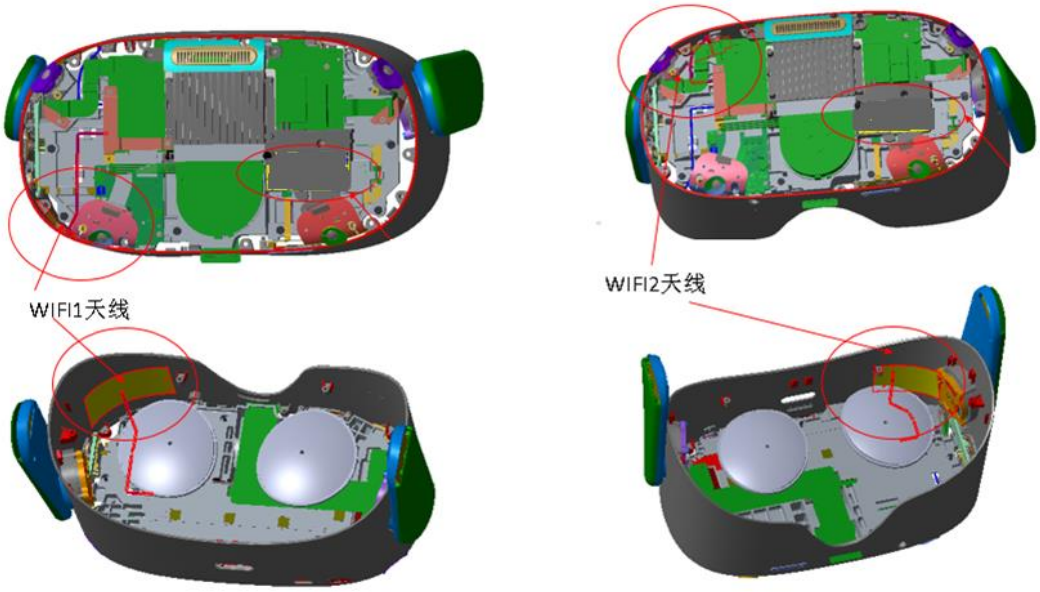
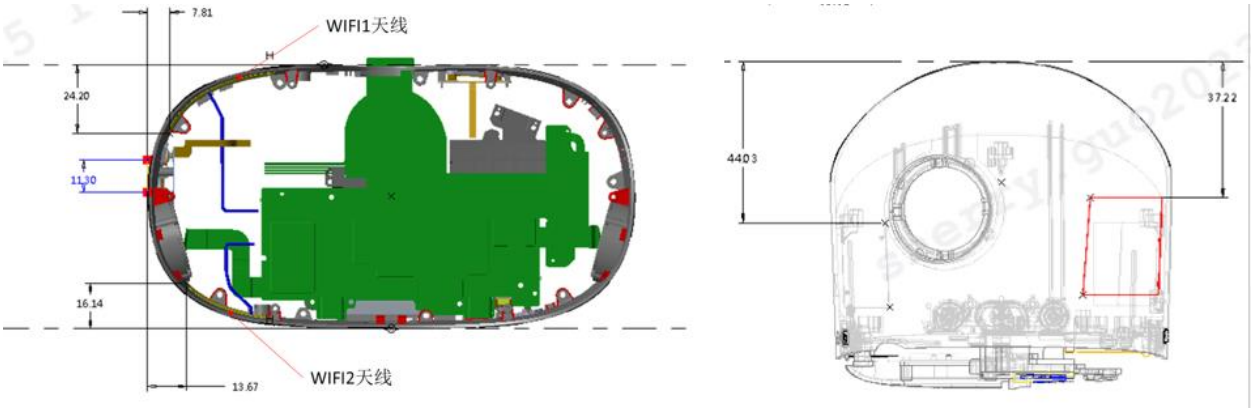
Changhong Antenna describe

1.Antenna describe:

Antenna plate	Dipole antenna
Make name / model name	FPC antenna
Antenna gain	5.12dBi @2400MHz WIFI1 5.94dBi @5850MHz WIFI1 3.80dBi @2480MHz WIFI2 3.89dBi @5500MHz WIFI2
Frequency range	2400MHz~2500MHz;5150MHz~5850MHz
Connector type	contact
Antenna Manufacture	INPAQ TECHNOLOGY(SUZHOU)CO.,LTD
Model No.	WA-F-LB-03-143 WA-F-LB-02-264
Antenna Manufacture address	Panyang Industrial Park, Huangdai Town,Xiangcheng District,Suzhou City,Jiangshu,P.R. China

