Measurement Report for Device, Channel 0 (1750.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	1750MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	1750.0, 0	8.3	1.31	39.5

Hardware Setup

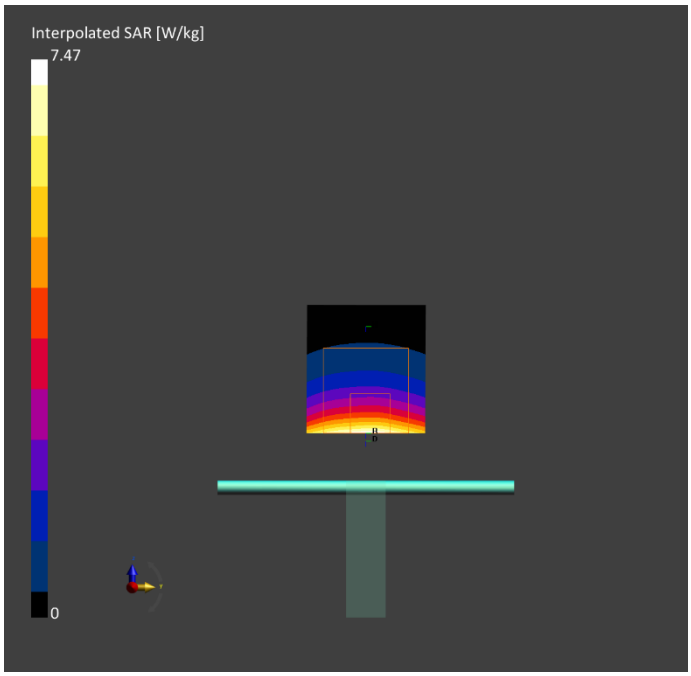
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - xxxx	HSL1750 Charge: xxxx, 2022-Jun-13	EX3DV4 - SN3992, 2021-10-27	DAE4 Sn1432, 2021-10-12

Scan 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
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-13, 14:37	2022-06-13, 14:43
psSAR1g [W/kg]	3.99	4.00
psSAR10g [W/kg]	2.15	2.15
Power Drift [dB]	-0.01	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		82.9
Dist 3dB Peak [mm]		10.8



Measurement Report for Device, Channel 0 (1750.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	1750MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	1750.0, 0	8.3	1.31	41.1

Hardware Setup

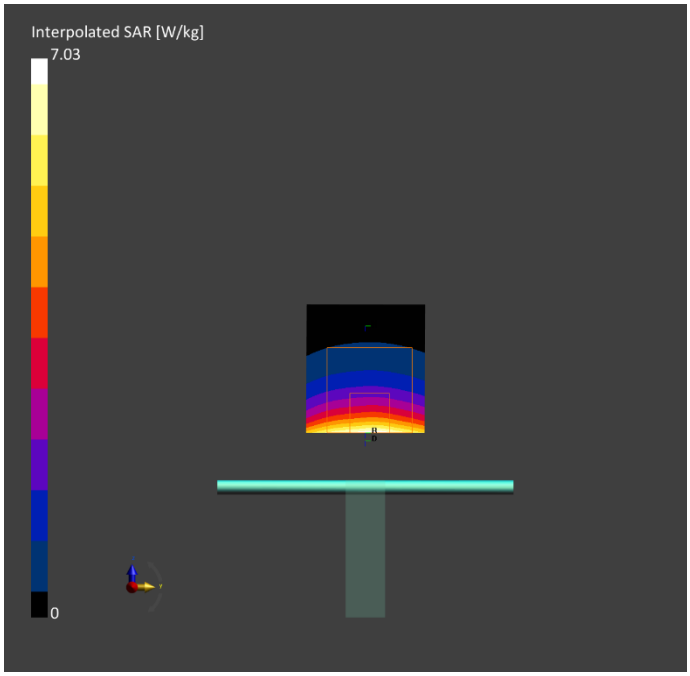
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - xxxx	HSL1750 Charge: xxxx, 2022-Jun-17	EX3DV4 - SN3992, 2021-10-27	DAE4 Sn1432, 2021-10-12

