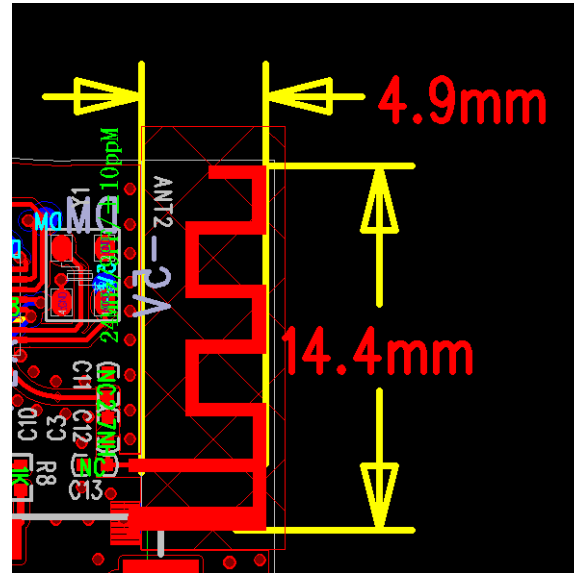


N201 Antenna Test Report

Customer	优程
Project	N201
Antenna Revision	A1
Product Description	板载天线
Product No	
DATE	2024. 06. 08

Size



Purpose

This report is to measure the performance of BT antenna for **N201**. The antenna operating frequency at **2.4~2.5GHz**, All test data are showed as below.

Content

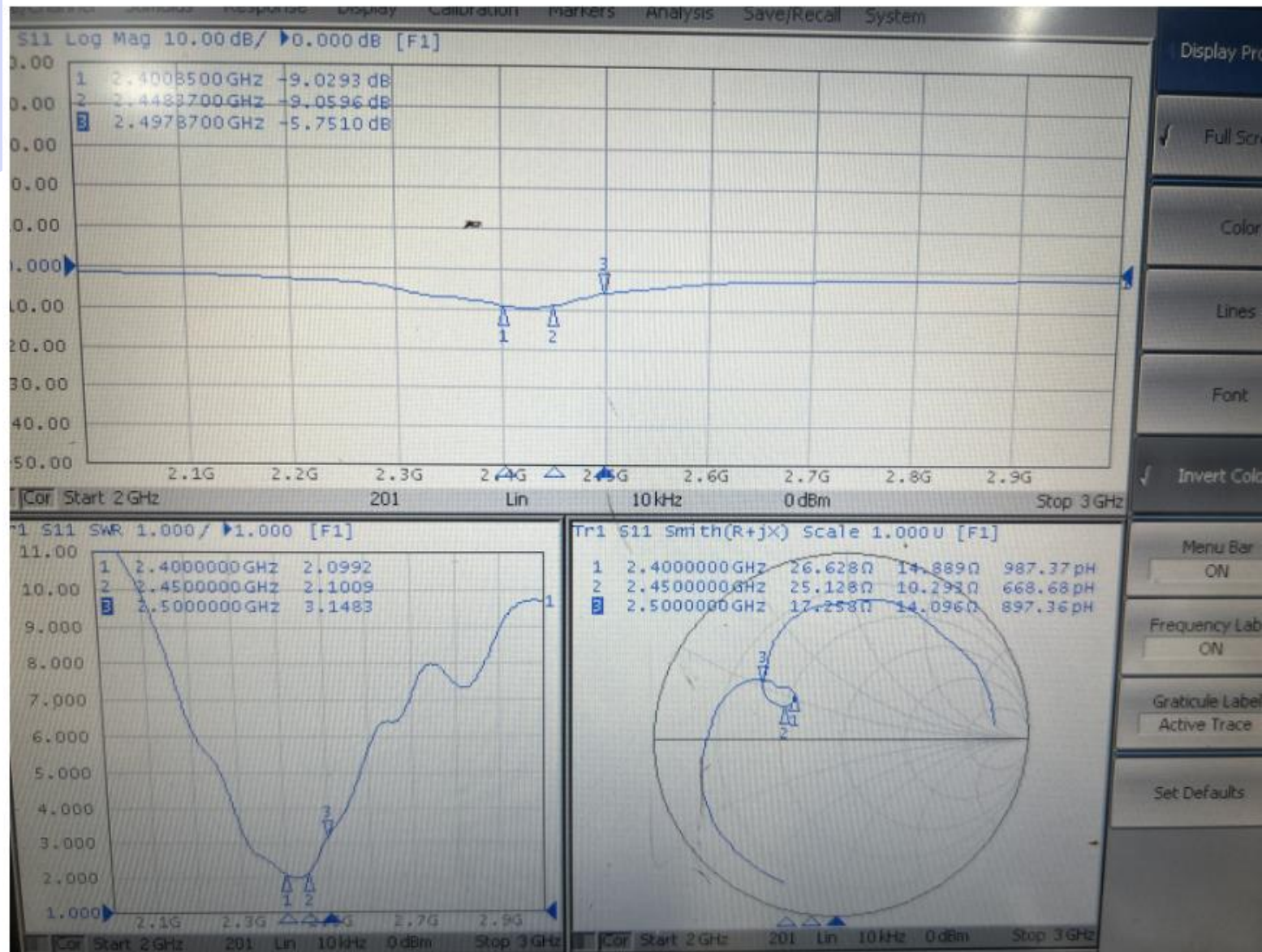
1. Product Overview & Dimension
2. Test system
3. Antenna Matching Network
4. Test Result
 - 4.1 S11 Parameter
 - 4.2 Test coordinate
 - 4.3 2D Pattern
 - 4.4 OTA Data
 - 4.5 BT Boot measured
5. Antenna Assembly & environmental processing

2. Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5062A
OTA Test	TRP&TIS	CMW500 & CMW270 ETS&SATIMO
Gain & Efficiency	Gain & Efficiency	ETS&SATIMO Agilent 5071C



S11—(BT ANT)



[illegible]

Test Result

Gain & Efficiency—**BT- ANT**



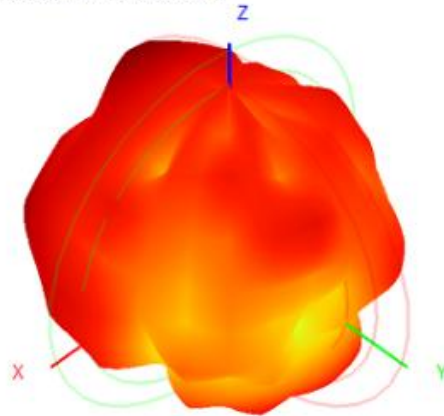
深圳市合拓科技有限公司

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-7.68	-8.04	-7.61	-6.66	-6.33	-6.07	-6.17	-6.46	-6.52	-7.28	-8.49
Gain (dBi)	-1.53	-2.23	-0.87	-0.34	-0.24	-0.07	-0.24	-0.70	-1.93	-2.19	-3.59
Efficiency (%)	17.07	15.71	17.33	21.57	23.26	24.71	24.16	22.59	22.30	18.71	14.15
Directivity (dB)	6.15	5.81	6.74	6.32	6.10	6.01	5.93	5.76	4.58	5.09	4.90
Peak Gain Position (Theta)	30.00	105.00	90.00	90.00	30.00	75.00	75.00	75.00	120.00	90.00	15.00
Peak Gain Position (Phi)	285.00	315.00	285.00	285.00	330.00	285.00	300.00	315.00	315.00	300.00	285.00
Efficiency ThetaPol (%)	7.38	6.59	7.01	8.55	9.29	10.51	10.00	9.48	9.92	8.19	6.32
Efficiency PhiPol (%)	9.68	9.12	10.32	13.02	13.97	14.19	14.16	13.11	12.38	10.53	7.83
Upper Hem. Efficiency (%)	9.62	8.17	8.96	11.81	13.05	14.60	14.14	13.12	13.08	10.61	7.48
Lower Hem. Efficiency (%)	7.45	7.54	8.37	9.76	10.22	10.11	10.03	9.47	9.22	8.10	6.67

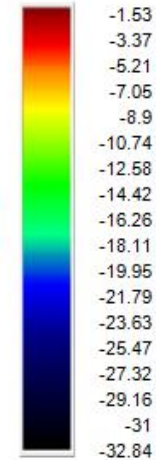
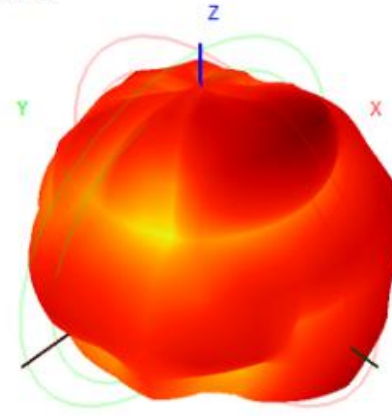
Test Result

