

ANTENNA INFORMATION

OEM	ASUS
ODM	Quanta
Platform model name	FA506NF
Intel platform (ex: Yes, No or NA)	Yes
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: DQ60AUP6Y06 (AUP6Y-200005)	Aux: DQ60AUP6Y06 (AUP6Y-200005)	
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	2.34	1.79	2.41	2.18	2.1	2.58	N/A	N/A	N/A	N/A
Aux	2.69	1.36	1.36	2.12	2.30	2.46	N/A	N/A	N/A	N/A

Cable Assembly Part Number and Information					
	Cable PN	Cable length(mm)	Cable diameter(mm)	Impedance(ohm)	Connector type
Main	SY113/50-105	134	1.13	50	I-PEX NGFF (20565-001R-13)
Aux	SY113/50-128	171	1.13	50	I-PEX NGFF (20565-001R-13)

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

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1. Test & System Description

3.1 Measurement Method and System

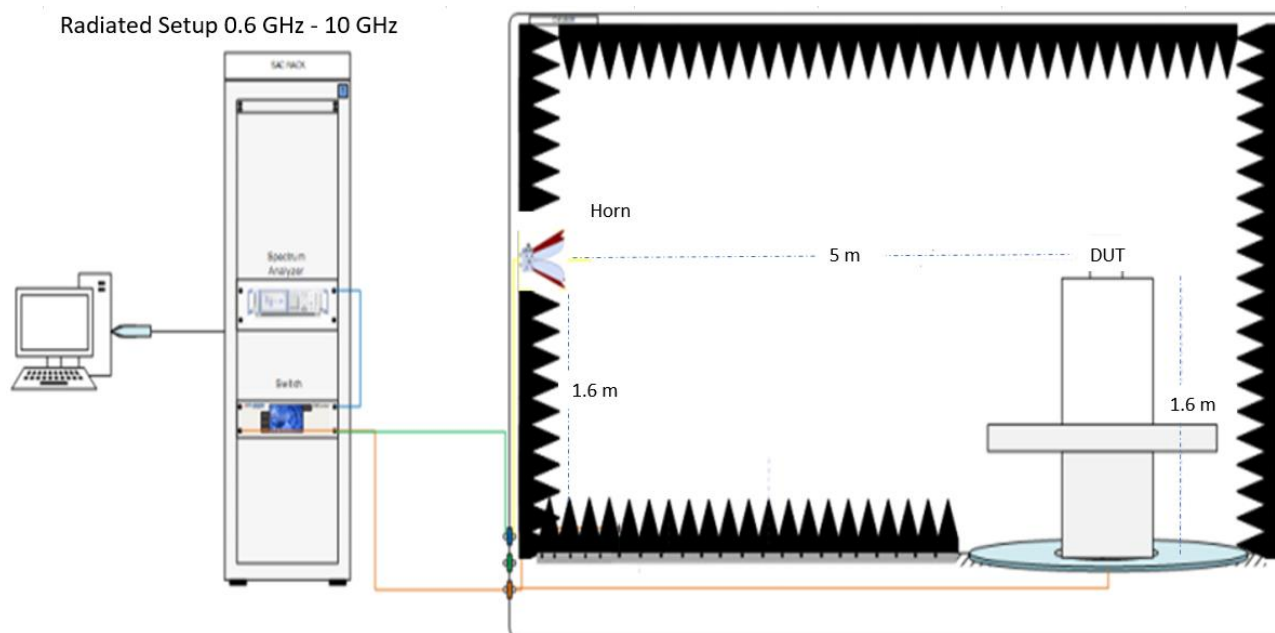
The gain measurement shall follow by following conditions:

