BR40 Transmit Specification Discussion based on Supply Chain Feedback

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Background

- One transmit specification proposal was discussed in last meeting.
- In the proposal, the OMA_{outer} specification was proposed as below:

Outer Optical Modulation Amplitude (OMA_{outer}) (max)	8.7	dBm
Outer Optical Modulation Amplitude (OMA_{outer}) (min) [b]: for TDECQ < 1.4 dB for 1.4 dB ≦TDECQ ≦ 3.9 dB or TDECQ (max)	 5.7 4.3 + TDECQ	dBm

- Compared with 100G Lamda MSA specification, OMA_{outer} requirement is 1dB higher than 100G-ER1-40.

Challenge for supply chain

- Per discussion with 100G PAM4 EML suppliers, 5.7dBm OMA_{outer} (min) is a challenge for the design and MP yield.
- Even for 4.7dBm OMA_{outer}(min) in MSA specification, the yield still need further optimization.

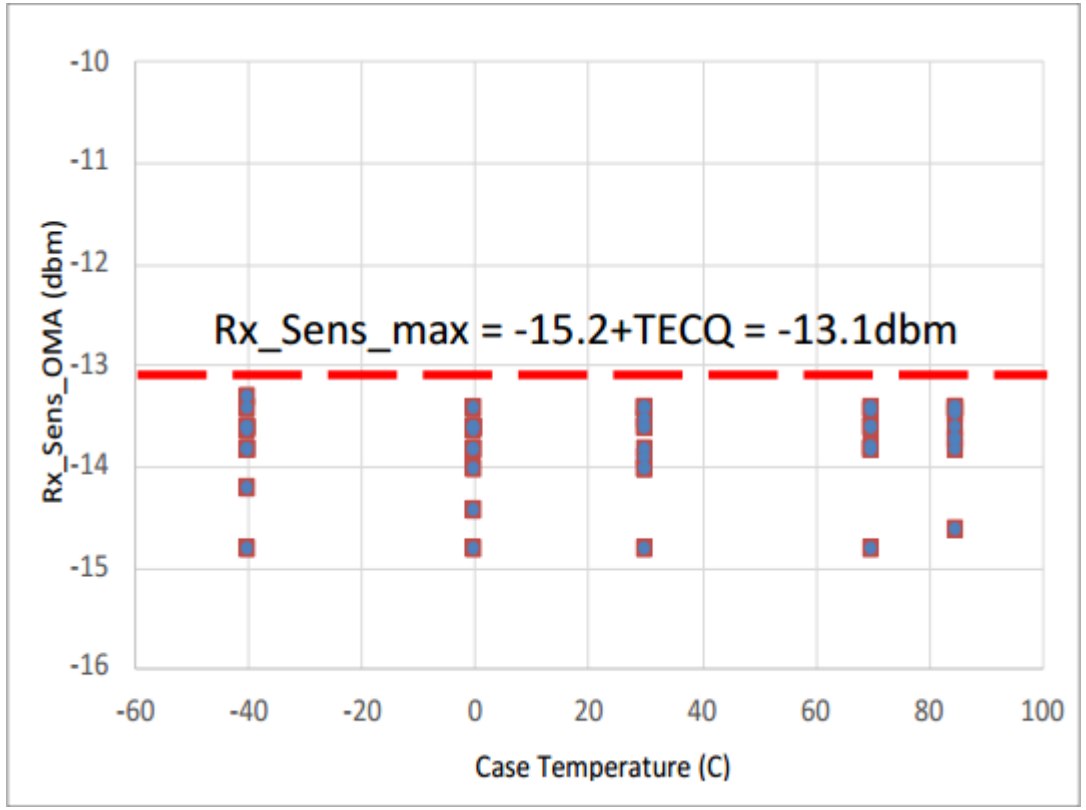
Opportunity from APD optimization

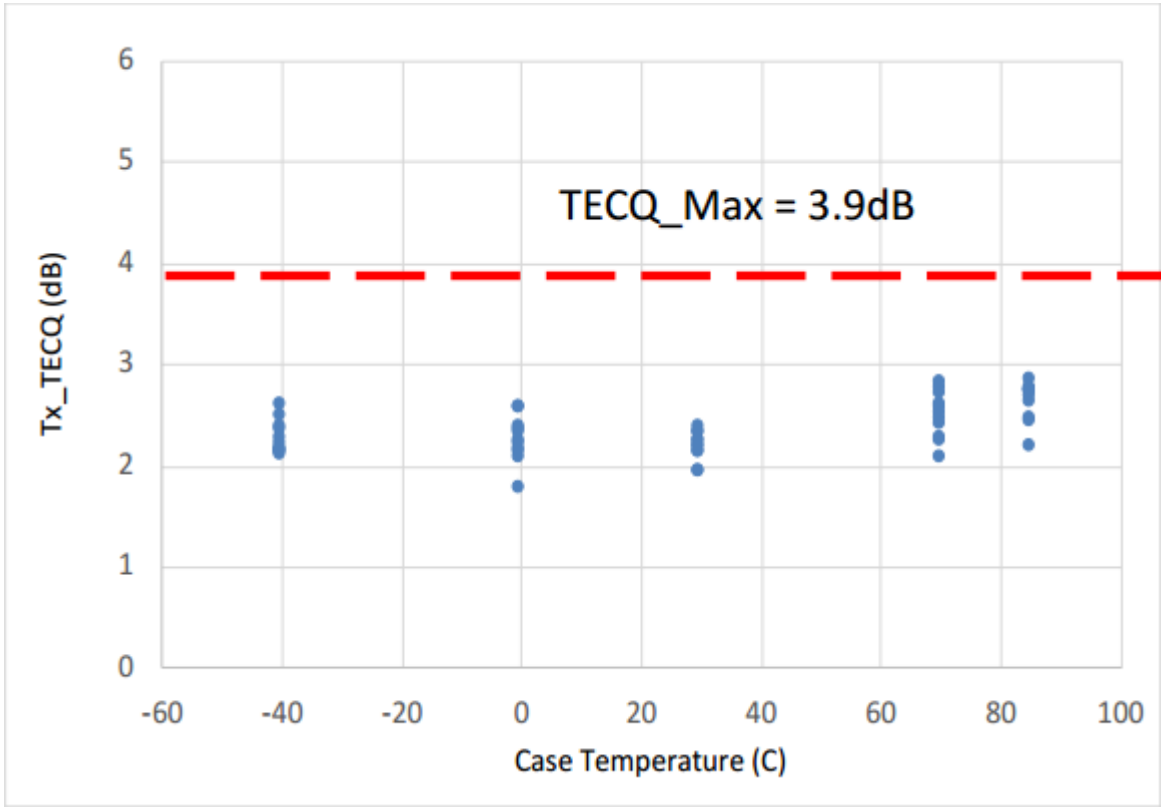
- It is proposed to transfer this 1dB stress to receiver side, then EML supply chain will have more opportunities to meet the specification.
- Proposal and comparison as below:

Description	Proposal on last meeting	New proposal	Unit
Outer Optical Modulation Amplitude (OMAouter) (min):			
for TDECQ < 1.4 dB	5.7	4.7	dBm
for 1.4 dB ≦TDECQ ≦ 3.9 dB or TDECQ (max)	4.3 + TDECQ	3.3 + TDECQ	
Receiver sensitivity(OMAouter)(max)			
for TECQ < 1.4 dB	-12.8	-13.8	dBm
for 1.4 dB ≦TECQ ≦ 3.9 dB or TDECQ (max)	-14.2 + TECQ	-15.2 + TECQ	

Testing results of APD receiver

- Transceiver level: testing results support the new proposal.





Thanks