

MAN915C103

915MHz RFID Chip Antenna



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. 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. MAN915C103 Electrical Specification

Item	Min.	Type.@25°C	Max.	Unit
Frequency Range	900		930	MHz
Efficiency		67		%
Peak Gain		0.9		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

Mechanical Specifications

Table 2. MAN915C103 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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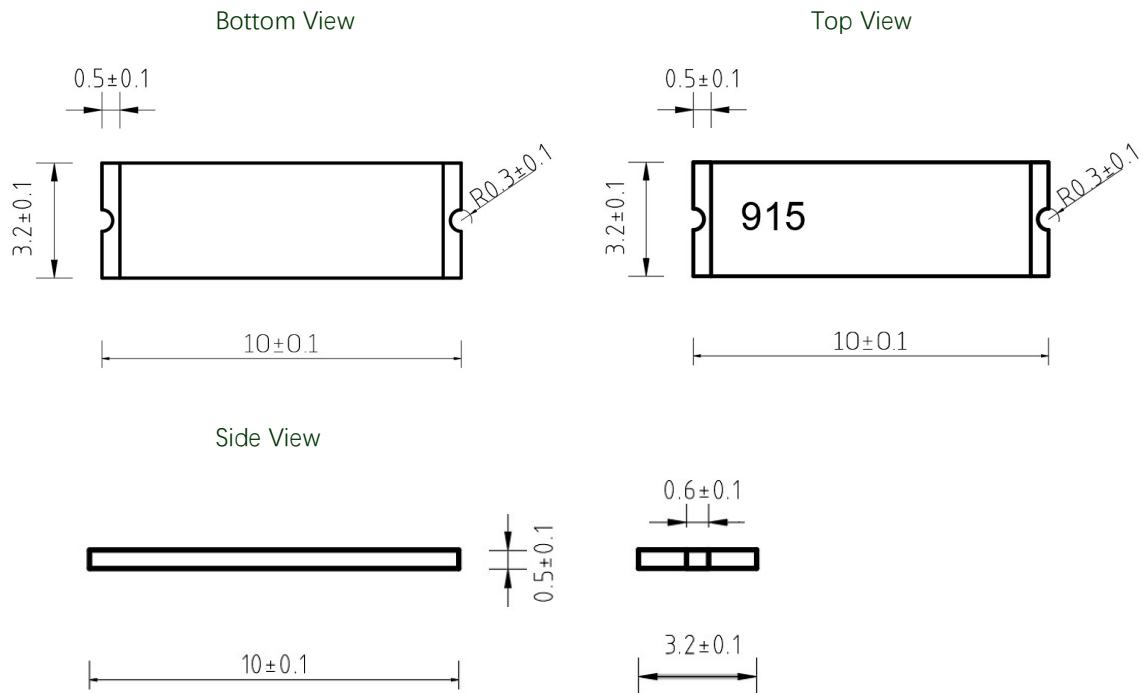
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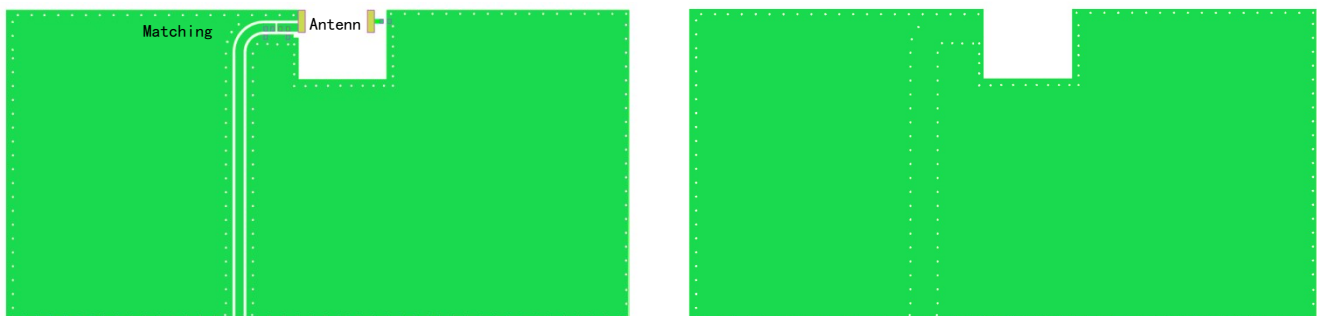
Outline Drawing

