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FCE AM 9inch FX-575 Antenna_Test Report

Presented by: Hongjian_Qu, 华南研发
Checked by :Apple_Zhao
Approved by :Kevin_yang
INPAQ Technology Co., Ltd.

Last updated in Mar.20th, 2025

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Revision History

Released Date	Version	Record
Oct.23th,2024	V0	Initial Release
Oct.31th,2024	V1	Increase BT OTA
Mar.30th,2025	V2	Update 2D/3D

Requirements of Antenna Design and Measurement

Requirements of Antenna Design

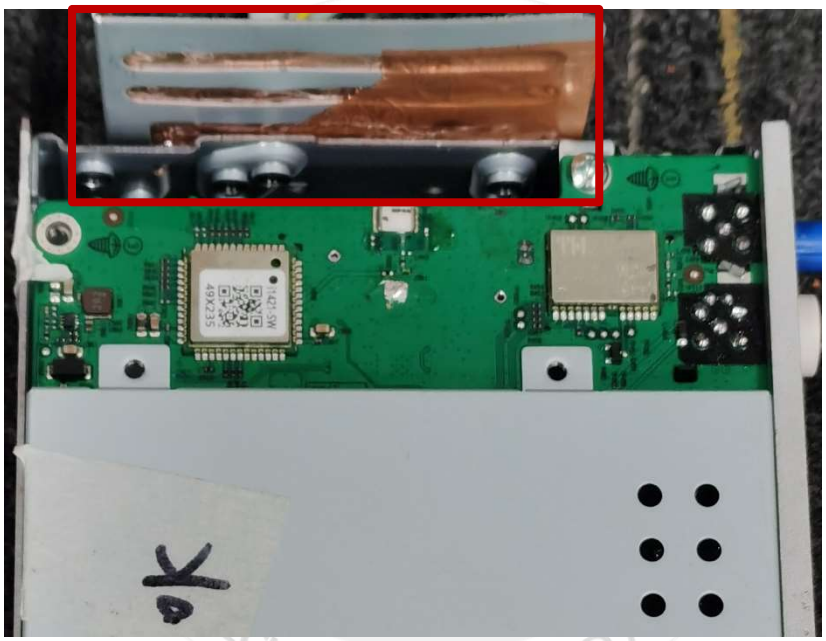
RF Function	Number of ANT	Frequency Band	Remark
WIFI/BT	1	2400 –2500MHz，5150-5850MHz	

