GLOBAL EAST ASIA TECHNOLOGY CO.,LTD

P/N: GL2400L321504XZB01

Product Name: Ceramic chip antenna

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1 SCOPE

This specification shall cover the characteristics of the ceramic chip antenna with the type GL2400L321504XZB01

2 PART NO.

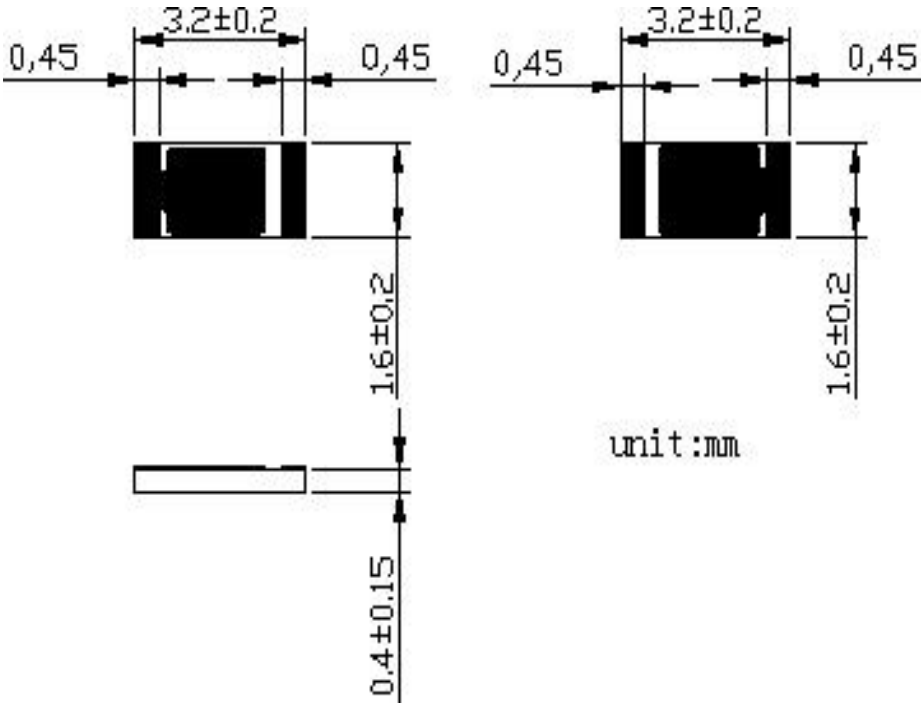
PART NUMBER	CUSTOMER PART NO	SPECIFICATION NO
GL2400L321504XZB01		