Figure 1. MAN915C103 View (Unit: mm)



Recommend PCB Layout

Figure 2. MAN915C103 PCB Layout (Unit: mm) Size90*45mm



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Figure 3. MAN915C103 Antenna Layout (Unit: mm)

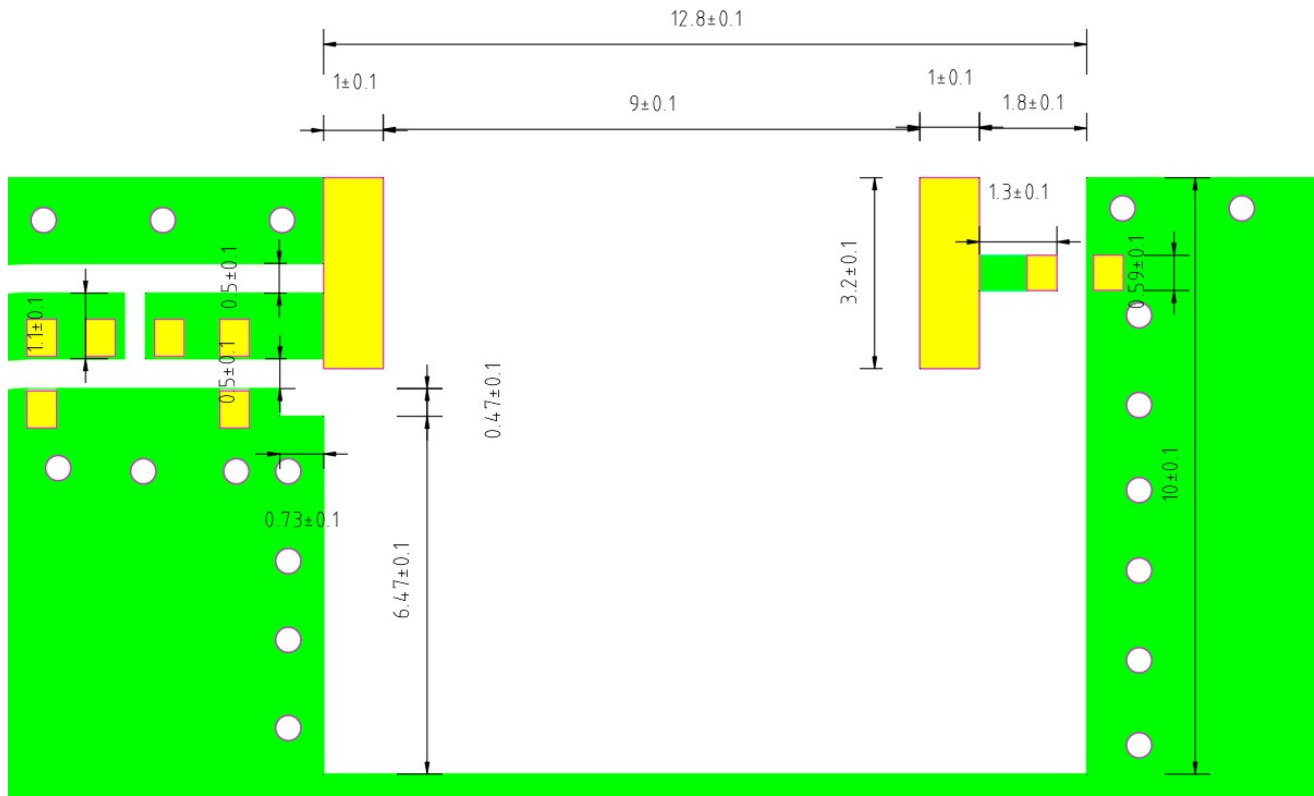
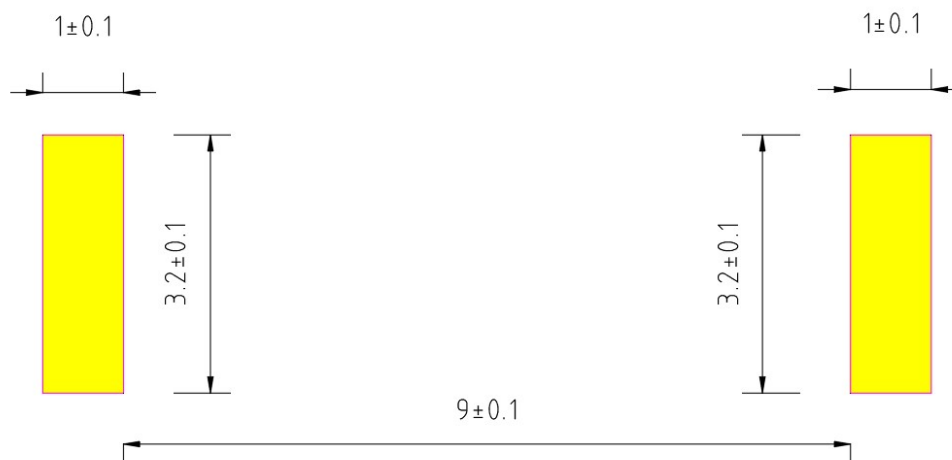


