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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# DATA SHEET

WIRELESS COMPONENTS  
Ceramic Chip Antenna  
ANT2012LL13R2400A

2.4 – 2.5 GHz  
2012 Series



**FEATURES**

- Compact size
- Omni-directional radiation
- Tape & reel automatic mounting
- Reflow process compatible
- RoHS compliant

**APPLICATIONS**

- 2.4 GHz WiFi device
- Bluetooth gadget
- Zigbee device
- ISM band equipment

**ORDERING INFORMATION**

All part numbers are identified by the series, packing type, material, size, antenna type, working frequency and packing quantity.

**PART NUMBER**

**ANT 2012 L L13 R 2400A**  
(1) (2) (3) (4) (5) (6)

**(1) PRODUCT**

ANT = Antenna

**(2) SIZE**

2012 = 2.0 × 1.2 mm

**(3) ANTENNA TYPE**

L,F,A = Chip Antenna

**(4) SERIAL NO.**

L13

**(5) PACKING STYLE**

R = Tape and Reel

**(6) WORKING FREQUENCY**

2400 = 2.400 GHz

**PHYCOMP CTC**

CAN4311714132454K

**I2NC**

431171413245

**SPECIFICATION**

Table 1

DESCRIPTION	VALUE
Centre Frequency	2.45 GHz
Bandwidth	85 MHz (Typ.)
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Peak Gain	2.72 dBi (Typ.)
Impedance	50 Ω
Operating Temperature	- 40~105 °C
Maximum Power	1 W
Termination	Ni / Sn (Environmentally-Friendly Leadless)
Resistance to Soldering Heats	260°C , 10sec.

**NOTE**

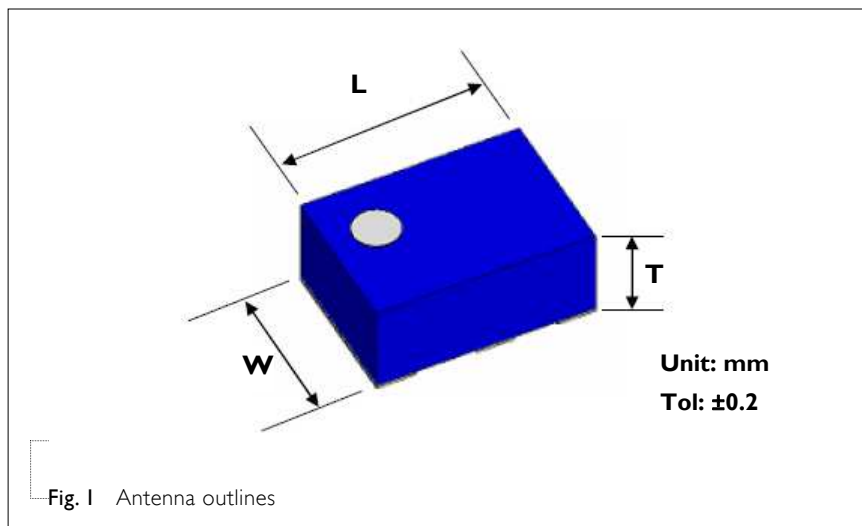
1. The specification is defined on Yageo evaluation board

