

Chip Antenna

For RFID

# KH-10032-C103-A

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10x3.2x0.6 mm

### Applications

1. 868 MHz 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	855		880	MHz
Efficiency	37		59	%
Peak Gain		1.75		dBi
Polarization		Linear		
Nominal Impedance		50		$\Omega$

• Ta: +25±5°C

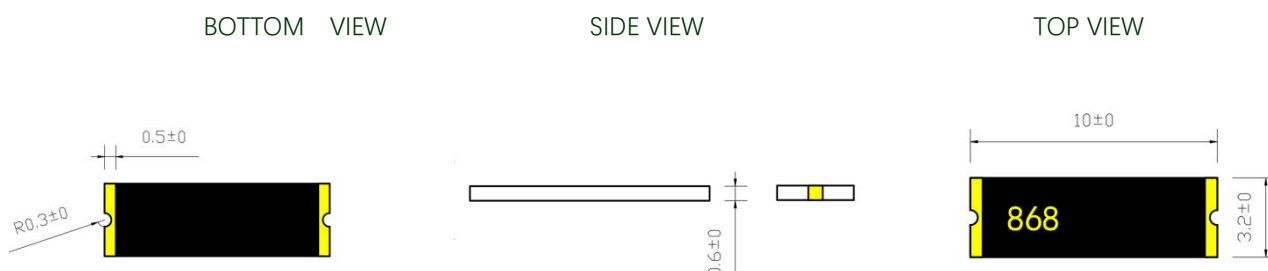
### Mechanical Specification

Table 2. MAN868C103 Mechanical Specification

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

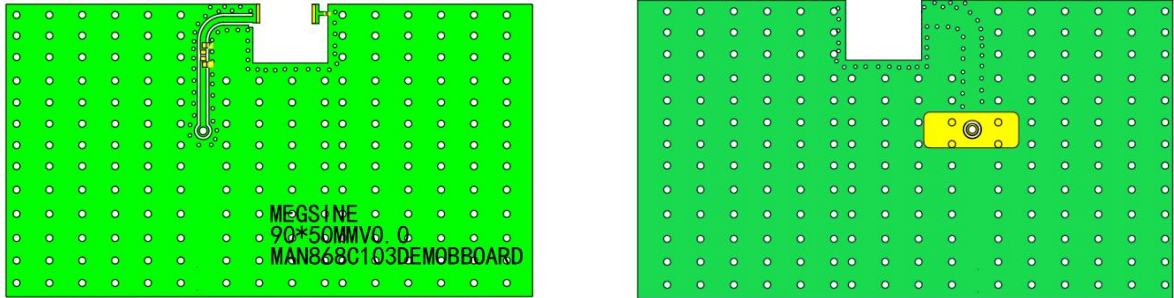
### Outline Drawing

Figure 1. View (Unit: mm)



Recommend PCB Layout

Figure 2. PCB Layout (Unit: mm)



Size90\*45mm

Figure 3. Antenna Layout (Unit: mm)

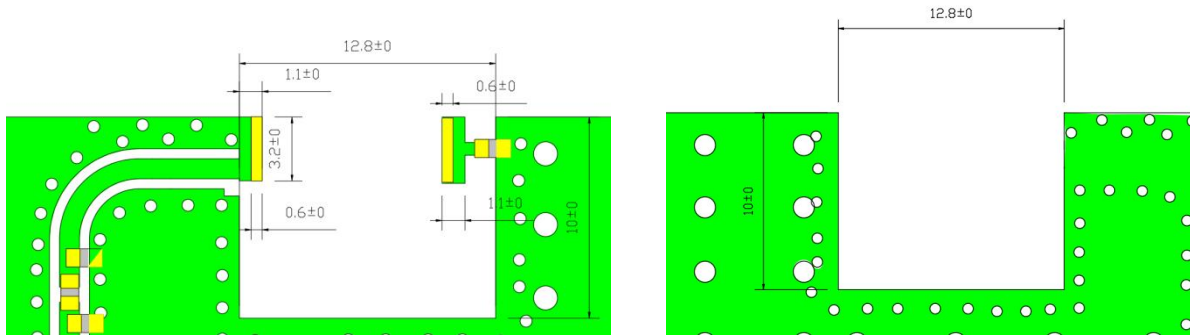


Figure 4. Foot Print (Unit: mm)

