ECM A C BX 321610 S C

1. Explanation of Product Number

E	C	M	A	C	B	X	32	16	10	S	C

| | | (1) | (2) | (3) | | (4) | | (5) | (6) |

Product Code:

    (1) Product Categories

        A: Antenna

    (2) Product Material

        C: Ceramic

    (3) Working Frequency

        BX: 2.45GHz

    (4) Package Outline

        321610: 3.2×1.6×1.04mm

    (5) Packaged form

        S: SMT

    (6) Packing Information

        C: Tape&Reel

2. Feature

* Light weight and low profile 3.2mm (L) X1.6mm (W) X1.04mm (H)
* Omni-directional in azimuth
* Lead (Pb) Free

3. Application

* 2.4GHz wireless communications
* 2.4GHz Modules
* Bluetooth System
* 802.11b/g Wireless LAN System

4. Description

Eternal chip antenna series are specially designed for Bluetooth/Wi-Fi applications. Based on Eternal proprietary design and processes, this chip antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications

Characteristics	Specifications	Unit
Center Frequency	2.45	GHz
Peak Gain	2.5(Typ.)	dBi
VSWR	2.5max.	
Bandwidth	110(Typ.)	MHz
Impedance	50	Ω
Power handling	1(Max.)	W
Polarization	Linear	
Azimuth beamwidth	Omni-directional	
Soldering pad	Natural tin	
Operation temperature	-40~+85	℃
Storage Temperature	-40~+85	℃

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6. Pin configuration

Top View
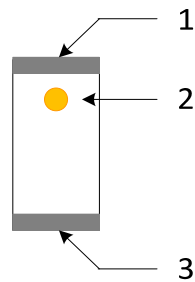
Pin No.	Pin assignment
1	Feed termination
2	Feed point mark
3	Solder termination

7. Dimensions
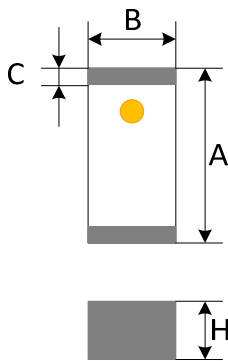
Symbol	Dimensions(mm)
A	3.20±0.10
B	1.60±0.10
C	0.30±0.05
H	1.04±0.20

8. PCB Foot Print
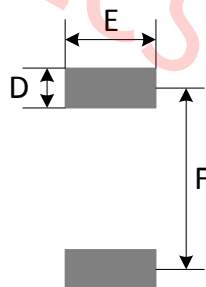
Symbol	Dimensions(mm)
D	0.70
E	1.60
F	3.20

9. Recommended Test Board Pattern

Top View

Bottom View

50 Ohm
Transmission line

Ground Plane
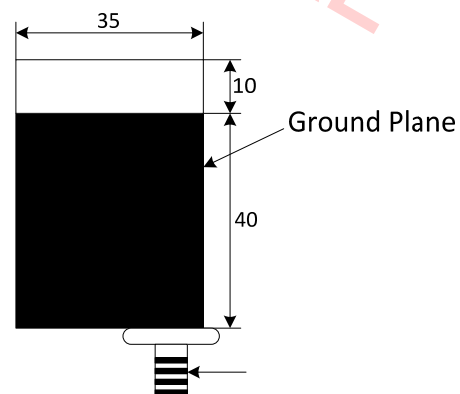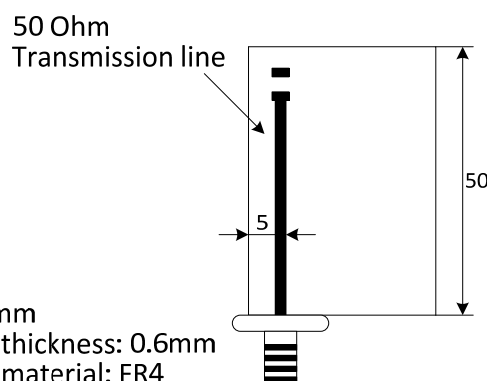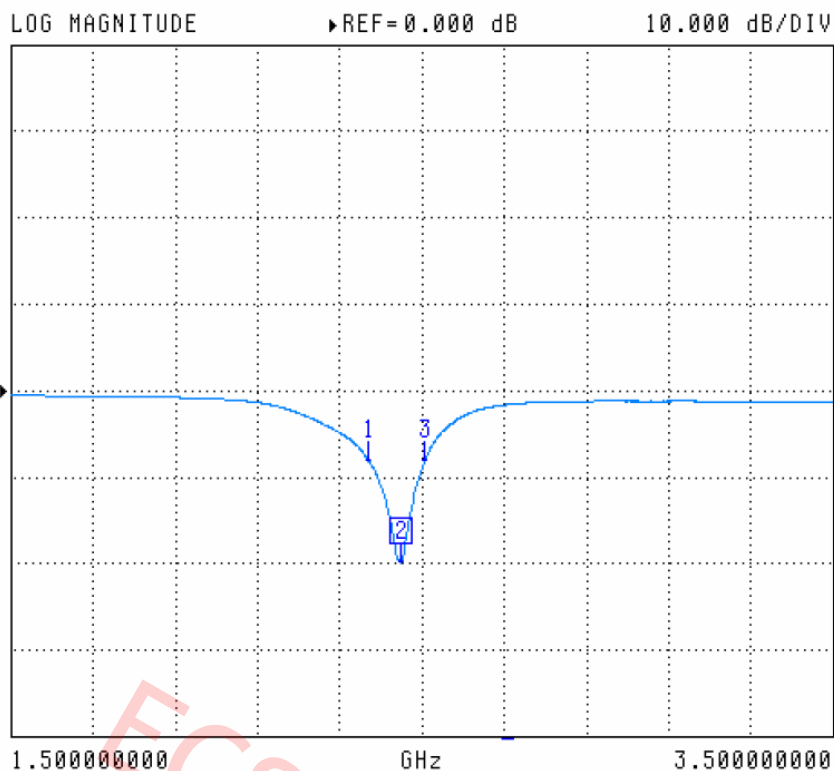
Unit: mm
Board thickness: 0.6mm
Board material: FR4

