SMBus Electrical Validation and Protocol Decode Software
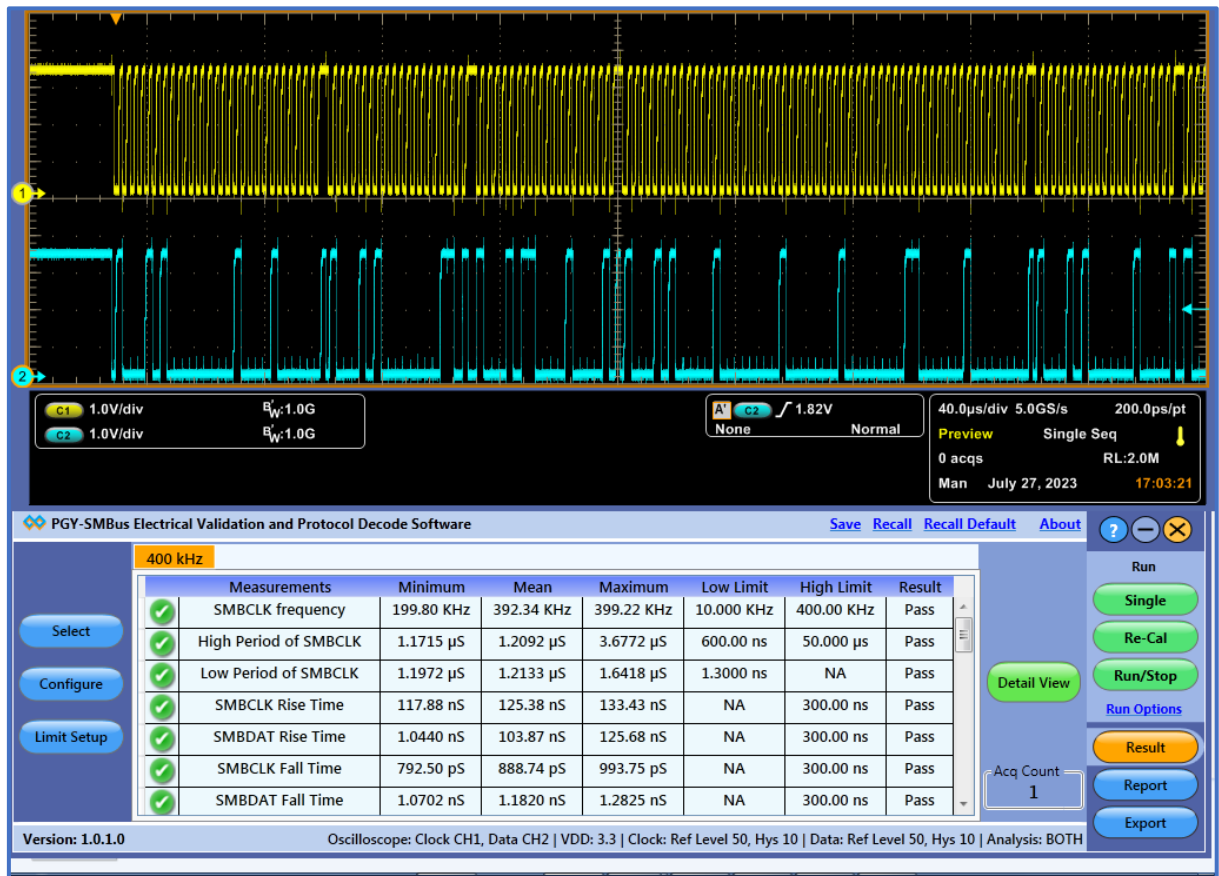

Figure-1: PGY-SMBus Scope Electrical Validation and Decode Software running in Oscilloscope

SMBus Electrical Validation and Protocol Decode Software offers electrical measurements and testing and protocol decoding as specified in the SMBus specification (version 3.2). PGY-SMBus Electrical validation and Protocol decode software runs in Tektronix Oscilloscope and provides electrical measurements and protocol decode at the click of a button. This allows engineers quickly check for SMBus conformance and flexibility to debug the failure. In addition to this, engineers can decode the command and response of SMBus to debug the communication.

PGY-SMBus takes advantage of digital channels of MSO and provides the decoding of SMBus data lines.

Key Features

✧ Automated electrical measurements as specified in version 3.2 of SMBus specification documentation.

✧ Supports electrical measurement for 100KHz, 400KHz and 1MHz speed with limit comparison.

✧ Decodes SMBus signals of different speeds for easy understanding of protocol.

✧ Links the protocol content to the electrical signal in the oscilloscope for easy understanding of the electrical characteristics of the SMBus protocol.

✧ Overlays the protocol data on the analog waveform in a bus diagram window.

- Zooms the selected SMBus packet content in the decode table in the bus diagram display for easy analysis of the electrical characteristics of the SMBus frame.
- Color codes protocol content for easy analysis. (e.g. SMBCLK, SMBDAT, Address, Data, ACK,etc.)
- Search capabilities to locate unique events in thousands of protocol data.
- Ability to view protocol and decoded data in hexadecimal, decimal, binary, octal, and ASCII formats.
- Ability to store the SMBus protocol data in CSV and text format.
- Utility features e zoom, undo, and fit the screen for easy debugging while correlating the protocol data to the waveform.
- Report generation in PDF format. Option to include Configuration, Electrical parameters measured, saved images, Protocol listing in the report.
- Supports .wfm (Tektronix) .trc (LeCroy)and *.H5 (Keysight) file format for offline analysis.

Seamless Integration with Tektronix Oscilloscope

PGY-SMBus runs inside the Tektronix oscilloscopes and makes the electrical measurements, decodes protocols and displays the decoded data in a bus diagram, a table, and links the decoded data to electrical signal in the bus diagram.

Specification - Details

Electrical Measurements	• SMBCLK-Clock frequency	• SMBDAT Output Hold Time
	• High Period-SMBCLK	• Setup Time (R) START condition
	• Low Period-SMBCLK	• Hold Time (R) START condition
	• Rise Time (SMBCLK, SMBDAT)	• Setup Time for STOP
	• Fall Time (SMBCLK, SMBDAT)	• Data valid Time
	• SMBDAT Input Rise Time	• Bus free time b/w STOP and START
	• SMBDAT Output Rise Time	• Input Low Voltage (V_{IL})
	• SMBDAT Input Fall Time	• Input High Voltage (V_{IH})
	• SMBDAT Output Fall Time	• Output Low Voltage (VOL)
	• SMBDAT Input Setup Time	• Overshoot (SMBCLK, SMBDAT)
	• SMBDAT Output Setup Time	• Undershoot (SMBCLK, SMBDAT)
	• SMBDAT Input Hold Time	

Input Source	Oscilloscope (or) .wfm file for offline analysis
Bus Speed	100KHz, 400KHz, 1MHz
Protocol Decode radix	Hexadecimal, Octal, Binary, Decimal, ASCII
Find/search	Data and Address
Waveform window	Overlay of protocol decode data on waveform
Report generation	Customizable report in PDF format
Export of data	CSV and TXT format

Tektronix Oscilloscopes Supported

- DPO5000 Series
- DPO7000 Series
- DPO/MSO/DSA 70000 Series
- MSO5 Series, MSO6 Series

Note: The OS version to be windows 7 or higher

Ordering Information

PGY-SMBus Electrical Validation and Protocol Decode Software
(Shipment includes CD with PGY-SMBus software and license key)

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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.