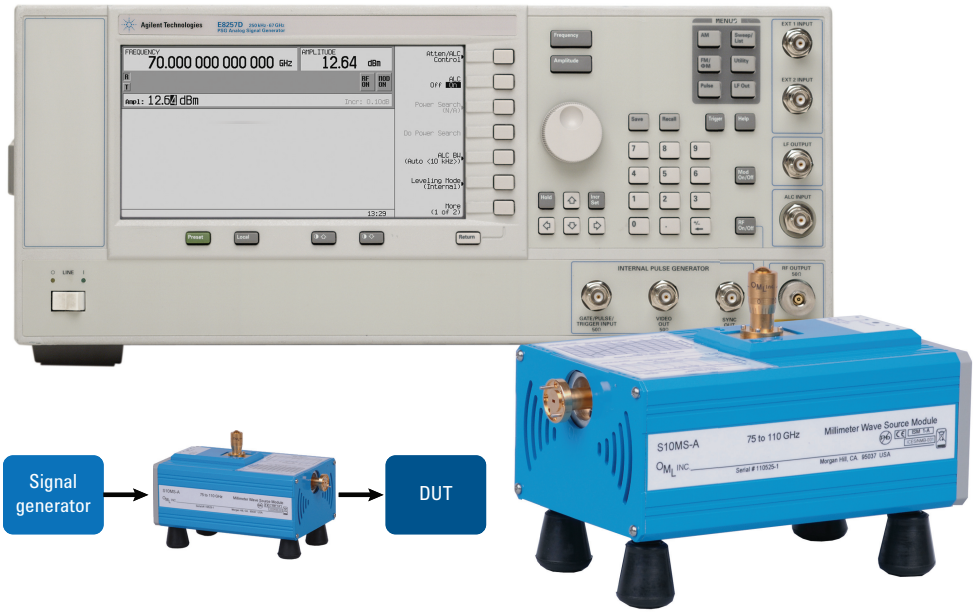
Millimeter-Wave Signal Generators

Agilent Technologies and OML, Inc.

Create millimeter-wave signals using frequency extension source modules



- *Create millimeter-wave synthesized signals*
- *Millimeter-wave frequency extension source modules for your signal generator*
- *Extend the frequency range of your Agilent PSG with plug-and-play compatibility*
- *External modules simplify setup and optimize performance*
- *Over-the-air, on-wafer, or waveguide connections to your DUT*
- *Waveguide interface compatible with MIL-DTL-3922/67D (UG 387/U-M)*
- *Millimeter-wave signal generator to test your high frequency circuits and devices*

Millimeter-wave (mm-wave) measurements require the same fundamental tools that engineers use for the RF & microwave spectrum. Frequency extension of a microwave signal generator is possible up to 0.5 THz with the addition of an external source module. The key enabler inside a source module is multiplier technology. With frequency extension modules, multipliers overcome the inherent microwave limitations of your signal generator allowing you to create millimeter-wave stimulus to test your devices.

Millimeter-wave measurements are essential for research into next generation technology in areas such as radio astronomy, imaging, communication, semiconductors, space research, biomedical and homeland security. With a spectrum from 50 GHz to 500 GHz, and greater, the complexity requires specialized solutions, especially as the wavelengths approach sub-millimeter in length.

OML provides frequency extension source modules that connect as external modules to the Agilent PSG to generate mm-wave synthesized signals. The external modules extend the frequency range of the signal generator into the mm-wave bands. By using external modules the connections to the device-under-test (DUT) are closer giving improved dynamic range. They can be interfaced to the DUT via over-the-air, on-wafer, or waveguide connections. The waveguide interface is compatible with MIL-DTL-3922/67D (UG387/U-M).

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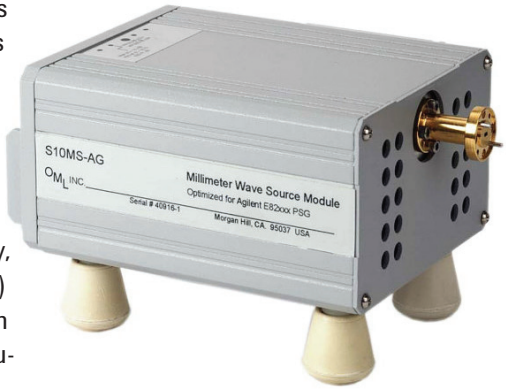
Once connected, the OML source module multiplies the PSG microwave frequency to the mm-wave spectrum. This multiply operation distorts modulation so limited support is available for VSG applications. The Agilent PSG is plug-and-play compatible with the SxxMS series of source modules from OML. The source modules help to generate a variety of test signals for your measurement requirements, while the familiar front panel operation is kept the same, except the readouts are in the mm-wave instead of microwave spectrum. The mm-wave signal replicates the PSG's frequency accuracy, stability, and phase noise with 20 log (n) degradation. For active device testing an optional 25 dB manual adjustable attenuator is available.

OML's external frequency extension source modules when combined with the Agilent PSG allow you to extend the frequency range of your instruments to create mm-wave synthesized signals to test your millimeter-wave circuits and devices.



System Components

Agilent Technologies

PSG	Signal generator

OML, Inc.

S15MS-AG	WR-15, 50-75 GHz
S12MS-AG	WR-12, 60-90 GHz
S10MS-AG	WR-10, 75-110 GHz
S08MS-AG	WR-08, 90-140 GHz
S06MS-AG	WR-06, 110-170 GHz
S05MS-AG	WR-05, 140-220 GHz
S03MS-AG	WR-03, 220-325 GHz
S02.2MS-AG	WR-02.2, 325-500 GHz
Option –A	Add 25 dB manual attenuator (Except WR-02.2)

To learn how this solution can address your specific needs please contact Agilent's solutions partner, OML, Inc.

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Solutions Partner

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OML, Inc. is a premier supplier of innovative millimeter and sub-millimeter wave frequency extension products for vector network analyzers, scalar network analyzers, spectrum analyzers, converters, and signal generators. Our solutions empower engineers in R&D and manufacturing to pursue opportunities in emerging applications spanning radio astronomy, communication, imaging, space research, and homeland security **www.omlinc.com**

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Product specifications and descriptions in this document subject to change without notice.

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