

ANTENNA INFORMATION

OEM	Lenovo
ODM	HuaQin
Platform model name	LVN CB Duet 11M889, LVN Chrome Duet EDU G2
Intel platform (ex: Yes, No or NA)	No
Platform type (ex: regular NB, convertible PC, AIO...etc)	Detachable
SAR minimum separation (mm)	0.8mm

Antenna manufacturer	Company name	INPAQ
	Address	Unit A2 802, Kexing Science Park Nanshan District, Shenzhen City, Guangdong Province
Test location	Company name	INPAQ
	Address	Unit A2 802, Kexing Science Park Nanshan District, Shenzhen City, Guangdong Province
Test Personnel	Name(Full name)	Xiaohui Yu
	E-mail	shawn_yu@inpaqgp.com
	Tel/Mobile	18320915583
Testing date		2024/5/10

Antenna Part number	Main	WA-F-LB-02-352
	Aux	WA-F-LB-01-120
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				
Main	2.86	2.95	2.85	2.97	2.85				
Aux	1.68	1.06	1.13	1.36	1.93				

Cable Assembly Part Number and Information					
	Cable PN	Cable length(mm)	Cable diameter(mm)	Impedance(ohm)	Connector type
Main	SY113L/50-001	88	1.13	50	I-PEX MHF4L (20565-001R-13)
Aux	SY113L/50-004	219	1.13	50	I-PEX MHF4L (20565-001R-13)

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

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1. Intel Reference Gain and Type**NA**

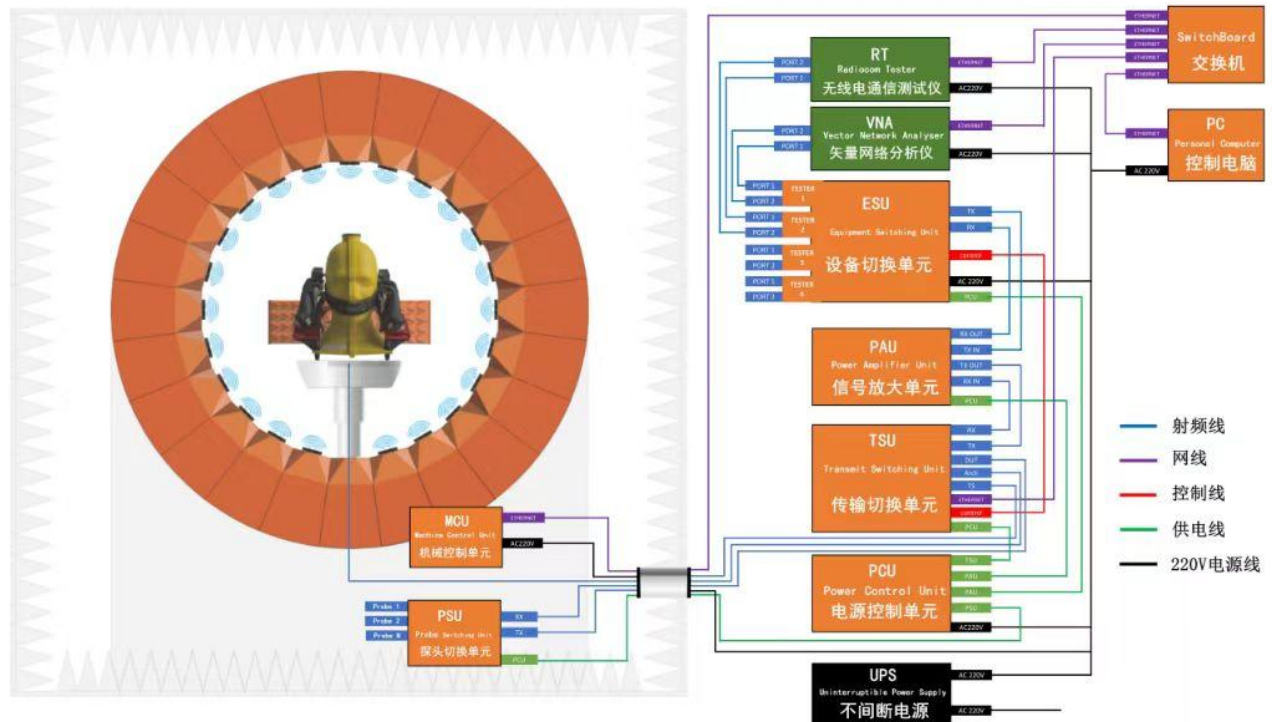
Revision #	Revision Details	Issued Date
Rev. 00	First Issue	2024.05.10

