

ANTENNA INFORMATION

OEM	ASUS
ODM	Inventec
Platform model name	K5606CA/P5606CCA/S5606CA/V5606CA
Intel platform (ex: Yes, No or NA)	Yes
Platform type (ex: regular NB, convertible PC, AIO...etc)	Regular NB
SAR minimum separation (mm)	2.9mm

Antenna manufacturer	Company name	Luxshare-ICT
	Address	Floor 2, Block A, Sanyo New Industrial Area, West Haoyi Community, Shajing street, Bao'an District, Shenzhen,China. 518104 深圳市宝安区沙井街道蚝一西部三洋新工业区 A 栋
Test location	Company name	Luxshare-ICT
	Address	Floor 2, Block A, Sanyo New Industrial Area, West Haoyi Community, Shajing street, Bao'an District, Shenzhen,China. 518104 深圳市宝安区沙井街道蚝一西部三洋新工业区 A 栋
Test Personnel	Name(Full name)	Joe Chou
	E-mail	Joe.Chou@luxshare-ict.com
	Tel/Mobile	+886 2 2657 0707#56665
Testing date		2024/08/06

Antenna Part number	Main	LA9RF593-NB-H
	Aux	LA9RF594-NB-H
Antenna type (ex: PIFA, Dipole...etc)		PIFA Antenna

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	2.42	2.75	2.75	1.26	1.00	1.34	3.36	3.78	4.56	3.73
Aux	1.10	1.76	2.04	1.62	2.52	1.71	3.14	3.57	4.47	3.70

Cable Assembly Part Number and Information					
	Cable PN	Cable length(mm)	Cable diameter(mm)	Impedance(ohm)	Connector type
Main	SY113L/50-001	279	1.13	50Ω	ST-4 (C87P115-00002-H)
Aux	SY113L/50-004	486	1.13	50Ω	ST-4 (C87P115-00002-H)

* 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
Monopole	From WiFi 7	2.83	4.57	4.44	4.95	4.95	4.43	4.87	4.91	4.91	4.79

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.

