ANTENNA INFORMATION

OEM	ASUS
ODM	Quanta
Platform model name	GA605K
Intel platform (ex: Yes, No or NA)	
Platform type (ex: regular NB, convertible PC, AIO…etc)	Regular NB
SAR minimum separation (mm)	5.4mm

Antenna manufacturer	AWAN
Address	B2., No.207-1, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City,Taiwan
Antenna Part number	Main: AYP6Y-100499 Aux: AYP6Y-100500
Antenna type (ex: PIFA, Dipole…etc)	PIFA

Antenna Peak gain w/ cable loss (dBi)*										
	2.4GHz 2400-2483.5 MHz	**5.2GHz** 5150-5250MHz	**5.3GHz** 5250-5350MHz	**5.6GHz** 5470-5725MHz	**5.8GHz** 5725-5850MHz	**5.9GHz** 5850-5895MHz	**6.2GHz** 5925-6425MHz	**6.5GHz** 6425-6525MHz	**6.7GHz** 6525-6875MHz	**7.0 GHz** 6875-7125MHz
Main	2.20	2.01	2.22	3.51	3.73	2.72	1.72	1.13	3.10	3.30
Aux	2.35	2.23	2.46	2.93	3.52	2.73	3.48	2.70	3.46	3.24

Cable Assembly Part Number and Information					
	Cable PN	**Cable length**(cm)	**Cable diameter**(mm)	**Impedance**(ohm)	**Connector type**
Main	SY113L/50-080	45	1.13	50	I-Pex NGFF (20565-001R-13)
Aux	SY113L/50-080	50	1.13	50	I-Pex NGFF (20565-001R-13)

* 3D Antenna Peak Gain required being test in system basis.

Table of Contents

1. TBD

2. Document Revision History

Revision #	Revision Details	Issued Date
Rev. 00	First Issue	2023.06.20

3. Test & System Description

3.1 Measurement Method and System

The gain measurement shall follow by following conditions:

- It is required that all the antenna gain to be measured spherically and computed by spatial average be computed of the resultant gain.
- During gain measurement, all other antennas not under test should be terminated by 50 Ohm load in end of cable.
- Space points of 3D gain measurement are increase by specific steps from Theta 0~180 degrees, and Phi, 0~360 degrees, as figure below. The increments steps are different steps are different by antenna functions.

Theta Start	0 degree	Phi Start	0 degree
Theta Stop	180 degree	Phi Stop	360 degree
Theta Increment	30 degree	Phi Increment	30 degree

3.2 Test setup

The testing of antenna gain should be made at a ETS qualified lab with an RF anechoic chamber with at least 5-meter separation from the receive antenna to the antenna under test. The antenna gain report from unqualified lab can't be referenced a passing. Besides, all test equipment including horn antennas, adapters, cables, network analyzers, and receivers shall be calibrated per manufacturer's minimum calibration requirements.
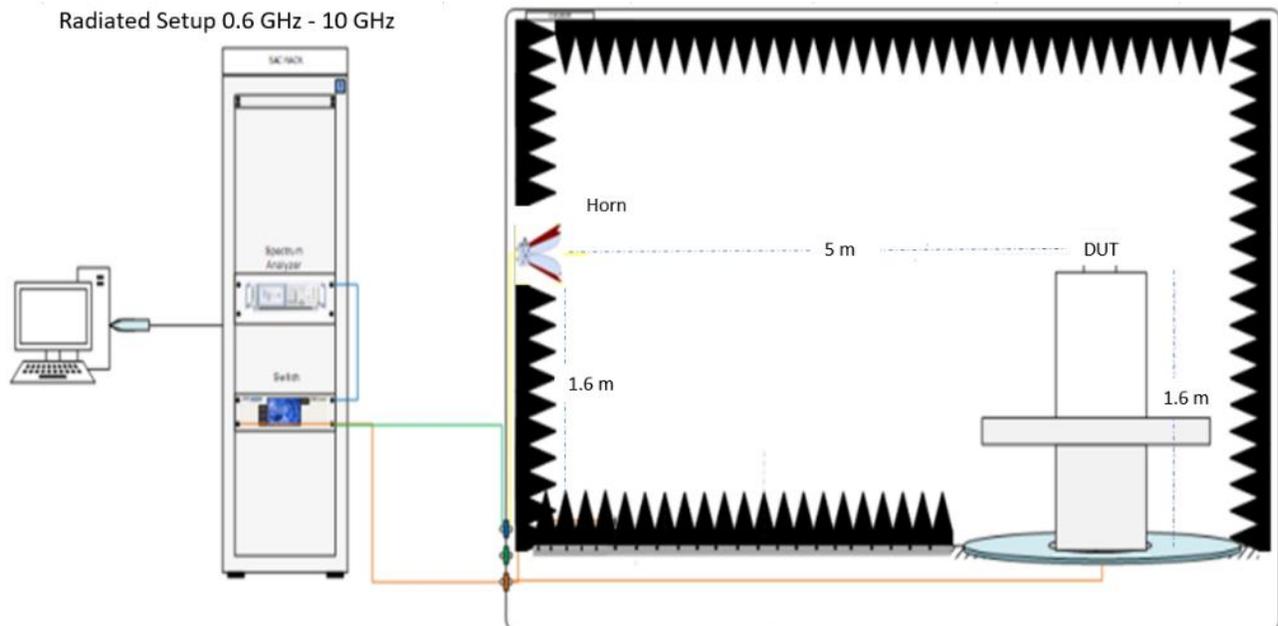
3.3 Equipment list

Device	Type/Module	Serial#	Manufacturer	Cal. Date	Cal. Due Date
Anechoic Chamber	AMS-8500	1047	ETS-Lindgren	2023/2/21	2024/8/21
Turn Table	ETS	-	ETS-Lindgren	N/A	N/A
Rotate controller	2090	SN 00035073	ETS-Lindgren	N/A	N/A
Horn Antenna	HAD-0710	111025-02	Bwant	2023/3/16	2025/3/16
Vector Network Analyzer	E5071C	MY46733781	Keysight	2022/1/21	2025/1/21
Cable 40cm 18 GHz	201EH012010400	201EH012010400#1	Jmtt	2023/3/27	2024/3/27
Cable 6m 18 GHz	201EH012016000	201EH012016000#3	Jmtt	2023/3/27	2024/3/27
Cable 6m 18 GHz	201EH012016000	201EH012016000#5	Jmtt	2023/3/27	2024/3/27
Cable 3.5m 18 GHz	201EH012013500	201EH012013500#3	Jmtt	2023/3/27	2024/3/27
Cable 1.5m 18 GHz	201EH012011500	201EH012011500#2	Jmtt	2023/3/27	2024/3/27

