

Shenzhen Etheta Communication  
Technology Co., Ltd.  
(Shenzhen Etheta)

Customer: TCL Communication Ltd.

Project name: Scarab lite

Product name: scarab lite- cellular &wifi antenna

Material: FPC

Date: 2023.11.22

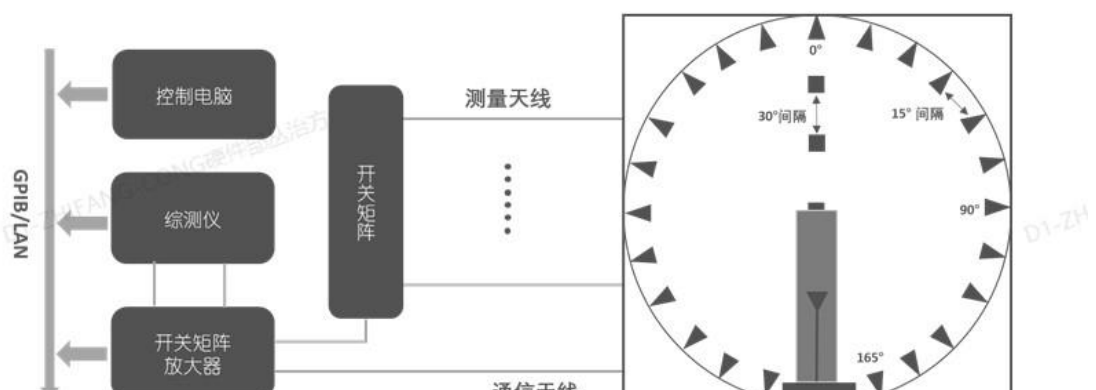
Testers: Qi Ma

## 1: chamber room introduction and testing scope

Our company has a number of OTA test darkrooms, ranging from 400MHz to 8.5ghz, which can provide passive test and active test (including OTA overall 2G,3G,4G,5GFR test, WiFi multi-mode test, GPS active test, Bluetooth active test, which can provide antenna gain and efficiency. 2D orientation and apple chart analysis and upper and lower hemisphere efficiency values, mutual disturbance correlation coefficient test items

### WIFI a/b/g/n/ac/a

## 2: test system introduction:



The figure above shows the connection and control process between the darkroom of our company and the testing system and computer. The testing system has the characteristics of accurate, fast and simple testing  
The operation interface is simple and humanized

### 3: Test result

#### Antenna placement:

Antenna	Type	Description
0	FPC	<b>LB TRX+MHB DRX</b>
1	FPC	MHB TRX+LB DRX
2	FPC	<b>GPS+2.4G WIFI+5G WIFI</b>

	Model name	Type	Manufacturer	Production address
ANT 0	Scarab-DIV-RD-A	FPC	RD	Zone B and D, 3 / F, Building 1, Baisha Science and Technology Industrial Park, 3011 Shahe West Road, Nanshan District, Shenzhen
ANT 1	Scarab V-Main-RD-A	FPC	RD	
ANT 2	Scarab-DIV-RD-A	FPC	RD	

