

MAN868C103

868MHz RFID Chip Antenna



Applications

1. 868MHz device
2. RFID gadget
3. ISM band equipment



Features

1. Compact size
2. Omni-directional radiation
3. Tape & reel automatic mounting
4. Reflow process compatible

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. MAN868C103 Electrical Specification

Item	Min.	Type.@25°C	Max.	Unit
Frequency Range	855		880	MHz
Efficiency		61		%
Peak Gain		0.46		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

Mechanical Specifications

Table 2. MAN868C103 Mechanical Specification

Item	Min.	Type.@25°C	Max.	Unit
Antenna Size		10*3.2* 0.5		Mm
Temperature	-40		+80	°C
Operating temperature	-40		+80	°C

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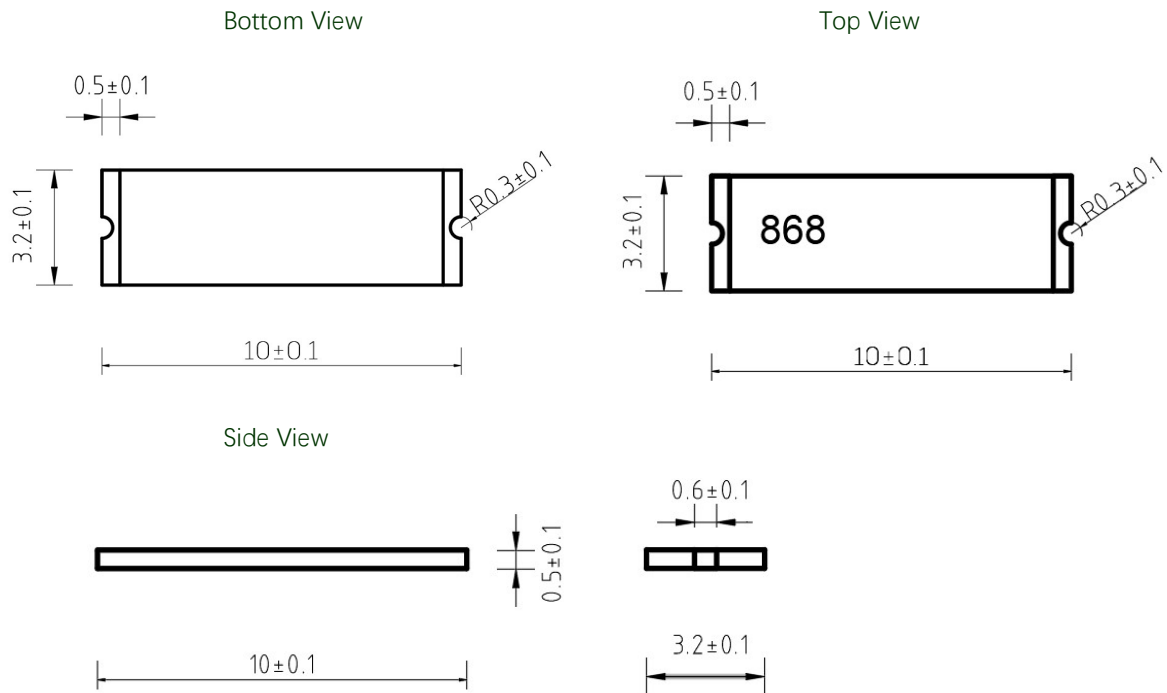
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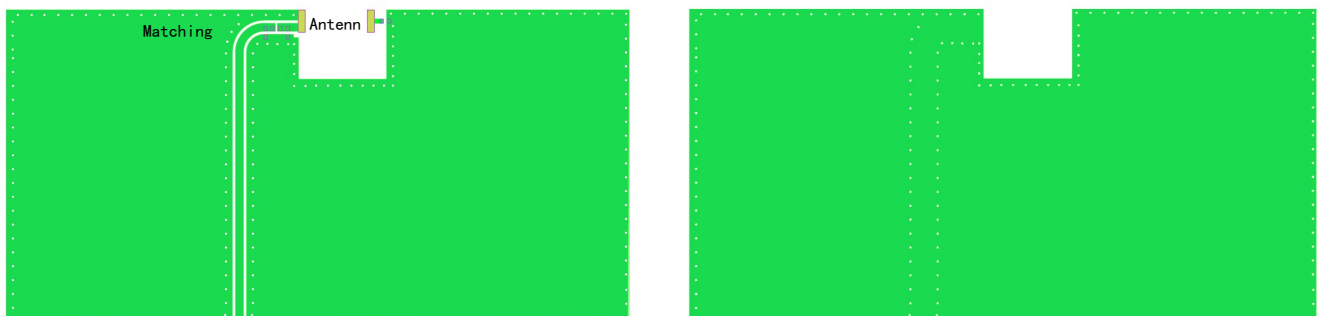
Outline Drawing

