

Chip Antenna

For RFID

KH-10032-C103

10x3.2x0.6 mm

Applications

1. 915MHz device
2. RFID gadget
3. ISM band equipment

Features

1. Compact size
2. Omni-directional radiation
3. Tape & reel automatic mounting
4. 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	900		930	MHz
Efficiency		63		%
Peak Gain		3.56		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

- Ta: +25±5°C

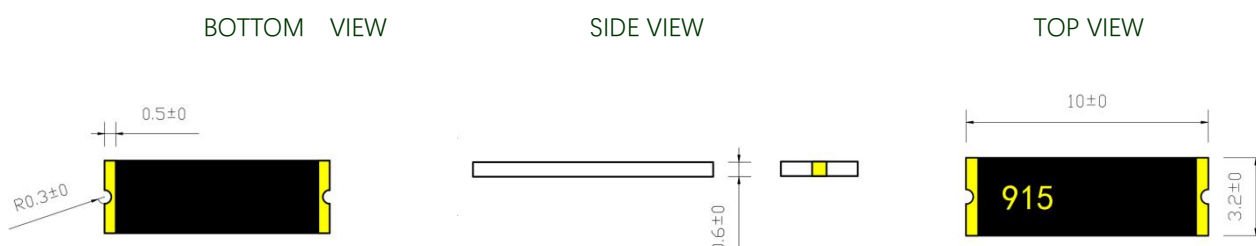
Mechanical Specification

Table 2. Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		10*3.2*0.6		Mm
Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

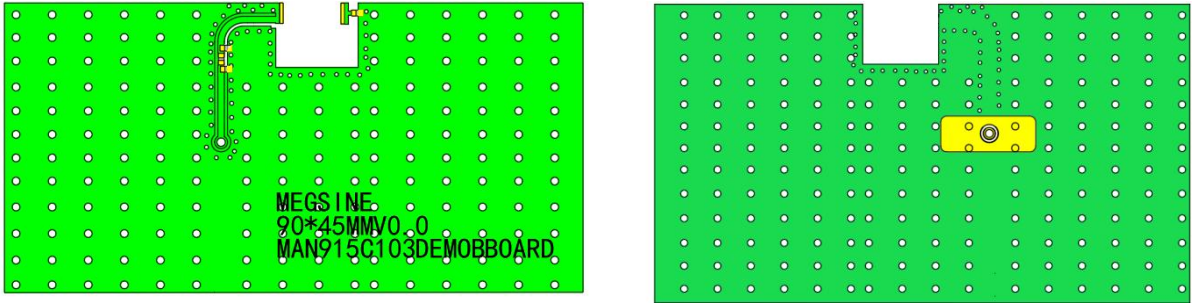
Outline Drawing

Figure 1. View (Unit: mm)



Recommend PCB Layout

Figure 2. PCB Layout (Unit: mm)



Size 90*45mm

Figure 3. Antenna Layout (Unit: mm)

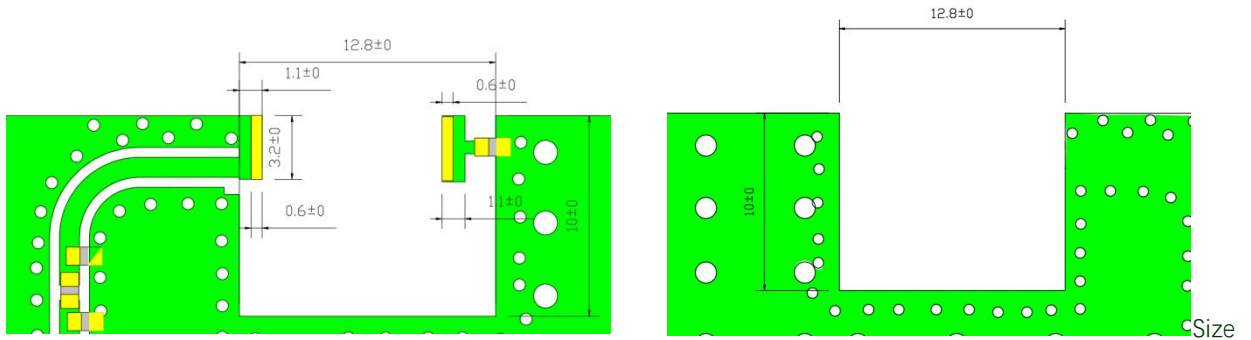


Figure 4. Foot Print (Unit: mm)

