



Product Introduction

DVB-T/H

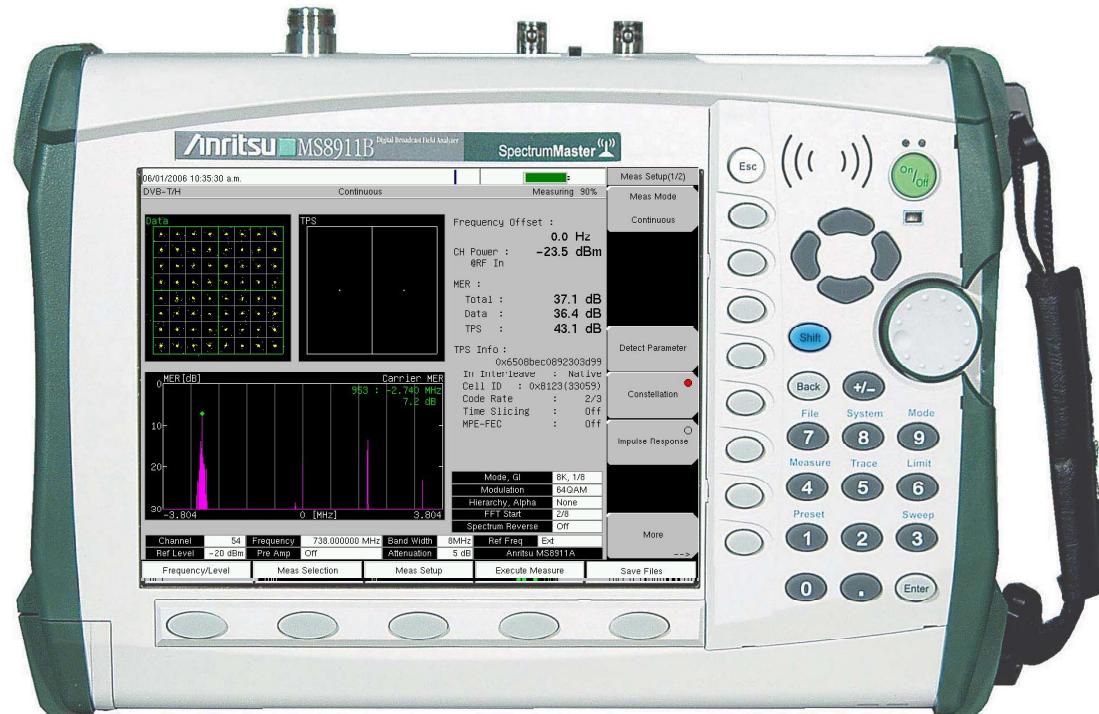
MS8911B
Digital Broadcast Field Analyzer

MS8911B Digital Broadcast Field Analyzer

DVB-T/H

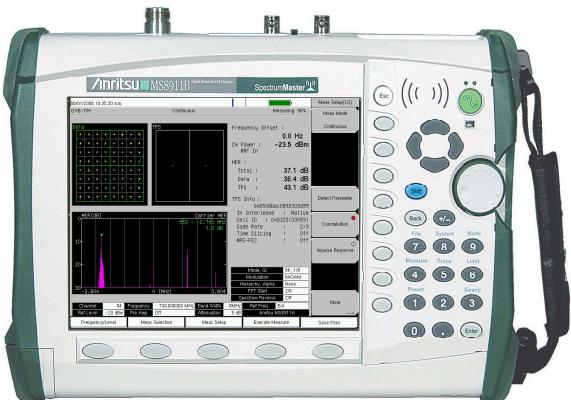
Product Introduction

(Version 1.00)



Overview

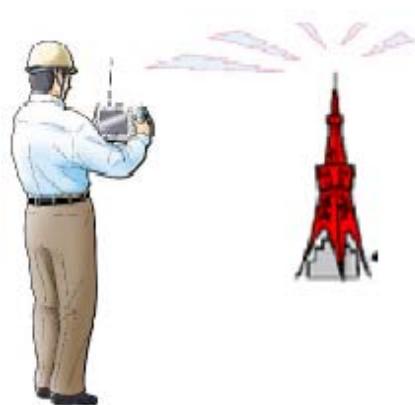
The MS8911B is the only DVB-T/H field analyzer based on a real handheld spectrum analyzer providing high-accuracy DVB-T/H physical-layer measurements!



- ▶ 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)