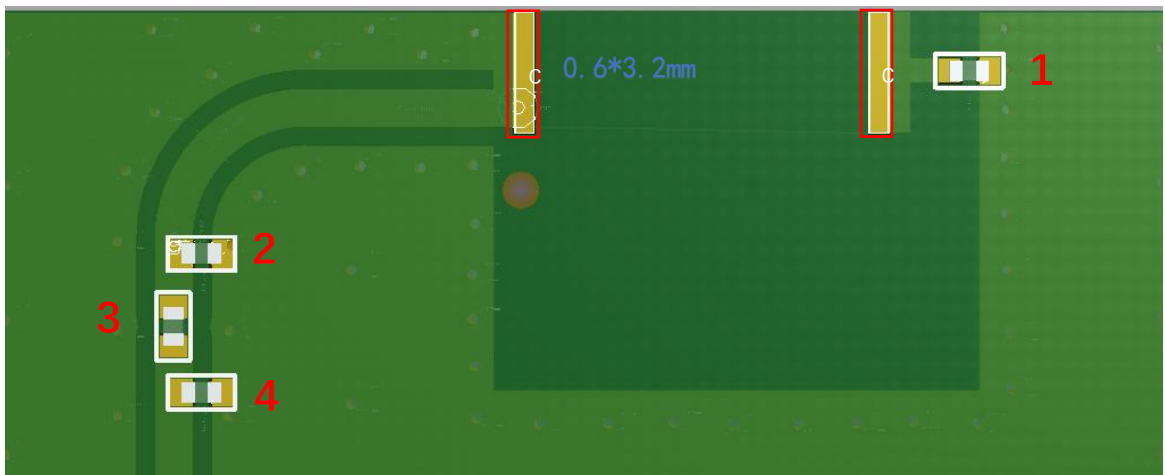


Table 3. Matching

Location	Description	Vendor
1	15pf	MURATA
2	8pf	MURATA
3	5.1nh	MURATA
4	N/C	/

