Regulatory WLAN Antenna Information

English Language Required for Intel Regulatory Review / Approval

Platform information

Brand	ODM	****End product model name	Intel platform (ex: Yes, No or NA)	Platform type (ex: regular NB, convertible PC, AIO…etc)	*SAR minimum separation (mm)
Lenovo	LCFC	Lenovo Y980	Yes	Regular NB	

*****Please fill in exact product model name and make sure the model name is visible on product cover or any parts for end users recognize for authority inspection.**

Antenna information

Vendor	Type	Antenna Part number (Main)	Antenna Part number (Aux)
AWAN	PIFA	DC330021K10 (AYF6Y-200006)	DC330021K10 (AYF6Y-200006)

Peak gain w/ cable loss (dBi)*

Mode1	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	2.88	3.05	3.05	1.80	1.50	1.50	3.73	1.71	2.51	1.95
Aux	2.90	3.41	3.41	3.25	2.60	2.60	3.81	3.81	2.65	1.44
Mode2	**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	2.74	1.10	0.93	-0.03	2.42	2.42	2.96	2.24	2.81	1.60
Aux	2.48	0.88	0.18	1.15	3.12	3.12	3.49	1.65	1.48	1.56

Intel Reference Gain/Type/ Separation distance

Antenna Type	Antenna Peak gain (In dBi)*										Distance to the end user (mm)
	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	7.0GHz 6875-7125MHz	Generic: refer to modular FCC SAR report
Design	3.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	Mid-power: ≥ 8 mm
PIFA	3.24	3.64	3.73	4.77	4.97	4.72	4.83	4.30	5.37	5.59	
Dipole	2.89	2.92	3.19	4.41	4.22	4.22	4.83	4.30	4.49	5.34	Low power: ≥ 5 mm

Notes (marked with *)

*** SAR minimum separation (mm)**

- Regular NB: Minimum antenna-to-body (from antenna bottom to the bottom of the device)

- Tablet / Convertible PC: Minimum antenna-to-edge (5 sides of the device)

- Mini-tablet: Minimum antenna-to-edge (6 sides of the device)

*** 3D Peak Antenna gain should be equal or greater than -2 dBi**

- If a host integrator plans to use a lower gain antenna of the same type, additional CBP(FCC)/EDT(EU) testing need to be performed while the module is installed in the host.

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1. **Applicable test methods**

The gain measurement shall follow by following conditions:

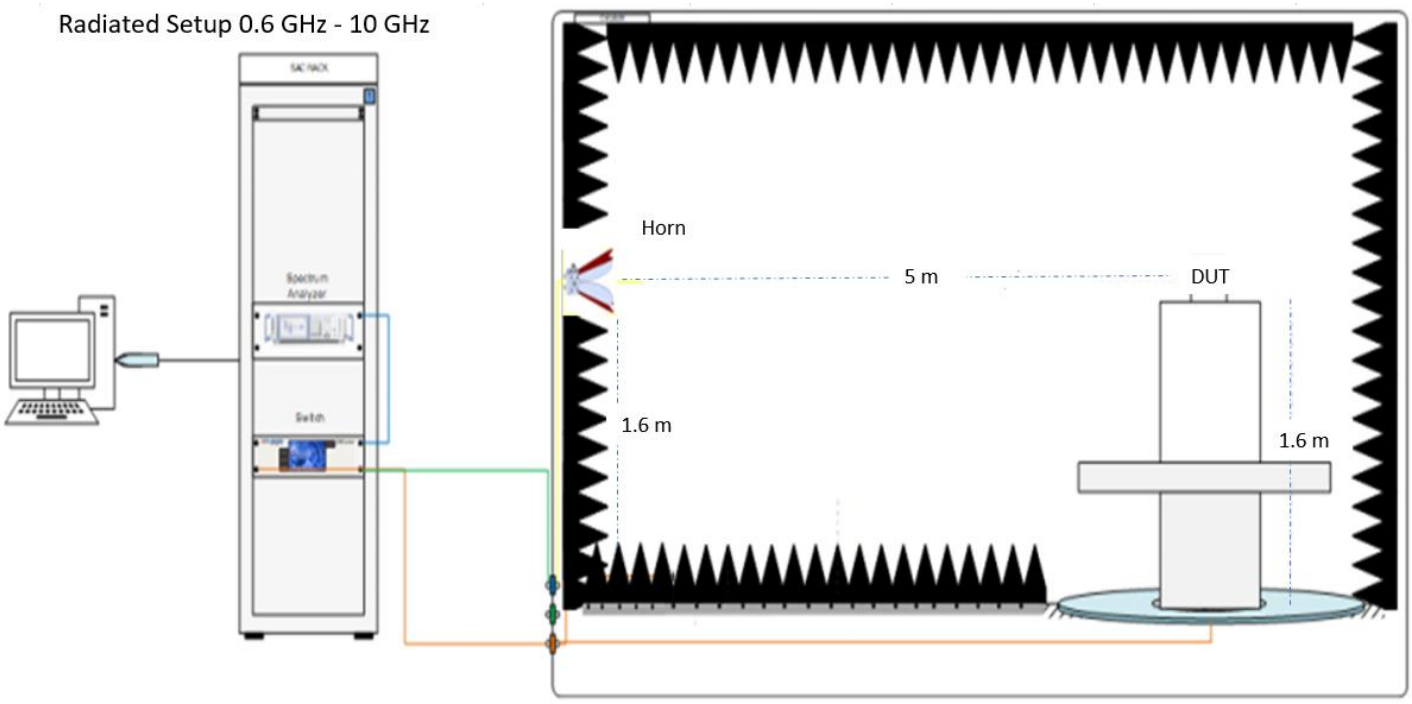
- It is required that all the antenna gain to be measured spherically and computed by spatial average be computed of the resultant gain.
- During gain measurement, all other antennas not under test should be terminated by 50 Ohm load in end of cable.
- Space points of 3D gain measurement are increase 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

2. Test & System Description

a. Test setup

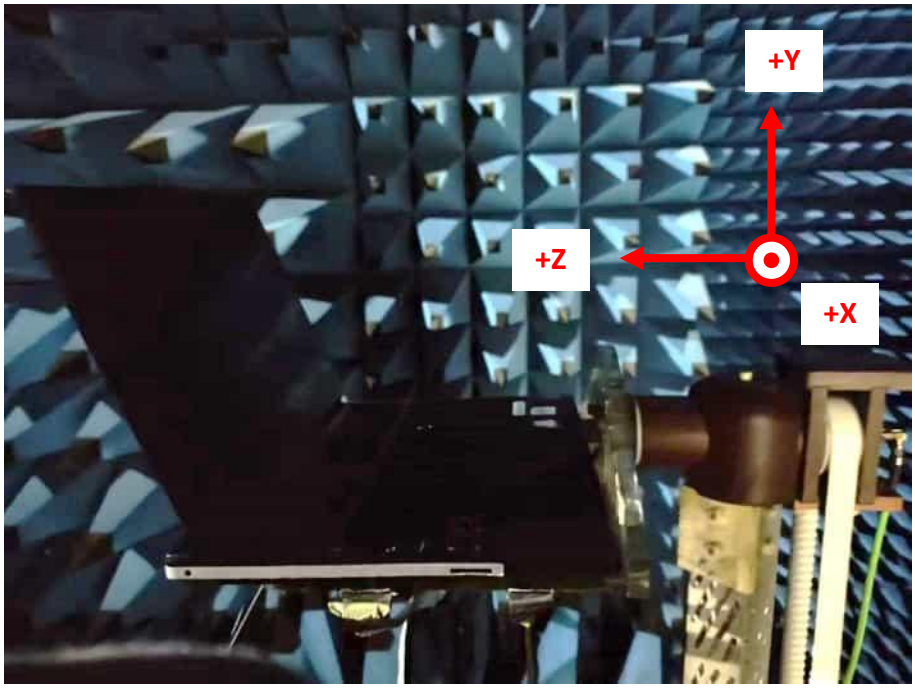
The testing of antenna gain should be made at a ETS qualified lab with an RF anechoic chamber with at least 5-meter separation from the receive antenna to the antenna under test. The antenna gain report from unqualified lab can't be referenced a passing. Besides, all test equipment including horn antennas,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



b. Equipment list

Device	Type/Module	Serial#	Manufacturer	Cal. Date	Cal. Due Date
Anechoic Chamber	AMS-8500	1047	ETS-Lindgren	2022/1/21	2023/7/22
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	2021/5/16	2023/5/16
Vector Network Analyzer	E5071C	MY46733781	Keysight	2022/1/21	2025/1/21
Cable 40cm 18 GHz	201EH012010400	201EH012010400#1	Jmtt	2022/3/27	2023/3/27
Cable 6m 18 GHz	201EH012016000	201EH012016000#3	Jmtt	2022/3/27	2023/3/27
Cable 6m 18 GHz	201EH012016000	201EH012016000#5	Jmtt	2022/3/27	2023/3/27
Cable 3.5m 18 GHz	201EH012013500	201EH012013500#3	Jmtt	2022/3/27	2023/3/27
Cable 1.5m 18 GHz	201EH012011500	201EH012011500#2	Jmtt	2022/3/27	2023/3/27

3. Setup photo



Test Conditions
NB under test placed on a non-conductive structure at sufficient height to be in the ‘quiet zone’ of the chamber
The NB under test must be fully populated with a power, motherboard, hard drive, disk drives, etc… The purpose is to characterize the antennas on a fully populated customer deliverable unit.
NB’s panel should be parallel with YZ-plane and face to -X-axle, see diagram below.