- 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

1. Antenna Assembly Specifications

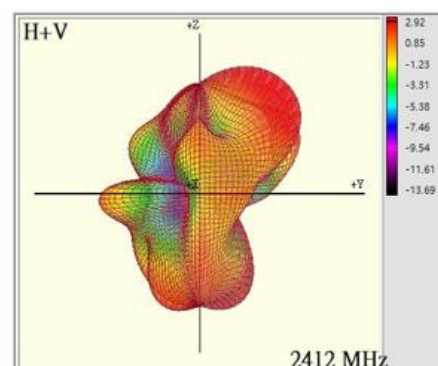
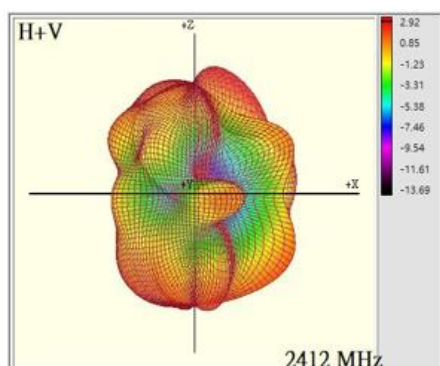
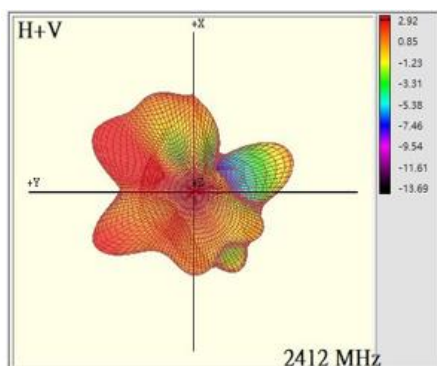
1A	1B	1C	1D		1E	1F	1G	1H
Antenna Part Number	Manufacturer	Antenna Type	Cable Assembly Part Number and Information	Freq Range MHz	* Peak Gain W/ Cable loss (dBi)	Peak Gain w/o Cable Loss (dBi)	Max VSWR	Cable Loss (dB)
(P/N: AUP6Y-200005) Main Antenna	AWAN	PIFA	50 ohm Coaxial length: 134cm diameter: 1.13mm Normal Cable Connector : I-PEX IV	2400-2483.5	2.34	2.78	3	0.44
				5150-5250	1.79	2.46	3	0.67
				5250-5350	2.41	3.08	3	0.67
				5470-5725	2.18	2.87	3	0.69
				5725-5850	2.1	2.81	3	0.71
				5850-5895	2.58	3.29	3	0.71
				5925-6425	N/A	N/A	N/A	N/A
				6425-6525	N/A	N/A	N/A	N/A
				6525-6875	N/A	N/A	N/A	N/A
				6875-7125	N/A	N/A	N/A	N/A
(P/N: AUP6Y-200005) Aux Antenna	AWAN	PIFA	50 ohm Coaxial length: 171cm diameter: 1.13mm Normal Cable Connector : I-PEX IV	2400-2483.5	2.69	3.25	3	0.56
				5150-5250	1.36	2.22	3	0.86
				5250-5350	1.36	2.22	3	0.86
				5470-5725	2.12	3	3	0.88
				5725-5850	2.3	3.21	3	0.91
				5850-5895	2.46	3.37	3	0.91
				5925-6425	N/A	N/A	N/A	N/A
				6425-6525	N/A	N/A	N/A	N/A
				6525-6875	N/A	N/A	N/A	N/A
				6875-7125	N/A	N/A	N/A	N/A

2. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

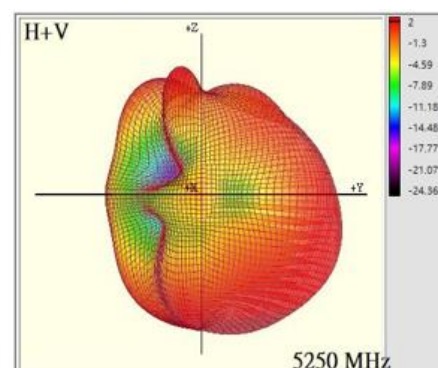
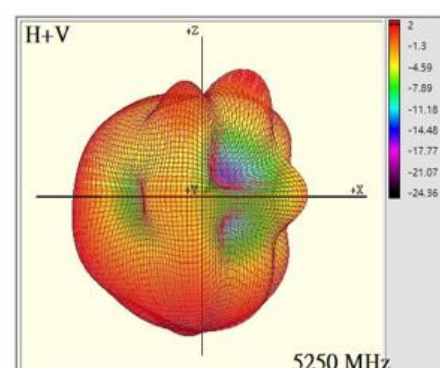
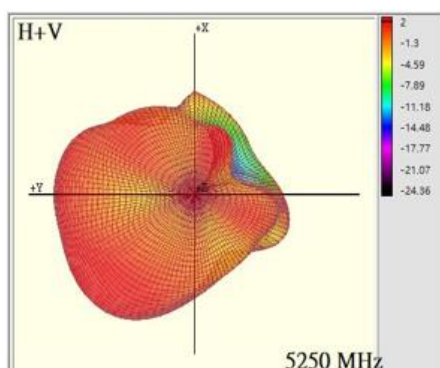
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.34



