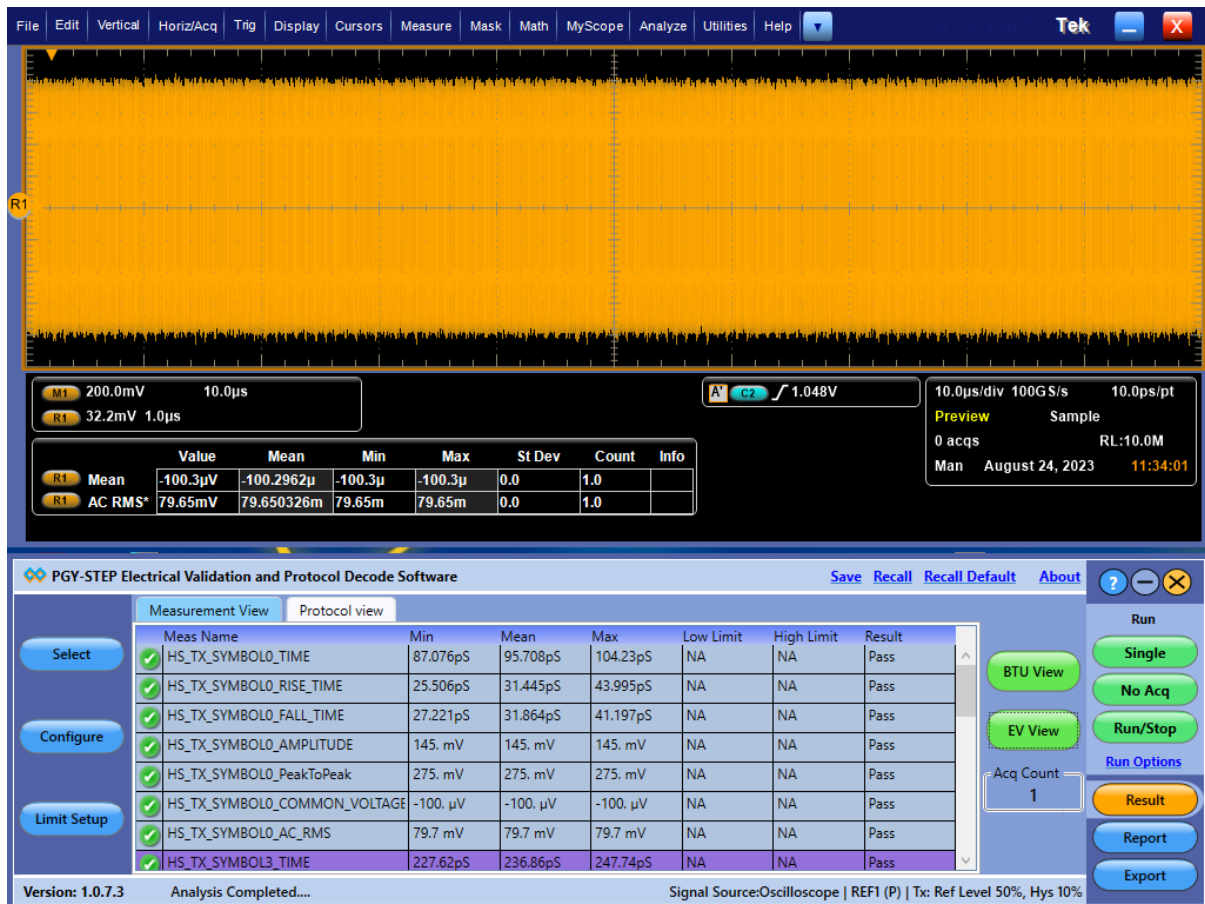


PGY-STEPg1

Electrical Validation and Protocol Decode Software



STEPg1 is a 12Gbps high speed serial link in Intel's 16th generation core and future products. STEPg1, an Intel patented technology, utilizes Pulse Width Modulation of the positive and negative pulses for transmission of serial data and thus results in an increased number of bits per cycle. STEPg1 is a time domain encoded protocol which works with a reduced supply voltage. Prodigy Technovations has developed fully automated electrical measurement software to validate the electrical and protocol layer specification of STEPg1 interface.

PGY-STEPg1 electrical and protocol decode software seamlessly integrates with Tektronix DPO7000DX/SX series oscilloscope and provides all the necessary electrical measurements and protocol decoded data at touch of a button.

PGY-STEPg1 software automatically identifies the Symbol0, Symbol1, symbol2, Symbol3, Symbol6 in the acquired waveforms and makes the applicable measurements and decodes the waveform.