Antenna Information

Section 1. Antenna Assembly Specifications

Mode 1

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)
Main Antenna (Customer P/N:DC330021K10) (AWAN P/N:AYF6Y-200006)	AWAN	PIFA	1)Cable P/N: GBE/Shen-Yu/YFC/KAIBO 2) 50 ohm LL OD 1.13 coaxial cable 3) Length: 260 mm 4) Connector P/N: I-pex NGFF: 20572-001R-08 KangShuo MHF-B13-N-01	2400-2483.5	2400-2483.5MHz 2.88 dBi(peak)	2400-2483.5MHz 3.85 dBi(peak)	2400-2483.5MHz 3.00 max	2400-2483.5MHz 0.97 dBi(peak)
				5150-5250	5150-5250MHz 3.05 dBi(peak)	5150-5250MHz 4.43 dBi(peak)	5150-5250MHz 3.00 max	5150-5250MHz 1.38 dBi(peak)
				5250-5350	5250-5350MHz 3.05 dBi(peak)	5250-5350MHz 4.43 dBi(peak)	5250-5350MHz 3.00 max	5250-5350MHz 1.38 dBi(peak)
				5470-5725	5470-5725MHz 1.80 dBi(peak)	5470-5725MHz 3.18 dBi(peak)	5470-5725MHz 3.00 max	5470-5725MHz 1.38 dBi(peak)
				5725-5850	5725-5850MHz 1.50 dBi(peak)	5725-5850MHz 2.89 dBi(peak)	5725-5850MHz 3.00 max	5725-5850MHz 1.39 dBi(peak)
				5850-5895	5850-5895MHz 1.50 dBi(peak)	5850-5895MHz 2.89 dBi(peak)	5850-5895MHz 3.00 max	5850-5895MHz 1.39 dBi(peak)
				5925-6425	5925-6425MHz 3.73 dBi(peak)	5925-6425MHz 5.22 dBi(peak)	5925-6425MHz 3.00 max	5925-6425MHz 1.49 dBi(peak)
				6425-6525	6425-6525MHz 1.71 dBi(peak)	6425-6525MHz 3.22 dBi(peak)	6425-6525MHz 3.00 max	6425-6525MHz 1.51 dBi(peak)
				6525-6875	6525-6875MHz 2.51 dBi(peak)	6525-6875MHz 4.08 dBi(peak)	6525-6975MHz 3.00 max	6525-6875MHz 1.57 dBi(peak)
				6875-7125	6875-7125MHz 1.95 dBi(peak)	6875-7125MHz 3.53 dBi(peak)	6875-7125MHz 3.00 max	6875-7125MHz 1.58 dBi(peak)
Aux Antenna (Customer P/N:DC330021K10) (AWAN P/N:AYF6Y-200006)	AWAN	PIFA	1)Cable P/N: GBE/Shen-Yu/YFC/KAIBO 2) 50 ohm LL OD 0.81 coaxial cable 3) Length: 365 mm 4) Connector P/N: I-pex NGFF: 20572-001R-08 KangShuo MHF-B13-N-01	2400-2483.5	2400-2483.5MHz 2.90 dBi(peak)	2400-2483.5MHz 4.27 dBi(peak)	2400-2483.5MHz 3.00 max	2400-2483.5MHz 1.37 dBi(peak)
				5150-5250	5150-5250MHz 3.41 dBi(peak)	5150-5250MHz 5.35 dBi(peak)	5150-5250MHz 3.00 max	5150-5250MHz 1.94 dBi(peak)
				5250-5350	5250-5350MHz 3.41 dBi(peak)	5250-5350MHz 5.35 dBi(peak)	5250-5350MHz 3.00 max	5250-5350MHz 1.94 dBi(peak)
				5470-5725	5470-5725MHz 3.25 dBi(peak)	5470-5725MHz 5.20 dBi(peak)	5470-5725MHz 3.00 max	5470-5725MHz 1.95 dBi(peak)
				5725-5850	5725-5850MHz 2.60 dBi(peak)	5725-5850MHz 4.55 dBi(peak)	5725-5850MHz 3.00 max	5725-5850MHz 1.95 dBi(peak)
				5850-5895	5850-5895MHz 2.60 dBi(peak)	5850-5895MHz 4.55 dBi(peak)	5850-5895MHz 3.00 max	5850-5895MHz 1.95 dBi(peak)
				5925-6425	5925-6425MHz 3.81 dBi(peak)	5925-6425MHz 5.90 dBi(peak)	5925-6425MHz 3.00 max	5925-6425MHz 2.09 dBi(peak)
				6425-6525	6425-6525MHz 3.81 dBi(peak)	6425-6525MHz 5.93 dBi(peak)	6425-6525MHz 3.00 max	6425-6525MHz 2.12 dBi(peak)
				6525-6875	6525-6875MHz 2.65 dBi(peak)	6525-6875MHz 4.85 dBi(peak)	6525-6975MHz 3.00 max	6525-6875MHz 2.20 dBi(peak)
				6875-7125	6875-7125MHz 1.44 dBi(peak)	6875-7125MHz 3.66 dBi(peak)	6875-7125MHz 3.00 max	6875-7125MHz 2.22 dBi(peak)