RD: Shenzhen Rui De communication Technology Co., LTD

## 4. Test Equipment list

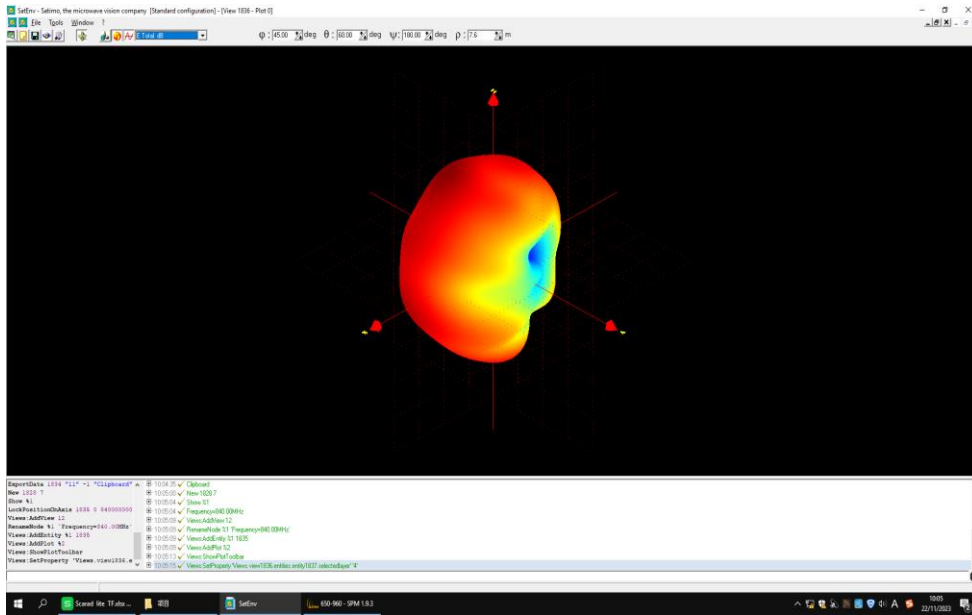
Type of Equipment	Model number/Version	Manufacturer	Calibration due date
Software	GTS 3.0.3.1	GTS	NA
Network Analyzer	ZVB 8	R&S	2023/06/13

## 5. Test result

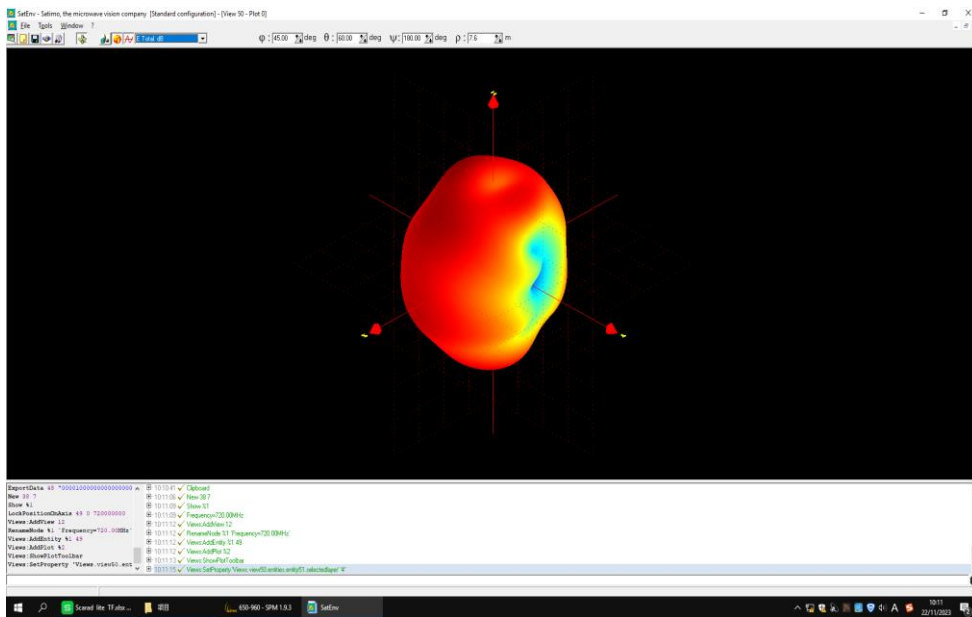
Band	Gain Peak (dBi)	Ant N
GSM850	-4.5	Ant1
GSM1900	0.21	Ant1
W2	0.21	Ant1
W4	0.82	Ant1
W5	-3.79	Ant0
LTE B5	-3.79	Ant0
LTE B12	-2.92	Ant0
LTE B13	-2.77	Ant0
LTE B26	-3.79	Ant0
LTE B71	-3.40	Ant0
LTE B20	-3.48	Ant0
LTE B28	-2.92	Ant0
LTE B2	0.21	Ant1
LTEB3	0.82	Ant1
LTE B4	0.82	Ant1
LTE B7	0.13	Ant1
LTE B25	0.21	Ant1
LTE B41	0.13	Ant1
LTE B66	0.82	Ant1
GPS	-1.12	Ant2
2.4G WIFI	-0.35	Ant2
5G WIFI (5.2G)	-0.33	Ant2
5G WIFI (5.3G)	-0.33	Ant2
5G WIFI (5.5G)	-0.33	Ant2
5G WIFI (5.8G)	-0.33	Ant2

