



Coherent Optics: Leading AI Scale-Across Expansion

OIF Panel: 800ZR/LR and 1600ZR/ZR+/CL Changing the Game...Again

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Forward-looking statements

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DCI and **scale across** for AI expansion



- Solution for region- or continent-scale interconnect
- Group multiple AI warehouses into a virtual one
- Connects data centers over long distance
- OIF ZR and ZR+ distances
- 400G → 800G → 1.6T

Scale across campus and region for multi-site AI superclusters

Coherent technology foundation of scale across

IMDD reach
constraints driving
transition to coherent

ZR- / IMDD+

**Anchor DCI
application**
ZR coherent plugs

400ZR / 800ZR / 1600ZR

Extension to longer
reach pluggables

ZR+/ZR++

Coherent expanding use cases into shorter and longer reaches

1.6T coherent application space

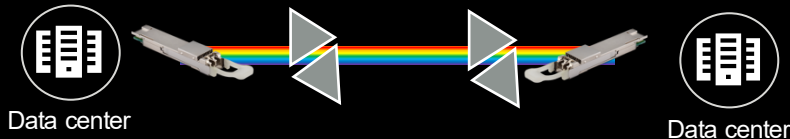
CL



- 16QAM
- DWDM C/L-band
- Dark fiber O-band
- 2-20km, **low latency**

OIF

ZR



- 16QAM OFEC
- DWDM C/L-band
- 20-120km

OIF

ZR+



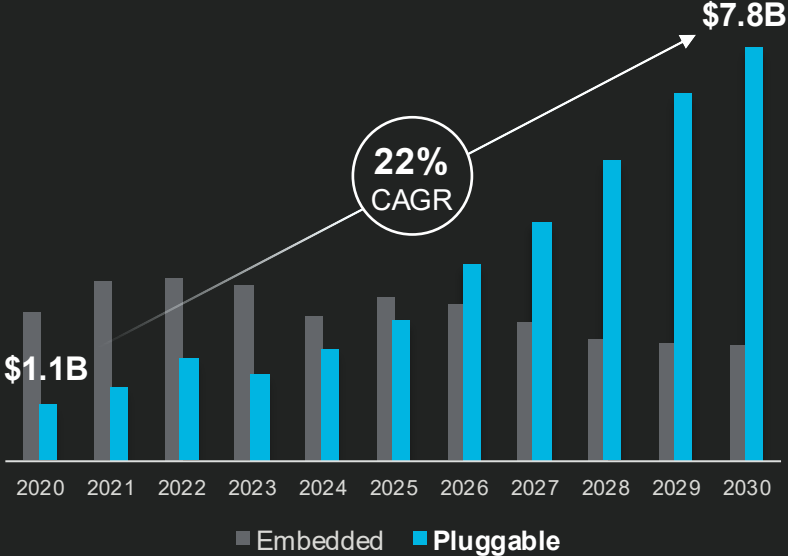
- PCS-16QAM
- DWDM C/L-band
- 1000km+
- Pt-Pt architecture

OIF

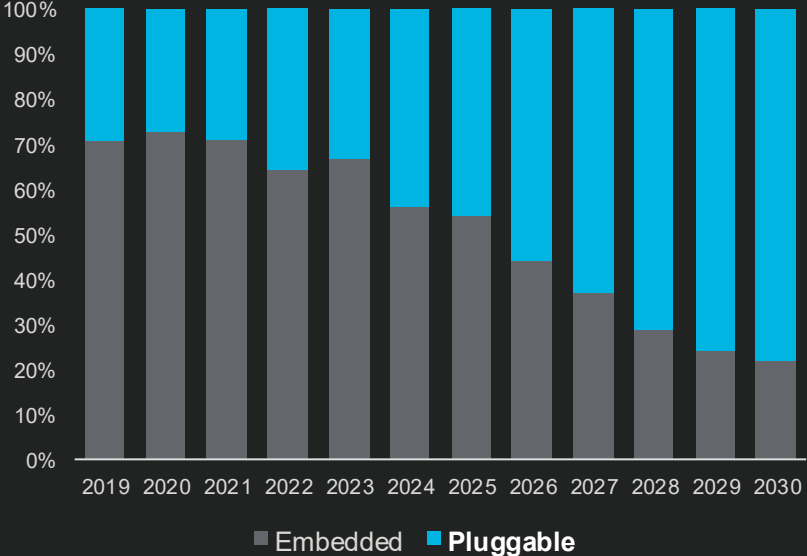
Coherent expanding use cases into shorter and longer reaches

