Recent multifunction products (MFP) have built-in copy, scan, and fast document-editing functions. In addition, they are commonly used in a variety of businesses due to support for remote control via a built-in network interface.

Consequently, MFP require fast processing of high-definition images as well as various communications functions and a high-speed serial interface for communications between units using the user interface. The scanner and print modules are central to MFP image processing and each unit has a Gbit/s ultra-fast serial interface for communicating with the controller. Since this type of ultra-fast serial communications demands high-quality communications less of bit errors, optical transmission over Active Optical Cable (AOC) in addition to electrical differential signal transmission are used.

Bit Error Rate (BER) and Eye Pattern measurements are needed to assure the quality of these electrical differential signal transmission devices and AOC signals.

In addition to having both bit error rate test (BERT) and sampling-oscilloscope functions, the all-in-one BERTWave MP2100B also supports Total Jitter component analysis required for developing and manufacturing AOC.

The AOC interface can be evaluated during simultaneous sending and receiving to simplify evaluation of AOC characteristics and transmission-path quality.

### High-Speed Interface Evaluation

<table>
<thead>
<tr>
<th>Required Equipment</th>
<th>Pulse Pattern Generator (PPG), Error Detector (ED), Sampling Oscilloscope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurements</td>
<td>BER, Eye Pattern, Mask Margin, Jitter</td>
</tr>
</tbody>
</table>

### Evaluating Transmissions within Equipment (AOC)

<table>
<thead>
<tr>
<th>Required Equipment</th>
<th>Pulse Pattern Generator (PPG), Error Detector (ED), Sampling Oscilloscope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurements</td>
<td>BER, Eye Pattern, Eye Mask Margin, Jitter</td>
</tr>
</tbody>
</table>
Compact All-in-One BERT + Scope for BER, Eye Pattern and Jitter Measurements

Features

• All-in-one simultaneous BER measurement and Eye Pattern analysis
• Four times faster remote control than previous models
• 10 times better BER measurement time resolution (10 ms) than previous models
• 4ch simultaneous independent BER measurement
• Fast sampling speed
• Automatic mask margin test
• Stable extinction ratio and mask margin measurement due to high-stability LPF

All-in-One built-in BERT and oscilloscope
Built-in 1ch to 4ch 12.5 Gbit/s BERT

Pulse Pattern Generator (PPG)
1 ps rms Jitter

Error Detector (ED)
10 mVp-p Sensitivity

MP2100B

All in One

4ch BERT

Short Measurement Time
All-in-One Simultaneous 4ch BER Measurement and Eye Pattern Analysis
Simultaneous 4ch BER Measurement
Fast Eye Mask Test
Fast BER Test

Full Analysis Functions
Wide Operating Frequency Band
Electrical/Optical Jitter Analysis
Clock Recovery

No Wasted Equipment Investment
Easy Measurement System Configuration
Multichannel BERT

BER
Eye mask
Jitter
Eye Pattern

Compact All-in-One BERT + Scope for BER, Eye Pattern and Jitter Measurements

ANRITSU CORPORATION
https://www.anritsu.com