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

Mode 2

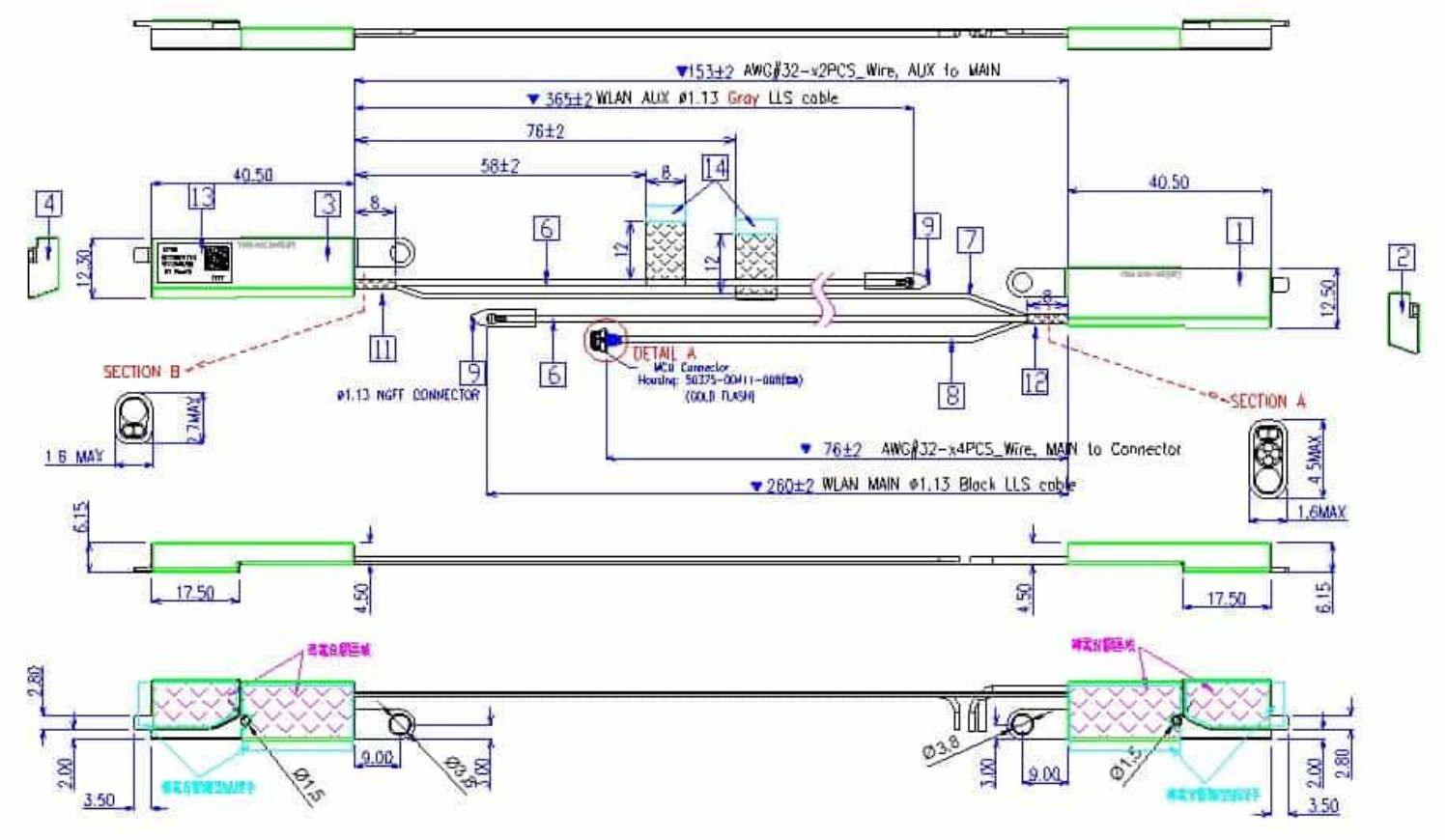
1A Antenna Part Number	1B Manufacturer	1C Antenna Type	1D Cable Assembly Part Number and Information	Freq Range MHz	1E * Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G Max VSWR	1H Cable Loss (dB)
Main Antenna (Customer P/N:DC330021K10) (AWAN P/N:AYF6Y-200006)	AWAN	PIFA	1)Cable P/N: GBE/Shen-Yu/YFC/KAIBO 2) 50 ohm LL OD 1.13 coaxial cable 3) Length: 260 mm 4) Connector P/N: I-pex NGFF: 20572-001R-08 KangShuo MHF-B13-N-01	2400-2483.5	2400-2483.5MHz 2.74 dBi(peak)	2400-2483.5MHz 3.71 dBi(peak)	2400-2483.5MHz 3.00 max	2400-2483.5MHz 0.97 dBi(peak)
				5150-5250	5150-5250MHz 1.10 dBi(peak)	5150-5250MHz 2.48 dBi(peak)	5150-5250MHz 3.00 max	5150-5250MHz 1.38 dBi(peak)
				5250-5350	5250-5350MHz 0.93 dBi(peak)	5250-5350MHz 2.31 dBi(peak)	5250-5350MHz 3.00 max	5250-5350MHz 1.38 dBi(peak)
				5470-5725	5470-5725MHz -0.03 dBi(peak)	5470-5725MHz 1.35 dBi(peak)	5470-5725MHz 3.00 max	5470-5725MHz 1.38 dBi(peak)
				5725-5850	5725-5850MHz 2.42 dBi(peak)	5725-5850MHz 3.81 dBi(peak)	5725-5850MHz 3.00 max	5725-5850MHz 1.39 dBi(peak)
				5850-5895	5850-5895MHz 2.42 dBi(peak)	5850-5895MHz 3.81 dBi(peak)	5850-5895MHz 3.00 max	5850-5895MHz 1.39 dBi(peak)
				5925-6425	5925-6425MHz 2.96 dBi(peak)	5925-6425MHz 4.45 dBi(peak)	5925-6425MHz 3.00 max	5925-6425MHz 1.49 dBi(peak)
				6425-6525	6425-6525MHz 2.24 dBi(peak)	6425-6525MHz 3.75 dBi(peak)	6425-6525MHz 3.00 max	6425-6525MHz 1.51 dBi(peak)
				6525-6875	6525-6875MHz 2.81 dBi(peak)	6525-6875MHz 4.38 dBi(peak)	6525-6975MHz 3.00 max	6525-6875MHz 1.57 dBi(peak)
				6875-7125	6875-7125MHz 1.60 dBi(peak)	6875-7125MHz 3.18 dBi(peak)	6875-7125MHz 3.00 max	6875-7125MHz 1.58 dBi(peak)
Aux Antenna (Customer P/N:DC330021K10) (AWAN P/N:AYF6Y-200006)	AWAN	PIFA	1)Cable P/N: GBE/Shen-Yu/YFC/KAIBO 2) 50 ohm LL OD 0.81 coaxial cable 3) Length: 365 mm 4) Connector P/N: I-pex NGFF: 20572-001R-08 KangShuo MHF-B13-N-01	2400-2483.5	2400-2483.5MHz 2.48 dBi(peak)	2400-2483.5MHz 3.85 dBi(peak)	2400-2483.5MHz 3.00 max	2400-2483.5MHz 1.37 dBi(peak)
				5150-5250	5150-5250MHz 0.88 dBi(peak)	5150-5250MHz 2.82 dBi(peak)	5150-5250MHz 3.00 max	5150-5250MHz 1.94 dBi(peak)
				5250-5350	5250-5350MHz 0.18 dBi(peak)	5250-5350MHz 2.12 dBi(peak)	5250-5350MHz 3.00 max	5250-5350MHz 1.94 dBi(peak)
				5470-5725	5470-5725MHz 1.15 dBi(peak)	5470-5725MHz 3.10 dBi(peak)	5470-5725MHz 3.00 max	5470-5725MHz 1.95 dBi(peak)
				5725-5850	5725-5850MHz 3.12 dBi(peak)	5725-5850MHz 5.07 dBi(peak)	5725-5850MHz 3.00 max	5725-5850MHz 1.95 dBi(peak)
				5850-5895	5850-5895MHz 3.12 dBi(peak)	5850-5895MHz 5.07 dBi(peak)	5850-5895MHz 3.00 max	5850-5895MHz 1.95 dBi(peak)
				5925-6425	5925-6425MHz 3.49 dBi(peak)	5925-6425MHz 5.58 dBi(peak)	5925-6425MHz 3.00 max	5925-6425MHz 2.09 dBi(peak)
				6425-6525	6425-6525MHz 1.65 dBi(peak)	6425-6525MHz 3.77 dBi(peak)	6425-6525MHz 3.00 max	6425-6525MHz 2.12 dBi(peak)
				6525-6875	6525-6875MHz 1.48 dBi(peak)	6525-6875MHz 3.68 dBi(peak)	6525-6975MHz 3.00 max	6525-6875MHz 2.20 dBi(peak)
				6875-7125	6875-7125MHz 1.56 dBi(peak)	6875-7125MHz 3.78 dBi(peak)	6875-7125MHz 3.00 max	6875-7125MHz 2.22 dBi(peak)

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

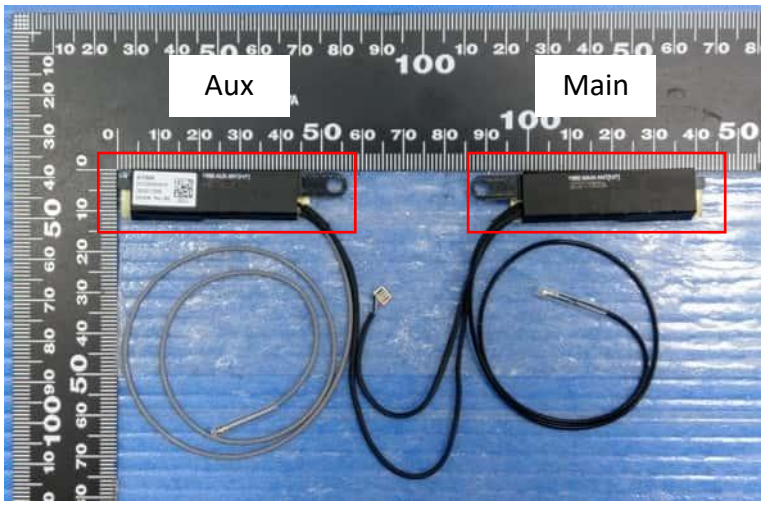
Section 2. Dimensioned Photos and Drawings of Antennas

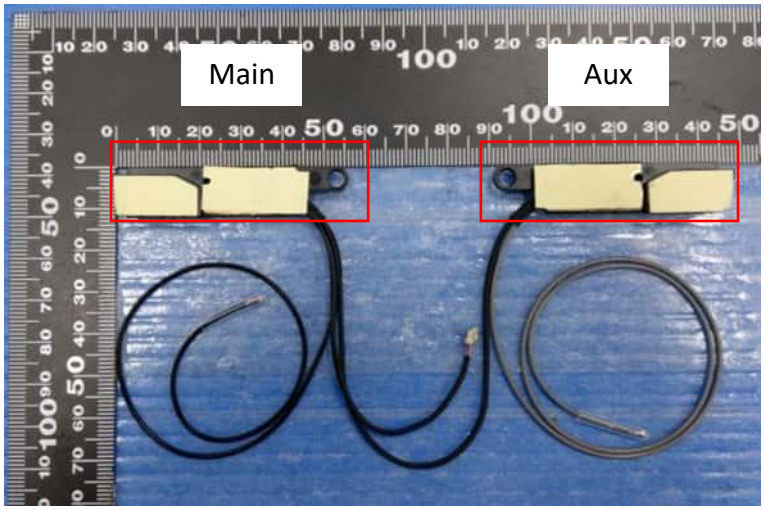
Include the dimensioned photo and drawing of Main antenna here.

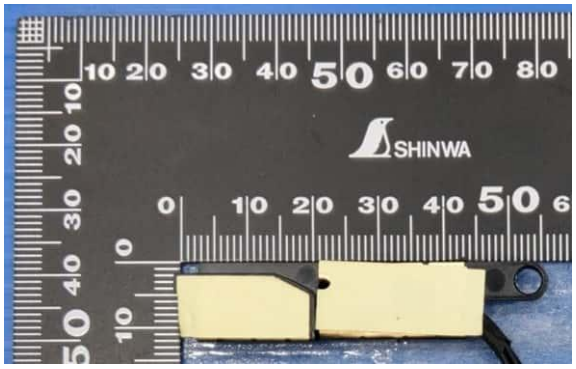
Main Antenna Drawing:



Main Antenna Photo (Front/Back):

