

DVB-T/H

MS8911B

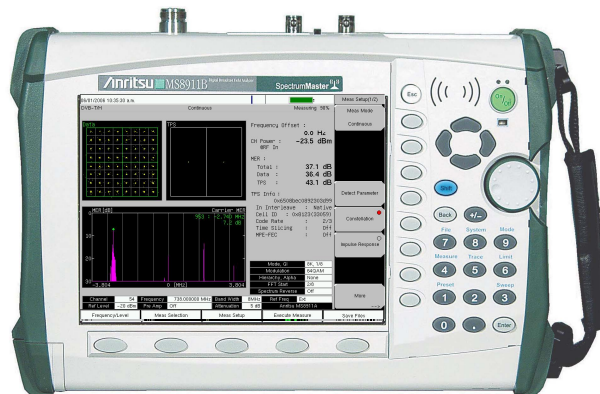
Digital Broadcast Field Analyzer

MS8911B Digital Broadcast Field Analyzer

DVB-T/H

Product Introduction

(Version 1.00)



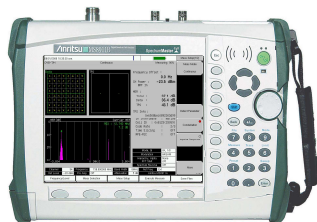
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Overview

The MS8911B is the only DVB-T/H field analyzer based on a real handheld spectrum analyzer providing high-accuracy DVB-T/H physical-layer measurements!



- ▶ DVB-T/H signal analysis functions
- ▶ Spectrum analyzer
- ▶ Compact: 313 x 211 x 77 mm
- ▶ Lightweight: <2.9 kg (excluding options)
- ▶ Battery operation: >2 hours
- ▶ Color LCD, wide display (8")
- ▶ Auto cigarette lighter adapter (12 V)
- ▶ Easy file saving (Compact Flash, USB)

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Applications

- Field network troubleshooting
 - Interference analysis
 - Multi-path evaluation
- Repeater installation and maintenance



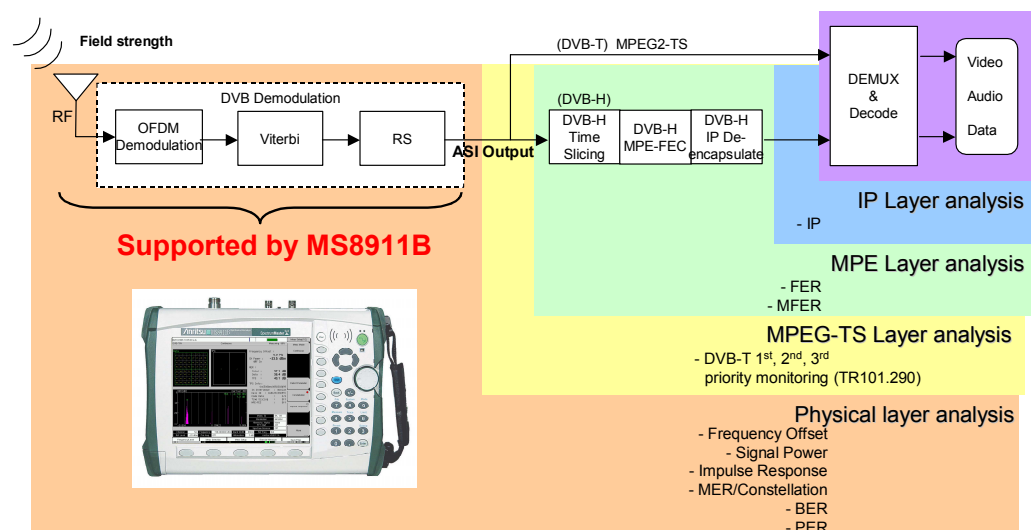
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Supported Functions

DVB-T/H Physical layer measurements



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Product Configuration (1/2)

MS8911B-050

DVB-T/H Analysis Software

MS8911B-057 (Option 057)

