

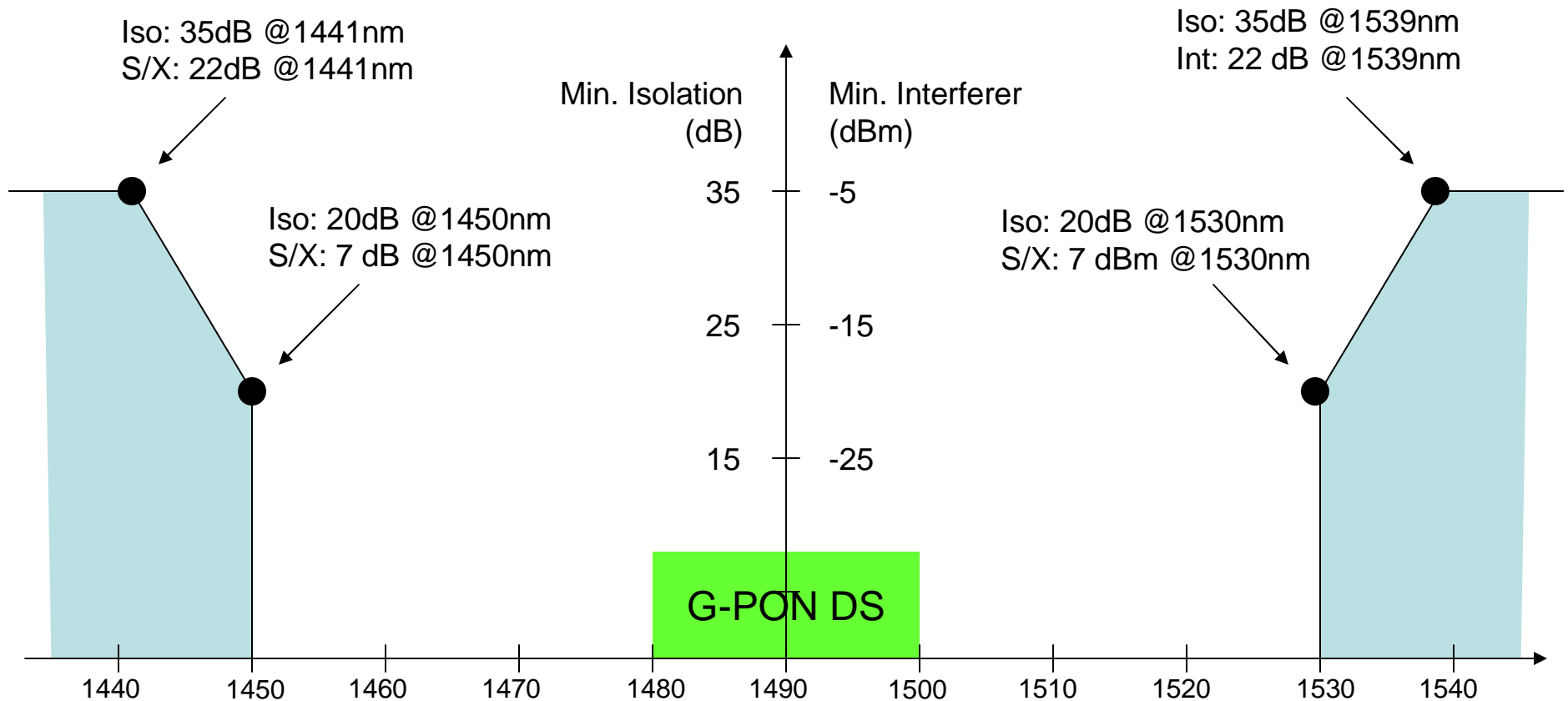
# Status of ITU 984.enhance

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# Purpose of G.984.enhance

- To refine the wavelength plan of G-PON
  - Conserve spectrum for future upgrades
  - Block spectrum in G-PON gear
  - Enhance possibilities for extended G-PONs
- Work has taken on several fronts
  - Define blocking filter for G-PON ONTs
  - Define narrower upstream transmit ranges
  - Consider usable limits on fiber wavelengths

