Appendix B. System Performance Check

Tissue Calibration Result :

6.1.3

Frequency (MHz)	Liquid Temp	Measured Values (W/kg)		Target Values (W/kg)		Deviation[%]		Limit	Measured. Date
		σ	εr (e')	σ	εr (e')	1g	10g	%	
6500	21.6	6.15	33.5	6.07	34.5	1.32%	-2.90%	±5%	2024/4/26
6500	22.2	6.14	33.5	6.07	34.5	1.15%	-2.90%	±5%	2024/4/29

Result of System Performance Check :

6.1.7

Frequency (MHz)	Dipole S/N	Measured SAR Values (W/kg)		Target SAR Values (W/kg)		Deviation[%]		Limit	Measured. Date
		1g	10g	1g	10g	1g	10g	%	
6500	1078	28.6	5.34	29.5	5.45	-3.05%	-2.02%	±10%	2024/4/26
6500	1078	29.4	5.53	29.5	5.45	-0.34%	1.47%	±10%	2024/4/29

Power Density Verification Summary

8.3.1

Frequency (MHz)	5G Verification Source	Measured Avg(W/m^2) avg(PDn+Pdtot+PDmod)		Target Avg(W/m^2) avg(PDn+Pdtot+PDmod)		Deviation(dB)		Limit(dB)	Measured. Date
		$1cm^2$	$4cm^2$	$1cm^2$	$4cm^2$	$1cm^2$	$4cm^2$		
10G	2013	/	170.7	/	180	/	0.23	±0.66	2024/5/7

System Performance Check Report

Summary

Dipole	Frequency [MHz]
D6.5GHzV2 - SN1078	6500.0

Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	5		CW, 0--	6500.000, 0	5.51	6.15	33.5

Hardware Setup

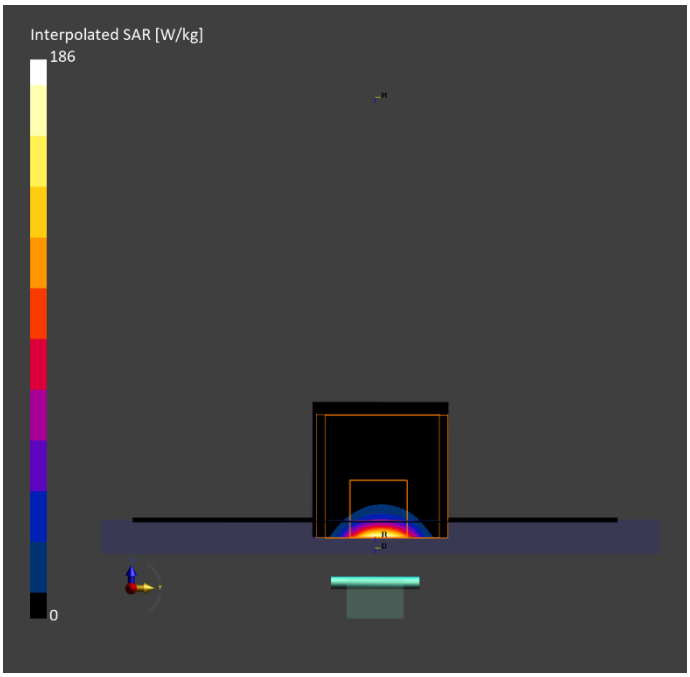
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) -1211	HSL3-6GHz	EX3DV4 - SN3927, 2023-06-26	DAE4 Sn1379, 2023-06-16

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	2024-04-26	2024-04-26
psSAR1g [W/Kg]	25.7	28.6
psSAR10g [W/Kg]	5.05	5.34
Power Drift [dB]	0.24	0.01
TSL Correction	No correction	No correction



System Performance Check Report

Summary

Dipole	Frequency [MHz]
D6.5GHzV2 - SN1078	6500.0

Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	5		CW, 0--	6500.000, 0	5.51	6.14	33.5