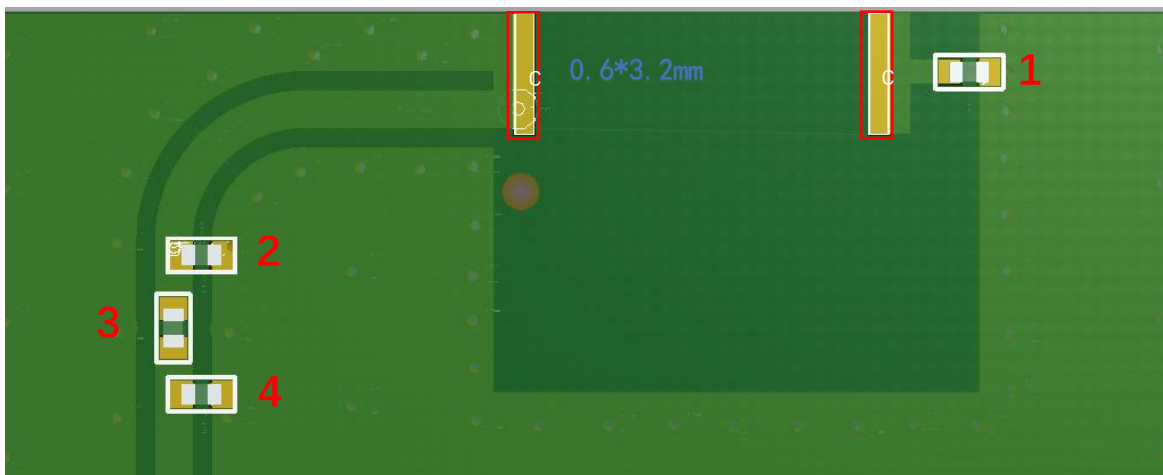


Table 3. Matching

Location	Description	Vendor
1	11pf	MURATA
2	7pf	MURATA
3	9.1nh	MURATA
4	N/C	/

