5

Hardware Setup

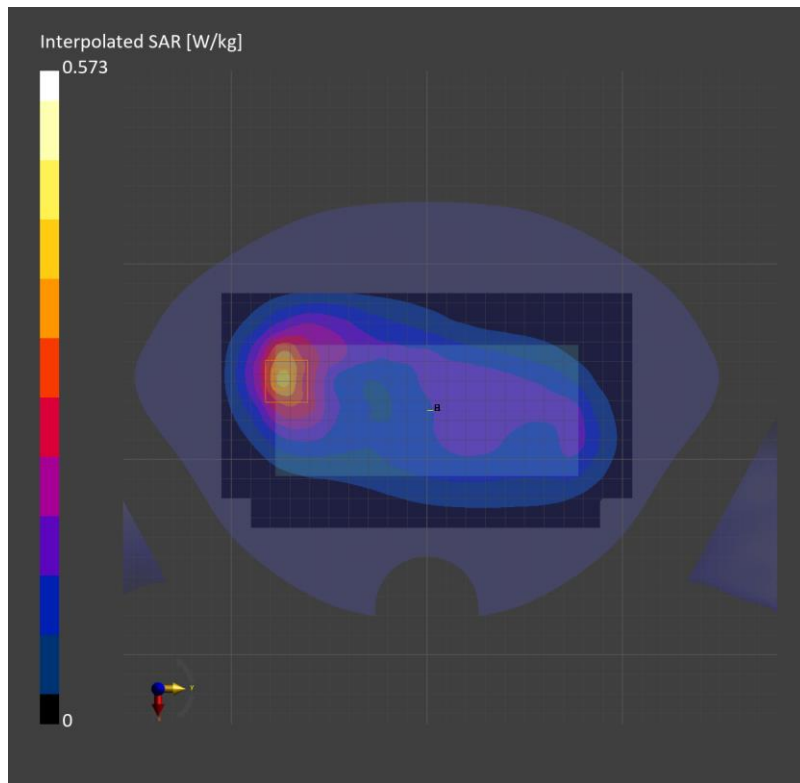
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN3871, 2022-09-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.336	0.326
psSAR10g [W/Kg]	0.214	0.193
Power Drift [dB]		0.02
M2/M1 [%]		83.3
Dist 3dB Peak [mm]		13.7



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band n41	5G NR FR1 TDD, 10917-AAD	2593.0, 518598	7.29	2.00	37.4

Hardware Setup

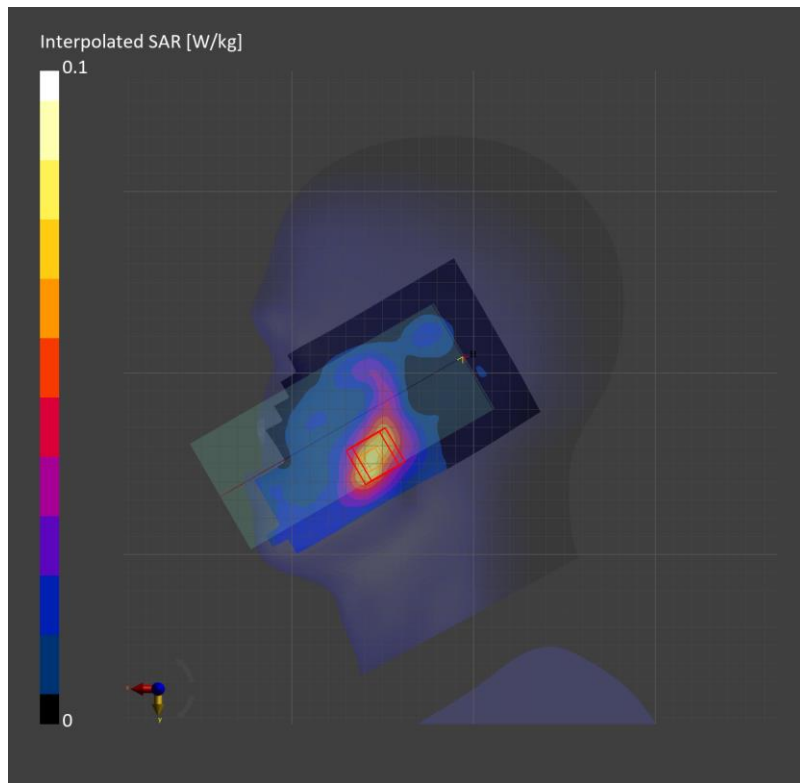
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jul-04	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 200.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.063	0.070
psSAR10g [W/Kg]	0.033	0.034
Power Drift [dB]		-0.10
M2 / M1 [%]		79.0
Dist 3dB Peak [mm]		10.6



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

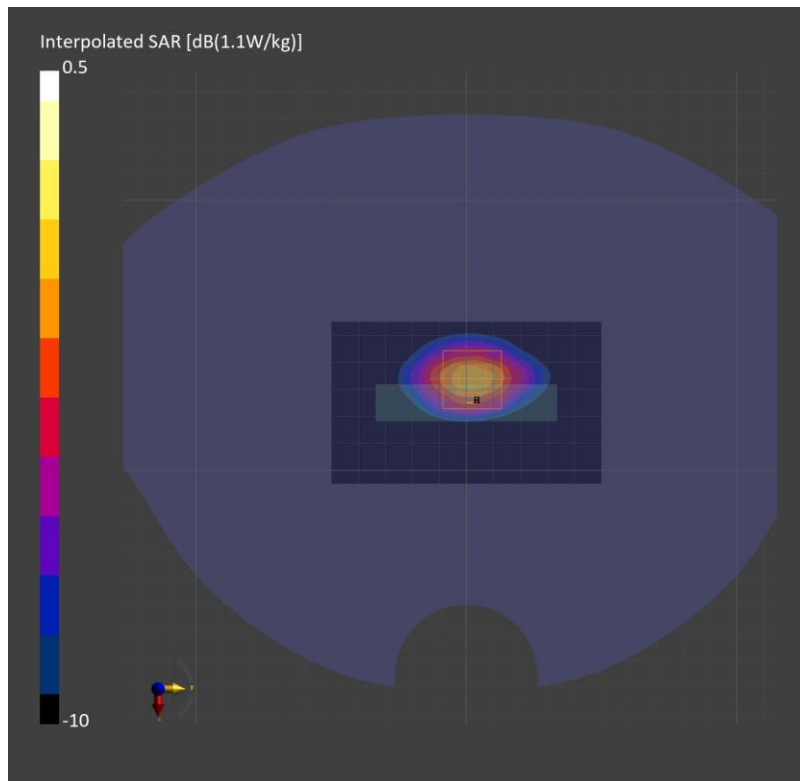
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	60.0 x 100.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.504	0.522
psSAR10g [W/Kg]	0.231	0.240
Power Drift [dB]	0.03	
M2/M1 [%]	78.5	
Dist 3dB Peak [mm]	9.5	



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band n41	5G NR FR1 TDD, 10866-AAF	2593.0, 518598	7.29	2.00	37.4

Hardware Setup

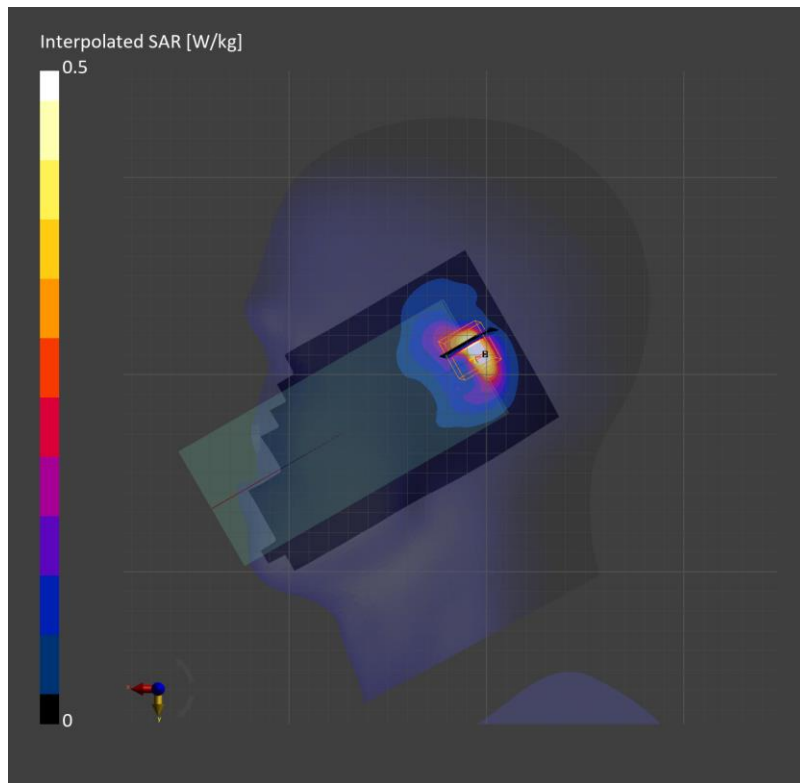
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2037	HBBL-600-10000, 2023-Jul-03	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1670, 2023-05-24