2.External view drawing:





Antenna position

3.Antenna Gain

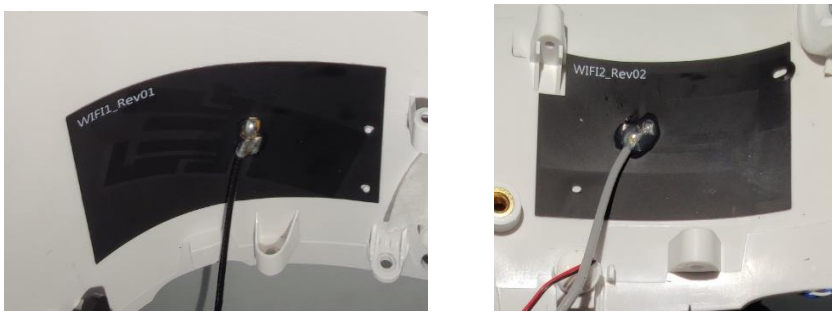
3.1 Antenna Gain table

Antenna	Freq(MHz)	Effi (dB)	Effi (%)	Peak Gain (dBi)

WIFI1 2.4G	2400	-2.27	59.28	5.12
	2440	-2.81	52.33	3.74
	2480	-2.98	50.34	2.29
WIFI1 5G	5150	-1.83	65.55	3.67
	5500	-2.17	60.67	4.22
	5850	-2.18	60.60	5.94
WIFI2 2.4G	2400	-2.38	57.75	2.78
	2440	-2.58	55.14	2.85
	2480	-2.36	58.05	3.80
WIFI2 5G	5150	-2.10	61.69	3.43
	5500	-2.12	61.39	3.89
	5850	-1.72	67.24	3.69