*Antenna ground should not be less than 50*30mm

Typical Performance

Figure 5. VSWR

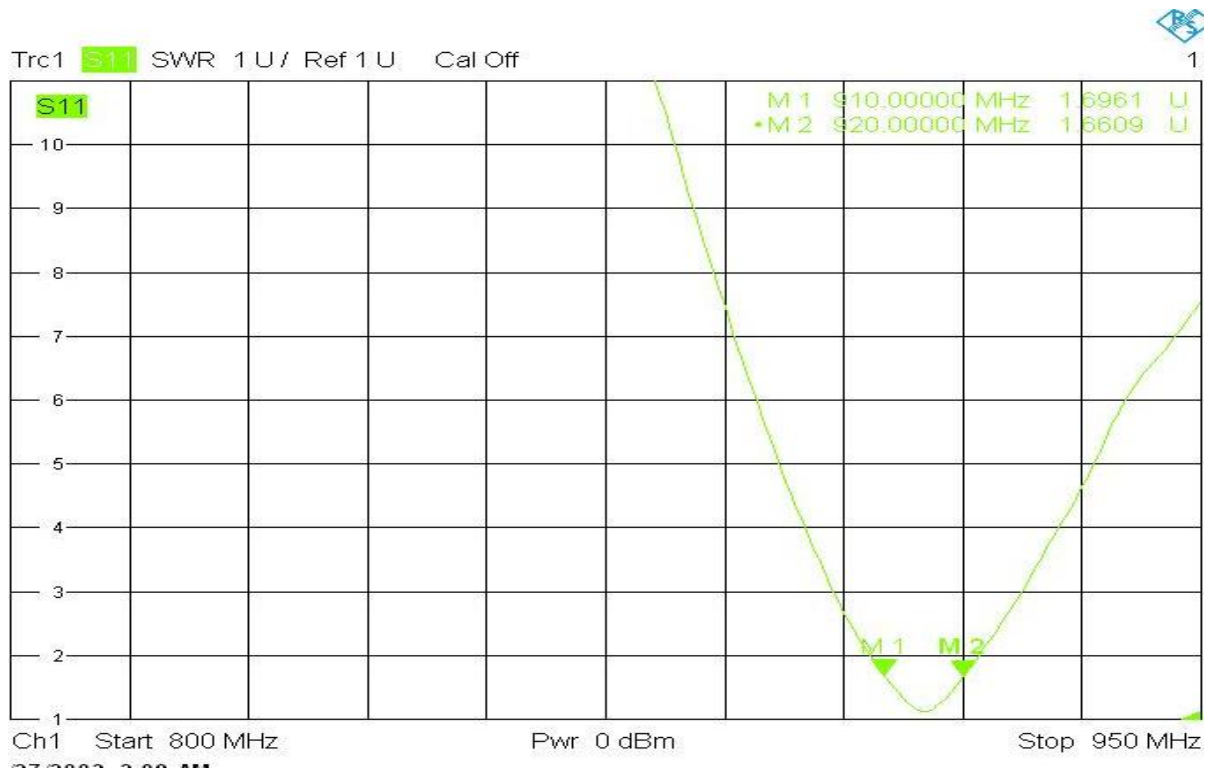
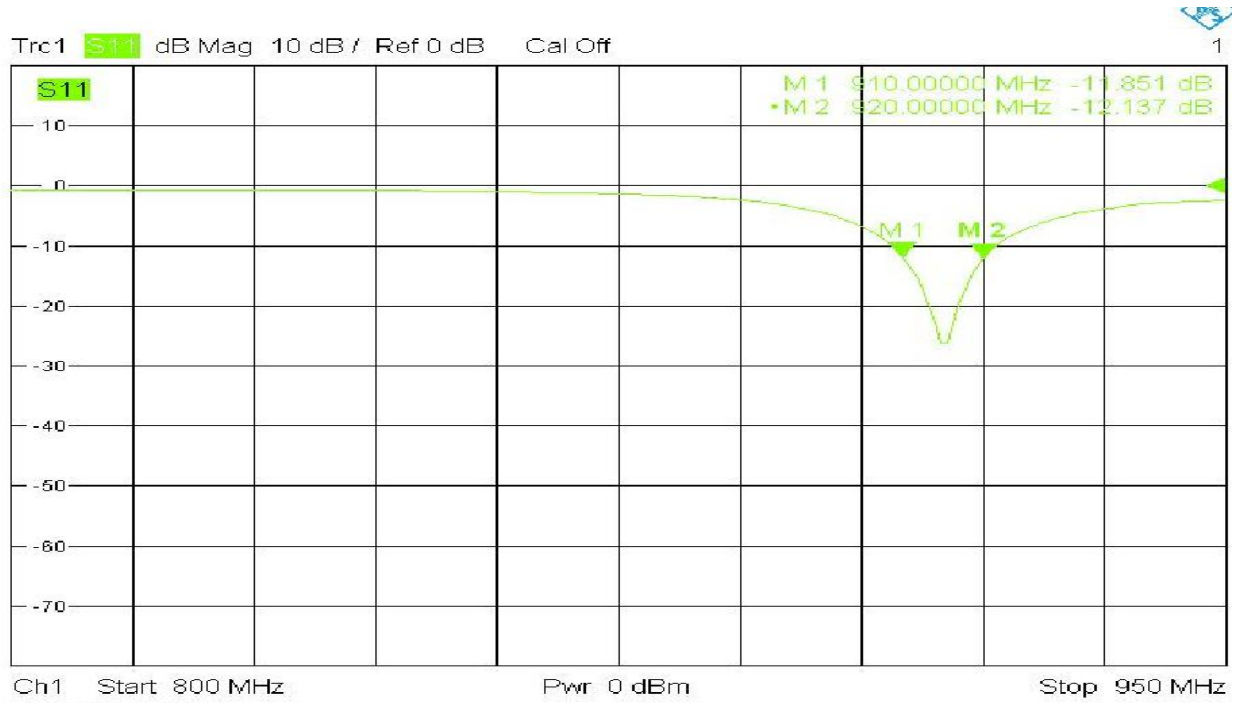


