

ANTENNA INFORMATION

OEM	Quanta
ODM	ASUS
Platform model name	M5406 NA / M5406 UA / M5406 WA
Intel platform (ex: Yes, No or NA)	No
Platform type (ex: regular NB, convertible PC, AIO...etc)	regular NB
SAR minimum separation (mm)	3.3mm

Antenna manufacturer	Luxshare-ICT	
Address	No.568, Sec. 1, Minsheng N. Rd., Gueishan Dist., Taoyuan City 338 ,Taiwan (R.O.C.)	
Antenna Part number	Main: LA9RF558-CS-H	Aux: LA9RF559-CS-H
Antenna type (ex: PIFA, Dipole...etc)	PIFA	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	-0.54	2.68	1.24	4.56	3.84	3.44	2.52	2.08	3.24	1.64
Aux	0.97	1.94	2.52	3.46	3.46	2.91	3.14	2.94	2.63	0.89

Cable Assembly Part Number and Information					
	Cable PN	Cable length(cm)	Cable diameter(mm)	Impedance(ohm)	Connector type
Main	SY113L/50-048	23	1.13	50	20565-001R-13
Aux	SY113L/50-049	43.7	1.13	50	20565-001R-13

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

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1. Intel Reference Gain and Type

Antenna Peak gain w/ cable loss (dBi)											
Band/Frequency		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
Design	EU/UK	3.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
PIFA	For WiFi 6E and earlier	3.24	3.64	3.73	4.77	4.97	4.72	4.83	4.30	5.37	5.59
	From WiFi 7	2.95	5.11	4.55	5.15	5.13	4.45	5.02	5.02	4.96	4.96
Dipole	For WiFi 6E and earlier	2.89	2.92	3.19	4.41	4.22	4.22	4.83	4.30	4.49	5.34
	From WiFi 7	2.95	4.03	4.11	5.15	5.13	4.45	5.02	4.71	4.49	4.96

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.

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

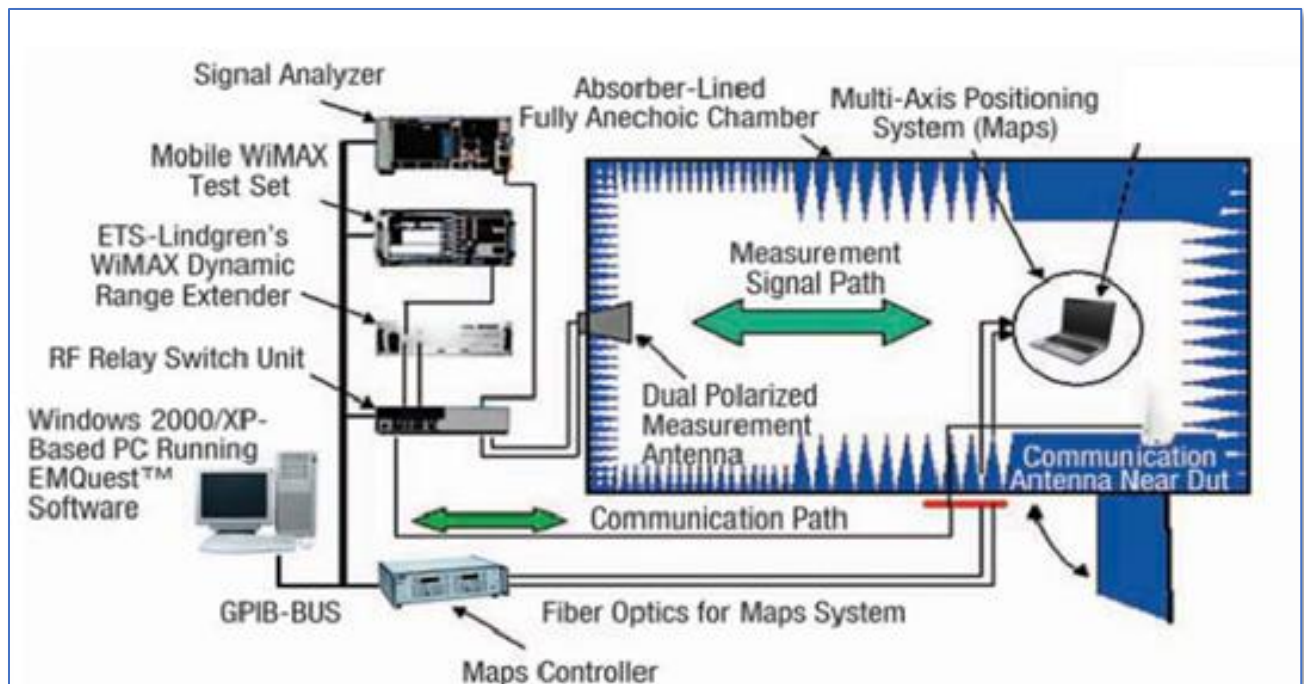
<insert test description here for test method>

