UNVEILING 400G COHERENT OPERATION MODES

In the realm of Coherent optical transceivers, the "Operational Mode" takes center stage, defining how these devices are provisioned. For the 400ZR and 400G OpenZR+ optics, versatility is the key. These transceivers not only advertise various supported applications at different speeds but also allow seamless switching between them, giving users the flexibility to tailor their configurations.

Key Components:

Frequency, Line Rate, and Operational Mode: The trio that shapes the performance of these transceivers.

Transmit Power: While optional, it automatically defaults based on the chosen operational mode, ensuring a hassle-free experience.

Vendor-Specific Precision:

For the advanced 400G ZR+ High Power, the Host Router Application Selection (appsel) data comes into play. This data, specific to vendors, fine-tunes performance with proprietary FEC and baud rate. Its seamless integration, supported and verified by router vendors, is a vital part of the software configuration.

With these modes, the 400G Coherent Operation Modes ensure your network is not just connected but optimized for peak performance.

[EN-QDD-DCO-ZR] QSFP-DD 400G ZR

This document briefly describes how to use the QSFP-DD 400G ZR coherent transceiver.

The default frequency of the module is 193.7THz, the default output power is -9dBm and the default app code is number 1. If the user needs to switch the working frequency, output power and the app code, please refer to the description of the operations in this document.

The following table lists the application supported by the 400G ZR optical module:

AppSel Code	Mode	Reach	Host	Media Modulation	Media FEC	Laser Frequency	TX Power	Rx Power DWDM /P2P
1	400ZR	120Km	400GAUI-8	400G DP-16QAM	CFEC	Tunable	-10~1dBm Adjustable	-12~0dBm -20~0dBm
2	400G ZR Gray	30~40Km unamplified	400GAUI-8	400G DP-16QAM	CFEC	193.7THz	-9~-6dBm fixed	NA -20~0dBm
3	400ZR	120Km	4×100GAUI-2	400G DP-16QAM	CFEC	Tunable	-13~-9dBm Adjustable	-12~0dBm -20~0dBm

[EN-QDD-DCO-ZR+] QSFP-DD 400G ZR+

This document briefly describes how to use the QSFP-DD 400G ZR+ coherent transceiver.

The default frequency of the module is 193.7THz, the default output power is -9dBm and the default app code is number 1. If the user needs to switch the working frequency, output power and the app code, please refer to the description of the operations in this document.

The following table lists the application supported by the 400G ZR+ optical module:

AppSel Code	Mode	Reach	Host	Media Modulation	Media FEC	Laser Frequency	TX Power	Rx Power DWDM /P2P
1	OIF 400ZR app code 0x01	120Km	400GAUI-8	400G DP-16QAM	CFEC	Tunable	-13~-9dBm Adjustable	-12~0dBm -20~0dBm
2	OIF 400ZR app code 0x02	30~40Km unamplified	400GAUI-8	400G DP-16QAM	CFEC	193.7THz	-9~-6dBm Fixed	NA -20~0dBm
3	OIF 400ZR app code 0x01 extend	120Km	4×100GAUI-2	400G DP-16QAM	CFEC	Tunable	-13~-9dBm Adjustable	-12~0dBm -20~0dBm
4	400ZR+	450km	400GAUI-8	400G DP-16QAM	OFEC	Tunable	-13~-9dBm Adjustable	-12~0dBm -22~0dBm
5	400ZR+	450km	4×100GAUI-2	400G DP-16QAM	OFEC	Tunable	-13~-9dBm Adjustable	-12~0dBm -22~0dBm
6	300ZR+	600km	3×100GAUI-2	300G DP-8QAM	OFEC	Tunable	-13~-9dBm Adjustable	-15~0dBm -24~0dBm
7	200ZR+	1000km	2×100GAUI-2	200G DP-QPSK	OFEC	Tunable	-12~-8dBm Adjustable	-18~0dBm -24~0dBm
8	100ZR+	2000km	1×100GAUI-2	100G DP-QPSK	OFEC	Tunable	-11~-7dBm Adjustable	-18~0dBm -24~0dBm

[EN-QDD-DCO-ZR+P] QSFP-DD 400G ZR+ High Power 0dB

This document briefly describes how to use the QSFP-DD 400G ZR+ Pro coherent transceiver.

The default frequency of the module is 193.7THz, the default output power is 0.5dBm and the default app code is number 1. If the user needs to switch the working frequency, output power and the app code, please refer to the description of the operations in this document.

The following table lists the application supported by the 400G ZR+ Pro optical module:

AppSel Code	Mode	Reach	Host	Media Modulation	Media FEC	Laser Frequency	TX Power	Rx Power DWDM /P2P
1	400ZR	120Km	400GAUI-8	400G DP-16QAM	CFEC	Tunable	-10~1dBm Adjustable	-12~0dBm -20~0dBm
2	400G ZR Gray	80Km unamplified	400GAUI-8	400G DP-16QAM	CFEC	193.7THz	4dBm fixed	NA -20~0dBm
3	400ZR	120Km	4×100GAUI-2	400G DP-16QAM	CFEC	Tunable	-10~1dBm Adjustable	-12~0dBm -20~0dBm
4	400G ZR Gray	80Km unamplified	4×100GAUI-2	400G DP-16QAM	CFEC	193.7THz	4dBm fixed	NA -20~0dBm
5	400ZR+	450km	400GAUI-8	400G DP-16QAM	OFEC	Tunable	-10~1dBm Adjustable	-12~0dBm -22~0dBm
6	400ZR+	450km	4×100GAUI-2	400G DP-16QAM	OFEC	Tunable	-10~1dBm Adjustable	-12~0dBm -22~0dBm
7	300ZR+	600km	3×100GAUI-2	300G DP-8QAM	OFEC	Tunable	-10~1dBm Adjustable	-15~0dBm -24~0dBm
8	200ZR+	1000km	2×100GAUI-2	200G DP-QPSK	OFEC	Tunable	-10~1dBm Adjustable	-18~0dBm -24~0dBm
9	100ZR+	2000km	1×100GAUI-2	100G DP-QPSK	OFEC	Tunable	-10~1dBm Adjustable	-18~0dBm -24~0dBm
10	400G ZR+ Gray	90Km unamplified	400GAUI-8	400G DP-16QAM	OFEC	193.7THz	4dBm fixed	NA -22~0dBm
11	400G ZR+ Gray	90Km unamplified	4×100GAUI-2	400G DP-16QAM	OFEC	193.7THz	4dBm fixed	NA -22~0dBm

NOTICE:

E.C.I. Networks reserves the right to make changes to or discontinue any optical link product or service identified in this publication, without notice, to improve design and/or performance. Applications that are described herein for any of the optical link products are for illustrative purposes only.

For further information

Office: 1-800-967-1672

Fax : 1-855-201-7283

mailto:sales@ecin.ca