Chip Antenna

For 4G LTE

MAN0826C230

23x3.5x1.6 mm

MAN0826C230

4G LTE Chip Antenna

Applications

1. GSM device
2. WCDMA gadget
3. 4G LET
4. CAT-1 device

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. MAN0826C230 Electrical Specification

Item	Low Fre	Mid Fre	High Fre	Unit
Frequency Range	698-960	1710-2170	2300-2690	MHz
Efficiency	2-19	10-69	16-44	%
Peak Gain	-3.09	3.04	1.72	dBi
Polarization	Linear	Linear	Linear	
Nominal Impedance	50	50	50	Ω

- Ta: +25±5°C

Mechanical Specifications

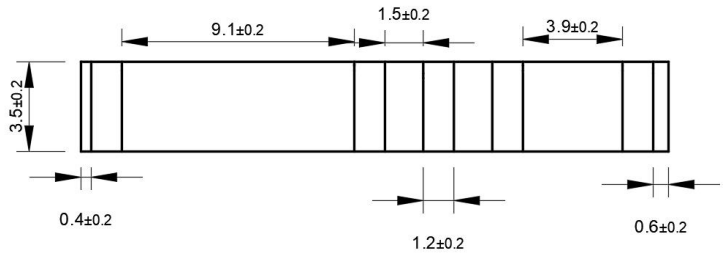
Table 2. MAN0826C230 Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		23*3.5*1.6		Mm
Storage Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

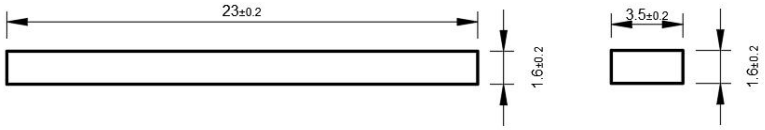
Outline Drawing

Figure 1. MAN0826C230 View (Unit: mm)

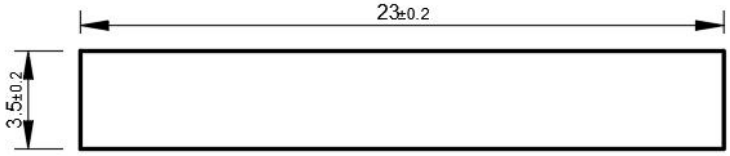
BOTTOM VIEW



SIDE VIEW



TOP VIEW



Recommend PCB Layout

Figure 2. MAN0826C230 PCB Layout (Unit: mm)

TOP VIEW BOTTOM VIEW

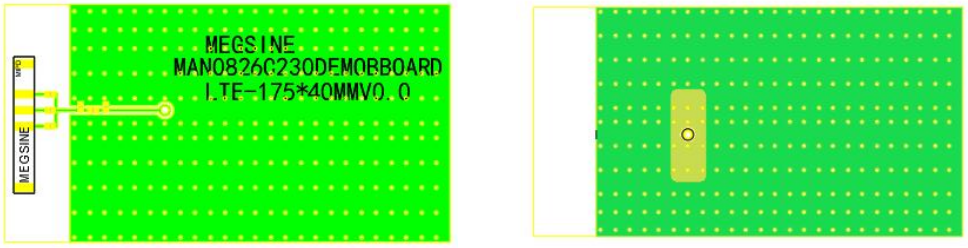


Figure 3. MAN0826C230 Antenna Layout (Unit: mm)

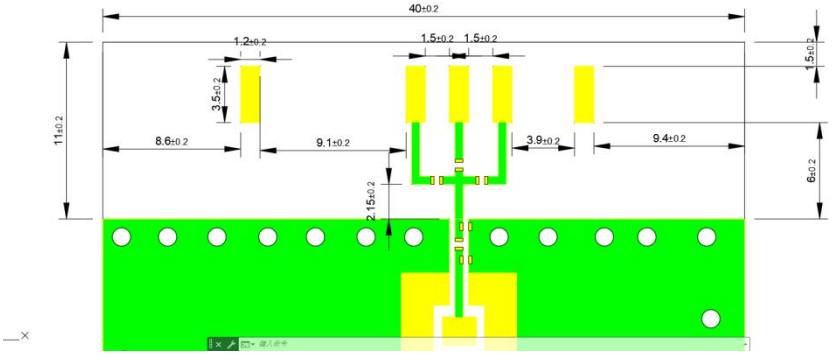


Figure 4. MAN0826C230 Foot Print (Unit: mm)

