APPENDIX A: VERIFICATION PLOTS

ELEMENT MATERIALS TECHNOLOGY

Date: 04/04/2022

835MHz Body Verification

Medium

Frequency [MHz]	TSL	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [C]	Tissue Temperature [C]
835.0	835 Body	1.00	53.9	22.3	20.2

Exposure Conditions

Phantom Section	Test Distance [mm]	Power [dBm]	Communication System, UID
Flat	15	23.0	CW, 0

Hardware Setup

Phantom	Dipole	Probe, Calibration Date	Conversion Factor	DAE, Calibration Date
Twin-SAM V8.0 - 1978	D835V2 - SN4d132	EX3DV4 - SN7713, 2022-02-04	9.91	DAE4 Sn1530, 2022-01-12

Software Setup

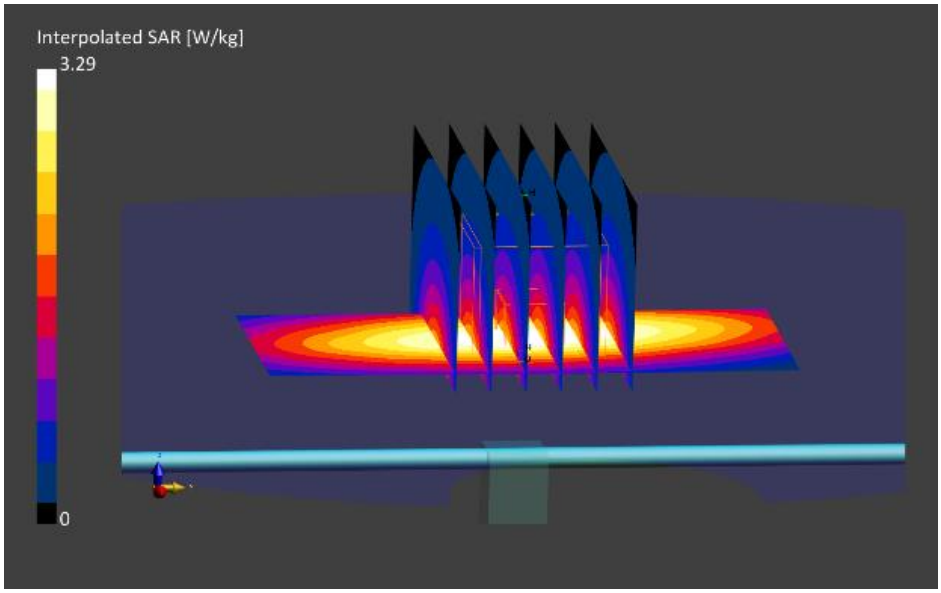
Software	Software Version
cDASY6 Module SAR	16.0.2.136

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 90.0	50.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5

Measurement Results

	Zoom Scan
psSAR1g [W/Kg]	2.05
psSAR10g [W/Kg]	1.34
Dev. 1g [%]	4.49



ELEMENT MATERIALS TECHNOLOGY

Date: 04/13/2022

835MHz Body Verification

Medium

Frequency [MHz]	TSL	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [C]	Tissue Temperature [C]
835.0	835 Body	0.995	55.4	24.8	21.7

Exposure Conditions

Phantom Section	Test Distance [mm]	Power [dBm]	Communication System, UID
Flat	15	23.0	CW, 0

Hardware Setup

Phantom	Dipole	Probe, Calibration Date	Conversion Factor	DAE, Calibration Date
Twin-SAM V8.0 - 1978	D835V2 - SN4d047	EX3DV4 - SN7713, 2022-02-04	9.91	DAE4 Sn1530, 2022-01-12