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

### Typical Performance

Figure 5. VSWR

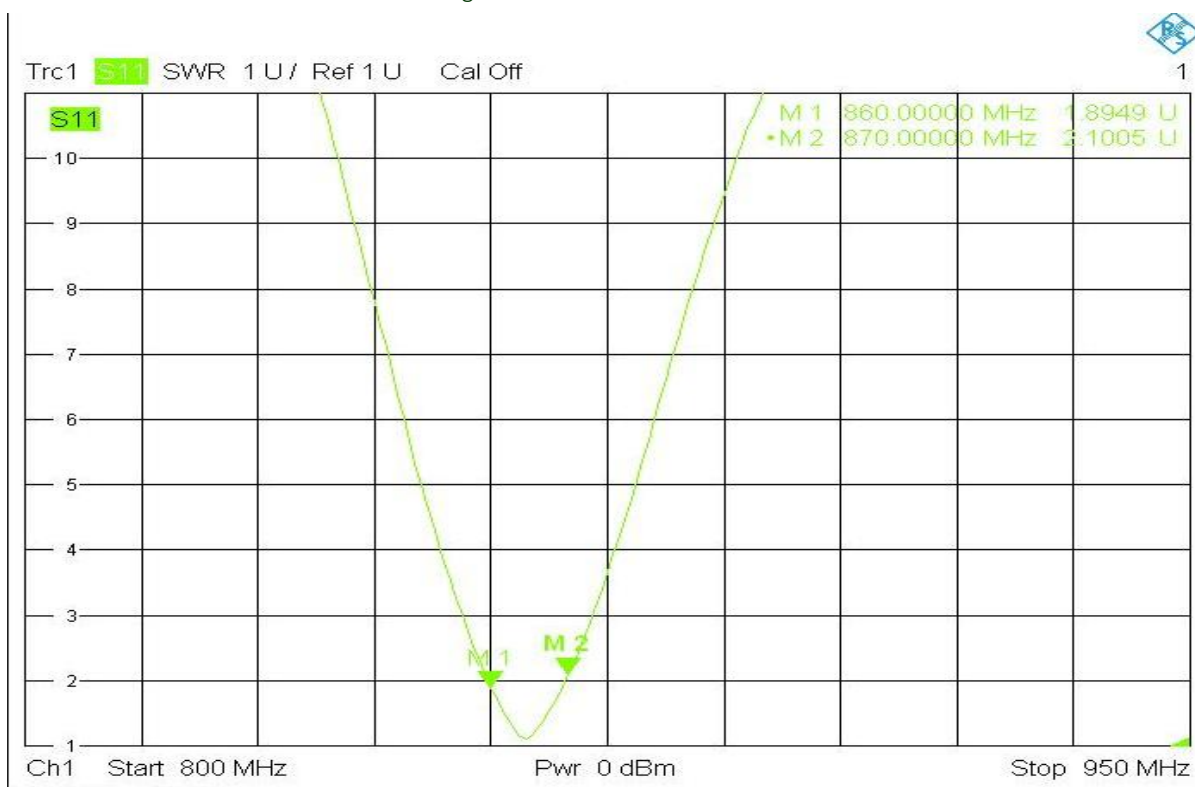
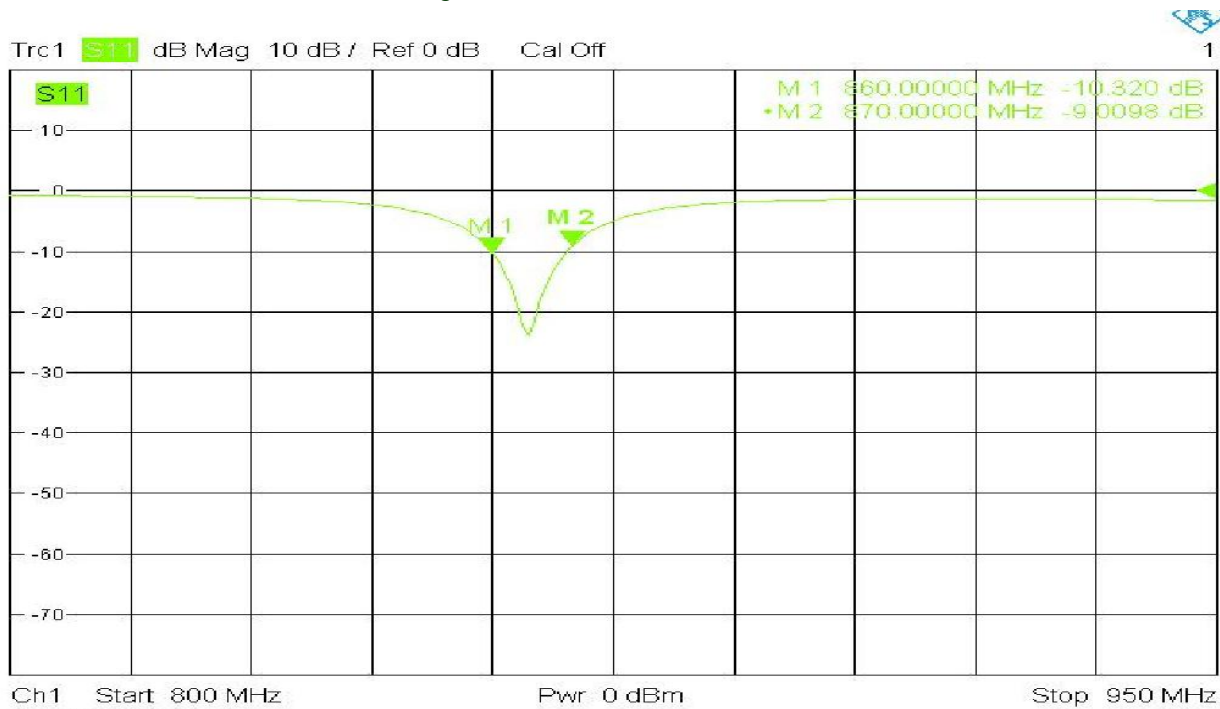


