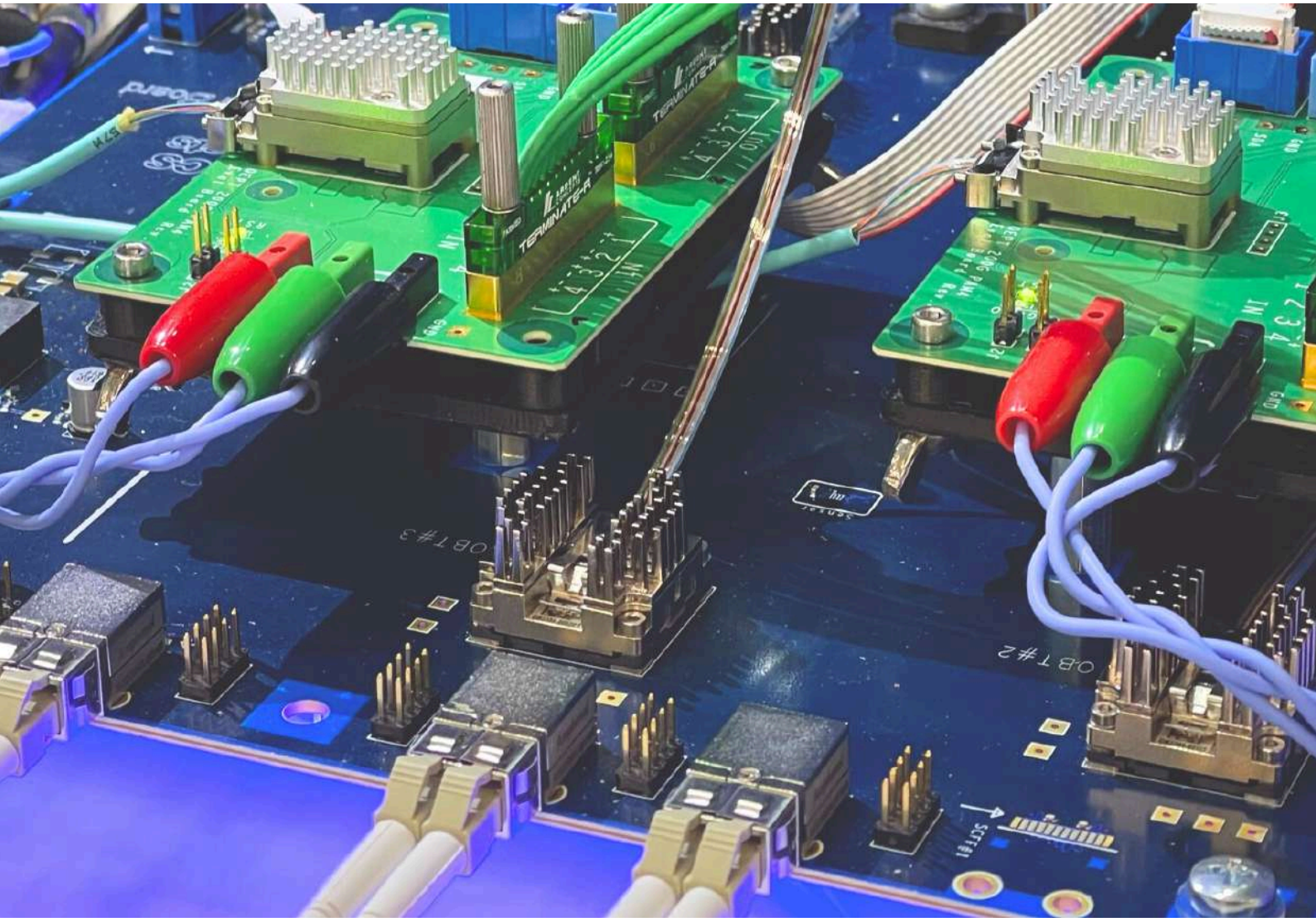
Amphenol Active Optics Products



Product Overview

Next-gen on-board fiber optic transceivers

marketing@amphenol-aop.com www.amphenol-aop.com

Our Company

Mission

To enable next generation technologies for a world seamlessly connected through fiber optics.

Mindset

At the core of our company lies a spirit of innovation and precision. As a recognized frontrunner in the optical transceiver market, we combine deep technical expertise with a forward-thinking mindset to create designs that meet – and anticipate – the next generation of customer challenges.

Our operational agility and commitment to efficiency empower us to deliver high-performance, cost-effective solutions within the most demanding timelines, ensuring our partners stay ahead in an ever-evolving industry.

Content

With a team of proven track record in designing and volume manufacturing opto electronic products, working together for **more than 20 years** we posses core competencies **in RF, optical packaging, optical engine integration**, and more.

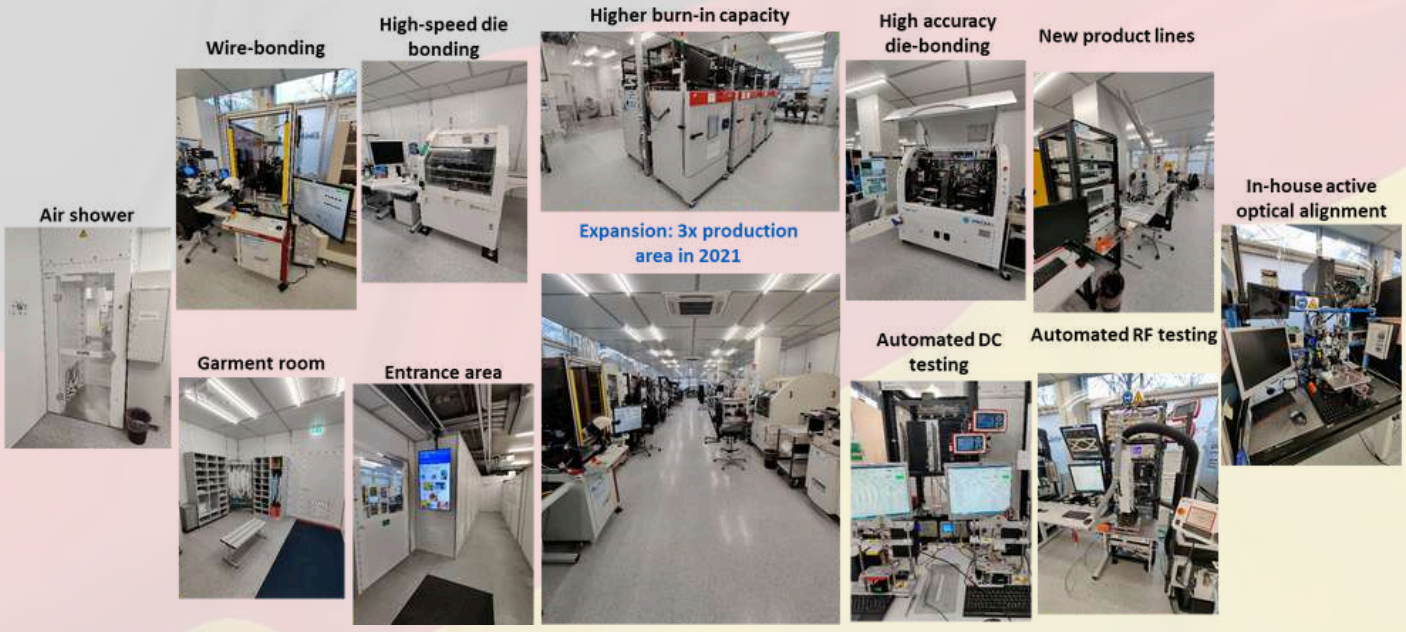
Whether you're seeking cutting-edge technology or seamless integration, our team is dedicated to delivering innovative solutions tailored to meet your unique needs.

Our Berlin facility hosts both the design center as well as the manufacturing site, allowing better flexibility and faster new product introduction.