2. Document Revision History

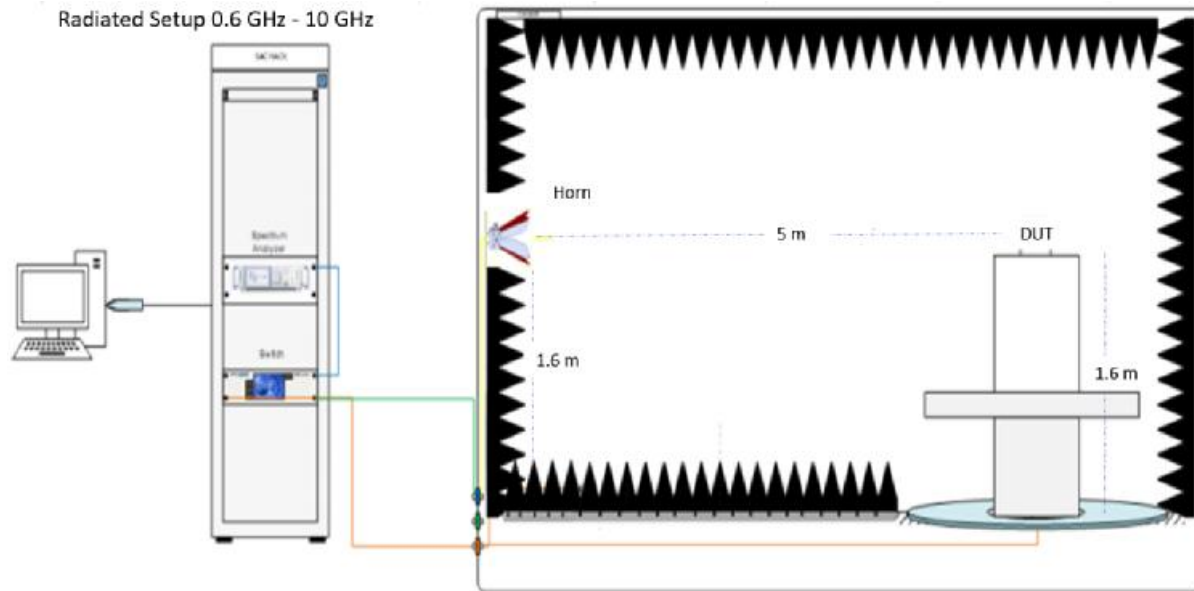
3. Test & System Description

3.1 Measurement Method and System

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



3.2 Test setup



3.3 Equipment list

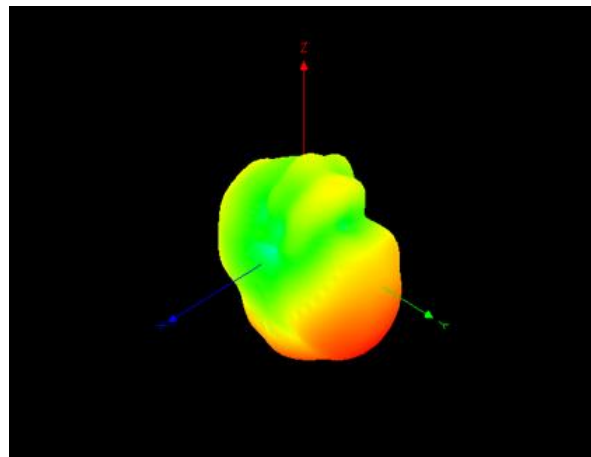
item	Device	Manufacter	Cal.Date	Cal.Due.Date
1	Chamber isolation	TEM24	2024/2/5	2025/2/4
2	Turntable accuracy	TEM24	2023/10/28	2024/10/27
3	WPA Box(Tx route) Gain	TEM24	2023/10/28	2024/10/27
4	LNA Box(Rx route) Gain	TEM24	2023/10/28	2024/10/27
5	Probe Switch Box Loss	TEM24	2023/10/28	2024/10/27
6	Tester Switch Box Loss	TEM24	2023/10/28	2024/10/27
7	Signal Switch Box Loss	TEM24	2023/10/28	2024/10/27
8	Radio Communication Tester	Rohde&Schwarz	2023/8/4	2024/8/3
9	Network Analyzer	Keysight	2023/8/4	2024/8/3
10	Chamber Calb SMAJ-SMAJ-1.5m 0.1G-18G Loss	TEM24	2023/10/28	2024/10/27
11	Chamber Calb SMAJ-SMAJ-0.5m 0.1G-18G Loss	TEM24	2023/10/28	2024/10/27

