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S Schweizerischer Kalibrierdienst
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Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
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Accreditation No.: SCS 0108

Glossary

CW	Continuous wave

Calibration is Performed According to the Following Standards

- Internal procedure QA CAL-45-5Gsources
- IEC TR 63170 ED1, "Measurement procedure for the evaluation of power density related to human exposure to radio frequency fields from wireless communication devices operating between 6 GHz and 100 GHz", January 2018

Methods Applied and Interpretation of Parameters

- *Coordinate System:* z-axis in the waveguide horn boresight, x-axis is in the direction of the E-field, y-axis normal to the others in the field scanning plane parallel to the horn flare and horn flange.
- *Measurement Conditions: (1) 10 GHz:* The radiated power is the forward power to the horn antenna minus ohmic and mismatch loss. The forward power is measured prior and after the measurement with a power sensor. During the measurements, the horn is directly connected to the cable and the antenna ohmic and mismatch losses are determined by far-field measurements. *(2) 30, 45, 60 and 90 GHz*: The verification sources are switched on for at least 30 minutes. Absorbers are used around the probe cub and at the ceiling to minimize reflections.
- *Horn Positioning:* The waveguide horn is mounted vertically on the flange of the waveguide source to allow vertical positioning of the EUmmW probe during the scan. The plane is parallel to the phantom surface. Probe distance is verified using mechanical gauges positioned on the flare of the horn.
- *E- field distribution:* E field is measured in two x-y-plane (10mm, 10mm + $\lambda/4$) with a vectorial E-field probe. The E-field value stated as calibration value represents the E-field-maxima and the averaged (1cm^2 and 4cm^2) power density values at 10mm in front of the horn.
- *Field polarization:* Above the open horn, linear polarization of the field is expected. This is verified graphically in the field representation.

Calibrated Quantity

- Local peak E-field (V/m) and average of peak spatial components of the poynting vector (W/m^2) averaged over the surface area of 1 cm^2 and 4cm^2 at the nominal operational frequency of the verification source. Both square and circular averaging results are listed.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY8 Module mmWave	V3.0
Phantom	5G Phantom	
Distance Horn Aperture - plane	10 mm	
XY Scan Resolution	dx, dy = 7.5 mm	
Number of measured planes	2 (10mm, 10mm + λ/4)	
Frequency	10 GHz ± 10 MHz	

Calibration Parameters, 10 GHz

Circular Averaging

Distance Horn Aperture to Measured Plane	***Prad*[1] *(mW)***	**Max E-field (V/m)**	Uncertainty (k = 2)	Avg Power Density Avg (psPDn+, psPDtot+, psPDmod+) (W/m^2)		Uncertainty (k = 2)
				1 cm^2	**4** cm^2	
10 mm	86.1	**147**	1.27 dB	**54.1**	**50.1**	1.28 dB

Square Averaging

Distance Horn Aperture to Measured Plane	***Prad*[1] *(mW)***	**Max E-field (V/m)**	Uncertainty (k = 2)	Avg Power Density Avg (psPDn+, psPDtot+, psPDmod+) (W/m^2)		Uncertainty (k = 2)
				1 cm^2	**4** cm^2	
10 mm	86.1	**147**	1.27 dB	**54.2**	**50.1**	1.28 dB

[1] Assessed ohmic and mismatch loss plus numerical offset: 0.55 dB

DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1053	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G -	10.0 mm	Validation band	CW	10000.0, 10000	1.0

Hardware Setup

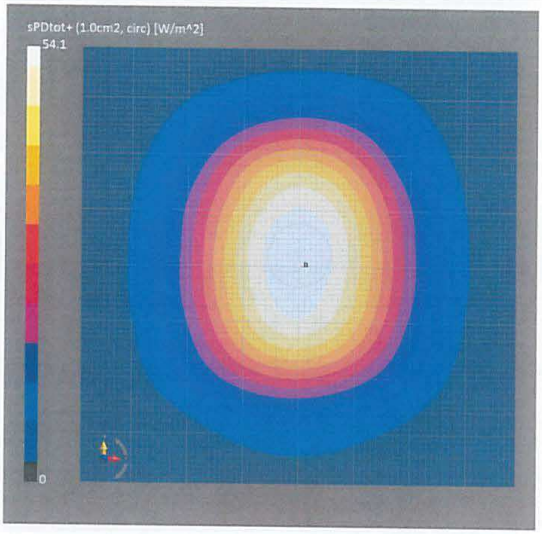
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EUmmWV3 - SN9374_F1-55GHz, 2021-12-21	DAE4ip Sn1602, 2022-06-27

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0
MAIA	MAIA not used

Measurement Results

	5G Scan
Date	2022-10-27, 10:18
Avg. Area [cm²]	1.00
psPDn+ [W/m²]	54.0
psPDtot+ [W/m²]	54.1
psPDmod+ [W/m²]	54.2
E_{max} [V/m]	147
Power Drift [dB]	0.03



DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1053	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G -	10.0 mm	Validation band	CW	10000.0, 10000	1.0

Hardware Setup

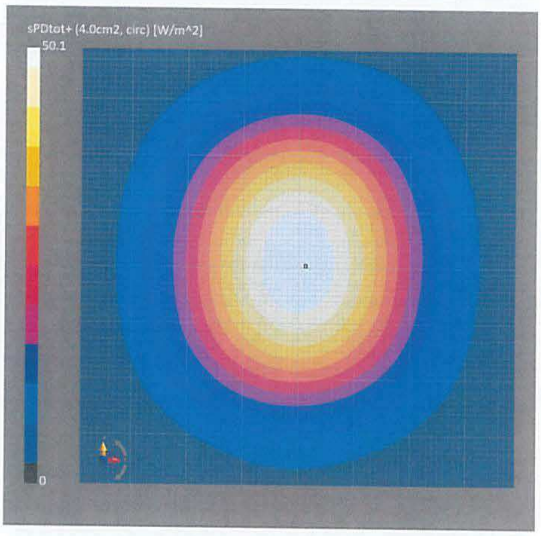
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EUmmWV3 - SN9374_F1-55GHz, 2021-12-21	DAE4ip Sn1602, 2022-06-27

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0
MAIA	MAIA not used

Measurement Results

	5G Scan
Date	2022-10-27, 10:18
Avg. Area [cm²]	4.00
psPDn+ [W/m²]	49.9
psPDtot+ [W/m²]	50.1
psPDmod+ [W/m²]	50.3
E_{max} [V/m]	147
Power Drift [dB]	0.03



DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1053	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G -	10.0 mm	Validation band	CW	10000.0, 10000	1.0

Hardware Setup

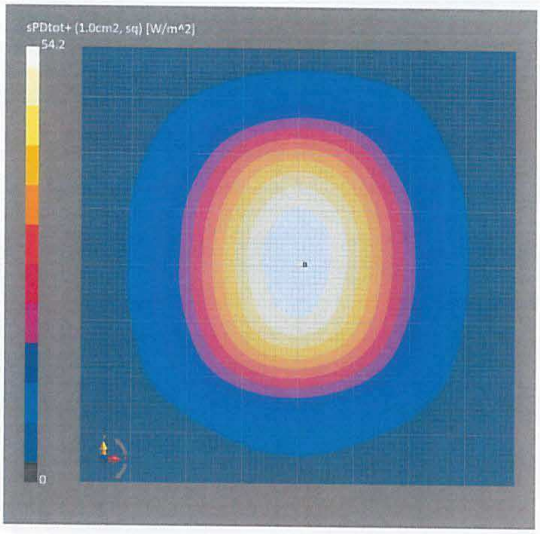
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EUmmWV3 - SN9374_F1-55GHz, 2021-12-21	DAE4ip Sn1602, 2022-06-27

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0
MAIA	MAIA not used

Measurement Results

	5G Scan
Date	2022-10-27, 10:18
Avg. Area [cm²]	1.00
psPDn+ [W/m²]	54.1
psPDtot+ [W/m²]	54.2
psPDmod+ [W/m²]	54.4
E_{max} [V/m]	147
Power Drift [dB]	0.03



DASY Report

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under Test Properties

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1053	-

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G -	10.0 mm	Validation band	CW	10000.0, 10000	1.0

Hardware Setup

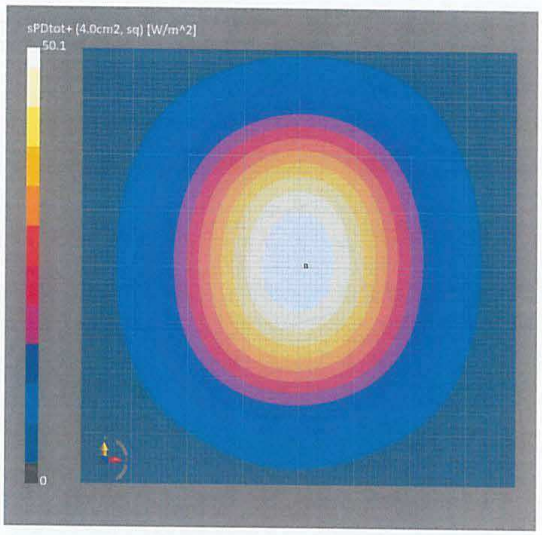
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EUmmWV3 - SN9374_F1-55GHz, 2021-12-21	DAE4ip Sn1602, 2022-06-27

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0
MAIA	MAIA not used

Measurement Results

	5G Scan
Date	2022-10-27, 10:18
Avg. Area [cm²]	4.00
psPDn+ [W/m²]	49.9
psPDtot+ [W/m²]	50.1
psPDmod+ [W/m²]	50.2
E_{max} [V/m]	147
Power Drift [dB]	0.03



ANNEX C

TEST RESULTS

Measurement Report for A2991, BOTTOM, ISM 2.4 GHz Band, Bluetooth Low Energy, Channel 38 (2440.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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	ISM 2.4 GHz Band	Bluetooth, 10670-AAA	2440.0, 38	7.76	1.84	39.5

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 21.60 deg.C 2023-Sep-18 SYS1 B1.prn, 2023-Sep-18	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-19, 19:25	2023-09-19, 19:34
psSAR1g [W/Kg]	0.219	0.237
psSAR10g [W/Kg]	0.111	0.109
Power Drift [dB]	0.01	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		71.4
Dist 3dB Peak [mm]		9.0

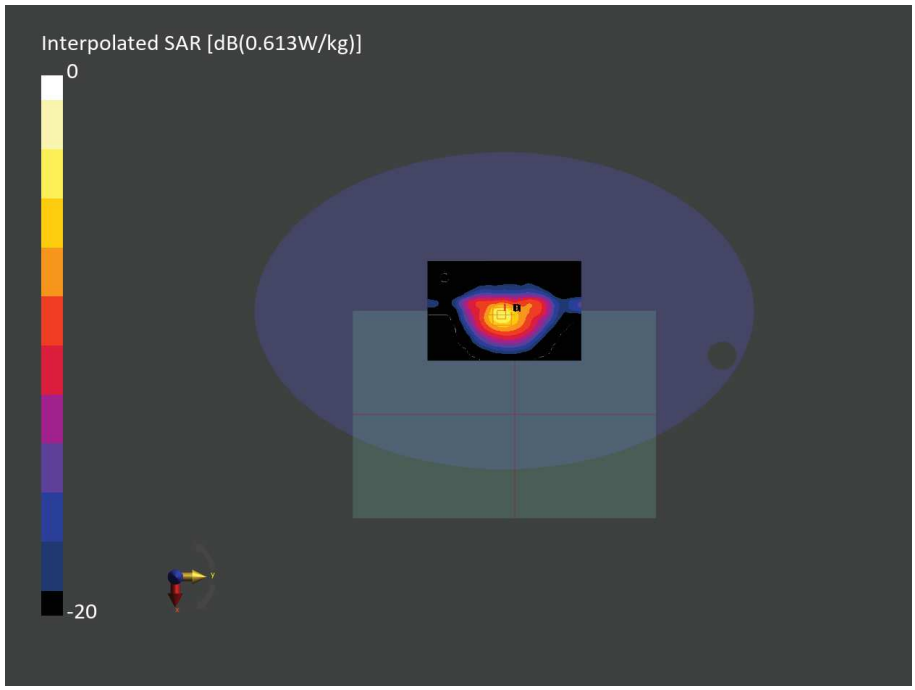


Figure C.1: SAR Testing Results for the A2991 at 2440.0 MHz

Measurement Report for A2991, BOTTOM, ISM 2.4 GHz Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 0 (2402.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2402.0, 0	7.76	1.81	40.7

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-08, 09:25	2023-09-08, 09:34
psSAR1g [W/Kg]	0.169	0.179
psSAR10g [W/Kg]	0.077	0.073
Power Drift [dB]	-0.01	0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		72.7
Dist 3dB Peak [mm]		8.0

