



# **SFP-DD Overview**

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**Editor**

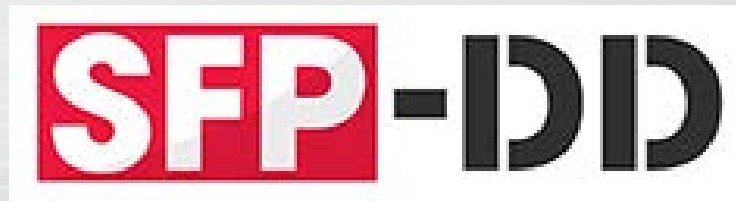
**2018/09/12**

# Introduction

## MSA formed to respond to the market need for a High density 50G solution

- Backwards compatible to facilitate ease of network upgrades
- Leverages proven technology
- Members include complete eco-system
  - Multiple connector companies, OEMs, module companies, silicon providers

[www.SFP-DD.com](http://www.SFP-DD.com)

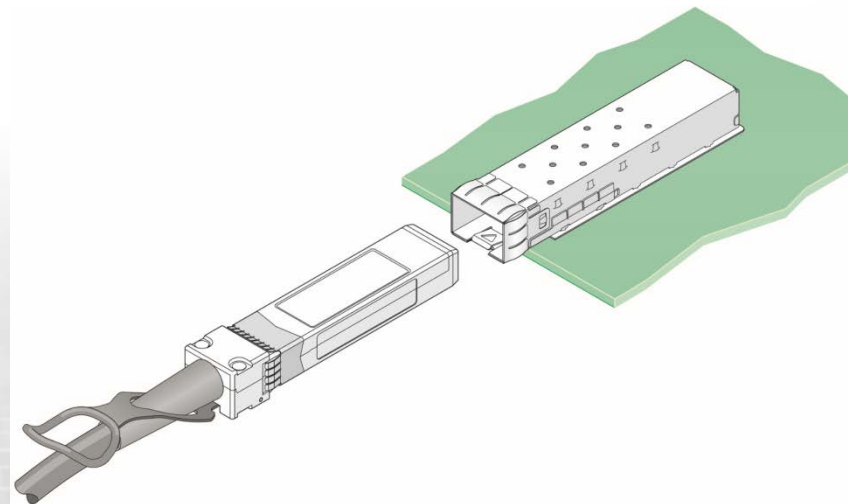
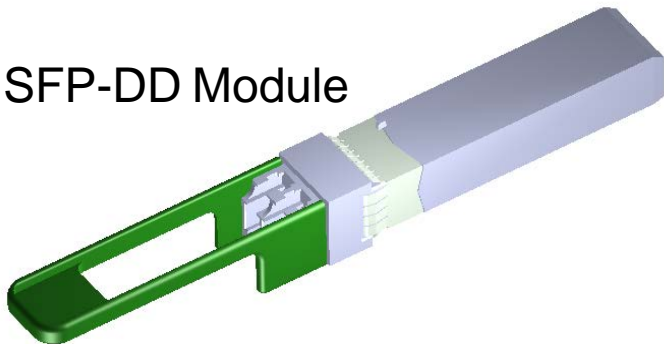


# Supporters

# SFP-DD Overview

- Supports 2x electrical interface
- Connector / Cage Backwards compatible with SFP+/SFP28 modules
- MSA to define, SFP-DD Module form factor, Cage and Connector form factor, pin out and management interface