This test report is prepared for host antenna testing under a Full Anechoic Chamber.

This test with host with fixed position and allow to UUT turn different angels.

3.2 Test setup

<insert test diagram here for test site utilized>



3.3 Equipment list

<insert test diagram here for test site utilized>

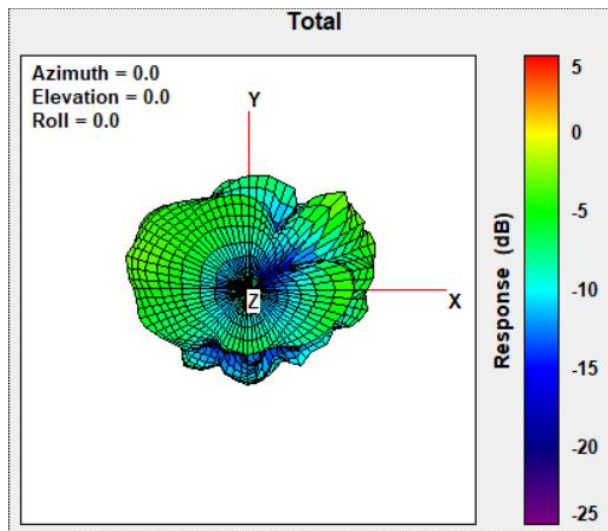
Device	Type/Model	Serial#	Manufacturer	Cal. Date	Cal. Due Date
Anechoic Chamber	AMS-8500	1191	ETS-Lindgren	2022/3/9	2024/3/9
Turn Table	2090	-	ETS-Lindgren	N/A	N/A
Switch & Positioning systems	7001-002	116599	ETS-Lindgren	N/A	N/A
Measurement SW	EMQuest v1.0.8	1352	ETS-Lindgren	N/A	N/A
Boresight antenna mast	2090	-	ETS-Lindgren	N/A	N/A
Spectrum Analyzer	N9010A	X16-96096	Agilent Technologies	2022/7/25	2024/7/25
Horn antenna	3164-08	00143257	ETS-Lindgren	2022/4/3	2024/4/3
Horn antenna + Amplifier + HPF6.4	115195	00117614	ETS-Lindgren	2022/8/18	2024/8/18
Cable 2.5m - 30MHz to 18GHz	0500990992500KE	19.23.395	Radial	2022/1/10	2024/1/10
Cable 1.2m - 18 to 40GHz	UFA147A-0-0480-200200	MFR 64639223720-003	Micro-caox	2022/1/10	2024/1/10
Cable 1m - 1GHz to 18GHz	UFA147A	-	Utileflex	2022/1/10	2024/1/10
Cable 2m - 26.5MHz to 40GHz	794-9191-200A	E00327	Atem	2022/1/10	2024/1/10
Cable 1m - 30MHz to 18GHz	UFB311A-0-0590-50U50U	MFR 64639223230-001	Micro-caox	2022/1/10	2024/1/10
Cable 7m - DC-18GHz	0501051057000GX	19.35.850	Radial	2022/1/10	2024/1/10
Cable 7m - 18GHz to 40GHz	R286304009	-	Radial	2022/1/10	2024/1/10
Cable 1.5m - DC-18GHz	CBL-1.5M-SMSM+	202879	Mini-Circuits	2022/1/10	2024/1/10
Temp & Humidity Logger	GM-108A	-		2022/5/2	2024/5/2

4. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

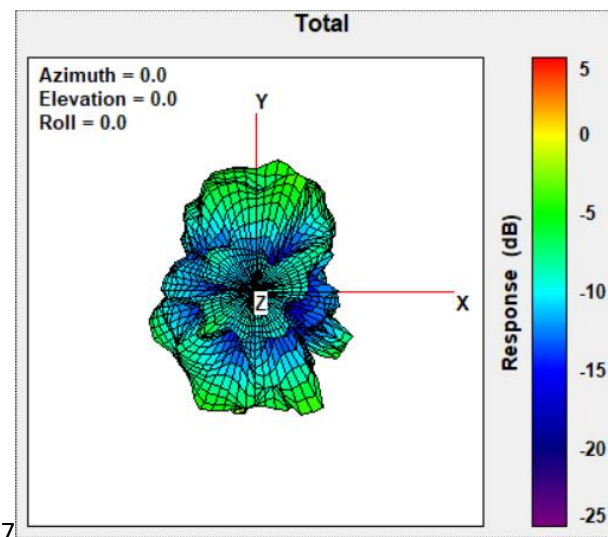
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	-0.54



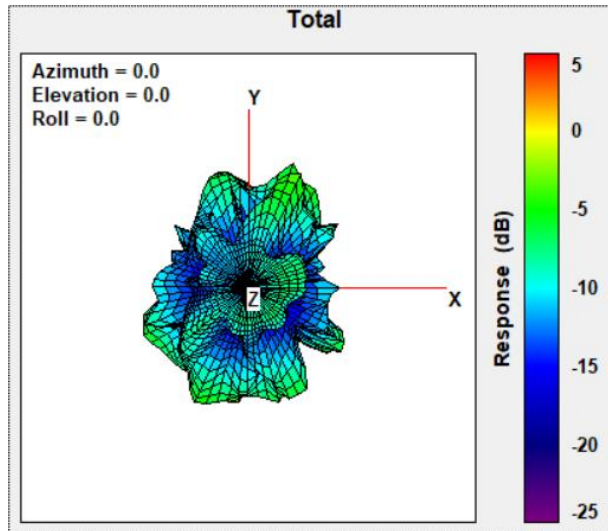
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.68



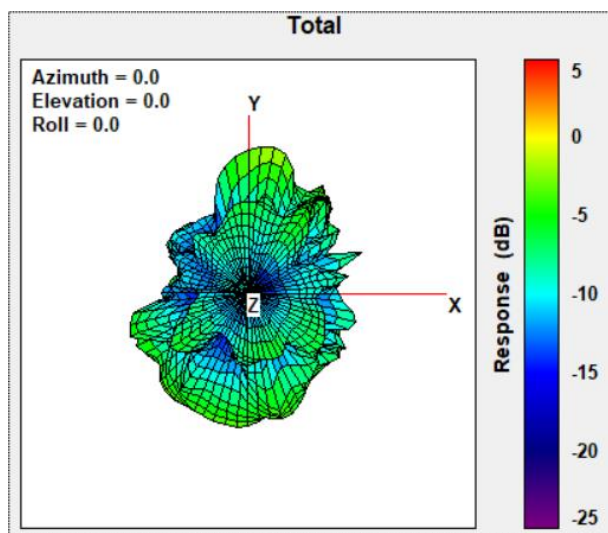
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	1.24



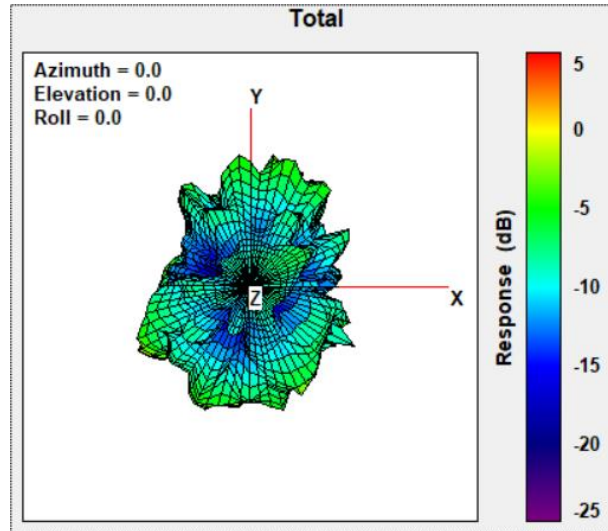
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	4.56



