ANTENNA INFORMATION

OEM	Lenovo
ODM	HQ
Platform model name	Yoga Slim 7 14IMH9
Platform type (ex: regular NB, convertible PC, AIO…etc)	Regular NB
SAR minimum separation (mm)	9.01

Antenna manufacturer	INPAQ Technology Co., Ltd.
Address	No.5 Chunqiu Road, Panyang Industrial Park Huangdai Town, Xiangcheng Zone, Suzhou Jiangsu Province China
Antenna Part number	Main: WA-P-LELE-04-053 Aux: WA-P-LELE-04-053
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	2.87	3.17	2.77	3.21	3.03	2.22	2.51	2.5	1.95	1.71
Aux	2.69	2.5	2.52	2.05	2.53	2.73	2.81	1.51	2.67	1.9

Cable Assembly Part Number and Information

	Cable PN	**Cable length**(cm)	**Cable diameter**(mm)	**Impedance**(ohm)	**Connector type**
Main	CNC IPEX MHF4L 1.13 BK 203mm	20.3	1.13	50	IPEX Generation 4
Aux	CNC IPEX MHF4L 1.13 GY 248mm	24.8	1.13	50	IPEX Generation 4

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

Table of Contents

Revision #	Revision Details	Issued Date
Rev. 00	First Issue	2023.09.18

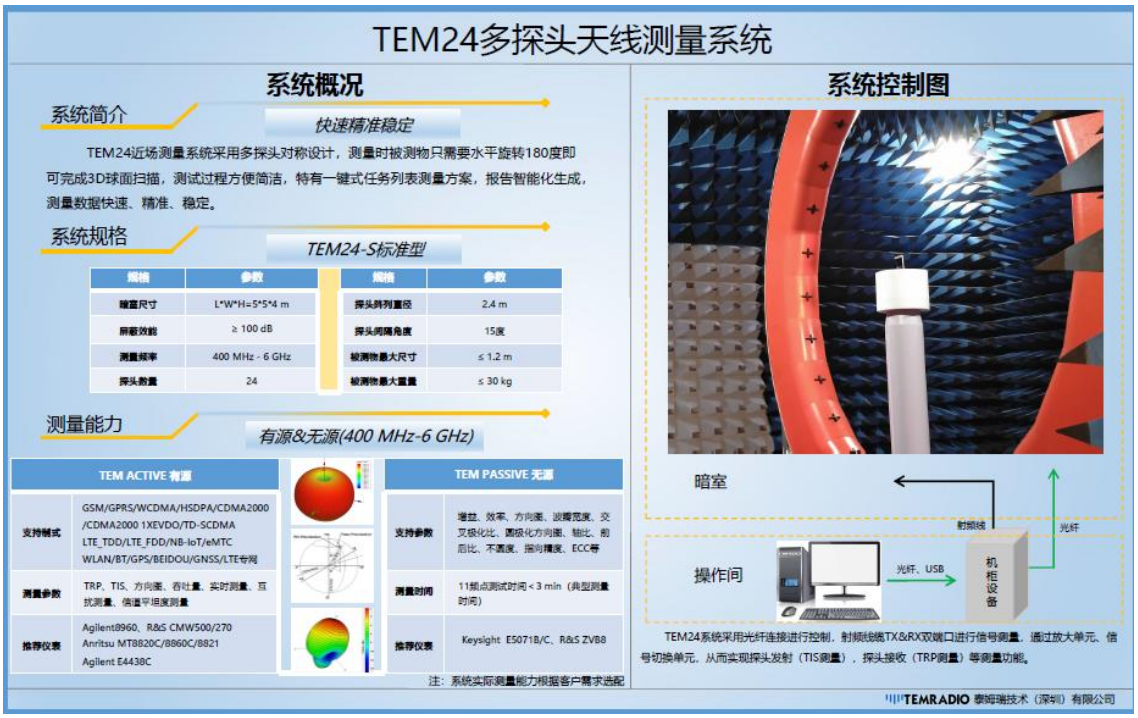
1. Document Revision History

2. Test & System Description

2.1 Measurement Method and System

This test report is prepared by testing in a dark room that is completely silenced and shielded from external signals .

2.2 Test setup



2.3 Equipment list

Number	Device	Type/Model	Serial#	Manufacturer	Cal. Date	Due Date
1	EMT24 Chamber	TEM433	1501812	TEM	2022/1/16	2024/4/15
2	Equipment Switching Unit	ESU-001	1501813	TEM	2022/8/16	2024/4/15
3	Power Amplifier Unit	PAU-001	1501814	TEM	2022/8/16	2024/4/15
4	Transmit Switching Unit	TSU-001	1501815	TEM	2022/8/16	2024/4/15
5	Power Control Unit	PCU-001	1501816	TEM	2022/8/16	2024/4/15
6	Test system host	Lenovo	1501827	TEM	2022/8/16	2024/8/15
7	Tx/rx RF power and its control unit	PCU-002	1501817	TEM	2022/8/16	2024/4/15
8	Network analyzer	E5071C	1501803	Agilent Technologies	2022/8/16	2024/8/15
9	RF line TX	Z112	1501818	TEM	2022/8/16	2024/4/15
10	RF line RX	Z112	1501819	TEM	2022/8/16	2024/4/15
11	UPS uninterruptible power supply	SANTAK-2700	1501820	TEM	N/A	N/A
12	24 Probe Antenna	TEM1355	1501821	TEM	2022/8/16	2024/4/15
13	General-purpose Tester	MT8000A	166435	Anritsu	2022/8/16	2024/8/15

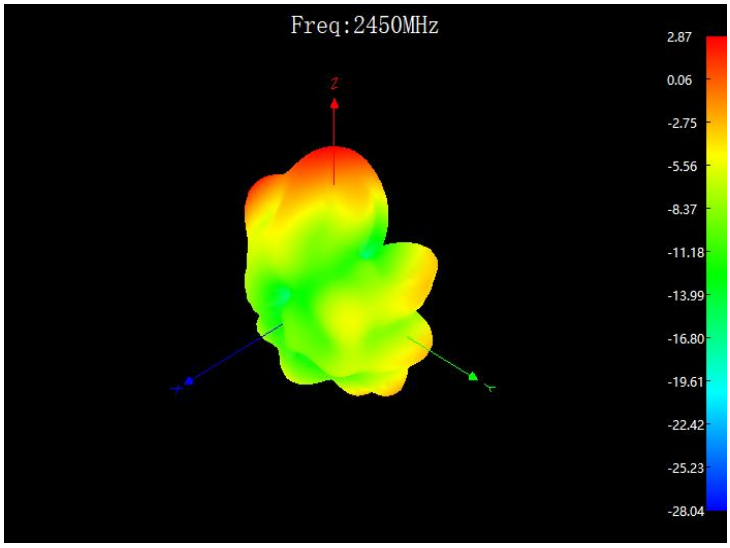
14	General-purpose Tester	CMW500	1501915 3	ROHDE&SCHW ARZ	2022/8/1 6	2024/8/15
15	General-purpose Tester	MT8821C	166429	Anritsu	2022/8/1 6	2024/8/15

3. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

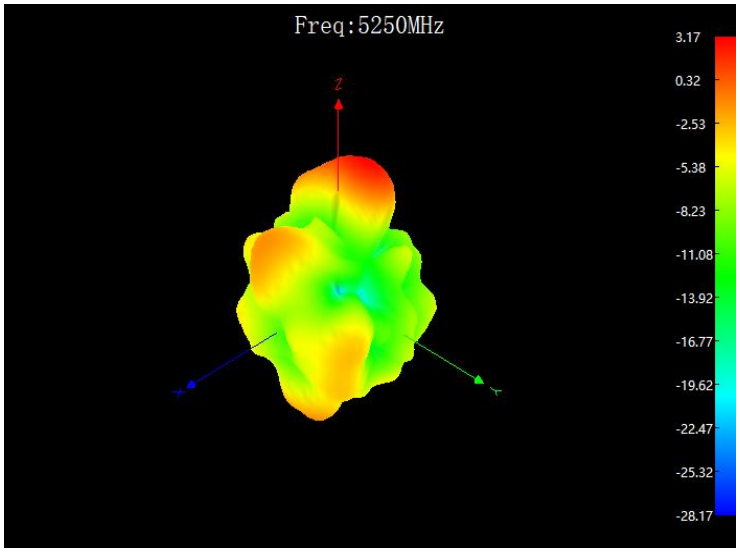
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	2.87



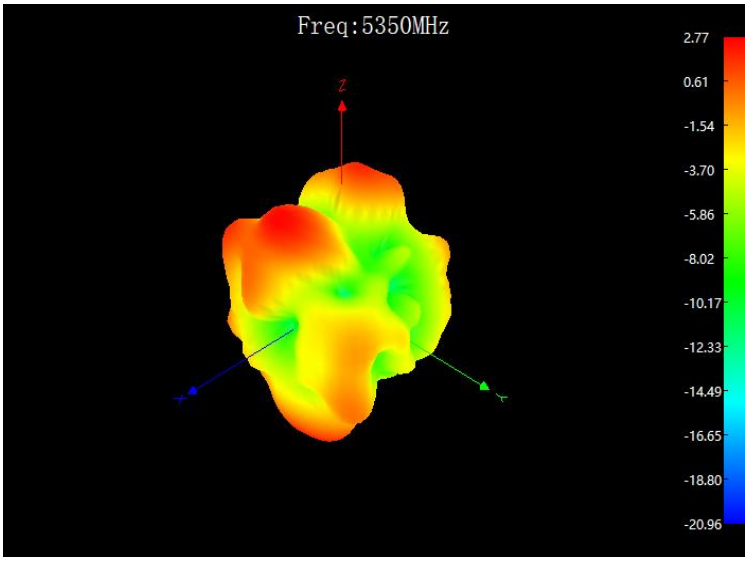
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	3.17


Freq:5250MHz
Z
3.17
0.32
-2.53
-5.38
-8.23
-11.08
-13.92
-16.77
-19.62
-22.47
-25.32
-28.17

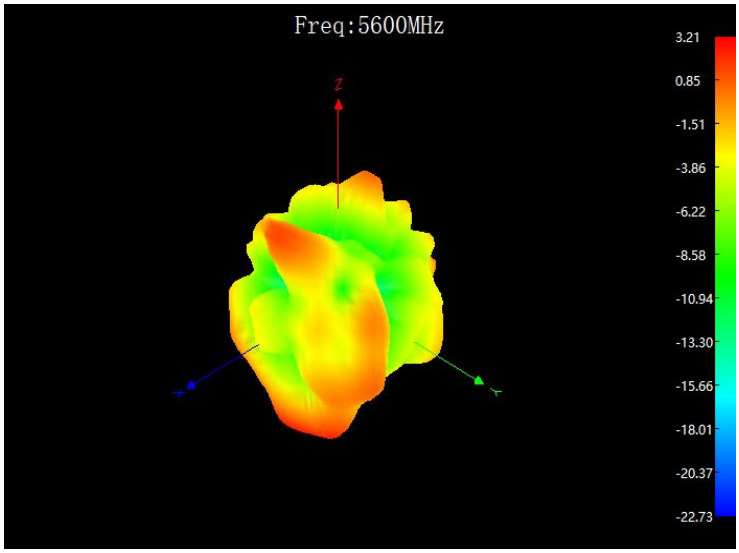
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.77



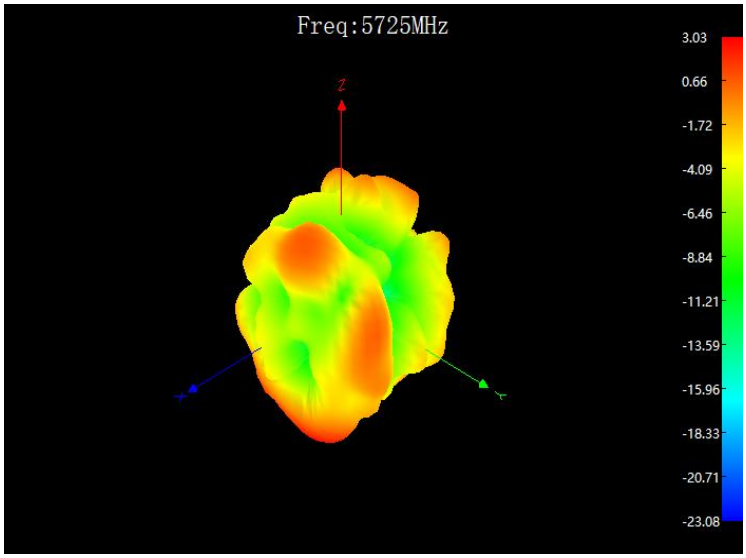
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	3.21



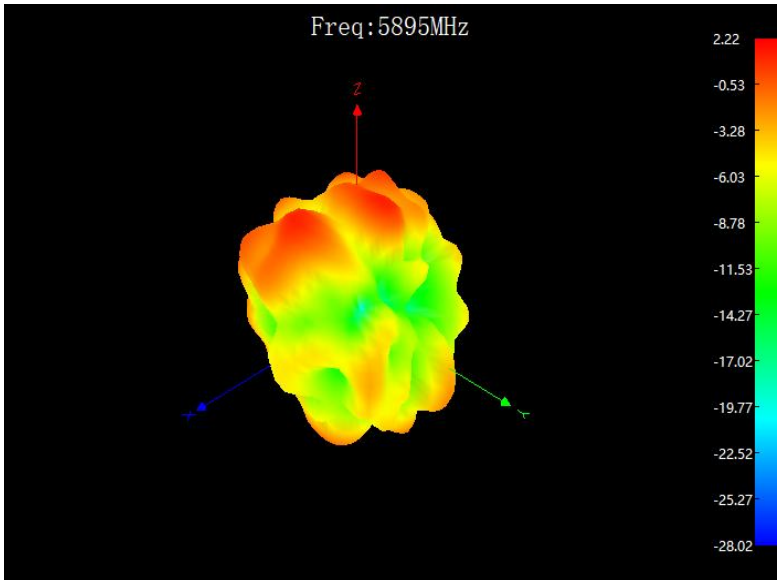
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	3.03