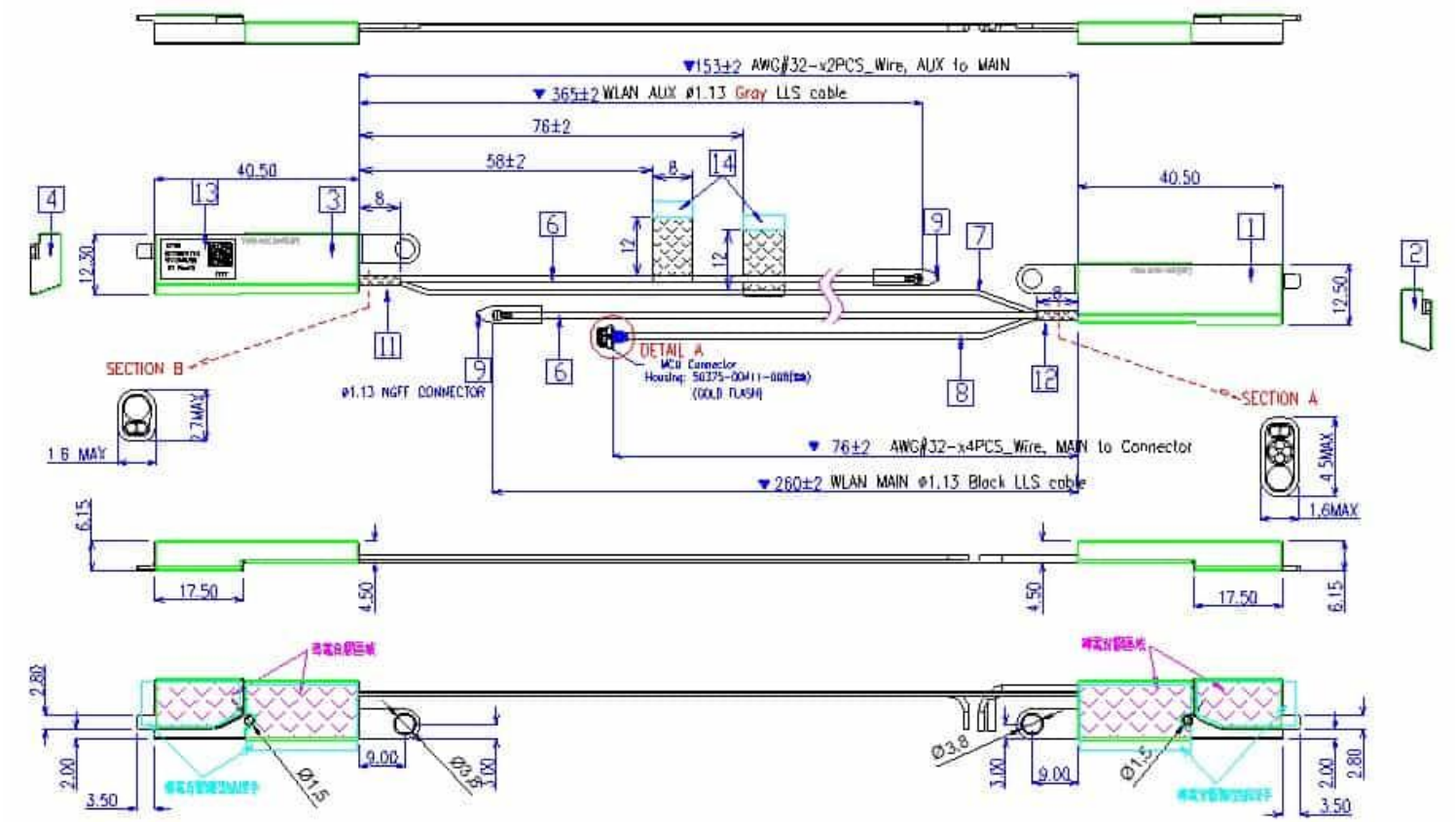




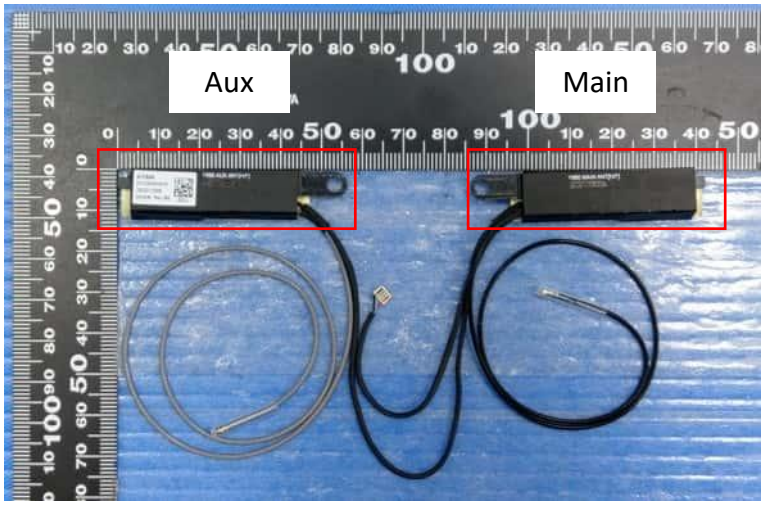


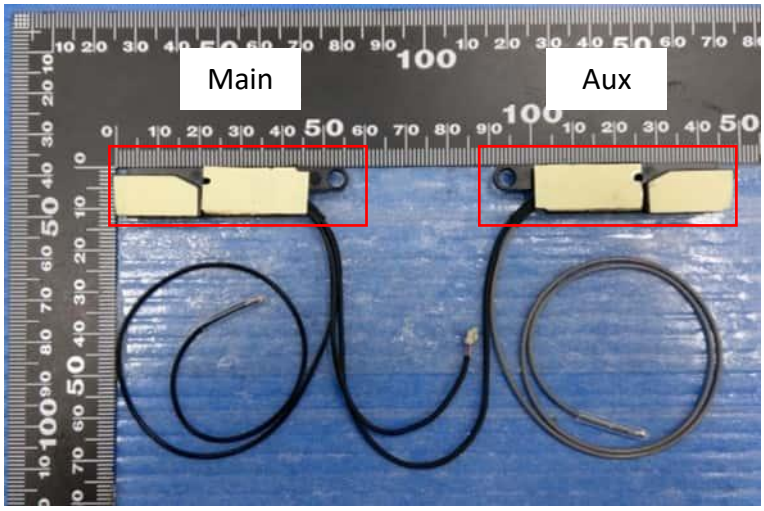
Include the dimensioned photo and drawing of Aux antenna here.

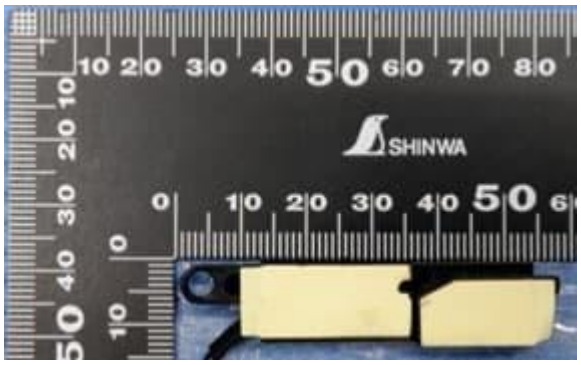
Aux Antenna Drawing:



Aux Antenna Photo (Front/Back):







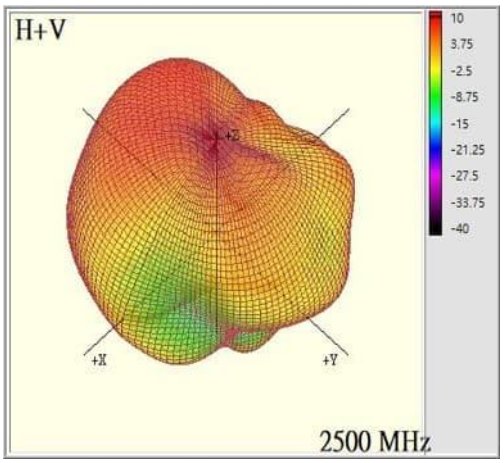
Section 3. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

Mode 1

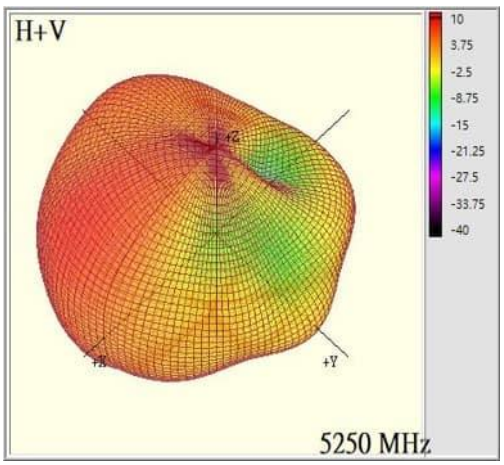
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.88



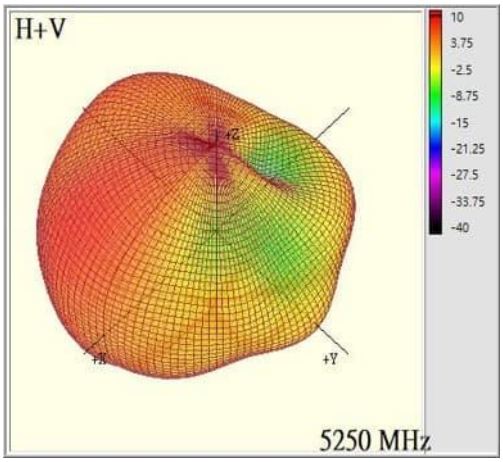
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	3.05



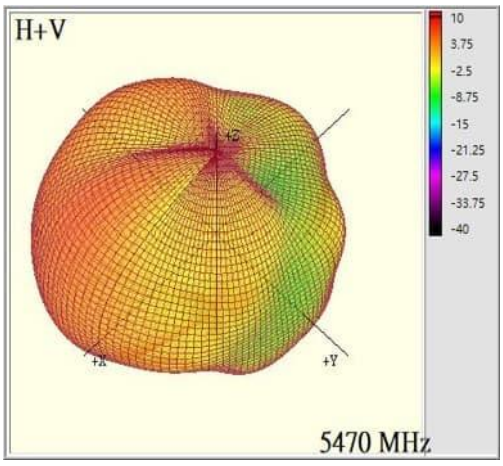
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	3.05



