



## VDI Mini Spectrum Analyzer Extension Module Specifications

Product Name	WR28SAX-M	WR19SAX-M	WR15SAX-M	WR12SAX-M	WR10SAX-M	WR8.0SAX-M	WR6.5SAX-M	WR5.1SAX-M
RF Frequency Band (GHz)	26-40	40-60	50-75	60-90	75-110	90-140	110-170	140-220
RF Flange (UG-387/U-M)††	WR-28	WR-19	WR-15	WR-12	WR-10	WR-8.0	WR-6.5	WR-5.1
Multiplication Factor (Low / High)†	4 / 2	8 / 2	12 / 6	12 / 6	12 / 6	12 / 6	24 / 6	24 / 6
Low Frequency LO Input (GHz)	6.5-10	5-7.5	4.17-6.25	5-7.5	6.25-9.17	7.5-11.67	4.58-7.08	5.83-9.17
High Frequency LO Input (GHz)	13-20	20-30	8.33-12.5	10-15	12.5-18.33	15-23.33	18.33-28.33	23.33-36.67
RF Power Limits: Compression / Damage (dBm, typ.)	-4 / 6	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0
Intrinsic Mixer SSB Conversion Loss (typ.) (dB)‡,§	9	9	10	10	10	10	10	11
High Freq. IF Output Port, Max Frequency (GHz, typ.)*	4	6	7.5	9	11	14	17	22
Displayed Average Noise Level (dBm/Hz, typ.)**	-150	-150	-150	-150	-150	-150	-150	-150

Product Name	WR4.3SAX-M	WR3.4SAX-M	WM710(WR2.8)SAX-M	WM570(WR2.2)SAX-M	WM380(WR1.5)SAX-M	WM250(WR1.0)SAX-M	WM164(WR0.65)SAX-M	
RF Frequency Band (GHz)	170-260	220-330	260-400	330-500	500-750	750-1100	1100-1500	
RF Flange (UG-387/U-M)	WR-4.3	WR-3.4	WR-2.8	WR-2.2	WR-1.5	WR-1.0	WR-0.65	
Multiplication Factor (Low / High)†	24 / 12	48 / 12	48 / 12	48 / 12	72 / 18	144 / 36	108 / 54	
Low Frequency LO Input (GHz)	7.08-10.83	4.58-6.88	5.42-8.33	6.88-10.42	6.94-10.42	5.21-7.64	10.19-13.89	
High Frequency LO Input (GHz)	14.17-21.67	18.33-27.5	21.67-33.33	27.5-41.67	27.78-41.67	20.83-30.56	20.37-27.78	
RF Power Limits: Compression / Damage (dBm, typ.)	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-20 / -10	-20 / -10	
Intrinsic Mixer SSB Conversion Loss (typ.) (dB)‡	11	12	13	14	18	25	33	
High Freq. IF Output Port, Max Frequency (GHz, typ.)*	26	40	40	40	40	40	40	
Displayed Average Noise Level (dBm/Hz, typ.)**	-150	-149	-148	-148	-145	-140	-130 (est.)	

†See Figure 1 for dual LO input mode configuration.

‡Intrinsic Mixer conversion loss is measured before any IF amplification.

§Maximum conversion loss of WR-15, WR-12, WR-10, WR-8.0, WR-6.5, and WR-5.1 SAX-M is 4dB at the High IF Port after IF amplification.

\*For block-downconversion mode only. The maximum IF bandwidth is limited to 20 GHz when up-conversion option is added.

\*\*Displayed Average Noise Level (DANL) measurements taken on Keysight X-Series Analyzer with EXM Option.

### SAX-M Options:

- IF Input Port for Block Up-Conversion
- Amplifiers and filters for use with up-conversion option
- External Micrometer Driven Variable Attenuator (~0-30dB)
- Output Horn Antenna for free space coupling
- Waveguide Test Port Extensions (1" and 2" available)

### General Notes:

- VDI Fullband SAX-Ms include a single-volt DC Power Supply.
- Conversion loss is measured at IF of 322.5 MHz, loss increases at a rate of about 1.5dB/10GHz up to the specified maximum IF.
- All modules include a ~50kHz-40 GHz IF amplifier.

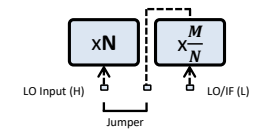


Figure 1: Block diagram of dual LO input mode is shown. M is the multiplication factor for Low Frequency Mode. N is the multiplication factor for High Frequency Mode.