USB *Smart* Power Sensor PWR-8FS

50Ω -30 dBm to +20 dBm, 1 MHz to 8000 MHz

The Big Deal

- Fast measurement speed, 10 msec
- USB HID device compatible with 32/64 Bit operating systems
- Includes “Measurement Application” GUI (Graphical User Interface) software with an API-DLL com object
- High speed measurement capability

Installation CD

CASE STYLE: JL1504

30 day MONEY-BACK GUARANTEE! Click Here For More Details

Product Overview

The Mini-Circuits PWR-8FS Fast Measurement Speed Smart Power Sensor is a pocket-sized, 4.89” x 1.74” x 0.95”, precision test USB HID device (no driver installation required) that turns a Windows® or Linux® PC into a power meter. All specifications provided in the data sheet apply to continuous wave (CW) signals. Each unit is shipped with our N-to-SMA adapter and a quick-locking USB cable for reliable connectivity. Native software and detailed user guides are provided on the included CD, or can be downloaded from minicircuits.com anywhere an internet connection is available, providing a full range of data analysis options.

Key Features

Feature	Advantages
Fast measurement speed (10 msec typical)	Reduces the time needed to perform measurements, and allows the power sensor to be included in fast automated test setups.
USB HID (Human Interface Device)	Plug-and-Play (no need to install driver for the device).
GUI Measurement Application Software built-in	Enables the user to perform measurements on RF components such as Couplers, Filters, Amplifiers etc. and displays numerical data and graphs .
32/64 Bit operating systems	Compatible with Windows® and Linux® operating systems.
No calibration required before taking measurement	The PWR-8FS does not require any reference signal for calibration.

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Wide Dynamic Range

USB *Smart* Power Sensor

PWR-8FS

50Ω 1 MHz to 8000 MHz

Product Features

- Wide bandwidth, 1 to 8000 MHz
- 50 dB Dynamic Range, -30 to +20 dBm
- Good VSWR, 1.1:1 typ.
- Fast measurement speed, 10 msec typ.
- Automatic frequency calibration & temperature compensation
- Multi-sensor capability (up to 24)
- Built in Application Measurement Software
- Remote operation via internet
- Effective, easy-to-use Windows® GUI
- Compatible with 32/64-bit Windows® or Linux® operating systems
- ActiveX com object and .Net class library for use with other software: C++, C#, CVI®, Delphi®, LabVIEW® 8 or newer, MATLAB® 7 or newer, Python, Agilent VEE®, Visual Basic®, Visual Studio® 6 or newer, and more[1]

Installation CD

Case Style: JL1504

Model No.	Description	Price	Qty.
PWR-8FS	**USB *smart* Power Sensor**	$969.00 ea.	(1-4)
Included Accessories			
PWR-SEN-8FS	Power Sensor Head		
USB-CBL+	6 ft data cable (USB TYpe-A Plug)		1
NF-SM50+	N-Type (F) to SMA(M) Adapter		1
PWR-SEN-CD	Installation CD		1

Typical Applications

- Turn almost any Windows or Linux PC into a Power Meter
- Pocket-sized portability for benchtop testing anywhere
- Remote location monitoring
- Automatic, scheduled data collection
- Evaluate high-power, multi-port devices with built-in virtual couplers/attenuators & other software tools

RoHS Compliant

See our web site for RoHS Compliance methodologies and qualifications

Mini-Circuits Power Meter Program for *Smart* USB Power Sensor

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Electrical Specifications (CW) [2], -30 dBm to +20 dBm, 1 to 8000 MHz

