

Chinmore Industry Co.,Ltd.

LTE Chip Antenna

Datasheet V1

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1 PRODUCT OVERVIEW

1.1 Features

- Support all-band signal operation (698~960MHz/1710~2170MHz/2500~2700)
- Reaches 60% antenna efficiency in low, medium and high frequency
- High reliability in small size
- Omnidirectional radiation field
- Match with RLC circuits and components for frequency operation
- Easy for SMT integration and installation

1.2 Applications

- Automotive
 - Handheld devices
 - M2M
 - Global cellular network devices
-

1.3 Product image



Figure 1 Product image

2 SPECIFICATIONS

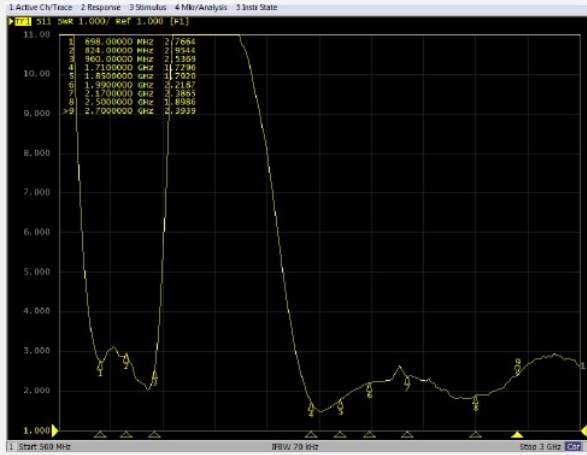
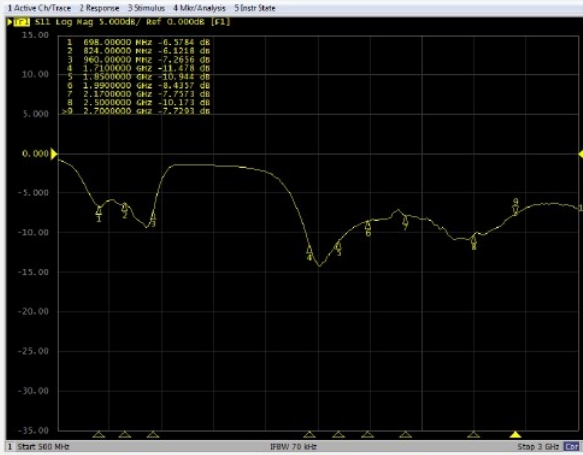
Table 1 Specifications

Parameter	Specification
Working Frequency	698~960 MHz , 1710~2170 MHz , 2500~2700MHz
Dimension	37×8×3 mm
VSWR	3.0 max (depends on the special environment)
Polarization	Linear
Radiation properties	Omni-direction
Impedance	50 Ω
Operating Temperature	-40~85°C
Max Input power	1W
Termination	Ag (Environmentally-Friendly Pb Free)
Mounting	SMT
Environment	ROHS; IATF16949