Figure 4. MAN915C103 Foot Print (Unit: mm)



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

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Typical Performance

Figure 5. MAN915C103 VSWR

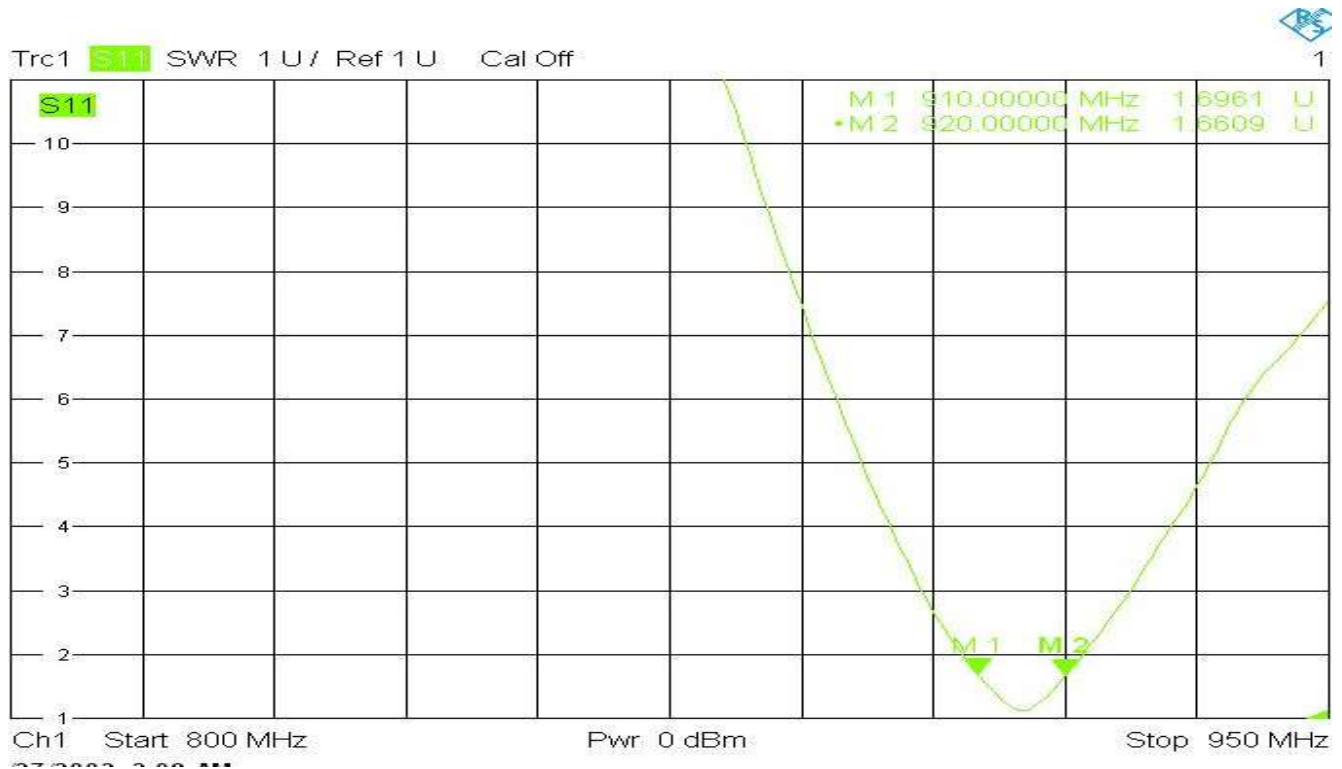
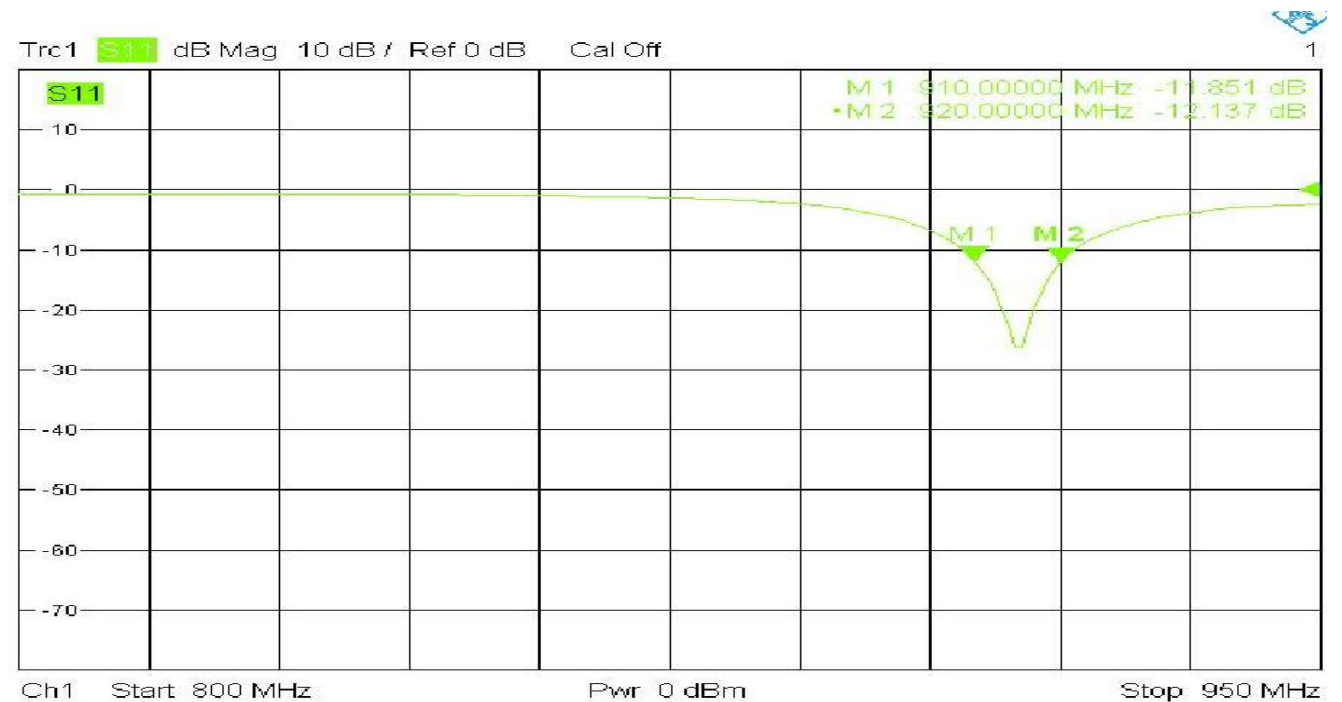


Figure 6. MAN915C103 Return Loss



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Radiation Pattern& Efficiency&Peak Gain

