

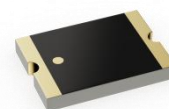
2.4 GHz Chip Antenna
For WiFi and Bluetooth

KH-5036-C50-A

5x3.6x0.6 mm

Applications

1. 2.4 GHz WiFi device
2. Bluetooth gadget
3. Zigbee device
4. ISM band equipment



Features

1. Compact size
2. Omni-directional radiation
3. Tape & reel automatic mounting
4. Reflow process compatible
5. RoHS compliance (Pb-Free)

Description

The antenna is designed for superior performance, and can be widely used for wireless applications. We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

Electrical Specification

Table 1. Electrical Specification

Item	Min.	Type	Max.	Unit
Frequency Range	2400		2500	MHz
VSWR	1.0		2.5	:1
Efficiency	62		75	%
Peak Gain		2.05		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

• Ta: +25±5°C

Mechanical Specification

Table 2. Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		5.0*3.6*0.6		Mm
Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

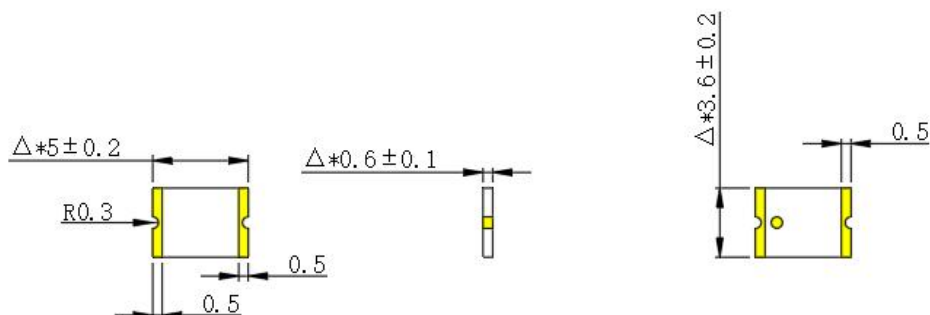
Outline Drawing

Figure 1. View (Unit: mm)

BOTTOM VIEW

SIDE VIEW

TOP VIEW



Recommend PCB Layout

Figure 2. PCB Layout (Unit: mm) TOP VIEW

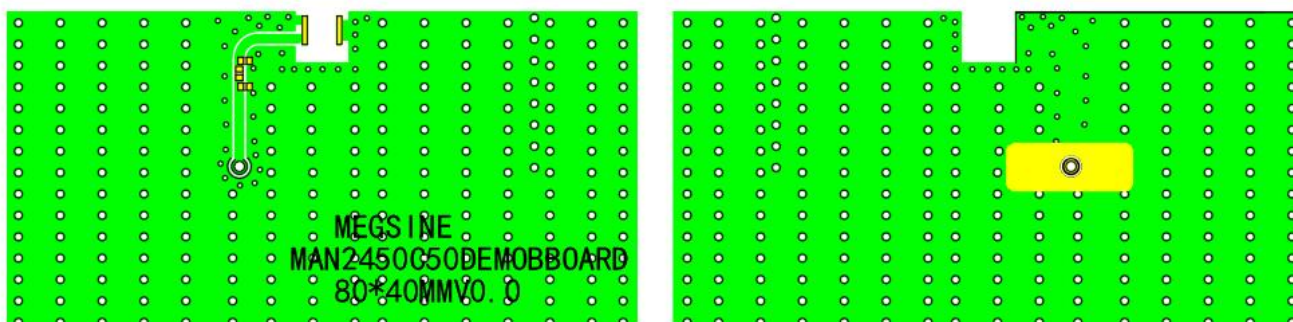


Figure 3. Antenna Layout (Unit: mm)

