

# Cellular Ceramic Antennas

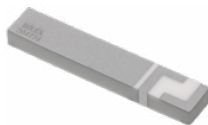
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**Low-profile ceramic cellular antenna offer more compact, light weight advantages and easy installation in a broad range of wireless data and industrial applications**



698 MHz to 2.7 GHz  
Ceramic Antennas, SMT,  
Low-profile 3.00mm  
(Series 206760)

## Features and Advantages

| Product and Technical Differences  |                                                                                                                  |                                                                                                                                                                                                                                                                      |                      |                                                                                                                              |                                                                                                       |                                                                                             |
|------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Attribute                          | 790 MHz to 2.7 GHz Ceramic Cellular Antenna (Series 204774)                                                      | 698 MHz to 2.7 GHz Cellular Antenna (Series 146200)                                                                                                                                                                                                                  |                      | 698 MHz to 2.7 GHz Cellular Antenna, Low-profile, 3mm (Series 206760)                                                        | 698 MHz to 960 MHz Ceramic Antenna (206649)                                                           | 600 MHz to 4000 MHz Ceramic Antenna (208485)                                                |
| Operating Frequencies              | 790 to 960 MHz and 1.7 to 2.7 GHz                                                                                | 698 to 960 MHz and 1.7 to 2.7 GHz                                                                                                                                                                                                                                    |                      | 698 to 960 MHz and 1.7 to 2.7 GHz                                                                                            | 698 to 869, 791 to 862, 824 to 960 and 698 to 960 MHz                                                 | 617 to 894, 1710 to 2690 and 3300 to 3800 MHz                                               |
| Material                           | Ceramic                                                                                                          |                                                                                                                                                                                                                                                                      |                      |                                                                                                                              |                                                                                                       |                                                                                             |
| Mounting                           | SMT                                                                                                              |                                                                                                                                                                                                                                                                      |                      |                                                                                                                              |                                                                                                       |                                                                                             |
| Dimension (mm)                     | 33.00 by 6.00 by 3.00                                                                                            | 40.00 by 5.00 by 5.00                                                                                                                                                                                                                                                |                      | 38.00 by 8.00 by 3.00                                                                                                        | 20.00 by 10.00 by 1.20                                                                                | 38.00 by 8.00 by 3.00                                                                       |
| Ground-plane Independence          | No                                                                                                               |                                                                                                                                                                                                                                                                      |                      |                                                                                                                              |                                                                                                       |                                                                                             |
| Average Total Radiation Efficiency | >50% (790 to 960 MHz)                                                                                            | 146200-0011                                                                                                                                                                                                                                                          | 146200-0001          | >60% (698 to 960 MHz)                                                                                                        | >50% (698 to 869 and 791 to 862MHz)                                                                   | >65% (1710 to 2690 and 3300 to 3800 MHz)                                                    |
|                                    | >70% (1.7 to 2.7 GHz)                                                                                            | >45 (698 to 960 MHz)                                                                                                                                                                                                                                                 | >40 (698 to 960 MHz) | >70% (1.7 to 2.7 GHz)                                                                                                        | >55% (824 to 960 and 698 to 960 MHz)                                                                  | >70% (617 to 894 MHz)                                                                       |
|                                    |                                                                                                                  | >60 (1.7 to 2.7 GHz)                                                                                                                                                                                                                                                 | >60 (1.7 to 2.7 GHz) |                                                                                                                              |                                                                                                       |                                                                                             |
| Clearance size (mm)                | 60.0 by 9.0                                                                                                      | 60.0 by 10.0                                                                                                                                                                                                                                                         |                      | 48.0 by 13.0                                                                                                                 | 20.00 by 5.00 (698 to 869MHz)<br>0 (791 to 862 and 824 to 960 MHz)<br>20.00 by 10.00 (698 to 960 MHz) | 60.00 by 29.00                                                                              |
| Key Advantages                     | Wider frequency range, higher Peak Gain (>3.7 dBi) and Total Radiation Efficiency (>70%) in 1.7 to 2.7 GHz range | Use of indirect (or coupled)-feed PCB design to reduce impedance detuning for talk and data modes results in better reception and radiation performance. Unique radiator patterns on the antenna enable wide impedance bandwidth compared with traditional antennas. |                      | High Peak Gain of 4.4 dBi and >70% Radiation Efficiency gives this antenna excellent performance in the 1.7 to 2.7 GHz range | Designed for low-power applications. SMD Mounting RoHS Compliant                                      | Wide frequency range with high efficiency up to 70% Low-profile ceramic body RoHS Compliant |
|                                    |                               |                                                                                                                                                                                   |                      |                                           |                   |        |

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## 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 (dB): <-6  
Average Total Radiation Efficiency(%): >50%  
(790 to 960 MHz); >70% (1.70 to 2.70 GHz)  
Peak Gain (dBi): 0.6 (790 to 960 MHz)  
4.8 (1.70 to 2.70 GHz)  
Polarization: Linear  
Input Impedance (Ohms): 50

### MECHANICAL

Shear Force: 20N min.

