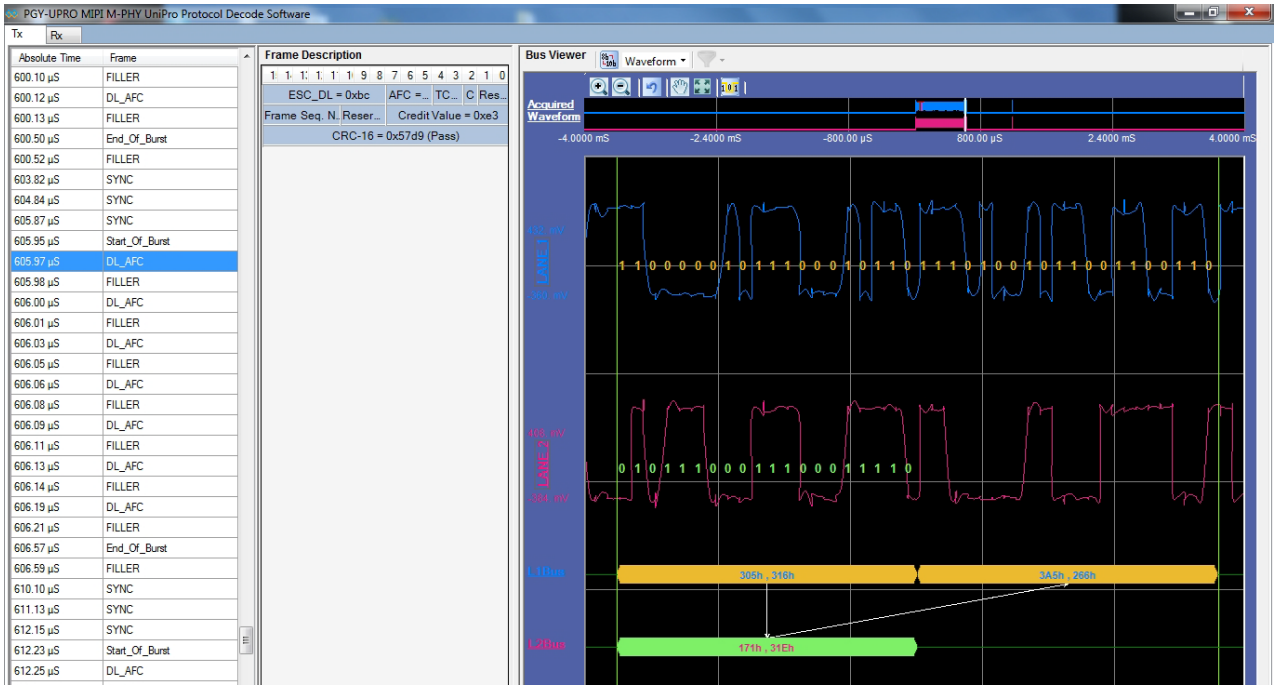
PGY-UPRO/LLI/UFS MIPI-MPHY-UniPro/LLI/UFS Protocol Decode Software



In an emerging technology, engineers test and debug UniPRO/LLI/UFS designs with easy-to-use instruments such as oscilloscopes. But oscilloscopes normally provide extensive details about electrical characteristics of the signal. But engineers need more information such as protocol content at different protocol layer. Manually interpreting the protocol layer information using oscilloscope data is time consuming and prone to human error.

The PGY-UPRO/LLI/UFS Protocol Decode Software offers extensive protocol decoding for MIPI-MPHYUniPRO, LLI, and UFS protocol standards. This software offers Real-time hardware based UniPRO/UFS Protocol aware trigger for PWM, NRZ and 8B/10B data type. Now design and test engineers can automatically make accurate and reliable decode of multi-lane UniPRO/LLI/UFS using PGY-UPro/LLI/UFS software using data acquired by Tektronix, DPO/DSA/MSO70000 oscilloscope series to reduce the development and test cycle.