### 3D Pattern

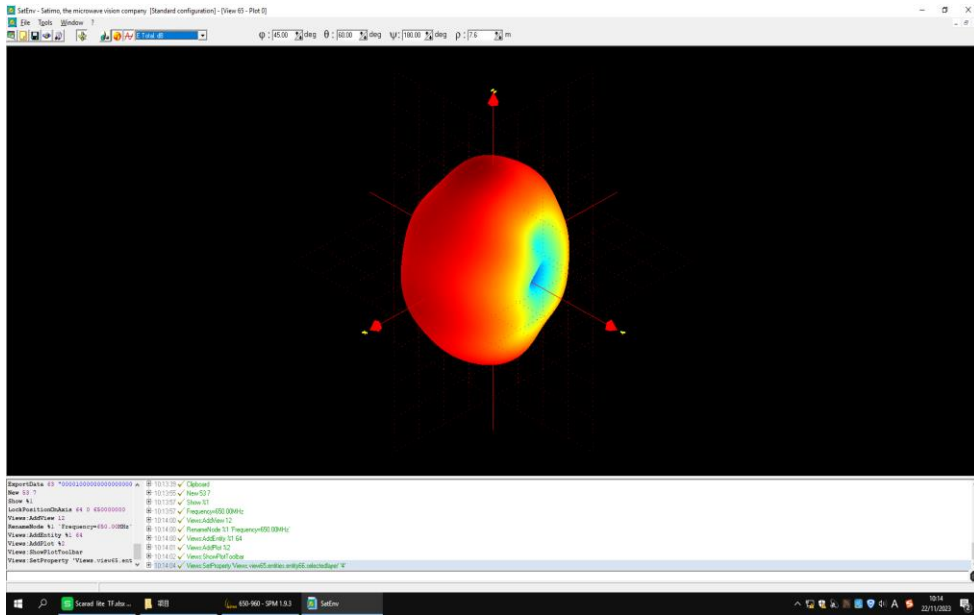
ANT 0\_ 800M (Frequency=840MHz)



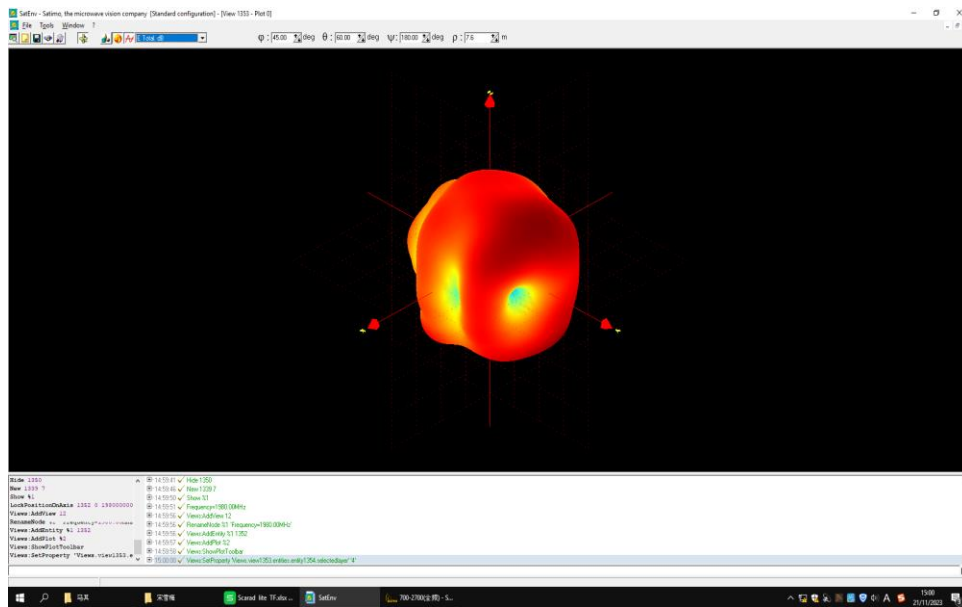
## ANT 0\_700M (Frequency=720MHz)