Figure 1. MAN868C103 View (Unit: mm)



Recommend PCB Layout

Figure 2. MAN868C103 PCB Layout (Unit: mm) Size90*45mm



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Figure 3. MAN868C103 Antenna Layout (Unit: mm)

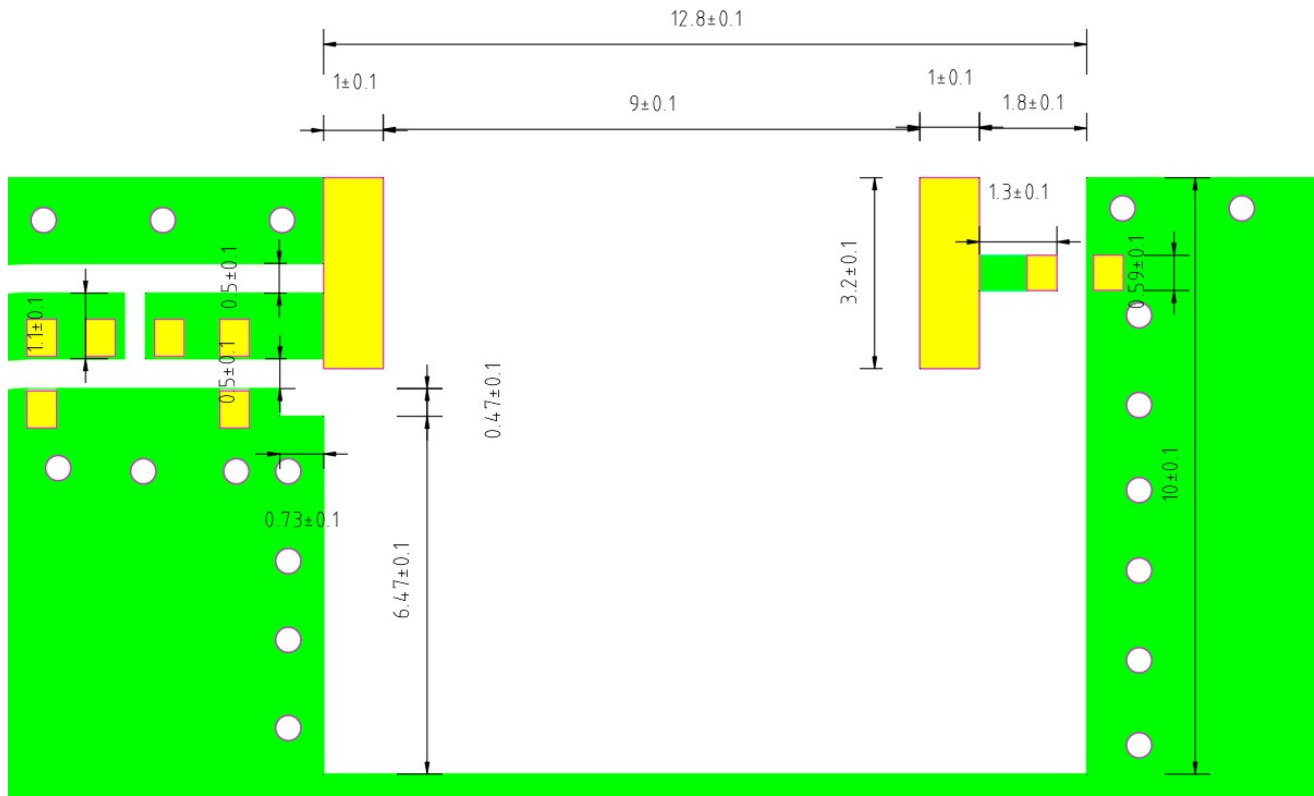
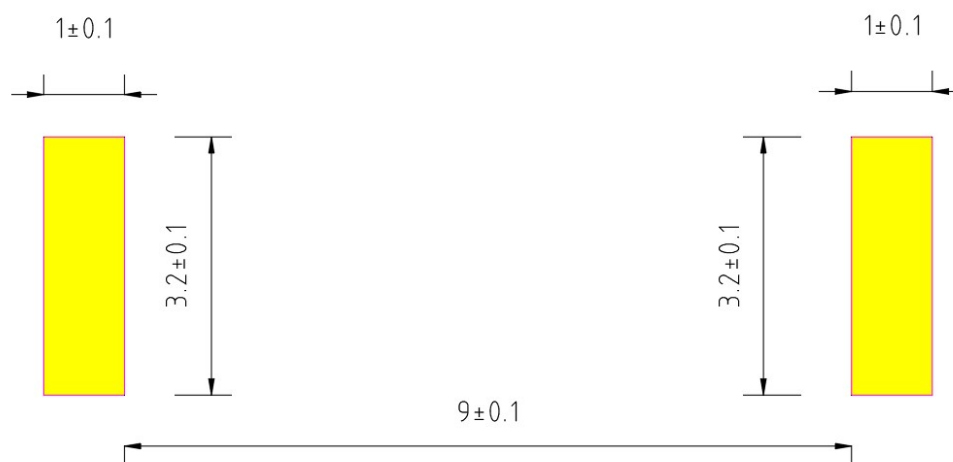