Parameter		Freq. Range (MHz)	Min.	Typ.	Max.	Units
Dynamic Range		1 - 8000	-30	-	+20	dBm
VSWR		1 - 8000	-	1.1	1.3	:1
Uncertainty of Power Measurement @ 25°C	@ -30 to -20 dBm Low noise mode [3,4]	1 - 3000	-	± 0.10	± 0.30	dB
		3000 - 8000	-	± 0.15	± 0.40	dB
	@ -20 to +5 dBm Low noise/Faster/Fastest modes	1 - 3000	-	± 0.10 / ± 0.10 / ± 0.10	± 0.30 / ± 0.30 / ± 0.35	dB
		3000 - 8000	-	± 0.15 / ± 0.15 / ± 0.15	± 0.40 / ± 0.40 / ±0.50	dB
	@ +5 to +15 dBm Low noise/Faster/Fastest modes	1 - 3000	-	± 0.15 / ± 0.15 / ± 0.15	± 0.30 / ± 0.35 / ±0.35	dB
		3000 - 8000	-	± 0.15 / ± 0.15 / ± 0.15	± 0.40 / ± 0.40 / ±0.40	dB
	@ +15 to +20 dBm Low noise/Faster/Fastest modes	1 - 3000	-	± 0.15 / ± 0.15 / ± 0.15	± 0.40 / ± 0.40 / ±0.40	dB
		3000 - 8000	-	± 0.20 / ± 0.20 / ± 0.20	± 0.45 / ± 0.50 / ±0.50	dB
Uncertainty of Power Measurement @ 0°C to 50°C	@ -30 to -20 dBm Low noise mode [3,4]	1 - 3000	-	± 0.20	-	dB
		3000 - 8000	-	± 0.20	-	dB
	@ -20 to +5 dBm Low noise/Faster/Fastest modes	1 - 3000	-	± 0.20 / ± 0.20 / ± 0.20	-	dB
		3000 - 8000	-	± 0.20 / ± 0.20 / ± 0.20	-	dB
	@ +5 to +15 dBm Low noise/Faster/Fastest modes	1 - 3000	-	± 0.20 / ± 0.20 / ± 0.20	-	dB
		3000 - 8000	-	± 0.20 / ± 0.20 / ± 0.20	-	dB
	@ +15 to +20 dBm Low noise/Faster/Fastest modes	1 - 3000	-	± 0.20 / ± 0.20 / ± 0.25	-	dB
		3000 - 8000	-	± 0.20 / ± 0.20 / ± 0.25	-	dB
Linearity @ 25°C, Low noise mode		1 - 8000	-	± 3.0	-	%
Measurement Resolution		1 - 8000	0.01	-	-	dB
Averaging Range		1 - 8000	1	-	999	-
Measurement Speed	@ Low Noise Mode	1 - 8000	-	100	-	mSec
	@ Faster Mode		-	30	-	
	@ Fastest Mode		-	10	-	
Current (via host USB)		1 - 8000	-	40	70	mA

Minimum System Requirements

Parameter	Requirements
Interface	USB HID
Host operating system	32 Bit operating system: Windows 98®, Windows XP®, Windows Vista®, Windows 7® 64 Bit operating system: Windows Vista®, Windows 7® Linux® support: 32/64 Bit operating system
Hardware	Pentium® II or higher, RAM 256 Mb, USB port
USB cable (supplied)	Power sensor to be used with the supplied USB cable only

Absolute Maximum Ratings

Parameter	Ratings
Operating Temperature	0°C to 50°C
Storage Temperature	-30°C to 70°C
DC Voltage at RF port	15V
CW Power	+27 dBm

Permanent damage may occur if any of these limits are exceeded.

Note 2: All specifications apply to continuous wave (CW) signals.
Note 3: When using Faster mode at high frequencies below -20dBm, using averaging is recommended to prevent noise errors.
Note 4: When using Faster mode below -20dBm accuracy value may increase by up to 0.2 dB relative to Low noise mode

