Antenna and Cable Options Summary

Virtual Access offers a variety of antennas as every 3G/4G wireless deployment is different. When selecting an antenna for your device, you should consider factors such as the installation environment, mounting options and the distance between router and antenna location. For detailed information on a specific antenna, download the antenna’s pdf from our website.

We provide most antennas with a cable length of up to 5 meters. We recommend you keep the cable length as short as possible to minimise cable-caused attenuation.

### General Purpose Antennas

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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</table>
| 160-00002   | **3G Stubby Hinged Antenna**  
- Designed for 3G and 4G GSM, 2.4GHz, WiFi applications  
- Wide band efficiency response on nearly all 2G/3G/4G frequency bands worldwide  
- Dimensions: 157 x 21mm  
- Mounting method: Direct contact  
- Connector: SMA FME/TNC  
- Frequency: 850/900/1800/1900/2100MHz  
- VSWR: ≤ 2  
- Gain: 2.5dBi  
- Max input power: 50W  
- Input impedance: 50Ω  
- Polarization: Vertical  
- Antenna length: 140mm  
- Storage temperature: -30° to +70°C  
- Operating temperature: -30° to +75°C |
| 160-00012   | **450MHz Antenna**  
- High performance on all common 2G, 3G, 4G bands worldwide  
- Delivers wider coverage areas and more reliable connections for automotive and industrial applications  
- Dimensions: 205 x 12mm  
- Mounting method: Direct contact  
- Connector: SMA male  
- Frequency: 450-470MHz  
- Gain: 3.0dBi  
- Max power: 30W  
- Input impedance: 50Ω  
- Polarization: Linear  
- VSWR: 1:2.0 |
<table>
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<tr>
<th>Code</th>
<th>Product</th>
<th>Features</th>
<th>Dimensions</th>
<th>Connector</th>
<th>Mounting method</th>
<th>Temperature range</th>
<th>Frequencies</th>
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</table>
| 160-00075  | Ultra-wideband 4G LTE Antenna | • Ideal for use with 4G LTE modules and devices that require the highest possible efficiency and peak gain  
• Quality robust IP67 UV resistant housing | 49 x 185.9mm (extended) | SMA male connector           | Hinged 90° termination screw mount | -40° to +85°C | 700-800, 824-960, 1575.42, 1710-1880, 1710-2170, 2400-2800 (MHz) |
| 160-00096  | Cellular LTE Antenna     | • High performance  
• Ground plane independent                                                  | 170 x 18 x 10mm      | Hinged SMA male connector       | Screw mount                                  | -40° to +85°C | 698-960, 1710-2170, 2500-2700 (MHz)   |
| 160-00128  | 2.4/5.0 GHz ISM Antenna  | • Low profile  
• Ground plane independent                                                 | 76 x 10mm             | RP-SMA-male-RA standard         | Screw mount                                  | -40° to +85°C | 2410-2490, 4920-5925(MHz)            |
| 160-00159  | 2.4/5.0 GHz ISM Antenna  | • High gain  
• Ground plane independent                                                 | 135 x 19 x 10mm      | RP-SMA-male-RA standard         | Screw mount                                  | -40° to +85°C | 2410-2490, 4920-5925(MHz)            |
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| 160-00019   | **3G Magnetic Antenna**  
  - Ideal for restricted operating areas and for portable operation  
  - Supports cellular GSM and 3G networks  
  - Dimensions: 290 x 45mm  
  - Cable: 5m RG174  
  - Connector: SMA male connector  
  - Mounting method: Magnetic  
  - Temperature range: -45° to +75°C  
  - Frequencies: 850/900/1800/1900/2100MHz  
  - Gain: 3dBi  
  - VSWR: ≤1.5:1 |
| 160-00027   | **MA.208 Stream Cellular Antenna**  
  - Supports GPS/LTE/GSM/UMTS  
  - Low profile, heavy duty fully IP67 waterproof external M2M antenna  
  - Dimensions: 35 x 35 x 45mm  
  - Cable: No cable included  
  - Connector: SMA male connector  
  - Mounting method: Adhesive  
  - Temperature range: -40° to +85°C  
  - Frequencies: 698-969/1710-2690MHz  
  - Gain: 3.5dBi  
  - VSWR: ≤3.6MHz |
| 160-00081   | **Ultra-wideband LTE Dipole Terminal Antenna**  
  - RoHS compliant  
  - Highest efficiency for worldwide LTE and WiFi  
  - Dimensions: 218 x 58mm  
  - Connector: SMA male connector  
  - Mounting method: Screw mount  
  - Temperature range: -40° to +85°C  
  - Frequencies: Various, refer to supplier datasheet  
  - Polarization: Linear |
| 160-00051   | **Stingray Glassmount Antenna**  
  - Combination high performance GPS/cellular antenna for AVL or fleet management  
  - Attach to glass or under a dashboard  
  - Dimensions: 55 x 1.8mm  
  - Connector: Standard1-10m RG174 cables and connectors  
  - Mounting method: Adhesive  
  - Temperature range: -40° to +85°C  
  - Frequencies: 10MHz min  
  - Gain: 30dBi  
  - VSWR: ≤2.0  
  - Polarization: RHCP |