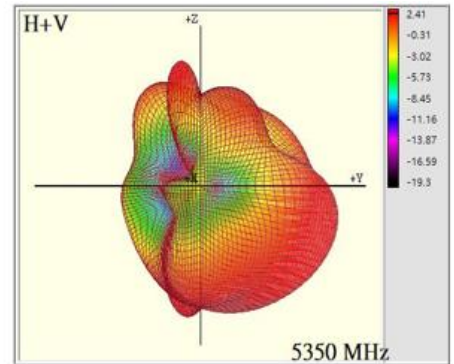
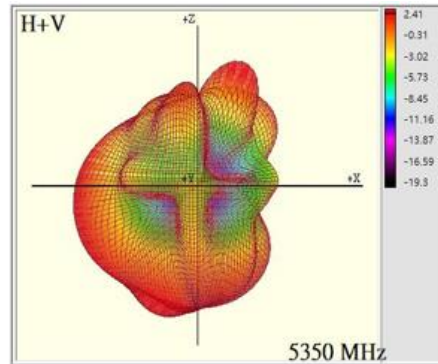
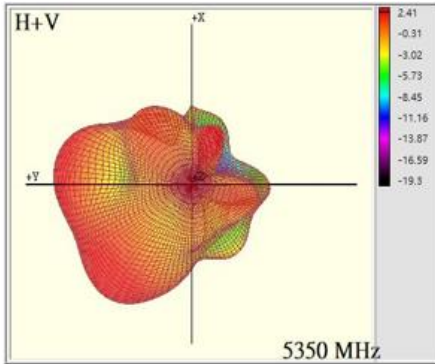
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	1.79



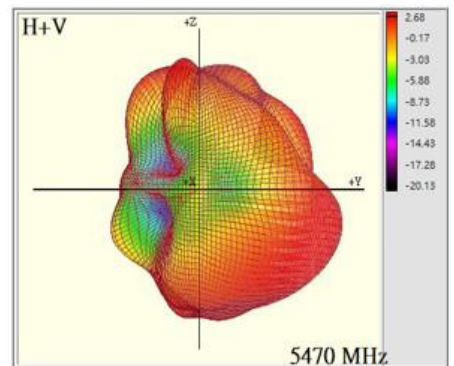
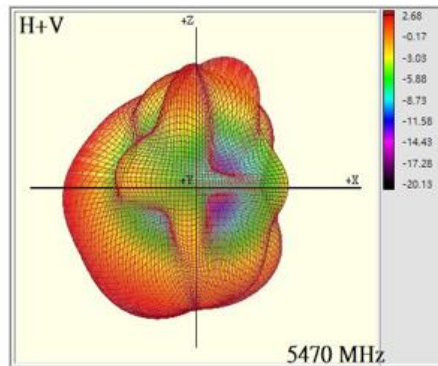
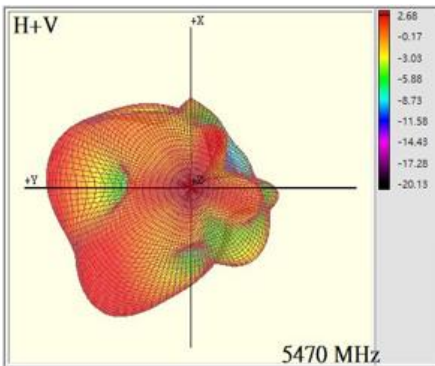
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.41



