

DS8821Q

Real-time DVB Spectrum Analyzer

Leading Performance

DS8821 series Real-time DVB Spectrum Analyzer include DS8821A, DS8821B and DS8821Q, which fully utilize DSP (Digital Signal Processing) technologies. They are widely used in telecommunication, broadcasting, CATV and EMC testing field as the most optimized equipment for both indoors and outdoors.

Main Specifications

- Double scan windows and peak hold function: DS8821 series offers two windows to scan the spectrum and display on the screen at the same time. You won't miss any exceptional signal by 10Hz frequency resolution and you can observe the upstream signal of HFC network.
- TFT LCD: bright display and wide visual angle show you more details during testing and very easy to use.
- Quality and accuracy: all parameters measured are at the same level or better than those of similar models by other competitors
- Portable design with long operation time: easy to carry and more than 2.5 hours battery operating time.

DS8821Q Introduction

DS8821Q is a newly developed 1GHz portable Spectrum Analyzer with TFT LCD, which is specially designed for DVB-C network installation and maintenance. Besides the features inherited from DS8821B, DS8821Q is added professional tools and features which includes:

- CATV analysis: it includes TV channel measurement as well as other key parameters auto testing, such as CSO/CTB, C/N, MOD, LEVEL, Audio Test, Cross-Modulation, Differential Phase/Gain, Chrominance-to-luminance Delay Inequality and etc.
- Professional digital signal analysis function: it supports Constellation Diagram of 16/32/64/128/256QAM/QPSK modulation type and other key parameters in digital signal measurement, for instance, MER, EVM, and Pre/Post BER; it fully complies with ITU-T J.83 Annex A/B/C standard.
- Data storage function: you can perform analysis on selected historical data stored to improve network operation quality.

Model's Type

DS8821A 50Ω input impedance, mainly used in analyzing broadcasting and communication signals

DS8821B 75Ω input impedance, mainly used in analyzing CATV signals

DS8821Q Enhanced model of DS8821B with CATV testing option and QAM demodulation analysis option, and mainly used in analyzing Analogue and Digital CATV signals



Main Specifications

Frequency Range	1MHz~1000MHz
Frequency Reference Error	±1ppm (Internal Standard Frequency Reference)
Frequency Reference	
Temperature Stability	±2ppm (0°C~+50°C)
Minimum Display	
Frequency Resolution	10Hz
Frequency Span	1KHz~1GHz or 0Hz (CW zero span)
Resolution Bandwidth (-3dB)	1KHz~3MHz (1-3 Step)
Phase Noise	≤-88dBc/Hz@10KHz (typical)
Display Average Noise Level (Average Noise Ground)	Type A (50Ω) : -117dBm Type B (75Ω) : -10dBμV (RBW=10KHz, VBW=100Hz, and with pre-amplifier open)
Level accuracy	±1dB (@20°C±5°C)
Sweep Time	20ms~100s (Automatically or Manually)/20μs (0 span)
Digital Channel Power	20dBμV~120 dBμV
Demodulation types	QPSK 16/32/64/128/256QAM
Symbol Rate (SR)	1MS/S~7MS/S
Modulation Error Ratio (MER)	22dB~40dB (64QAM, 256QAM)
Bit Error Rate (BER)	10E-9~10E-3 Before and After R-S Decoding
Error Vector Magnitude (EVM) Range	0.65%~4.1%
Tracking Generator (DS80050)(option)	
Frequency Range	1MHz~1000MHz
Output Level Range	Type A (50Ω) : 0dBm~ -60dBm Type B (75Ω) : 102.8dBμV~42.8dBμV
Resolution	1dB
Absolute Accuracy	±1dB (102.8 dBμV at 150MHz)
Display	6.4" TFT color LCD with 640×480 Pixels
VGA Output Interface	Standard VGA output
Serial RS-232 Interface	9pin (D-SUB)
Parallel Interface	25pin (D-SUB)
USB Port	USB 1.1
Keyboard Interface	6pin
Power Supply	DS80010 external AC adapter / Rechargeable internal 14.4V / 6Ah Li-Ion battery
Charging Time	5 hours
Operating Time	2.5 hours (Fully charged)
Dimensions	About 360mm X 185mm X 350mm
Weight	Approx.10kg(Battery inside)



