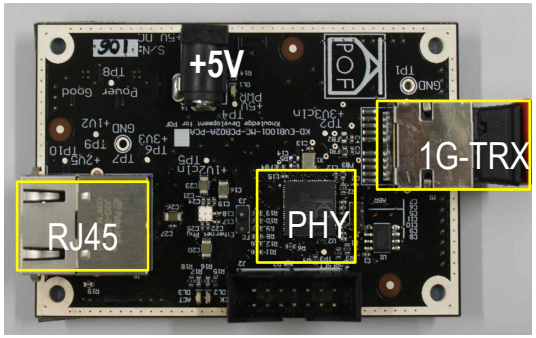
IFPD Industrial Fiber

POF Gbit Ethernet Throughput Measurement using Media Converter Board and Spirent

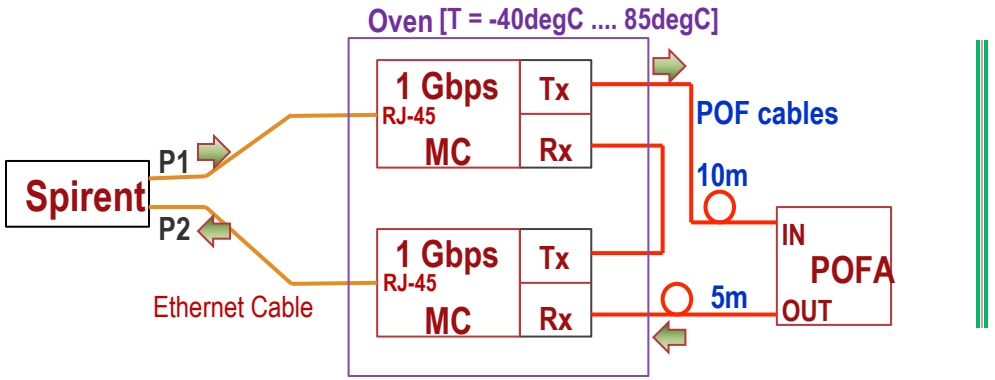
Oct. 23, 2013

Objective:

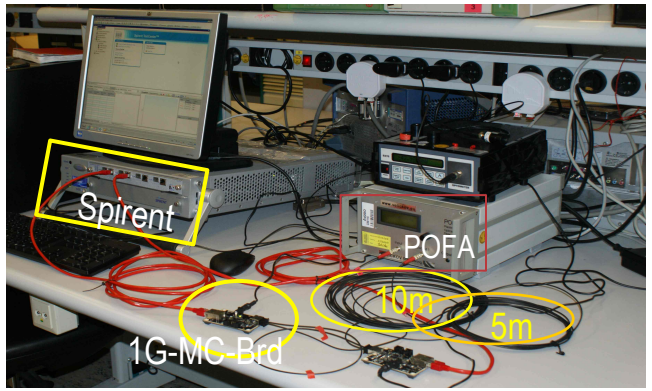
Investigation of packet loss/BER behavior as a function of Rx-optical power level using 1G-MC boards and Spirent



1G-Media Converter (MC) Brd



Block diagram – Throughput Measurement



Throughput Measurement Setup

Measurement Conditions

Frames = 1518 (Uni-directional)

