Anritsu envision : ensure

PPG with Built-in Variable ISI and Channel Emulation Functions

Signal Quality Analyzer-R MP1900A

10Tap Emphasis MU195020A-011/021
Variable ISI MU195020A-040/041

SQA-R

Due to the rapid spread of cloud computing, faster communications standards, such as 200 GbE/400 GbE, PCIe Gen4, USB3.1, and Thunderbolt 3 are being examined for high-speed processing of large data volumes by network servers and digital equipment. Faster signal speeds require even better interconnectivity between these equipment and internal connections, and assuring signal integrity requires incorporation of Emphasis functions in high-speed devices to compensate for transmission path losses.

The MP1900A series 21G/32G bit/s SI PPG MU195020A is the best pulse pattern generator for evaluating high-speed interfaces at speeds up to 32.1 Gbit/s. Adding the 10Tap Emphasis MU195020A-011/021 and the ISI Variable MU195020A-040/041 options enables use of the Emphasis function for up to 10 Taps and generation of signals with simulated I/O channel losses for various high-speed devices and PC boards. As a result, channel-loss dependent high-speed device performance tests can be run easily with good reproducibility without needing to prototype multiple channel boards, helping cut development time.

[Wide Application Support]
100 GbE/200 GbE/400 GbE, CEI-25 G/28 G/56 G/112 G, InfiniBand EDR/HDR, Fibre Channel, PCI Express Gen1 to 5, Thunderbolt 3, USB3 .1 Gen1/2, Optical module, SERDES, AOC, High-speed Interconnect

Key Features

- 10Tap max., 20-dB variable Emphasis function and longer channel emulation
- Output Amplitude 0.2 Vp-p to 2.6 Vp-p (differential), Pre-emphasis Peak Output Amplitude 3.0 Vp-p
- Channel loss emulation using Emphasis control and loss-compensated signal generation
- Auto-calculation of Emphasis setting using S-parameter
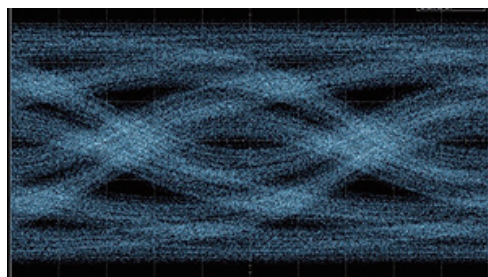- Simple implementation of high-reproducibility channel-loss dependency tests for high-speed devices
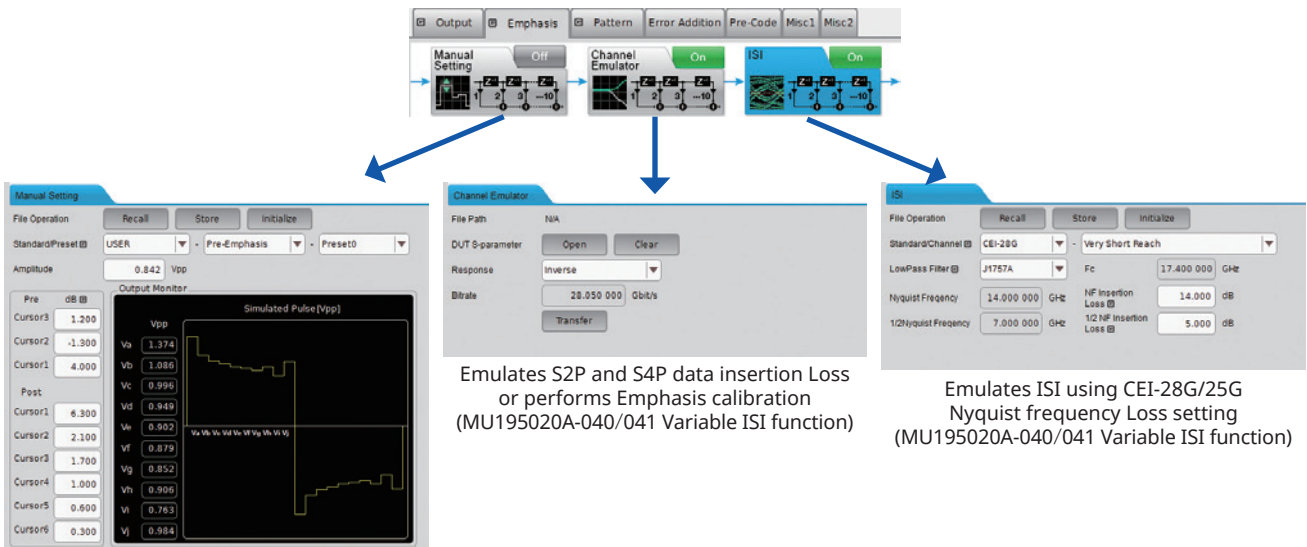
Signal Quality Analyzer-R
MP1900A