Hardware Setup

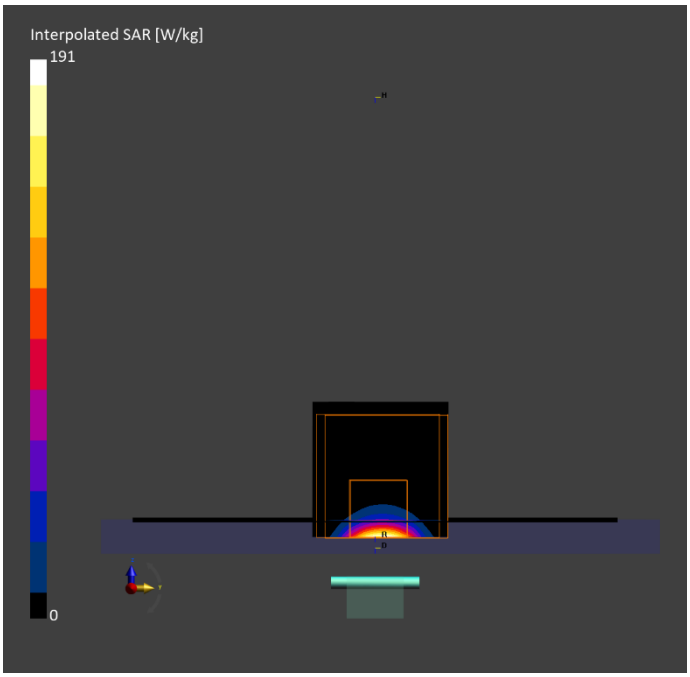
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) 1211	HSL3-6GHz	EX3DV4 - SN3927, 2023-06-26	DAE4 Sn1379, 2023-06-16

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	2024-04-29	2024-04-29
psSAR1g [W/Kg]	26.1	29.4
psSAR10g [W/Kg]	5.14	5.53
Power Drift [dB]	-0.07	-0.07
TSL Correction	No correction	No correction



System Performance Check Report

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
,10GDevice	100.0 x 100.0 x 172.0	SN:2013	

Exposure Conditions

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

Hardware Setup

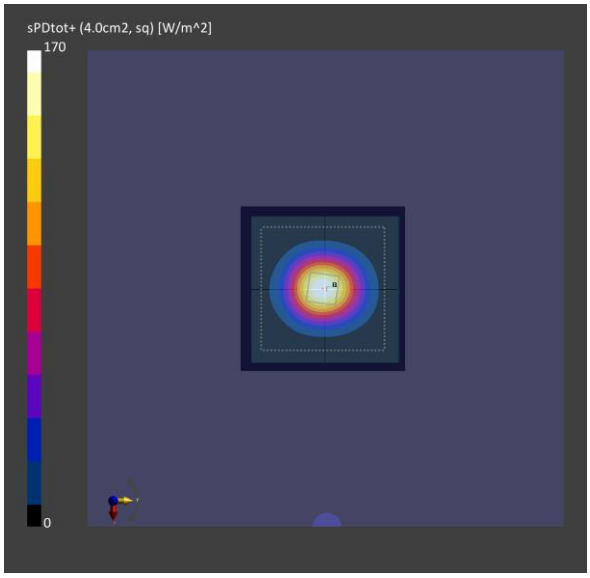
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave-1094	Air---	EUmmWV4 - SN9599_F1-55GHz, 2024-04-21	DAE4 Sn1379, 2023-06-16

Scan Setup

	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0
MAIA	N/A

Measurement Results

	5G Scan
Date	2024-05-07
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	170
psPDtot+ [W/m^2]	171
psPDmod+ [W/m^2]	171
E_{max} [V/m]	266
Power Drift [dB]	-0.53



Appendix C. Measured Conducted Power

WLAN 6G:

Frequency	Modulation	Channel	Data Rate	EIRP power	EIRP Target power
				Ant A+B	Ant A+B
5955	11ax HE20	1	MCS0	6.18	6.5
6175	11ax HE20	45	MCS0	6.05	6.5
6415	11ax HE20	93	MCS0	6.22	6.5
5965	11ax HE40	3	MCS0	9.84	10.0
6165	11ax HE40	43	MCS0	9.72	10.0
6405	11ax HE40	91	MCS0	9.66	10.0
5985	11ax HE80	7	MCS0	12.21	12.5
6415	11ax HE80	39	MCS0	11.90	12.0
6385	11ax HE80	87	MCS0	11.92	12.0
6025	11ax HE160	15	MCS0	14.71	15.0
6185	11ax HE160	47	MCS0	14.76	15.0
6345	11ax HE20	79	MCS0	14.59	15.0
6435	11ax HE20	97	MCS0	6.21	6.5
6475	11ax HE20	105	MCS0	6.13	6.5
6515	11ax HE20	113	MCS0	6.17	6.5
6445	11ax HE40	99	MCS0	9.63	10.0
6485	11ax HE40	107	MCS0	9.66	10.0
6465	11ax HE80	103	MCS0	12.03	12.5
6535	11ax HE20	117	MCS0	4.94	5.0
6715	11ax HE20	153	MCS0	4.83	5.0
6855	11ax HE20	181	MCS0	4.85	5.0
6565	11ax HE40	123	MCS0	8.53	9.0
6725	11ax HE40	155	MCS0	8.71	9.0
6845	11ax HE40	179	MCS0	8.58	9.0
6625	11ax HE80	135	MCS0	10.88	11.0
6705	11ax HE80	151	MCS0	10.96	11.0
6785	11ax HE80	167	MCS0	11.07	11.5
6665	11ax HE160	143	MCS0	13.85	14.0
6895	11ax HE20	189	MCS0	4.99	5.0
7015	11ax HE20	213	MCS0	5.00	5.5
7095	11ax HE20	229	MCS0	5.00	5.5
7115	11ax HE20	233	MCS0	1.32	1.5
6925	11ax HE40	195	MCS0	8.68	9.0
7005	11ax HE40	211	MCS0	8.63	9.0
7085	11ax HE40	227	MCS0	8.57	9.0
6945	11ax HE80	199	MCS0	11.15	11.5
7025	11ax HE80	215	MCS0	11.03	11.5
6985	11ax HE160	207	MCS0	13.87	14.0