DVB-T/H BER Unit

MS8911B-052 (Option 052)

DVB-T/H SFN Field Measurement Software

Spectrum Analyzer

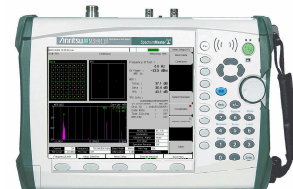
MS8911B-030 (Option 030)

ISDB-T Analysis Software

MS8911B-032 (Option 032)

ISDB-T SFN Field Measurement Software

for DVB-T/H



for ISDB-T

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Product Configuration (2/2)

	<u>Measurement Functions</u>	<u>Required Option</u>
1	Spectrum Monitor	MS8911B-050
2	Signal Power	MS8911B-050
3	Frequency Offset	MS8911B-050
4	MER	MS8911B-050
5	Constellation Diagram	MS8911B-050
6	Carrier MER Graph	MS8911B-050
7	Impulse Response Graph	MS8911B-050
8	BER, PER	MS8911B-057
9	DVB-ASI Output	MS8911B-057
10	Signal Power (each path)	MS8911B-052
11	Impulse Response Graph (long-term Delay)	MS8911B-052
12	Spectrum Analyzer	-

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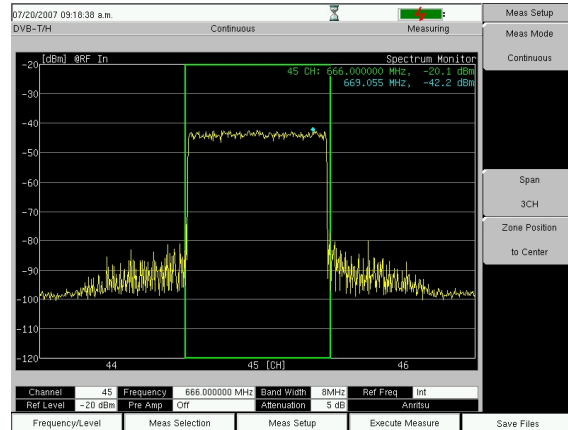
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Measurement Functions Spectrum Monitor

- Span setting based on channel bandwidth
- Easy channel selection
- Display of adjacent channel conditions

Items:

Spectrum
Channel Power



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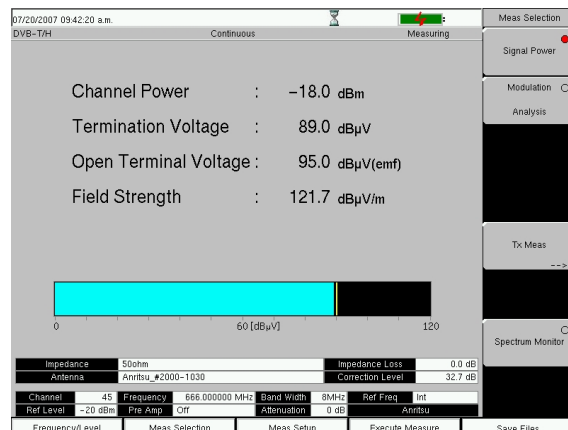
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Measurement Functions Signal Power

- Simultaneous display of Channel Power and Field Strength
- Easy-to-read bar graph max. value
- Level correction settings (Antenna Factor + Cable Loss)

Items:

Channel Power
Field Strength



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Measurement Functions

MER and Constellation Diagram

- High-performance MER measurement
- Zoomed Constellation diagram
- OFDM Center frequency offset measurement
- Simultaneous MER/Constellation and Impulse response measurements
- TPS Format error detection

Items:

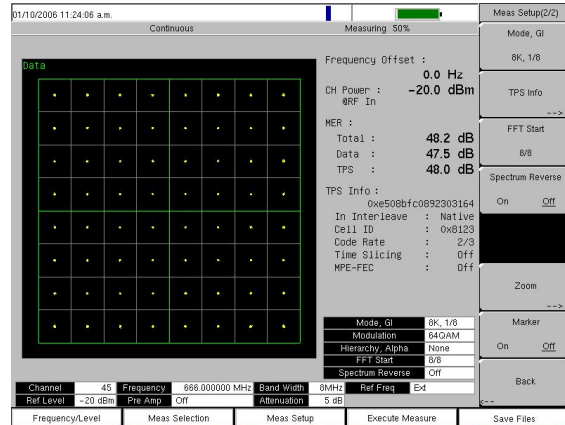
MER Total/Data/TPS

Constellation

Frequency Offset

Channel Power

TPS Info



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Measurement Functions

MER and Carrier MER Graph

- Simultaneous Data and TPS Constellation
- In-band interference detection using Carrier vs MER graph

Items:

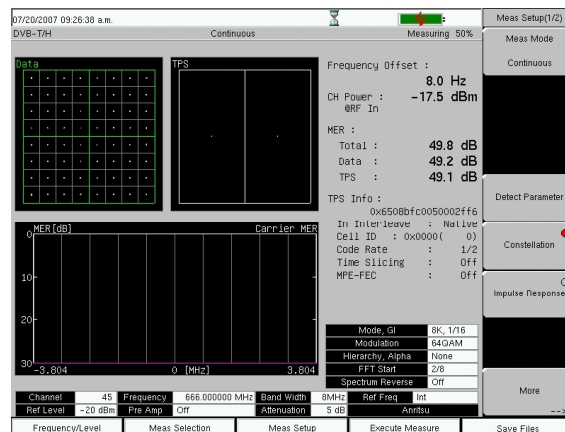
MER Total/Data/TPS

Constellation, Carrier MER

Frequency Offset

Channel Power

TPS Info



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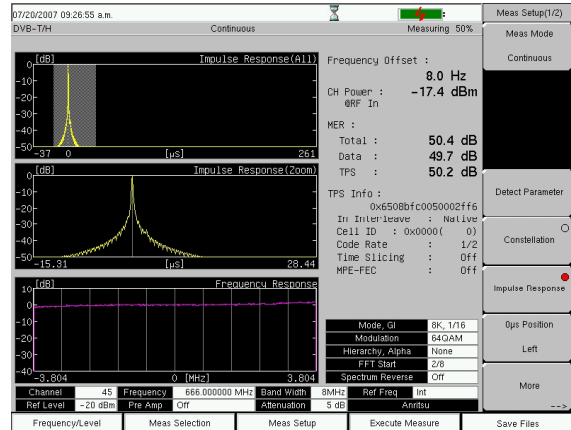
Measurement Functions

MER and Impulse Response Graph

- Delay measurement for 1/3 of one OFDM symbol length
- Markers and Delta markers
- Level Difference (Desire/Undesire), Delay (μ s) and Distance (m) detection

Items:

MER Total/Data/TPS
 Constellation, Carrier MER
 Frequency Offset
 Channel Power
 TPS Info



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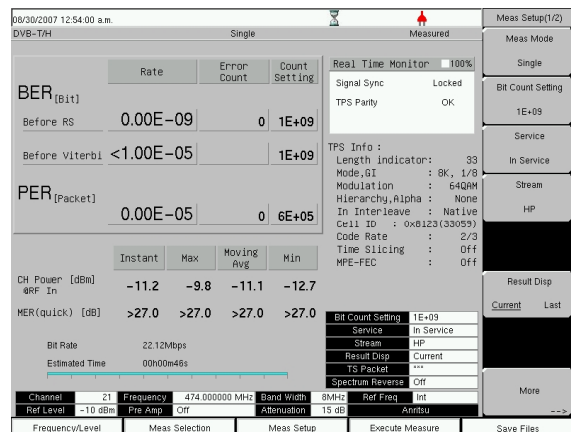
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Measurement Functions BER

