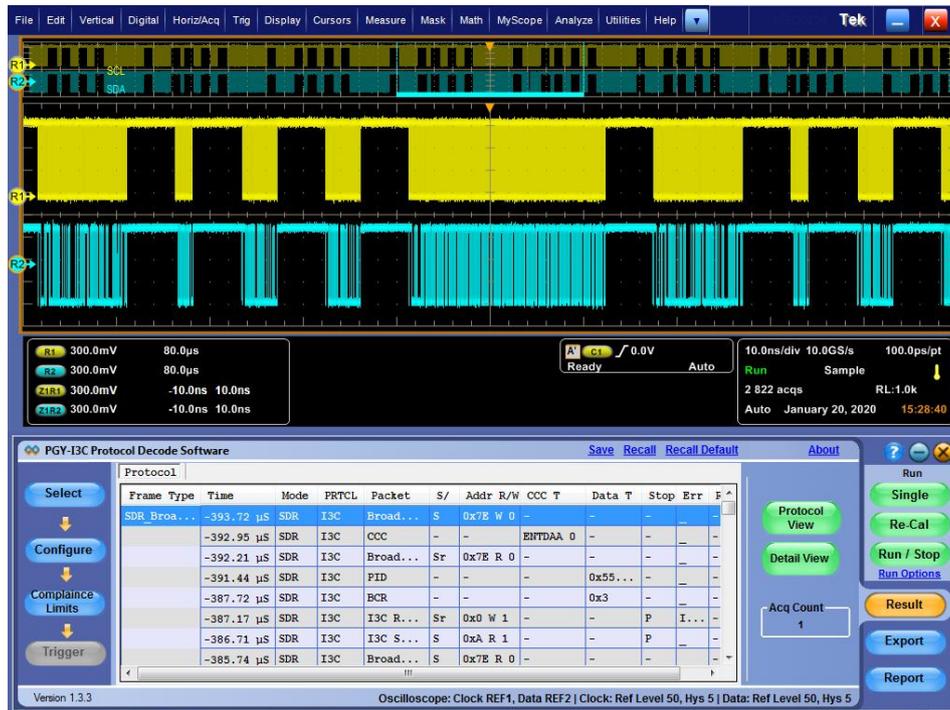


PGY-I3C Protocol Trigger & Decode Software



I3C Protocol Trigger & Decode Software

I3C interface would make significant changes to the mode in which sensors are interfaced to host processor in mobile and automotive applications PGY-I3C Protocol Trigger & Decode Software enables engineers to quickly decode the protocol intensive I3C signals. It enables easy debugging of I3C Protocol issues by triggering on specific I3C Protocol packet and content and decoding the acquired waveform. PGY-I3C provides industry first protocol decode capabilities in Tektronix windows oscilloscope.

PGY-I3C Software runs inside Tektronix make oscilloscopes such as DPO/MSO5000, DPO7000 and DPO/DSA/MSO70000 oscilloscope series. PGY-I3C utilizes the hardware based real-time I3C protocol aware trigger, protocol analysis of long acquisition record length up to 125MB to provide superior I3C Protocol Analysis result at the press of a button.

Key Features

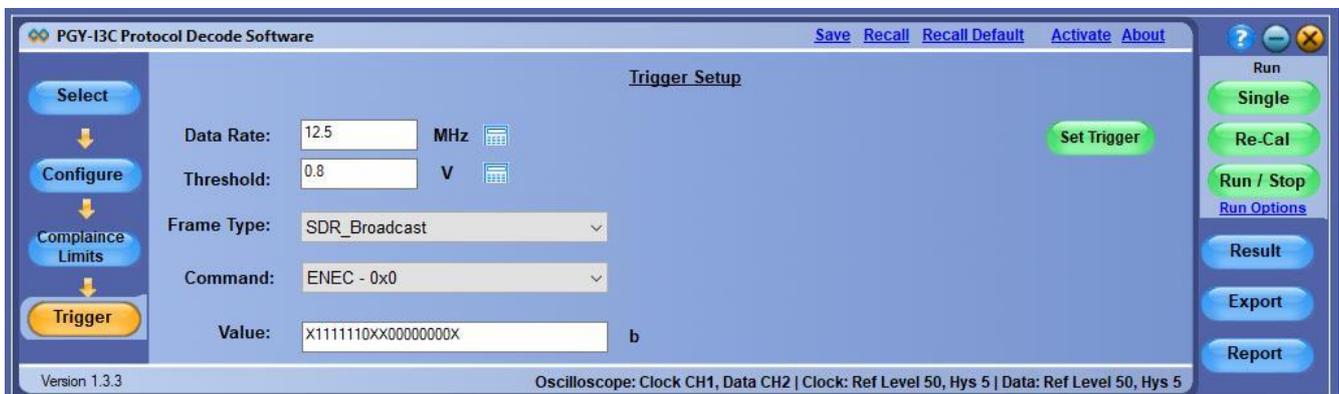
- ❖ I3C protocol Analysis using oscilloscope live channel data or stored I3C signals
- ❖ Powerful I3C real-time protocol aware hardware-based trigger capabilities.
- ❖ Displays the decoded data in I3C frame format, SDR, DDR, TSL and TSP format.
- ❖ Links protocol decoded packet to waveform in oscilloscope display.
- ❖ Error status check as defined in I3C specification
- ❖ Protocol view provides bit level decoding of each I3C packet.
- ❖ Detail view correlates physical layer waveform with I3C packet data
- ❖ Ability to process long acquisition memory enables the decoding of more protocol Activities
- ❖ Search capabilities to locate protocol event
- ❖ Filter capabilities to view information of Interest
- ❖ Documentation by exporting data in CSV and TXT file format
- ❖ Report Generation

