



Antenna Debugging Report

Customer: Duoke
Project: DK103
Structure: Xiaoxiang-13316888409
RF: Long Yaobin -15874137313
Date: 2025-4-29



Antenna Debugging Report

Report type:

Version number: V5.0

Machine status: PVT trial production machine

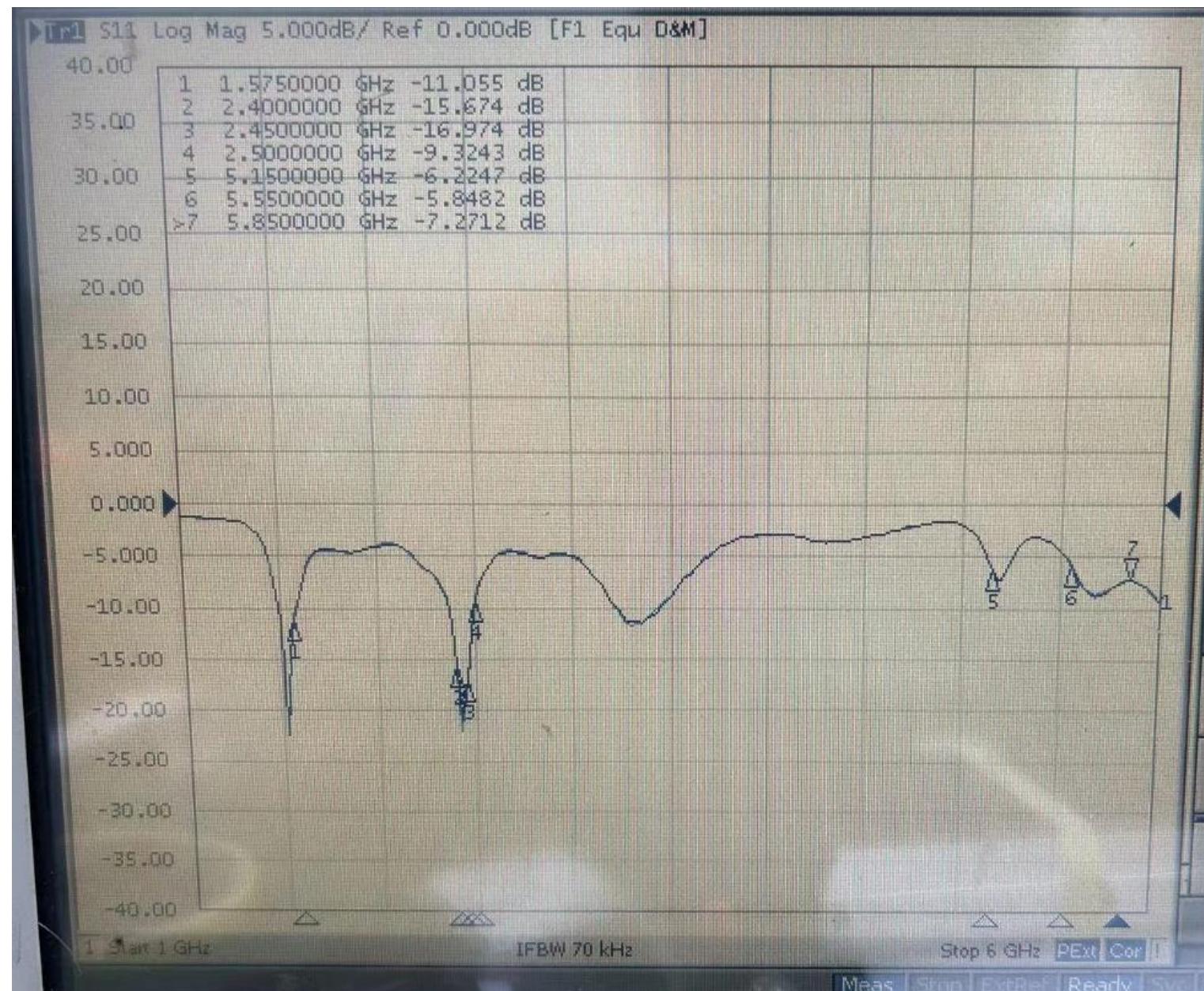
Antenna frequency band:

802.11a/b/g/n/ac

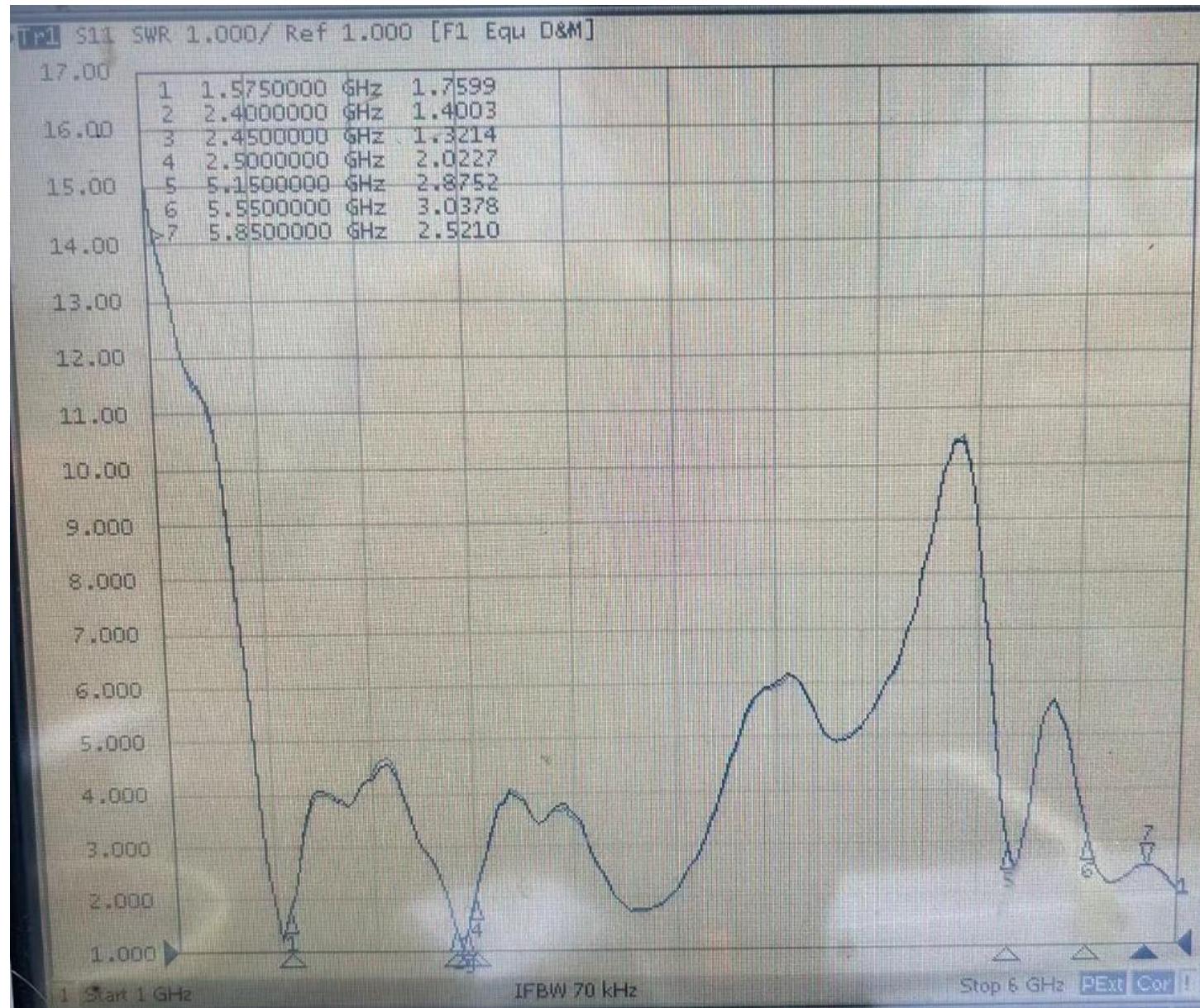
GPS+GLONASS+Galileo

Debugging conclusion and precautions:

GPS/Wifi/BT antenna LOG MAG



GPS/Wifi/BT antenna SWR



Antenna gain

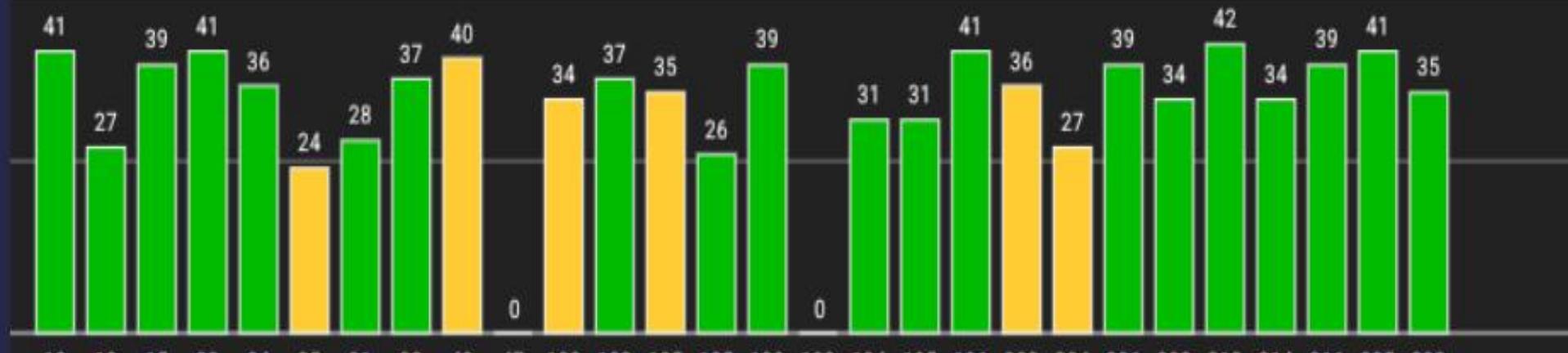
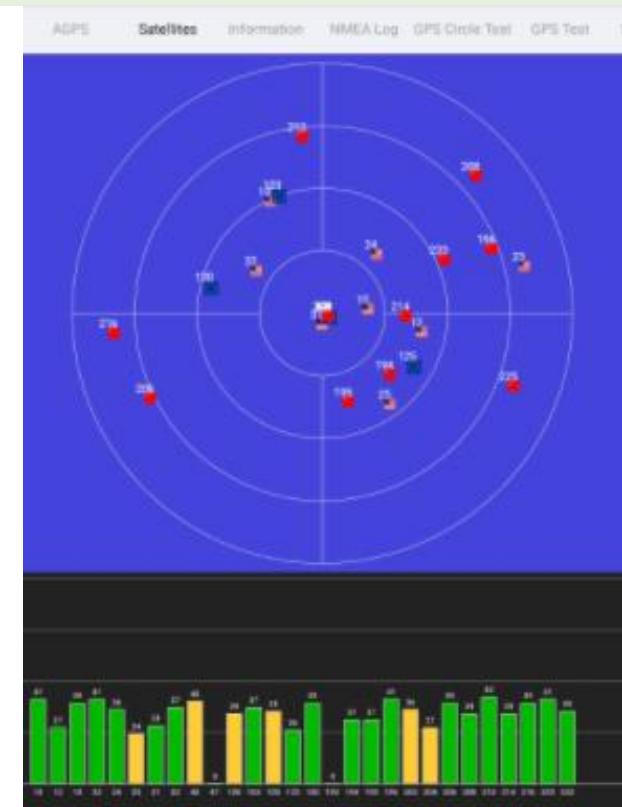
Frequency (MHz)	Average Gain(dBi)	Peak Gain(dBi)
WIFI 2.4G/BT	-4.3	0.5
WIFI 5.8G	-5.5	-0.8
GPS	-3.8	0.9

