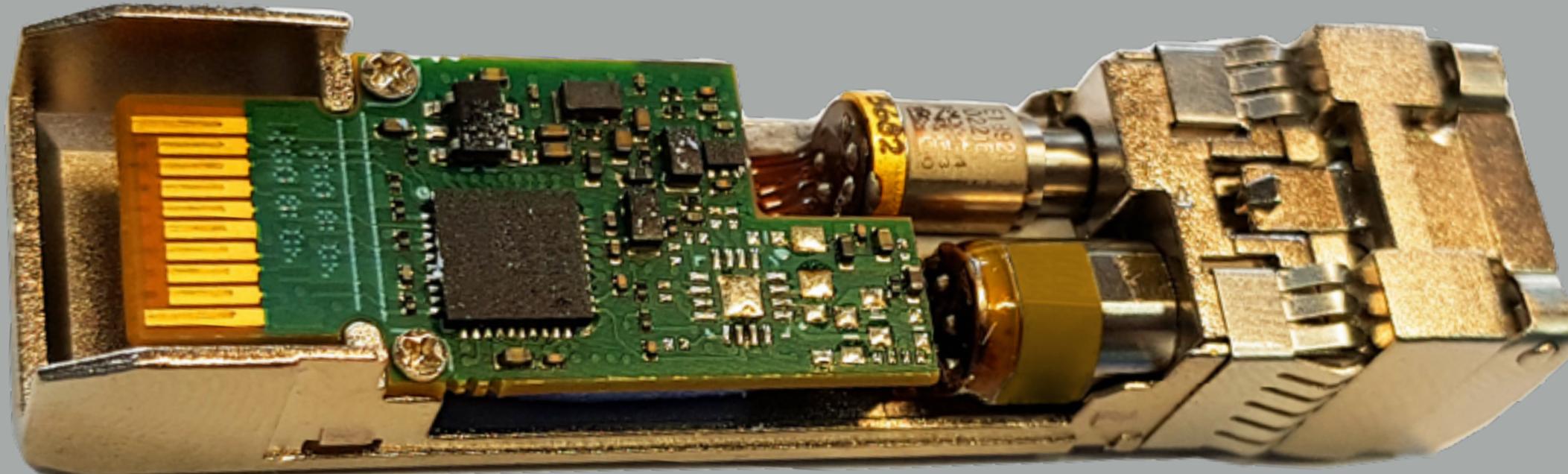


the complexity of hyper speed transceivers

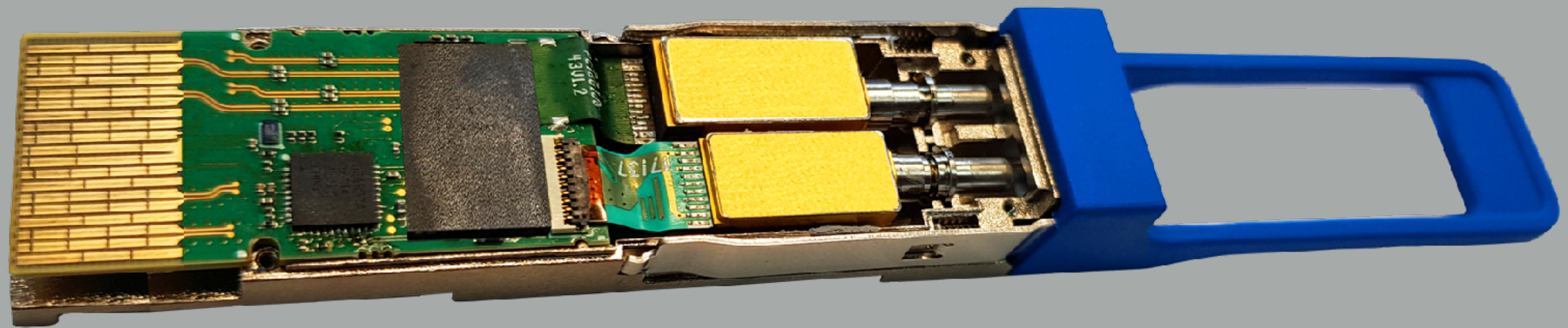


Update 2021

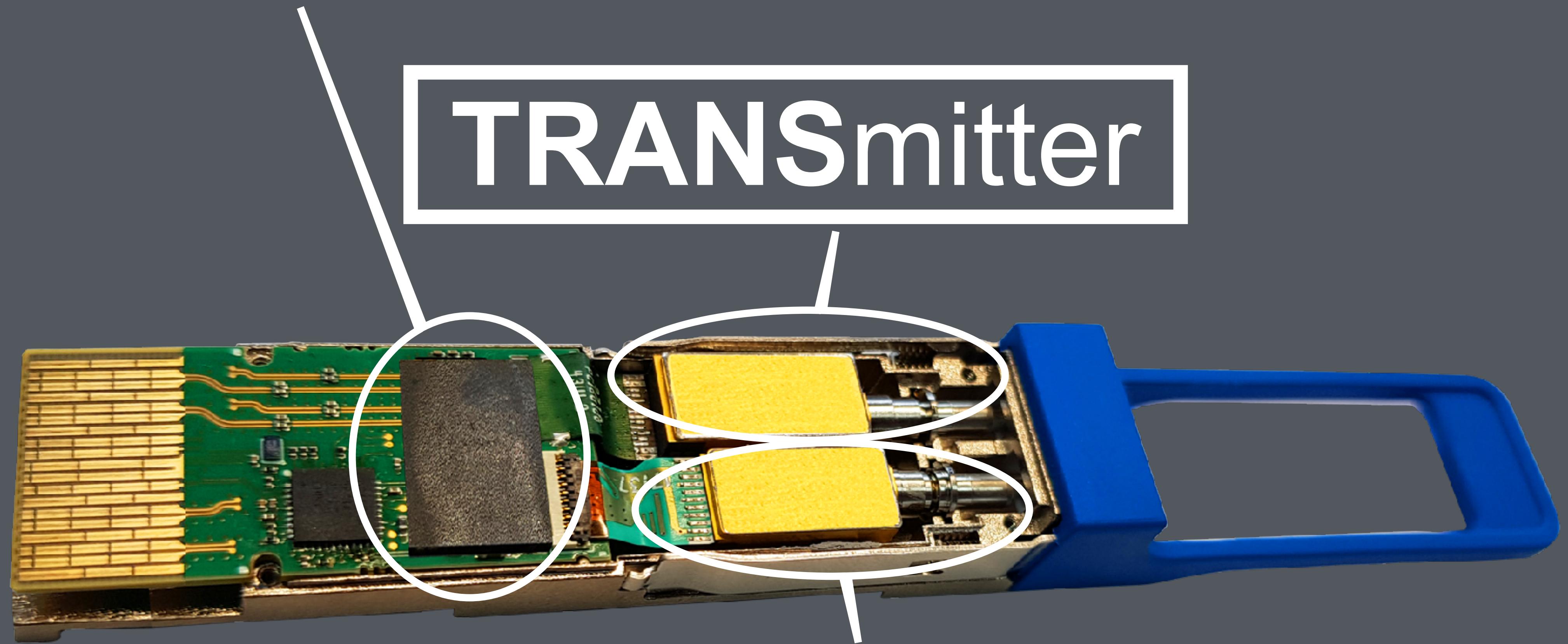
10G



400G



Digital Signal Processor



TRANSMitter

reCEIVER

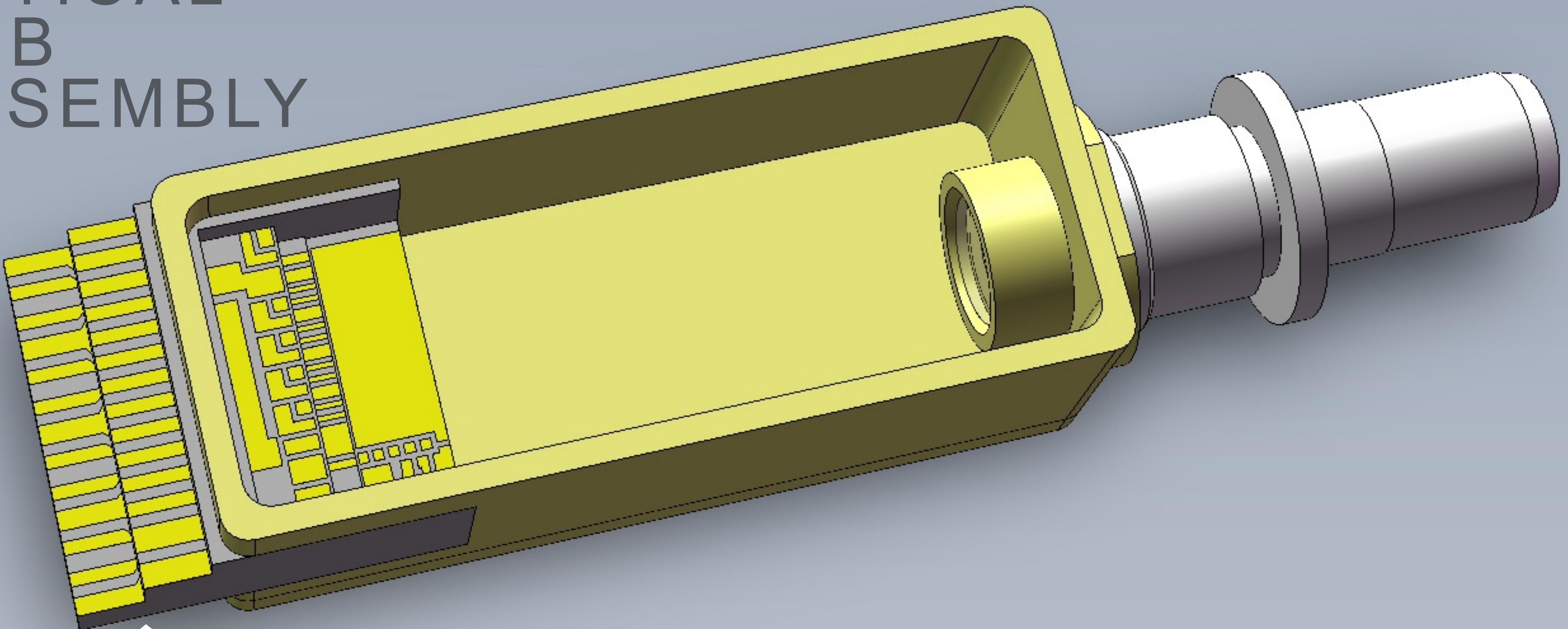
TRANSMITTER

