

Performance measurements report of 1Gbps over POF under automotive environmental conditions

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Supporters



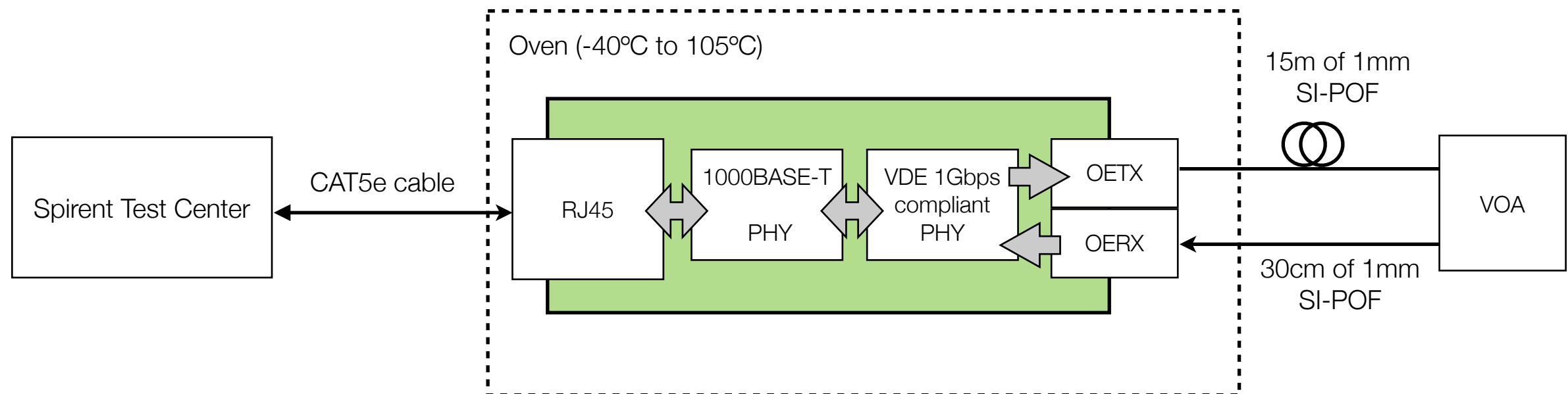
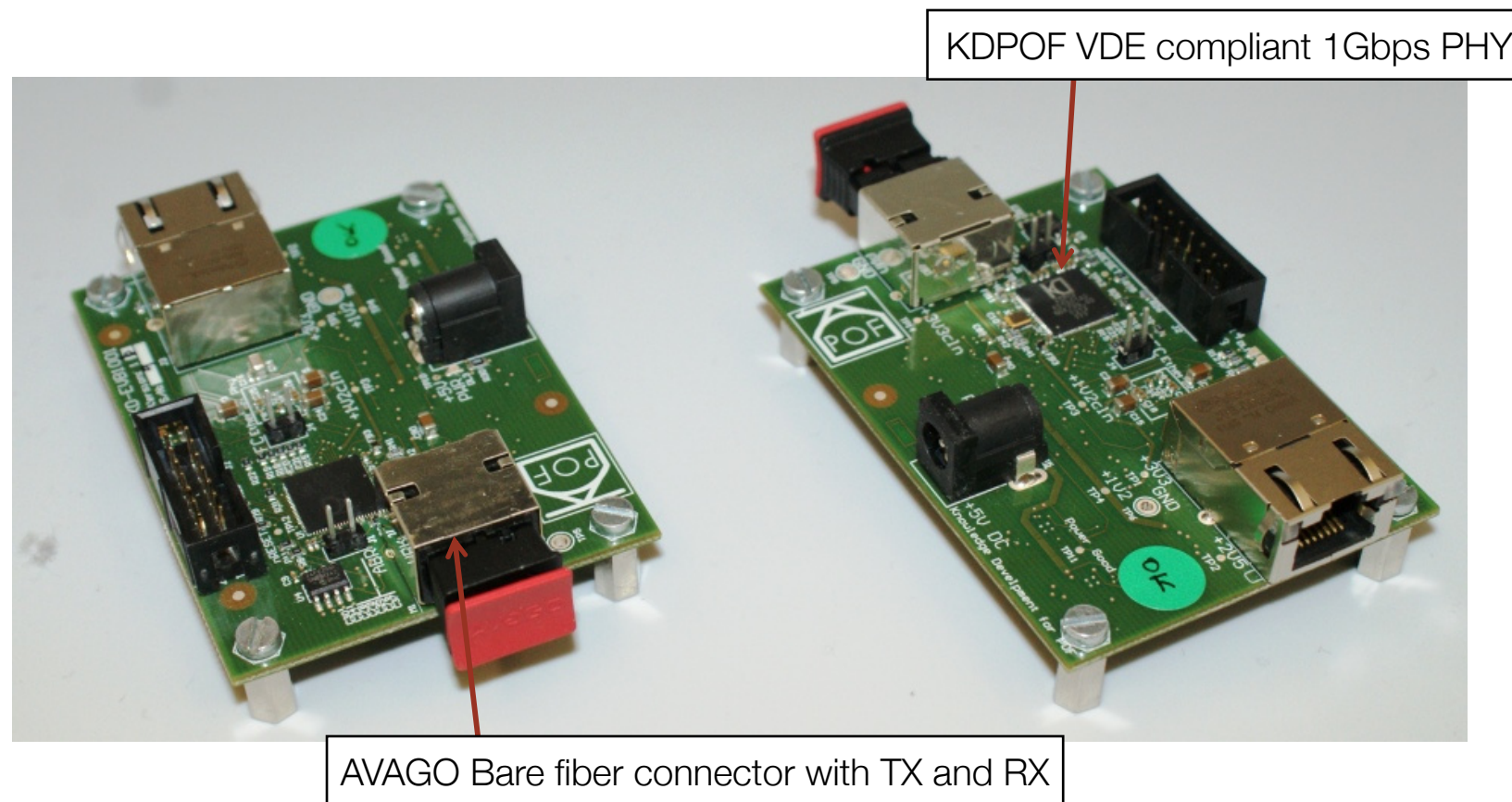
- Bernd Luecke (Avago Technologies)