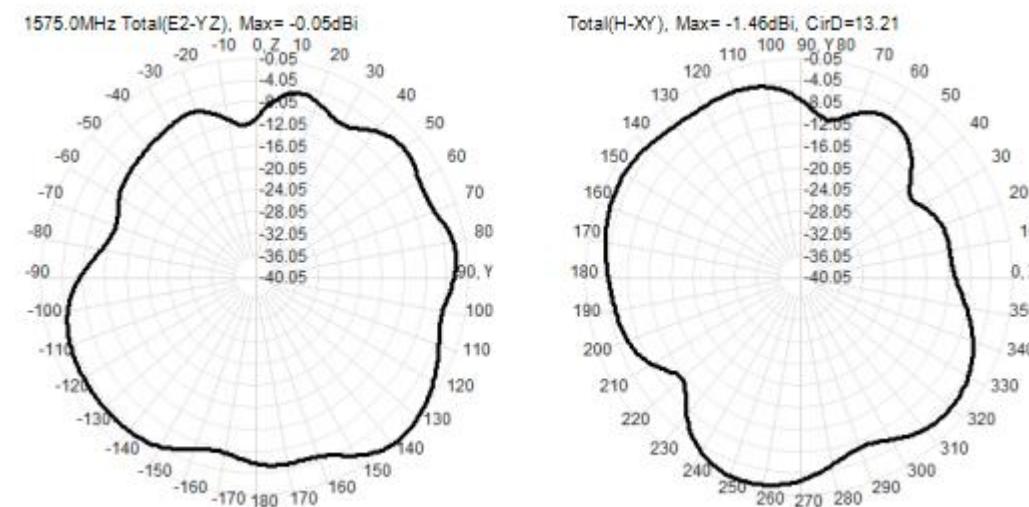
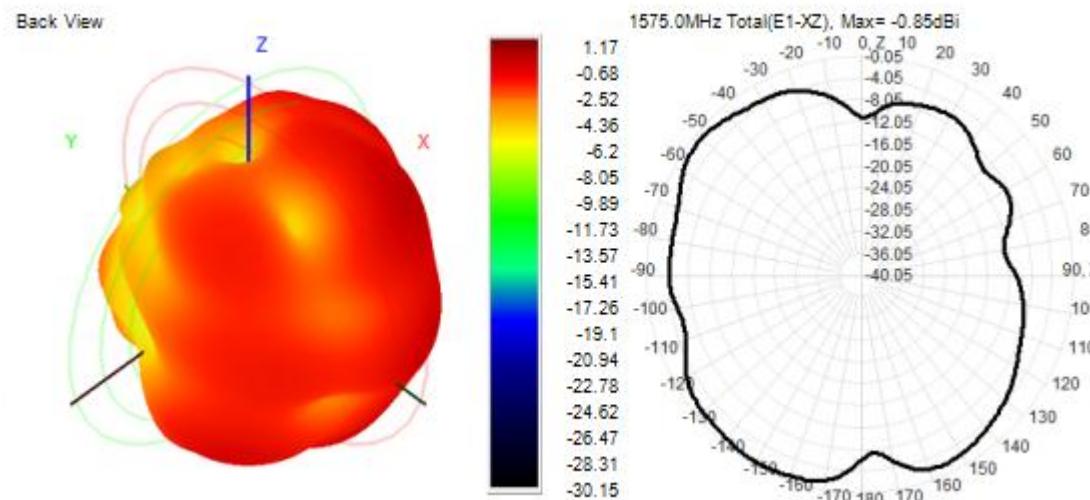
Antenna test data