# Blocking filter for G-PON ONTs

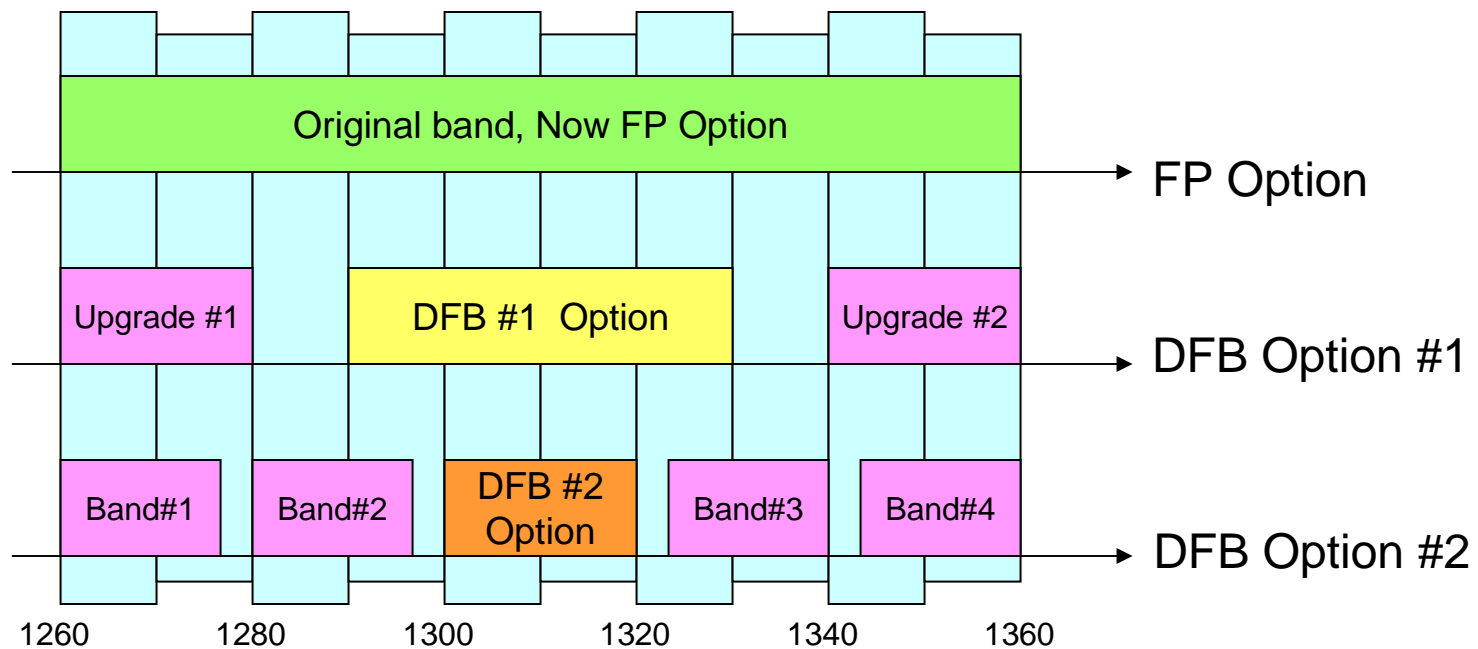


Df: Minimum Interference power is that of an OC-48 NRZ signal (or equivalent) that can be tolerated while simultaneously achieving the rated sensitivity of the G-PON downstream receiver.

$$\text{Min. Interferer} - \text{G-PON sensitivity} = \text{Min. Isolation} - 13 \text{ dB}$$

# Upstream revision

- Original 100nm suitable for FP lasers
- “DFB #1” provides for upgrade at zero cost impact
- “DFB #2” provides maximal potential, with CWDM lasers



# Limits of fiber wavelengths

- E-band: Usability of wavelengths shorter than 1480nm is highly variable, and depends on deployed fiber and passives
- L-band: Usability of wavelengths longer than 1580nm is also highly variable, depending on
  - Bending losses in the fiber (deployment sensitive)
  - Usage of filters and systems for OTDR measurements
- The use of these bands for upgrades are left optional
  - Operator would have to confirm specifications and installed loss of its fiber plant before use of these bands