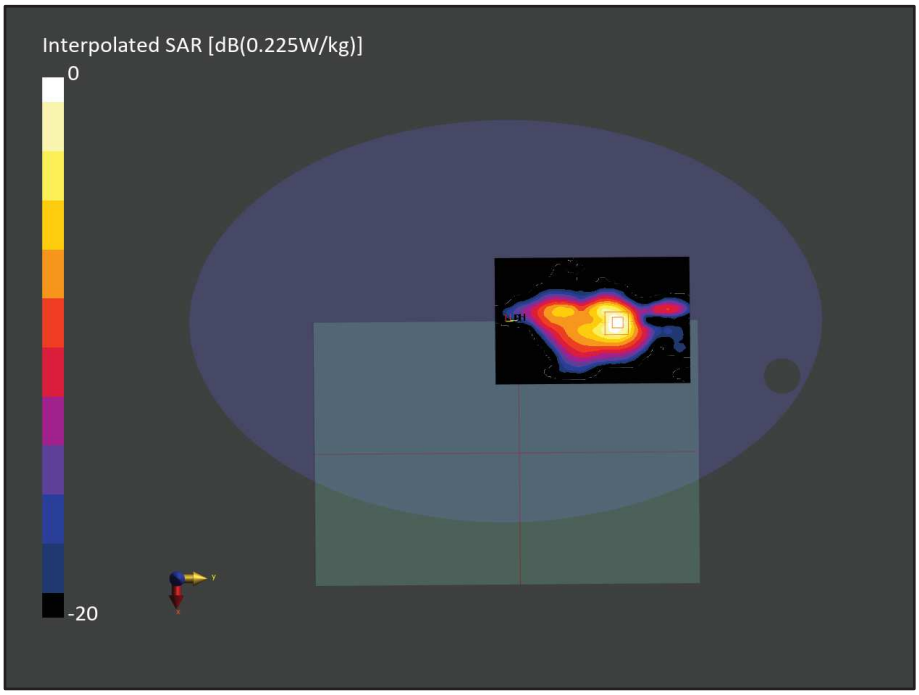


Figure C.2: SAR Testing Results for the A2991 at 2402.0 MHz

Measurement Report for A2991, BOTTOM, ISM 2.4 GHz Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 78 (2480.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991,	355.0 x 250.0 x 15.0		Laptop

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	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2480.0, 78	7.76	1.88	40.6

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-08, 12:10	2023-09-08, 12:19
psSAR1g [W/Kg]	0.102	0.103
psSAR10g [W/Kg]	0.045	0.041
Power Drift [dB]	0.07	0.05
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		71.7
Dist 3dB Peak [mm]		8.0

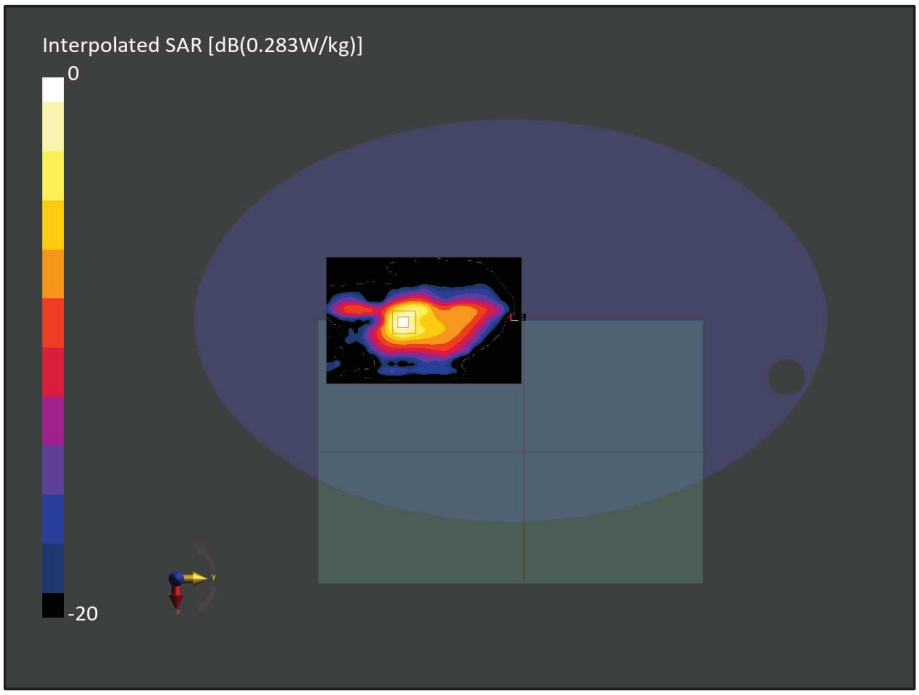


Figure C.3: SAR Testing Results for the A2991 at 2480.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5250000 (5250.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5250.0, 5250000	5.75	4.66	35.6

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-09, 09:36	2023-09-09, 09:46
psSAR1g [W/Kg]	0.334	0.362
psSAR10g [W/Kg]	0.117	0.111
Power Drift [dB]	0.09	0.07
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		61.3
Dist 3dB Peak [mm]		7.4

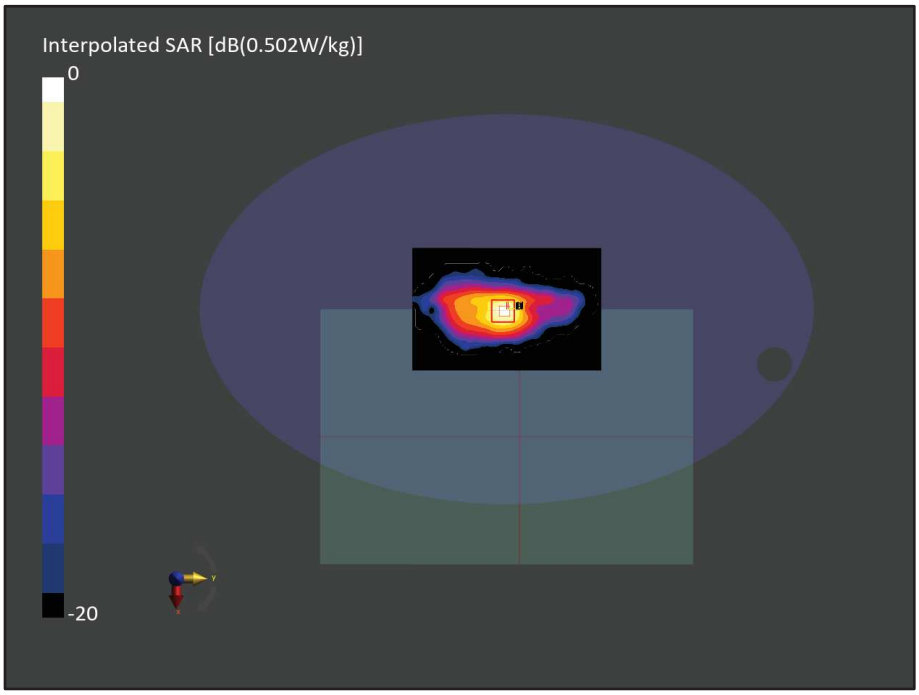


Figure C.4: SAR Testing Results for the A2991 at 5250.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5150000 (5150.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5150.0, 5150000	5.75	4.55	35.8

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-09, 10:48	2023-09-09, 10:57
psSAR1g [W/Kg]	0.296	0.312
psSAR10g [W/Kg]	0.109	0.112
Power Drift [dB]	0.02	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		63.8
Dist 3dB Peak [mm]		8.0

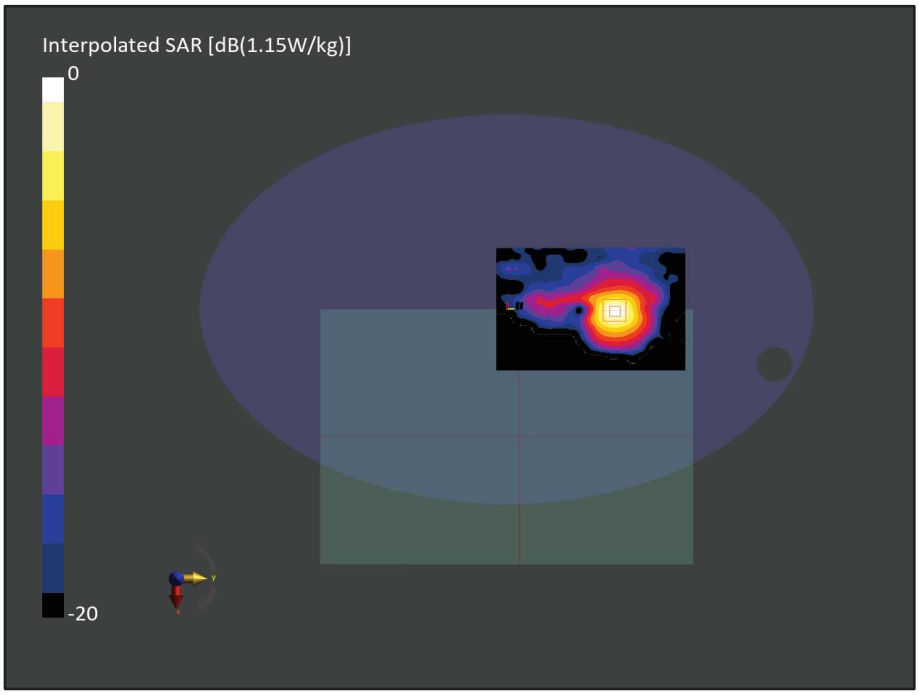


Figure C.5: SAR Testing Results for the A2991 at 5150.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5788000 (5788.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5788.0, 5788000	5.12	5.28	34.6

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-09, 12:32	2023-09-09, 12:45
psSAR1g [W/Kg]	0.475	0.535
psSAR10g [W/Kg]	0.163	0.176
Power Drift [dB]	0.01	0.07
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		58.0
Dist 3dB Peak [mm]		8.0

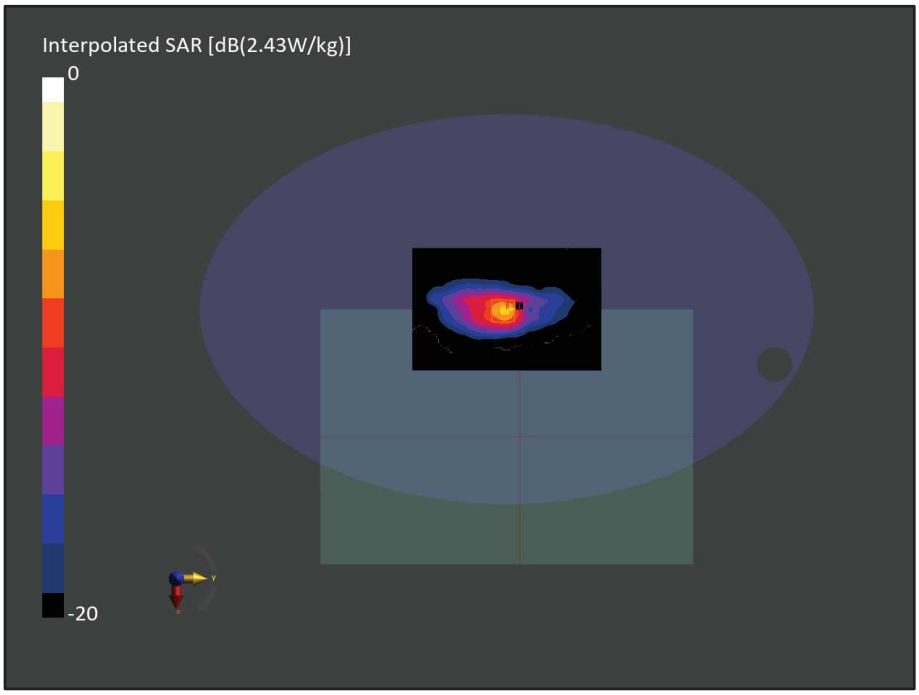


Figure C.6: SAR Testing Results for the A2991 at 5788.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5850000 (5850.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5850.0, 5850000	5.12	5.35	34.5

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-10, 05:10	2023-09-10, 05:19
psSAR1g [W/Kg]	0.505	0.520
psSAR10g [W/Kg]	0.180	0.172
Power Drift [dB]	-0.01	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		58.0
Dist 3dB Peak [mm]		8.0