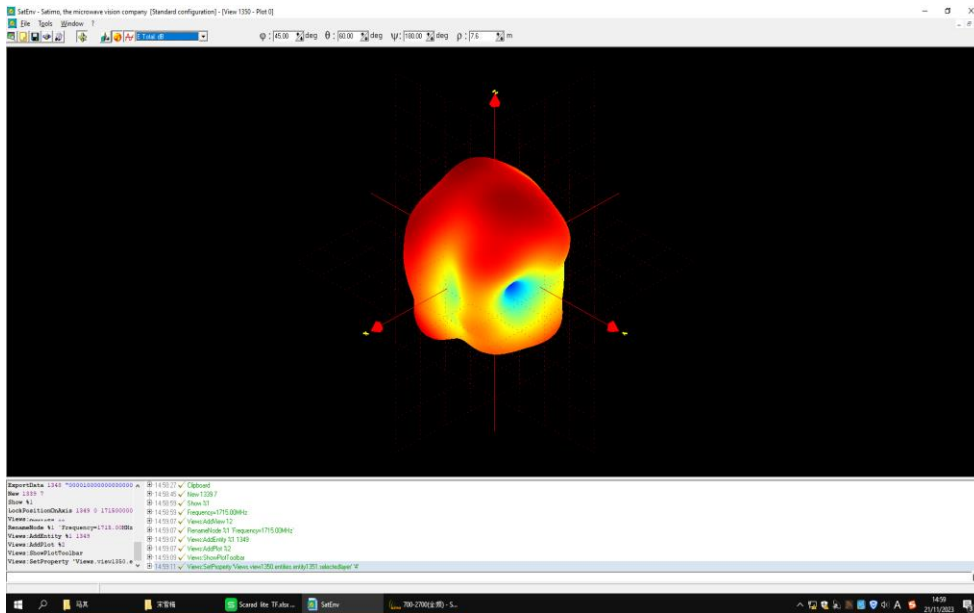
## ANT 0\_600M (Frequency=650MHz)



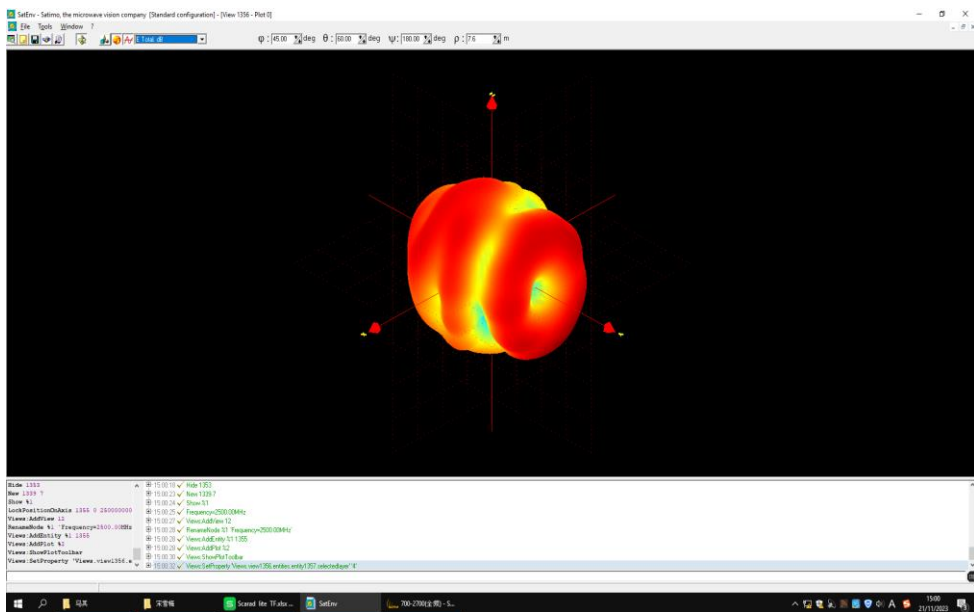
## ANT1\_1900M (Frequency=1980MHz)