10. Typical Electrical Characteristics

➢ **Return loss**

S11 FORWARD REFLECTION

LOG MAGNITUDE   ▶REF=0.000 dB   10.000 dB/DIV

CH 1 - S11
REFERENCE PLANE
0.0000 mm

▶MARKER 2
2.450000000 GHz
-19.847 dB

MARKER TO MAX
MARKER TO MIN

1   2.371250000 GHz
-8.069 dB

3   2.510000000 GHz
-8.034 dB

1.500000000   GHz   3.500000000

MARKER READOUT
FUNCTIONS

➢ **Smith Chart**

S11 FORWARD REFLECTION
IMPEDANCE

1.500000000 - 3.500000000 GHz
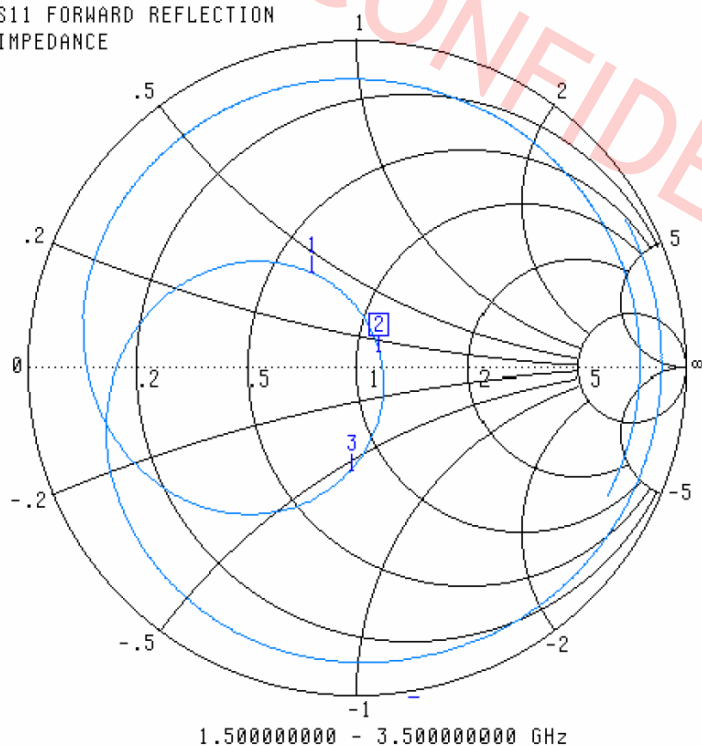
Marker data:
1: f=2.411GHz
2: f=2.450GHz
3: f=2.492GHz