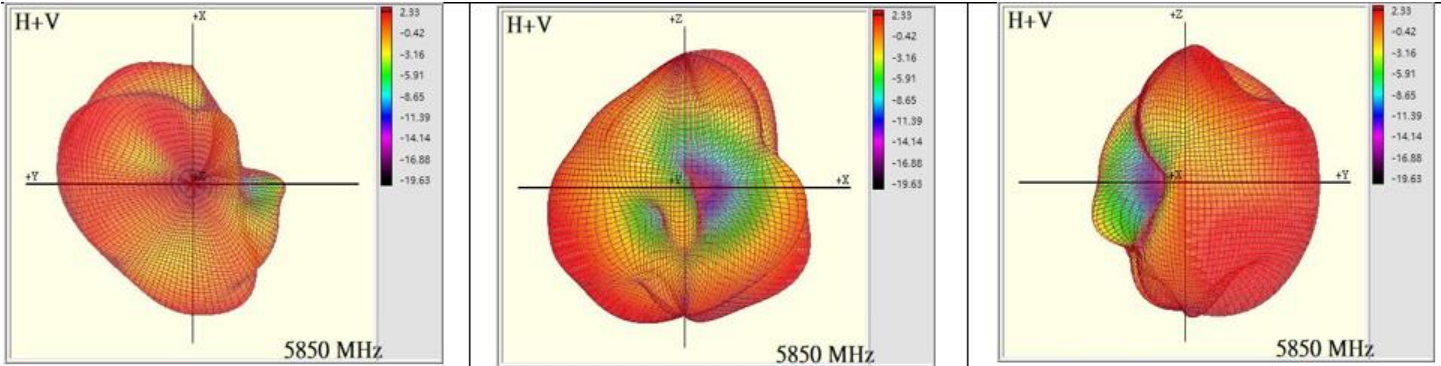
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	2.18



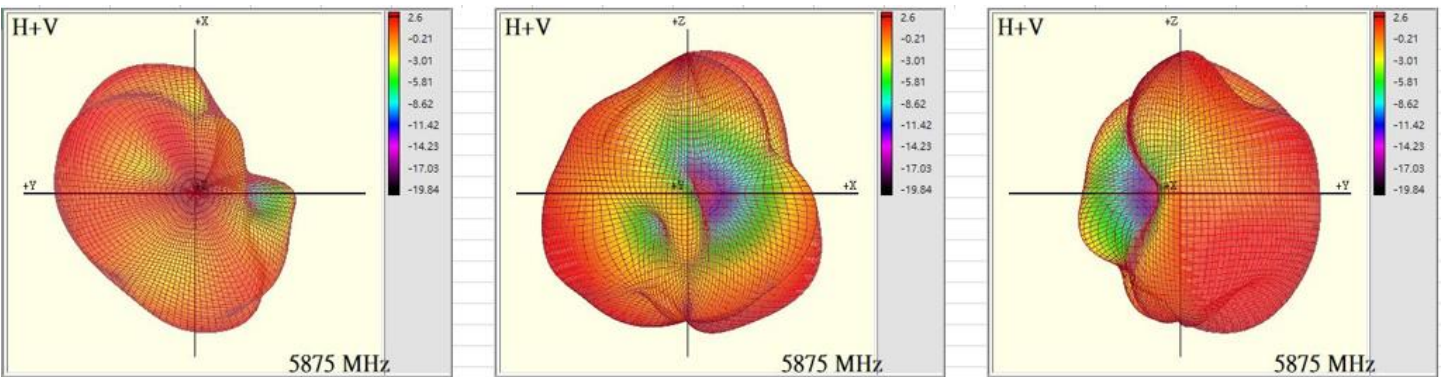
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.1



Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.58



Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	N/A

Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	N/A

Max Antenna 3D Radiation Pattern 6525-6875 MHz

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

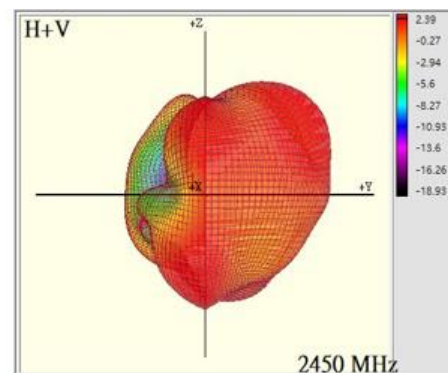
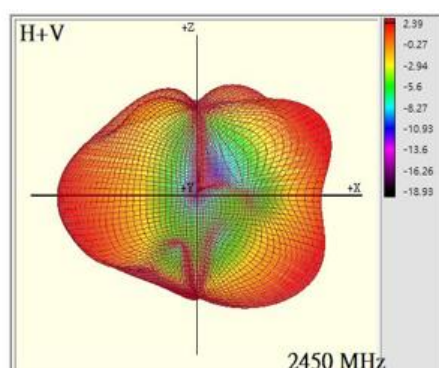
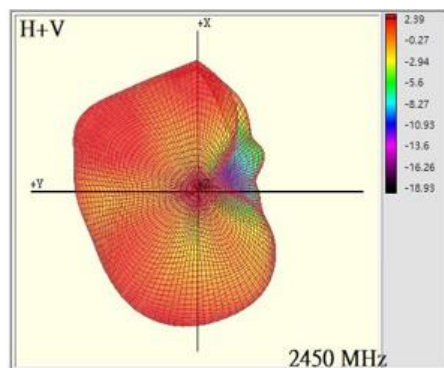
Max Antenna 3D Radiation Pattern 6875-7125 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	N/A

Auxiliary Antenna

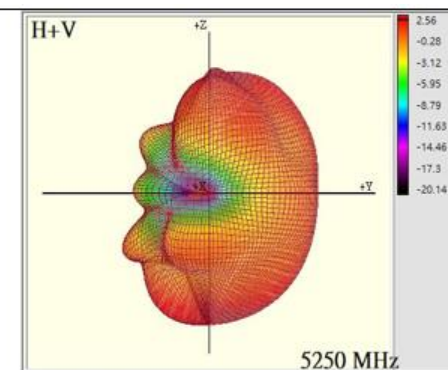
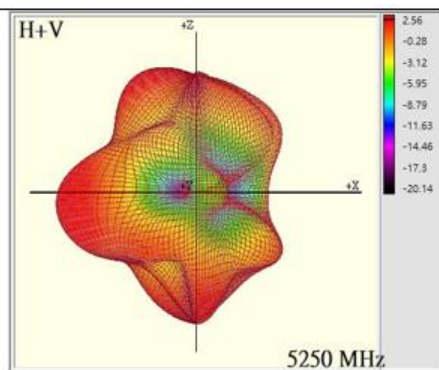
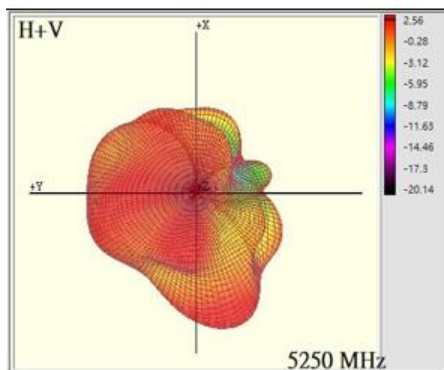
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.69



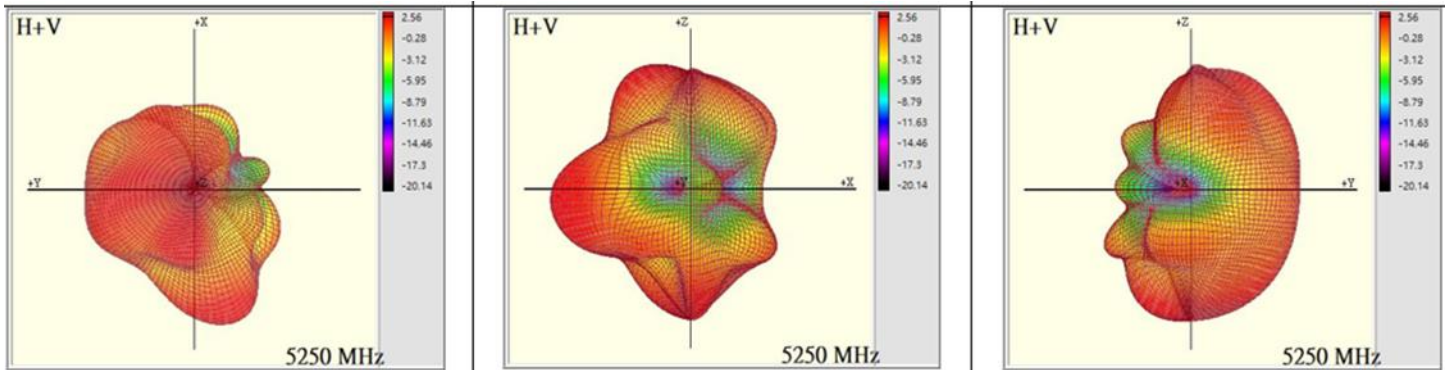
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	1.36