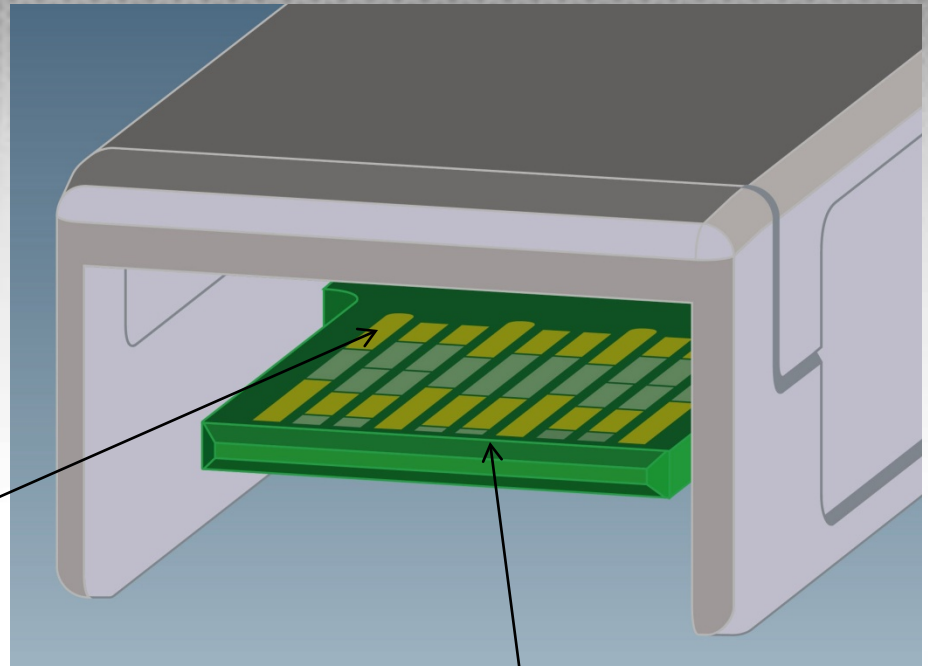
SFP-DD Module



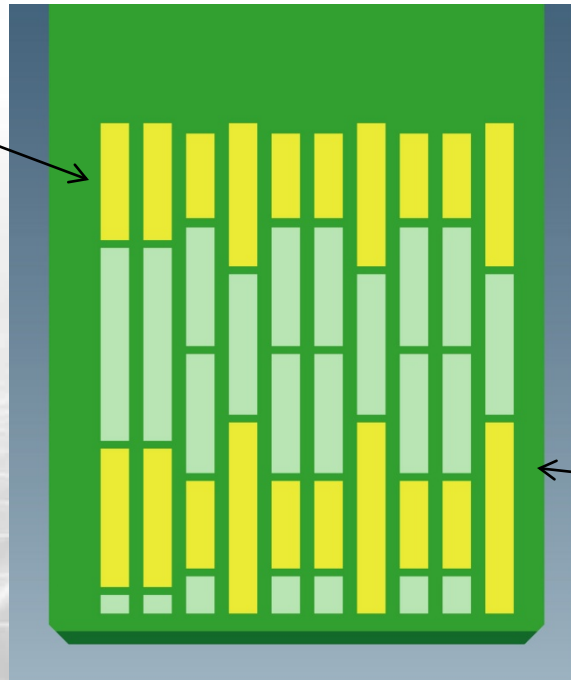
SFP-DD Connector/cage and Cable

# SFP-DD pads

Light Green areas are passive,  
