



Antenna debugging report

Customer: Duoke

Project: DK086A

Structure: Xiao Xiang-13316888409

RF: Long Yaobin 15874137313

Date: June 3, 2024



Antenna debugging report

Report type:

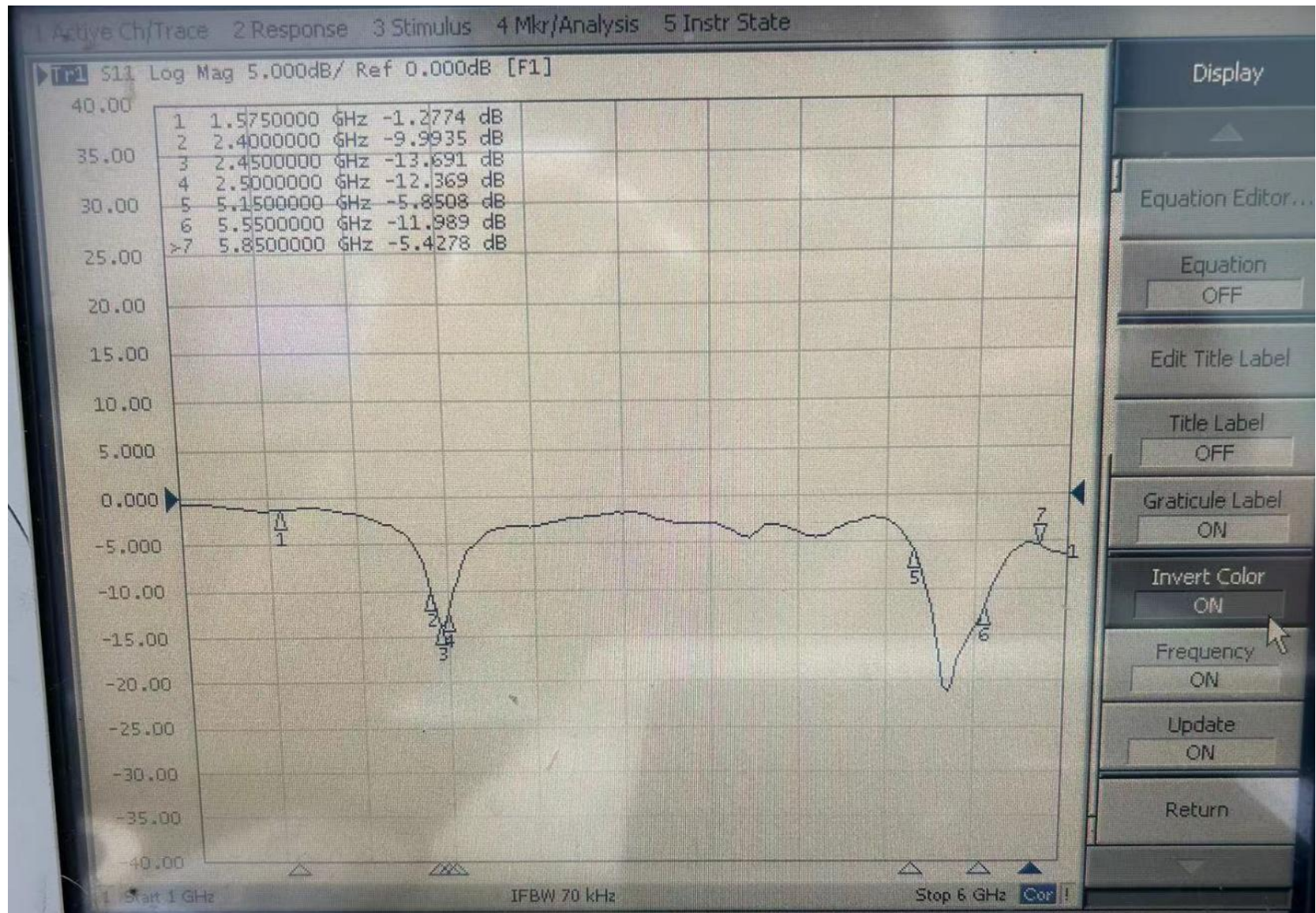
Version number: V3.0

Machine status: DVT trial production machine

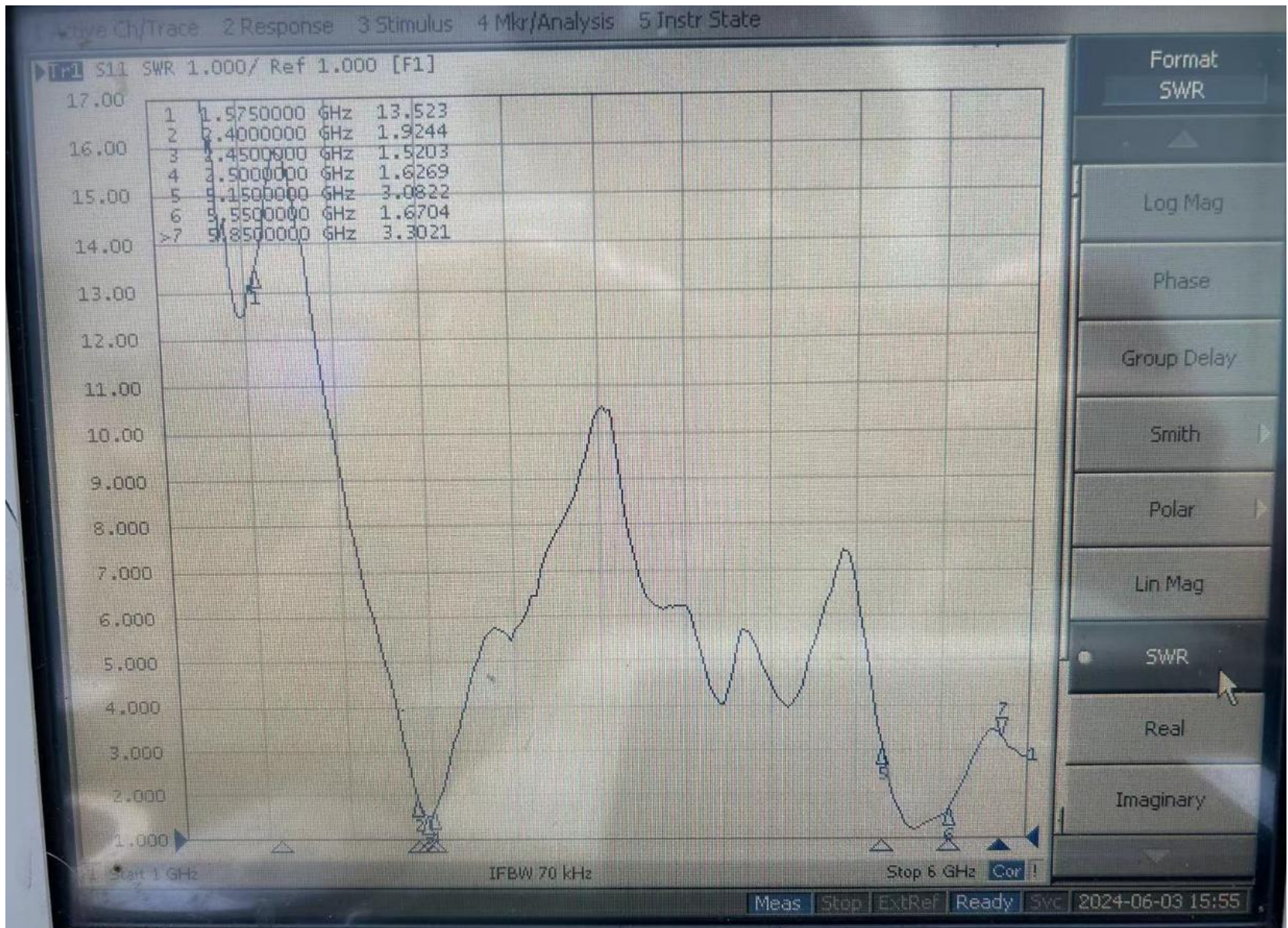