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	2.86

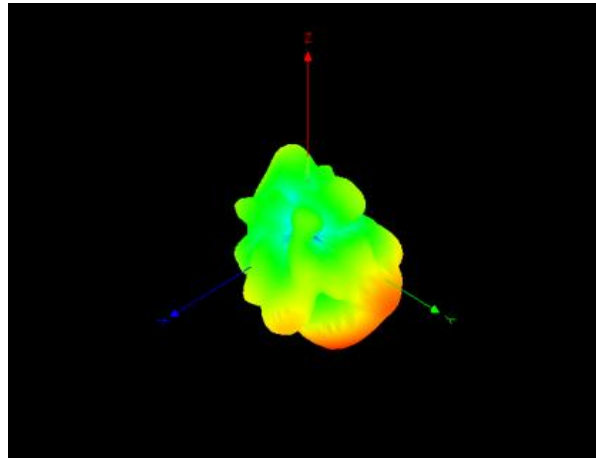


Max Antenna 3D Radiation Pattern 5150-5250 MHz

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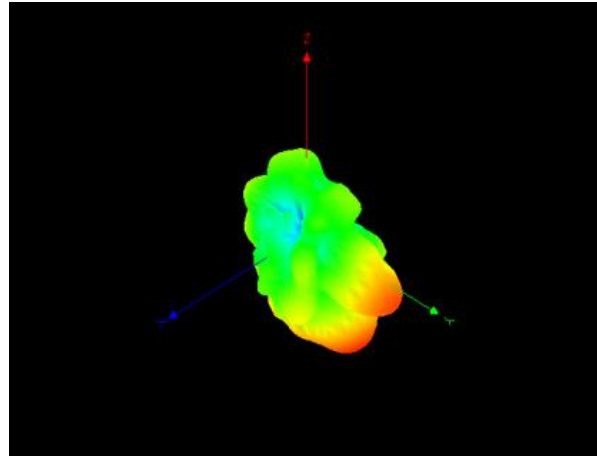
5150-5250

2.95



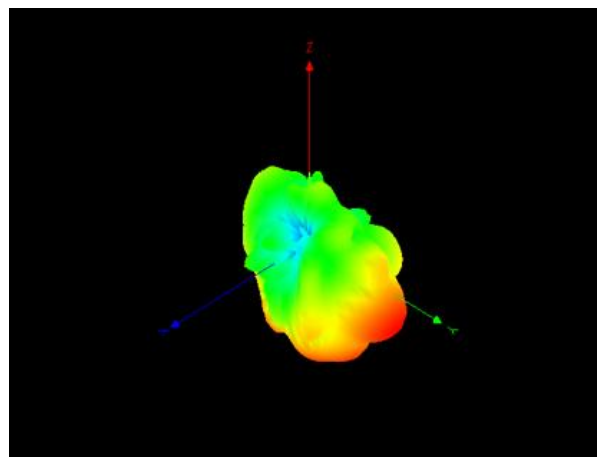
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	2.85



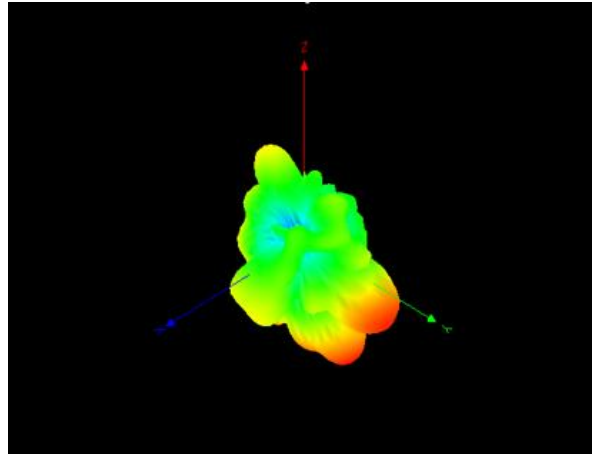
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	2.97