Antenna Information

1A Antenna Part Number	1B Manufacturer	1C Antenna Type	1D Cable Assembly Part Number and Information	Freq Range MHz	1E * Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G Max VSWR	1H Cable Loss (dB)
(P/N: AYP6Y-100499) Main Antenna	AWAN	PIFA	(P/N: 20565-001R-13) 50 ohm Coaxial length: 450mm diameter: 1.13mm	2400-2483.5	2.2	3.24	2	1.04
				5150-5250	2.01	3.49	2	1.48
				5250-5350	2.22	3.77	2	1.55
				5470-5725	3.51	5.09	2	1.58
				5725-5850	3.73	5.34	2	1.61
				5850-5895	2.72	4.36	2	1.64
				5925-6425	1.72	3.4	2	1.68
				6425-6525	1.13	2.84	2	1.71
				6525-6875	3.1	4.85	2	1.75
				6875-7125	3.3	5.06	2	1.76
(P/N: AYP6Y-100500) Aux Antenna	AWAN	PIFA	(P/N: 20565-001R-13) 50 ohm Coaxial length: 500mm diameter: 1.13mm	2400-2483.5	2.35	3.5	2	1.15
				5150-5250	2.23	3.88	2	1.65
				5250-5350	2.46	4.19	2	1.73
				5470-5725	2.93	4.69	2	1.76
				5725-5850	3.52	5.31	2	1.79
				5850-5895	2.73	4.59	2	1.86
				5925-6425	3.48	5.34	2	1.86
				6425-6525	2.7	4.64	2	1.94
				6525-6875	3.46	5.41	2	1.95
				6875-7125	3.24	5.2	2	1.96

3D Antenna Peak Gain required being test in system basis.

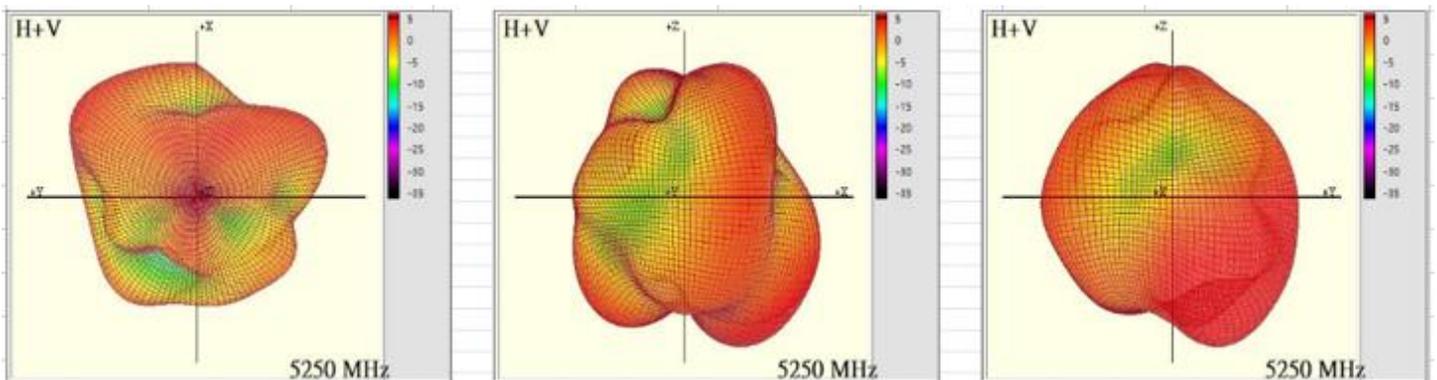## 4. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz
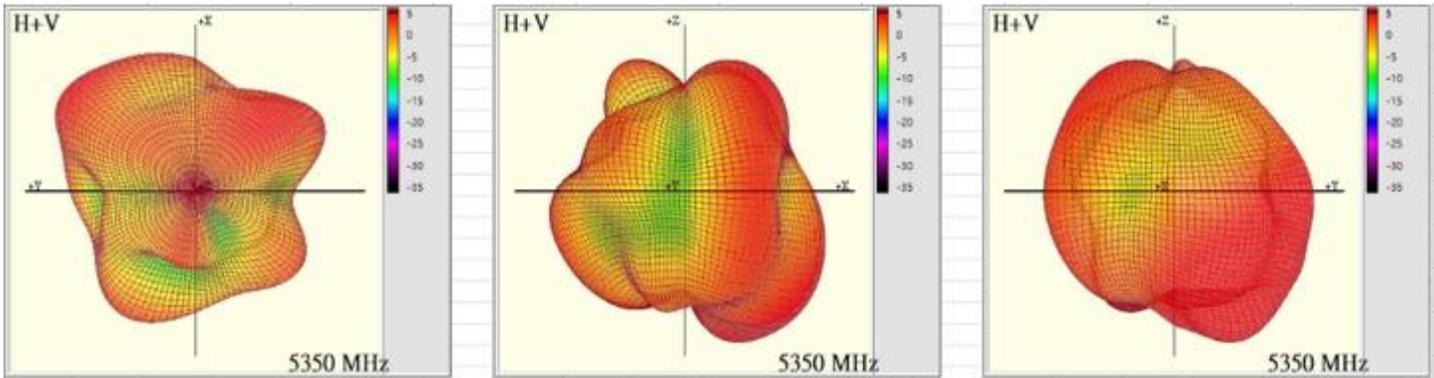
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.20
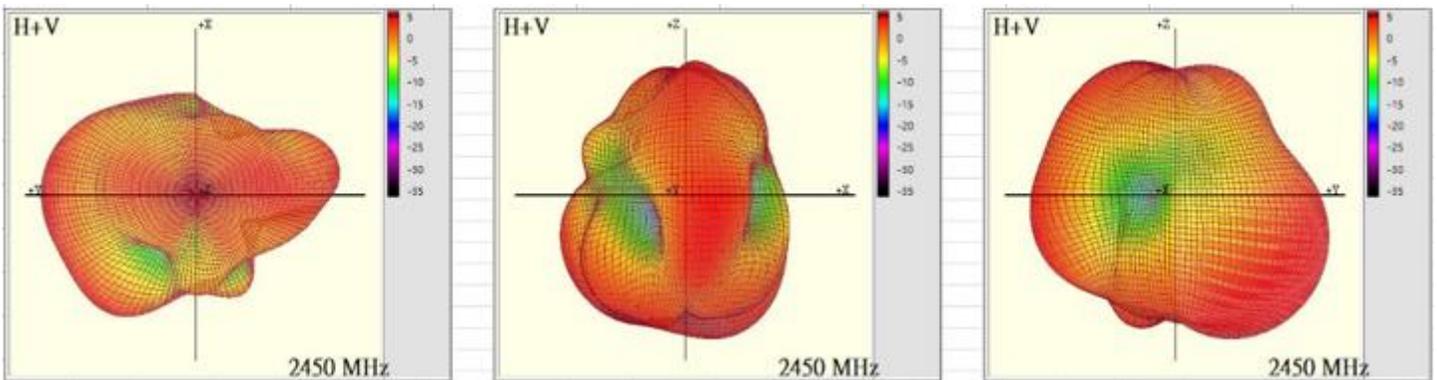
Max Antenna 3D Radiation Pattern 5150-5250 MHz
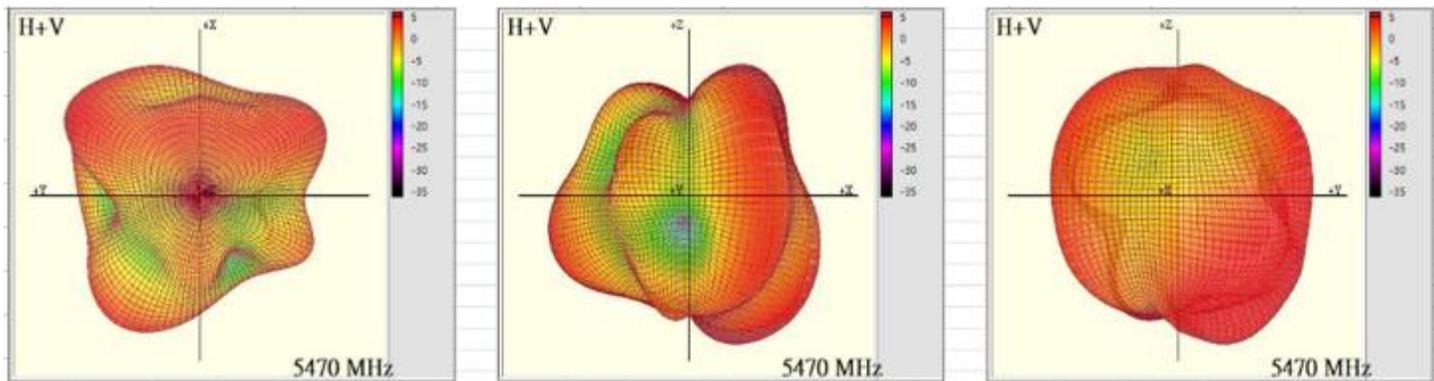
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.01