Activities: ISO9001 &ISO14001

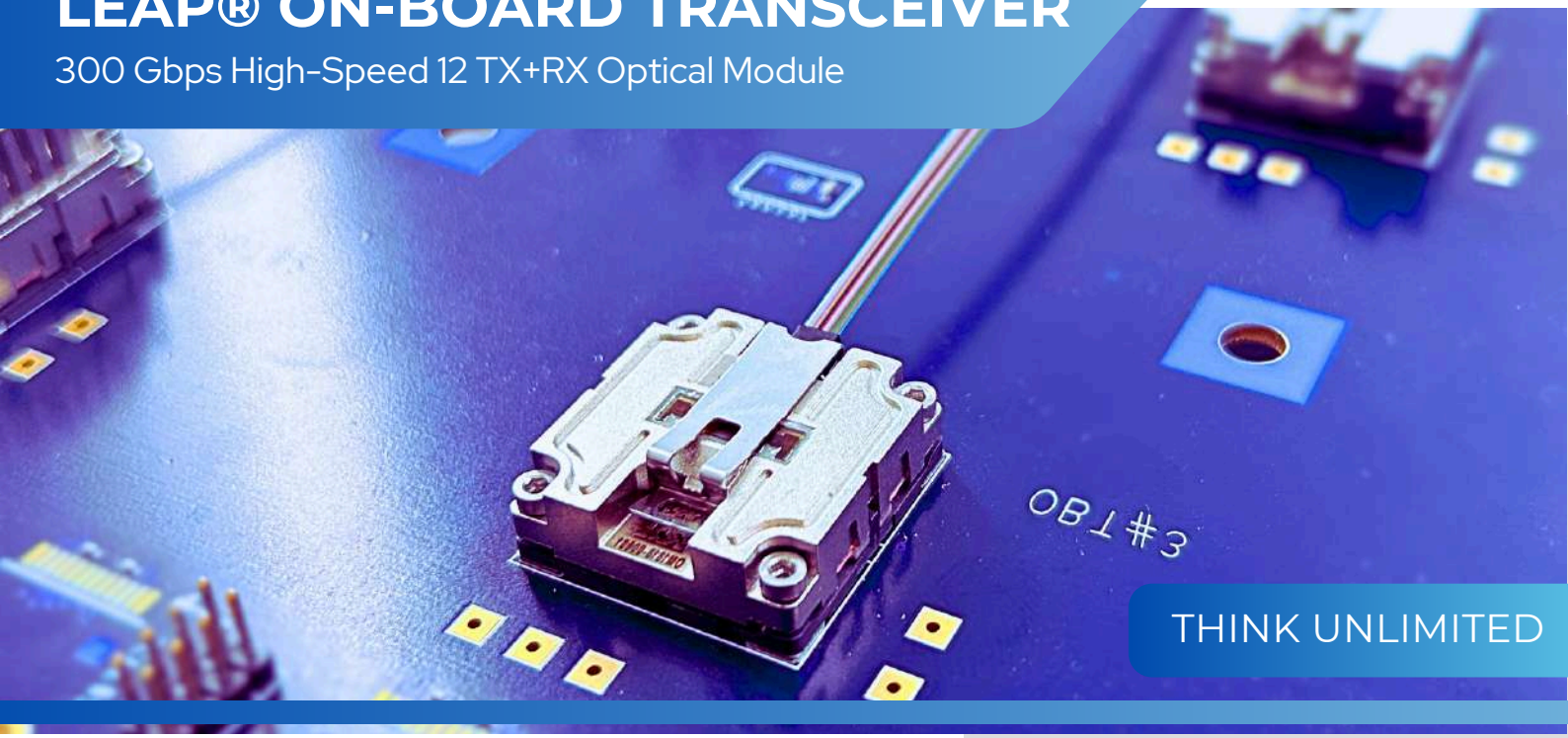
- Product Development
- Process Development
- NPI and Manufacturing
- Machine Development

AOP Shopfloor

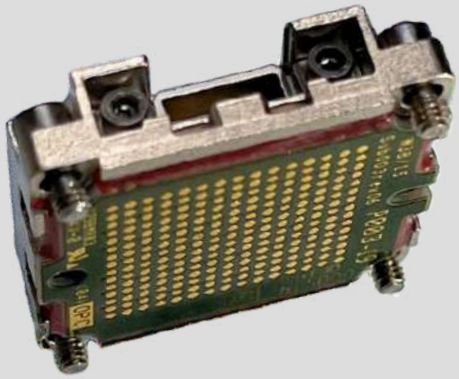


LEAP® ON-BOARD TRANSCEIVER

300 Gbps High-Speed 12 TX+RX Optical Module



Amphenol AOP **300 Gbps Leap® OBT** High-Speed 12 TX+RX Optical Module is **faster, smaller, more cost and power efficient than most conventional datacenter interconnects.** With its 12 channels working independently and each channel delivering up to 25 Gbps, it is versatile, aggregating up to 300 Gbps. It is the best choice for high density projects that need to take advantage of board space while being as close as possible to the FPGA.



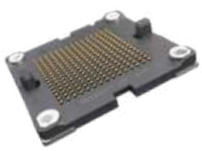
KEY FEATURES

12-channel module capable of data rates from 1.25 Gbps up to 26.3 Gbps at any range from 0 °C to 70 °C.

300 Gbps total throughput requiring **only 1 sqin (25 x 25 mm) of board space and 5.8 W of power with CDR enabled.**

Heat dissipation towards the top through many options of heat sinks or cold plates - water cool compatible.

Optical cable can be routed above and around other components for a versatile and flexible the design. Mounts easily on an Amphenol LGA/BGA socket interposer.



APPLICATIONS

- Network Systems
- Artificial Intelligence & HPC
- 5G Base Stations
- Telescope & Imaging
- Industrial Control
- Ground Communication
- Particle Accelerators

CONTACT US

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LEAP® ON-BOARD TRANSCEIVER

300 Gbps High-Speed 12 TX+RX Optical Module

Amphenol Active Optics Products

	FEATURES	BENEFITS
1	1" x 1" layout grid	Optical module can be placed in 2-dimensional layout grid with 1" pitch between adjacent modules. Uses 2.5x less board space than QSFP28
2	Ethernet 100GBASE-SR4 compliance (per quad) Compatible with standard MT optical cables	Ethernet transmission covering 70 m or more (MM fiber) Uses off-the-shelf MT optical interface
3	Compatible with Amphenol socket	Easy to install: a highly space-efficient solution for electrically connecting 225 contacts
4	Two-wire control and diagnostic interface (I²C)	Allows for transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring
5	Data rate transparent from 1.25 Gbps to 26.3 Gbps	Supports non-standard protocols in this range of datarates. CDR operational bit rate of 25.3-26.3 Gbps
6	Integrated heat sink design	Select from a number of pre-fabricated or customized designs to meet your system needs. Water cooled compatible version available
7	Class 1M laser laser version available	Fail safe operation that meets all safety requirements
8	Programmable input equalization	Compensate up to 11 dB insertion loss at 12GHz
9	Programmable output amplitude and de-emphasis	Compensate for PCB traces loss for proper signal conditioning
10	Enhanced Bit Error Rate 10^{-12} requires no FEC	Lower system latency and better system performance

SUPPORTED STANDARDS

- 100GBASE-SR4 per 802.3(per quad)
- Proprietary 25Gb/s links
- PCIe Gen 4
- SAS 4.0
- EDR Infiniband

ENVIRONMENTAL

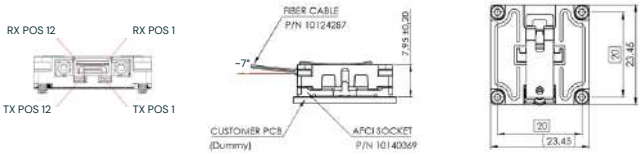
- RoHS 6/6 compliant
- Case operating temperature: 0 °C to 70 °C
- Shock MIL-STD 883: Method 2002.4 (500 g; 1 ms)
- Vibe MIL-STD 883: Method 2007.3 (20 g)
- Laser Class 1M & 3B version available
- FDA: 0312716 | TUV: 21246478 | UL: E251142-191
- Conformal coating options

PACKAGING

- Individual & Multipart Blister Package

DIMENSIONS

- 23,5 x 23,5 x 8,0 mm (without heat sink)



EVALUATION KIT

Evaluation board comes together with a transceiver, application notes & Graphical User Interface (GUI). **P/N: 10132378-XYZ.**

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V only
- BER < 10^{-12} at 25.78 Gbps, PRBS31
- Lanes per device: 12 Transmit and 12 Receive
- Power Consumption: 5.8 W (typ.) all features ON
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

PART NUMBER SELECTOR

10124588 - X Y Z

Coating
3 - Standard
4 - Conformal Coating

Laser Class
1 - Laser Class 3B
3 - Laser Class 1M

Heat Sink Type (LxWxH) mm
0 - none
1 - short height: 23.5x23.5x14.6
2 - medium height: 23.5x23.5x17.6
4 - pillar tall 1: 23.5x23.5x23.4
6 - pillar tall 2: 23.5x23.5x31.7
7 - fin based: 23.5x23.5x31.7
8 - wings form: 33.2x55.4x12.6
9 - block form: 33.2x38.0x15.6
B - flat adapter water cool: 28.4x28.4x12.0
C - cubic form: 37.4x49.4x24.4
D - flat adapter: 23.5x23.5x8.2

