TMQ4™ and TMQ5™
Bundle Solutions for 5G
The increasing demand for high coverage MIMO antennas used in 5G applications has led to substantial growth in the number of RF ports. 5G antennas are shrinking in size as higher frequency bands are used to accommodate larger bandwidth requirements translating into more antennas in a smaller space. This densification creates numerous challenges related to installation, torquing, ensuring proper weather sealing and more.

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**Bundle Solutions for 5G**

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**Solutions at a Glance**

<table>
<thead>
<tr>
<th>CABLE</th>
<th>NUMBER OF CABLES</th>
<th>LOW PIM</th>
<th>SIZE</th>
<th>FLEXIBILITY</th>
<th>SHIELDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFT-5G-401</td>
<td>4</td>
<td>Yes</td>
<td>0.760&quot;</td>
<td>Excellent</td>
<td>Good</td>
</tr>
<tr>
<td>TFT-5G-401</td>
<td>5</td>
<td>Yes</td>
<td>0.820&quot;</td>
<td>Excellent</td>
<td>Good</td>
</tr>
<tr>
<td>SPO-250</td>
<td>4</td>
<td>Yes</td>
<td>0.860&quot;</td>
<td>Good</td>
<td>Excellent</td>
</tr>
<tr>
<td>SPO-250</td>
<td>5</td>
<td>Yes</td>
<td>0.937&quot;</td>
<td>Good</td>
<td>Excellent</td>
</tr>
<tr>
<td>LMR-195</td>
<td>4</td>
<td>N/A</td>
<td>0.596&quot;</td>
<td>Excellent</td>
<td>Superior</td>
</tr>
<tr>
<td>LMR-195</td>
<td>5</td>
<td>N/A</td>
<td>0.616&quot;</td>
<td>Excellent</td>
<td>Superior</td>
</tr>
</tbody>
</table>
TMQ4™ and TMQ5™

The TMQ4 and TMQ5 bundled coaxial cable solution reduces the number of individual connections that must be hooked up while creating a rugged solution. It checks off all the boxes in terms of antenna port densification, saving a lot of labor with quick and easy fool-proof installation. The entire TMQ4/TMQ5 bundle is sealed to IP-67 specification and features excellent UV resistance, adding to the assembly’s durability for long term performance. At Times, we offer standard LMR® and low PIM assemblies, as well as custom design options.

**TMQ4™**

- LMR-195-FR 4-Places
- FR Polyurethane
- Non-Woven Tape
- Fillers 5-Places
- Ripcord

**TMQ5™**

- LMR-195-FR 5-Places
- FR Polyurethane
- Non-Woven Tape
- Filler 1-Place
- Fillers 5-Places
- Ripcord
Bundle Solutions for 5G

Low PIM - TFT 5G-401

- Ultraflexible bundled harness
- -160 dBC for optimal system performance
- Rugged fire retardant polyurethane jacket

Specifications

<table>
<thead>
<tr>
<th>Number of Cables</th>
<th>Diameter (in mm)</th>
<th>Bend Radius (in mm)</th>
<th>Weight (lb/1000ft/kg/1000m)</th>
<th>Shielding</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0.760 (19.3)</td>
<td>7.6 (193.04)</td>
<td>367 (166.46)</td>
<td>-80</td>
</tr>
<tr>
<td>5</td>
<td>0.820 (20.8)</td>
<td>8.2 (208.28)</td>
<td>455 (206.38)</td>
<td>-80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Cables</th>
<th>450</th>
<th>600</th>
<th>900</th>
<th>1900</th>
<th>2100</th>
<th>2500</th>
<th>3500</th>
<th>4900</th>
<th>5800</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dB/100ft (dB/100m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5.4 (17.8)</td>
<td>6.4 (21.1)</td>
<td>8.2 (26.9)</td>
<td>13.1 (42.9)</td>
<td>14.0 (45.8)</td>
<td>15.6 (51.2)</td>
<td>19.5 (64.0)</td>
<td>24.5 (80.3)</td>
<td>27.5 (90.2)</td>
</tr>
<tr>
<td>5</td>
<td>5.4 (17.8)</td>
<td>6.4 (21.1)</td>
<td>8.2 (26.9)</td>
<td>13.1 (42.9)</td>
<td>14.0 (45.8)</td>
<td>15.6 (51.2)</td>
<td>19.5 (64.0)</td>
<td>24.5 (80.3)</td>
<td>27.5 (90.2)</td>
</tr>
</tbody>
</table>

