

Antenna Information

Antenna manufacturer:

Beken Corporation

Antenna Type: On-board antenna

Antenna Dimension Drawing:

1, Antenna size & S11 parameters

1.1 Antenna size

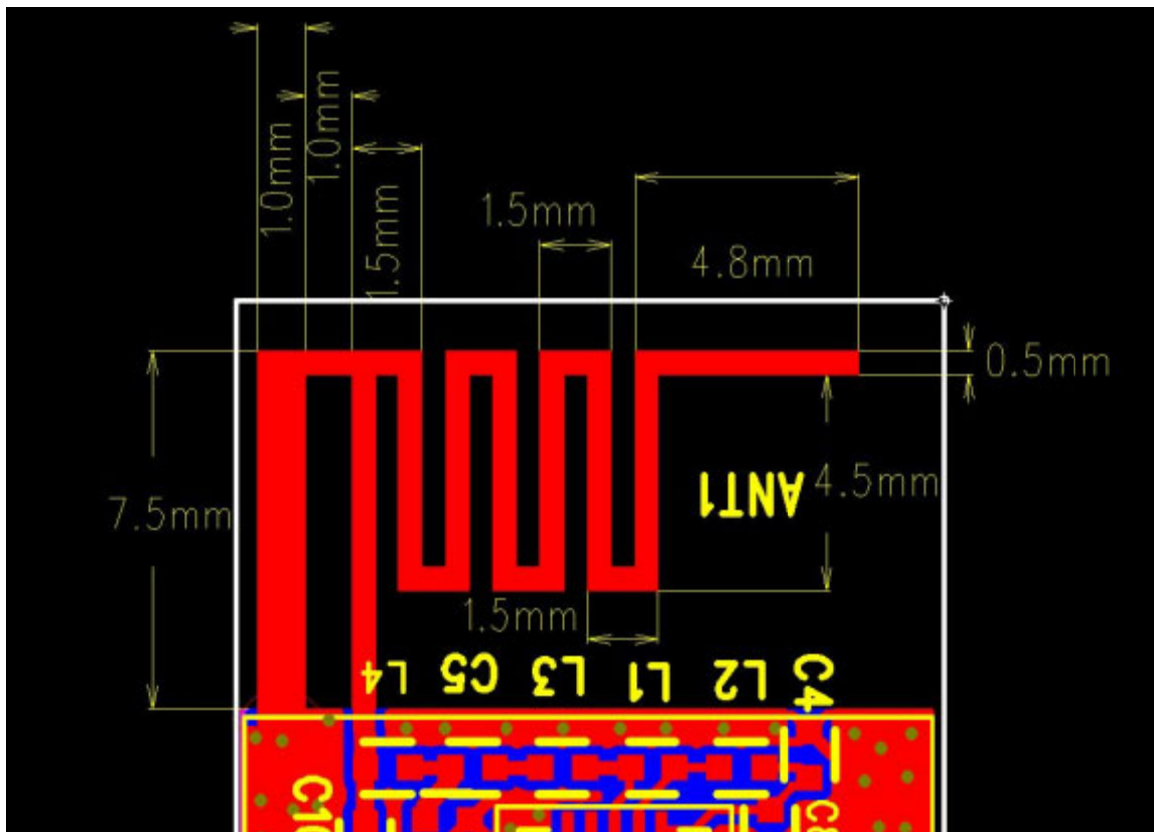


Figure1 Normal Module PIFA Antenna

1.2 S11 Parameters

The antenna S11 parameters as below, the working frequency band covers the entire ISM domain:

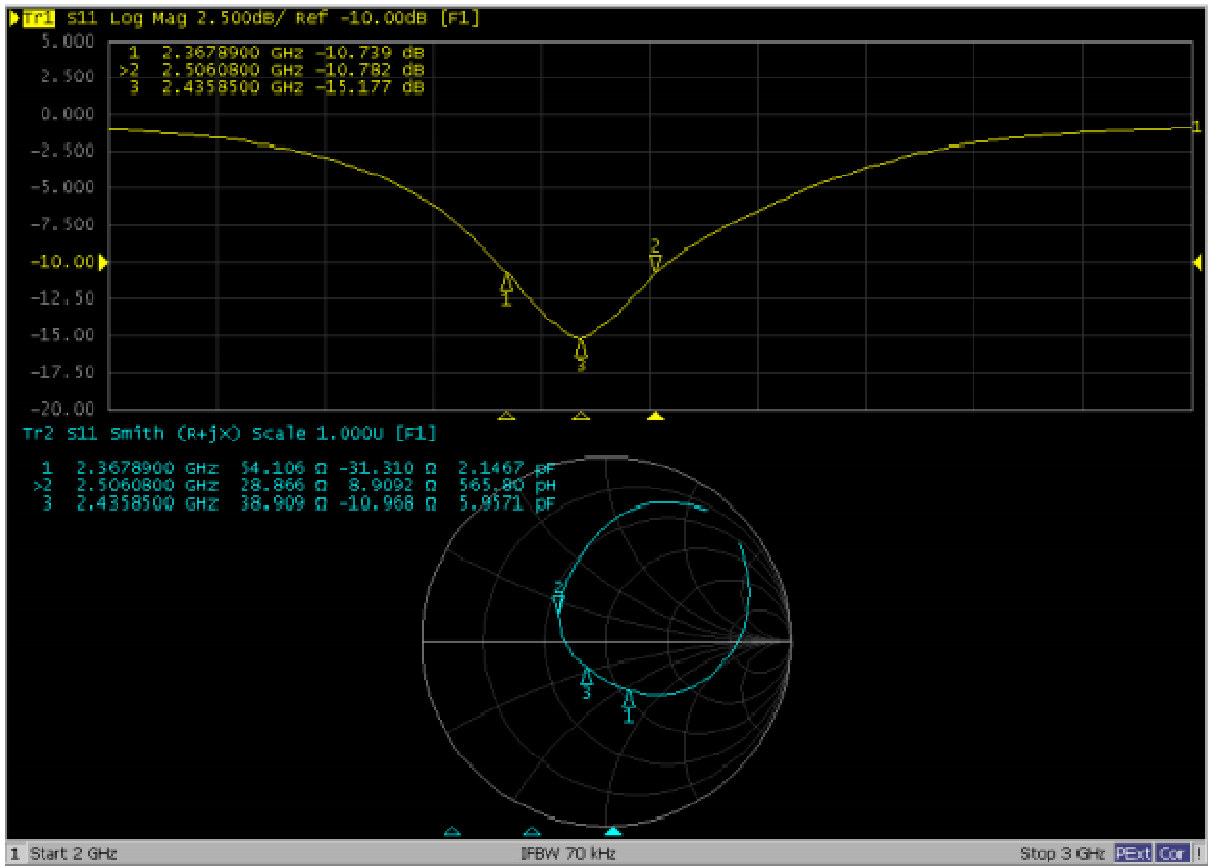


Figure2 Normal Module PIFA antenna S11

2、 Antenna Gain & Radiation efficiency

Within 2400~2500MHz band, select a total of 11 frequency points in steps of 10MHz

2.1 Measured data

Number	Freq (MHz)	Avg Gain (dBi)	Radia eff.(%)
1	2400	1.92	60.43
2	2410	2.01	60.68
3	2420	1.88	59.77
4	2430	1.77	59.41
5	2440	1.79	60.48
6	2450	1.88	60.80
7	2460	1.93	61.62
8	2470	1.90	62.20
9	2480	1.96	62.60
10	2490	1.86	62.44
11	2500	1.74	61.65

