VDI Integrated Mixer / Amplifier / Multiplier Chain Specifications

Product Name	WR15MixAMC-I	WR12MixAMC-I	WR10MixAMC-I	WR8.0MixAMC-I	WR6.5MixAMC-I	WR5.1MixAMC-I	WR4.3MixAMC-I	WR3.4MixAMC-I
RF Frequency Band (GHz)	50-75	60-90	75-110	90-140	110-170	140-220	170-260	220-330
RF Flange (UG-387/U-M)	WR-15	WR-12	WR-10	WR-8.0	WR-6.5	WR-5.1	WR-4.3	WR-3.4
Standard Multiplication Factor	6	6	6	12	12	12	24	24
LO Input Frequency, Standard Multiplication Factor (GHz)	8.33-12.5	10-15	12.5-18.33	7.5-11.67	9.17-14.17	11.67-18.33	7.08-10.83	9.17-13.75
RF Power Limits: Compression / Damage (dBm)	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0	-10 / 0
Intrinsic Mixer SSB Conversion Loss (Typical) (dB)†	11	11	11	12	12	12	12	12
Maximum Available IF Bandwidth (GHz)	7.5	9	11	14	17	22	26	40
Alternative Multiplication Factors††	12	12	12	6, 24	6, 24	6, 24	12, 48	12, 48
Bias Voltage (V)	+5.5	+5.5	+5.5	+5.5	+5.5	+5.0	+5.0	+5.0

Product Name	WR2.8MixAMC-I	WR2.2MixAMC-I	WR1.5MixAMC-I	WR1.0MixAMC-I				
RF Frequency Band (GHz)	260-400	330-500	500-750	750-1100				
RF Flange (UG-387/U-M)	WR-2.8	WR-2.2	WR-1.5	WR-1.0				
Standard Multiplication Factor	24	36	72	72				
LO Input Frequency, Standard Multiplication Factor (GHz)	10.83-16.67	9.17-13.89	6.94-10.42	10.42-15.28				
RF Power Limits: Compression / Damage (dBm)	-10 / 0	-10 / 0	-10 / 0	-20 / -10				
Intrinsic Mixer SSB Conversion Loss (Typical) (dB)†	15	17	18	30				
Maximum Available IF Bandwidth (GHz)	40	40	40	40				
Alternative Multiplication Factors††	12, 48	18, 72	18, 36	36				
Bias Voltage (V, ±0.1V)	+5.0	+5.0	+5.0	+5.0				

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

††MixAMC-I can be configured with alternative LO multiplication factors. VDI recommends using lower LO multiplication factors whenever possible.

MixAMC-I Options:
• Micrometer Driven Attenuator (~0-30dB)
• Horn Antenna
• Waveguide Test Port Extensions (1" and 2" available)

General Notes:
• MixAMC-I products require a user supplied voltage.
• MixAMC-I products are shipped with a heat sink and fan assembly, but may be removed. If heat sink and fan assembly is removed, user must provide sufficient heat sinking to maintain a maximum case temperature below 45 C.
• All input connectors are 2.9mm(f).
• LO Input Damage Limit for the Standard Multiplication Factor configuration is 6dBm. Contact VDI for damage limits for alternative multiplication factors.
• Standard configuration includes ~100kHz-40GHz IF amplifier, ~10dB gain. There is no direct access to the mixer IF port.
• The user can choose to remove the IF amplifier from the MixAMC-I. If the amplifier is removed, the IF port is extremely ESD sensitive. To choose this option, add -N to the name on the Purchase Order. For example, for WR10MixAMC-I with no IF amplifier, customer must specify WR10MixAMC-I-N on the Purchase Order.
• Intrinsic mixer conversion loss is measured at IF ~1 GHz, loss increases at a rate of ~2dB/10 GHz up to the specified maximum IF.

How to Order:
PRODUCT or PRODUCT-N or PRODUCT-MXX or PRODUCT-N-MXX
PRODUCT = Choose from "Product Name" in above table.
-N = To configure product without integrated IF amplifier
-MXX = To configure product with alternative multiplication factor, where XX is the multiplication factor

Examples:
WR6.5MixAMC-I: 110-170 GHz Integrated Mixer / Amplifier / Multiplier Chain, with standard multiplication factor (N=12), with integrated IF amplifier
WR6.5MixAMC-I-N: 110-170 GHz Integrated Mixer / Amplifier / Multiplier Chain, with standard multiplication factor (N=12), with NO IF amplifier. IF port is extremely ESD sensitive.
WR6.5MixAMC-I-M6: 110-170 GHz Integrated Mixer / Amplifier / Multiplier Chain, with multiplication factor of N=6, with integrated IF amplifier
WR6.5MixAMC-I-N-M6: 110-170 GHz Integrated Mixer / Amplifier / Multiplier Chain, with multiplication factor of N=6, with NO IF amplifier. IF port is extremely ESD sensitive.

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