



**MAXEYE
TECHNOLOGIES**

DVB-S Analysis Toolkit Data Sheet

October 21, 2013

Document Version: 1.0.0



**Alliance
Partner**



Contents

1. Overview	3
2. DVB-S Signal Analysis Toolkit	3
2.1. Technical Description	3
2.2. Key Features	3
3. Software Maintenance and Support.....	5



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-S analysis toolkit features and supported measurements

2. DVB-S 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-S	ETSI EN 300 421 V1.1.2 (1997-08) (Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for 11/12 GHz satellite services.

2.2. Key Features

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

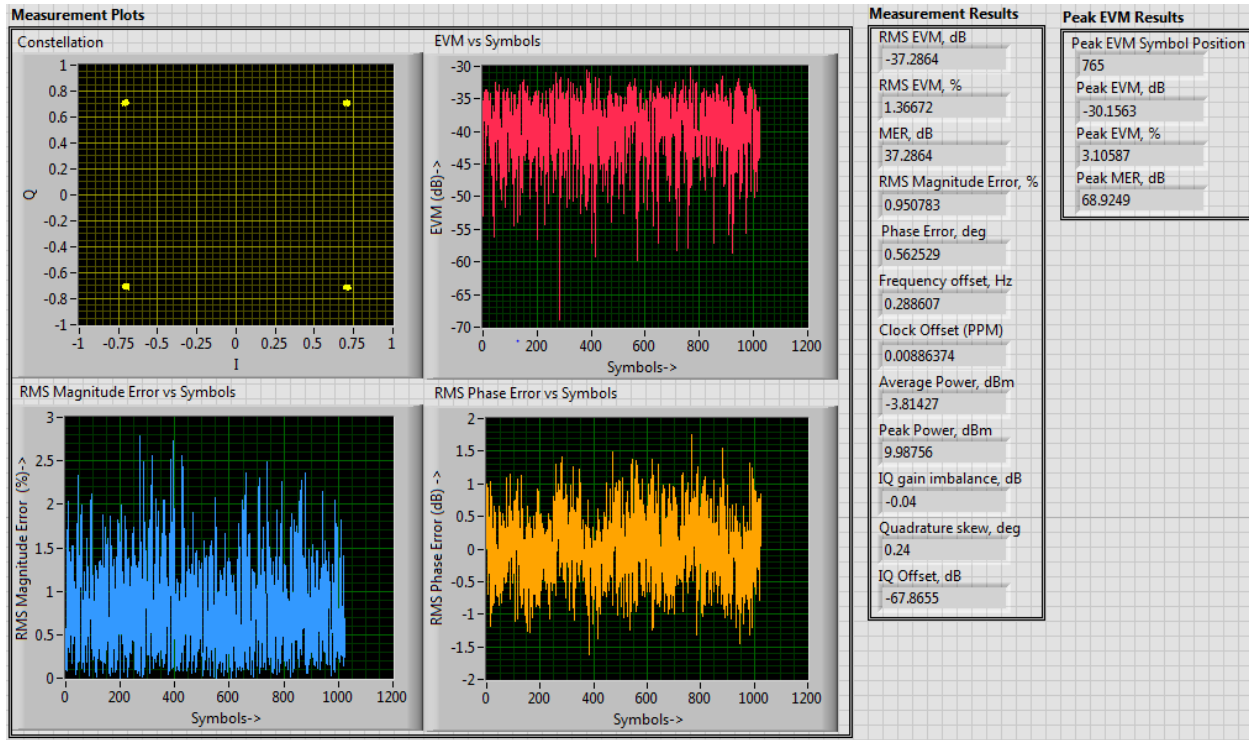


MAXEYE TECHNOLOGIES

DOCUMENT ID: MET_DVT_SA_DATA_SHEET_V001

This toolkit offers standard based test solution for designing, evaluating and manufacturing Digital video broadcasting- satellite (DVB-S) equipment's. It is the original Digital Video Broadcasting Forward error correction and demodulation standard for Satellite Television. It is used via satellites serving every continent of the world. DVB-S is used in both Multiple Channel Per Carrier (MCPC) and Single channel per carrier modes for Broadcast Network feeds as well as for Direct Broadcast Satellite services. While the actual DVB-S standard only specifies physical link characteristics and framing, the overlaid transport stream delivered by DVB-S is mandated as MPEG-2, known as MPEG transport stream (MPEG-TS).

MaxEye DVB-S 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-S transmitter. The EVM vs Symbols enable the time domain analysis of the transmitted signal to identify the issues in the transmitted signal. Other traces that are supported include RMS Magnitude Error vs Symbols and RMS Phase Error vs Symbols.





DVB-S Specific	Supported Configurations
Symbol Rate	Up to 80MHz
Roll-off Factor	User configurable
Samples Per Symbol	User configurable
Code Rate	1/2, 2/3, 3/4, 5/6 and 7/8
Modulations	QPSK
Interleaver Support	Native interleaver is supported
Outer coder	Reed-Solomon
Inner coder	Convolutional with puncturing
Measurements	
Demodulation Measurements	Error Vector Magnitude RMS EVM Peak EVM Modulation Error Ratio MER Peak MER RMS Magnitude and Phase Error Power Measurements Average Power Peak Power Frequency Offset Gain Imbalance Quadrature Skew IQ Offset Measurement Traces Constellation Graph EVM Vs Symbols MER Vs Symbols RMS Magnitude Error vs Symbols RMS Phase Error vs Symbols
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



**MAXEYE
TECHNOLOGIES**

DOCUMENT ID: MET_DVT_SA_DATA_SHEET_V001

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

ramesh@maxeyetech.com

info@maxeyetech.com