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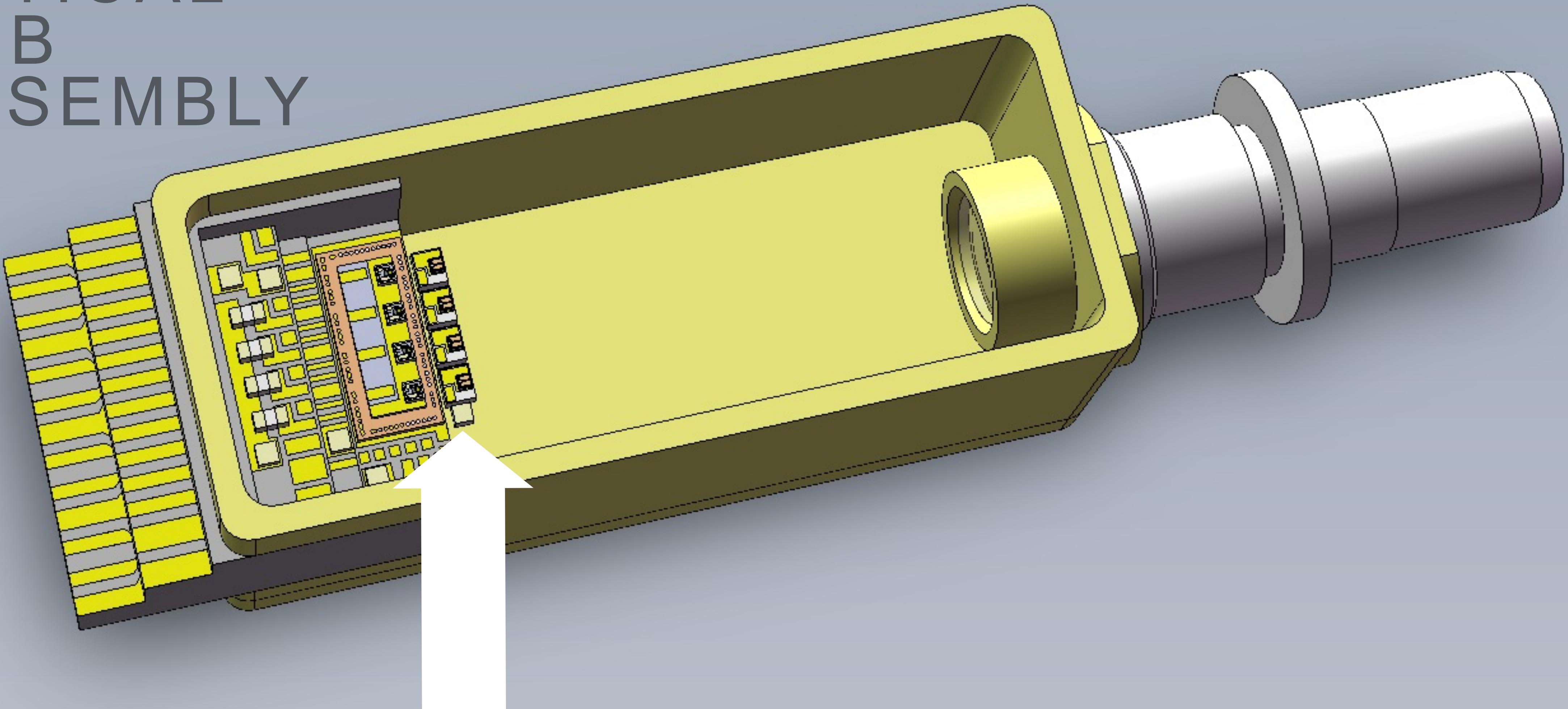
electrical connector

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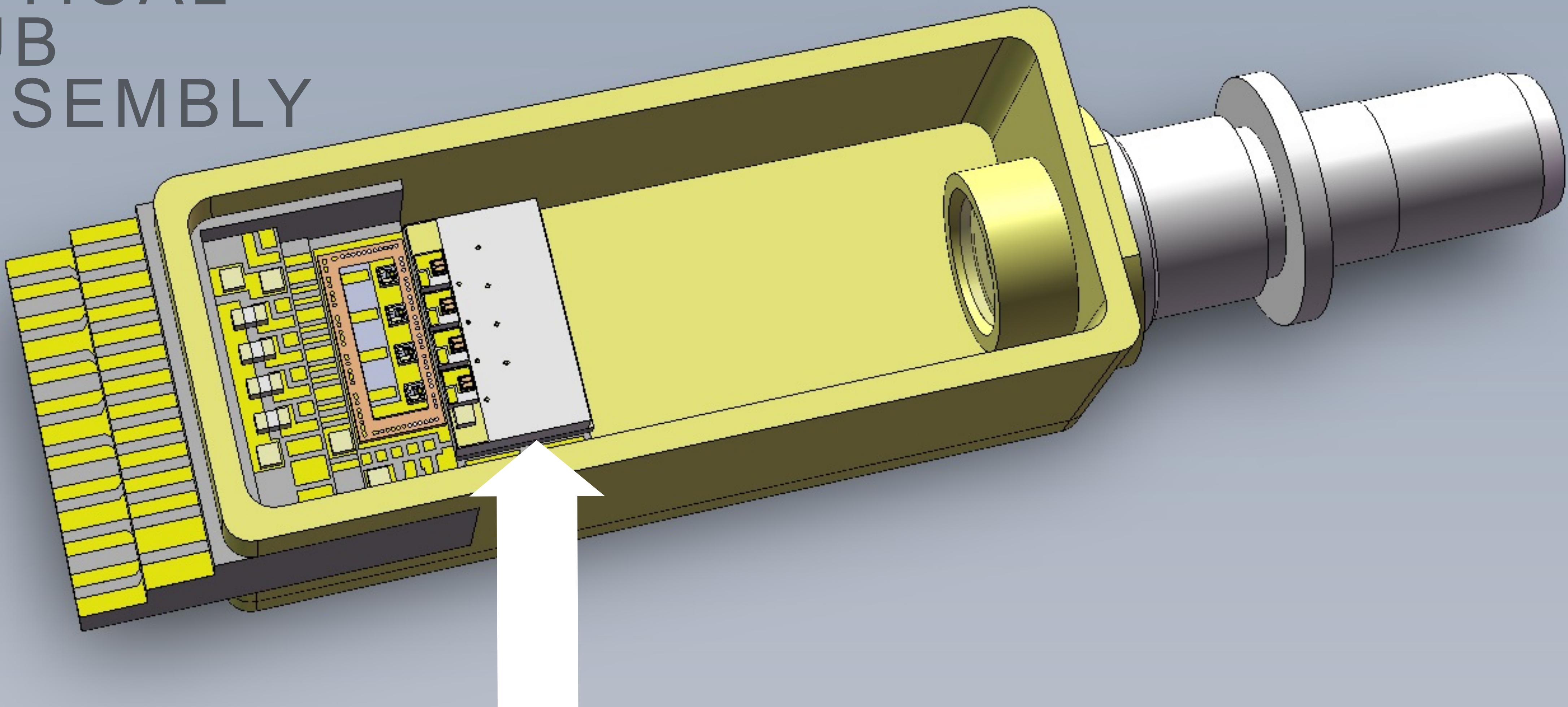
laser diodes

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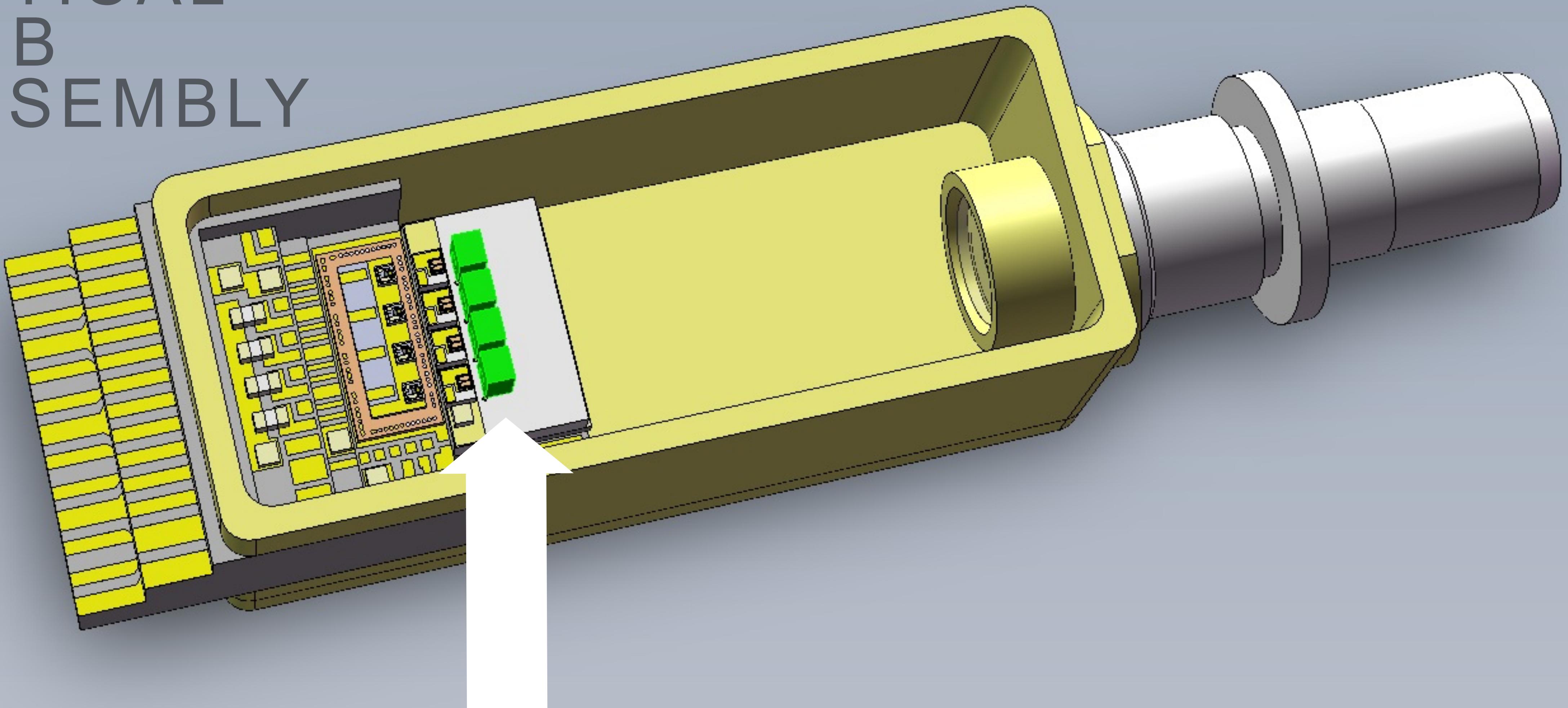
cooler