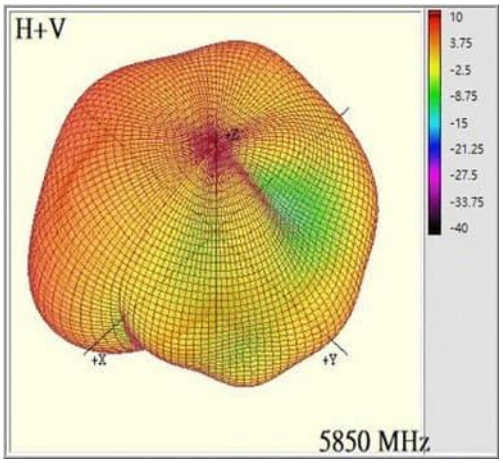
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	1.80



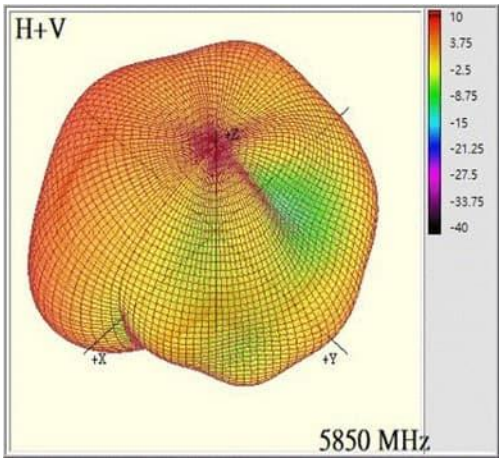
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	1.50



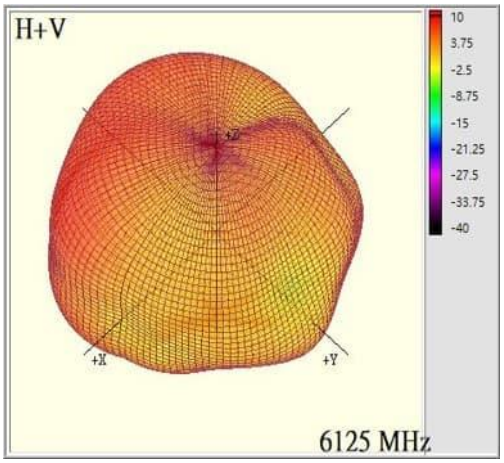
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	1.50



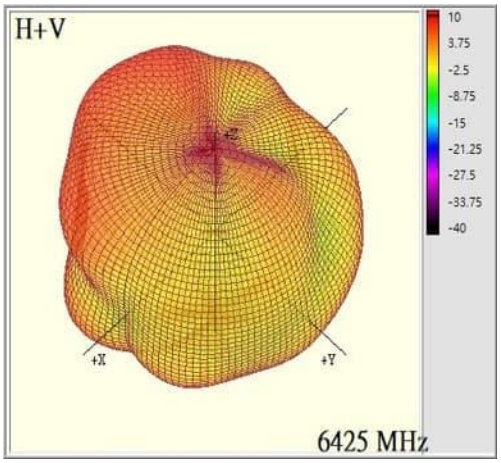
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	3.73



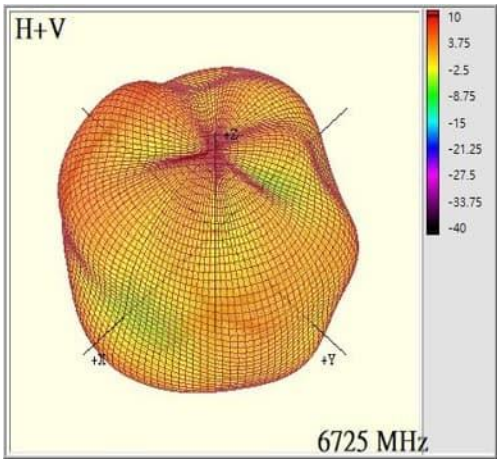
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	1.71



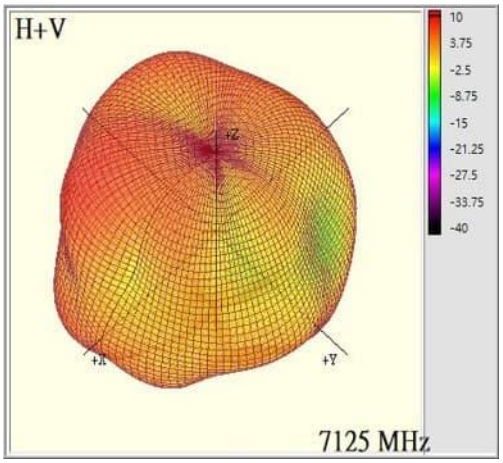
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	2.51



Max Antenna 3D Radiation Pattern 6875-7125 MHz

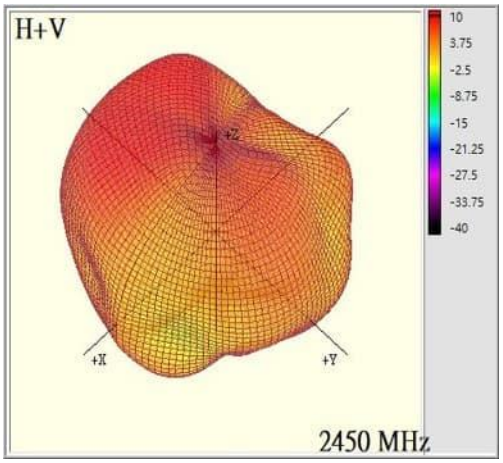
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.95



Mode 2

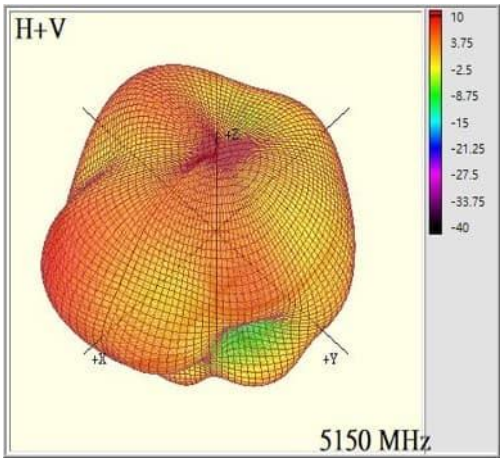
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.74



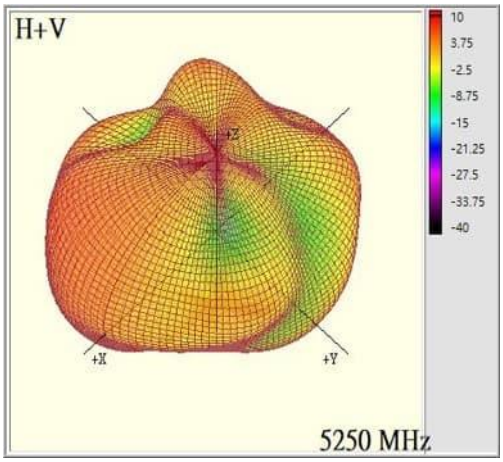
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	1.10



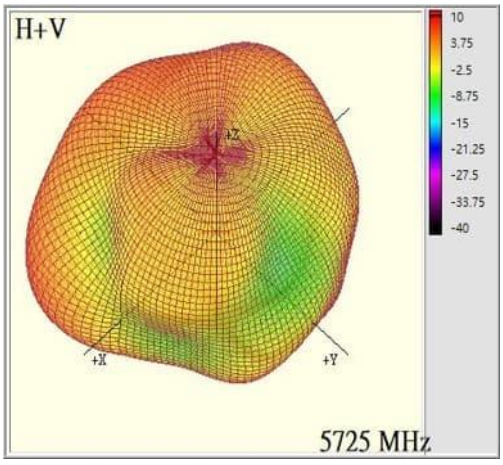
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	0.93



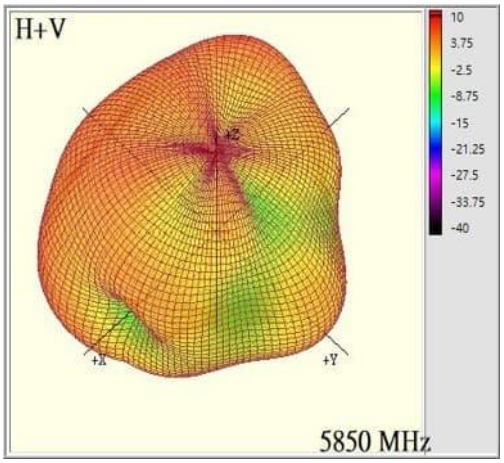
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	-0.03



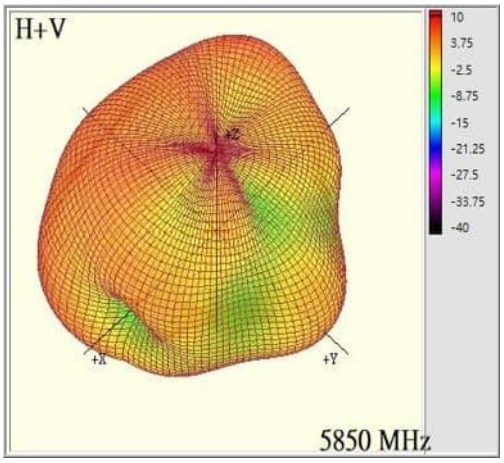
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.42



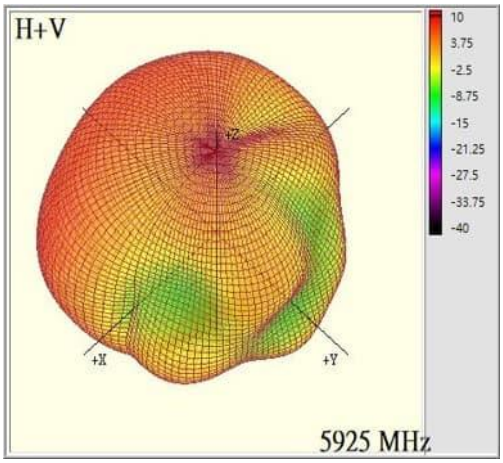
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.42