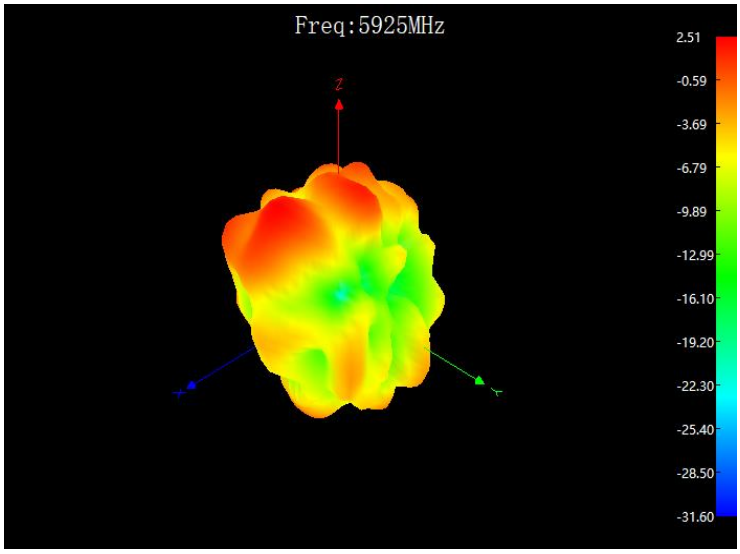
Max Antenna 3D Radiation Pattern 5850-5895 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5850-5895	2.22



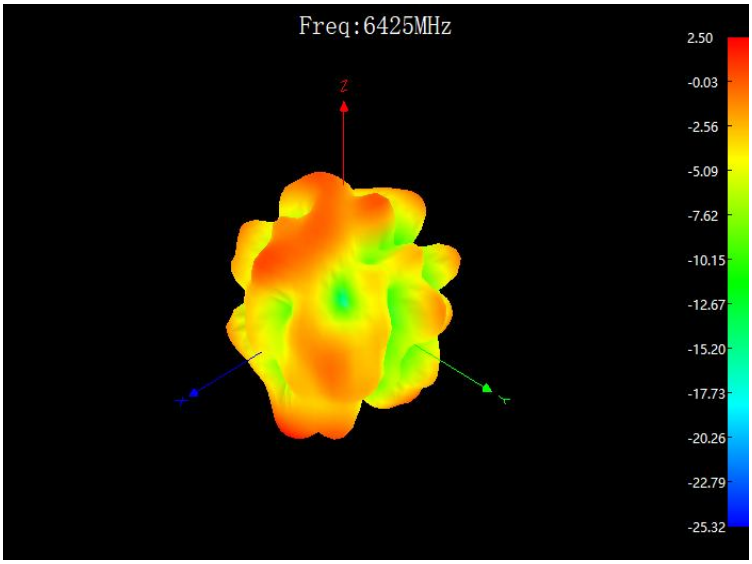
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	2.51



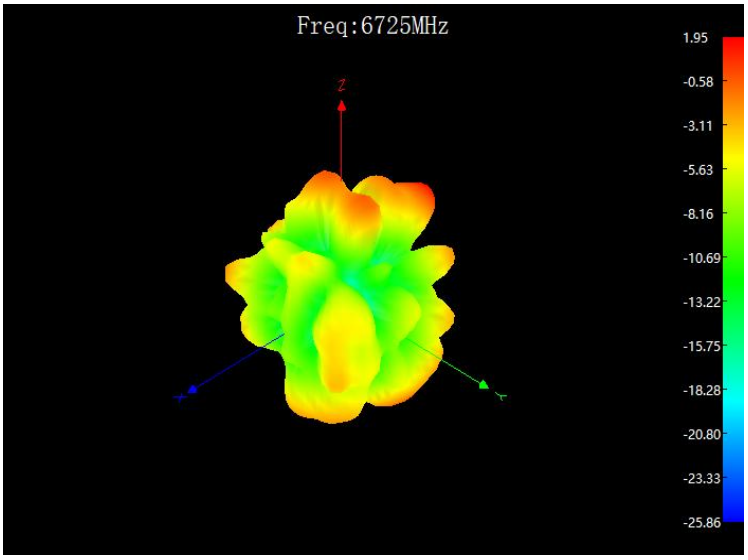
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	2.50



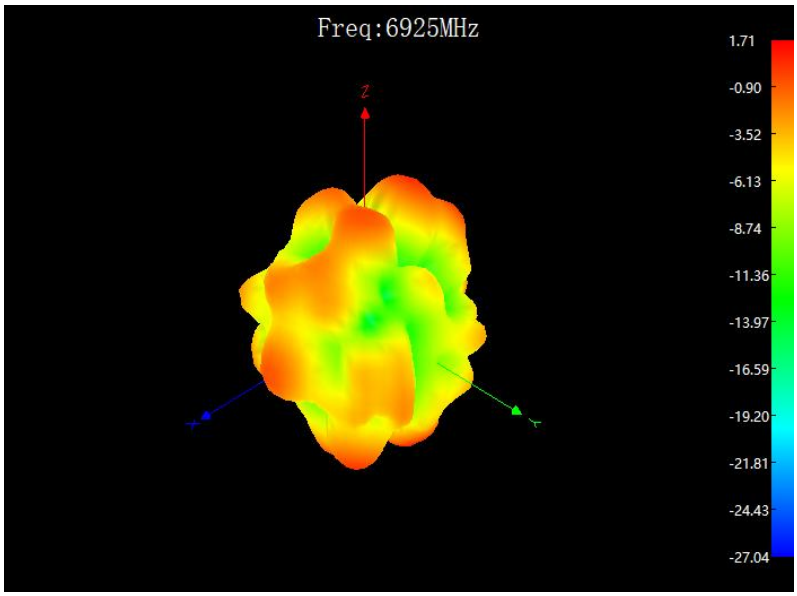
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	1.95