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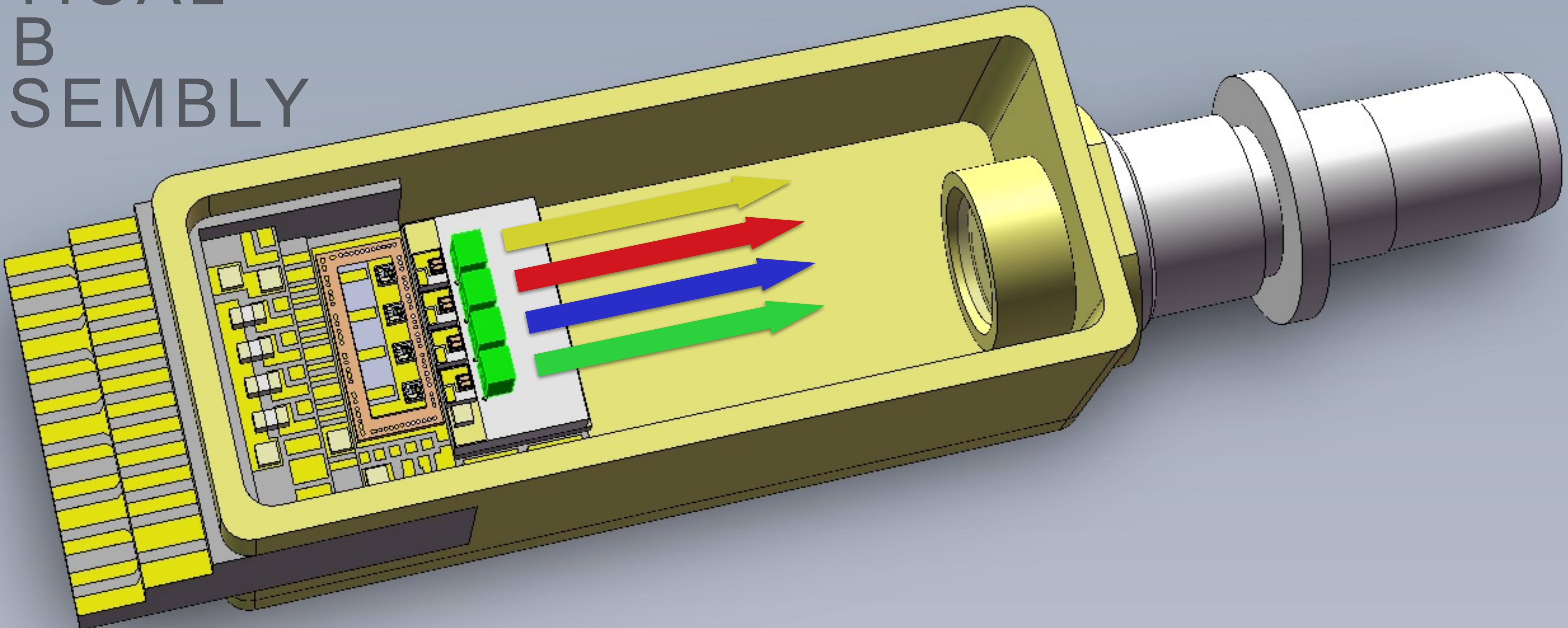
optical lenses

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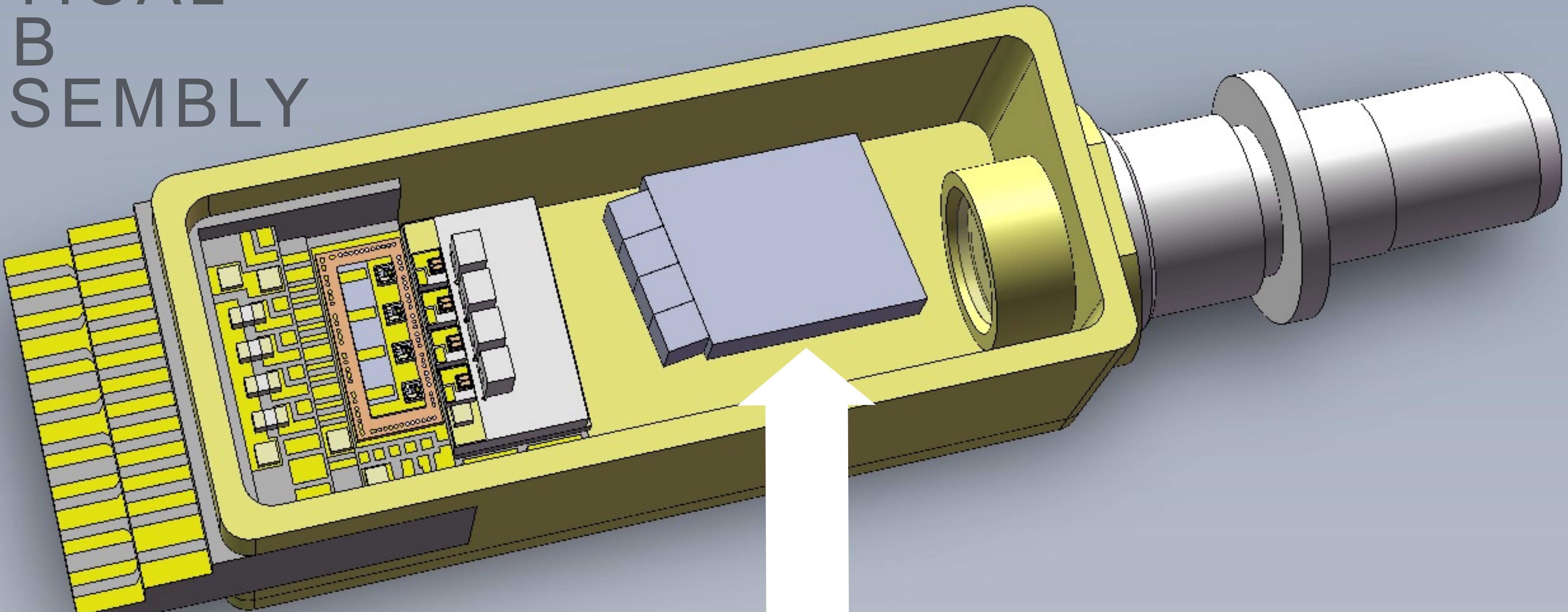


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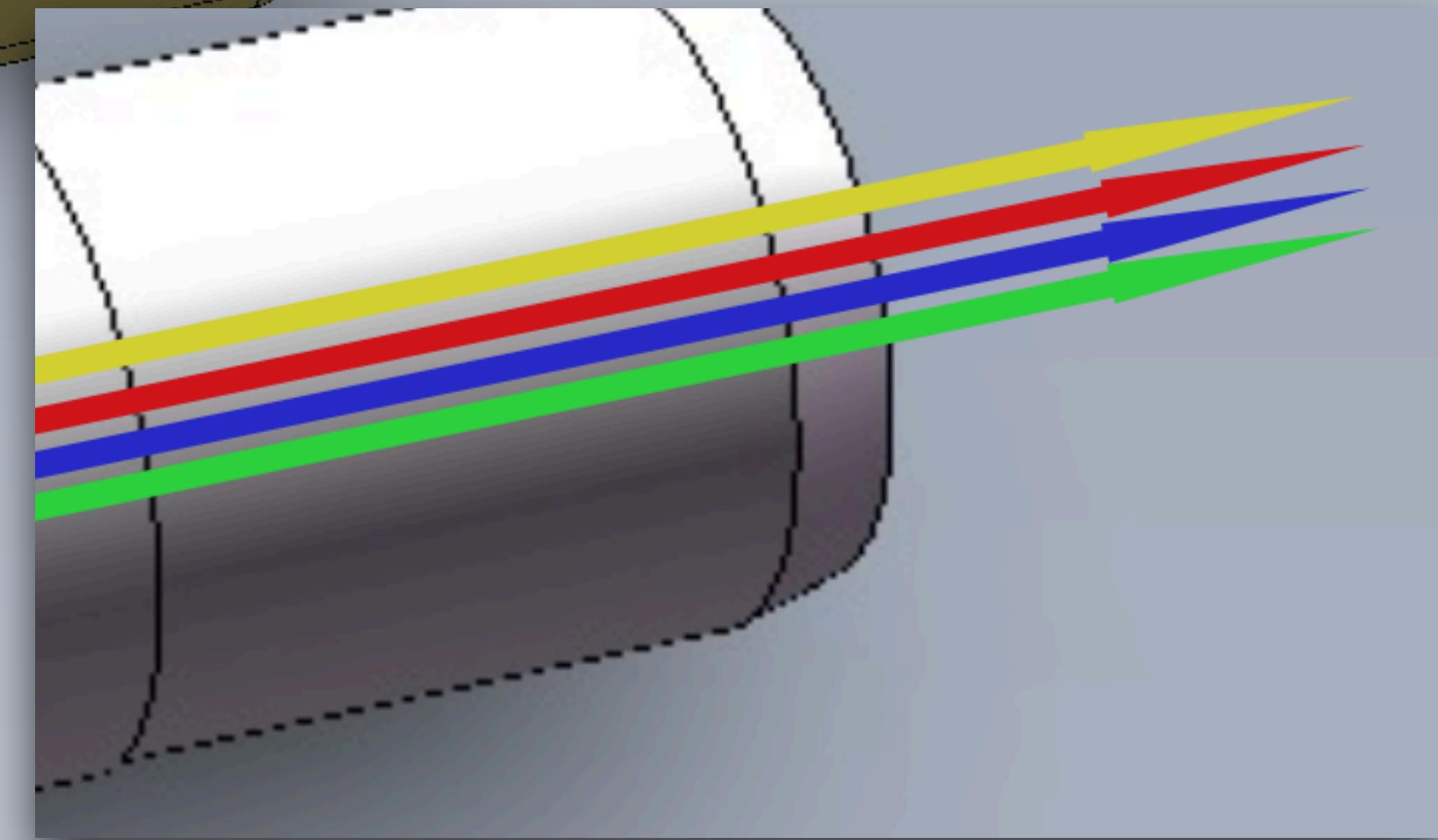
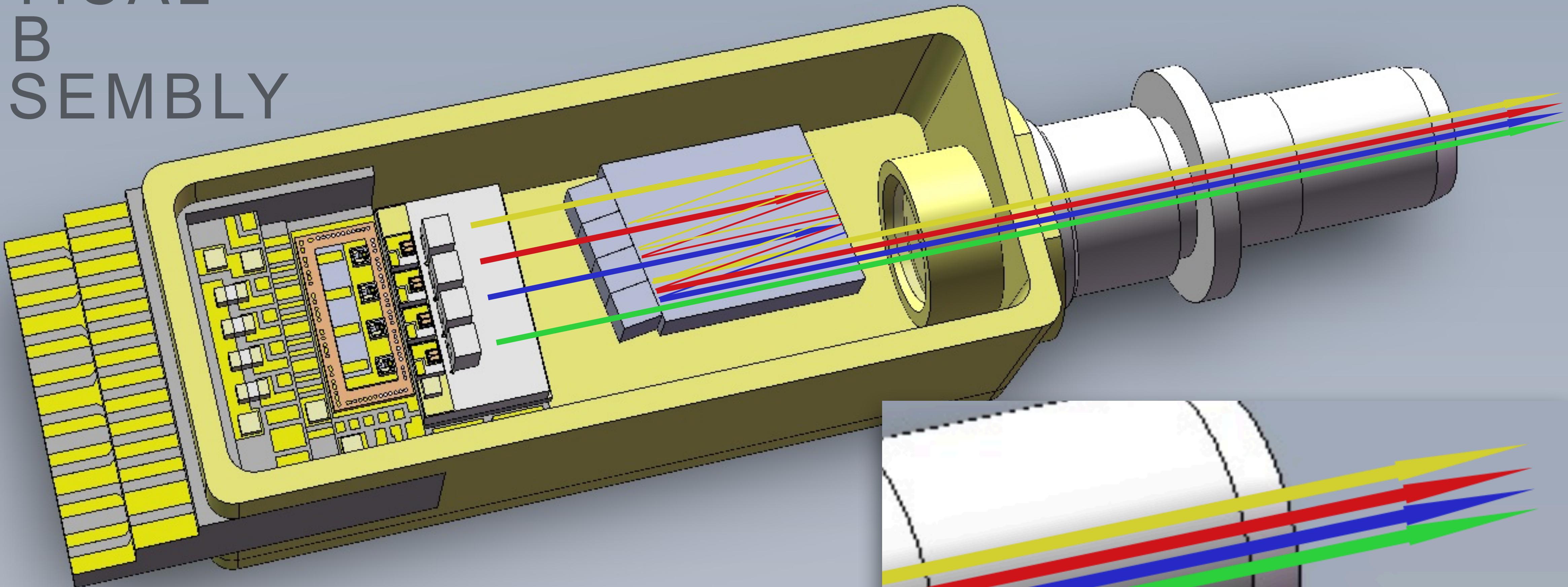
S
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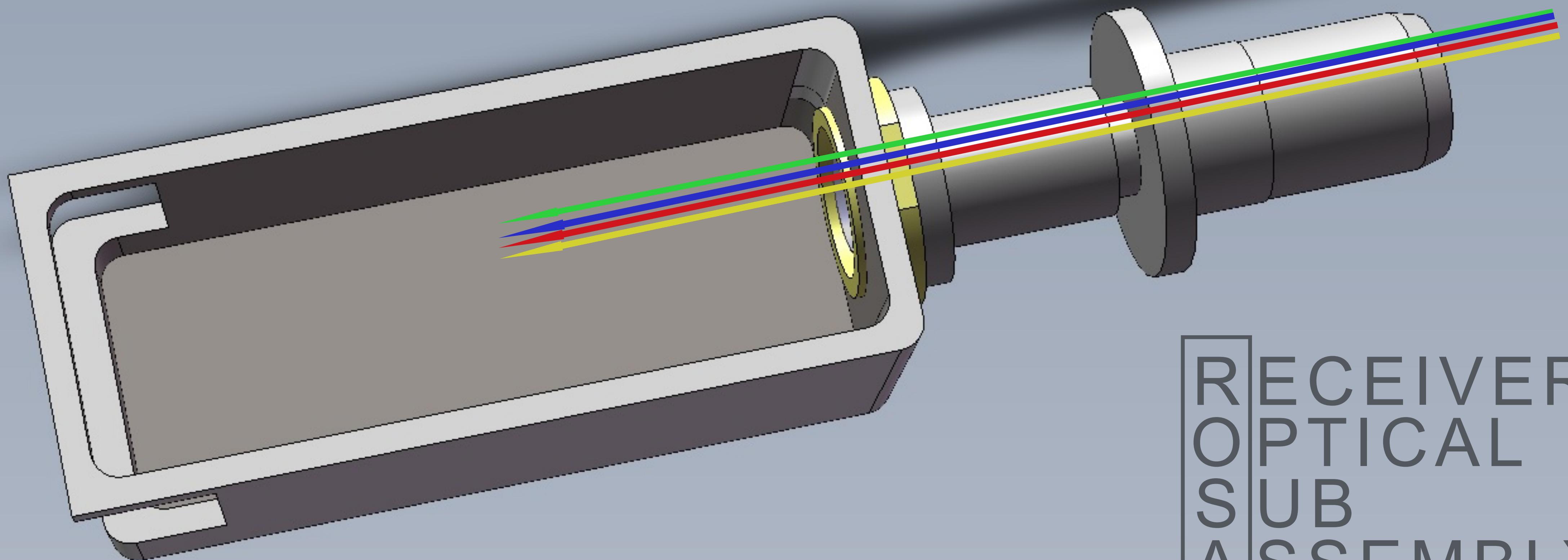
optical multiplexer

