



WIFI Antenna Performance test report

Production Name:: WIFI Antenna

Product model: GKZS-WIFI-AC19635-RF1. 13I-50&85

Testing department: R&D Department

Test items: Antenna gain

Date: Mar 01, 2023

Gaoke Ant Co., Ltd.

Test address:

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Performance test report

Production Name:	WIFI Antenna	Customer P/N:	2701C02E
Product model:	GKZS-WIFI-AC19635-RF1. 13I-50 &85	Quantity inspected:	1pcs
Test items:	Antenna gain		

1. Test methods and standards:

Name	Parameter	method	Standard No
Antenna performance	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-2021

2. Test instrument:

No	Equipment	Model No	Last Cal	Due Date
1	Network Analyzer	E5071C	Oct 21, 2022	Oct 20, 2023
2	Microwave unreflected chamber	/	Feb 17, 2023	Mar 17, 2023
3	Spectrum analyzer	8595E	Oct 21, 2022	Oct 20, 2023

3. Detection Result:

Test Antenna	Frequency (MHz)	Gain (dBi)	
		Average	Maximum
BTO_ANT	2400-2500	2.32	2.65
WIFI1	2400-2500	1.94	2.49
	5150-5850	4.36	6.15
WIFI2	2400-2500	2.30	3.52
	5150-5850	4.00	5.74
WIFI3	2400-2500	1.68	2.29
	5150-5850	4.37	6.26
WIFI4	2400-2500	2.59	2.82
	5150-5850	5.56	6.53

Engineer	Huang	Checked by	Chao	Approved by	Yang
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4.Product structure drawing (mm)

please refer to OD.

