

2.4G Antenna Test Report



Customer	ZKTeco
Project	ESL240
Antenna Revision	A1
Prepared by	
Checked by	
Date:	2024. 5. 27

Purpose

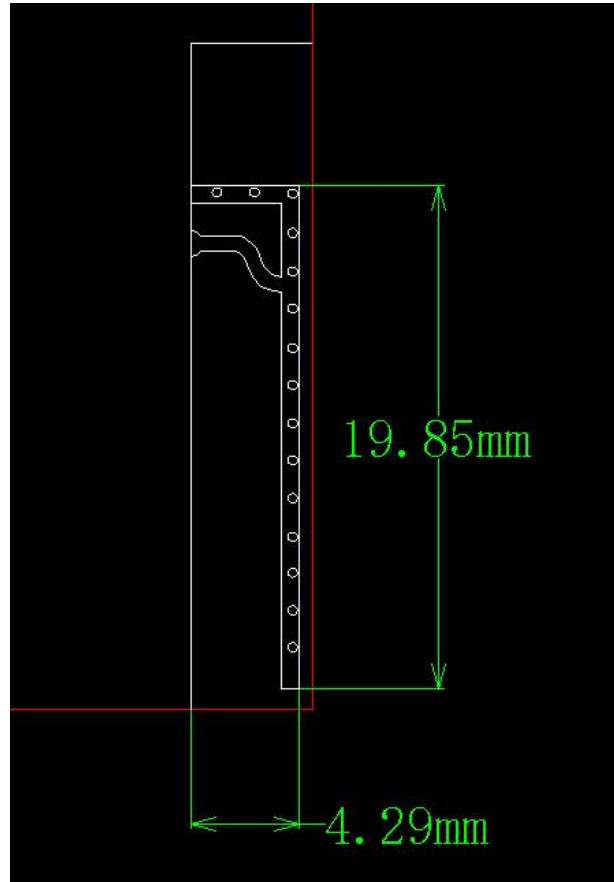
This report is to measure the performance of 2.4G antenna for ESL240. The antenna operating frequency at 2.4GHz, All test data are showed as below.

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1. Antenna Overview & Dimension

2.4G

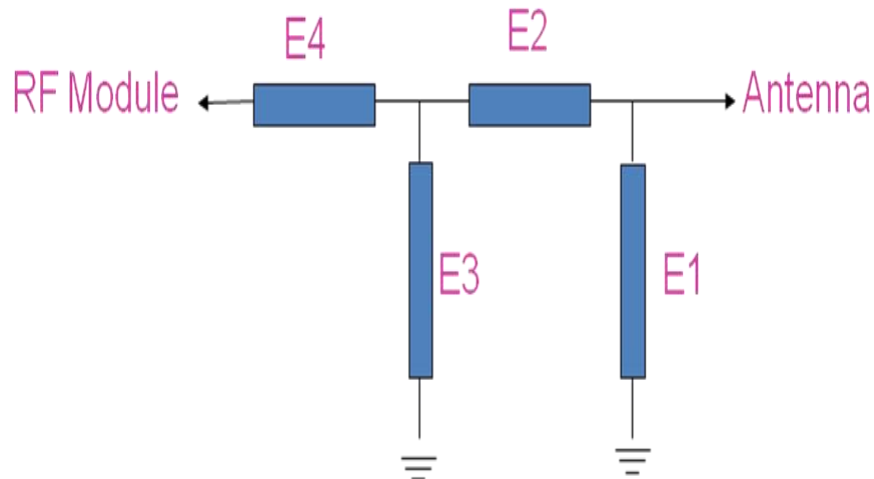


2. Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5062A
OTA Test	TRP&TIS	Agilent 8960 E5515C& Agilent 4438C&CMW500 &CMW270 ETS&SATIMO
Gain & Efficiency	Gain & Efficiency	ETS&SATIMO Agilent 5071C