Debugging frequency band:

802.11a/b/g/n/ac/ax

Antenna LOG MAG:



Antenna SWR:

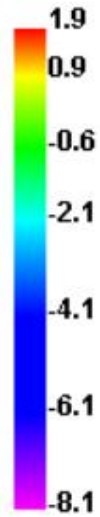
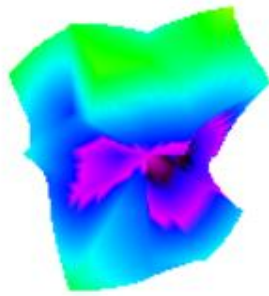




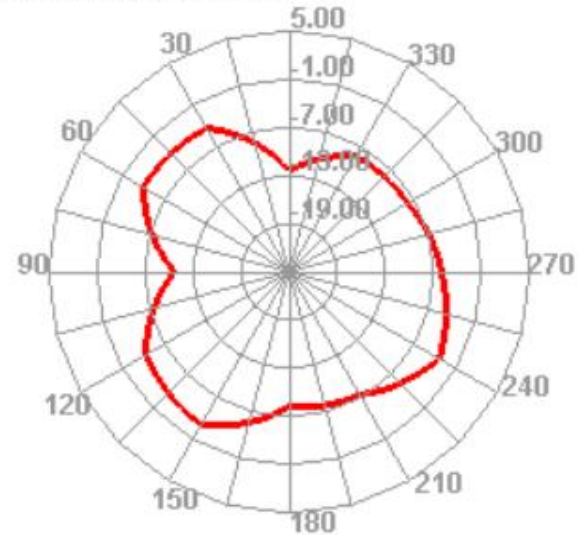
Antenna gain:

Frequency (MHZ)	Average Gain(dBi)	Peak Gain(dBi)
WIFI 2.4G/BT	-4.8	1.9
WIFI 5.2/5.8G	-5.9	1.3