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| 160-00057   | CMO 4G Multiband MIMO Puck Antenna | • Ideal for outdoor cabinets  
• Fully waterproof when mounted | 102 x 33.5mm | SMA male connector | Heavy duty screw mount | -40° to +85°C | 690-800/800-960/1710-2170/2500-2700MHz | 1/2.5/3.8/5dBi | <2.5:1-3.0:1 | Linear |
<p>| 160-00041   | Wideband LTE Ibar Antenna | • Covers LTE and all cellular, ISM and WiFi working frequencies in the 700-6000 spectrum | 176 x 59 x 11.6mm | SMA male connector | Adhesive | -40° to +85°C | 690-800/800-960/1710-2170/2500-2700MHz | Linear |</p>
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| 160-00018   | **Wall Mount Flexible Whip Monopole Antenna**  
• High performance on all common 2G/3G/4G bands worldwide  
• Delivers wider coverage areas and more reliable connections for automotive and industrial applications  
Dimensions: 248 x 5mm  
Base diameter: 17.08 x 0.2mm  
Whip diameter: 4 x 0.2mm  
Mounting method: Direct contact  
Connector: SMA male  
Frequency: 698-969/1710-2690MHz  
Gain: 2.5dBi  
Input power: 2W  
Input impedance: 50Ω  
Polarization: Linear  
Temperature: -40° to +85°C  
Humidity: Non-condensing 65 to 95 RH |
| 160-00048   | **Omni Directional Outdoor All Weather Antenna**  
• Designed for metering, industrial/environmental, remote asset monitoring  
• UV resistant fibreglass outdoor LTE band 31/CDMA/ISM 6dBi  
Dimensions: 1094mm  
Connector: N-type female, U-bolt  
Mounting method: Wall mount, bracket included  
Temperature range: -40° to +85°C  
Frequencies: 450-470MHz  
Gain: 6dBi  
VSWR: 1.5:1  
Polarization: Vertical |
| 160-00033   | **Olympian 2 in 1 Antenna**  
• Compact, high performance, combination LTE and GPS/GLONASS screw mount antenna for external use on vehicle and outdoor assets worldwide  
Dimensions: 248H x 50Dmm  
Connector: SMA male connector  
Mounting method: Heavy duty screw mount  
Temperature range: -40° to +85°C  
Frequencies: LTE/2G/3G/4G: 698/960/1710-2170/2500-2800MHz; GPS: 1575.42MHz; GLONASS: 1602MHz  
Gain: LTE: varies depending on cable length; GPS/GLONASS: 2dBi  
VSWR: LTE: <3; GPS/GLONASS: <1.5-2.0  
Polarization: LTE: Linear; GPS/GLONASS RHCP |
<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>160-00092</td>
<td><strong>G Multiband External Wall Mount Omni Antenna</strong></td>
<td><strong>Waterproof compact</strong>&lt;br&gt;<strong>Suitable for 4G/LTE, 3G and GSM bands</strong>&lt;br&gt;<strong>Dimensions:</strong> 2159 x 34mm + L-bracket&lt;br&gt;<strong>Connector:</strong> N-female connector&lt;br&gt;<strong>Mounting method:</strong> Mounting bracket&lt;br&gt;<strong>Temperature range:</strong> -40° to +85°C&lt;br&gt;<strong>Frequencies:</strong> 690-960/1710-2170/2500-2700MHz&lt;br&gt;<strong>Gain:</strong> 2-3dBi&lt;br&gt;<strong>Polarization:</strong> Linear-Vertical</td>
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<tr>
<td>160-00076</td>
<td><strong>FGO Penta-band High Gain Omni Antenna</strong></td>
<td><strong>Ideal for fringe networks</strong>&lt;br&gt;<strong>Supports GSM, 3G and 4G/LTE operations</strong>&lt;br&gt;<strong>Dimensions:</strong> 390 x 32mm&lt;br&gt;<strong>Connector:</strong> N-female connector&lt;br&gt;<strong>Mounting method:</strong> Mounting bracket&lt;br&gt;<strong>Temperature range:</strong> -40° to +70°C&lt;br&gt;<strong>Frequencies:</strong> 690-960/1710-2170/2500-2700MHz&lt;br&gt;<strong>Peak gain:</strong> 5dBi&lt;br&gt;<strong>VSWR:</strong> &lt;2.0:1&lt;br&gt;<strong>Polarization:</strong> Linear</td>
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<tr>
<td>160-00078</td>
<td><strong>Permanent Mount External Antenna</strong></td>
<td><strong>Ideal for outdoor cabinets, vehicles, transport, utilities</strong>&lt;br&gt;<strong>IP67</strong>&lt;br&gt;<strong>Dimensions:</strong> 79.45H x 42Dmm&lt;br&gt;<strong>Connector:</strong> SMA male connector&lt;br&gt;<strong>Mounting method:</strong> Heavy duty screw mount&lt;br&gt;<strong>Temperature range:</strong> -40° to +85°C&lt;br&gt;<strong>Frequencies:</strong> 450, 460, 470MHz&lt;br&gt;<strong>Gain:</strong> -3.23, -2.65, -2.72dBi&lt;br&gt;<strong>Polarization:</strong> Vertical</td>
</tr>
<tr>
<td>430-00159</td>
<td><strong>4 × 5GNR MIMO and GNSS Screw Mount Heavy Duty Antenna</strong></td>
<td><strong>Anti-rotation mounting</strong>&lt;br&gt;<strong>Customizable cable and connector</strong>&lt;br&gt;<strong>Dimensions:</strong> Ø 96 x H 130 mm&lt;br&gt;<strong>Connector:</strong> SMA male connector&lt;br&gt;<strong>Mounting method:</strong> SMA male standard (other connectors available&lt;br&gt;<strong>Temperature range:</strong> -40° to +85°C&lt;br&gt;<strong>Frequencies:</strong> 1575.42, 1598-1610MHz</td>
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Virtual Access offers a variety of custom length extension cables for the 160-00064 WMO wall-mount multi-band omni antenna only.

