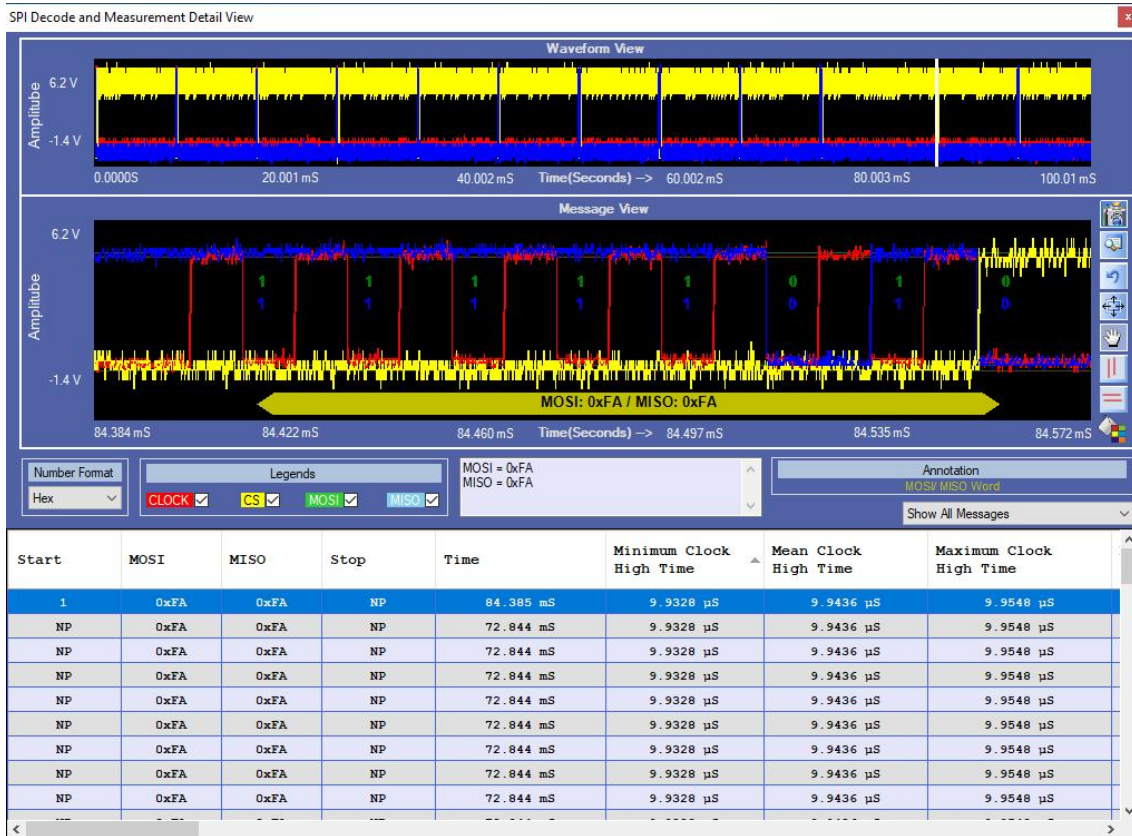


SPI Electrical Validation and Protocol Decode Software



SPI Electrical Validation and Protocol Decode Software offers electrical measurements compliance testing and protocol decoding as specified in SPI specification. PGY-SPI 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 the engineers to quickly check for SPI compliance and flexibility to debug the failure. In addition to this, engineers can decode the command and response of SPI to debug the communication. PGY-SPI takes advantage of digital channels of MSO and provides the decoding of SPI data lines.