Max Antenna 3D Radiation Pattern 5725-5850 MHz

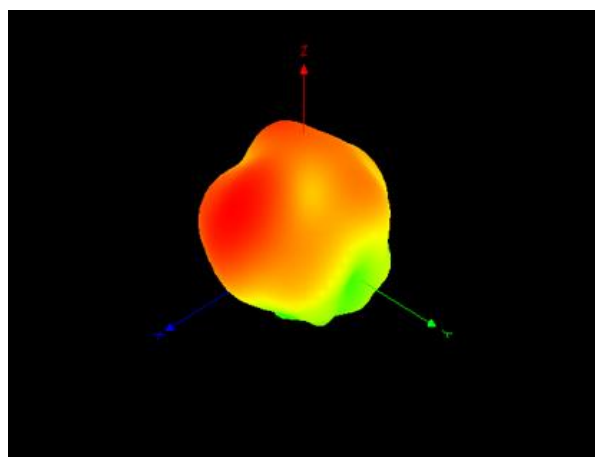
Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	2.85



Auxiliary Antenna

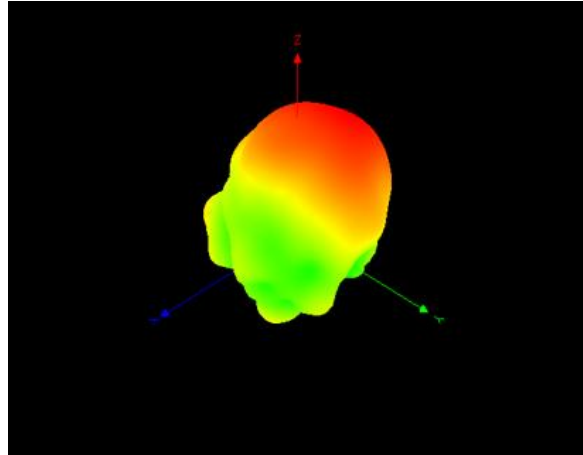
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
2400-2483.5	1.68



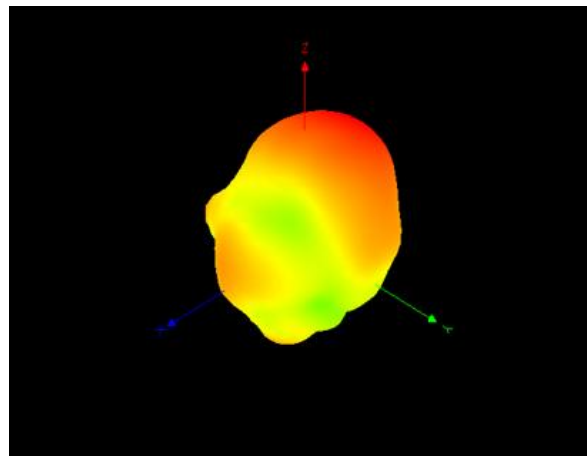
Max Antenna 3D Radiation Pattern 5150-5250 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5150-5250	1.06



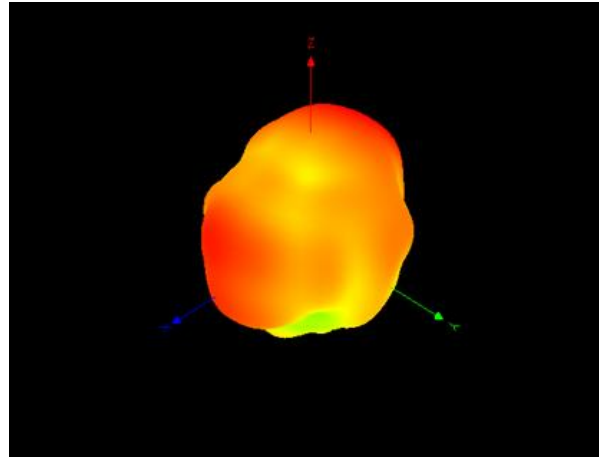
Max Antenna 3D Radiation Pattern 5250-5350 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5250-5350	1.13



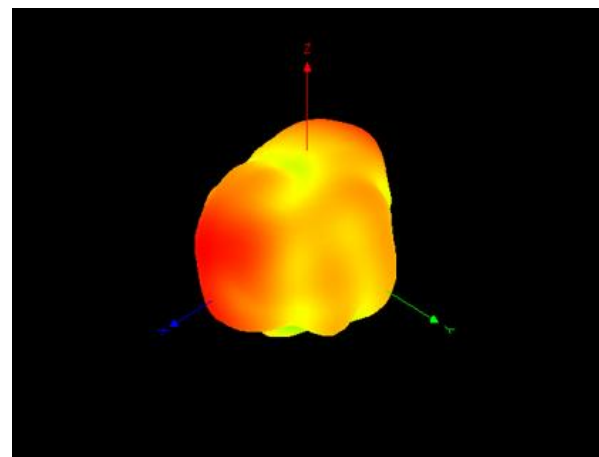
Max Antenna 3D Radiation Pattern 5470-5725 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5470-5725	1.36



