

RF POWER METERS EMPOWER™ PULSE RF/BURST POWER METERS



MODELS 7002-003, 7002-005

- **Fast Performance:**
Up to 1 Million Samples per Second
- **Accurate Measurements with Dynamic Range of:**
 - 65 dB for 6 GHz (Model 7002-003)
 - 55 dB for 18 GHz (Model 7002-005)
- **Pulse-shaped Recording Mode**
- **Suitable for Ford Radar Pulse Test**

ETS-Lindgren's **EMPower Pulse RF/Burst Power Meters** are designed to perform very fast measurements on high-frequency pulse-shaped signals (RF bursts).

The EMPower modular plug-in card occupies one slot in the EMCenter™, and includes four USB ports, accommodating any combination of up to four EMPower™ or EMPower Pulse sensors. Alternatively, an EMPower Pulse sensor can be connected directly to a PC using a standard USB port and included software.

Both power meters have an accuracy of 0.25 dB, making them suitable for measurements in accordance to automotive, military, telecom, and basic EMC standards.

EMPower Pulse is fully supported by TILE™, EMQuest™, and other test automation software packages. Please contact ETS-Lindgren for additional information.

Standard Configuration

- EMPower RF Power Pulse Sensor (Please Specify Model)
- 2m Shielded USB Cable
- Installation CD

FEATURES

Fast Performance

The EMPower Pulse RF/Burst Power Meters perform power measurements at a maximum sampling speed of one million samples per second. By using such a high sampling rate, the power meter is able to measure RF burst/pulse signals with a duration time as low as 2 μsec. Both power meters are also capable of measuring CW.

Accurate Measurements

EMPower Pulse allows high precision RF measurements with high dynamic range of 65 dB for the 6 GHz model, and 55 dB for the 18 GHz model.

Pulse-shape Recording Mode

In addition to the fast performance, the EMPower Pulse also has an internal measurement buffer that can store 4,000 samples. This enables the user to easily visualize RF burst signals.

Ford Radar Pulse Test

Fast speed and the record mode make the EMPower pulse suitable for measurements in accordance to the Automotive Ford Standard EMC-CS-2009.

Options

- EMPower Meter Plug-in Card
- EMCenter Modular RF Platform (Model 7000-001, required for operation)
- EMCenter RF System + IEEE-488 (GPIB) (Model 7000-010)
- Additional USB RF Power Sensors
- ISO 17025 Accredited Calibration for EMPower (Model 7002-003)
- ISO 17025 Accredited Calibration for EMPower (Model 7002-005)

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Technical Specifications

Performance Specifications (EMPower Sensors)		7002-003 (RF/Burst Sensor)	7002-005 (RF/Burst Sensor)	
Detector Type		Diode	Diode	
Measure Function		Peak Power	Peak Power	
Calibrated Frequency Range		9 kHz to 6 GHz	80 MHz to 18 GHz	
Power Measuring Range		-55 dB to + 10 dB	-45 dB to +10 dB	
Input Damage Level		> 20 dB	> 20 dB	
Resolution		0.01 dB	0.01 dB	
VSWR		< 1.10 @ 9 kHz to 100 MHz < 1.15 @ 100 MHz to 2 GHz < 1.35 @ 2 GHz to 6 GHz	< 1.20 @ 80 MHz to 10 GHz < 1.35 @ 10 GHz to 18 GHz	
Maximum Linearity Error (0 dBm ref)		0.05 dB / 10 dB	0.5 dB / 10 dB	
Measuring Speed (Per Second)		1 MSps (10 MSps for CW), 100 kSps or 20 kSps (Software Selectable)	1 MSps (10 MSps for CW), 100 kSps or 20 kSps (Software Selectable)	
Measuring Speed (Per Second)		4,000 Samples 2,000 Pre-trigger 2,000 Post-trigger	4,000 Samples 2,000 Pre-trigger 2,000 Post-trigger	
Accuracy (23° ± 2° C)		.25 dB	0.25 dB (≤ 10 GHz) 0.50 dB (> 10 GHz)	
Temperature Effect		< 0.15 dB Over Full Temperature Range	< 0.15 dB Over Full Temperature Range	
Measurement Units		dBm or Watts	dBm or Watts	
Physical Specifications		7002-001 (Plug-in Card)	7002-003 (USB RF Power Sensor)	7002-005 (USB RF Power Sensor)
Temperature Range (Use)		0° C to 40° C	0° C to 40° C	0° C to 40° C
		32° F to 104° F	32° F to 104° F	32° F to 104° F
Temperature Range (Storage)		-20° C to 85° C	-20° C to 85° C	-20° C to 85° C
		-4° F to 185° F	-4° F to 185° F	-4° F to 185° F
Relative Humidity		10% to 90% (Non-condensing)	10% to 90% (Non-condensing)	10% to 90% (Non-condensing)
Connector to Plug-in Card or PC (Data)	n/a	USB-B	USB-B	USB-B
Cross-Polarization Isolation	n/a	USB 1.1	USB 1.1	USB 1.1
Maximum Continuous Power	n/a	< 200 mA	< 200 mA	< 200 mA
RF Input connector	n/a	N-type Precision	N-type Precision	N-type Precision