

MIPI A-PHY Tx Compliance Test Solution QPHY2-MIPI-APHY



Key Features

- Supports a comprehensive range of Tx compliance tests for MIPI A-PHY
- Single tree view - for all settings, test selections, and pass/fail test results
- Quick access to connection diagrams - always accessible in test tree
- Results database - Analyze, filter, and review results before creating a report
- Easily retest or remove tests from database
- Save results table to a .csv for additional analysis
- Report Generation in PDF, HTML, XML
- Session Manager for managing multiple projects
- Take your 'test session' offline with QPHY2-PC to free up your oscilloscope for other testing
- Return Loss Measurement Import function
- Automated Disturber Calibration

MIPI A-PHY is a long-reach, asymmetric SerDes interface designed for automotive applications such as ADAS and IVI. It supports data transmission up to 15 meters over a single cable, carrying high-speed video and control signals. With protocol adaptation layers, A-PHY enables direct use of CSI-2 and DSI-2 across vehicles, reducing wiring complexity while ensuring robust, low-latency connectivity.

Automated MIPI A-PHY Tx Compliance Testing

QPHY2-MIPI-APHY automates compliance and validation testing for MIPI A-PHY using the latest Compliance Test Suite. Built on the QualiPHY 2 framework, it significantly reduces test time and engineering effort by streamlining setup and execution. The software ensures accurate, consistent, and repeatable test conditions with minimal user interaction.

Validation and Compliance in a Fraction of the Time

The QualiPHY 2 test framework products provide the most intuitive and efficient test framework available for performing serial data compliance testing and allow users to perform time consuming analysis tasks offline (outside of the lab) and free the oscilloscope for other uses.

SPECIFICATIONS AND ORDERING INFORMATION

Compliance Test Coverage

Compliance Test	CTS	Oscilloscope	VNA/ TDR	Disturbing Generator	Test Fixture
Transmitter Power Spectral Density	9.1.3	✓			✓**
Transmitter Maximum Output Droop	9.1.4	✓			✓**
Transmitter Timing Jitter	9.1.5	✓			✓**
Transmitter Symbol Rate Accuracy	9.1.6	✓			✓**
NRZ Downlink Transmitter Eye Opening	9.1.7	✓			✓**
Transmitter Linearity for PAM-X and PAM4	9.1.8	✓		✓	✓**/ ✓***
Transmitter Dual Lane, Inter-Pair Skew	9.1.9	✓			✓**
Silent Mode A-PHY Ripple Test (SMART)	9.1.10	✓			✓**
MDI Return Loss (using S-Parameter import function)			✓*		✓**

* Requires a VNA or TDR instrument.

** Requires a connector specific test adapter – Please contact the appropriate connector manufacturer.

*** Requires 2 ways resistive power splitter.

Recommended Oscilloscopes

	Data Type Tested	Gbit/s	Gbaud/s	Min. Oscilloscope Bandwidth in GHz	Min Sampling Rate in GS/s	Recommended Oscilloscope
Down Link Gear						
Gear G1	NRZ-8B/10B	2	2	3	16	WavePro 404HD, WaveMaster 8060HD
	PAM2	2	2	3	16	WavePro 404HD, WaveMaster 8060HD
	PAM4	2	1	1.5	8	WavePro 254HD
Gear G2	NRZ-8B/10B	4	4	6	32	WaveMaster 8060HD
	PAM2	4	4	6	32	WaveMaster 8060HD
	PAM4	4	2	3	16	WavePro 404HD, WaveMaster 8060HD
Gear G3	NRZw-8B/10B	8	8	12	64	WaveMaster 8130HD
	PAM4	8	4	6	32	WaveMaster 8060HD
Gear G4	PAM4	12	6	9	48	WaveMaster 8130HD
	PAM8	12	4	6	32	WaveMaster 8060HD
Gear G5	PAM4	12	6	9	48	WaveMaster 8130HD
	PAM16	12	3	4.5	24	WaveMaster 8060HD
Gear G6	PAM8	24	8	12	64	WaveMaster 8130HD
Gear G7	PAM16	32	8	12	64	WaveMaster 8130HD
Up Link Gear						
U1	NRZ-8B/10B	0.1	0.1	1		WavePro 254HD
U2	PAM4-8B/10B	0.1	0.05	1		WavePro 254HD
U3/U4	PAM4-8B/10B	0.8	0.4	2		WavePro 254HD

Recommended Equipment for MDI Return Loss (all Speed Grades):

High-speed Interconnect Analyzer

WavePulser40ix

Recommended Equipment for Transmitter Linearity:

200 MHz, 2.4 GS/s, 20 Mpts, 2 Channel, 20 Vpp Function/Arbitrary Waveform Generator

T3AFG200

2 Ways Resistive Power Splitter, DC - 4200 MHz, 50 Ω (2x)

Mini-Circuits ZFRSC-42-S+

Recommended Equipment for POA:

Bias-Tee, 0.1 to 6000 MHz (2x)

Mini-Circuits ZFBT-6GW+

Ordering Information

QualiPHY2 Enabled MIPI A-PHY Software Option

QPHY2-MIPI-APHY

Customer Service

Teledyne LeCroy oscilloscopes and probes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years and our probes are warranted for one year. This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge

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Local sales offices are located throughout the world.
Visit our website to find the most convenient location.