Figure 6. Return Loss



Radiation Pattern & Efficiency & Peak Gain

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

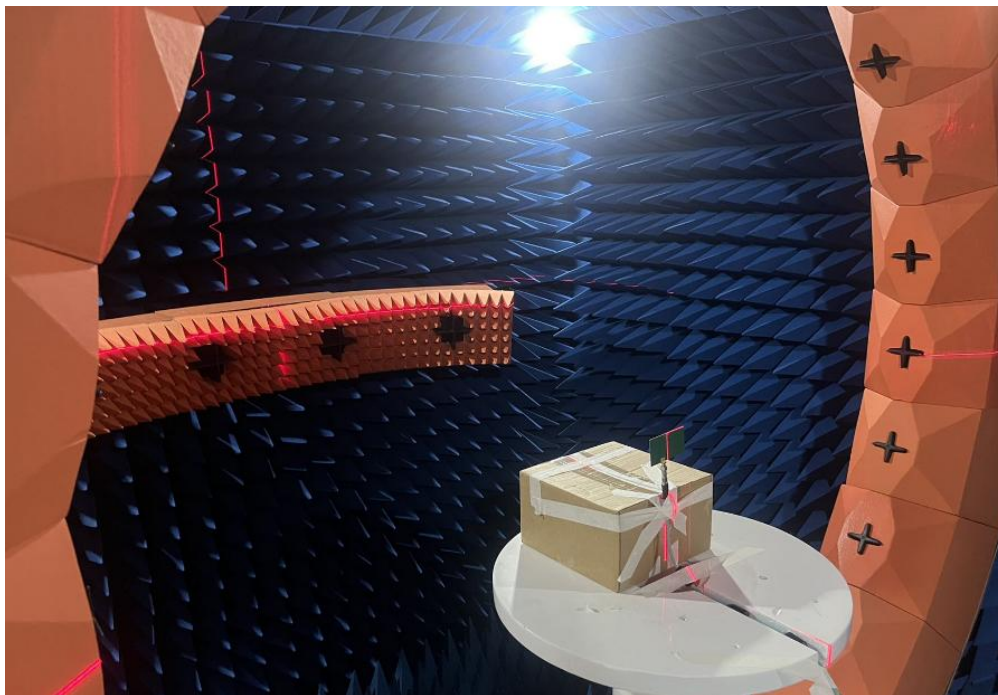


Table 4. Total Efficiency&Peak Gain

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)	Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
855	37	-0.40	-4.27	868	57	1.24	-2.44
856	40	-0.21	-3.99	869	56	1.14	-2.54
857	42	-0.15	-3.79	870	55	1.20	-2.61
858	43	-0.15	-3.64	871	54	1.33	-2.65
859	45	-0.05	-3.49	872	54	1.54	-2.65
860	47	0.18	-3.31	873	54	1.73	-2.65
861	49	0.52	-3.11	874	54	1.76	-2.67
862	52	0.94	-2.87	875	53	1.57	-2.77
863	54	1.35	-2.64	876	52	1.36	-2.86
864	57	1.65	-2.44	877	51	1.16	-2.95
865	59	1.75	-2.31	878	48	0.68	-3.21
866	59	1.64	-2.28	879	45	0.24	-3.50
867	58	1.44	-2.34	880	42	-0.04	-3.75