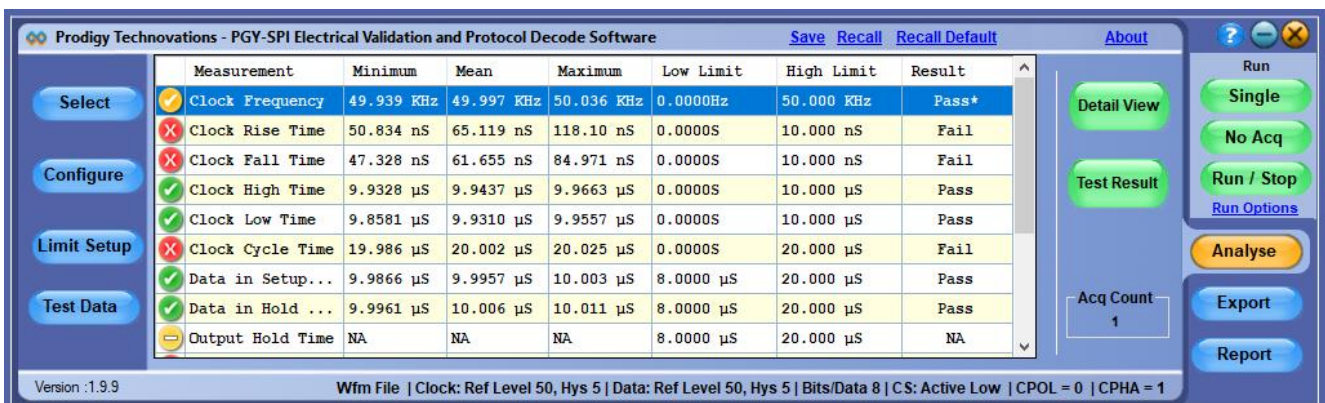
The PGY-SPI Electrical measurements and Protocol Decode Software offers electrical measurements and protocol decoding for SPI buses. This software provides the flexibility to set reference levels for electrical measurement and customized limits making it the most versatile solution to meet different needs of characterizing SPI Signals. Now design and test engineers can automatically make accurate and reliable electrical measurements and decode protocols in PGY-SPI software using data acquired by Tektronix DPO5000, TDS7000, DPO/DSA/MSO7000 oscilloscope series to reduce the development and test cycle.

Key Features

- ✦ Automated electrical measurements with a customizable reference level of SPI electrical signal..
- ✦ Automated measurements independent of the speed of SPI Bus.
- ✦ Customizable measurement limit setup for pass/fail validation of electrical signal to enable measurements at different data speeds.
- ✦ Decodes SPI signals MOSI and MISO 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 protocol.
- ✦ Overlays the protocol data on the analog waveform in a waveform plot window.
- ✦ Zooms the selected SPI packet content in the decode table in the waveform plot waveform window for easy analysis of electrical characteristics of the I2C frame.
- ✦ Ability to view protocol and decode data in hexadecimal, decimal, binary, octal, and ASCII formats.
- ✦ Ability to store the SPI protocol data in CSV and TXT format.
- ✦ Utility features like zoom, undo, and fit the screen for easy debugging while correlating the protocol data to the waveform.
- ✦ Report generation in HTML format.
- ✦ Supports WFM and ISF file formats for offline analysis.

Seamless Integration with Oscilloscope

PGY-SPI Software runs inside the Tektronix oscilloscopes and makes the electrical measurements, decodes protocols and displays the decoded data in a table, and links the decoded data to the electrical signal in the waveform plot. SPI Protocol-based trigger can be set up using the built-in SPI trigger capabilities in Tektronix oscilloscopes