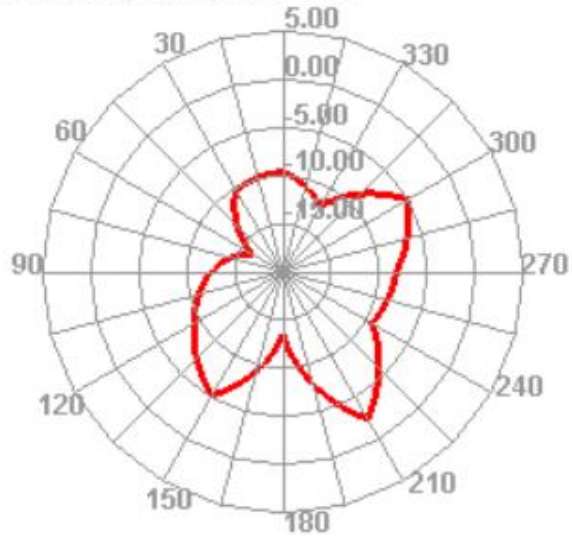
2350.000MHz



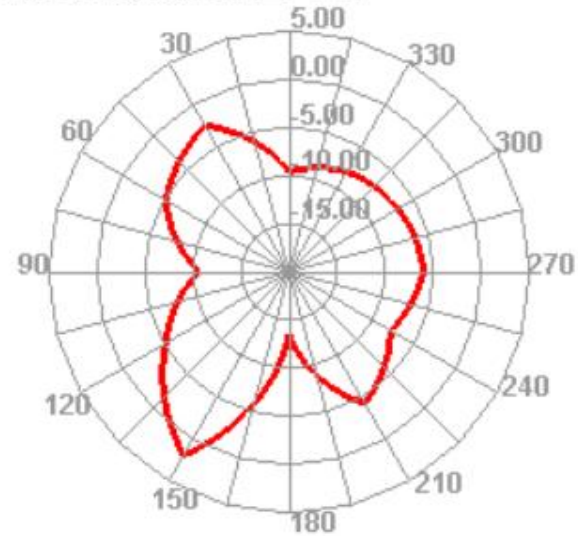
2350.000MHz H



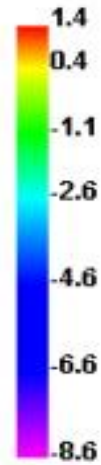
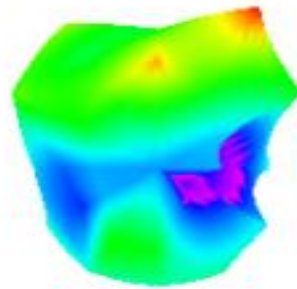
2350.000MHz E1



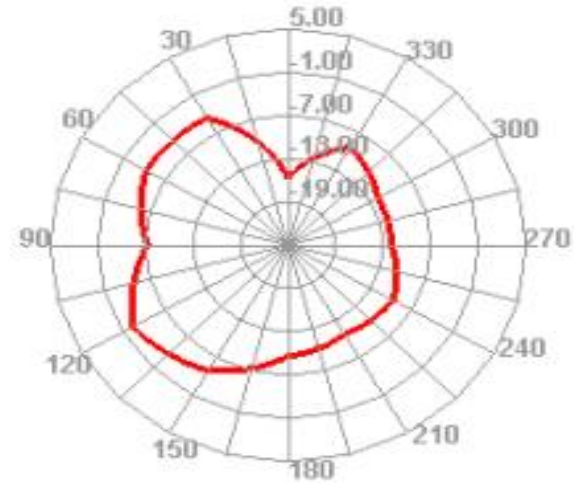
2350.000MHz E2



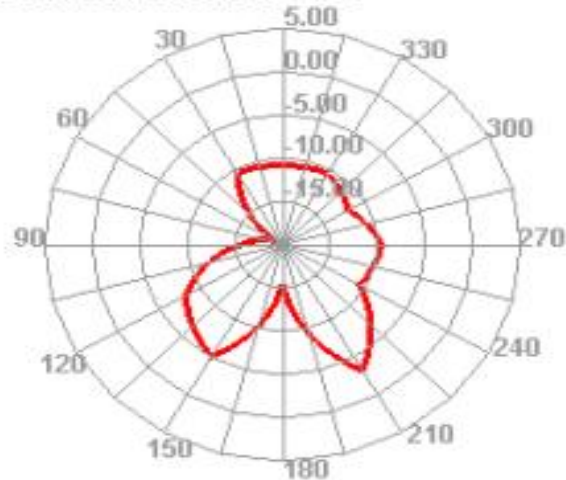
2450.000MHz



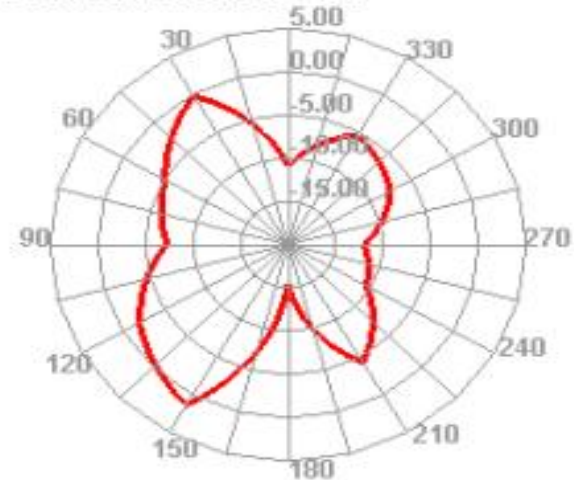
2450.000MHz H



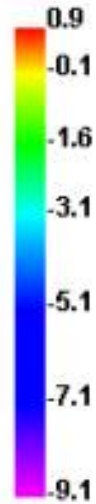
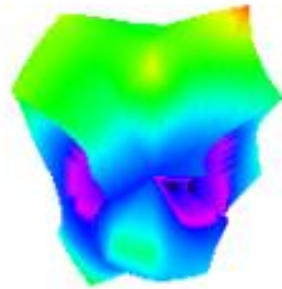
2450.000MHz E1