3 OUTLINE DRAWING AND DIMENSIONS

3.1 Appearance: No visible damage and dirt.

3.2 The products conform to the RoHS directive and national environment protection law.

3.2 Dimensions



4 Features

4.1 Stable and reliable in performances

4.2 Low temperature coefficient of frequency

4.3 Low profile, compact size

4.4 RoHS compliance

4.5 SMT processes compatible

5 Applications

5.1 Bluetooth earphone systems

5.2 Hand-held devices when WiFi /Bluetooth functions are needed, e.g., Smart phone.

5.3 IEEE802.11 b/g/n

5.4 ZigBee

5.5 Wireless PCMCIA cards or USB dongle

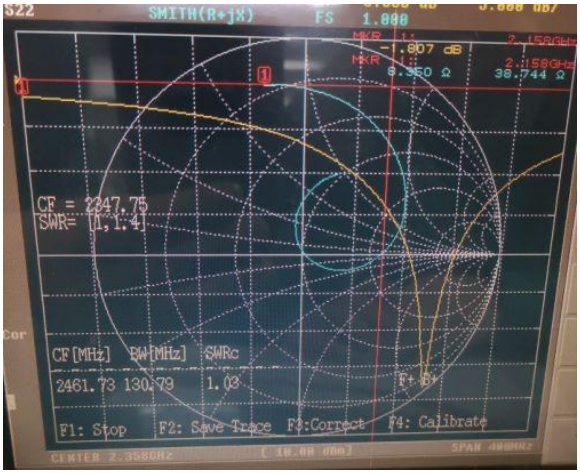
6 ELECTRICAL SPECIFICATIONS

6.1 Performance Characteristics (90 ×40 mm2 ground plane)

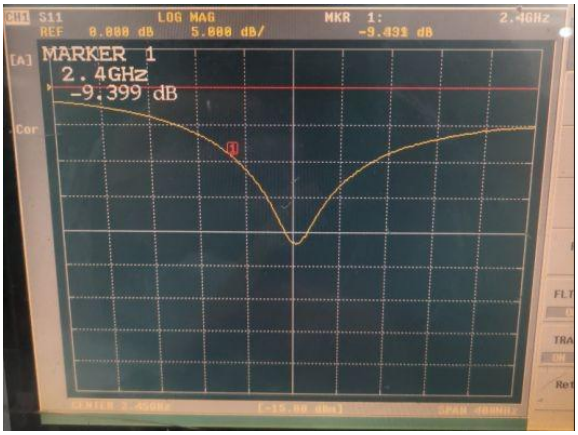
Items	Content
Outline Dimensions	3.2x1.5x0.4mm
Working Frequency	2400~2500 MHz
VSWR	2 Max
Impedance	50 Ω
Maximum Input Power:	2W
Operating Temperature	-40 to 85 ℃

6.2 VSWR Characteristic

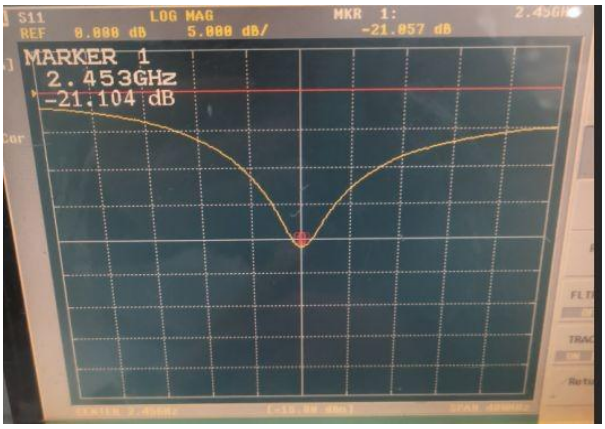
VSWR 1.03 @2.46MHZ



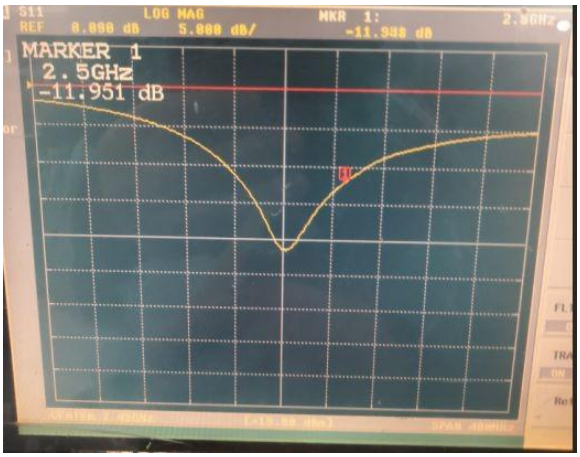
Antenna S11 on Test Board



-9.3dB@2.4GHZ



-21.1dB@2.45GHZ



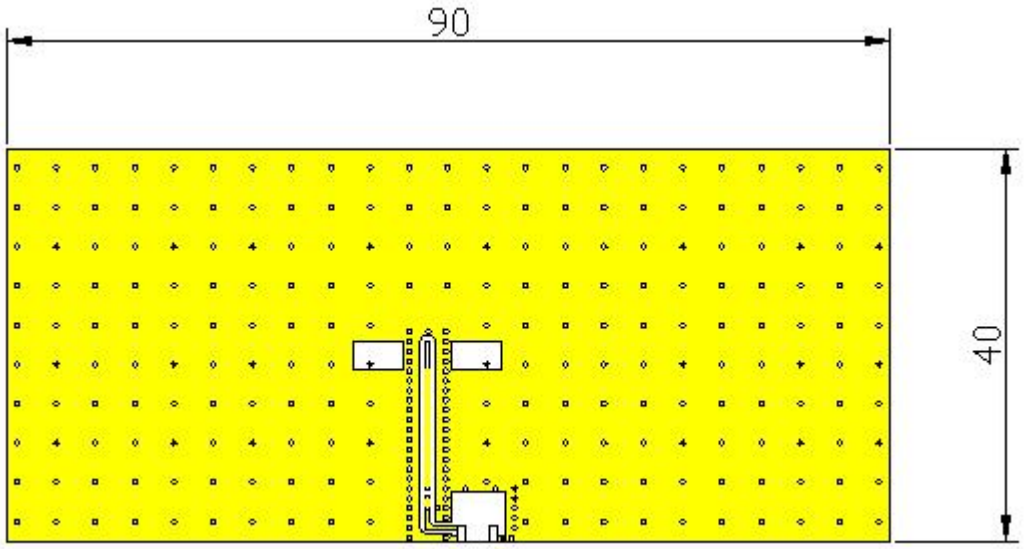
-11.9dB@2.50GHZ

7 TEST

7.1 Test Conditions

Parts shall be measured under a condition (Temp.:20℃±15℃, Humidity : 65%±20% R.H.).