Note: in the cable part number, xx refers to the length of cable required. For example, a 10 metre BWL195 SMA male connector cable will have a part number 840-00022-10.

<table>
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<tr>
<th>VA Model Number</th>
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| 840-00022-xx    | **BWL195 SMA male connector**  
• Low loss 50 Ohm coaxial cable  
• SMA male to SMA male connector  
| Outer diameter: | 4.95mm  
| Minimum bend radius: | 25/50mm  
| Attenuation per metre at 2GHz: | 0.48dB  |
| 840-00023-xx    | **BWL195 N type connector**  
• Low loss 50 Ohm coaxial cable  
• N type male to SMA male connector  
| Outer diameter: | 4.95mm  
| Minimum bend radius: | 25/50mm  
| Attenuation per metre at 2GHz: | 0.48dB  |
| 840-00024-xx    | **BWL400 N type connector**  
• Ultra low loss 50 Ohm coaxial cable  
• N type male to SMA male connector  
| Outer diameter: | 10.30mm  
| Minimum bend radius: | 50/100mm  
| Attenuation per metre at 2GHz: | 0.19dB  |
| 840-00029-xx    | **RG58 SMA-F to SMA-M connector**  
• Low loss 50 Ohm coaxial cable  
• SMA female to SMA male connectors  
| Outer diameter: | 4.95mm  
| Minimum bend radius: | 4.95mm  
| Attenuation per metre at 2GHz: | 0.75dB  |
| 840-00160-xx    | **Custom Length Antenna Extension Cables**  
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