



BUREAU  
VERITAS

## **Testing Appendix**

### **Appendix A. Plots of SAR and Power Density System Verification**

The plots for system verification are shown as follows.

## Measurement Report

### System Check\_H2450\_230920

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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		CW		2450.0	7.63	1.83	38.6

#### Hardware Setup

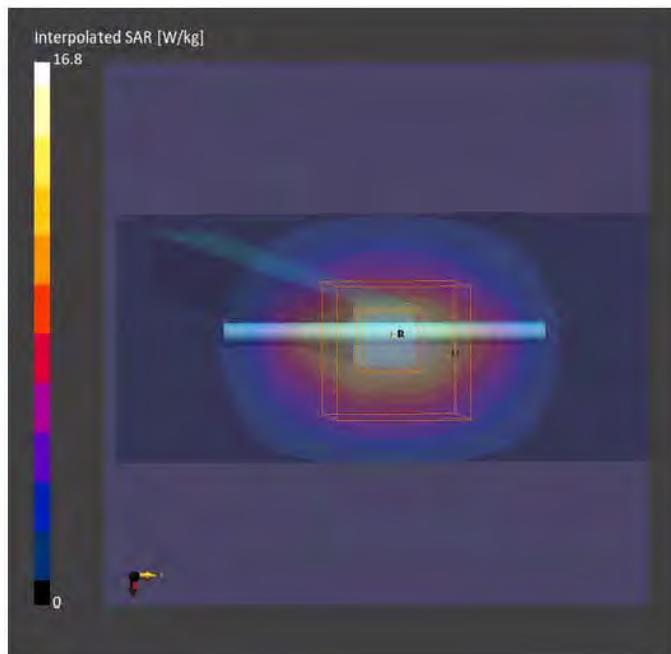
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H2450, 2023-Sep-20	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### 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	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

#### Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-20, 10:42	2023-09-20, 10:48
psSAR1g [W/kg]	12.7	12.7
psSAR10g [W/kg]	5.81	6.06
Power Drift [dB]	0.00	0.01
M2/M1 [%]		82.5
Dist 3dB Peak [mm]		9.0



## Measurement Report

### System Check\_H2450\_230921

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	2450.0	7.63	1.85	38.5

#### Hardware Setup

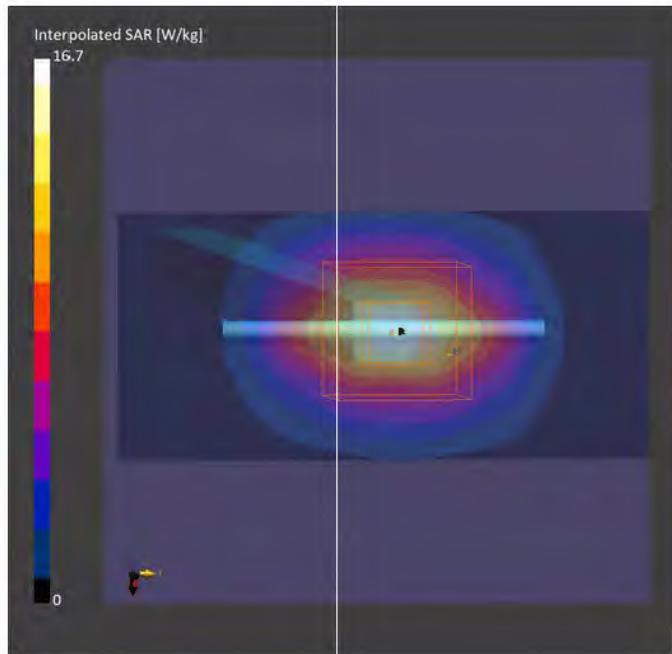
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H2450, 2023-Sep-21	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### 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	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

#### Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21, 09:10	2023-09-21, 09:17
psSAR1g [W/kg]	12.6	12.7
psSAR10g [W/kg]	5.82	6.04
Power Drift [dB]	0.01	0.01
M2/M1 [%]		81.9
Dist 3dB Peak [mm]		9.0