T
O
S
A
TRANSMITTER
OPTICAL
SUB
ASSEMBLY



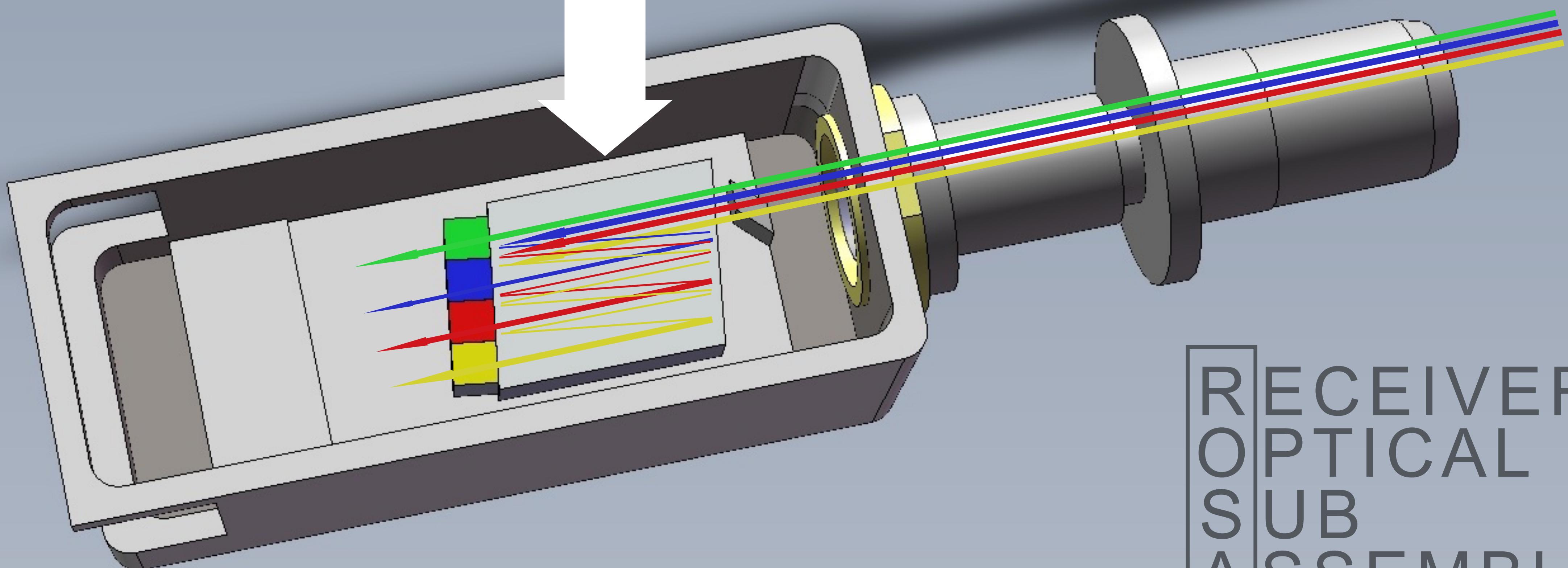
RECEIVER

optical receptacle



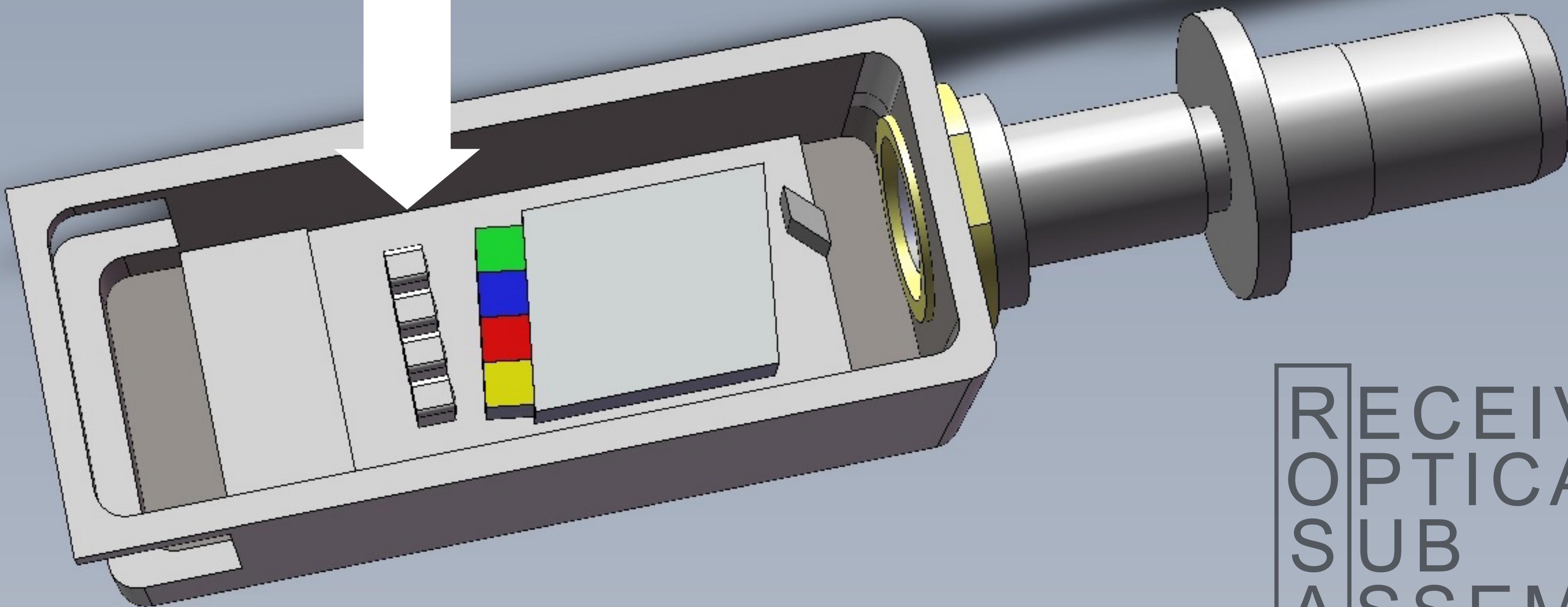
RECEIVER
OPTICAL
SUB
ASSEMBLY

optical demultiplexer



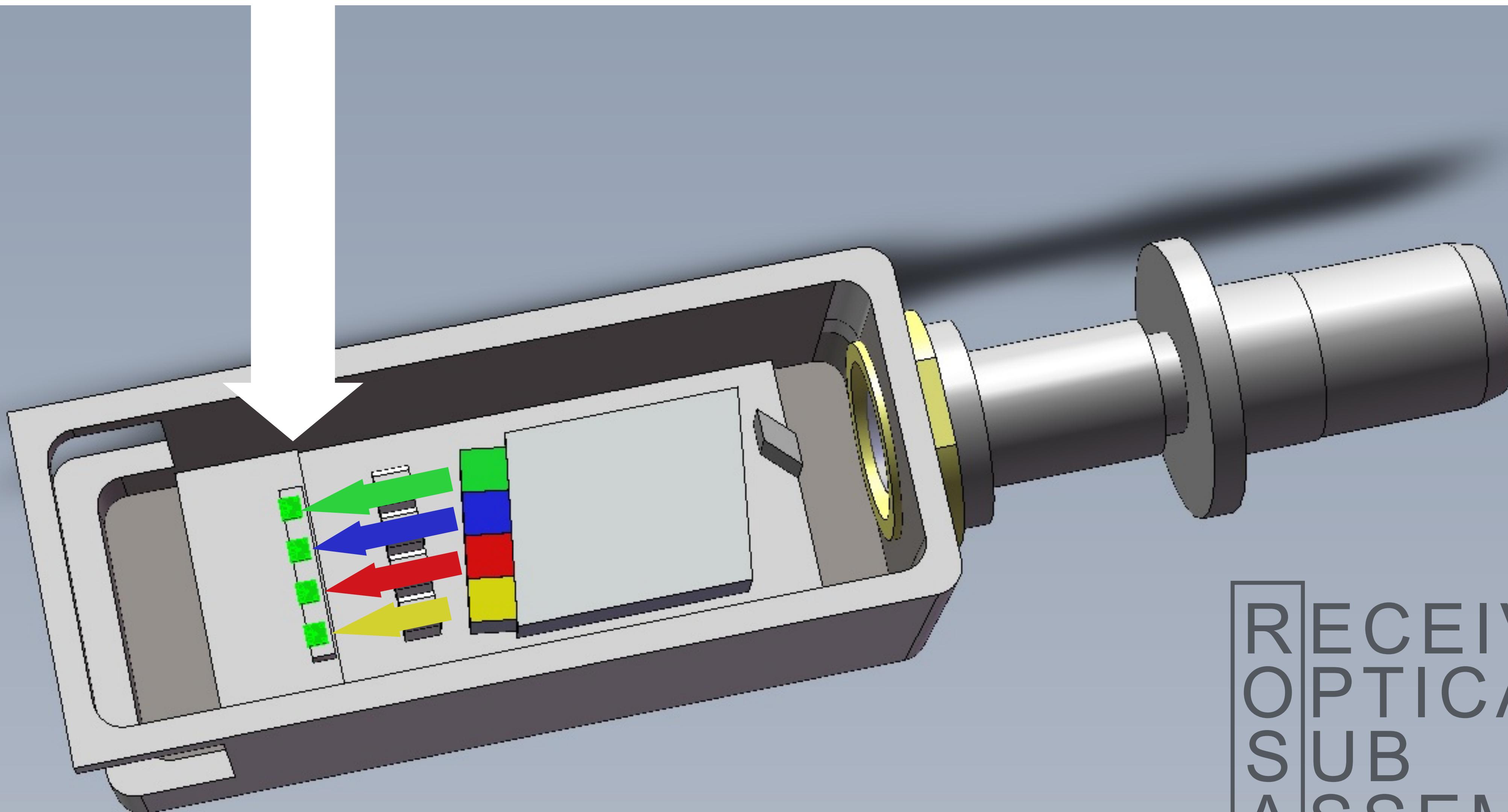
RECEIVER
OPTICAL
SUB
ASSEMBLY

optical lenses



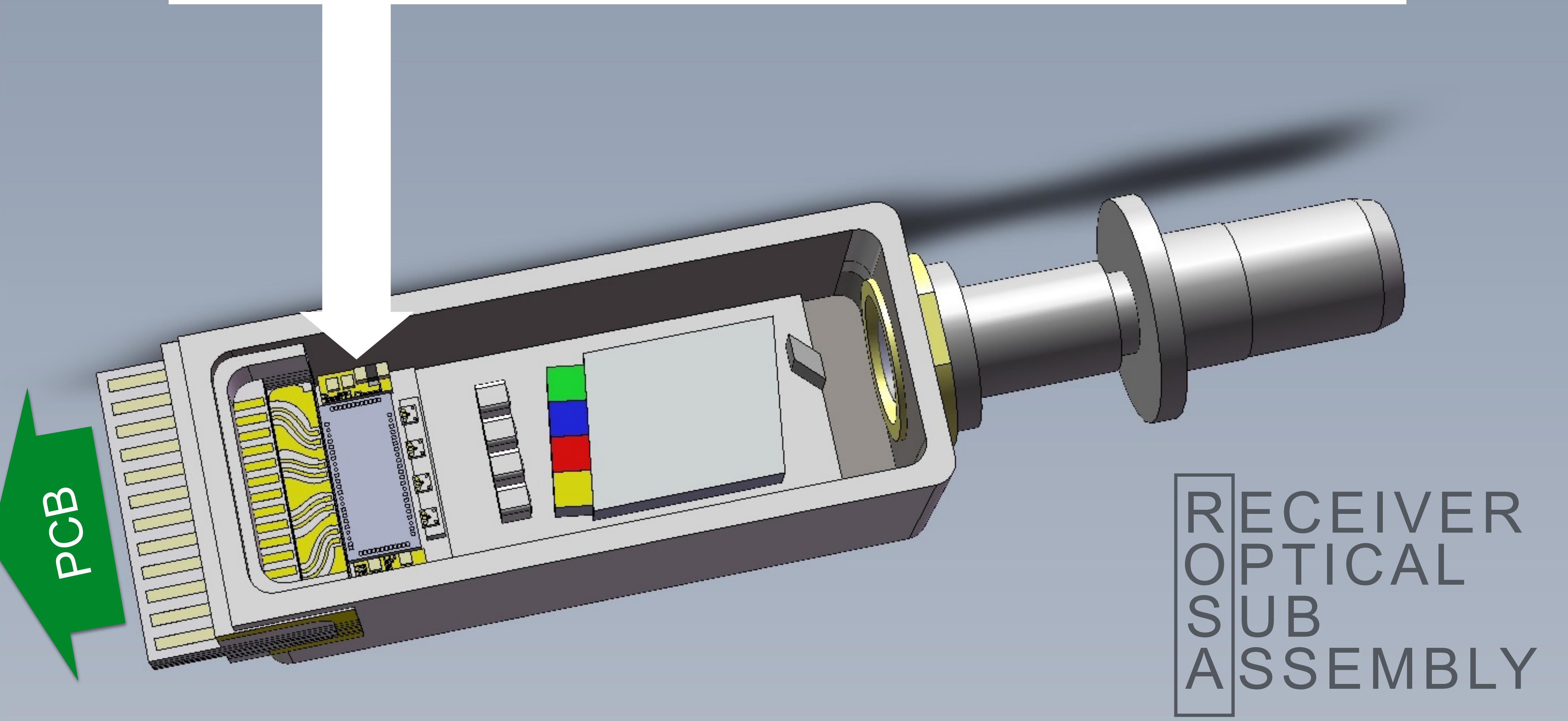
RECEIVER
OPTICAL
SUB
ASSEMBLY

PIN diode

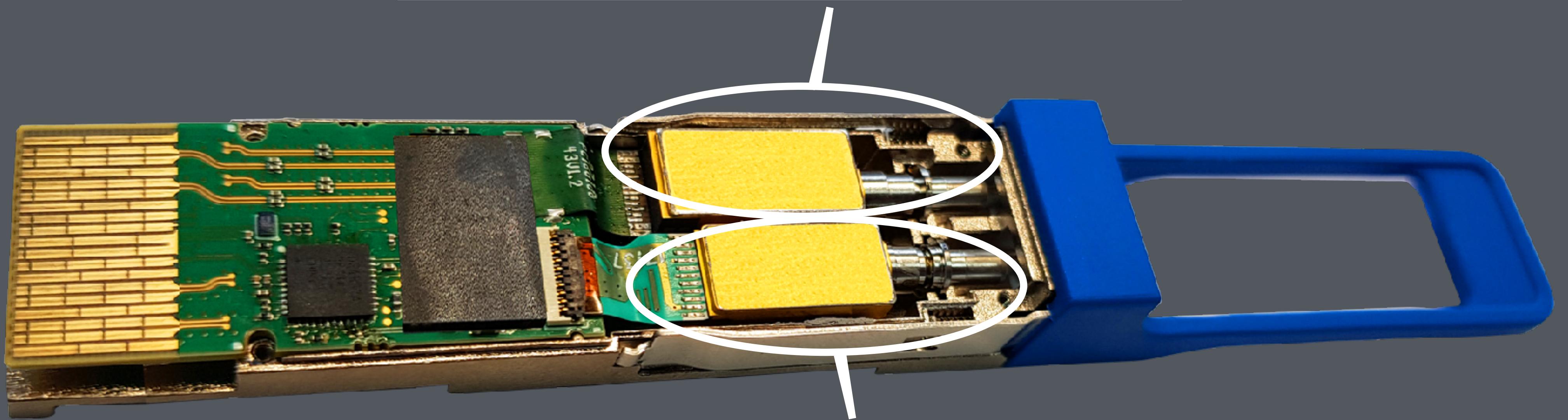


RECEIVER
OPTICAL
SUB
ASSEMBLY

amplifier

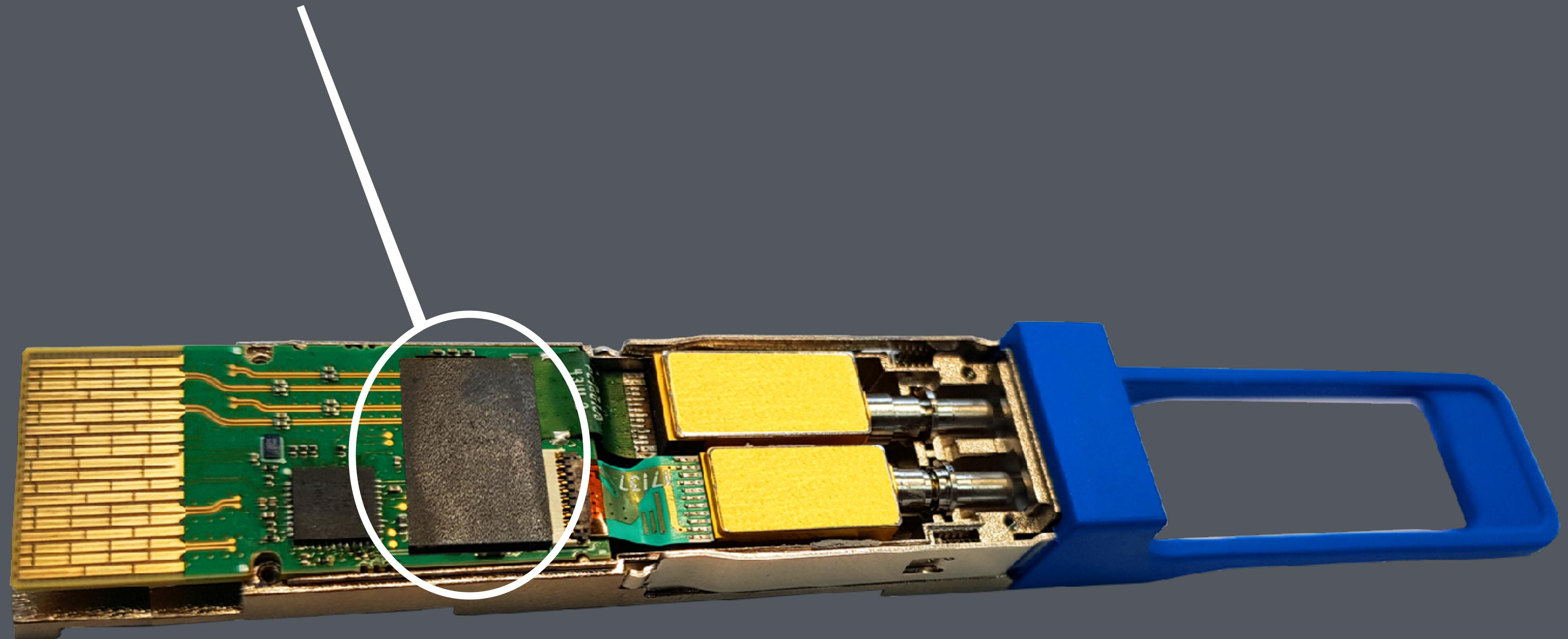


TRANSmitter