Gold areas are active

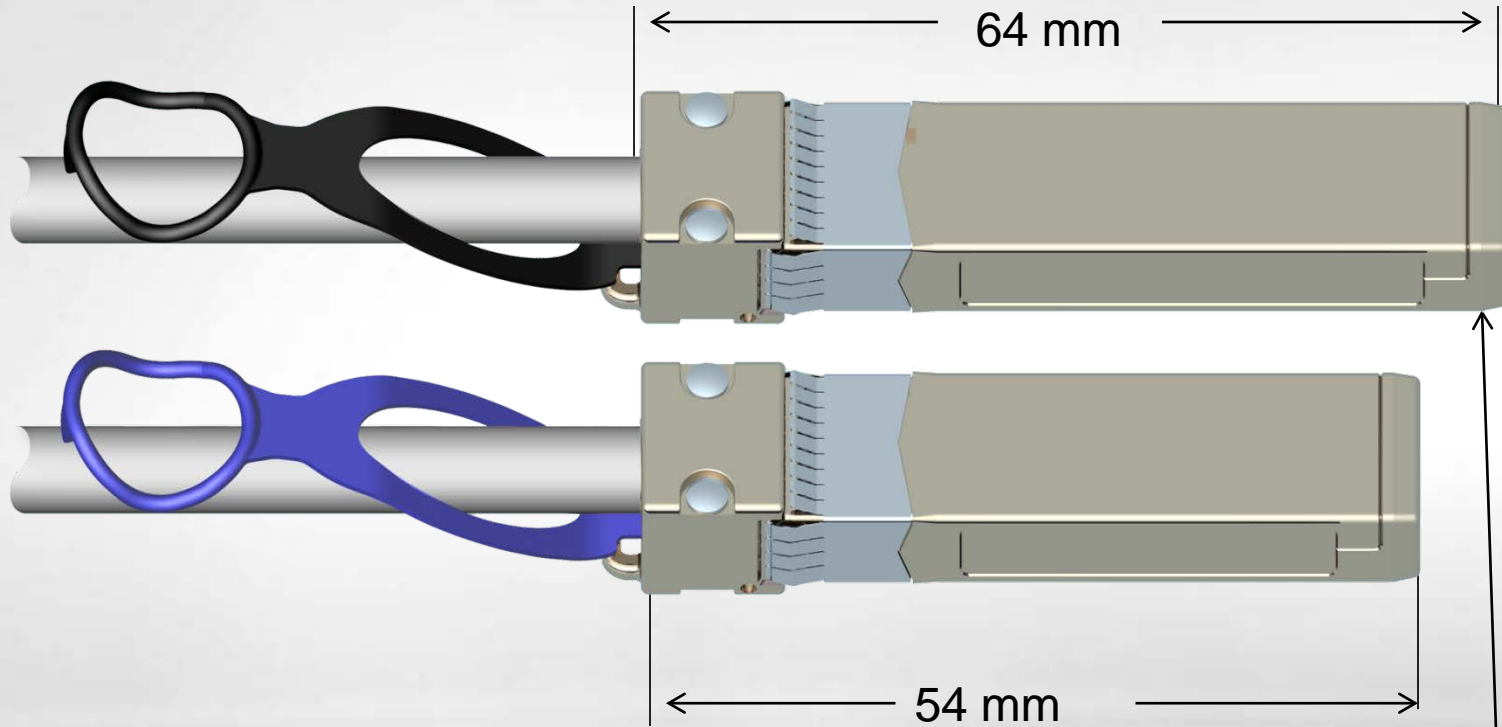


SFP  
Pads



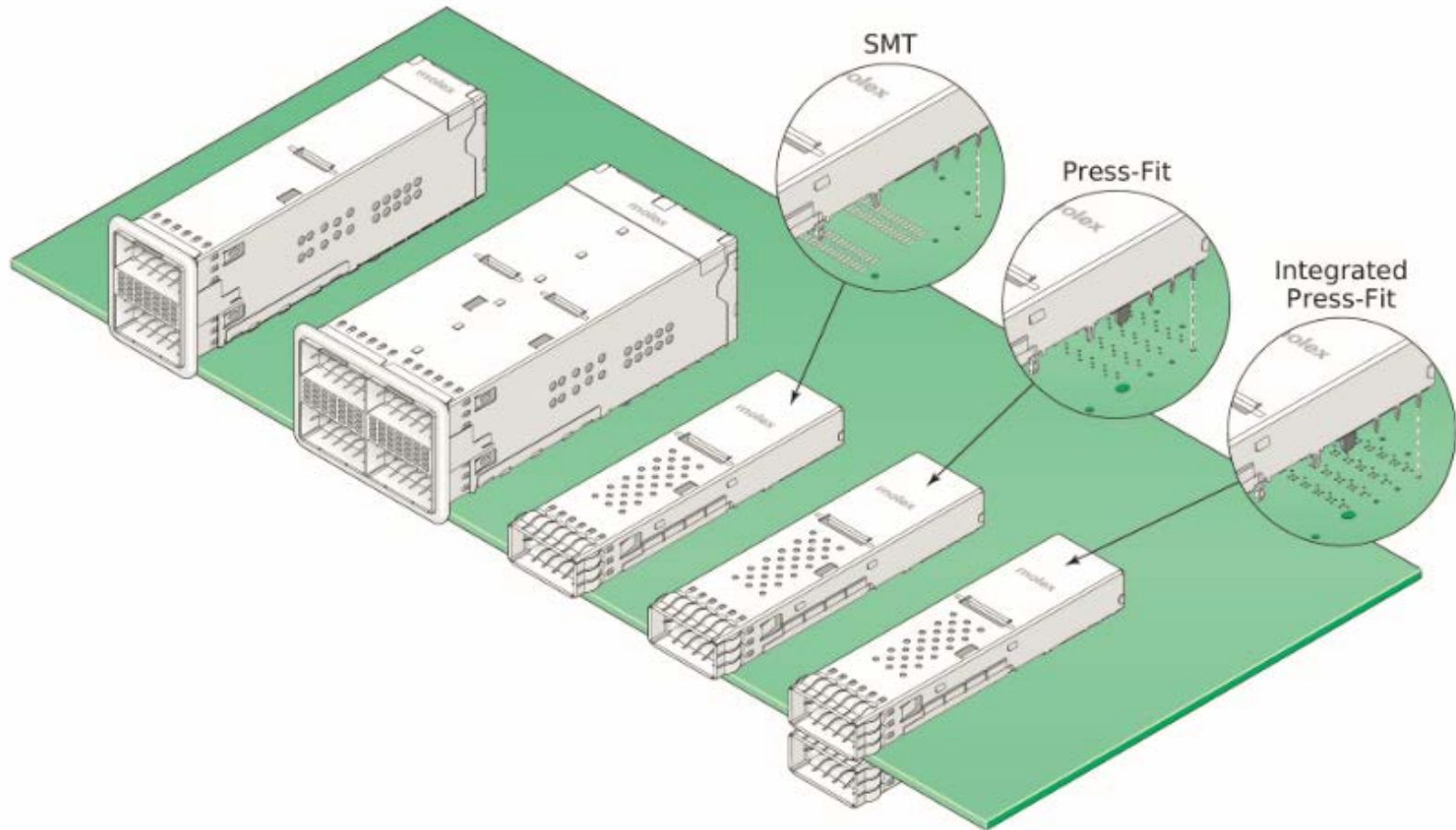
Additional 2 lanes doubles  
the density