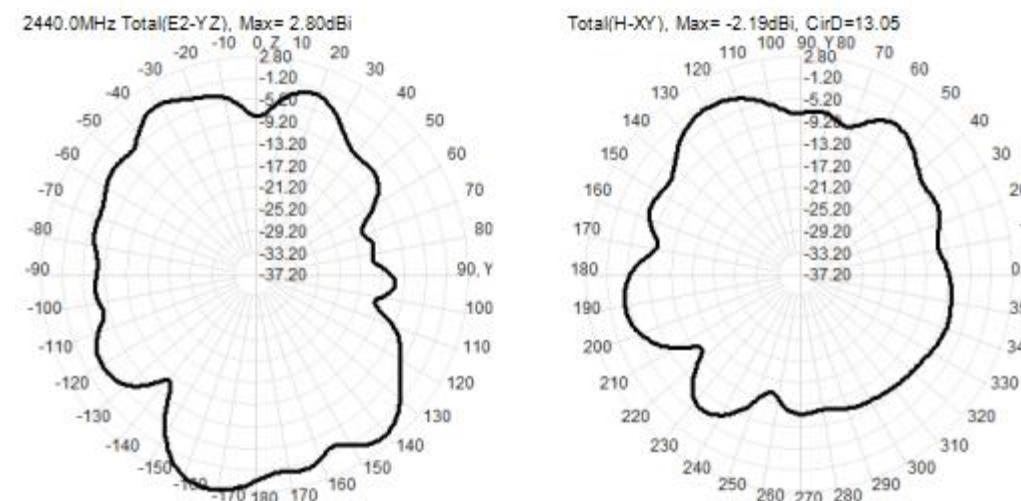
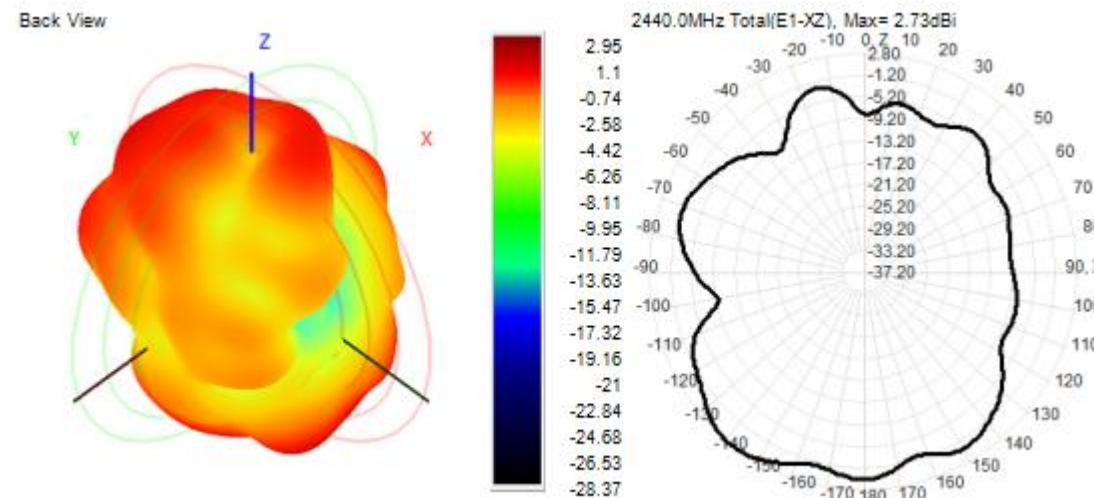
3D Free Space

	Band	Channel	TRP	TIS		Band	Channel	TRP	TIS
2.4G	b (11M)	1	14.4		5.8G	a (54M)	36	12.6	
		6	13.3				149	16.1	
		13	13.7	-81.8			165	15.2	-71.3
	g (54M)	1	11.9			n (MCS7)	36	11.7	
		6	11.2				149	15.9	
		13	11.4	-70.2			165	15.1	-67.2