reCEIVER

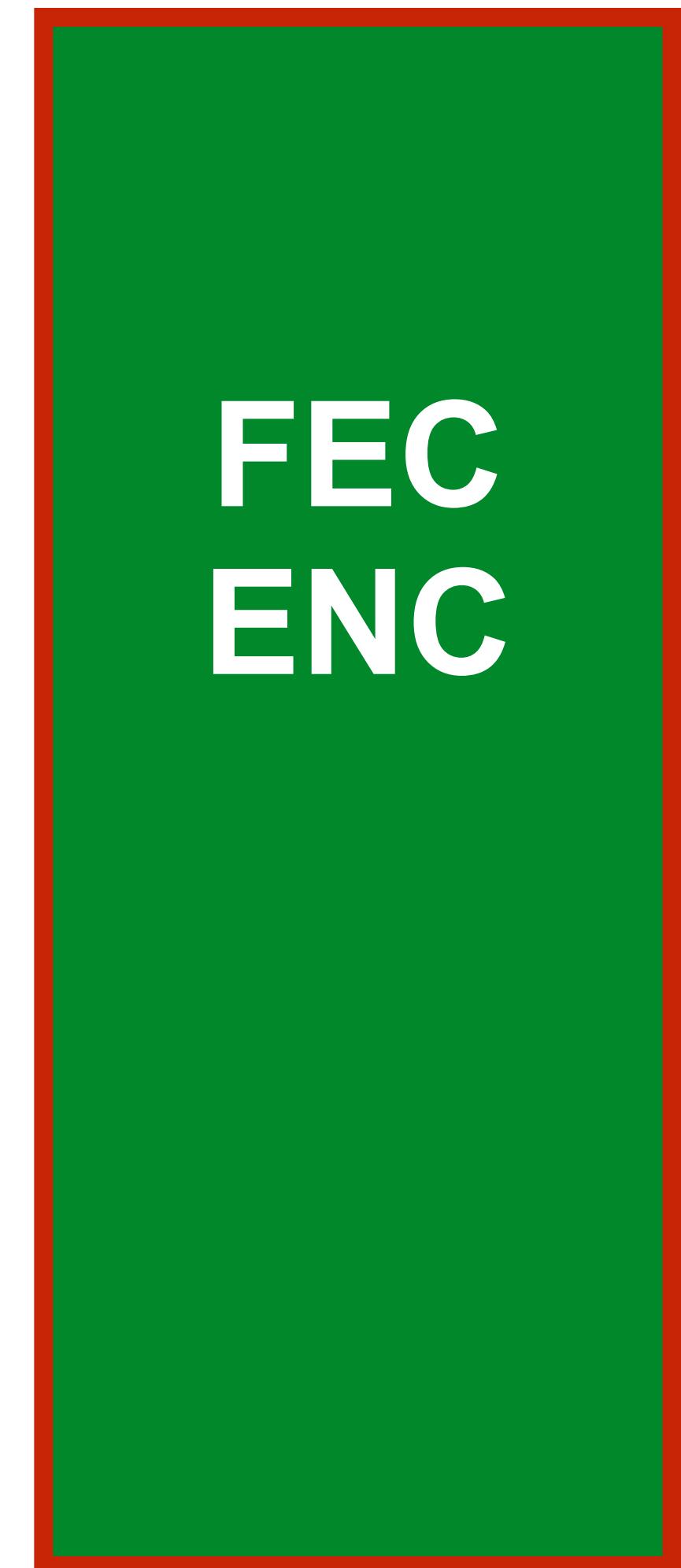
Digital Signal Processor



Forward Error Correction





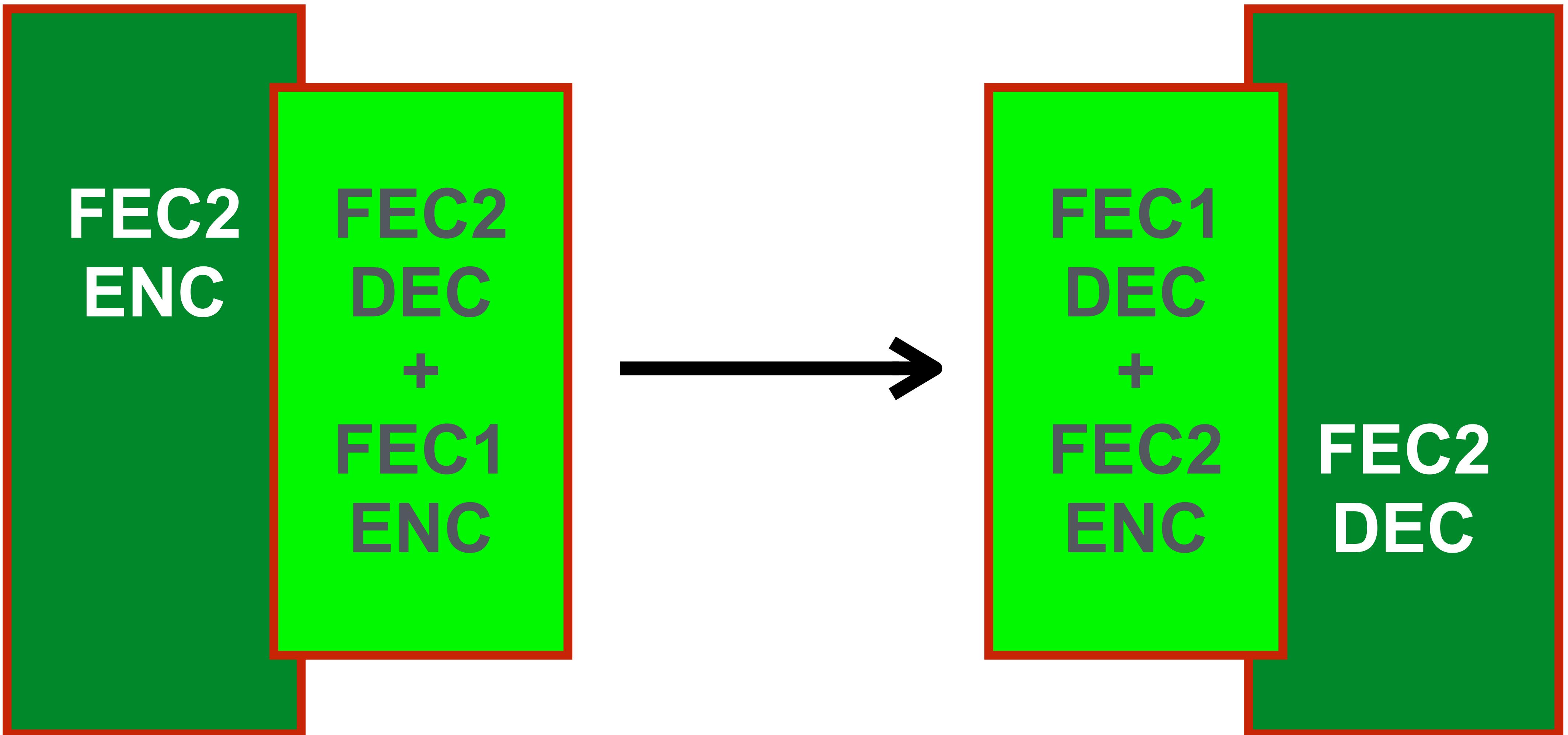


100G



Switch

Switch



Switch
QSFP-DD
OSFP

QSFP-DD
OSFP **Switch**

400G



Junos17.2R1@MX>show interfaces et-0/0/0 **detail**

Physical interface: ... Physical link is **Up**

...

Link-level type: ... LAN-PHY mode, Speed: **100Gbps**

...

Input errors:

Errors: 5, Drops: 0, Framing errors: 5,...

...

PCS statistics

Bit errors

Errored blocks

Ethernet FEC Mode :

Ethernet FEC statistics

FEC Corrected Errors

FEC Uncorrected Errors

FEC Corrected Errors Rate

FEC Uncorrected Errors Rate

Seconds

12

25

NONE

Errors

0

0

0

0

//helpful for realtime troubleshooting

Junos>**monitor interface et-0/0/0**



Junos17.2R1@MX>show interfaces et-0/0/0 detail

Physical interface: ... Physical link is **Up**

...

Link-level type: ... LAN-PHY mode, Speed: 100Gbps

...

Input errors:

Errors: **0**, Drops: 0, Framing errors: **0**,...

...

PCS statistics

Bit errors

Errored blocks

Ethernet FEC Mode :