Requirements of Measurement

Test Item	Specification	Remark
VSWR	N/A	
Peak gain	N/A	
Efficiency	N/A	

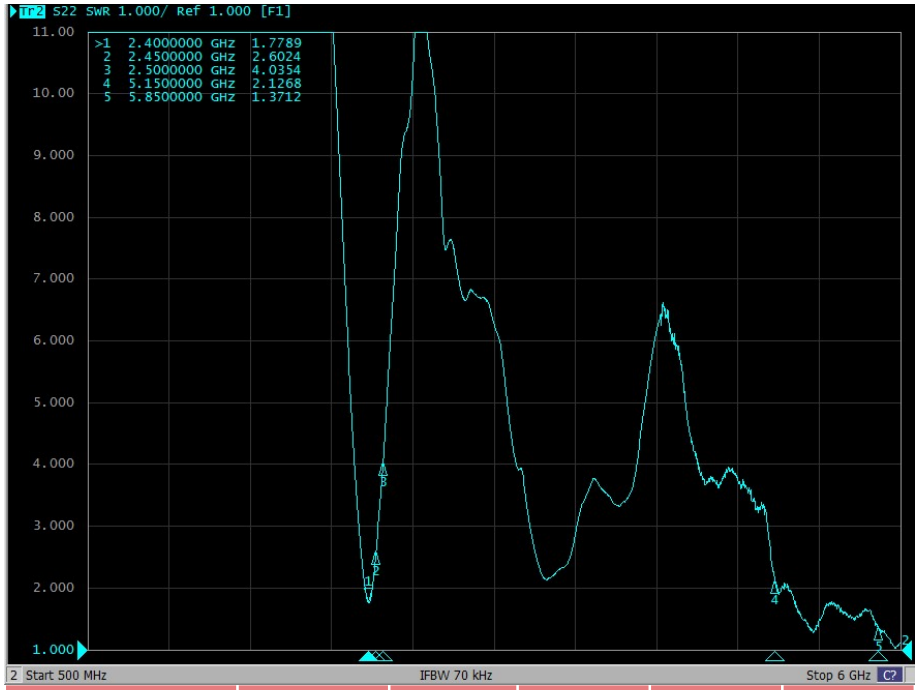
Antenna Placement & Solution

Antenna Placement & Solution



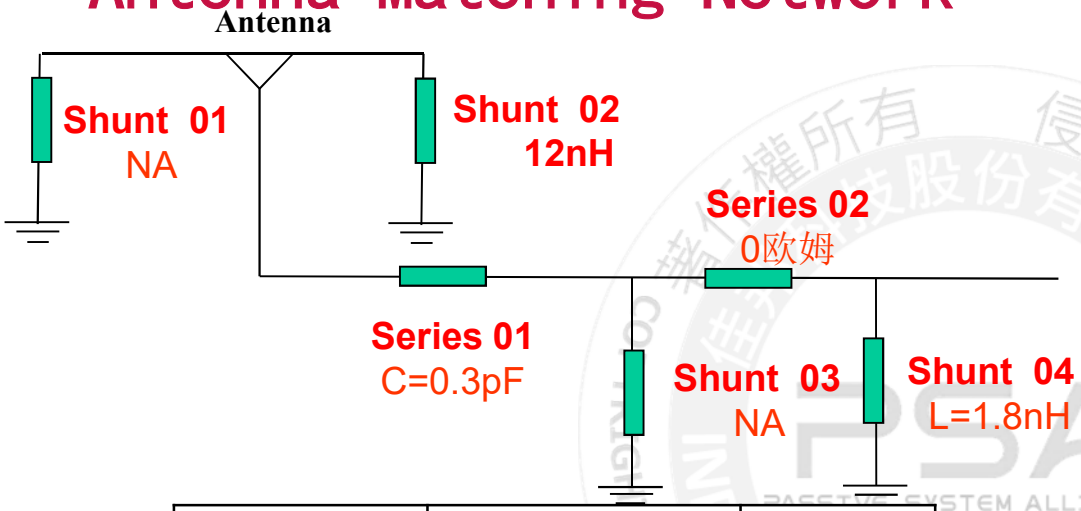
Initial State，Add metal baffle on the side

VSWR Results



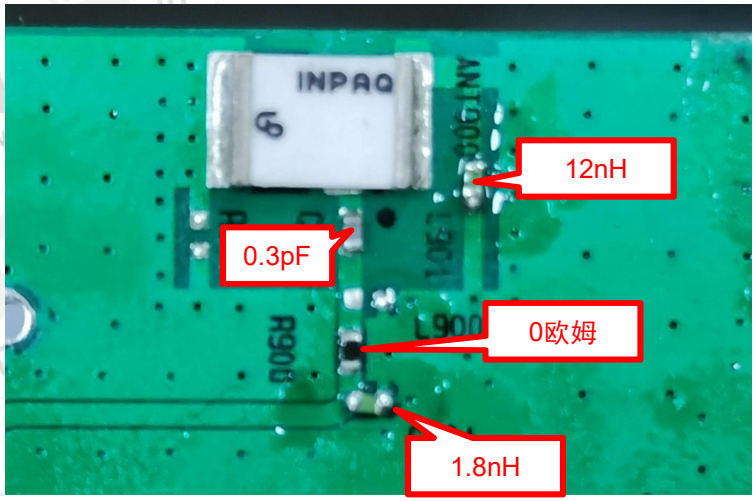
Frequency（MHz）	2400	2450	2500	5150	5850
VSWR	1.7	2.6	4.0	2.1	1.3