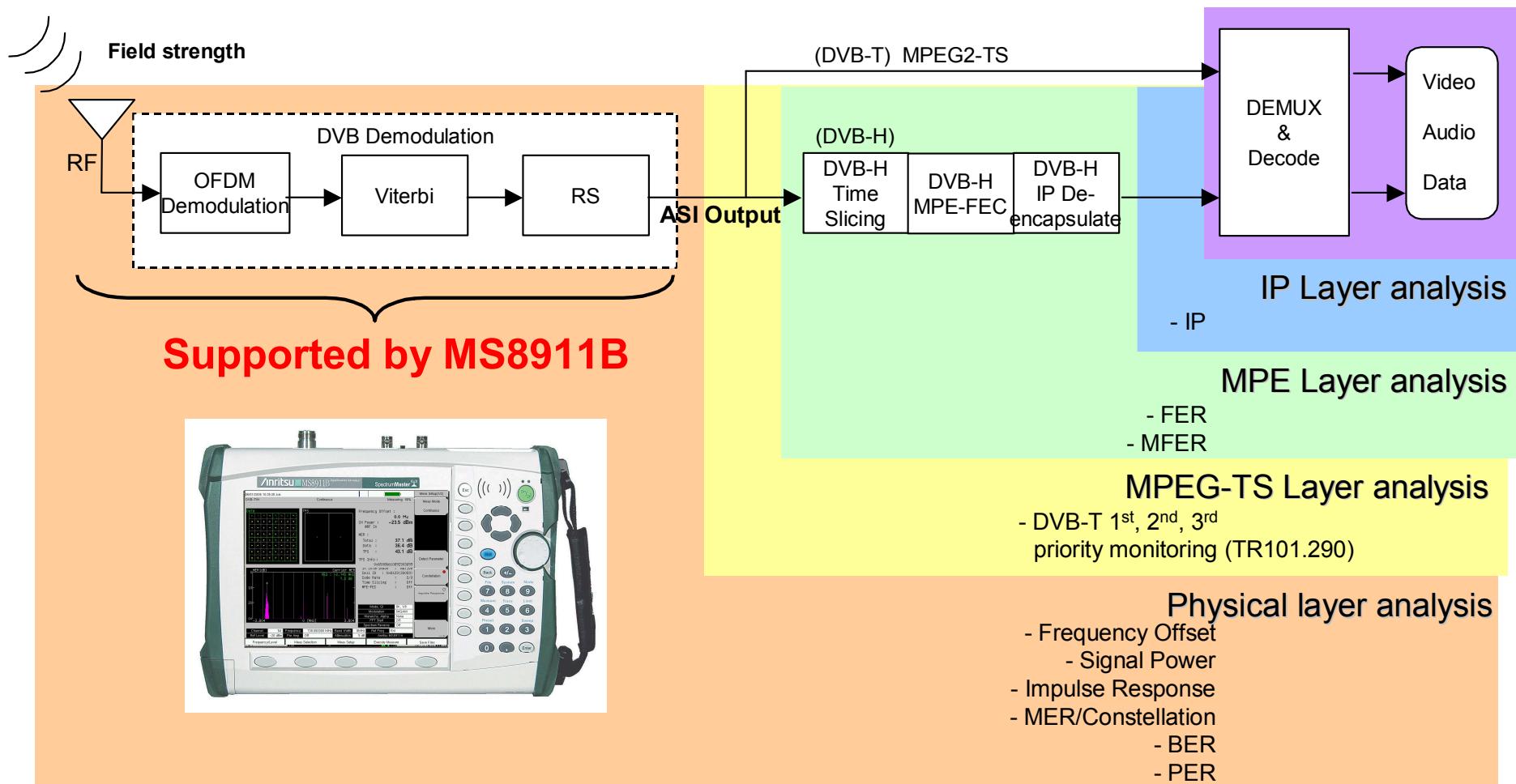
Applications

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



Supported Functions

DVB-T/H Physical layer measurements



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

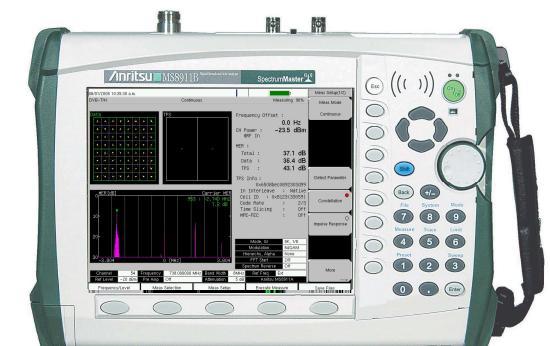
MS8911B-030 (Option 030)

ISDB-T Analysis Software

MS8911B-032 (Option 032)