Figure 4. MAN868C103 Foot Print (Unit: mm)



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

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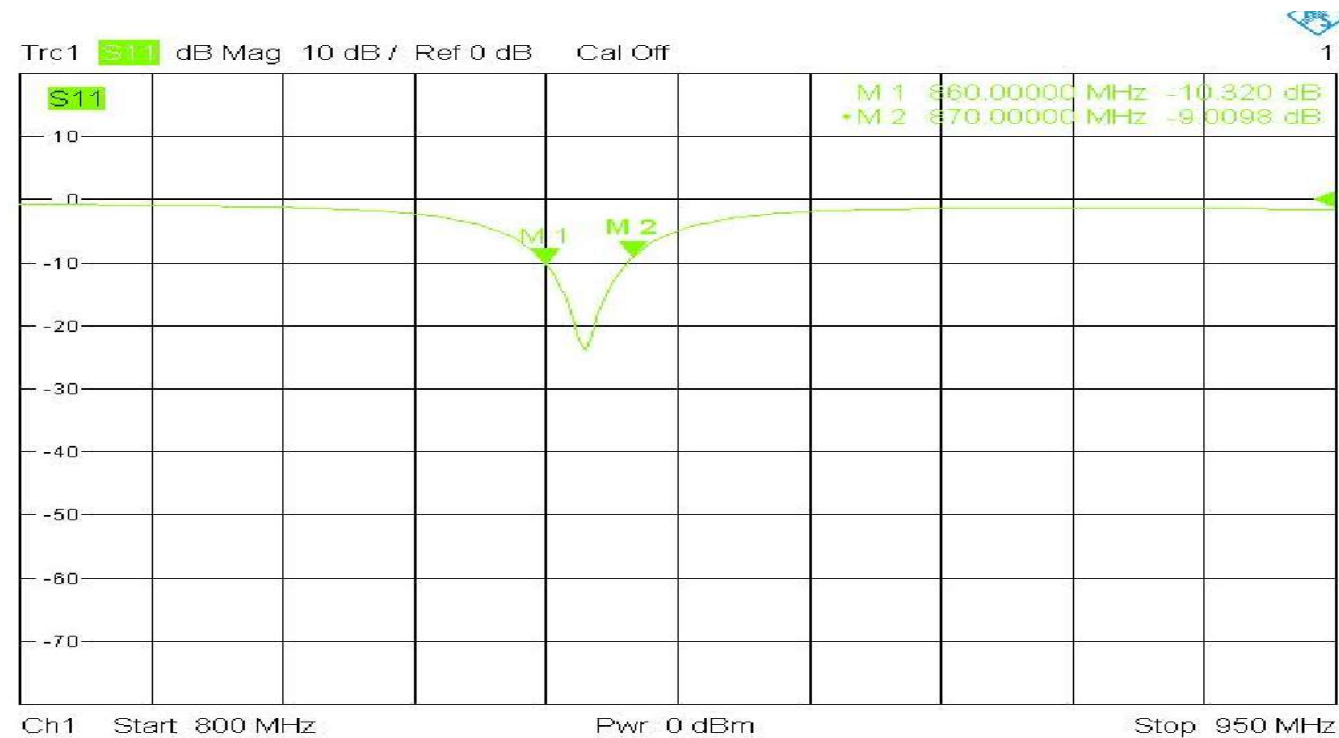
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Typical Performance