Max Antenna 3D Radiation Pattern 5250-5350 MHz
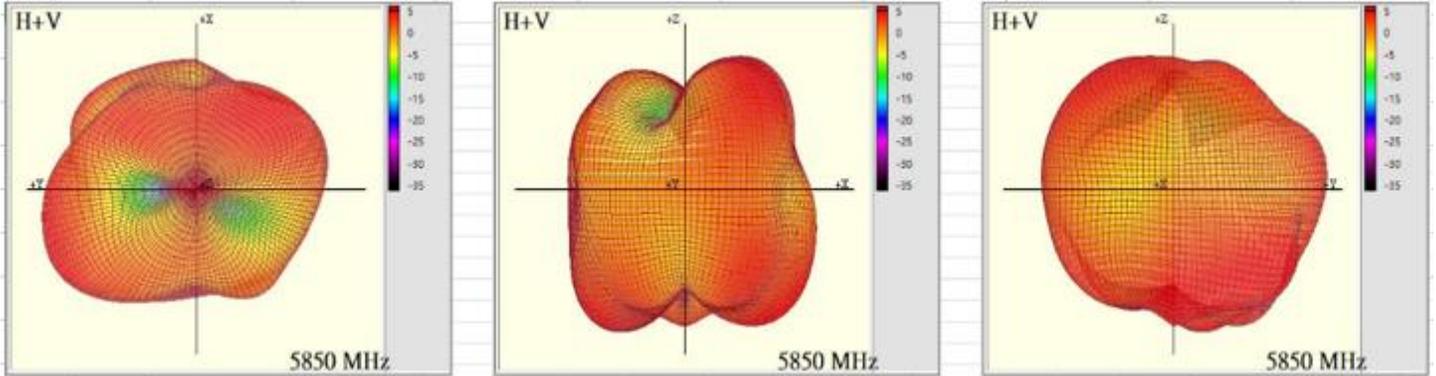
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.22

Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	3.51

Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	3.73

Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.72
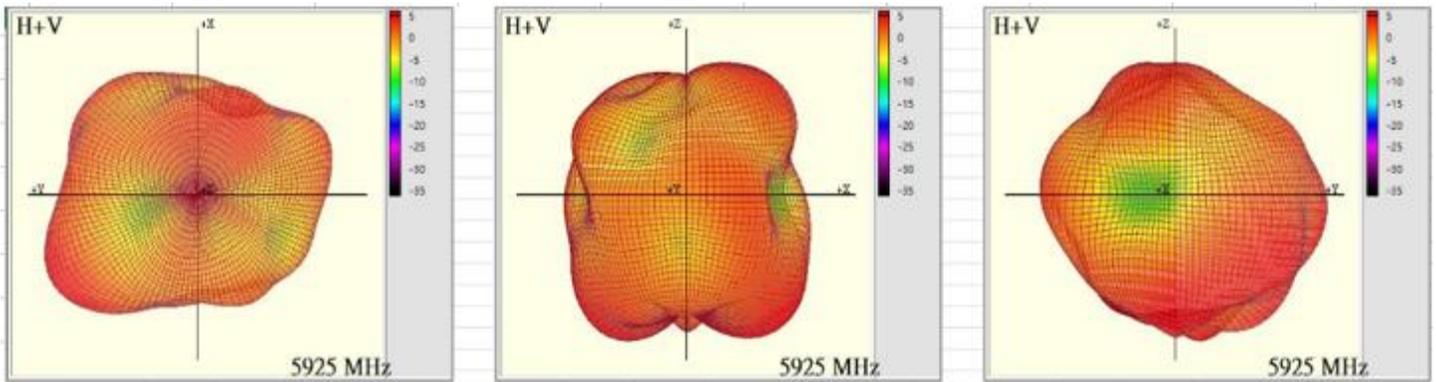
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	1.72
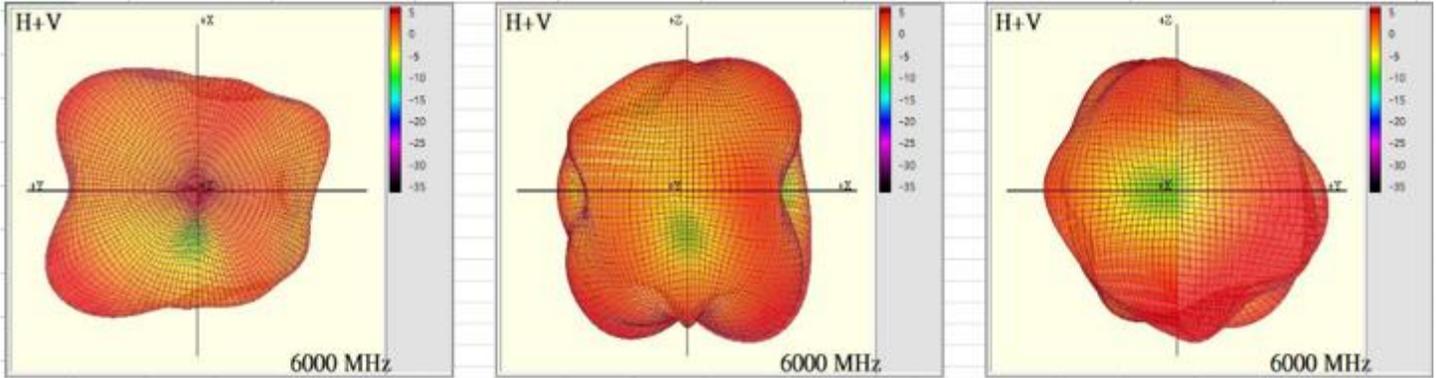
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	1.13
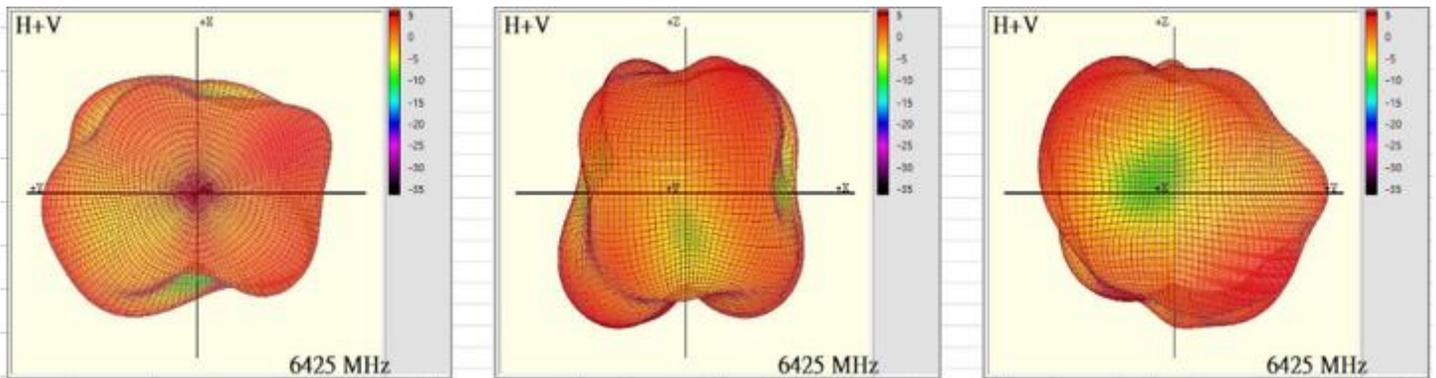
Max Antenna 3D Radiation Pattern 6525-6875 MHz