Scan 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
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-17, 19:51	2022-06-17, 19:57
psSAR1g [W/kg]	3.66	3.73
psSAR10g [W/kg]	1.98	2.01
Power Drift [dB]	-0.01	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		82.5
Dist 3dB Peak [mm]		10.8



Measurement Report for Device, Channel 0 (1900.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	1900MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	1900.0, 0	8.08	1.39	40.9

Hardware Setup

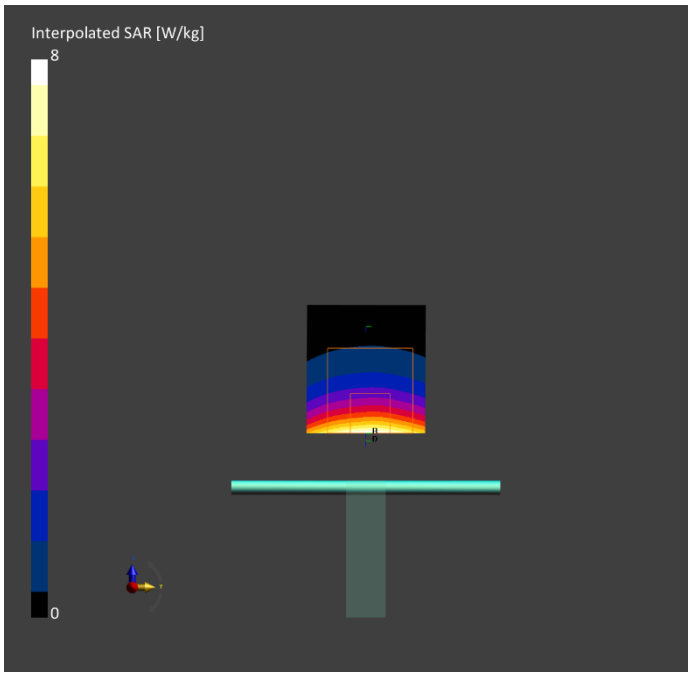
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - xxxx	HSL1900 Charge: xxxx, 2022-Jun-17	EX3DV4 - SN3992, 2021-10-27	DAE4 Sn1432, 2021-10-12

Scan 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
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-17, 19:14	2022-06-17, 19:20
psSAR1g [W/kg]	4.12	4.26
psSAR10g [W/kg]	2.18	2.23
Power Drift [dB]	0.01	0.05
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		83.4
Dist 3dB Peak [mm]		10.3



Measurement Report for Device, Channel 0 (1900.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	1900MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	1900.0, 0	8.08	1.42	40.1

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - xxxx	HSL1900 Charge: xxxx, 2022-Jun-22	EX3DV4 - SN3992, 2021-10-27	DAE4 Sn1432, 2021-10-12

Scan Setup

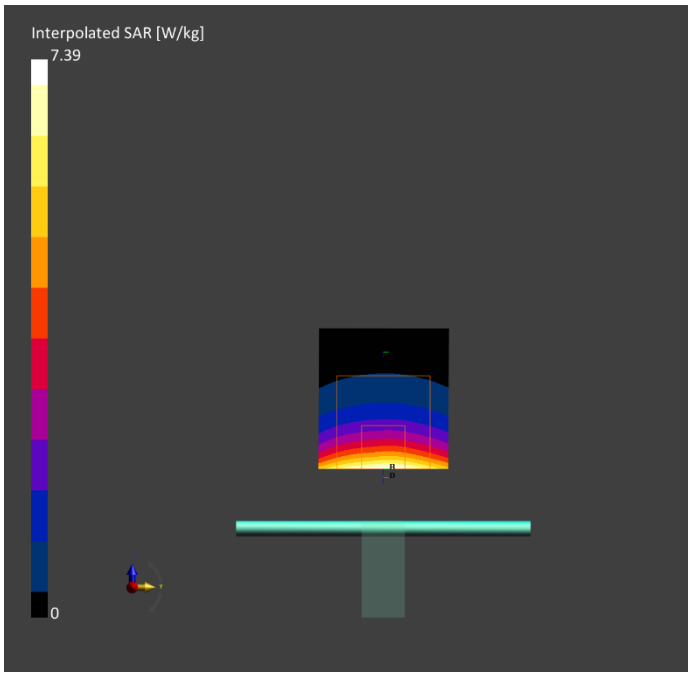
	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 90.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-22, 00:55	2022-06-22, 01:01
psSAR1g [W/kg]	3.88	3.92
psSAR10g [W/kg]	2.03	2.05
Power Drift [dB]	-0.01	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.6
Dist 3dB Peak [mm]		9.9

