

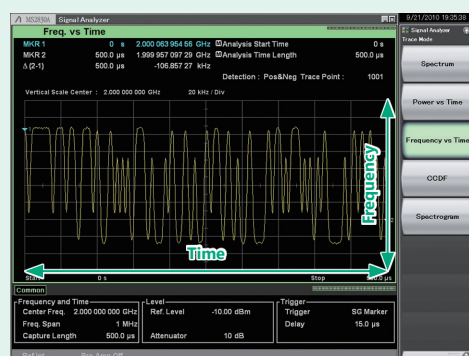
TPMS – Safe Driver, One Tire at a Time

Tire Pressure Monitor Sensors (TPMS) continuously ensure tires are inflated correctly to maintain safety and maximize fuel efficiency while operating vehicles. To meet the TPMS sensor manufacturer requirements for performance and functional measurements of TPMS transmission signals, several measurements need to be performed including Spectrum, Power vs. Time, Frequency vs. Time and Spectrogram.

Below are examples of TPMS sensor transmission measurements, using the Signal Analyzer MS2830A for verifying functional performance of physical layer TPMS sensors.

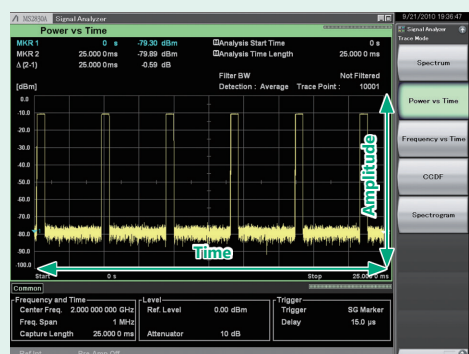
Frequency vs. Time

The Frequency vs. Time trace displays a graph with frequency on the y-axis and time on the x-axis to confirm time variation of the measured signal frequency.



Power vs. Time

The Power vs. Time trace displays a graph with amplitude on the y-axis and time on the x-axis to confirm changes in power with time of measured signals.



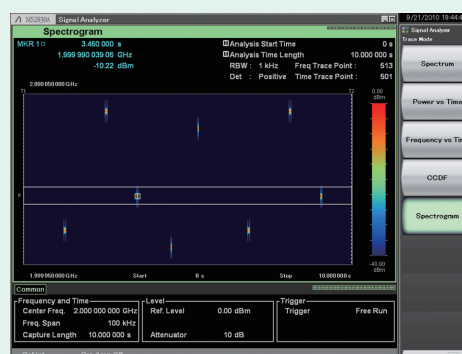
Spectrum

The Spectrum trace displays a graph with amplitude on the y-axis and frequency on the x-axis. The captured IQ data is FFT processed (fast Fourier transformed) and converted from the time domain to the frequency domain for display as a spectrum.



Spectrogram

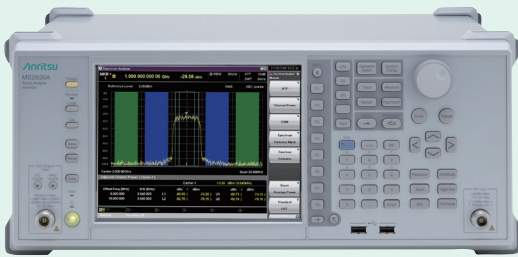
The Spectrogram trace displays the level as color with frequency on the y-axis and time on the x-axis. The captured IQ data is FFT processed to confirm time variations in the continuous spectrum. It is useful for monitoring frequency hopping and transient signals.



TPMS Transmitter Test with Anritsu MS2830A

Product Overview

The MS2830A is a high-speed, high-performance, cost-effective Spectrum Analyzer/Signal Analyzer – an ideal test solution for TPMS manufacturing providing spectrum, power vs. time, frequency vs. time, and spectrogram measurements within just 0.1 seconds of a single TPMS transmission for quick accurate dependable results. It can capture wideband signals and, additionally, the FFT technology supports multifunction signal analyses in both the time and frequency domains.



Spectrum Analyzer MS2830A

Benefits

- Reliable and repeatable TPMS FSK spectrum analysis
- Quickly identify faulty sensors
- Small footprint for lab environments
- Cost effective & easy to use

TPMS Functional Test Measurements

- Spectrum
- Power vs. Time
- Frequency vs. Time
- Spectrogram