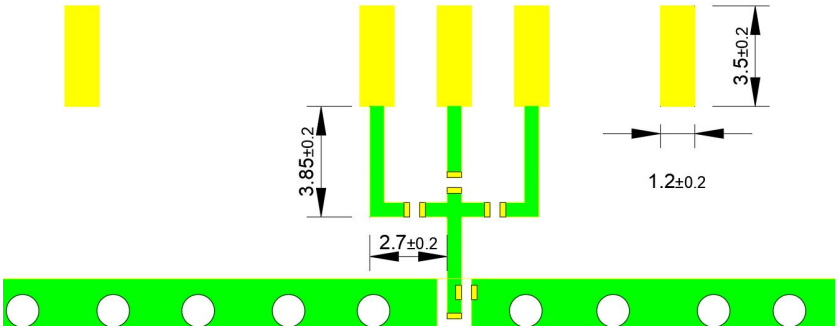


Figure 5. MAN0826C230 Matching Circuit

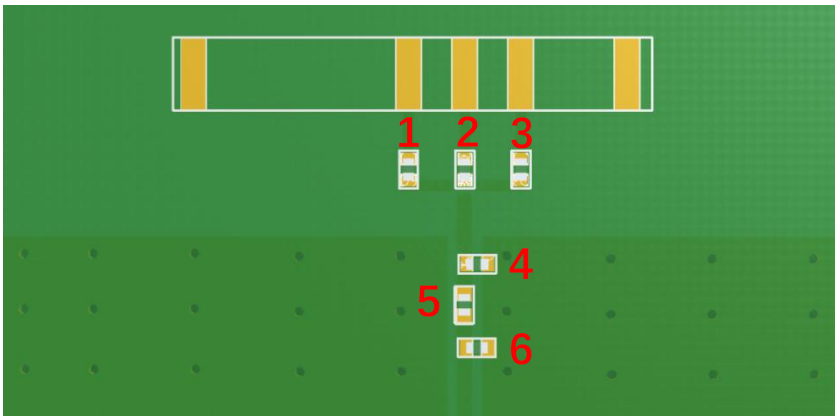
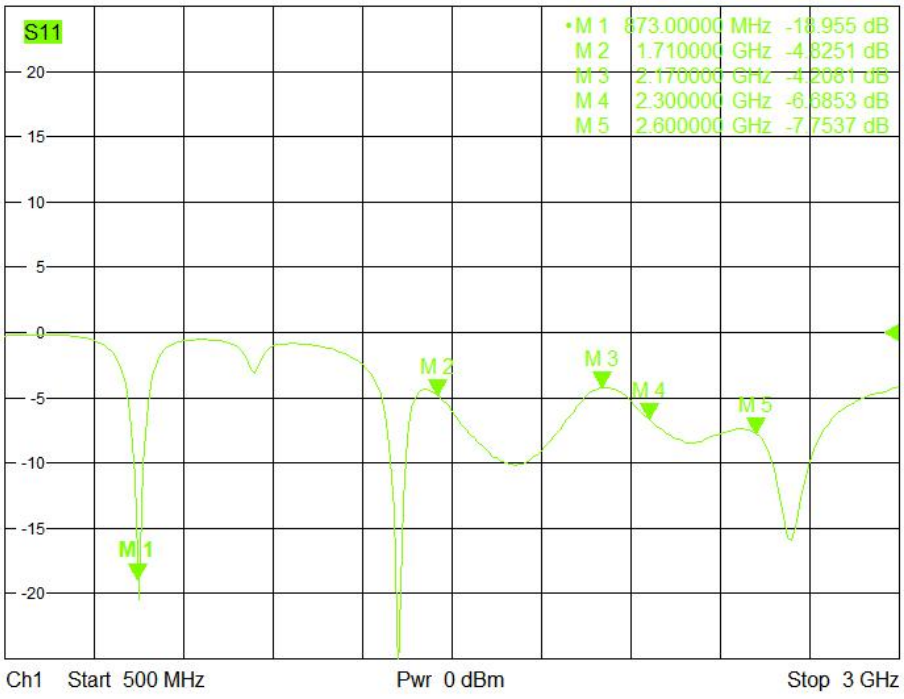


Table 3. MAN0826C230 Matching

Location	Description	Vendor
1	18 nH	MURATA
2	3.6 nH	MURATA
3	3.0 nH	MURATA
4	10 nh	MURATA
5	0 Ω	MURATA
6	N/C	/

