



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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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# 433 MHz Ceramic Chip Antenna



ACAG1204-433-T

12.0 x 4.0 x 1.6mm



RoHS/RoHS II Compliant

MSL = 1

## FEATURES

- Made using LTCC (low temperature co-fired ceramic) technology
- Low frequency of 433 MHz
- VSWR  $\leq 2$
- Compact profile 12.0 x 4.0 x 1.6mm
- Omni-directional

## APPLICATIONS

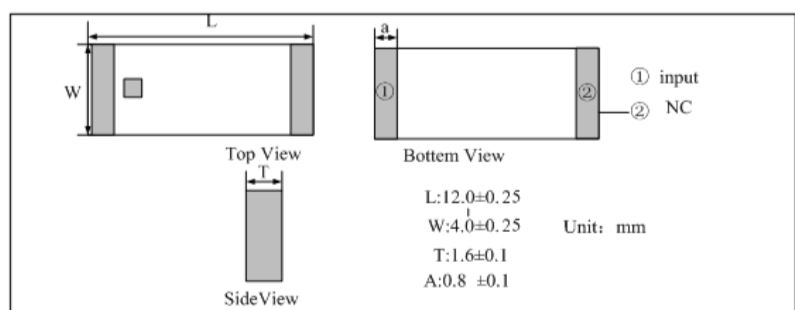
- ISM Band
- RFID
- SigFox
- LoRa
- Wireless
- Home Automation
- IoT
- Medical Devices
- Smart Meters
- Remote Technology/Monitoring
- M2M

## ELECTRICAL CHARACTERISTICS

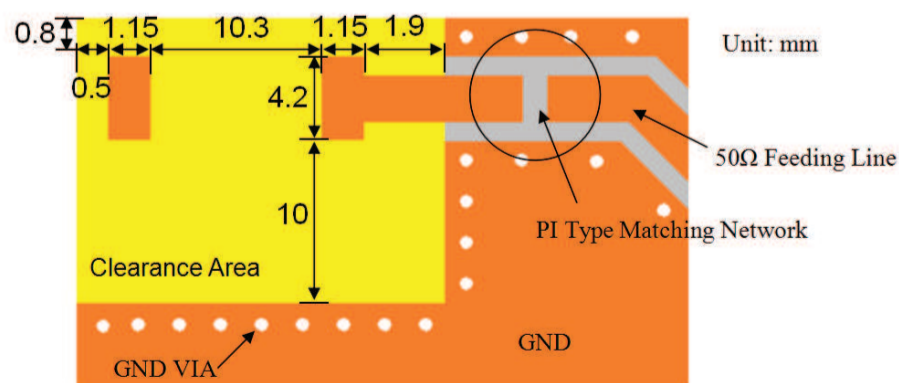
Item	Spec
Frequency	433 MHz
Bandwidth	10 MHz typ
Return Loss	-6.5 dB
VSWR	$\leq 2.0$
Impedance	50 $\Omega$
Peak Gain	-1.72 dBi
Azimuth	Omni-directional
Polarization	Linear
Operating Temperature Range	-40 $^{\circ}$ C ~+ 85 $^{\circ}$ C

## MECHANICAL DIMENSIONS

Antenna Dimensions



Layout Dimensions



Dimensions (mm)