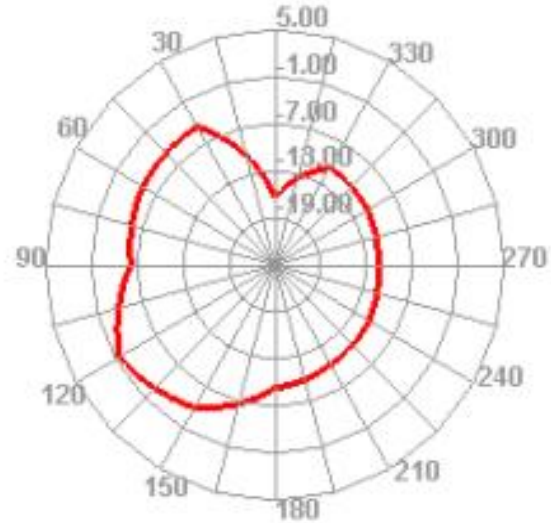
2450.000MHz E2



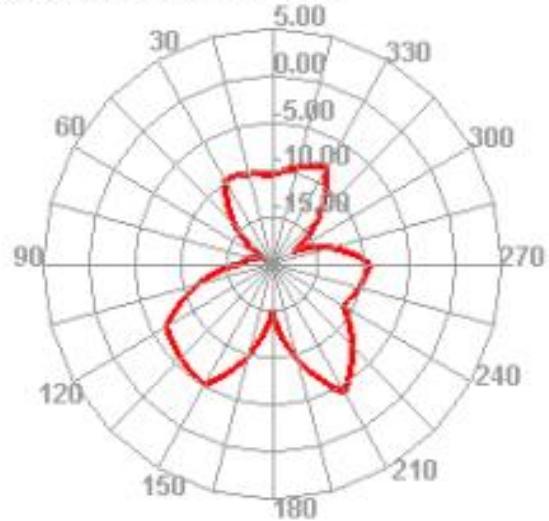
2500.000MHz



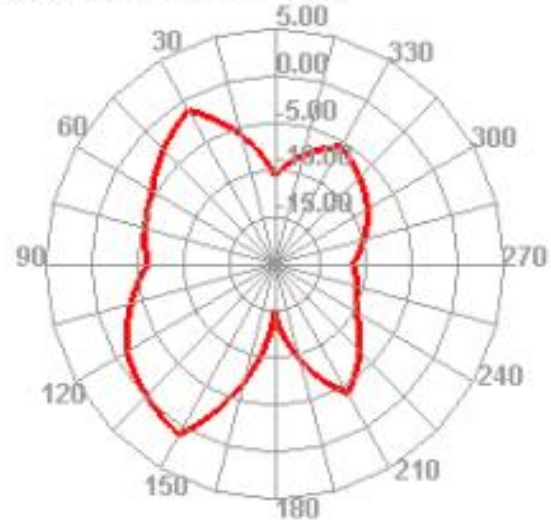
2500.000MHz H



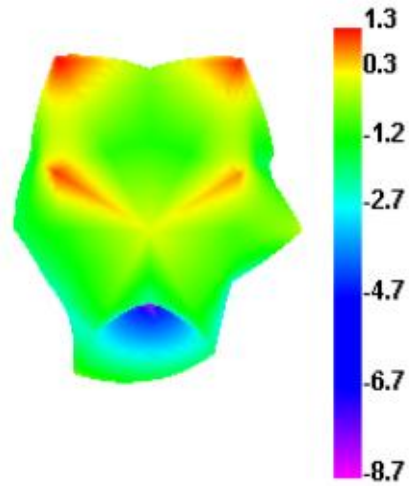
2500.000MHz E1



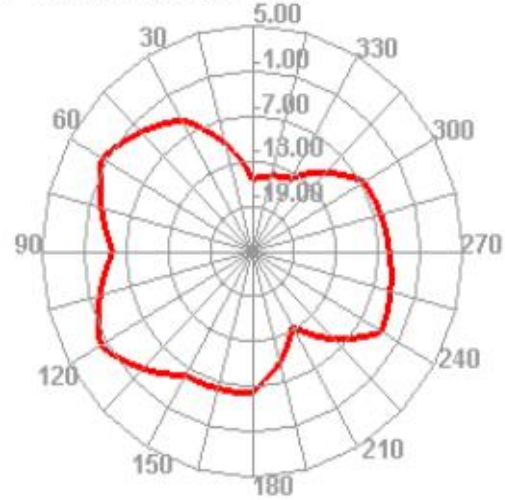
2500.000MHz E2



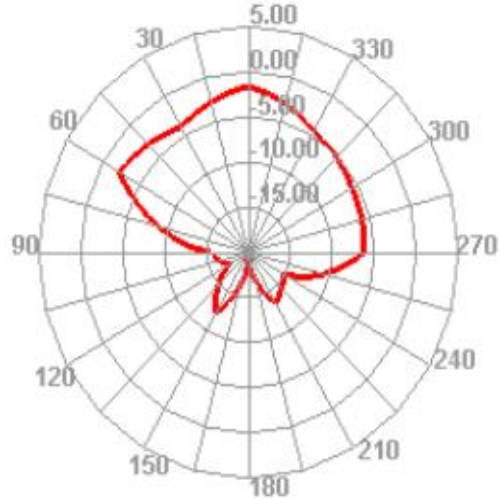
5150.000MHz



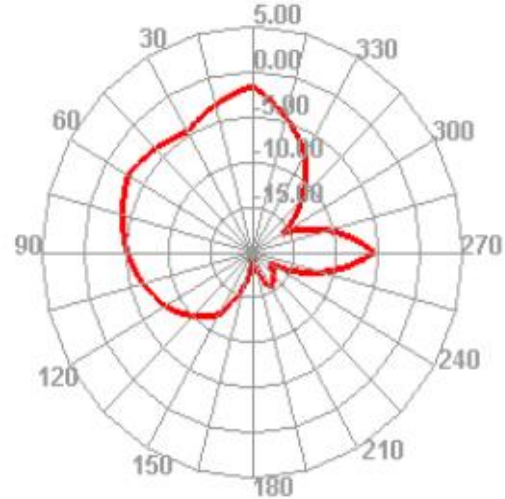
5150.000MHz H



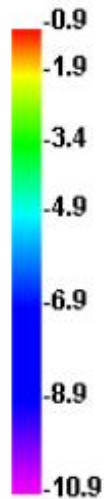
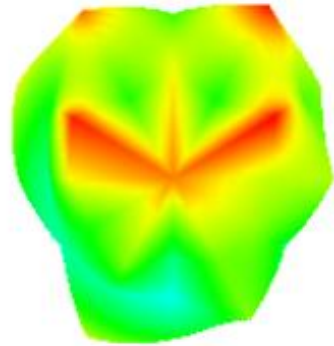
5150.000MHz E1