List of Electrical Measurements for each Symbol

Measurements	Symbol 0	Symbol 1	Symbol 2	Symbol 3	Symbol 6
Symbol Time	✓	✓	✓	✓	✓
Rise time	✓	✓	✓	✓	✓
Fall Time	✓	✓	✓	✓	✓
Amplitude	✓	✓	✓	✓	✓
Peak-peak Amplitude	✓	✓	✓	✓	✓
Common Voltage	✓	✓	✓	✓	✓
AC RMS	✓	✓	✓	✓	✓
Jitter	✓	✓	✓	✓	✓

Features

- Protocol Decoding of the acquired waveform into BTU's (Basic Transport Unit)
- Software Automatically identifies the different symbols, delimiters and idle and makes the electrical measurements.
- Color marking of the control and data symbols of the BTU.
- Jitter measurements of repetitive symbols (Prerequisite: DPOJET Software tool is required).
- Electrical measurements are made for the entire acquired waveform and hence increases the reliability of the measurements.
- Automation of Software using python scripting is supported.
- User defined limit setup for electrical measurements.
- Automatically saves the waveform images for minimum and maximum measurement values of each electrical parameter to the report.
- Export of results to CSV and txt files
- Report generation is supported for documentation.

Detail View



Protocol decode view with overlaying of the protocol information along with waveform display. Detail view plot with protocol decode listing of BTU's provides the flexibility to correlate the decoded BTU data with waveform for easy debugging of any errors. Software decodes and lists all BTU's and idles along with their timestamp. User can select each BTU to check the data content along with all the symbols with their polarity.

Electrical Measurements Results

Electrical Validation and Protocol View

Meas Name	Min	Mean	Max	Low Limit	High Limit	Result
HS_TX_SYMBOL0_TIME	87.076pS	95.708pS	104.23pS	NA	NA	Pass
HS_TX_SYMBOL0_RISE_TIME	25.506pS	31.445pS	43.995pS	NA	NA	Pass
HS_TX_SYMBOL0_FALL_TIME	27.221pS	31.864pS	41.197pS	NA	NA	Pass
HS_TX_SYMBOL0_AMPLITUDE	145. mV	145. mV	145. mV	NA	NA	Pass
HS_TX_SYMBOL0_PeakToPeak	275. mV	275. mV	275. mV	NA	NA	Pass
HS_TX_SYMBOL0_COMMON_VOLTAGE	-100. μ V	-100. μ V	-100. μ V	NA	NA	Pass
HS_TX_SYMBOL0_AC_RMS	79.7 mV	79.7 mV	79.7 mV	NA	NA	Pass
HS_TX_SYMBOL3_TIME	227.62pS	236.86pS	247.74pS	NA	NA	Pass
HS_TX_SYMBOL3_RISE_TIME	25.506pS	32.921pS	43.995pS	NA	NA	Pass
HS_TX_SYMBOL3_FALL_TIME	27.221pS	32.836pS	41.834pS	NA	NA	Pass
HS_TX_SYMBOL3_AMPLITUDE	145. mV	145. mV	145. mV	NA	NA	Pass
HS_TX_SYMBOL3_PeakToPeak	266. mV	266. mV	266. mV	NA	NA	Pass
HS_TX_SYMBOL3_COMMON_VOLTAGE	-100. μ V	-100. μ V	-100. μ V	NA	NA	Pass
HS_TX_SYMBOL3_AC_RMS	79.7 mV	79.7 mV	79.7 mV	NA	NA	Pass
HS_TX_SYMBOL6_TIME	377.87pS	382.64pS	386.95pS	NA	NA	Pass
HS_TX_SYMBOL6_RISE_TIME	28.309pS	32.82pS	39.217pS	NA	NA	Pass
HS_TX_SYMBOL6_FALL_TIME	30.165pS	34.358pS	40.094pS	NA	NA	Pass
HS_TX_SYMBOL6_AMPLITUDE	147. mV	147. mV	147. mV	NA	NA	Pass
HS_TX_SYMBOL6_PeakToPeak	253. mV	253. mV	253. mV	NA	NA	Pass
HS_TX_SYMBOL6_COMMON_VOLTAGE	-100. μ V	-100. μ V	-100. μ V	NA	NA	Pass
HS_TX_SYMBOL6_AC_RMS	79.7 mV	79.7 mV	79.7 mV	NA	NA	Pass
HS_TX_JITTER_RJ	102.64pS	102.64pS	102.64pS	NA	NA	Pass
HS_TX_JITTER_DJ	2.8913nS	2.8913nS	2.8913nS	NA	NA	Pass
HS_TX_JITTER_PJ	1.935nS	1.935nS	1.935nS	NA	NA	Pass
HS_TX_JITTER_TJber	3.7902nS	3.7902nS	3.7902nS	NA	NA	Pass

Electrical measurements for each of the symbols identified in the acquired waveform are done separately and the parameters are listed along with their minimum and maximum values determined. The measured results are compared with user defined limits to decide on the pass/fail criteria.

