



10 MHz Frequency Multiplier

The FS-100RMe is a **Low Noise Frequency Multiplier** that provides four or eight 100 MHz signals derived from a 10 MHz signal supplied by the user. The 100 MHz outputs are bandpass filtered to provide greater than 40 dB of rejection for all spurious and harmonic signals. The low residual phase noise of the multiplier allows it to be used with state-of-the-art crystal frequency sources without degrading phase noise or environmental stability.

The multiplier is equipped with network capabilities that allow for remote control and ongoing monitoring of the instrument via Ethernet. Input and output power levels are continuously monitored and compared to a predefined threshold, which can be adjusted by the user. If the signal level on the input or any of the outputs drop below the set threshold an alarm signal will be activated and reported through the Ethernet interface. The multiplier also features visual monitoring via front panel and will report the dropping of signal levels by turning off the monitor LED for the corresponding signal.

The FS-100RMe is housed in a 1U, 19-inch rackmount enclosure with four or eight outputs for better flexibility in system configuration. The amplifier also features dual power operation capabilities. It can be powered by one 100 to 240 VAC mains source and a +12 to +36 VDC source. In the event that one of the two power sources fails, the instrument will continue to operate with the available power source, and will immediately activate an alarm signal through the Ethernet interface to indicate the power source failure. Additionally the monitor LED of the non-functional power source will turn off to indicate the fault condition.

FEATURES

- 10 MHz Input
- Ultra-low phase noise
- Very low spurious
- Signal Monitor LEDs
- Ethernet connectivity

APPLICATIONS

- Frequency multiplication
- Phase noise measurements
- Reference frequency generation
- Telecommunications standards



SPECIFICATIONS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Output Power	+13 dBm input	+10	+13	+15	dBm
Impedance	input		50		Ohms
	output		50		
Return Loss	input(S11)		-20	-15	dB
	output(S22)		-20	-15	
Spurious	Harmonics of input frequency		-55	-45	dBc
Harmonic Distortion	+13 dBm output Harmonics of output frequency		-41	-40	dBc
Phase Noise referred to the input	1 Hz		-143	-140	dBc/Hz
	10 Hz		-153	-150	
	1 kHz		-170	-167	
	10 kHz		-176	-173	
Temperature-delay Coefficient	0 - 50 °C		45	50	ps/°C