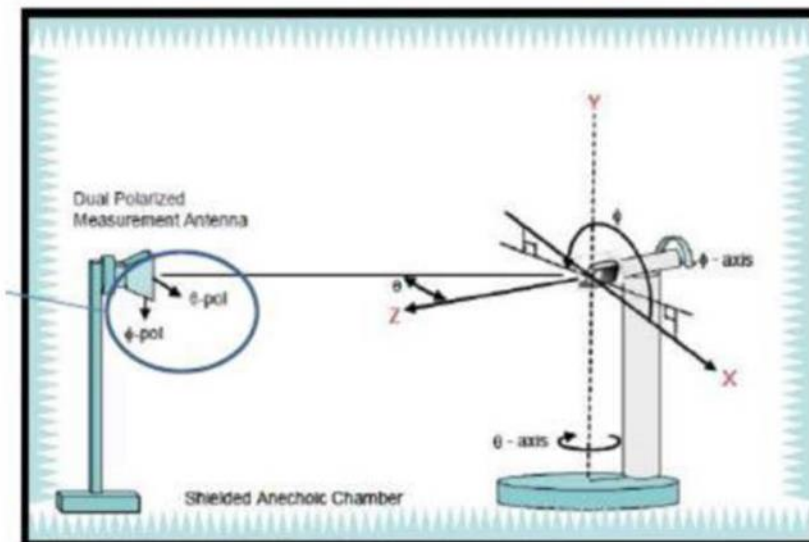
2. Document Revision History

Revision #	Revision Details	Issued Date
Rev. 00	First Issue	2024.04.25

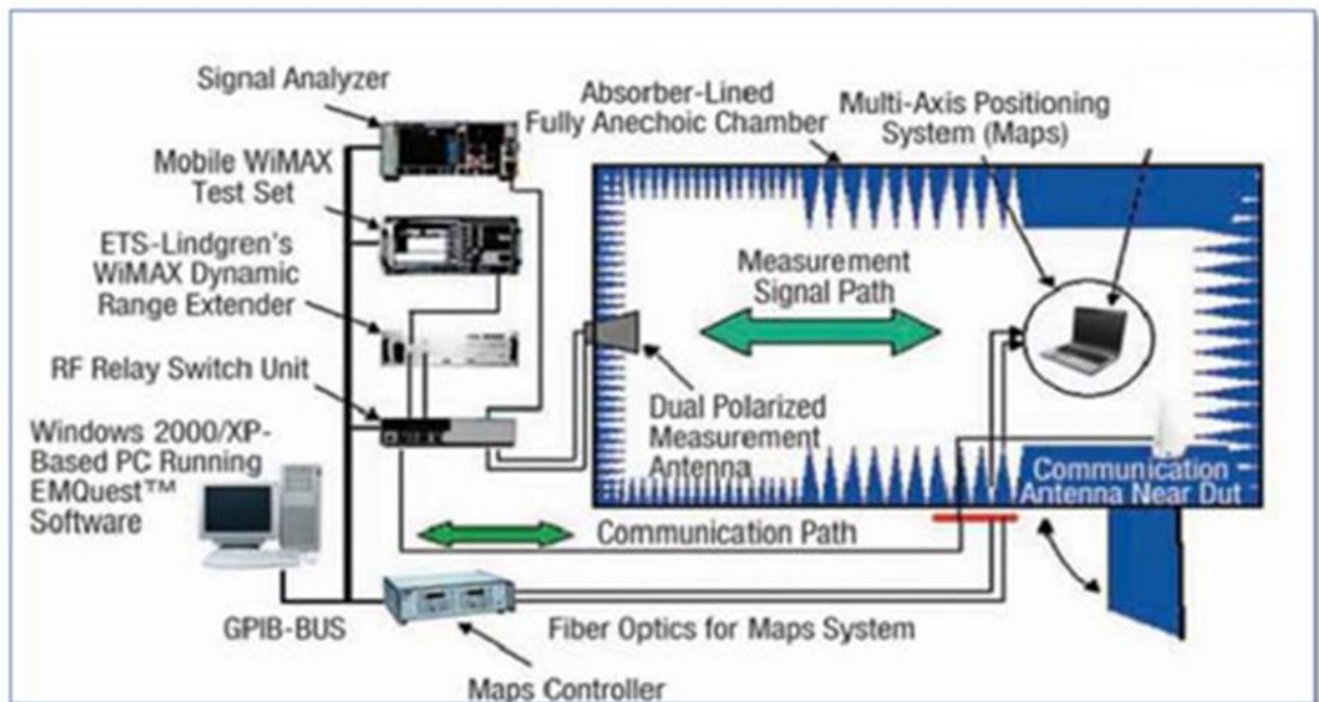
3. Test & System Description

3.1 Measurement Method and System

<insert test description here for test method>



3.2 Test setup



3.3 Equipment list

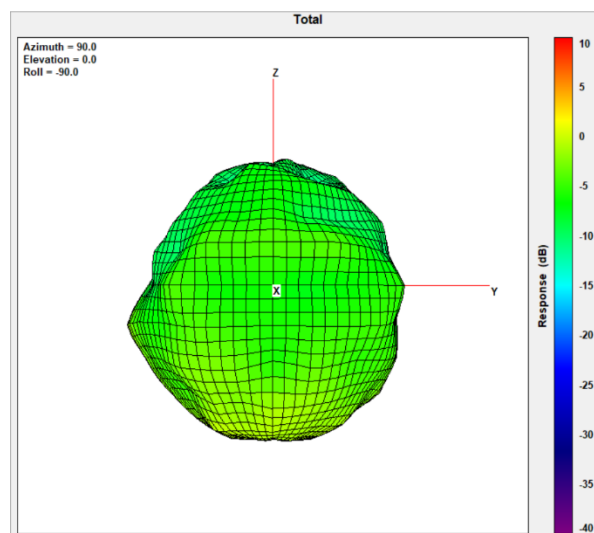
Device	Type/Model	Serial#	Manufacturer	Cal. Date	Cal. Due Date
Anechoic Chamber	AMS-8500	1191	ETS-Lindgren	2024/3/9	2026/3/9
Turn Table	2090	-	ETS-Lindgren	N/A	N/A
Switch & Positioning systems	7001-002	116599	ETS-Lindgren	N/A	N/A
Measurement SW	EMQuest v1.0.8	1352	ETS-Lindgren	N/A	N/A
Boresight antenna mast	2090	-	ETS-Lindgren	N/A	N/A
Spectrum Analyzer	N9010A	X16-96096	Agilent Technologies	2024/7/25	2026/7/25
Horn antenna	3164-08	00143257	ETS-Lindgren	2024/4/3	2026/4/3
Horn antenna + Amplifier + HPF6.4	115195	00117614	ETS-Lindgren	2024/8/1	2026/8/1
Cable 2.5m - 30MHz to 18GHz	0500990992500KE	19.23.395	Radial	2024/1/10	2026/1/10
Cable 1.2m - 18 to 40GHz	UFA147A-0-0480-200200	MFR 64639223720-003	Micro-caox	2024/1/10	2026/1/10
Cable 1m - 1GHz to 18GHz	UFA147A	-	Utileflex	2024/1/10	2026/1/10
Cable 2m - 26.5MHz to 40GHz	794-9191-200A	E00327	Atem	2024/1/10	2026/1/10
Cable 1m - 30MHz to 18GHz	UFB311A-0-0590-50U50U	MFR 64639223230-001	Micro-caox	2024/1/10	2026/1/10
Cable 7m - DC-18GHz	0501051057000GX	19.35.850	Radial	2024/1/10	2026/1/10
Cable 7m - 18GHz to 40GHz	R286304009	-	Radial	2024/1/10	2026/1/10
Cable 1.5m - DC-18GHz	CBL-1.5M-SMSM+	202879	Mini-Circuits	2024/1/10	2026/1/10
Temp & Humidity Logger	GM-108A	-		2024/5/2	2026/5/2

4. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

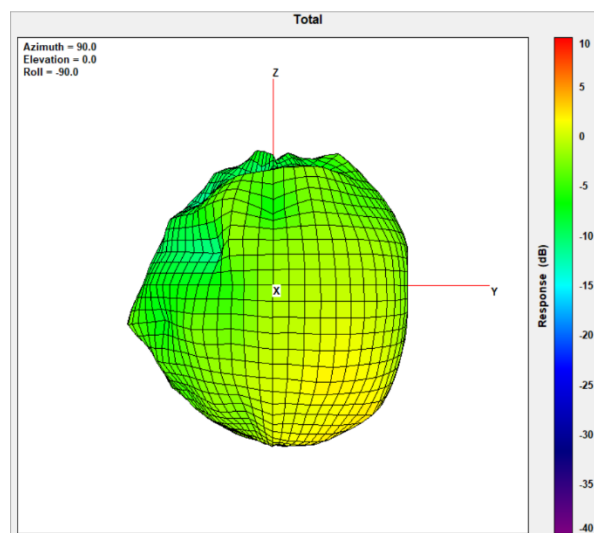
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.42