Easy I3C Protocol Test Setup and Debug:



PGY-I3C Software installed in Tektronix oscilloscopes can be launched by clicking on PGY-I3C icon in oscilloscope desktop folder. Now user has simultaneous view and control to oscilloscope as well as PGY-I3C Software. User can analyze I3C in single acquisition mode, Repetitive mode and as well as No Acq mode. In No Acq Mode, I3C software analyses already captured I3C signal that is present in the acquisition memory of the oscilloscope.

Powerful I3C Protocol Aware Hardware Based Real-Time Trigger:

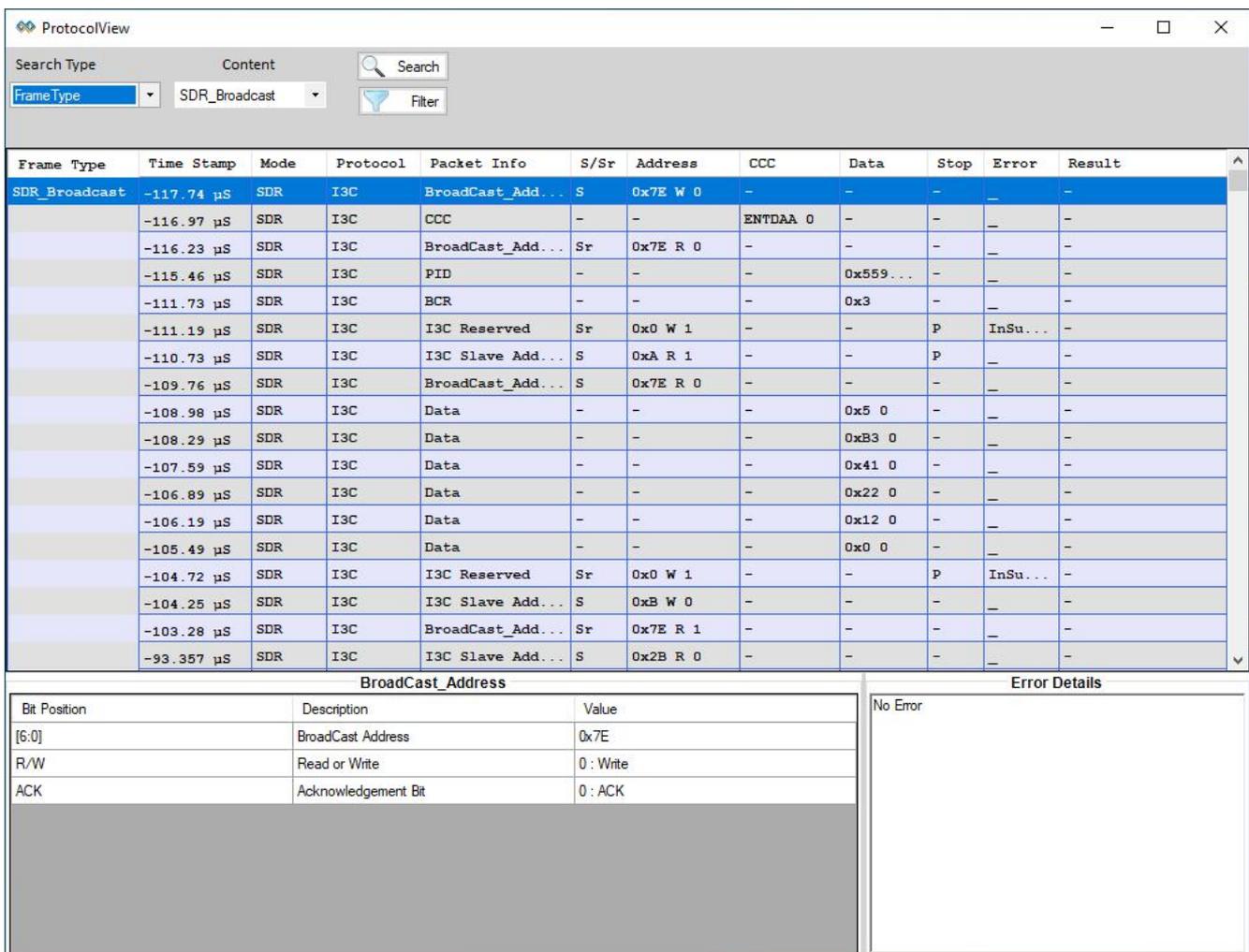


Simple easy to use I3C protocol aware trigger features allows engineers to capture I3C signals at specific event in I3C interface.

Trigger can be set for different commands of SDR_Broadcast, SDR_Direct and SDR_message. I3C software provides the flexibility to select combination of any command from of any three frame types. This feature can be used on DPO7000, DPO/MSO70000 oscilloscope series.

Protocol view

PGY-I3C Software provides the protocol view, where protocol activity is listed with all frame content. User can select any I3C frame and view its bit level decoding to debug protocol issues. Search and Filter features allows user to quickly focus on specific event.



The screenshot shows the ProtocolView window with a search bar and filter options. The main table displays the following data:

Frame Type	Time Stamp	Mode	Protocol	Packet Info	S/Sr	Address	CCC	Data	Stop	Error	Result
SDR_Broadcast	-117.74 µS	SDR	I3C	BroadCast_Add...	S	0x7E W 0	-	-	-	-	-
	-116.97 µS	SDR	I3C	CCC	-	-	ENTDAA 0	-	-	-	-
	-116.23 µS	SDR	I3C	BroadCast_Add...	Sr	0x7E R 0	-	-	-	-	-
	-115.46 µS	SDR	I3C	PID	-	-	-	0x559...	-	-	-
	-111.73 µS	SDR	I3C	BCR	-	-	-	0x3	-	-	-
	-111.19 µS	SDR	I3C	I3C Reserved	Sr	0x0 W 1	-	-	P	InSu...	-
	-110.73 µS	SDR	I3C	I3C Slave Add...	S	0xA R 1	-	-	P	-	-