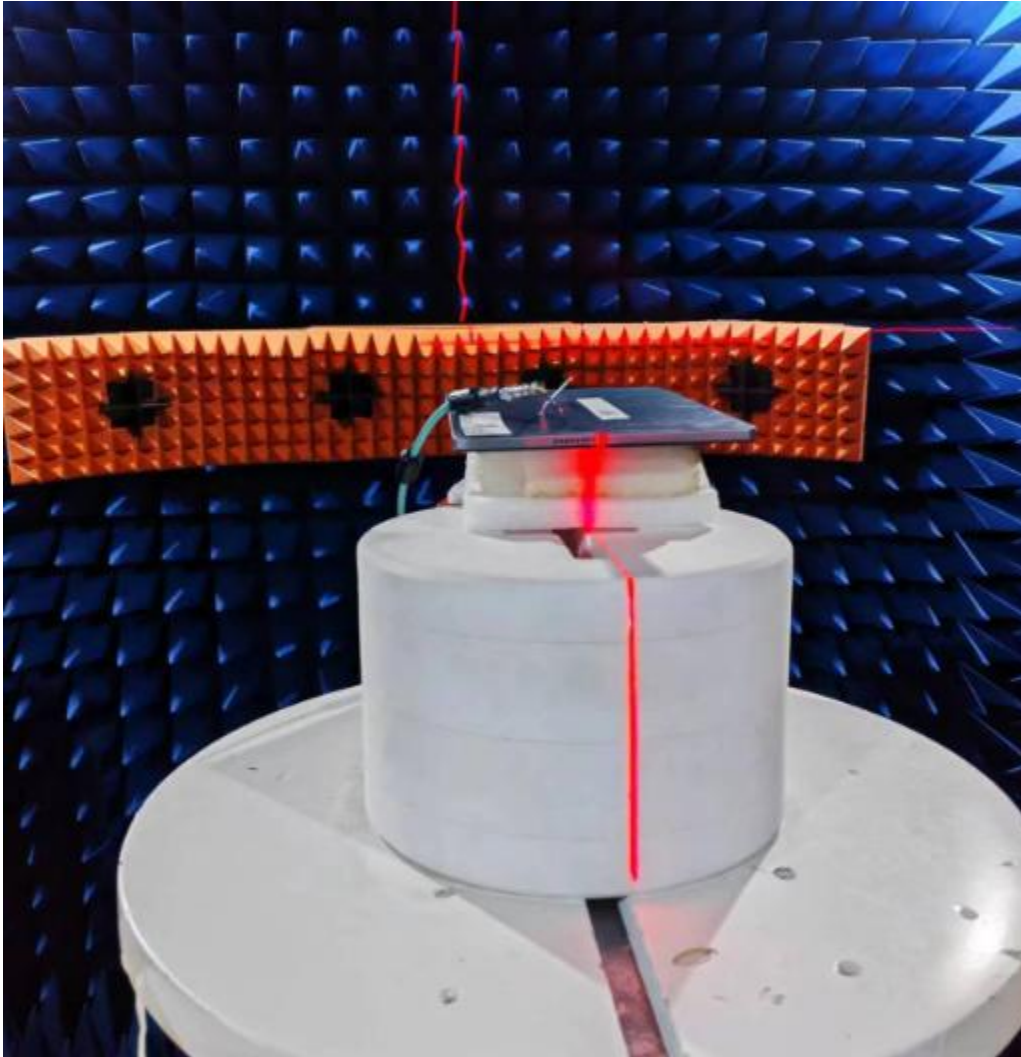
Max Antenna 3D Radiation Pattern 5725-5850 MHz