Antenna Matching Network



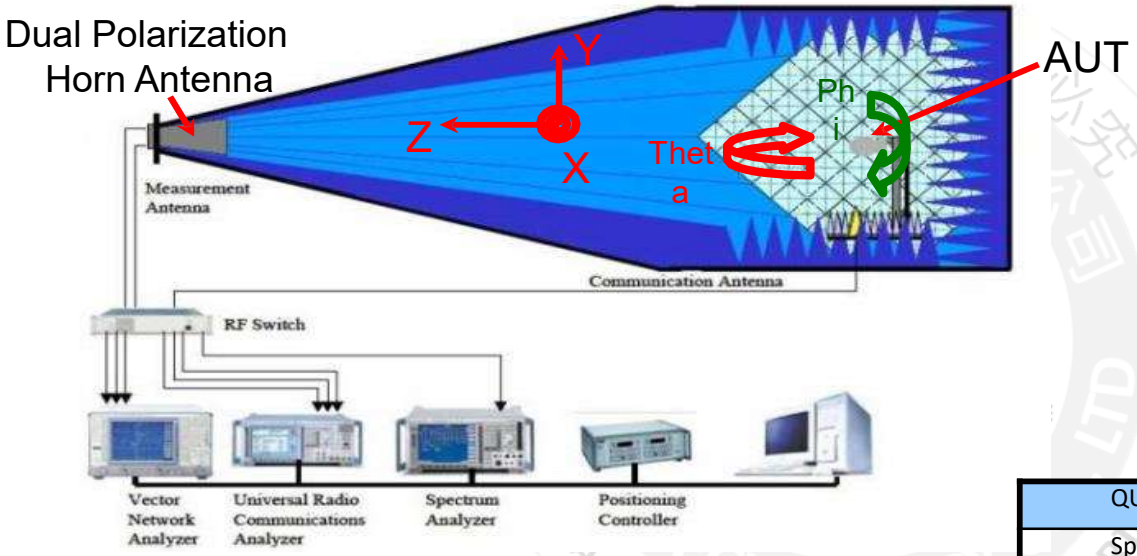
Location	Description	Vendor
Shunt 01	N/A	N/A
Shunt 02	L=12nH	Murata
Series 01	C=0.3pF	Murata
Shunt 03	N/A	N/A
Series 02	0欧姆	Murata
Shunt 04	L=1.8nH	Murata

Matching Circuit on PCB



Test Setup for Radiation Pattern Measurement

ETS Ams-8600 12.91x3.05x3.05 m3 Tapered Chamber



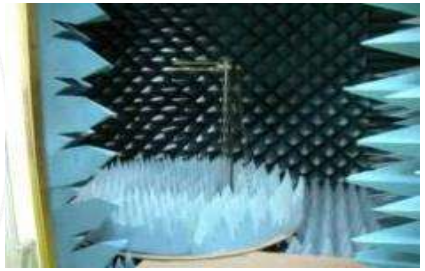
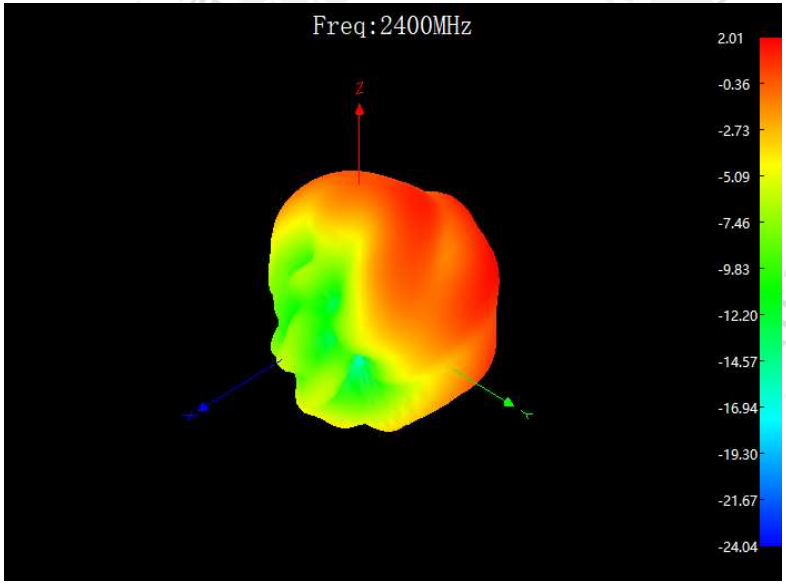