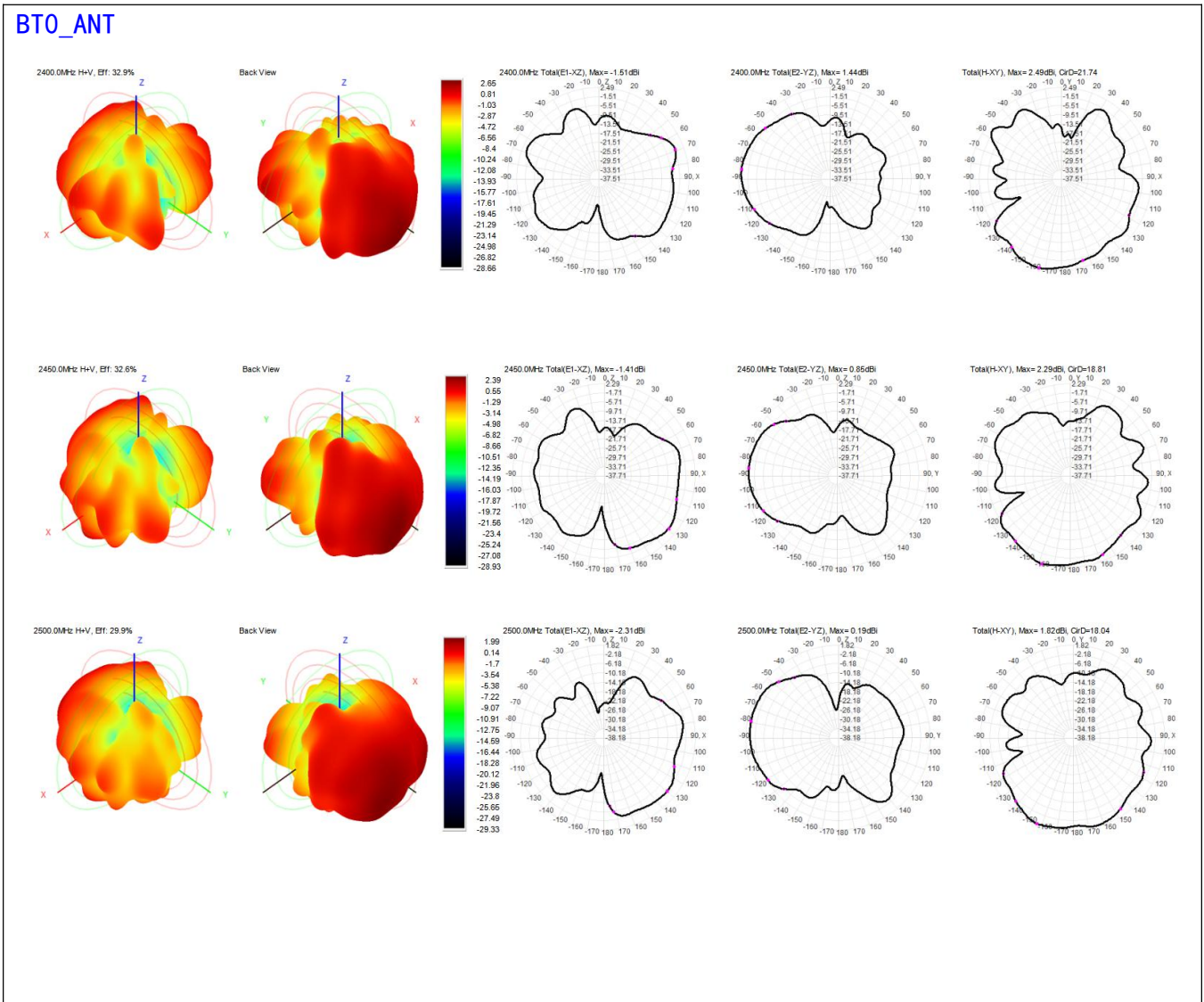
5. Gain table

BT0_ANT												
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	
Gain (dBi)	2.65	2.49	2.58	2.53	2.51	2.39	2.31	2.20	1.94	1.94	1.99	
WIFI1												
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	
Gain (dBi)	1.82	1.89	2.28	2.27	2.31	2.45	2.49	2.25	1.62	1.32	0.75	
Frequency (MHz)	5150	5170	5190	5210	5230	5250	5270	5290	5310	5330	5350	5370
Gain (dBi)	6.15	5.98	5.73	5.84	5.37	5.69	4.99	4.89	4.63	5.20	4.36	4.45
Frequency (MHz)	5390	5410	5430	5450	5470	5490	5510	5530	5550	5570	5590	5610
Gain (dBi)	4.41	4.00	4.54	4.39	4.56	5.06	5.04	5.36	5.44	4.96	4.59	4.56
Frequency (MHz)	5630	5650	5670	5690	5710	5730	5750	5770	5790	5810	5830	5850
Gain (dBi)	4.09	3.83	3.32	3.50	3.40	3.19	3.01	3.05	2.89	2.47	2.28	1.87
WIFI2												
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	
Gain (dBi)	3.44	3.49	3.52	3.07	2.79	2.45	2.14	1.79	0.79	1.09	0.79	
Frequency (MHz)	5150	5170	5190	5210	5230	5250	5270	5290	5310	5330	5350	5370
Gain (dBi)	5.40	5.74	5.51	5.55	5.49	5.28	4.85	4.35	4.26	5.00	4.29	4.40
Frequency (MHz)	5390	5410	5430	5450	5470	5490	5510	5530	5550	5570	5590	5610
Gain (dBi)	4.57	4.36	4.52	3.92	3.78	4.13	4.12	4.46	4.39	4.12	4.17	4.40
Frequency (MHz)	5630	5650	5670	5690	5710	5730	5750	5770	5790	5810	5830	5850
Gain (dBi)	3.97	4.03	3.53	3.46	3.27	3.17	2.69	2.32	1.96	1.88	1.42	1.34
WIFI3												
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	
Gain (dBi)	2.16	2.05	2.05	2.29	1.97	1.92	1.79	1.31	1.08	0.88	1.01	
Frequency (MHz)	5150	5170	5190	5210	5230	5250	5270	5290	5310	5330	5350	5370
Gain (dBi)	2.38	3.19	3.60	3.68	4.11	4.59	5.09	5.55	6.16	6.03	5.58	5.21
Frequency (MHz)	5390	5410	5430	5450	5470	5490	5510	5530	5550	5570	5590	5610
Gain (dBi)	5.58	6.07	6.26	5.98	5.66	5.54	5.62	5.75	5.58	5.17	4.99	4.72
Frequency (MHz)	5630	5650	5670	5690	5710	5730	5750	5770	5790	5810	5830	5850
Gain (dBi)	4.31	3.74	3.44	3.25	3.09	3.02	2.59	2.41	2.39	2.44	2.36	2.22