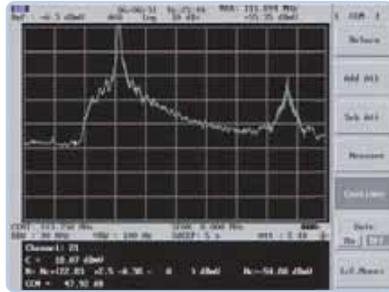
DS8821Q

Real-time DVB Spectrum Analyzer

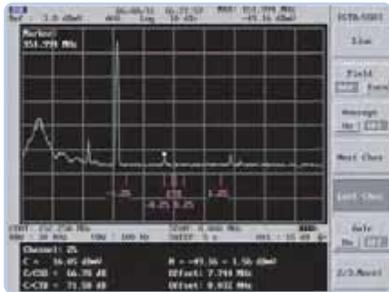
Automatic CATV testing

As far as single channel is concerned, DS8821Q enables the test of many key indexes, such as CSO/CTB, C/N, HUM, Audio Test, Leakage, and Modulation Depth.

With special advantages over CATV Analyzer, the CATV analyzing tool of DS8821Q collects real signals according to various measurement method, fully uses DSP technique and automates test procedures by one touch. As a result, the only thing operating engineer need to do is to press the related soft-key.



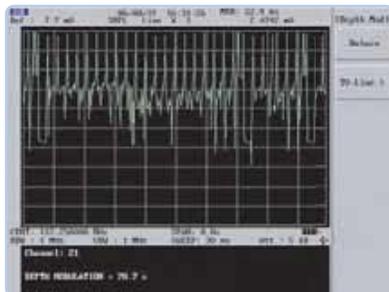
CCN



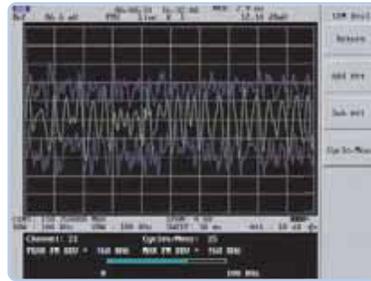
CTB/CSO

Video Modulation (AM) and Audio Modulation(FM) Real-time Testing

TV Video modulation depth is one of the most important modulation analysis indexes.



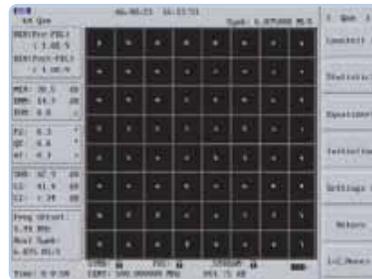
Sometimes, you notice an uncomfortable change of volume of TV while tuning the channel, which is resulted from the suitability audio deviation. The figure shows the audio deviation test on the model.



Professional digital TV and telecommunication signals analysis function.

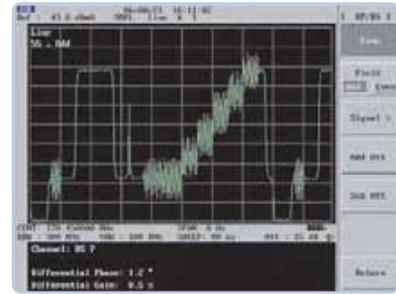
With CATV analysis and digital signal analysis tools, DS8821Q can measure QAM Constellation Diagram, BER, MER, EVM, Digital Channel Power, and C/N. The transmission quality can be detected at any time.

DS8821Q is capable with QAM and QPSK measurement with various bandwidth. It will become your most comprehensive and dependable analysis tool in Digital TV installation or maintenance.

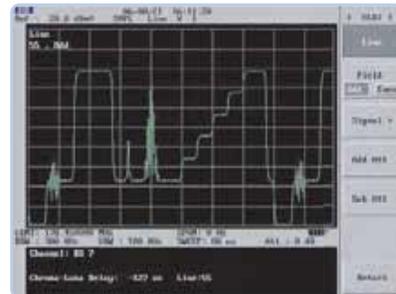


Video Analyzing Function

For Video test complying with national standard, DS8821Q supports the testing on Differential Phase/Gain, Chrominance-to-luminance Delay Inequality (CLDI) and etc.



Differential Phase/Gain



Chrom-Luma Delay

DS80050 Tracking Generator(Optional)

1. Output signal level setting: User can set the output signal level of tracking generator manually according to the application need.
2. Amplitude calibration: User can calibrate output signal amplitude of tracking generator to make a more accurate test.
3. Normalization: By normalization, user can obtain more accuracy as canceling the insertion loss error of transmission test equipment.

Usually used to test amplifiers, filters, splitters and etc.

In the filter measurement, it is easy for user to take test of insertion loss, NdB bandwidth, out-of-band rejection and etc.