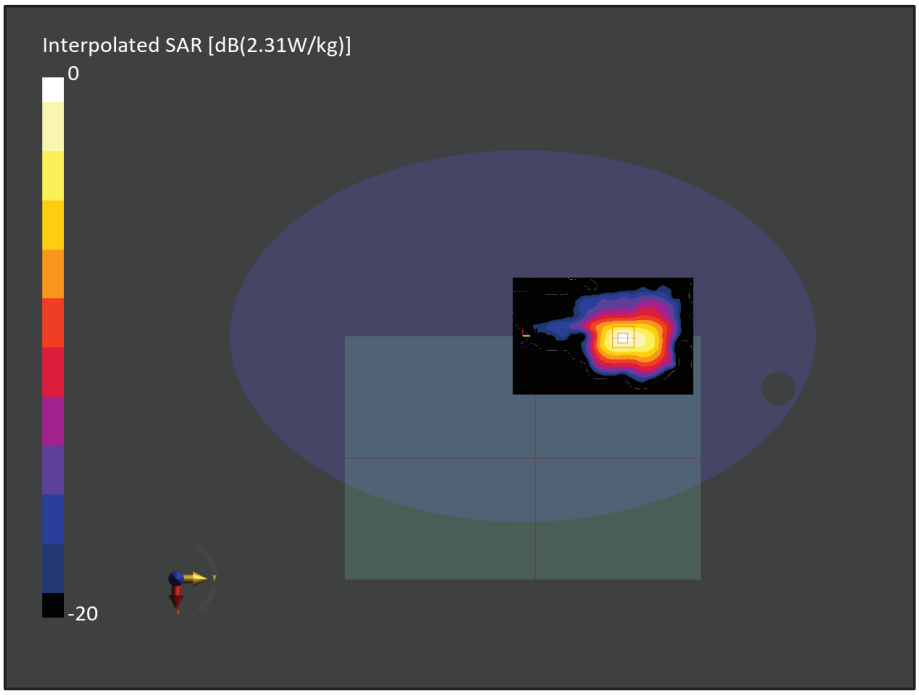


Figure C.7: SAR Testing Results for the A2991 at 5850.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5200000 (5200.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5200.0, 5200000	5.75	4.60	35.7

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-09, 19:24	2023-09-09, 19:37
psSAR1g [W/Kg]	0.203	0.241
psSAR10g [W/Kg]	0.076	0.078
Power Drift [dB]	-0.12	0.13
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		61.6
Dist 3dB Peak [mm]		7.9

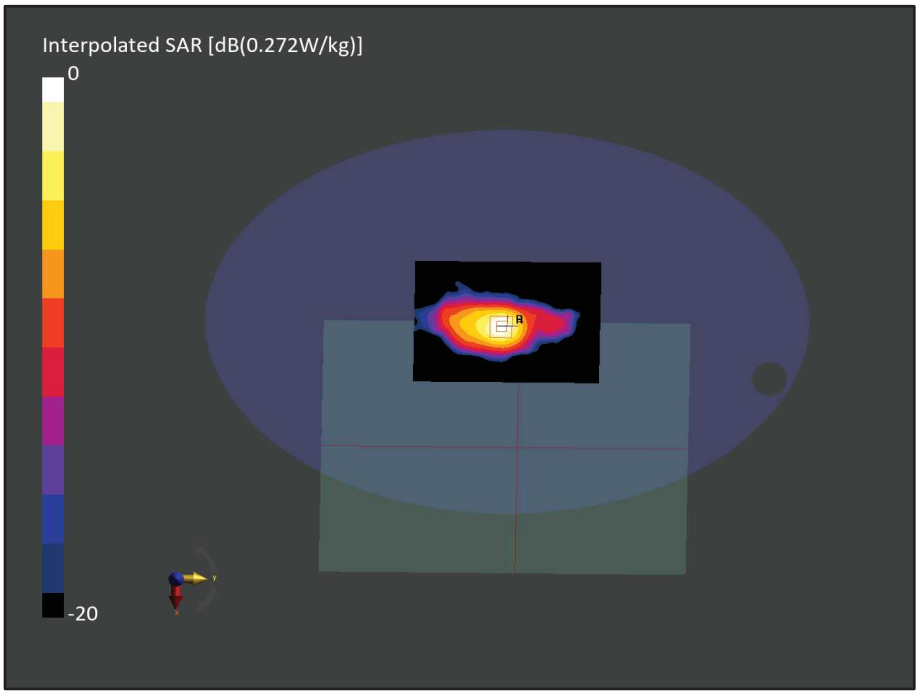


Figure C.8: SAR Testing Results for the A2991 at 5200.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5200000 (5200.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5200.0, 5200000	5.75	4.60	35.7

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-09, 20:33	2023-09-09, 20:42
psSAR1g [W/Kg]	0.201	0.207
psSAR10g [W/Kg]	0.074	0.069
Power Drift [dB]	-0.12	-0.07
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		61.9
Dist 3dB Peak [mm]		8.7

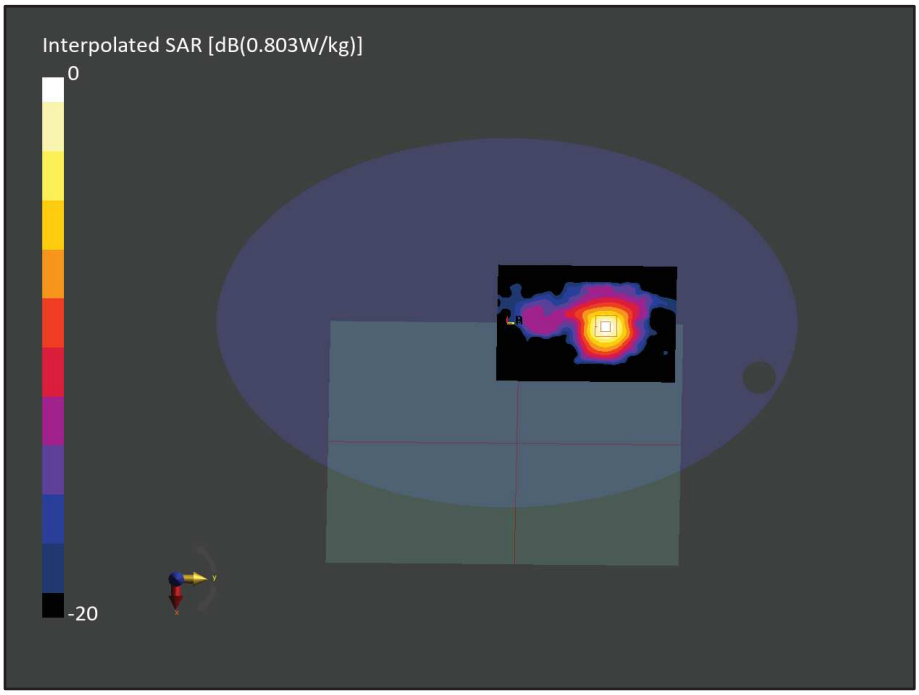


Figure C.9: SAR Testing Results for the A2991 at 5200.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5850000 (5850.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5850.0, 5850000	5.12	5.35	34.5

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-09, 22:21	2023-09-09, 22:34
psSAR1g [W/Kg]	0.197	0.226
psSAR10g [W/Kg]	0.072	0.070
Power Drift [dB]	-0.33	0.35
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		55.5
Dist 3dB Peak [mm]		7.6

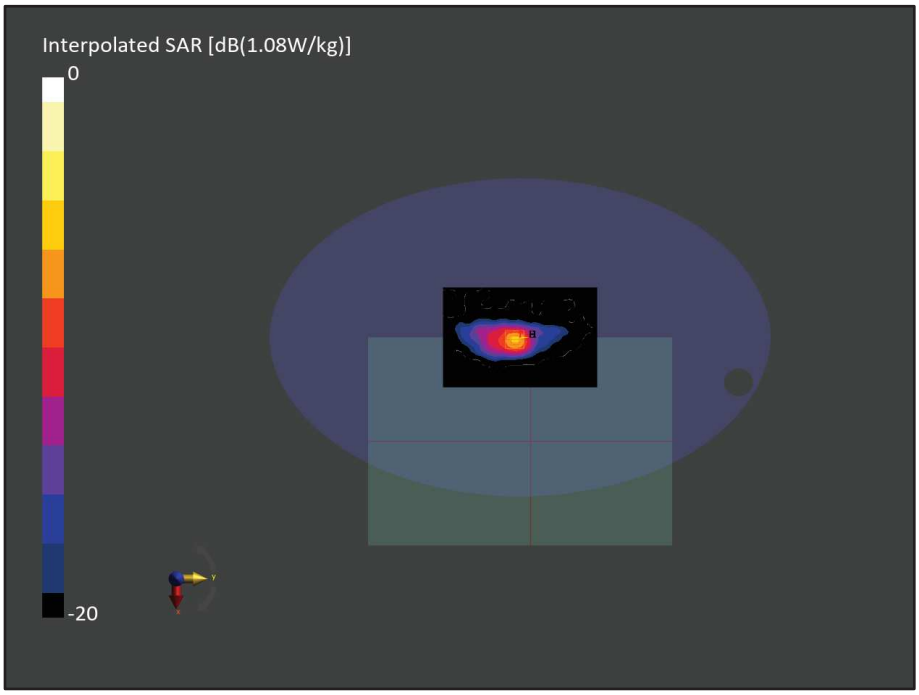


Figure C.10: SAR Testing Results for the A2991 at 5850.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 5850000 (5850.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	5850.0, 5850000	5.12	5.35	34.5

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-10, 04:11	2023-09-10, 04:19
psSAR1g [W/Kg]	0.189	0.201
psSAR10g [W/Kg]	0.066	0.067
Power Drift [dB]	0.02	-0.08
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		57.6
Dist 3dB Peak [mm]		8.0

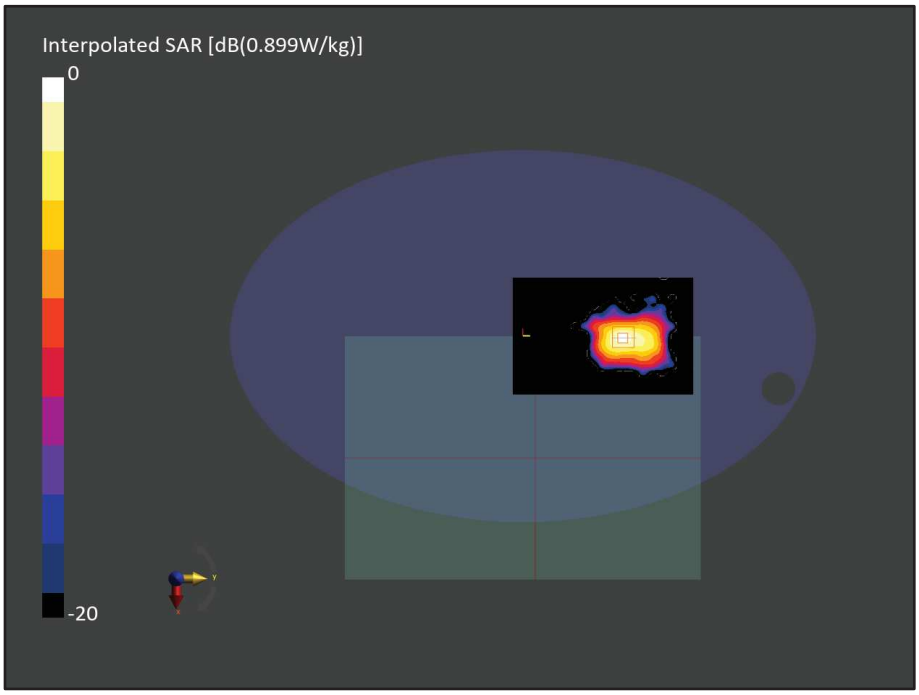


Figure C.11: SAR Testing Results for the A2991 at 5850.0 MHz

Measurement Report for A2991, Bottom, Custom Band, CW, Channel 2440000 (2440.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	2440.0, 2440000	7.76	1.85	40.3

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.7 deg.C 2023-Sep-10 SYS1 B1.prn, 2023-Sep-10	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-11, 06:08	2023-09-11, 06:17
psSAR1g [W/Kg]	0.489	0.500
psSAR10g [W/Kg]	0.233	0.225
Power Drift [dB]	0.10	0.13
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		73.6
Dist 3dB Peak [mm]		9.0

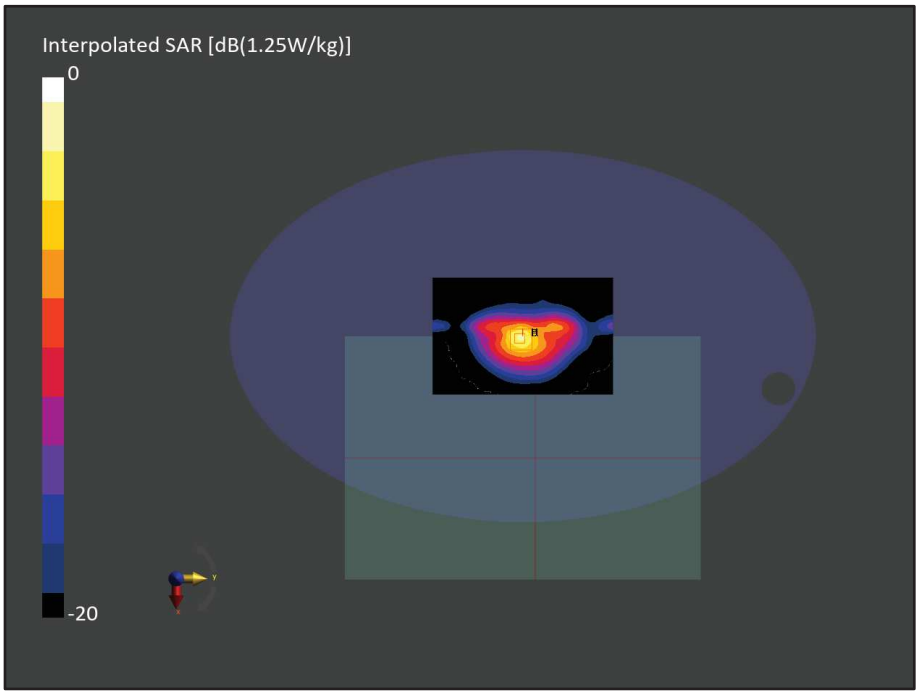


Figure C.12: SAR Testing Results for the A2991 at 2440.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 2480000 (2480.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	2480.0, 2480000	7.76	1.88	40.3