**DIMENSIONS**

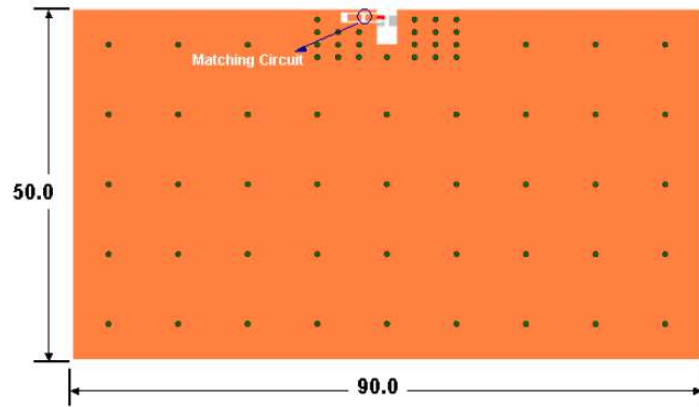
Table 2 Machinical Dimension

	DIMENSION
L (mm)	2 ±0.20
W (mm)	1.25 ±0.20
T (mm)	1.00 ±0.20

**OUTLINES**

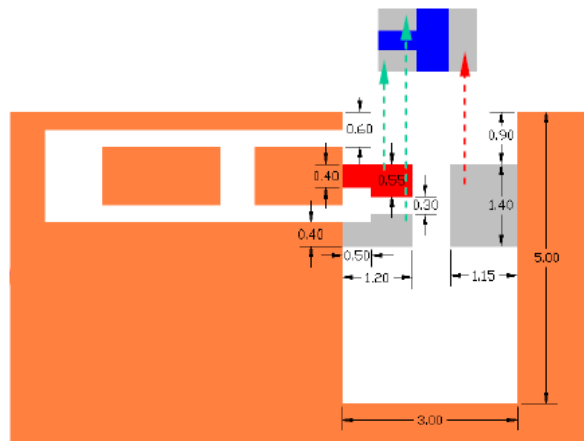


**REFERENCE DESIGN OF EVALUATION BOARD**



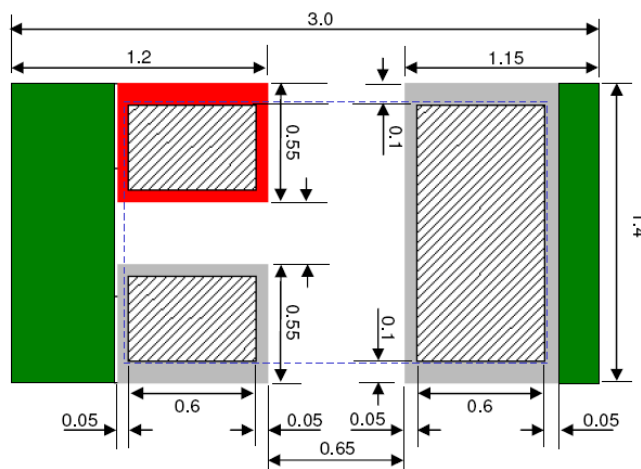
■ Copper   
 ● Ground via hole   
 ■ Feed contact   
 ■ Ground contact   
 Unit: mm

**Fig. 2** Outlook and dimension of evaluation board



Unit: mm

**Fig. 3** Dimension of footprint

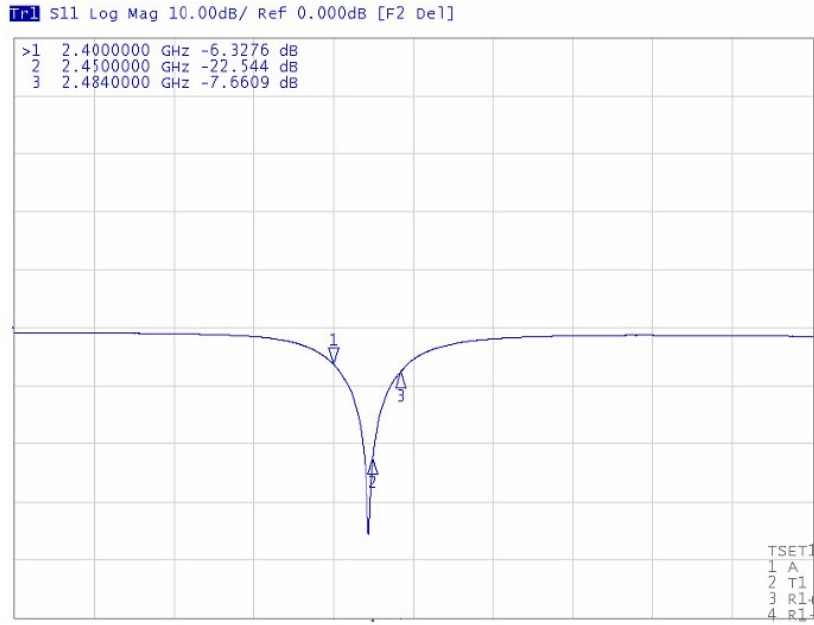


Unit: mm  
Tol: ±0.05

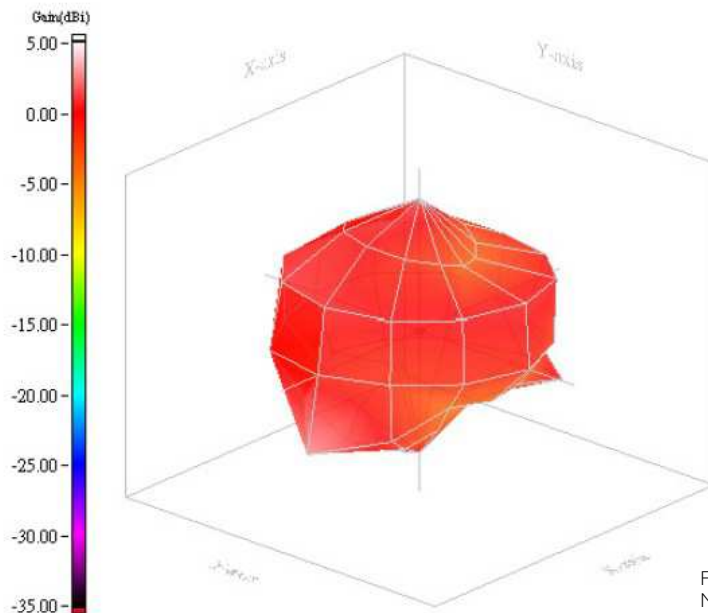
■ Covering Paint   
  Position of the Chip Antenna  
■ Footprint for Feeding   
  Soldering Pads of Chip Antenna  
■ Footprint (connect to ground)

**Fig. 4** Details of soldering pad

**ELECTRICAL PERFORMANCES**



**Fig. 5** Return loss



Frequency= 2.45 GHz  
 Max gain = 2.72dBi, at (120,0)  
 MEG (mean effective gain)= -0.69 dBi  
 Directivity (dB) = 3.88  
 Efficiency = -1.16dB, 76.56 %

**Fig. 6** Radiation pattern

**REVISION HISTORY**

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Mar. 05, 2013	-	- New data sheet for SMD type antenna, 2.45GHz application, 2012 series.