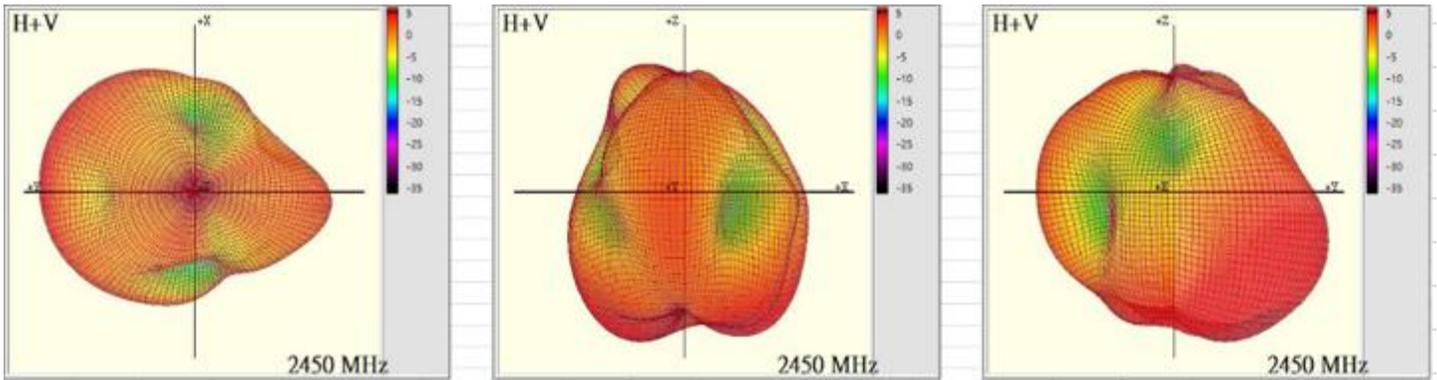| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	3.10
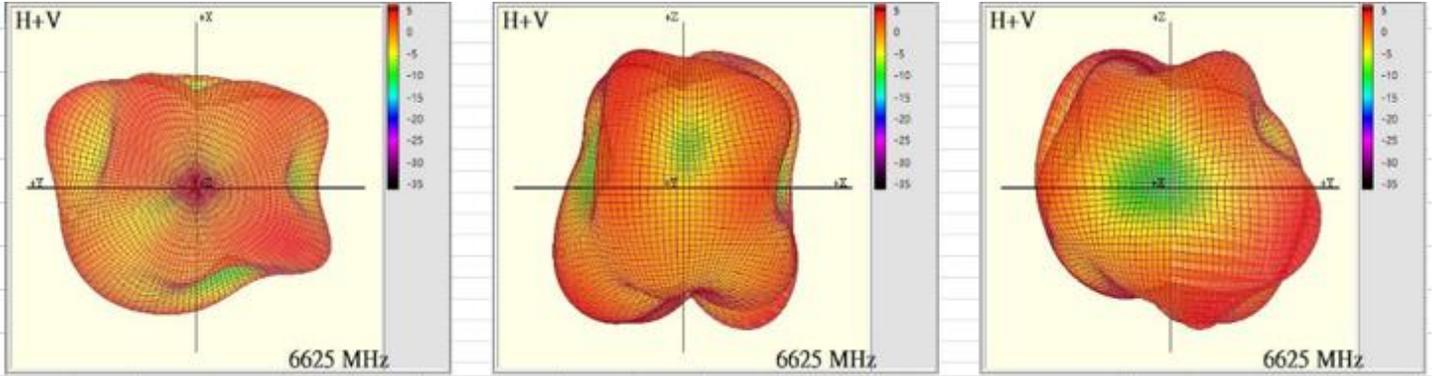
Max Antenna 3D Radiation Pattern 6875-7125 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	3.30
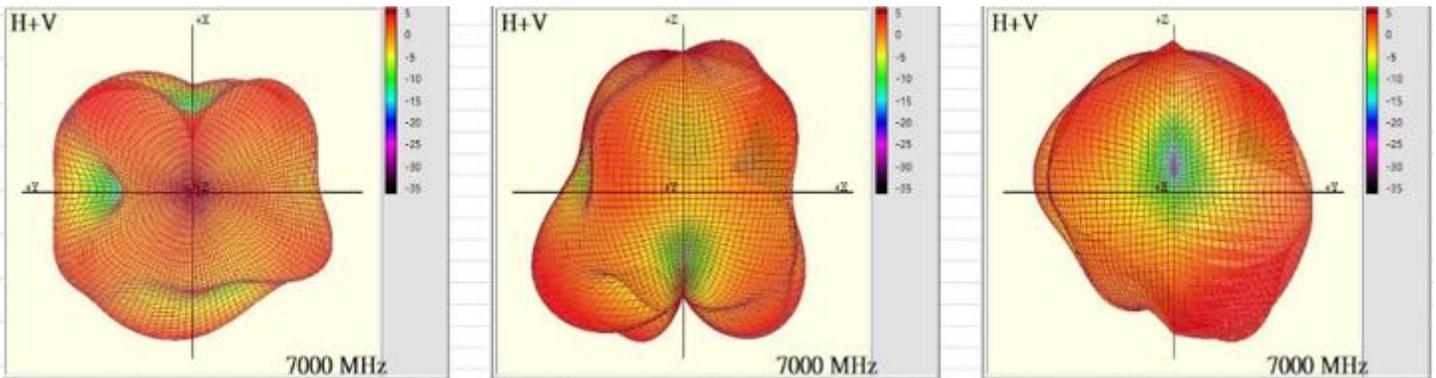
Auxiliary Antenna

Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz
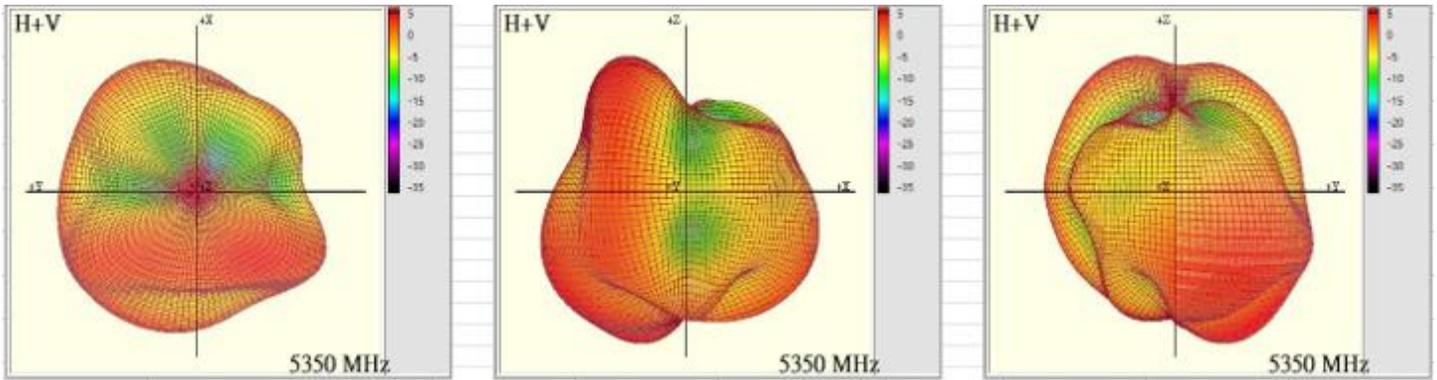
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.35