Figure 1: System diagram for test system including compact-size tapered anechoic chamber and optional test instrumentation

QUIPMENT	BRAND	MODULE TYPE
Spectrum	Agilent	E4402B
Signal Generator	Agilent	8960
Switch	Agilent	3499A
Switch	ETS	2090
Network Analyzer	Agilent	N5230A

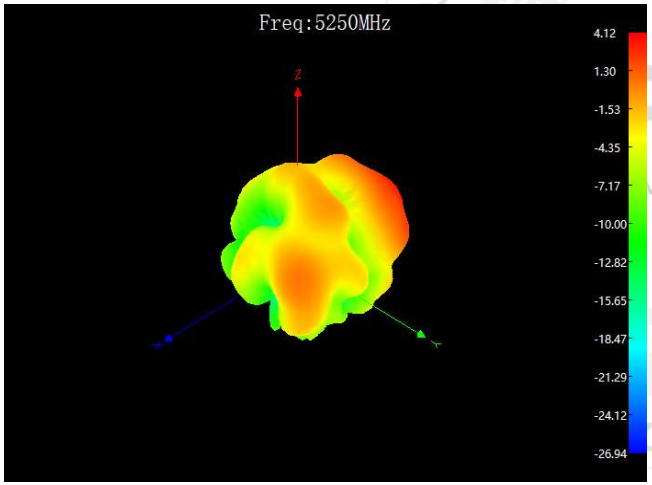
3D Radiation Pattern Results

◆ **2400MHz**

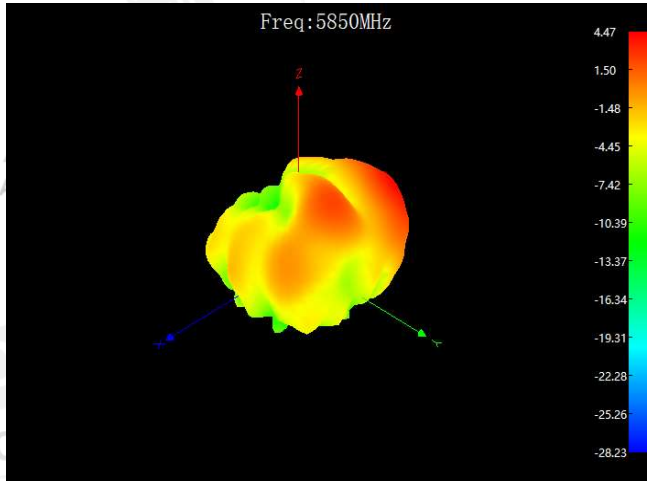


3D Radiation Pattern Results

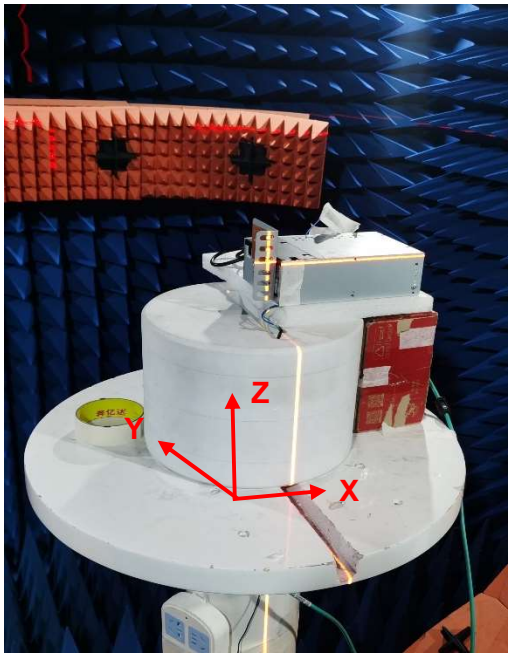
◆ **5250MHz**



◆ **5850MHz**



2D Radiation Pattern Results

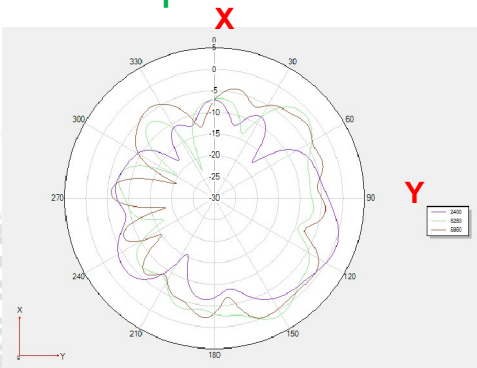


2400MHz

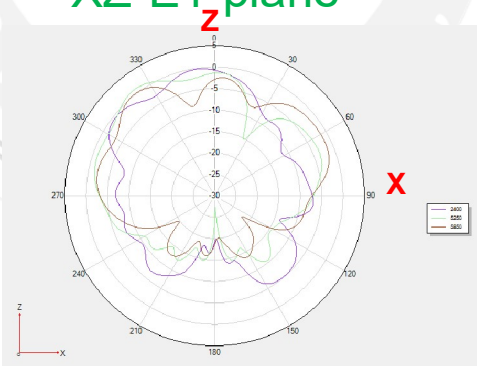
5250MHz

5850MHz

XY-H-plane



XZ-E1-plane



YZ-E2-plane

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Results Summary-Peak Gain & Efficiency

Freq.	Efficiency	Peak Gain
(MHz)	(%)	(dBi)
2400	33.88	2.01
2410	33.34	1.84
2420	33.19	1.92