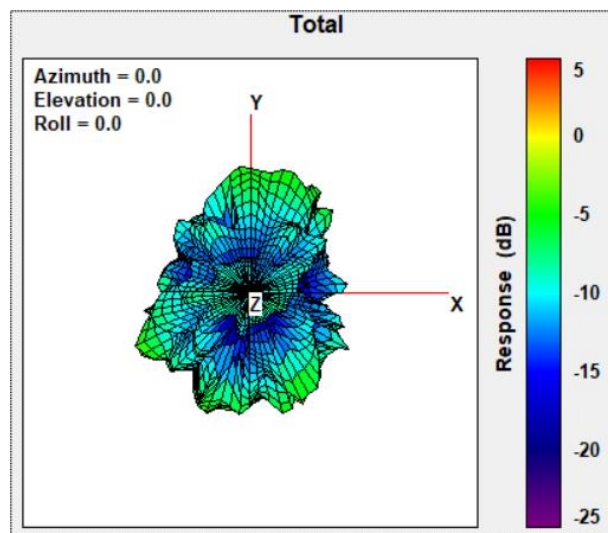
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	3.84



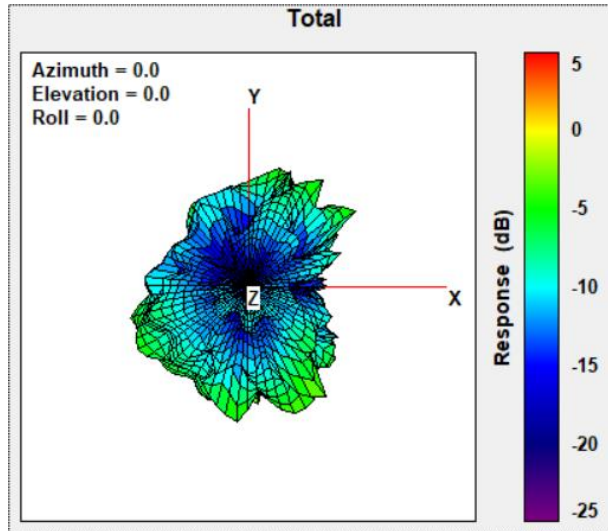
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	3.44



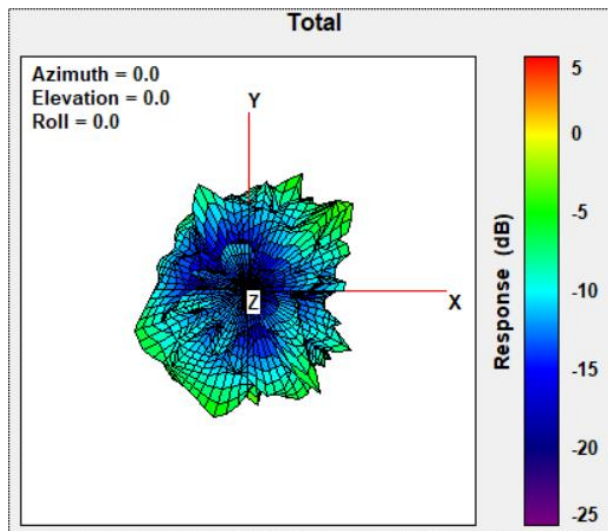
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	2.52



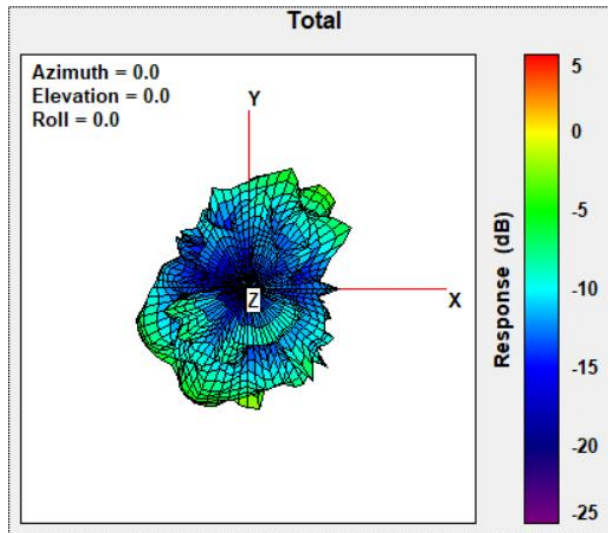
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	2.08