Frequency	Modulation	Channel	Data Rate	EIRP power	EIRP Target power
				Ant A+B	Ant A+B
Within 6425-6525MHz band & Extends across 6525MHz band					
6525	11ax HE40	115	MCS0	9.75	10.0
6545	11ax HE80	119	MCS0	12.05	12.5
6505	11ax HE160	111	MCS0	14.87	15.0
Within 6525-6875MHz band & Extends across 6875MHz band					
6875	11ax HE20	185	MCS0	5.16	5.5
6885	11ax HE40	187	MCS0	8.81	9.0
6865	11ax HE80	183	MCS0	11.30	11.5
6825	11ax HE160	175	MCS0	14.14	14.5

Appendix D. SAR Measurement Data

6G

Plot.No	Band	Mode	Channel	Frequency (MHz)	Test Position	Gap (mm)	Antenna	EIRP Power (dBm)	Tune-up (dBm)	Duty Cycle (%)	SAR 1g (W/Kg)	Reported SAR 1g (W/Kg)	APD w/m^2 (4cm^2)	Reported APD w/m2(4cm^2)
	WLAN 6GHz	802.11ax HE160	47	6185	Down Side of Display Screen	25	A+B	14.76	15	99	0.058	0.06	0.52	0.56
1	WLAN 6GHz	802.11ax HE160	47	6185	Bottom of Laptop	0	A+B	14.76	15	99	0.217	0.23	1.48	1.58
	WLAN 6GHz	802.11ax HE160	79	6345	Bottom of Laptop	0	A+B	14.59	15	99	0.212	0.24	1.4	1.55
	WLAN 6GHz	802.11ax HE160	111	6505	Down Side of Display Screen	25	A+B	14.87	15	99	0.036	0.04	0.313	0.33
2	WLAN 6GHz	802.11ax HE160	111	6505	Bottom of Laptop	0	A+B	14.87	15	99	0.222	0.23	1.39	1.45
	WLAN 6GHz	802.11ax HE80	103	6465	Bottom of Laptop	0	A+B	12.03	12.5	99	0.101	0.11	0.634	0.71
	WLAN 6GHz	802.11ax HE160	175	6825	Down Side of Display Screen	25	A+B	14.14	14.5	99	0.061	0.07	0.479	0.53
	WLAN 6GHz	802.11ax HE160	175	6825	Bottom of Laptop	0	A+B	14.14	14.5	99	0.181	0.20	1.14	1.25
3	WLAN 6GHz	802.11ax HE160	143	6665	Bottom of Laptop	0	A+B	13.85	14	99	0.189	0.20	1.15	1.20
	WLAN 6GHz	802.11ax HE160	207	6985	Down Side of Display Screen	25	A+B	13.87	14	99	0.073	0.08	0.528	0.55
4	WLAN 6GHz	802.11ax HE160	207	6985	Bottom of Laptop	0	A+B	13.87	14	99	0.125	0.13	0.833	0.87
	WLAN 6GHz	802.11ax HE80	199	6945	Bottom of Laptop	0	A+B	11.15	11.5	99	0.088	0.10	0.663	0.73
	WLAN 6GHz	802.11ax HE80	215	7025	Bottom of Laptop	0	A+B	11.03	11.5	99	0.094	0.11	0.672	0.76

