**Waveguide Plumbing, 9-10GHz**

**WR90 Package, 5 Kilowatts Peak @10% duty cycle**

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Circulator</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Waveguide Flex./Rigid Tx to Circulator</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Waveguide circulator to Antenna</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>W/G Bandpass Filter Flex./Rigid Front End to Circulator or Choke type flange</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Flange Choke Butt</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Captive Screw</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>Helical Coil insert</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>Helical Coil insert (metric)</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Tube fitting 90° Elbow</td>
<td>1</td>
</tr>
</tbody>
</table>

**Order Examples:** RWP-9-10-WR90-5kW Pk-q21

**Description:** (Waveguide Plumbing, 9-10 GHz, WR90 Package, 5 Kilowatts Peak @ 10% duty cycle)
Waveguide Plumbing, 9-10GHz
WR90 Package, 5 Kilowatts Peak @10% duty cycle

Dimensions and Tolerances
Dimension in mm
General Tolerances
X ± 0.5
XX ± 0.5
XXX ± 0.1
Waveguide Plumbing, 9-10GHz
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Notes:

1. Not Applicable
2. Finish: Chemical conversion coating IAW MIL-DTL-5541F, Type I or Type II, Class 1A
3. Cross Hatched area to be copper plating
5. Flexible seamless waveguide segment with silicon Rubber (Black) Mold Application per ZZ-R-765B
6. Install Captive Screws and Swage it as shown in detail B
7. Pressurization: The assembly shall be subjected to an internal Air pressure of 30 PSI while immersed in water. Any bubbles seen coming from within the Assembly shall be considered as leakage
8. Manufacturing and Testing as per specification
9. Not Applicable
10. Tightening Torque values for Screws and Bolts #8 (0.164") - 32UNC to 20.7 lb-in
11. Identification marking should specify: Part No., Date(week/Year) and Serial Number

RWP-9-10-WR90-5kW-Pk-q21 Specifications may be subject to change 02/28/17

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Waveguide Plumbing, 9-10GHz
WR90 Package, 5 Kilowatts Peak @10% duty cycle

Waveguide part of the plumbing:

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Frequency</td>
<td>9-10GHz</td>
</tr>
<tr>
<td>2.</td>
<td>Waveguide</td>
<td>WR-90</td>
</tr>
<tr>
<td>3.</td>
<td>Attenuation. (dB/FT ,Max)</td>
<td>≤ 0.02</td>
</tr>
<tr>
<td>4.</td>
<td>VSWR</td>
<td>≤1.1 max</td>
</tr>
<tr>
<td>5.</td>
<td>Power Rating</td>
<td>≥5KW peak @ 10% duty</td>
</tr>
<tr>
<td>6.</td>
<td>Waveguide Material</td>
<td>Aluminium 6061</td>
</tr>
</tbody>
</table>

RF filter in the plumbing should be replaced with waveguide straight section.
Waveguide section at circulator junction must have choke type flange.
Weight of the waveguide plumbing: ≤ 1Kg

Environmental Specifications:

1. Temperature (operational) : -40°C to +65°C
2. Temperature (Storage) : -55°C to +85°C
3. Altitude : 60,000 feet
4. Humidity : 30°C to 60°C, RH : 85% to 95%
5. Vibration : Random Vibration : 20-1000 Hz - 0.04 g²/Hz (PSD)
   : 1000-2000 Hz - 6 dB / octave
6. Acceleration Test : Functional:
   Severity : Up 18.81g, Down 10.98g, Lat L & Lat R
   4.65g, Fore 4g & Aft 11.79g
   Structural: Severity: 1.5 times the levels given above
   Duration: 1 min along each direction
7. Shock : Functional:
   Severity: 20g, 11msec Pulse: Half sine pulse
   Number of shocks: 3 shocks in each of 6 directions
   Total 18 shocks
   Crash safety: Severity: 30g, 11 msec
   Pulse: Half sine pulse
   Number of shocks: 2 shocks in each of 6 directions
   Total of 12 shocks

Specifications may be subject to change 02/28/17