Software Setup

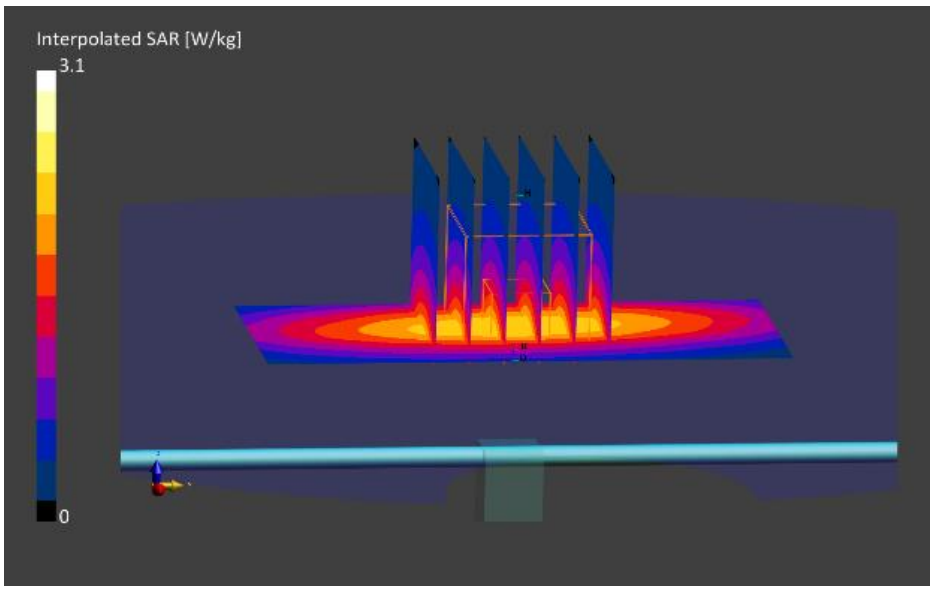
Software	Software Version
cDASY6 Module SAR	16.0.2.136

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 90.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5

Measurement Results

	Zoom Scan
psSAR1g [W/Kg]	2.01
psSAR10g [W/Kg]	1.32
Dev. 1g [%]	3.82



ELEMENT MATERIALS TECHNOLOGY

Date: 05-25-2022

1900MHz Body Verification

Medium

Frequency [MHz]	TSL	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [C]	Tissue Temperature [C]
1900.0	1900 Body	1.59	53.9	23.0	21.5

Exposure Conditions

Phantom Section	Test Distance [mm]	Power [dBm]	Communication System, UID
Flat	10	20.0	CW, 0

Hardware Setup

Phantom	Dipole	Probe, Calibration Date	Conversion Factor	DAE, Calibration Date
Twin-SAM V8.0 (Left) - 1964	D1900V2 - SN5d148	EX3DV4 - SN7551, 2021-10-26	7.82	DAE4 Sn1449, 2021-09-15

Software Setup

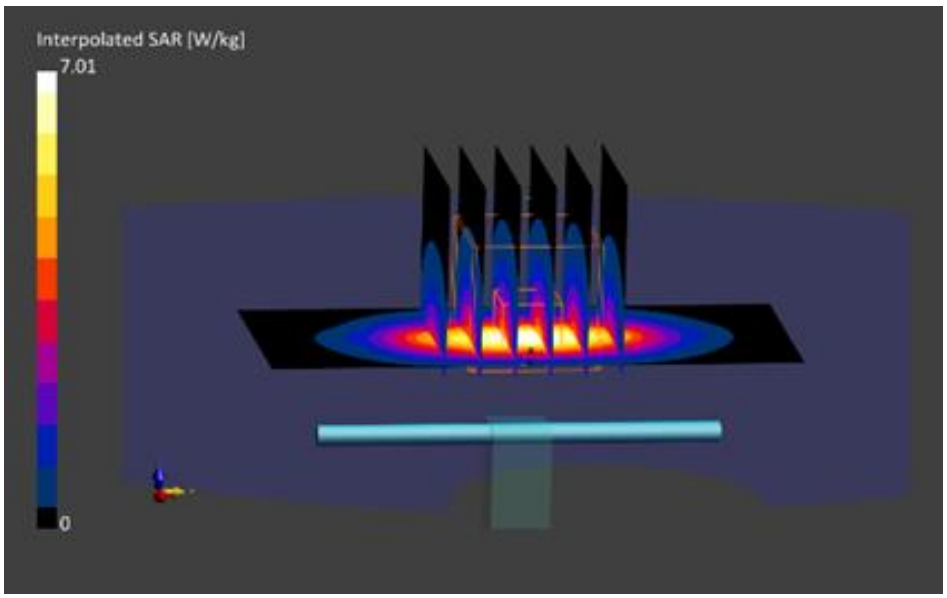
Software	Software Version
cDASY6 Module SAR	16.0.2.136