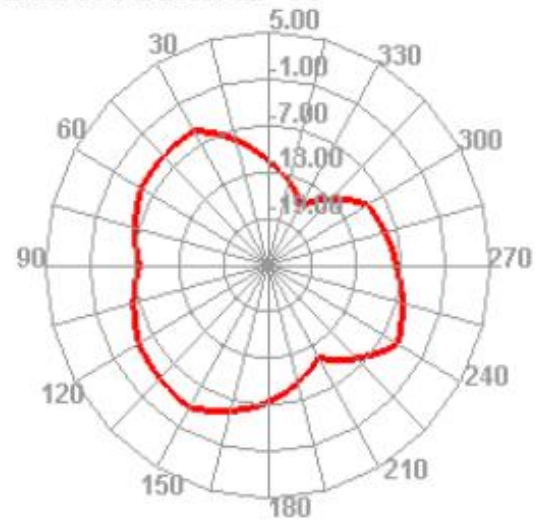
5150.000MHz E2



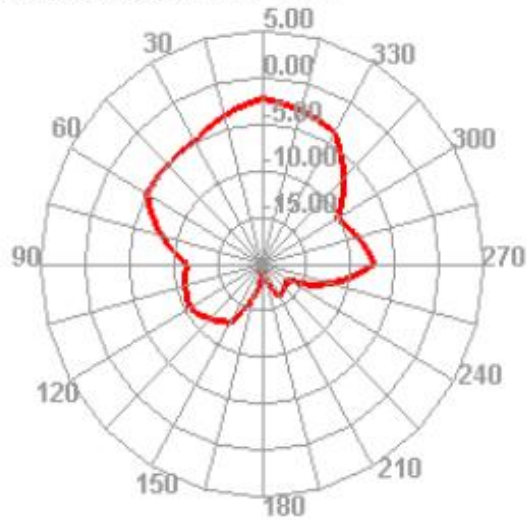
5490.000MHz



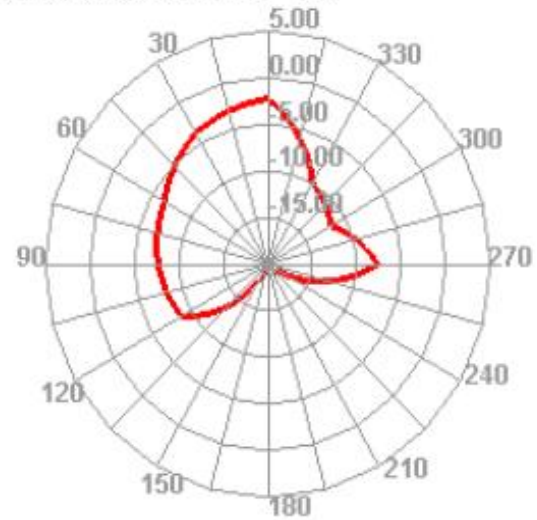
5490.000MHz H



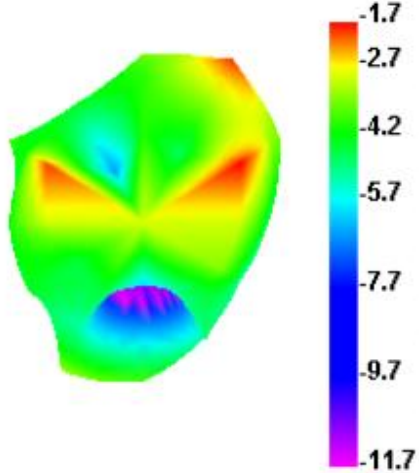
5490.000MHz E1



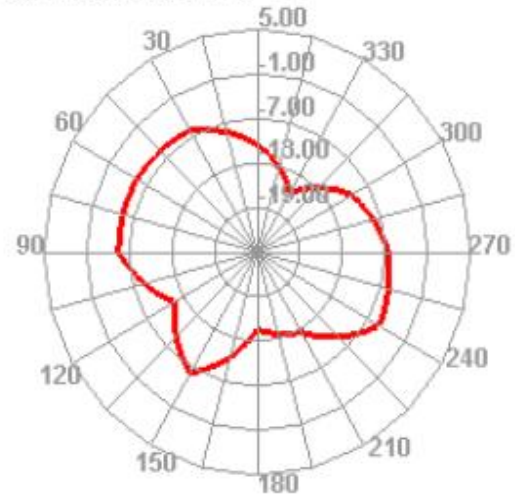
5490.000MHz E2



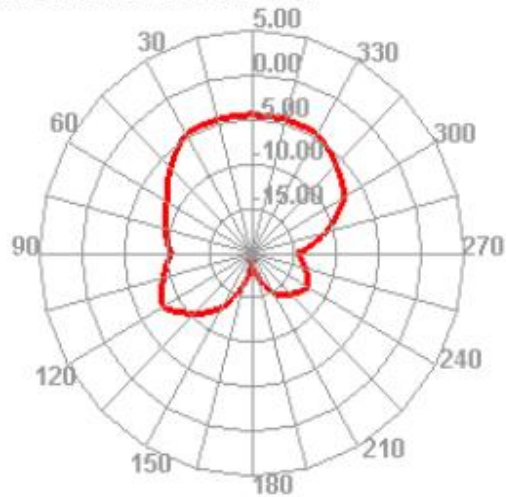
5850.000MHz



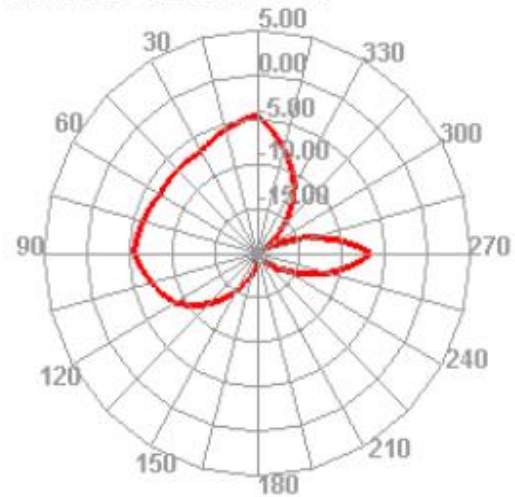