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 200.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.395	0.392
psSAR10g [W/Kg]	0.158	0.159
Power Drift [dB]		-0.01
M2/M1 [%]		77.3
Dist 3dB Peak [mm]		5.4



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

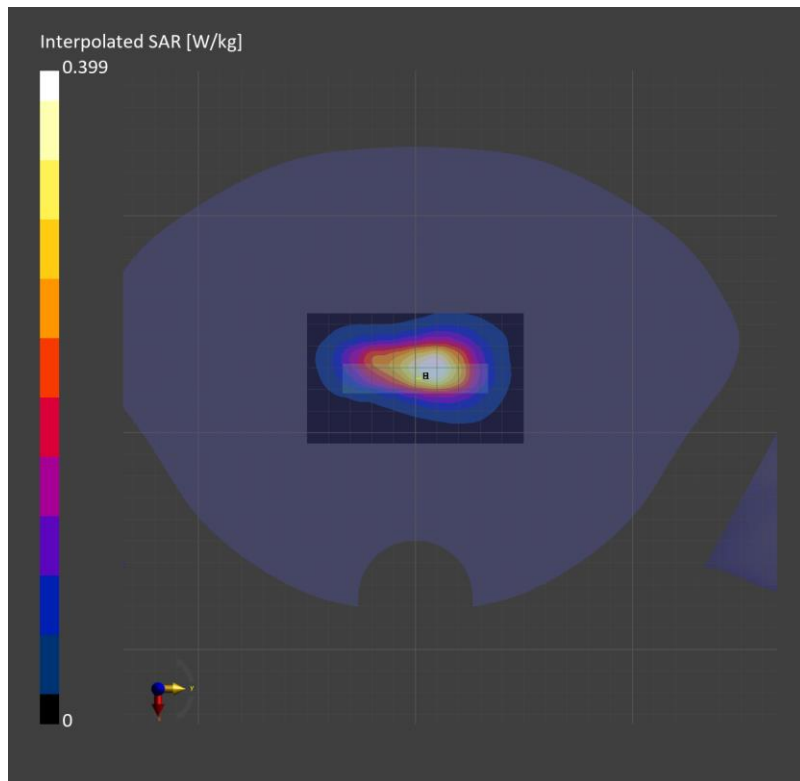
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	60.0 x 100.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.317	0.350
psSAR10g [W/Kg]	0.156	0.169
Power Drift [dB]		0.04
M2 / M1 [%]		78.7
Dist 3dB Peak [mm]		10.0



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	Band n66	5G NR FR1 FDD, 10942-AAC	1745.0, 349000	7.9	1.36	38.8

Hardware Setup

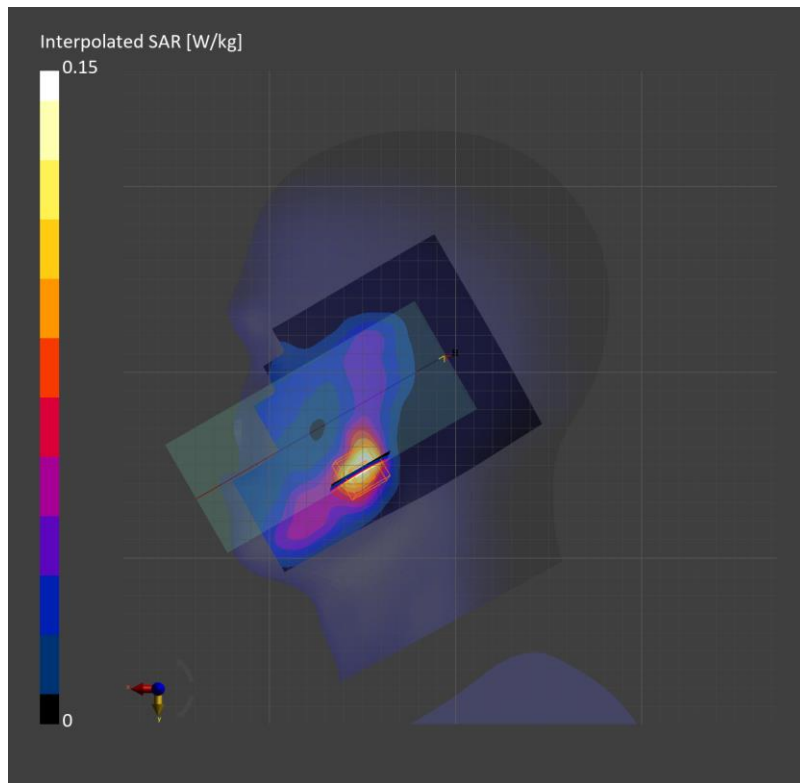
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-24	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 210.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	5.2 x 5.2 x 1.5
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.109	0.143
psSAR10g [W/Kg]	0.059	0.070
Power Drift [dB]	0.03	
M2 / M1 [%]	77.4	
Dist 3dB Peak [mm]	6.7	



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	1.36	39.4

Hardware Setup

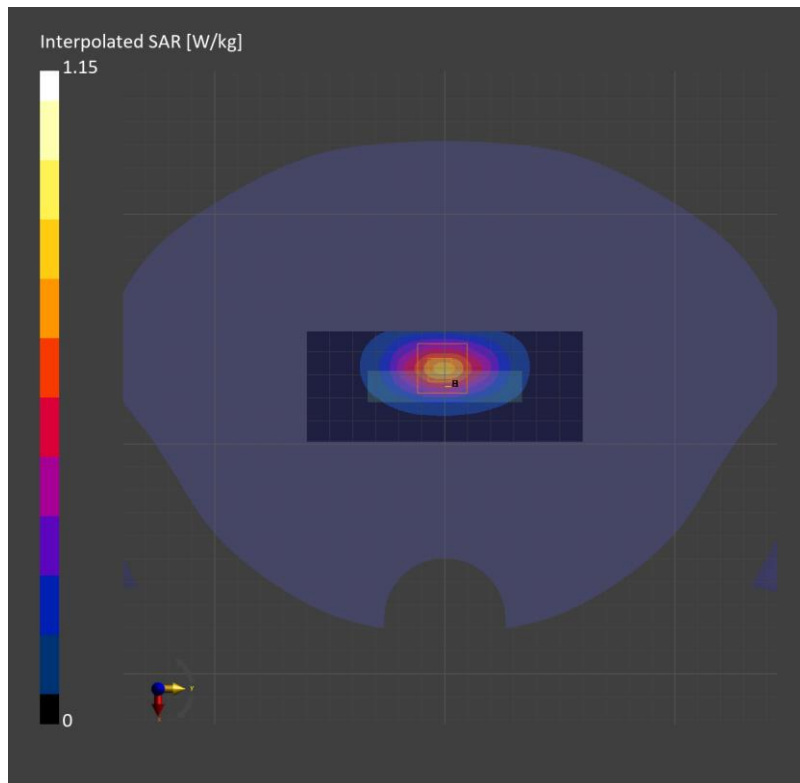
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jun-19	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	48.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.637	0.644
psSAR10g [W/Kg]	0.330	0.336
Power Drift [dB]	0.02	
M2 / M1 [%]	54.5	
Dist 3dB Peak [mm]	9.8	