Figure 5. MAN868C103 VSWR



Figure 6. MAN868C103 Return Loss



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Radiation Pattern& Efficiency&Peak Gain

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

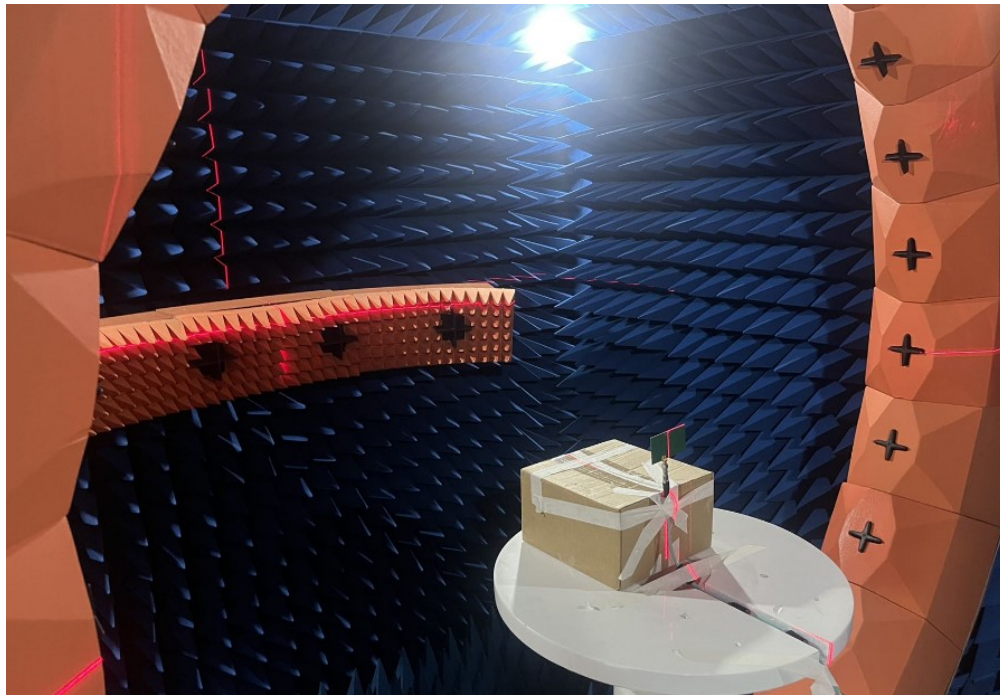


Table 3. MAN868C103 Radiation Efficiency & Peak Gain

Frequency	855	856	854	858	859	860	861	862	863	864	865	866	867
Efficiency	43.02	45.93	48.05	49.26	49.98	50.92	51.13	52.1	53.98	55.05	57.84	59.95	61.58
Peak Gain	-0.83	-0.74	-0.67	-0.51	-0.4	-0.25	-0.15	0.08	0.11	0.28	0.35	0.35	0.46
Avg gain	-3.66	-3.38	-3.18	-3.08	-3.01	-2.93	-2.91	-2.83	-2.68	-2.59	-2.38	-2.22	-2.11

Frequency	868	869	870	871	872	873	874	875	876	877	878	879	880
Efficiency	58.12	55.12	53.19	51.13	49.36	47.76	45.83	43.28	41.9	39.83	37.66	35.83	34.51
Peak Gain	0.35	0.25	0.11	-0.24	-0.54	-0.81	-1.06	-1.34	-1.35	-1.48	-1.71	-1.97	-2.09
Avg gain	-2.36	-2.59	-2.74	-2.91	-3.07	-3.21	-3.39	-3.64	-3.78	-4.00	-4.24	-4.46	-4.62