3. Antenna Matching Network

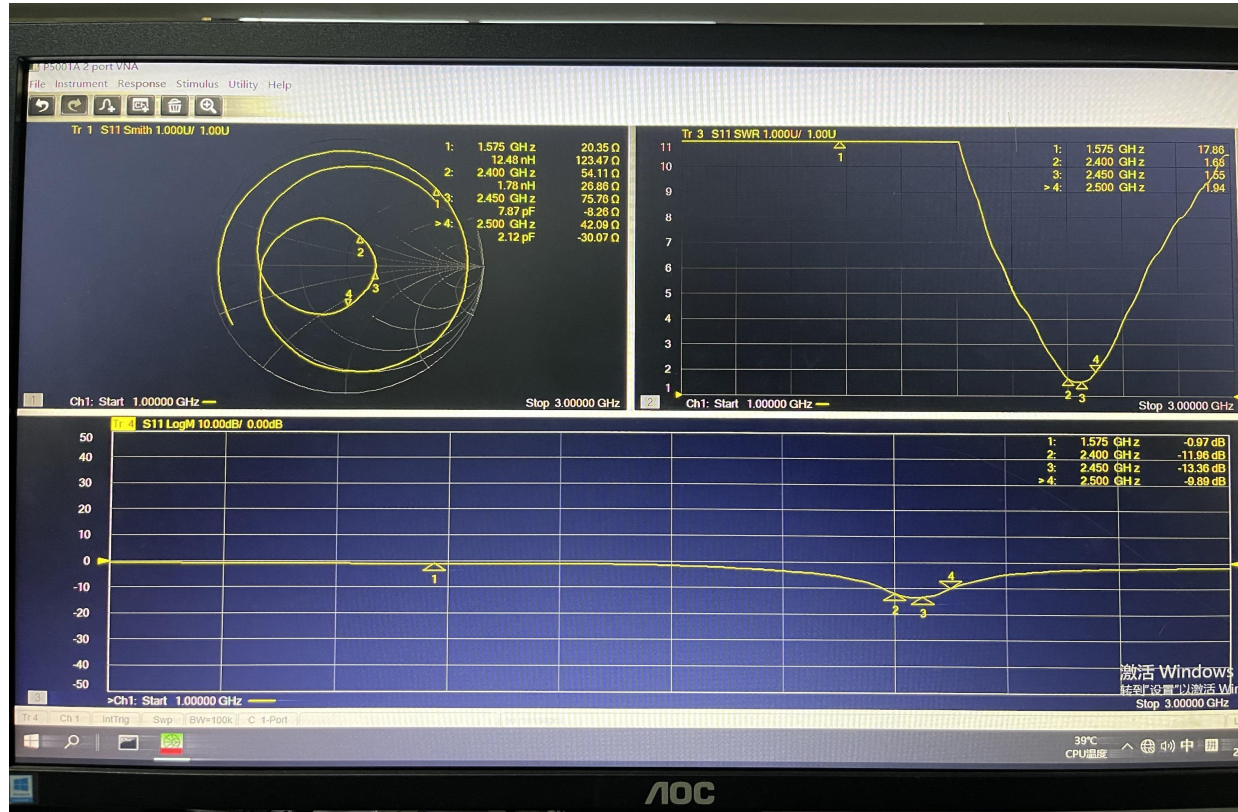


Element	Capacitor	Inductor
E1	N/A	N/A
E2	N/A	N/A
E3	N/A	N/A
E4	N/A	N/A

Antena matching circuit is unchanged

4. Test Result

4.1 S11 Parameter-VSWR



Frequency(MHz)	2400	2450	2500	5150	5720	5850
VSWR	1.68	1.55	1.94	\	\	\

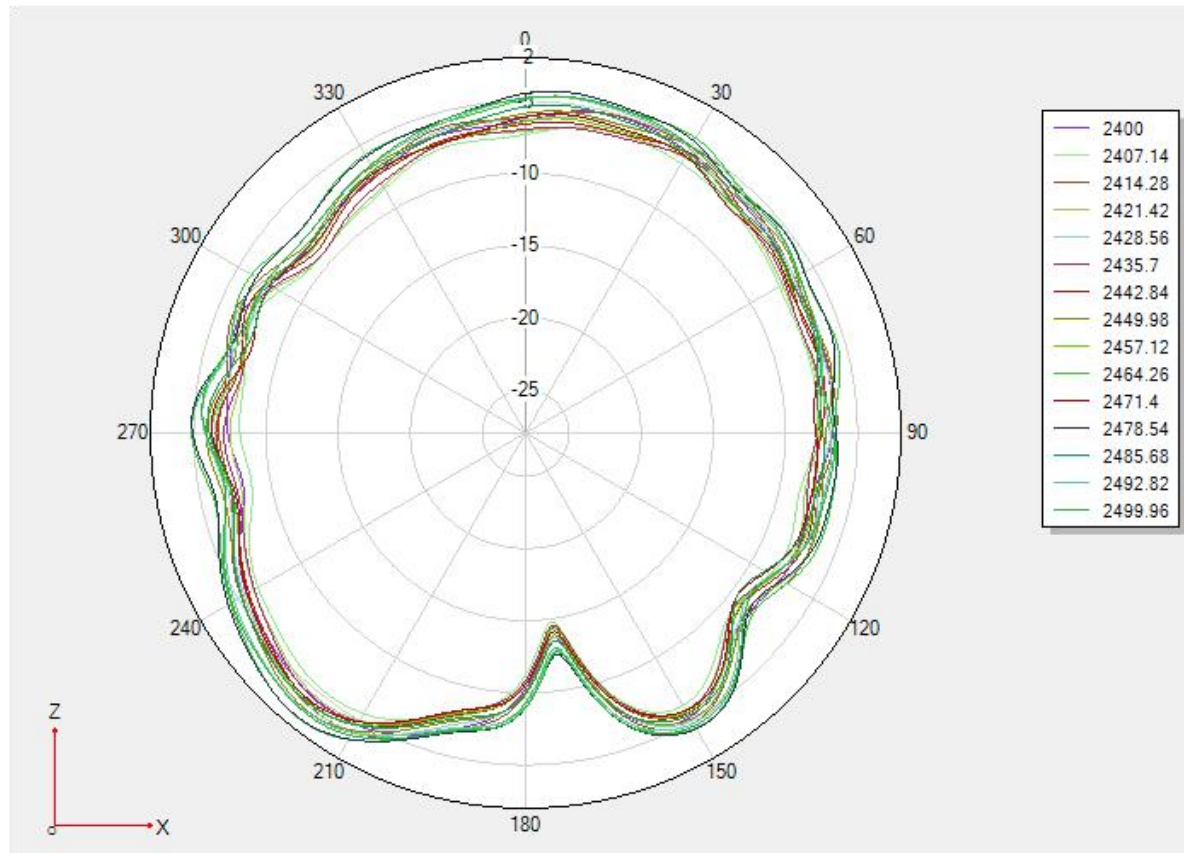
4. Test Result

4.2 Gain & Efficiency

Frequency (MHz)	Peak GAIN (dBi)	Efficiency (%)
2407.14	0.85	18.58
2414.28	0.98	25.23
2421.42	0.94	20.23
2428.56	0.71	24.49
2435.7	0.83	20.75
2442.84	0.5	22.39
2449.98	0.89	25.76
2457.12	0.76	22.59
2464.26	0.74	30.62
2471.4	0.52	22.28
2478.54	0.62	30.76
2485.68	0.68	24.1
2492.82	0.57	27.73
2499.96	0.46	28.44