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.7 deg.C 2023-Sep-10 SYS1 B1.prn, 2023-Sep-10	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-11, 10:23	2023-09-11, 10:32
psSAR1g [W/Kg]	0.580	0.613
psSAR10g [W/Kg]	0.272	0.250
Power Drift [dB]	0.00	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		71.9
Dist 3dB Peak [mm]		8.0

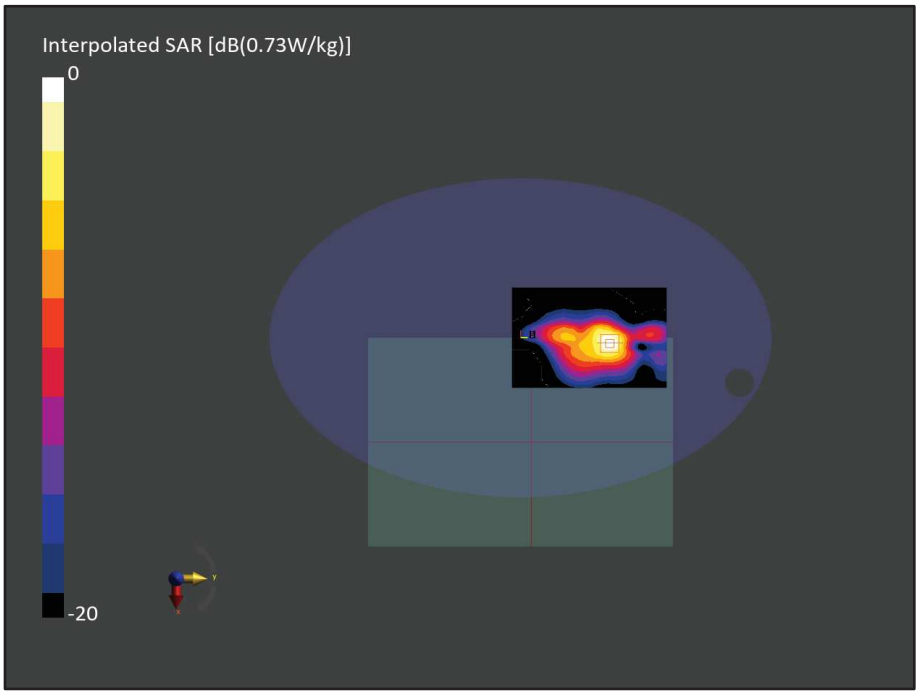


Figure C.13: SAR Testing Results for the A2991 at 2480.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 2480000 (2480.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	2480.0, 2480000	7.76	1.88	40.3

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.7 deg.C 2023-Sep-10 SYS1 B1.prn, 2023-Sep-10	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-11, 12:31	2023-09-11, 12:40
psSAR1g [W/Kg]	0.033	0.032
psSAR10g [W/Kg]	0.015	0.011
Power Drift [dB]	0.01	0.10
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		69.5
Dist 3dB Peak [mm]		8.0

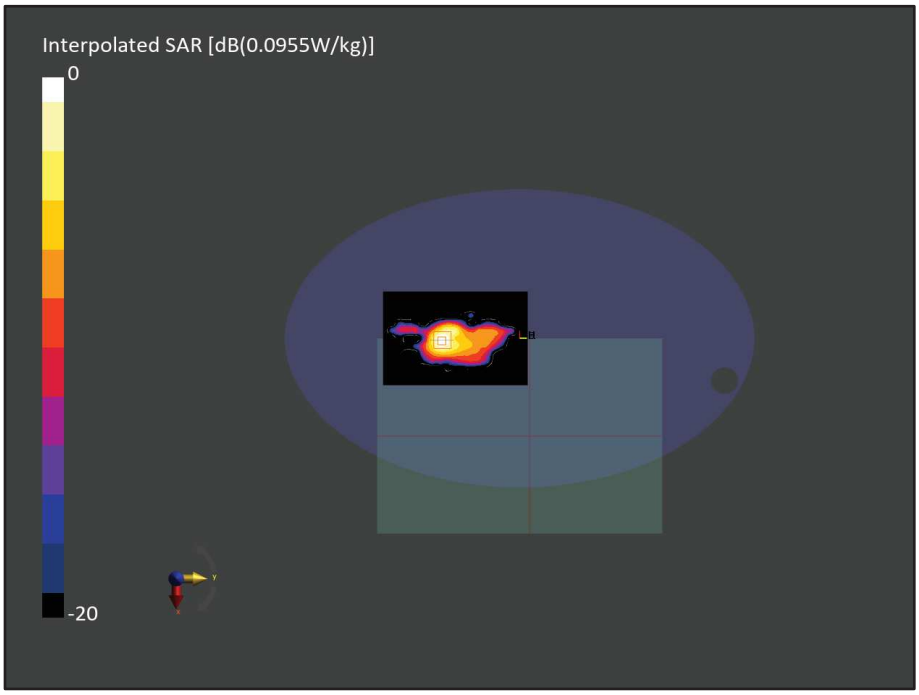


Figure C.14: SAR Testing Results for the A2991 at 2480.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 2405000 (2405.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	2405.0, 2405000	7.76	1.82	40.4

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.7 deg.C 2023-Sep-10 SYS1 B1.prn, 2023-Sep-10	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-12, 06:17	2023-09-12, 06:26
psSAR1g [W/Kg]	0.150	0.159
psSAR10g [W/Kg]	0.073	0.072
Power Drift [dB]	0.03	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		72.6
Dist 3dB Peak [mm]		9.0

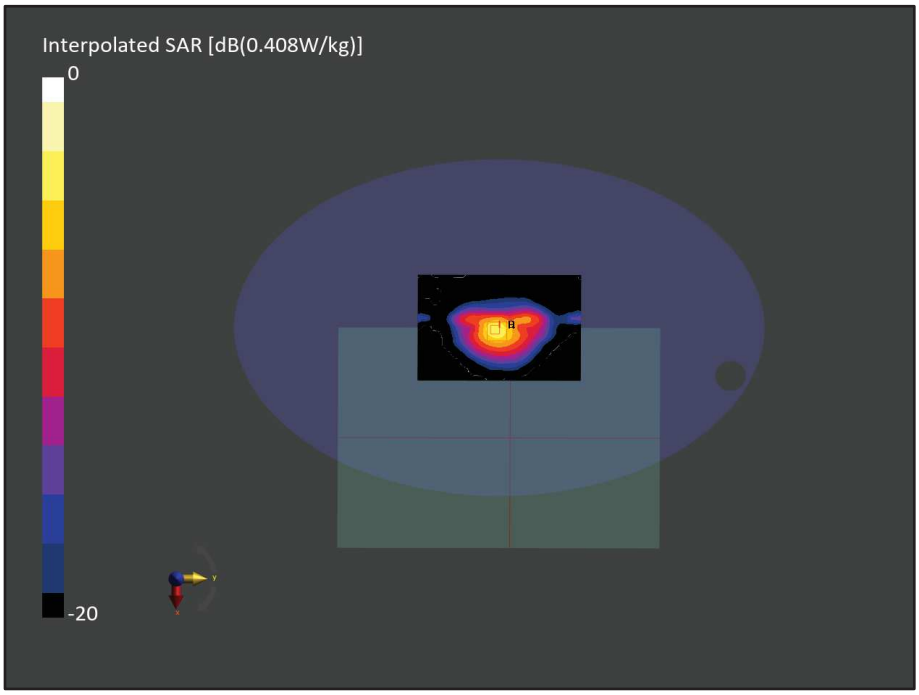


Figure C.15: SAR Testing Results for the A2991 at 2405.0 MHz

Measurement Report for A2991, BOTTOM, Custom Band, CW, Channel 2440000 (2440.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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--	2440.0, 2440000	7.76	1.85	40.3

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.7 deg.C 2023-Sep-10 SYS1 B1.prn, 2023-Sep-10	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-12, 07:00	2023-09-12, 07:09
psSAR1g [W/Kg]	0.185	0.187
psSAR10g [W/Kg]	0.082	0.078
Power Drift [dB]	-0.06	-0.05
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		72.6
Dist 3dB Peak [mm]		8.0

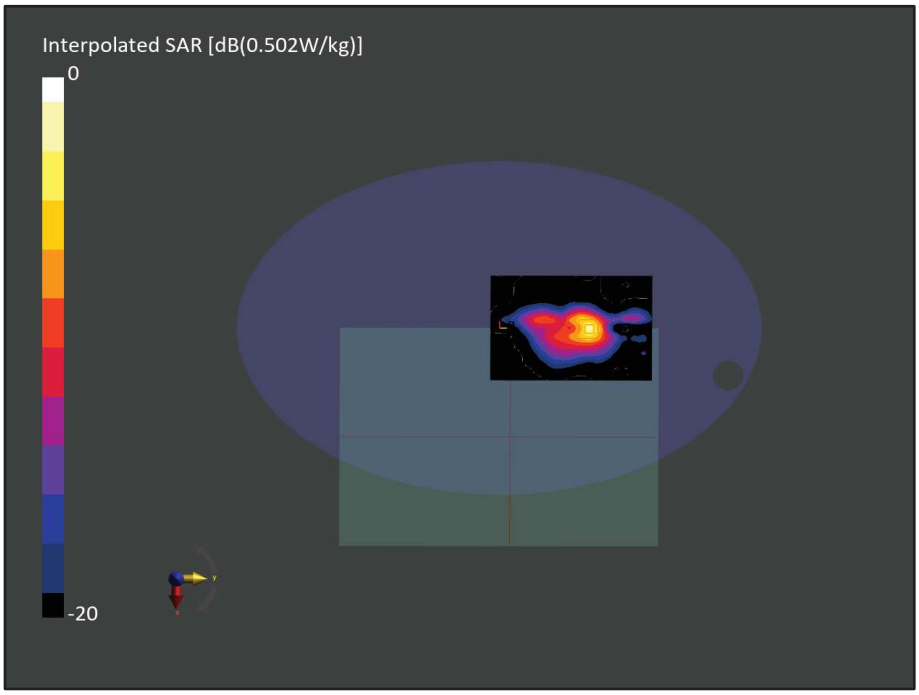


Figure C.16: SAR Testing Results for the A2991 at 2440.0 MHz

Measurement Report for A2991, Bottom, WLAN 2.4GHz, IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle), Channel 6 (2437.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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 2.4GHz	WLAN, 10416-AAA	2437.0, 6	7.76	1.86	41.1

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.9 deg.C 2023-Sep-04 SYS1 B1, 2023-Sep-04	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-05, 12:19	2023-09-05, 12:28
psSAR1g [W/Kg]	0.625	0.669
psSAR10g [W/Kg]	0.307	0.305
Power Drift [dB]	0.01	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		71.2
Dist 3dB Peak [mm]		9.0

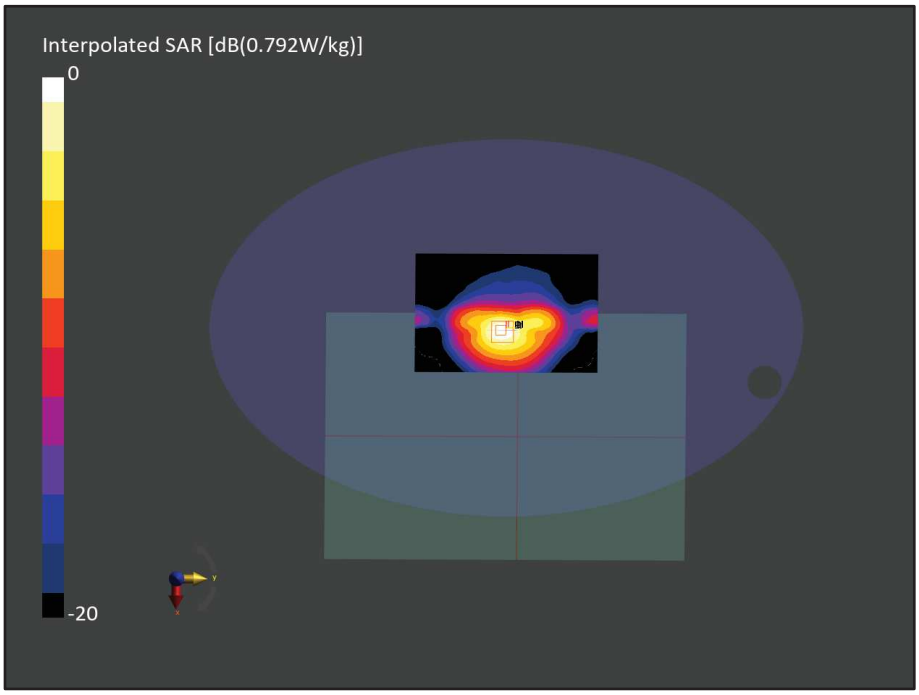


Figure C.17: SAR Testing Results for the A2991 at 2437.0 MHz

Measurement Report for A2991, BOTTOM, WLAN 2.4GHz, IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle), Channel 11 (2462.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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 2.4GHz	WLAN, 10416-AAA	2462.0, 11	7.76	1.86	39.5