Frequency (MHz)	Peak Gain w/ Cable Loss (dBi)
5725-5850	1.93



Annex A. Photographs

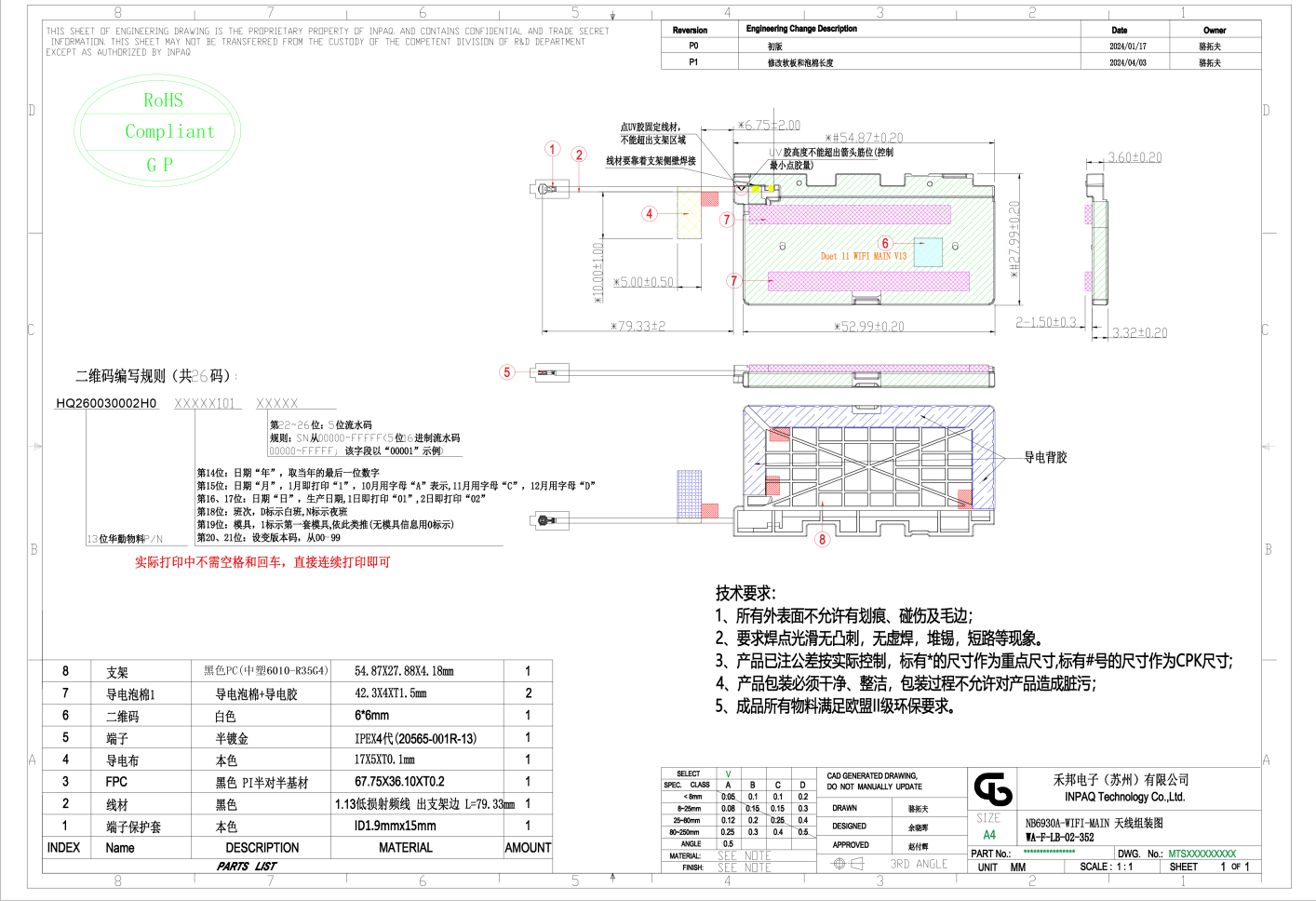
A.1 Setup Photo



A.2 Test sample

Main Antenna

Antenna Drawing

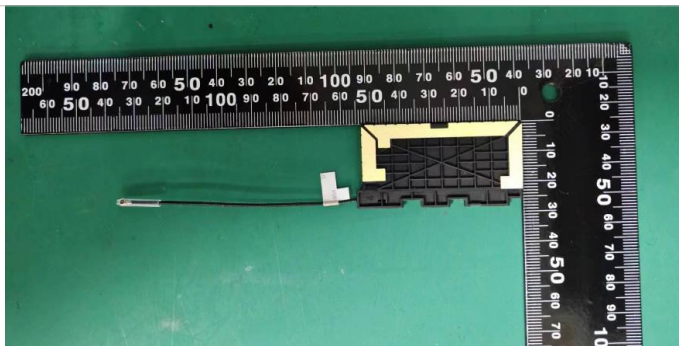