2D&3D — BT- ANT

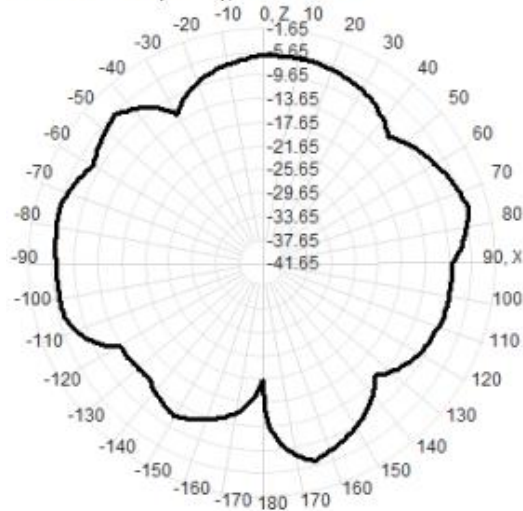
2400.0MHz H+V, Eff: 17.1%



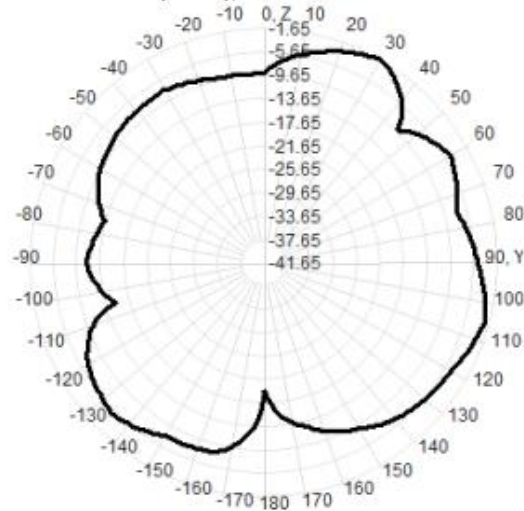
Back View



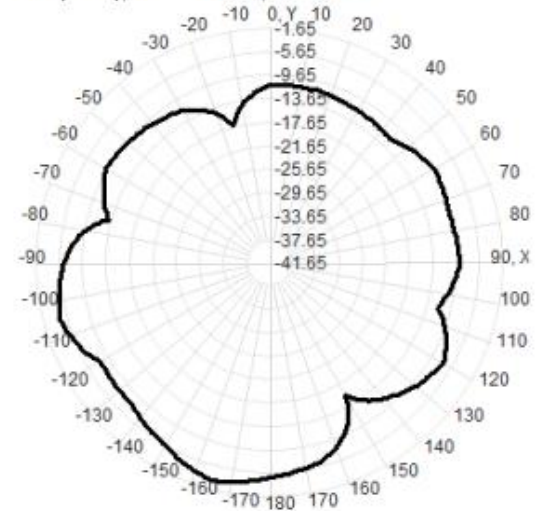
2400.0MHz Total(E1-XZ), Max= -5.30dBi



2400.0MHz Total(E2-YZ), Max= -1.65dBi



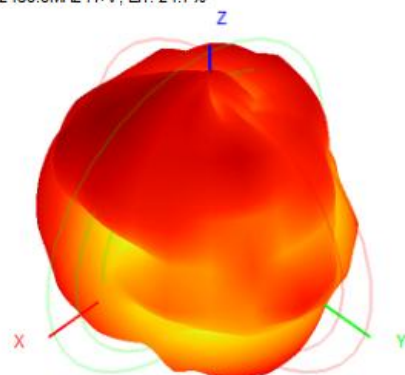
Total(H-XY), Max= -3.42dBi, CirD=13.97



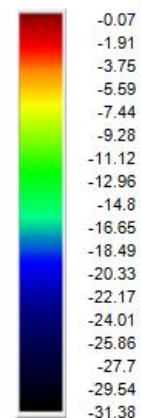
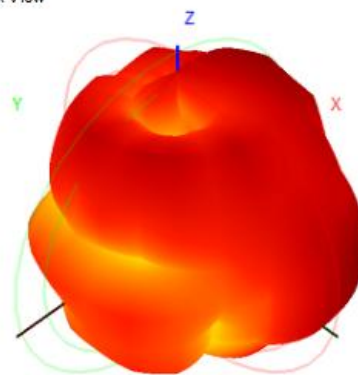
Test Result