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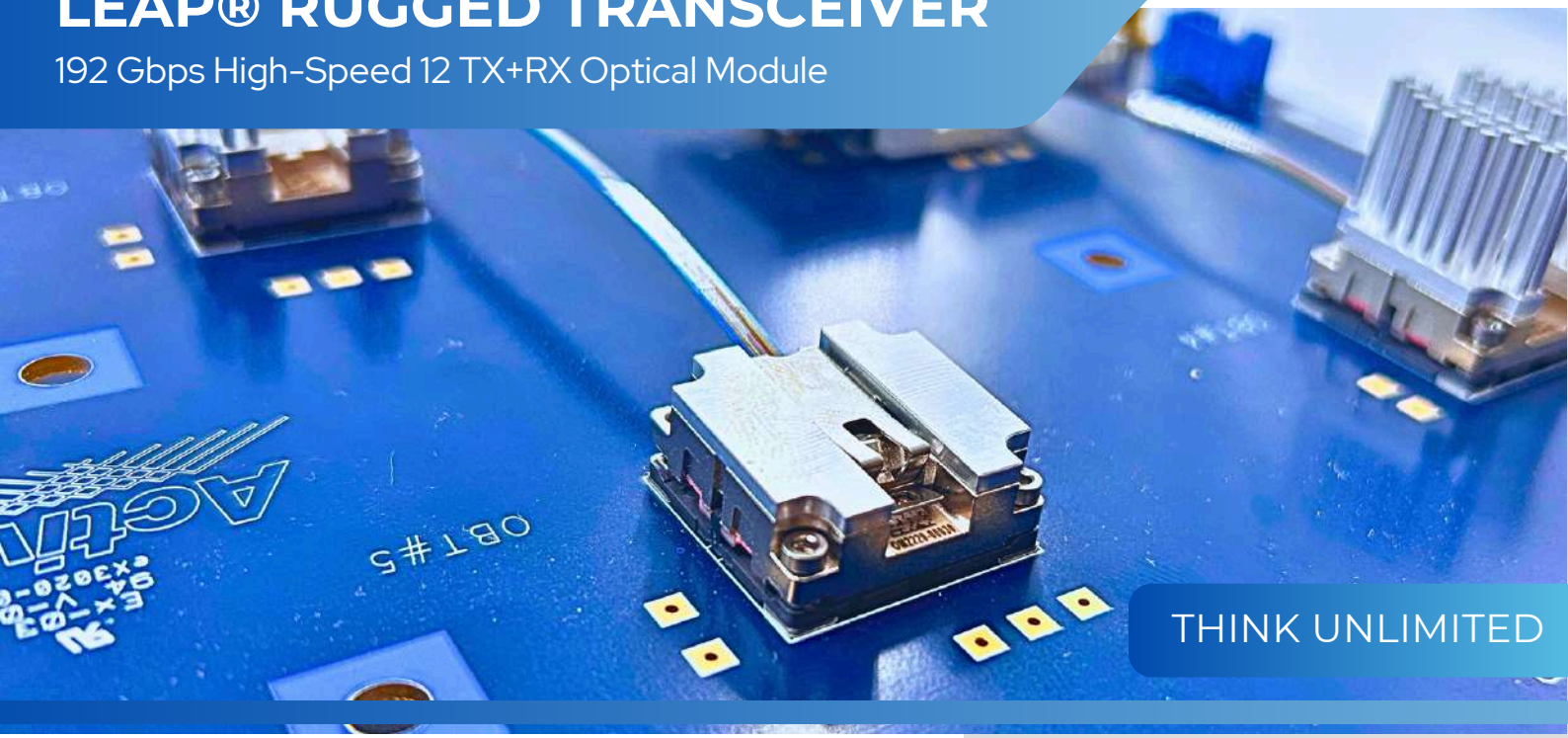
LEAP® RUGGED TRANSCEIVER

192 Gbps High-Speed 12 TX+RX Optical Module



The Amphenol AOP 192 Gbps **Leap® RUGGED OBT** is the **fastest, smallest, and most cost- and power-efficient ruggedized optical module** available on the market. Offering **192 Gbps over 12 channels**, with extended temperature support **(-40°C to +85°C)**, it is the ideal solution for Aerospace and Military applications where reliability in harsh environments is critical **(STD-833 Shock & Vibe)**. High dense and RFI/EMI resistance, the RUGGED OBT delivers exceptional performance, elevating your system's design to the next level.

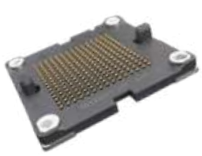
KEY FEATURES

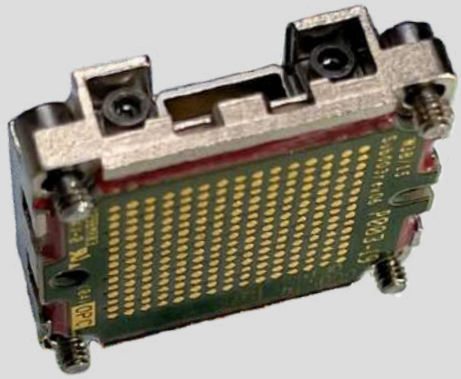
12-channel module capable of data rates from 1.25 Gbps up to 16 Gbps at any range from -40 °C to +85 °C.

192 Gbps total throughput requiring **only 1 sqin (25 x 25 mm) of board space** and **3.58 W of power.** Plug&Play transceiver (incl. power conversion).

Heat dissipation towards the top through many options of heat sinks or cold plates - water cool compatible.

Optical cable can be routed above and around other components for a versatile and flexible the design. Mounts easily on an Amphenol LGA/BGA socket interposer.





APPLICATIONS

- Network Systems
- Ground Communication
- Radar & Surveillance
- Avionics & Cockpit Mgmt
- Electronic Warfare
- Mega Switches

MIL-AERO
GRADE
-40°C TO +85°C
STD-883 SHOCK & VIBE

CONTACT US

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LEAP® RUGGED TRANSCEIVER

192 Gbps High-Speed 12 TX+RX Optical Module

Amphenol Active Optics Products

	FEATURES	BENEFITS
1	1" x 1" layout grid	Optical module can be placed in 2-dimensional layout grid with 1" pitch between adjacent modules. Uses 2.5x less board space than QSFP28
2	Ethernet 100GBASE-SR4 compliance (per quad) Compatible with standard MT optical cables	Ethernet transmission distance up to 100 (MM fiber) Uses off-the-shelf MT optical interface
3	Compatible with Amphenol socket	Easy to install: a highly space-efficient solution for electrically connecting 225 contacts
4	Two-wire control and diagnostic interface (I²C)	Allows for transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring
5	Data rate transparent from 1.25 Gbps to 16 Gbps	Supports non-standard protocols in this range of datarates.
6	Integrated heat sink design	Select from a number of pre-fabricated or customized designs to meet your system needs. Water cooled compatible version available
7	Class 1M laser laser version available	Fail safe operation that meets all safety requirements
8	Programmable input equalization	Compensates up to 11 dB insertion loss at 12GHz
9	Programmable output amplitude and de-emphasis	Compensates for PCB traces loss for proper signal conditioning
10	Enhanced Bit Error Rate 10^{-12} requires no FEC	Lower system latency and better system performance

SUPPORTED STANDARDS

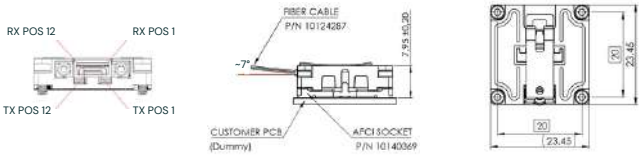
- 40GBASE-SR4
- Proprietary 16Gb/s links
- PCIe Gen 4
- SAS 4.0
- QDR / FDR Infiniband

ENVIRONMENTAL

- RoHS 6/6 compliant
- Case operating temperature: -40 °C to +85 °C
- Shock MIL-STD 883: Method 2002.4 (500 g; 1 ms)
- Vibe MIL-STD 883: Method 2007.3 (20 g)
- Laser Class 1M & 3B version available
- FDA: 0312716 | TUV: 21246478 | UL: E251142-191
- Conformal coating options

DIMENSIONS

- 23,5 x 23,5 x 8,0 mm (without heat sink)



EVALUATION KIT

Test various scenarios in a very simply and effective way, increasing the time to market. Evaluation board comes together with a transceiver, application notes & Graphical User Interface (GUI). **P/N: 10132378-XYZ.**

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V only
- BER < 10^{-12} at 10 Gbps, PRBS31
- Lanes per device: 12 Transmit and 12 Receive
- Power Consumption: 3.5 W (typ.)
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