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

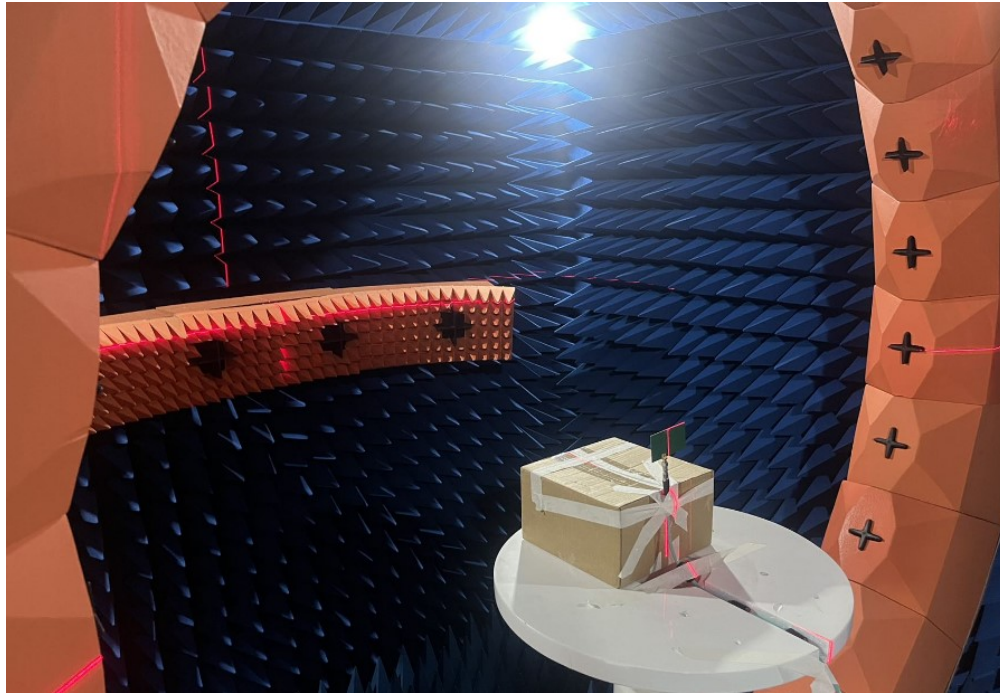


Table 3. MAN915C103 Radiation Efficiency & Peak Gain

Frequency	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914
Efficiency	38.19	41.21	42.95	44.87	46.56	47.64	52.12	53.83	55.72	58.08	61.09	63.24	65.31	66.37	66.22
Peak Gain	-1.97	-1.78	-1.66	-1.5	-1.36	-1.14	-0.96	-0.58	-0.24	0.04	0.26	0.48	0.69	0.69	0.81
Avg gain	-4.18	-3.85	-3.67	-3.48	-3.32	-3.22	-2.83	-2.69	-2.54	-2.36	-2.14	-1.99	-1.85	-1.78	-1.79

Frequency	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930
Efficiency	64.42	64.71	64.57	64.71	65.77	67.61	66.18	64.61	62.61	58.95	56.57	54.41	50.59	48.45	46.33	44.95
Peak Gain	0.85	0.87	0.82	0.86	0.82	0.95	0.85	0.81	0.75	0.36	0.19	-0.26	-0.52	-1.04	-1.33	-1.52
Avg gain	-1.91	-1.89	-1.90	-1.89	-1.82	-1.70	-1.79	-1.90	-2.03	-2.30	-2.47	-2.64	-2.96	-3.15	-3.34	-3.47