MU195020A PPG Data Output
(10Tap Emphasis Option)

S_{21}

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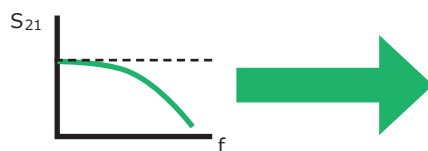
Emulates Channel Loss
or generates Loss calibration
signal (Variable ISI option)

CEI-28G, 14 dB Loss typical waveform (ISI function)

Corrects signal to target EH/EW using
10Tap Emphasis function
(MU195020A-011/021 10Tap Emphasis function)

Emulates S2P and S4P data insertion Loss
or performs Emphasis calibration
(MU195020A-040/041 Variable ISI function)

Emulates ISI using CEI-28G/25G
Nyquist frequency Loss setting
(MU195020A-040/041 Variable ISI function)

Typical Specifications

MU195020A-040/041

Channel Emulator	Normal: Emulates Insertion Loss using S-parameter data Inverse: Performs De-Emphasis compensation of S-parameter Insertion Loss S-Parameter file: S2P, S4P
ISI	Emulates ISI output using CEI-28G/25G Nyquist frequency loss setting Supports loss control in combination with ISI Board J1758A accessory part Insertion Loss: 1.5 to 25 dB, 0.01 dB step at Nyquist frequency 0 to 25 dB, 0.01 dB step at 1/2 Nyquist frequency

J1758A (ISI addition in combination with MU195020A-040/041)
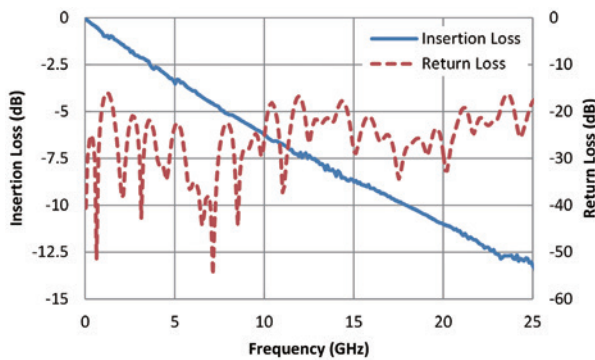
J1758A Typical Performance
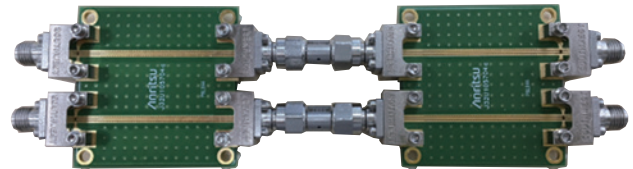
External View

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.

Model/Order No.	Name
MP1900A	Signal Quality Analyzer-R
MU195020A	21G/32G bit/s SI PPG
MU195020A-001	32G bit/s Extension
MU195020A-010	1ch Data Output
MU195020A-020	2ch Data Output
MU195020A-011	1ch 10Tap Emphasis
MU195020A-021	2ch 10Tap Emphasis
MU195020A-030	1ch Data Delay
MU195020A-031	2ch Data Delay
MU195020A-040*	1ch Variable ISI
MU195020A-041*	2ch Variable ISI
J1758A	ISI Board

*: The MU195020A-040/041 requires the MU195020A-010/011 option.

The contents of this leaflet may change without prior notice.