Wi-Fi 2.4 GHz

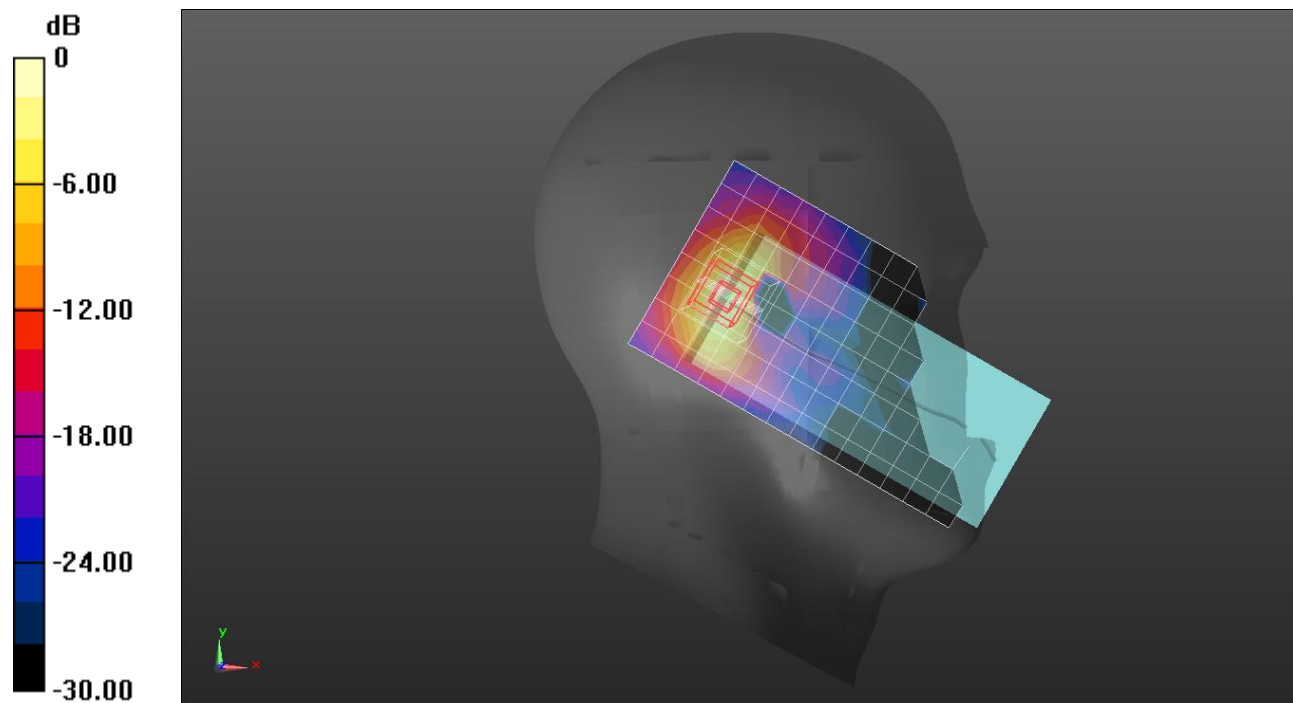
Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1
 Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C
 Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.827$ S/m; $\epsilon_r = 39.241$; $\rho = 1000$ kg/m³

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: Left Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

LHS/Tilt 802.11 b mode ch.6 Ant 2/Area Scan (9x17x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.702 W/kg

LHS/Tilt 802.11 b mode ch.6 Ant 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 19.43 V/m; Power Drift = -0.02 dB
 Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.508 W/kg; SAR(10 g) = 0.225 W/kg
 Maximum value of SAR (measured) = 0.900 W/kg



0 dB = 0.702 W/kg = -1.54 dBW/kg

Measurement Report for SM-F946D, TILT, WLAN 2.4GHz, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle), Channel 11 (2462.0 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
RightHead, HSL	TILT, 0.00	WLAN 2.4GHz	WLAN, 10415-AAA	2462.0, 11	7.47	1.87	37.4

Hardware Setup

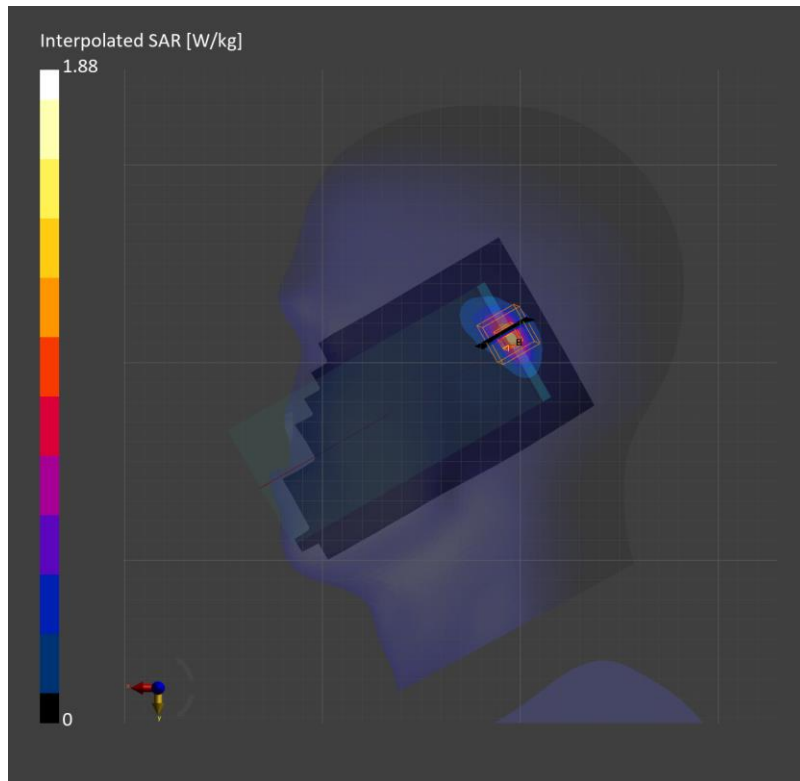
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-28	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 200.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 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]	0.829	0.854
psSAR10g [W/Kg]	0.334	0.344
Power Drift [dB]		-0.04
M2/M1 [%]		80.9
Dist 3dB Peak [mm]		6.4



Wi-Fi 2.4 GHz

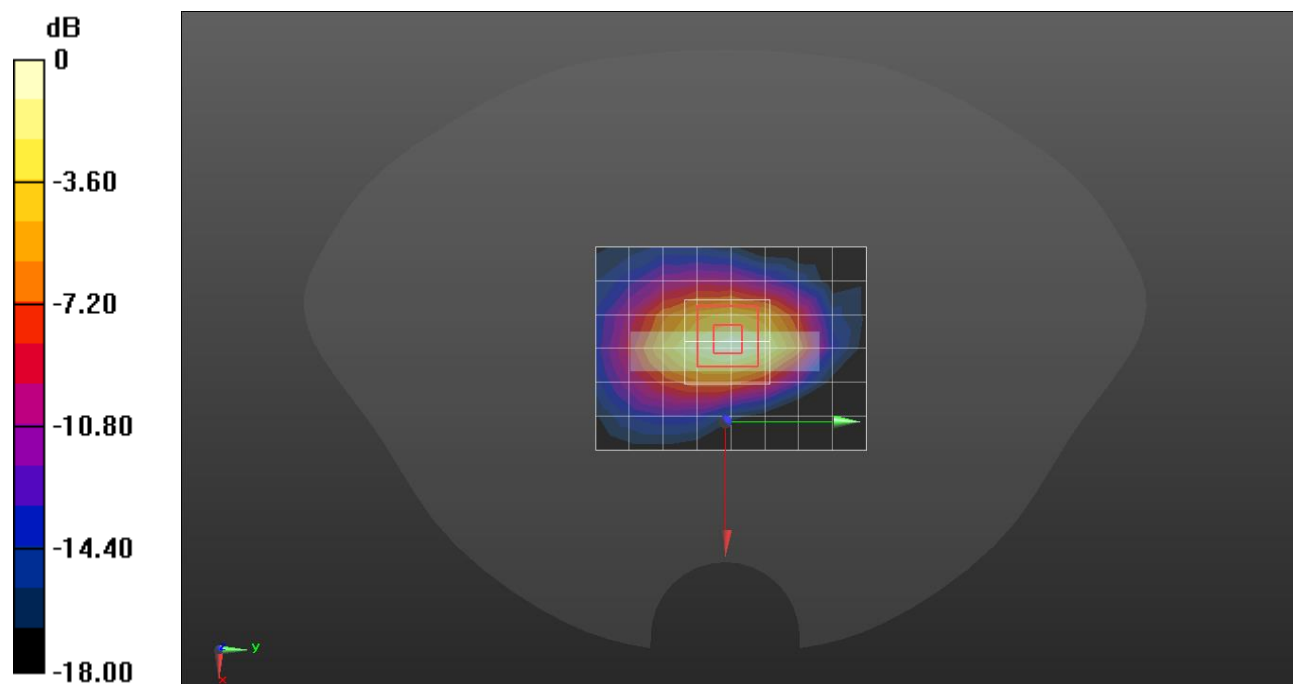
Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1
 Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C
 Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.831$ S/m; $\epsilon_r = 39.779$; $\rho = 1000$ kg/m³

