



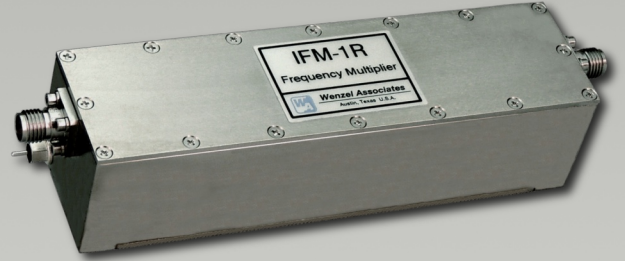
Blue Tops RF Modules > Integrated Frequency Multiplier (IFM-1R)

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
- Includes Low Noise Voltage Regulator

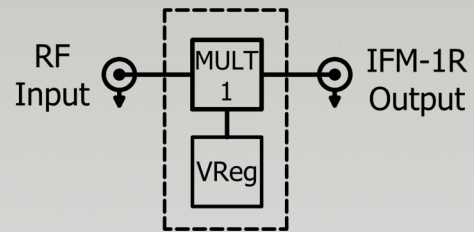
Applications:

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

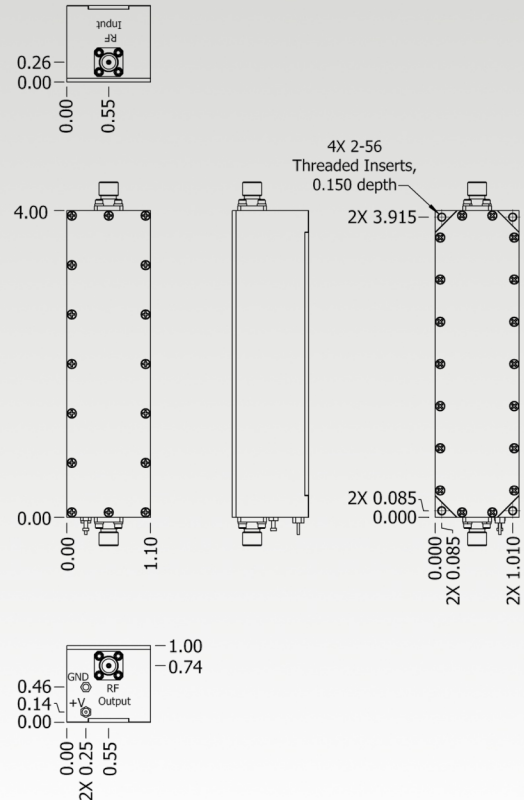


Description:

The IFM-1R is a low noise multiplier module, which combines a low noise multiplier, bandpass filter, amplifiers and a voltage regulator 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-1R provides input referred phase noise floors to -176 dBc/Hz. A low noise voltage regulator is included to assist with power supply spurious signal suppression. Please consult Wenzel technical staff for assistance in configuring a multiplier to suit specific requirements.



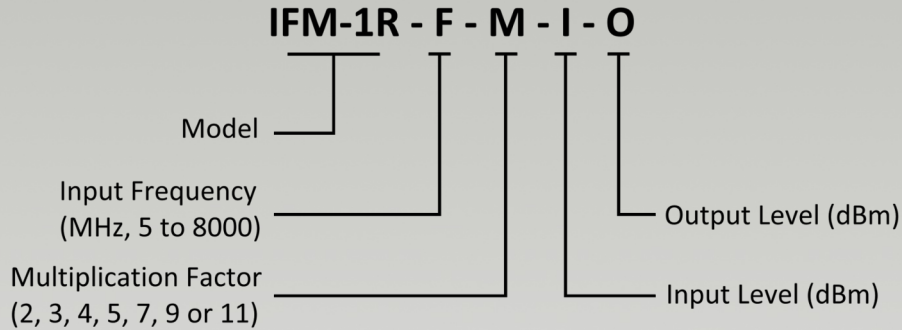
Electrical Specifications	
Input Frequency Range	5 MHz to 8 GHz, fixed
Multiplication Factors	x2 x3 x4 x5
	Max Input Frequency 8 GHz 5 GHz 250 MHz 700 MHz
Max Input Frequency	x7 x9 x11
	550 MHz 50 MHz 10 MHz
Input Level	+12 dBm to +15 dBm, fixed (±1 dB)
Output Frequency	to 16 GHz
Output Level	to +20 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 ±5% (Includes Internal Low Noise Voltage Regulator)
Current Draw (Configuration Dependent)	125 to 225 mA
Operating Temperature	+25 ±5°C **
Storage Temperature	-40 to +85°C
Mechanical	
Dimensions	1.1" x 4" x 1"
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-1R-100-2-13-13	100 MHz	x2	+13 dBm	+13 dBm	200 MHz	≤ -176 dBc/Hz	+15 VDC
IFM-1R-100-5-13-13	100 MHz	x5	+13 dBm	+13 dBm	500 MHz	≤ -176 dBc/Hz	+15 VDC
IFM-1R-100-7-13-13	100 MHz	x7	+13 dBm	+13 dBm	700 MHz	≤ -174 dBc/Hz	+15 VDC
IFM-1R-500-2-13-13	500 MHz	x2	+13 dBm	+13 dBm	1000 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1R-500-5-13-13	500 MHz	x5	+13 dBm	+13 dBm	2500 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1R-1000-2-13-13	1000 MHz	x2	+13 dBm	+13 dBm	2000 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1R-1000-5-13-13	1000 MHz	x5	+13 dBm	+13 dBm	5000 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1R-2560-2-13-13	2560 MHz	x2	+13 dBm	+13 dBm	5120 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1R-5120-2-13-13	5120 MHz	x2	+13 dBm	+13 dBm	10240 MHz	≤ -170 dBc/Hz	+15 VDC
IFM-1R-8000-2-13-13	8000 MHz	x2	+13 dBm	+13 dBm	16000 MHz	≤ -170 dBc/Hz	+15 VDC