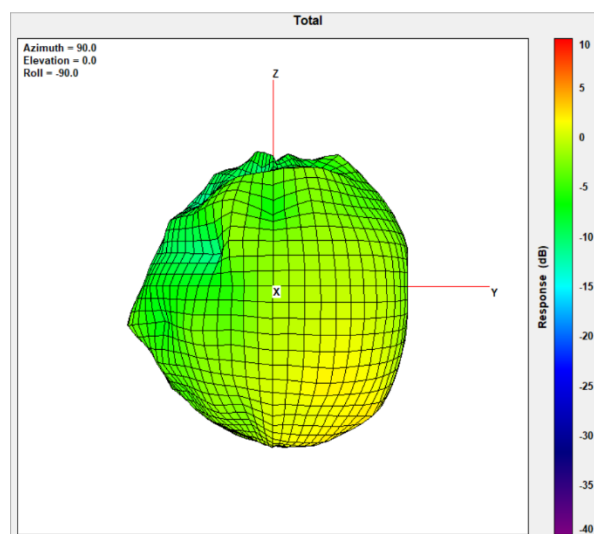
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.75



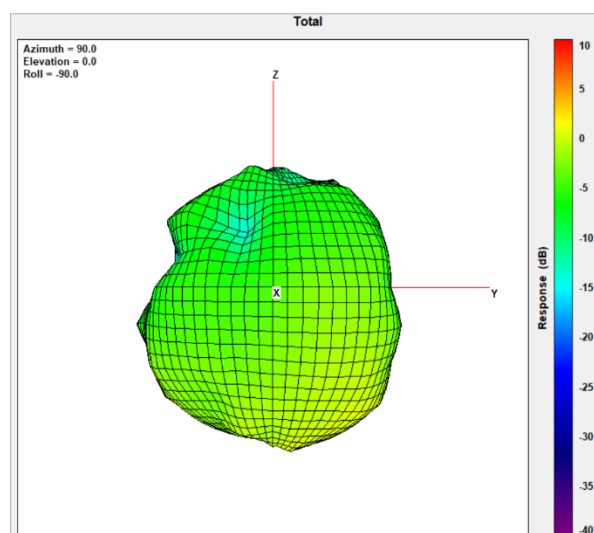
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.75



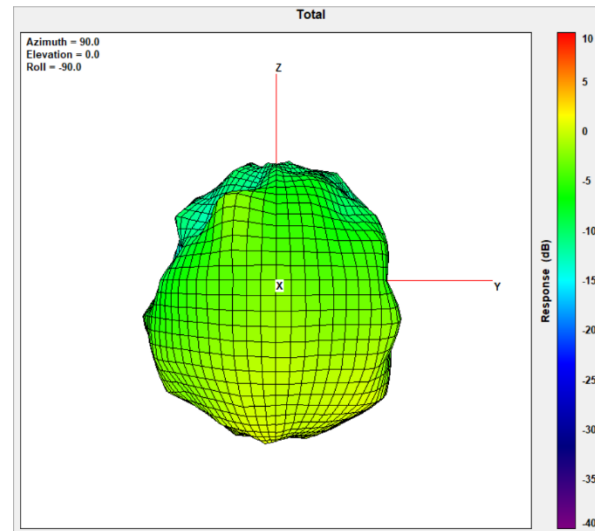
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	1.26



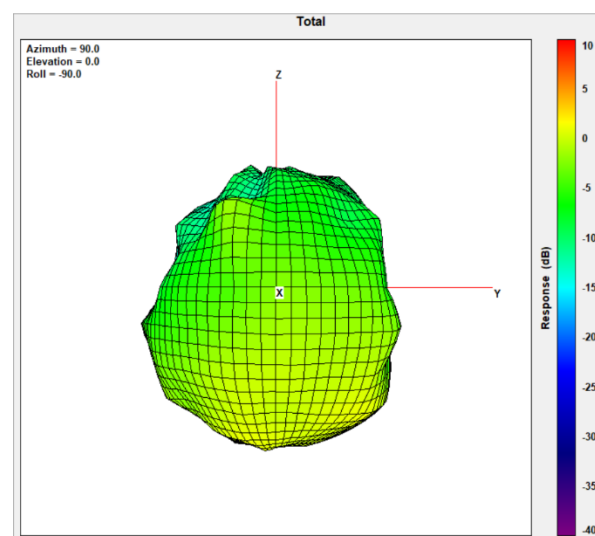
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	1.00



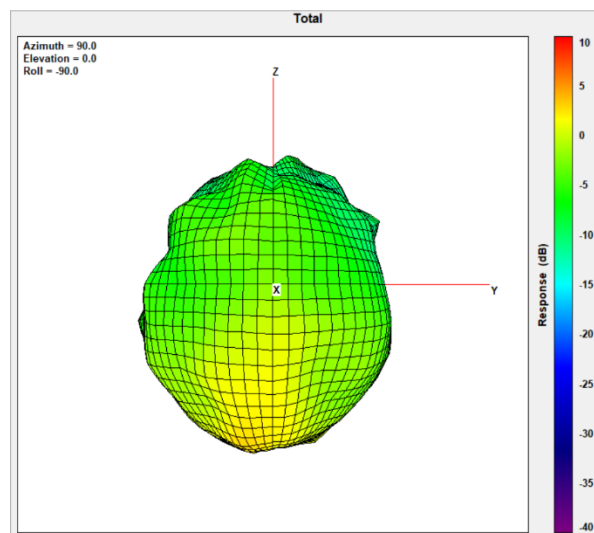
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	1.34