Ethernet FEC statistics

FEC Corrected Errors

FEC Uncorrected Errors

FEC Corrected Errors Rate

FEC Uncorrected Errors Rate

Seconds

0

0

FEC91

Errors

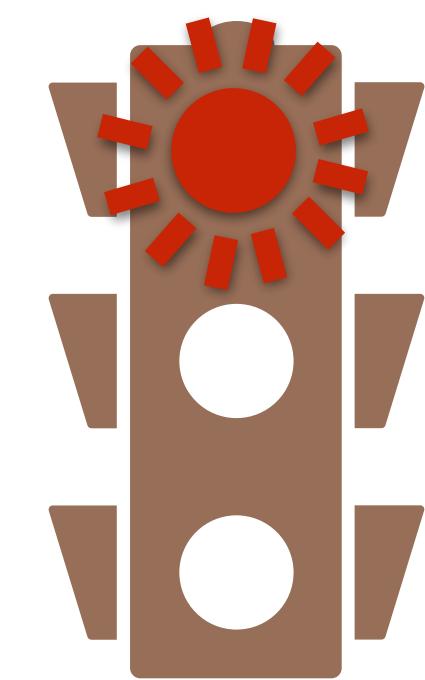
329

0

1

0

Junos>**monitor interface et-0/0/0**

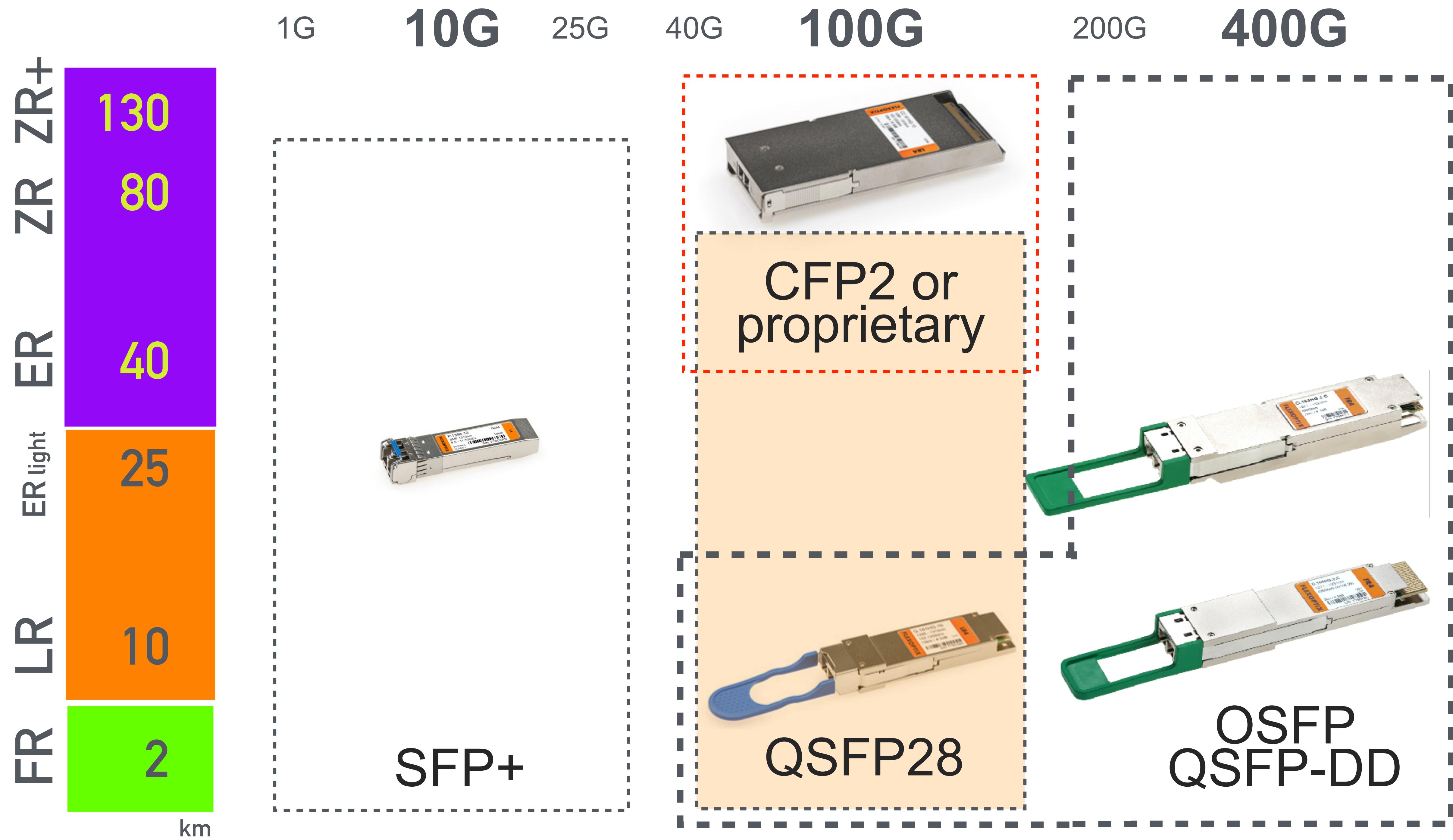


unequal # of
FEC's in line

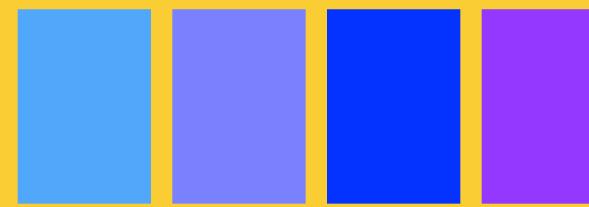


new

 FLEXOPTIX



400G LR4-6 as CWDM4

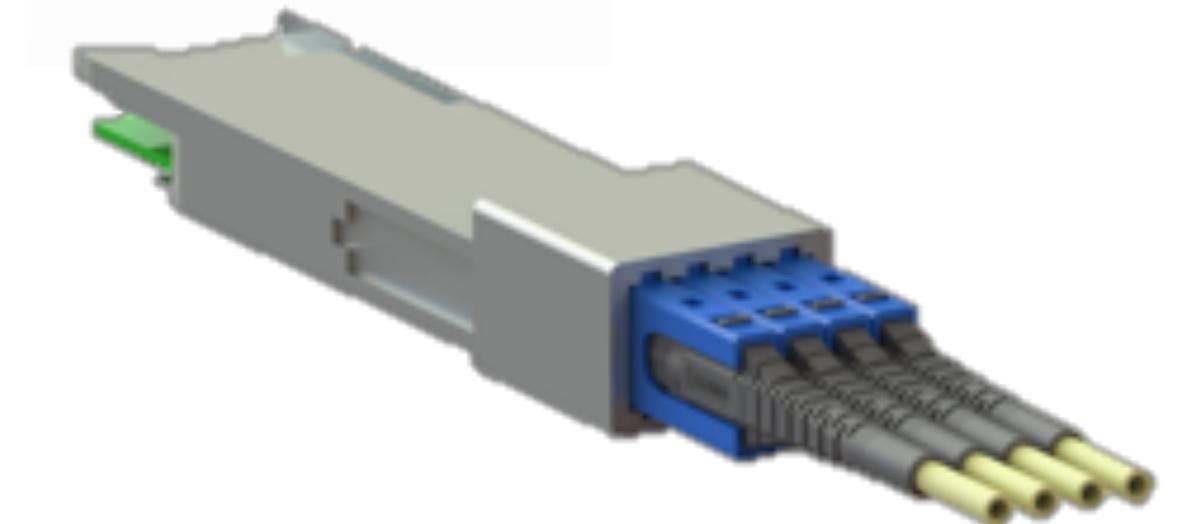


no ~~LAN~~-WDM

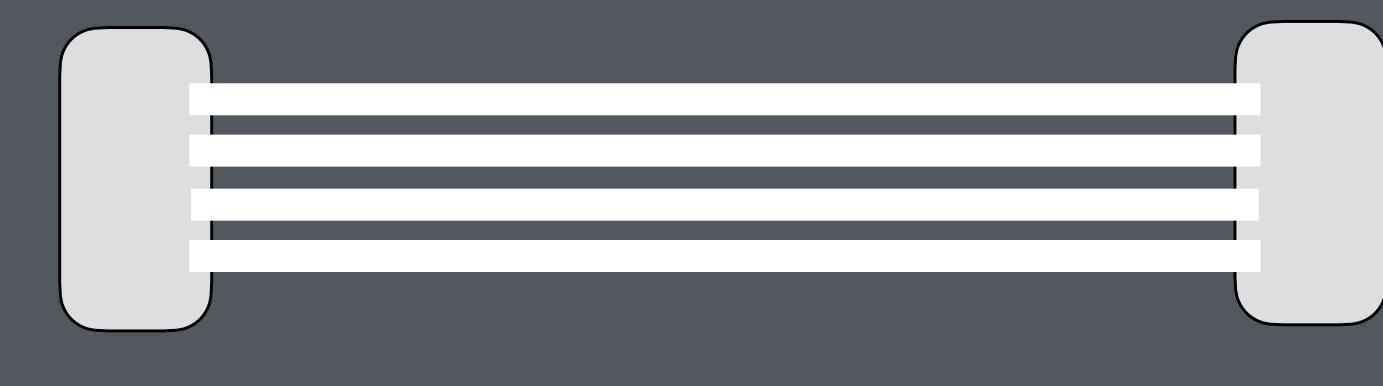
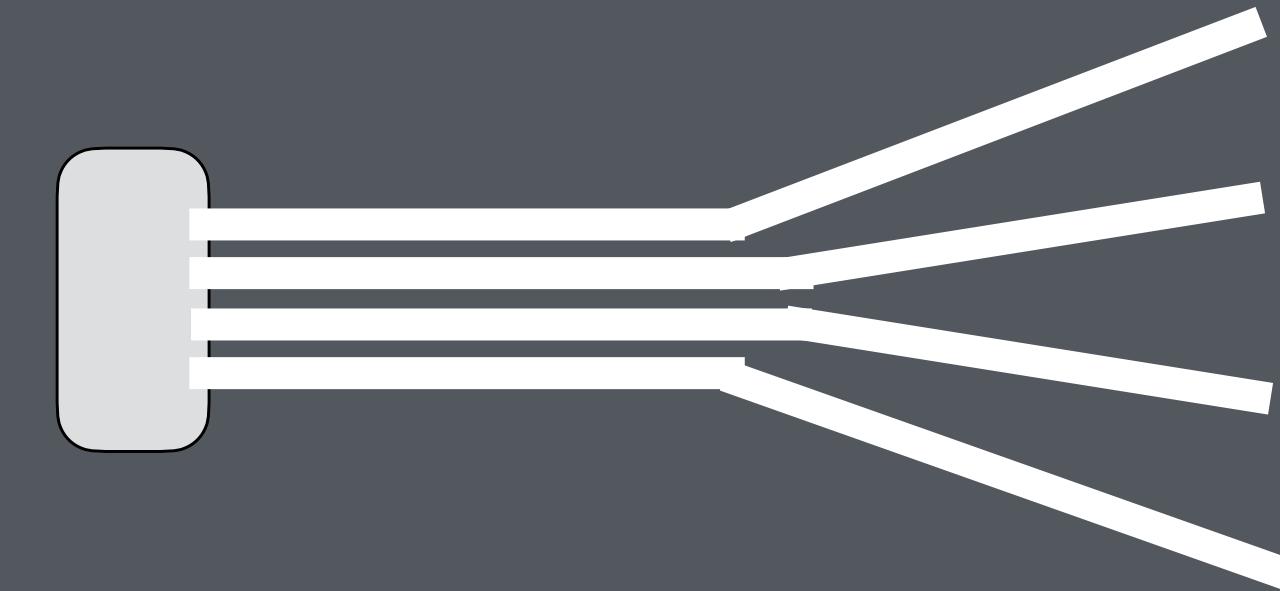
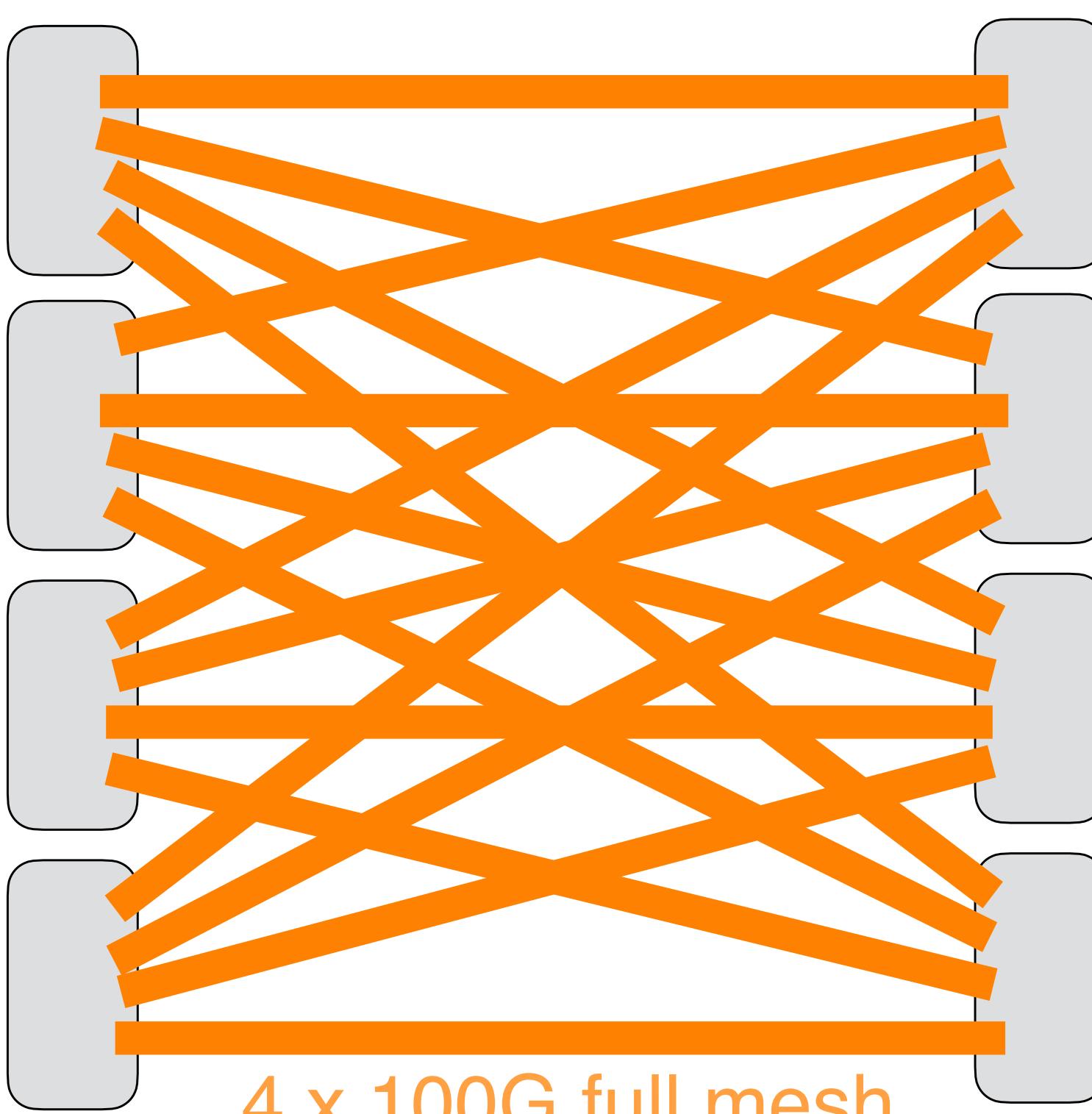