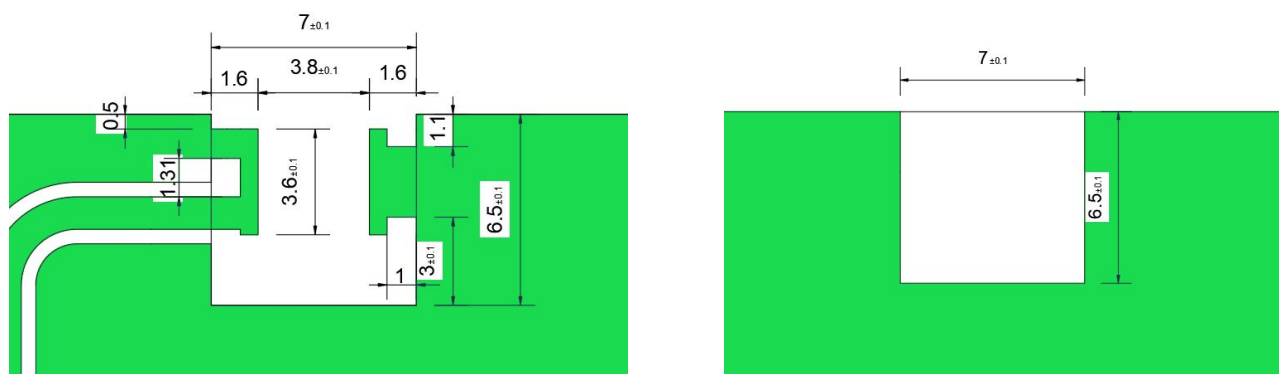


Figure 4. Foot Print (Unit: mm)