4. Test Result

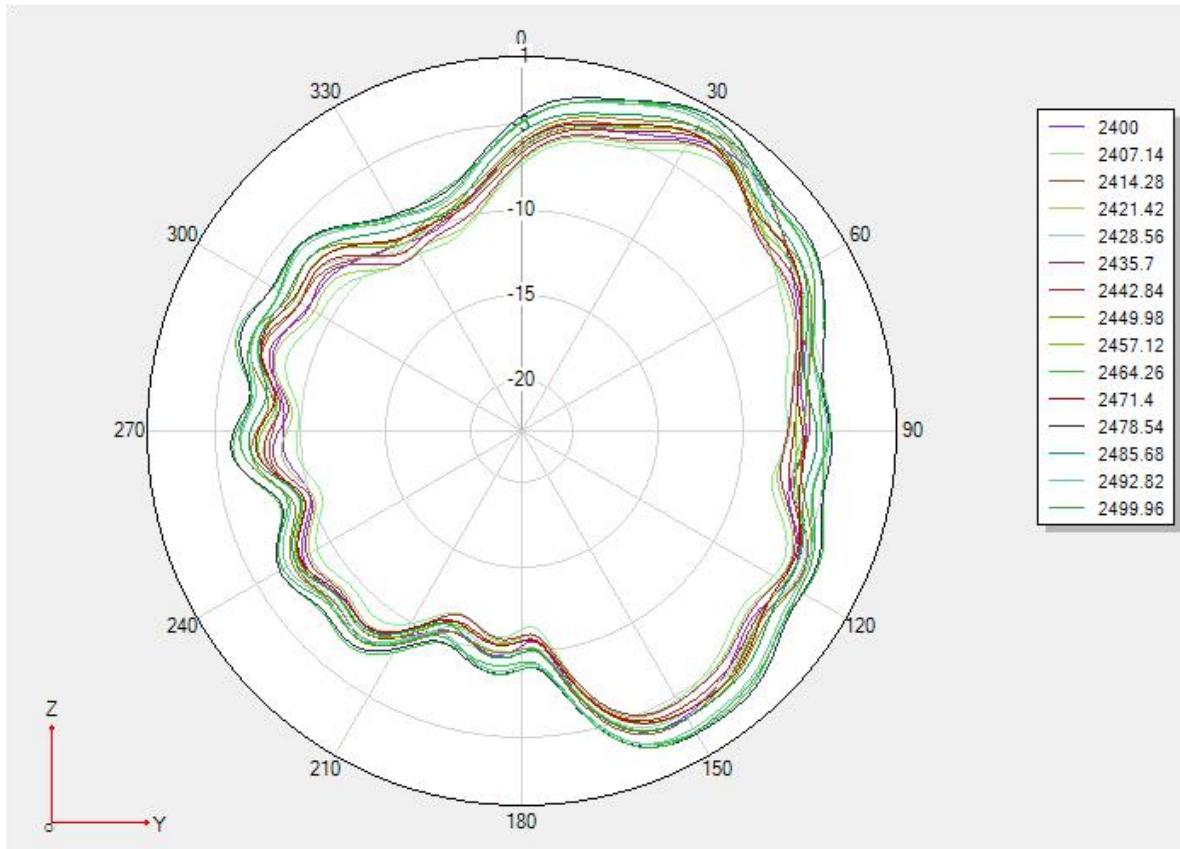
4.4 2D Pattern



Phi = 0

4. Test Result