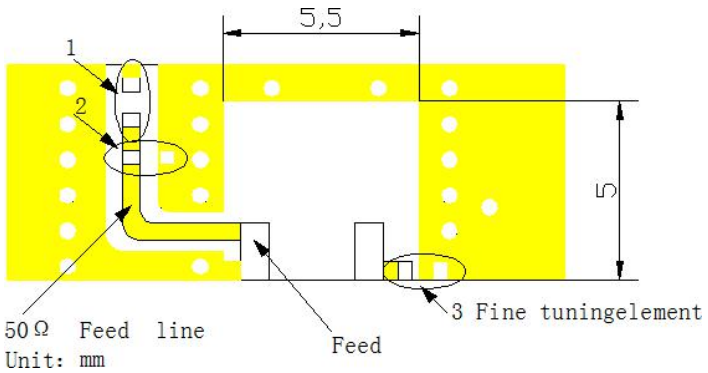
7.2 Test Board with Antenna



8 Layout Guide

8.1Solder Land Pattern:

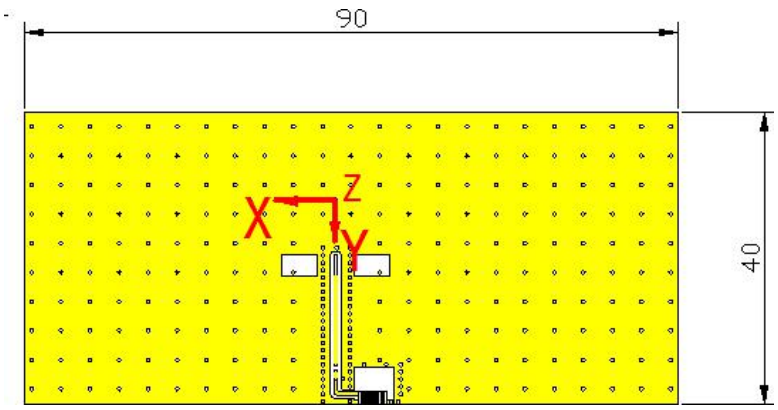
Land pattern for soldering is as shown below. Depending on Customer's requirement, matching circuit as shown below is also recommended.

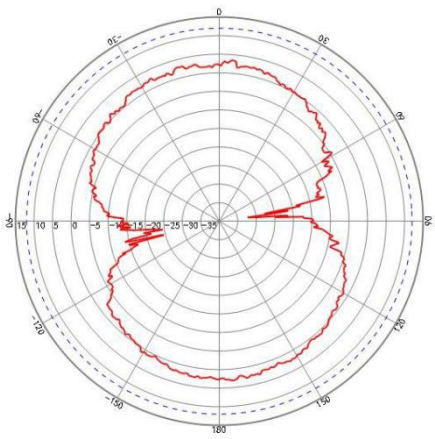
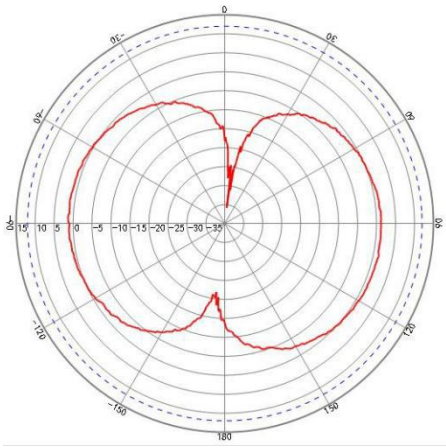
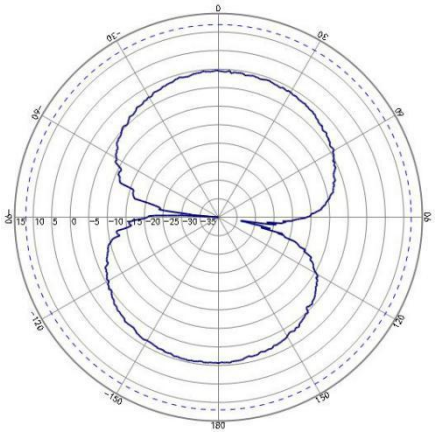
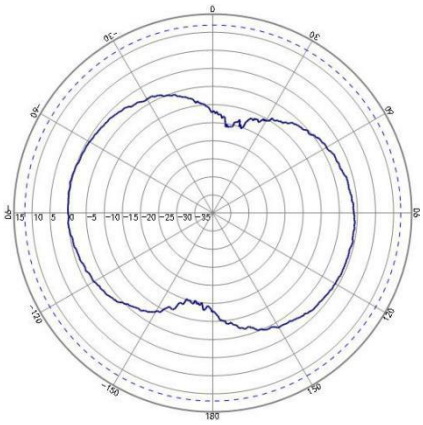
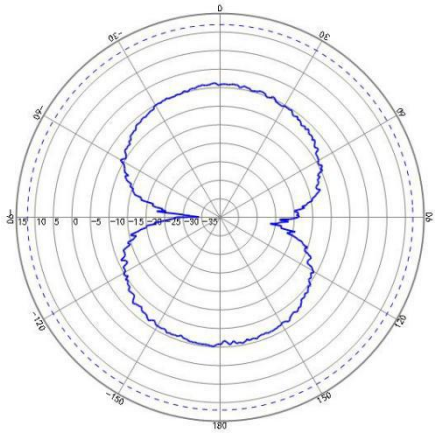
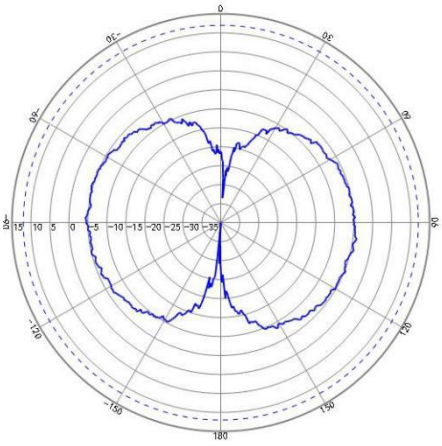