	n (MCS7)	1	12.6			ac (MCS8)	36	11.9	
		6	11.6				149	16.1	
		13	11.4	-65.6			165	15.2	-65.6

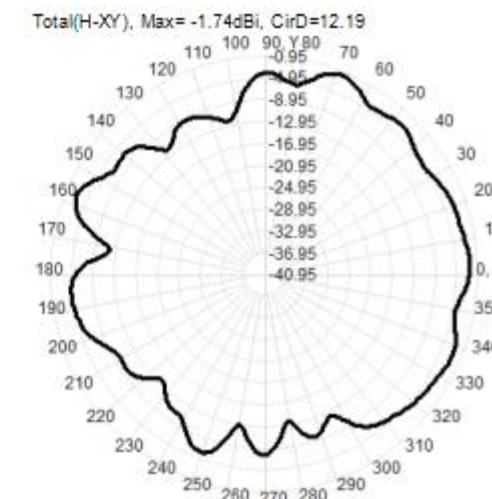
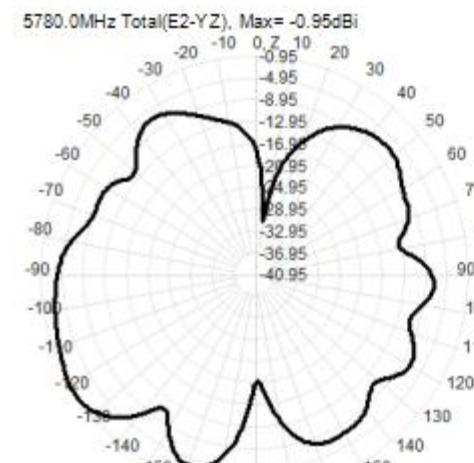
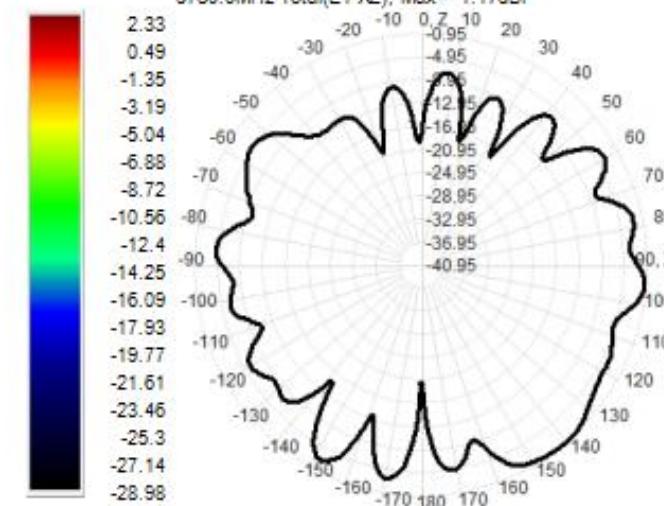
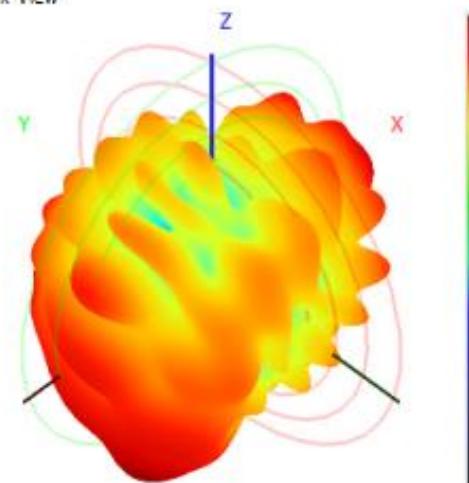
GPS antenna measurement, location:
Intersection of Ping'an Avenue
Weather: Sunny