PACKAGING

- Individual & Multipart Blister Package

PART NUMBER SELECTOR

10124588 - A Y Z

Laser Class
1 - Laser Class 3B
3 - Laser Class 1M

Heat Sink Type (LxWxH) mm
0 - none
1 - short height: 23.5x23.5x14.6
2 - medium height: 23.5x23.5x17.6
4 - pillar tall 1: 23.5x23.5x23.4
6 - pillar tall 2: 23.5x23.5x31.7
7 - fin based: 23.5x23.5x31.7
8 - wings form: 33.2x55.4x12.6
9 - block form: 33.2x38.0x15.6
B - flat adapter water cool: 28.4x28.4x12.0
C - cubic form: 37.4x49.4x24.4
D - flat adapter: 23.5x23.5x8.2

CONTACT US
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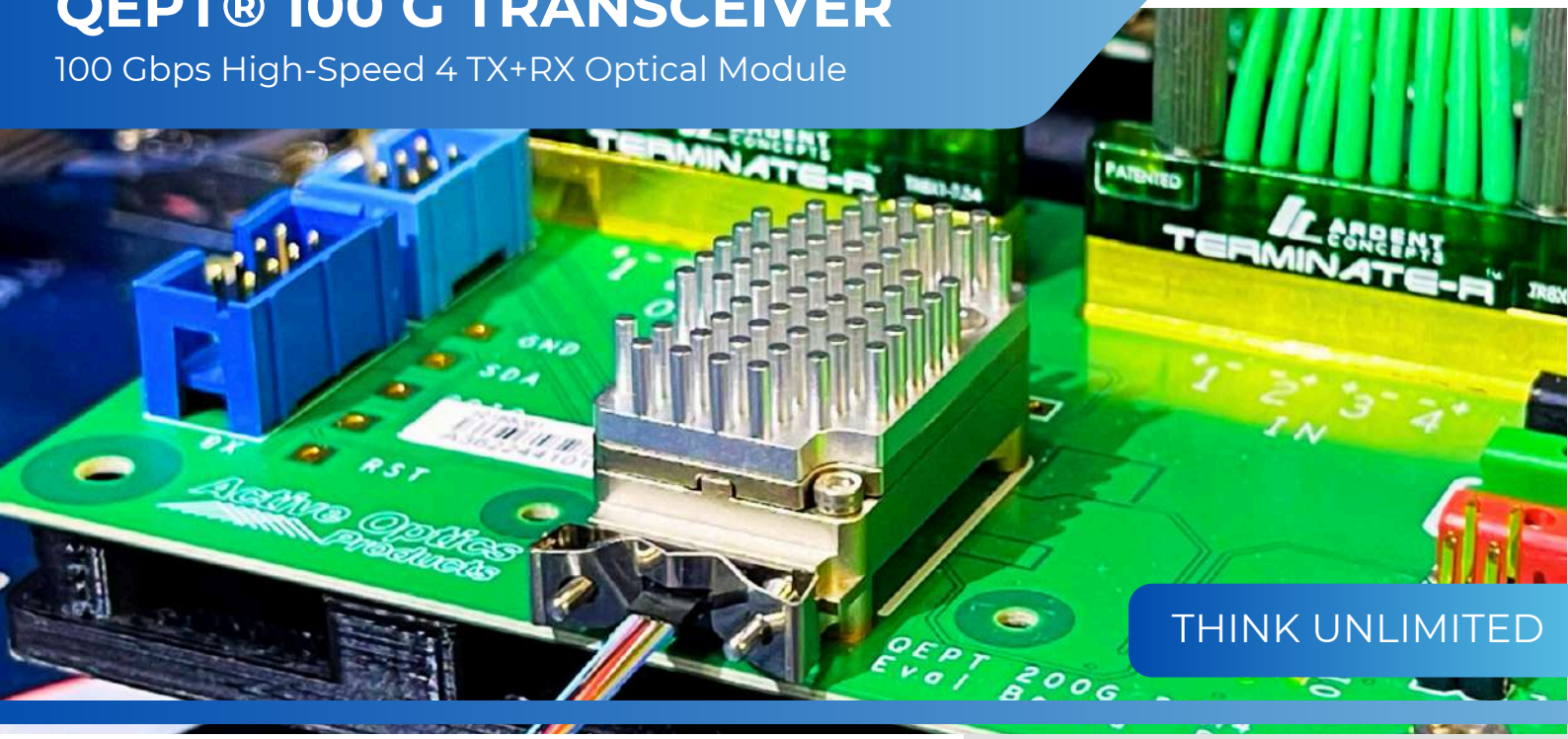
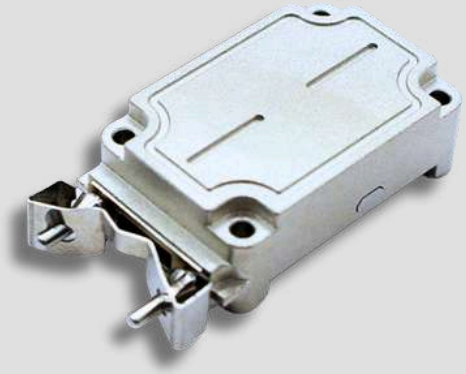
Amphenol Active Optics Products

QEPT® 100 G TRANSCEIVER

100 Gbps High-Speed 4 TX+RX Optical Module



Amphenol AOP **QEPT® 100Gbps NRZ 4 TX+RX** High-Speed Optical Module is a rugged Quad Embedded Pluggable Transceiver - **engineered for extended temperatures** and demanding environments where reliability and high performance are crucial. **It delivers 100 Gbps across 4 channels** (25Gbps/channel), it is hot-pluggable and quick to install, a versatile product with a seamless upgrade path to PAM4 56Gbps/channel. A specialized space, 8TX or 8RX version are also available.



KEY FEATURES

4-channel module capable of data rates from 1.25 Gbps up to 28.05 Gbps at any range from -40 °C to +85 °C.

100 Gbps aggregated requiring **only 0.8 sqin (29 x 18 mm) of board space and 1.6 W of power with CDR enabled.**

Removable fiber optical cable connection (standard MT), and hot pluggable - installation and maintenance made easy like never before.

Upgrade to 200 Gbps PAM4 without board design change by using the same footprint connector. A easy swap to the next generation.

APPLICATIONS

- Network Systems
- Industrial Control
- Ground Communication
- Radar & Surveillance
- Military Aerospace
- Military Vehicles
- Satellites

MIL-AERO GRADE
-40°C TO +85°C
STD-883 SHOCK & VIBE

CONTACT US

marketing@amphenol-aop.com
www.amphenol-aop.com

QEPT® 100 G TRANSCEIVER

100 Gbps High-Speed 4 TX+RX Optical Module

Amphenol Active Optics Products

	FEATURES	BENEFITS
1	29x18mm - effective PCB 0.80 sq mm	Half the size of a QSFP28 transceiver Enables easy and efficient PCB routing
2	Operating temperature rage: -40°C to 85°C	Facilitates temperature-challenging system designs
3	Optically pluggable	Replaceable patchcord
4	Mezzanine-type connection	Easy to install and remove Interchangeable solution
5	Screw-locking feature for board mounting	Mechanical shock and vibration resistant
6	Two-wire control and diagnostic interface (I^2C)	Supports transceiver status monitoring and diagnostics (temperature and optical power)
7	Data rate transparent from 1.25 Gbps to 28.05 Gbps	Supports standard & non-standard protocols (10GbE, 25GbE, 8G/16G/32G Fiber Channel)
8	Flat-top design	Enables use of heat-sink for better thermal performance Water cooled compatible
9	Integrated CDR	Lower power consumption and latency CDR bypass to support lower/ non-standard data rates
11	Programmable input equalization	Compensate up to 11 dB insertion loss at 12GHz
12	Programmable output amplitude and de-emphasis	Compensate for PCB traces loss for proper signal conditioning

SUPPORTED STANDARDS

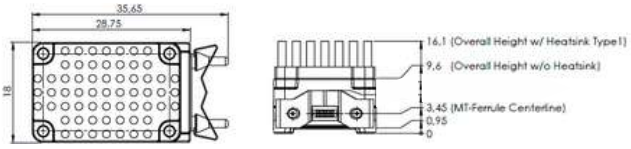
- 100GBASE-SR4
- EDR InfiniBand
- 8G/16G/32G FiberChannel
- 40GBASE-SR4
- SFF 8636 Management Interface

ENVIRONMENTAL

- RoHS compliant
- Case operating temperature: -40 °C to +85 °C
- Shock MIL-STD 883: Method 2002.4 (500 g; 1 ms)
- Vibe MIL-STD 883: Method 2007.3 (20 g)
- Conformal coating option

DIMENSIONS

- 28,8 x 18,0 x 9,6 mm (without heat sink)