Antenna Photo

Front



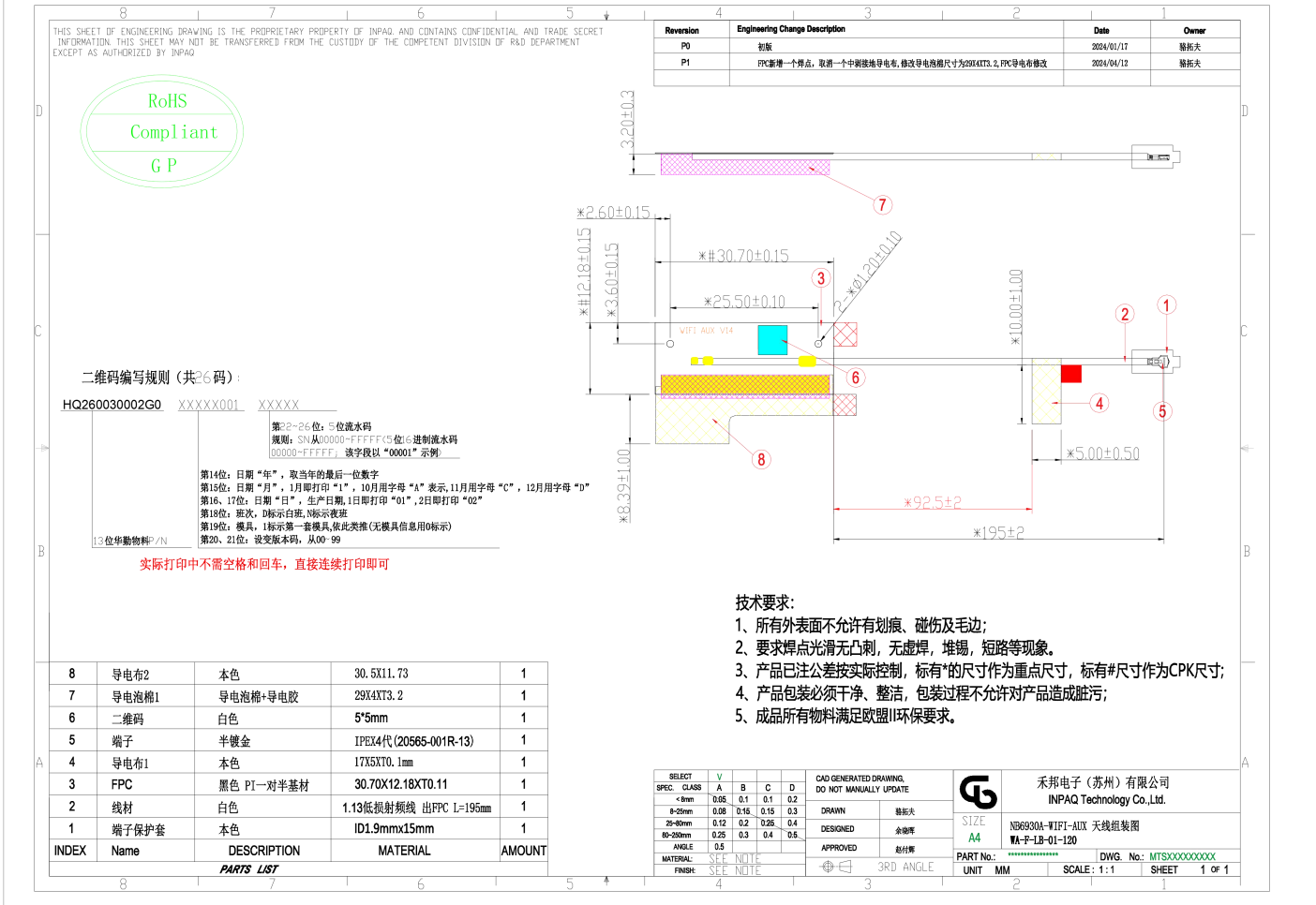
Back



Note: antenna photo should include L type ruler

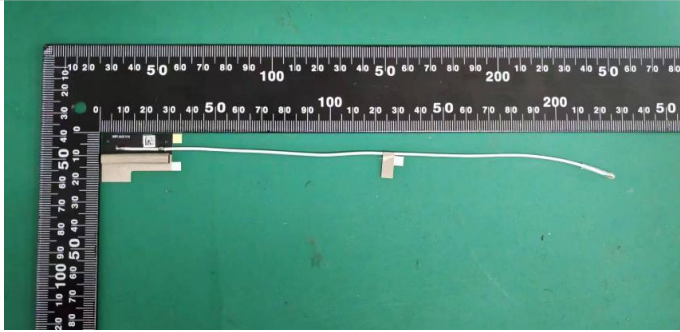
Aux Antenna

Antenna Drawing



Antenna Photo