Max Antenna 3D Radiation Pattern 6875-7125 MHz

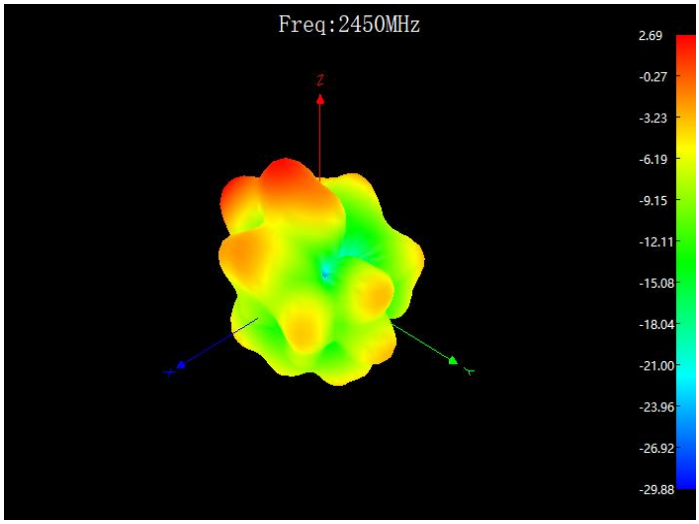
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.71



Auxiliary Antenna

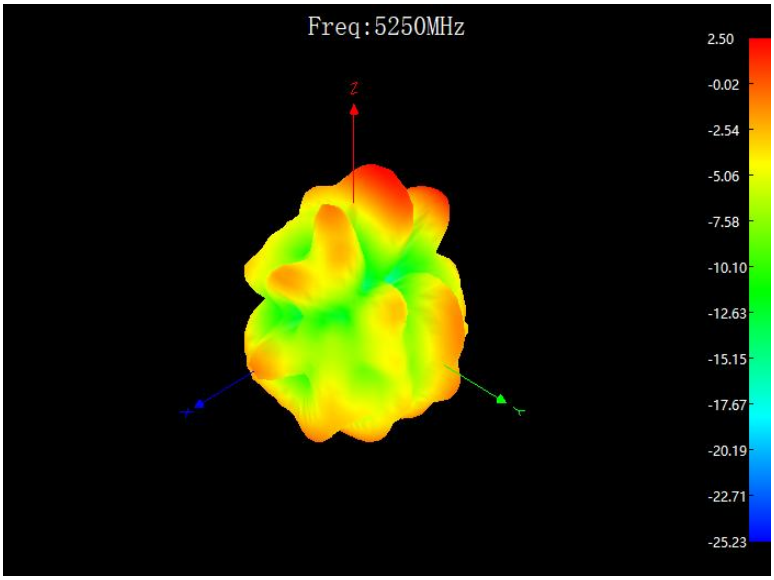
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

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



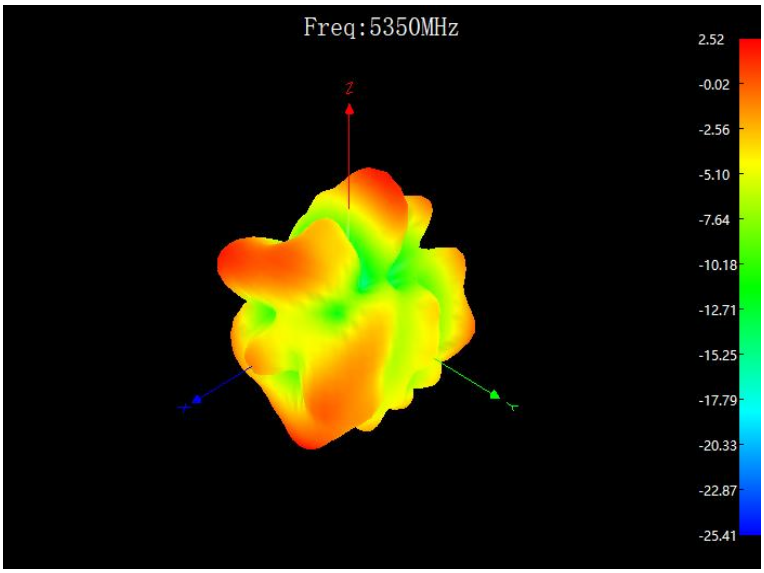
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	2.50



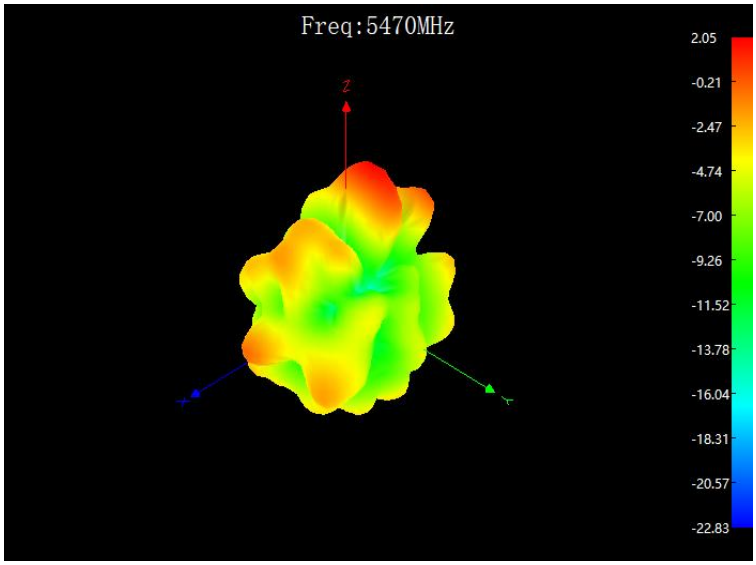
Max Antenna 3D Radiation Pattern 5250-5350 MHz

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



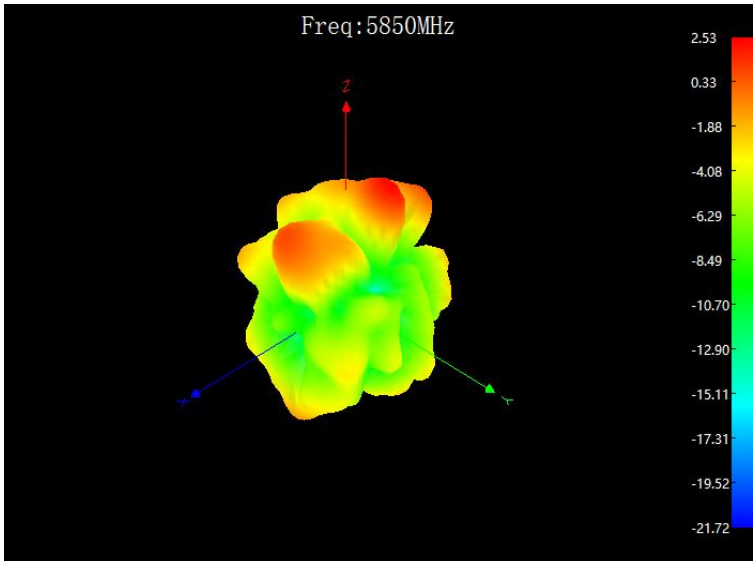
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	2.05



