



DEVICE

High Frequency PD RF Response Test System

OVERVIEW

PTS photodetector response test system utilizes microwave photonics techniques for automated measurement of high-speed photodetectors. PTS is fast and fully automated and yields the RF opto-electrical response (S21) of high-speed photodetectors at any operation frequency in specified bands. The system integrated a low noise, flat spectrum, scannable Modulated light source (up to 5 THz) and a high accurate RF power detector (up to 120 GHz) to measure the RF opto-electrical response (S21) of the photodetectors. The system operates with ease, speed, and precision using a simple graphics user interface via a notebook PC. The transmission of a PD shown in the figure blow is the comparison between the test results by using the PTS and test results by using a commercialized PNA from Keysight.

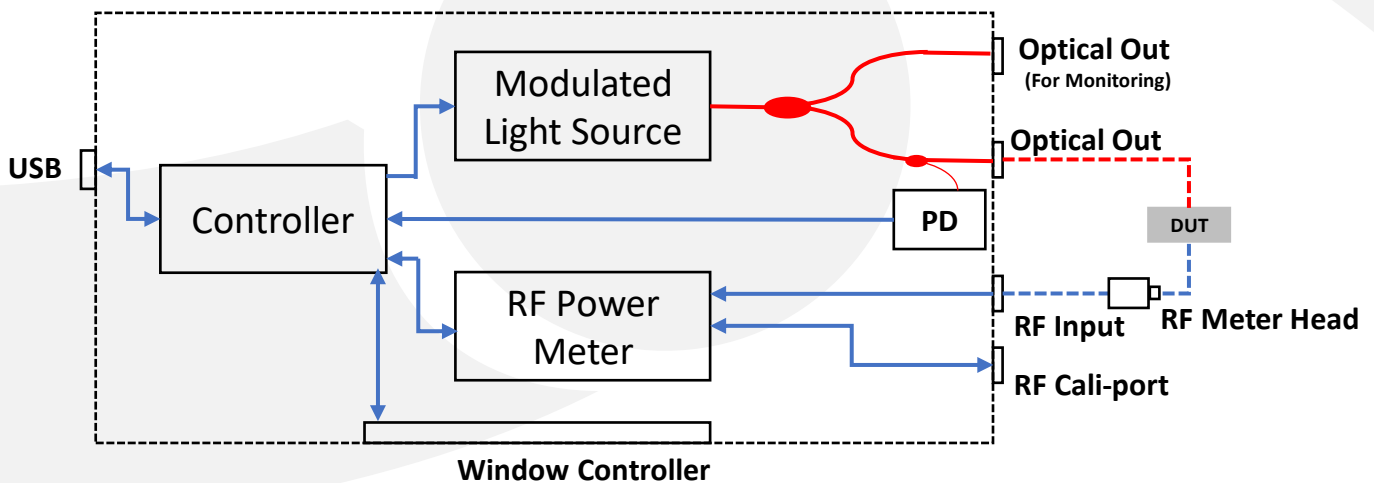
FEATURES

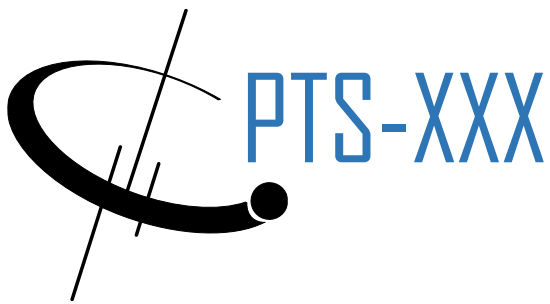
- 1530 nm – 1607nm
- Low Noise and High Accuracy Configuration
- Ultra-Fast PD RF Calibration
- Fully Automated and Integrated
- User Friendly Interface
- Wide Band RF Power Meter
- 25 mins Calibration Time

USE IN

- Photodetector Response Calibration
- Frequency or Phase Modulator Test
- Terahertz Sourcing
- RF Signal Detection

FUNCTION DIAGRAM





SPECIFICATIONS

ELECTRO OPTICAL

PD Wavelength	1530 nm - 1667 nm
RF Dynamic Range	-70 dBm - +40 dBm
Sampling Rate	100 Msamples/S
Display Resolution	Selectable resolution of 1.0, 0.1, 0.01, 0.001 dB in logarithmic mode, or 1 to 4 significant digits in linear mode
Video Bandwidth	5 MHz (Typical)

OPTICAL

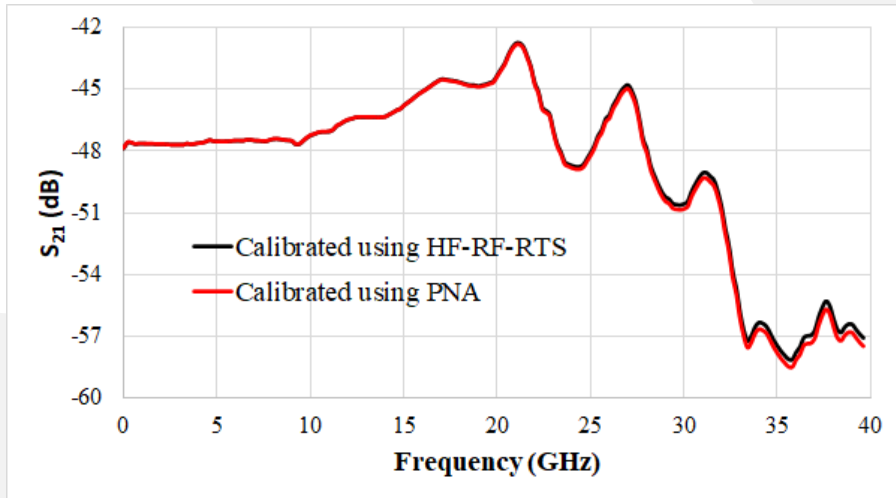
Photodiode Measurement Bandwidth	Options: 18 GHz, 50GHz, and 120GHz
Bandwidth Resolution	100 MHz
Frequency Stability	60 MHz (short term)
Optical Power Measurement Range	-30 dBm to 12 dBm
Relative Intensity Noise	-145 dB/Hz

MECHANICAL

Fiber Type	Panda 1550 PM fiber
Operation Temperature Range	0 °C to +40 °C
Power	110 / 120 VAC or 220 / 240 VAC
Size	3U Rackmount: 19" (D) x 14"(L) x 5.25" (H)



TEST REPORT



Bandwidth Options: **PTS-XXX (XXX means bandwidth options)**

- **PTS-018** 18GHz VERSION
- **PTS-050** 50GHz VERSION
- **PTS-120** 120GHz VERSION