

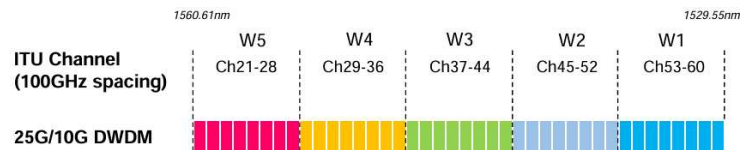
# 25G NBT-SFP Product Brief

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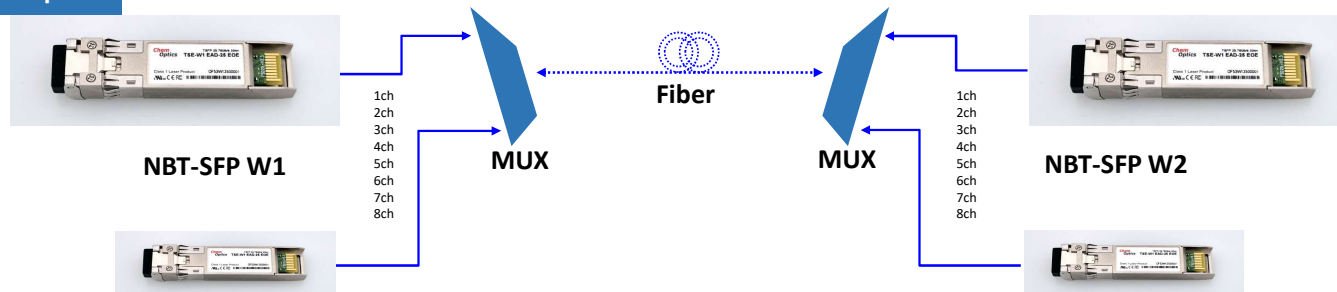
# Background

- Narrow Band Tunable SFP (NBT-SFP)**

- 40 channels with 100GHz channel spacing are possible
- There are 5 products(W1,W2,W3,W4,W5) by wavelength, and each product has 8 channels with tunable wavelength
- The advantage is that DWDM inventory management and operation are convenient compared to wavelength-fixed SFP
- It includes self-tune optics technology, which reduces operating costs by eliminates transmitter channel setting, fiber tracking, and host system configuration



## Network configuration example



	1ch	2ch	3ch	4ch	5ch	6ch	7ch	8ch
W1	1535.04 nm	1534.25 nm	1533.47 nm	1532.68 nm	1531.9 nm	1531.12 nm	1530.33 nm	1529.55 nm
	<i>ITU-T 53ch</i>	<i>ITU-T 54ch</i>	<i>ITU-T 55ch</i>	<i>ITU-T 56ch</i>	<i>ITU-T 57ch</i>	<i>ITU-T 58ch</i>	<i>ITU-T 59ch</i>	<i>ITU-T 60ch</i>
W2	1541.35 nm	1540.56 nm	1539.77 nm	1538.98 nm	1538.19 nm	1537.40 nm	1536.61 nm	1535.82 nm
	<i>ITU-T 45ch</i>	<i>ITU-T 46ch</i>	<i>ITU-T 47ch</i>	<i>ITU-T 48ch</i>	<i>ITU-T 49ch</i>	<i>ITU-T 50ch</i>	<i>ITU-T 51ch</i>	<i>ITU-T 52ch</i>

# Main Specifications

## 25G NBT-SFP LR 15km: Available for sale

- C-band ITU-T DWDM 100 GHz spacing 8-channel tunable
- NRZ tunable DWDM EML with limiting APD receiver
- **Max transmission length: 15 km**
- Dual rate: 25G NRZ default and 10G NRZ support
- Smart tunable MSA compliance: Self Tuning Optics
- Single power supply voltage: +3.3 V
- Operating temperature range: -40 ~ 85 °C
- LC/PC duplex SFP-MSA housing

Parameters	Specification
Data rate	25.78125Gbps
Channel spacing	ITU-T 100GHz 8ch
Power consumption	Max. 2.3W

- Note : This product can replace existing fixed wavelength legacy 10Gbps and 25Gbps C-band DWDM SFP.

## 25G NBT-SFP ER 30km: Available for sale

- C-band ITU-T DWDM 100GHz spacing 8-channel tunable
- NRZ tunable DWDM EML with linear APD receiver
- **Built-in Electrical Dispersion Compensator (EDC)**
- **Max transmission length: 30km**
- Dual rate: 25G NRZ default and 10G NRZ support
- Smart tunable MSA compliance: Self Tuning Optics
- Single power supply voltage: +3.3V
- Operating temperature range: -40 ~ 85°C
- LC/PC duplex SFP-MSA housing

Parameters	Specification
Data rate	25.78125Gbps
Channel spacing	ITU-T 100GHz 8ch
Power consumption	Max. 2.5W

- Note : Existing solutions in 25Gbps C-band have a maximum reach of 15km due to high optical dispersion. 25G NBT-SFP 30km has a built-in EDC chip and can transmit up to 30km in the 25Gbps C-band.

## 25G NBT-SFP LR w/AMCC: in development

- C-band ITU-T DWDM 50 GHz spacing 16-channel tunable
- NRZ tunable DWDM EML with limiting APD receiver
- Built-in FSK Modem for Software Wavelength Locker
- Max transmission length: 15 km
- Dual rate: 25G NRZ default and 10G NRZ support
- Smart tunable MSA compliance: Self Tuning Optics
- Single power supply voltage: +3.3 V
- Operating temperature range: -40 ~ 85 °C
- LC/PC duplex SFP-MSA housing

Parameters	Specification
Data rate	25.78125Gbps
Channel spacing	ITU-T 50GHz 16ch
Power consumption	Max. 2.3W

- Note : This product can replace existing fixed wavelength legacy 10Gbps and 25Gbps C-band DWDM SFP.

## Software Wavelength Locker (ChemOptics proprietary technology)

- This feature enables implementation of 16 channels with 50GHz channel spacing
- As the TX dithers its wavelength, the counterpart transceiver feeds back the Rx input power through the OOB channel
- Through this process, the TX wavelength is kept at a wavelength where Gaussian AWGs loss is minimized
- Guarantees wavelength stability within  $\pm 20\text{pm}$  relative to AWGs peak wavelength
- Maintains maximum link budget