Features:

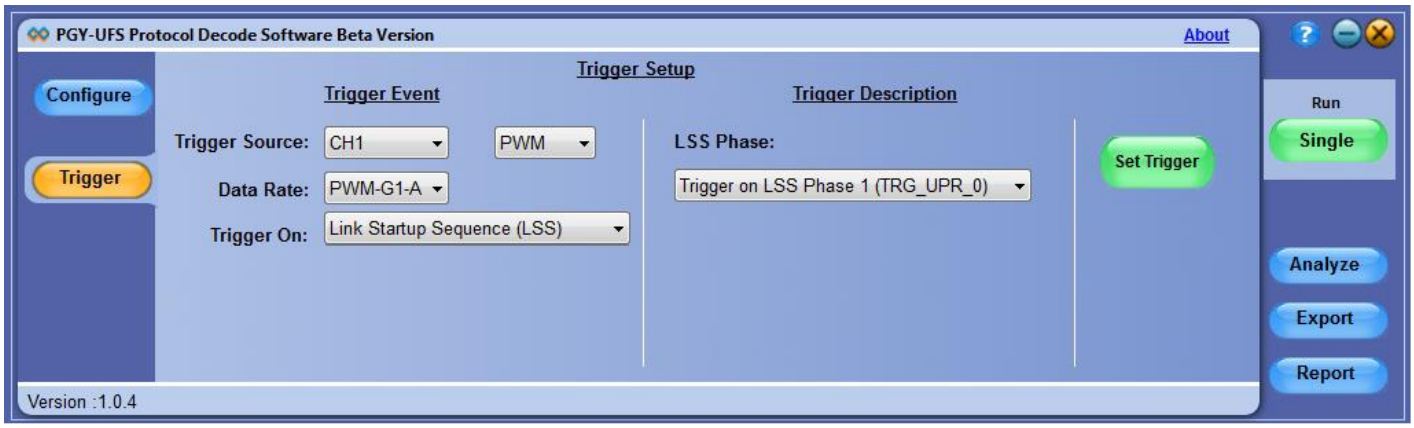
- UniPro and LLI Protocol Decoder enables faster system level protocol debugging
- Conforms to UniPro Protocol Specification version 1.6and LLI Protocol version 1.0
- Conforms to UFS Protocol Specification Version 2.0
- Supports NRZ (Non-Return-to-Zero) and PWM (Pulse Width Modulation) signalling schemes
- Configurable four lane simultaneous protocol decode helps to correlate the lane to lane events
- Autolink of decoded data from list table to oscilloscope waveform for easy protocol debug at phy layer
- Powerful UniPRO/LLI Protocol aware trigger fearures using Option ST6G serial trigger feature of oscilloscopes
- Triggering supports PWM, NRZ and 8b/10B encoded data schemes
- Detail view provides a comprehensive protocol and physical layer data correlation
- Frame listing and frame description provides comprehensive protocol layer information

- Each frame is displayed in detail as per UniPro and LLI Standard specification document
- Automated CRC computation to monitor CRC errors in protocol packet
- Markers enables time measurement between messages in different lanes
- Software automatically identifies the signalling scheme and gear for hassle free protocol analysis
- Bus diagram functions such as zoom, un-zoom, pan, fit to screen, synchronize functions enables easy data analysis
- Supports oscilloscope live channels, Tektronix .wfm waveform files
- Generates comprehensive and customizable reports
- Ability to export the protocol details to txt and csv file formats

Seamless Integration with Tektronix Oscilloscope

PGY-UPRO/LLI/UFS runs inside the Tektronix oscilloscopes and decodes protocols and displays the decoded data of multiple lanes. This software links the decoded data to the electrical signal in the oscilloscope display. UniPRO/LLI Protocol-based trigger can be set up using the built-in high speed serial trigger capabilities in Tektronix oscilloscopes.