2430	31.48	1.52
2440	29.31	1.32
2450	27.61	1.1
2460	24.32	0.68
2470	23.28	0.57
2480	22.94	0.04
2490	21.37	-0.06
2500	20.49	-0.66

Freq.	Efficiency	Peak Gain
(MHz)	(%)	(dBi)
5150	39.45	3.63
5200	36.06	3.56
5250	37.93	4.12
5300	40.09	4.35
5350	47.42	5.05
5400	49.77	5.14
5450	45.29	4.95
5500	43.95	5.26
5550	45.71	5.29
5600	47.64	5.46
5650	49.55	4.76
5700	47.42	3.95
5750	46.56	3.35
5800	41.3	3.19
5850	42.85	4.47

Results Summary-OTA

Measurement	Band	Channel	Total	
			State2	State3
TRP	BLUETOOTH(1DH1)	0		1.52
TRP		39		3.21
TRP		78		2.88
TIS(EIRP)		0		-65.86
TIS(EIRP)		39		-73.81
TIS(EIRP)		78		-81.85
TRP	WIFI_A (6M)	36	14.94	14.12
TRP	WIFI_A (6M)	149	15.02	14.43
TRP	WIFI_A (6M)	165	14.78	14.55
TIS(EIRP)	WIFI_A (54M)	36	-60.16	-60.02
TIS(EIRP)	WIFI_A (54M)	149	-63.52	-61.35
TIS(EIRP)	WIFI_A (54M)	165	-63.7	-60.17

Company

INPAQ Technology (Suzhou) Co., Ltd.

