**Agilent Technologies**

# DVB-SH Signal Analysis Solutions

## Product Overview

Agilent now offers a solution for DVB-SH. (DVB-SH means Digital Video Broadcasting - Satellite services to Handhelds, is a physical layer standard for delivering IP based media content and data to handheld terminals such as mobile phones or PDAs, based on a hybrid satellite/terrestrial downlink and for example a GPRS uplink.)
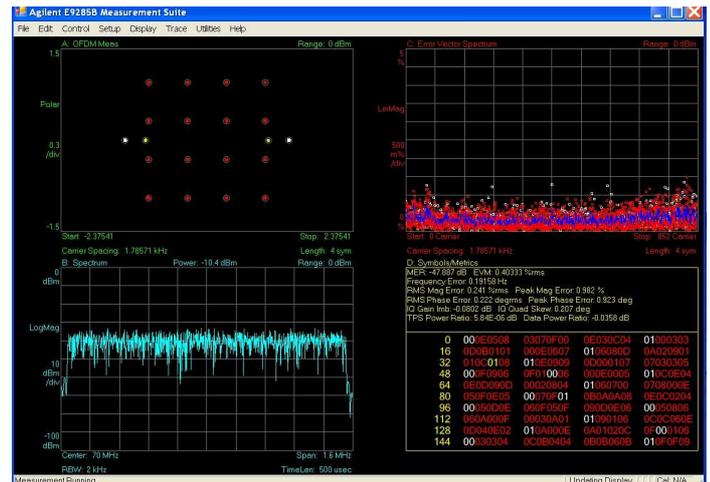
The PC based solution is based on an easy-to-use user interface, which enables you to quickly and easily assess the modulation quality of DVB-SH transmitters.

DVB-SH specifies two operational modes:
- SH-A: specifies the use of COFDM modulation on both satellite and terrestrial links with the possibility of running both links in SFN mode.
- SH-B: uses Time-Division Multiplexing (TDM) on the satellite link and COFDM on the terrestrial link

E9285B-H07 option now only supports the COFDM modulation analysis. Other parameters like carrier frequency, channel bandwidth (1.7/5/6/7/8 MHz), carrier mode(1k/2k/4k/8k), Guard Interval, Modulation Format(QPSK or 16QAM),  Alpha can be set from the software user interface.

**E9285B-H07** PC-based modulation analysis software offers COFDM modulation analysis defined in the DVB-SH standard. Displays include symbol IQ constellation diagram, symbol phase and magnitude spectrum diagrams and EVM metrics.
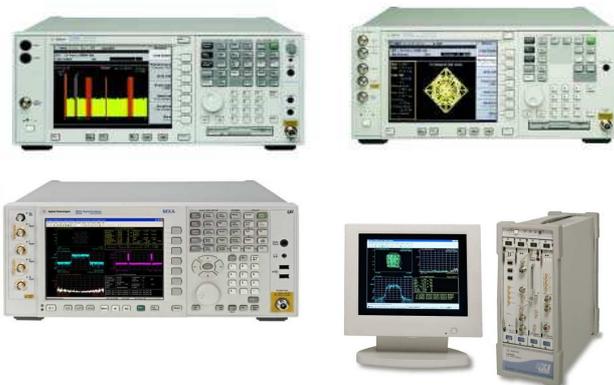


**Readouts/displays:**
- CCDF
- Equalizer Frequency Response (including Magnitude Spectrum, Phase Spectrum, Group Delay Spectrum)
- Equalizer Impulse Response
- Error Vector Spectrum (EVM vs. Subcarriers)
- OFDM Measured
- OFDM Reference
- OFDM Magnitude Error
- OFDM Phase Error
- Symbol/Metrics (Overall MER, EVM, Frequency Error, Mag Error, Phase Error, IQ Gain Imbalance, IQ Quad Skew, TPS Power Ratio, Data Power Ratio)
- Spectrum (including the Channel Power)
- Time

Note: This option is available through Agilent Special Handling.

Depending on your performance requirements you can choose either a **PSA** series spectrum analyzer, an **E4406A** Vector Signal Analyzer, a VXI-based RF Vector Signal Analyzer (89640S/ 89641S) or an X-Series (**PXA/MXA/EXA/CXA**) spectrum analyzer as the front end capture for your signal.



There are options available for each of PSA, E4406A, 89640S, 89641S, PXA, MXA, EXA or CXA which enable this link and should be ordered to complete the solution.

In addition, the E9285B analysis software can be used in conjunction with the Agilent 89601A Vector Signal Analyzer software to measure simulated devices and signals created using the Agilent EEsof EDS software.
See http://eesof.tm.agilent.com for more details.

**Minimum Signal Analyzer Configurations**.
1. PSA Configuration
- E9285B-H07
- PSA Series spectrum analyser E4440A, E4443A, E4445A, E4446A or E4448A with option B7J

2. E4406A Configuration
- E9285B-H07
- E4406A (firmware A.05.01 or later)

3. VXI-based RF Vector Signal Analyzer Configuration
- E9285B-H07
- 89640S or 89641S

4. X-Series Spectrum Analyzer Configuration
- E9285B-H07

- X-Series spectrum analyzer N9030A, N9020A or N9010A with option 503, 508, 513 or 526. N9000A with option 503 or 507.

**Minimum Recommended PC Specification**
- CPU: 600MHz Pentium or AMD K6 (>2GHz recommended
- RAM: 512MB (1GB recommended)
- Video RAM: 4MB (16MB recommended)
- Hard Disk: At least 400MB available
- Operating System: Microsoft Windows XP (with .NET Framework 1.1 or later)
- Additional: CDROM drive, Instrument connection (GPIB,GPIB-USB, LAN)

**Note:** If you already own a copy of 89601A and have this installed on the same PC, the E9285B-H07 will also work with this. 89601A version 8.00 (built based on 8.00 or later) is required for the E9285B to work correctly. See www.agilent.com/find/89601A for upgrade details if necessary.

If you require any further information please contact your local Agilent Sales Office or email support_pdl-cvo@agilent.com

For more information on the signal analyzers, please visit:
www.agilent.com/find/psa
www.agilent.com/find/e4406a
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