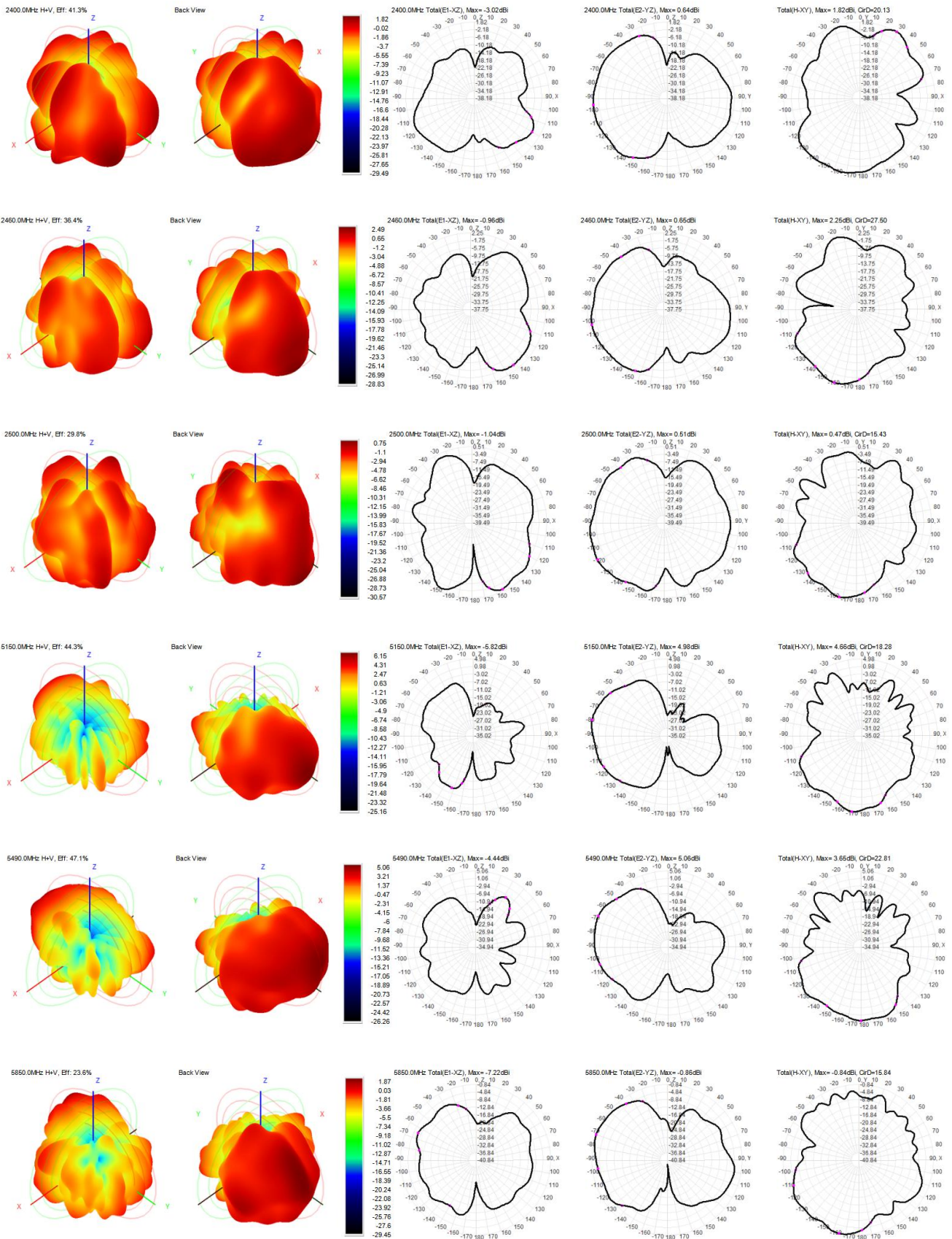
WIFI4												
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	
Gain (dBi)	2.62	2.82	2.80	2.77	2.72	2.57	2.51	2.36	2.47	2.42	2.53	
Frequency (MHz)	5150	5170	5190	5210	5230	5250	5270	5290	5310	5330	5350	5370
Gain (dBi)	5.06	5.22	4.81	5.46	5.14	5.84	5.53	5.73	5.71	5.93	6.16	6.14
Frequency (MHz)	5390	5410	5430	5450	5470	5490	5510	5530	5550	5570	5590	5610
Gain (dBi)	6.53	5.94	5.86	5.98	5.97	6.12	6.35	6.06	6.40	6.35	6.35	6.32
Frequency (MHz)	5630	5650	5670	5690	5710	5730	5750	5770	5790	5810	5830	5850
Gain (dBi)	6.15	5.68	5.37	5.23	5.05	4.53	4.28	4.77	4.66	4.83	4.64	4.04