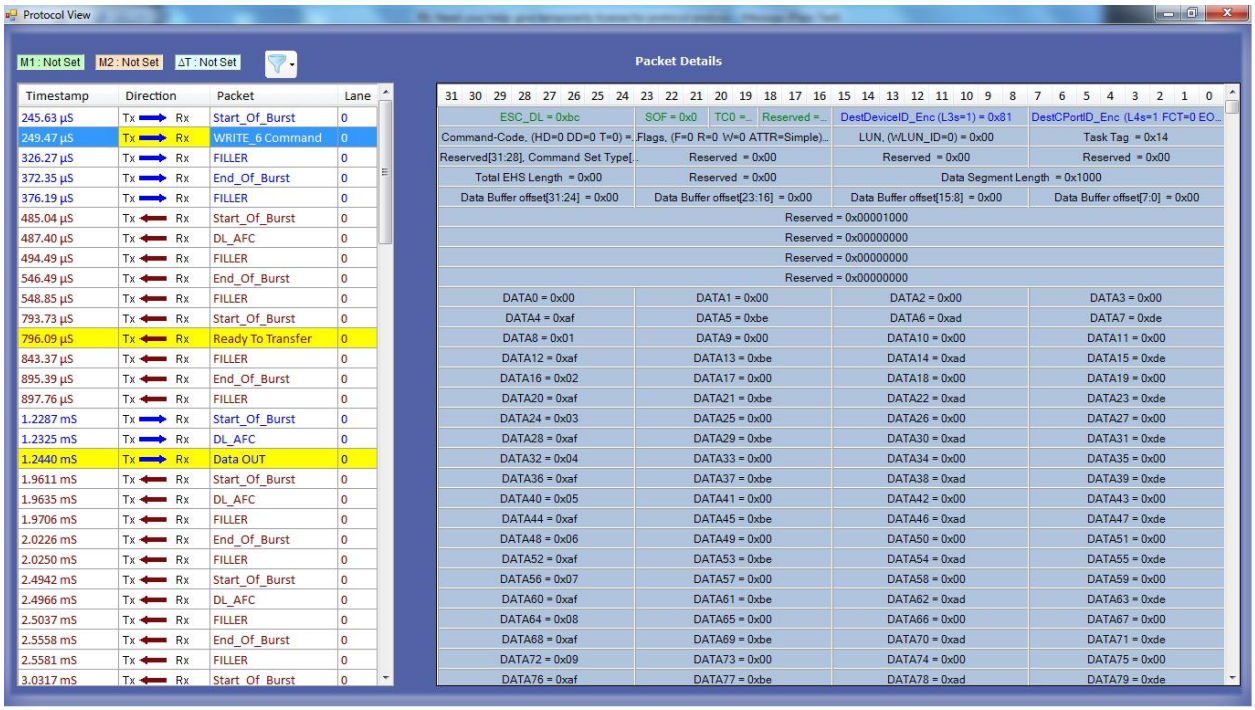
UniPRO Protocol Aware Trigger



PGY-UPRO/LLI/UFS software provides protocol aware trigger conditions such as link start-up sequence, PHY adapter layer content and data link layer content. The unique capabilities in this software allow trigger data type such as PWM, NRZ or 8B/10B serial data of the protocol. PGY-UPRO supports following Protocol Aware Trigger capabilities.

Trigger Event	Trigger Content
Link Start up Sequence (LSS)	Trigger on LSS Phase 1 (TRG_UPR_0)
	Trigger on LSS Phase 2 (TRG_UPR_1)
	Trigger on LSS Phase 3 (TRG_UPR_2)
PHY Adapter layer Content	PACP_PWR_req
	PACP_PWR_cnf
	PACP_cap_ind
	PACP_EPR_ind
	PACP_TEST_MODE_req
	PACP_GET_req
	PACP_GET_cnf
	PACP_SET_req
	PACP_SET_cnf
	PACP_Test_Data
Data Link layer Content	Data_SOF
	Data_COF
	AFC (Acknowledgement)
	NAC (No Acknowledgement)

PGY-UFS is module is optional module to PGY-UPRO software, which provides protocol decode of UFS content present in Data Link layer packet. PGY-UFS software extracts UFS information present in data link packet and displays in UFS Protocol Information Unit (UPIU). PGY-UFS has flexibility of displaying only UFS protocol content or UFS and UniPRO data for easy debugging purpose.



UFS Protocol Decode View

Oscilloscopes Supported

DPO/MSO/DSA 70000 Series

Ordering Information:

PGY-UPRO MIPI-MPHY-UniPro Protocol Decode Software
PGY-LLI MIPI-MPHY-LLI Protocol Decode Software
PGY-UFS MIPI-UFS Protocol decode Software (Pre-requisite PGY-UPRO)
(Shipment includes CD with PGY- software and license key)

Contact Information

Address: **Website:**	Prodigy Technovations Pvt Ltd 294, 7th Cross, 7th main, BTM 2nd Stage, Bengaluru – 560076. Karnataka India. www.prodigytechno.com
Technical Support:	contact@prodigytechno.com
Phone:	+91-80-42126100

About Prodigy Technovations Pvt Ltd

Technovations Pvt Ltd (www.prodigytechno.com) is a leading global technology provider of Protocol Decode, and Physical layer testing solutions on test and measurement equipment. The company's ongoing efforts include successful implementation of innovative and comprehensive protocol decode and physical Layer testing solutions that span the serial data, telecommunications, automotive, and defense electronics sectors worldwide.