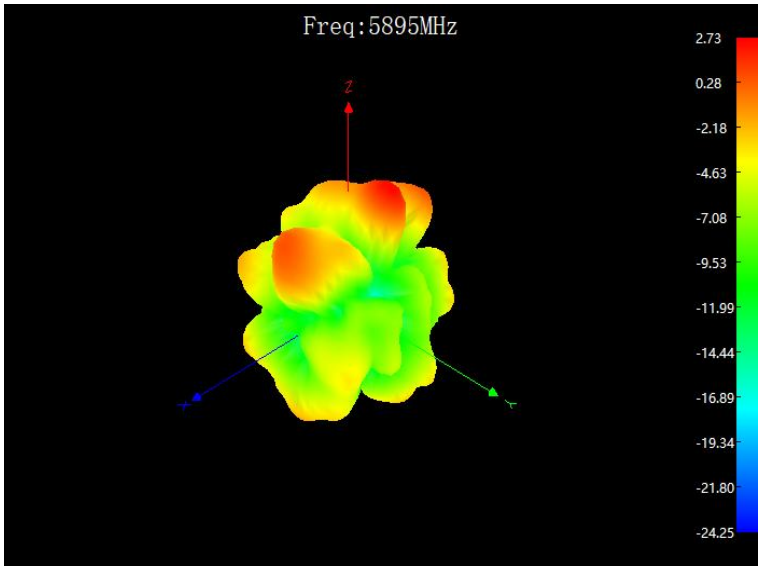
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.53



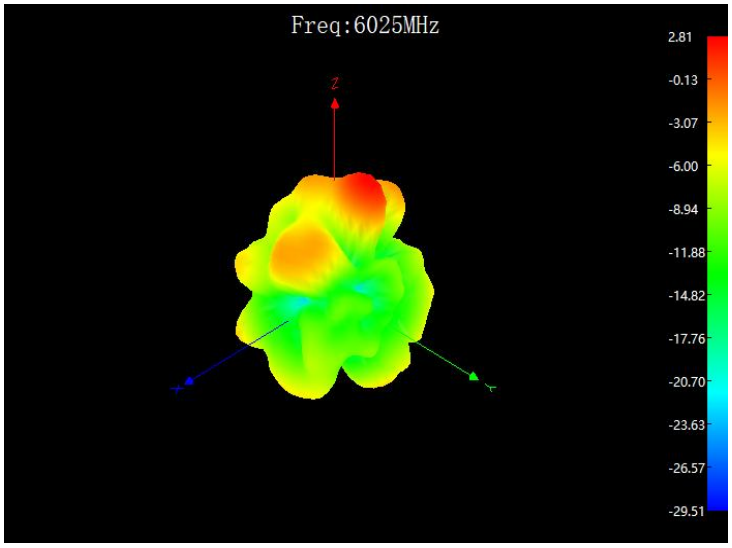
Max Antenna 3D Radiation Pattern 5850-5895 MHz

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



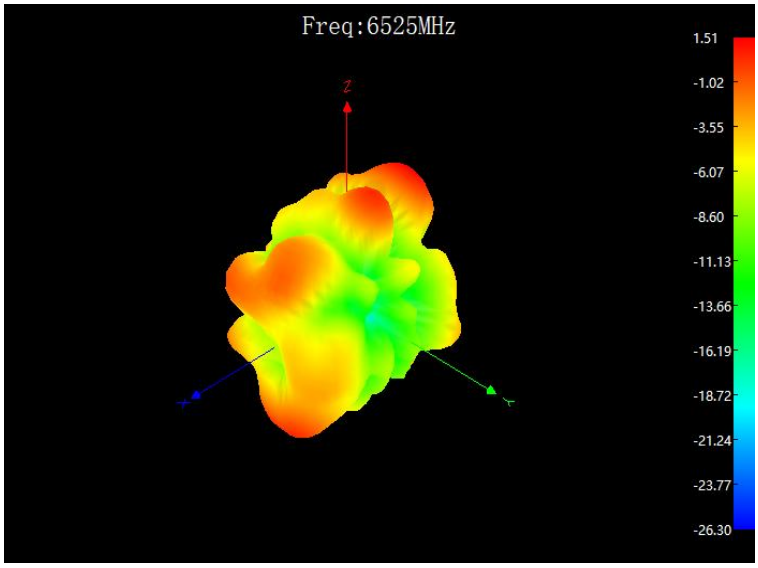
Max Antenna 3D Radiation Pattern 5925-6425 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5925-6425	2.81



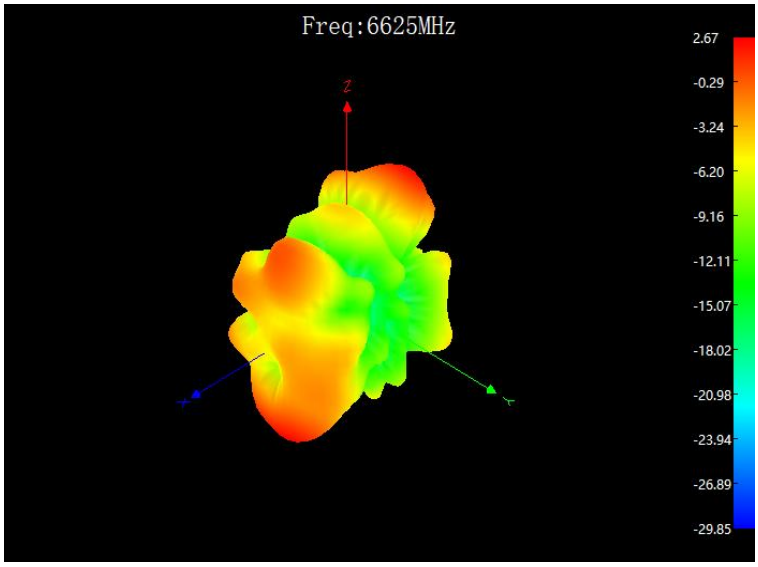
Max Antenna 3D Radiation Pattern 6425-6525 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6425-6525	1.51



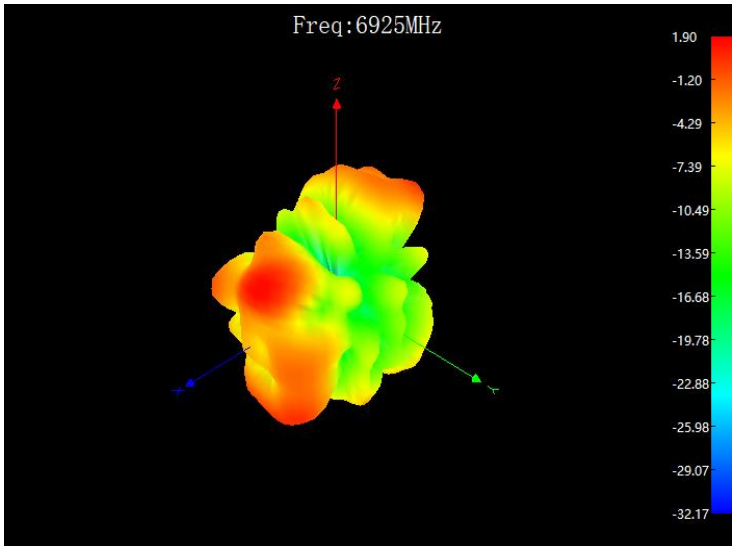
Max Antenna 3D Radiation Pattern 6525-6875 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6525-6875	2.67