Figure 6. Return Loss



Radiation Pattern & Efficiency & Peak Gain

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

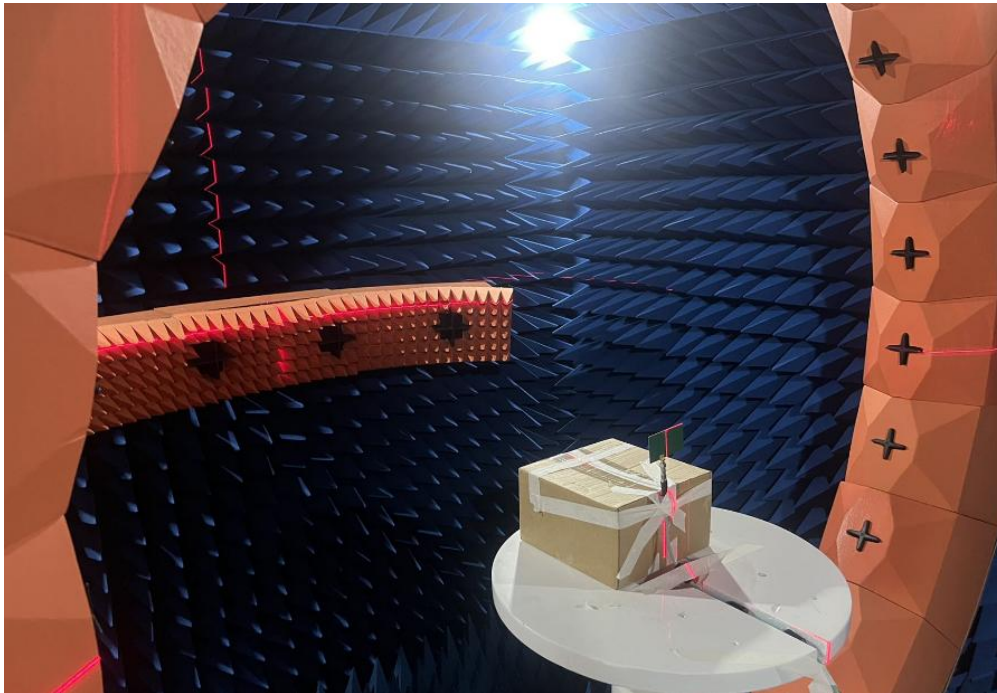


Table 4. Total Efficiency&Peak Gain

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)	Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
900	39	1.22	-4.04	916	58	3.03	-2.36
901	43	1.67	-3.68	917	55	2.67	-2.61
902	47	2.16	-3.28	918	52	2.36	-2.82
903	51	2.64	-2.92	919	51	2.17	-2.96
904	54	2.96	-2.66	920	50	2.11	-2.99
905	56	3.08	-2.53	921	51	2.12	-2.94
906	56	3.04	-2.50	922	51	2.14	-2.89
907	56	2.94	-2.54	923	51	2.05	-2.91
908	55	2.86	-2.58	924	50	1.79	-3.05
909	55	2.88	-2.56	925	47	1.38	-3.29
910	57	3.02	-2.47	926	43	0.91	-3.62
911	59	3.20	-2.33	927	40	0.47	-3.93
912	61	3.42	-2.17	928	38	0.14	-4.18
913	62	3.56	-2.05	929	37	-0.03	-4.31
914	63	3.54	-2.04	930	37	-0.06	-4.33
915	61	3.35	-2.15				