# SFP-DD vs SFP Module Dimensions





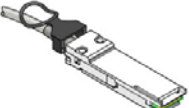

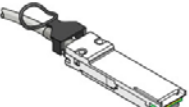

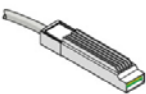



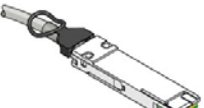



Snout extended to protect PCB

# SFP-DD Cage options

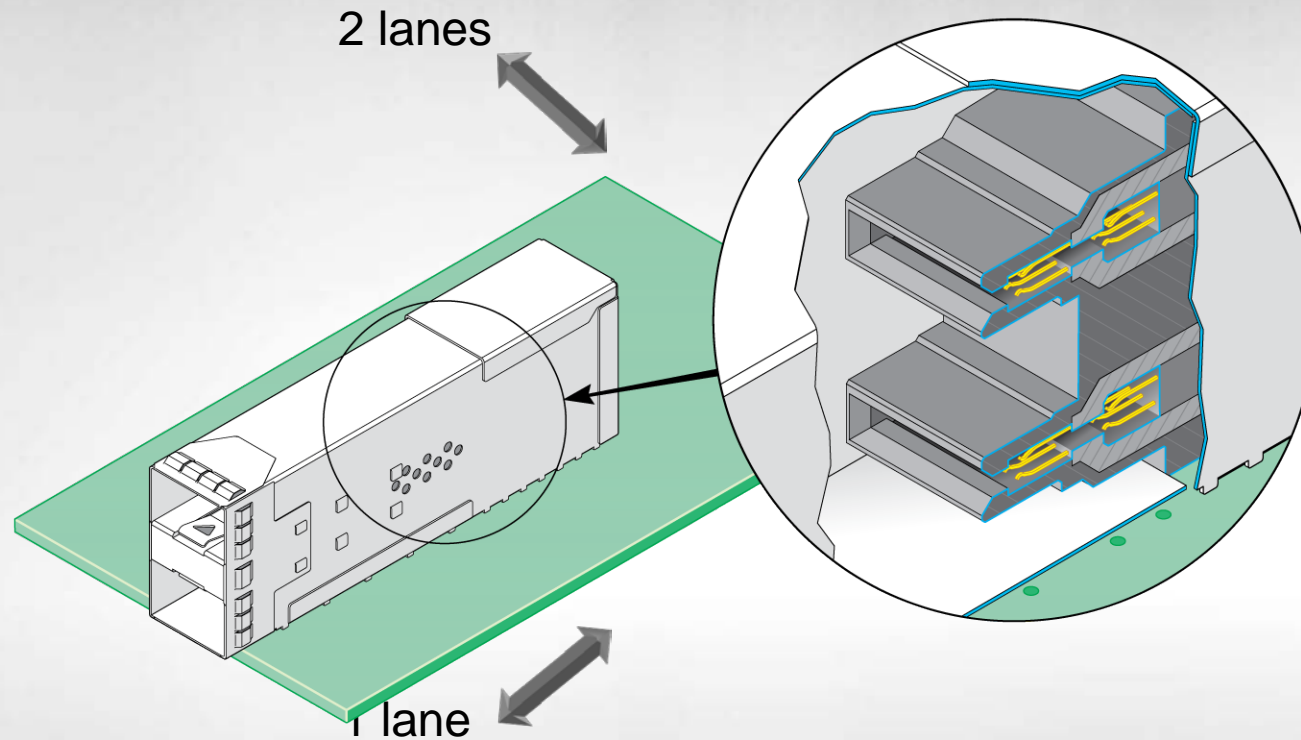


# 1RU Port Comparison

| Product                                     | Plug Design   | 19"/1RU "Usable" Faceplate<br>(352.75mmx41mm)  | Throughput | Port Count |
|---|---|--|------------|------------|
| <b>SFP+</b><br>(benchmark)<br><b>1x16G</b>  |    |    | 720Gb      | 72         |
| <b>zSFP+</b><br>(benchmark)<br><b>1x28G</b> |    |    | 1.8Tb      | 72         |
| <b>QSFP28</b><br><b>4x28G</b>               |    |    | 3.6Tb      | 36         |
| <b>QSFP28</b><br><b>4x56G</b>               |    |    | 7.2Tb      | 36         |
| <b>microQSFP</b><br><b>4x56G</b>            |    |    | 14.4Tb     | 72         |
| <b>SFP-DD</b><br><b>4x56G</b>               |  |  | 14.4Tb     | 72         |
| <b>QSFP-DD</b><br><b>8x56G</b>              |  |  | 14.4Tb     | 36         |



