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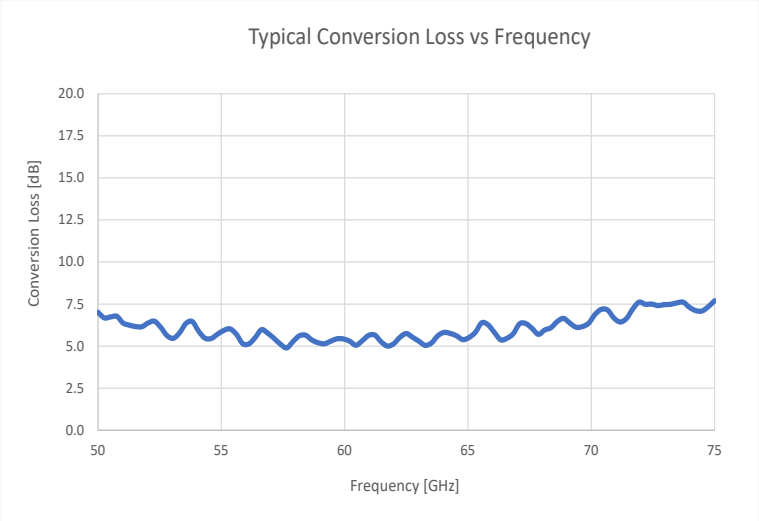
# WR-15 Spectrum Analyzer Frequency Extension Module 50-75 GHz: **SAE-15-0001**

**Farran's SAE-15 module will expand your existing microwave Spectrum or Signal Analyzer (SA) capabilities to conduct measurement in WR-15 band (50-75 GHz).**

These frequency extension modules easily connect to the spectrum or signal analyzer and extend its measurement range to millimeter wave frequencies. These systems leverage the high performance of full-band mixers with integrated LO multiplier chains. They are compatible with a number of Keysight and Rohde & Schwarz spectrum and signal analyzers, and allow you to obtain accurate measurements results.

**Key Facts:**

- Very low conversion loss.
- High performance alternative to harmonic mixers.
- Full band coverage: 50-75 GHz.
- Flat frequency response.




## ADDITIONAL FEATURES

- Compatible with large number signal and spectrum analyzers
- Low- and high-frequency LO inputs
- Spectrum and signal analysis
- Block up-converter mode
- Block down-converter mode

## APPLICATIONS

- Spectrum and signal analysis
- Digital modulations
- Signal processing
- Wireless communications
- Signal up- and down-conversion

## ACCESSORIES

- Calibration files
- AC/DC laptop style power supply with 2m cable
- User Manuals
- Flight Case

"We have a number of spectrum analyzers that we needed to use in mm-wave range while ensuring very low noise floor levels. Farran's SAE range of extenders offered a much better performance than harmonic mixers that we used before. They allow us to employ both old and new spectrum analyzers as they can be easily configured to work with low or high LO frequencies. We are very happy with the performance of these products and Farran's support.

**Test Engineer, Manufacturer of Mm-wave Communication Equipment**

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# Product Specification

| System Specification | Unit | Min | Typ | Max |
|---|---|---|---|---|
| Operating Frequency | GHz | 50 | - | 75 |
| IF Input / Output Frequency (nom.) | MHz | 10 | - | 2200 |
| LO Frequency - LO(L) | GHz | 4.16 | - | 6.25 |
| LO Harmonic Number - LO(L) (nom.) | - | - | 12 | - |
| LO Frequency - LO(H) | GHz | 8.33 | - | 12.5 |
| LO Harmonic Number - LO(H) (nom.) | - | - | 6 | - |
| Mixer Conversion Loss SSB (nom.) | dB | - | 6 | - |
| System Conversion Loss SSB | dB | - | 8 | 15 |
| LO Input Power | dBm | +10 | +13 | +15 |
| RF CW Input Level (nom.) | dBm | - | - | -10 |
| RF CW Input Damage Level (nom.) | dBm | 0 | - | - |
| RF Test Port (nom.) | - | WR-15, IEEE 1785.2a Precision Style (UG-385/U compatible) | | |
| LO/IF Ports (nom.) | - | SMA(F) | | |
| DC Power Requirements (typ.) | - | +12V @ 1.5A | | |
| Dimensions (approx.) | mm | 230 x 105 x 60 | | |
| Weight (approx.) | kg | 1.75 | | |
| Operating Temperatures (nom.) | ˚C | 0 | - | 30 |

## SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support

For more information on any of our products or services please visit our website: www.farran.com

## TECHNICAL SUPPORT

- Technical support provided directly by our knowledgeable and friendly engineers.
- Support for pre- and post-purchase: system configuration, installation and troubleshooting.

## PRODUCT INSIGHTS

- For more product insights register at www.farran.com/customer
- Additional information: test data, CAD drawings and 3D models available.

## WARRANTY

- Standard 3 year warranty.
- Up to 5 year warranty optional.

## Specification Definitions

**Nominal value (nom.)** – ensured by design, not tested. **Measured value (min, max)** – expected and warranted product performance obtained from the actual measurements of product sample. **Non-traceable measured value (n. trc. meas.)** – expected product performance obtained from the actual measurements of a product sample by means of using Farran's own equipment and methods. Traceable only to Farran laboratory equipment. **Typical data (typ.)** – value that represents the product specification met over 90% of bandwidth or a mean value.
**Specifications without limits** – represent the warranted product performance; with values of no or a negligible deviation from the given value and as such have a secondary impact on the product performance.