/Anritsu

For Keyless Entry Device R&D and Manufacturing Tests

MS2830A
Signal Analyzer
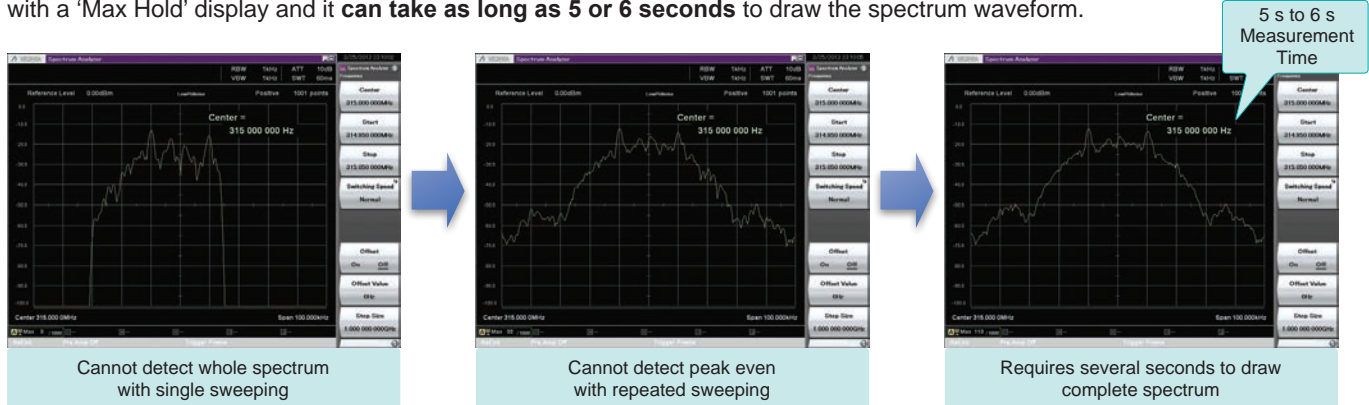9 kHz to 3.6 GHz

MS2830A Signal Analyzer — Revolutionizing Keyless Entry Device Wireless Tests

- **Supports fast, reliable, low-cost evaluation testing of FSK and ASK digital modulation signals using Fast Fourier Transform (FFT) technology**
- **Increases keyless entry device R&D and manufacturing test efficiency**

Huge Cuts in Measurement Time for Customers using Sweep Spectrum Analyzers!

Generally, keyless entry devices send a signal when the door open/close button is pressed, and use burst signals in many cases. Using a sweep spectrum analyzer to measure the frequency and level of these types of signals requires multiple measurements with a 'Max Hold' display and it **can take as long as 5 or 6 seconds** to draw the spectrum waveform.

5 s to 6 s Measurement Time

Cannot detect whole spectrum with single sweeping

Cannot detect peak even with repeated sweeping

Requires several seconds to draw complete spectrum

[Sweeping Spectrum Analyzer Measurement Results]

Faster Measurement Solution

The MS2830A Signal Analyzer with FFT functions uses a split screen to display the spectrum at the top half and **Power vs. Time** display at the bottom half; the spectrum for a specific time can be displayed — for example, the frequency and level of the two 2FSK peaks can be measured instantaneously (20 ms to 30 ms).

20 ms to 30 ms Measurement Time (1 burst)

Measurement Results

Spectrum display: Displays spectrum for time width specified at time axis below

Power vs. Time: Specifies spectrum display time width (blue section)

Huge Cuts in Equipment Costs for Customers using Real-time Spectrum Analyzers!

Real-time spectrum analyzers for monitoring signal changes with time can accurately and quickly measure keyless entry signals using FSK modulation burst signals, but they are rather expensive because they have many redundant functions that are unnecessary for keyless entry device production line test equipment.

Anritsu's MS2830A Signal Analyzer has the same or better measurement speed and accuracy as a real-time spectrum analyzer at only 1/3rd the cost.

∗: Compared to general real-time spectrum analyzer

Built-in Signal Generator and BER Measurement for Evaluation of Automotive Keyless Entry Rx Devices!

The MS2830A Signal Analyzer has options for both signal generation and BER measurement functions supporting evaluation of automotive keyless entry receivers. Various digital modulation signals, such as ASK and FSK modulation, can be input to the receiver and the demodulated Data and Clock signals returned to the MS2830A for BER measurement. Depending on conditions, BER measurement can also be performed using only the Data signal.
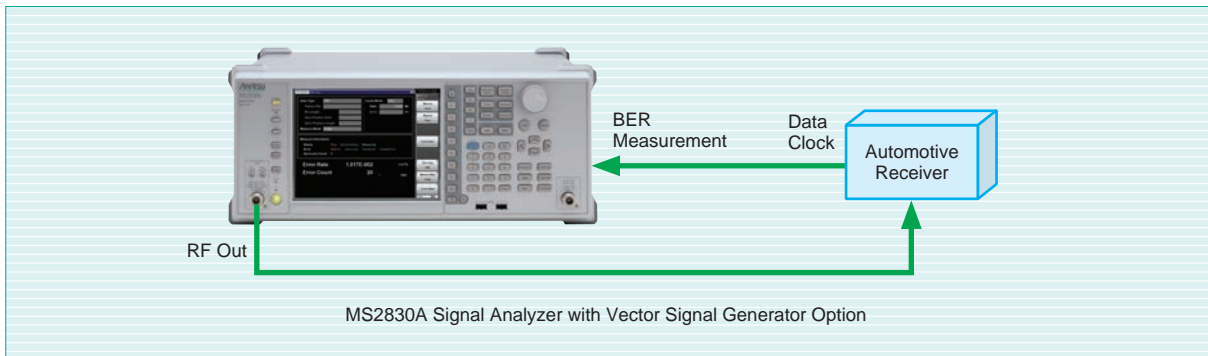
BER Measurement Setup Example (with Opt. 020, 022, 026)

Ordering Information (Recommended Configurations)

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

Model/Order No	Name	Remarks
Keyless Entry Tx Evaluation		
MS2830A-040	3.6 GHz Signal Analyzer	9 kHz to 3.6 GHz frequency range
MS2830A-006	Analysis Bandwidth 10 MHz	Required for high-speed measurement using FFT
Automotive Rx Evaluation		
MS2830A-020	3.6 GHz Vector Signal Generator	250 kHz to 3.6 GHz frequency range
MS2830A-022	Low Power Extension for Vector Signal Generator	Extends low level range from −40 to −136 dBm
MS2830A-026	BER Measurement Function	Bit error measurement function
MX269902A	TDMA IQproducer	Generates ASK and FSK modulation signals for Rx evaluation