	-109.76 µS	SDR	I3C	BroadCast_Add...	S	0x7E R 0	-	-	-	-	-
	-108.98 µS	SDR	I3C	Data	-	-	-	0x5 0	-	-	-
	-108.29 µS	SDR	I3C	Data	-	-	-	0xB3 0	-	-	-
	-107.59 µS	SDR	I3C	Data	-	-	-	0x41 0	-	-	-
	-106.89 µS	SDR	I3C	Data	-	-	-	0x22 0	-	-	-
	-106.19 µS	SDR	I3C	Data	-	-	-	0x12 0	-	-	-
	-105.49 µS	SDR	I3C	Data	-	-	-	0x0 0	-	-	-
	-104.72 µS	SDR	I3C	I3C Reserved	Sr	0x0 W 1	-	-	P	InSu...	-
	-104.25 µS	SDR	I3C	I3C Slave Add...	S	0xB W 0	-	-	-	-	-
	-103.28 µS	SDR	I3C	BroadCast_Add...	Sr	0x7E R 1	-	-	-	-	-
	-93.357 µS	SDR	I3C	I3C Slave Add...	S	0x2B R 0	-	-	-	-	-

The detailed view for the selected frame (Broadcast Address) is shown below:

Broadcast_Address			Error Details	
Bit Position	Description	Value		
[6:0]	BroadCast Address	0x7E	No Error	
R/W	Read or Write	0 : Write		
ACK	Acknowledgement Bit	0 : ACK		

Protocol Analysis of I3C Signals:

Detail view in I3C Protocol software allows the user to correlate to protocol activity with physical layer waveform. The bus diagram in detail view shows protocol packet content. Decoded bit level information is overlaid on the waveform to relate the packet level information on to waveform.

Documentation of Protocol Analysis

PGY-I3C I3C Protocol Trigger and decode software provides flexibility of exporting the decode data in txt and csv file format. Report Generation capability allows user to have different waveform images including the oscilloscope screenshot in pdf format report. Report header, comments and test attributes can be added to report.



Oscilloscopes Supported

DPO/MSO5000 series, DPO7000 series, DPO/MSO/DSA 70000 series

Ordering Information

PGY-I3C (shipment includes CD with PGY-I3C Protocol Trigger and Decode Software) License is locked to oscilloscope

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About Prodigy Technovations Pvt Ltd

Prodigy 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.