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 90.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5

Measurement Results

	Zoom Scan
psSAR1g [W/Kg]	3.97
psSAR10g [W/Kg]	2.06
Dev. 1g [%]	-0.50



ELEMENT MATERIALS TECHNOLOGY

Date: 04/08/2022

3700MHz Body Verification

Medium

Frequency [MHz]	TSL	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [C]	Tissue Temperature [C]
3700.0	3600 Body	3.46	50.2	20.2	20.0

Exposure Conditions

Phantom Section	Test Distance [mm]	Power [dBm]	Communication System, UID
Flat	10	20.0	CW, 0

Hardware Setup

Phantom	Dipole	Probe, Calibration Date	Conversion Factor	DAE, Calibration Date
Twin-SAM V8.0 - 1978	D3700V2 - SN1067	EX3DV4 - SN7713, 2022-02-04	6.49	DAE4 Sn1530, 2022-01-12

Software Setup

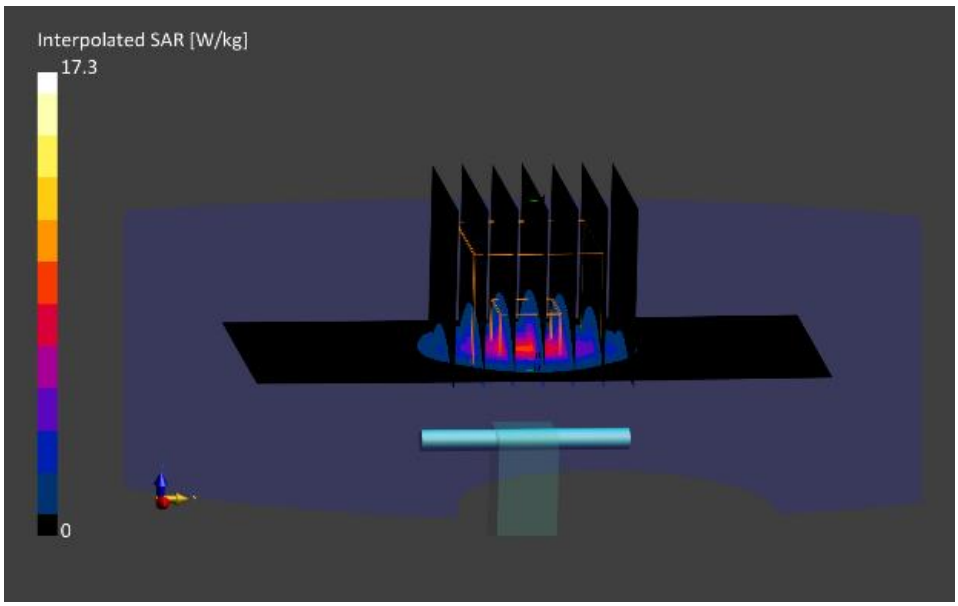
Software	Software Version
cDASY6 Module SAR	16.0.2.136

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 96.0	28.0 x 28.0 x 28.0
Grid Steps [mm]	10.0 x 12.0	5.0 x 5.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5

Measurement Results

	Zoom Scan
psSAR1g [W/Kg]	6.52
psSAR10g [W/Kg]	2.38
Dev. 1g [%]	0.00



ELEMENT MATERIALS TECHNOLOGY

Date: 04/28/2022

30 GHz System Verification

Device Under Test Properties

DUT	Serial Number
30 GHz Verification Source	1045

Exposure Conditions

Phantom Section	Position	Test Distance [mm]	Band	Frequency [MHz]
5G	FRONT	5.55	Validation band	30000.0

