DESCRIPTION
The S03MS Series will expand your existing microwave Signal Generator capabilities to conduct measurements in WR-03 (220-325 GHz). These frequency extension modules easily connect to the output of a signal generator providing a high performance source for DUT characterization activities. Characterize the DUT with the confidence that it will produce accurate results with superior performance of output power, spurious and harmonics. Specialized part numbers are available to avoid using an external power supply.

HIGHLIGHTS
- Modular design
- High Output Power of -15 dBm
- Microwave synthesizer determines frequency accuracy and resolution
- Phase noise adheres to 20 log (n) degradation
- Adjustable Height Control
- Optional power supply configuration for PSG
- Full continuous waveguide band coverage
- RoHS compliant

APPLICATIONS
- Maximum power with close proximity connections
- Ample power for most test conditions
- Precise setting of mm-wave frequencies
- Spectral purity enables phase noise measurements
- Convenient connections to DUT on test benches
- Simplify setup by using synthesizer as power supply
- Flexibility to handle multiple applications
- Environmentally friendly

ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)
After a 0.5 hour warm-up period, the S03MS module will satisfy the following specifications.

<table>
<thead>
<tr>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Operating Frequency</td>
<td>220</td>
<td>--</td>
</tr>
<tr>
<td>RF out (dBm) typ.</td>
<td>-20</td>
<td>-15</td>
</tr>
<tr>
<td>Higher order output harmonics (dBc) typ.</td>
<td>--</td>
<td>&lt; -20</td>
</tr>
<tr>
<td>In-Band Spurious (dBc) typ.</td>
<td>--</td>
<td>≤ -20</td>
</tr>
<tr>
<td>RF in VSWR</td>
<td>--</td>
<td>≤ 2.0</td>
</tr>
<tr>
<td>RF out VSWR</td>
<td>--</td>
<td>≤ 3.0</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>+20°C</td>
<td>+25°C</td>
</tr>
</tbody>
</table>

Module Characteristics

<table>
<thead>
<tr>
<th>Test Port, System Output Interface</th>
<th>WR-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF System Input</td>
<td>SMA(f)</td>
</tr>
<tr>
<td>RF Input Frequency</td>
<td>12.2 to 18.1 GHz</td>
</tr>
<tr>
<td>RF Input Power</td>
<td>+10 dBm ± 1.5 dB</td>
</tr>
<tr>
<td>RF Input Damage Level</td>
<td>+20 dBm</td>
</tr>
<tr>
<td>RF Multiply Factor</td>
<td>x18</td>
</tr>
<tr>
<td>DC (+12 VDC) Power Requirements</td>
<td>+1.5 A, typ.</td>
</tr>
<tr>
<td>Size (L x W x H)</td>
<td>5.33” x 4.25” x 2.7”</td>
</tr>
<tr>
<td>Weight</td>
<td>&lt; 2 lbs</td>
</tr>
</tbody>
</table>

1 Specifications are typical and subject to change without notice
2 As there are no internationally recognized power standards above 110 GHz, any power data supplied above 110 GHz is traceable only to OML’s Calorimeter.
3 As relates to the desired output frequencies. Applicable only with Keysight PSG & 8360 series synthesizers and Anritsu MG36xx, 68xxx/69xxx & 67xx series synthesizers.
4 In-band mixing products. Typically ≤15 dBc in the lower 10% of the waveguide band. Applicable only with Keysight PSG & 8360 series synthesizers and Anritsu MG36xx, 68xxx/69xxx & 67xx series synthesizers.
5 Test Port Flange Configuration is compatible with MIL-DTL-3922/67E (UG387/U-M)
6 Height excludes the adjustable rubber feet length and depth dimension excludes the output waveguide length.
### ORDER INFORMATION

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| S03MS       | WR-03 Source Module  
Accessories: DC power cable, Dual Banana Plug to 7 Pin Circular Bayonet Plug (V00DCBC1)                                                 |
| S03MS-AG    | WR-03 Source Module, Option AG (Keysight DC power cable)  
Accessories: DC power cable (V00DCDC2), RF Cable SMA (m/m) (V00LOIF)                     |

**Options**

- **-A**
  - Adds 0 to 25 dB Manual Adjustable Attenuator to the RF Path

**Standard Accessories**

1. V00DCBC1
   - Dual Banana Plug to 7 Pin Circular Bayonet Plug DC power cable, 3 ft.
2. V0DCPW12-5
3. V00DCDC2
   - D connector plug to 7 pin Circular Bayonet Plug DC power cable, 6 ft. (Keysight PSG series with “Source module interface” output)
4. V0DCPW09-4
5. V00LOIF
   - Test Port Ext. Cable, DC to 18 GHz, 3 ft., SMA(m) - SMA(m), 50 Ohm

\(^1\) Applicable to SxxMS models only  
\(^2\) Applicable to SxxMS-AG models only  
\(^3\) Required for Keysight PSG series signal generator without “Source module interface” output to energize OML source module
MECHANICAL DIMENSIONS (If necessary, contact OML for more detailed drawings)