* Evaluation board size 45x120 mm²

* Actual Electrical value will depend on customer ground plane size

2.1 S11 Response curve

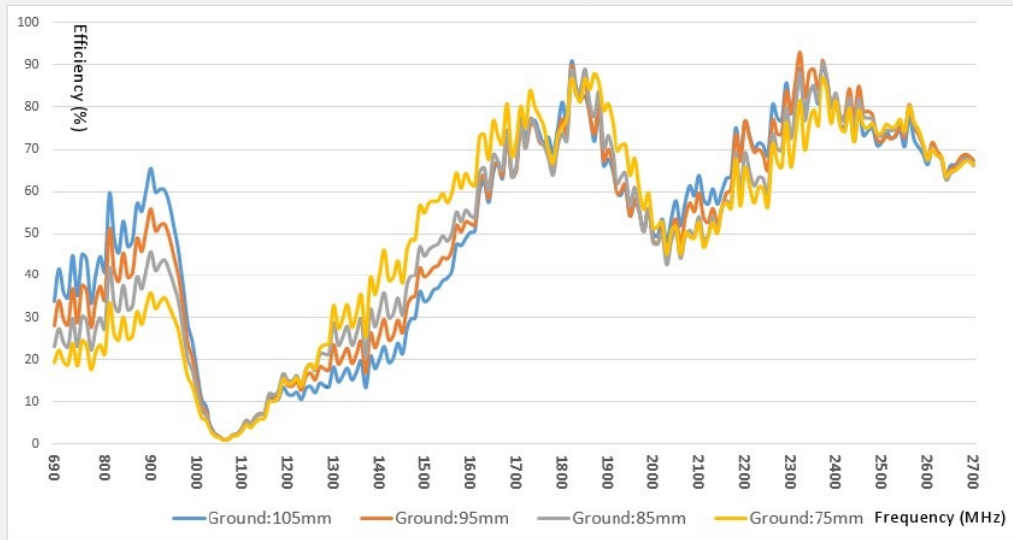


2.2 Gain and Efficiency

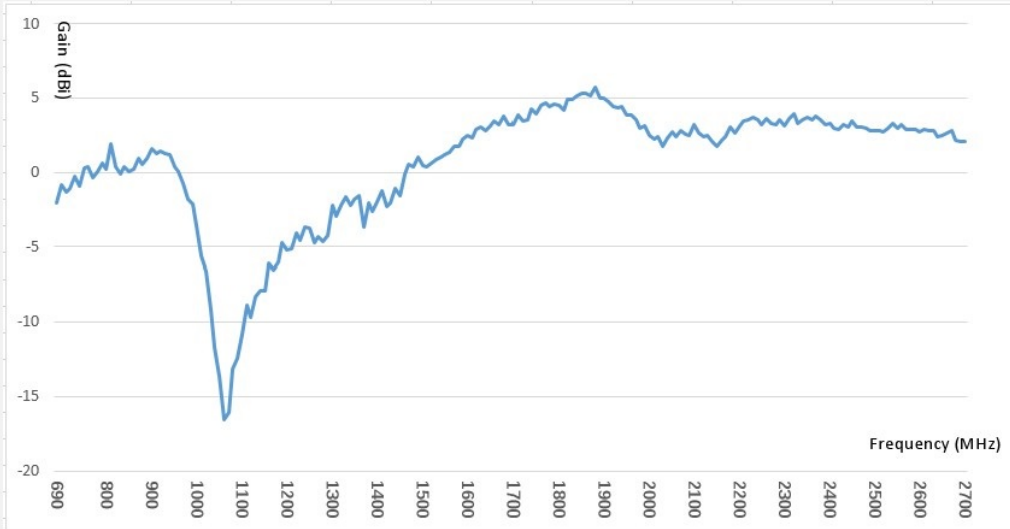
Table 2 Gain and Efficiency (Ground length: 105mm)

Antenna parameter Summary										
Band	698	824	890	960	1710	1850	1990	2170	2500	2700
Peak Gain (dBi)	-1.07	0.15	0.98	0.06	3.84	5.31	3.12	2.40	2.81	2.08
Efficiency (%)	40.75	47.98	60.41	45.87	77.66	82.38	55.84	63.66	71.56	66.11
Average Gain (dBi)	-3.89	-3.18	-2.18	-3.38	-1.09	-0.84	-2.52	-1.96	-1.45	-1.79