Warning(s) / Error(s)

Details	Area Scan	Zoom Scan
Warning(s)		
Error(s)		



Measurement Report for Device, Channel 0 (1900.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	1900MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	1900.0, 0	8.08	1.42	40.1

Hardware Setup

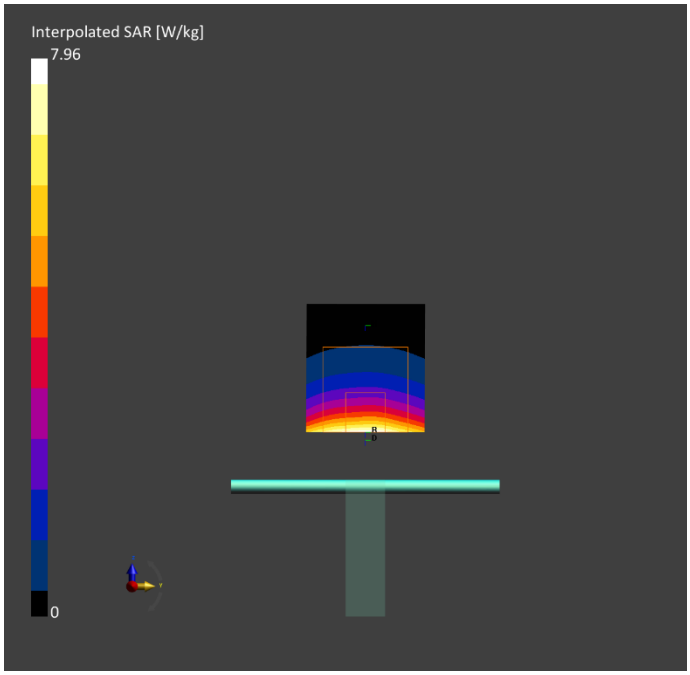
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - xxxx	HSL1900 Charge: xxxx, 2022-Jun-22	EX3DV4 - SN3992, 2021-10-27	DAE4 Sn1432, 2021-10-12

Scan 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
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-26, 11:02	2022-06-26, 11:08
psSAR1g [W/kg]	4.17	4.19
psSAR10g [W/kg]	2.19	2.20
Power Drift [dB]	0.03	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.1
Dist 3dB Peak [mm]		9.6



Measurement Report for Device, Channel 0 (1900.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	1900MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	1900.0, 0	7.68	1.45	38.3

Hardware Setup

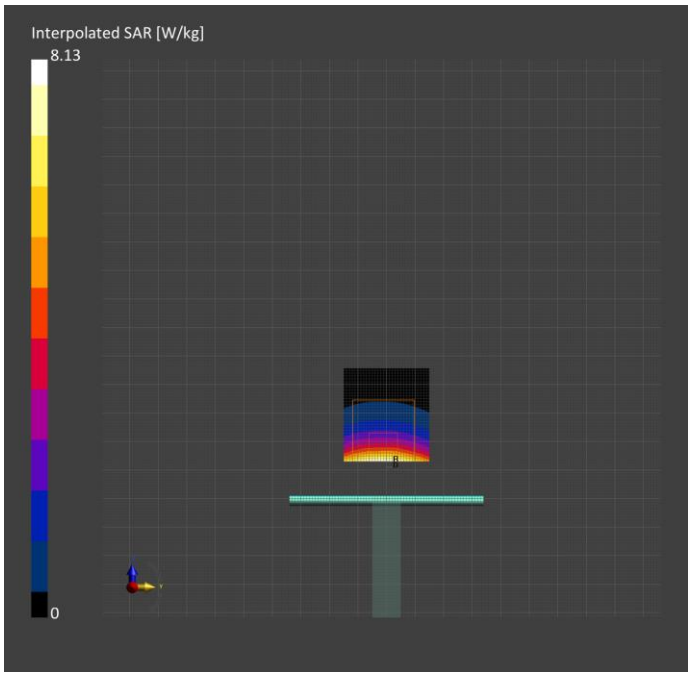
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 1948	HSL1900 Charge: xxxx, 2022-Jun-16	EX3DV4 - SN3764, 2021-11-05	DAE4ip Sn1656, 2022-05-04