Plot.No	Band	Mode	Channel	Frequency (MHz)	Test Position	Gap (mm)	Antenna	EIRP Power (dBm)	Tune-up (dBm)	Duty Cycle (%)	SAR 1g (W/Kg)	Reported SAR 1g (W/Kg)	APD w/m^2 (4cm^2)	Reported APD w/m2(4cm^2)	Grid Step [λ]	iPDn	Scaling Factor for Measurement Uncertainty	Total psPD w/m^2 (4cm^2)	Scaled Total psPD w/m^2 (4cm^2)
5	WLAN 6GHz	802.11ax HE160	47	6185	Bottom of Laptop	0	A+B	14.76	15	99	0.217	0.23	1.48	1.58	0.0625	2.2	1.55	2.32	3.84
	WLAN 6GHz	802.11ax HE160	79	6345	Bottom of Laptop	0	A+B	14.59	15	99	0.212	0.24	1.4	1.55	0.0625	1.68	1.55	2.09	3.60
6	WLAN 6GHz	802.11ax HE160	111	6505	Bottom of Laptop	0	A+B	14.87	15	99	0.222	0.23	1.39	1.45	0.0625	2.49	1.55	2.2	3.55
7	WLAN 6GHz	802.11ax HE160	175	6825	Bottom of Laptop	0	A+B	14.14	14.5	99	0.181	0.20	1.14	1.25	0.0625	1.03	1.55	1.01	1.72
8	WLAN 6GHz	802.11ax HE160	207	6985	Bottom of Laptop	0	A+B	13.87	14	99	0.125	0.13	0.833	0.87	0.0625	1.17	1.55	0.886	1.43

01_WLAN 6 GHz_802.11ax160_CH47_MCS0_Bottom of Laptop_0mm_ANT A+B

Device under Test Properties

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 0.00	U-NII-5	WLAN, 10755-AAC	6185.000, 47	5.51	5.77	33.9

Hardware Setup

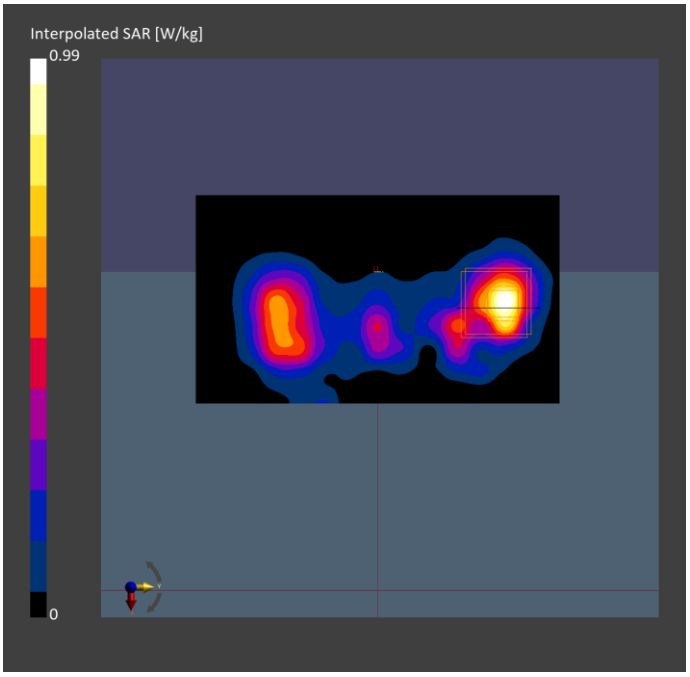
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) 1211	HSL3-6GHz	EX3DV4 - SN3927, 2023-06-26	DAE4 Sn1379, 2023-06-16

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	68.0 x 119.0	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	2024-04-26	2024-04-26
psSAR1g [W/kg]	0.196	0.217
psSAR10g [W/kg]	0.061	0.064
Power Drift [dB]	-0.84	0.34
M2/M1 [%]		55.0
Dist 3dB Peak [mm]		7.1



02_WLAN 6 GHz_802.11ax160_CH111_MCS0_Bottom of Laptop_0mm_ANT A+B

Device under Test Properties

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 0.00	U-NII-6	WLAN, 10755-AAC	6505.000, 111	5.51	6.16	33.5