*Antenna performance will also change in different environments, it is recommended to consult the relevant technical personnel before use to confirm the layout to ensure good performance.

Figure 8. Total Efficiency

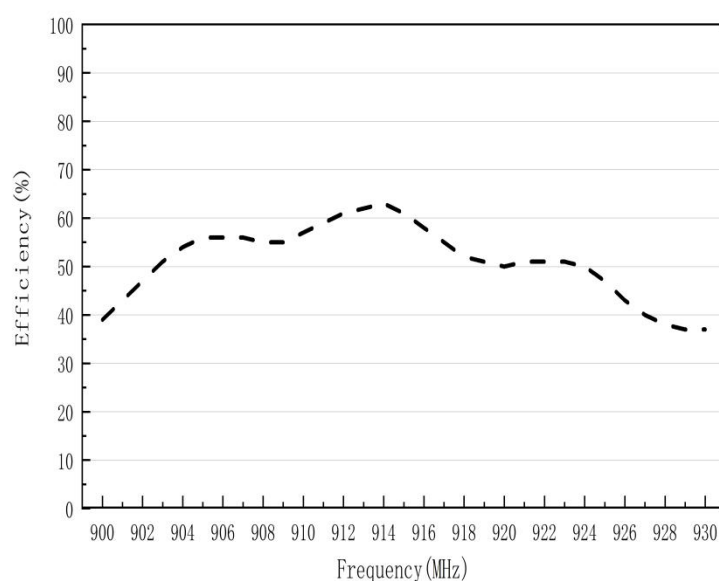


Figure 9. Total Efficiency