# SFP-DD cage



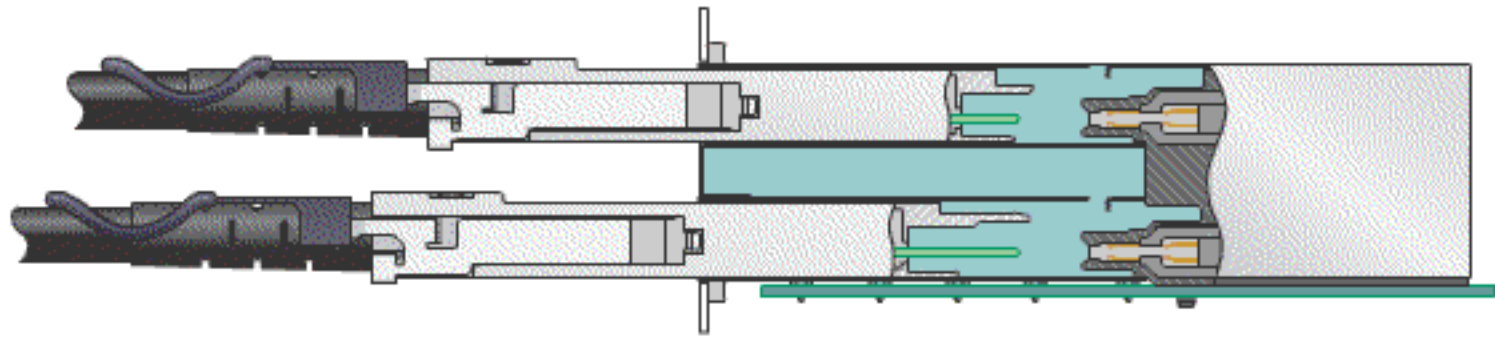
SFP-DD Cage and Connector – 89.4 mm long (cage length)

QSFP connector/cage – 73.1 mm long (cage length)

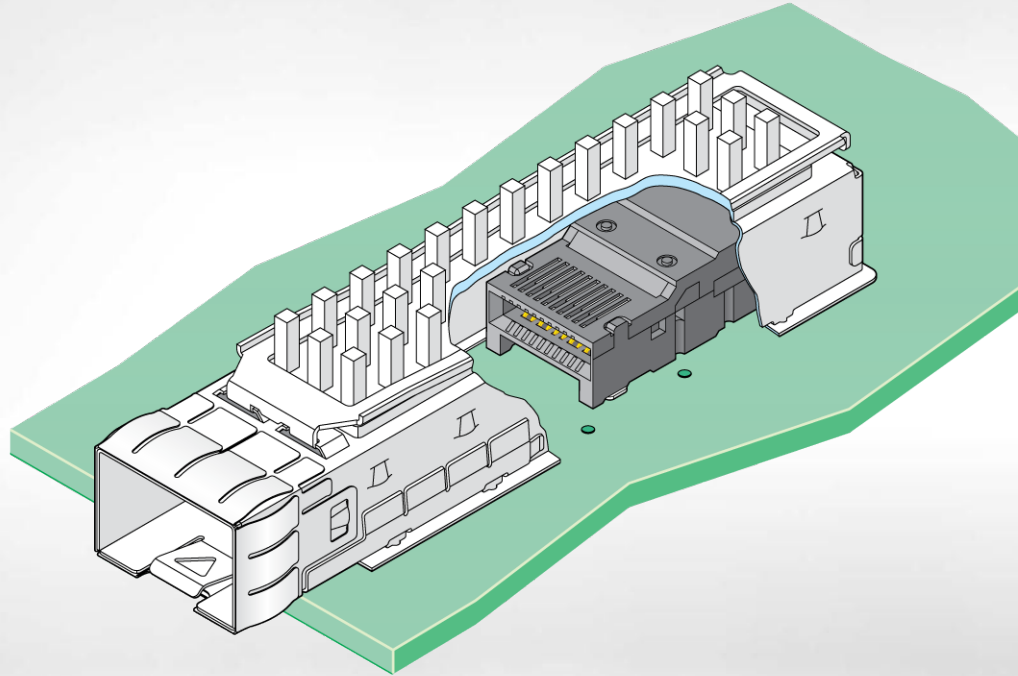
Cage and Connector accepts either QSFP or QSFP-DD module