6. Radiation Pattern

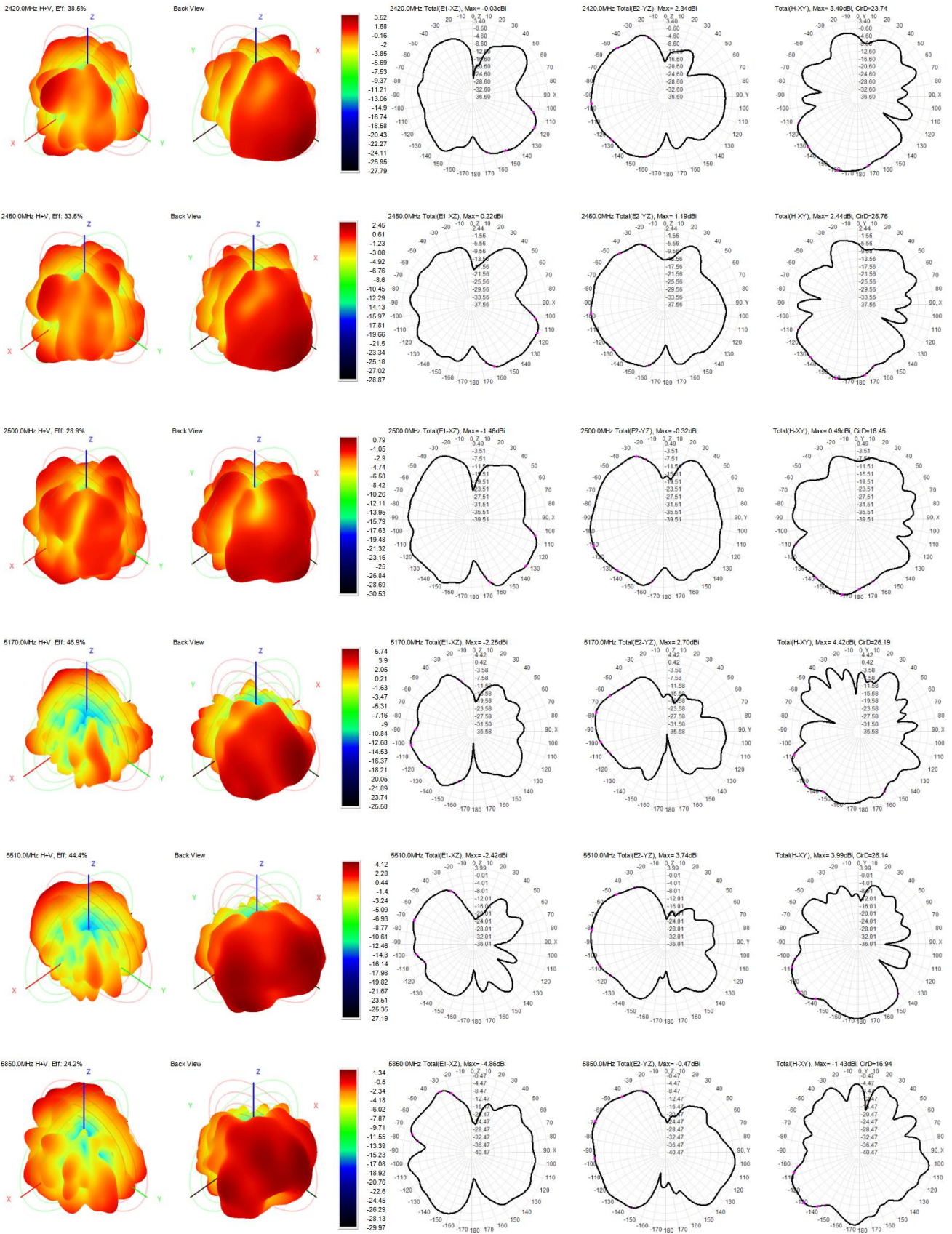
BTO_ANT



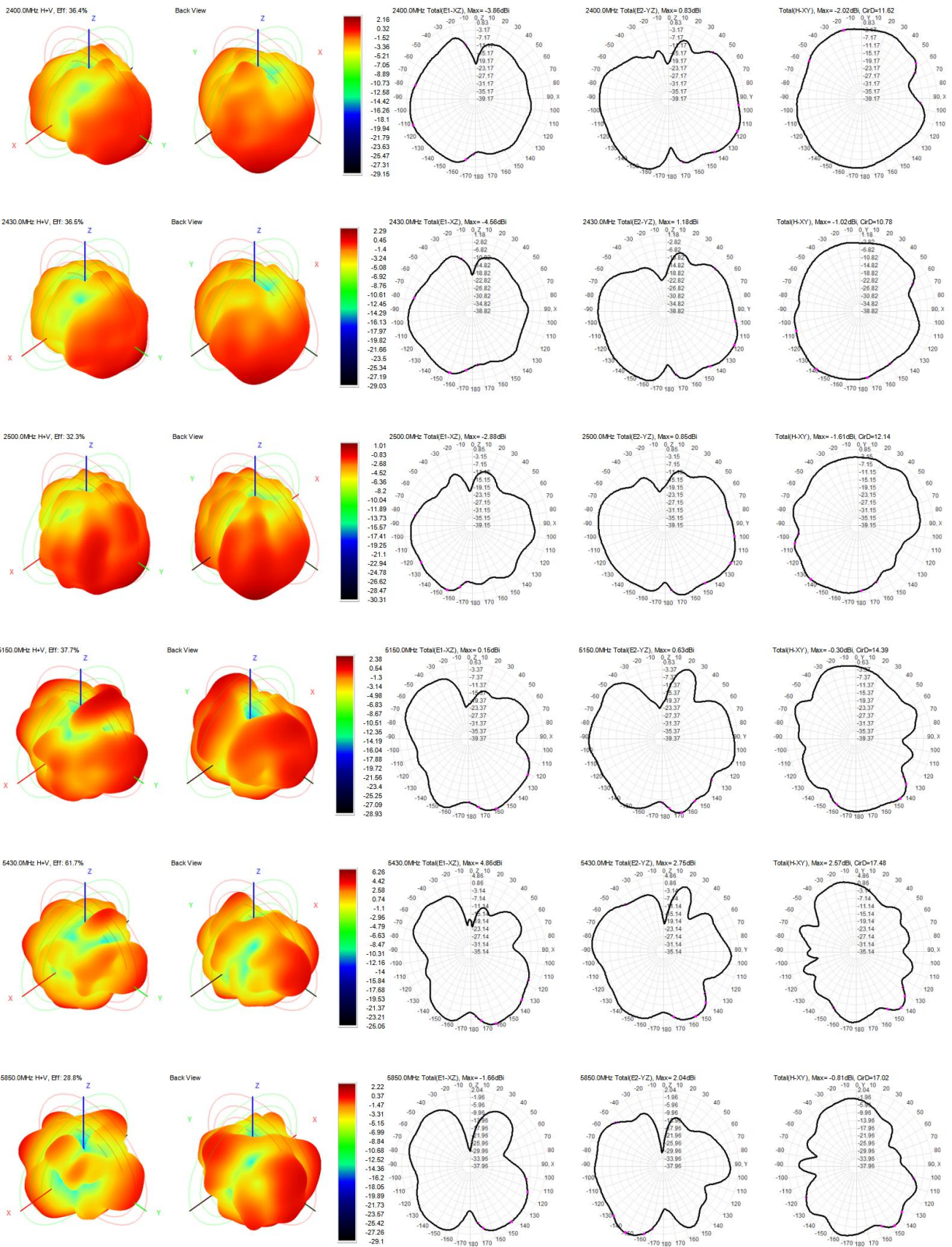
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