

25Gbps data transmission test over 41 m GI-POF

September 29th, 2020

AGC Inc.

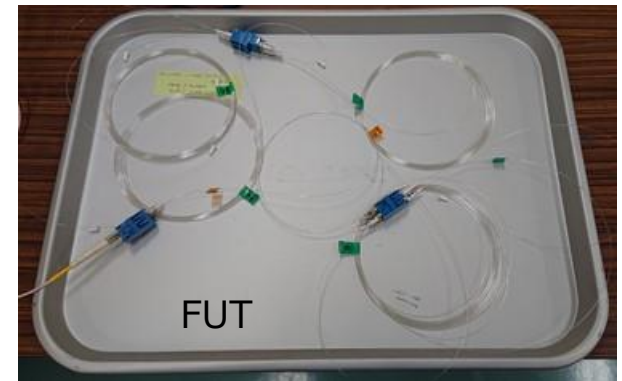
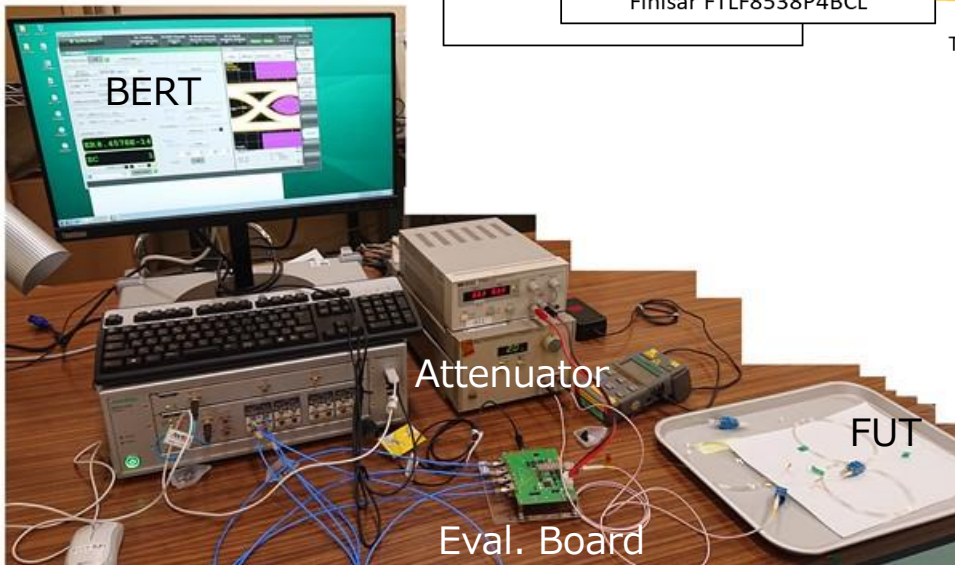
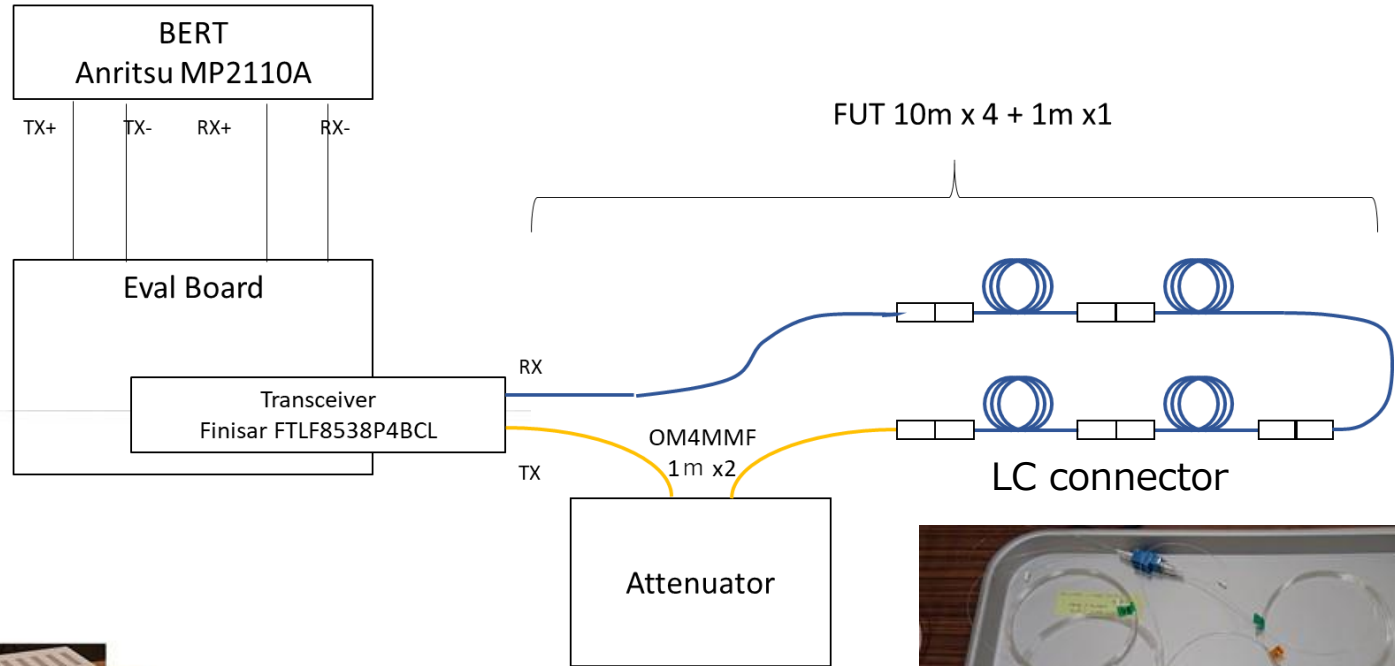
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- 10Gbps capability of GI-POF for automotive application was presented at OMEGA interim meeting in Geneva (Jan. 2020)
- In this contribution, 25Gbps data transmission test result with GI-POF that has 41m link length is introduced