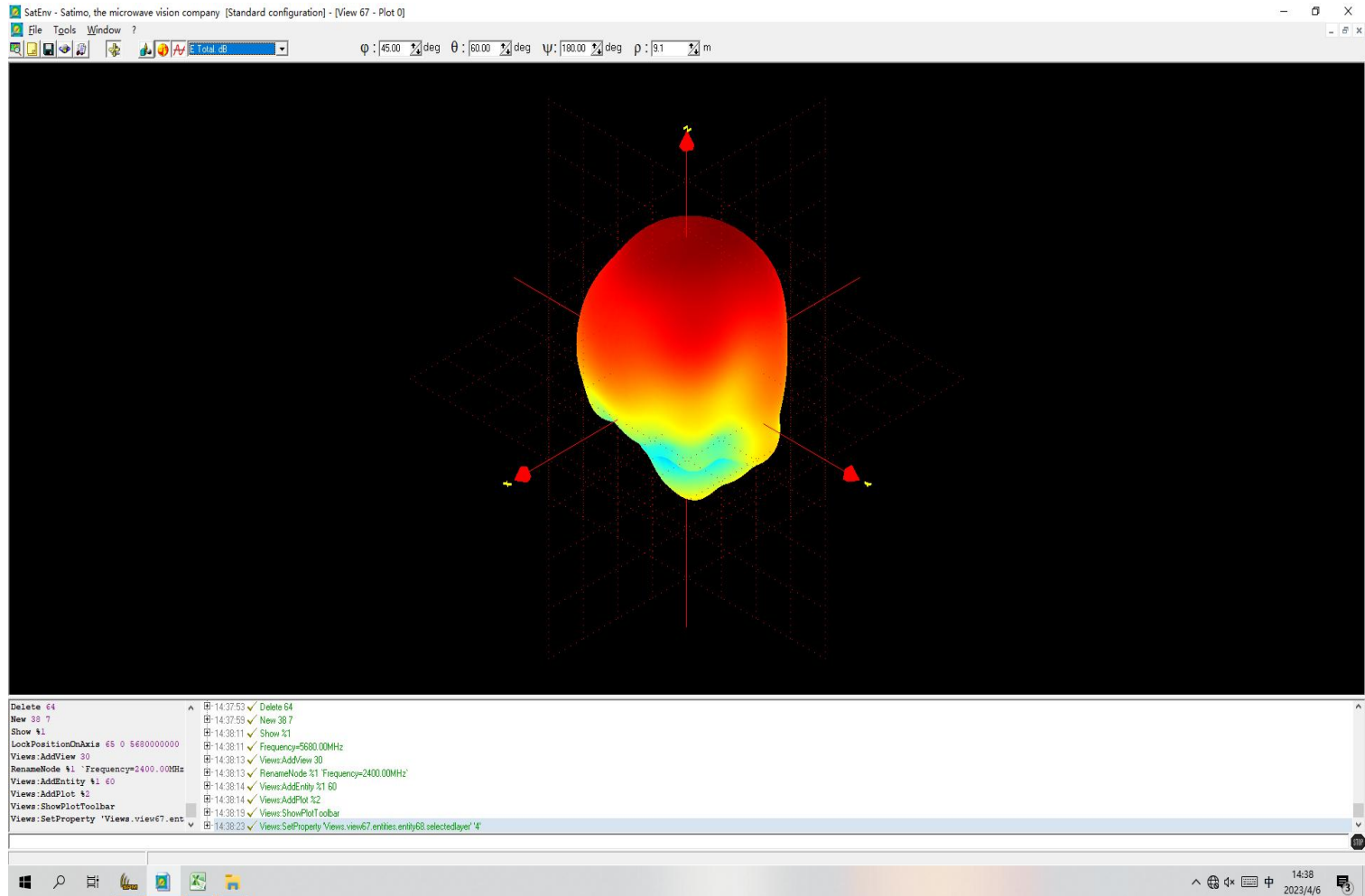
4.4 2D Pattern



Phi =90

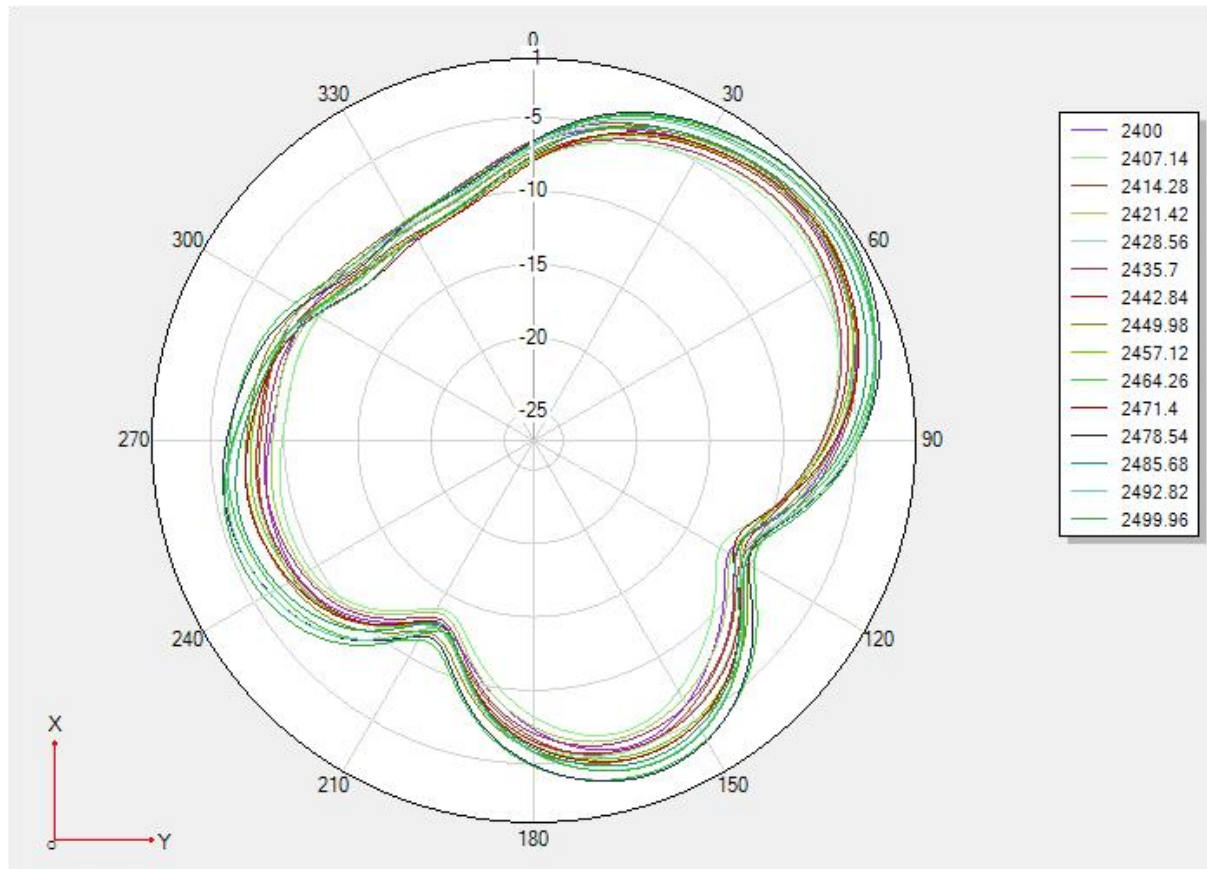
