25 Gbps APD receiver measurements

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IEEE P802.3ca 100G-EPON Task Force
July 24-29, 2016
San Diego, USA

- This document describes information that would help determine performance of 25G APDs

Evaluation conditions

Parameter	Values
Bit rate	25.78 Gb/s
Wavelength	1295 nm ~ 1309 nm
Modulation format	NRZ (PRBS 2^{31}-1)
BER	1.0E-03
Ambient Temperature	0 ^{o}C, RT, and 75 ^{o}C

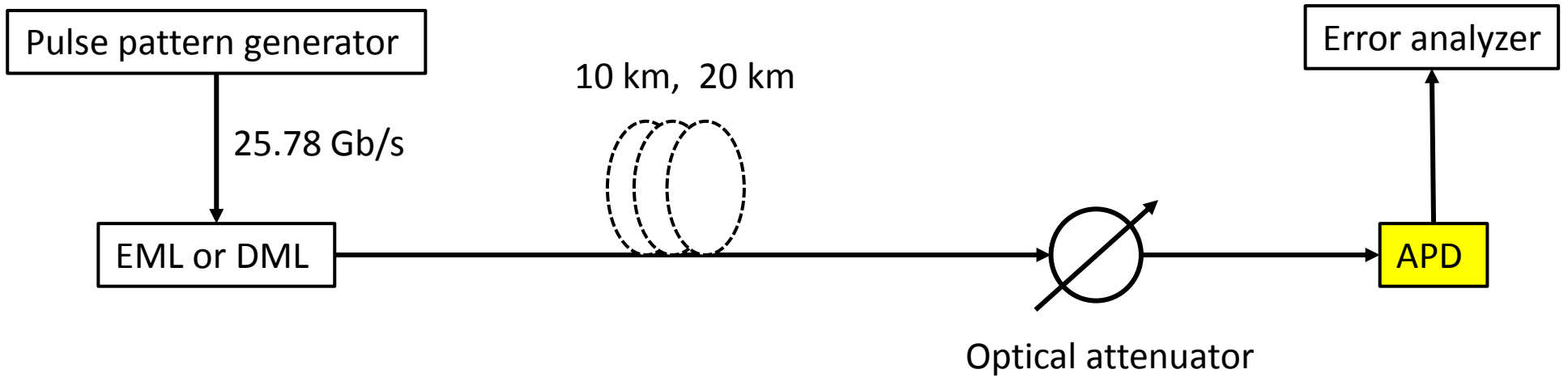
Measurement results

Laser source		EML		DML	
ER (dB)		8	6	6	4
Back to back	Sensitivity (P_{AVG}) (dBm)				
	Sensitivity (P_{OMA}) (dBm)				
10 km	Sensitivity (P_{AVG}) (dBm)				
	Sensitivity (P_{OMA}) (dBm)				
20 km	Sensitivity (P_{AVG}) (dBm)				
	Sensitivity (P_{OMA}) (dBm)				
TDP (dB)					

Notes:

1. The primary highest priority measurements are indicated by green cells in the table, to determine 25G APD sensitivity. Other “best effort” measurements are also desirable to help quantify TDP.
2. For 10 and 20 km measurements of sensitivity and TDP, indication of the wavelength used is important.
3. Indication of the package form factor is important

Measurement setup



Performance in 2020

- Measurements are made on 25G APDs available today.
- Understanding of what performance improvement can be expected by the year 2020 is important.

Margins for commercial devices

It is important understand magnitude of the following margins

1. Margin for high yield
   - Unless a statistically significant number of each vendors' 25G APDs are measured, we must consider a margin to accommodate high yield
2. Margin for end-of-life