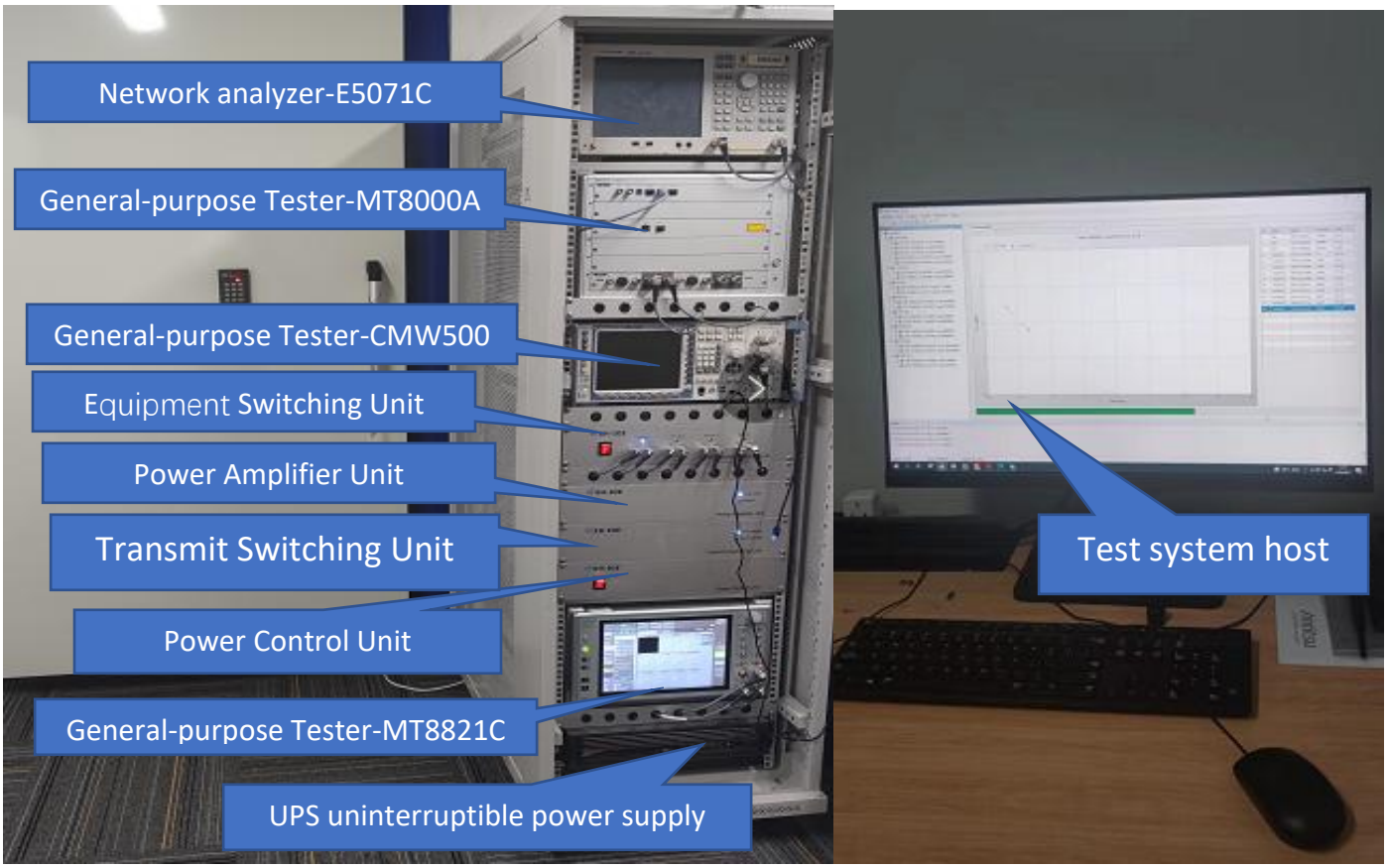
Max Antenna 3D Radiation Pattern 6875-7125 MHz

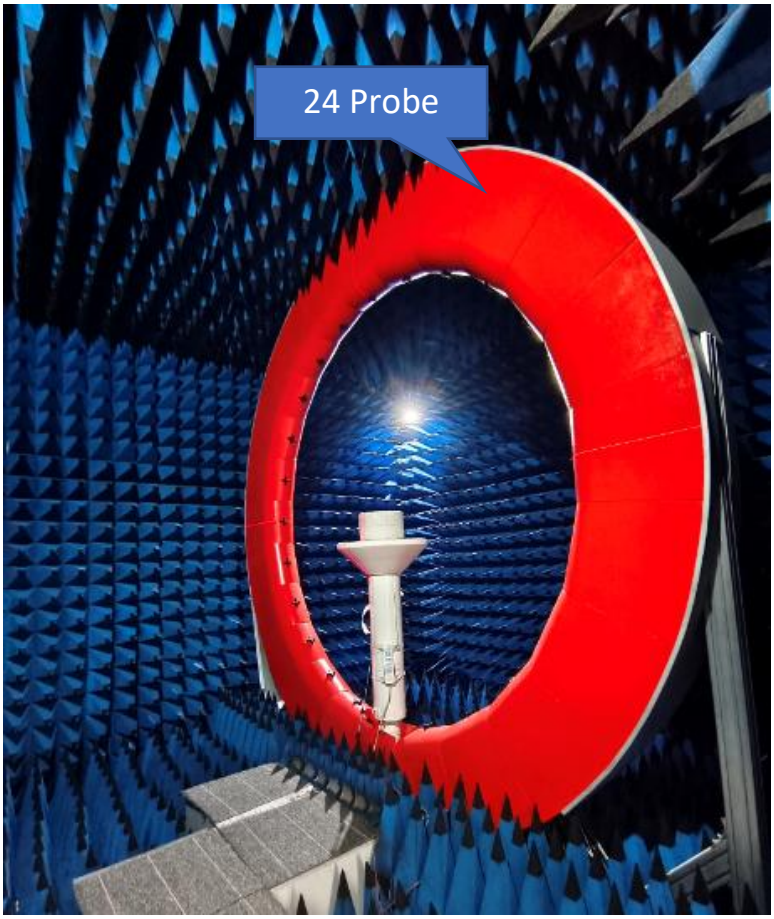
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
6875-7125	1.90