EVALUATION KIT

Test various scenarios in a very simply and effective way, increasing the time to market. Comes together with Application Notes & Graphical User Interface (GUI). Get in touch for more on **P/N: 10175094-02Y**

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V and 1.8 V
- BER < 10^{-12} at 25.78125 Gbps, PRBS31
- Lanes per device: 4 Transmit and 4 Receive
- Power Consumption: 1.6 W (typ.) all features ON
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

MATERIAL

- Electrical mezzanine-type connector
- Optical interface mates with standard MT-ferrule

PACKAGING

- Individual Blister Package

PART NUMBER SELECTOR

TR252041PMT - X Y C Z 0

Case Temperature
C - commercial: 0°, +70°C
E - extended: -5°, +85°C
A - mil-aero: -40°, +85°C

Conformal Coating
0 - Standard
1 - Conformal Coating

Heat Sink - Module Height
0 - none
1 - pillar-based low profile

CONTACT US

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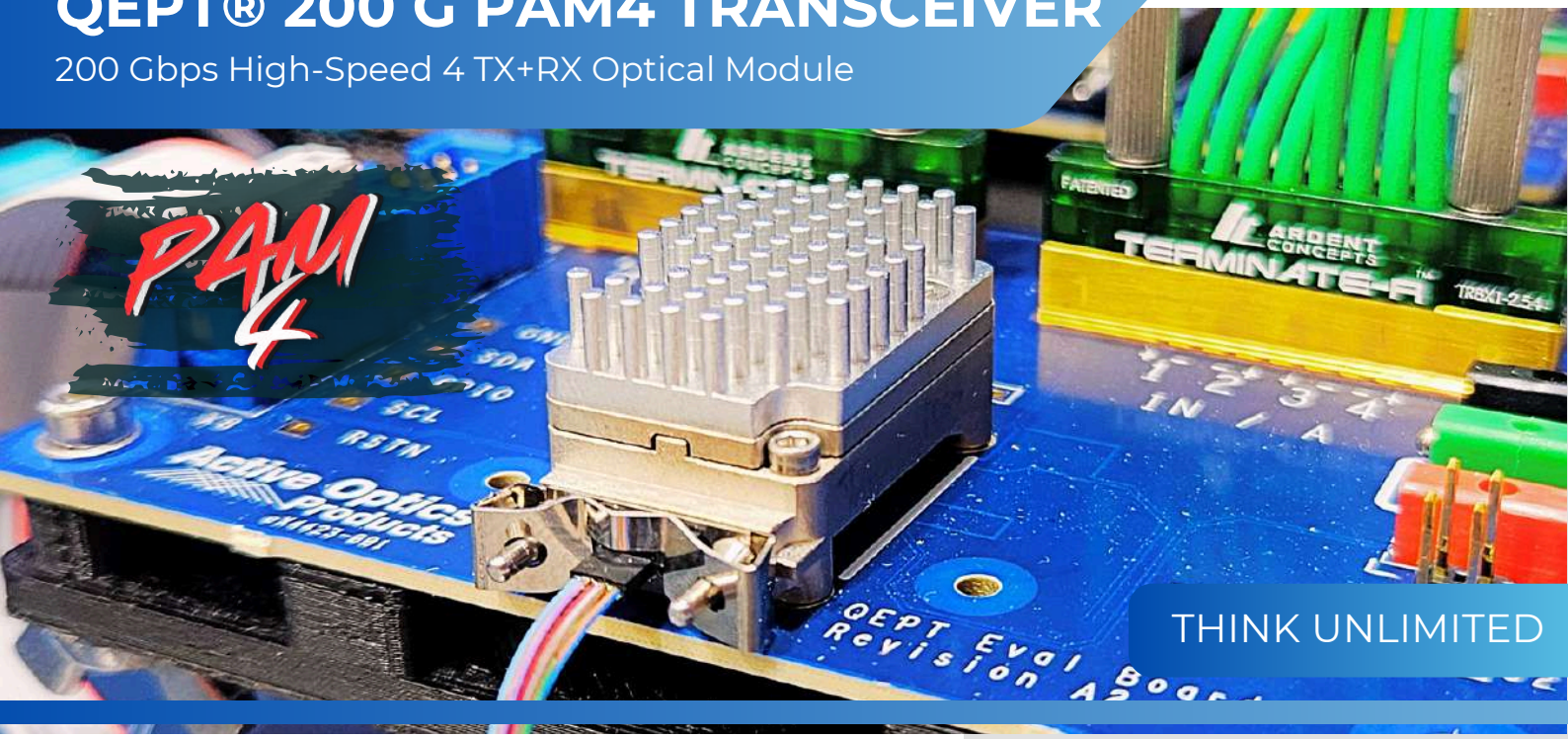
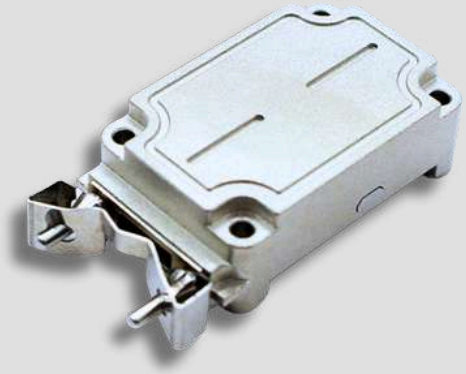
QEPT® 200 G PAM4 TRANSCEIVER

200 Gbps High-Speed 4 TX+RX Optical Module



Amphenol AOP **QEPT® 200 Gbps PAM4 4 TX+RX** High-Speed Optical Module is a robust Quad Embedded Pluggable Transceiver - an ideal form factor to optimize datacenter or supercomputing architectures, thanks to its density and versatility. **Supports 200 Gbps across 4 channels** (56 Gbps PAM4/channel), it is hot-pluggable and quick to install, a drop-in replacement for the NRZ version.



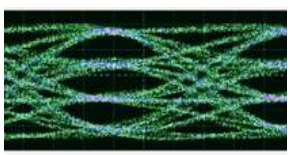
KEY FEATURES

4-channel module capable of data rates from 1.25 Gbps up to 56 Gbps at any range from 0 °C to +70 °C.

200Gbps aggregated requiring **only 0.8 sqin (29 x 18 mm) of board space and less than 3W of power with CDR enabled.**

Removable fiber optical cable connection (standard MT), and hot pluggable - installation and maintenance made easy like never before.

Upgrade from 100 Gbps NRZ without board design change by using the same footprint connector. A easy swap to the next generation.



APPLICATIONS

- Network Systems
- Artificial Intelligence & HPC
- 5G Base Stations
- Telescope & Imaging
- Industrial Control
- Ground Communication
- Particle Accelerators

CONTACT US

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QEPT® 200 G PAM4 TRANSCEIVER

200 Gbps High-Speed 4 TX+RX Optical Module

Amphenol Active Optics Products

	FEATURES	BENEFITS
1	29x18mm - effective PCB 0.80 sq mm	Half the size of a QSFP56 transceiver Enables easy and efficient PCB routing
2	Compatible with standard MT optical cables	Uses off-the-shelf MT optical interface
3	Optically pluggable	Replaceable patchcord
4	Mezzanine-type connection	Easy to install and remove Interchangeable solution
5	Screw-locking feature for board mounting	Mechanical shock and vibration resistant
6	Two-wire control and diagnostic interface (I^2C)	Supports transceiver status monitoring and diagnostics (temperature and optical power)
7	100GBASE-SR4 and 200GBASE-SR4 compatible	Backward compatibility for NRZ applications
8	Flat-top design	Enables use of heat-sink for better thermal performance. Water cooled compatible
9	Integrated CDR	Lower power consumption and latency CDR bypass to support lower/ non-standard data rates
11	Adaptive CTLE	Compensate up to 10 dB insertion loss at 14GHz
12	Programmable output amplitude and de-emphasis	Compensate for PCB traces loss for proper signal conditioning

SUPPORTED STANDARDS

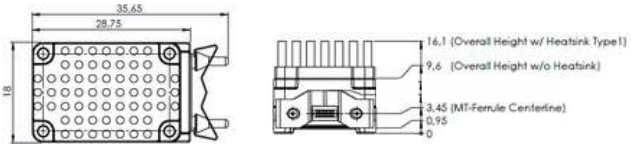
- 200GBASE-SR4
- 100GBASE-SR4
- CMIS 5.1

ENVIRONMENTAL

- RoHS 6/6 compliant
- Case operating temperature: 0 °C to +70 °C
- Conformal coating option

DIMENSIONS

- 28,8 x 18,0 x 9,6 mm (without heat sink)



EVALUATION KIT

Test various scenarios in a very simply and effective way, increasing the time to market. Comes together with Application Notes & Graphical User Interface (GUI). Get in touch for more.