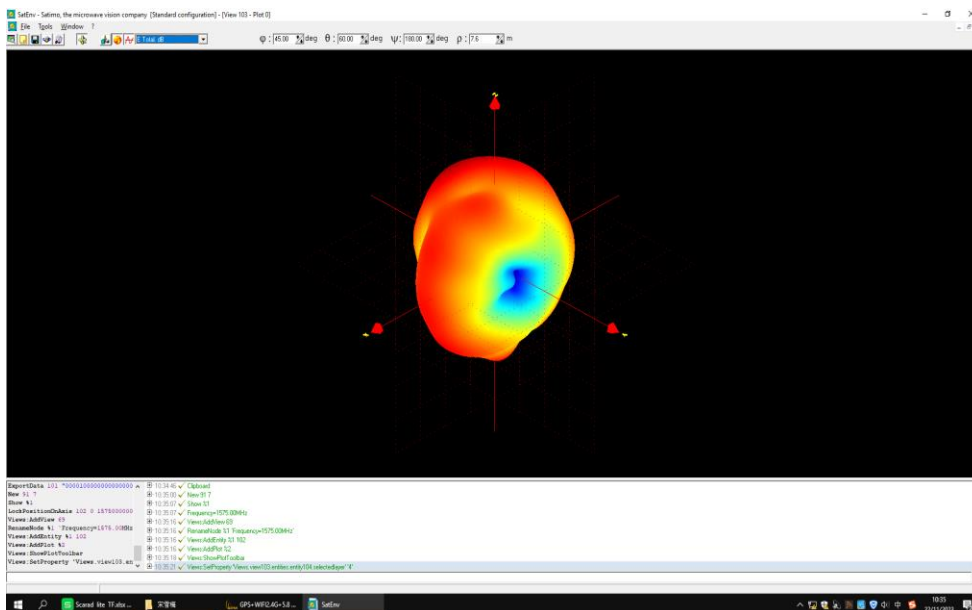
## ANT 1\_1715M (Frequency=1715MHz)



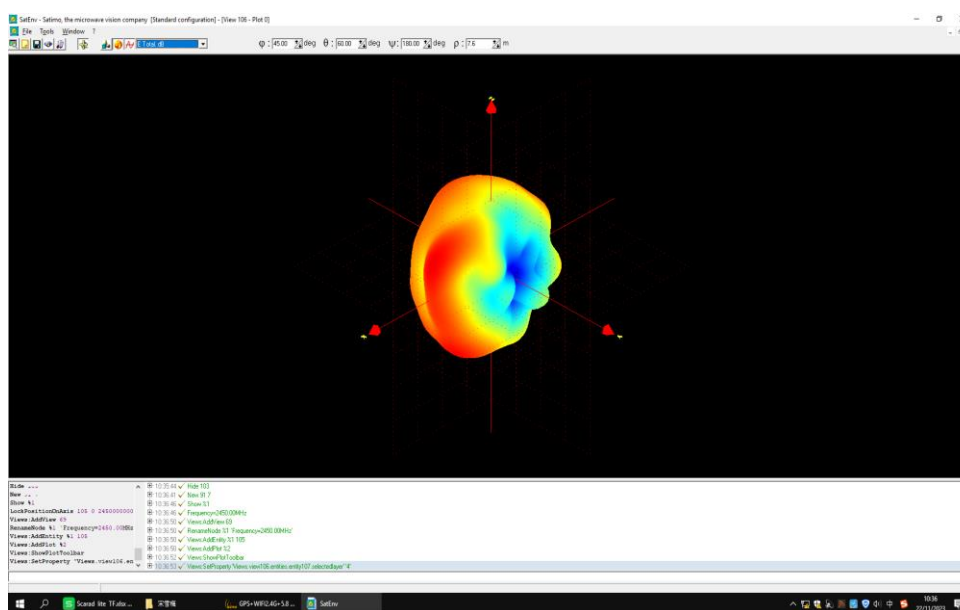
ANT 1\_ 2500M (Frequency=2505MHz)