# 433 MHz Ceramic Chip Antenna



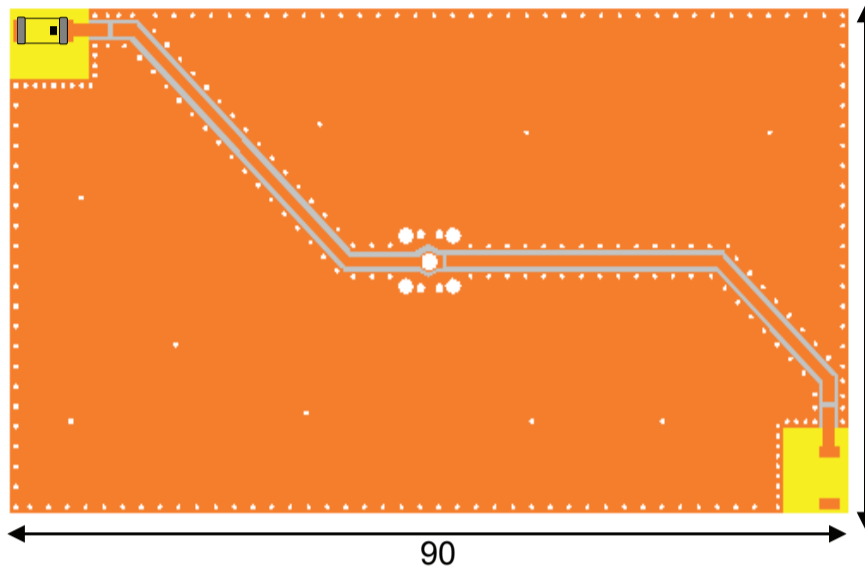
ACAG1204-433-T

12.0 x 4.0 x 1.6mm

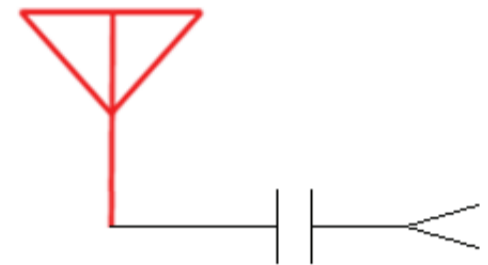
RoHS/RoHS II Compliant

MSL = 1

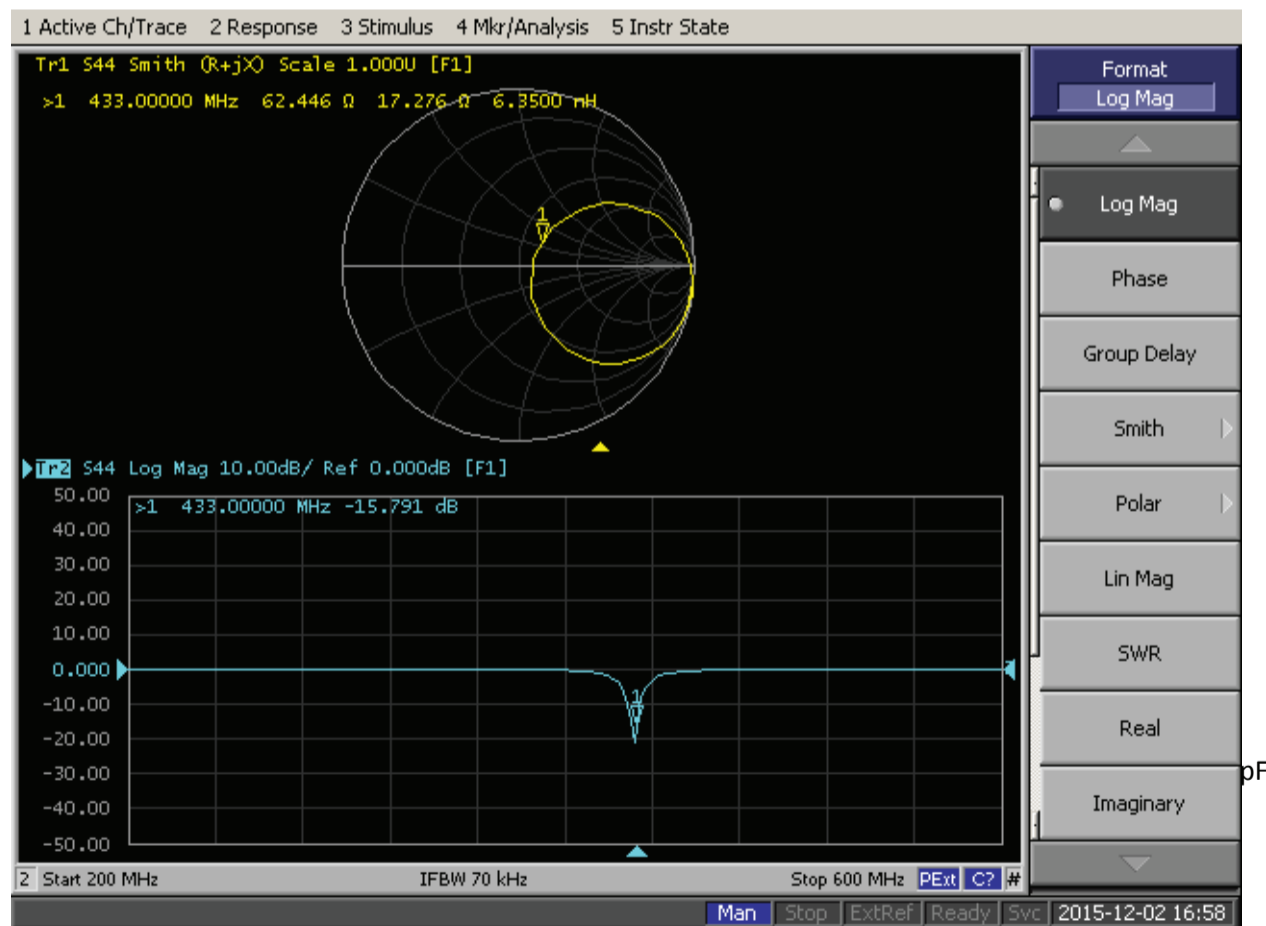
## EVALUATION BOARD AND MATCHING CIRCUITS