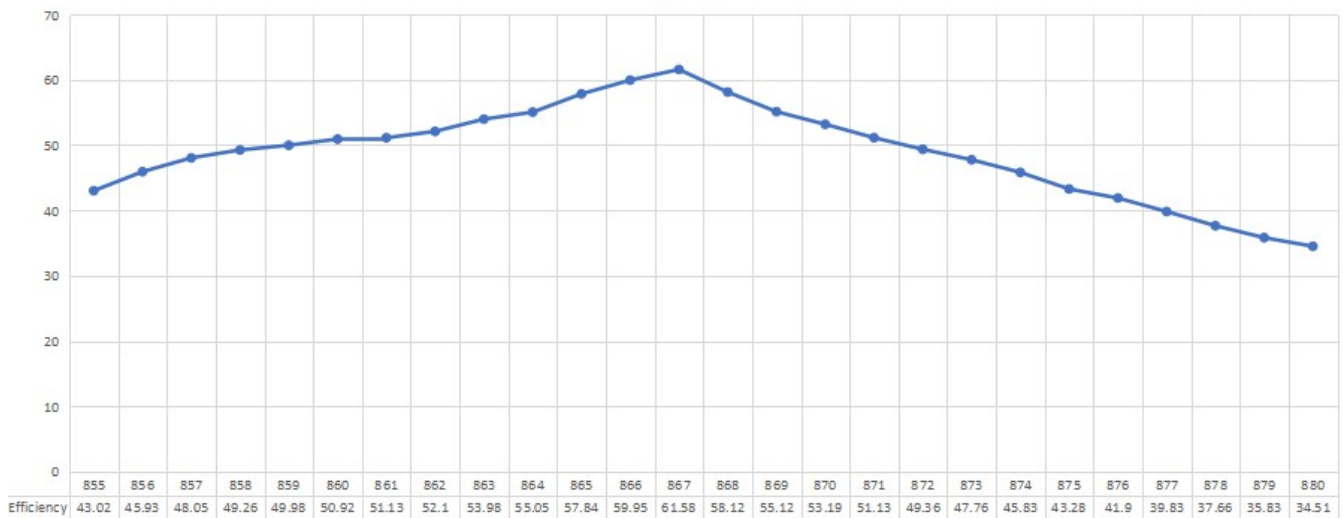
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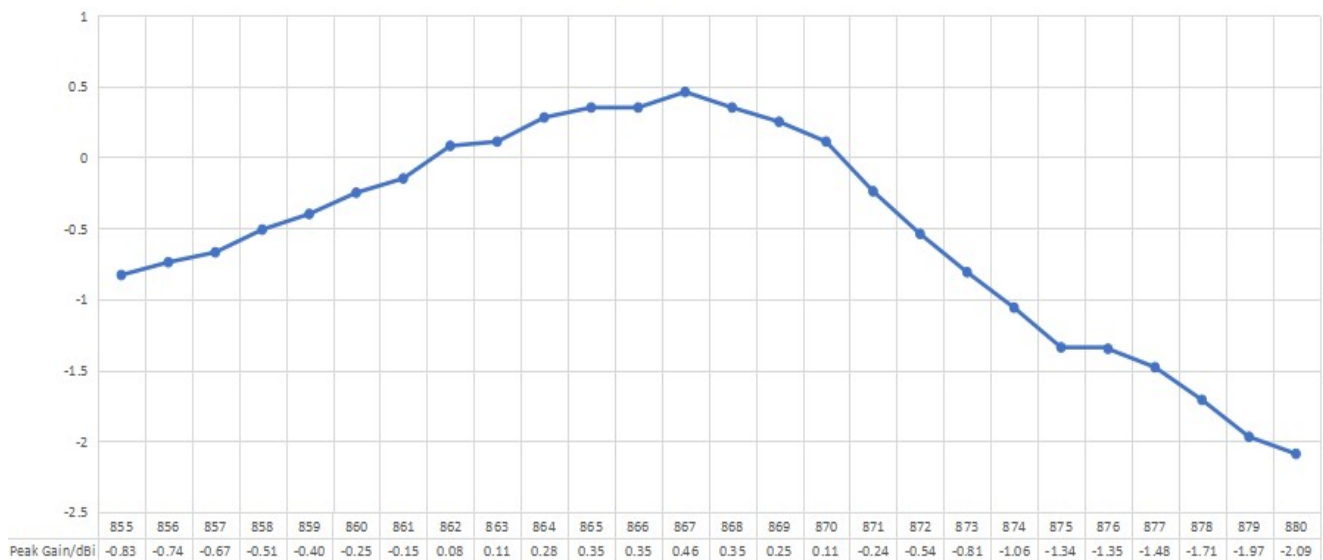
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Efficiency(%)