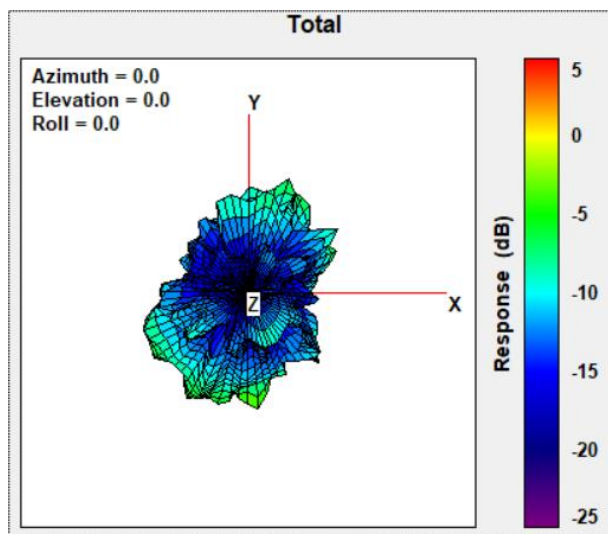
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	3.24



Max Antenna 3D Radiation Pattern 6875-7125 MHz

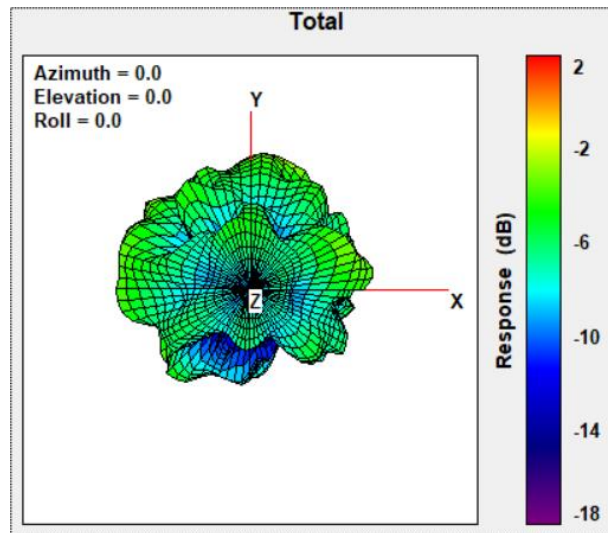
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.64



Auxiliary Antenna

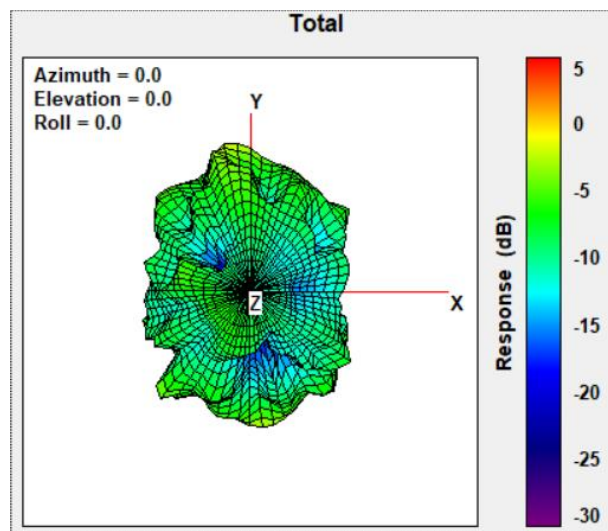
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	0.97