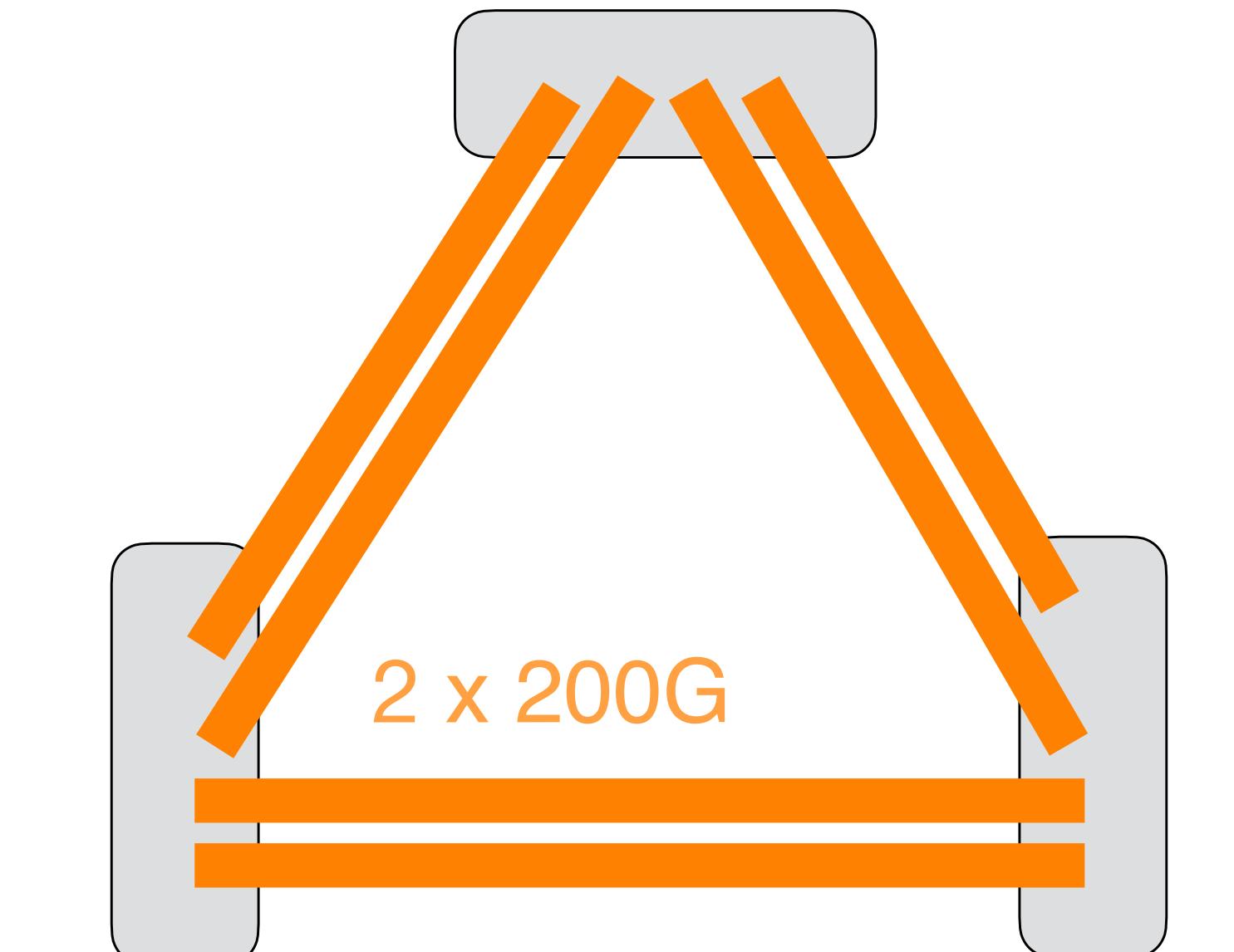


400G ZR

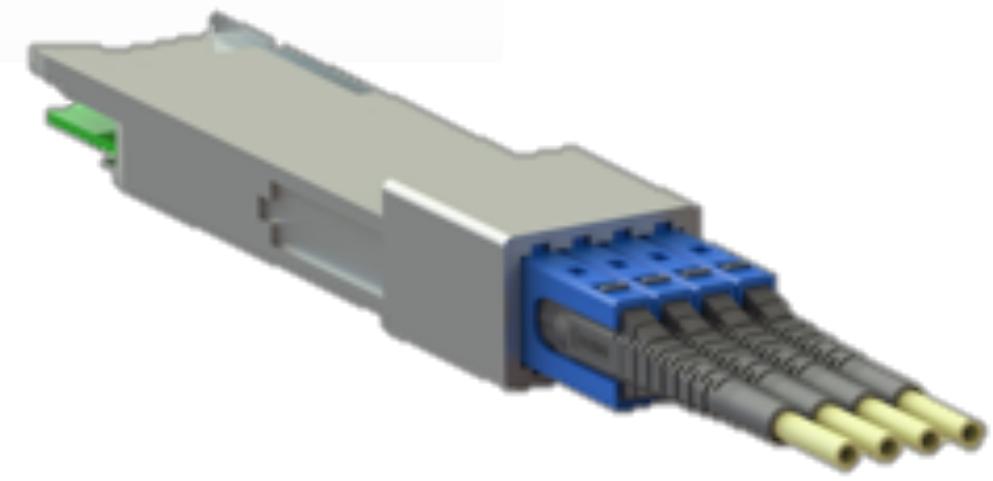
**400G DR4
with SN™ plugs**



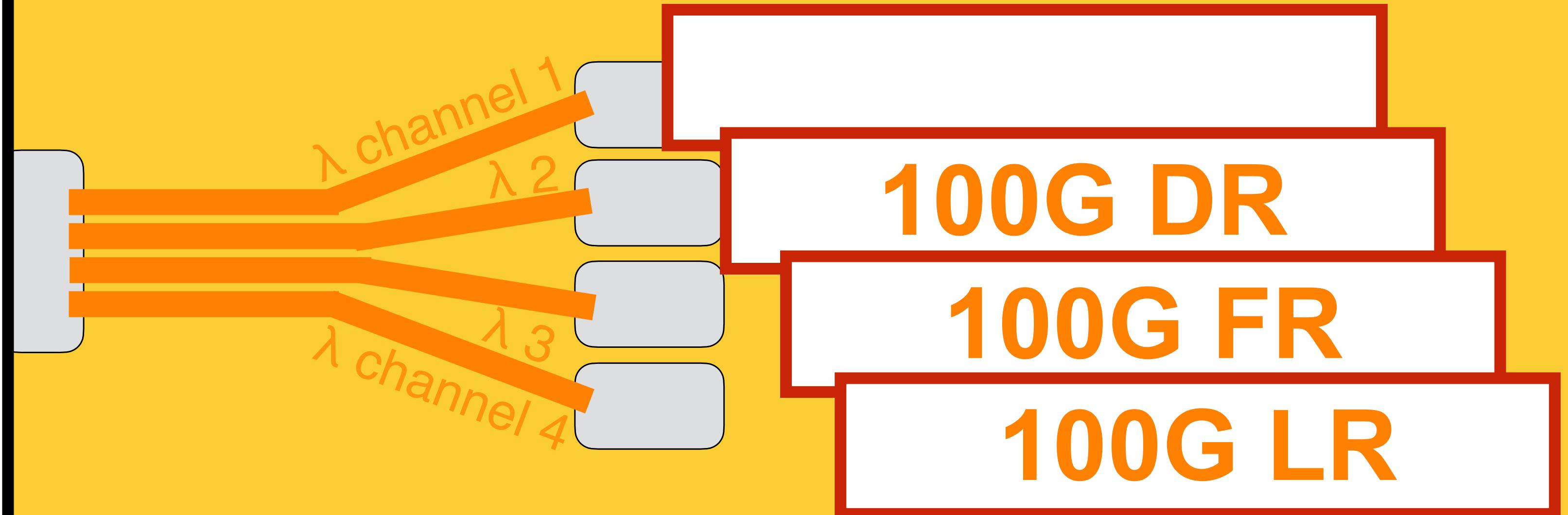
source: SENKO Advanced Components,
SN is a registered trademark of SENKO. Thanks for your support



400G DR4(+) with SN™ plugs



source: SENKO Advanced Components,
SN is a registered trademark of SENKO. Thanks for your support



single 

THE FLEXBOX CREATORS

THOMAS.WEIBLE@FLEXOPTIX.NET



1
revolutionary
development



59
flexperts

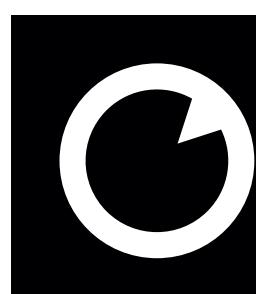


49241
transceiver
compatibilities





THANK YOU



FLEXOPTIX