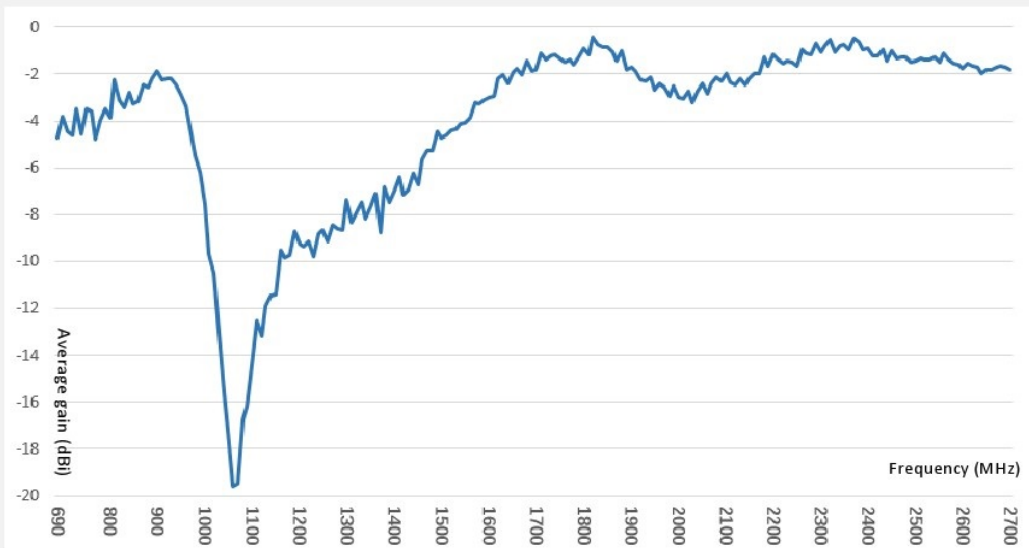
Reference efficiency data with different ground plane length:



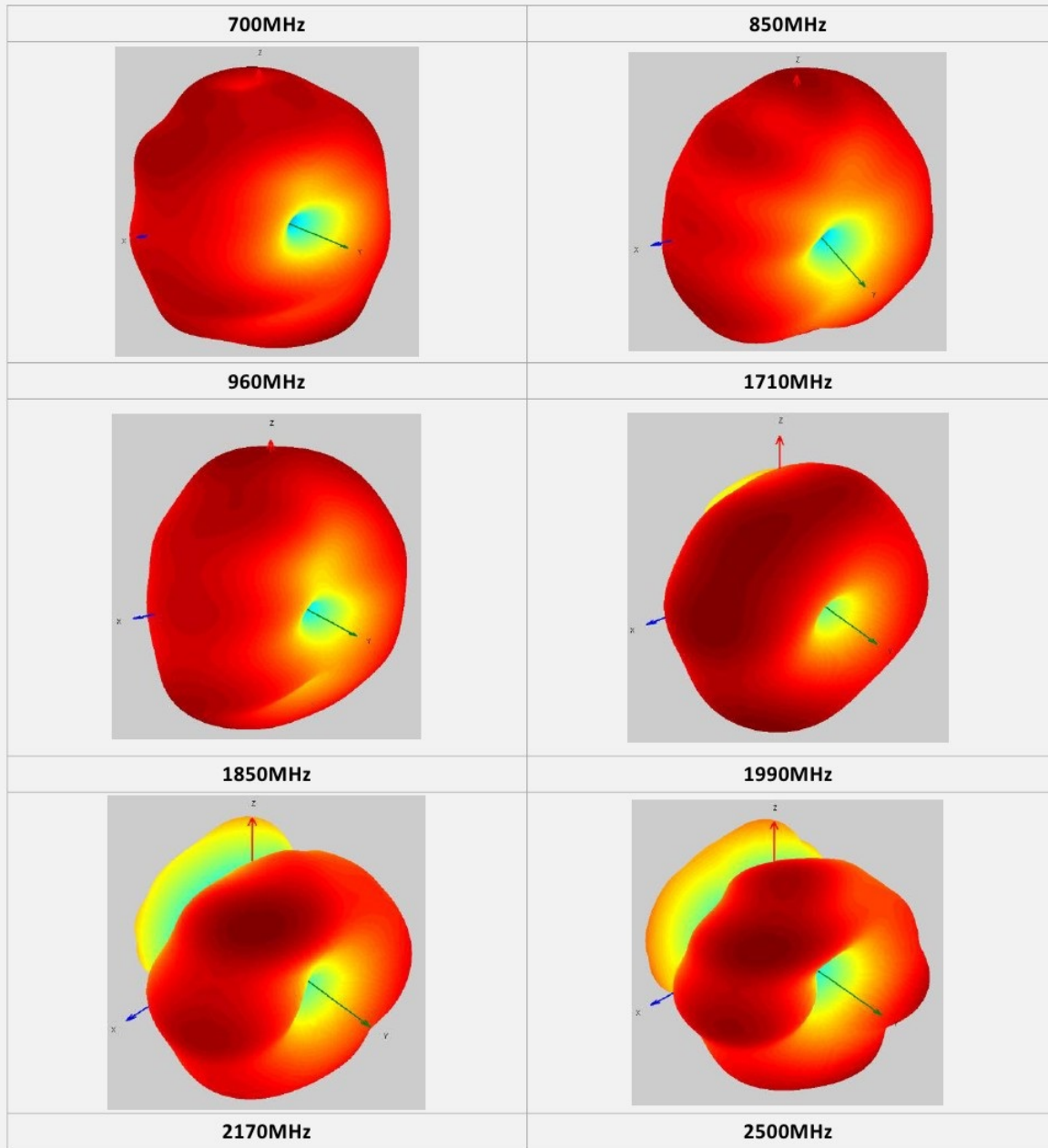
Peak Gain:

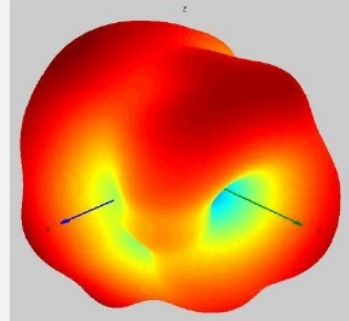
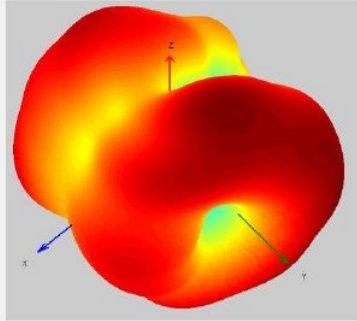


Average Gain:

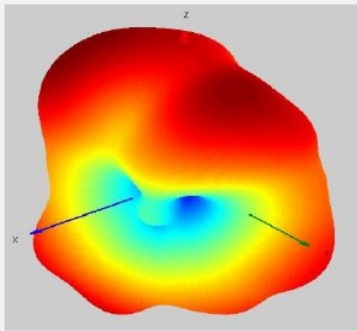


2.3 3D Radiation Pattern





2700MHz



3 MECHANICAL SPECIFICATION

3.1 Antenna dimension

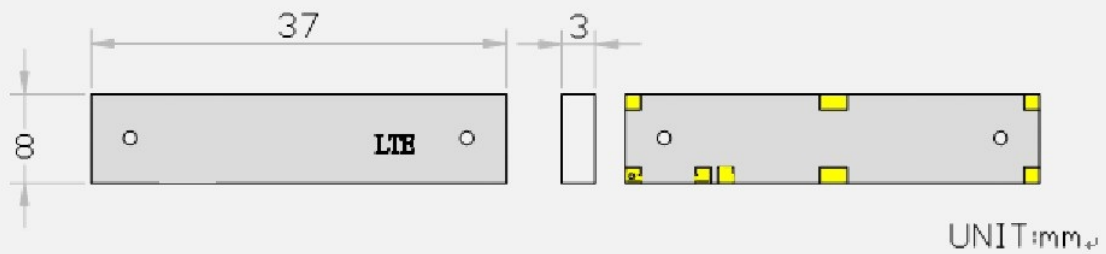
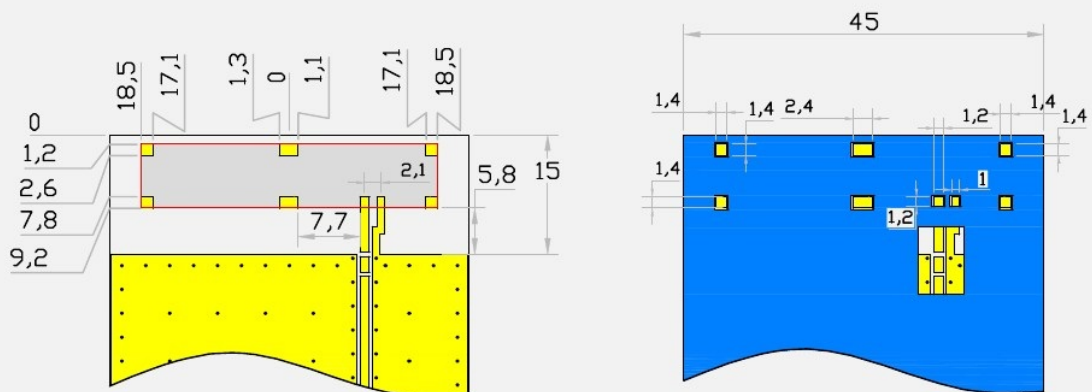
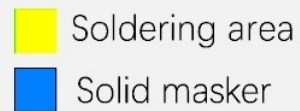


