

# Sequence Editor Solution

Signal Quality Analyzer-R MP1900A

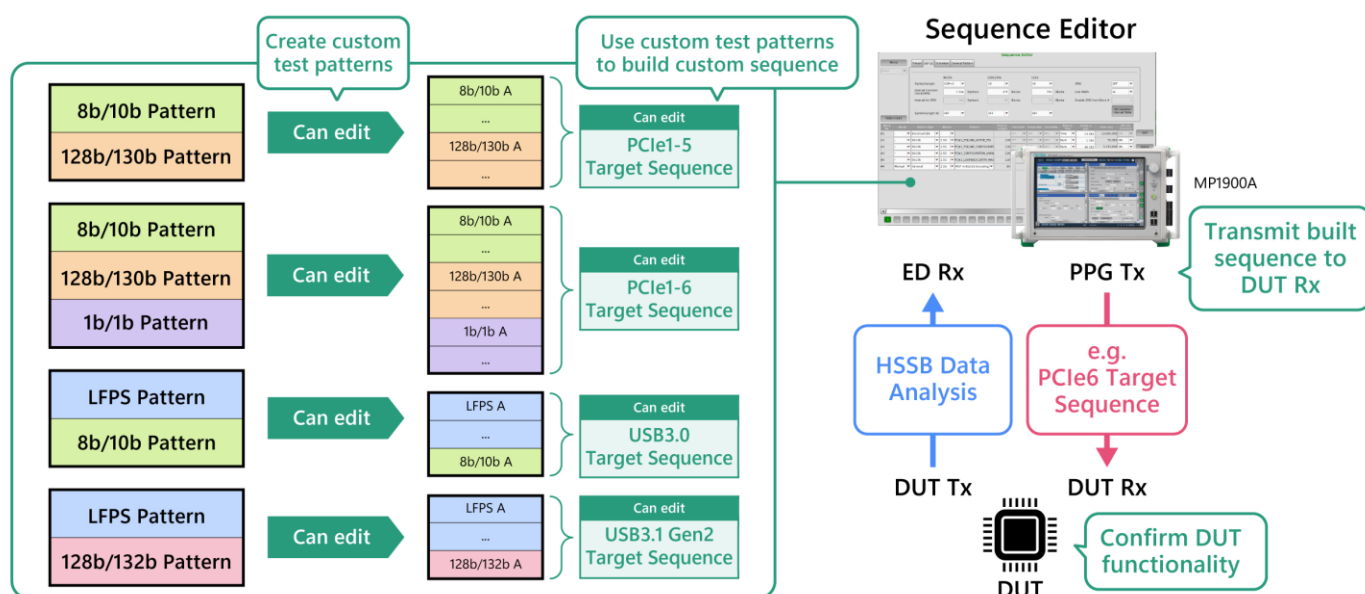
Target Applications: PCIe1-6, CXL2-3, USB3.2



To achieve comprehensive coverage of PCIe and USB Physical Layer tests, LTSSM routes and test cases should be verified beyond default Link Training sequences. This requires a solution to transition the DUT to non-default routes and test its functionality for those cases. Additionally, custom, symbol-level patterns for debugging may not be readily available due to test environment/tool limitations.

To solve verification challenges and other use cases, the Signal Quality Analyzer-R MP1900A has a Sequence Editor function for the MU196020A PAM4PPG and MU195020A 21G/32G bit/s SI PPG, featuring an intuitive and easy-to-use custom pattern and sequence creation interface targeted at PCIe 1 to 6, CXL2 to 3 and USB3.2 applications. Using this Sequence Editor with the HSSB Data detection function supports fast and convenient data analysis. Furthermore, use in conjunction with the MP1900A stress injection function helps cut verification and evaluation time under stress conditions.

By supporting not only 1 Lane but also 2- and 4-Lane configurations, Sequence Editor can reproduce both Compliance Test environments as well as actual market usage environments. This enables identification and resolution of potential issues in advance by reproducing load conditions according to real-world usage environments, thereby mitigating troubles after product launch.



## Anritsu MP1900A

The Quality Signal Analyze-R MP1900A is a multi-channel BERT accommodating various plug-in modules composed of a pulse pattern generator (PPG) supporting differential interfaces outputting 32.1, 58.2, and 64.1 Gbaud signals; a high-input-sensitivity error detector (ED); a jitter generator; and a noise generator for automated jitter tolerance tests. See the Selection Guide for the recommended test and evaluation choices.

### Options

| Model         | Name                                                      | Remarks                                                                                    |
|---------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------|
| MU195020A-050 | Sequence Editor Function                                  | PCIe 1-4 and USB3.2 require MU195020A-050.<br>PCIe 5 requires both MU195020A-050 and -051. |
| MU195020A-051 | Sequence Editor Function PCIe 5 Extension                 |                                                                                            |
| MU196020A-051 | Sequence Editor Function                                  | Supports PCIe4-6.                                                                          |
| MU196020A-052 | Sequence Editor Function for Multi-channel                | Supports up to 4 channels of PCIe 4-6 and CXL 2-3.                                         |
| MU196020A-056 | Sequence Editor Function PCIe 6 and CXL 3 Flits Extension | CXL2-3 requires both MU196020A-051 and -056.                                               |
| MU196040B-051 | PCIe Sequence Editor Pattern Analysis                     | Required for PCIe 4-6 and CXL 2-3 data analysis                                            |

### Recommended Configuration (For PCIe1-5, USB3.2)

| Model     | Name                        | Options                 |
|-----------|-----------------------------|-------------------------|
| MP1900A   | Signal Quality Analyzer-R   |                         |
| MU181000B | 12.5 GHz 4 Port Synthesizer | 002                     |
| MU181500B | Jitter Modulation Source    |                         |
| MU195020A | 21G/32G bit/s SI PPG        | 001, 020, 021, 050, 051 |
| MU195040A | 21G/32G bit/s SI ED         | 001, 020, 021, 022      |
| MU195050A | Noise Generator             |                         |
| MU196060A | 32G baud NRZ/PAM4 Re-Driver | 001                     |

### Recommended Configuration (For PCIe4-6, CXL2-3)

| Model     | Name                        | Options                                              |
|-----------|-----------------------------|------------------------------------------------------|
| MP1900A   | Signal Quality Analyzer-R   |                                                      |
| MU181000B | 12.5 GHz 4 Port Synthesizer | 002                                                  |
| MU181500B | Jitter Modulation Source    |                                                      |
| MU196020A | PAM4 PPG                    | 001, 011, 043, 051, 056, 060 (052 for Multi-channel) |
| MU196040B | PAM4 ED                     | 001, 011, 041, 043, 051                              |
| MU195050A | Noise Generator             |                                                      |
| MU196060A | 32G baud NRZ/PAM4 Re-Driver | 001                                                  |