4. Test Result

2400Mhz



4. Test Result

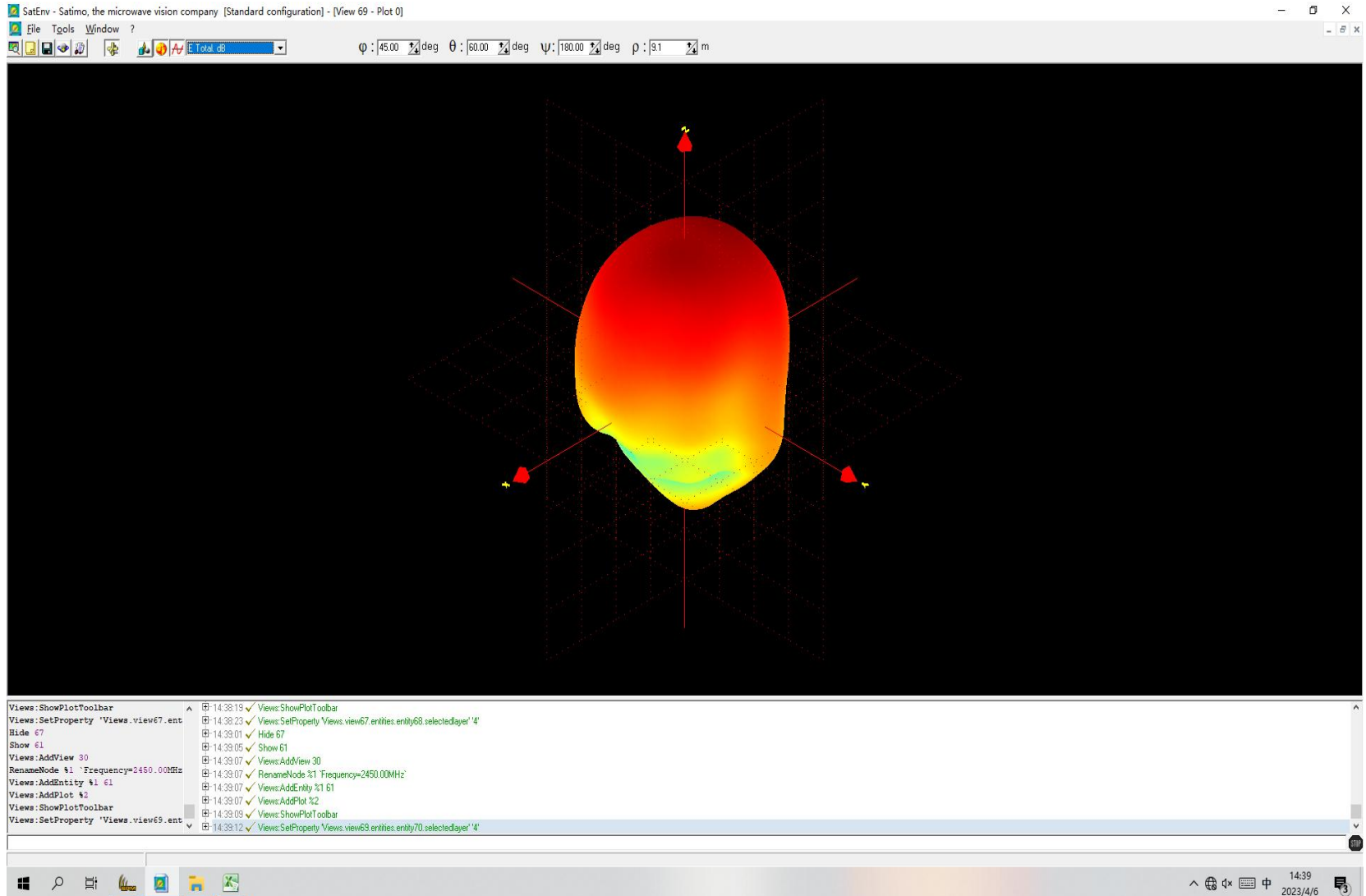
4.4 2D Pattern



Theta = 90