Max Antenna 3D Radiation Pattern 5150-5250 MHz
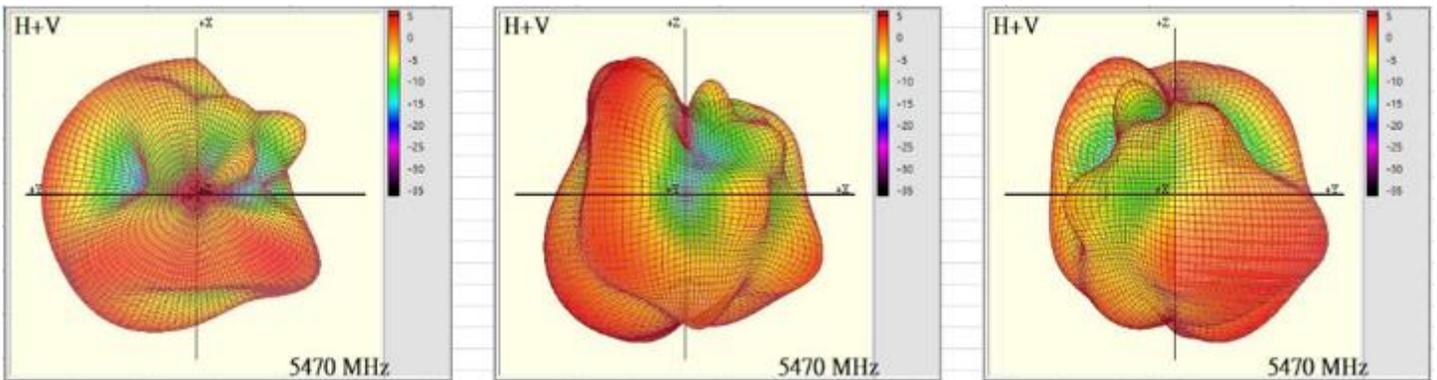
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.23
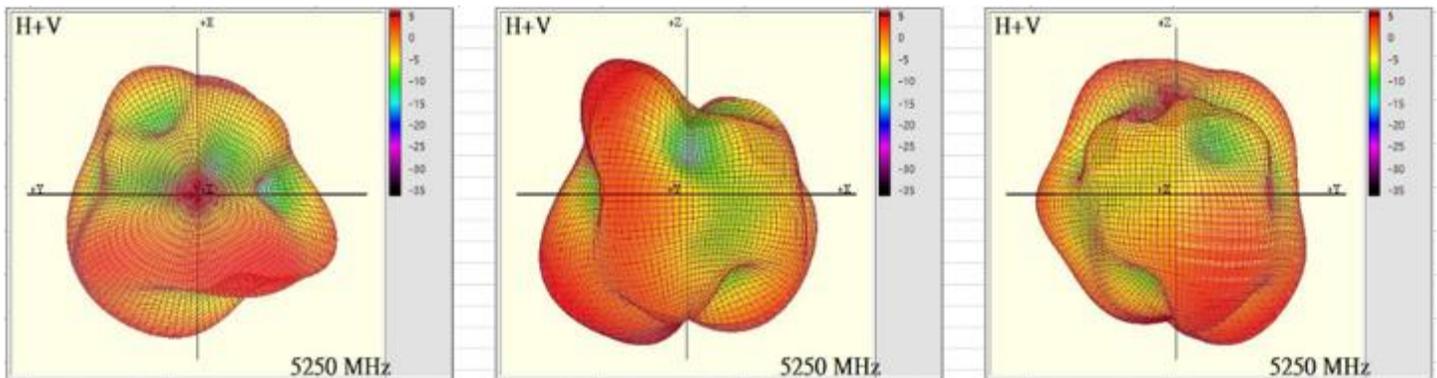
Max Antenna 3D Radiation Pattern 5250-5350 MHz

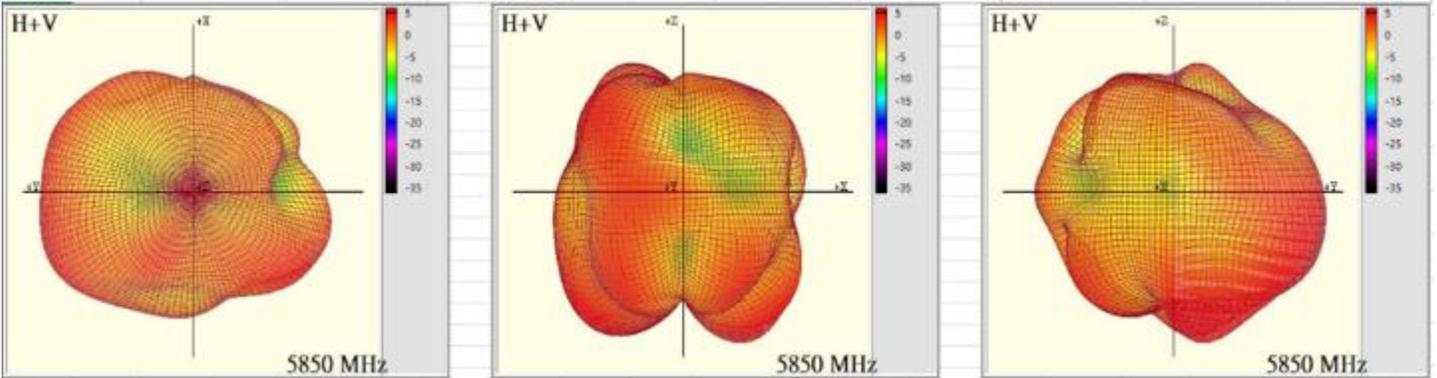| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.46

Max Antenna 3D Radiation Pattern 5470-5725 MHz

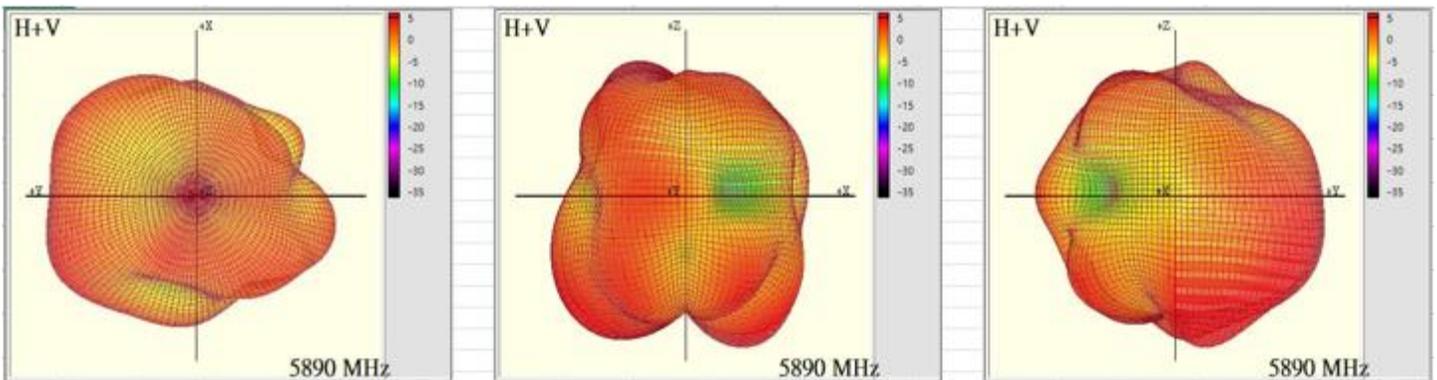| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	2.93

