



**MAXEYE
TECHNOLOGIES**

DVB-T Analysis Toolkit Data Sheet

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Contents

1. Overview	3
2. DVB-T Signal Analysis Toolkit	3
2.1. Technical Description	3
2.2. Key Features	3
3. Software Maintenance and Support.....	6



1. Overview

MaxEye Technologies provides signal analysis functions in LabVIEW for analyzing the standard complaint signals for various digital video broadcasting standards. **Toolkit returns standard based demodulation and spectral measurements for analyzing the quality of the received signal.**

This document contains information about DVB-T analysis toolkit features and supported measurements

2. DVB-T Signal Analysis Toolkit

2.1. Technical Description

The MaxEye Digital Video Broadcasting Analysis Toolkits extends LabVIEW tools and functions with National Instruments RF Signal Analyzer (NIRFSA) and NI USRP to analyze digital video broadcasting test signals that confirm to their respective standard specifications for various standards. Table 1 gives the details of the standard specifications for each of the supported standard.

The toolkit coding, modulation and other parameters can be easily configured using the LabVIEW API VIs to analyze custom waveform for specific test requirements.

Table 1 Digital Video Broadcasting Standard Specifications

Sl.no	Standard Name	Specifications
1	DVB-T	ETSI EN 300 744 V1.6.1 (Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television)

2.2. Key Features

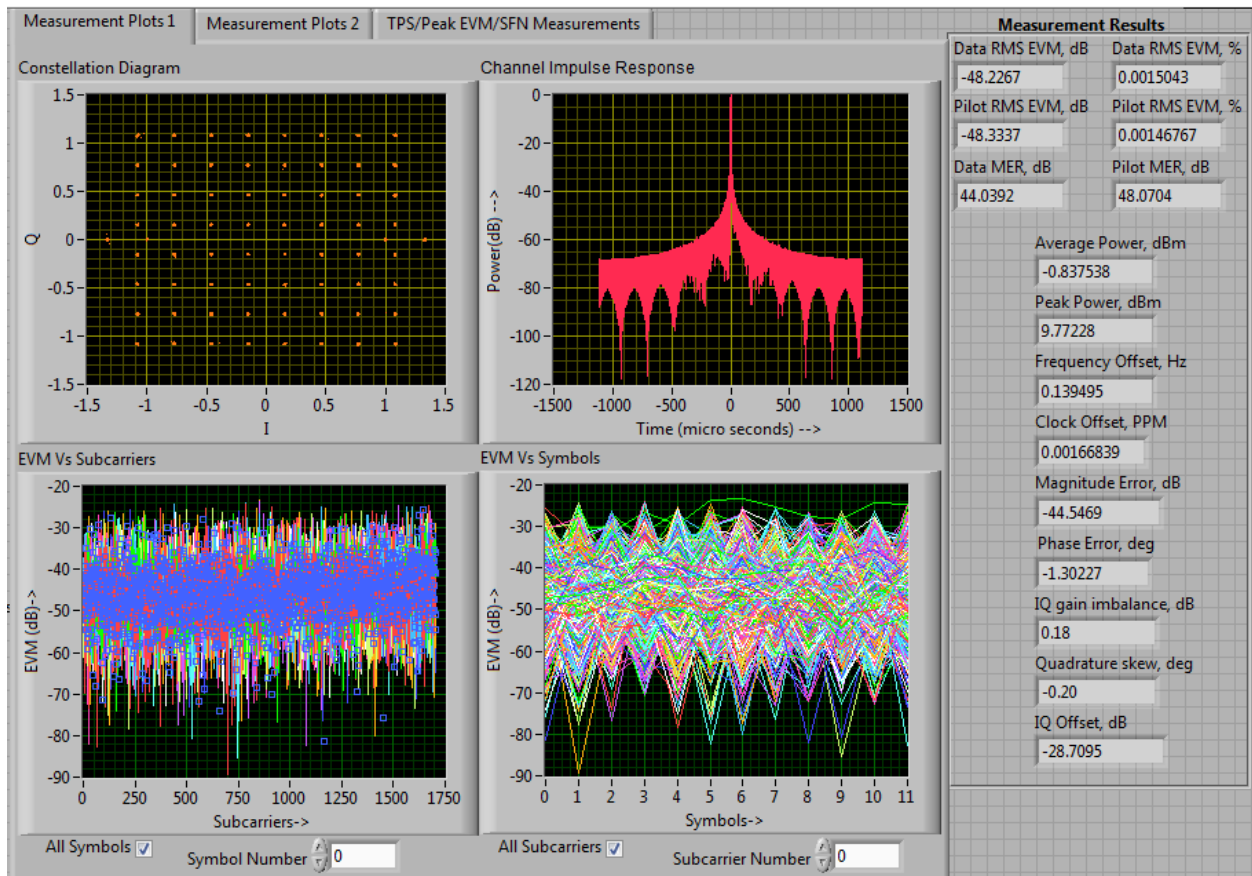
The following section has key features and measurements supported in the DVB-T signal analysis toolkit.