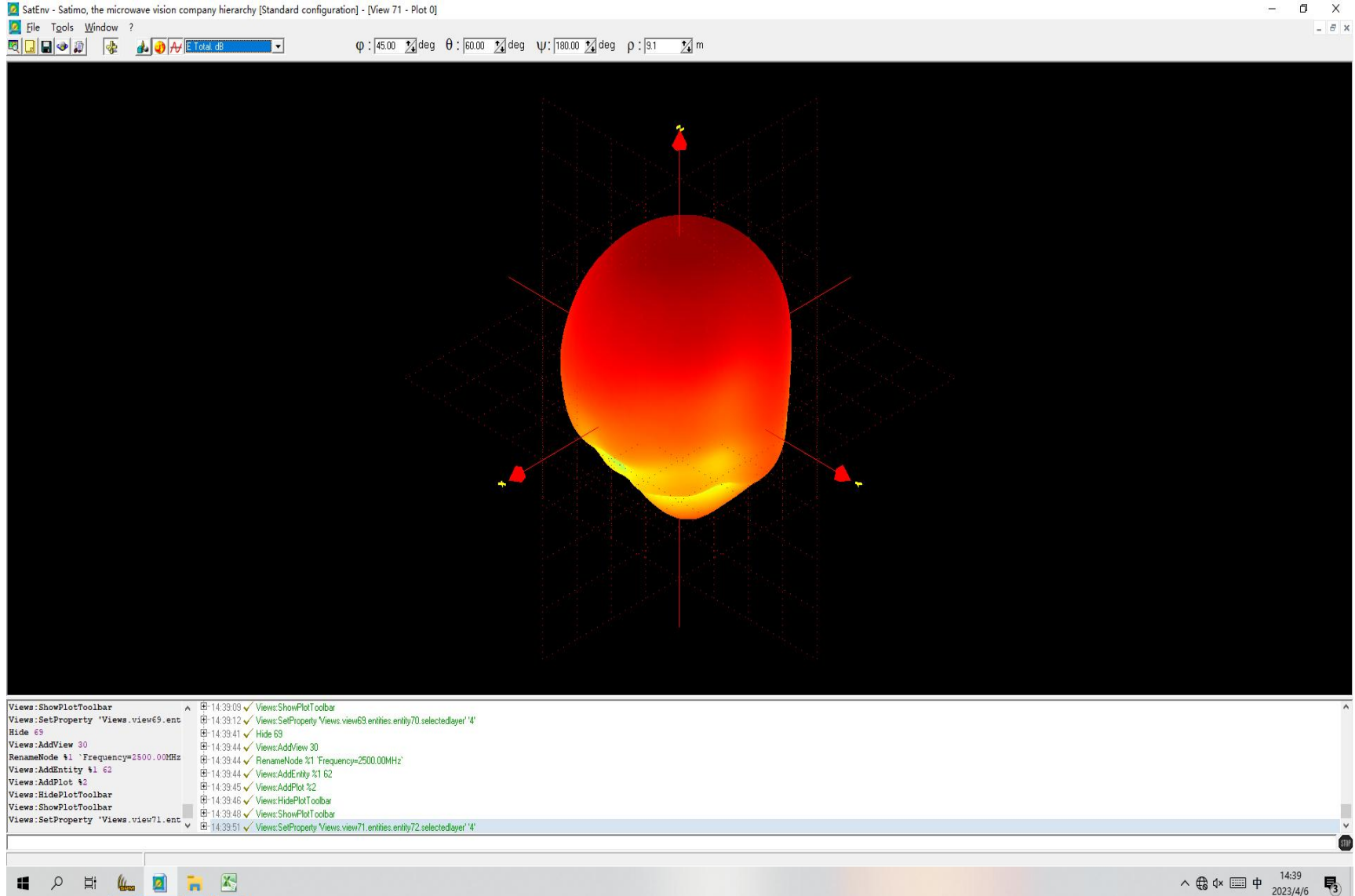
4. Test Result

2450Mhz



4. Test Result

2500Mhz



Thank you!