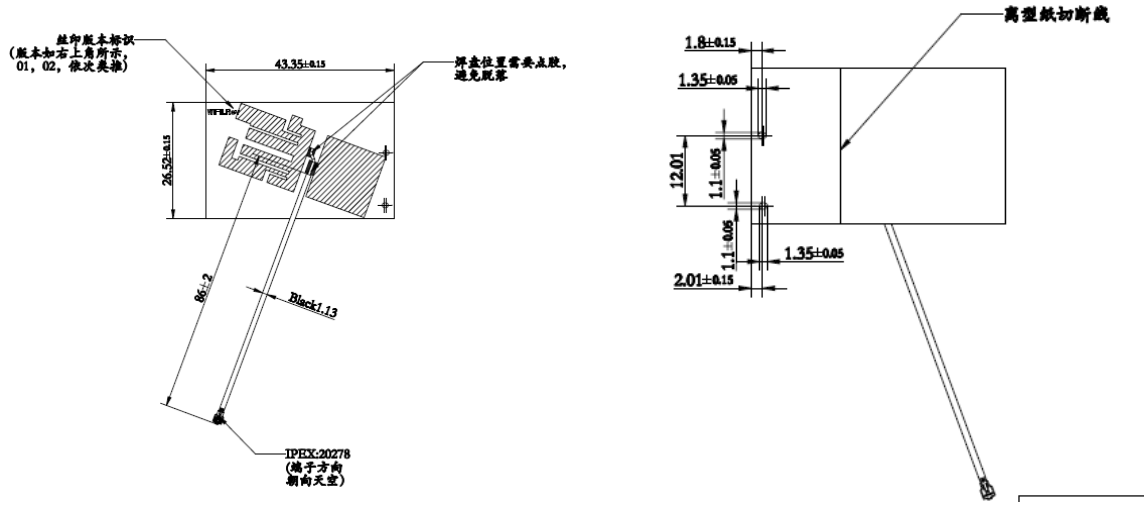
Table 1: Antenna Gain and Efficiency

3.2 Antenna Photo

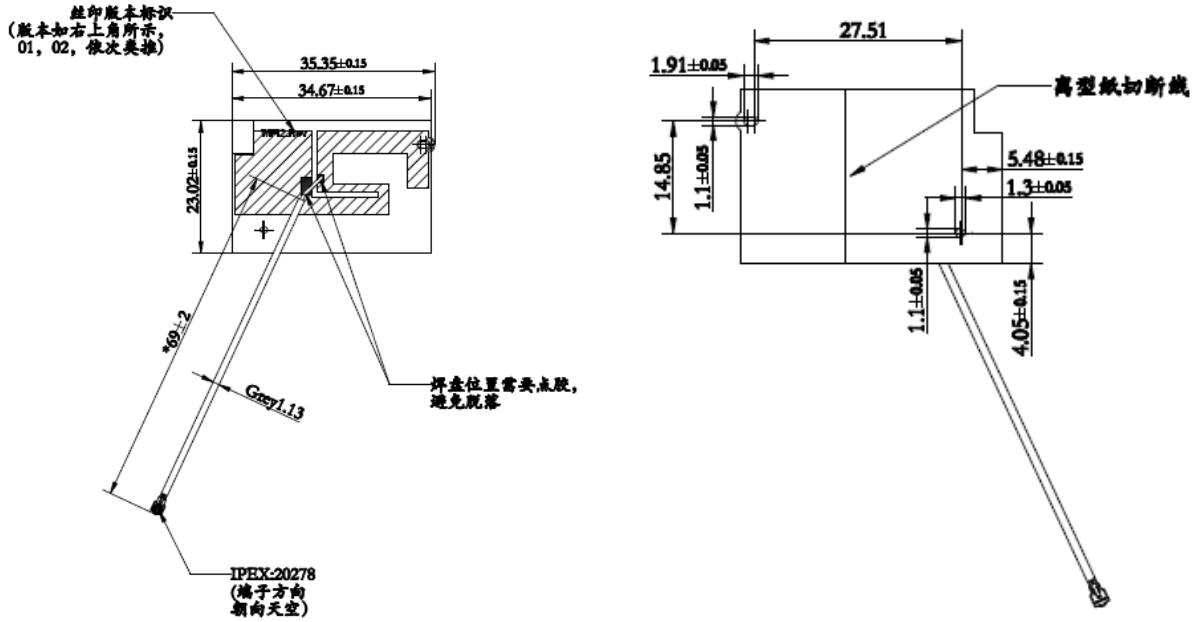


WIFI1 Antenna WIFI2 Antenna

Figure 1: Photography of antenna



WIFI1 Antenna

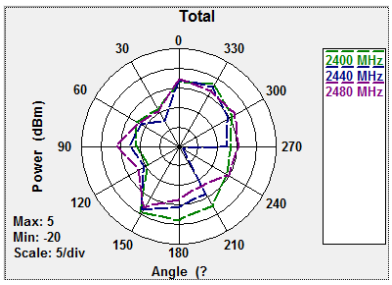


WIF2 Antenna

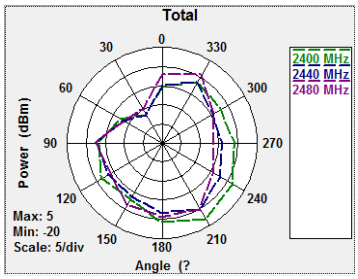
Figure 2: Dimensions of antenna in mm

3.3WIFI1 Antenna radiation pattern

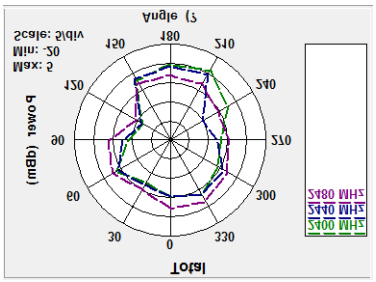
WIFI1 Antenna (2.4G)



X-Y Plane

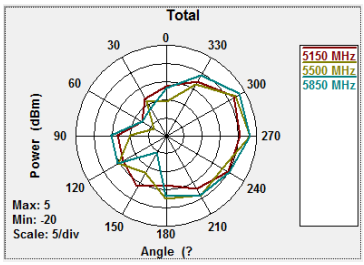


X-Z Plane

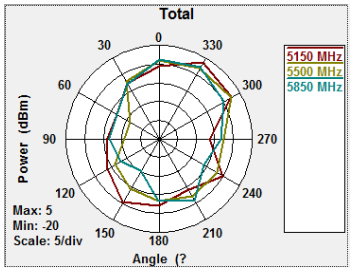


Y-Z Plane

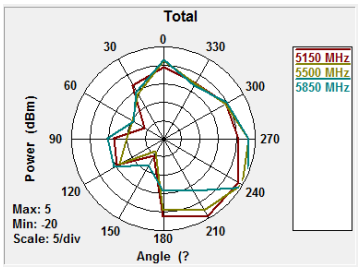
WIFI1 Antenna (5G)