System Matching Circuit Component			
Location	**Description**	**Vendor**	**Tolerance**
1	**1.2 pF***	**0402**	**0.1 pF**
2	**3.3nH***	**0402**	**0.1 nH**
3 Fine tuning element	**1.5 pF***	**0402**	**0.1 pF**
***Typical reference values which may need to be changed when circuit boards or part vendors are different.**			

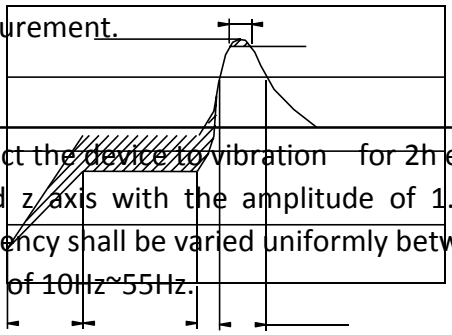
RADIATION PATTERN

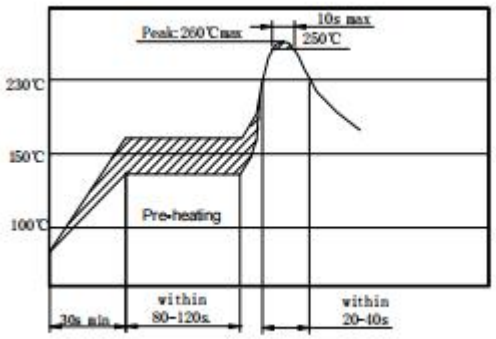
Radiation Pattern and Gain were dependent on measurement board design. The specification of DAG2400L321504XZB01-R0. antenna was measured based on the PCB size and installation position as shown in the below figure Test Board



	Vertical	Horizontal
XY	 Gain 3.47	 Gain 1.5
YZ	 Gain -0.35	 Gain 0.39
ZX	 Gain -3.71	 Gain -3.93