Unit : mm



## ANTENNA RESPONSE – SMITH CHART AND RETURN LOSS S11



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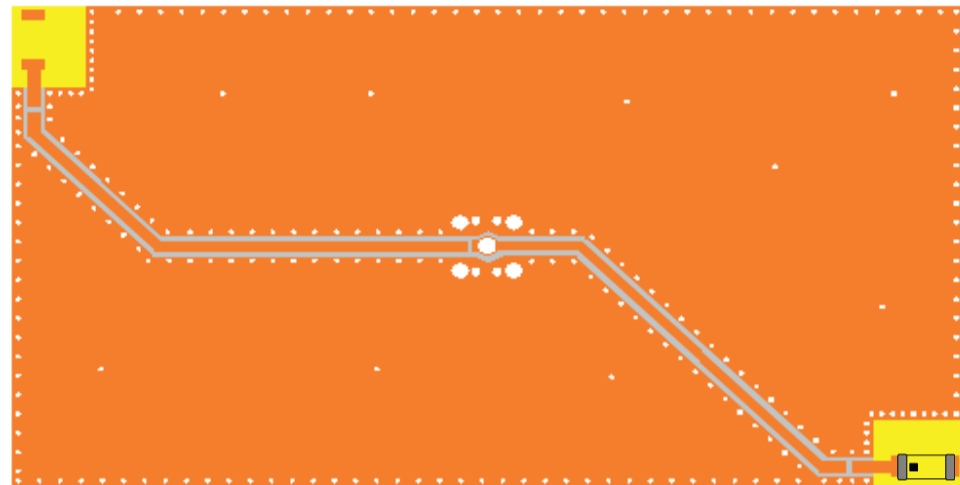
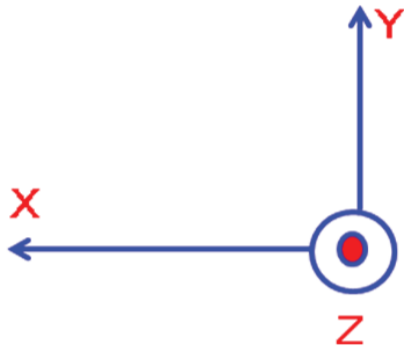