Picture shows (2) QSFP-DD modules inserted in a 2x1 Cage and Connector

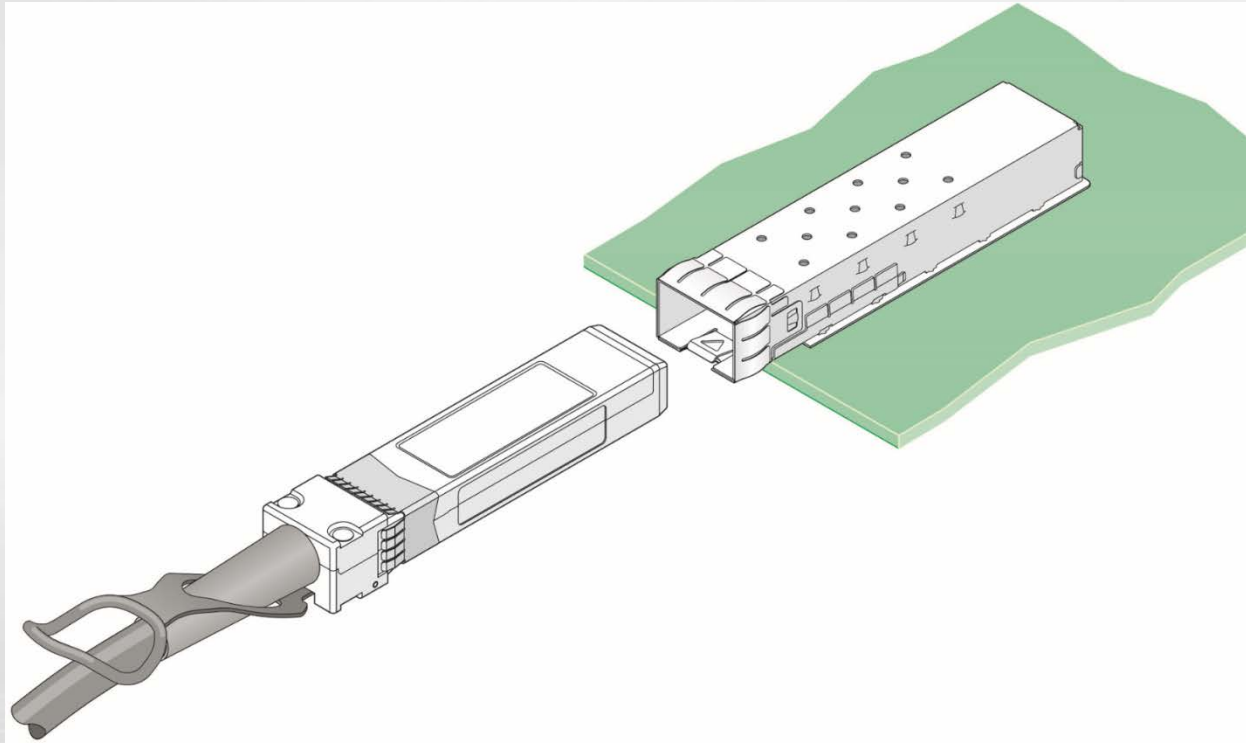
# Module Mating



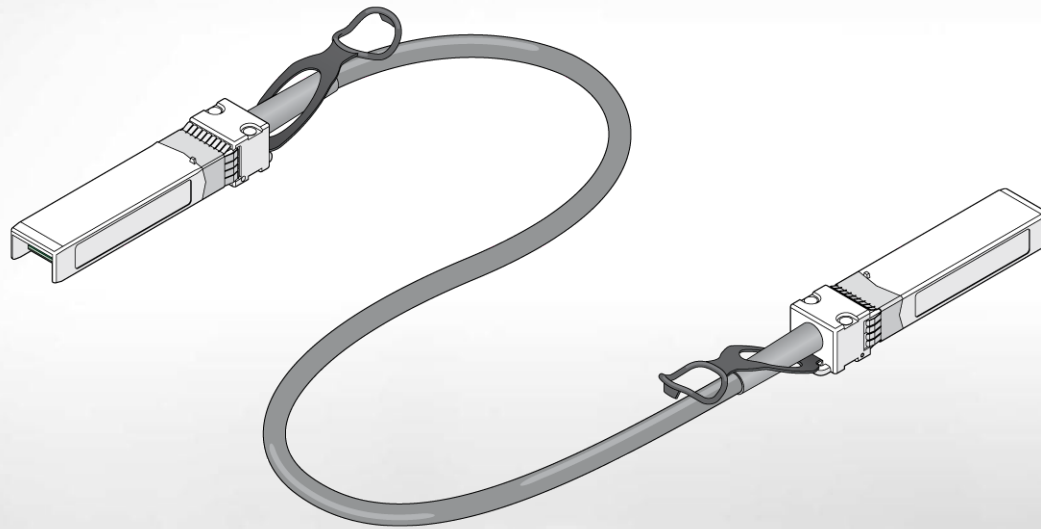
# Module Mating



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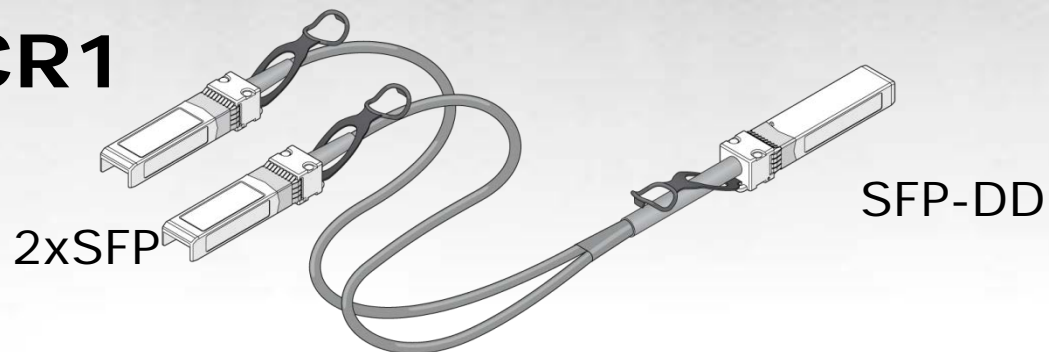