5850.000MHz H



5850.000MHz E1



5850.000MHz E2





Antenna test data

Haizhiyuan Memory:

WIFI OTA				
	Band	Channel	TRP	TIS
2.4G	b (11M)	1	13.6	
		6	12.8	
		13	12.3	-83.6
	g (54M)	1	11.4	
		6	12.1	
		13	11.9	-71.1
	n (MCS7)	1	12.2	
		6	13.1	
		13	12.1	-66.3

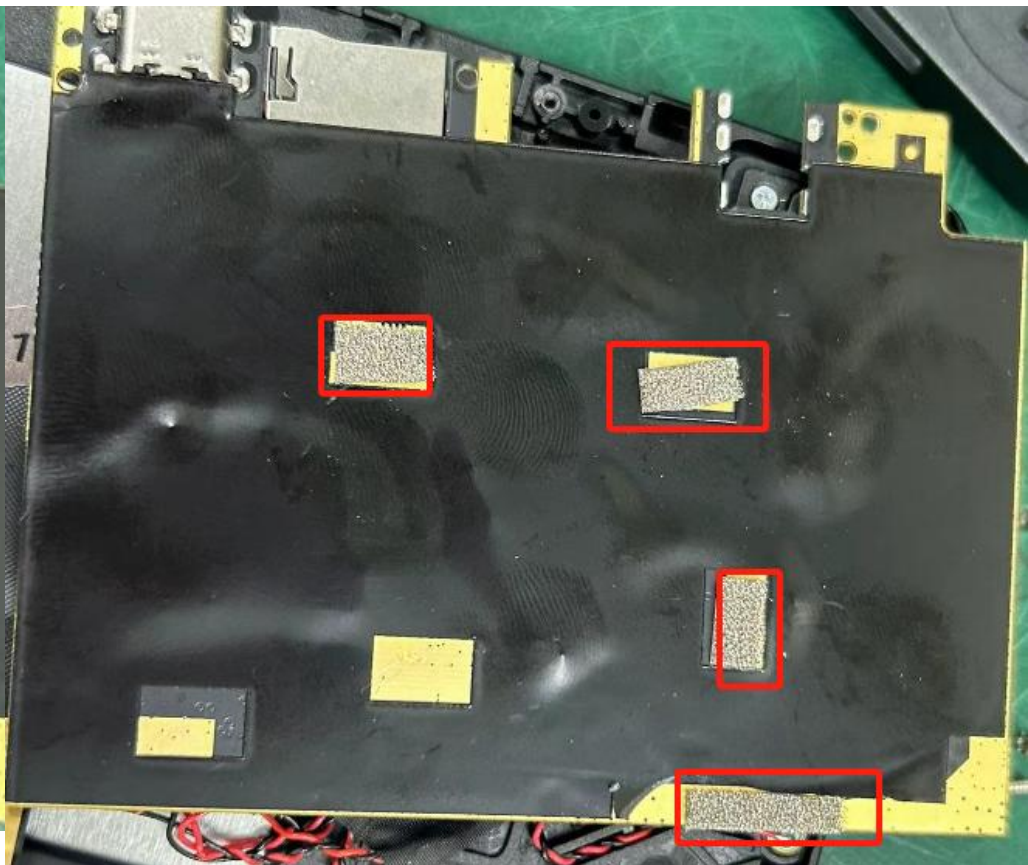
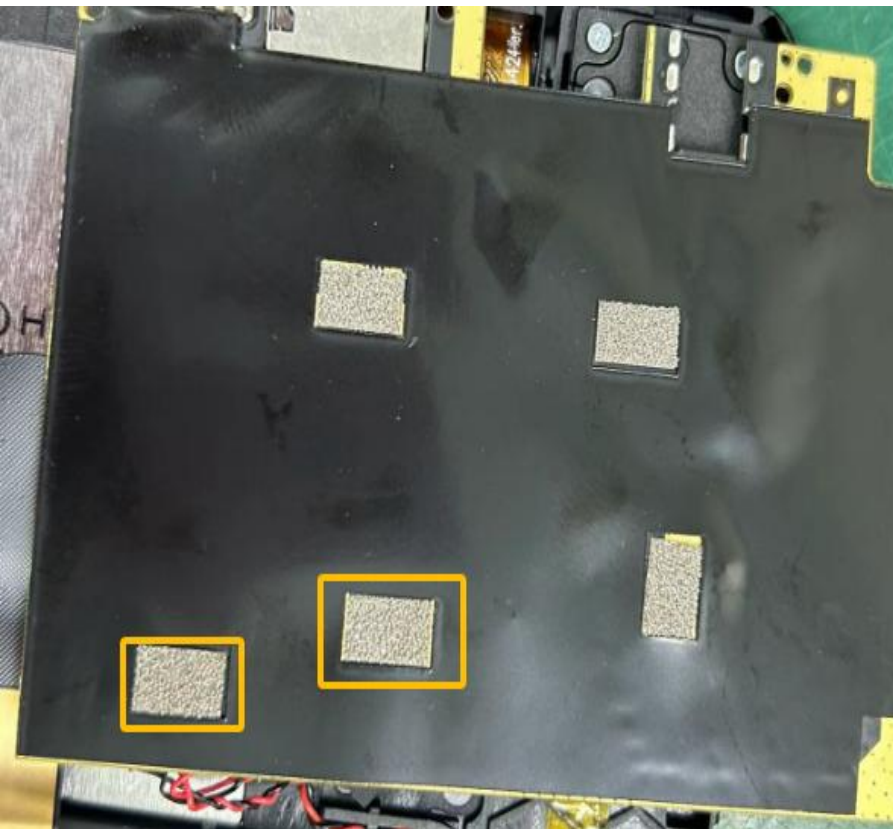