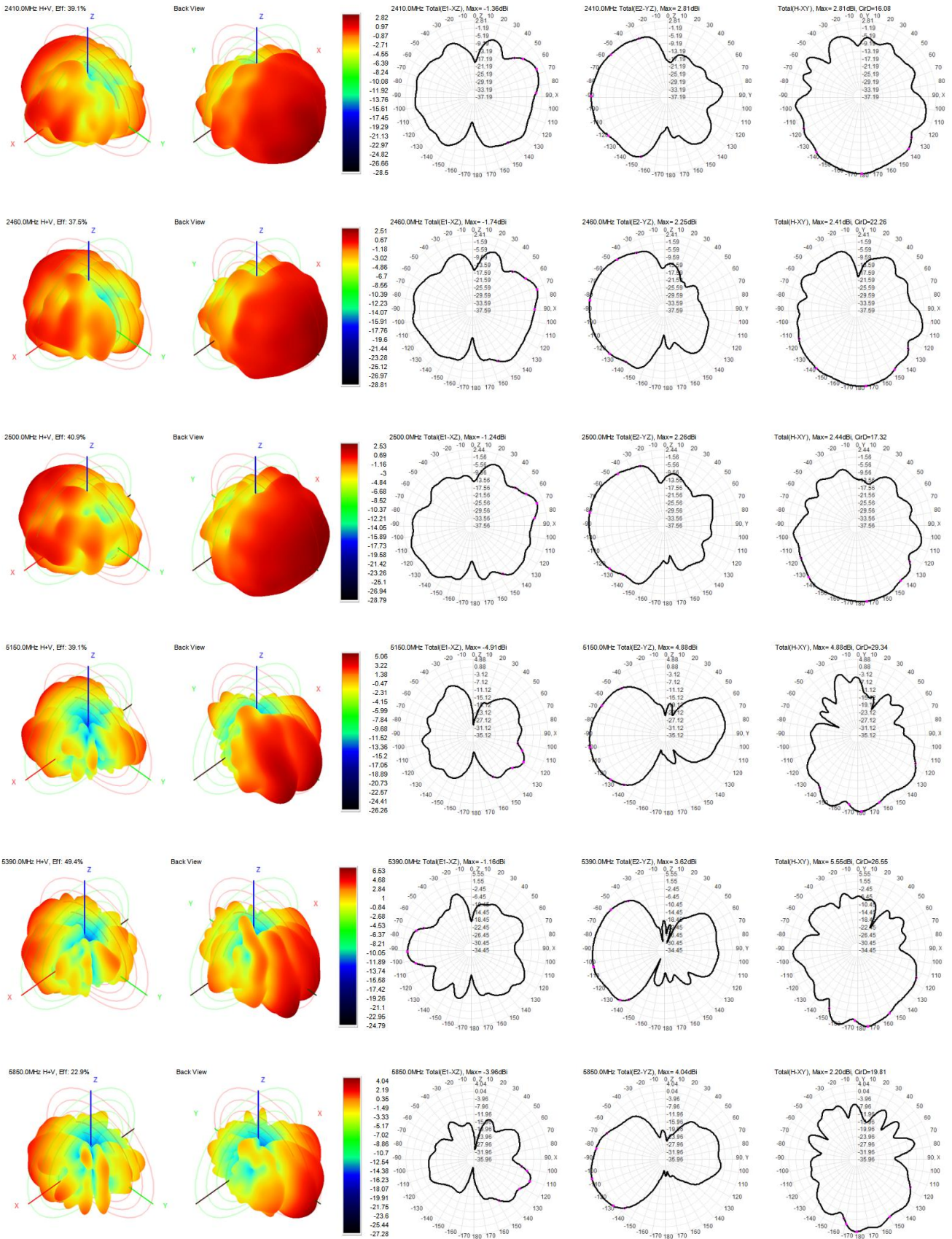
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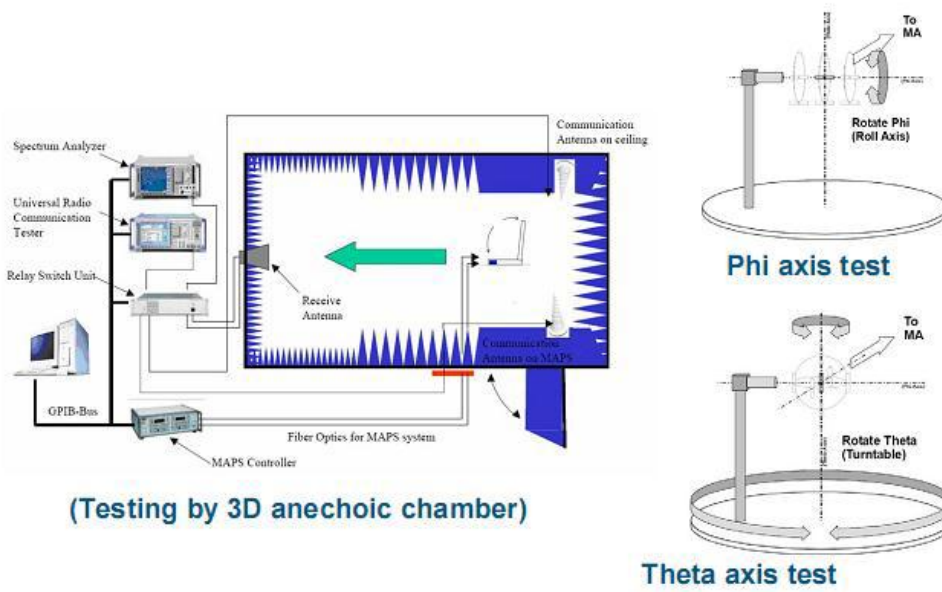
WiFi13