Objectives



- The main objective of this presentation is to show the performance of 1Gbps over POF provided by real products already available in market for technical feasibility assessment
- A report is provided of BER and sensitivity measurements carried out in the laboratory under automotive environmental conditions (-40°C to 105°C)

Automotive sensitivity tests: setup



Automotive sensitivity tests: results



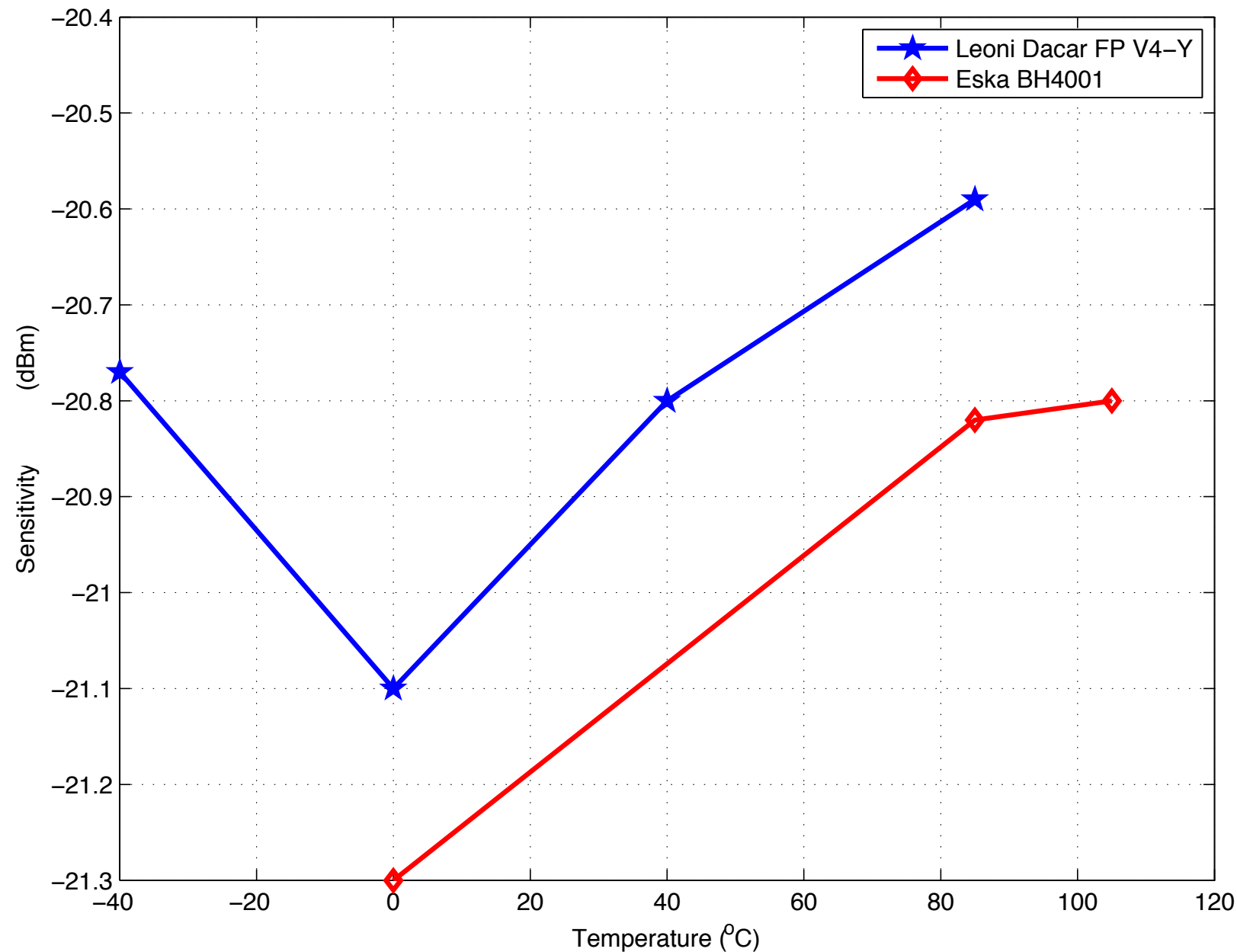
TX:	AVAGO QFBR-1129MLZ
RX:	AVAGO QFBR-2129MLZ
Fiber:	Leoni Dacar FP V4-Y NA 0.5.
VOA:	Mode Independent variable optical attenuator
BER test time (min):	15
Spirent Test Center (STC):	1Gbps Full Duplex, 100% Load, Random Size (64 to 1512 by), PRBS
Setup:	TX --> 15m POF --> VOA --> 30cm POF --> RX; PHY, Tx & RX inside the oven

Temperature (°C):	-40	0	40	85
Sensitivity AOP (dBm):	-20,77	-21,10	-20,80	-20,59
SNR in detector (dB):	25,63	25,6	25,6	25,55
PRBS BER (STC):	1,02E-11	3,50E-12	0	0
Dropped Frames:	0	0	0	0

Fiber: Mitsubishi Eska FF-BH4001 NA 0.58 / High Temp.

Temperature (°C):	0	85	105
Sensitivity AOP (dBm):	-21,30	-20,82	-20,80
SNR in detector (dB):	25,54	25,6	25,57
PRBS BER (STC):	0	0	0
Dropped Frames:	0	0	0

Automotive sensitivity tests: summary



- The system behaves reliable, even for 105°C ➤ the Ethernet Test Center shows very good results in severe/ extreme conditions



Questions?