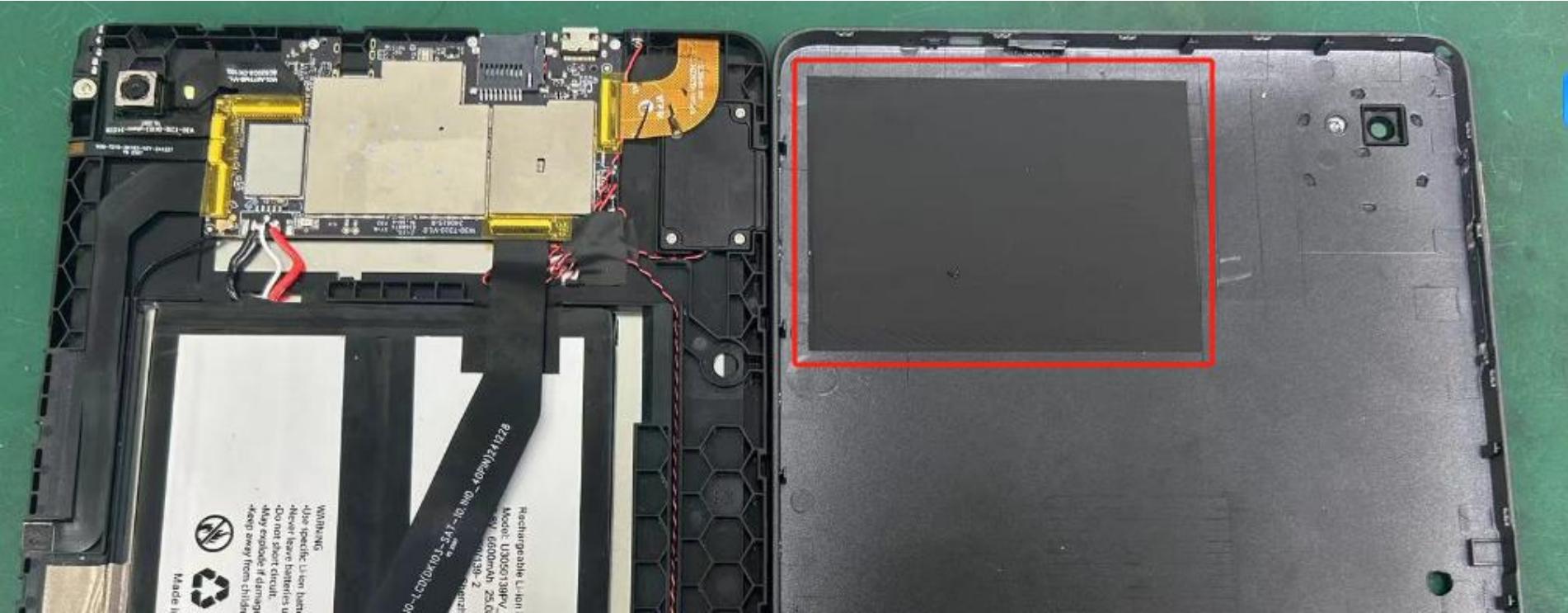




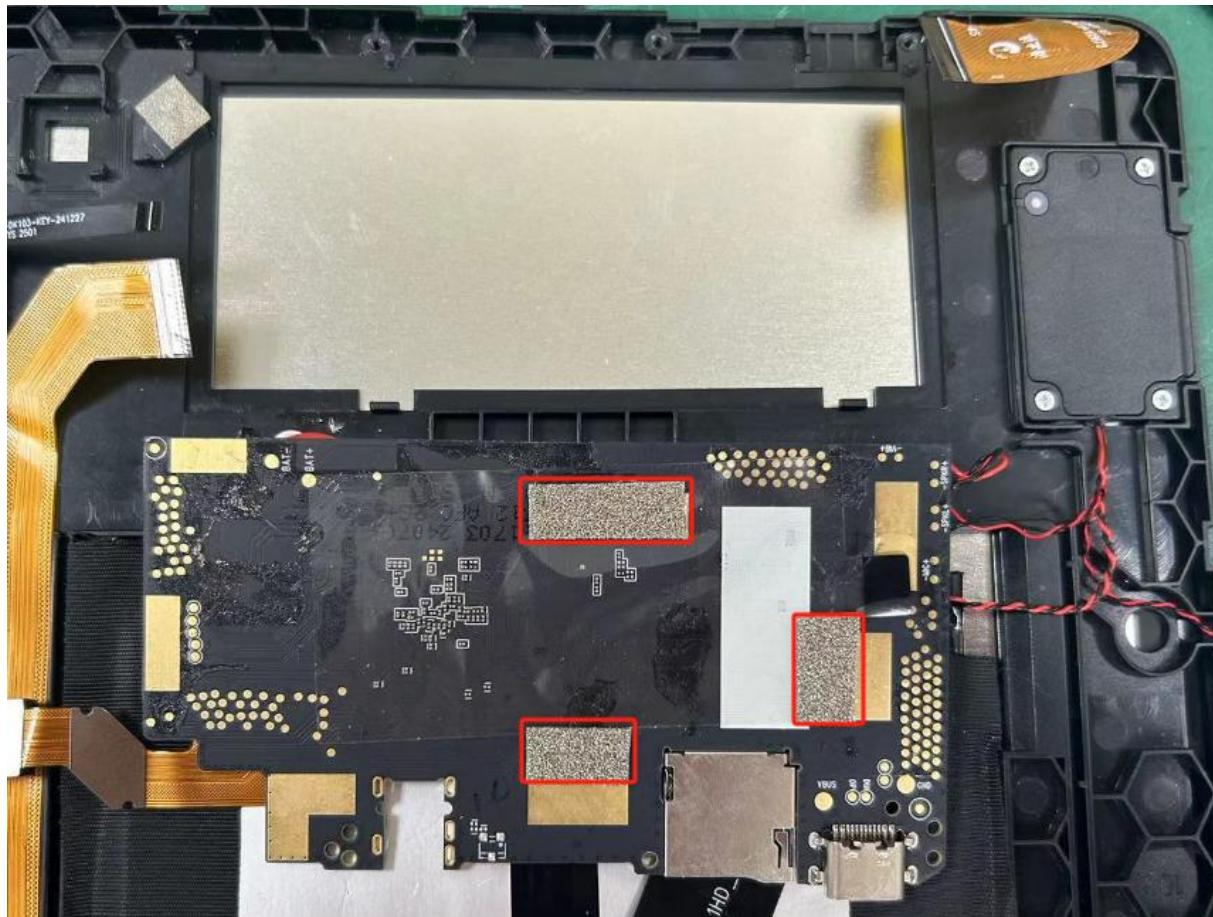
Back View



As shown in the red box in the figure: The newly added graphite sheet in the red box cannot extend above the motherboard RF chip.



