

Adjacent Channel Spectral Isolation definition for 802.3cw – Supporting comment # 251 on D2.1

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IEEE P802.3cw

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Comments addressed by this contribution

CI 156 SC 156.9.31 P 104 L 14 # 251

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Comment Type T Comment Status X

Adjacent Channel Spectral Isolation needs additional definition.

Suggested Remedy

TBD in this subclause needs to be replaced with a definition. The commenter will bring in a contribution with a proposed definition.

Proposed Response Response Status O

Table 156–9—Adjacent channel spectral isolation

Frequency offset	Isolation	Unit
0 GHz	–28.5	dB
±15 GHz	–25.9	dB
±20 GHz	–15.9	dB
±25 GHz	–8.0	dB
±30 GHz	–3.5	dB
±35 GHz	–1.6	dB
±40 GHz	–1.6	dB
±45 GHz	–3.5	dB
±50 GHz	–8.0	dB

156.9.31 Adjacent channel spectral isolation

The adjacent channel spectral isolation, as defined in TBD, shall be within the limits given in Table 156–9.

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Overview

- For 802.3cw, an approach for specifying DWDM Black Link spectral parameters was developed
 - See: https://www.ieee802.org/3/cw/public/adhoc/21_0312/maniloff_3cw_01a_210312.pdf and https://www.ieee802.org/3/cw/public/22_0523/maniloff_3cw_01_220523.pdf

Adjacent channel isolation specification

- Filter parameters are used to calculate the adjacent channel isolation in a black link approach
- The following parameters for Mux & Demux are used to derive the DWDM black link adjacent channel spectral attenuation:
 - BW max = 76GHz
 - Filter order = 3
 - |Center frequency variation| \leq 4 GHz
 - Insertion loss variation \leq 1.5dB
 - Adjacent channel floor = -30dB

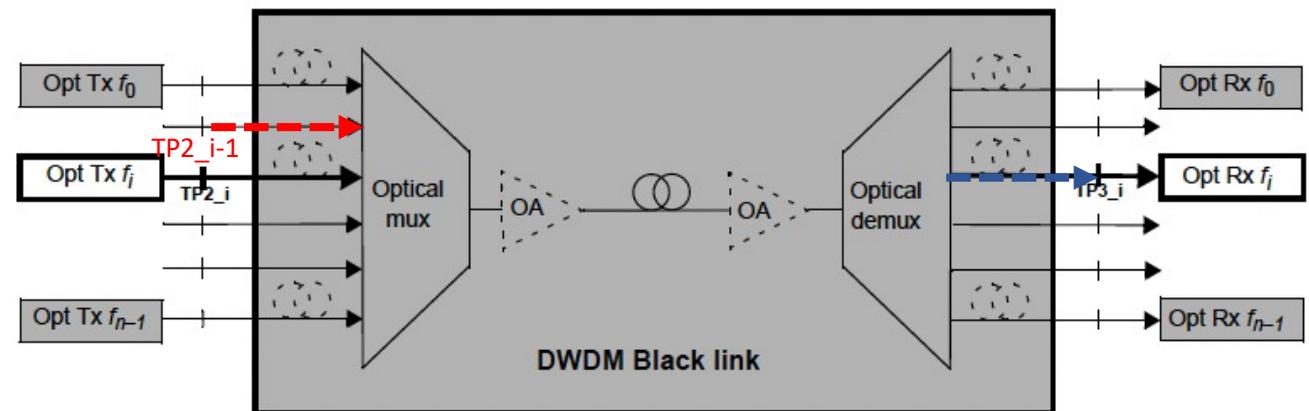


Figure 156-3—Black link example configuration for specifying n DWDM channels

Definition to add

The adjacent channel spectral isolation is specified in Table 156-9. The frequencies in Table 156-9 refers to the offset from the center frequency for channel n , f_n . The isolation in Table 156-9 specifies the power received at TP3 _{n} at the specified frequency for light transmitted into an adjacent channel, TP2 _{$n\pm 1$} , divided by the power received at TP3 _{n} for light at the same optical power at the center frequency f_n transmitted into TP2 _{n} .

156.9.31 Adjacent channel spectral isolation

The adjacent channel spectral isolation, as defined in TBD, shall be within the limits given in Table 156-9.

Thanks!