## Measurement Report

### System Check\_H2450\_230922

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	2450.0	7.63	1.82	38.7

#### Hardware Setup

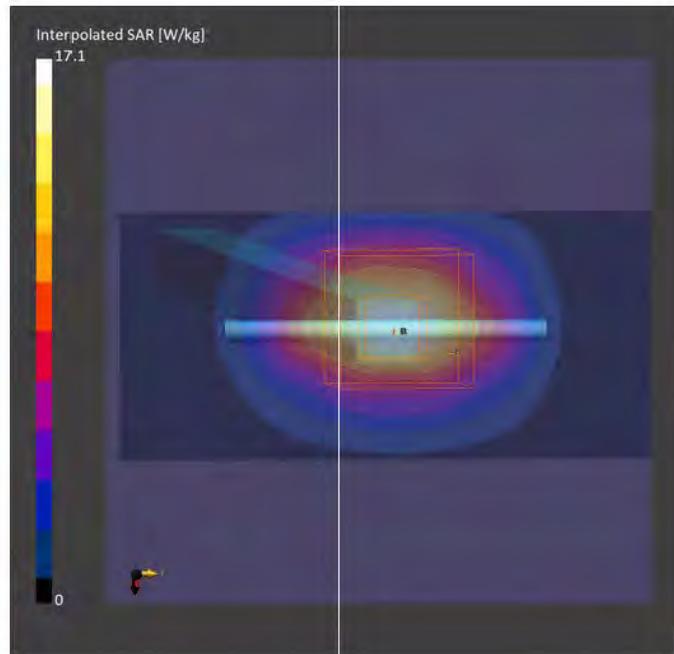
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H2450, 2023-Sep-22	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### 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	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4

#### Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-22, 09:25	2023-09-22, 09:31
psSAR1g [W/kg]	13.0	13.3
psSAR10g [W/kg]	6.09	6.31
Power Drift [dB]	0.00	0.01
M2/M1 [%]		81.8
Dist 3dB Peak [mm]		9.0



## Measurement Report

### System Check\_H5300\_230926

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	5300.0	5.78	4.84	35.5

#### Hardware Setup

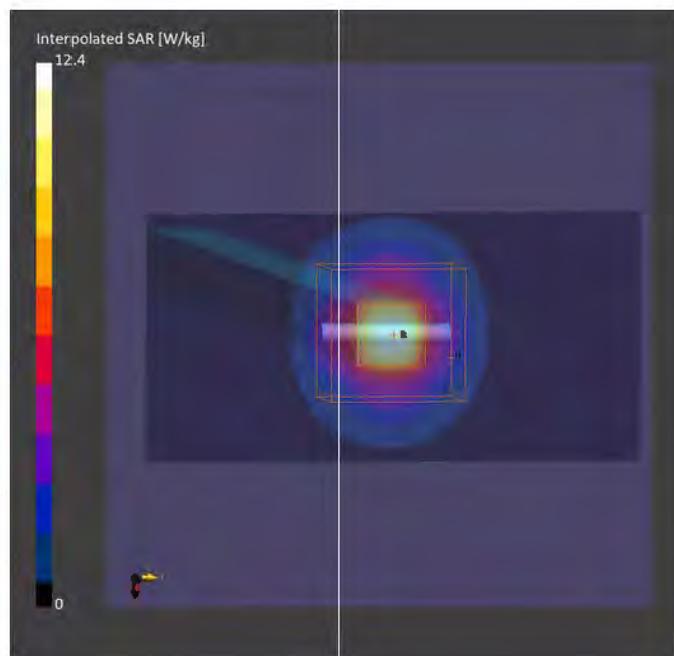
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H5G, 2023-Sep-26	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	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
Date	2023-09-26, 09:29	2023-09-26, 09:40
psSAR1g [W/kg]	7.54	8.23
psSAR10g [W/kg]	2.14	2.40
Power Drift [dB]	-0.02	0.11
M2/M1 [%]		63.6
Dist 3dB Peak [mm]		7.4



## Measurement Report

### System Check\_H5300\_230928

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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		CW		5300.0	5.78	4.79	35.6