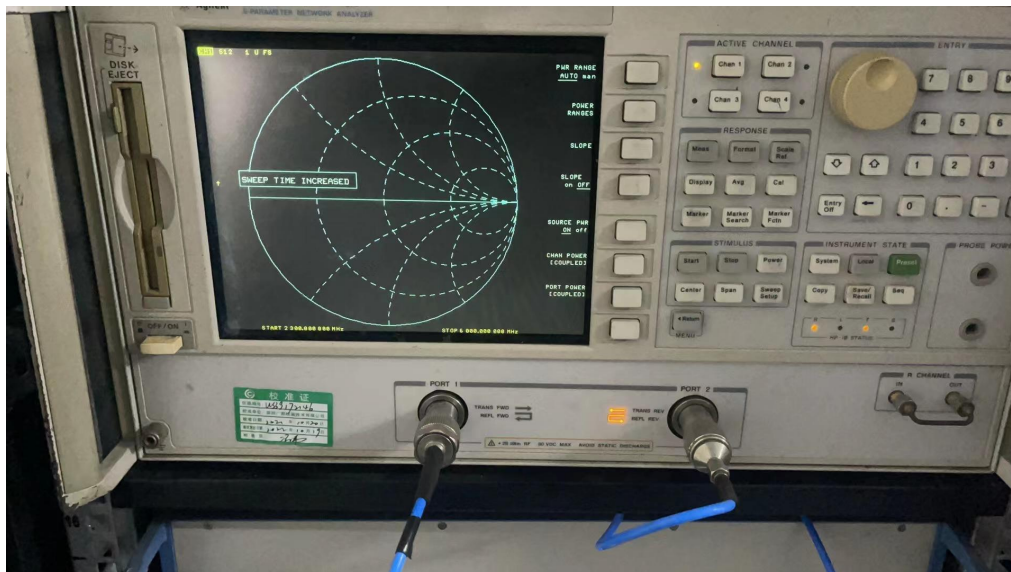
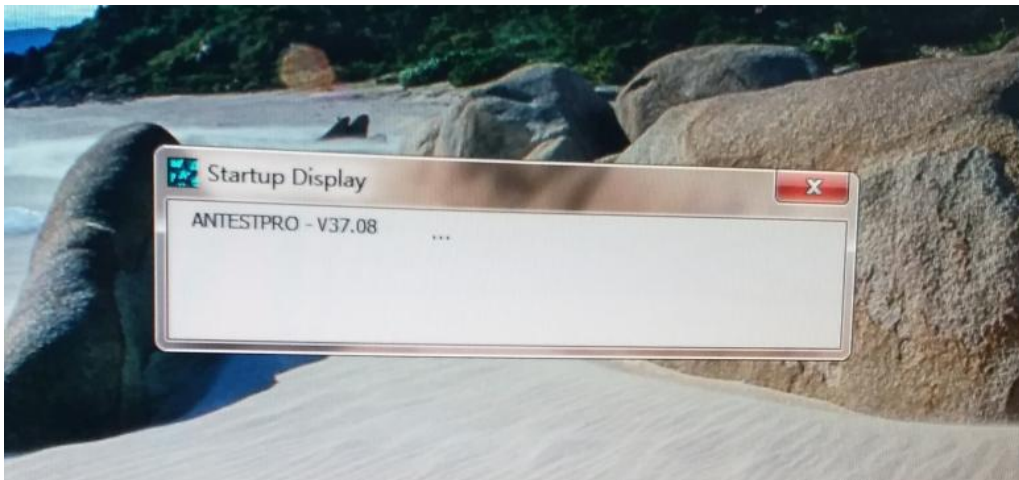
WiFi14



7.Schematic diagram of test method



Step 1: Turn on the test instruments that include Network Analyzer, Computer and MicroWave Darkroom.