# Direct Attach Copper– 2m 26awg

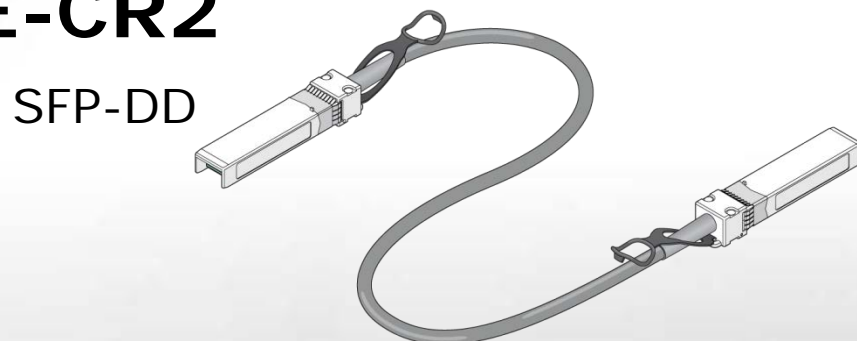


# Proposed MDIs (Clause 136)

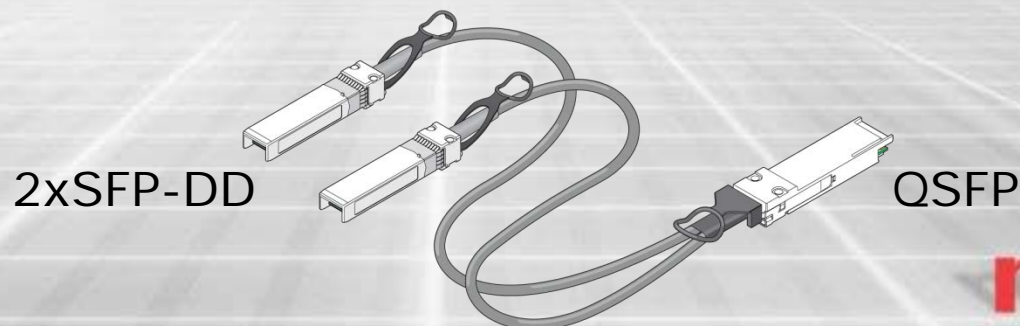
## > 100GBASE-CR1



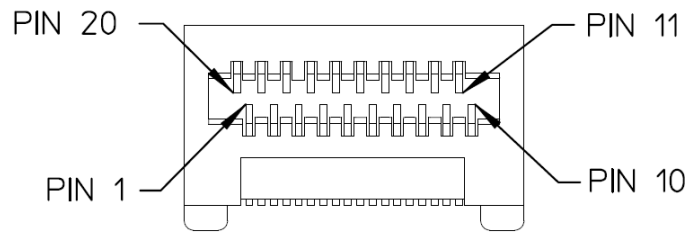
## > 200GBASE-CR2



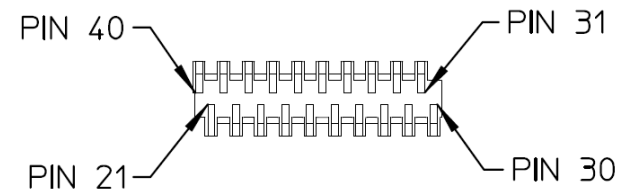
## > 200GBASE-CR2



# Host Connector pinouts

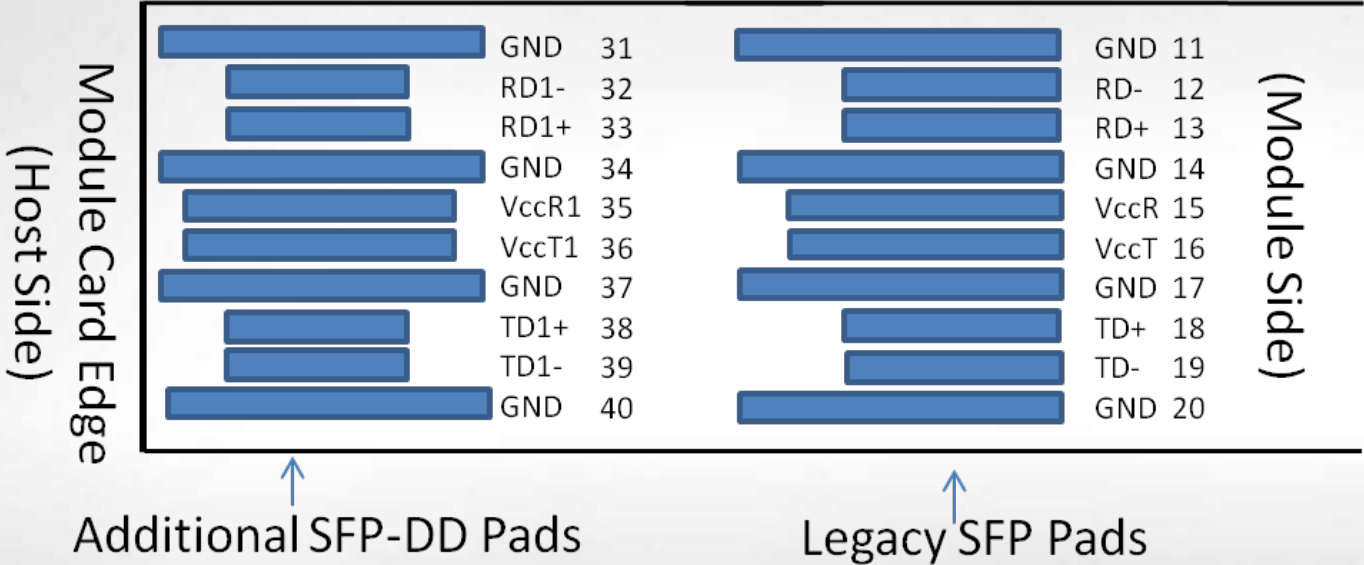


