Digital devices are handling huge data volumes due to the spread of the IoT and cloud computing services, resulting in increased use of faster and serial interfaces between devices. The USB interface used for connecting these digital devices is switching to USB3.1 Gen2 supporting speeds of 10 Gbit/s for transmitting large data volumes faster and is also adopting the smaller Type-C connector.

The High-Speed Serial Data Test Software MX183000A is application software for the Signal Quality Analyzer-R MP1900A supporting evaluation of USB3.1 receivers. Using the MX183000A supports consistent and smooth data exchange with devices as well as Jitter Tolerance Margin tests required by USB3.1, helping efficient design verification.

[Wide Application Support]
USB3.1 Gen1/Gen2 Rx Test

**Key Features**

- All-in-one Protocol Aware USB3.1 Rx test solution
- All-in-one measurement support for wideband BERT 2.4 Gbit/s to 32.1 Gbit/s, PCI Express Gen4 and Thunderbolt 3
- High-reproducibility measurement using high-quality waveforms with low Intrinsic Jitter, and ED with high-sensitivity input
- Link Training and LTSSM Analysis functions
- 10Tap Emphasis function and 12-dB CTLE function
- Jitter (SJ, RJ, BUJ, SSC) Addition and automated Jitter Tolerance measurement function
Typical Specifications

21G/32G bit/s SI PPG MU195020A

- **Bit Rate**: 2.4 Gbit/s to 21 Gbit/s
- **Bit Rate**: 2.4 Gbit/s to 32.1 Gbit/s (MU195020A-001)
- **Number of Channels**: 1 or 2
- **Output Amplitude**: 0.2 Vp-p to 2.6 Vp-p (Differential)
- **Emphasis Taps (MU195020A-011)**: 10Tap
- **Tr/Tf (20 to 80%)**: 12 ps (typ.)

21G/32G bit/s SI ED MU195040A

- **Bit Rate**: 2.4 Gbit/s to 21 Gbit/s
- **Bit Rate**: 2.4 Gbit/s to 32.1 Gbit/s (MU195040A-001)
- **Number of Channels**: 1 or 2
- **Input Amplitude**: 0.1 Vp-p to 2 Vp-p (Differential)
- **Input Sensitivity**: 13 mV (Eye Height 21 Gbit/s) (typ.)
- **Clock Recovery (MU195040A-022)**: 2.4 Gbit/s to 32.1 Gbit/s, support SSC input
- **CTLE (MU195040A-011)**: 0 to –12 dB

USB Link Training MX183000A-PL022

- **Link Training**: Yes
- **JTOL Auto Measurement**: Yes (MX183000A-PL001)

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.
Contact your sales representative for more details.

<table>
<thead>
<tr>
<th>Model/Order No.</th>
<th>Name</th>
<th>Model/Order No.</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP1900A</td>
<td>Signal Quality Analyzer-R</td>
<td>MU181000B</td>
<td>12.5 GHz 4 port Synthesizer</td>
</tr>
<tr>
<td>MU195020A</td>
<td>21G/32G bit/s SI PPG</td>
<td>MU181500B</td>
<td>Jitter Modulation Source</td>
</tr>
<tr>
<td>MU195020A-010</td>
<td>1ch Data Output</td>
<td>MX183000A-PL001</td>
<td>Jitter Tolerance Test</td>
</tr>
<tr>
<td>MU195020A-011</td>
<td>1ch 10Tap Emphasis</td>
<td>MX183000A-PL022</td>
<td>USB Link Training</td>
</tr>
<tr>
<td>MU195040A</td>
<td>21G/32G bit/s SI ED</td>
<td>MU195040A-010</td>
<td>1ch ED</td>
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<tr>
<td>MU195040A-011</td>
<td>1ch ED</td>
<td>MU195040A-022</td>
<td>Clock Recovery</td>
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<tr>
<td>MU195040A-022</td>
<td>Clock Recovery</td>
<td>MU195050A*</td>
<td>Noise Generator</td>
</tr>
</tbody>
</table>

*: Not required when using Pick Off Tee J1510A (2 pcs)