9 ENVIRONMENTAL TEST

No.	Item	Test Condition	Remark
9.1	Humidity Test	The device is subjected to 90%~95% relative humidity 60℃±3℃ for 96h~98h,then dry out at 25 ℃ ± 5 ℃ and less than 65% relative humidity for 2h~4h. After dry out the device shall satisfy the specification in table 1.	It shall fulfill the specifications in Table 1.
9.2	High Temperature Exposure	The device shall satisfy the specification in table 1 after leaving at 85℃ for 96h~98h,provided it would be measured after 2h~4h leaving in 25℃ ±5 ℃ and less than 65% relative humidity.	It shall fulfill the specifications in Table 1.
9.3	Low Temperature	The device shall satisfy the specification in table 1 after leaving at -40℃ for 96h~98h,provided it would be measured after 2h~4h leaving in 25℃ ±5 ℃ and less than 65% relative humidity.	It shall fulfill the specifications in Table 1.
9.4	Temperature Cycle	Subject the device to -40 ℃ for 30 min. followed by a high temperature of 85℃ for 30 min cycling shall be repeated 5 times. At the room temperature for 1h prior to the measurement. 	It shall fulfill the specifications in Table 1.
9.5	Vibration	Subject the device to vibration for 2h each in x、y and z axis with the amplitude of 1.5mm, the frequency shall be varied uniformly between the limits of 10Hz~55Hz.	It shall fulfill the specifications in Table 1.

9.6	Soldering Test	Passed through the re-flow oven under the following condition and left at room temperature for 1h before measurement.  	It shall fulfill the specifications in Table 1.

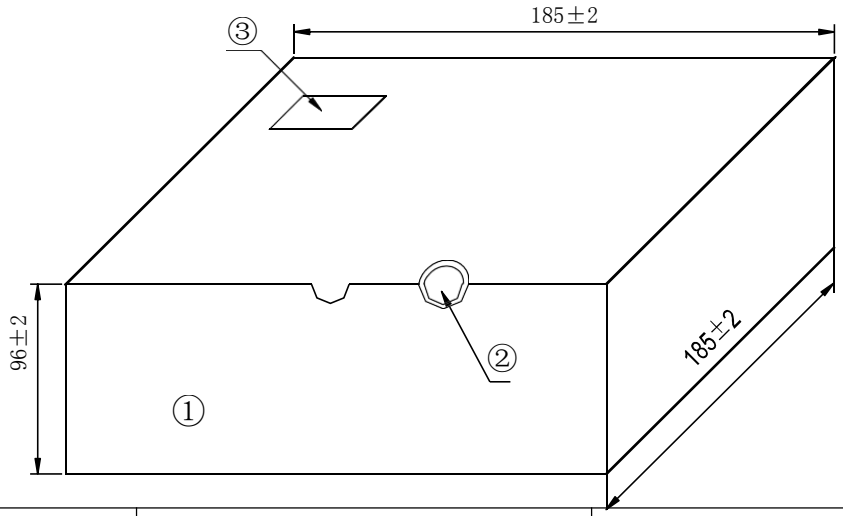
9.7	Solder Ability	Dipped in 245℃±5℃ solder bath for 3s±0.5 s with rosin flux (25wt% ethanol solution.)	The terminals shall be at least 95% covered by solder.

TABLE 1

Item	Specification After Test (MHz)
Center Frequency change	±2.0

10. PACKAGE

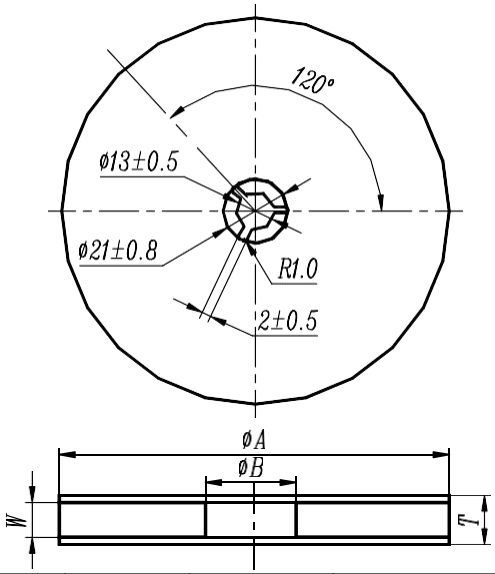
10.1 To protect the products in storage and transportation， it is necessary to pack them. 5000pcs/reel,5 reels/box. Box Dimensions：



NO.	Name	Quantity
①	Inner Box	1
②	QC Label	1
③	Label	1

10.2 On reel pack, the following requirements are requested.

10.3 Reel Dimensions



ϕA	ϕB	W	T	Pieces per reel	Carrier tape size
180±3	60min	8.4min	12.4max	5000typ.	8

11. OTHER

11.1 Caution of use

11.1.1 Please don't apply excess mechanical stress to the component and terminals at soldering.

11.1.2 The component may be damaged when an excess stress will be applied.

11.1.3 This specification mentions the quality of the component as a single unit. Please insure the component is thoroughly evaluated in your application circuit.

11.2 Notice

11.2.1 Please return one of these specifications after your signature of acceptance.

11.2.2 When something gets doubtful with this specification, we shall jointly work to get an agreement