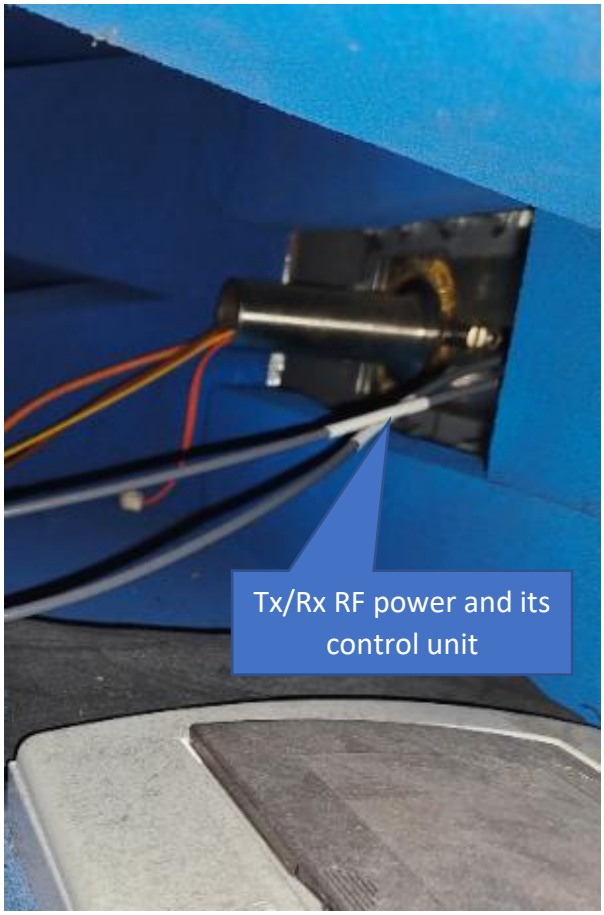


Annex A. Photographs

A.1 Setup Photo



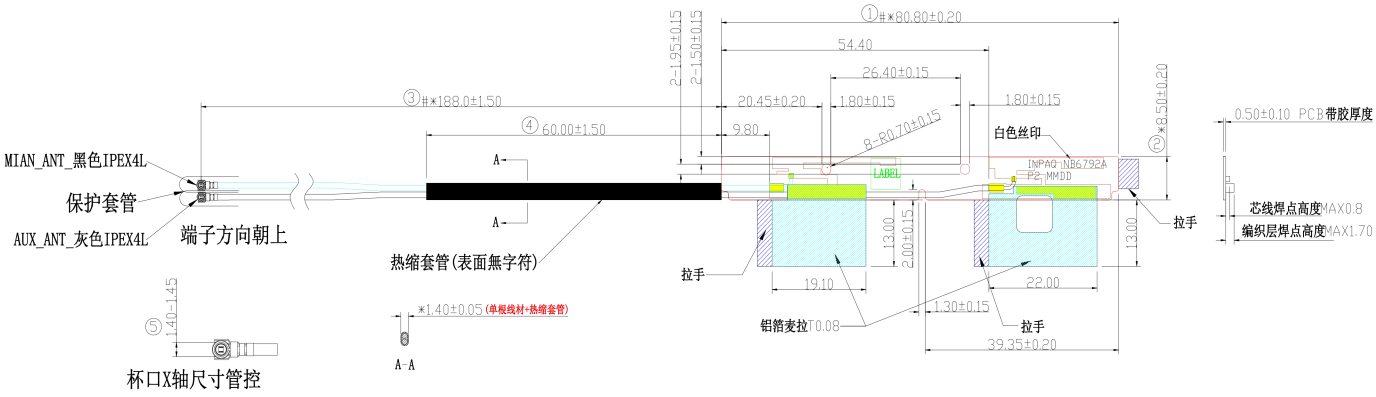

24 Probe


Tx/Rx RF power and its control unit

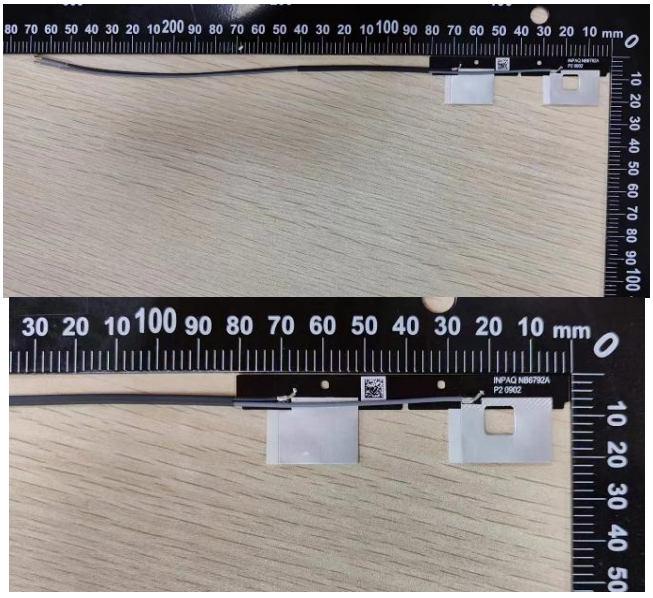
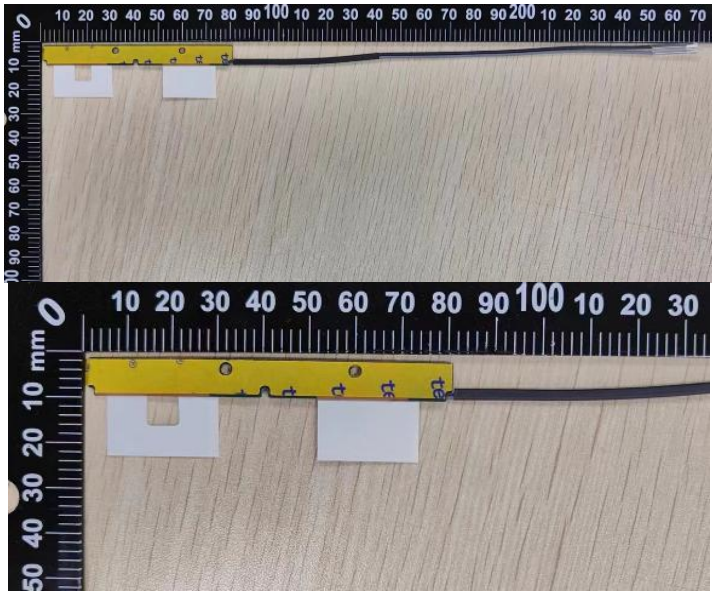
A.2 Test sample