RoHS/RoHS II Compliant

MSL = 1

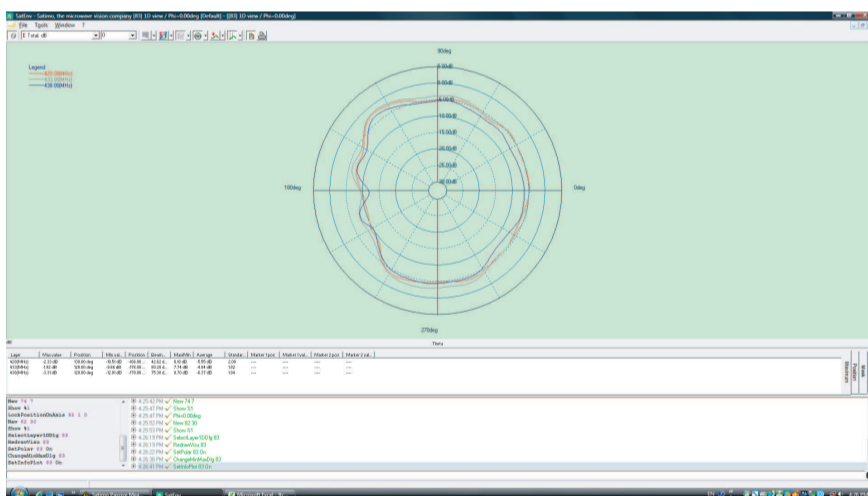
## RADIATION PATTERNS

### Coordinates

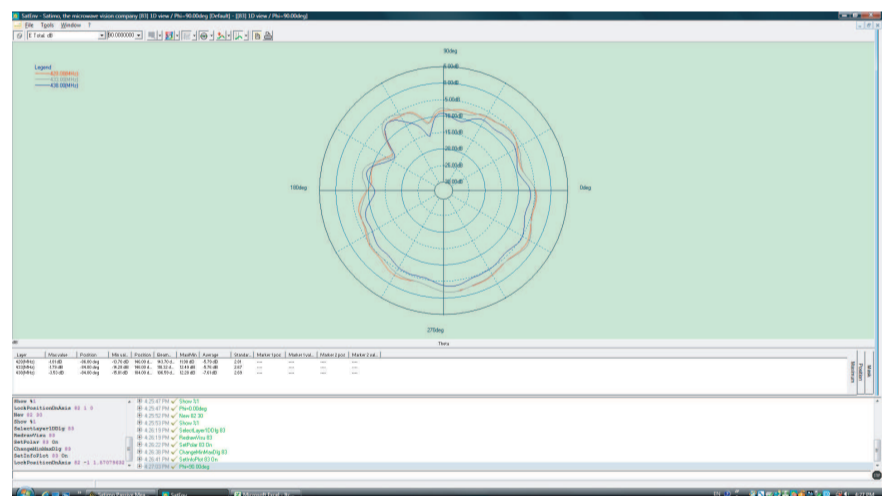


## RADIATION PATTERNS

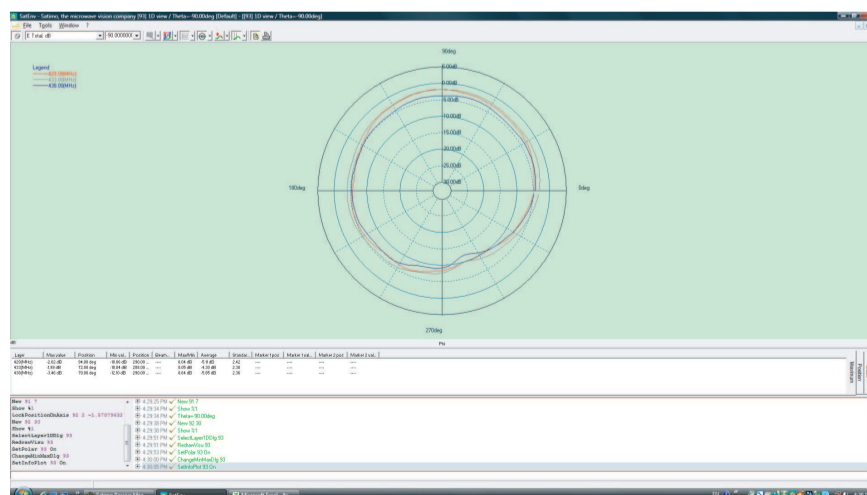
### X-Z Plane



### Y-Z Plane



### X-Y Plane



REVISED: 06.21.2018

# 433 MHz Ceramic Chip Antenna

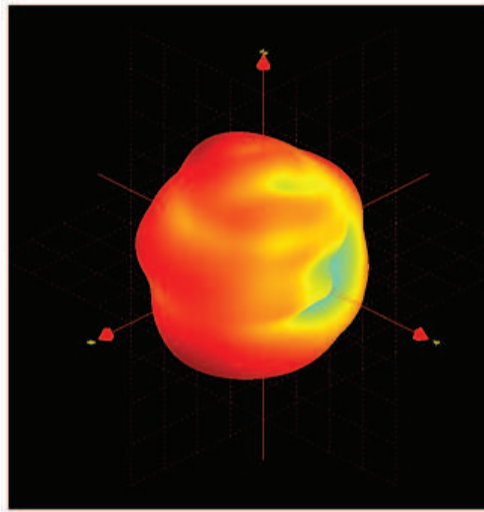


ACAG1204-433-T

12.0 x 4.0 x 1.6mm

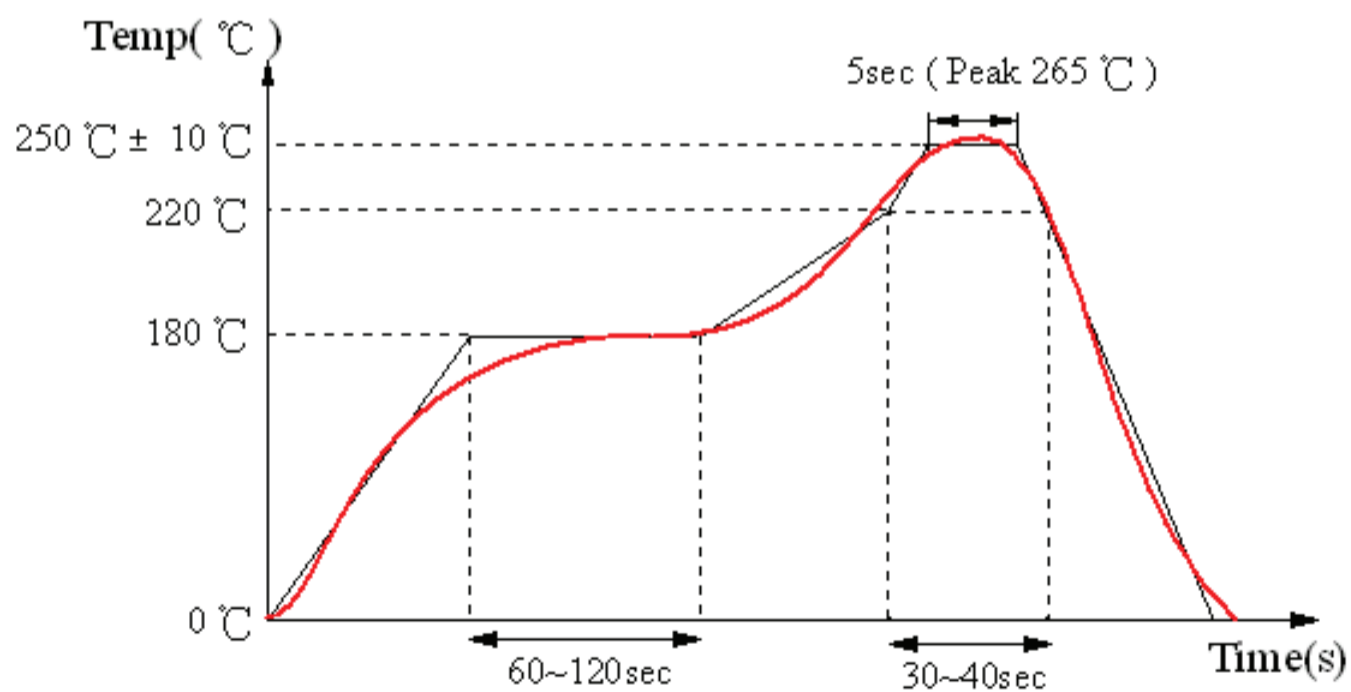
 **RoHS/RoHS II Compliant**  
MSL = 1

## 3D PATTERNS



Frequency (MHz)	428	433	438