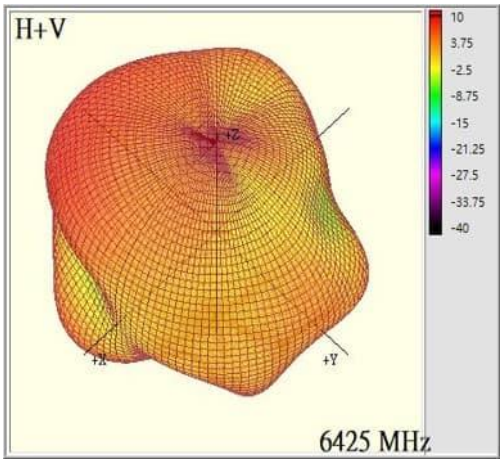
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	2.96



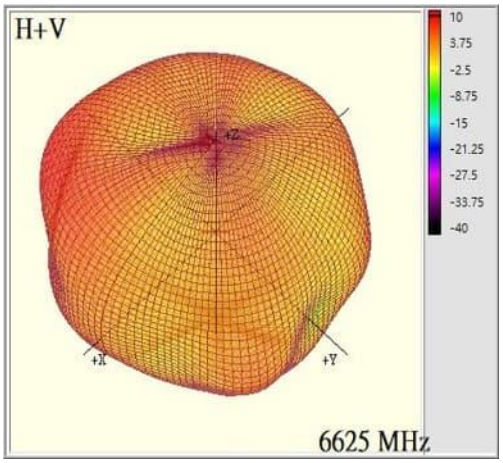
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	2.24



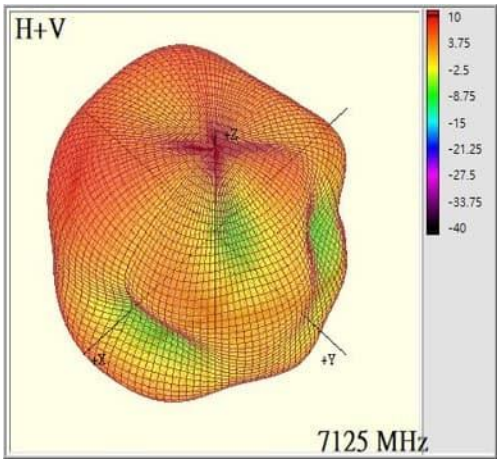
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	2.81



Max Antenna 3D Radiation Pattern 6875-7125 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.60

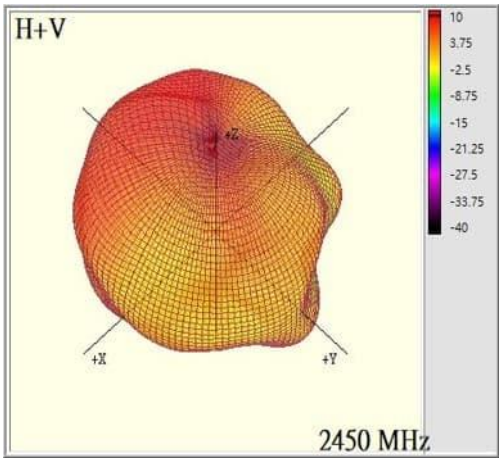


Auxiliary Antenna

Mode1

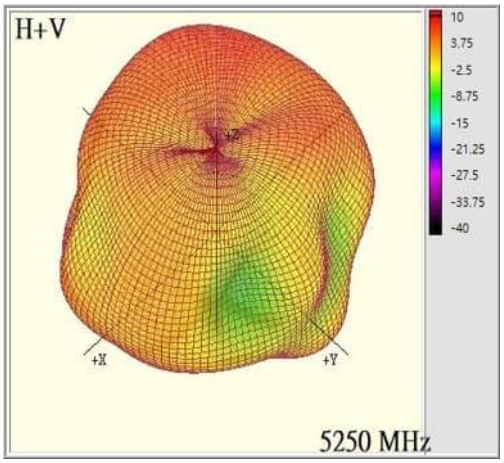
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.90



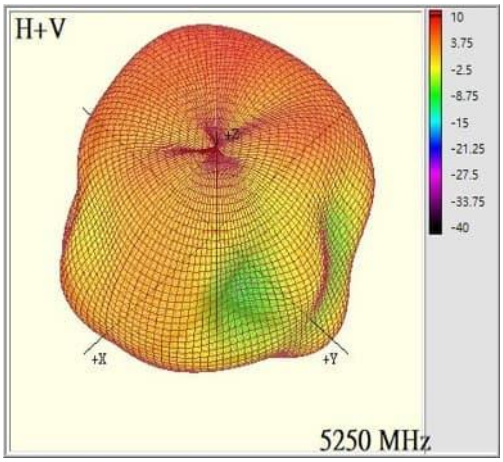
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	3.41



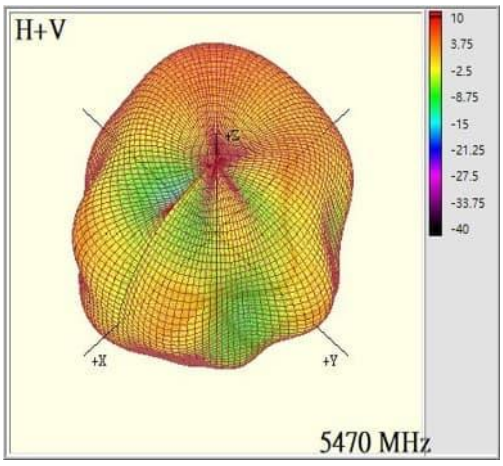
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	3.41



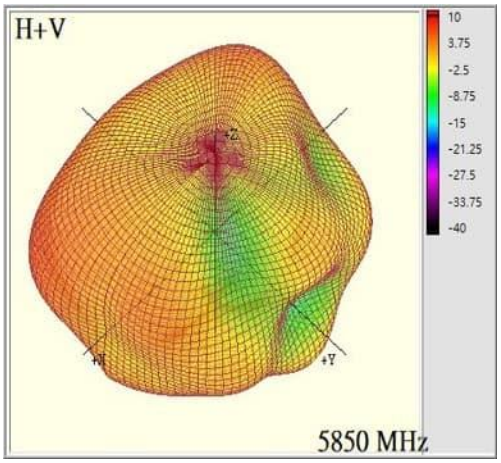
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	3.25



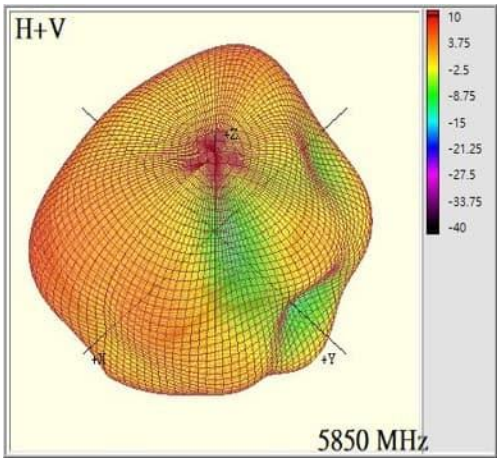
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.60



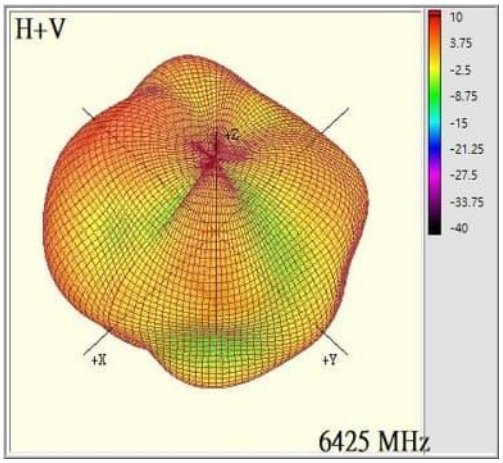
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.60



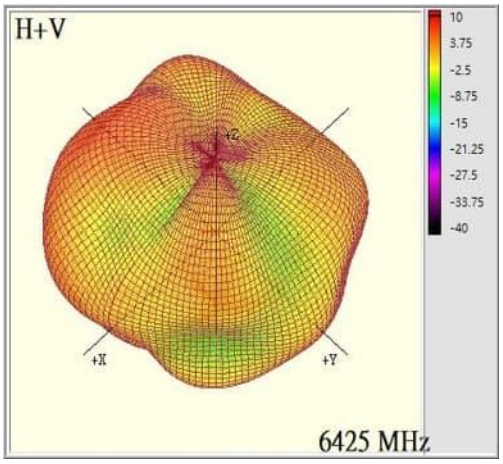
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	3.81



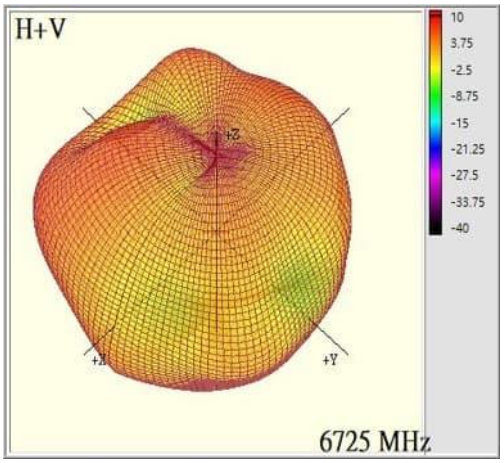
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	3.81