Antenna test data

Haizhiyuan Memory:

WIFI OTA				
	Band	Channel	TRP	TIS
5G	a (54M)	36	10.6	
		149	11.3	
		165	11.2	-72.6
	n (MCS7)	36	10.1	
		149	11.3	
		165	11.1	-68.2
	ac (MCS8)	36	10.4	
		149	11.8	
		165	11.5	-67.2
	ax (MCS8)	36	10.3	
		149	11.5	
		165	11.4	-66.9

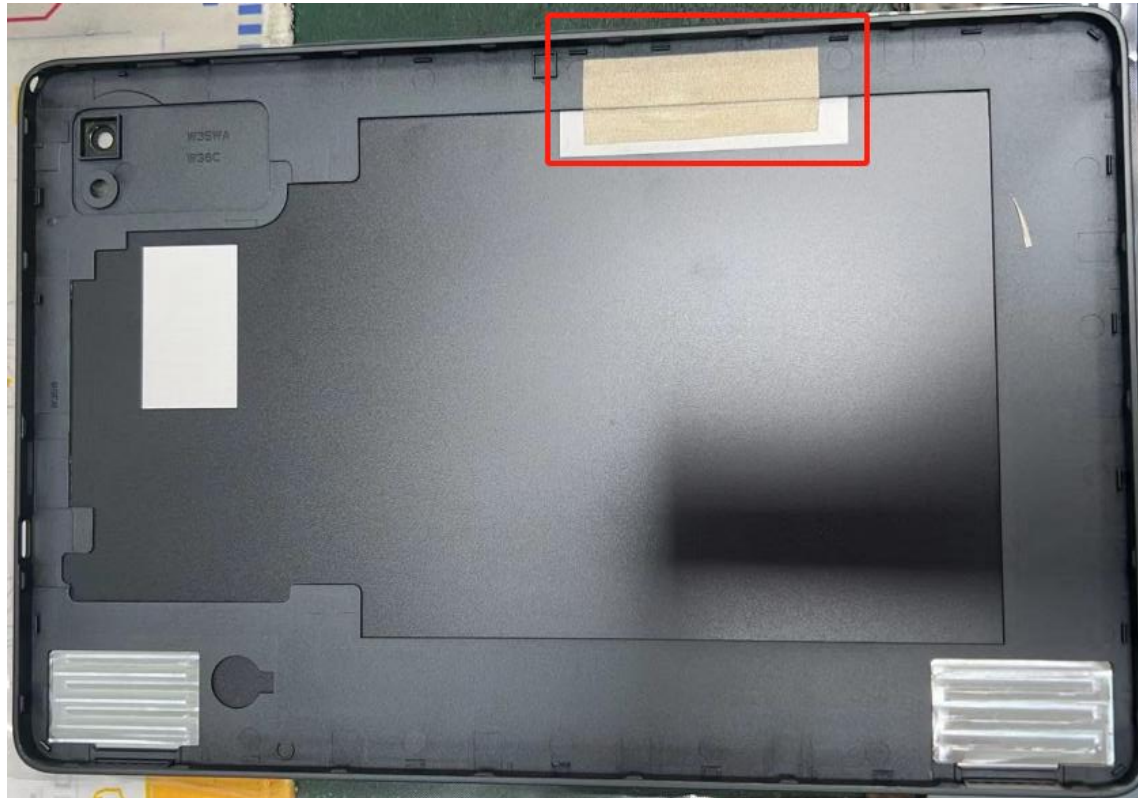
As shown in the figure: The original motherboard environment is treated (within the yellow box in the left image below), and the screen ribbon cable is located below the foam, which cannot contact the metal on the back of the screen. Suggest changing the grounding point below the motherboard to the one shown in the red box on the right. Fully ground the motherboard to the metal area of the screen.