Max Antenna 3D Radiation Pattern 5725-5850 MHz

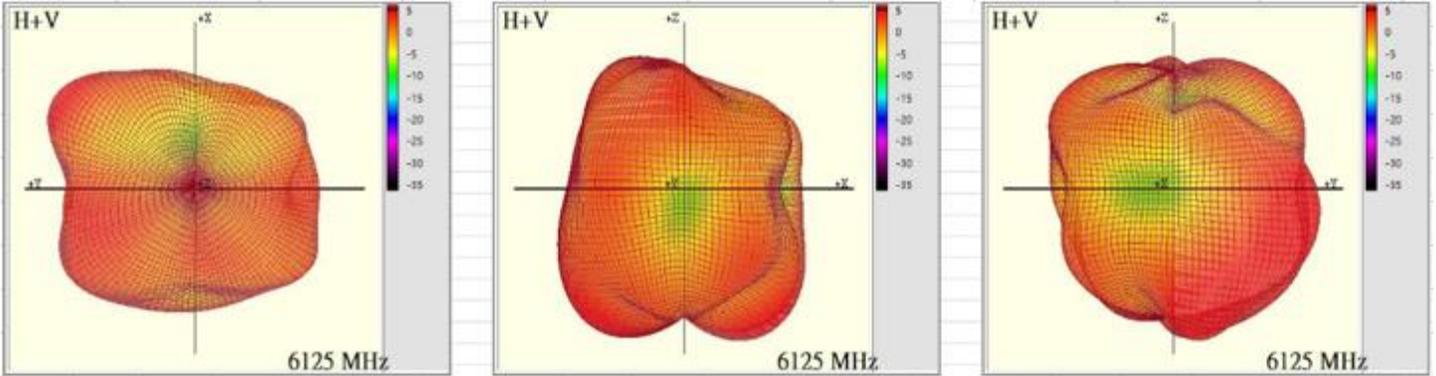| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	3.52

Max Antenna 3D Radiation Pattern 5850-5895 MHz

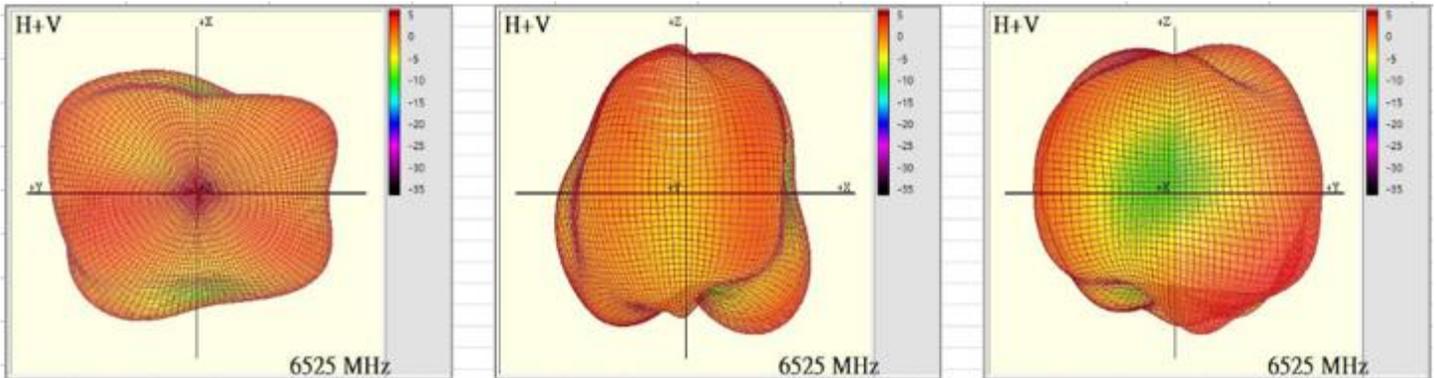| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.73

Max Antenna 3D Radiation Pattern 5925-6425 MHz

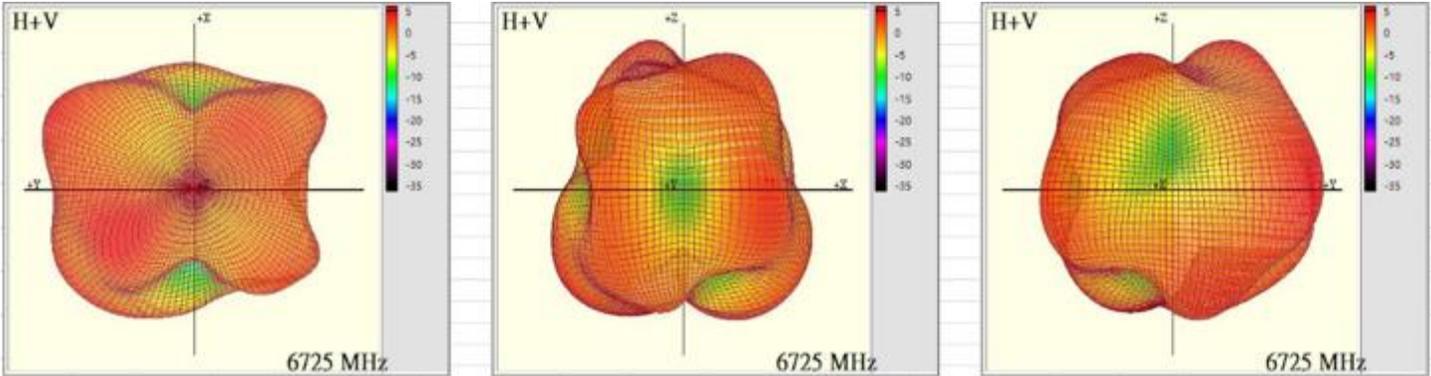| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	3.48

