

# Cellular Ceramic Antennas



**Compact Ceramic Cellular Antenna supports high-performance MIMO applications in telecommunications, industrial and other wide-frequency-band operations**

## Features and Benefits

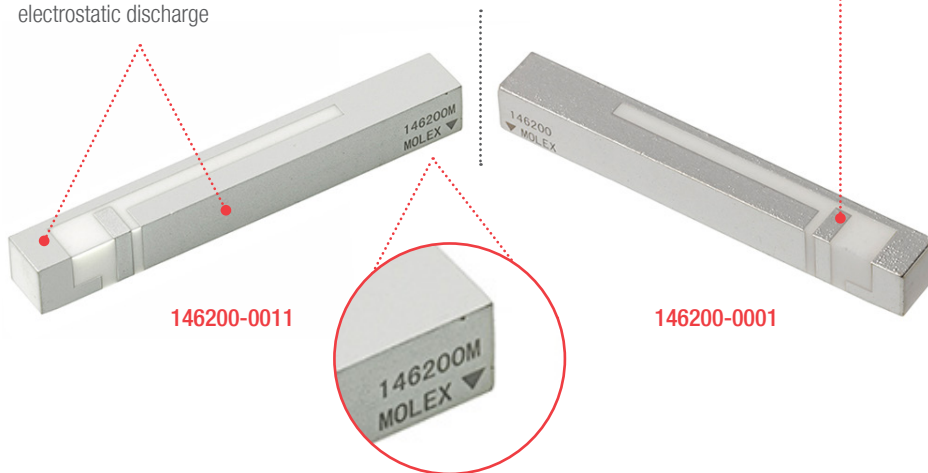
**SERIES 146200**

### ESD-protecting radiation pattern

All radiation patterns are directly connected to the system ground to eliminate damage caused by electrostatic discharge

### Indirect-feed design

Enables wider impedance bandwidth



### Indicator ("M")

Denotes 'Mirror-image' to matching part 146200-0001

790 MHz to 2.7 GHz Ceramic Antenna (Series 204774)



698 MHz to 2.7 GHz Ceramic Antennas Matching-pair with mirror-image antenna patterns shown (Series 146200)

## Advantages

As these antennas are similar in design and attributes, only one matching circuit is needed when used in MIMO systems. The advantage of this is lower overall application costs. Other advantages include: indirect feed design, leading to improved antenna performance when the phone is held in hand or placed near the user's body.

## Features and Benefits

**SERIES 204774**

### Fixing pads

Firmly anchor the antenna housing onto the SMT pads of the PCB

### Feeding pad

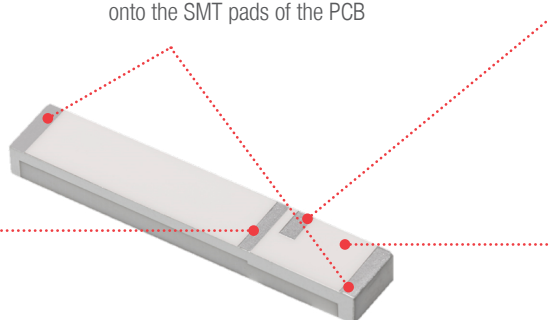
Ensures electrical signals form a 50-Ohm transmission line on the PCB is fed into the antenna

### Grounding pad

Ensures the antenna is safely grounded on the application PCB

### Ceramic antenna housing

High thermal conduction and resistance against detuning effects of environmental interference



790 MHz to 2.7 GHz Ceramic Antenna (Series 204774)

## Applications

### Telecommunications/Networking

- MIMO routers
- VPN routers
- Wireless LAN systems

### Wireless Infrastructure

- Wireless embedded systems
- Wireless radio communication equipment
- MIMO satellite communications (SatCom) systems



MIMO's multipath reflection in urban cities is suited for Infrastructure / Networking applications



MIMO Satellite Communications Systems for Wireless Infrastructure Constructions

## Specifications (790 MHz to 2.7 GHz Cellular Ceramic Antenna, Series 204774)

### REFERENCE INFORMATION

Packaging: Tape on reel  
 Reference Platform: 130 by 60 by 0.8mm PCB  
 Designed In: Millimeters  
 RoHS: Yes  
 Halogen Free: Yes  
 Ground clearance: 10.00 by 3.00mm around the perimeter of the antenna footprint

### ELECTRICAL

Voltage (Watt): 2  
 Return Loss - S11(dB): <-6  
 Average Total Radiation Efficiency(%): >50% (790 to 960 MHz); >70% (1.70 to 2.70 GHz)  
 Peak Gain (dBi): 0.2 (790 to 960 MHz) : 3.8 (1.70 to 2.70 GHz)  
 Polarization: Linear  
 Input Impedance (Ohms): 50

### MECHANICAL

Shear Force: 20N min.

### PHYSICAL

Housing: Ceramic  
 Plating: Silver 8-10µm  
 Operating Temperature: -40 to +125°C

## Specifications (698 MHz to 2.7 GHz Cellular Ceramic Antennas, Series 146200)

### REFERENCE INFORMATION

Packaging: Tape on reel  
 Reference Platform: 130.00 by 60.00 by 1.00mm  
 Designed In: Millimeters  
 RoHS: Yes  
 Halogen Free: Yes  
 Ground clearance: 5.00 by 5.00mm  
 SMT compatible: Yes

### ELECTRICAL

Voltage (Watt): 2  
 Return Loss - S11(dB): <-5  
 Average Total Radiation Efficiency(%): >45 (824 to 960 MHz); >60 (1.7 to 2.7 GHz) for 146200-0011>40 (824 to 960 MHz); >60 (1.7 to 2.7 GHz) for 146200-0001  
 Peak Gain (dBi): 1.1 (698 to 960 MHz); 4.5 (1.71 to 2.7 GHz)  
 Polarization: Linear  
 Input Impedance (Ohms): 50

### MECHANICAL

Shear Force: 50N min.

### PHYSICAL

Housing: Ceramic  
 Plating: Silver 8-10µm  
 Operating Temperature: -40 to +85°C

## Ordering Information

Series No.	Description	Frequency Bands	Dimension (mm)
<a href="#">204774</a>	790 MHz to 2.7 GHz Cellular Ceramic Antenna	790 to 960 MHz and 1.7 to 2.7 GHz	40.00(L) by 5.00(W) by 5.00(H)
<a href="#">146200</a>	698 MHz to 2.7 GHz Cellular Ceramic Antennas	698 to 960; 1.7 to 2.70 GHz	40.00(L) by 5.00(W) by 5.00(H)

[www.molex.com/link/standard\\_antennas.html](http://www.molex.com/link/standard_antennas.html)