OIF standards drive **pluggable coherent** market

Coherent Market: Embedded vs Pluggable*



Coherent Market Share: Embedded vs Pluggable*

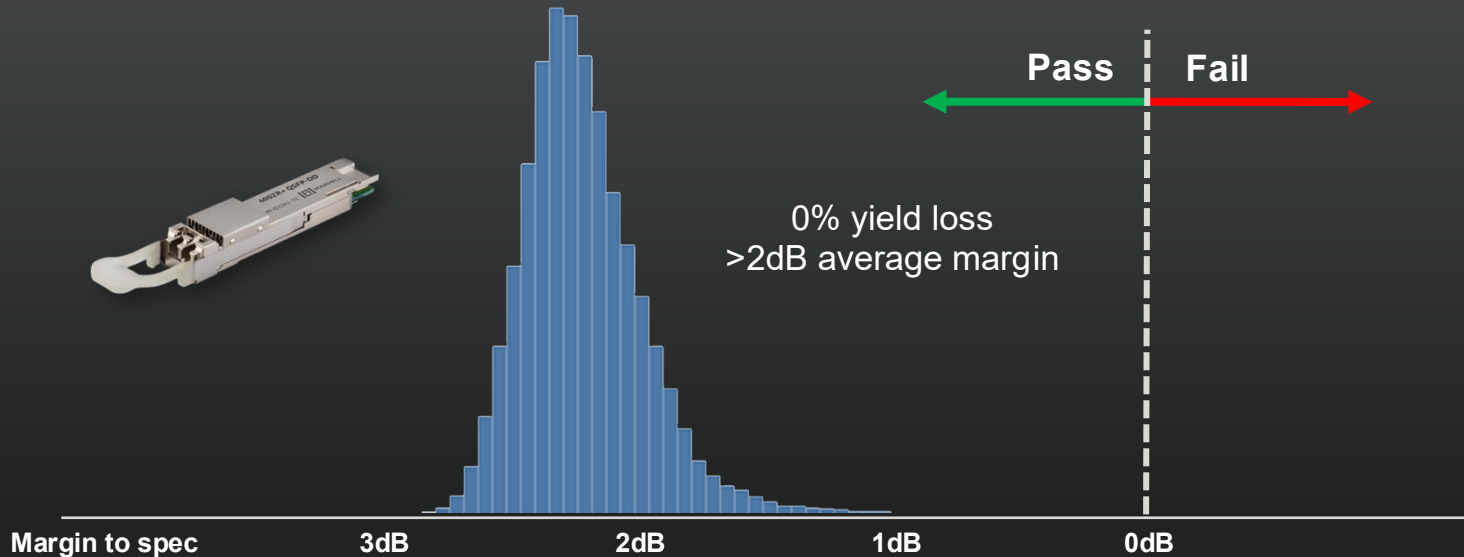


Source: Signal AI Optical Components Report, March 2026
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Rapid market growth requires production at scale

400G ZR ROSNR Distribution

Production data, measured over temperature, recent 100K production lot

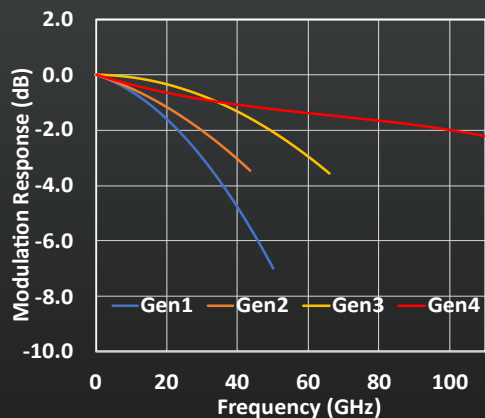


Use-case optimized spec and design ensures performance and cost at scale

>100GHz optical components required for 1.6T ZR

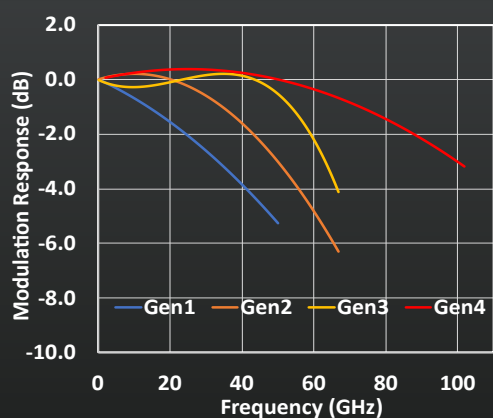
>110GHz

Optical modulator bandwidth



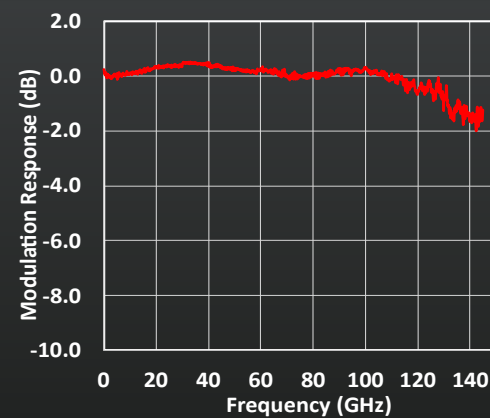
>100GHz

Optical detector bandwidth



>145GHz

Amplifier bandwidth

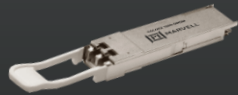


Marvell® DCI (scale across) evolution

Field-proven

COLORZ® 100*

100G 80km

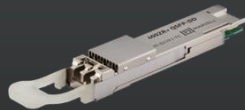


80km
4.5W/100G

2017

COLORZ 400

400G ZR/ZR+



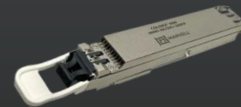
120km to 300km
4.5W/100G

2020

Ramping

COLORZ 800

800G ZR/ZR+



120 to 1000km
~3.5W/100G

2024

NEW

COLORZ 1600

1.6T ZR/ZR+



120 to 1000km
<2W/100G

2026

*COLORZ 100 based on PAM4 IM-DD; later generations use coherent technology



What comes next?

3.2T ZR/ZR+



Thank You



Essential technology, done right™