Max Antenna 3D Radiation Pattern 6425-6525 MHz

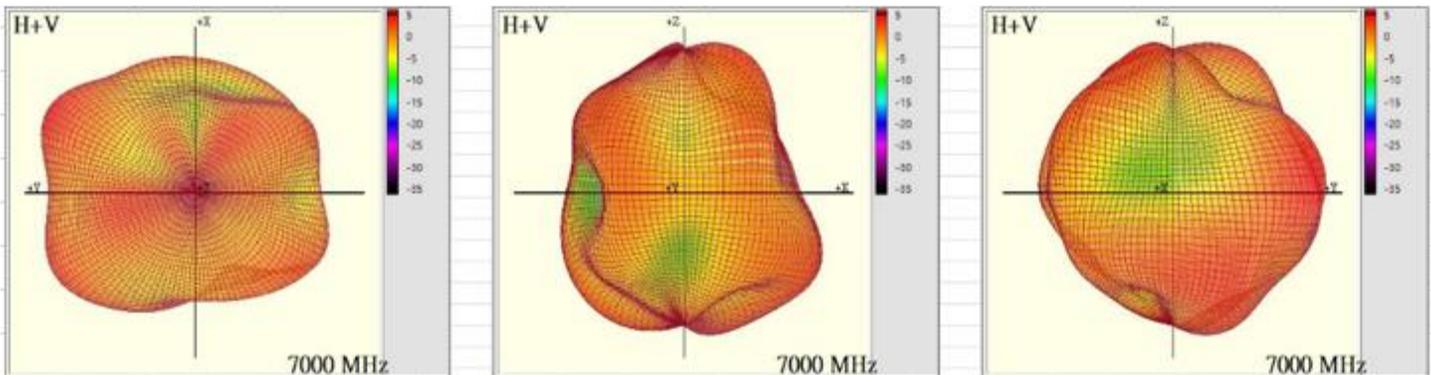| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	2.70

Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	3.46

Max Antenna 3D Radiation Pattern 6875-7125 MHz

| Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	3.24

Annex B. Antenna Location

B.1 Antenna Host Platform Location Information

Include a <u>dimensioned photo(s) or dimensioned drawing(s)</u> of Main and Aux antenna placements (measurements are not required for <u>receive-only</u> antenna).

Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.
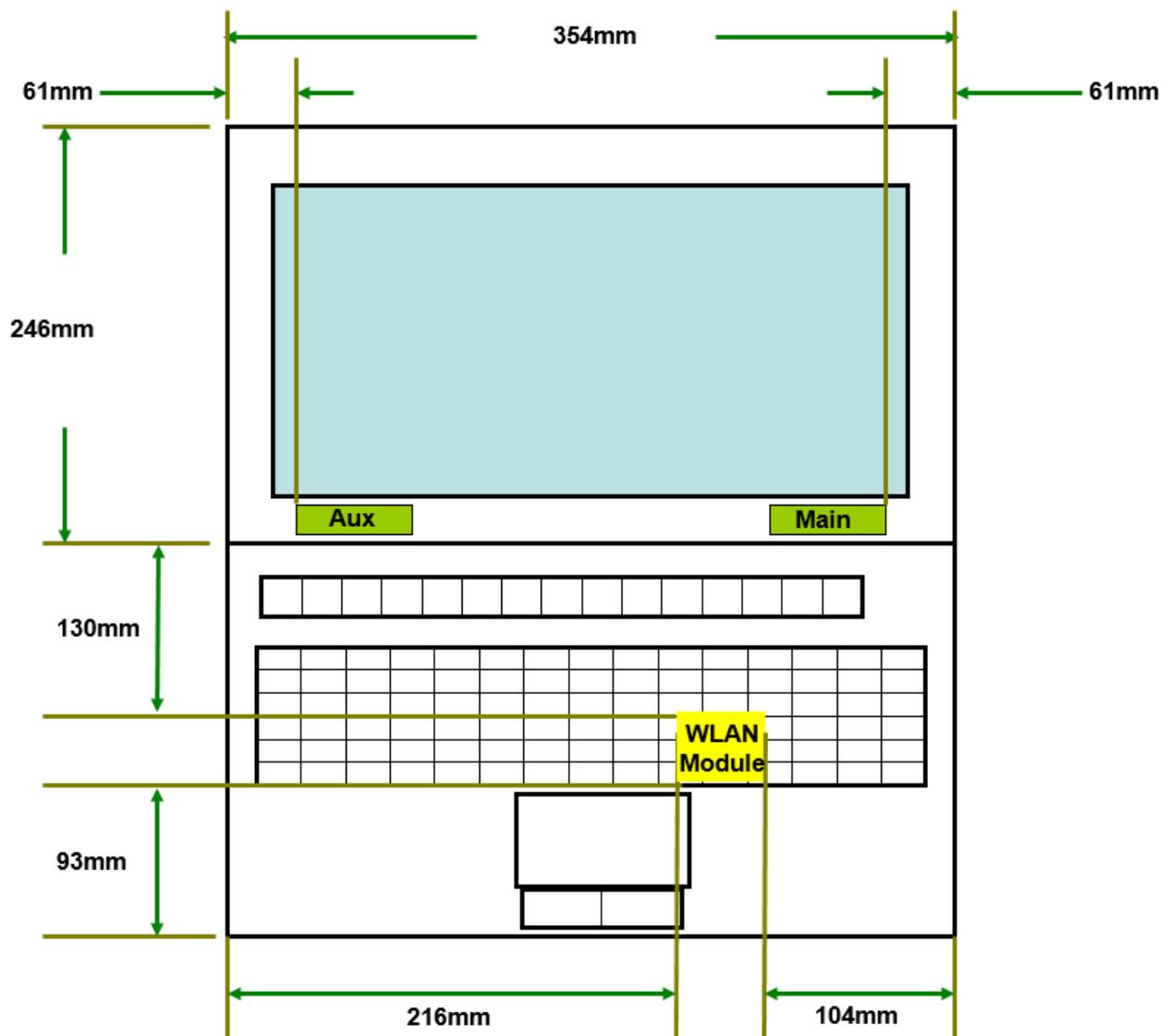
B.2 Antenna dimensional information for SAR evaluation

Include a <u>dimensioned photo(s) or dimensioned drawing(s)</u> showing the distance (mm) between the transmit antennas and the user. For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary landscape positions. Include a description of any proximity sensors or power throttling implementations that limit or exclude use of any host orientation.

SAR minimum separation: 5.4mm