2.2 Statistics Results

- Eff. range: 59.41%~62.60, Avg:61.10%
- Gain Peak point : 2410MHz, 2.01dBi

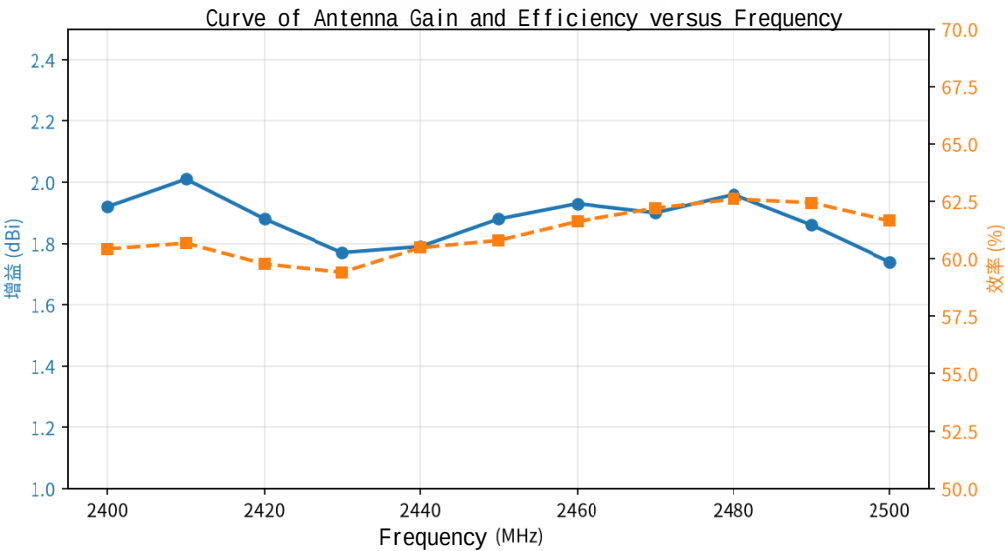
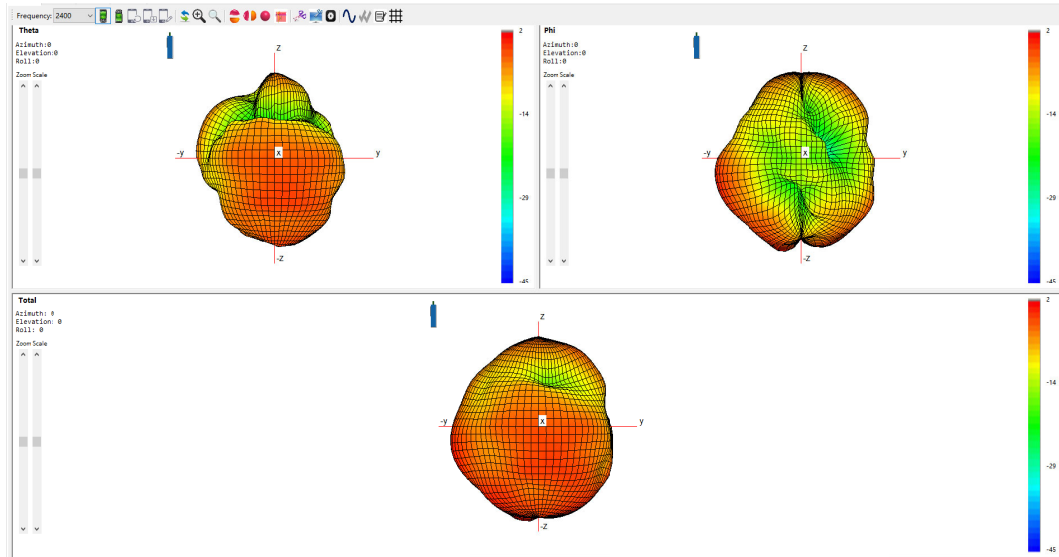


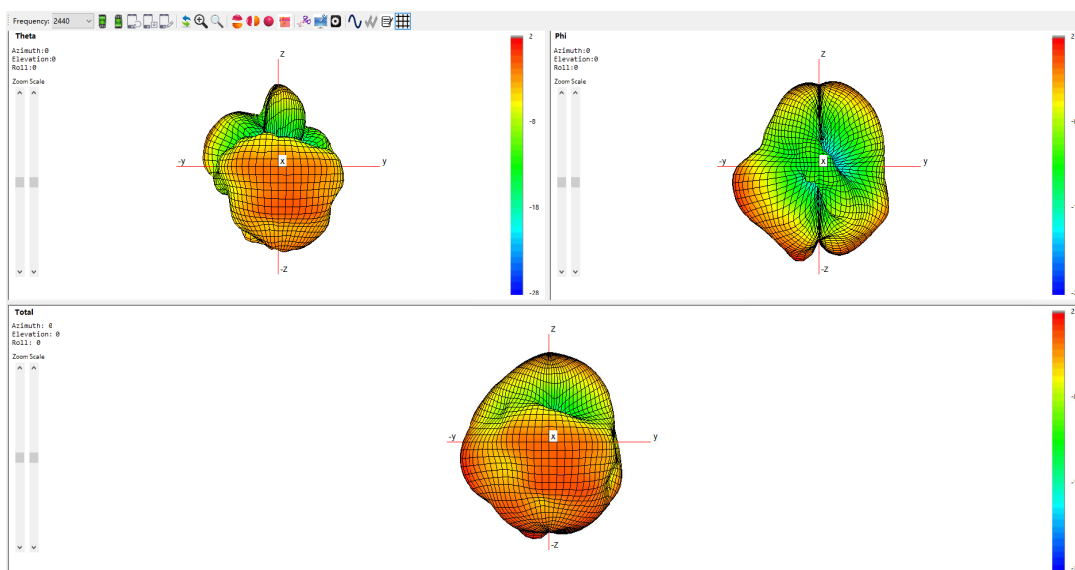
Figure 3 : Curve of antenna gain efficiency with frequency variation