Scan 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
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-16, 23:59	2022-06-17, 00:04
psSAR1g [W/kg]	4.18	4.16
psSAR10g [W/kg]	2.17	2.15
Power Drift [dB]	-0.01	-0.05
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		78.9
Dist 3dB Peak [mm]		9.6



Measurement Report for Device, Channel 0 (2600.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	2600MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	2600.0, 0	6.94	2.00	37.8

Hardware Setup

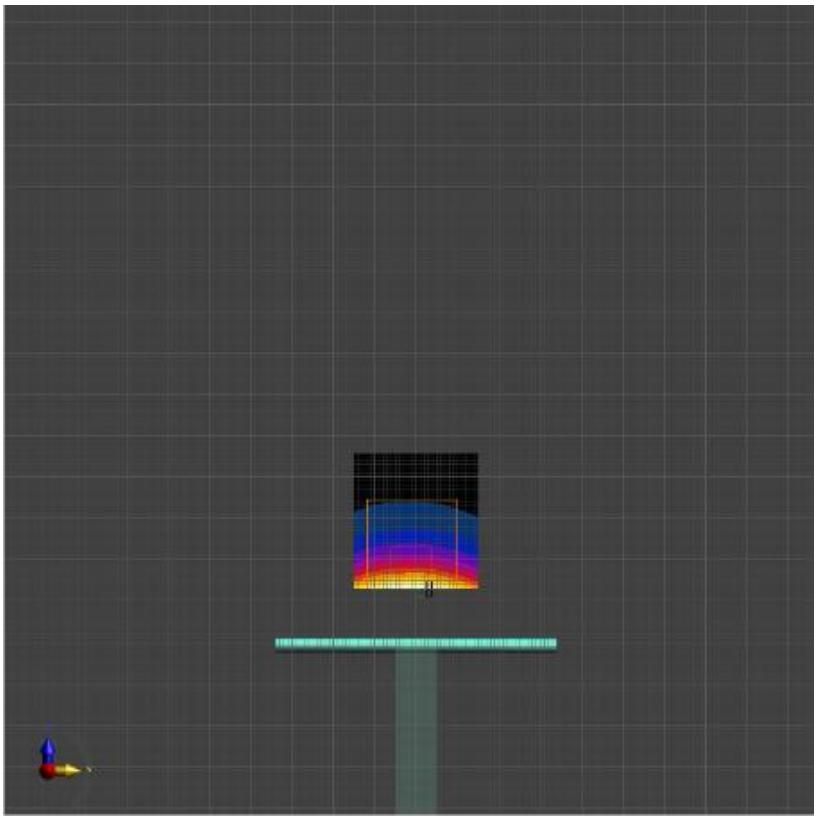
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 1948	HSL2600 Charge: xxxx, 2022-Jun-17	EX3DV4 - SN3764, 2021-11-05	DAE4ip Sn1656, 2022-05-04

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	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
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-17, 00:54	2022-06-17, 01:00
psSAR1g [W/kg]	5.72	5.71
psSAR10g [W/kg]	2.55	2.58
Power Drift [dB]	-0.02	-0.11
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		78.9
Dist 3dB Peak [mm]		9.0



.

Measurement Report for Device, Channel 0 (2600.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	2600MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	2600.0, 0	6.94	2.01	37.2

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 1948	HSL2600 Charge: xxxx, 2022-Jun-22	EX3DV4 - SN3764, 2021-11-05	DAE4ip Sn1656, 2022-05-04