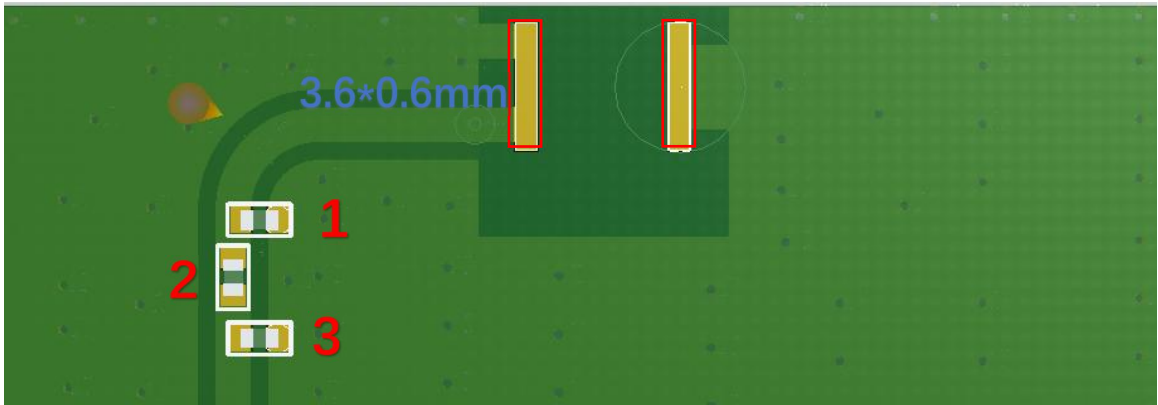


Table 3. Matching

Location	Description	Vendor
1	N/C	N/C
2	0Ω	MURATA
3	N/C	N/C

Typical Performance

Figure 5. VSWR

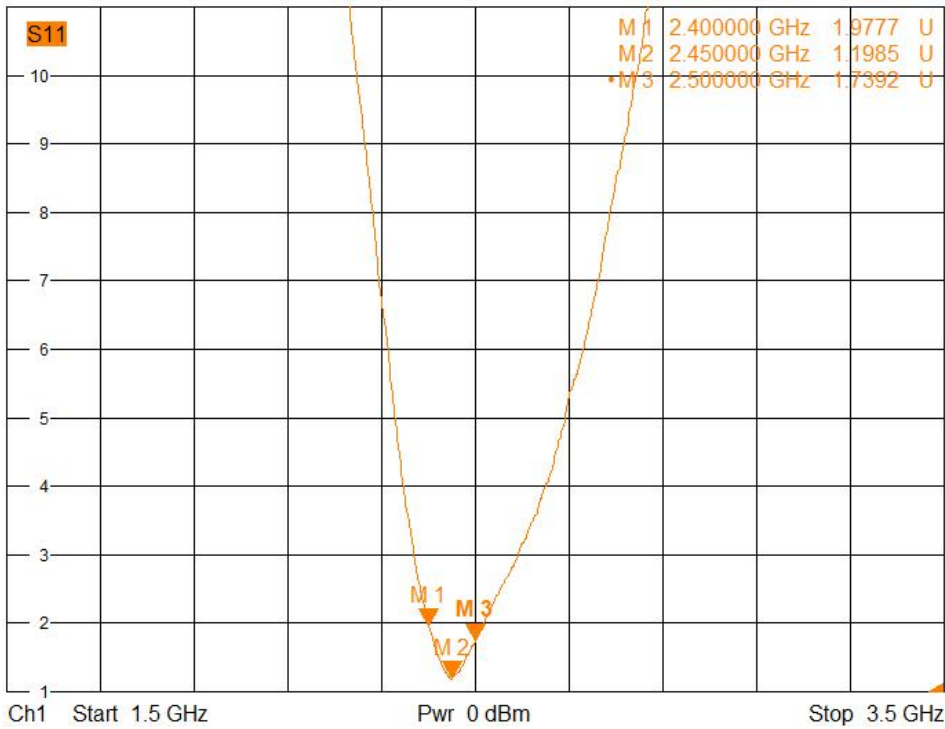
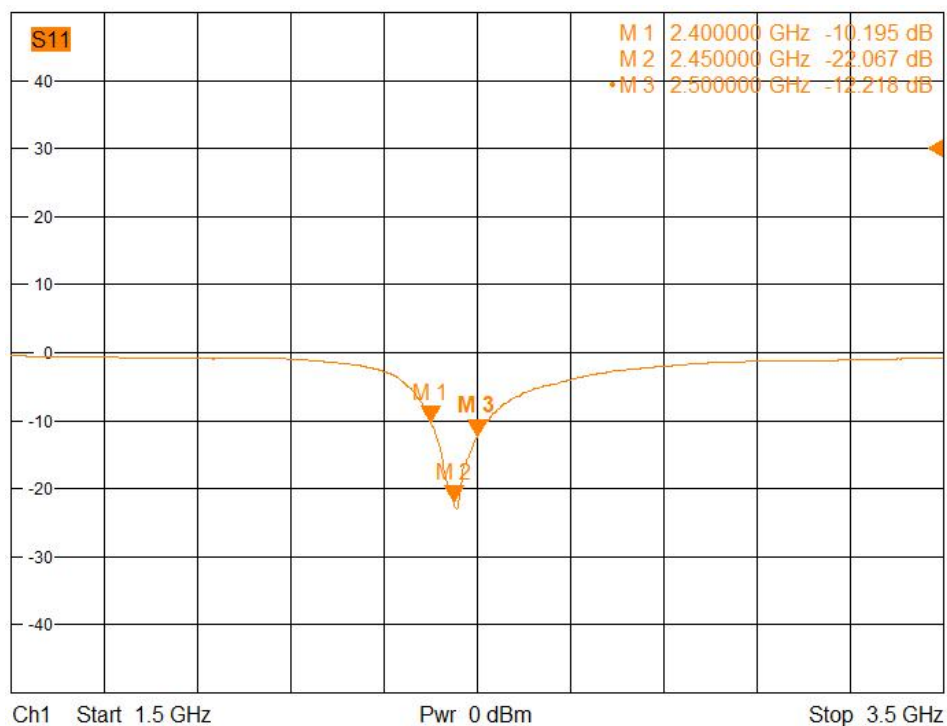


