

# Multi Layer Ceramic Chip Antenna 2012 (0805) Size

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## Features

- LTCC process
- High stability in Temperature / Humidity Change
- Automotive, Qualified to AEC-Q200
- Surface Mounted Devices with a small dimension of 3.2mm×1.6mm×1.2mm<sup>3</sup> meet future miniaturization trend.

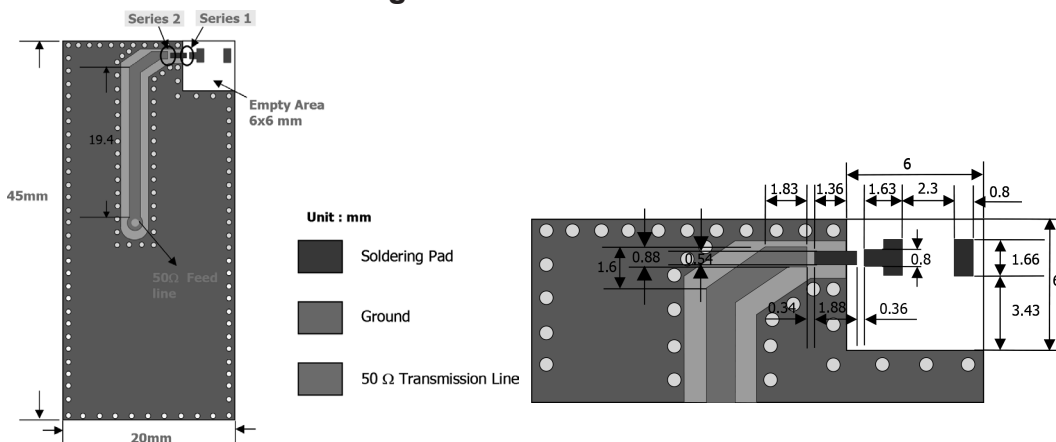
## Applications

- 2400 ~ 2500 MHz working frequency
- Bluetooth
- Wireless LAN
- Home RF

## Electrical Characteristics

Working Frequency Range	: 2400MHz ~ 2500MHz
Fc	: 2.9GHz
Gain	: 2 dBi (Typical)
VSWR	: 2 max.
Matching Component Value	: Series 1: 6.8nH Series 2: -
Power Capacity	: 3W max.
Maximum Input Power	: 5 Watts for 5 minutes
Polarization	: Linear
Azimuth Beam width	: Omni-directional
Moisture Sensitivity Levels	: MSL is LEVEL 1 (Refer to : IPC/JEDEC J-STD-020)
HBM ESD	: Pass 1KV on all pins (Base on AEC-Q200-002)
MM ESD	: Pass 200V (Base on EIA/JESD22-A115)
Operation & Storage Temp. Range	: -55°C to +125°C
Storage Temperature Range	: +5°C to +40°C
Humidity	: 30 to 70% relative humidity

## Solder Land Pattern Design



Dimensions : Millimetres

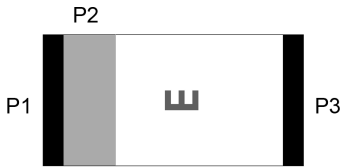
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## Construction

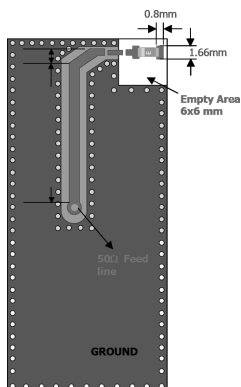


Pin	Connection
P1	Feeding
P2	Identification Mark
P3	Soldering terminal

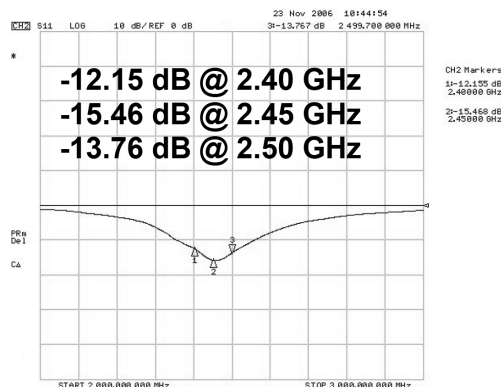
## Dimensions

Symbol	Dimension (mm)
L	3.2 ±0.2
W	1.6 ±0.1
T	1.2 ±0.1
A	0.25 ±0.15

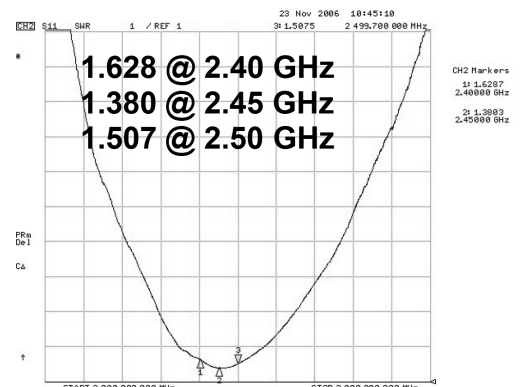
## Antenna on Test Board (Thickness 1.2mm)



Antenna S11 on Test Board



Antenna VSWR on Test Board



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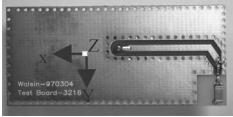


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## Radiation Pattern

Radiation Pattern and Gain were dependent on measurement board design. The specification of AMANT3216120A5T antenna was measured based on the PCB size and installation position as shown in the below figure Test Board



	Vertical	Horizontal
<p>Y - Z Plane Average Gain = 0.948dBi</p>	<p>Peak Gain = 2.93dBi Average Gain = 0.60dBi</p>	<p>Peak Gain = -5.60dBi Average Gain = -10.19dBi</p>
<p>X - Z Plane Average Gain = -2.147 dBi</p>	<p>Peak Gain = -4.98 dBi Average Gain = -9.68dBi</p>	<p>Peak Gain = 1.61 dBi Average Gain = -2.99 dBi</p>
<p>X - Y Plane Average Gain = -2.810 dBi</p>	<p>Peak Gain = -3.79 dBi Average Gain = -8.89dBi</p>	<p>Peak Gain = 0.77 dBi Average Gain = -4.04 dBi</p>

## Part Number Table

Description	Part Number
Ceramic Chip Antenna, 2.45GHz, 2dBi	AMANT3216120A5T

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