ISDB-T SFN Field Measurement Software

for DVB-T/H



for ISDB-T

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	-

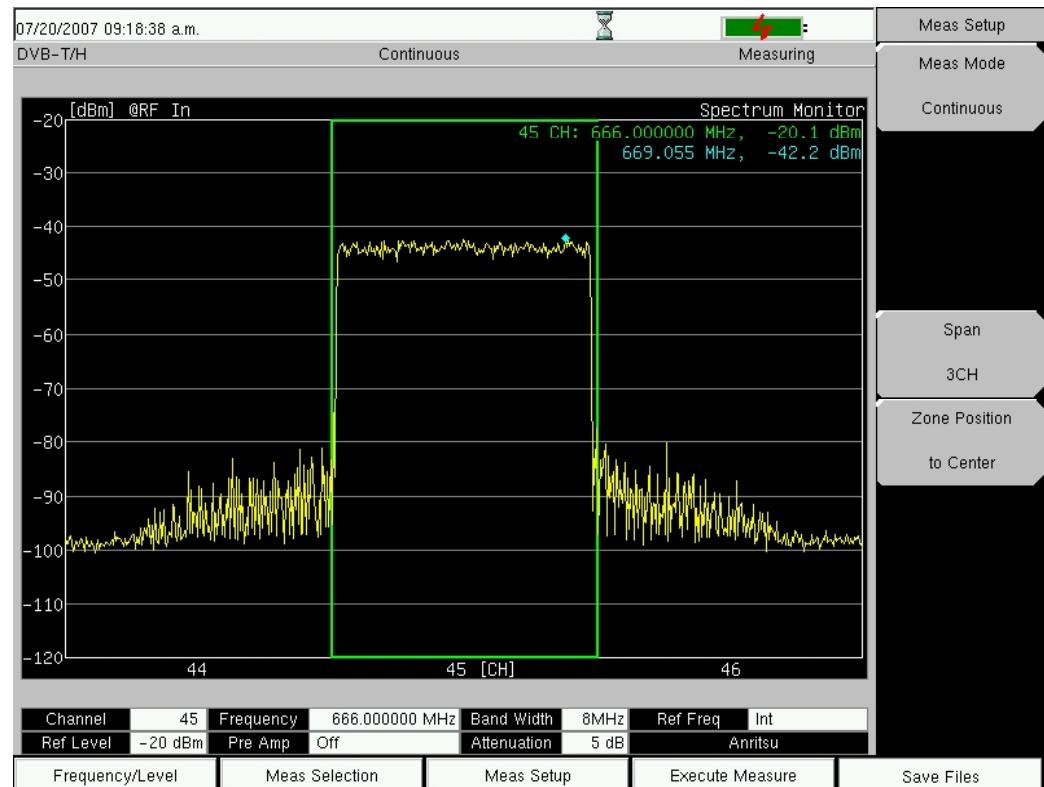
Measurement Functions Spectrum Monitor

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

Items:

Spectrum

Channel Power



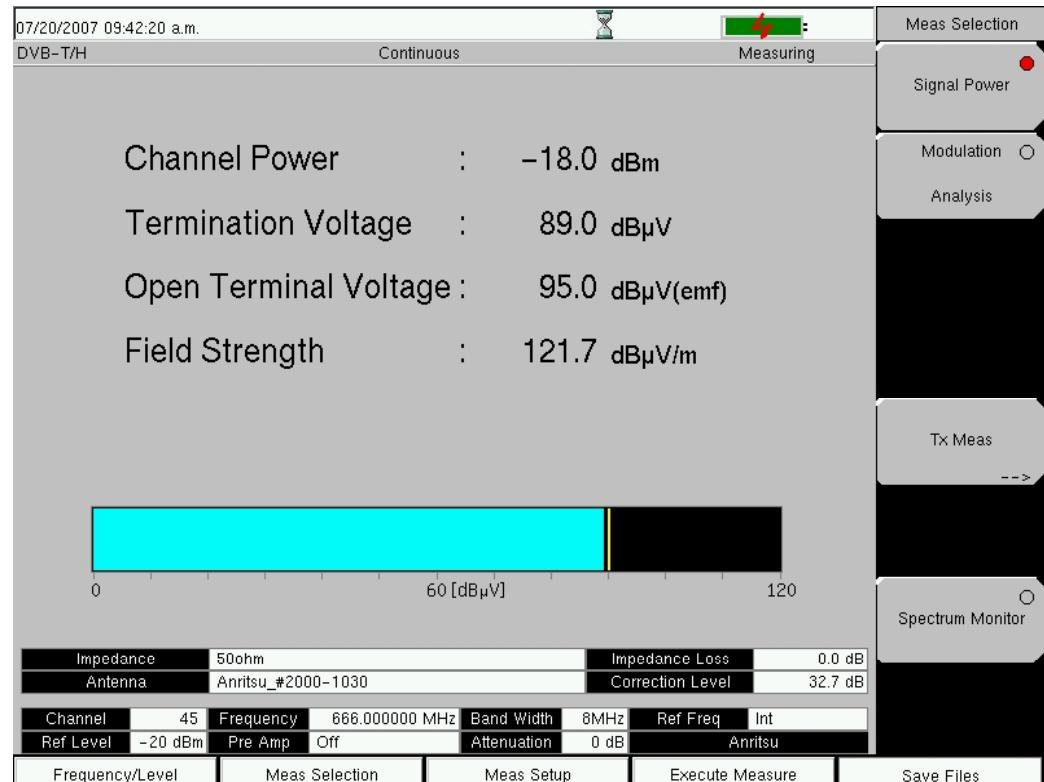
Measurement Functions Signal Power

- **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



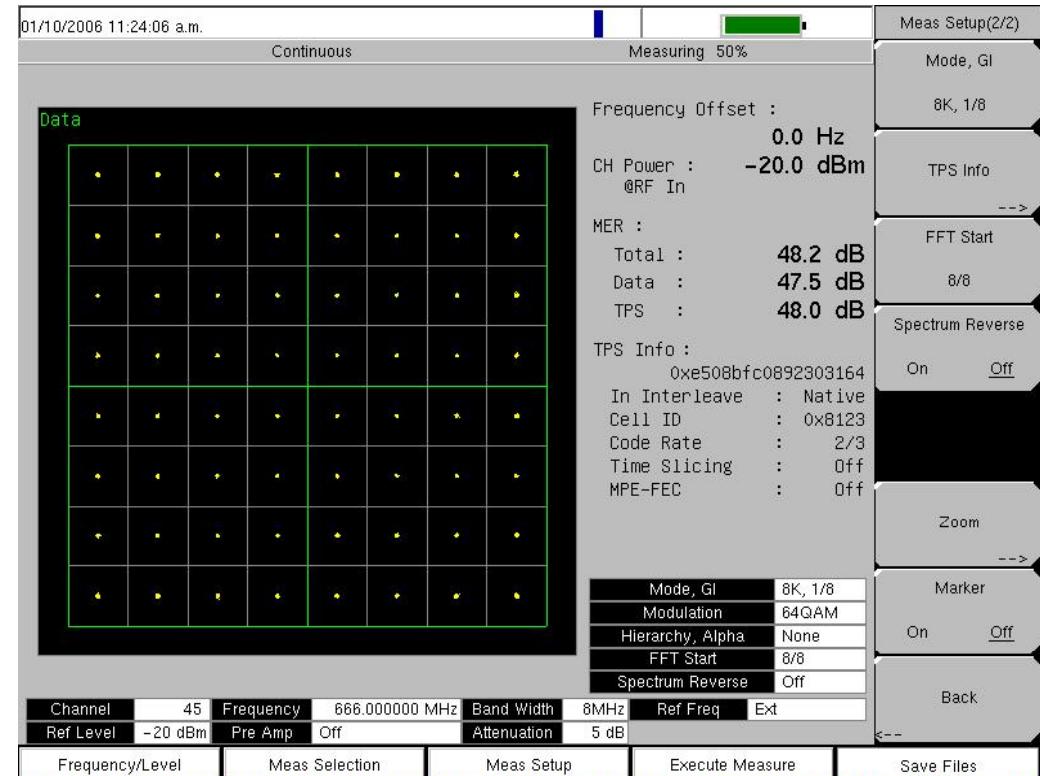
Measurement Functions

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



Measurement Functions

MER and Carrier MER Graph

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

Items:

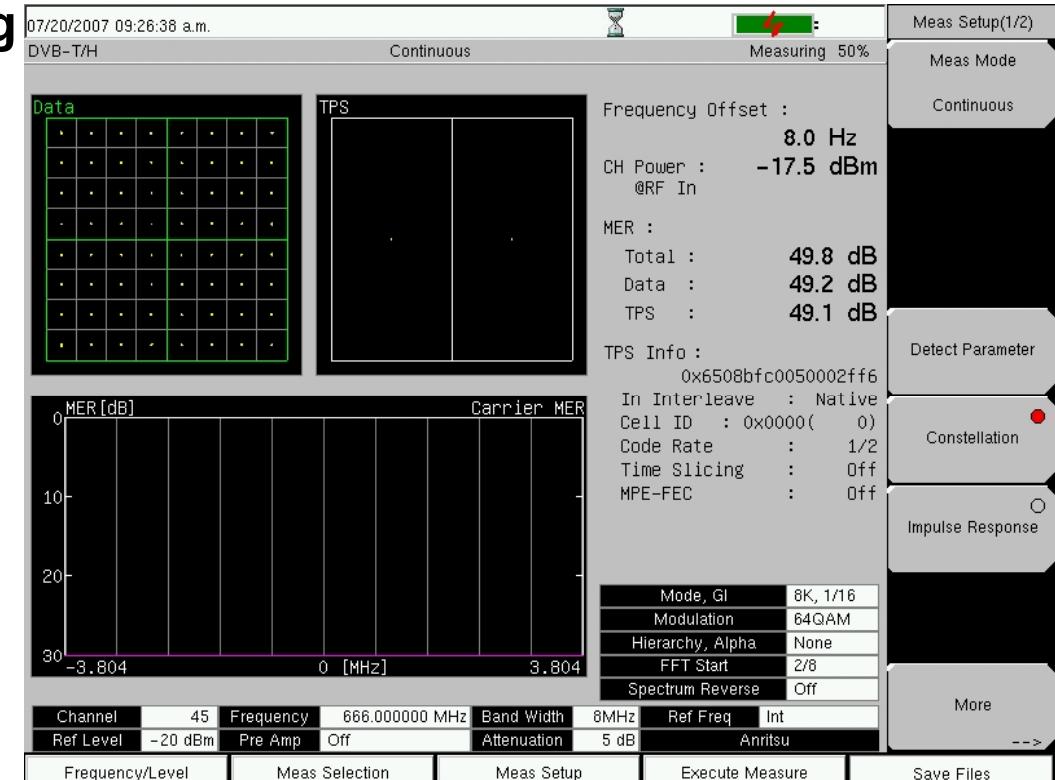
MER Total/Data/TPS

Constellation, Carrier MER

Frequency Offset

Channel Power

TPS Info



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:

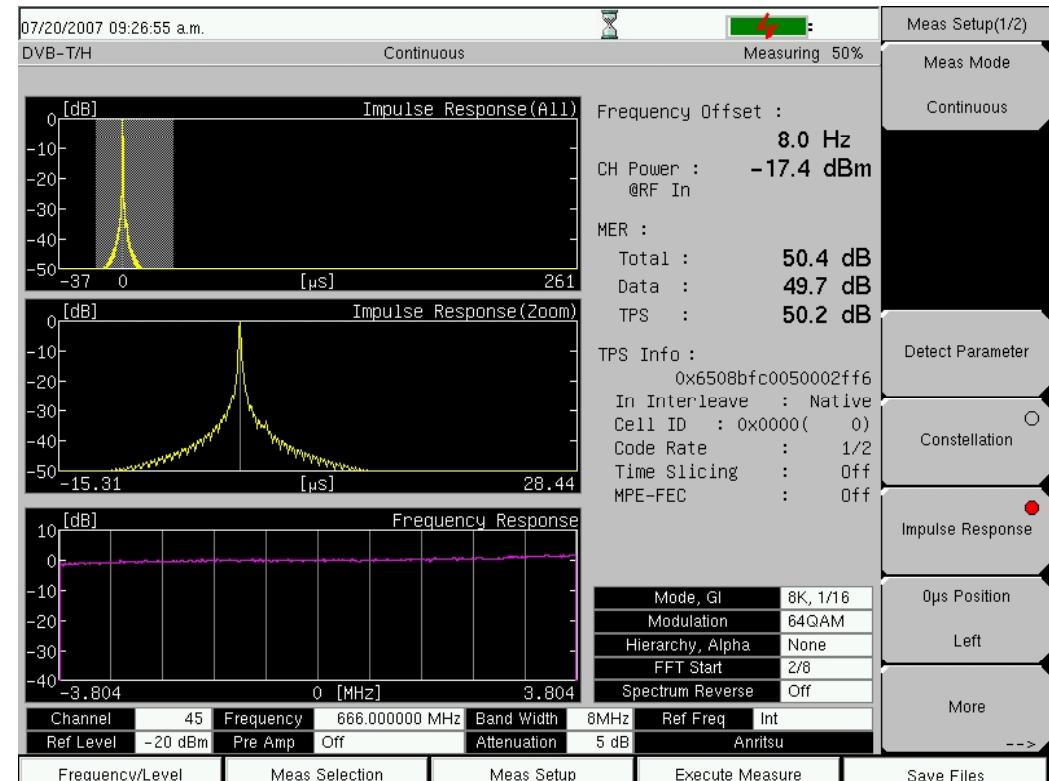
MER Total/Data/TPS

Constellation, Carrier MER

Frequency Offset

Channel Power

TPS Info



Measurement Functions BER

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

Items:

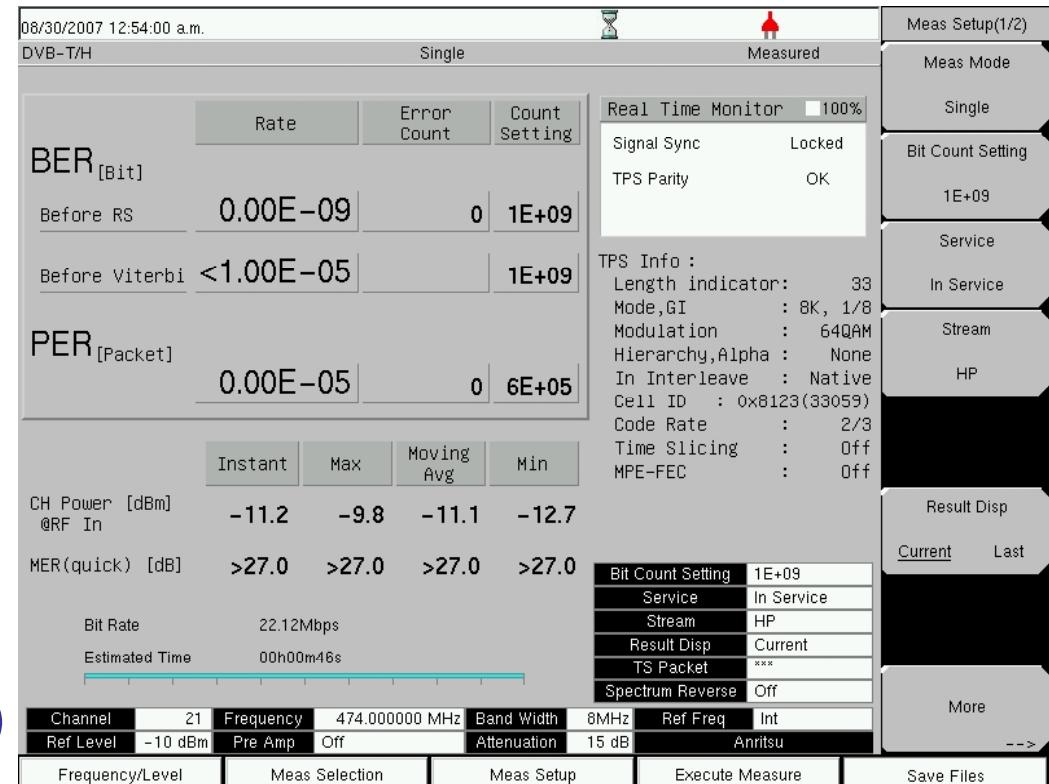
BER (On-Air)

(Before RS, Before Viterbi)

BER (PRBS23)

(Before RS, Before Viterbi, After RS)

