Cellular Ceramic Antennas

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

Features and Advantages

<table>
<thead>
<tr>
<th>Attribute</th>
<th>790 MHz to 2.7 GHz Ceramic Cellular Antenna (Series 204774)</th>
<th>698 MHz to 2.7 GHz Cellular Antenna (Series 146200)</th>
<th>698 MHz to 2.7 GHz Cellular Antenna, Low-profile, 3mm (Series 206760)</th>
<th>698 MHz to 960 MHz Ceramic Antenna (206649)</th>
<th>600 MHz to 4000 MHz Ceramic Antenna (208485)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Frequencies</td>
<td>790 to 960 MHz and 1.7 to 2.7 GHz</td>
<td>698 to 960 MHz and 1.7 to 2.7 GHz</td>
<td>698 to 960 MHz and 1.7 to 2.7 GHz</td>
<td>698 to 869, 791 to 862, 824 to 960 and 698 to 960 MHz</td>
<td>617 to 894, 1710 to 2690 and 3300 to 3800 MHz</td>
</tr>
<tr>
<td>Material</td>
<td>Ceramic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>SMT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension (mm)</td>
<td>33.00 by 6.00 by 3.00</td>
<td>40.00 by 5.00 by 5.00</td>
<td>38.00 by 8.00 by 3.00</td>
<td>20.00 by 10.00 by 1.20</td>
<td>38.00 by 8.00 by 3.00</td>
</tr>
<tr>
<td>Ground-plane Independence</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Total Radiation Efficiency</td>
<td>&gt;50% (790 to 960 MHz)</td>
<td>&gt;60% (698 to 960 MHz)</td>
<td>&gt;60% (698 to 960 MHz)</td>
<td>&gt;50% (698 to 869 and 791 to 960 MHz)</td>
<td>&gt;50% (698 to 869 and 791 to 960 MHz)</td>
</tr>
<tr>
<td></td>
<td>&gt;70% (1.7 to 2.7 GHz)</td>
<td>&gt;70% (1.7 to 2.7 GHz)</td>
<td>&gt;70% (1.7 to 2.7 GHz)</td>
<td>&gt;70% (1.7 to 2.7 GHz)</td>
<td></td>
</tr>
<tr>
<td>Clearance size (mm)</td>
<td>60.0 by 9.0</td>
<td>60.0 by 10.0</td>
<td>48.0 by 13.0</td>
<td>20.00 by 5.00 (698 to 869 MHz) 0 (791 to 862 and 824 to 960 MHz) 20.00 by 10.00 (698 to 960 MHz) 60.00 by 29.00</td>
<td></td>
</tr>
<tr>
<td>Key Advantages</td>
<td>Wider frequency range, higher Peak Gain (&gt;3.7 dBi) and Total Radiation Efficiency (&gt;70%) in 1.7 to 2.7 GHz range</td>
<td>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.</td>
<td>High Peak Gain of 4.4 dBi and &gt;70% Radiation Efficiency gives this antenna excellent performance in the 1.7 to 2.7 GHz range</td>
<td>Designed for low-power applications. SMD Mounting RoHS Compliant</td>
<td>Wide frequency range with high efficiency up to 70% Low-profile ceramic body RoHS Compliant</td>
</tr>
</tbody>
</table>

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 (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 PCB
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 (1.7.0 to 2.7 GHz) for 146200-0011, >40 (824 to 960 MHz); >60
(1.7.0 to 2.7 GHz) for 146200-0001
Peak Gain (dBi): 0.2 (698 to 960 MHz) and
3.8 (1.7.0 to 2.7 GHz) for 146200-0001.5
(698 to 960 MHz) and 3.7 (1.7.0 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% (1.7.0 to 2.7 GHz)
Peak Gain (dBi): 1.3 (698 to 960 MHz)
4.4 (1.7.0 to 2.7 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
Specifications
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 PCB
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
<table>
<thead>
<tr>
<th>Series No.</th>
<th>Description</th>
<th>Frequency Bands</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>204774</td>
<td>790 to 2700 MHz Cellular Ceramic Antenna</td>
<td>790 to 960 MHz and 1.7 to 2.7 GHz</td>
<td>33.00(L) by 6.00(W) by 3.00(H)</td>
</tr>
<tr>
<td>146200</td>
<td>698 MHz to 2.7 GHz Cellular Ceramic Antennas</td>
<td>698 to 960; 1.7 to 2.70 GHz</td>
<td>40.00(L) by 5.00(W) by 5.00(H)</td>
</tr>
<tr>
<td>206760</td>
<td>698 MHz to 2.7 GHz Cellular Ceramic Antennas, Low-profile, 3mm</td>
<td>698 to 960; 1.7 to 2.70 GHz</td>
<td>38.00(L) by 8.00(W) by 3.00(H)</td>
</tr>
<tr>
<td>206649</td>
<td>698 to 960MHz Ceramic Antenna</td>
<td>698 to 869, 791 to 862, 824 to 960 and 698 to 960 MHz</td>
<td>20.00(L) by 10.00(W) by 1.20(H)</td>
</tr>
<tr>
<td>208485</td>
<td>600 to 4000MHz Ceramic Antenna</td>
<td>617 to 894, 1710 to 2690 and 3300 to 3800 MHz</td>
<td>38.00 (L) by 6.00 (W) by 3.00 (H)</td>
</tr>
</tbody>
</table>