Ordering Information

Part Number: PGY-STEPg1

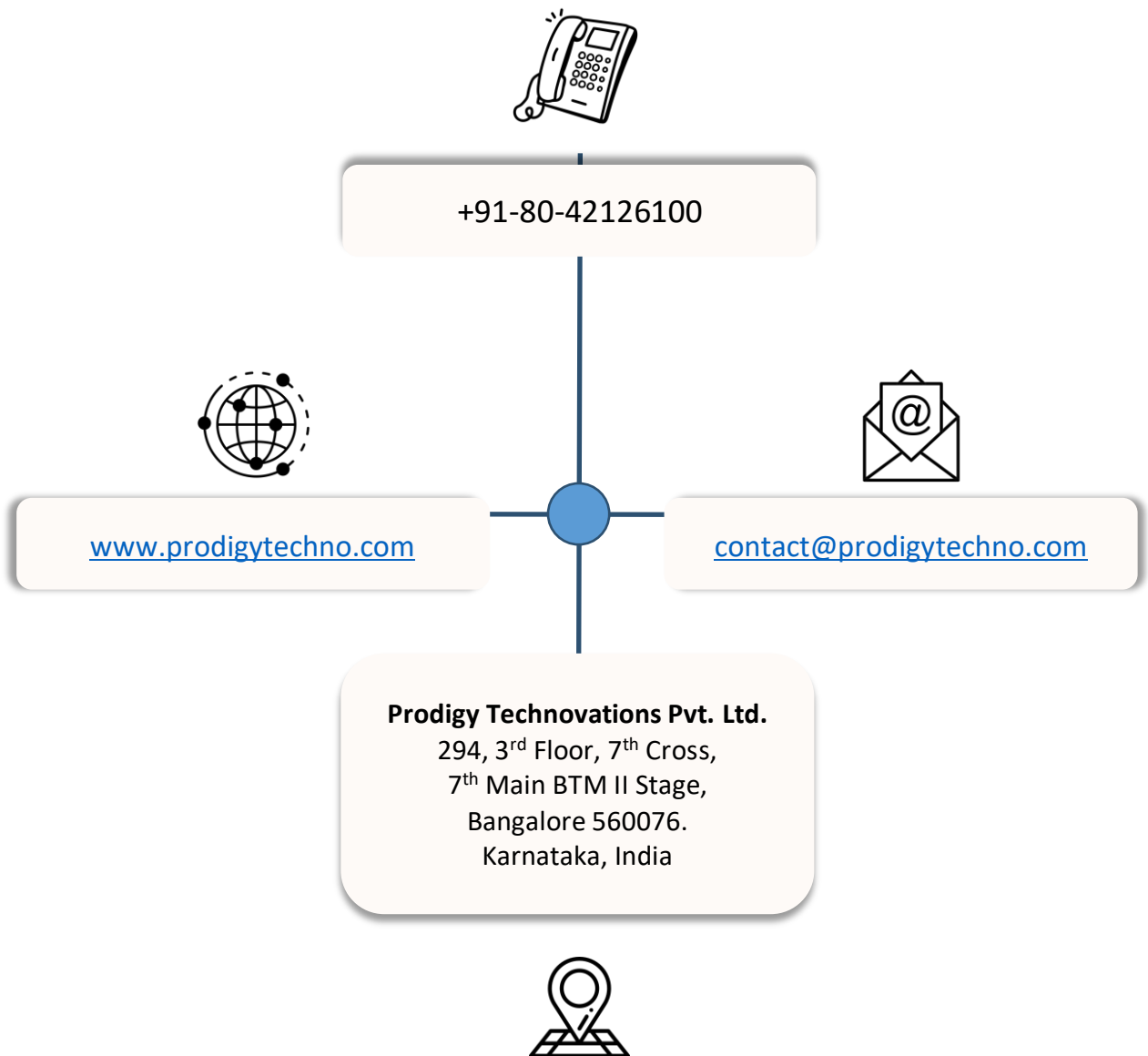
Description: STEPg1 Electrical Validation and Protocol Decode Software

Supported oscilloscope:

DPO70000 DX/SX Series oscilloscope (More than 15GHz Bandwidth)

Prerequisite: DPOJET Software for Jitter measurements

Contact Information





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