3、3D Radiation pattern

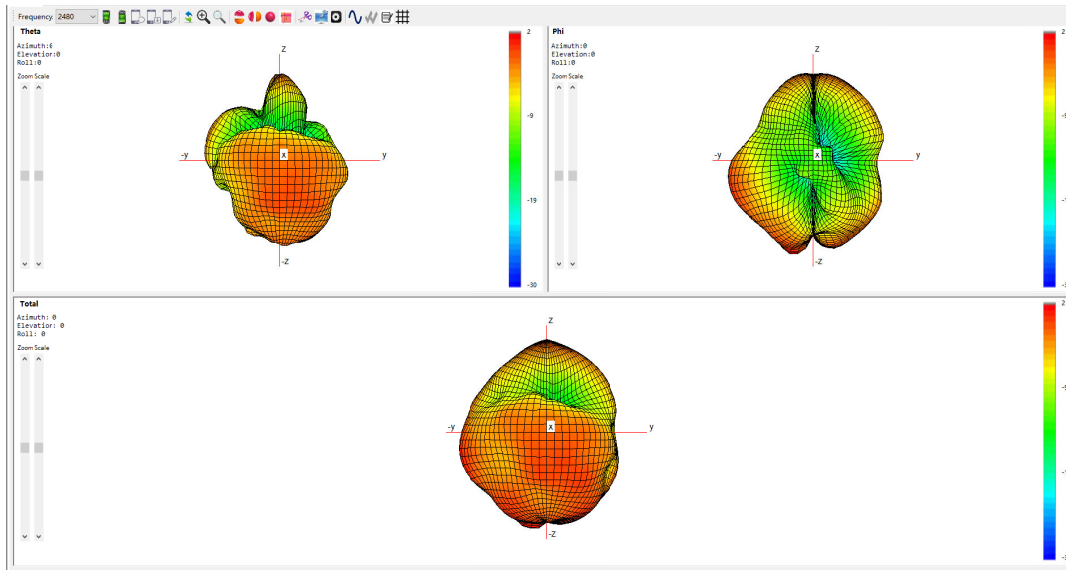
3D Radiation diagram is used to visually display the radiation intensity distribution of the antenna in the entire space (θ : $0^\circ \sim 180^\circ$, ϕ : $0^\circ \sim 360^\circ$)