\*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

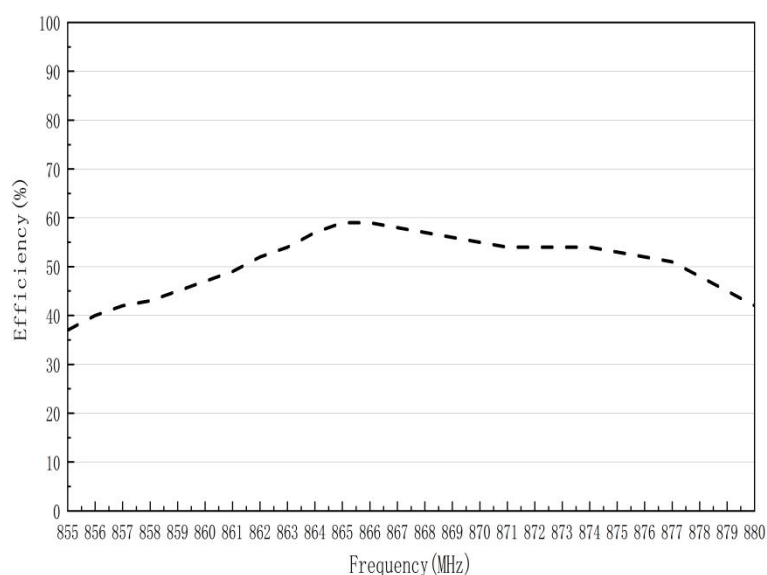


Figure 9. Total Efficiency

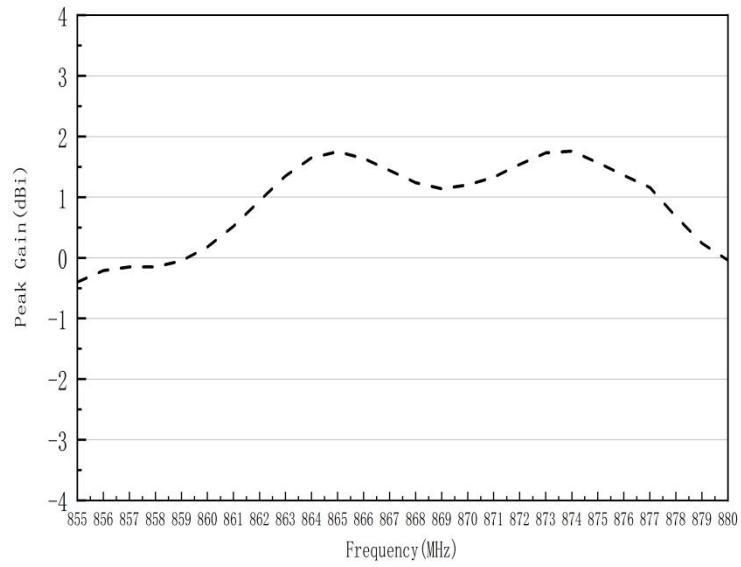
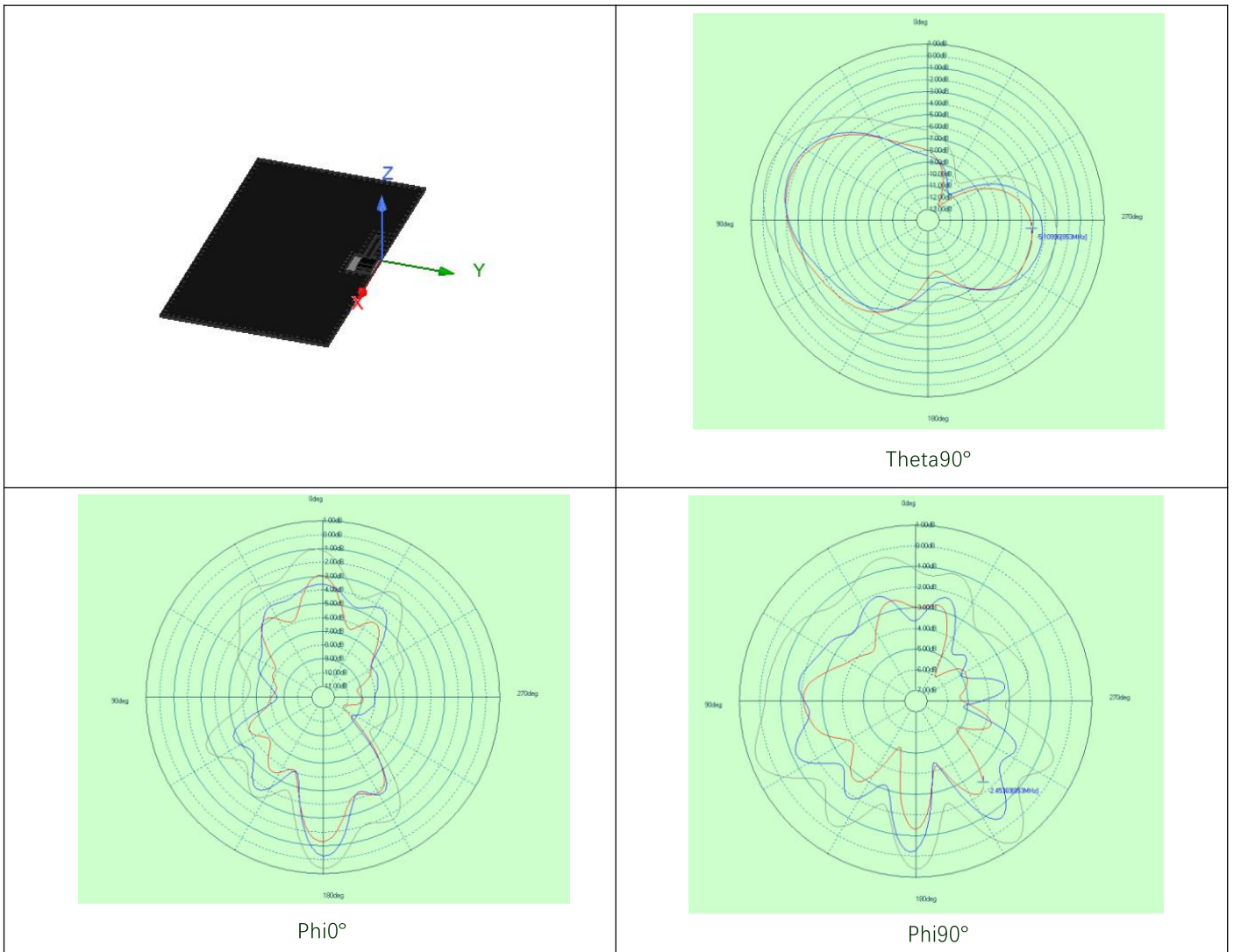