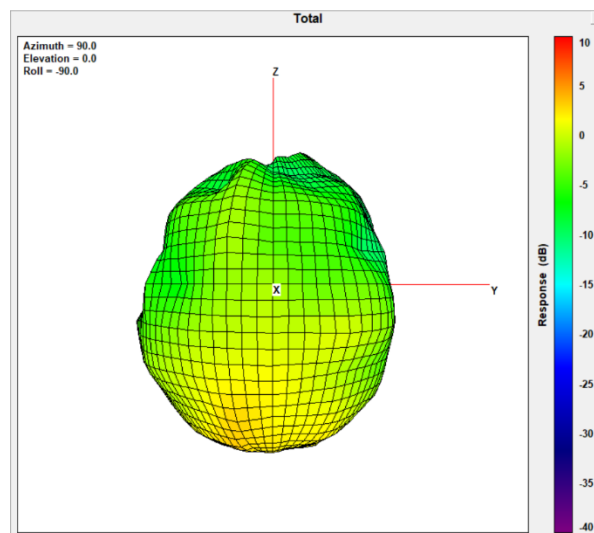
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	3.36



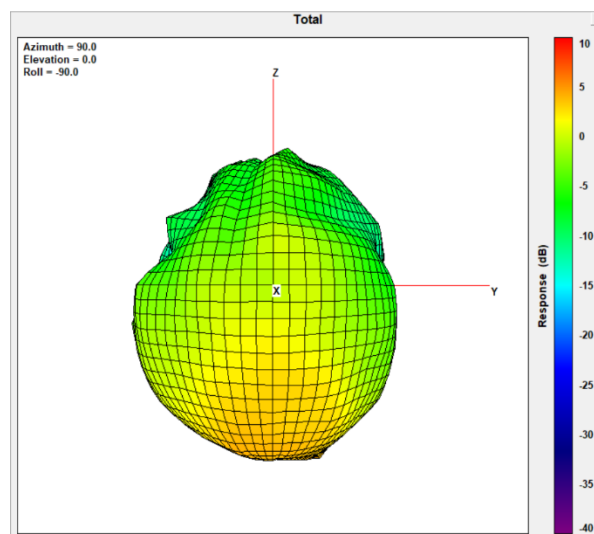
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	3.78



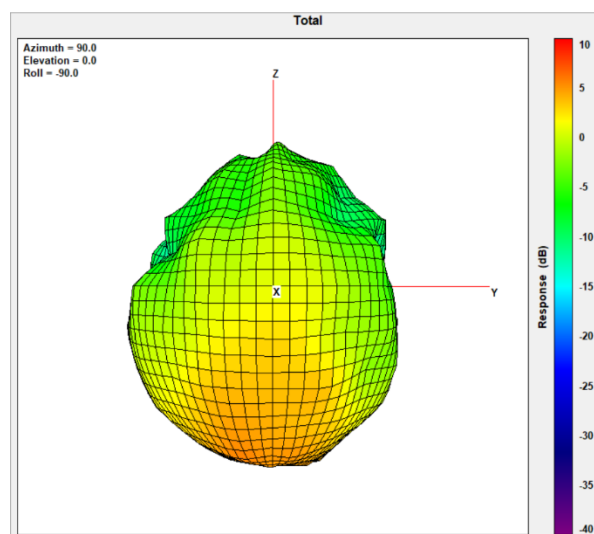
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	4.56



Max Antenna 3D Radiation Pattern 6875-7125 MHz

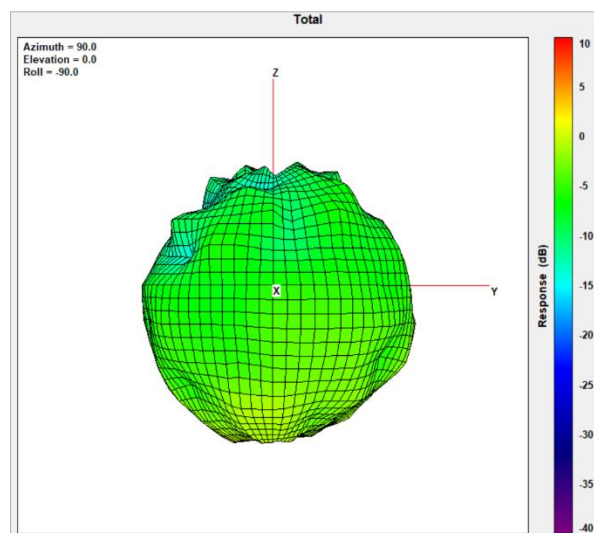
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	3.73



Auxiliary Antenna

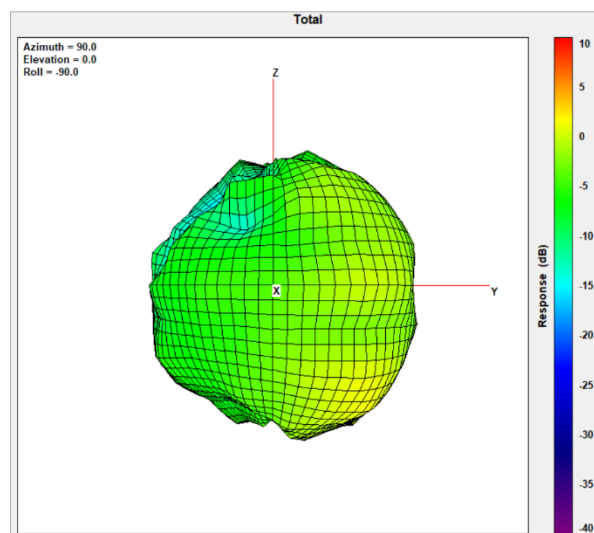
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	1.10



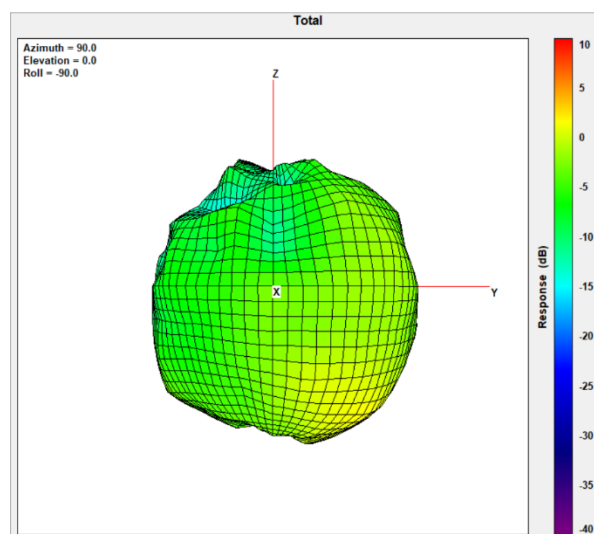
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	1.76