PER



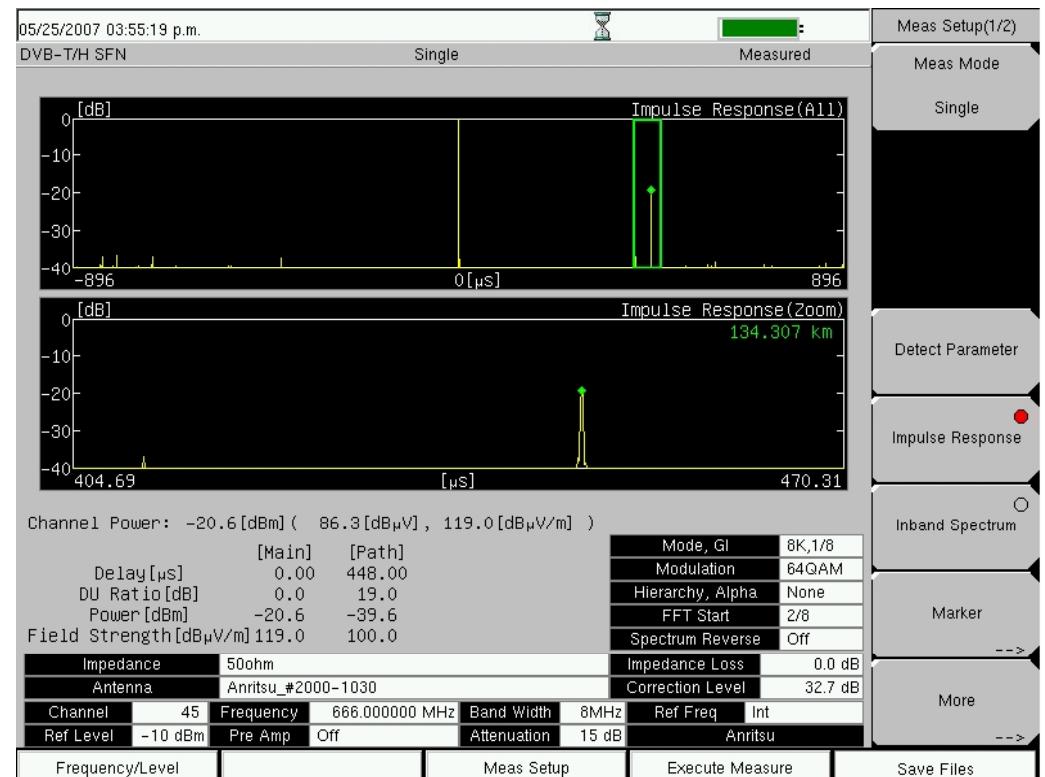
Measurement Functions SFN

- 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)

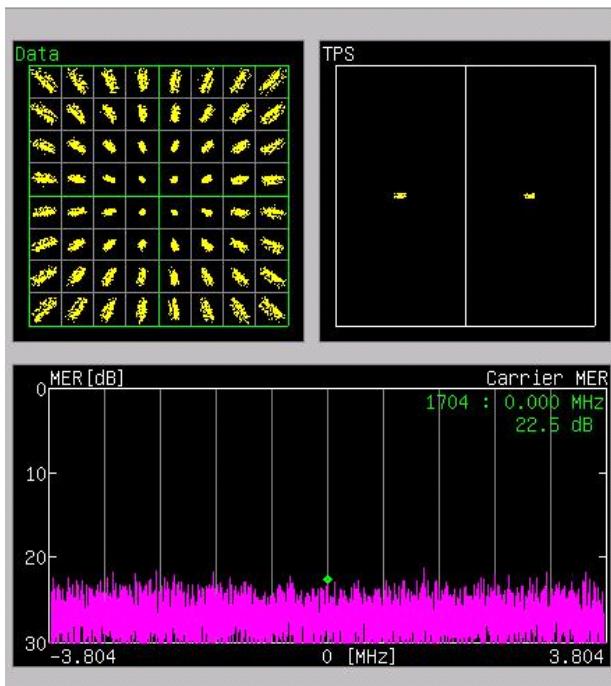


Measurement Functions Spectrum Analyzer

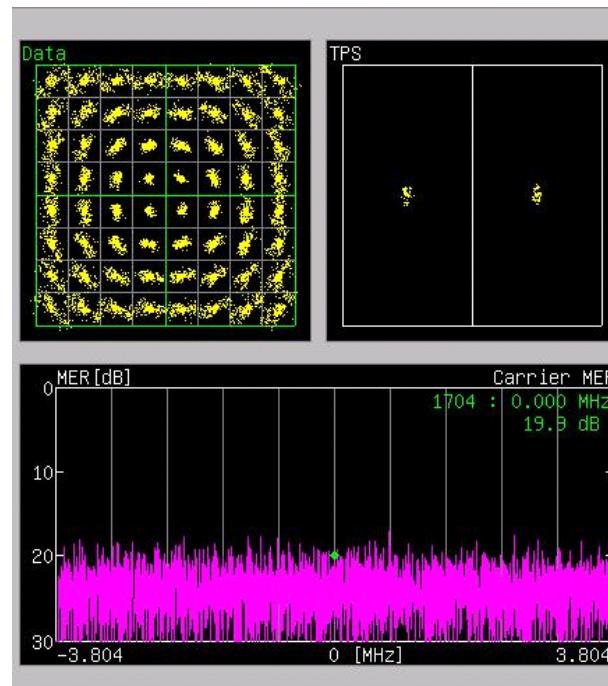
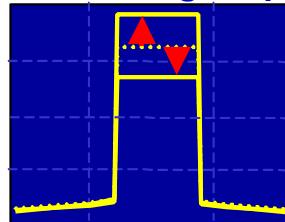
- Frequency Range: 100 kHz to 7.1 GHz
- Measurement Range: -153 to +30 dBm (10 Hz RBW)
- Phase Noise: -100 dBc/Hz (10 kHz Offset)
- RBW: 1 Hz to 3 MHz
- Built-in Preamplifier
- Multimarker Function



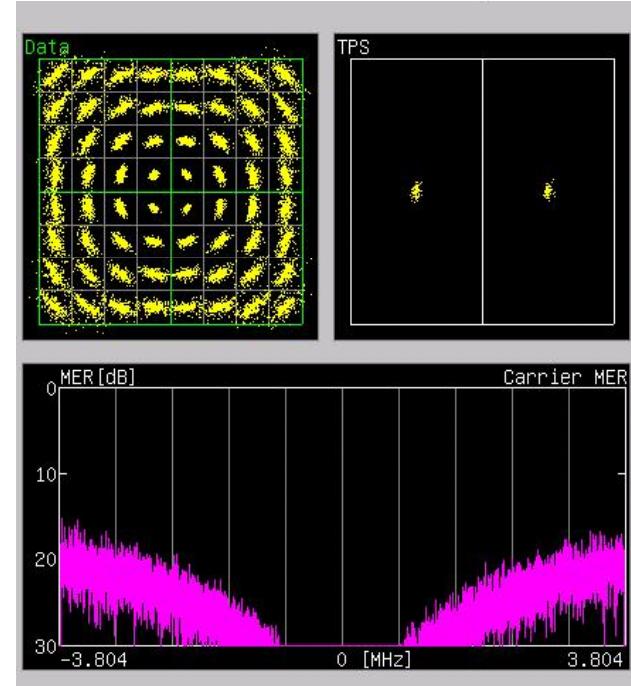
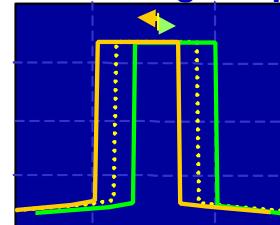
Analysis Example (1/3)