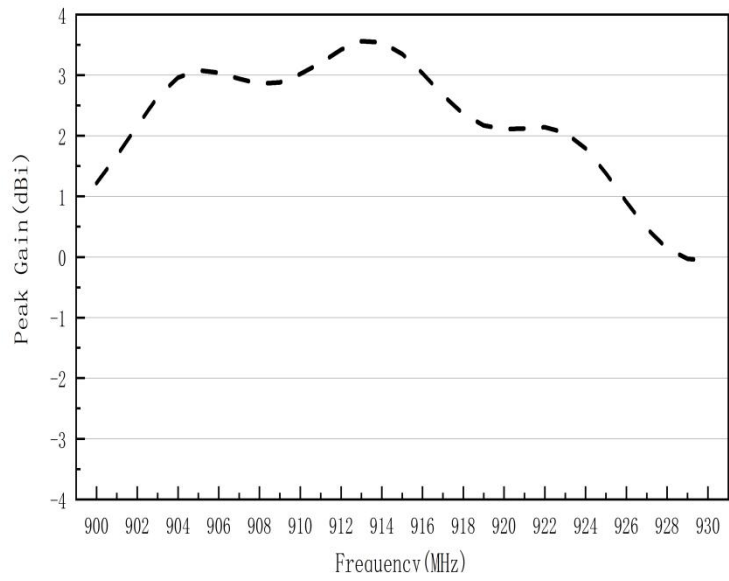
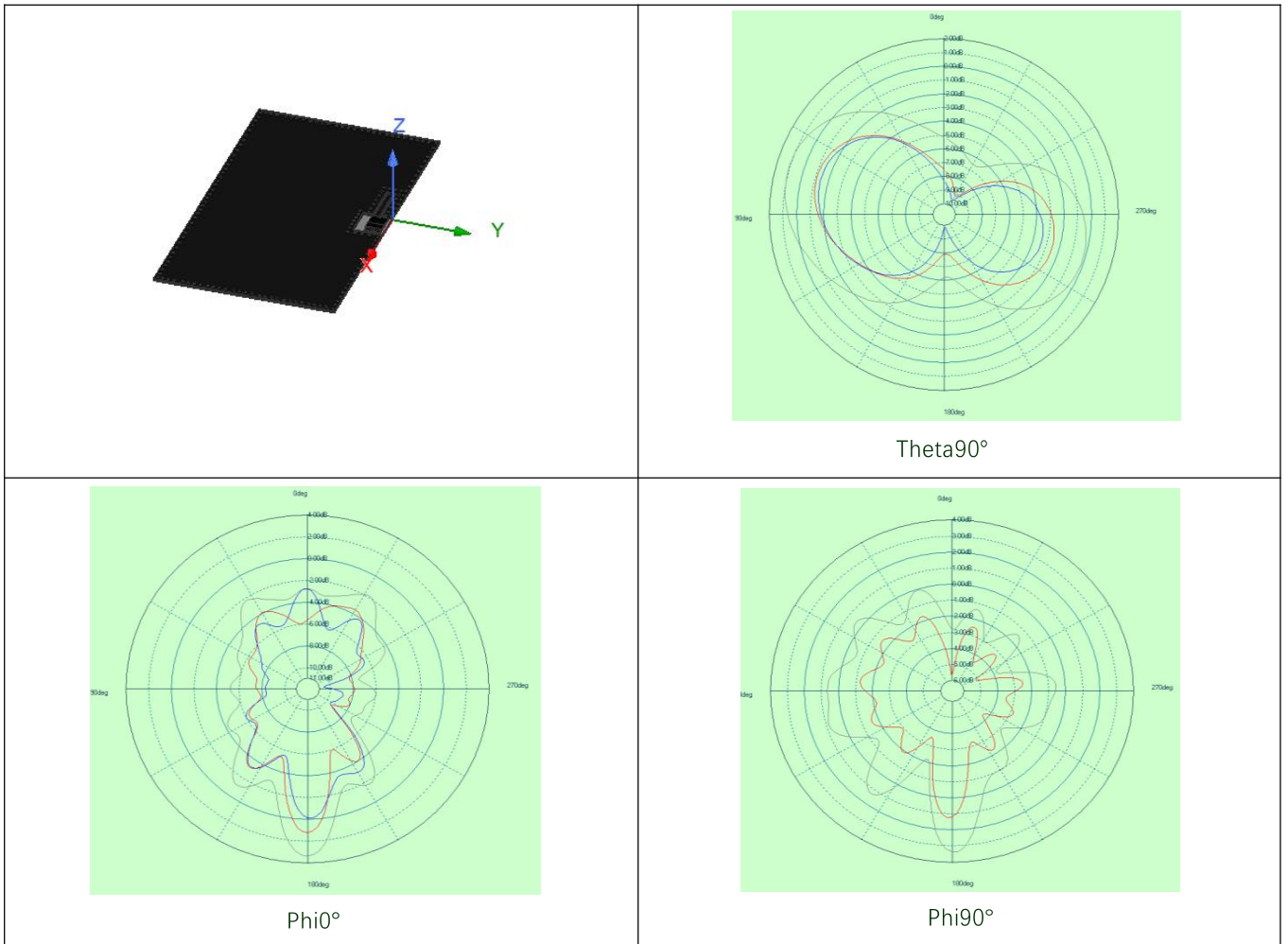
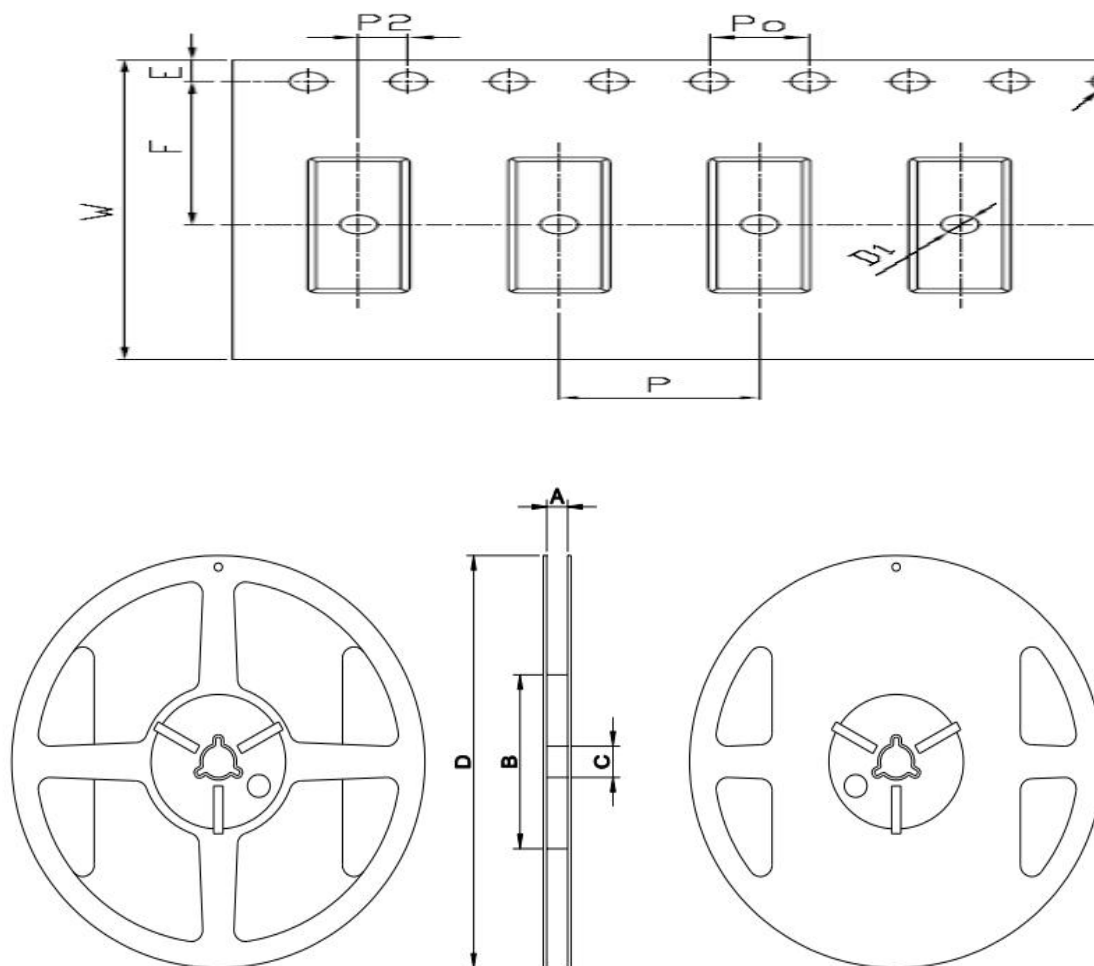


Figure 10. Radiation Pattern



Packaging and Ordering Information

Figure 11. Packaging Information



Feature	Specification & Tolerances
W	24.00 ±0.30
P	8.00 ±0.10
E	1.75 ±0.10
F	11.50 ±0.10
P2	2.00 ±0.10
D1	1.50+0.10
P0	4.00 ±0.10
A	29.80 ±0.10
B	99.00 ±0.10
C	15.00±0.10
D	330.00 ±0.10

Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
	SMD	13"	5000/Reel

Revision	Description	Date
Rev0	Preliminary	2023/6/7
Rev1	formality	2023/7/4