

## USB3.1 Receiver Test Solution

Signal Quality Analyzer MP1800A

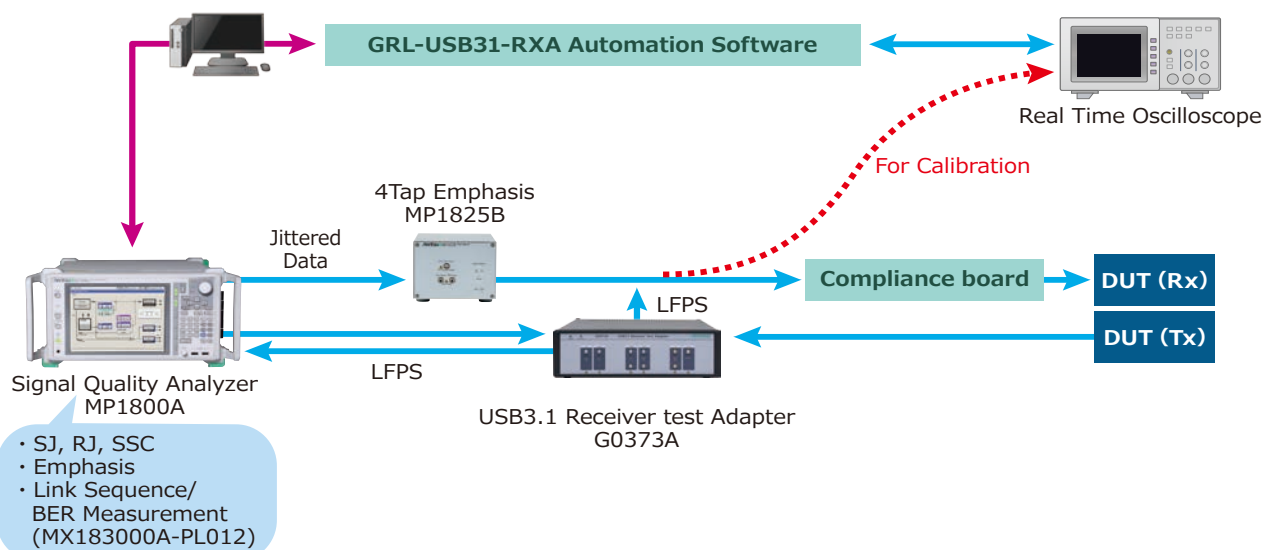
High-Speed Serial Data Test Software MX183000A

USB3.1 Receiver Test Adapter G0373A

High-speed and serial data technologies are being used increasingly by digital interfaces to speed-up transmission of large data volumes, such as high-quality 4k video. The latest high-speed USB3.1 Gen2 standard has been increased to 10 Gbit/s and shares the same Type-C USB connector with the new Thunderbolt 3 (20G) standard. The USB3.1 Receiver Test Solution for the Signal Quality Analyzer MP1800A combines the USB3.1 Receiver Test Adapter G0373A with the High-Speed Serial Data Test Software MX183000A to run the required USB receiver tests by controlling the status and testing Jitter Tolerance.

### Features

- Support USB3.1 Gen1 (5 Gbit/s) and Gen2 (10 Gbit/s) Host and Device receiver jitter tolerance tests
- Transmit and receive LFPS and LBPM signals
- Transition Host and Device status to Loopback
- Insert and identify Skip Ordered Set
- Measure BER tests using Compliance Test Pattern
- Output high-quality data signals to multiple interfaces (PCI Express Gen4, Thunderbolt 3, 100 GbE, Infiniband, CEI-28G)
- Automate calibration and measurements with high reproducibility



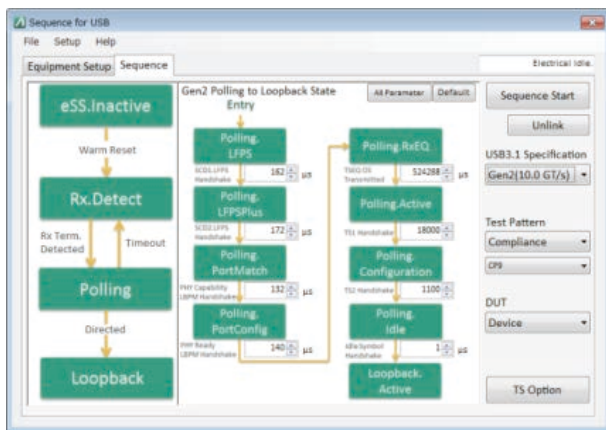
## Specifications

### USB Link Sequence MX183000A-PL012

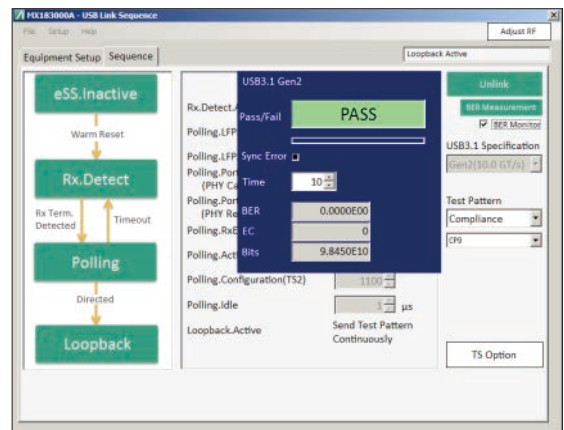
Item	Specification
USB Revision	USB3.0/USB3.1 Gen1 (5 Gbit/s) USB3.1 Gen2 (10 Gbit/s)
Test Pattern	Compliance (Gen1: CP0, CP1, CP2, CP4, CP5, CP6; Gen2: CP9, User)
LTSSM State	eSS.Inactive, Rx.Detect, Polling, Transition to Loopback
BER Measurement	Total BER, Current BER, Error Count Gating Time, Interval: Single/Repeat
TS Setting Parameter	SKIP Insertion, Scrambling (G1: 8B/10B, G2: 128B/132B)

### USB3.1 Receiver Test Adapter G0373A

Item	Unit	Specification		
		min.	typ.	max.
Bit Rate	bit/s	5 G (USB3.1 Gen1) , 10 G (USB3.1 Gen2)		
Rx+, Rx- Input Amplitude	Vp-p	0.8	—	1.2
LFPS Rx Output Amplitude	V		0/-1	
LFPS Tx Output Amplitude	Vp-p (Differential)			
Size	mm	320 (W) × 99 (H) × 350 (D)		
Power Supply	Vac	100 to 240		



USB Link Sequence Generation Screen



BER Measurement Screen

## ■ Typical Configuration

Model	Name	Option	Qty.
MP1800A	Signal Quality Analyzer	002, 007, 015, 032	1
MU183020A	28G/32G bit/s PPG	012, 030	1
MU181000B	12.5 GHz 4 port Synthesizer	—	1
MU181500B	Jitter Modulation Source	—	1
MP1825B	4 Tap Emphasis	002	1
G0373A	USB3.1 Receiver Test Adapter	—	1
MX183000A-PL012	USB Link Sequence	—	1
GRL-USB31-RXA	GRL USB3.1 Receiver Calibration and Test Software	—	1
Application Parts	USB Measurement Component Set J1721A		1
	└ Pick OFF Tee J1510A		2
	└ Coaxial Skew Match Pair Cable J1551A (0.8 m, K Connector)		2
	└ Coaxial Cable 0.3 m J1624A (SMA Connector)		2
	└ Coaxial Cable 1.0 m J1625A (SMA, dc ~ 18 GHz)		3