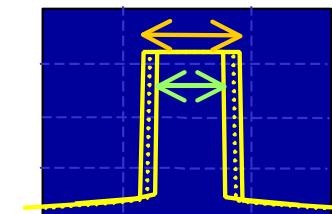
Ex. Fluctuating Amplitude Signal



Ex. Fluctuating Frequency Signal



Ex. Inaccurate Bandwidth Signal

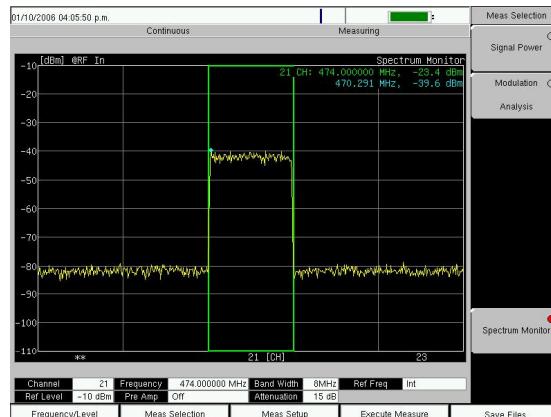


Analyzers based on TV receivers sometimes
cannot measure these kinds of errors.

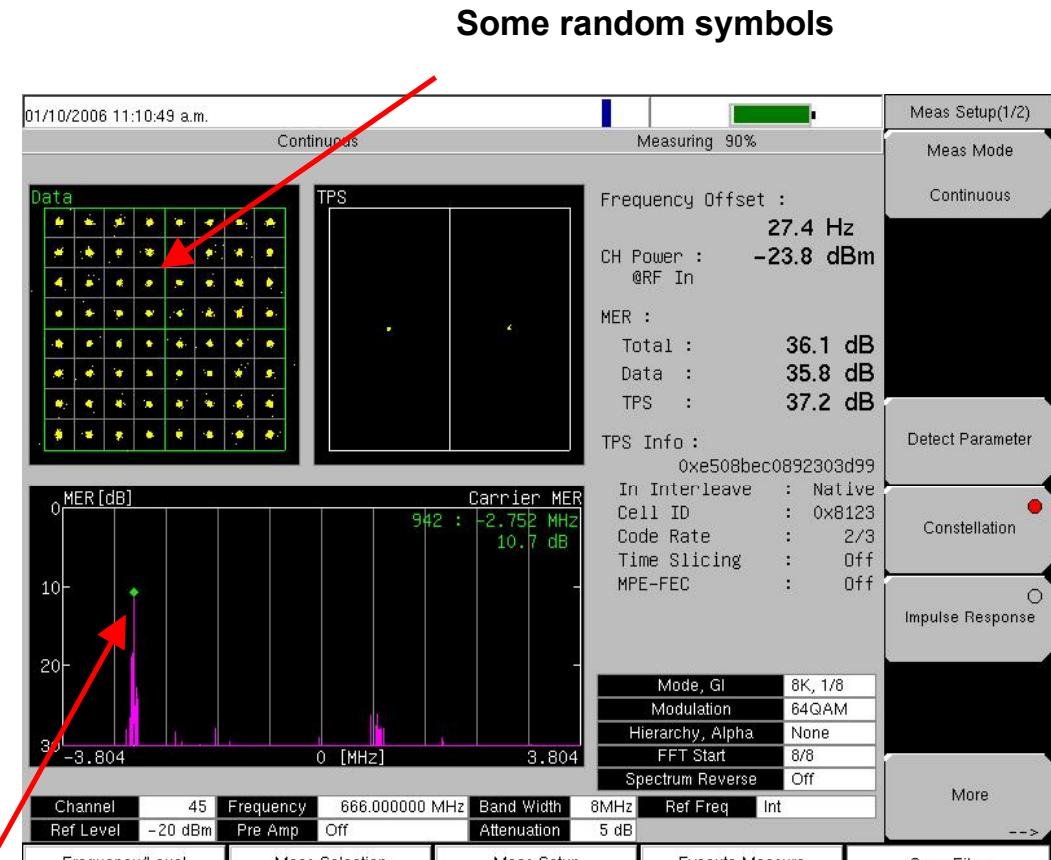
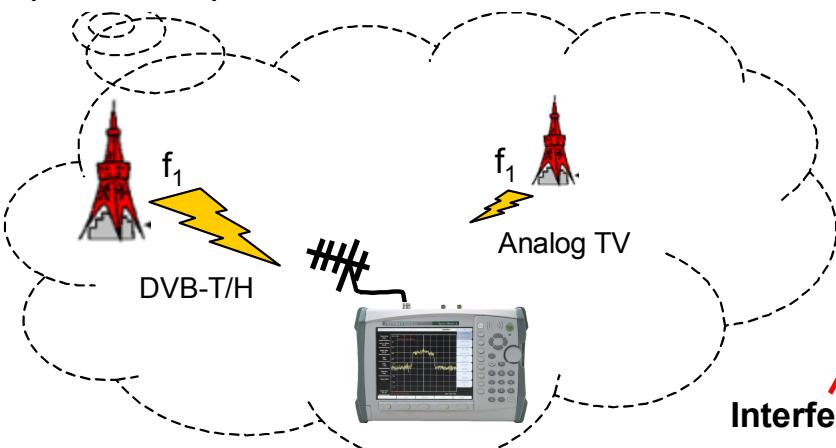
It is necessary to use accurate test and measurement equipment.