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 21.60 deg.C 2023-Sep-18 SYS1 B1.prn, 2023-Sep-18	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	n/a	Yes
Grading Ratio	n/a	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-18, 22:53	2023-09-18, 23:02
psSAR1g [W/Kg]	0.590	0.611
psSAR10g [W/Kg]	0.267	0.250
Power Drift [dB]	0.01	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		72.6
Dist 3dB Peak [mm]		8.0

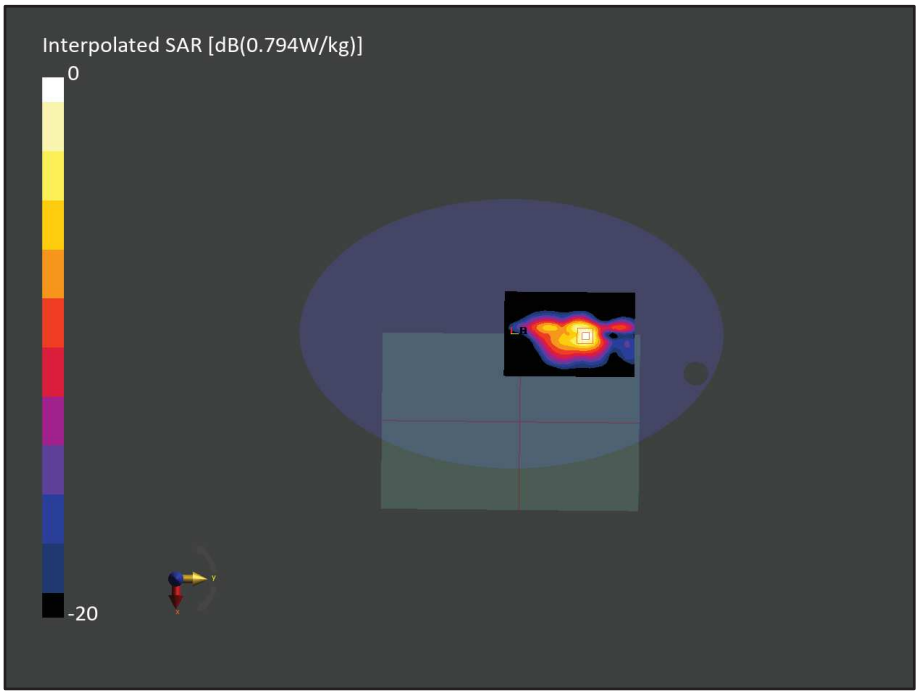


Figure C.18: SAR Testing Results for the A2991 at 2462.0 MHz

Measurement Report for A2991, BOTTOM, WLAN 2.4GHz, IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK), Channel 6 (2437.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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 2.4GHz	WLAN, 10193-CAD	2437.0, 6	7.76	1.86	41.1

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.9 deg.C 2023-Sep-04 SYS1 B1, 2023-Sep-04	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan	Zoom Scan
Grid Extents [mm]	x 240.0	30.0 x 30.0 x 30.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4	1.4
Graded Grid	n/a	Yes	Yes
Grading Ratio	n/a	1.5	1.5
MAIA	N/A	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan	Zoom Scan
Date	2023-09-05, 19:40	2023-09-05, 19:49	2023-09-05, 19:58
psSAR1g [W/Kg]	0.623	0.621	0.685
psSAR10g [W/Kg]	0.314	0.263	0.314
Power Drift [dB]	0.01	0.00	0.01
Power Scaling	Disabled	Disabled	Disabled
Scaling Factor [dB]			
TSL Correction	Positive only	Positive only	Positive only
M2/M1 [%]		72.6	73.0
Dist 3dB Peak [mm]		8.0	9.0

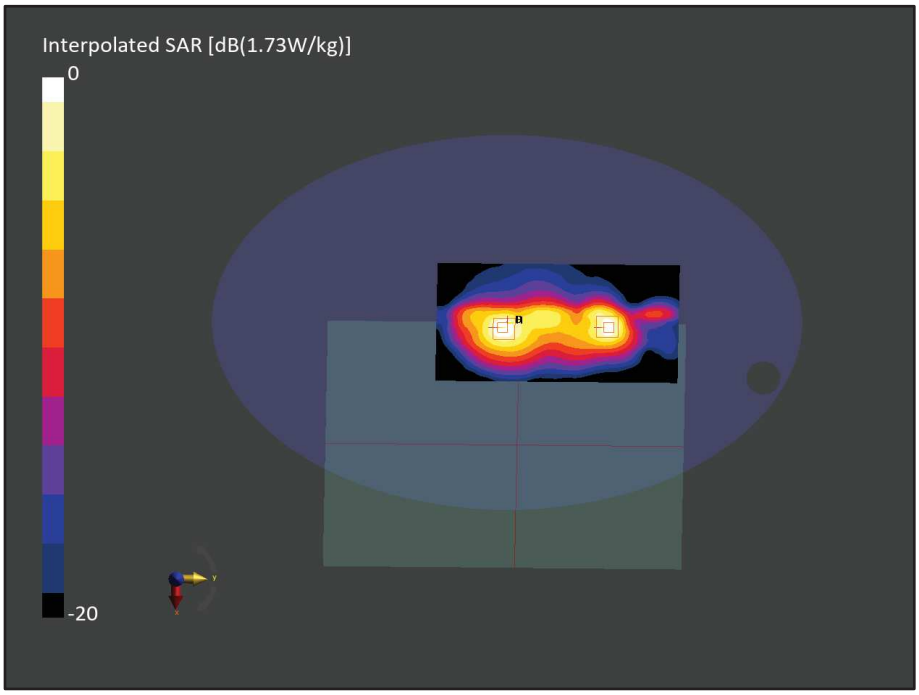


Figure C.19: SAR Testing Results for the A2991 at 2437.0 MHz

Measurement Report for A2991, Bottom, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 42 (5210.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	360.0 x 250.0 x 20.0		Laptop

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, 10544-AAC	5210.0, 42	5.75	4.65	35.9

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.9 deg.C 2023-Sep-04 SYS1 B1, 2023-Sep-04	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-06, 02:22	2023-09-06, 02:32
psSAR1g [W/Kg]	0.478	0.551
psSAR10g [W/Kg]	0.174	0.178
Power Drift [dB]	-0.11	-0.09
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		61.9
Dist 3dB Peak [mm]		7.9

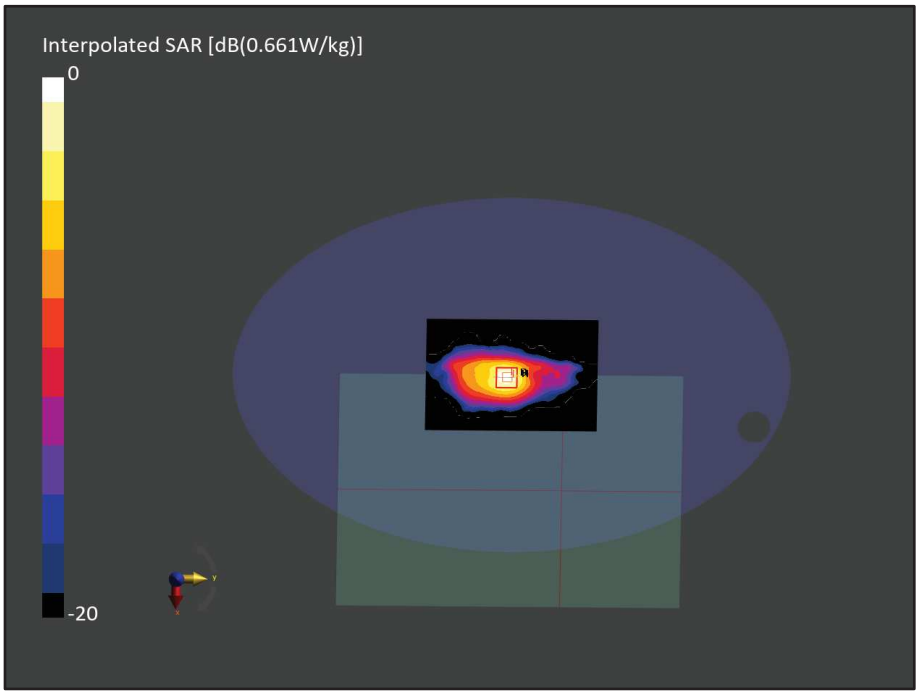


Figure C.20: SAR Testing Results for the A2991 at 5210.0 MHz

Measurement Report for A2991, Bottom, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 42 (5210.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	360.0 x 250.0 x 20.0		Laptop

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, 10544-AAC	5210.0, 42	5.75	4.65	35.9

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.9 deg.C 2023-Sep-04 SYS1 B1, 2023-Sep-04	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-06, 05:24	2023-09-06, 05:32
psSAR1g [W/Kg]	0.508	0.526
psSAR10g [W/Kg]	0.183	0.188
Power Drift [dB]	0.00	0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		63.1
Dist 3dB Peak [mm]		8.7

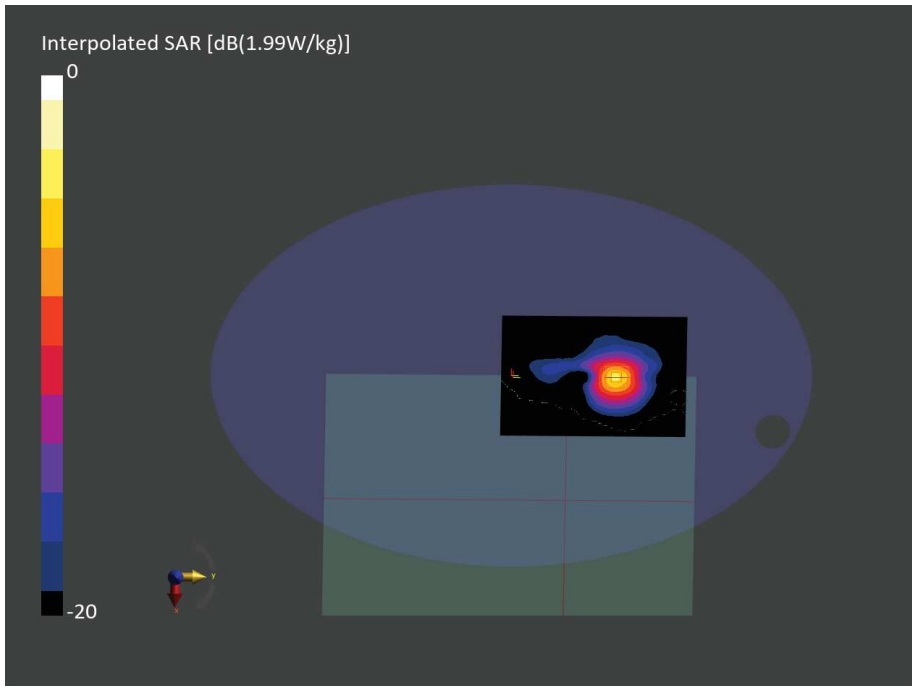


Figure C.21: SAR Testing Results for the A2991 at 5210.0 MHz

Measurement Report for A2991, BOTTOM, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 42 (5210.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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, 10544-AAC	5210.0, 42	5.75	4.65	35.9

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.9 deg.C 2023-Sep-04 SYS1 B1, 2023-Sep-04	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan	Zoom Scan
Grid Extents [mm]	x 240.0	22.0 x 22.0 x 22.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4	1.4
Graded Grid	n/a	Yes	Yes
Grading Ratio	n/a	1.4	1.4
MAIA	Y	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan	Zoom Scan
Date	2023-09-05, 22:49	2023-09-05, 23:03	2023-09-05, 23:16
psSAR1g [W/Kg]	0.453	0.525	0.416
psSAR10g [W/Kg]	0.165	0.174	0.141
Power Drift [dB]	0.05	0.06	0.00
Power Scaling	Disabled	Disabled	Disabled
Scaling Factor [dB]			
TSL Correction	No correction	No correction	No correction
M2/M1 [%]		62.9	63.9
Dist 3dB Peak [mm]		8.4	8.8