This toolkit offers standard based test solution for designing, evaluating and manufacturing Digital video broadcasting-terrestrial (DVB-T) equipment. Digital video broadcasting-terrestrial



(DVB-T) is the European based consortium standard for broadcast transmission of digital terrestrial television. DVB-T can transport compressed video data in an MPEG transport stream using OFDM modulation with channel coding (i.e. COFDM).

MaxEye DVB-T analysis toolkit is an ideal tool for analyzing the signal quality of the transmitted signal. Toolkit provides various measurement traces to enable the engineers to analyze, troubleshoot and validate the transmitter signal issues. The toolkit measurements can be used to calibrate the DVB-T transmitter. The EVM vs Subcarriers and EVM vs Symbols enable the time and frequency domain analysis of the transmitted signal to identify the issues in the transmitted signal. The channel frequency response trace gives the spectral flatness of the RF Front end.





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DVB-T Specific	Supported Configurations
Transmission Mode	Hierarchical/Non- Hierarchical
Alpha	1,2 or 4 alpha modes
Mode(# of subcarriers)	2k, 4k and 8k modes
Bandwidth	5M,6M,7M and 8M Hz
Modulations	QPSK,QAM16 and QAM64
Guard Intervals	1 /4, 1 /8, 1/16, 1/32
Interleaver Support	Native and In-depth interleaver
TPS Handling	Decoding of Transmission Parameter
Outer coder	Reed-Solomon
Inner coder	Convolutional with puncturing
Convolution Code Rates for Non-Hierarchical stream	1 /2, 2/3, 3 /4, 5/6, 7 /8
Convolution Code Rate for High Priority stream	1 /2, 2/3, 3 /4, 5/6, 7 /8
Convolution Code Rate for Low priority stream	1 /2, 2/3, 3 /4, 5/6, 7 /8
Measurements	
Demodulation Measurements	<p>Error Vector Magnitude</p> <ul style="list-style-type: none"> Data EVM Pilot EVM Peak EVM <p>Modulation Error Ratio</p> <ul style="list-style-type: none"> Data MER Pilot MER Peak MER <p>RMS Magnitude and Phase Error</p> <p>Power Measurements</p> <ul style="list-style-type: none"> Average Power Peak Power <p>Frequency Offset</p> <p>Clock Offset</p> <p>Gain Imbalance</p> <p>Quadrature Skew</p> <p>IQ Offset</p> <p>Demodulated Symbols</p> <p>TPC parameters decoding</p> <p>Spectral Flatness</p> <p>Measurement Traces</p> <ul style="list-style-type: none"> Constellation Graph Channel Impulse Response Channel Frequency Response (Magnitude) Channel Frequency Response (Phase) EVM Vs Subcarriers EVM Vs Symbols MER Vs Subcarriers MER Vs Symbols <p>Multipath Channel Measurements</p> <ul style="list-style-type: none"> Path Absolute Power (dBm) Path Relative Power (dB) Path Delay (micro seconds)



Spectral Measurements	Center Channel Power
	Adjacent Channel Power
	Spectral Emission Mask
	Spectral Mask Margin
Common Toolkit Features	
Labview API	The toolkit properties are configured using the Set/Get LabVIEW API Vis. All API VIs has documentation support and Icons.
Programming Examples	Programming Examples to help users using the LabVIEW API VIs

3. Software Maintenance and Support

MaxEye offers cost effective software maintenance and support for your application development and automated test environment with free software upgrade for all the supported features of the toolkits. MaxEye offers technical support through our engineers who are domain experts in the digital video broadcasting test solutions. For more details about our support program please contact us at info@maxeyetech.com.

For Pricing and Other information please contact us

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