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 (7501)

Top/802.11 b mode ch.6 MIMO/Area Scan (9x7x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.734 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 = 19.93 V/m; Power Drift = 0.14 dB
 Peak SAR (extrapolated) = 0.929 W/kg
SAR(1 g) = 0.453 W/kg; SAR(10 g) = 0.213 W/kg
 Maximum value of SAR (measured) = 0.747 W/kg



0 dB = 0.734 W/kg = -1.34 dBW/kg

Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	U-NII-1, U-NII-2A	WLAN, 10626-AAC	5290.0, 58	5.15	4.57	36.2

Hardware Setup

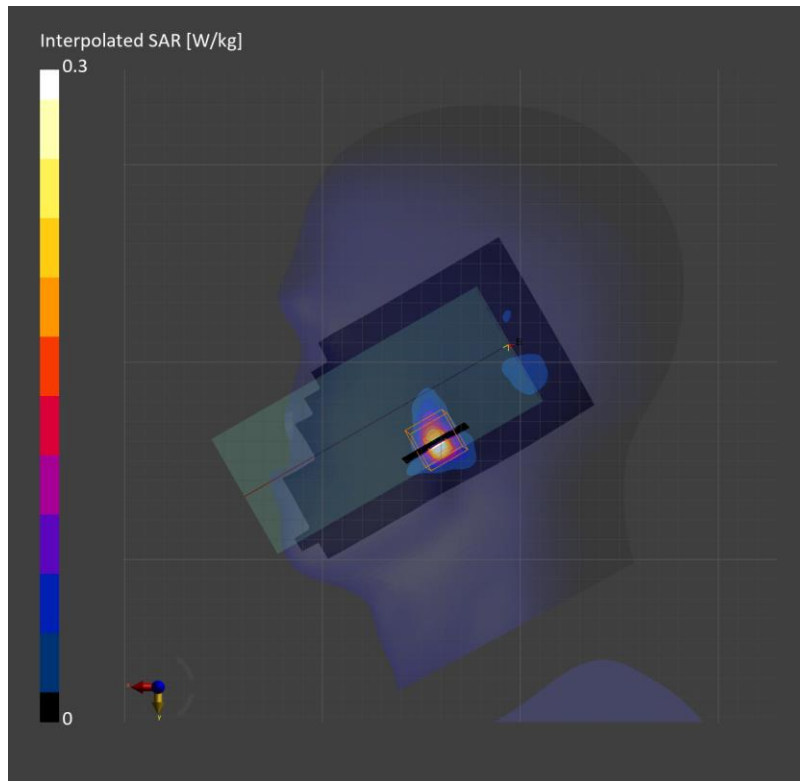
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-08	EX3DV4 - SN7376, 2022-07-27	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	3.7 x 3.7 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.181	0.189
psSAR10g [W/Kg]	0.052	0.050
Power Drift [dB]		-0.00
M2/M1 [%]		70.0
Dist 3dB Peak [mm]		5.2



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

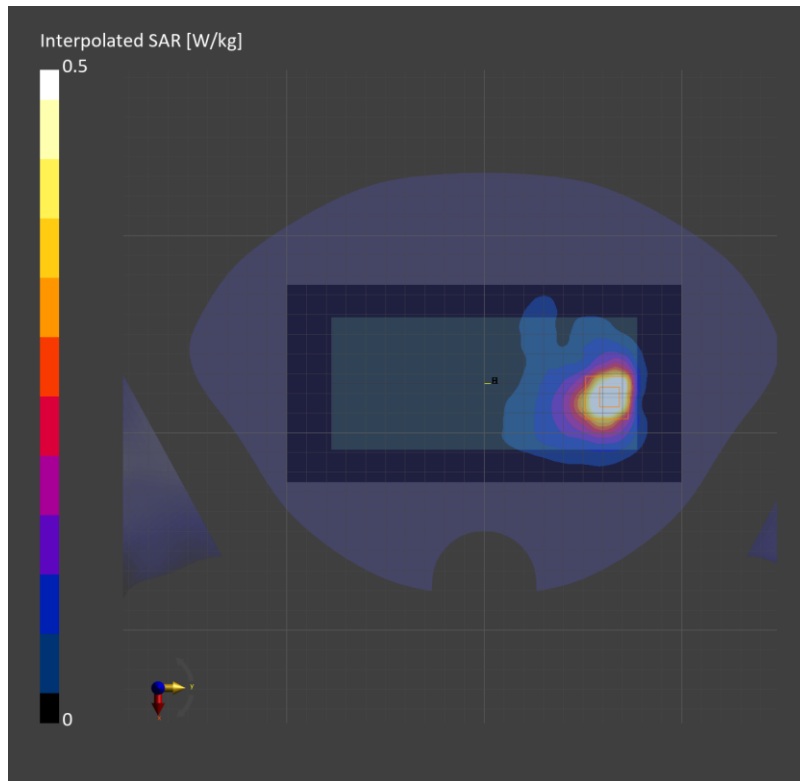
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-08	EX3DV4 - SN7376, 2022-07-27	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	0.509	0.563
psSAR10g [W/Kg]	0.186	0.193
Power Drift [dB]	0.01	
M2/M1 [%]	68.5	
Dist 3dB Peak [mm]	7.9	



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

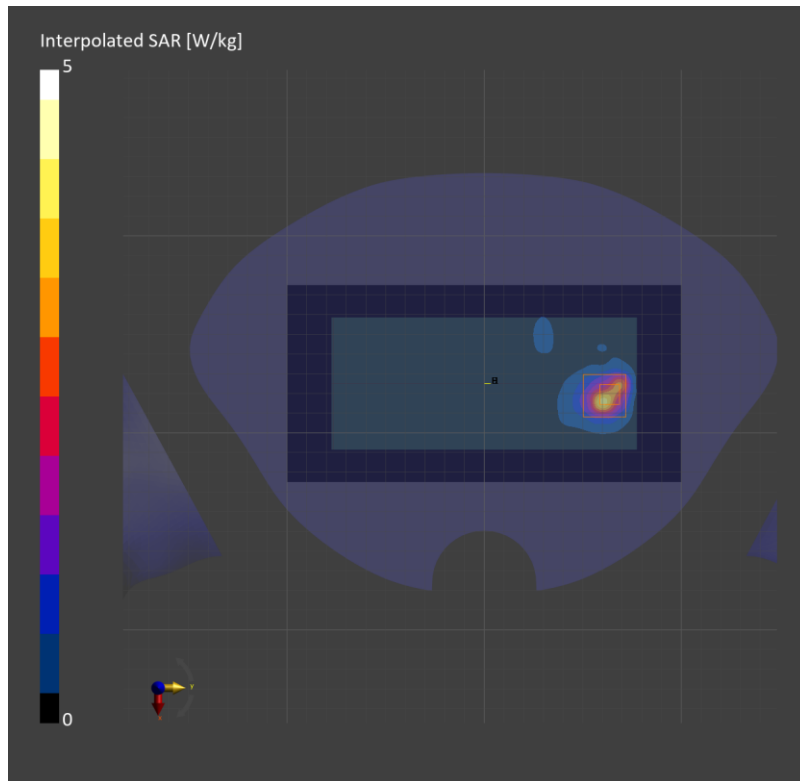
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-08	EX3DV4 - SN7376, 2022-07-27	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	3.8 x 3.8 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.52	3.26
psSAR10g [W/Kg]	0.833	0.910
Power Drift [dB]	0.03	
M2/M1 [%]	65.1	
Dist 3dB Peak [mm]	4.6	