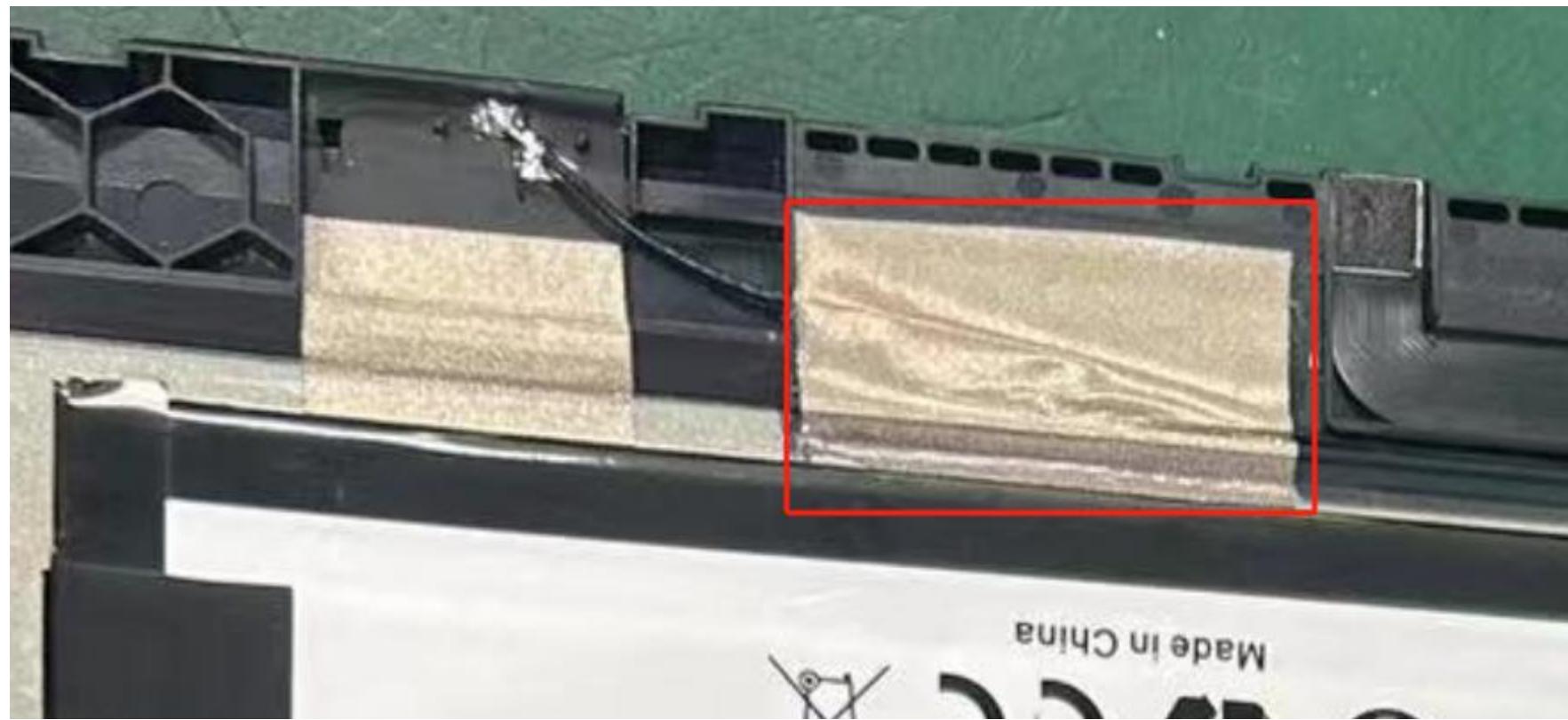
As shown in the red box in the figure: Increase the height of the back of the motherboard enough for the conductive sponge to be grounded to the screen metal. (Note: The exposed copper area on the back of the motherboard overlaps with the plastic bracket, and the conductive sponge should avoid the overlapping area.)



As shown in the red box in the figure, a large strip of conductive cloth is attached to the exposed copper area of the antenna and extended to the grounding of the screen metal area.



As shown in the red box in the figure, a large conductive cloth is added next to the antenna to cover the coaxial line and extend to the grounding point of the screen metal.



As shown in the red box in the figure, the screen cable, IC, etc. are covered with large conductive cloth for shielding, and the conductive cloth is extended and pasted back to the back.