2400MHz

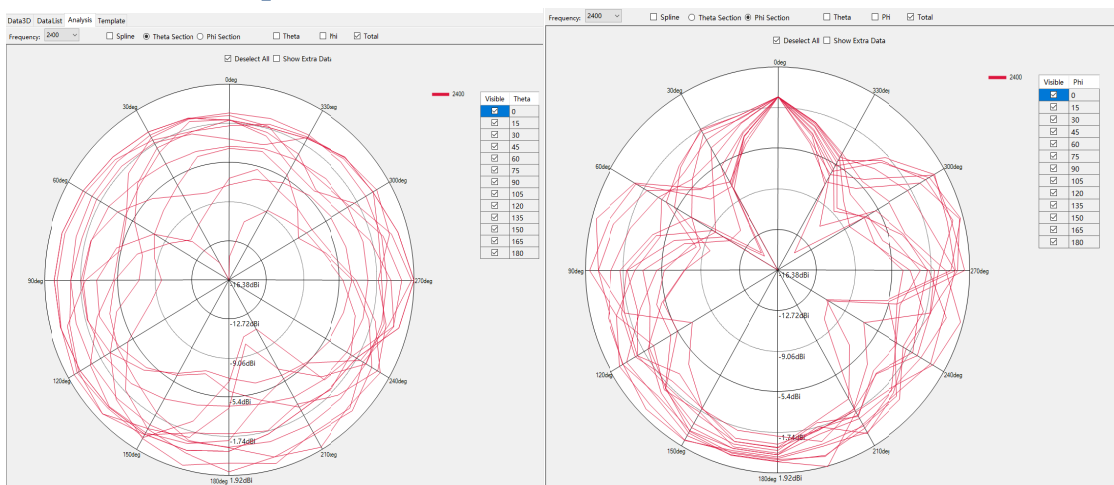


2440MHz

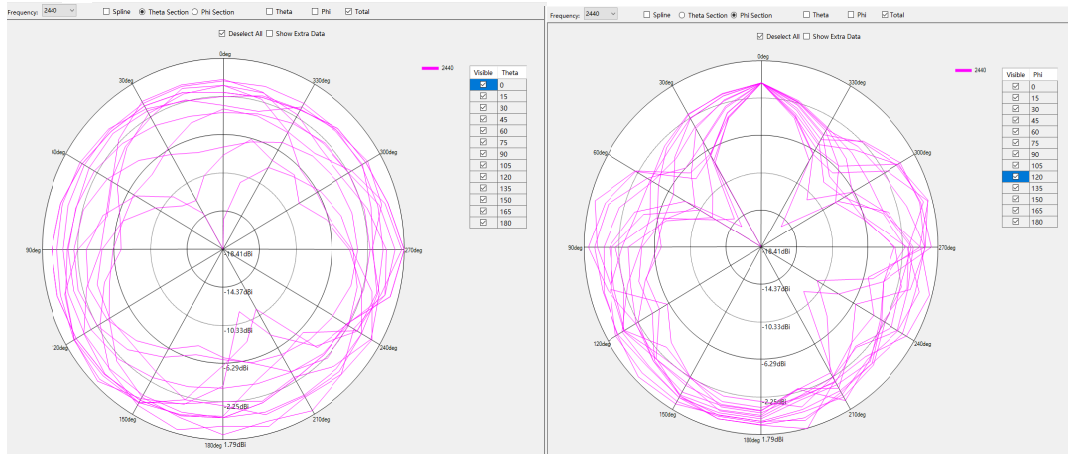


2480MHz

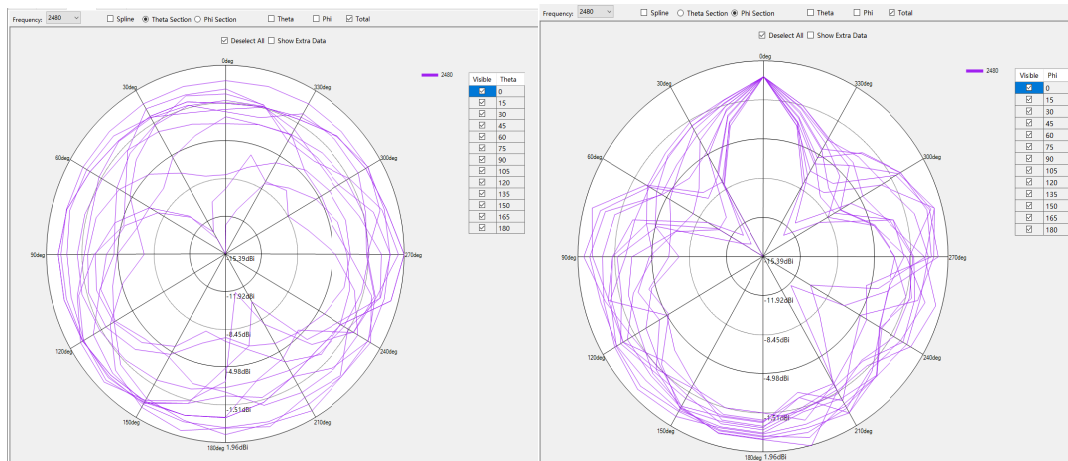
4、2D Radiation pattern



2400MHz



2440MHz



2480MHz

5、 Conclusion

The average gain of the antenna in the 2400~2500MHz frequency band is about 1.8dBi, with an average radiation efficiency of 61.10%. The gain fluctuation in the frequency band is about 0.27dBi, and the efficiency fluctuation is about 3.19 percentage points.