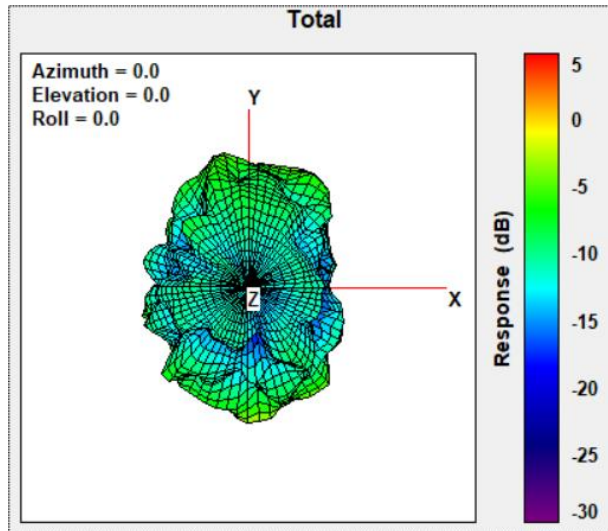
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	1.94



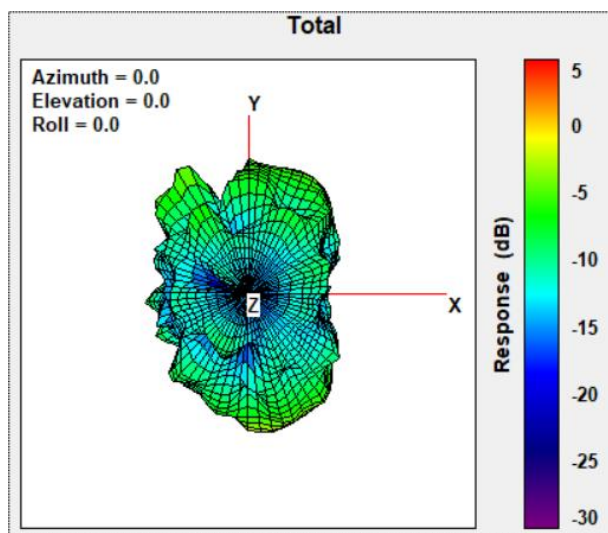
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.52



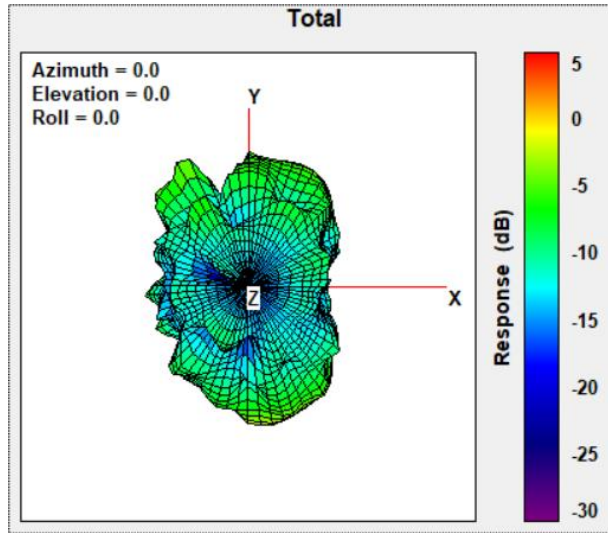
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	3.46



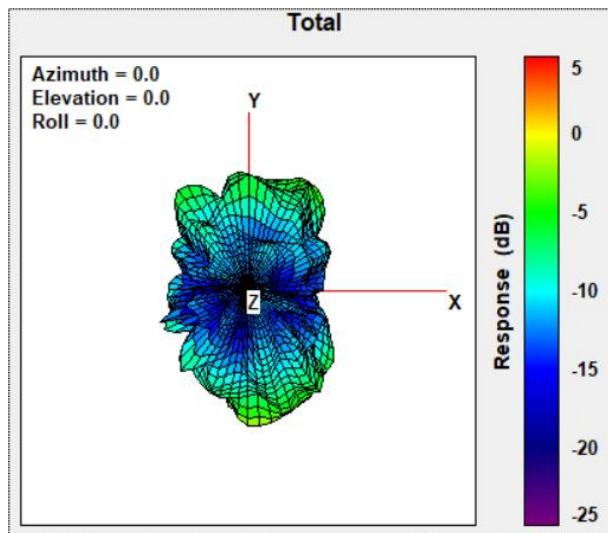
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	3.46