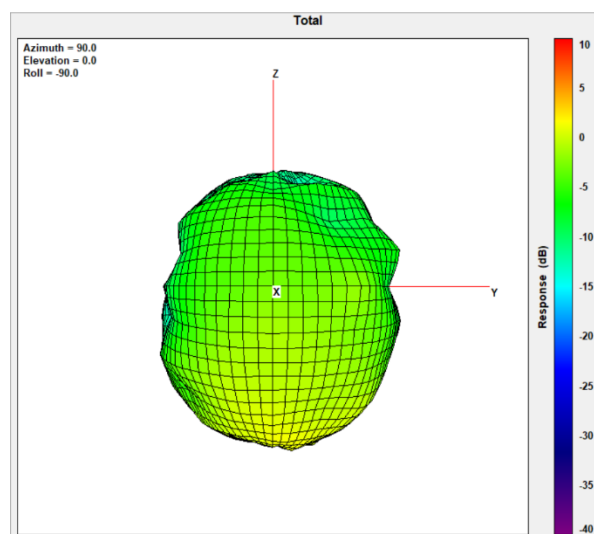
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.04



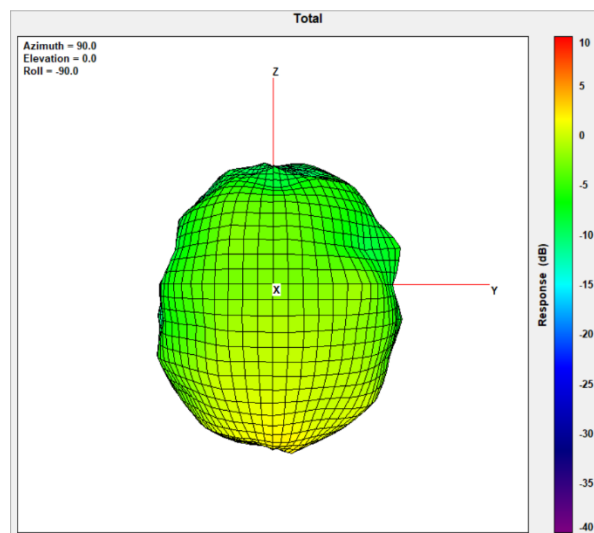
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	1.62



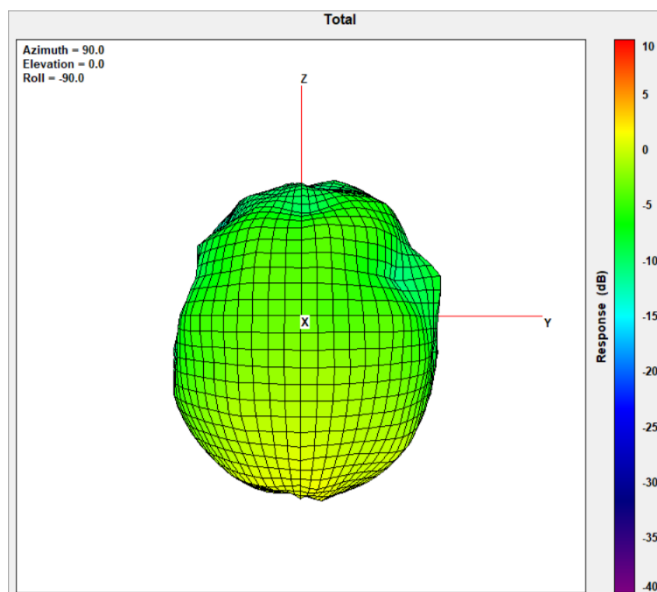
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.52



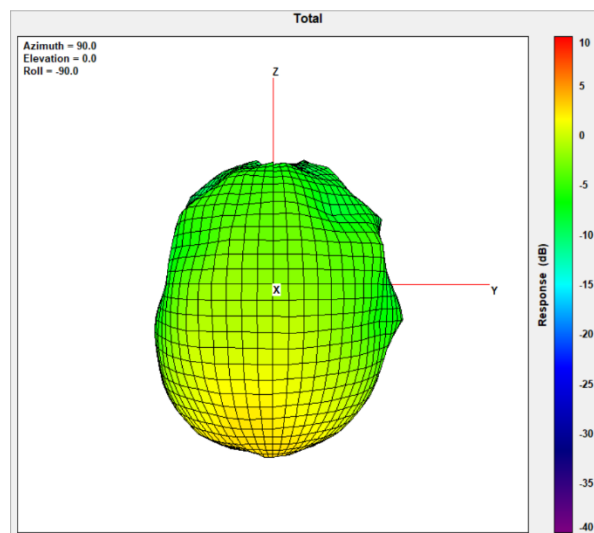
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	1.71