Typical Performance

Figure 6. MAN0826C230 Return Loss



Radiation Pattern & Efficiency & Peak Gain

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

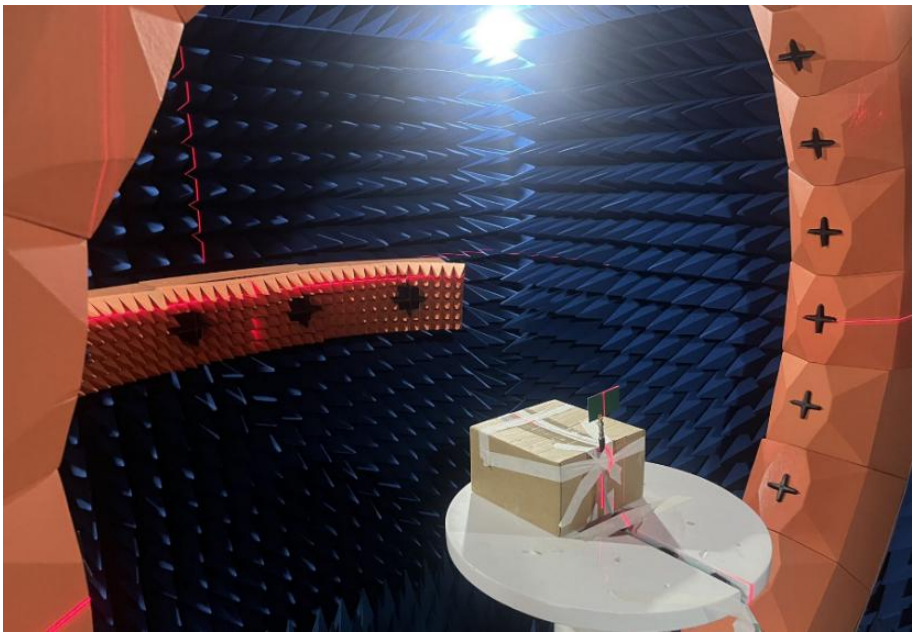


Table 4. MAN0826C230 Total Efficiency&Peak Gain

Item（MHz)	Efficiency (%)	Peak Gain (dBi)	Item (MHz)	Efficiency (%)	Peak Gain (dBi)
830	7	-7.51	2030	52	1.51
850	11	-6.16	2070	34	-0.17
870	16	-4.40	2110	22	-2.24
890	19	-3.09	2150	10	-4.55
910	14	-4.60	2300	26	-0.79
930	7	-8.09	2340	34	0.31
960	2	-14.41	2380	44	1.54
1710	36	-0.43	2420	44	1.72
1750	50	0.66	2460	39	0.85
1790	62	2.06	2500	36	0.90
1830	64	1.75	2540	30	0.12
1870	69	2.99	2580	21	-2.02
1910	67	2.50	2620	16	-3.03
1950	68	3.04	2660	16	-1.84
1990	59	2.47	2700	29	2.03

Figure 8. MAN0826C230 Total Efficiency

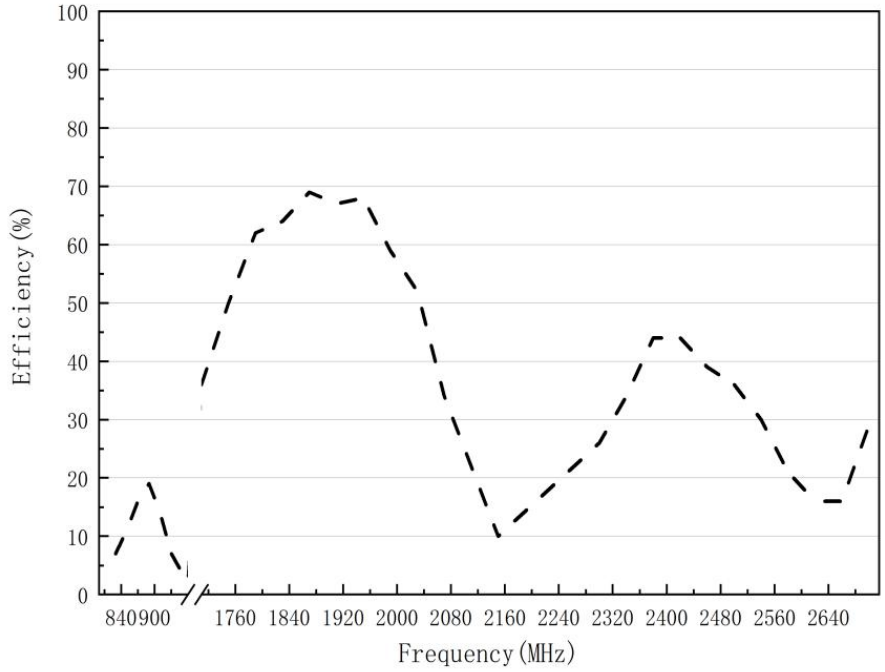
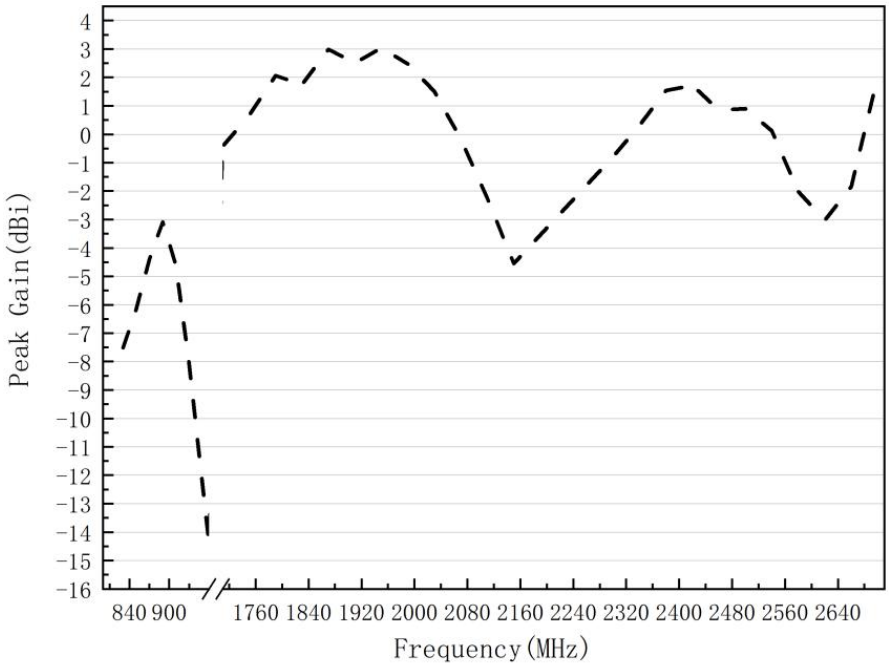