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V and 1.8 V
- BER < $2.4x10^{-4}$ at 26.5625 Gbaud/s
- Lanes per device: 4 Transmit and 4 Receive
- Power Consumption: 3.0 W (typ.)
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

PACKAGING

- Individual Blister Package

MATERIAL

- Electrical mezzanine-type connector
- Optical interface mates with standard MT-ferrule

PART NUMBER SELECTOR

TR504041PMT	-	C	X	C	Y	0

Conformal Coating
0 – Standard
1 – Conformal Coating

Heat Sink - Module Height
0 – none
1 – pillar-based low profile

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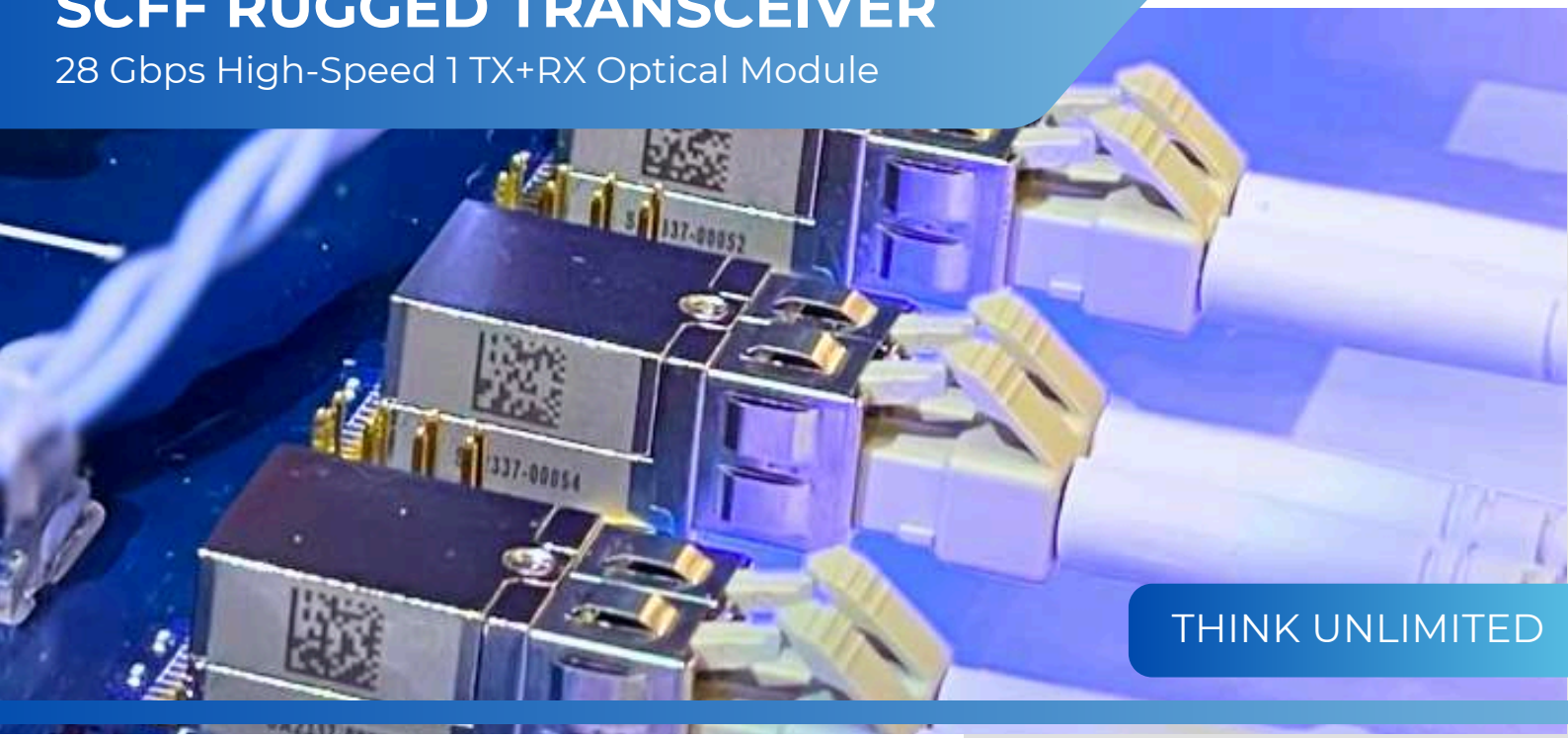
Amphenol Active Optics Products

SCFF RUGGED TRANSCEIVER

28 Gbps High-Speed 1 TX+RX Optical Module



THINK UNLIMITED

The Amphenol AOP **SCFF - Small Cubic Form Factor** is a single channel optical transceiver designed for harsh environments that require extended temperature ranges. Designed to meet rigorous reliability standards, it offers exceptional performance through its 12-pin - SFF-8431 compatible electrical interface - and a duplex LC port, ensuring it meets your design specifications.
Thanks to its compact form factor you can integrate the SCFF nearly anywhere in your system

KEY FEATURES

Single channel module capable of data rates from 1.25 Gbps up to 28.05 Gbps, a drop replacement for the 10 Gbps version.

With options of **operating case temperature from -40 °C to +85 °C,** ruggedised and conformal coating housing.

Small form factor, half of the size of a SFP+ module, **only needs up to 0.8 W of power,** with CDR enabled.

Duplex LC optical cavitites that optimizes rack space, enabling distances up to 80 m (OM3 @ 25Gbps) or up to 300 m (OM3 @ 10Gbps).

APPLICATIONS

- Industrial Control
- Commercial Aerospace
- Military Vehicles
- Military Aerospace
- Radar & Surveillance
- Ground Communication

MIL-AERO
GRADE
-40°C TO +85°C
STD-883 SHOCK & VIBE

CONTACT US

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SCFF RUGGED TRANSCEIVER

28 Gbps High-Speed 1 TX+RX Optical Module

Amphenol Active Optics Products

	FEATURES	BENEFITS
1	Small Form Factor	Uses 2x less board space compared to SFP+ form factor
2	Data rate transparent from 1.25 Gbps to 28.05 Gbps*	Supports standard & non-standard protocols (10GbE, 25GbE, 8G/16G/32G Fiber Channel)
3	LC Duplex Port	Ideal for applications requiring safe optical connection
4	SFF-8472 compliant two-wire control and diagnostic interface (I²C)	Supports transceiver status monitoring and diagnostics (temperature and optical power)
5	Programmable TX input equalization	To compensate PCB losses, up to 12dB gain are programmables to optimize input signal condition.
6	Programmable RX output amplitude & de-emphasis	Wide output amplitude & de-emphasis range are programmable to optimize the output signal condition.
7	Programmable RX & TX CDR* (output amplitude, de-emphasis and CDR*)	Guaranteed performance over full data rate range

*for 28.05 Gbps version only

SUPPORTED STANDARDS

- 25 Gbps Ethernet*
- 1.25 Gbps to 28.05Gbps* proprietary links
- 10 GbE
- EDR Infiniband*
- 8G/16G/32G Fiber Channel*
- CPRI*

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V only
- BER < 10^{-12} at -11,8dBm, PRBS31, 25,78 Gbps (CDR ON)
- BER < 10^{-12} at -15,1dBm, PRBS31, 10,31 Gbps
- Lanes per device: 1 Transmit and 1 Receive
- Low Power Consumption: < 1.0W at -40°C, 25Gbps
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

ENVIRONMENTAL

- RoHS compliant
- Conformal coating option
- Case operating temperature: -40 °C to +85 °C
- Shock MIL-STD 883: Method 2002.4 (500 g; 1 ms)
- Vibe MIL-STD 883: Method 2007.3 (20 g)

PACKAGING

- Multipart Blister Package

EVALUATION KIT

Test various scenarios in a very simply and effective way, increasing the time to market. Comes together with Application Notes & Graphical User Interface (GUI). Get in touch for more on **P/N: 10171850-XYZ.**

PART NUMBER SELECTOR

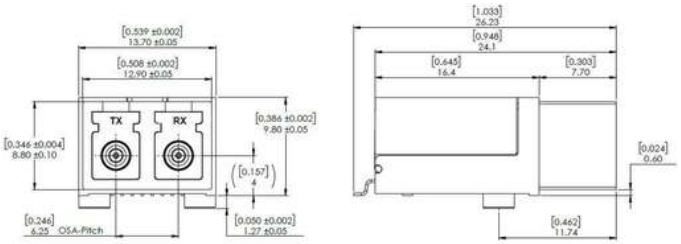
TRX | XX | SOOOLC | Y | S1 | Z | O

Data Rate
10 - up to 14.02 Gbps
25 - up to 28.05 Gbps

Case Temperature
C - commercial: 0°, +70°C
E - extended: -5°, +85°C
A - mil-aero: -40°, +85°C