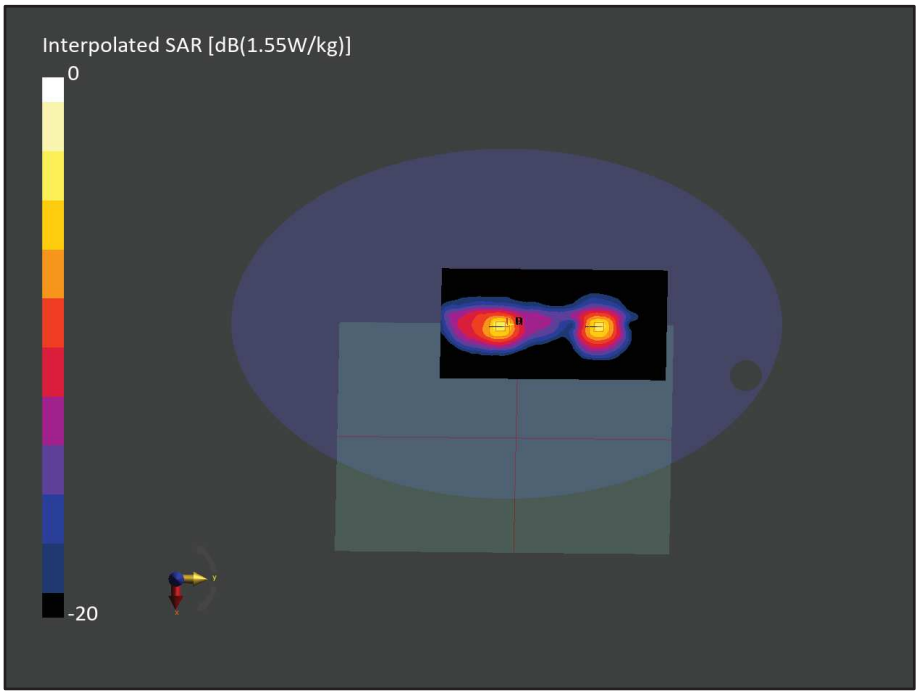


Figure C.22: SAR Testing Results for the A2991 at 5210.0 MHz

Measurement Report for A2991, BOTTOM, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 138 (5690.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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, 10544-AAC	5690.0, 138	5.1	5.10	34.2

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.6 deg.C 2023-Sep-06 SYS1 B1.prn, 2023-Sep-06	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-06, 14:35	2023-09-06, 14:45
psSAR1g [W/Kg]	0.445	0.530
psSAR10g [W/Kg]	0.167	0.177
Power Drift [dB]	-0.15	-0.16
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		57.2
Dist 3dB Peak [mm]		7.9

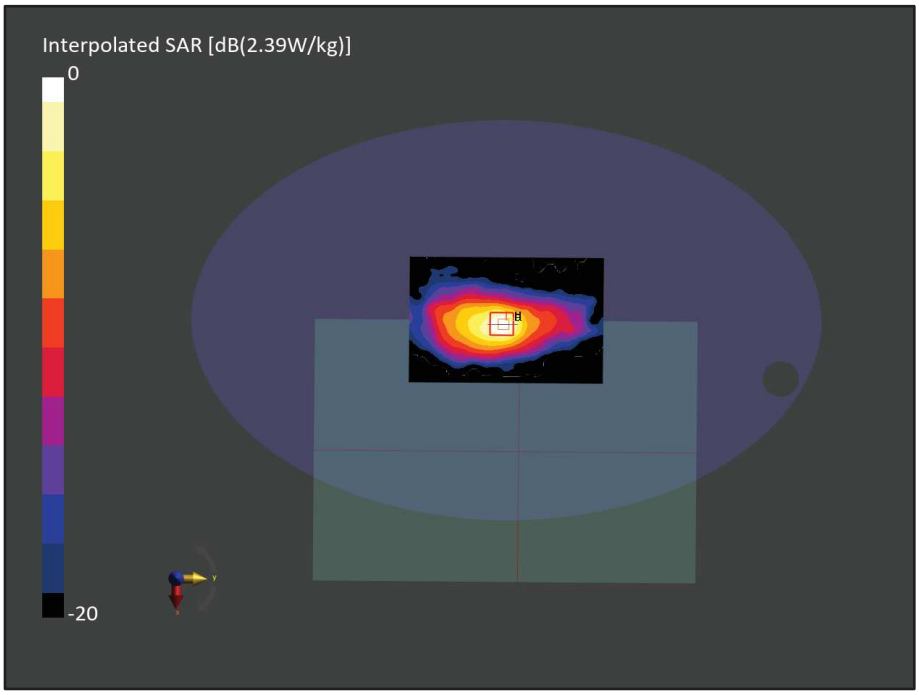


Figure C.23: SAR Testing Results for the A2991 at 5690.0 MHz

Measurement Report for A2991, BOTTOM, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 106 (5530.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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, 10544-AAC	5530.0, 106	5.2	4.91	34.5

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.6 deg.C 2023-Sep-06 SYS1 B1.prn, 2023-Sep-06	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-06, 19:35	2023-09-06, 19:48
psSAR1g [W/Kg]	0.472	0.510
psSAR10g [W/Kg]	0.179	0.178
Power Drift [dB]	0.07	0.19
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		59.4
Dist 3dB Peak [mm]		8.8

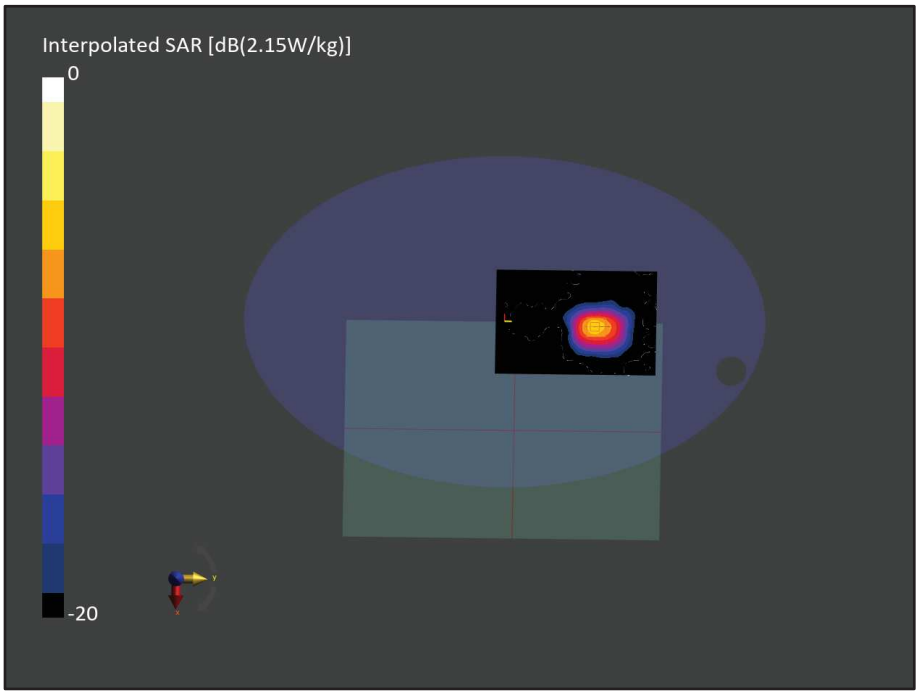


Figure C.24: SAR Testing Results for the A2991 at 5530.0 MHz

Measurement Report for A2991, BOTTOM, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 138 (5690.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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, 10544-AAC	5690.0, 138	5.1	5.10	34.2

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.6 deg.C 2023-Sep-06 SYS1 B1.prn, 2023-Sep-06	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan	Zoom Scan
Grid Extents [mm]	x 240.0	22.0 x 22.0 x 22.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4	1.4
Graded Grid	n/a	Yes	Yes
Grading Ratio	n/a	1.4	1.4
MAIA	Y	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan	Zoom Scan
Date	2023-09-06, 22:26	2023-09-06, 22:39	2023-09-06, 22:49
psSAR1g [W/Kg]	0.491	0.509	0.615
psSAR10g [W/Kg]	0.186	0.173	0.199
Power Drift [dB]	-0.04	-0.09	-0.11
Power Scaling	Disabled	Disabled	Disabled
Scaling Factor [dB]			
TSL Correction	Positive only	Positive only	Positive only
M2/M1 [%]		58.1	56.6
Dist 3dB Peak [mm]		8.2	7.9

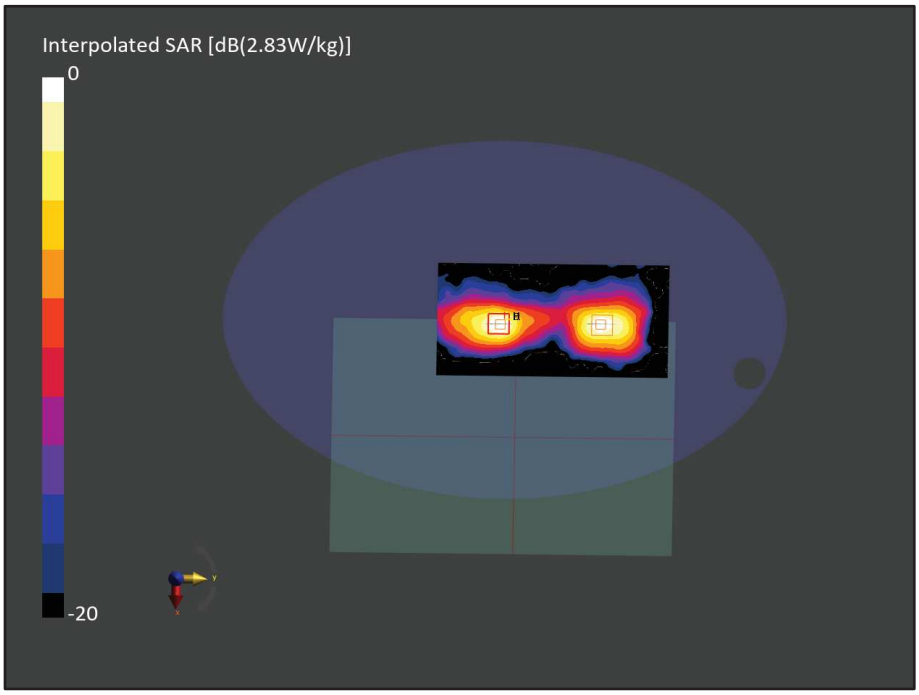


Figure C.25: SAR Testing Results for the A2991 at 5690.0 MHz

Measurement Report for A2991, Bottom, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 155 (5775.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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, 10544-AAC	5775.0, 155	5.12	5.19	34.1

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.6 deg.C 2023-Sep-06 SYS1 B1.prn, 2023-Sep-06	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-07, 06:40	2023-09-07, 06:50
psSAR1g [W/Kg]	0.445	0.518
psSAR10g [W/Kg]	0.160	0.176
Power Drift [dB]	-0.06	-0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		55.2
Dist 3dB Peak [mm]		8.1

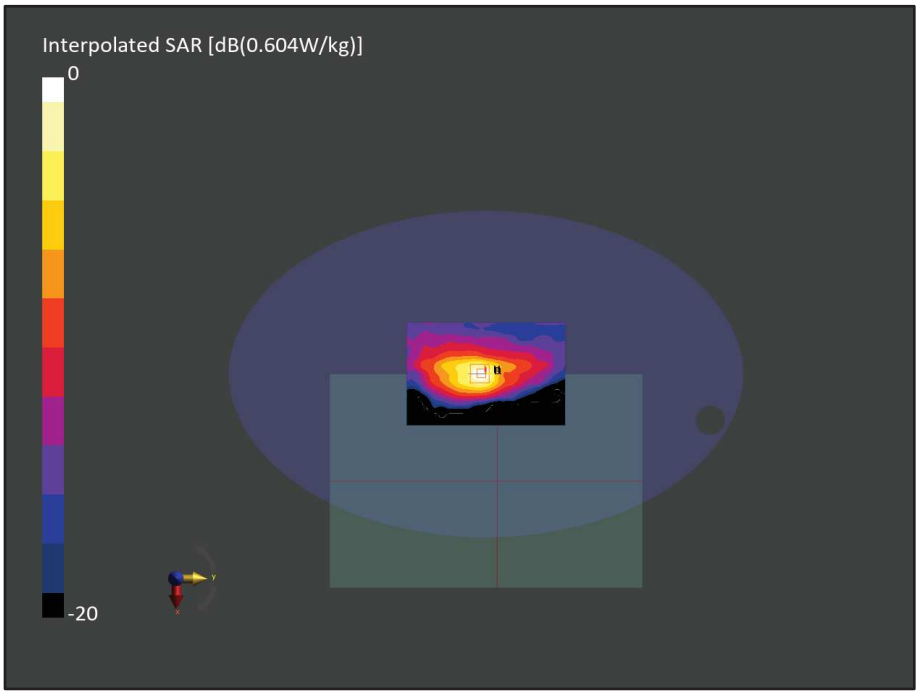


Figure C.26: SAR Testing Results for the A2991 at 5775.0 MHz

Measurement Report for A2991, Bottom, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 155 (5775.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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, 10544-AAC	5775.0, 155	5.12	5.19	34.1

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.6 deg.C 2023-Sep-06 SYS1 B1.prn, 2023-Sep-06	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-07, 06:14	2023-09-07, 06:28
psSAR1g [W/Kg]	0.401	0.450
psSAR10g [W/Kg]	0.144	0.160
Power Drift [dB]	0.07	0.11
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		56.5
Dist 3dB Peak [mm]		8.0