Ordering Guide

<table>
<thead>
<tr>
<th>TMQ</th>
<th>N</th>
<th>TFT401</th>
<th>XX.X</th>
<th>Y</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-4 = MQ4</td>
<td>N-5 = MQ5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Length / 3 dig | F Feet | Meters | Boot
Low PIM SPO-250

- Flexible bundled harness, > -100dB of shielding effectiveness
- -160 dBc for optimal system performance
- Rugged fire retardant polyurethane jacket

Specifications

<table>
<thead>
<tr>
<th>Number of Cables</th>
<th>Diameter</th>
<th>Minimum Bend Radius</th>
<th>Weight</th>
<th>Shielding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in (mm)</td>
<td>in (mm)</td>
<td>lb/1000ft (kg/1000m)</td>
<td>dB</td>
</tr>
<tr>
<td>4</td>
<td>0.860 (21.8)</td>
<td>8.6 (218.4)</td>
<td>200 (90.7)</td>
<td>-100</td>
</tr>
<tr>
<td>5</td>
<td>0.937 (23.8)</td>
<td>9.5 (241.3)</td>
<td>242 (109.7)</td>
<td>-100</td>
</tr>
</tbody>
</table>

Ordering Guide

TMQ N SPO250 XX.X Y W

N-4 = MQ4
N-5 = MQ5

Length / 3 dig
F Feet
M Meters
Boot

www.timesmicrowave.com
800-867-2629
Bundle Solutions for 5G

**LMR®-195**

- Ultraflexible bundled harness
- Rugged fire retardant polyurethane jacket

### Specifications

<table>
<thead>
<tr>
<th>Number of Cables</th>
<th>Diameter (in mm)</th>
<th>Minimum Bend Radius (in mm)</th>
<th>Weight (lb/1000ft)</th>
<th>Shielding (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0.596 (15.1)</td>
<td>6.0 (152.4)</td>
<td>145 (65.77)</td>
<td>-90</td>
</tr>
<tr>
<td>5</td>
<td>0.616 (15.64)</td>
<td>6.5 (165.1)</td>
<td>169 (76.65)</td>
<td>-90</td>
</tr>
</tbody>
</table>

### Ordering Guide

```
T M Q  N  L M R 1 9 5  X X . X  Y  W
```

- **TMQ**
  - N-4 = MQ4
  - N-5 = MQ5
- **N** Length / 3 dig
- **LMR195**
- **XXX** F Feet
- **Y** M Meters
- **W** Boot

**Op Temp**
- -40 to 221°F
- -40 to 105°C

**Impedance**

<table>
<thead>
<tr>
<th>Impedance 50 Ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Op Temp</td>
</tr>
<tr>
<td>-40 to 221°F</td>
</tr>
<tr>
<td>-40 to 105°C</td>
</tr>
</tbody>
</table>

**Specifications**

- **CENTER CONDUCTOR**
  - Solid Bare Copper
- **DIELECTRIC**
  - Gas Injected Foam Polyethylene
- **SHIELD**
  - Alum.Polyester-Alum. Adhesive Tape
- **OUTER BRAID**
  - Tinned Copper Braid
- **JACKET**
  - FR Polyethylene with Nylon Rip Cord

**Additional Information**

- Ultraflexible bundled harness
- Rugged fire retardant polyurethane jacket
- **Impedance**
  - 50 Ohms
- **Op Temp**
  - -40 to 221°F
  - -40 to 105°C
- **Length**
  - 3 digits
- **F Feet**
  - Meters
- **Boot**

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www.timesmicrowave.com
Weather Protection Boots - WPB

Weather Protection Boots are one-piece molded EPDM rubber boots placed behind the connectors during the manufacture of the jumpers. These boots provide an IP-68 seal to the cable. Installation is easy. After installing the jumpers and properly torquing the coupling nut, the installer can slide the boot forward over the connector to create an IP-68 seal to the mated female bulkhead connector. The WPB boot system provides reliable weather protection for the life of the installation and reduces the time, mess and technique associated with traditional weather sealing methods.

- UV resistant EPDM rubber
- Easy slide on and off
- Reusable
- Waterproof to IP68 standard

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