Front



Back



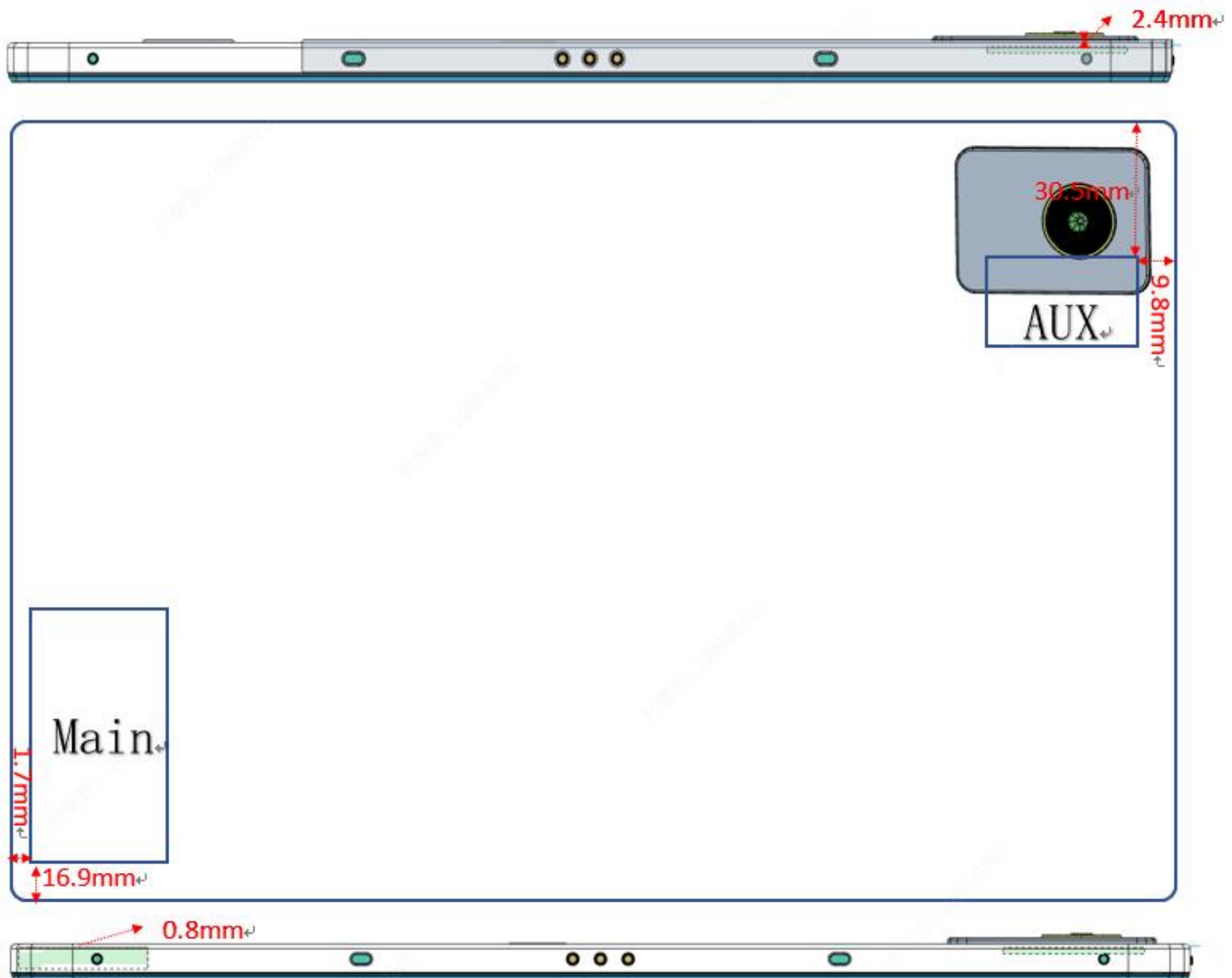
Note: antenna photo should include L type ruler

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.



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.