Scan Setup

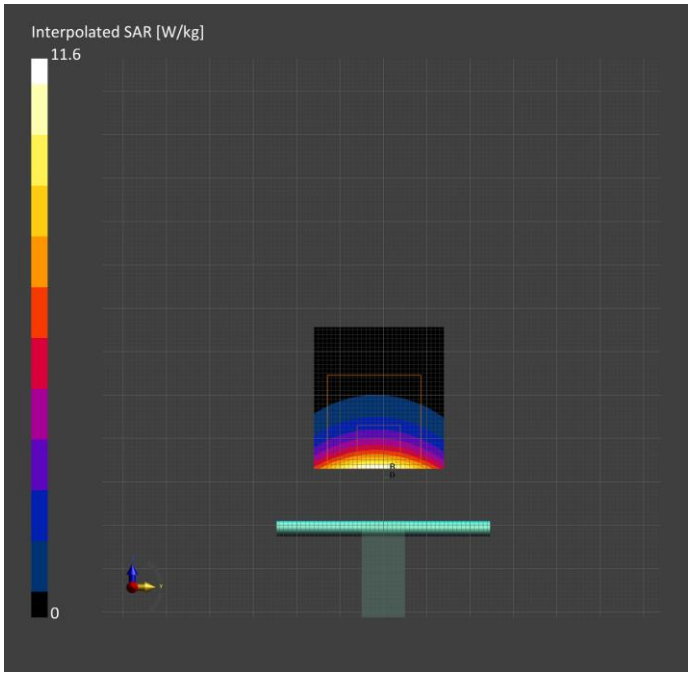
	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-22, 01:44	2022-06-22, 01:50
psSAR1g [W/kg]	5.69	5.36
psSAR10g [W/kg]	2.54	2.42
Power Drift [dB]	-0.15	-0.17
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		78.1
Dist 3dB Peak [mm]		9.0

Warning(s) / Error(s)

Details	Area Scan	Zoom Scan
Warning(s)		1g / 10g SAR deviation above 10%. Power drift exceeds warning threshold.
Error(s)		



Measurement Report for Device, Channel 0 (2600.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Speag Dipole	50.0 x 10.0 x 8.0	2600MHz Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	10	2600.0, 0	6.94	1.96	38.2

Hardware Setup

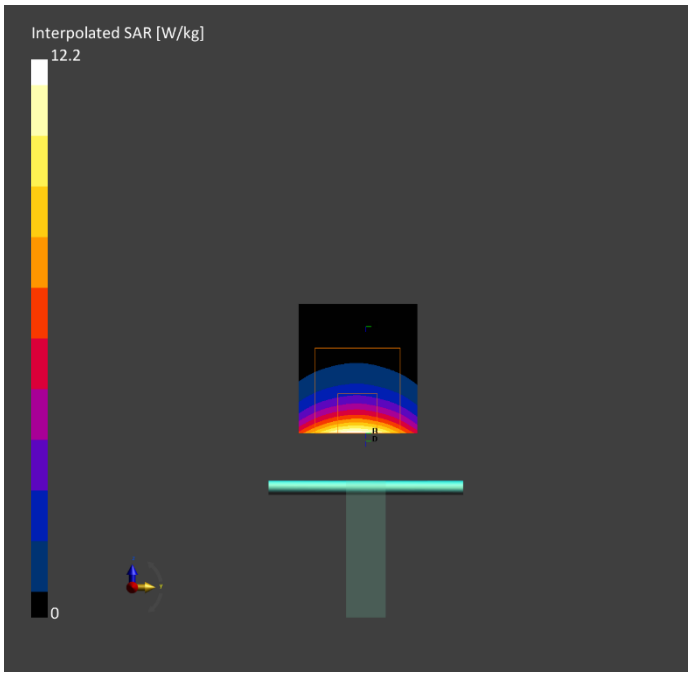
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 1948	HSL2600 Charge: xxxx, 2022-Jun-26	EX3DV4 - SN3764, 2021-11-05	DAE4ip Sn1656, 2022-05-04

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	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
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-06-26, 10:10	2022-06-26, 10:16
psSAR1g [W/kg]	5.65	5.88
psSAR10g [W/kg]	2.62	2.67
Power Drift [dB]	-0.05	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.0
Dist 3dB Peak [mm]		9.0



Measurement Report for Device Channel 30000 (30000.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Speag 30GHz Source	100.0 x 100.0 x 100.0	SN: 1098	30GHz Source

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 5.55	Validation band	CW, 0--	30000.0, 30000	1.0

