



DAB Analysis Toolkit Data Sheet

March 18, 2013

Document Version: 1.0.0





Contents

| | |
|--|---|
| 1. Overview | 3 |
| 2. DAB/DAB Plus/T-DMB Signal Analysis Toolkit..... | 3 |
| 2.1. Technical Description | 3 |
| 2.2. Key Features | 4 |
| 3. Software Maintenance and Support..... | 7 |



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 DAB/DAB Plus/T-DMB analysis toolkit features and supported measurements.

2. DAB/DAB Plus/T-DMB 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 audio and video broadcasting test signals that conform 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 | DAB/DAB Plus/ T-DMB | ETSI TS 102 427 V1.1.1 (2005-07) - Digital Audio Broadcasting (DAB); Data Broadcasting - MPEG-2 TS streaming ETSI TS 102 428 V1.1.1 (2005-06) - Digital Audio Broadcasting (DAB); DMB video service; User Application Specification ETSI EN 300 401 V1.4.1 (2006-06) - Radio Broadcasting Systems; Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers ETSI TS 102 563 V1.1.1 - Digital Audio Broadcasting (DAB); Transport of Advanced Audio Coding (AAC) audio |

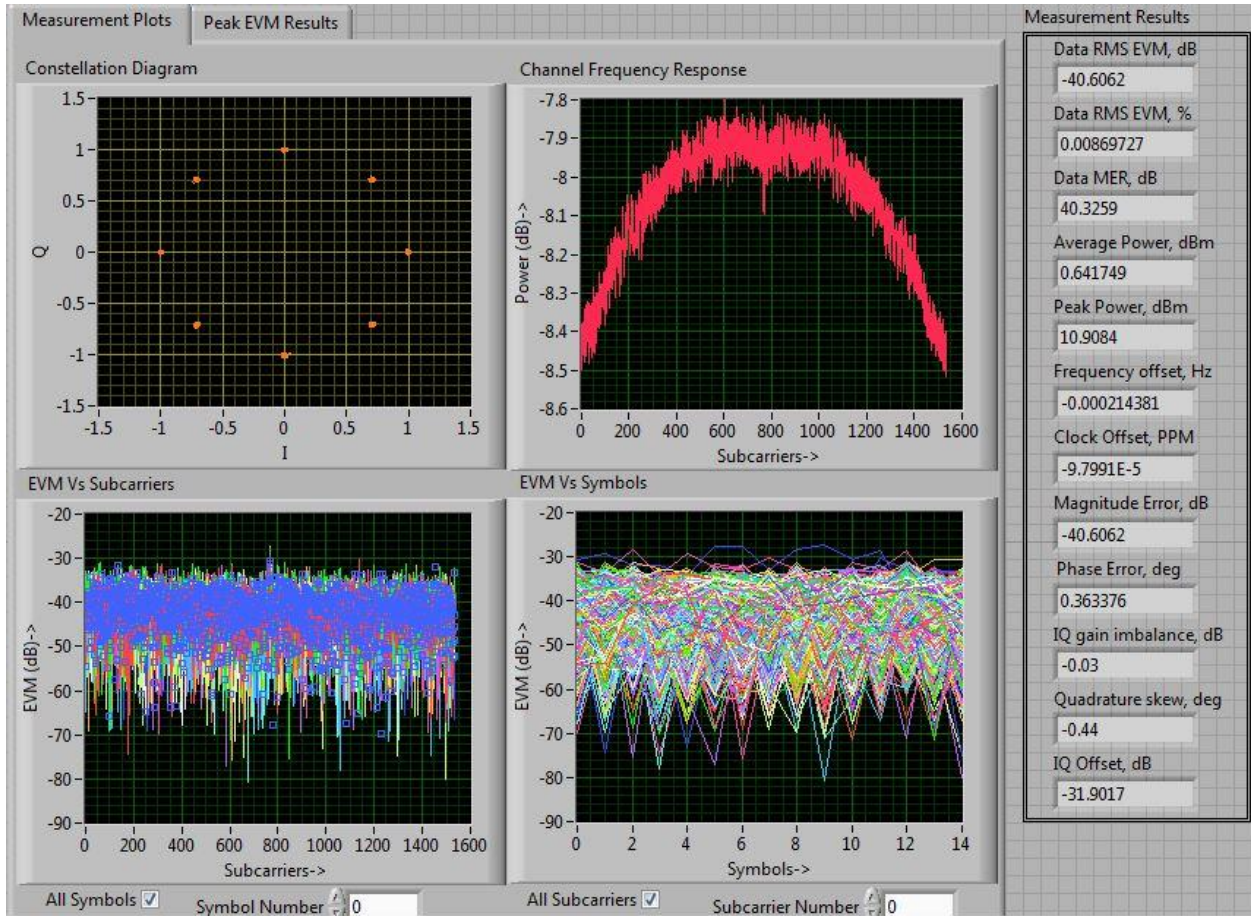


2.2. Key Features

The following section has key features and measurements supported in the DAB signal analysis toolkit.

This toolkit offers standard based test solution for designing, evaluating and manufacturing Digital Audio Broadcasting (DAB) equipment. DAB is based on the ETSI standards EN 300401. DAB is deployed in several countries, particularly in Europe.

MaxEye DAB 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 DAB 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.



| DAB Specific | Supported Configurations |
|--------------------------------------|---|
| Transmission Mode | Mode I, II, III and IV |
| Input Mode | ETI File and User Configuration |
| Transmission Channels | Main Service Channel (MSC) (Carrier Video, Audio and Data service components) Fast Information Channel (FIC) (Carriers Multiplex configuration information) Synchronization Channel |
| Transport Mechanism | Stream Mode |
| Transmission Mode(# of subcarriers) | Mode 1, Mode 2 and Mode 3 (All modes) |
| Energy Dispersal | For MSC and FIC |
| Modulation Scheme | DQPSK |
| Guard Intervals | All Guard Intervals as per the specification |
| Convolutional Coding | Supported with all possible puncturing patterns (different code rates) |
| RS Coding | RS (204,188) |
| Time Interleaving | Supported |
| Frequency Interleaving | Supported |



| Measurements | |
|---------------------------|--|
| Demodulation Measurements | <p>Error Vector Magnitude Data EVM Peak EVM</p> <p>Modulation Error Ratio Data MER Peak MER</p> <p>RMS Magnitude and Phase Error</p> <p>Power Measurements Average Power Peak Power</p> <p>Frequency Offset</p> <p>Clock Offset</p> <p>Gain Imbalance</p> <p>Quadrature Skew</p> <p>IQ Offset</p> <p>Spectral Flatness</p> <p>Measurement Traces Constellation Graph Channel Frequency Response EVM Vs Subcarriers EVM Vs Symbols MER Vs Subcarriers MER Vs Symbols</p> |
| Spectral Measurements | <p>Center Channel Power</p> <p>Adjacent Channel Power</p> <p>Spectral Emission Mask</p> <p>Spectral Mask Margin</p> |
| 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

ramesh@maxeyetech.com

info@maxeyetech.com