FORWARD CONTACTS



REAR CONTACTS

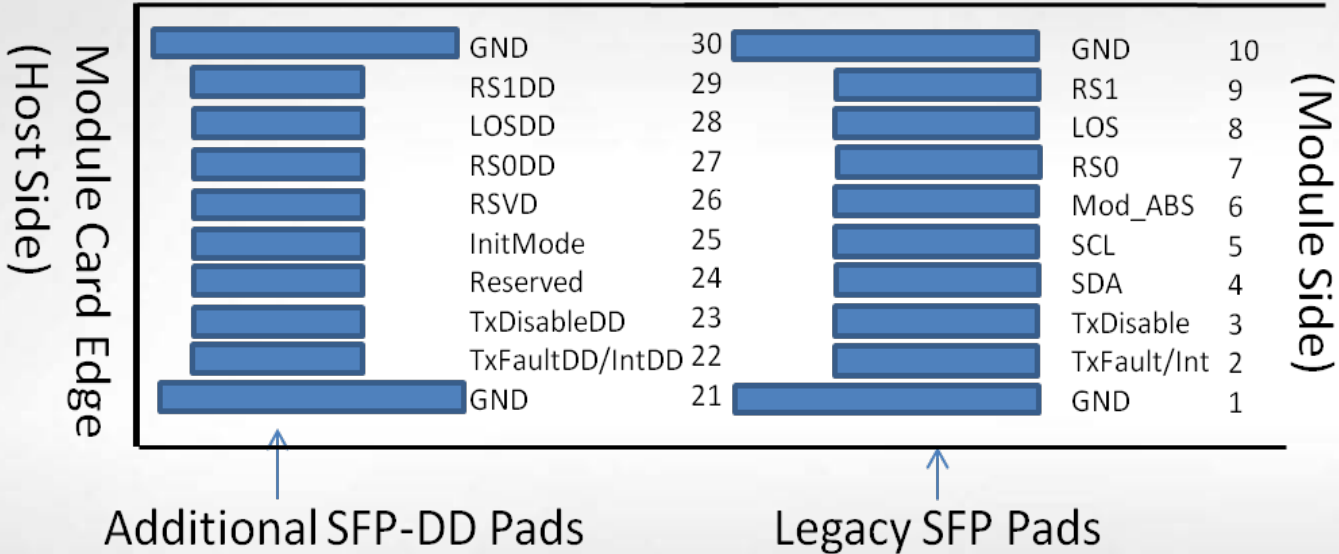
# Module pads (top side)



Top side viewed from top of board



# Module pads (bottom side)



Bottom side as viewed from top thru board

# What about S parameter data?

- › S parameter data coming soon to a meeting near you

**Thank You!**