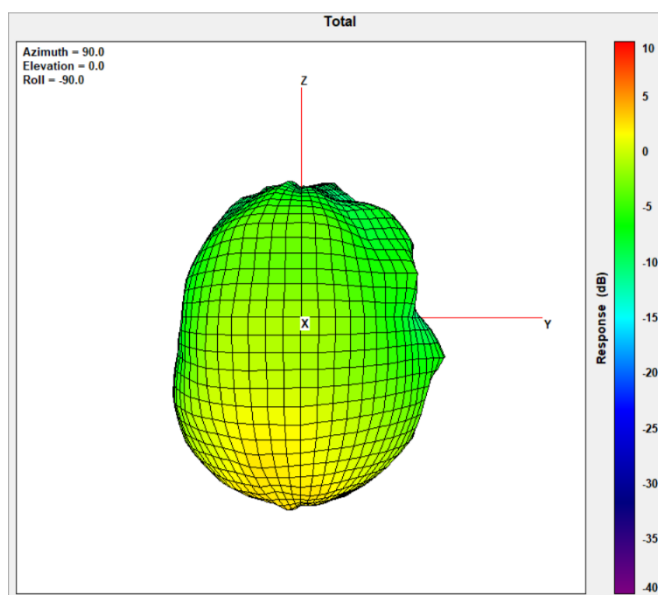
Max Antenna 3D Radiation Pattern 5925-6425 MHz

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



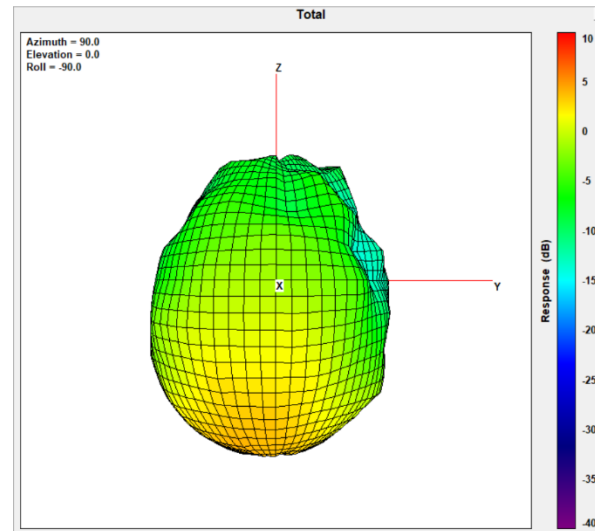
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	3.57



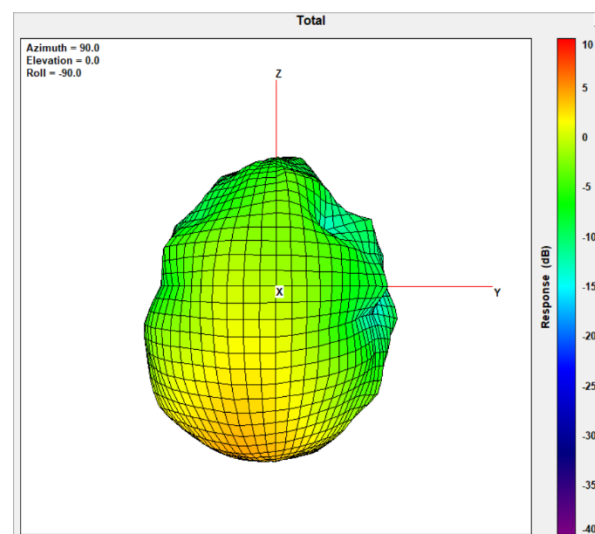
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	4.47



Max Antenna 3D Radiation Pattern 6875-7125 MHz

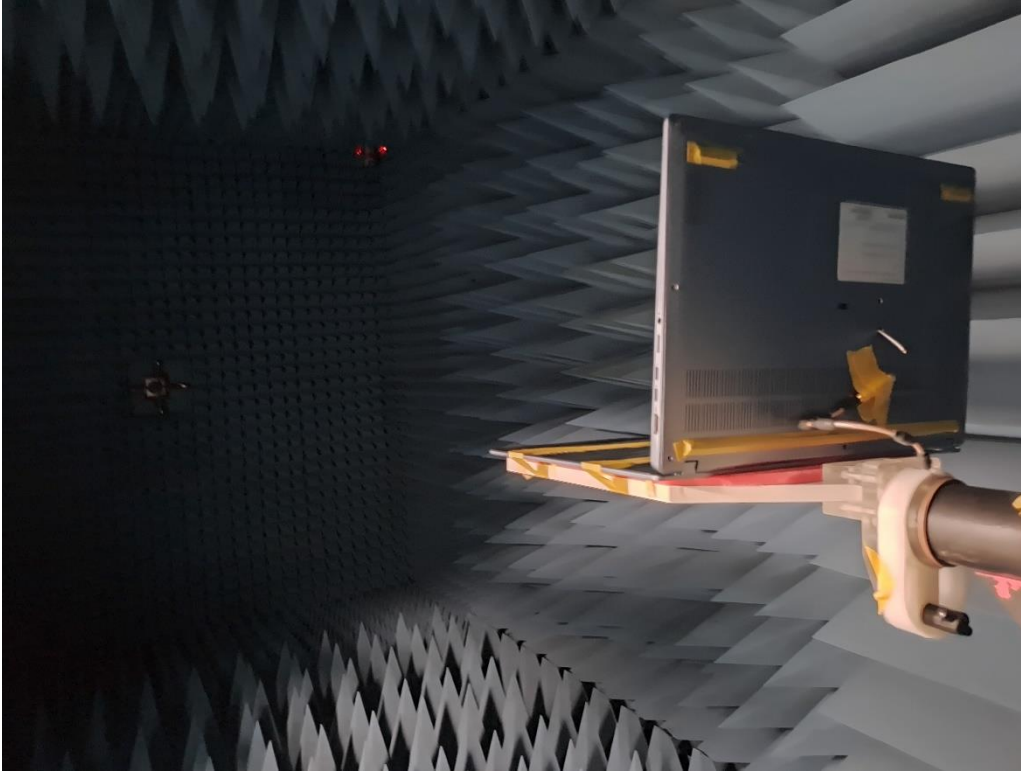
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	3.70