Figure 2 Mechanical specification

3.2 Recommend foot print for Evaluation Board



UNIT:mm



Tolerances unless otherwise specified $\pm 0.1\text{mm}$

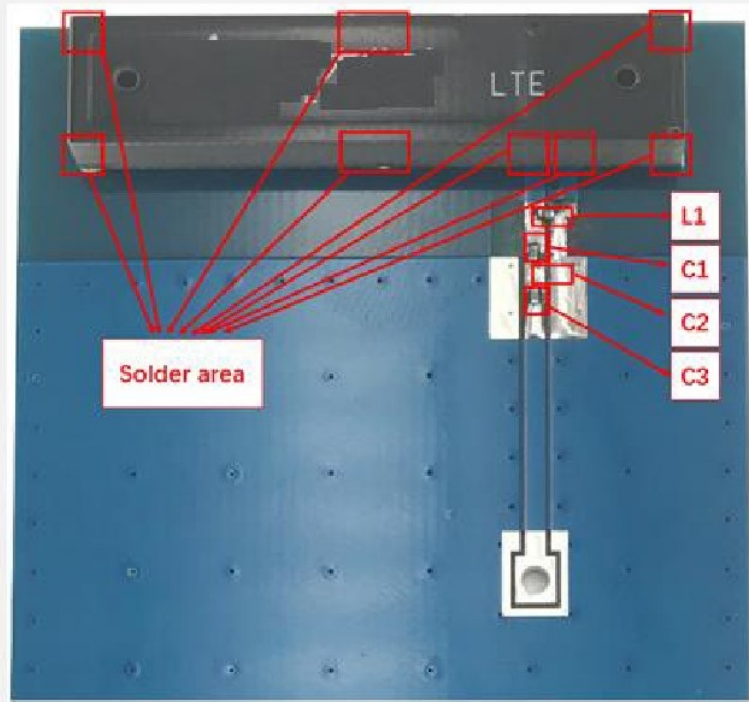


Table 3 Recommended matching value

Circuit Symbol	Size	Description
L1	0402	10nH Inductor
C1	0402	6.8pF Capacitor
C2	0402	N.A
C3	0402	6.8pF Capacitor

4 PRODUCT HANDLING

4.1 Packing hierarchy

The general packing hierarchy differs depending on whether the product is delivered on reels or trays.

Table 4 Packing hierarchy

	Reel	Sealed bag	Packing box	Shipping carton
				

4.1.1 Reel packaging

ARI4001&ARI4001A antennas are delivered as hermetically sealed, reeled tapes in order to enable efficient production, production lot set-up and tear-down. ARI2001 antennas are deliverable in quantities of 1500pcs on a reel.