Coating
0 - no coating
1 - coating

DIMENSIONS



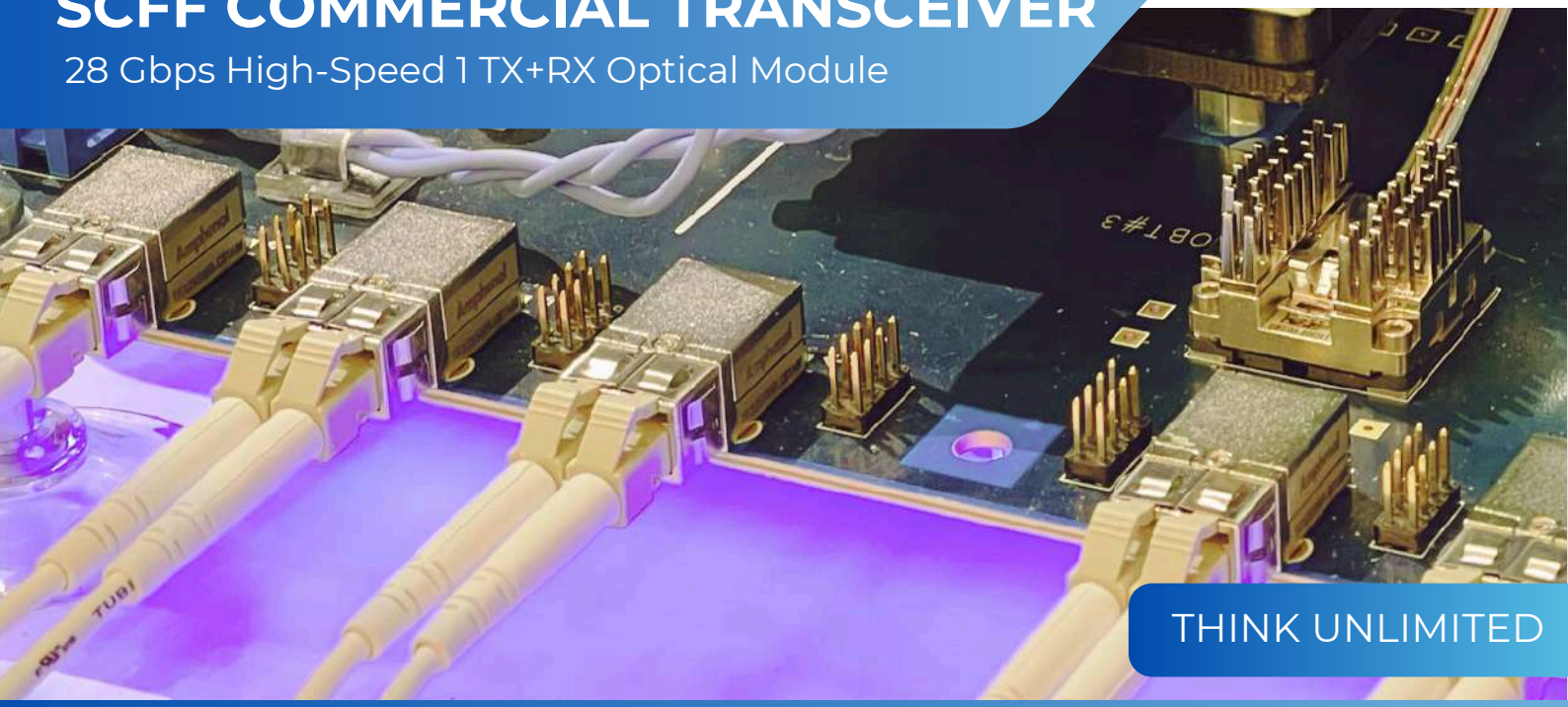
SCFF ELECTRICAL PIN-OUT

PIN	Symbol	I/O	Description
1	GND	GND	Power Supply, Ground
2	TX-	Input	Differential Transmitter Data Input, internal AC coupled
3	TX+	Input	Differential Transmitter Data Input, internal AC coupled
4	VDD	VDD	Power Supply, +3,3V
5	TX_DIS	Input	Transmitter Disable (Internal 10kW pull-up resistor is included in the transceiver)
6	SCL	Input	I2C, Serial Clock
7	SDA	I/O	I2C, Serial Data
8	RX-SD	Output	Receiver Signal Detect (pull-up resistor needs to be added on host board)
9	VDD	VDD	Power Supply +3,3V
10	RX+	Output	Differential Receiver Data Output, internal AC coupled
11	RX-	Output	Differential Receiver Data Output, internal AC coupled
12	GND	GND	Power Supply, Ground
Housing Posts	Housing GND		Housing-GND is electrically isolated from Ground

CONTACT US
marketing@amphenol-aop.com
www.amphenol-aop.com

SCFF COMMERCIAL TRANSCEIVER

28 Gbps High-Speed 1 TX+RX Optical Module



THINK UNLIMITED

The Amphenol AOP **SCFF - Small Cubic Form Factor** is a 10 Gbps single-channel optical transceiver designed for computing environments where both high density and speed are essential. Engineered to meet strict reliability standards, it delivers exceptional performance via its 12-pin SFF-8431 compatible electrical interface and duplex LC port, ensuring seamless integration with your design specifications. Its compact form factor allows for flexible integration, making it easy to incorporate the SCFF into virtually any part of your system.

KEY FEATURES

Single channel module capable of data rates from 1.25 Gbps up to 28.05 Gbps, an easy path drop replacement to the 28 Gbps version.

Operating case temperature from 0 °C to +70 °C, and with a conformal coating housing option.

Small form factor, half of the size of a SFP+ module, **only needs 0.4 W of power.**

Duplex LC optical cavitites that optimizes rack space, enabling distances up to 80 m (OM3 @ 10Gbps) .

APPLICATIONS

- Network Systems
- Artificial Intelligence & HPC
- 5G Base Stations
- Telescope & Imaging
- Industrial Control
- Ground Communication
- Particle Accelerators

CONTACT US

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SCFF COMMERCIAL TRANSCEIVER

28 Gbps High-Speed 1 TX+RX Optical Module

Amphenol Active Optics Products

	FEATURES	BENEFITS
1	Small Form Factor	Uses 2x less board space compared to SFP+ form factor
2	Data rate transparent from 1.25 Gbps to 28.05 Gbps*	Supports standard & non-standard protocols (10GbE, 25GbE, 8G/16G/32G Fiber Channel)
3	LC Duplex Port	Ideal for applications requiring safe optical connection
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*for 28.05 Gbps version only

SUPPORTED STANDARDS

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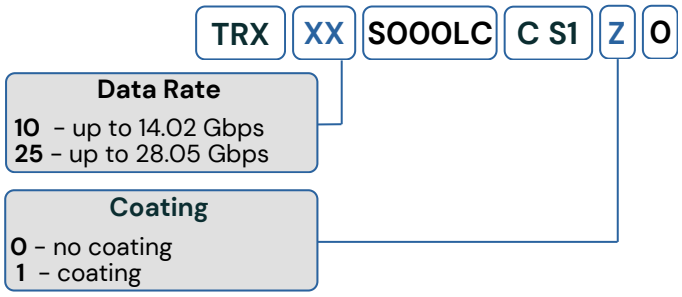
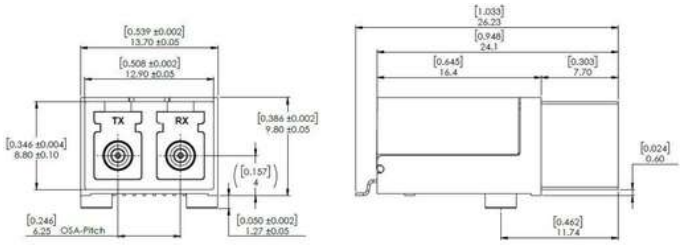