Hardware Setup

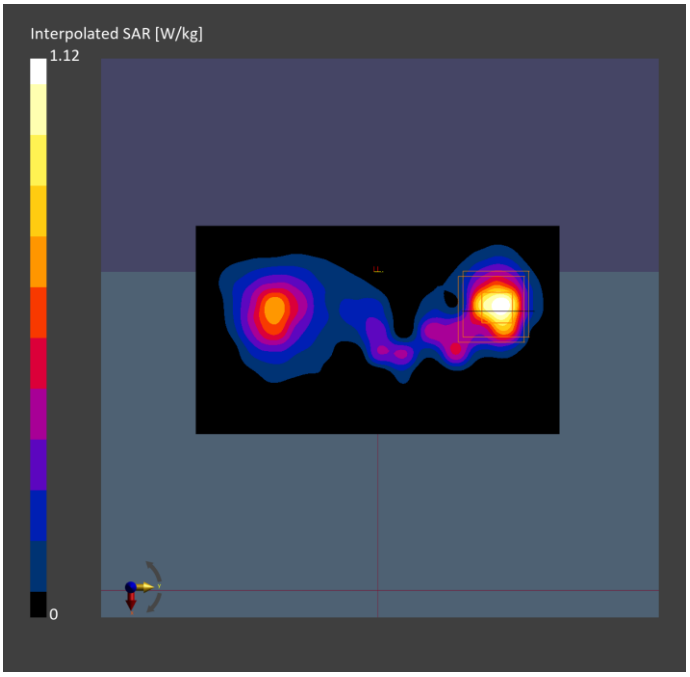
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) 1211	HSL3-6GHz	EX3DV4 - SN3927, 2023-06-26	DAE4 Sn1379, 2023-06-16

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	68.0 x 119.0	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	2024-04-26	2024-04-26
psSAR1g [W/kg]	0.198	0.222
psSAR10g [W/kg]	0.056	0.060
Power Drift [dB]	0.17	-0.24
M2/M1 [%]		52.6
Dist 3dB Peak [mm]		6.7



03_WLAN 6 GHz_802.11ax160_CH143_MCS0_Bottom of Laptop_0mm_ANT A+B

Device under Test Properties

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 0.00	U-NII-7	WLAN, 10755-AAC	6665.000, 143	5.51	6.35	33.2

Hardware Setup

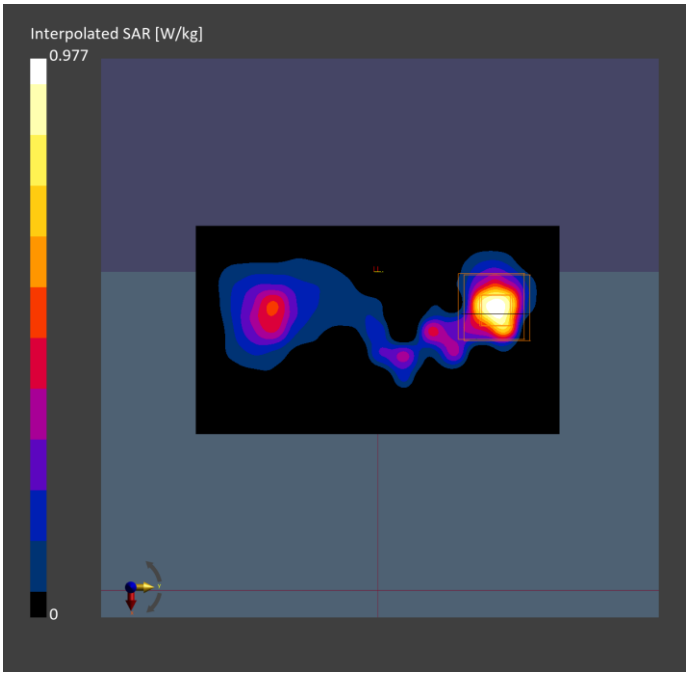
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) 1211	HSL3-6GHz	EX3DV4 - SN3927, 2023-06-26	DAE4 Sn1379, 2023-06-16

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	68.0 x 119.0	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	2024-04-29	2024-04-29
psSAR1g [W/kg]	0.173	0.189
psSAR10g [W/kg]	0.045	0.049
Power Drift [dB]	-0.67	2.91
M2/M1 [%]		51.0
Dist 3dB Peak [mm]		6.1



04_WLAN 6 GHz_802.11ax160_CH207_MCS0_Bottom of Laptop_0mm_ANT A+B

Device under Test Properties

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 0.00	U-NII-8	WLAN, 10755-AAC	6985.000, 207	5.51	6.71	32.6