X-Y Plane



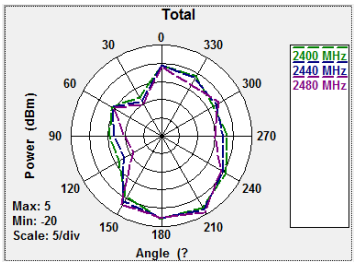
X-Z Plane



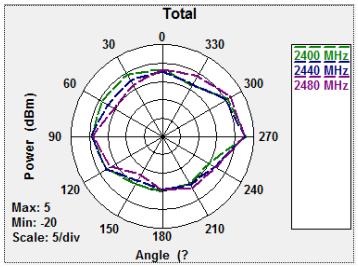
Y-Z Plane

3.4WIFI2 Antenna radiation pattern

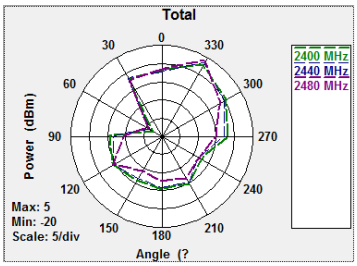
WIFI2 Antenna (2.4G)



X-Y Plane

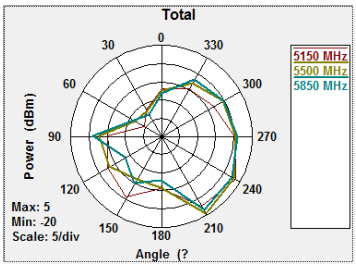


X-Z Plane

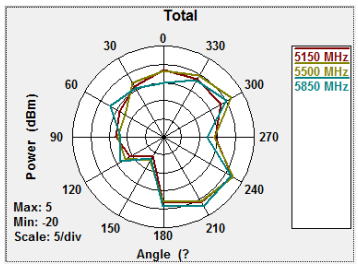


Y-Z Plane

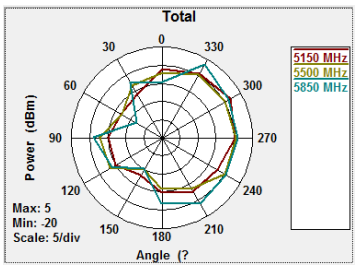
WIFI2 Antenna (5G)



X-Y Plane



X-Z Plane

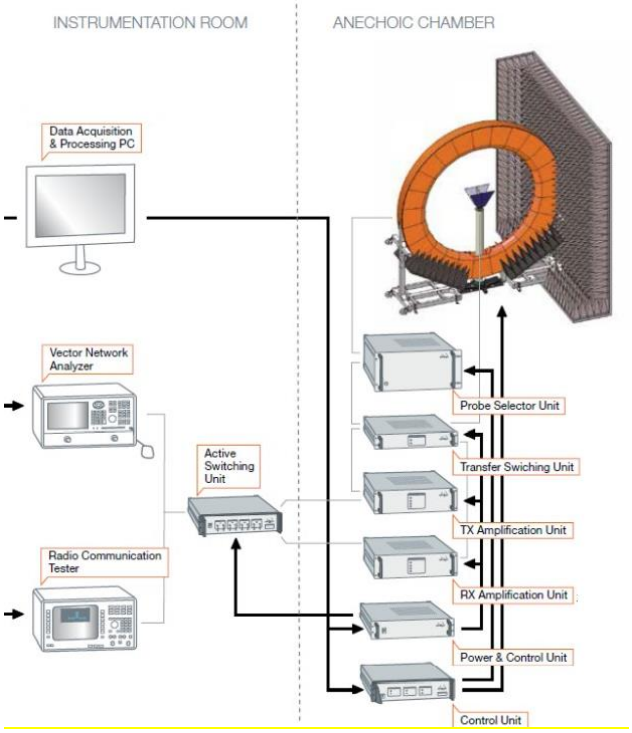


Y-Z Plane

4.Description of Radiated measurement

4.1Test Procedure

Antennas gain measurement are done with the test model fully assembled. A 50 Ohm coaxial cable is connected to the switch in contact with the antenna on the main board. The other end of the 50 Ohm coaxial cable is conneted to a network analyzer. The OTA Chamber is calibrated using dipoles. The diagram of the OTA test system is as follow:



4.2Test Equipment

No	Test Equipment	Model
1	OTA Chamber	GTS1800
2	Vector Network Analyzer	E5071C
3	Calibration Time	2023.01.01~2023.03.01

4.3Test Setup