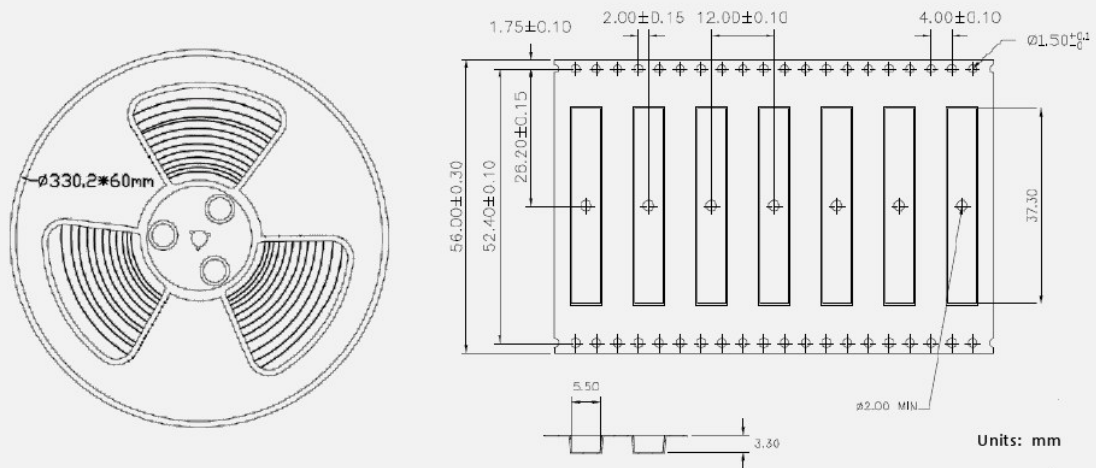


Figure 3 Reel and tape dimensions

4.1.2 Package dimensions

The reels of antennas are packed in the sealed bags and shipped by the packing boxes and shipping cartons. There are four packing boxes (6000pcs) in one shipping carton.

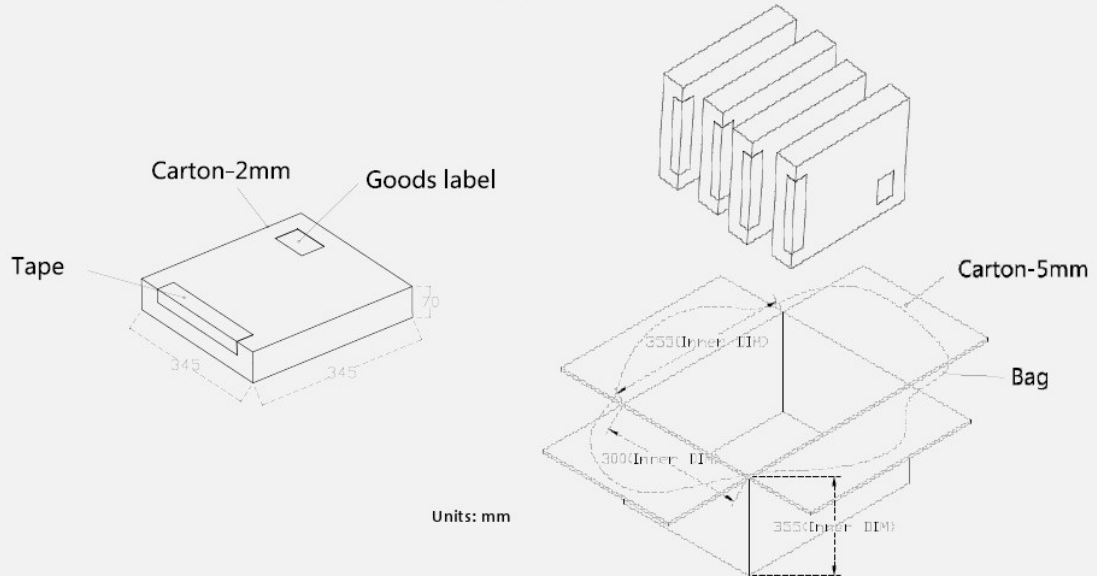


Figure 4 Box and carton dimensions

Table 5 Package dimensions

Material	Dimension
Packing box	345*345*70mm
Shipping carton	355*300*355mm

4.2 Disposal information

This device must not be treated as household waste.

For more detailed information about recycling electronic components contact your local waste management authority.