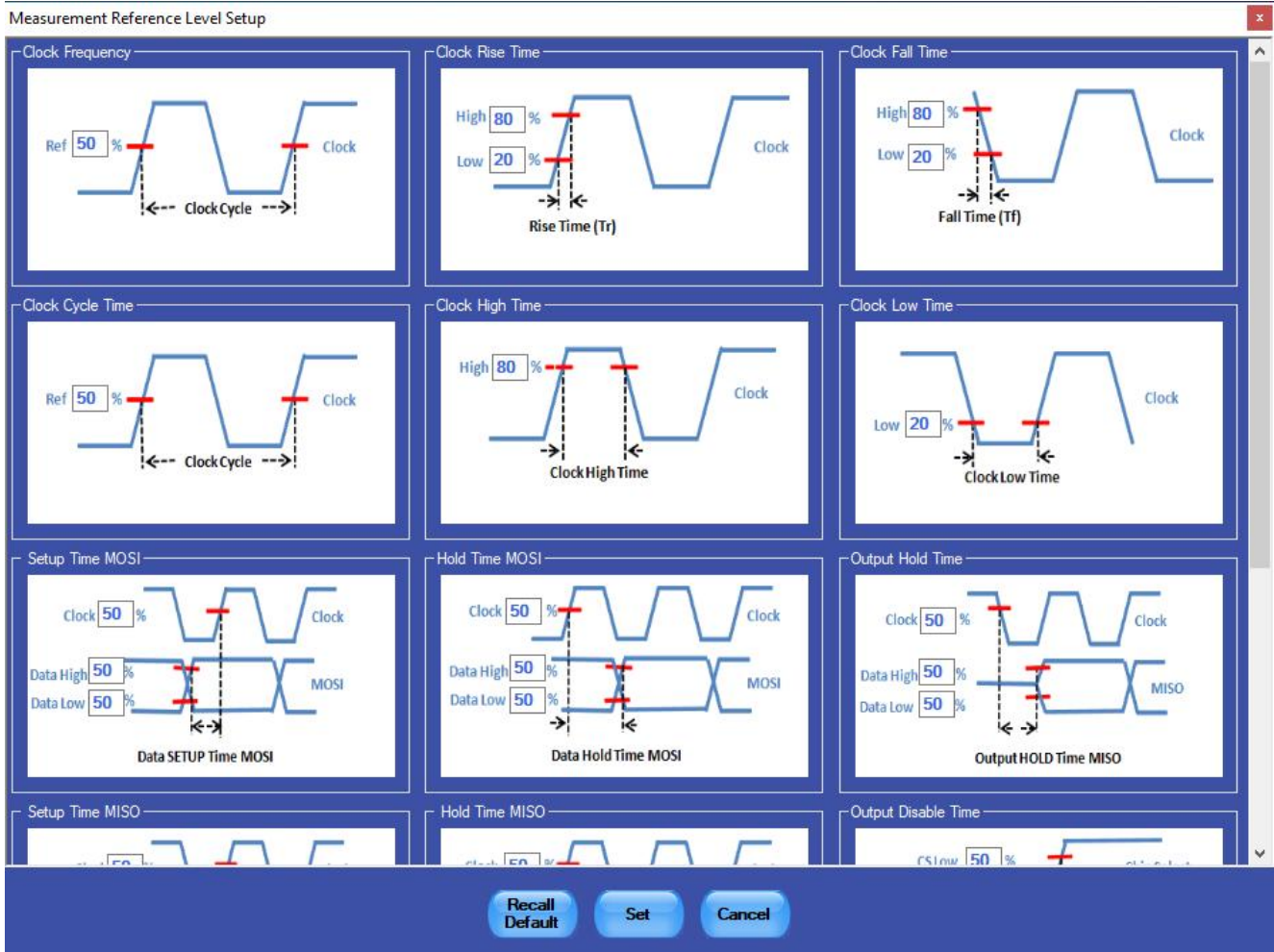


Measurement	Minimum	Mean	Maximum	Low Limit	High Limit	Result
✓ Clock Frequency	49.939 KHz	49.997 KHz	50.036 KHz	0.0000Hz	50.000 KHz	Pass*
✗ Clock Rise Time	50.834 nS	65.119 nS	118.10 nS	0.0000S	10.000 nS	Fail
✗ Clock Fall Time	47.328 nS	61.655 nS	84.971 nS	0.0000S	10.000 nS	Fail
✓ Clock High Time	9.9328 µS	9.9437 µS	9.9663 µS	0.0000S	10.000 µS	Pass
✓ Clock Low Time	9.8581 µS	9.9310 µS	9.9557 µS	0.0000S	10.000 µS	Pass
✗ Clock Cycle Time	19.986 µS	20.002 µS	20.025 µS	0.0000S	20.000 µS	Fail
✓ Data in Setup...	9.9866 µS	9.9957 µS	10.003 µS	8.0000 µS	20.000 µS	Pass
✓ Data in Hold ...	9.9961 µS	10.006 µS	10.011 µS	8.0000 µS	20.000 µS	Pass
⊖ Output Hold Time	NA	NA	NA	8.0000 µS	20.000 µS	NA

Reference Level Setup

There are no standard measurement limits defined for SPI Bus for pass/fail tests. The limits are varying in nature depending on the SPI Bus speed. In order to characterize and validate SPI signals PGY-SPI software provides a graphical measurement reference level setup to set the measurement reference level of SPI signals. These limits are automatically applied while making selected SPI measurements in PGY-SPI software and reduce test time by offering reliable measurements.

Measurement Reference Level Setup



Characteristics

Electrical Measurements	Clock Frequency	Data In Hold Time MOSI
	Clock High Time	Output Disable Time
	Clock Low Time	Output Hold time
	Clock Rise Time	Data In Setup Time MISO
	Clock Fall Time	Data In Hold Time MISO
	Clock Cycle Time	
	Chip Select Deselect Time	Chip Select Hold Time
	Data in Setup Time MOSI	Chip Select Setup Time
Bus Speed	Custom; Limited by Oscilloscope Bandwidth	
Protocol Decode	Hexadecimal, Octal, Binary, Decimal, ASCII	
Waveform Window	Overlay of protocol decode data on waveform	
Report Generation	A customizable report in HTML format	
Export of data	CSV and TXT format	



Tektronix Oscilloscopes Supported:

- DPO/MSO5000 series
- DPO7000 series
- DPO/MSO/DSA 70000 series
- MSO5 series, MSO6 series

All need to be windows 7 or higher OS based

Ordering Information:

The ordering information is as follows:

PGY-SPI Electrical Validation and Protocol Decode Software (shipment includes CD with PGY-SPI software and license key).

Contact Information



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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.