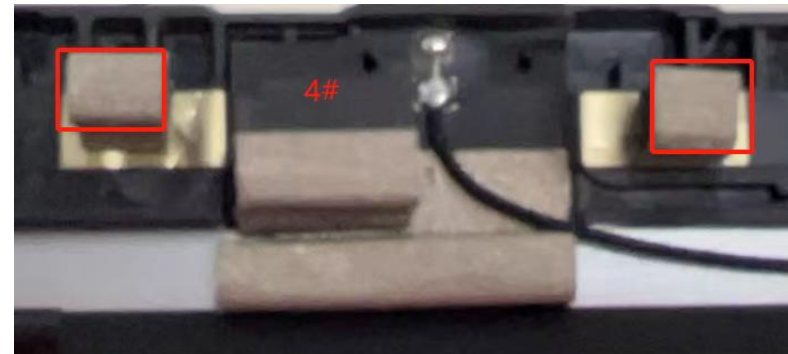
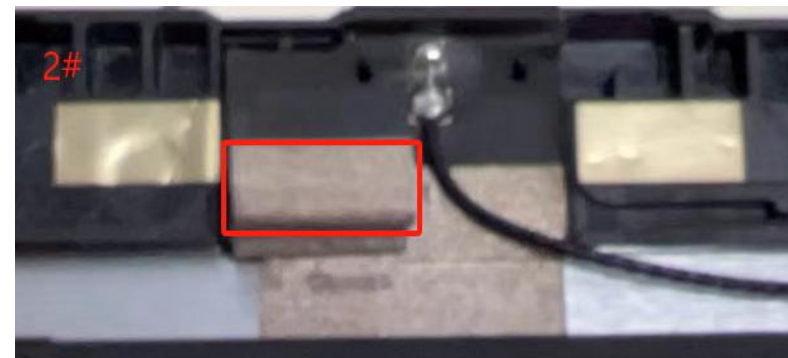
As shown in the figure, the back of the motherboard is first covered with insulation glue to shield the components, and the motherboard is pressed down to extend a conductive cloth from the shielding cover to the ground below the battery. Attach a conductive sponge with sufficient height to fully ground the laser engraved area on the back shell of the battery. (Note: The warping of the motherboard has a significant impact on sensitivity. It is necessary to fix the motherboard to prevent warping and fully ground it.)



As shown in the figure: Pull a large conductive cloth from the laser engraved area of the battery back shell to extend onto the plastic bracket. The height of the antenna exposed copper above the plastic bracket is sufficient for conductive foam and the extended conductive cloth to be fully grounded.



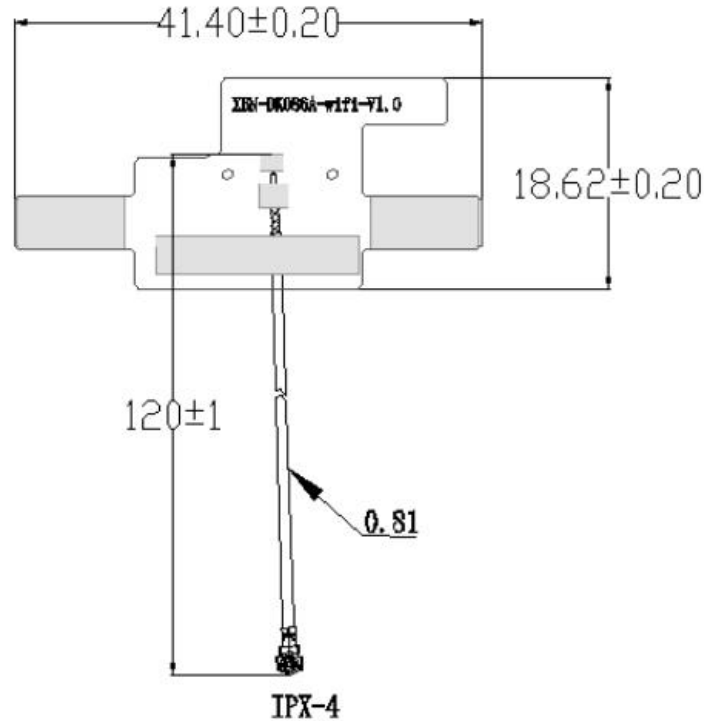
The rear shell metal has significant interference with the antenna. The antenna needs to be grounded at multiple points with the metal back shell. As shown in Figure 1-4: After attaching the antenna, first follow the 1 # image to apply a conductive cloth to the exposed copper area of the antenna groove and extend it to the screen metal for grounding. 2. The height of the conductive foam above the antenna groove area is sufficient to ground the metal back shell. 3. The antenna extends above the metal conductive cloth of the screen, and the height of the conductive foam is sufficient to ground the metal back shell. 4. The exposed copper area on both sides of the antenna should have a sufficient height for conductive foam to be grounded with the metal back shell.



Antenna diagram

由 Autodesk 教育版 产品制作

REVISION CHANGES				
REV	DESCRIPTION	AUTH	DATE	APPROVED



由 Autodesk 教育版 产品制作

由 Autodesk 教育版 产品制作

Technical requirements:
2: No marked dimensions refer to CAD drawings, tolerance is guaranteed within +0.50/-0

TOLERANCE		SIGNATURE		DATE	
LINEAR	ANGLE	DESIGNED			
>10.0	±0.13	±0.5°	STANDARDIZED		
			CHECKED		
			APPROVED		

	MATERIAL	5.0~10.0	±0.08	UNIT:mm					
	SHEET OF	00~50	±0.05	SCALE:1:1					

由 Autodesk 教育版 产品制作