Measurement Report for SM-F946D, CHEEK, 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
RightHead, HSL	CHEEK, 0.00	WLAN 5GHz	WLAN, 10626-AAC	5690.0, 138	4.85	5.33	35.7

Hardware Setup

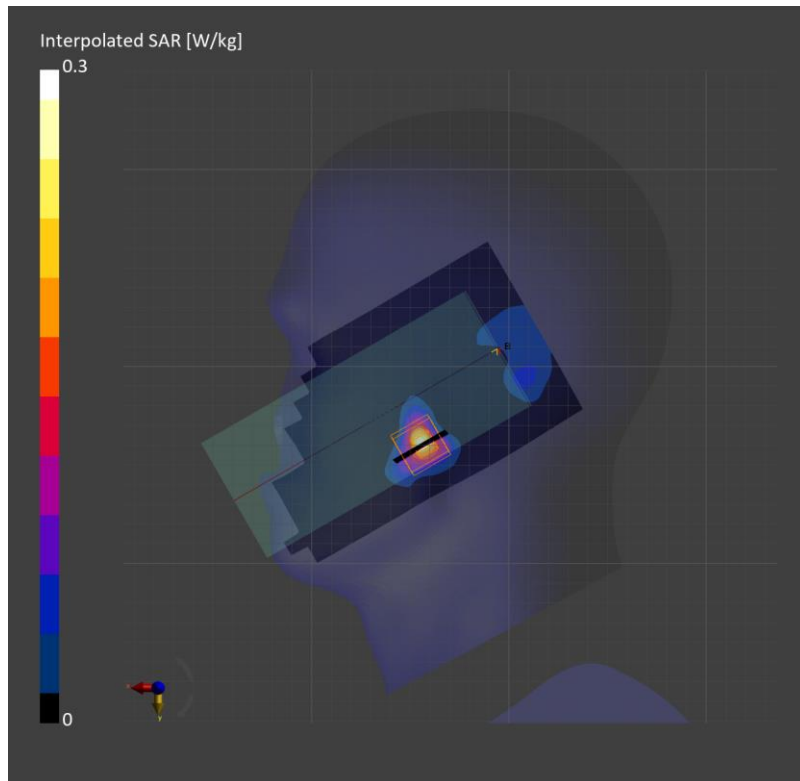
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-24	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	0.169	0.182
psSAR10g [W/Kg]	0.053	0.048
Power Drift [dB]	0.11	
M2/M1 [%]	63.4	
Dist 3dB Peak [mm]	5.5	



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

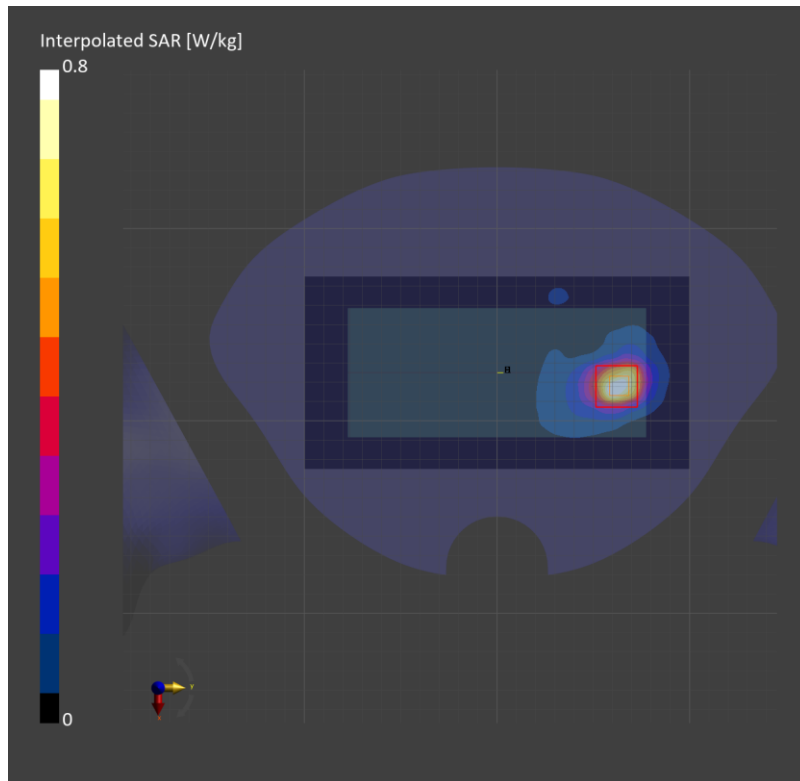
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-26	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	0.600	0.654
psSAR10g [W/Kg]	0.214	0.216
Power Drift [dB]		-0.02
M2/M1 [%]		63.6
Dist 3dB Peak [mm]		7.9



Measurement Report for SM-F946D, BACK, U-NII-2C, U-NII-3, 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	U-NII-2C, U-NII-3	WLAN, 10626-AAC	5690.0, 138	4.56	5.18	34.6

Hardware Setup

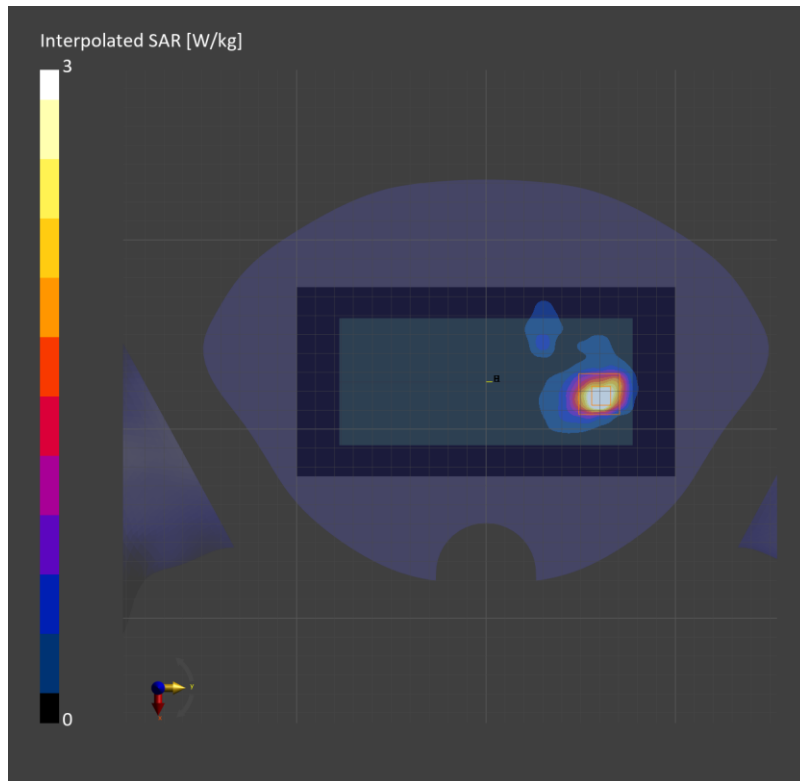
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-16	EX3DV4 - SN7376, 2022-07-27	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	3.09	3.49
psSAR10g [W/Kg]	0.880	0.938
Power Drift [dB]	0.03	
M2/M1 [%]	64.6	
Dist 3dB Peak [mm]	5.6	



Measurement Report for SM-F946D, CHEEK, WLAN 5GHz, IEEE 802.11 ac 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
RightHead, HSL	CHEEK, 0.00	WLAN 5GHz	WLAN, 10626-AAC	5775.0, 155	4.85	5.43	35.6