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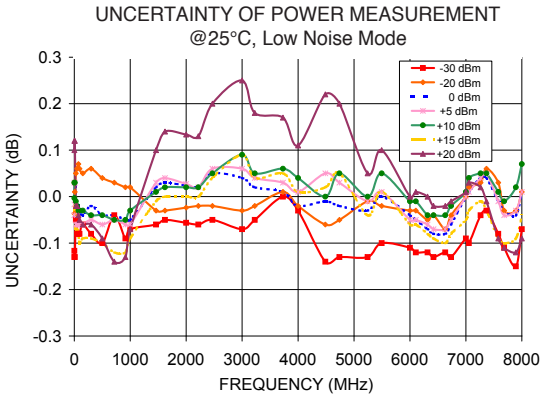
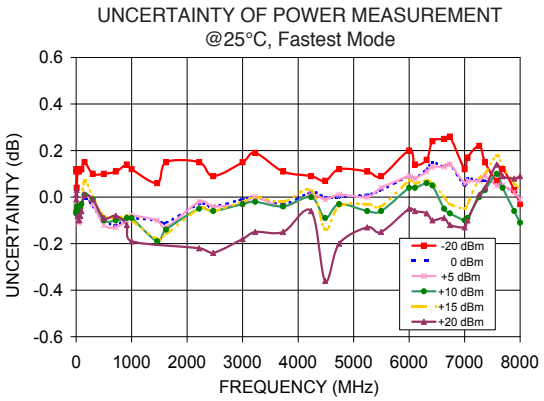
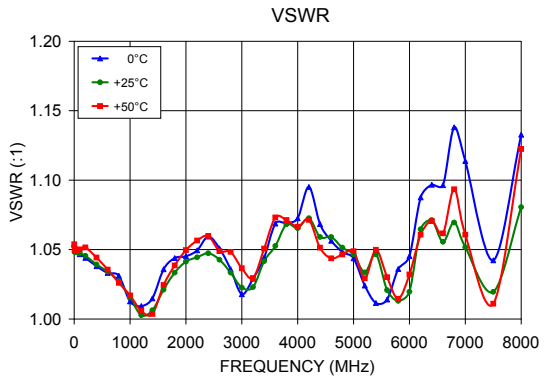
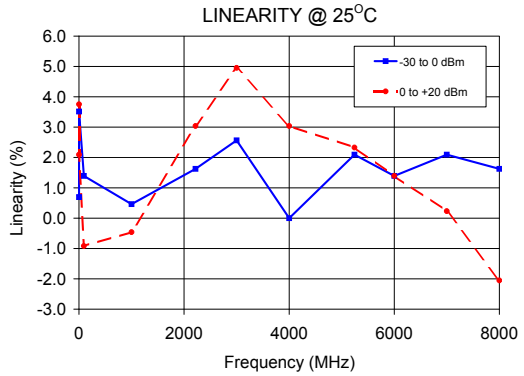
Typical Performance Curves

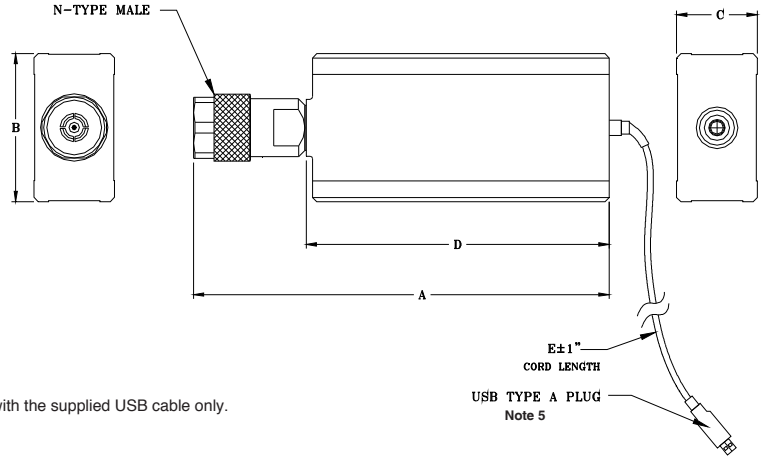








Outline Drawing (JL1504)



Note 5: Power sensor to be used with the supplied USB cable only.

Outline Dimensions (inch / mm)

A	B	C	D	E	WT. GRAMS
4.89 124.2	**1.74** 44.2	**.95** 24.1	**3.50** 88.9	**72.0** 1829	250

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Warranty

For a full statement of the limited warranty offered by Mini-Circuits for the PWR-8FS and the non-exclusive license for the software provided with the PWR-8FS and the exclusive rights and remedies thereunder, together with Mini-Circuit's limitations of warranties and limitation of liability, please refer to Mini-Circuits User Guide for the PWR-8FS and Mini-Circuits standard terms of sale found on its standard purchase order acknowledgment form, which are incorporated herein by reference. If you do not have these documents, please contact a Mini-Circuits representative and these documents will be provided promptly. Alternatively, for a copy of Mini-Circuits' standard terms of sale, visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

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Ordering, Pricing & Availability Information see our web site

Model	Description
PWR-8FS	USB *Smart* Power Sensor

Included Accessories	Description
PWR-SEN-8FS	Power Sensor Head
USB-CBL+[6]	6 ft data cable with USB Type-A plug connector
NF-SM50+	N-Type Female to SMA Male Adapter.
PWR-SEN-CD	Installation CD

Note 6: Power sensor to be used with the supplied USB cable only.

Calibration

Model	Description	
CALSEN-8FS	Calibration Service	Click Here

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