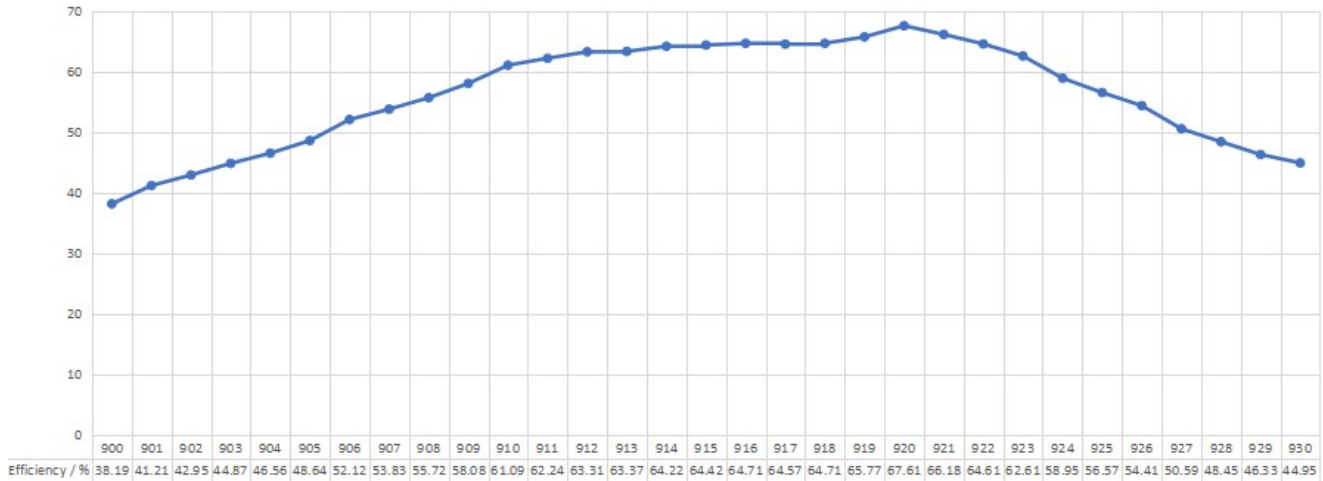
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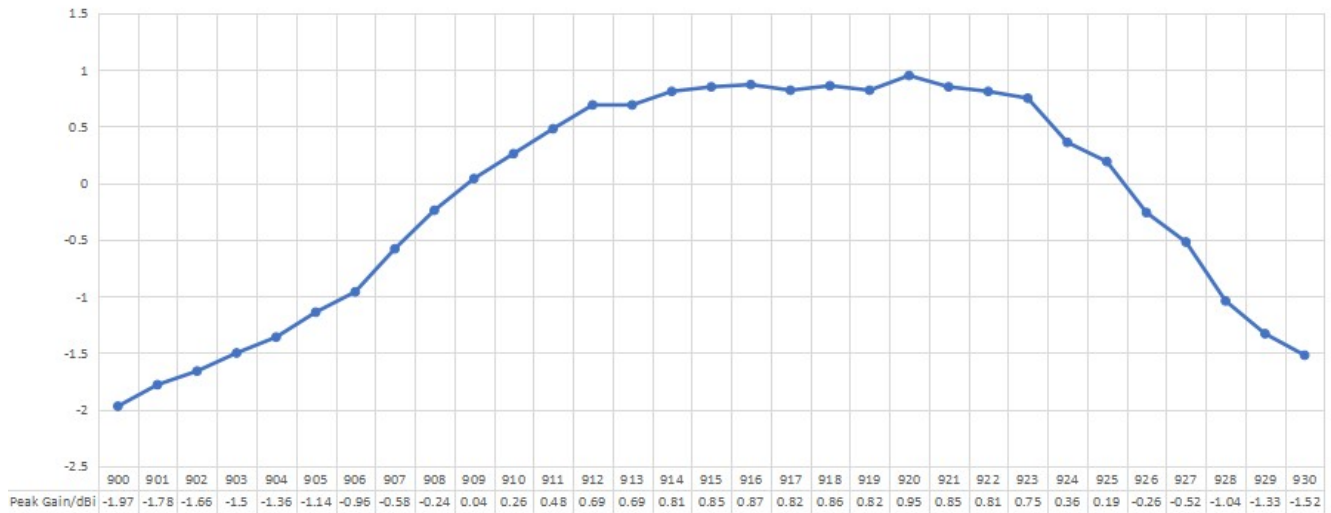
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Efficiency (%)



Peak Gain(dBi)