Hardware Setup

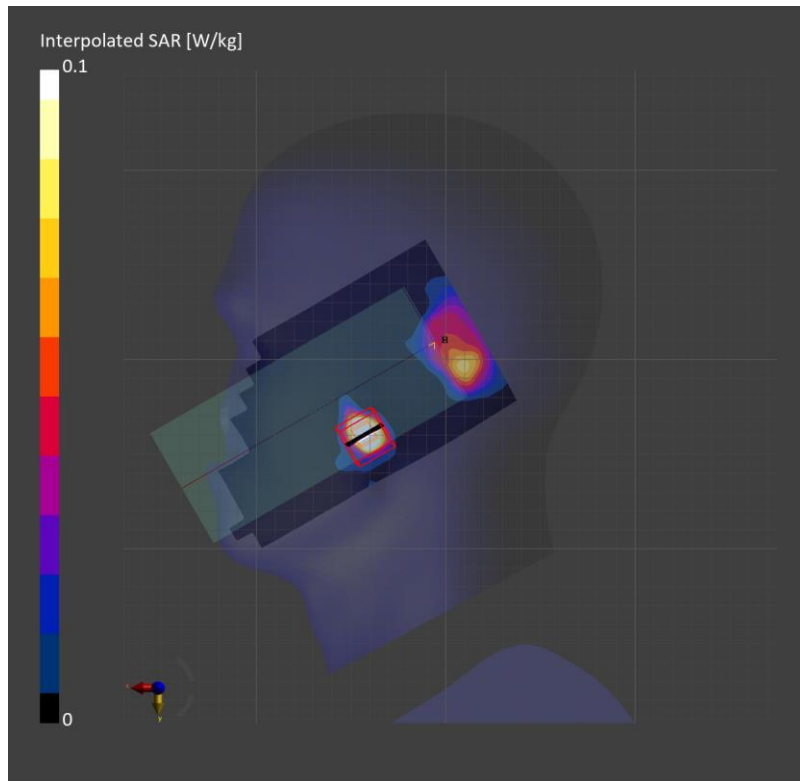
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-26	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 200.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	3.7 x 3.7 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.117	0.116
psSAR10g [W/Kg]	0.032	0.026
Power Drift [dB]		-0.16
M2/M1 [%]		70.3
Dist 3dB Peak [mm]		5.4



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

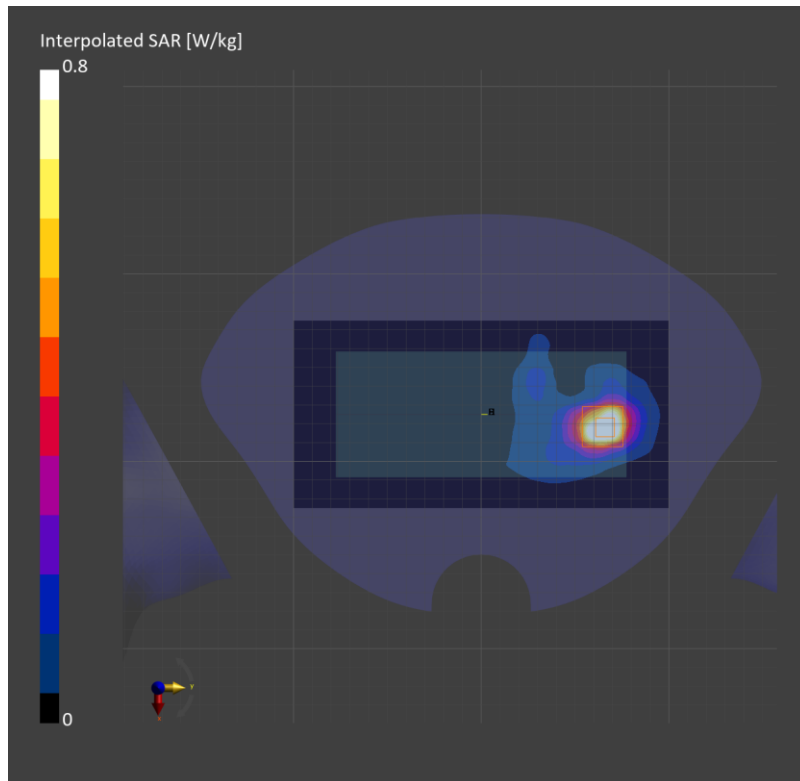
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-26	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	0.735	0.792
psSAR10g [W/Kg]	0.258	0.258
Power Drift [dB]	0.02	
M2/M1 [%]	61.9	
Dist 3dB Peak [mm]	7.9	



Measurement Report for SM-F946D, BACK, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 155 (5775.000 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-AAD	5775.000, 155	4.68	5.28	34.5

Hardware Setup

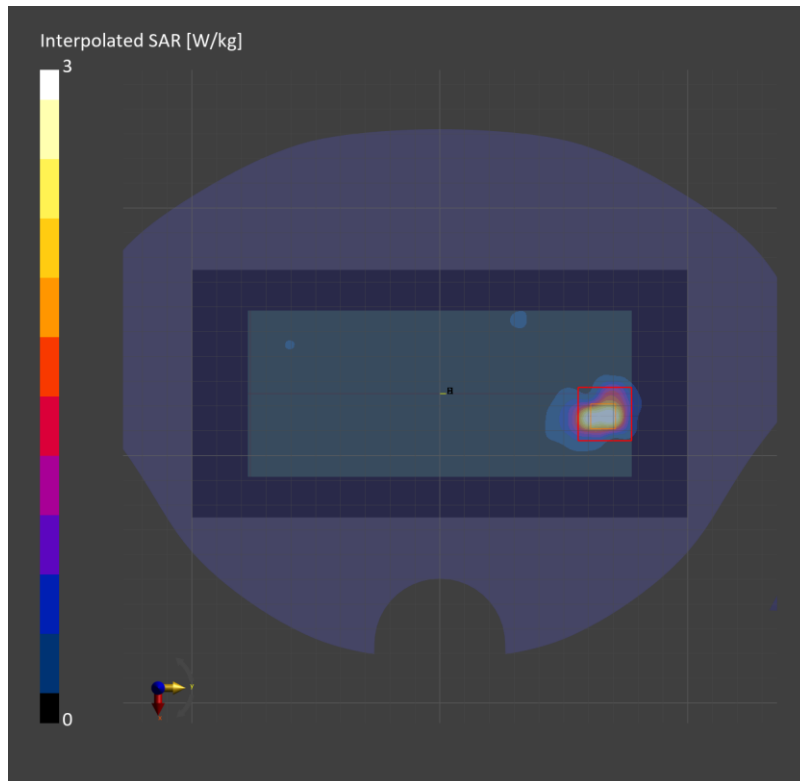
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2039	HBBL-600-10000, 2023-Jul-05	EX3DV4 - SN7313, 2023-03-24	DAE4 Sn1447, 2023-03-22

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	2.10	2.67
psSAR10g [W/Kg]	0.567	0.640
Power Drift [dB]	0.04	
M2/M1 [%]	57.3	
Dist 3dB Peak [mm]	4.6	



Measurement Report for SM-F946D, CHEEK, Custom Band, IEEE 802.11ac WIFI (80MHz, MCS0, 90pc duty cycle), Channel 5855000 (5855.000 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
RightHead, HSL	CHEEK, 0.00	Custom Band	CW, 10626-AAC	5855.000, 5855000	4.8	5.38	34.1

Hardware Setup

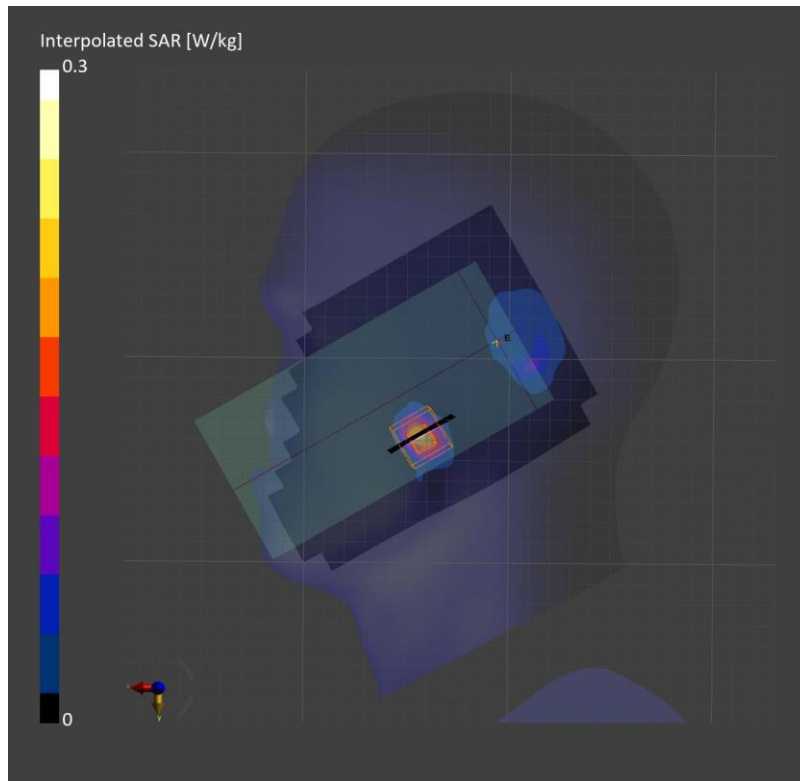
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-27	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 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]	0.145	0.152
psSAR10g [W/Kg]	0.046	0.036
Power Drift [dB]		0.11
M2/M1 [%]		60.1
Dist 3dB Peak [mm]		5.1