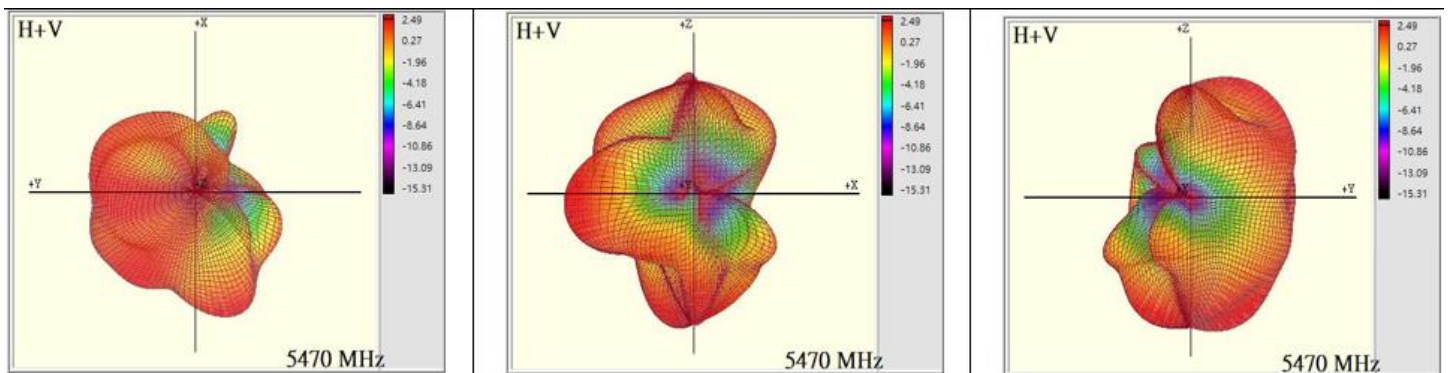
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	1.36



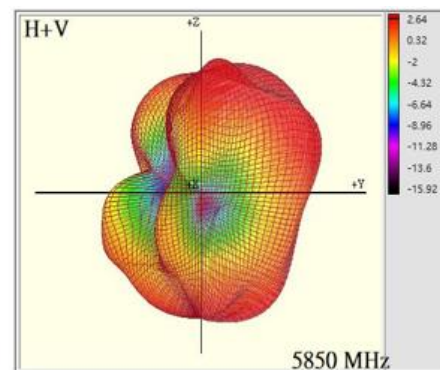
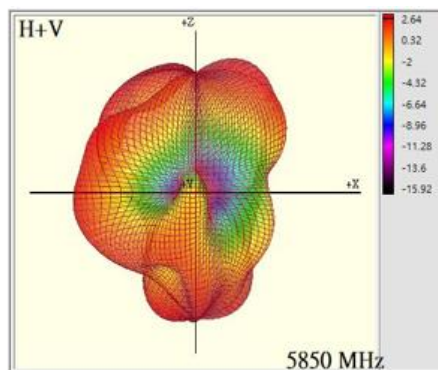
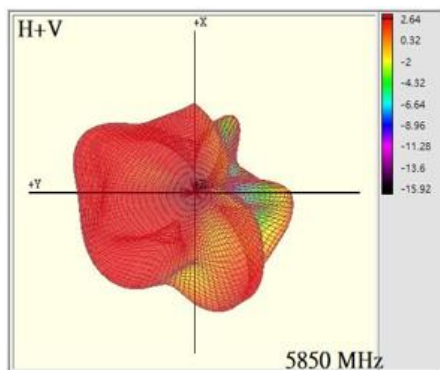
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	2.12