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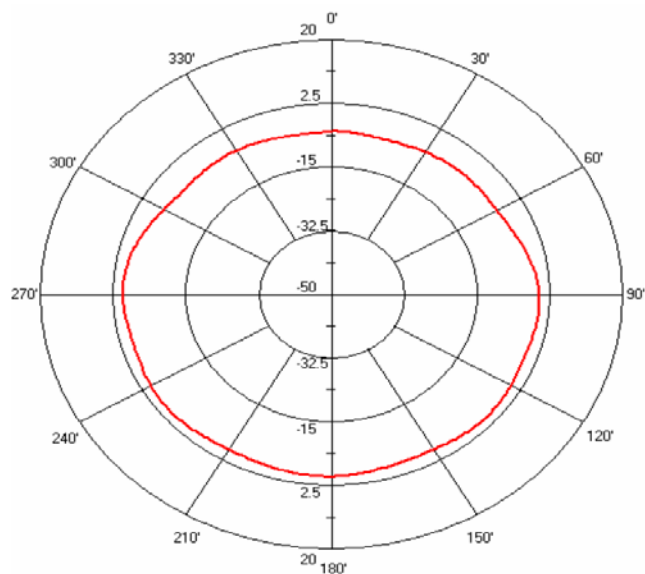Ver. 1.0

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11. Typical Radiation Patterns

2.45GHz H-plane Vertical
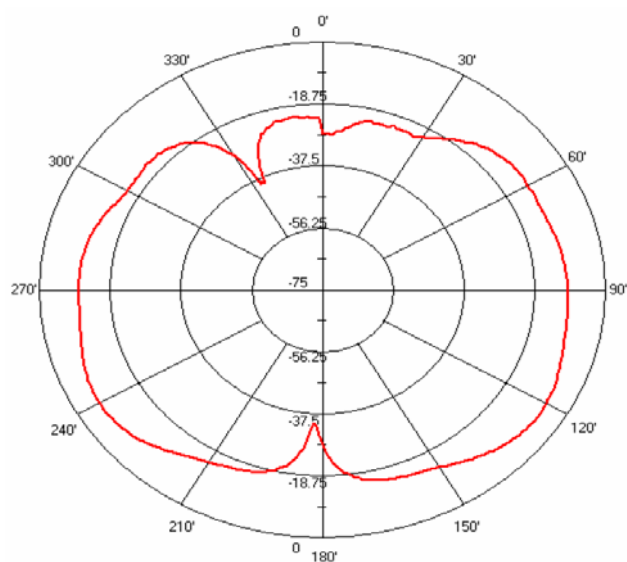
2.45GHz H-plane Horizontal

2.45GHz E-plane Vertical
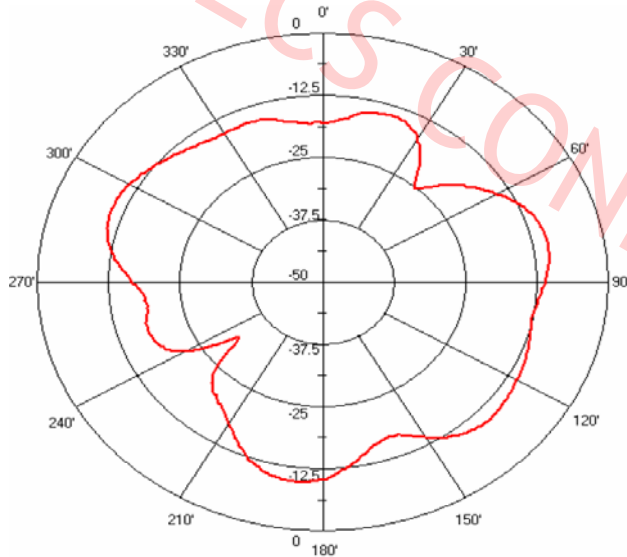
2.45GHz E-plane Horizontal

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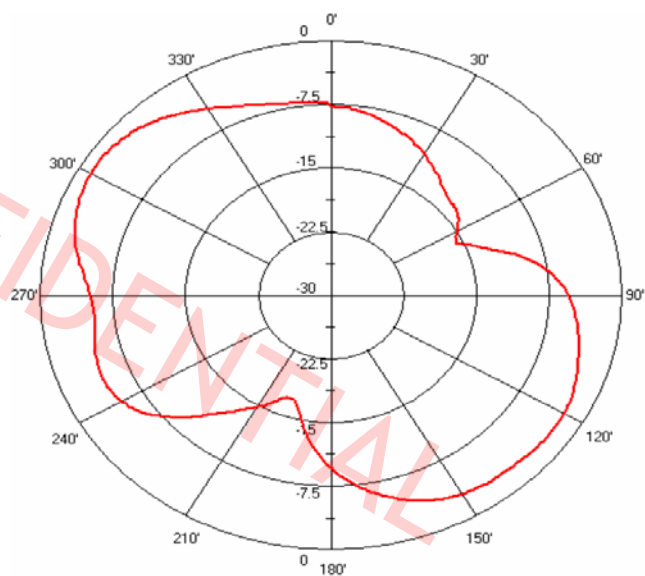
12. Typical Soldering Profile for Lead-free Process

➤ Reflow Soldering

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