# **Power Measurement Solutions**



## **Universal USB Power Sensors**

#### Microwave CW USB Power Sensors



MA24208A: 10 MHz to 8 GHz MA24218A: 10 MHz to 18 GHz -60 dBm to +20 dBm (1 nW to 100 mW)



> 11,000 readings/s buffered

Max power: +30 dBm avg



MA24330A: 10 MHz to 33 GHz MA24340A: 10 MHz to 40 GHz MA24350A: 10 MHz to 50 GHz -70 dBm to +20 dBM (1 nW to 100 mW) > 5,600 readings/s buffered

Max power: +26 dBm avg

## **Peak Power USB Sensors**









Up to 195 MHz VBW Crest factor, CCDF, Pulse

## True RMS USB Power Sensors



MA24105A 350 MHz to 4 GHz **Forward and Reverse** Measurements +3 dBm to 51.76 dBm (2 mW to 150 W) Inline Peak Power Sensor



MA24106A 50 MHz to 6 GHz -40 dBm to +23 dBm (0.1 uW to 200 mW) USB Power Sensor



MA24108A 10 MHz to 8 GHz -40 dBm to +20 dBm (0.1 µW to 100 mW) Microwave USB Power Sensor



**MA24118A** 10 MHz to 18 GHz -40 dBm to +20 dBm (0.1 uW to 100 mW) Microwave USB Power Sensor



MA24126A 10 MHz to 26 GHz -40 dBm to +20 dBm (0.1 µW to 100 mW) Microwave USB Power Sensor

#### **Power Meters**



ML2437A & ML2438A 100 kHz to 65 GHz Power Meters

**Recommended Sensors** 

MA247xD MA244xD MA248xD MA2400xA

#### **Pulse Power Meters**



ML2495A & ML2496A 100 kHz to 65 GHz Wideband Peak Power Meters

**Recommended Sensors** 

MA249xA MA2411B





## **Power Measurement Solutions**



|                                       | MA244xA<br>Series                  | MA243xxA<br>Series  | MA242xxA<br>Series  | MA241xxA<br>Series   | MA24105A  | MA2400xA<br>Series           | MA248xD<br>Series            | MA247xD<br>Series      | MA244xD<br>Series      | MA249xA<br>Series            | MA2411B                            |
|---------------------------------------|------------------------------------|---|---|--|---|------------------------------|------------------------------|------------------------|------------------------|------------------------------|------------------------------------|
| Description                           | USB                                | USB   | USB   | USB  | In-line USB   | Thermal                      | Universal                    | Standard<br>Diode      | High Accuracy<br>Diode | Wideband                     | Pulse                              |
| Measure-<br>ments                     | Average (RMS),<br>Peak, Pulse      | Average Power<br>(CW only)  | Average Power (RMS)   | Average Power (RMS)  | Average Power (RMS)   | Average<br>(RMS)             | Average Power (RMS)          | Average<br>Power       | Average<br>Power       | Average<br>(RMS), Peak       | Average (RMS),<br>Peak, Pulse      |
| In-line<br>Forward<br>& Reverse       |                                    |   |   |  | •   |                              |                              |                        |                        |                              |                                    |
| (1) Frequency<br>(GHz)                | 0.05 to 40                         | 0.01 to 50  | 0.01 to 18  | 0.01 to 26   | 0.35 to 4   | 0.01 to 50                   | 0.01 to 18                   | 0.01 to 50             | 0.01 to 50             | 0.05 to 18                   | 0.3 to 40                          |
| <sup>(1)</sup> Dynamic<br>Range (dBm) | -50 to +20                         | -70 to +20  | -60 to +20  | -40 to +20   | +3 to +38,<br>51.76 peak  | -30 to +20                   | -60 to +20                   | -70 to +20             | -67 to +20             | -60 to +20                   | -20 to +20                         |
| VBW                                   | Up to 195 MHz                      | 50 kHz  |   |  | 100 Hz (avg),<br>4 MHz peak   |                              |                              | 100 kHz                | 100 kHz                | 20 MHz                       | 50 MHz                             |
| Average                               | •                                  | •   | •   | •  | •   | •                            | •                            | •                      | •                      | •                            |                                    |
| Peak Power & CrestFactor              | •                                  |   |   |  |   |                              |                              |                        |                        | •                            | •                                  |
| CCDF & PDF                            | •                                  |   |   |  | CCDF<br>MA24105A<br>only  |                              |                              |                        |                        | •                            | •                                  |
| PAE Measure-<br>ment                  | •                                  |   |   |  |   |                              |                              |                        |                        |                              |                                    |
| NIST Trace-<br>able Calibra-<br>tion  | Up to 18 GHz                       | •   | •   | •  | •   | •                            | •                            | •                      | •                      | •                            |                                    |
| Applications                          | Pulse profiling,<br>Any modulation | CW  | CW, Pulse,<br>Any Modulation  | CW, Pulse,<br>Any Modulation   | CW, Pulse,<br>Any Modulation  | CW, Pulse,<br>Any Modulation | CW, Pulse,<br>Any Modulation | General<br>Purpose, CW | General<br>Purpose, CW | CW, Pulse,<br>Any Modulation | Pulse Profiling,<br>Any Modulation |
| Compatible<br>Power<br>Meters         | PC with Windows<br>7 or higher     | PC with<br>Windows 2000<br>or higher,<br>Site Master,<br>Cell Master,<br>Spectrum<br>Master, VNA<br>Master,<br>BTS Master | PC with Windows 2000 or higher, Site Master, Cell Master, Spectrum Master, VNA Master, BTS Master | PC with<br>Windows 2000<br>or higher,<br>Site Master,<br>Cell Master,<br>Spectrum Master,<br>VNA Master,<br>BTS Master | PC with<br>Windows 2000<br>or higher,<br>Site Master,<br>Cell Master,<br>Spectrum<br>Master, VNA<br>Master,<br>BTS Master | ML24xxA/B                    | ML24xxA/B                    | ML24xxA/B              | ML24xxA/B              | ML248xA/B,<br>ML249xA        | ML248xA/B,<br>ML249xA              |

Note: (1) Frequency and Dynamic Range depend upon the model number of the sensor.

