Highly Accurate Microwave USB Power Sensors with Range to 18 GHz

Anritsu Company introduces the MA24108A/MA24118A microwave USB power sensors that provide accurate average power measurements from 10 MHz to 18 GHz over 60 dB of dynamic range. Employing a “dual path” architecture to achieve True-RMS measurement similar to a thermal sensor over the entire frequency and dynamic range, the power sensors can measure CW, multi-tone, and digitally modulated signals used in commercial and aerospace/defense systems.

Both sensors can either internally trigger or receive an external trigger signal, allowing them to conduct multi-slot and burst average power measurements of TDD waveforms, typically found in GSM, WiMAX, and TD-SCDMA signals. Unlike other sensors in the market, the MA24108A/MA24118A do not require a separate module for triggering. They have built-in external trigger circuitry with an MCX connector interface to receive triggers from external stimuli.

Incorporating a micro-controller, signal conditioning circuitry, ADC, and power supply in the sensor makes it a miniature power meter. The MA24108A/MA24118A provide users with three modes of operation - Continuous Average, Scope, and Time Slot.

Scope mode allows power measurements to be displayed with respect to capture time of up to 300 ms. It is particularly useful when measuring non-periodic waveforms with video bandwidth up to 50 kHz. The time gating feature in the Scope mode enables measurement of the desired portion of a waveform that contains very short duty cycle timing information that otherwise skews average power measurement.

For TDMA waveforms, the Time Slot mode can be used. It breaks up the measurement into individual time intervals and calculates the average power reading of each. This feature allows entire frames of various communication signals to be analyzed with as many as 128 slots. All three modes can be accessed via PowerXpert™ or through remote programming commands. PowerXpert is a Windows-based data analysis and control software developed by Anritsu. It has abundant features, such as data logging, power versus time graphs, and a big numerical display, that enable quick and accurate measurements.

A compact design, high accuracy and affordability make the MA24108A/MA24118A well suited for any environment in which signal power must be measured. They can be used for R&D of general purpose and wireless devices and systems.

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