DIMENSIONS



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MAIN FEATURE COMPARISON

Amphenol Active Optics Products

	SCFF	DUAL SCFF	QEPT 100	QEPT 200	QEPT TX/RX	LEAP RUGGED	LEAP OBT
TX / RX	TX+RX	TX+RX	TX+RX	TX+RX	TX or RX	TX+RX	TX+RX
Number of Channels	1 + 1	2 + 2	4 + 4	4 + 4	8	12 + 12	12 + 12
Aggregated Data Rate (Gbps)	10 or 25	20 or 50	100	200	100	192	300
Size LxWxH (mm)	26x14x10	36x30x12	29x18x9	29x18x9	29x18x9	24x24x8	24x24x8
Multimode	✓	✓	✓	✓	✓	✓	✓
Wavelength (nm)	850	850	850	850	850	850	850
Modulation	NRZ	NRZ	NRZ	PAM4	NRZ	NRZ	NRZ
Operating Temperature Minimum, Maximum (°C)	-40, +85	-40, +85	-40, +85	0, +70	-40, +85	-40, +85	0, +70
Vibe MIL-833	✓	✓	✓	✗	✓	✓	✓ *
Shock MIL-833	✓	✓	✓	✗	✓	✓	✓ *
Power Dissipation (W)	10G: 0.45 25G: 0.65	20G: 0.90 50G: 1.30	1.5	3.0	1.5	3.5	5.8
Mounting	Soldering	Daughter card	Mezzanine connector	Mezzanine connector	Mezzanine connector	BGA socket	BGA socket
Heat Dissipation	Die-cast housing	Die-cast housing	Heatsink, coldplate	Heatsink, coldplate	Heatsink, coldplate	Heatsink, coldplate	Heatsink, coldplate
Fiber Connection	LC	LC	MT-12 ferrule	MT-12 ferrule	MT-12 ferrule	MT-24 ferrule	MT-24 ferrule
Hot-Pluggable	✗	✗	✓	✓	✓	✗	✗
Fiber cable can be replaced	✓	✓	✓	✓	✓	✓	✓
Bit Error Rate (BER)	$< 10^{-12}$	$< 10^{-12}$	$< 10^{-12}$	$<2.4*10^{-4}$	$< 10^{-12}$	$< 10^{-12}$	$< 10^{-12}$
Two-wire serial interface (i²c)	✓	✓	✓	✓	✓	✓	✓
CDR (Clock Data Recovery)	✓	✓	✓	✓	✓	✗	✓
Input Equalization, Output Amplitude & Pre-Emphasis	✓	✓	✓	✓	✓	✓	✓
Digital Monitoring (Voltage, Temperature, RSSI)	✓	✓	✓	✓	✓	✓	✓
Evaluation Kit Available	✓	✓	✓	✓	coming soon	✓	✓
Parts Available	✓	✓	✓	coming soon	coming soon	✓	✓
Packaging (pcs)	10	10	10	10	10	1 or 10	1 or 10

✓ *: qualified per similarity

March 2024

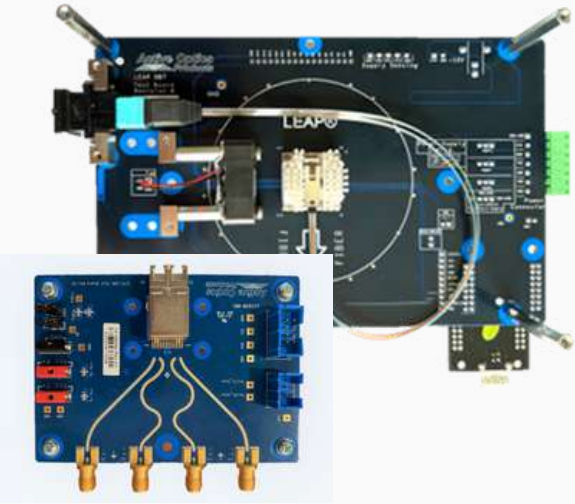
Contact Us

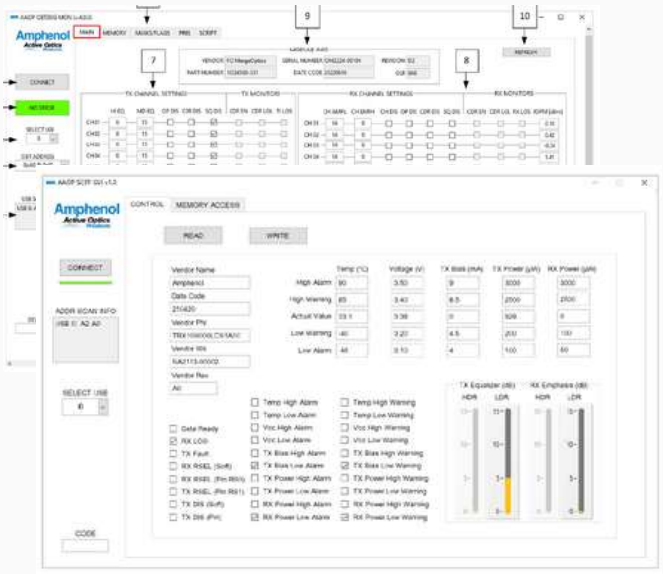
marketing@amphenol-aop.com

www.amphenol-aop.com

Evaluation Boards

Designed to streamline your product development journey, these boards offer a plug-and-play solution for bringing your ideas to life in record time. Convenient and efficient platform for engineers during the design phase, providing rapid prototyping capabilities, reduced development time, and components in real-world scenarios.





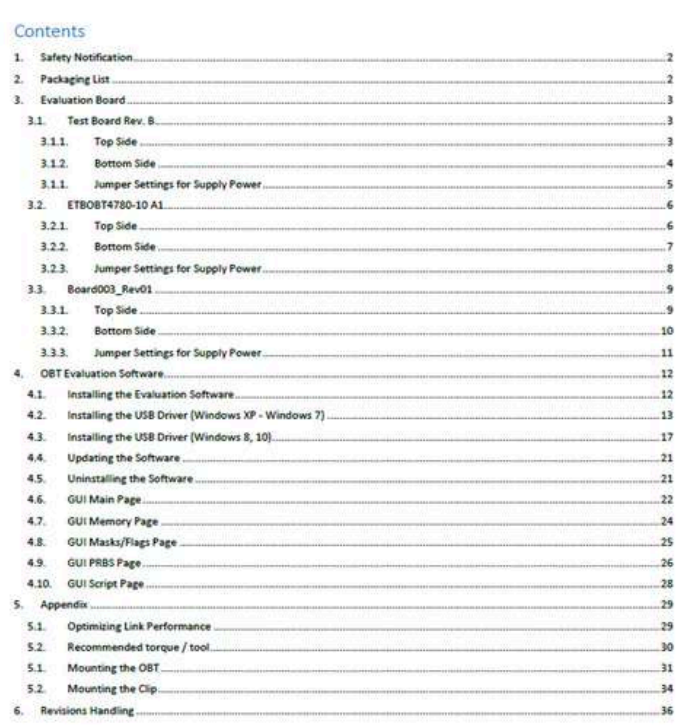
GUI - Graphical User Interface

Elevate your design experience with our intuitive Graphical User Interface (GUI), seamlessly integrated into our state-of-the-art evaluation boards. Say goodbye to complex setups and hello to effortless control and customization. Our user-friendly GUI empowers you to interact with your prototype like never before, offering real-time data visualization, easy parameter adjustments, and streamlined configuration options.

Cables

With our premium cable set included with every evaluation board, Huber & Suhner and Ardent, they are engineered for reliability and versatility. Our cable set ensures seamless connectivity and compatibility with a wide range of devices and interfaces.

ARDENT CONCEPTS
An Amphenol Company



Contents

R&D time saver

Experience the advantage of reduced development time, unparalleled flexibility, and cost-effective prototyping, empowering you to stay ahead of the competition and revolutionize your industry. Transform your vision into reality faster than ever before with our innovative evaluation boards, minimizing costs and errors – the ultimate tool for accelerating success in the dynamic world of technology.

Part Number Selection

- LEAP OBT 10132378-0XY

  Includes: 1 pc. 10124588-A30 Onboard Transceiver with 1 pc. 24 fiber MT-MPO Jumper Cable), 1 pc. USB 2.0 CABLE A/B, 1.8m, 1 pc. Volt Power Supply, 1 set International Power Plug Adapter, USB Stick with latest GUI software.

  - X: X pcs. 10133656 8Ch MXP-SMA RF MF53/1x8A_21MXP/11SK/305
  - Y: Y=1: 1 pc. 10133771 24 fiber MPO – 24 fiber FC/PC, 2.0m, OM4
    Y=2: 1 pc. 10133772 24 fiber MPO – 24 fiber MPO, 2.0m, OM4
    Y=3: 1 pc. 10133773 24 fiber MPO Loopback Cable ,0.5m, OM4
    Y=5: 1 pc. 10133774 24 fiber MPO – 12 fiber LC, 2.0m, OM4

- QEPT 10175094-02Y

  Includes: 1 pc QEPT100G transceiver, 2 pcs RF cables, USB Stick with latest GUI software.

  - Y: Y=1: 1 pc. MPO to 12xFC/PC fan-out cable
    Y=2: 1 pc. MPO loopback cable

- SCFF 10171850-X22

  Includes: 1 pc SCFF transceiver, 1 pc LC/LC duplex patchcord, USB Stick with latest GUI software.

  X=1: 10 Gbps
  X=2: 25 Gbps

Contact us for further inquiries

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+49 152 900 14460

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