BOONTON ELECTRONICS

4531

The Boonton Electronics 4531 is a high-speed, single-channel RF power meter designed for both laboratory accuracy and production-line speed. It is optimized for measuring CW, peak, and digitally-modulated signals (such as W-CDMA and HDTV) with a wide frequency range and up to 20 MHz of modulation bandwidth.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2), RS-232, Recorder Output, External Trigger Input, External Trigger Output
Display	1/4 VGA (320 x 240) monochrome LCD with CCFL backlight
Measurement Modes	CW, Peak, Statistical (PDF, CDF, CCDF)

Physical

Power Supply	90 to 260 VAC, 47 to 63 Hz, 50 VA maximum
Operating Temperature	0 to 50 °C °C
Dimensions (W×H×D)	213 mm x 89 mm x 343 mm mm
Weight	3.2 kg kg

Measurement Capabilities & Performance

Number of Channels	1
Frequency Range	10 kHz to 40 GHz (sensor dependent)
CW Dynamic Range	-70 dBm to +44 dBm (sensor dependent)
Modulation Bandwidth	Up to 20 MHz
Rise Time	<15 ns (sensor dependent)
Statistical Measurements	CDF, CCDF, PDF
Measurement Resolution	0.001 dB

Sensor Compatibility & Connection

Compatible Sensor Families	Boonton Peak Power, CW, and Average Power Sensors

Calibration & Reference

Internal Calibration Source Frequency	50 MHz
Internal Calibration Source Power	-60 to +20 dBm
Internal Calibration Source Uncertainty	±1.2%
Internal Calibration Source Connector	Type N (female), 50 Ω
Calibration Cycle	1 Year (recommended)

Triggering & Synchronization

Trigger Sources	Internal, External, Software
Trigger Modes	Synchronous, Asynchronous
External Trigger Input Level	TTL compatible (high > 2.0 V, low < 0.8 V)
External Trigger Input Connector	BNC (rear panel)
External Trigger Output Level	TTL compatible
External Trigger Output Connector	BNC (rear panel)

Software & Remote Programming

Command Set Support	SCPI

System Connectivity & Interfaces

Recorder Output Voltage	0 to 10 V (adjustable, rear panel BNC)

Environmental & Compliance

Storage Temperature	-40 to +75 °C
Relative Humidity Limit	Up to 95% non-condensing
Maximum Operating Altitude	15,000 ft (4,572 m)
Warm-up Time	5 minutes

Performance

CW Instrumentation Accuracy	0.11% (0.005 dB)
Peak Instrumentation Accuracy	0.20% (0.009 dB)
Effective Random Sampling Rate	50 MS/s
Continuous Sampling Rate	2.5 MS/s
Continuous Statistical Sampling Rate	40 MS/s

Calibrator

Internal Calibrator VSWR	1.05 maximum
Internal Calibrator Output Impedance	50 Ω

Timebase

Internal Timebase Frequency	10 MHz
Internal Timebase Aging Rate	< 1 ppm/year
Internal Timebase Temperature Stability	±1 ppm (0 °C to 50 °C)
External Reference Input Frequency	10 MHz

Measurement

dB Offset Range	-100 dB to +100 dB
Measurement Units	dBm, dB, W, mW, µW, nW, pW, %

TECHNOLOGY

RF Power Measurement

APPLICATIONS

RF and Microwave Test

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.