2099-100 100MHz Reference

The 2099-100 100 MHz Reference provides two 100 MHz outputs from a ±0.1 ppm high stability oven controlled crystal oscillator. Front panel LEDs provide indication of DC power and oven warm-up. The level is +9 dBm and the 2099-100 works into either a 75 or 50 ohm load. Connectors are BNC female. A relay contact closure or open indicates when the oscillator oven is stabilized. The unit is powered by a 100-240 ±10% VAC power supply; and housed in a 1 3/4" X 19" X 14" rack mount chassis.

**EQUIPMENT SPECIFICATIONS***

### Output Characteristics
- Number of outputs: 2
- Impedance: 50Ω or 75Ω
- Return Loss: >18 dB
- Frequency: 100.0000 MHz
- Output Level: +9 ± 1 dBm
- Spurious: < -75 dBC

### Oscillator Stability
- Over temperature: ± 0.1 ppm max 0°C to +50°C
- Aging, per day: ± 0.01 ppm
- Aging, per year: ± 0.5 ppm
- Warm up, in 4 minutes: ± 1.0 ppm
- Warm up, in 1 hour: ± 0.1 ppm
- Mechanical adjustment: ± 1 ppm

### Oscillator Phase Noise

<table>
<thead>
<tr>
<th>Phase Noise @ Freq</th>
<th>10Hz</th>
<th>100Hz</th>
<th>1kHz</th>
<th>10 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBC/Hz</td>
<td>-90</td>
<td>-125</td>
<td>-145</td>
<td>-155</td>
</tr>
</tbody>
</table>

### Controls, Indicators
- Power: Green LED
- Oven Warm Up: Yellow LED, External contact closure

### Other
- 100 MHz Connectors: BNC (female)
- Connector, Alarm: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.75" high X 14.0” deep
- Power: 100-240 ±10% VAC, 47 - 63 Hz, 20 watts max.

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*10°C to 40°C; Specifications subject to change without notice*