



Blue Tops RF Modules > Integrated Frequency Multiplier (IFM-1)

Features:

- Input Frequency: 5 MHz to 8 GHz
- Multiplication Factors:
x2, x3, x4, x5, x7, x9 and x11
- Output Frequency to 16 GHz
- Low Conversion Loss
- Intrinsic Phase Noise to -176 dBc/Hz
- Integral Filters and Amplifiers

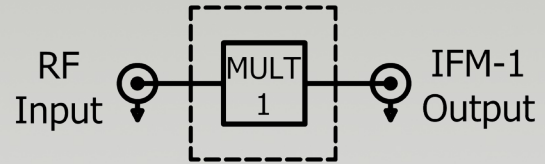
Applications:

- Synthesizer Building Block
- Communication Systems
- Radar Systems
- Electronic Warfare Systems



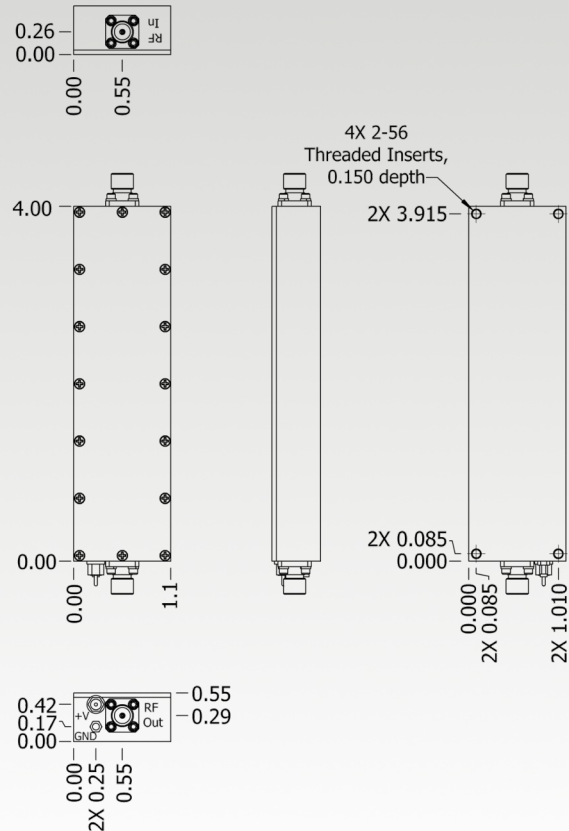
Description:

The IFM-1 is a low noise multiplier module, which combines a low noise multiplier, bandpass filter and amplifiers to achieve exceptionally low phase noise, excellent spectral purity and good conversion efficiency. Multiplication factors of 2, 3, 4, 5, 7, 9 and 11 are available with an output frequency to 16 GHz. The IFM-1 provides input referred phase noise floors to -176 dBc/Hz. Please consult Wenzel technical staff for assistance in configuring a multiplier to suit specific requirements.



Electrical Specifications				
Input Frequency Range	5 MHz to 8 GHz, fixed			
Multiplication Factors	x2	x3	x4	x5
Max Input Frequency	8 GHz	5 GHz	250 MHz	700 MHz
	x7	x9	x11	
Max Input Frequency	550 MHz	50 MHz	10 MHz	
Input Level	+12 dBm to +15 dBm, fixed (± 1 dB)			
Output Frequency	to 16 GHz			
Output Level	to +20 dBm (± 2 dB)			
Phase Noise Floor (Intrinsic, Input Referred)	to -176 dBc/Hz			
Conversion Loss	-3 dB to +5 dB			
Harmonics	≤ -25 dBc			
Sub-Harmonics	≤ -60 dBc			
Spurious (Excluding Supply Line Related Spurs)	≤ -80 dBc			
Supply Voltage	+15 VDC $\pm 2\%$			
Current Draw (Configuration Dependent)	100 to 200 mA			
Operating Temperature	+25 $\pm 5^\circ\text{C}$ **			
Storage Temperature	-40 to +85 $^\circ\text{C}$			
Mechanical				
Dimensions	1.1" x 4" x 0.55"			
DC Supply	Feed Thru Capacitor Solder Pin			
Ground	Turret Terminal Solder Pin			
RF Input / Output	SMA female *			

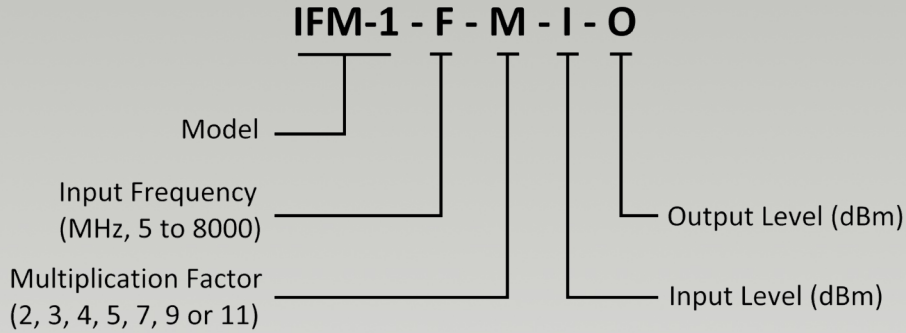
* SMA female connectors are used unless otherwise specified. Contact factory for custom configurations.
** Please consult factory for custom Operating Temperature range options and capability.





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Ordering Information:



Standard P/N	Input Frequency	Multiplier Factor	Input Level	Output Level	Output Frequency	Input Referred Residual Phase Noise (100 kHz offset)	Supply Voltage
IFM-1-100-2-13-13	100 MHz	x2	+13 dBm	+13 dBm	200 MHz	≤ -176 dBc/Hz	+15 VDC
IFM-1-100-5-13-13	100 MHz	x5	+13 dBm	+13 dBm	500 MHz	≤ -176 dBc/Hz	+15 VDC
IFM-1-100-7-13-13	100 MHz	x7	+13 dBm	+13 dBm	700 MHz	≤ -174 dBc/Hz	+15 VDC
IFM-1-500-2-13-13	500 MHz	x2	+13 dBm	+13 dBm	1000 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1-500-5-13-13	500 MHz	x5	+13 dBm	+13 dBm	2500 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1-1000-2-13-13	1000 MHz	x2	+13 dBm	+13 dBm	2000 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1-1000-5-13-13	1000 MHz	x5	+13 dBm	+13 dBm	5000 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1-2560-2-13-13	2560 MHz	x2	+13 dBm	+13 dBm	5120 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1-5120-2-13-13	5120 MHz	x2	+13 dBm	+13 dBm	10240 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1-8000-2-13-13	8000 MHz	x2	+13 dBm	+13 dBm	16000 MHz	≤ -170 dBc/Hz	+15 VDC