Avg. Gain (dBi)	-5.55	-4.84	-6.37
Peak Gain (dBi)	-1.85	-1.72	-1.93
Efficiency (%)	33	35	33

## REFLOW SOLDERING STANDARD CONDITION



# 433 MHz Ceramic Chip Antenna



ACAG1204-433-T

12.0 x 4.0 x 1.6mm

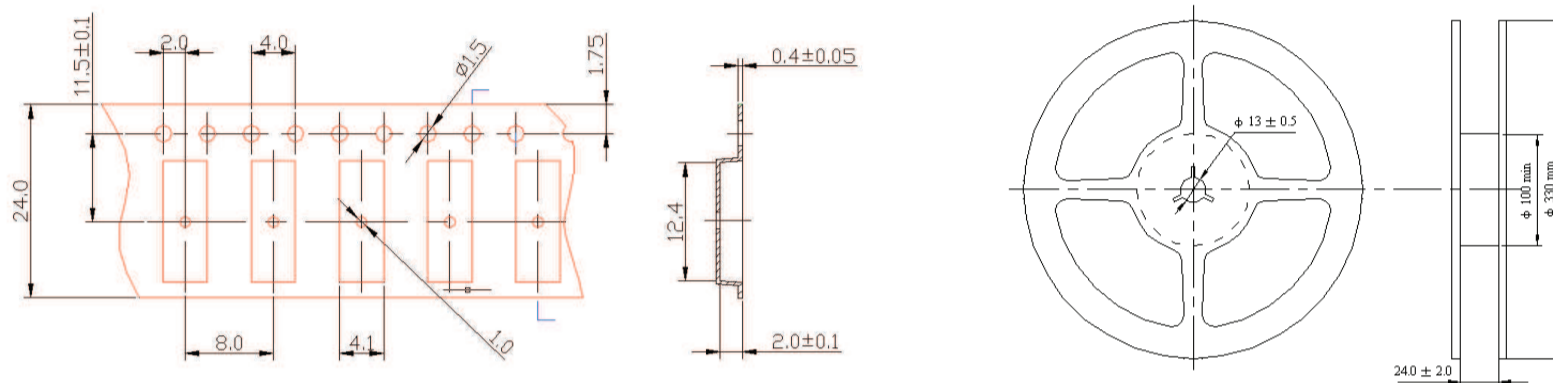


RoHS/RoHS II Compliant

MSL = 1

## PACKAGING

Package Type	Quantity/Size
Inner Box	3000 pcs/reel
Size of the carton	345 x 250 x 360 mm



Storage Temperature Range : <30 degree C, Humidity : <60%RH

MSL - 1

Oxidizable, 12 months in a vacuum sealed bag.

Once opened, please repack the unused items within 168 hours by re-seal package treatment.

Dimensions: mm

## CAUTIONS

### 1. Static voltage

Static voltage between signal & ground may cause deterioration & destruction of the component. Please avoid static voltage.

### 2. Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning.

### 3. Soldering

Only leads of the component may be soldered. Please avoid soldering to any other part of the component, such as on the patterns as this will change the performance of the antenna.