Figure 6. Return Loss



Radiation Pattern & Efficiency & Peak Gain

Figure 7. The Gain pattern is measured in FAR-field chamber

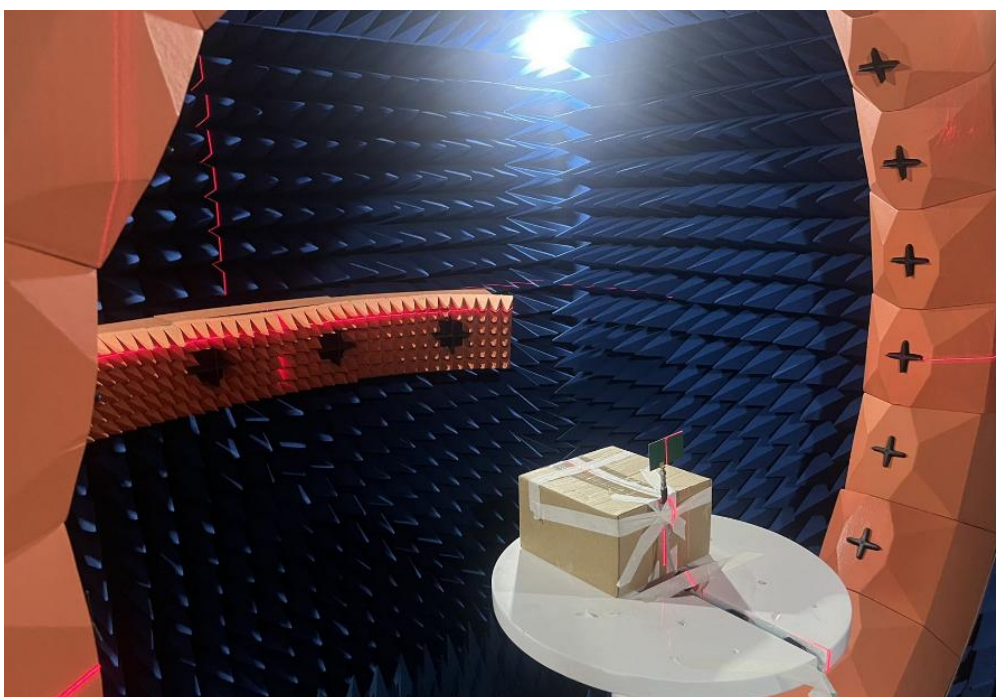


Table 4. Total Efficiency&Peak Gain

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
2400	68	1.30	-1.70
2410	70	1.34	-1.56
2420	73	1.60	-1.37
2430	75	2.05	-1.26
2440	74	1.68	-1.31
2450	71	1.23	-1.47
2460	68	1.57	-1.65
2470	66	1.72	-1.78
2480	65	1.33	-1.88
2490	63	0.65	-2.00
2500	62	0.30	-2.10

*Antenna performance can also vary across different demo boards and in different environments. It is recommended to consult the relevant technical personnel to confirm the layout before use to ensure optimal performance.