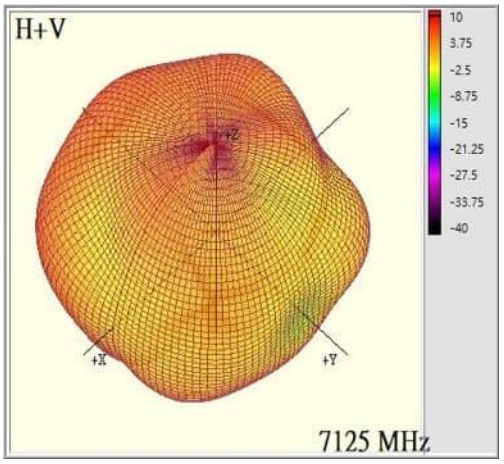
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	2.65



Max Antenna 3D Radiation Pattern 6875-7125 MHz

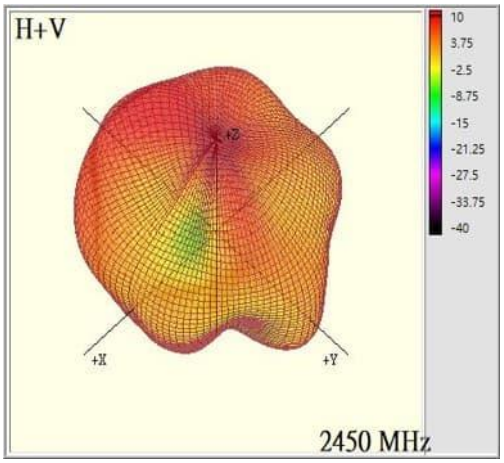
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.44



Mode2

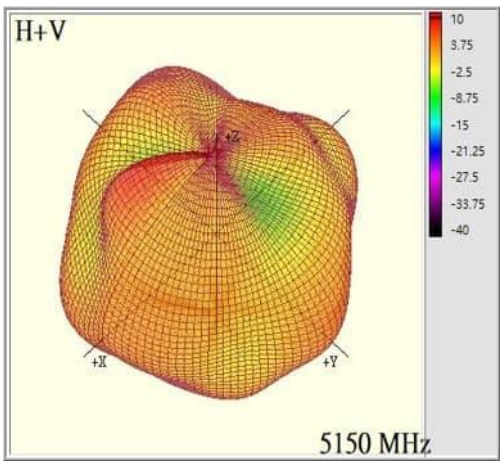
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.48



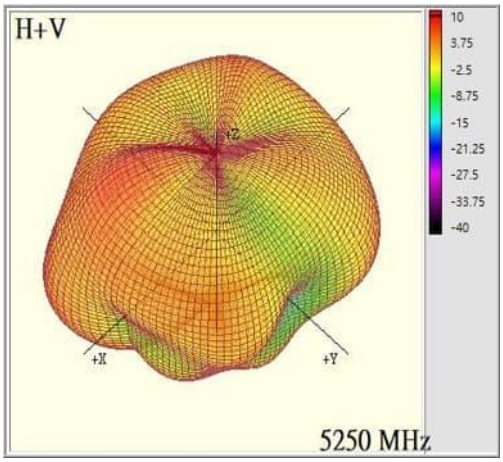
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	0.88



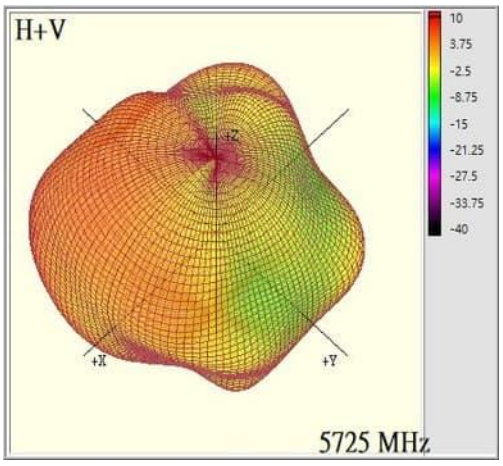
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	0.18



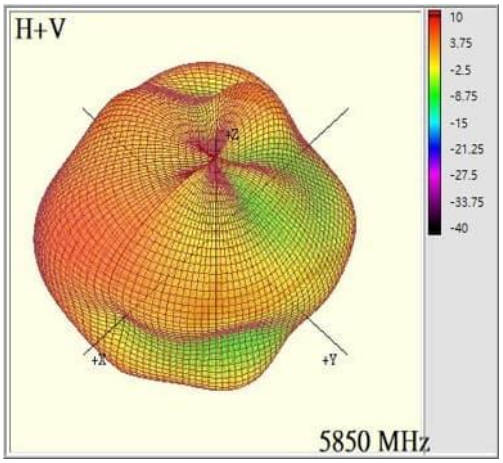
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	1.15



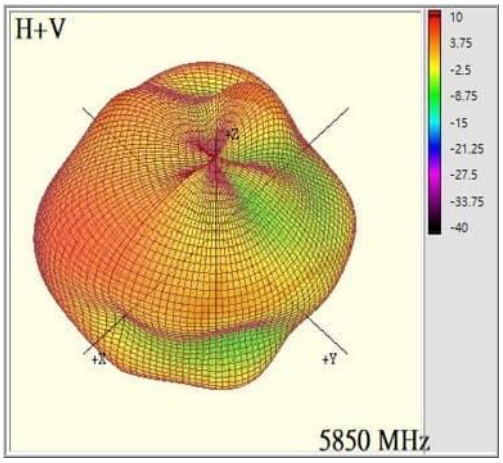
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	3.12



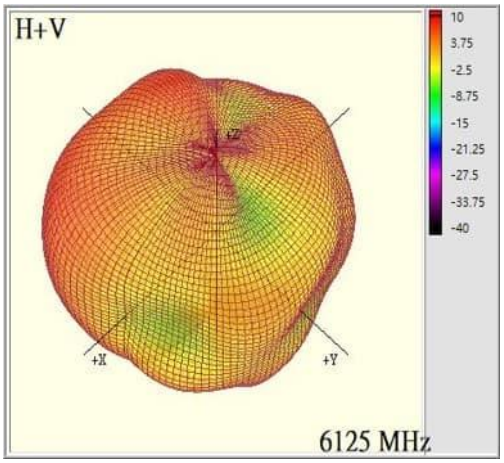
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	3.12



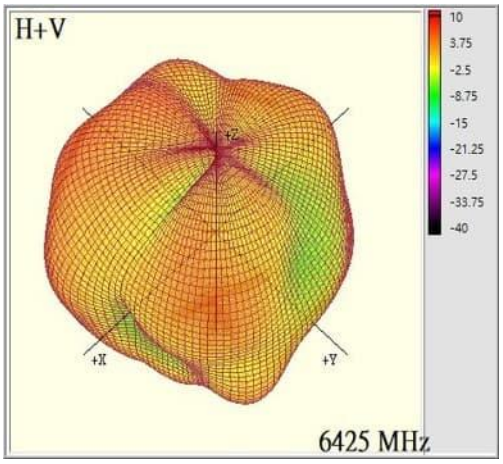
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	3.49



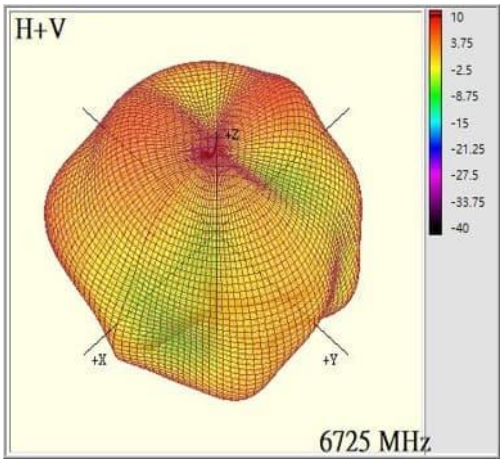
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	1.65



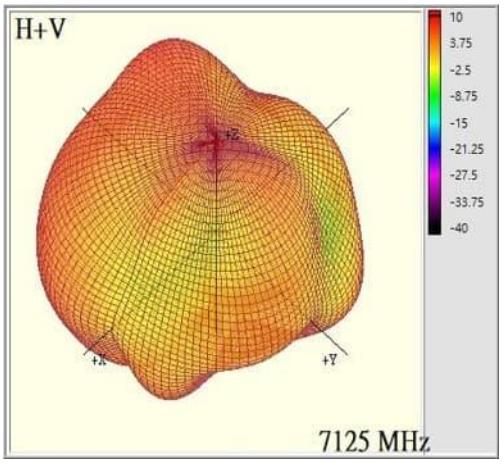
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	1.48