Peak Gain(dBi)



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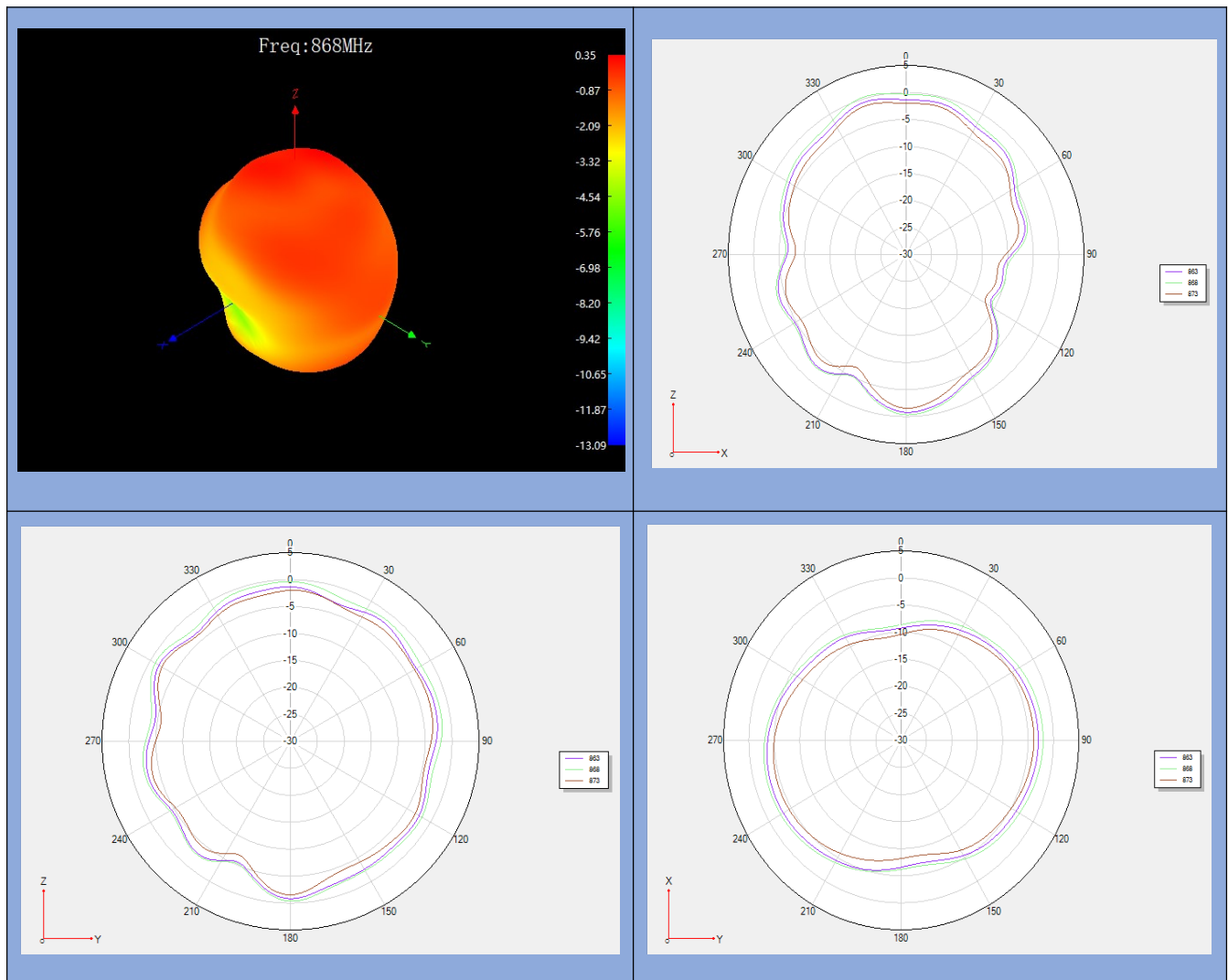
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Figure 8. MAN868C103 Radiation Pattern



*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.

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Packaging and Ordering Information

Table 4. MAN868C103 Packaging and Ordering Information

Device	Package	Reel	Shipping
MAN868C103	10*3.2mm	7"	2000 Reel

Revision	Description	Date
Rev0	Preliminary	2023/6/7