Hardware Setup

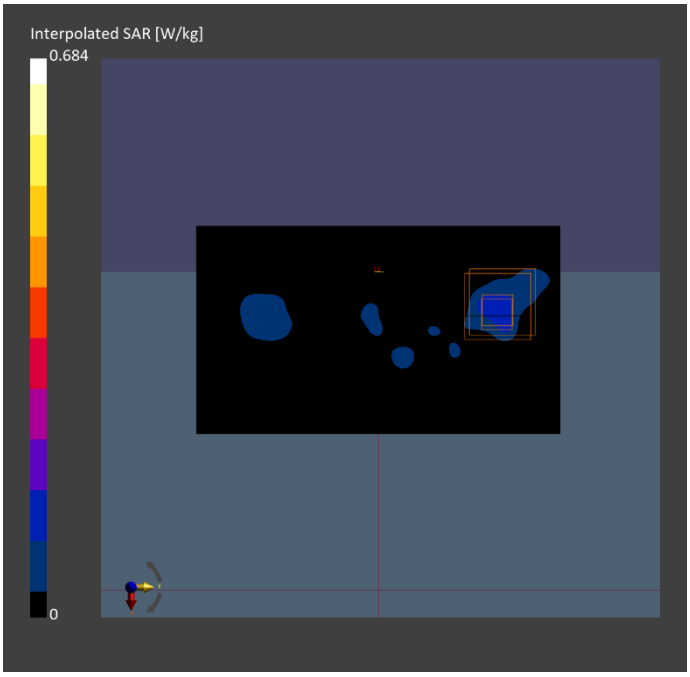
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) 1211	HSL3-6GHz	EX3DV4 - SN3927, 2023-06-26	DAE4 Sn1379, 2023-06-16

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	68.0 x 119.0	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	2024-04-29	2024-04-29
psSAR1g [W/kg]	0.117	0.125
psSAR10g [W/kg]	0.033	0.036
Power Drift [dB]	-0.81	1.55
M2/M1 [%]		52.6
Dist 3dB Peak [mm]		5.2



05_Measurement Report for Device, FRONT, U-NII-5, UID 10755 AAC, Channel 47 (6185.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
,10GDevice	289.0 x 208.0 x 14.0		

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 2.00	U-NII-5	WLAN, 10755-AAC	6185.0, 47	1.0

Hardware Setup

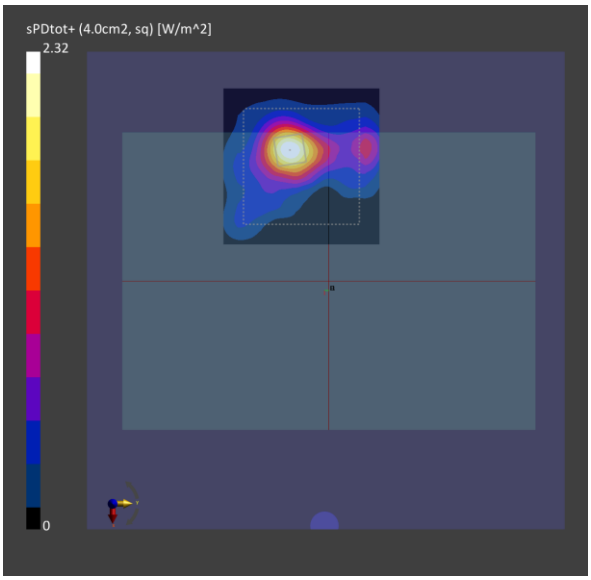
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave-1094	Air---	EUmmWV4 - SN9599_F1-55GHz, 2024-04-21	DAE4 Sn1379, 2023-06-16

Scan Setup

	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0
MAIA	N/A

Measurement Results

	5G Scan
Date	2024-05-07
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	2.14
psPDtot+ [W/m^2]	2.32
psPDmod+ [W/m^2]	2.47
E_{max} [V/m]	40.8
Power Drift [dB]	1.33



06_Measurement Report for Device, FRONT, U-NII-6, UID 10755 AAC, Channel 111 (6505.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
,10GDevice	289.0 x 208.0 x 14.0		

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 2.00	U-NII-6	WLAN, 10755-AAC	6505.0, 111	1.0