Figure 8. Total Efficiency

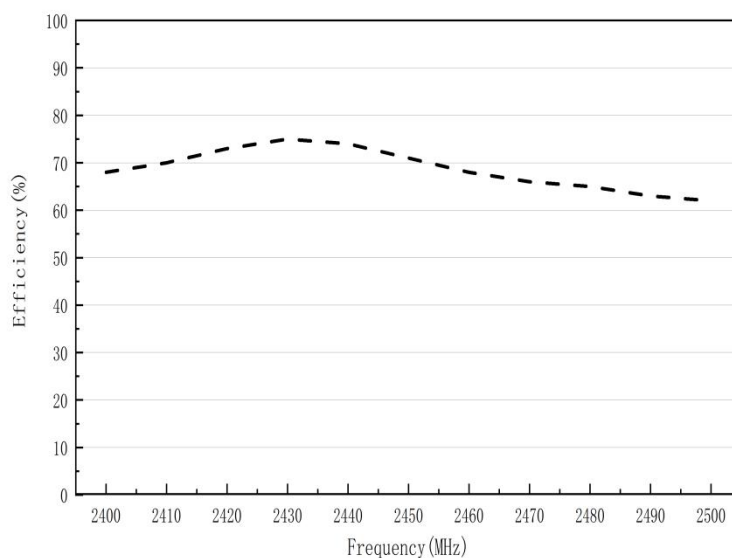


Figure 9. Peak Gain

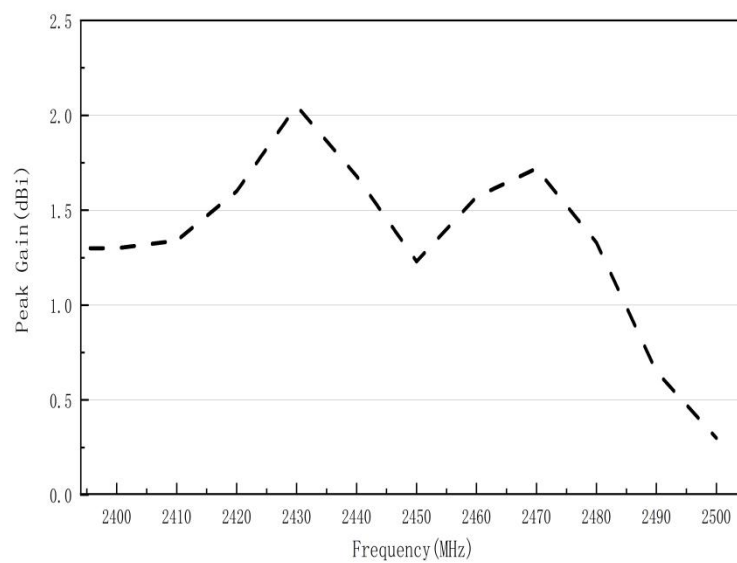
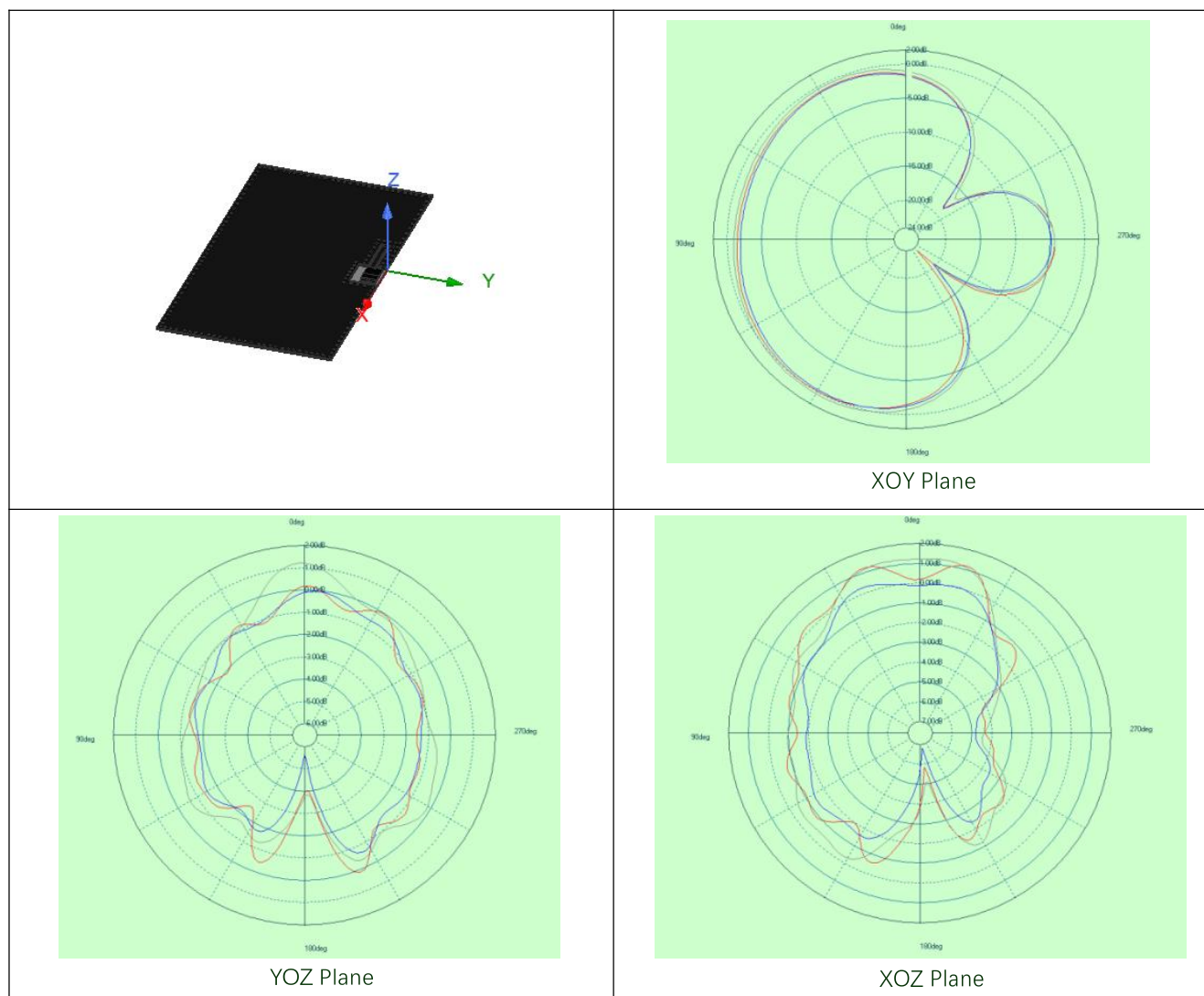