Measurement Report for SM-F946D, BACK, Custom Band, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 5855000 (5855.000 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	5855.000, 5855000	4.8	5.52	35.4

Hardware Setup

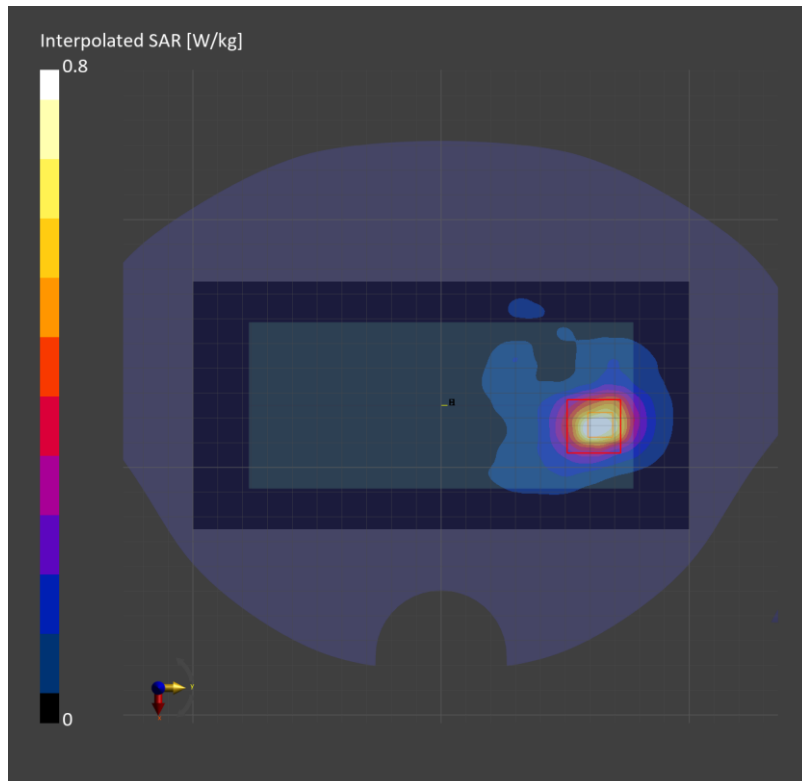
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-26	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	0.611	0.646
psSAR10g [W/Kg]	0.214	0.211
Power Drift [dB]		-0.02
M2/M1 [%]		62.6
Dist 3dB Peak [mm]		8.2



Measurement Report for SM-F946D, BACK, Custom Band, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle), Channel 5855000 (5855.000 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	5855.000, 5855000	4.8	5.52	35.4

Hardware Setup

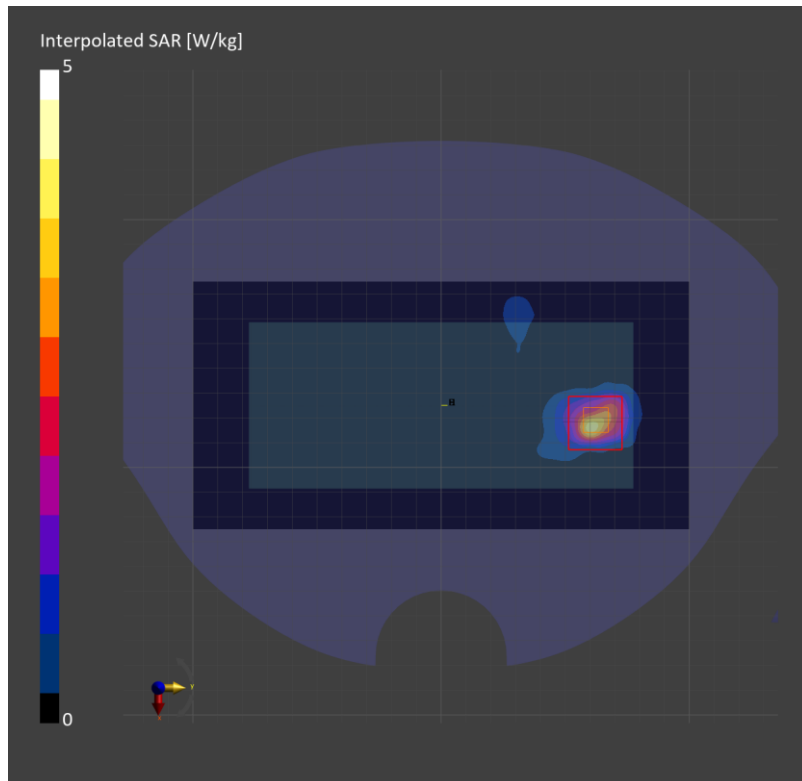
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2043	HBBL-600-10000, 2023-Jun-26	EX3DV4 - SN7314, 2023-05-26	DAE4 Sn1494, 2022-07-18

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 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]	2.69	3.30
psSAR10g [W/Kg]	0.838	0.868
Power Drift [dB]		-0.02
M2/M1 [%]		61.8
Dist 3dB Peak [mm]		5.1



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 (7501)

Left/Bluetooth GFSK ch.39 Ant.1/Area Scan (17x7x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.156 W/kg

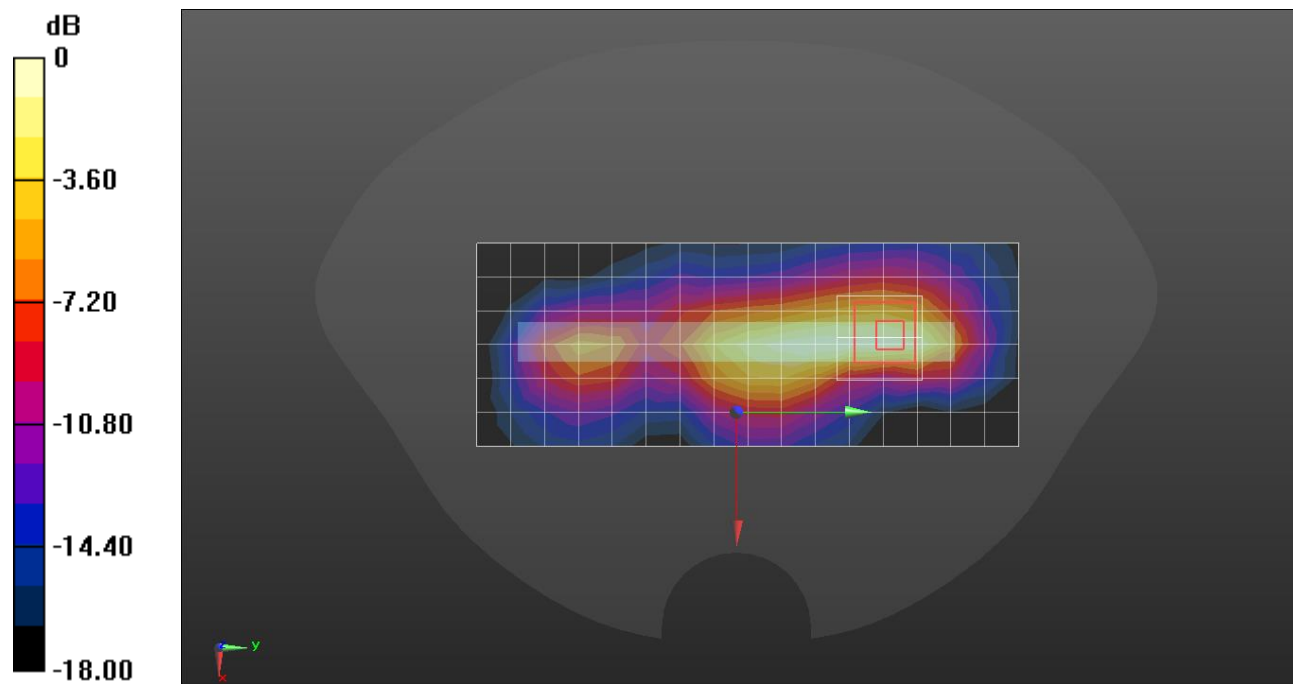
Left/Bluetooth GFSK ch.39 Ant.1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.682 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.190 W/kg