#### Hardware Setup

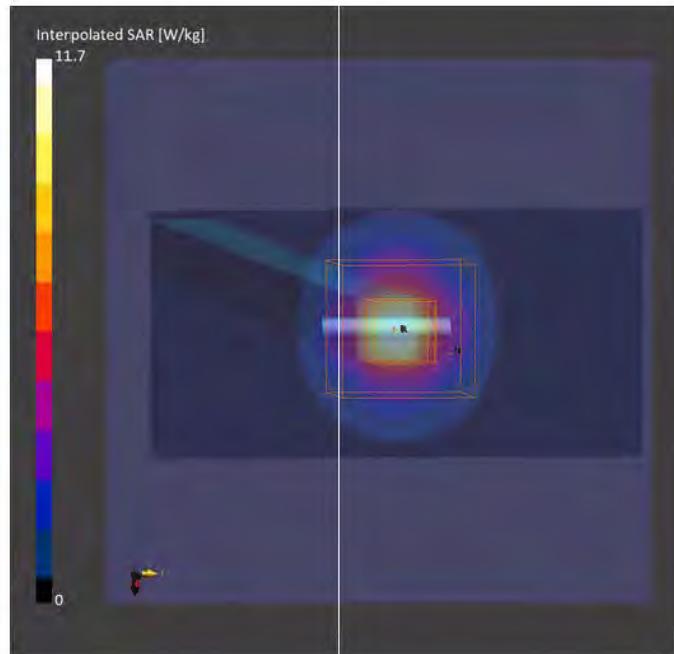
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H5G, 2023-Sep-28	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	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
Date	2023-09-28, 11:16	2023-09-28, 11:24
psSAR1g [W/kg]	7.06	7.66
psSAR10g [W/kg]	2.00	2.21
Power Drift [dB]	0.02	0.01
M2/M1 [%]		63.9
Dist 3dB Peak [mm]		7.2



## Measurement Report

### System Check\_H5600\_231005

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	5600.0	4.82	5.14	34.9

#### Hardware Setup

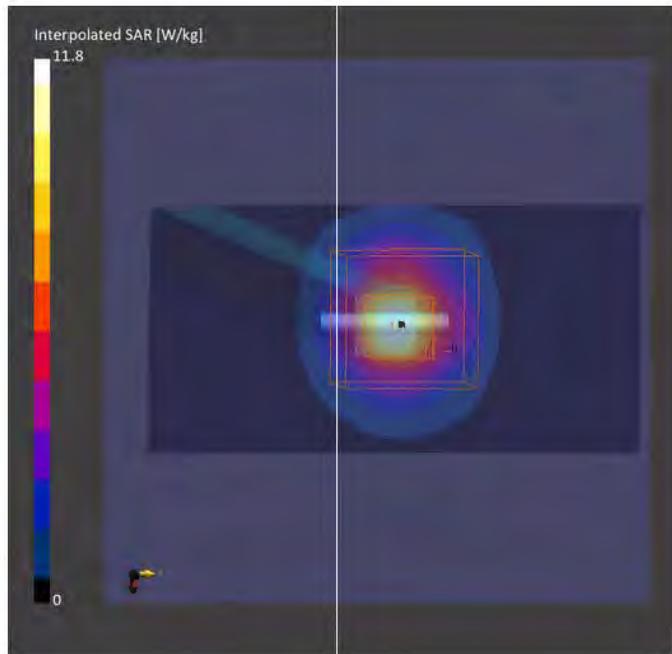
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H5G, 2023-Oct-05	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	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
Date	2023-10-05, 09:39	2023-10-05, 09:47
psSAR1g [W/kg]	7.41	8.09
psSAR10g [W/kg]	2.15	2.36
Power Drift [dB]	0.02	0.00
M2/M1 [%]		61.1
Dist 3dB Peak [mm]		7.9