Annex A. Photographs

A.1 Setup Photo

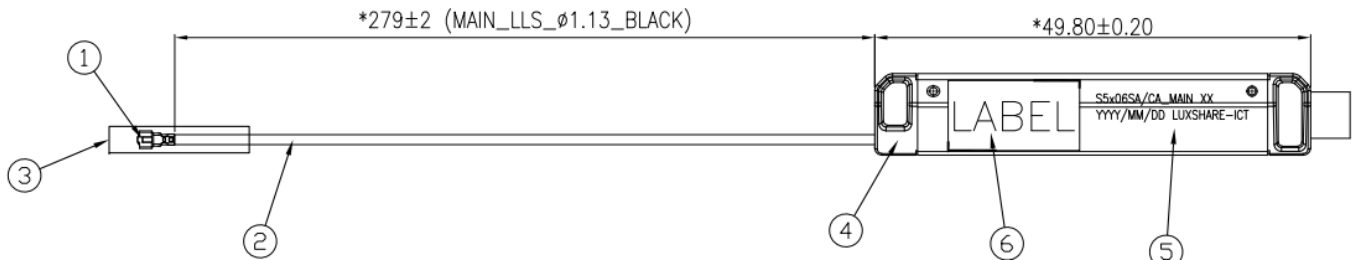
<insert test diagram here for test site utilized>



A.2 Test sample

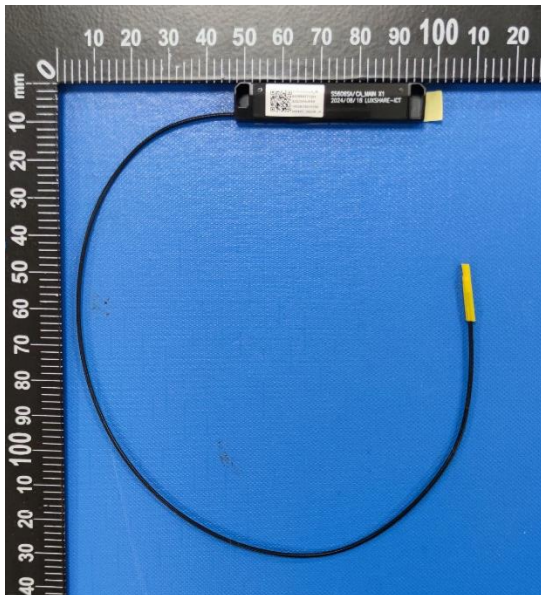
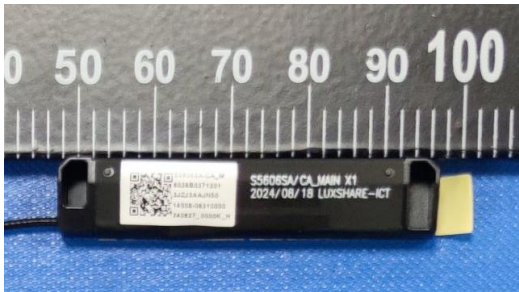
Main Antenna

Antenna Drawing

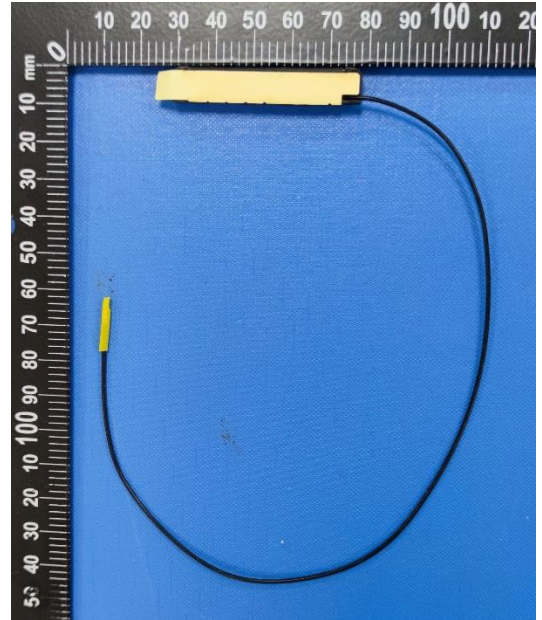
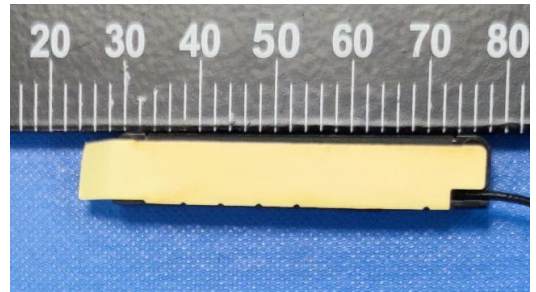