Hardware Setup

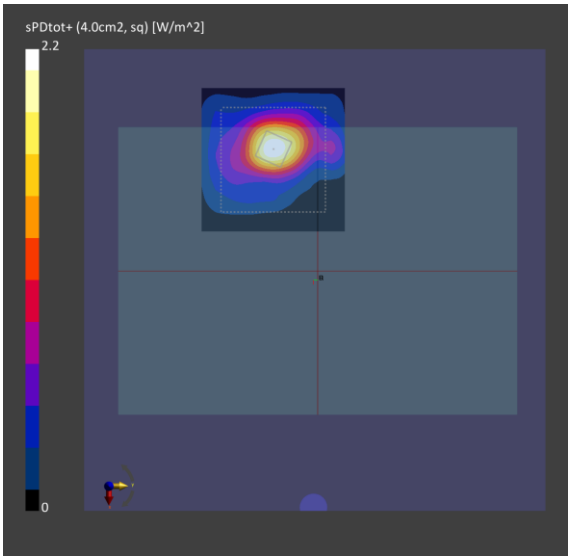
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave-1094	Air---	EUmmWV4 - SN9599_F1-55GHz, 2024-04-21	DAE4 Sn1379, 2023-06-16

Scan Setup

	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0
MAIA	N/A

Measurement Results

	5G Scan
Date	2024-05-07
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	2.07
psPDtot+ [W/m^2]	2.20
psPDmod+ [W/m^2]	2.31
E_{max} [V/m]	35.7
Power Drift [dB]	-0.25



07_Measurement Report for Device, FRONT, U-NII-7, UID 10755 AAC, Channel 175 (6825.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
,10GDevice	289.0 x 208.0 x 14.0		

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 2.00	U-NII-7	WLAN, 10755-AAC	6825.0, 175	1.0

Hardware Setup

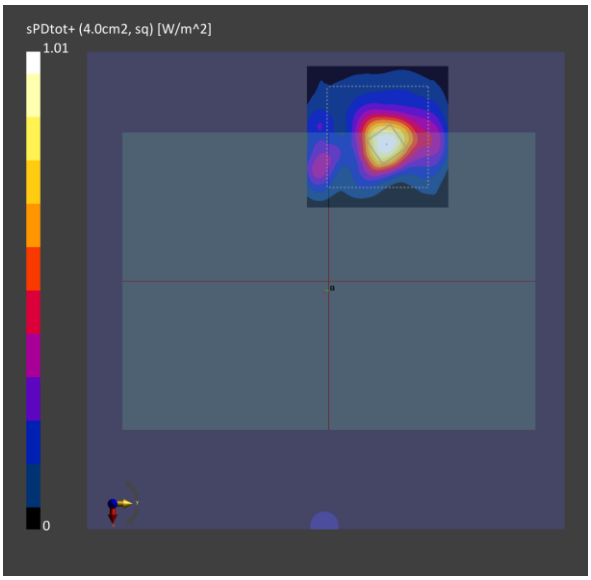
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave-1094	Air---	EUmmWV4 - SN9599_F1-55GHz, 2024-04-21	DAE4 Sn1379, 2023-06-16

Scan Setup

	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0
MAIA	N/A

Measurement Results

	5G Scan
Date	2024-05-07
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	0.809
psPDtot+ [W/m^2]	1.01
psPDmod+ [W/m^2]	1.08
E_{max} [V/m]	25.0
Power Drift [dB]	-0.43



08_Measurement Report for Device, FRONT, U-NII-8, UID 10755 AAC, Channel 207 (6985.0MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
,10GDevice	289.0 x 208.0 x 14.0		

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G Air	FRONT, 2.00	U-NII-8	WLAN, 10755-AAC	6985.0, 207	1.0

Hardware Setup

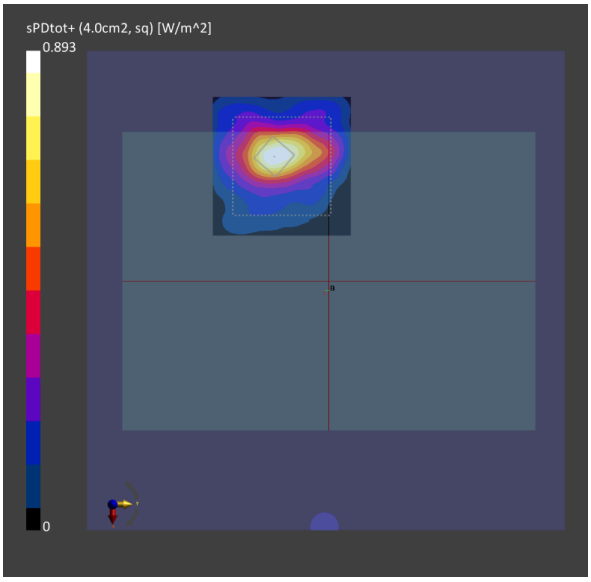
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave-1094	Air---	EUmmWV4 - SN9599_F1-55GHz, 2024-04-21	DAE4 Sn1379, 2023-06-16