- BER Measurements for on-air signal or PRBS23
- PER Measurements
- DVB-ASI Output (MPEG2 –TS signal output)

Items:

BER (On-Air)
 (Before RS, Before Viterbi)
 BER (PRBS23)
 (Before RS, Before Viterbi, After RS)
 PER



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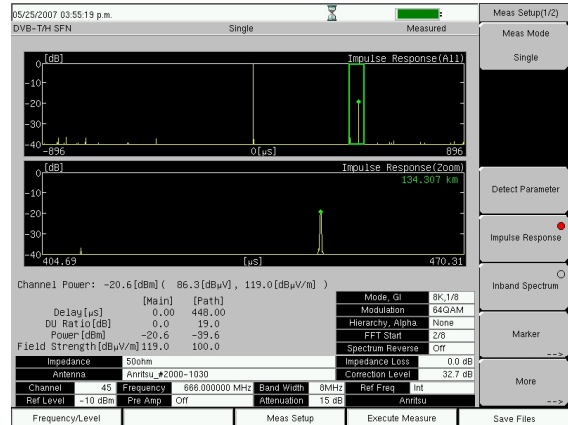
Measurement Functions SFN

- Enhanced Impulse response
- Measurement of absolute value of each input wave in SFN environment
- Long-delay Echo measurement beyond Guard Interval
(2 OFDM symbol length: -896 to +896 μ s for 8 MHz BW)
- Path Level, Delay and DU Ratio

Items:

Delay (μ s)

Field Strength (dB μ V/m)



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Measurement Functions Spectrum Analyzer

- Frequency Range: 100 kHz to 7.1 GHz
- Measurement Range: -153 to +30 dBm (10 Hz RBW)
- Phase Noise: -100 dBc/Hz (10 kHz Offset)
- RBW: 1 Hz to 3 MHz
- Built-in Preamplifier
- Multimarker Function

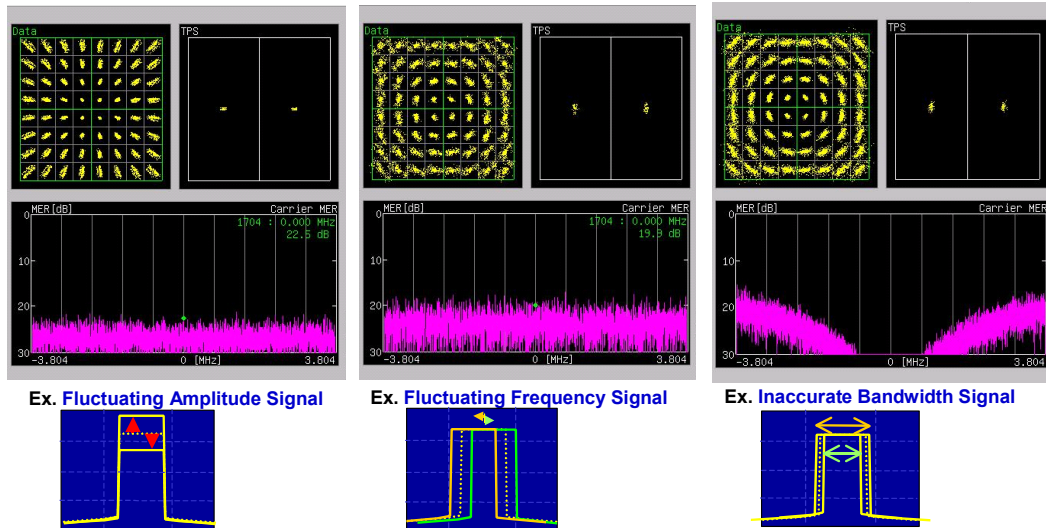


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Analysis Example (1/3)



Analizers based on TV receivers sometimes cannot measure these kinds of errors.
It is necessary to use accurate test and measurement equipment.

