



**R10RFT Series**  
**WR10 Scalar Network Analysis**  
**75 to 110 GHz**

**DESCRIPTION**

The R10RFT & R10DET are elements that extend the frequency range of scalar network analyzers to WR-10 (75-110 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 R10RFT module will satisfy the following specifications.

Electrical Characteristics <sup>1</sup>	Description
Frequency Range	75 to 110 GHz
RF Input Frequency	12.5 to 18.33 GHz
RF Multiplication Factor	6
FL1 Frequency Range	75 to 110 GHz
FL2 Frequency Range	75 to 92 GHz
FL3 Frequency Range	89 to 110 GHz
FL4 Frequency Range	
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	0 dBm typ. with F1 thru section installed, -5 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-010 (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>	8.0" 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 R10DET module will satisfy the following specifications.

<b>Electrical Characteristics<sup>1</sup></b>	<b>Description</b>
Frequency Range	75 to 110 GHz
Detector Return Loss	15 dB typ.
Detector Flatness	± 3dB typ.
Detector Output	150mV/mW typ.
CW Input Power	+20 dBm max.

<b>Module Characteristics<sup>1</sup></b>	<b>Description</b>
Interface RF Input Flange Detector Output	MIL-F-3922/67B-010 (UG 387/U) BNC(f)
Temperature	+ 20 to +30° C
Weight	< 10 oz
Size ( L x W x H) <sup>2</sup>	3.7" 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**

<b>Order Information</b>	
R10RFT	WR-10 Reflectometer Module w/ Detector & 4 Filters

<b>Standard Accessories</b>	
R10DET	Transmission Detector, WR-10, 75 to 110 GHz
R10RFT-FL1	WR-10 BPF, 75 to 110 GHz
R10RFT-FL2	WR-10 BPF, 75 to 92 GHz
R10RFT-FL3	WR-10 BPF, 89 to 110 GHz
R10RFT-FL4	WR-10 BPF, xx to xx GHz
WGS01	Waveguide Short
V00DCBC1	1 m DC power cable, Banana Plug to 7-Pin Circular Jack Connector