Test conditions and fiber under test

| Fiber under test (FUT) | |
|----------------------------------|---|
| Fiber type | GI-POF |
| IEC optical fiber category | IEC60794-2-40 A4i |
| Core diameter (μm) | 55 ± 5 |
| Fiber diameter (μm) | 490 ± 5 |
| NA | 0.24 ± 0.025 |
| Length and connections | 10m X 4 ea.+ 1m X 1 ea. (4 connections with LC connectors) |
| Insertion loss (dB) | 3.26 |
| Equipment used for the test | |
| BERT and oscilloscope | Anritsu MP2110A |
| Data rate (Gbps) | 25.78125 |
| PRBS | $2^{31}-1$ |
| Transceiver | SFP25 transceiver (850nm) Finisar FTLF8538P4BCL |

Test set up



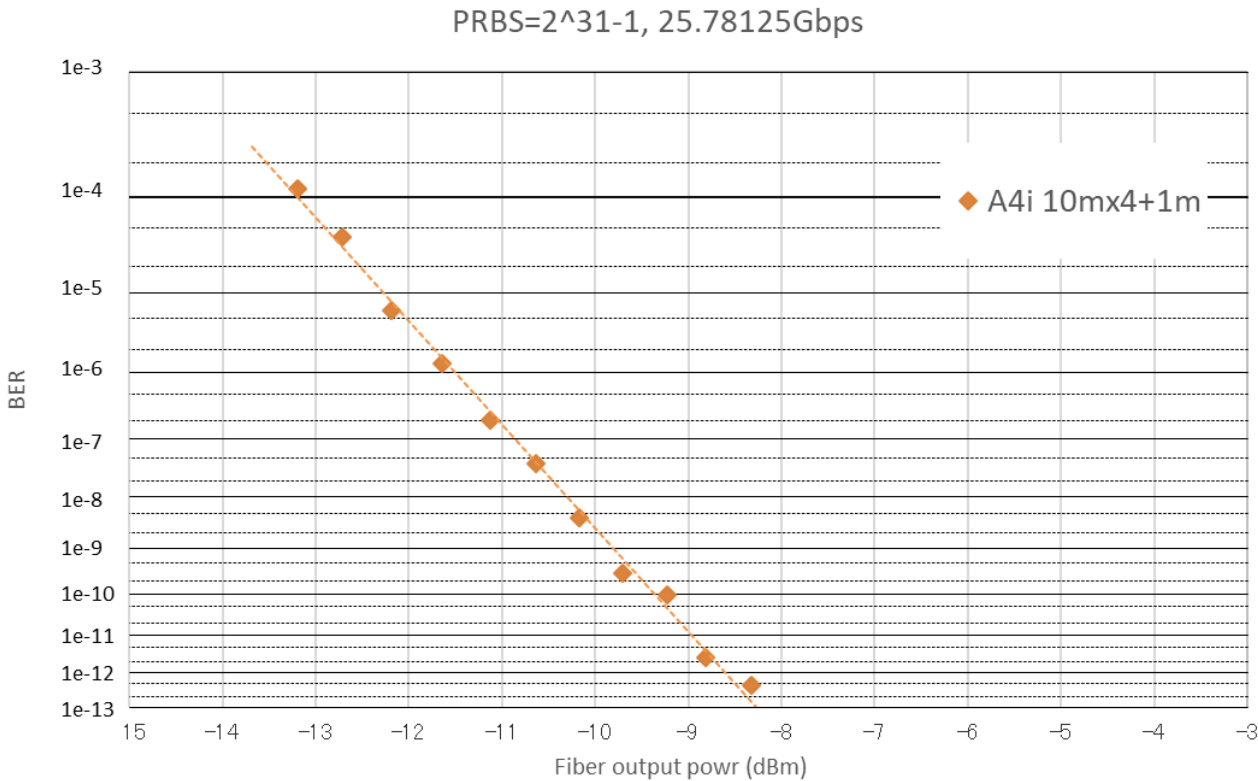


Fig. 1 BER chart

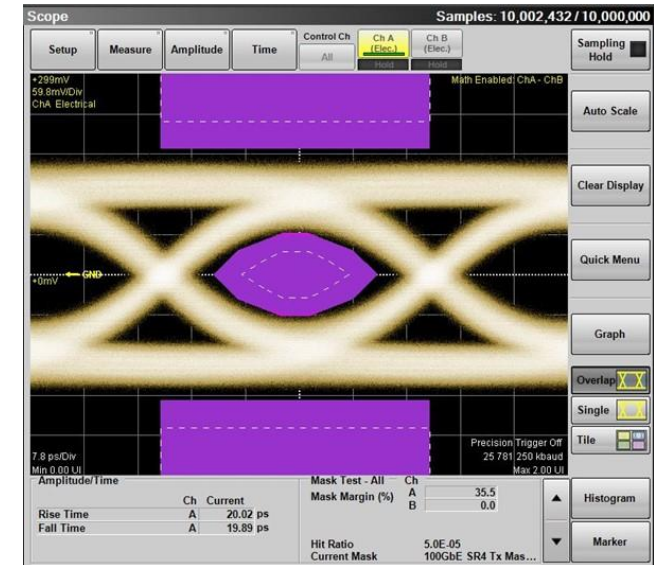


Fig. 2 Eye diagram
Output power = -8.76dBm

BER < 1e-12 was obtained at 25 Gbps over 41 m GI-POF with four connections using commercially available 850 nm SFP25 transceiver.

- 25 Gbps data transmission test was conducted over GI-POF using commercially available 850 nm SFP25 transceiver
- BER less than $1e-12$ was obtained over 41 m GI-POF with four connections
- This result shows GI-POF can support objectives of OMEGA up to 25 Gbps data rate

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