2D&3D — BT-ANT

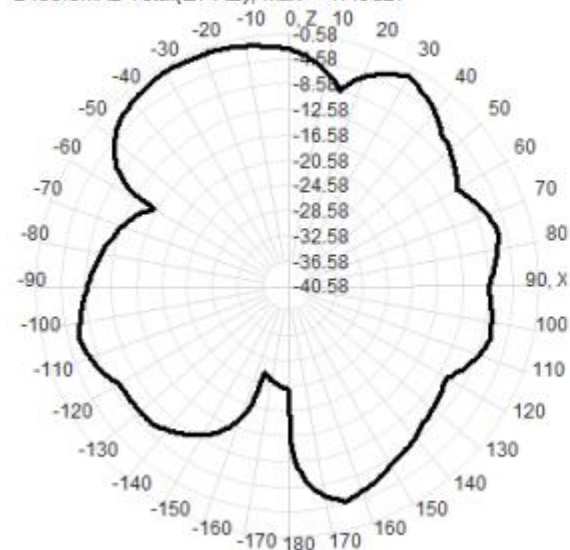
2450.0MHz H+V, Eff: 24.7%



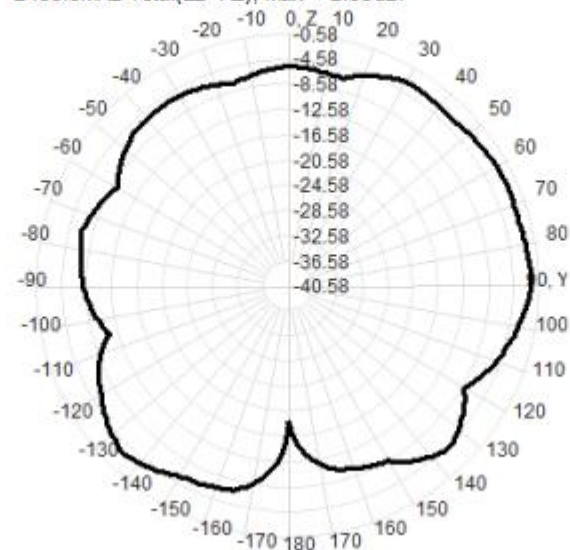
Back View



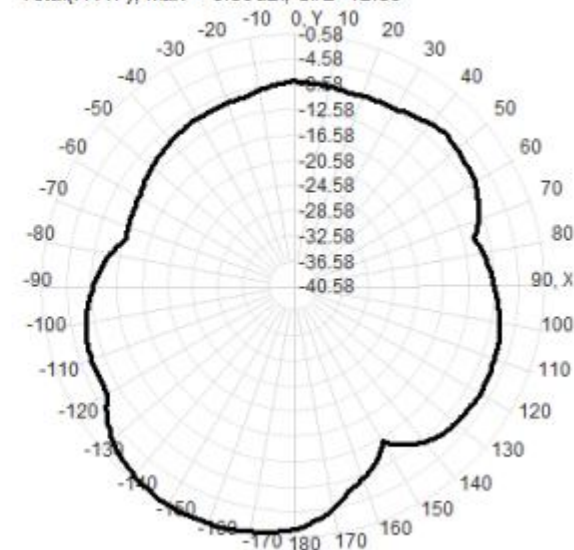
2450.0MHz Total(E1-XZ), Max= -1.49dBi



2450.0MHz Total(E2-YZ), Max= -2.03dBi



Total(H-XY), Max= -0.58dBi, CirD=12.39



OTA DATA 自由空间

Test Equipment:	R&S CMW500			
Test Condition:				
Band	Wireless Protocol	Channel	TRP(dBm)	TIS(dBm)
BT		0	2.17	-84.93
		39	2.00	-80.15
		78	0.39	-85.37

BH 头模

Test Equipment:	R&S CMW500			
Test Condition:				
Band	Wireless Protocol	Channel	TRP(dBm)	TIS(dBm)
BT		0	0.93	-83.34
		39	0.45	-81.39
		78	-0.56	-83.68

Thanks for your comment!

✧ 深圳市合拓科技有限公司

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✧ RF：吴寿平 18665934465