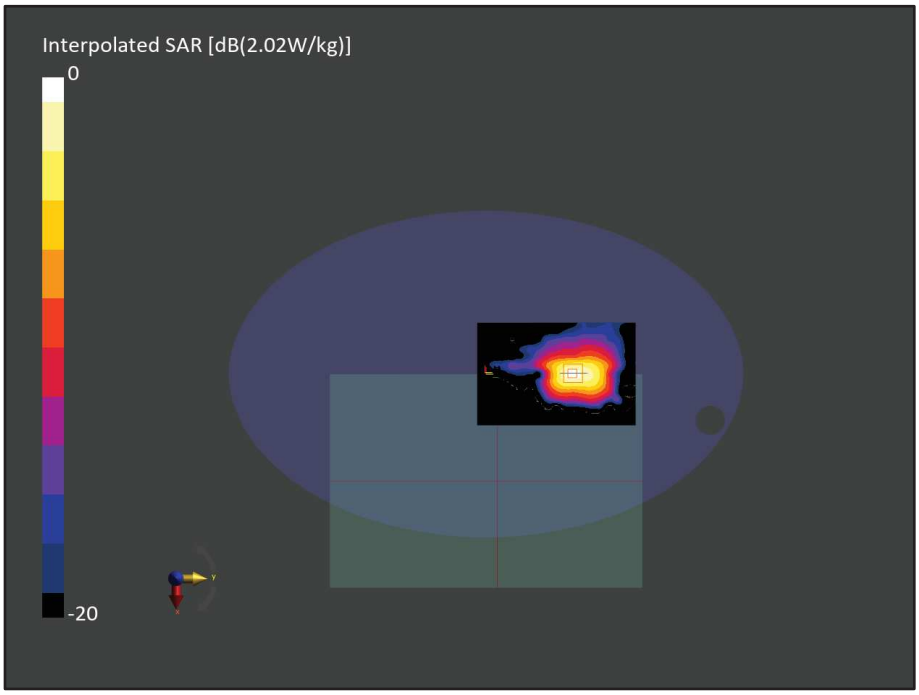


Figure C.27: SAR Testing Results for the A2991 at 5775.0 MHz

Measurement Report for A2991, Bottom, WLAN 5GHz, IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle), Channel 155 (5775.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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, 10544-AAC	5775.0, 155	5.12	5.19	34.1

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 19.6 deg.C 2023-Sep-06 SYS1 B1.prn, 2023-Sep-06	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan	Zoom Scan
Grid Extents [mm]	120.0 x 220.0	22.0 x 22.0 x 22.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4	1.4
Graded Grid	n/a	Yes	Yes
Grading Ratio	n/a	1.4	1.4
MAIA	Y	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan	Zoom Scan
Date	2023-09-07, 05:12	2023-09-07, 05:25	2023-09-07, 05:35
psSAR1g [W/Kg]	0.413	0.453	0.520
psSAR10g [W/Kg]	0.157	0.155	0.170
Power Drift [dB]	-0.15	-0.10	-0.10
Power Scaling	Disabled	Disabled	Disabled
Scaling Factor [dB]			
TSL Correction	Positive only	Positive only	Positive only
M2/M1 [%]		56.6	54.2
Dist 3dB Peak [mm]		8.8	7.2

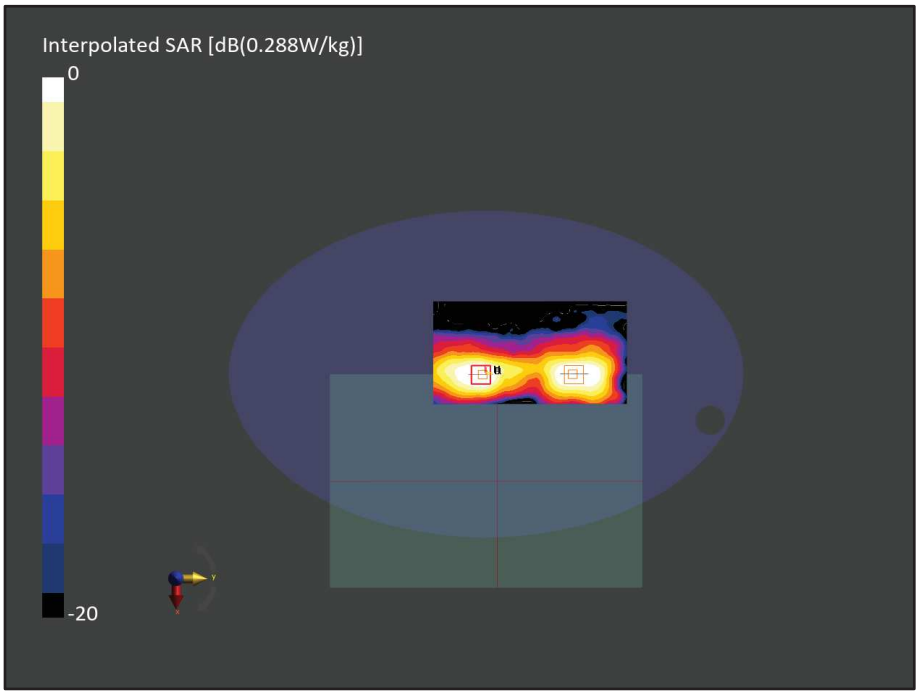


Figure C.28: SAR Testing Results for the A2991 at 5775.0 MHz

Measurement Report for A2991, BOTTOM, U-NII-7, IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle), Channel 143 (6665.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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-7	WLAN, 10755-AAC	6665.0, 143	5.5	6.34	33.0

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-08, 14:44	2023-09-08, 14:56
psSAR1g [W/Kg]	0.349	0.408
psSAR8g [W/Kg]	0.128	0.145
psSAR10g [W/Kg]	0.112	0.126
Power Drift [dB]	-0.04	0.05
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		45.1
Dist 3dB Peak [mm]		6.8

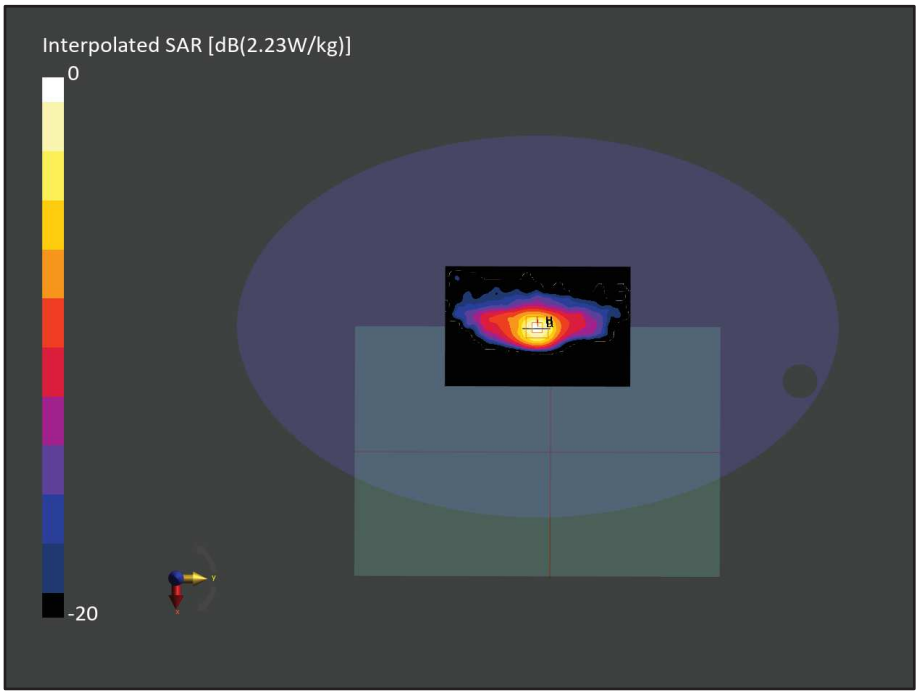


Figure C.29: SAR and APD Testing Results for the A2991 at 6665.0 MHz

Measurement Report for A2991, BOTTOM, U-NII-8, IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle), Channel 207 (6985.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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-8	WLAN, 10755-AAC	6985.0, 207	5.5	6.72	32.4

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 20.1 deg.C 2023-Sep-08 SYS1 B1.prn, 2023-Sep-08	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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
Graded Grid	n/a	Yes
Grading Ratio	n/a	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-08, 23:17	2023-09-08, 23:27
psSAR1g [W/Kg]	0.368	0.394
psSAR8g [W/Kg]	0.132	0.141
psSAR10g [W/Kg]	0.117	0.123
Power Drift [dB]	-0.2	-0.2
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	Positive only	Positive only
M2/M1 [%]		44.0
Dist 3dB Peak [mm]		8.2

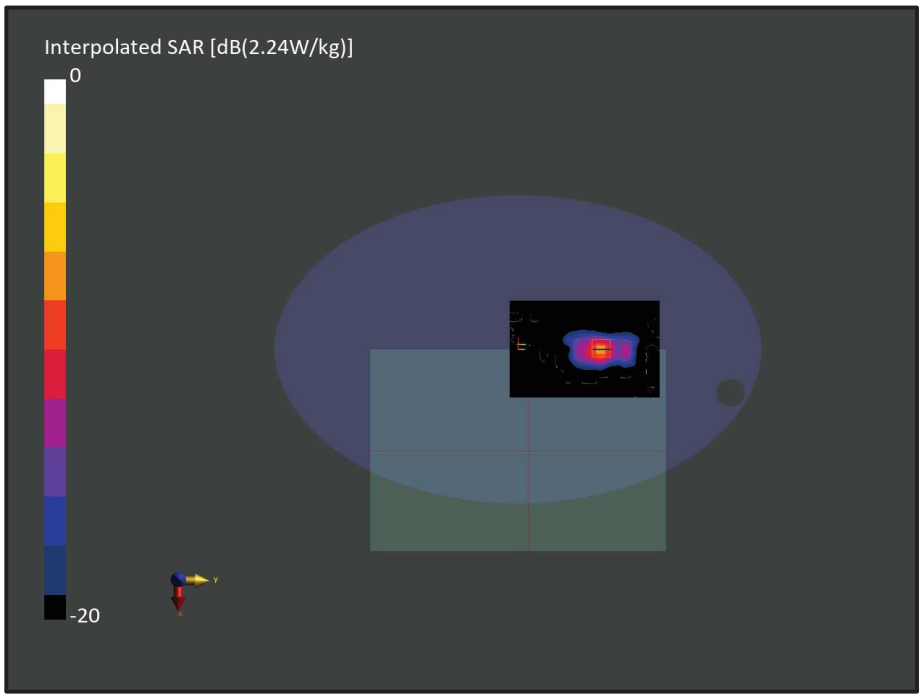


Figure C.30: SAR and APD Testing Results for the A2991 at 6985.0 MHz

Measurement Report for A2991, BOTTOM, U-NII-5, IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle), Channel 79 (6345.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	355.0 x 250.0 x 15.0		Laptop

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-5	WLAN, 10755-AAC	6345.0, 79	5.5	5.79	33.1

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - SN:2057	HBBL-600-10000 DAK 3.5 Head 21.80 deg.C 2023-Sep-14 SYS1 B1.prn, 2023-Sep-14	EX3DV4 - SN3759, 2022-12-15	DAE4 Sn475, 2022-12-13

Scans Setup

	Area Scan	Zoom Scan	Zoom Scan
Grid Extents [mm]	x 240.0	22.0 x 22.0 x 22.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	3.4 x 3.4 x 1.4	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4	1.4
Graded Grid	n/a	Yes	Yes
Grading Ratio	n/a	1.4	1.4
MAIA	Y	Y	Y
Surface Detection	VMS + 6p	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan	Zoom Scan
Date	2023-09-14, 20:44	2023-09-14, 21:00	2023-09-14, 21:15
psSAR1g [W/Kg]	0.341	0.416	0.264
psSAR8g [W/Kg]	0.129	0.154	0.103
psSAR10g [W/Kg]	0.114	0.135	0.091
Power Drift [dB]	-0.10	-0.08	-0.09
Power Scaling	Disabled	Disabled	Disabled
Scaling Factor [dB]			
TSL Correction	Positive only	Positive only	Positive only
M2/M1 [%]		49.1	50.8
Dist 3dB Peak [mm]		8.0	8.0