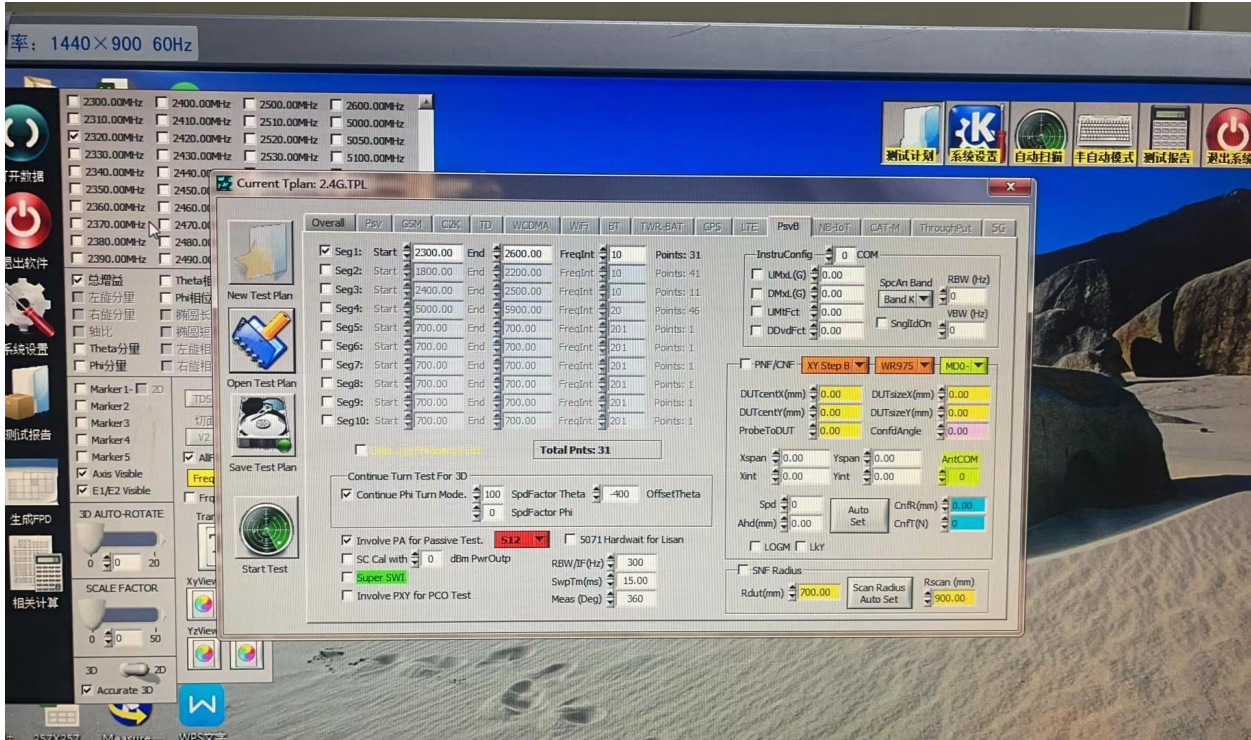




Step 2:Connect the antenna under text
please refer to antenna setup photo.

Step 3:

- 3.1 Open the test software (ANTESTPRO-V37.08)
- 3.2 Select the test project file
- 3.3 Load test project