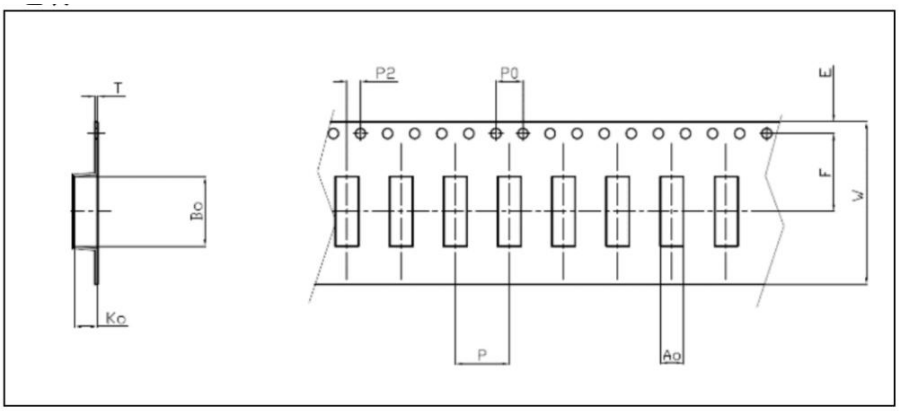
Figure 9. MAN0826C230 Peak Gain



*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.

Packaging and Ordering Information

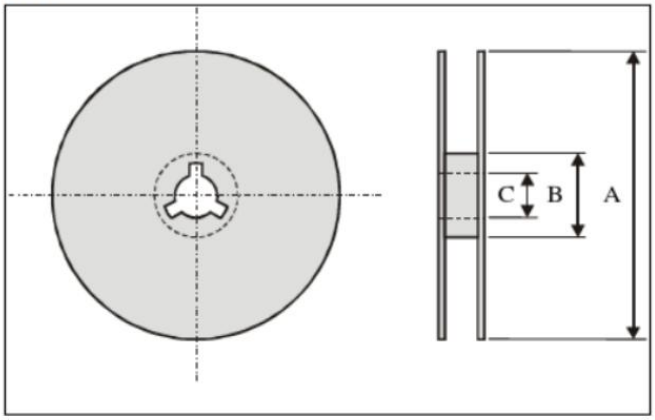
Figure 10. Packaging Information



Plastic Tape specification (unit:mm)

Index	Ao	Bo	Ko	T	W
Dimension (mm)	4.0±0.1	24.0±0.1	1.8±0.1	0.3±0.05	32.0±0.3
Index	E	F	P	P0	P2
Dimension (mm)	1.75±0.1	14.0±0.1	8.0±0.1	4.0±0.1	2.0±0.1

Reel dimensions



Index	A	B	C
Dimension(mm)	330	100	13.5

Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN0826C230	SMD	13”	3000/Reel

Revision	Description	Date
Rev0	Preliminary	2023/8/17