## Measurement Report

### System Check\_H5800\_231004

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	5800.0	5.0	5.38	34.5

#### Hardware Setup

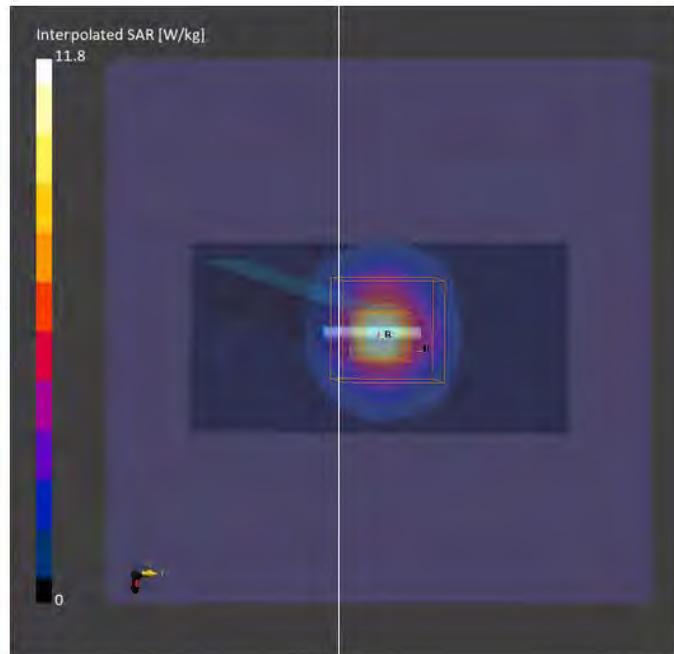
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H5G, 2023-Oct-04	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	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
Date	2023-10-04, 09:24	2023-10-04, 09:32
psSAR1g [W/kg]	7.44	8.04
psSAR10g [W/kg]	2.15	2.35
Power Drift [dB]	0.01	0.02
M2/M1 [%]		61.1
Dist 3dB Peak [mm]		7.9



## Measurement Report

### System Check\_H6500\_230922

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	6500.0	5.85	6.22	34.8

#### Hardware Setup

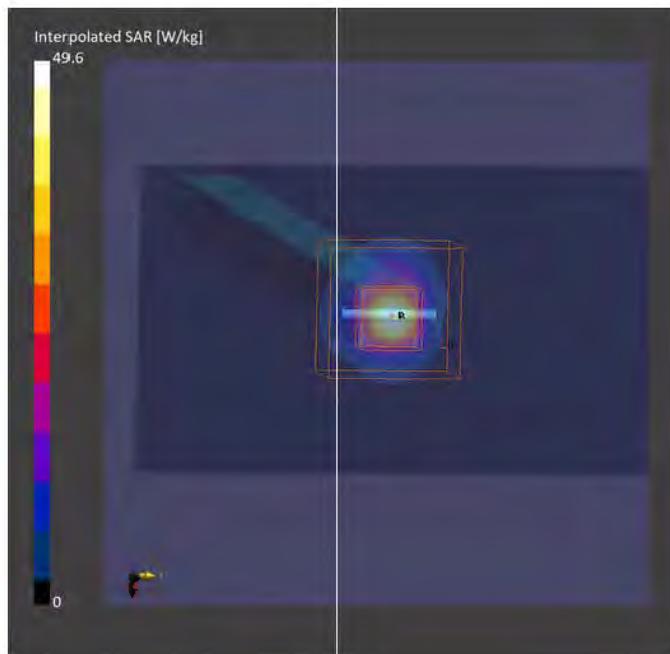
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H6500, 2023-Sep-22	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 85.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

#### Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-22, 15:47	2023-09-22, 15:57
psSAR1g [W/kg]	25.6	29.7
psSAR10g [W/kg]	5.07	5.56
Power Drift [dB]	0.02	-0.04
M2/M1 [%]		51.5
Dist 3dB Peak [mm]		4.8



## Measurement Report

### System Check\_H6500\_230924

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	6500.0	5.85	6.12	34.4

#### Hardware Setup

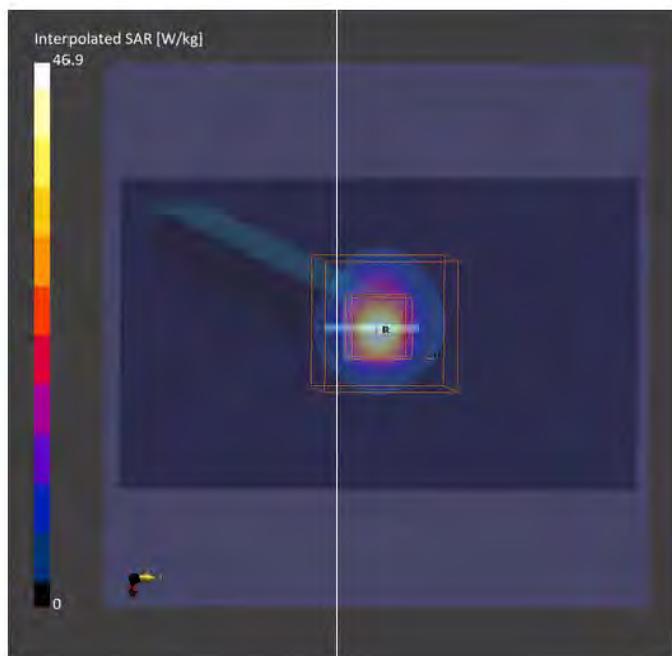
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H6500, 2023-Sep-24	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 85.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

#### Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-24, 06:42	2023-09-24, 06:53
psSAR1g [W/kg]	24.3	28.4
psSAR10g [W/kg]	4.83	5.30
Power Drift [dB]	0.03	-0.04
M2/M1 [%]		51.1
Dist 3dB Peak [mm]		4.8



## Measurement Report

### System Check\_H6500\_230925

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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			CW	6500.0	5.85	6.04	33.6

#### Hardware Setup

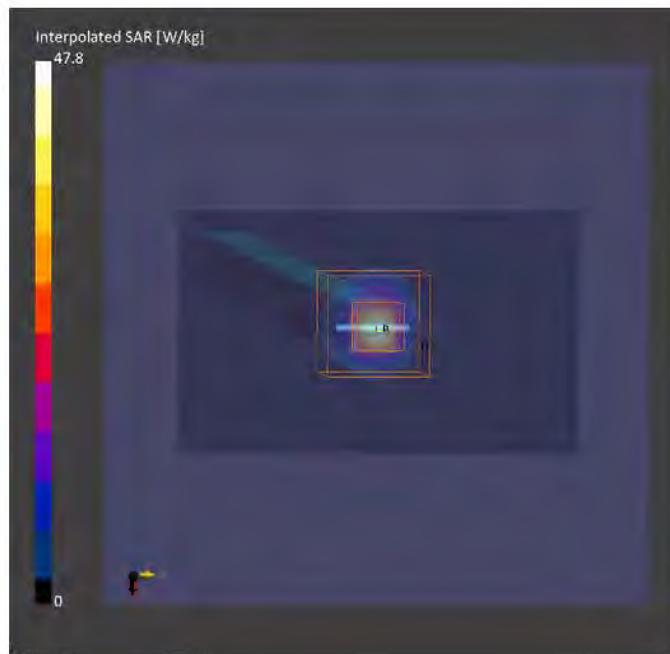
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H6500, 2023-Sep-25	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 85.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

#### Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-25, 10:08	2023-09-25, 10:19
psSAR1g [W/kg]	24.7	28.6
psSAR10g [W/kg]	4.92	5.35
Power Drift [dB]	0.07	0.00
M2/M1 [%]		50.4
Dist 3dB Peak [mm]		4.8



## Measurement Report

### System Check\_H6500\_230930

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	n/a x n/a x n/a		Dipole

#### 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		CW		6500.0	5.85	6.10	34.8

#### Hardware Setup

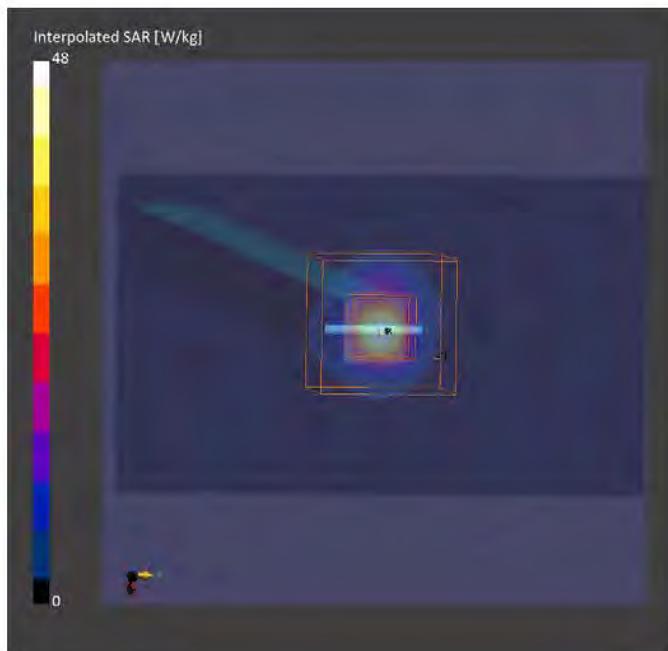
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2185	H6500, 2023-Sep-30	EX3DV4 - SN7300, 2023-05-25	DAE4 Sn1397, 2023-04-26

#### Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 85.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

#### Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-30, 12:15	2023-09-30, 12:25
psSAR1g [W/kg]	24.5	28.2
psSAR10g [W/kg]	4.83	5.32
Power Drift [dB]	0.01	-0.01
M2/M1 [%]		50.8
Dist 3dB Peak [mm]		4.8



## Measurement Report

### System Check\_10GHz\_230930

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	100.0 x 100.0 x 172.0		Verification Source 10 GHz

#### Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 10.00	Validation band	CW	10000.0, 10000	1.0

#### Hardware Setup

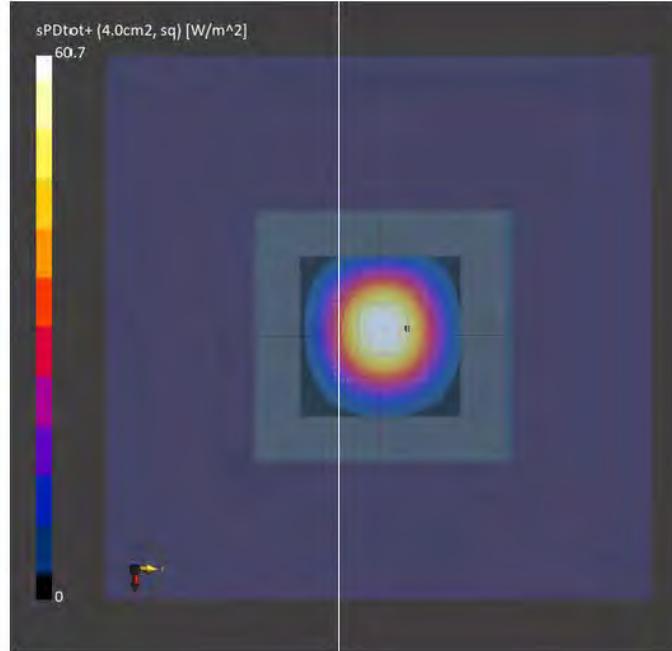
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave	Air	EUmmWV4 - SN9671_F1-55GHz, 2023-07-05	DAE4 Sn1748, 2023-07-07

#### Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0
MAIA	N/A

#### Measurement Results

	5G Scan
Date	2023-09-30, 11:58
Avg. Area [cm <sup>2</sup> ]	4.00
psPDn+ [W/m <sup>2</sup> ]	60.3
psPDTot+ [W/m <sup>2</sup> ]	60.7
psPDmod+ [W/m <sup>2</sup> ]	61.0
E <sub>max</sub> [V/m]	155
Power Drift [dB]	-0.09



## Measurement Report

### System Check\_10GHz\_231004

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	100.0 x 100.0 x 172.0		Verification Source 10 GHz

#### Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 10.00	Validation band	CW	10000.0, 10000	1.0

#### Hardware Setup

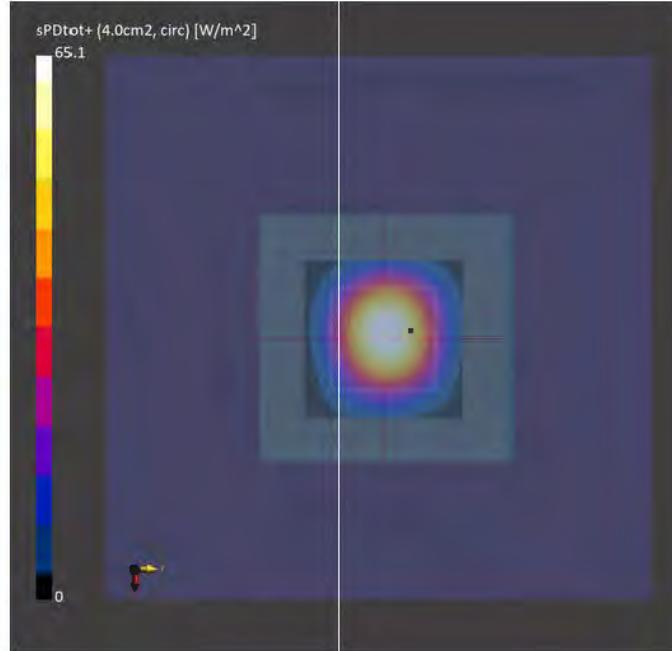
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave	Air	EUmmWV4 - SN9671_F1-55GHz, 2023-07-05	DAE4 Sn1748, 2023-07-07

#### Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0
MAIA	N/A

#### Measurement Results

	5G Scan
Date	2023-10-04, 10:12
Avg. Area [cm <sup>2</sup> ]	4.00
psPDn+ [W/m <sup>2</sup> ]	64.4
psPDTot+ [W/m <sup>2</sup> ]	64.9
psPDmod+ [W/m <sup>2</sup> ]	65.3
E <sub>max</sub> [V/m]	162
Power Drift [dB]	0.04



## Measurement Report

### System Check\_10GHz\_231005

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	100.0 x 100.0 x 172.0		Verification Source 10 GHz

#### Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 10.00	Validation band	CW	10000.0, 10000	1.0

#### Hardware Setup

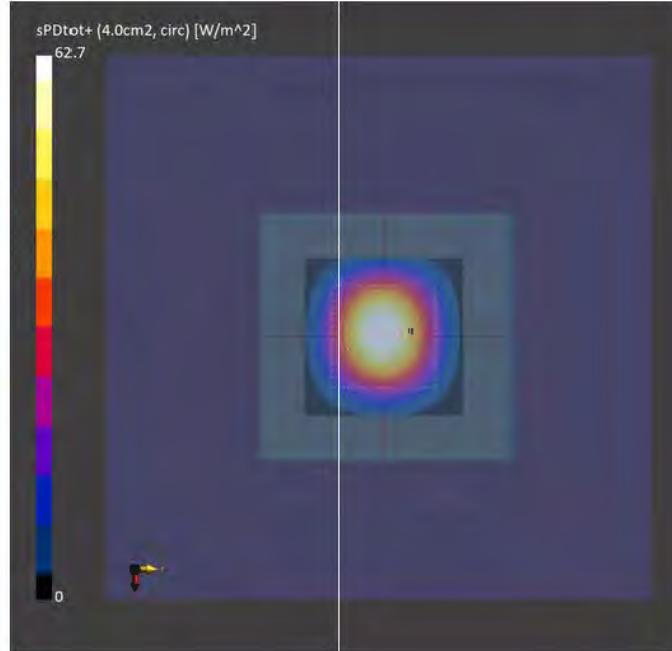
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave	Air	EUmmWV4 - SN9671_F1-55GHz, 2023-07-05	DAE4 Sn1748, 2023-07-07

#### Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0
MAIA	N/A

#### Measurement Results

	5G Scan
Date	2023-10-05, 17:40
Avg. Area [cm <sup>2</sup> ]	4.00
psPDn+ [W/m <sup>2</sup> ]	62.3
psPDTot+ [W/m <sup>2</sup> ]	62.6
psPDmod+ [W/m <sup>2</sup> ]	62.9
E <sub>max</sub> [V/m]	159
Power Drift [dB]	-0.04



## Measurement Report

### System Check\_10GHz\_231010

#### Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
SPEAG	100.0 x 100.0 x 172.0		Verification Source 10 GHz

#### Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 10.00	Validation band	CW	10000.0, 10000	1.0

#### Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave	Air	EUmmWV4 - SN9671_F1-55GHz, 2023-07-05	DAE4 Sn1748, 2023-07-07

#### Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0
MAIA	N/A

#### Measurement Results

	5G Scan
Date	2023-10-10, 15:10
Avg. Area [cm <sup>2</sup> ]	4.00
psPDn+ [W/m <sup>2</sup> ]	61.7
psPDTot+ [W/m <sup>2</sup> ]	62.0
psPDmod+ [W/m <sup>2</sup> ]	62.4
E <sub>max</sub> [V/m]	159
Power Drift [dB]	-0.11