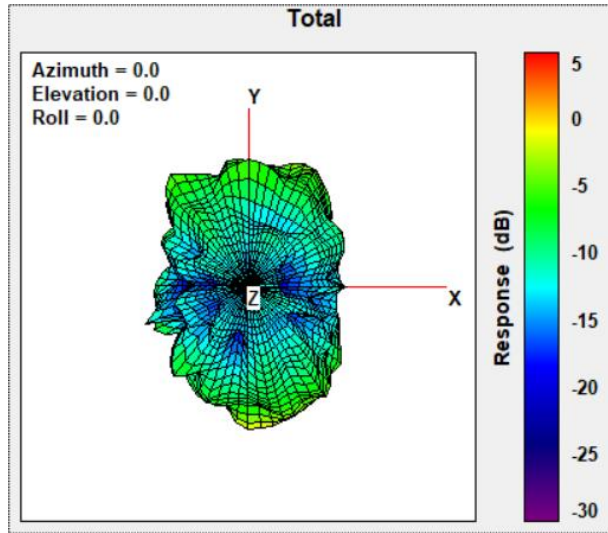
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.91



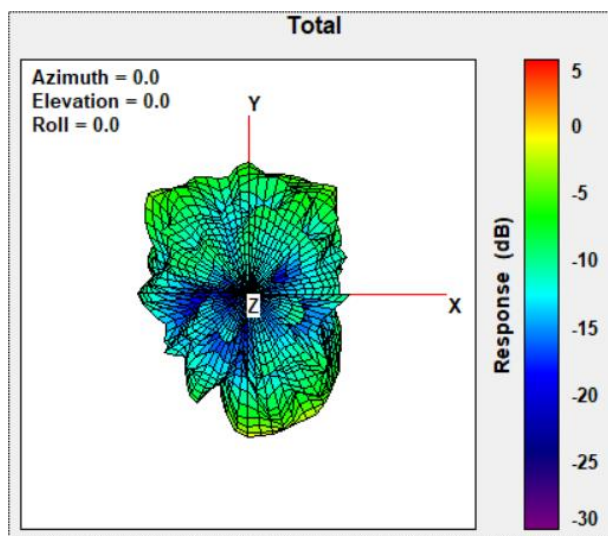
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	3.14



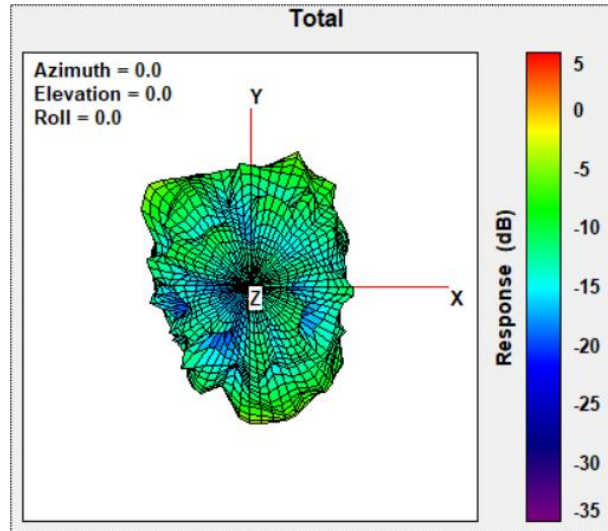
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	2.94



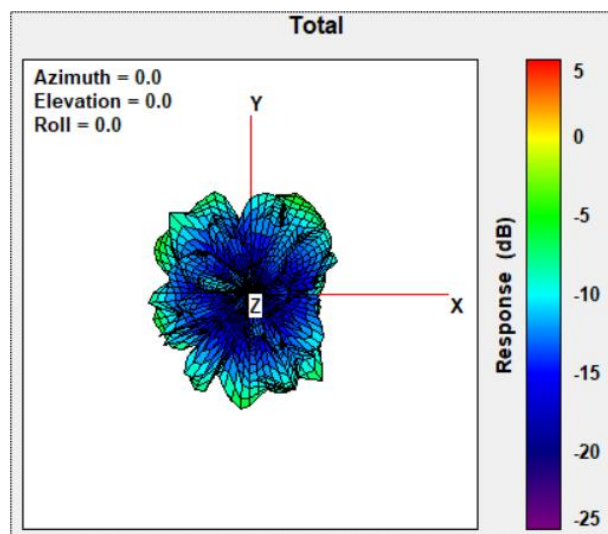
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	2.63