Hardware Setup

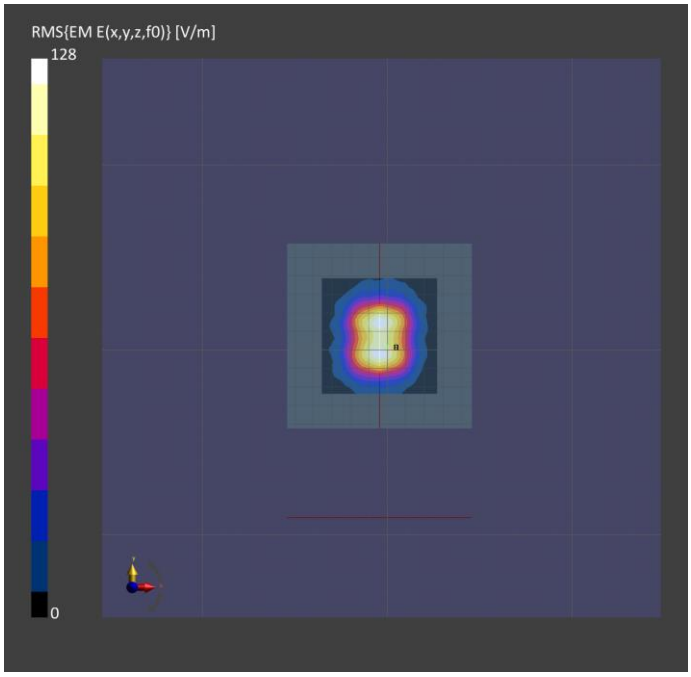
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave- 1005	Air---	EUmmWV4 - SN9452_F1-55GHz, 2021-10-25	DAE4ip Sn1655, 2021-10-15

Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55
MAIA	N/A

Measurement Results

	5G Scan
Date	2022-06-13, 08:55
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	29.6
psPDtot+ [W/m^2]	30.0
psPDmod+ [W/m^2]	30.1
E_{max} [V/m]	125
Power Drift [dB]	0.05



Measurement Report for Device Channel 30000 (30000.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Speag 30GHz Source	100.0 x 100.0 x 100.0	SN: 1098	30GHz Source

Exposure Conditions

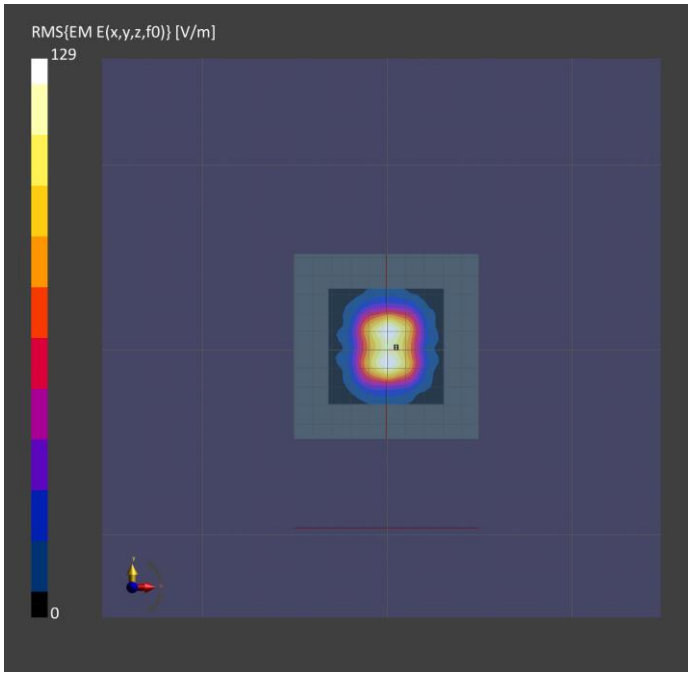
Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 5.55	Validation band	CW, 0--	30000.0, 30000	1.0

Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave- 1005	Air---	EUmmWV4 - SN9452_F1-55GHz, 2021-10-25	DAE4ip Sn1655, 2021-10-15

Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55
MAIA	N/A

Measurement Results

	5G Scan
Date	2022-06-17, 08:44
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	29.9
psPDtot+ [W/m^2]	30.4
psPDmod+ [W/m^2]	30.5
E_{max} [V/m]	129
Power Drift [dB]	0.17