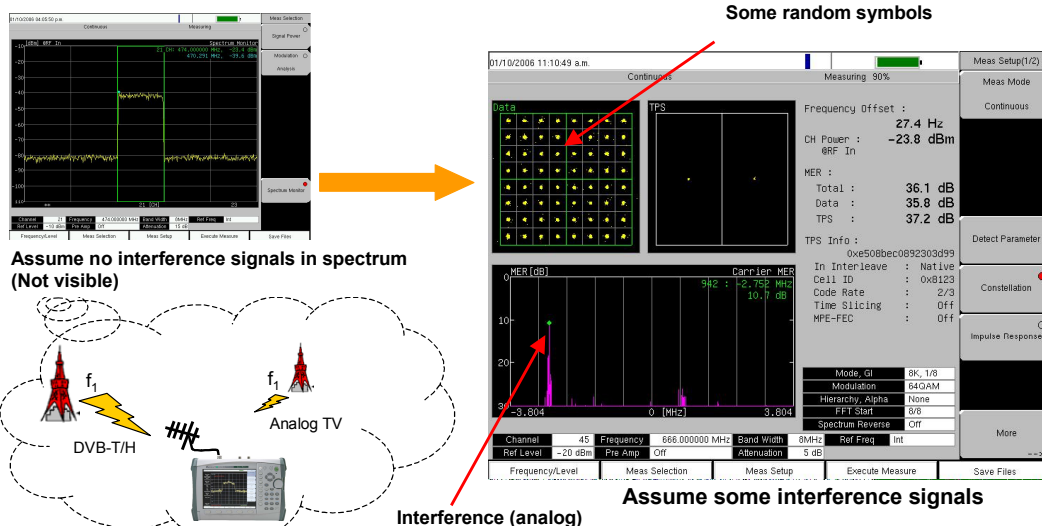
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Analysis Example (2/3)

- Specifies interference frequencies on Carrier MER screen



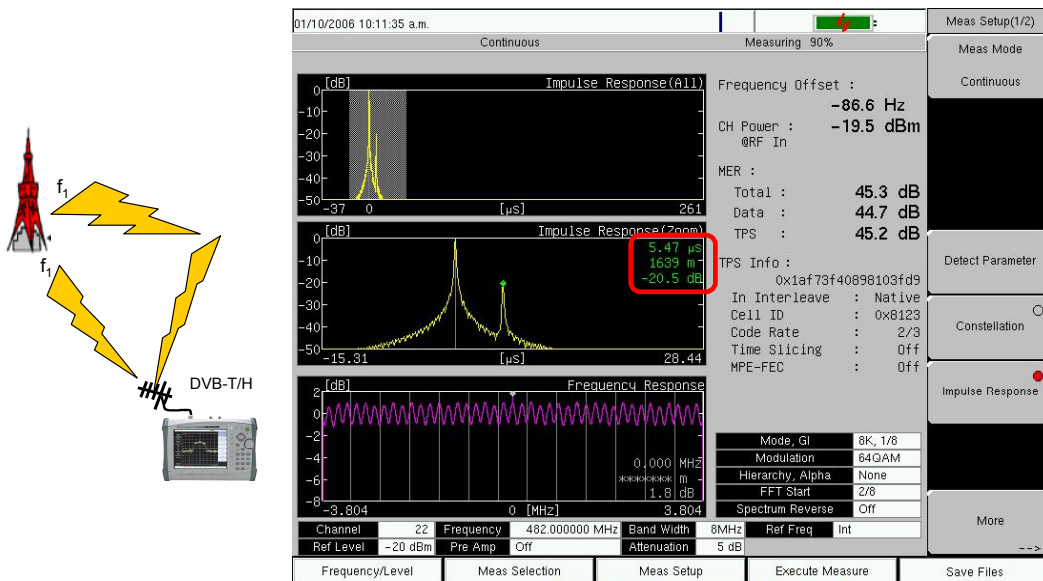
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Analysis Example (3/3)

- Displays Delay



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APPENDIX

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