Hardware Setup

Probe, Calibration Date	DAE, Calibration Date
EUmmWV4 - SN9541_F1-55GHz, 2021-05-20	DAE4 Sn1530, 2022-01-12

Software Setup

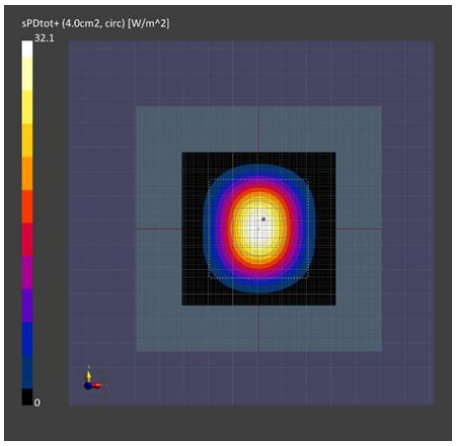
Software	Software Version
cDASY6 Module mmWave	2.4.2.62

Scans Setup

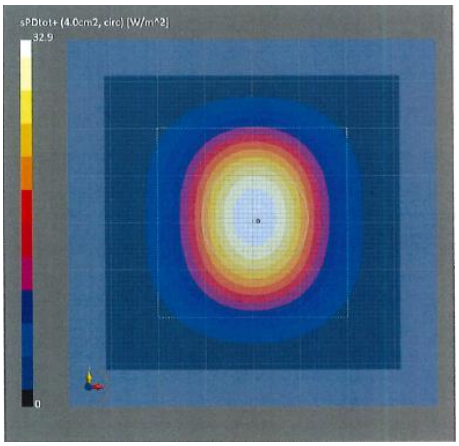
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55

Measurement Results

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS_{tot} avg [W/m²]	32.1
pS_n avg [W/m²]	31.6
E_{peak} [V/m]	128
Deviation (dB)	-0.08



30GHz System Verification



Calibration Certificate

ELEMENT MATERIALS TECHNOLOGY

Date: 05/03/2022

30 GHz System Verification

Device Under Test Properties

DUT	Serial Number
30 GHz Verification Source	1045

Exposure Conditions

Phantom Section	Position	Test Distance [mm]	Band	Frequency [MHz]
5G	FRONT	5.55	Validation band	30000.0

Hardware Setup

Probe, Calibration Date	DAE, Calibration Date
EUmmWV4 - SN9541_F1-55GHz, 2021-05-20	DAE4 Sn1530, 2022-01-12

Software Setup

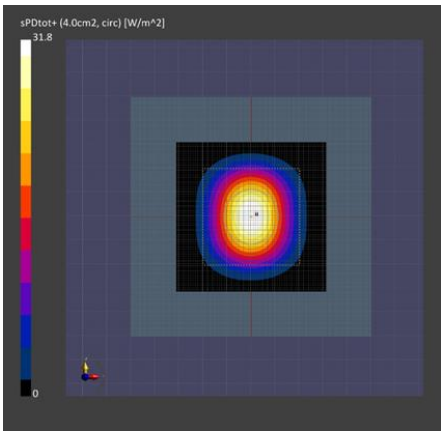
Software	Software Version
cDASY6 Module mmWave	2.4.2.62

Scans Setup

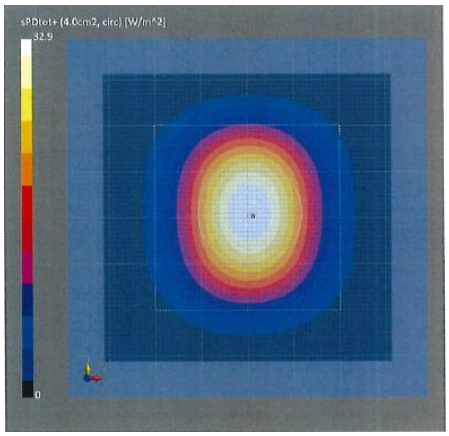
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55

Measurement Results

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS_{tot} avg [W/m²]	31.8
pS_n avg [W/m²]	31.4
E_{peak} [V/m]	127
Deviation (dB)	-0.12



30GHz System Verification



Calibration Certificate