Scan Setup

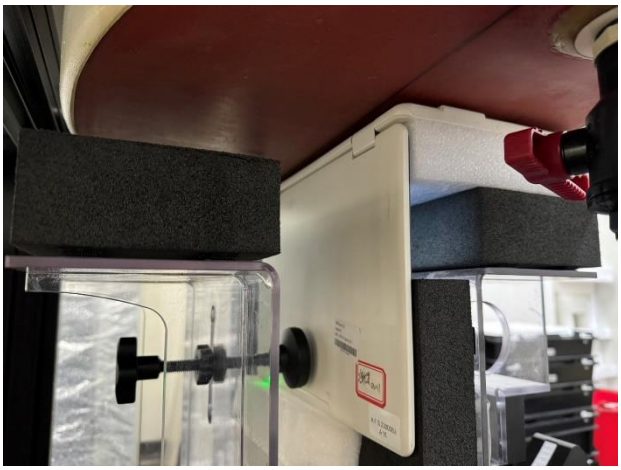
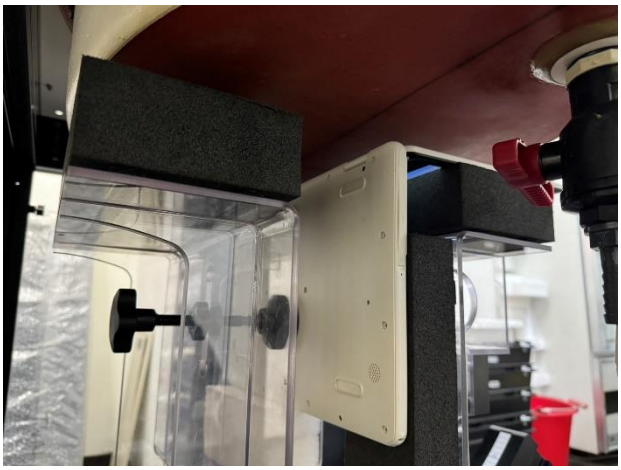
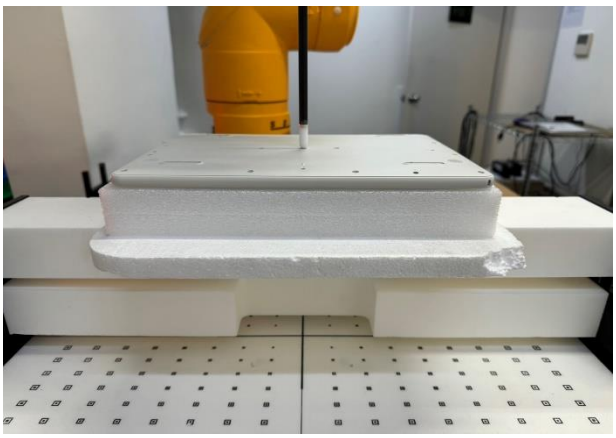
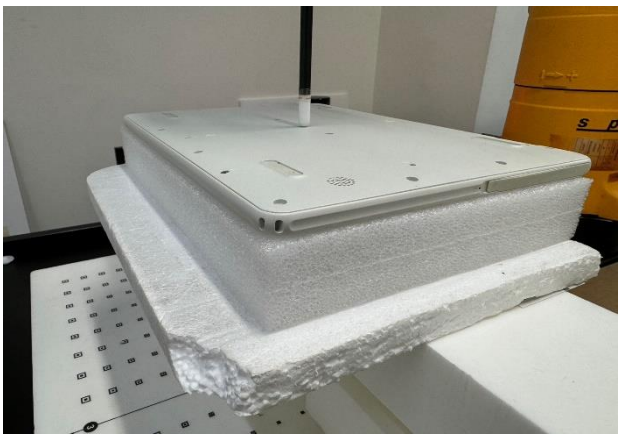
	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0
MAIA	N/A

Measurement Results

	5G Scan
Date	2024-05-07
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	0.809
psPDtot+ [W/m^2]	0.886
psPDmod+ [W/m^2]	0.961
E_{max} [V/m]	24.4
Power Drift [dB]	0.44



Appendix E. Photographs of EUT Set up

Bottom of Laptop_0mm 1	Bottom of Laptop_0mm 2
	
Back of Display Screen_25mm 1	Back of Display Screen_25mm 2
	
Bottom of Laptop_2mm 1	Bottom of Laptop_2mm 2