Antenna Photo

Front



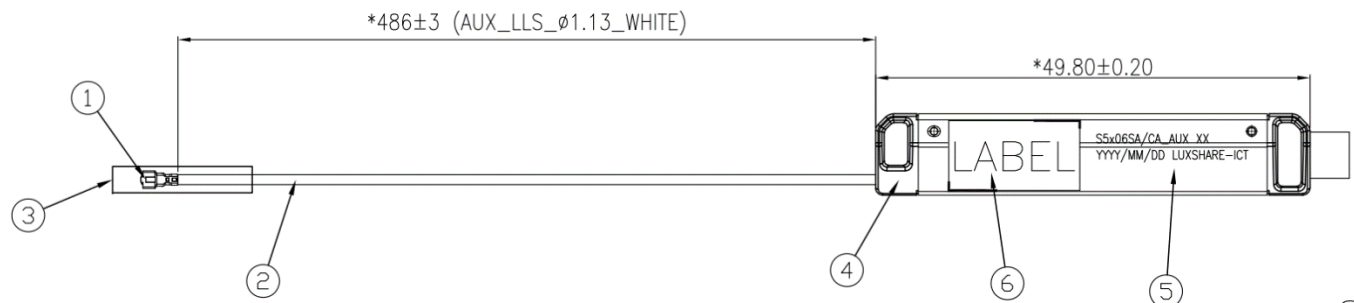
Back



Note: antenna photo should include L type ruler

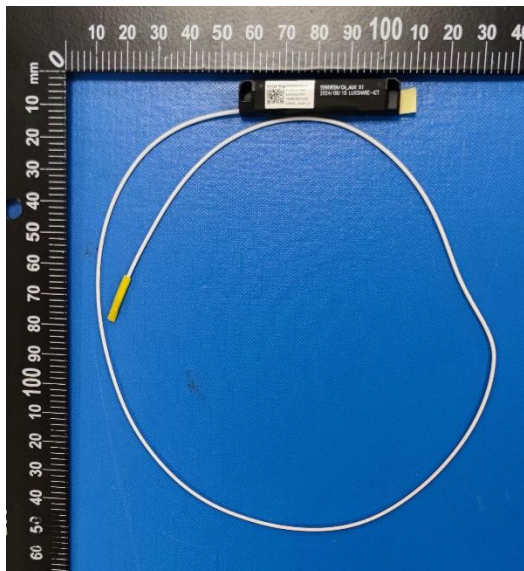
Aux Antenna

Antenna Drawing

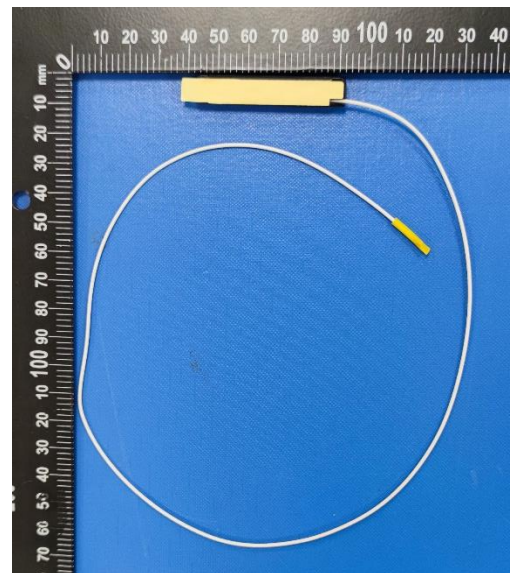


Antenna Photo

Front



Back



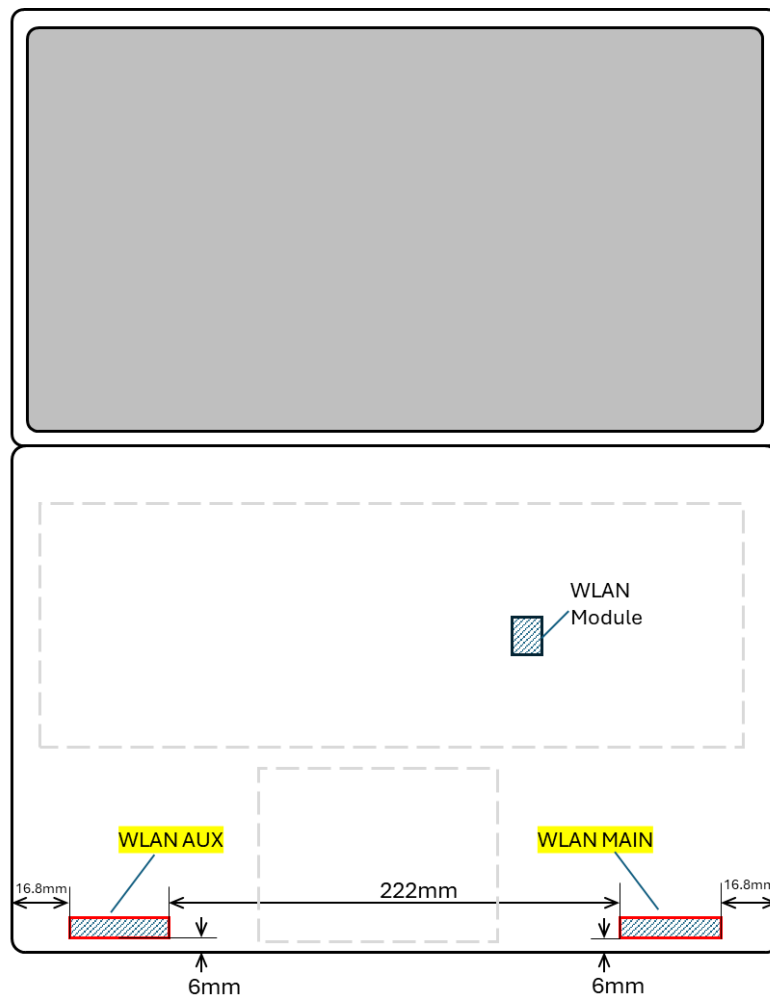
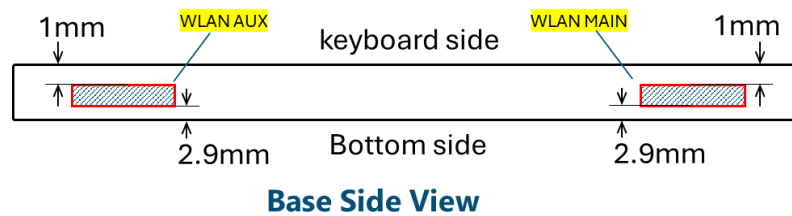
Note: antenna photo should include L type ruler

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.



Top View

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.