### PHYSICAL

Housing: Ceramic  
Plating: Silver 4-11 microns  
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: 10.00 by 5.00mm around the perimeter of the antenna footprint  
SMT compatible: Yes

### ELECTRICAL

Voltage (Watt): 2  
Return Loss (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): 0.2 (698 to 960 MHz) and 3.8 (1.7 to 2.7 GHz) for 146200-00010.5 (698 to 960 MHz) and 3.7 (1.7 to 2.7 GHz) for 146200-0011  
Polarization: Linear  
Input Impedance (Ohms): 50

### MECHANICAL

Shear Force: 50N min.

### PHYSICAL

Housing: Ceramic  
Plating: Silver 6-11 microns  
Operating Temperature: -40 to +85°C

## Specifications (698 MHz to 2.7 GHz Cellular Ceramic Antenna, Series 206760)

### REFERENCE INFORMATION

Packaging: Tape on reel  
Reference Platform: Refer to Application Specifications  
Designed In: Millimeters  
RoHS: Yes  
Halogen Free: Yes  
Ground clearance: 10.00 by 5.00mm around the perimeter of the antenna footprint

### ELECTRICAL

Voltage (Watt): 2  
Return Loss (dB): <-5  
Average Total Radiation Efficiency(%): >60%  
(698 to 960 MHz); >70% (1.70 to 2.70 GHz)  
Peak Gain (dBi): 1.3 (698 to 960 MHz)  
4.4 (1.70 to 2.70 GHz)  
Polarization: Linear  
Input Impedance (Ohms): 50

### MECHANICAL

Shear Force: 50N min.

### PHYSICAL

Housing: Ceramic  
Plating: Silver 4-10 microns  
Operating Temperature: -40 to +125°C

## Specifications (698 to 869 / 791 to 862 / 824 to 960 / 698 to 960 MHz Ceramic Antenna, Series 206649)

### REFERENCE INFORMATION

Packaging: Tape on reel  
Reference Platform: Refer to application  
Designed In: Millimeters  
RoHS: Yes  
Halogen Free: Yes  
Ground Clearance: Refer to application

### ELECTRICAL

Voltage (Watt): 2  
Return Loss - S11(dB): <Refer to application  
Average Total Radiation Efficiency(%): Refer to application  
Peak Gain (dBi): Refer to application  
Polarization: Linear  
Input Impedance (Ohms): 50

### MECHANICAL

Shear Force (min.): 30.0N

### PHYSICAL

Housing: Ceramic  
Plating: Silver 4-10 microns  
Operating Temperature: -40 to +125°C

## Specifications (617 to 894 / 1710 to 2690 / 3300 to 3800 MHz Ceramic Antenna, Series 208485)

### REFERENCE INFORMATION

Packaging: Tape on reel  
Reference Platform: 160.00 by 60.00 by 0.80mm  
Designed In: Millimeters  
RoHS: Yes  
Halogen Free: Yes  
Ground Clearance: Refer to application

### ELECTRICAL

Voltage (Watt): 2  
Return Loss - S11(dB): <Refer to application  
Average Total Radiation Efficiency(%): Refer to application  
Peak Gain (dBi): Refer to application  
Polarization: Linear  
Input Impedance (Ohms): 50

### MECHANICAL

Shear Force (min.): 50.0N

### PHYSICAL

Housing: Ceramic  
Plating: Silver 4-10 microns  
Operating Temperature: -40 to +125°C

# Cellular Ceramic Antennas

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## Ordering Information

| Series No.             | Description                                                    | Frequency Bands                                       | Dimension(mm)                     |
|------------------------|----------------------------------------------------------------|-------------------------------------------------------|-----------------------------------|
| <a href="#">204774</a> | 790 to 2700 MHz Cellular Ceramic Antenna                       | 790 to 960 MHz and 1.7 to 2.7 GHz                     | 33.00(L) by 6.00(W) by 3.00(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)    |
| <a href="#">206760</a> | 698 MHz to 2.7 GHz Cellular Ceramic Antennas, Low-profile, 3mm | 698 to 960; 1.7 to 2.70 GHz                           | 38.00(L) by 8.00(W) by 3.00(H)    |
| <a href="#">206649</a> | 698 to 960MHz Ceramic Antenna                                  | 698 to 869, 791 to 862, 824 to 960 and 698 to 960 MHz | 20.00(L) by 10.00(W) by 1.20(H)   |
| <a href="#">208485</a> | 600 to 4000MHz Ceramic Antenna                                 | 617 to 894, 1710 to 2690 and 3300 to 3800 MHz         | 38.00 (L) by 8.00 (W) by 3.00 (H) |

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