



**R12RFT Series  
WR12 Scalar Network Analysis  
60 to 90 GHz**

**DESCRIPTION**

The R12RFT & R12DET are elements that extend the frequency range of scalar network analyzers to WR-12 (60-90 GHz). These turnkey scalar systems contain filtered multipliers with -50 dBc spurious and harmonics. Included are a dual directional coupler and detectors for reference, reflection and transmission measurements.



**HIGHLIGHTS**

- Full waveguide band coverage
- Scalar reflection and transmission measurements

**APPLICATIONS**

- Versatility to satisfy multiple applications
- Economic alternative to vector network analyzers

**ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)**

After a one hour warm-up period, the R12RFT module will satisfy the following specifications.

Electrical Characteristics <sup>1</sup>	Description
Frequency Range	60 to 90 GHz
RF Input Frequency	10.0 to 15.0 GHz
RF Multiplication Factor	6
FL1 Frequency Range	60 to 90 GHz
FL2 Frequency Range	60 to 66 GHz
FL3 Frequency Range	65 to 80 GHz
FL4 Frequency Range	71 to 90 GHz
RF Input Power	+7 dBm min / +10 dBm max.
RF Input Power Damage Level	+20 dBm
RF Input Return Loss	14 dB typ.
Test Port Output Power	+ 4 dBm typ. with F1 thru section installed / 0 dBm min.
Test Port Match	15 dB typ.
Spurs and Harmonics	-20 dBc typ. with FL1 thru section installed -50 dBc max. with Filters FL2, FL3 or FL4 installed
Reflectometer Coupler Directivity	35 dB typ.
Temperature	+ 20 to +30° C

Module Characteristics <sup>1</sup>	Description
Interface	
RF (Test Port) Output Flange	MIL-F-3922/67B-009 (UG 387/U)
RF Input	SMA(f)
Detector Output	BNC(f)
DC Input	7-pin Bayonet Circular Receptacle
DC Power	+12 VDC @ 1.5 A typ.
Weight	< 5 lbs
Size (L x W x H) <sup>2</sup>	9.0" x 4.8" x 1.5"

<sup>1</sup>Specifications are typical and subject to change without notice

<sup>2</sup>Excluding Detector, DC and RF input connector



## ELECTRICAL AND PERFORMANCE SPECIFICATIONS (+25°C)

After a one hour warm-up period, the R12DET module will satisfy the following specifications.

Electrical Characteristics <sup>1</sup>	Description
Frequency Range	60 to 90 GHz
Detector Return Loss	15 dB typ.
Detector Flatness	± 3dB typ.
Detector Output	200mV/mW typ.
CW Input Power	+20 dBm max.

Module Characteristics <sup>1</sup>	Description
Interface RF Input Flange Detector Output	MIL-F-3922/67B-009 (UG 387/U) BNC(f)
Temperature	+ 20 to +30° C
Weight	< 10 oz
Size ( L x W x H) <sup>2</sup>	3.8" x 1.1" x 0.8"

<sup>1</sup>Specifications are typical and subject to change without notice

<sup>2</sup> Excluding BNC (f) connector

## ORDER INFORMATION

Order Information	
R12RFT	WR-12 Reflectometer Module w/ Detector & 4 Filters

Standard Accessories	
R12DET	Transmission Detector, WR-12, 60 to 90 GHz
R12RFT-FL1	WR-12 BPF, 60 to 90 GHz
R12RFT-FL2	WR-12 BPF, 60 to 662 GHz
R12RFT-FL3	WR-12 BPF, 65 to 80 GHz
R12RFT-FL4	WR-12 BPF, 71 to 90 GHz
WGS01	Waveguide Short
V00DCBC1	1 m DC power cable, Banana Plug to 7-Pin Circular Jack Connector