Max Antenna 3D Radiation Pattern 6875-7125 MHz

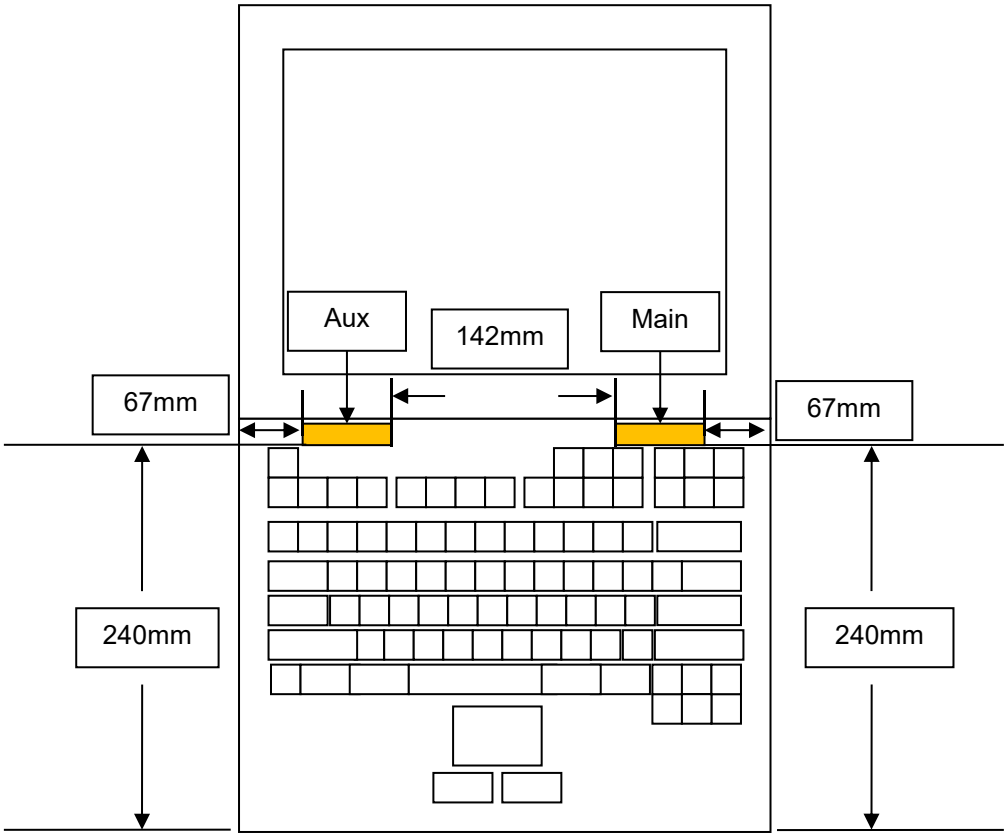
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.56



Section 4. Antenna Host Platform Location Information

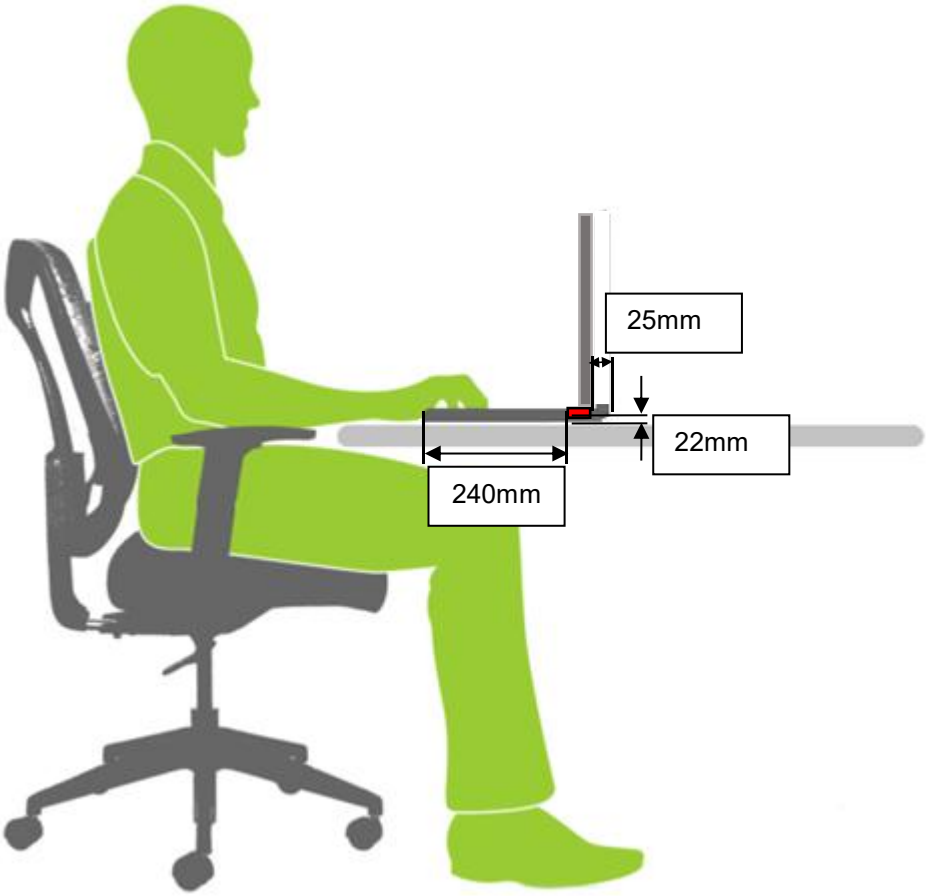
Include a **dimensioned photo(s) or dimensioned drawing(s)** of Main and Aux antenna placements (measurements are not required for receive-only antenna).

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.



Section 5. Antenna dimensional information for SAR evaluation

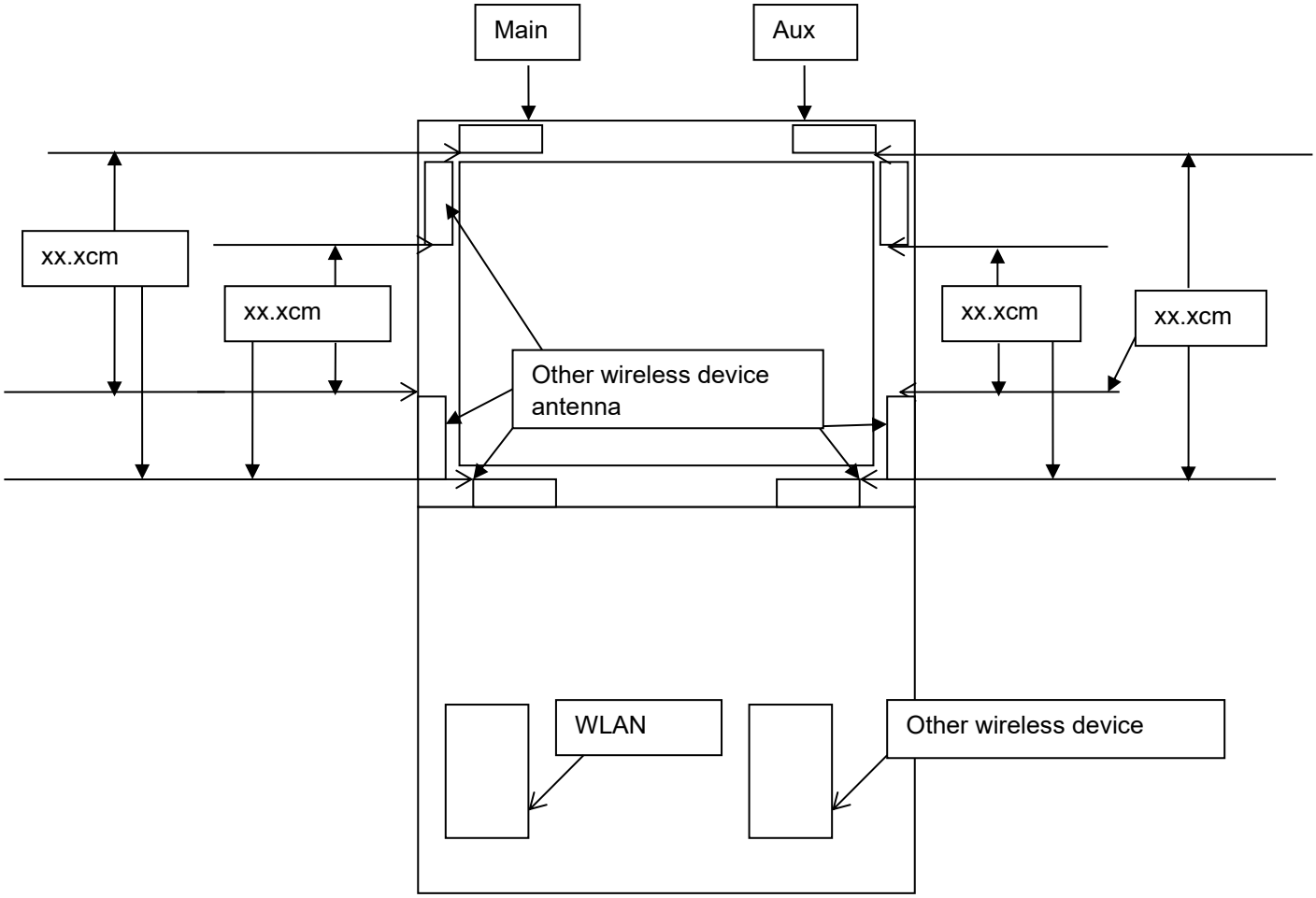
Include a **dimensioned photo(s) or dimensioned drawing(s)** showing the distance (mm) between the transmit antennas and the user. For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary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



Section 6. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between **all WLAN transmit antennas** and other co-located radiator transmit antenna such as Bluetooth, WWAN,..

(Note: Due to the evolving rules regarding co-location, each platform will need to be reviewed on a case by case basis)



Revision History

Revision	Description	Date
10.3	Page2-5 Add Applicable test method, Test & System Description and Setup photo	July 24, 2022
10.4	Cover page Add Intel 5.9GHz reference antenna gain Cover page/Section1/Section3 Add 5.9GHz antenna gain information	September 15, 2022