Main Antenna

Antenna Drawing



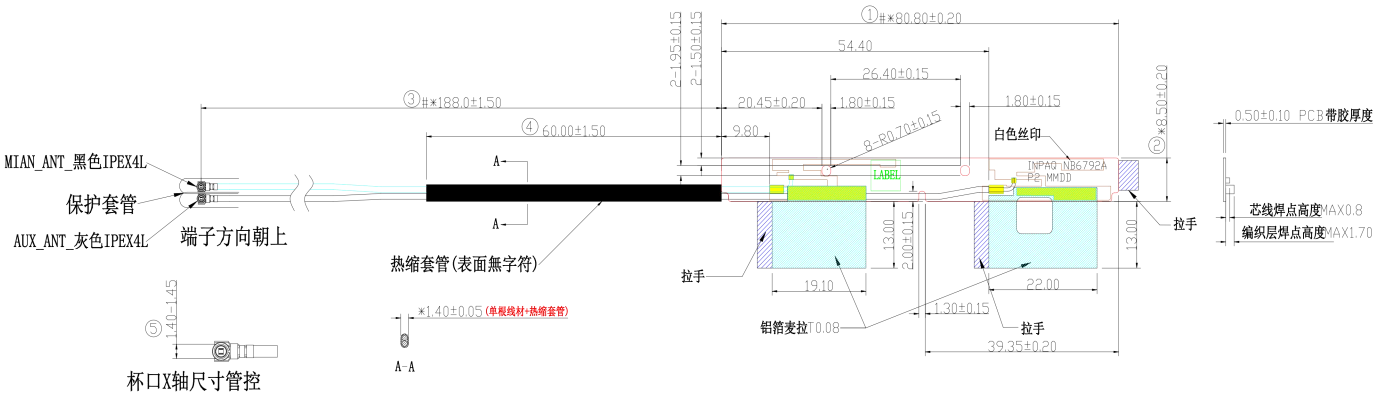
Antenna Photo

Front	Back
	

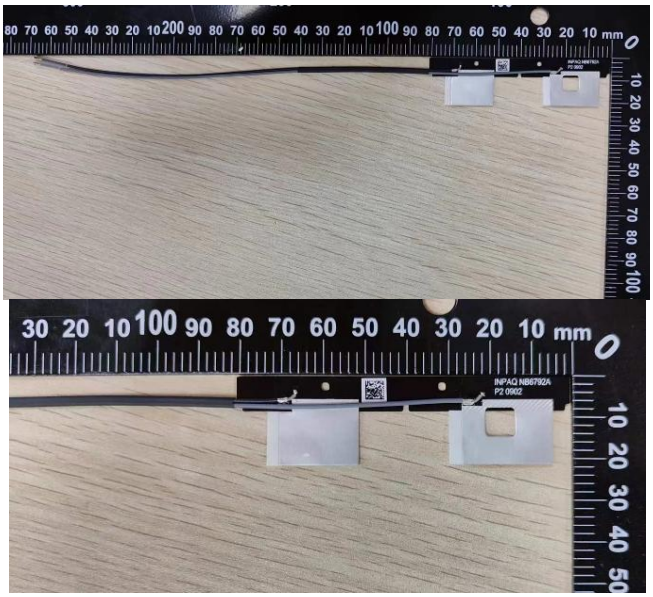
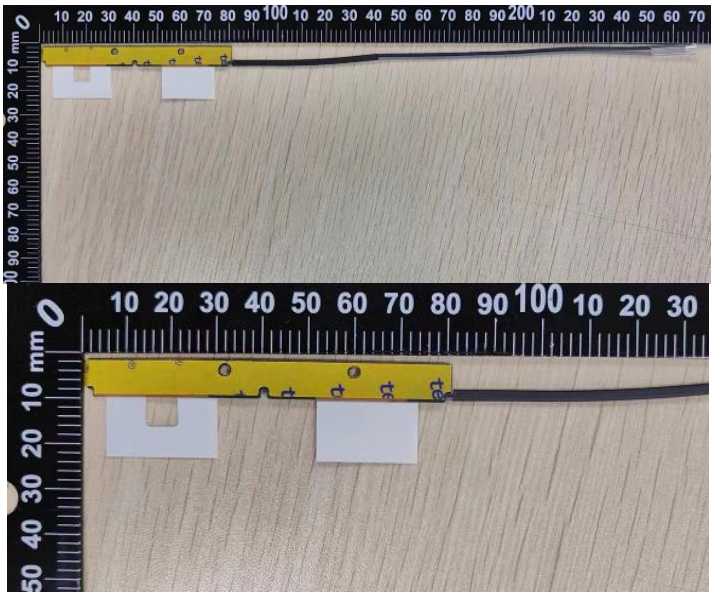
Note: antenna photo should include L type ruler

Aux Antenna

Antenna Drawing



Antenna Photo

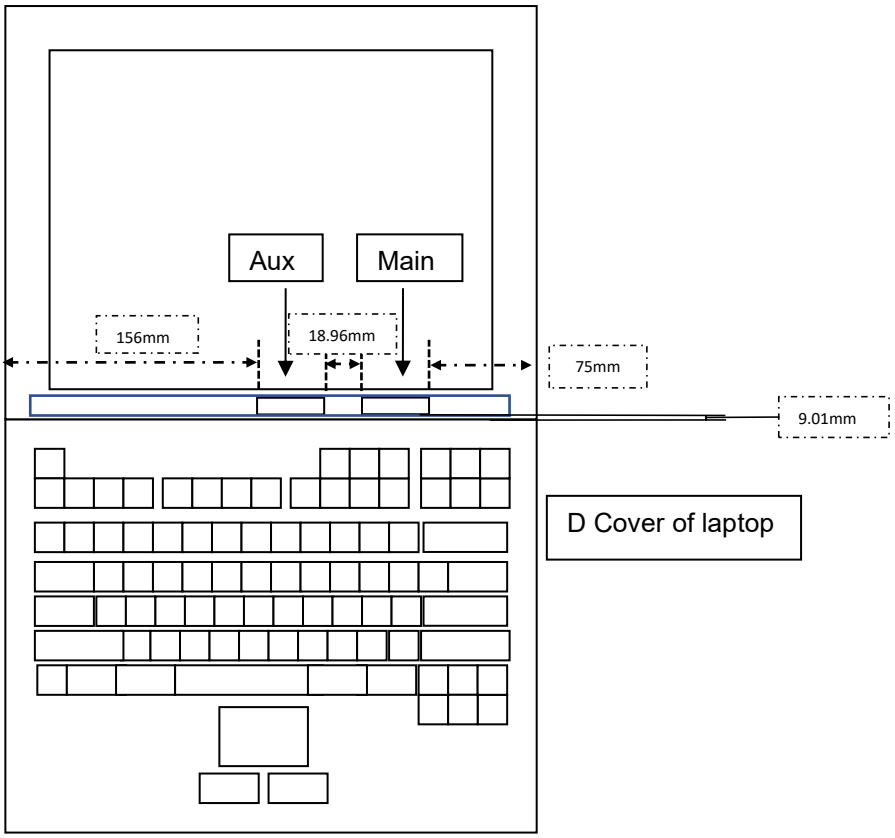
Front	Back
	

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.



Note: Antenna inside the hinge

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.