No. 5, Chungiu Road, Panyang Industrial Park Huangdai Town, Xiangcheng Zone, Suzhou

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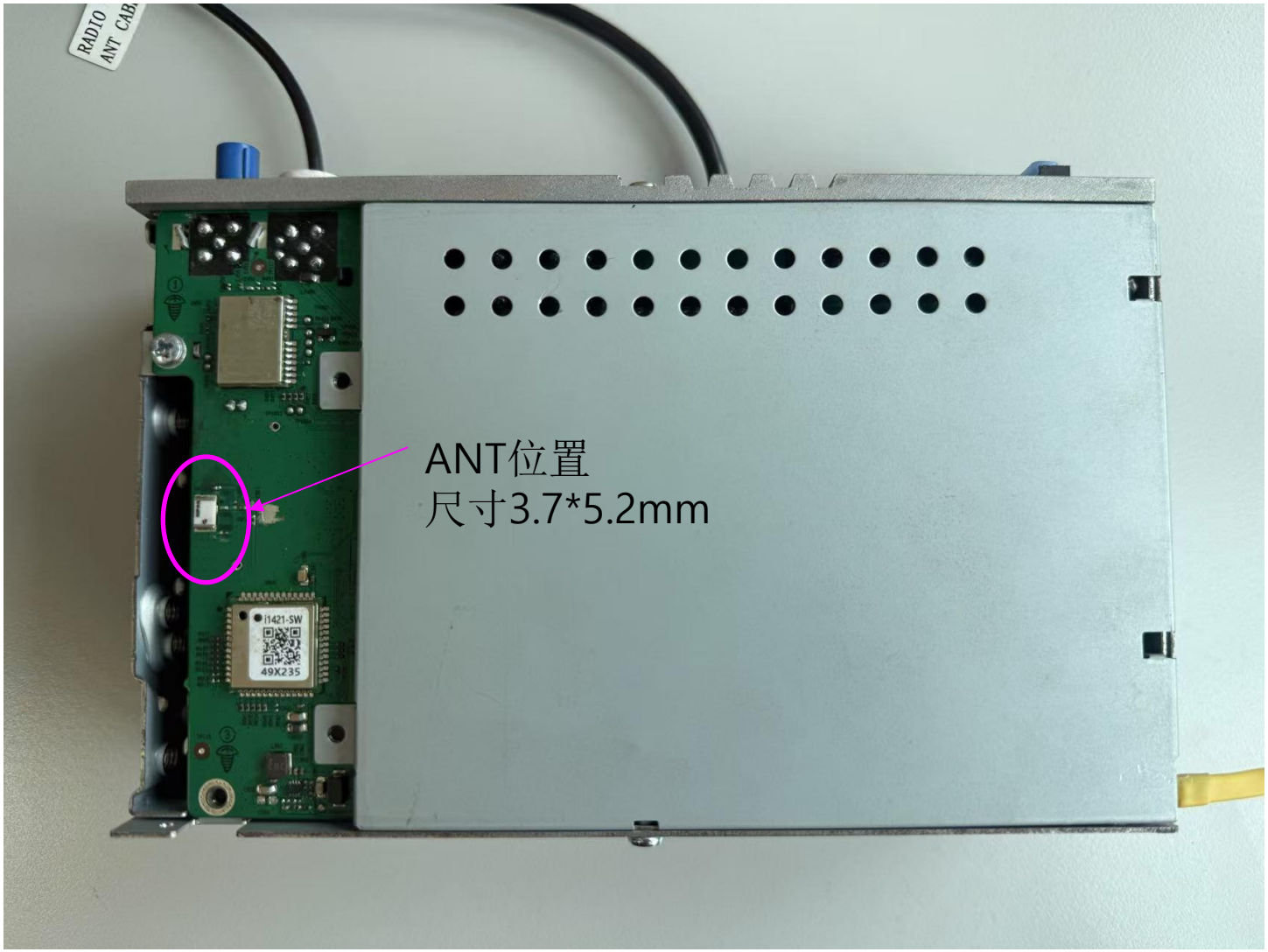