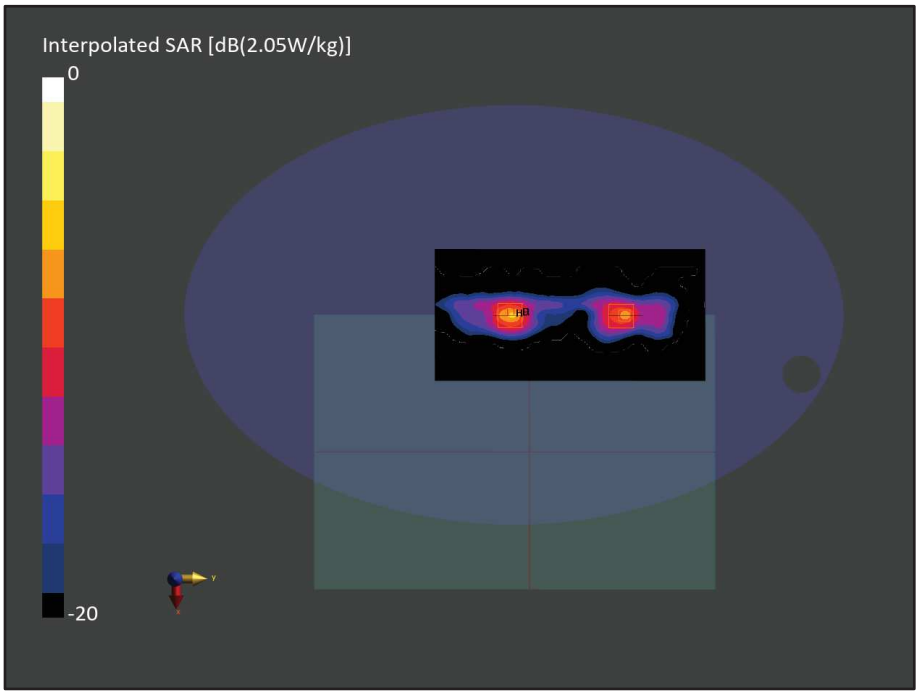


Figure C.31: SAR and APD Testing Results for the A2991 at 6345.0 MHz

Measurement Report for A2991, BOTTOM, U-NII-5, UID 10755 AAC, Channel 79 (6345.0MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
A2991	310.0 x 220.0 x 10.0		Laptop

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
5G Air	BACK, 2.00	U-NII-5	WLAN, 10755-AAC	6345.0,79	1.0	-	-

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
mmWave- 1112	---Air	EUmmWV4 - SN9641_F1-55.0 GHz, 2022-10-25	DAE4ip Sn1785, 2023-04-03

Scans Setup

	5G Scan
Grid Extents [mm]	120.0 x 100.0
Grid Steps [lambda]	0.043202144247958554 x 0.043202144247958554
Sensor Surface [mm]	2.0
MAIA	Y

Measurement Results

	5G Scan
Date	2023-09-15, 15:27
Avg. Area [cm^2]	1.00
psPDn+ [W/m^2]	5.62
psPDtot+ [W/m^2]	6.32
psPDmod+ [W/m^2]	6.48
E_{max} [V/m]	57.6
Power Drift [dB]	-0.05

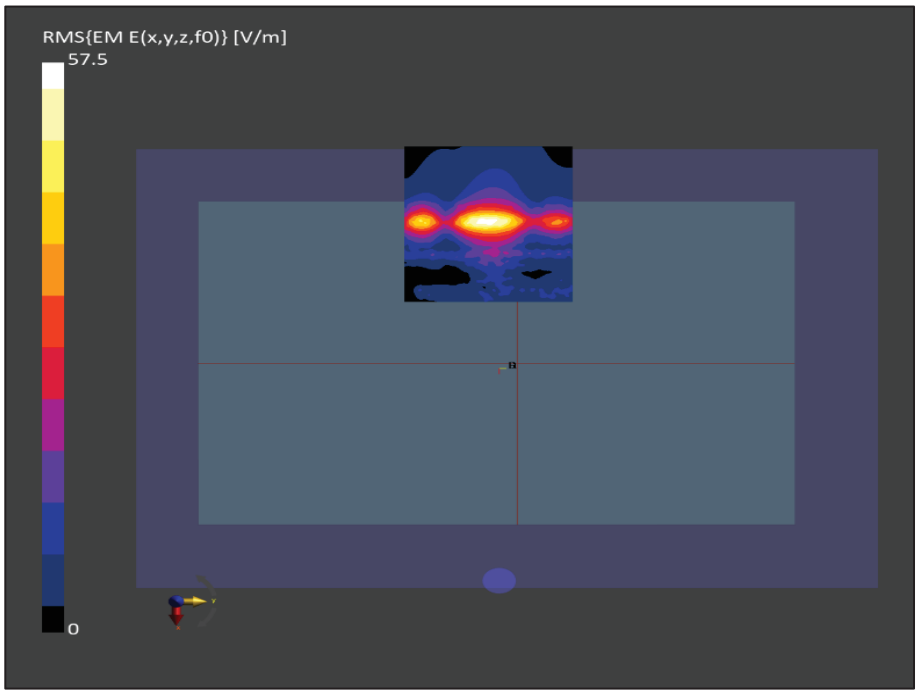


Figure C.32: iPD Testing Results for the A2991 at 6345.0 MHz

ANNEX D

THREAD TECHNOLOGY DUTY FACTOR CORRECTION

A2991 Thread Scaling Rationale

The measured SAR Results for the Thread RAT, as detailed in TUV SUD SAR Reports (Document 75958013-14 Issue 01 **– A2991**) & (Document 75958013-15 Issue 01 – **A2991**) were scaled down from 100% duty cycle to 60.13% to adjust for the normal operating conditions of this technology.

With the measured SAR Results having been taken with the device operating in a test mode, on a fixed channel with 100% duty cycle, as shown below in figure 3.

Duty Cycle used or SAR Measurements

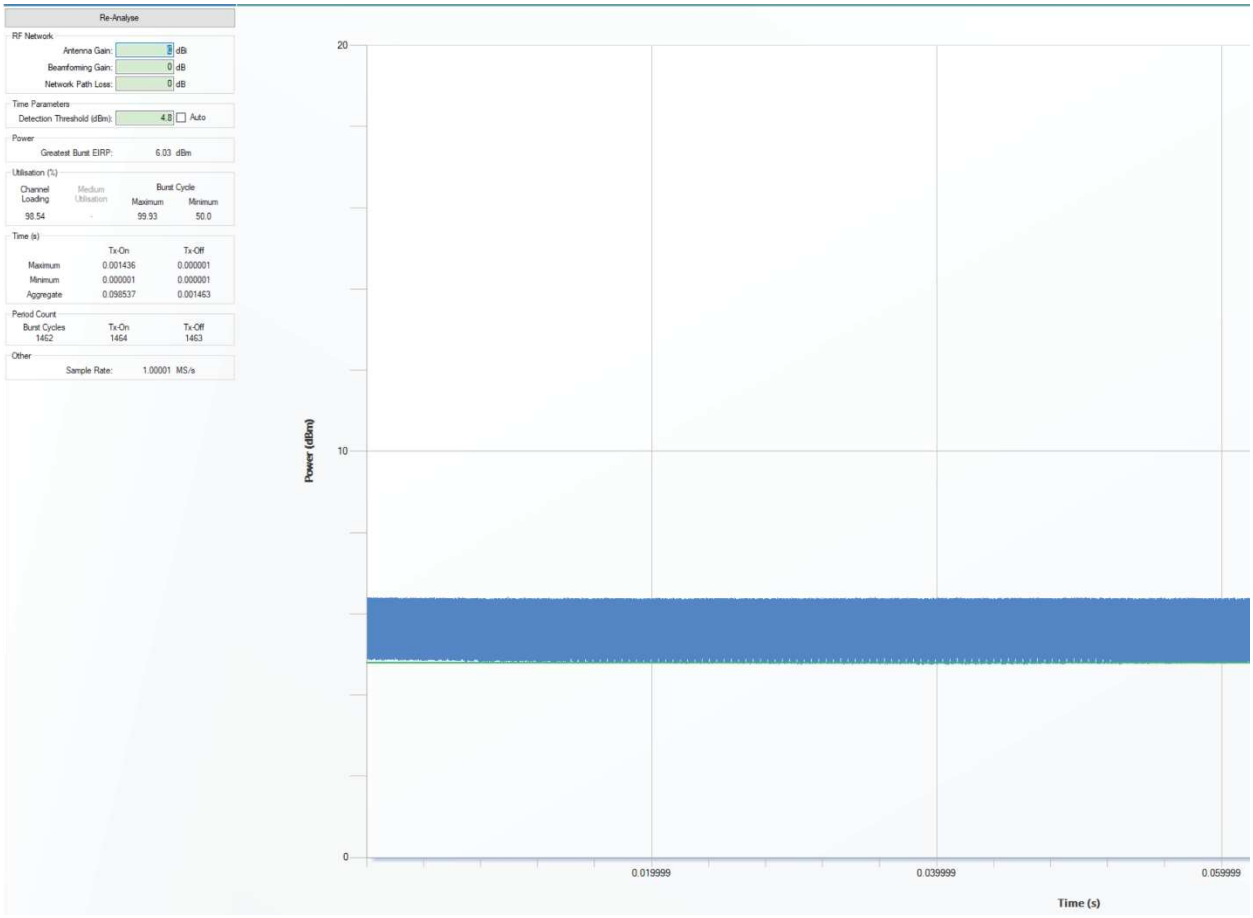


Figure 3 – Thread ePA - Frequency of 2405 MHz (100 % Duty Cycle – Measured 99.93%)

And the normal dwell time for this FHSS technology, having subsequently been measured at 60.13% duty cycle, when the device was configured to operate on a single hopping channel, as shown below in figure 4.

Duty Cycle used for Normal Operation.

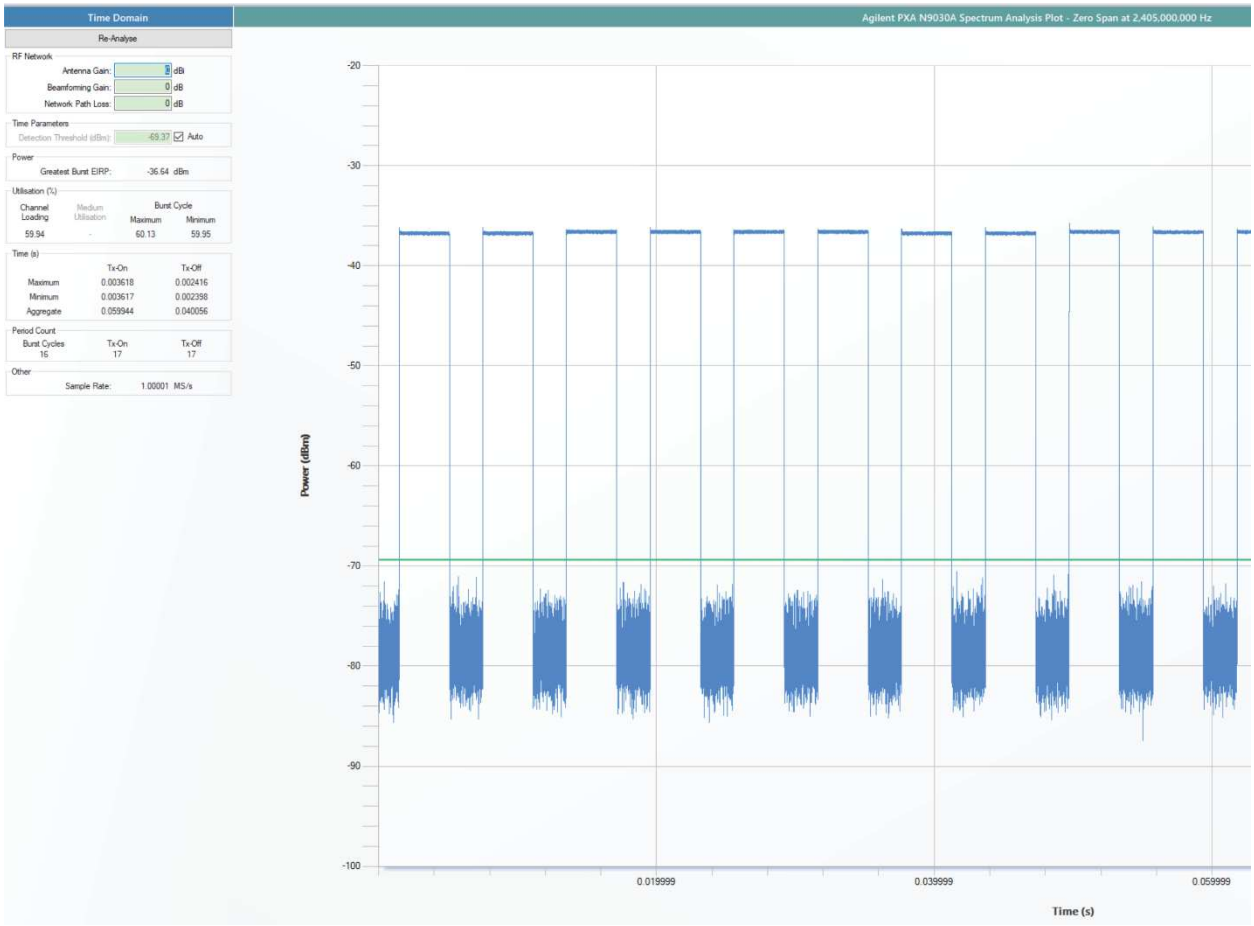


Figure 4 - Thread ePA - Frequency of 2405 MHz (60.13% Duty Cycle)