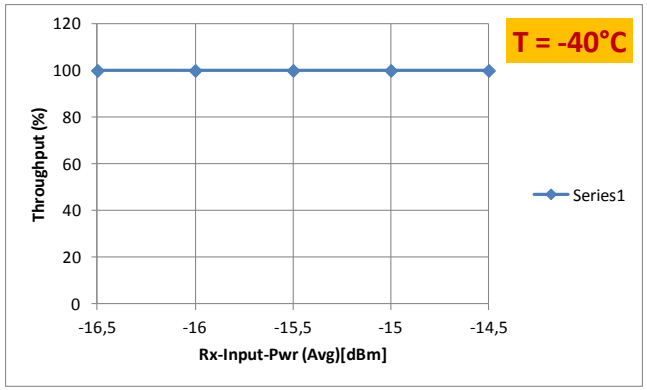
Payload = 100%

Raw data = 1111, Constant

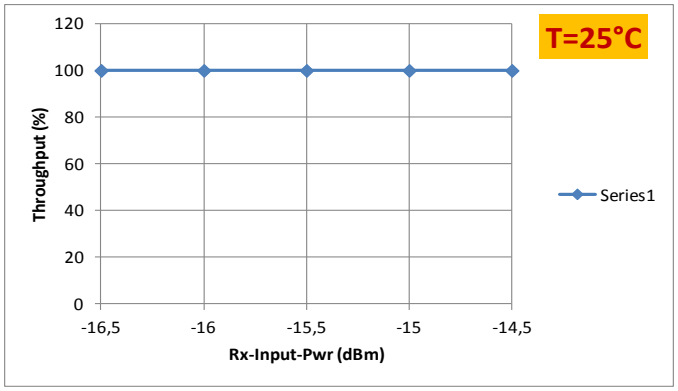
Criteria

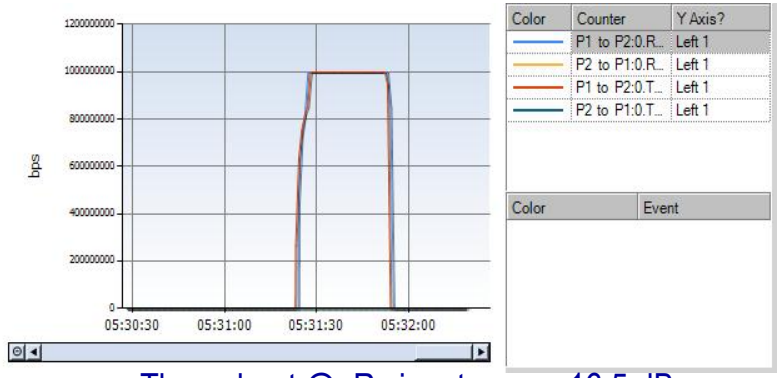
100% Throughput = 0% Frame loss @ 100% payload

Throughput – Measurement Results over Temperature



Throughput @ Rx input pwr = -16,5 dBm





Throughput @ Rx input pwr = -16,5 dBm

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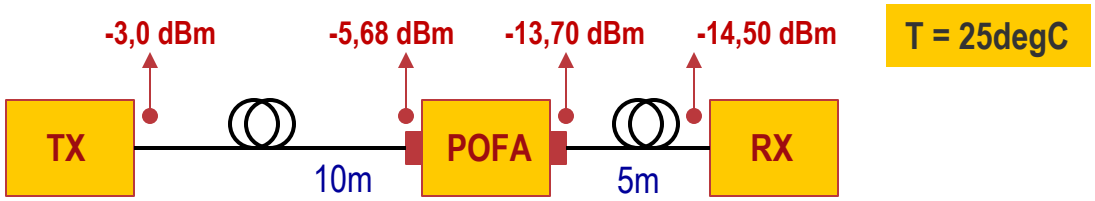
100% throughput (no bit errors) for Rx-input power of -16,5dBm observed over temperature

Light Optical Power (LOP) Measurement over Temperature

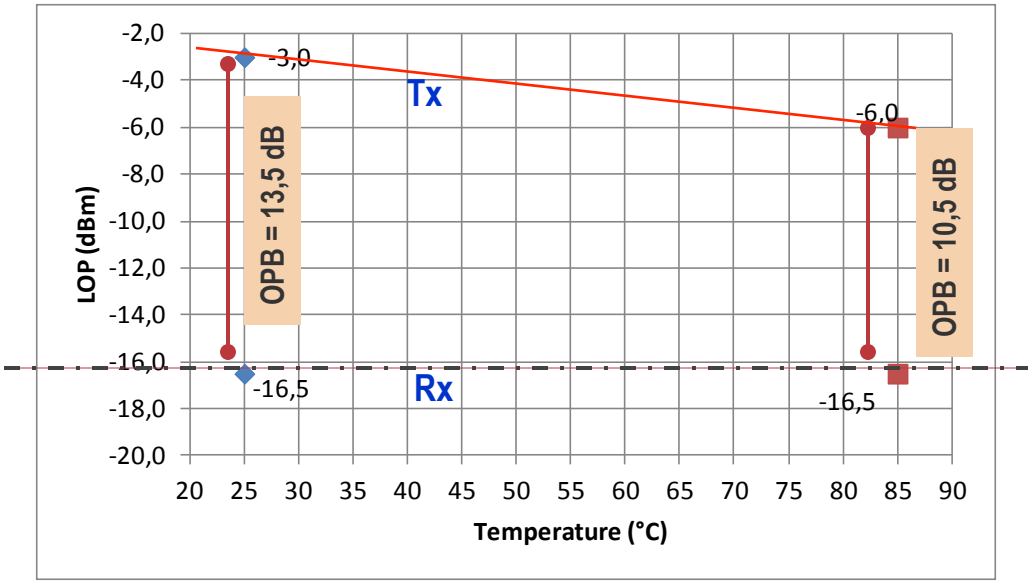
LOP Measurement Setup



T = 25degC

= SMA Connector

Optical Power Budget (OPB)



Tx LOP is reduces by -3,0dB when temperature is at 85 degC. Therefore OPB is reduced by -3,0 dB