Analysis Example (2/3)

- Specifies interference frequencies on Carrier MER screen



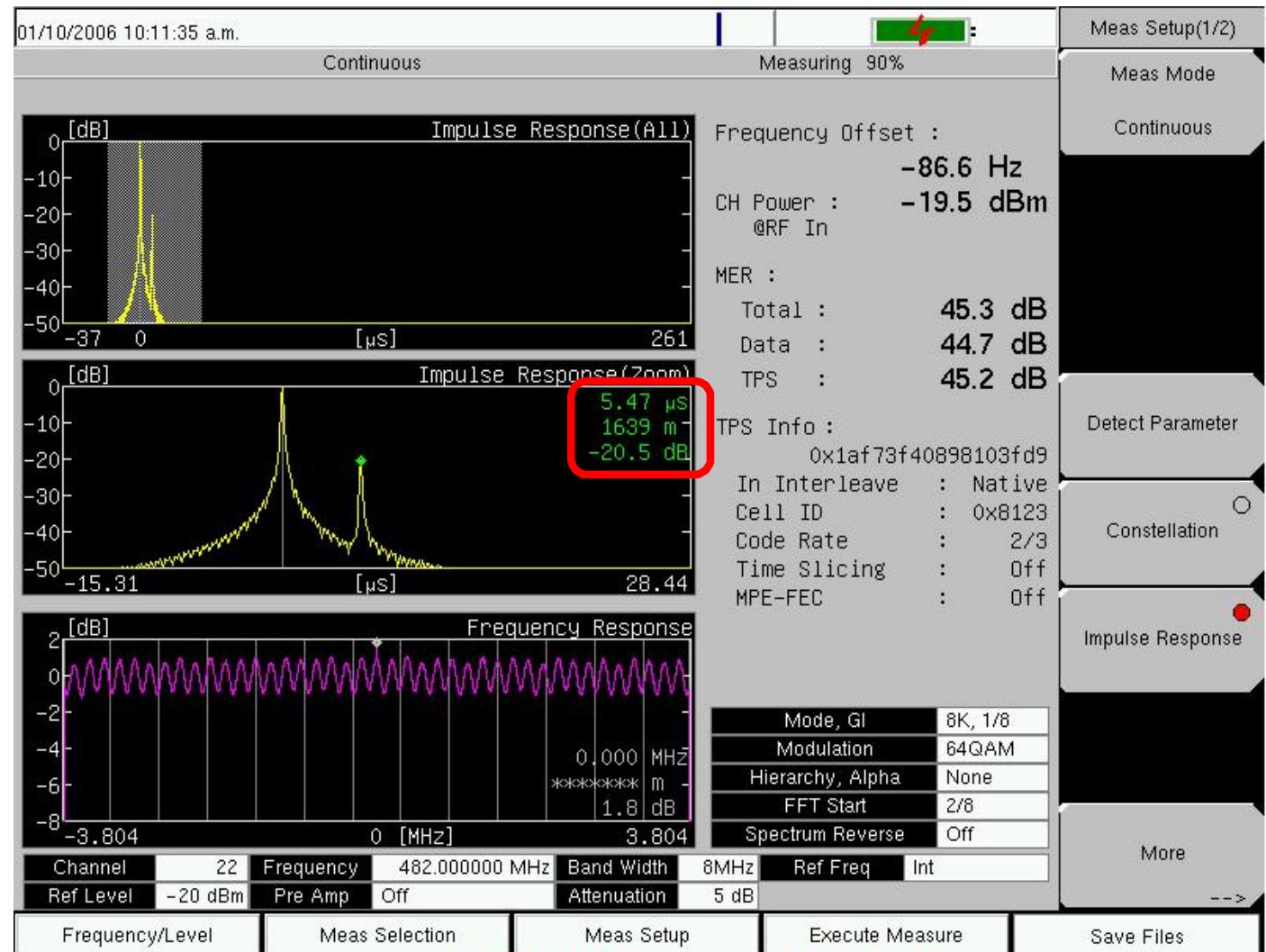
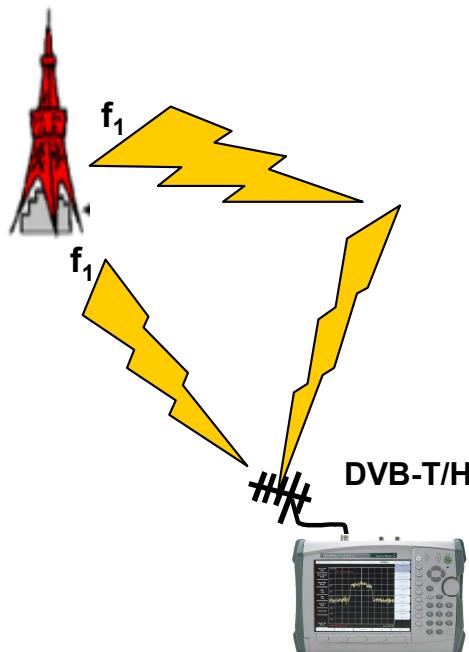
Assume no interference signals in spectrum
(Not visible)



Assume some interference signals

Analysis Example (3/3)

- Displays Delay



APPENDIX



Specifications are subject to change without notice.

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