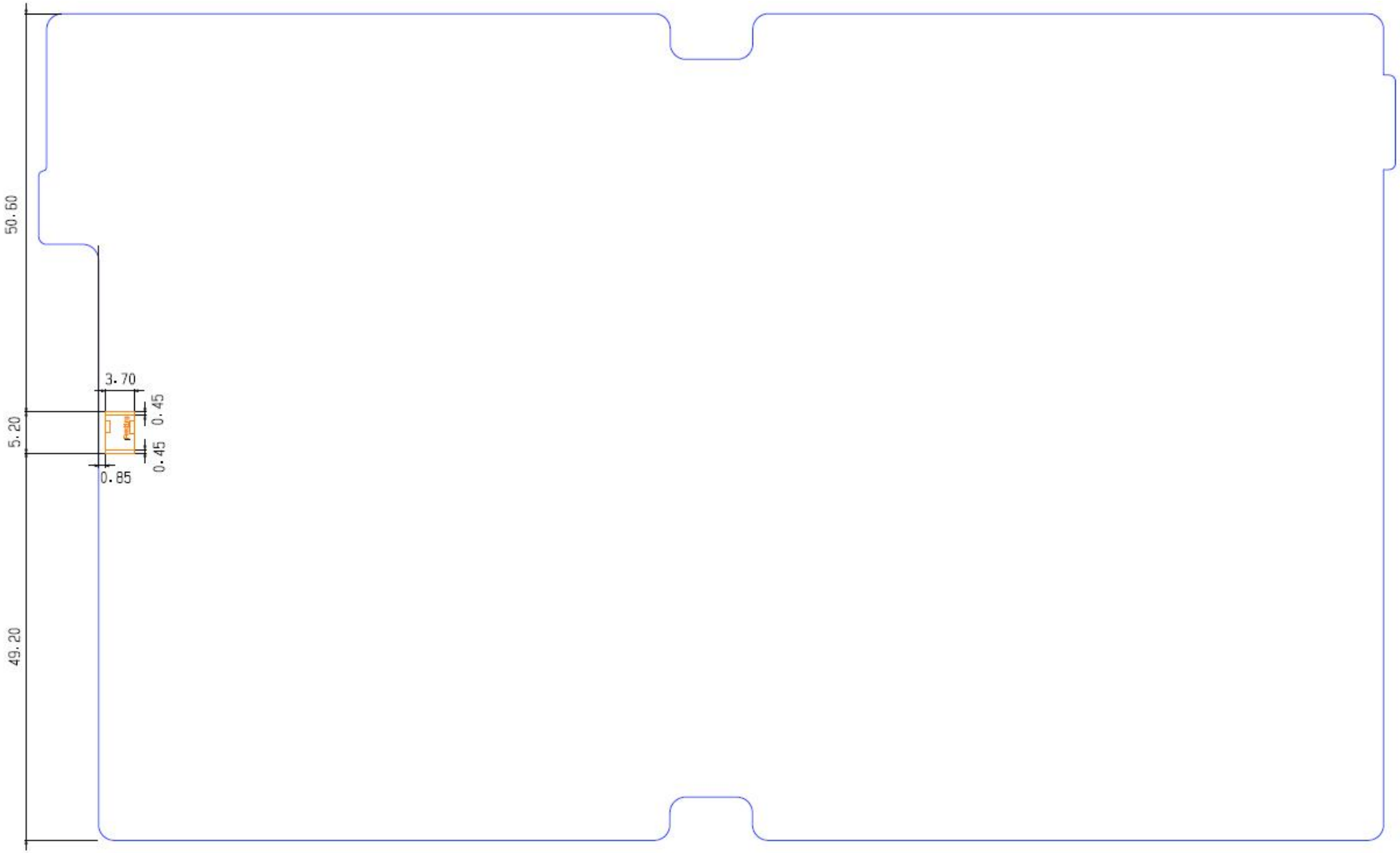
天线照片及天线尺寸信息



天线照片及天线尺寸信息



Conclusion

1. **VSWR has frequency deviation, subject to TRP test results.**

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