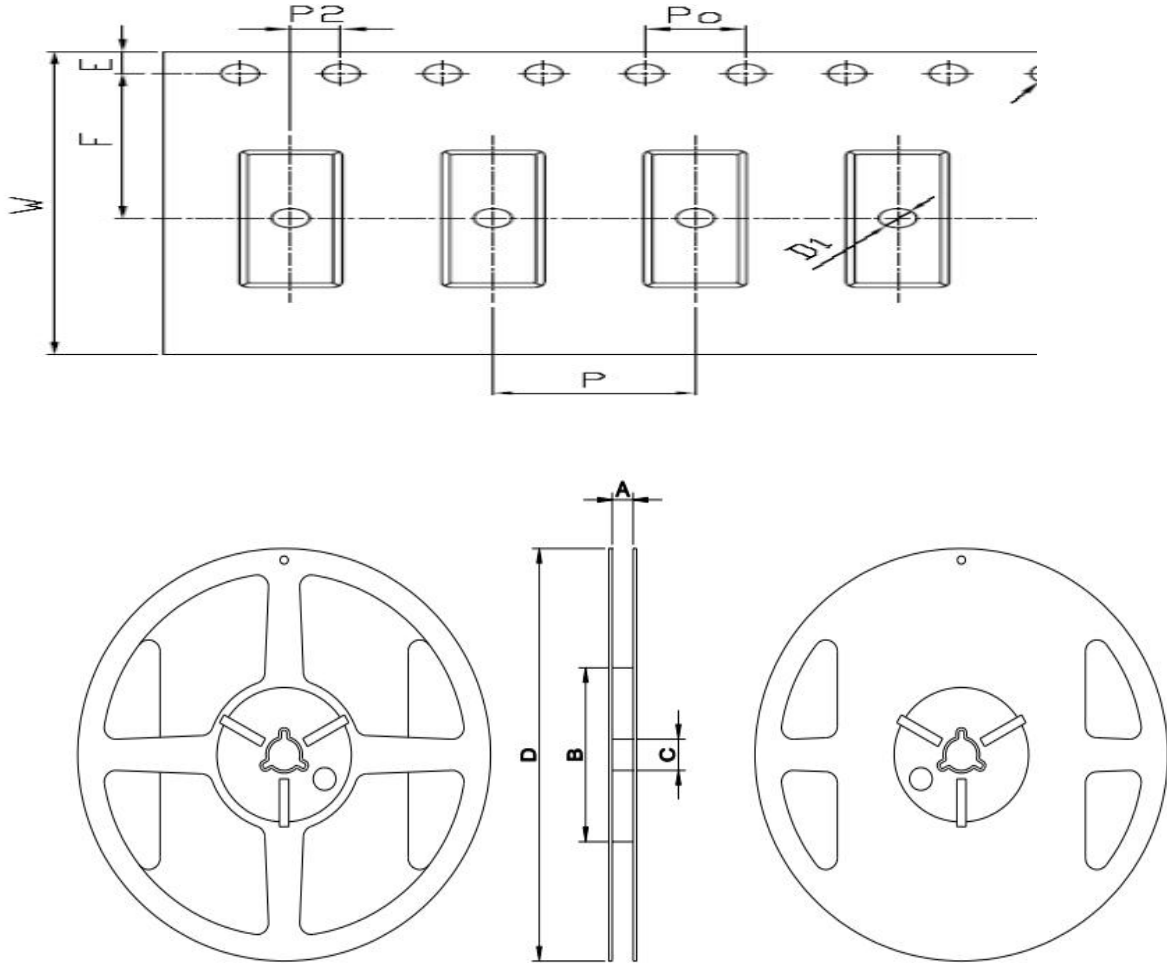


Figure 10. Radiation Pattern



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	2024/12/25
Rev1	formality	2023/6/30
Rev2	formality	2024/2/28