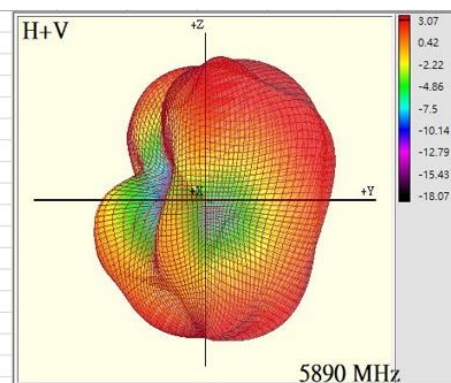
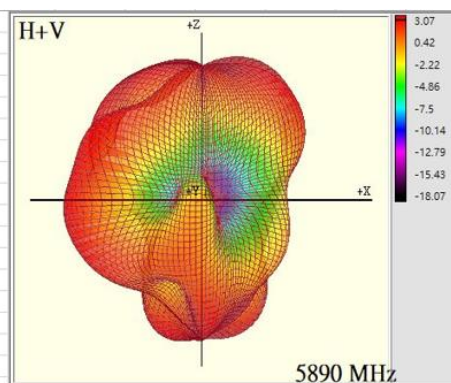
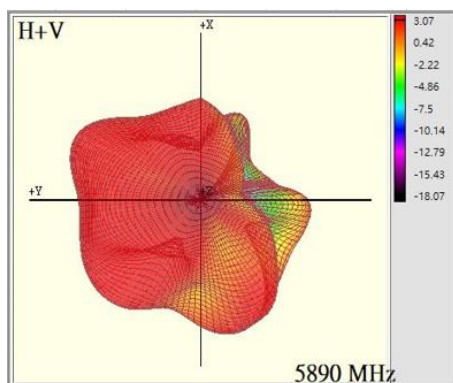
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.30



Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.46



Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	N/A

Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	N/A

Max Antenna 3D Radiation Pattern 6525-6875 MHz

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

Max Antenna 3D Radiation Pattern 6875-7125 MHz

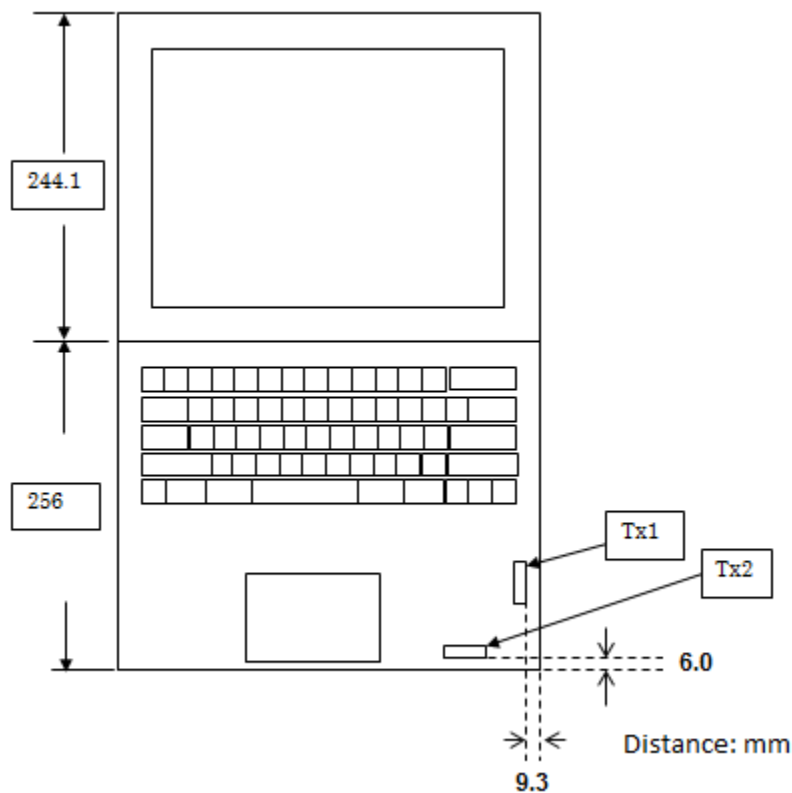
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	N/A

Annex B. Antenna Location

B.1 Antenna Host Platform Location Information

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