Max Antenna 3D Radiation Pattern 6875-7125 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	0.89

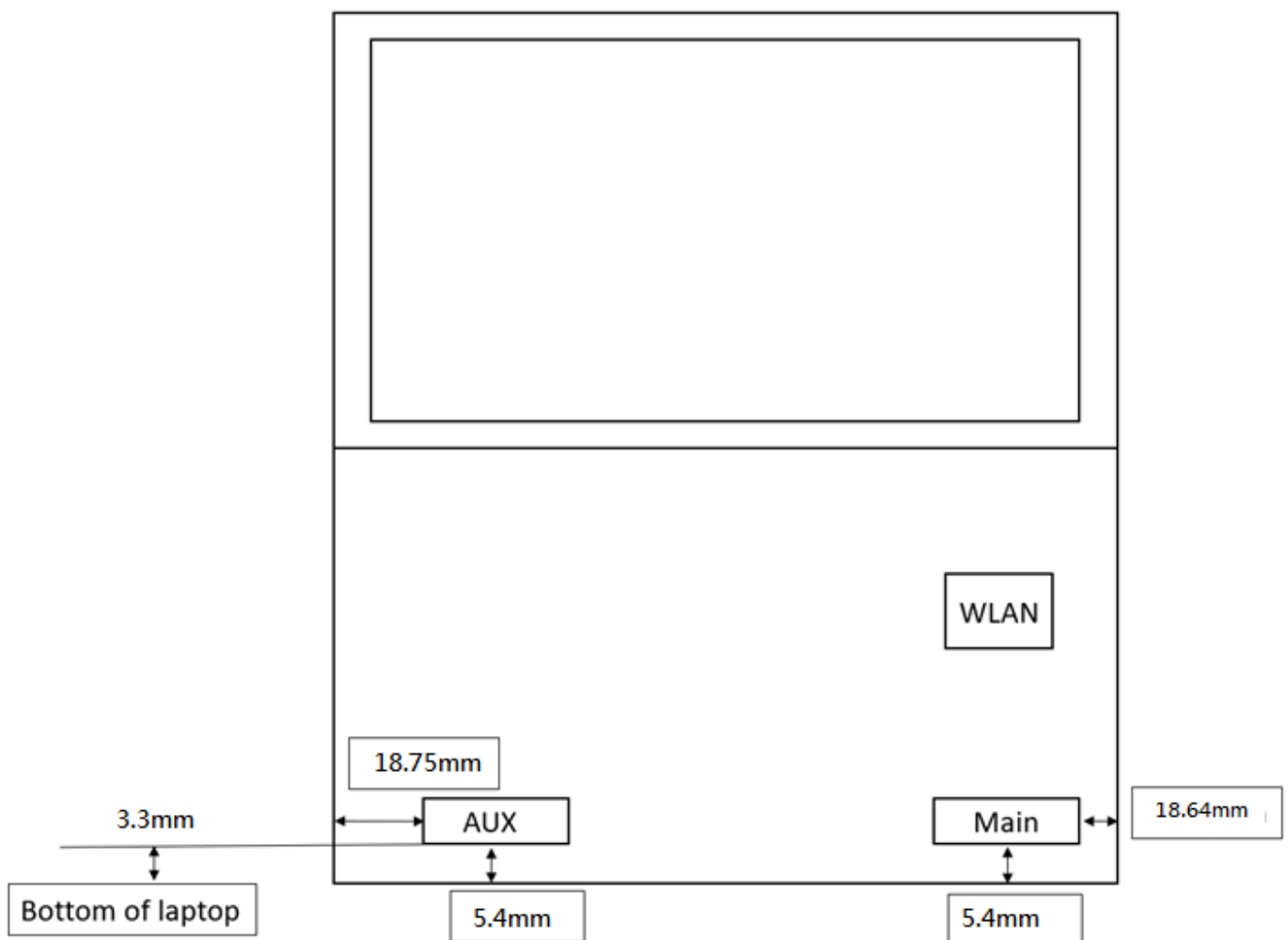


Annex B. Antenna Location

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.