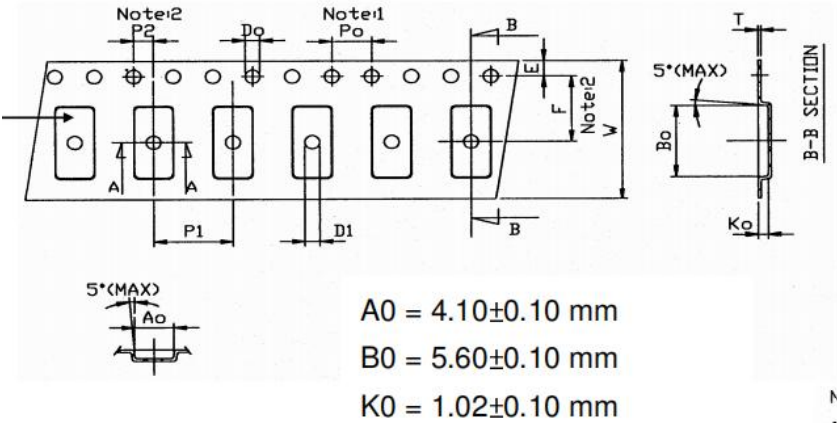
Figure 10. Radiation Pattern



Packaging and Ordering Information

Figure 11. Packaging Information

Quantity/Reel: 2000pcs/Reel
Carrier tape dimensions



(Unit: mm)

Symbol	Spec.
Po	4.00±0.1
P1	8.00±0.1
P2	2.00±0.05
Do	1.55±0.05
D1	1.50(MIN)
E	1.75±0.1
F	5.50±0.05
10Po	40.00±0.2
W	12.00±0.1
T	0.25±0.05

- Notice:
1. 10 Sprocket hole pitch cumulative tolerance is ±0.1mm
 2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
 3. A0 & B0 measured on a plane 0.3mm above the bottom of the pocket to top surface of the carrier.
 4. K0 measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
 5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
	SMD	7"	1500/Reel

Revision	Description	Date
Rev0	Preliminary	2023/9/5
Rev1	formality	2024/12/31