

# Quick Fact Sheet Inline Peak Power Sensors

## MA24103A

25 MHz to 1 GHz

## MA24105A

350 MHz to 4 GHz



Keep your system up and running longer with an inline, bi-directional, peak power sensor. Measure a wide variety of signals from CW to LMR, Tetra, APCO/P25 to cellular (3G and 4G/WiMAX) to tactical military radar and avionics through either the PowerXpert™ PC software or a software option on industry-leading Anritsu handheld products. Measurements are made easy for any test skill level.

**Excellent tool for LTE average power measurements!**

Feature	Benefit
Inline power measurement	Minimal system downtime, monitor DUT in-service Widest measurement range in its class
Bi-directional sensor	Measure both transmitted and reflected power
True-RMS measurements over a wide bandwidth	Accurate average power measurements on signals in the major cellular and communication bands
Standalone, cost-effective, plug and play device	Easy to use, no meter nor elements required
Lab quality yet field ready	No field calibration required for NIST traceable results

### Operation with Anritsu Handheld Instruments

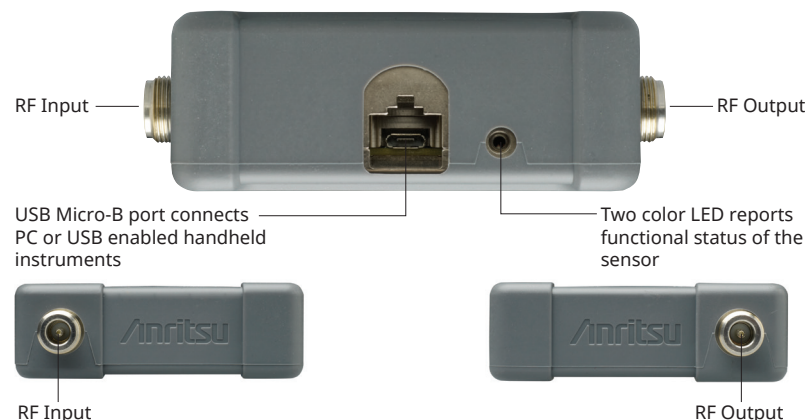
Handheld instruments having the high accuracy power meter software Option 19 can operate both Inline Peak Power Sensors. The power sensor easily connects to these instruments via a USB A/Micro-B cable. The MA2410xA sensors are currently compatible with most Anritsu handheld instruments. Refer to your instrument technical data sheet or contact your sales representative to ensure compatibility.



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**Measurements Performed:** Peak power, true-RMS power, and duty cycle.

**Calculations Performed:** Burst average power, crest factor, Complimentary Cumulative Distribution Function (CCDF), VSWR, return loss, and reflection coefficient.



### Operation with Personal Computer (PC)

The power sensor can be used with a personal computer running Microsoft® Windows via USB. It comes with the Anritsu PowerXpert™ application (version 3.49 or greater) for data display, analysis, and sensor control. The application has abundant features like data logging, power versus time graphing, and inclusion of an offset that all enable quick and accurate measurements.



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### Key Specifications

Sensor	
Frequency Range	25 MHz to 1 GHz (MA24103A) 350 MHz to 4 GHz (MA24105A)
Measurement Range	2 mW to 150 W (+3 dBm to +51.76 dBm), 300 W pulse (+54.77 dBm)
Input Return Loss (typical)	≥ 29.5 dB from 25 MHz to 3 GHz ≥ 26.5 dB from > 3 GHz to 4 GHz
Insertion Loss (typical)	≤ 0.15 dB from 25 MHz to 1.25 GHz ≤ 0.20 dB from > 1.25 GHz to 4 GHz
Directivity (typical)	≥ 28 dB from 25 MHz to < 1 GHz ≥ 30 dB from ≥ 1 GHz to ≤ 3 GHz ≥ 28 dB from > 3 GHz to 4 GHz
Measurement Channels	2 (Forward and Reverse)
Signal Channel Bandwidth	Average: 100 Hz Peak (selectable): 4 MHz (full) 200 kHz 4 kHz

Characteristic Performance	Forward/Reverse True-RMS/Average Power	Peak Power (typical)	Burst Average Power (typical)	CCDF
Uncertainty*	± 3.8%	Full BW: ± 5.4% + 400 mW	User Mode: < ± 3.8%	± 0.2%
Measurement Range	2 mW to 150 W (+ 3 dBm to + 51.76 dBm)	2 W to 300 W (+ 33 dBm to + 54.77 dBm)		
Measurement Speed (typical)	1.7 meas per sec	2.5 meas per sec	0.7 meas per sec	1.6 meas per sec
General				
Size (HxWxD)	102 mm x 87 mm x 30 mm; not including N connectors			
Weight	535 g (1.18 lb)			

**Notes:**

All specs are applicable after twenty minutes warm-up at room temperature and after zeroing unless specified otherwise.

(1) Measurement speed is based on time between measurements while data-logging

\* See datasheet for specified performance and a breakdown of uncertainty factors.

[www.anritsu.com](http://www.anritsu.com)

Environmental Tests were Performed per MIL-PRF-28800F (Class 2)	
Operating Temperature Range	0 °C to + 55 °C (0 °F to + 131 °F)
Storage Temperature Range	-50 °C to + 80 °C (-58 °F to + 176 °F)
Humidity	45% relative humidity at 55 °C (non-condensing) 75% relative humidity at 40 °C (non-condensing) 95% relative humidity at 30 °C (non-condensing)
Shock	30 g's half-sine, 11 ms duration
Vibration	Sinusoidal: 5 Hz to 55 Hz, 3 g max Random: 10 Hz to 500 Hz Power Spectral Density: 0.03 g <sup>2</sup> /Hz
EMC	EN 61326, EN 55011
Safety	EN 61010-1
RoHS Directive	2011/65/EU & 2015/863

### Ordering Information

MA2410xA Inline Peak Power Sensor	
Part Number	Description
MA24103A	25 MHz to 1 GHz Inline Peak Power Sensor
MA24105A	350 MHz to 4 GHz Inline Peak Power Sensor

MA2410xA Available Options	
Option Number	Description
MA24103A-098 MA24105A-098	Option 98, Standard calibration to ISO17025 and ANSI/NCSL Z540.
MA24103A-099 MA24105A-099	Option 99, Premium calibration to ISO17025 and ANSI/NCSL Z540. Test report and uncertainty data included.

**See Datasheet for Model and Description of Additional Accessories Below:**

- Power Attenuators
- Precision Terminations (for use with appropriate Power Attenuators)
- Precision Coaxial Adapters