ANT 2\_ 1575M (Frequency=1575MHz)

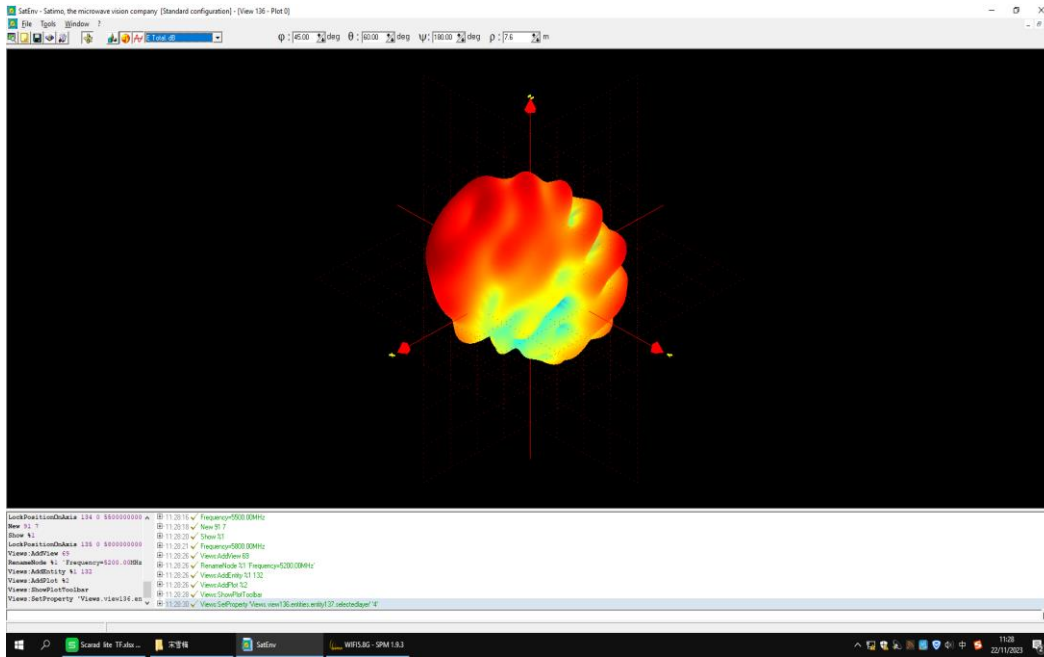


ANT 2\_2450M (Frequency=2450MHz)