SAR(1 g) = 0.101 W/kg; SAR(10 g) = 0.049 W/kg

Maximum value of SAR (measured) = 0.159 W/kg



0 dB = 0.156 W/kg = -8.06 dBW/kg

Bluetooth

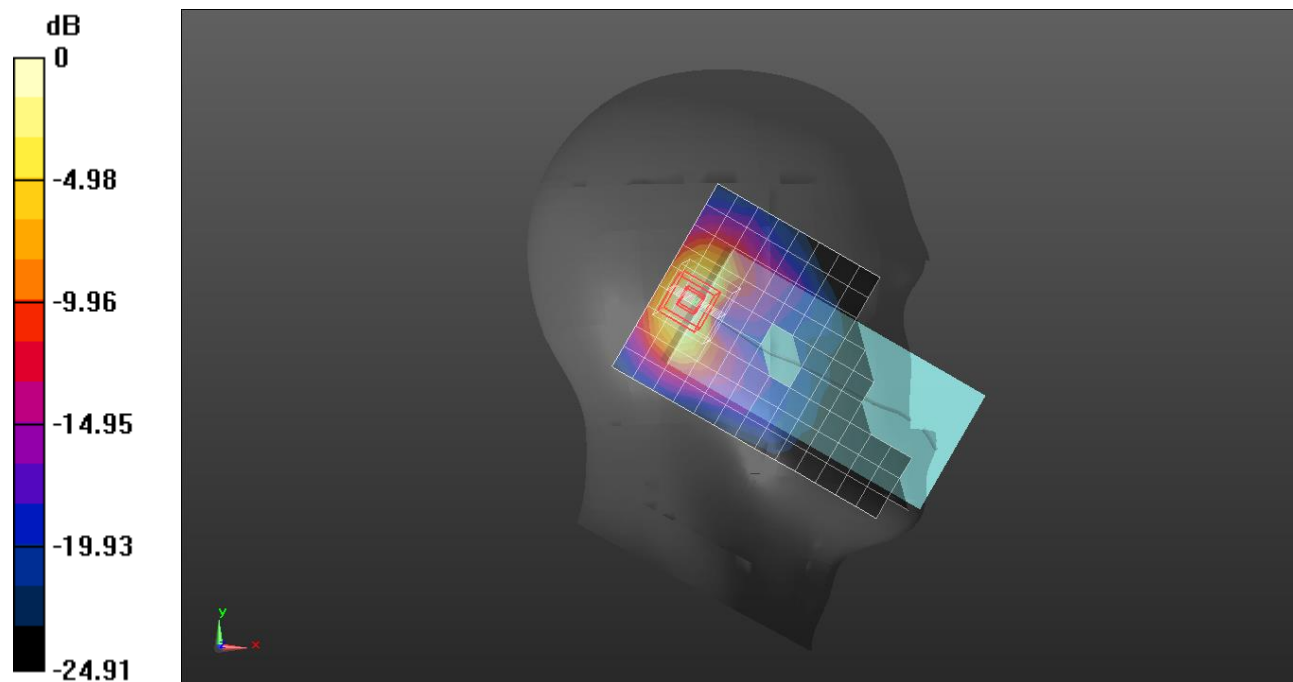
Frequency: 2402 MHz; Communication System Channel Number: 0; Duty Cycle: 1:1.17625
 Room Ambient Temperature: 23.0°C; Liquid Temperature: 22.0°C
 Medium parameters used (interpolated): $f = 2402$ MHz; $\sigma = 1.818$ S/m; $\epsilon_r = 39.277$; $\rho = 1000$ kg/m³

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: Left Section ; Type: QD 000 P40 CD
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

LHS/Tilt Bluetooth GFSK ch.0 Ant.2/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.334 W/kg

LHS/Tilt Bluetooth GFSK ch.0 Ant.2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 15.49 V/m; Power Drift = -0.05 dB
 Peak SAR (extrapolated) = 0.684 W/kg
SAR(1 g) = 0.311 W/kg; SAR(10 g) = 0.141 W/kg
 Maximum value of SAR (measured) = 0.535 W/kg



0 dB = 0.334 W/kg = -4.77 dBW/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; $\sigma = 1.818$ S/m; $\epsilon_r = 39.277$; $\rho = 1000$ 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 (7501)

Top/Bluetooth GFSK ch.0 Ant.2/Area Scan (9x7x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.292 W/kg

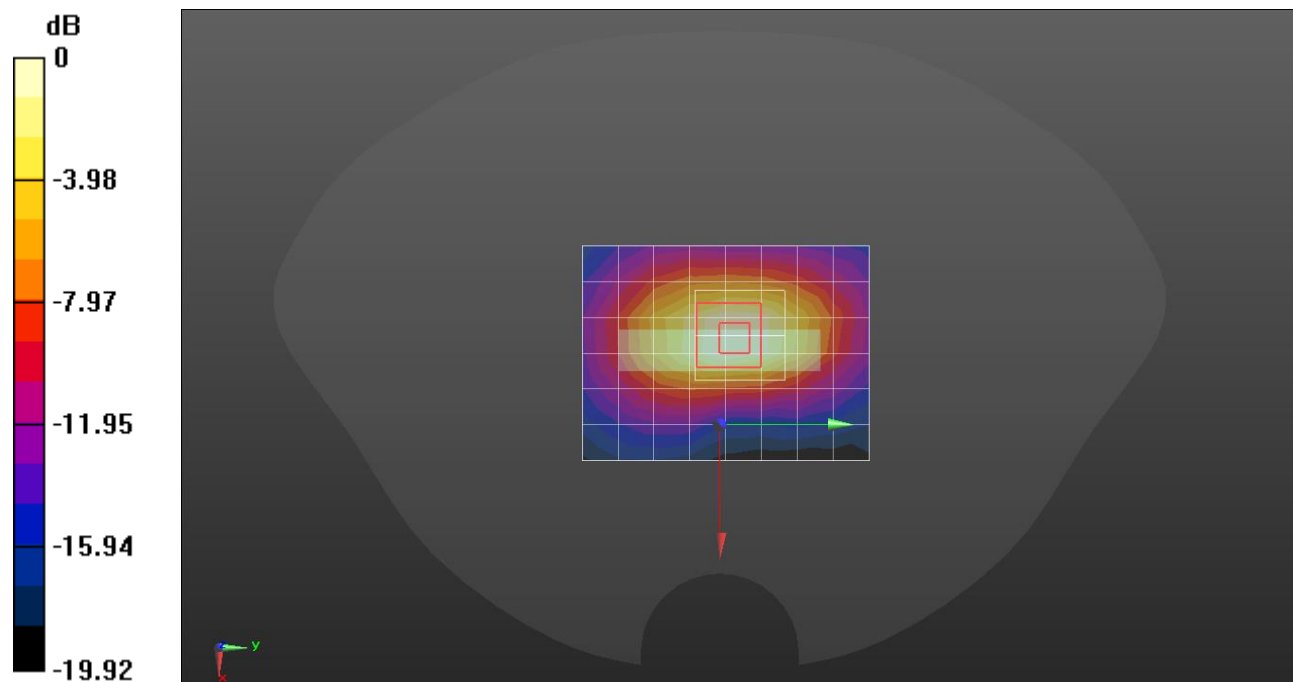
Top/Bluetooth GFSK ch.0 Ant.2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.30 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.446 W/kg

SAR(1 g) = 0.234 W/kg; SAR(10 g) = 0.118 W/kg

Maximum value of SAR (measured) = 0.373 W/kg



0 dB = 0.292 W/kg = -5.34 dBW/kg

Measurement Report for SM-F946D, BACK, Custom Band, CW, Channel 13600 (13.600 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--	13.600, 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]	120.0 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]	0.027	0.027
psSAR10g [W/Kg]	0.017	0.01
Power Drift [dB]		-0.05
M2/M1 [%]		54.0
Dist 3dB Peak [mm]		6.1