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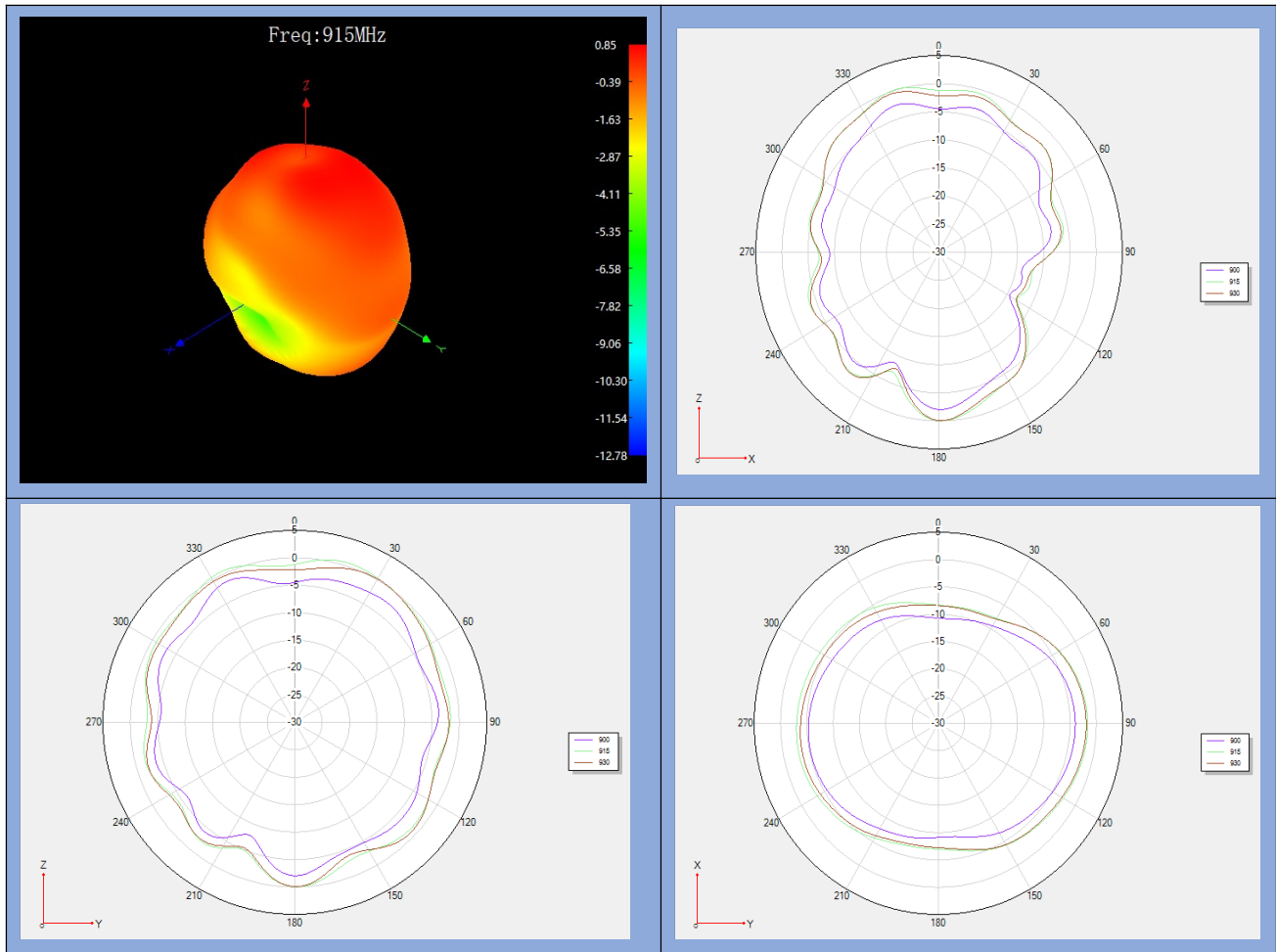
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Figure 8. MAN915C103 Radiation Pattern

Figure 7. 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. MAN915C103 Packaging and Ordering Information

Device	Package	Reel	Shipping
MAN915C103	10*3.2mm	7"	2000 Reel

Revision	Description	Date
Rev0	Preliminary	2023/6/7

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