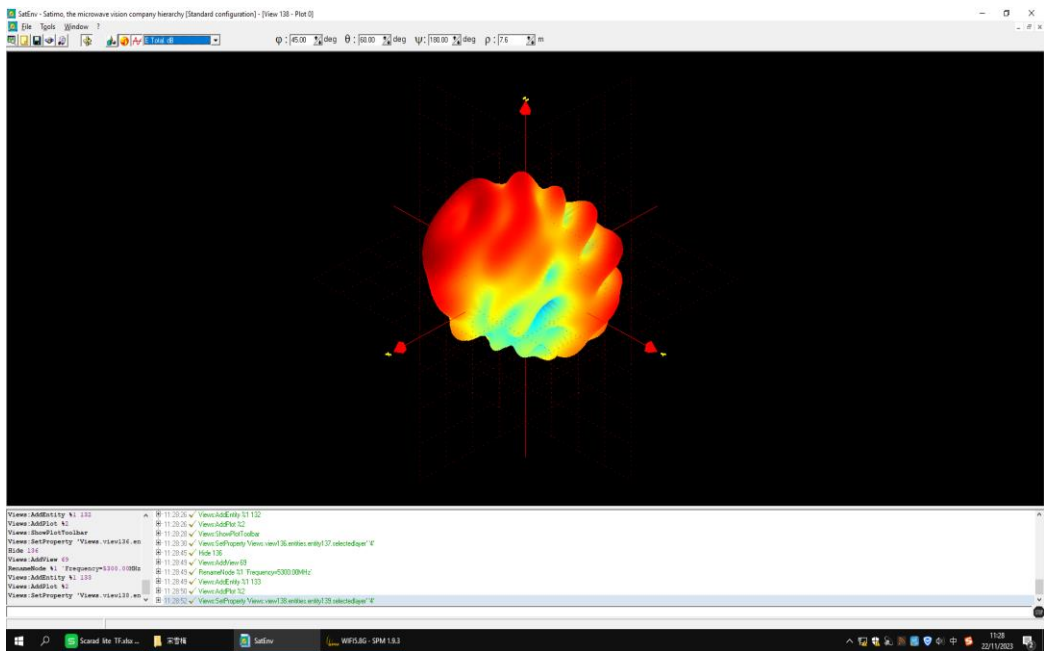


ANT 2\_5200M (Frequency=5200MHz)

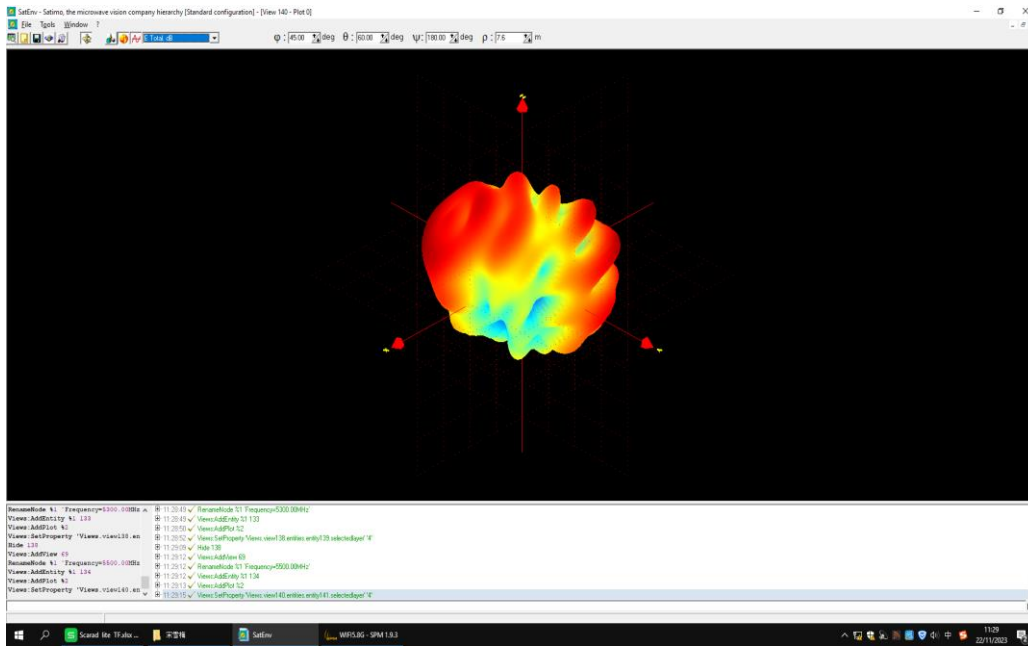




## ANT 2\_ 5300M (Frequency=5300MHz)



## ANT 2\_ 5500M (Frequency=5500MHz)



## ANT 2\_ 5800M (Frequency=5800MHz)