Step 4: Start testing

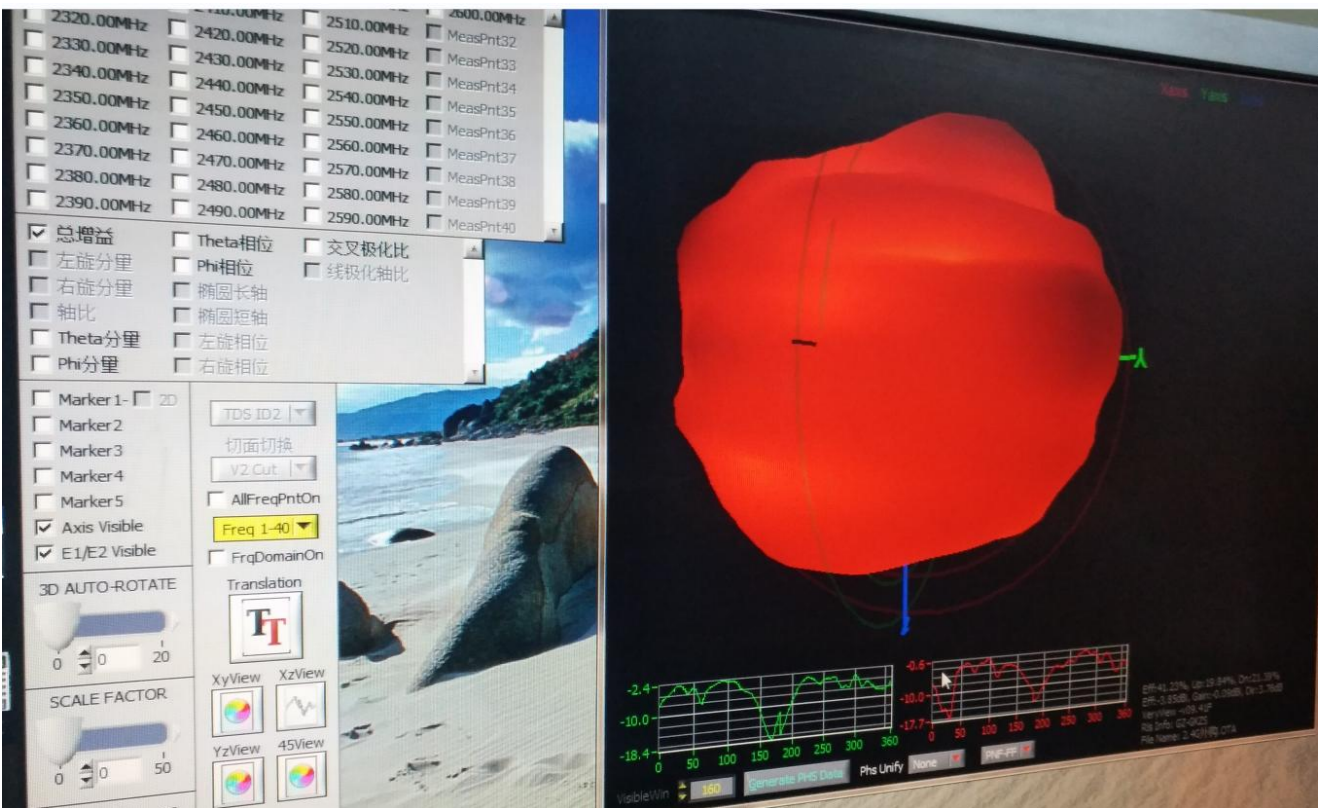
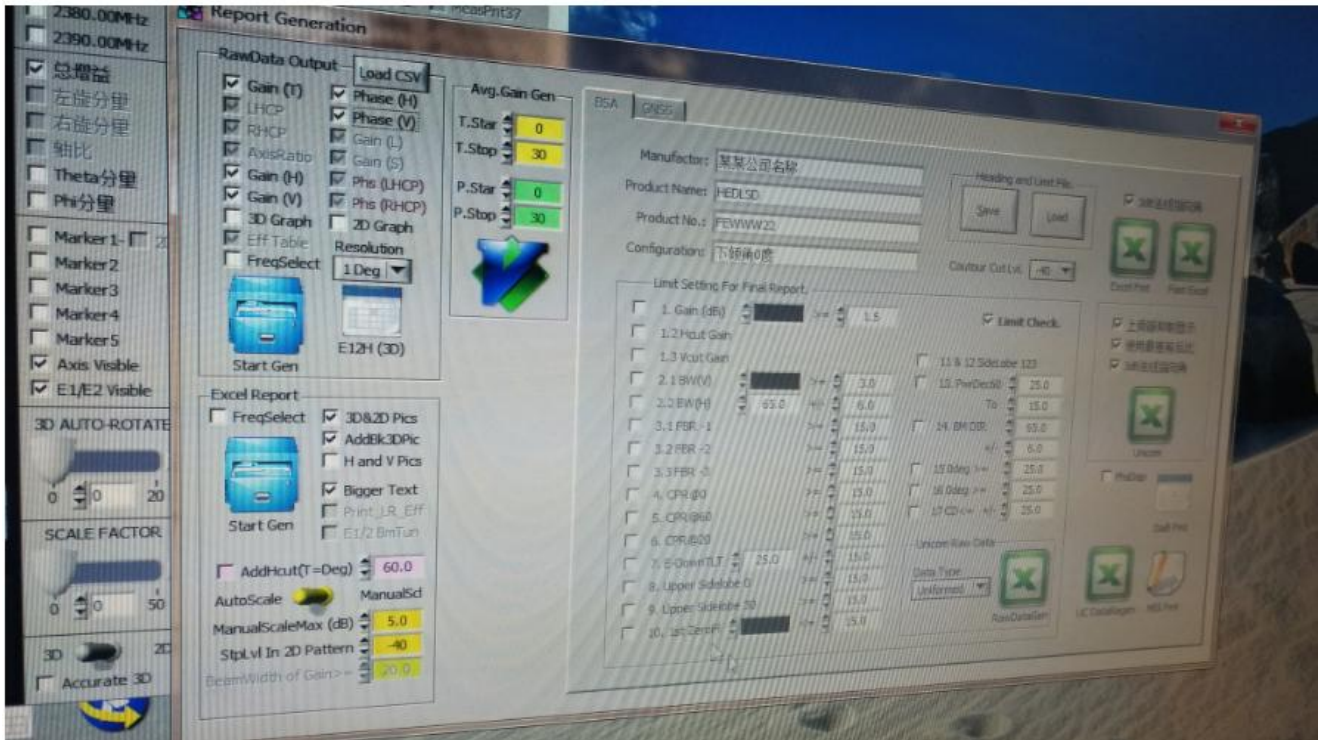
please refer to antenna setup photo.

Step 5:

5.1 Save text results

5.2 View the result

5.3 Export text result



End