

# Joint IEEE P802.3ct / P802.3cw Task Force Interim Teleconference

## Terminology Consistency

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# Introduction

- It is the authors' opinions that there is a misalignment in terminology between the IEEE P802.3ct draft and ITU-T G.698.1 / .2.
- Terminology has been an issue throughout this effort.
- Key Terms for this discussion include:
  - DWDM PHY
  - DWDM Channel
  - DWDM Link
  - DWDM System
  - Black Link
- This presentation is an attempt to align terminology between the documents to increase clarity for the general reader.

# IEEE P802.3ct D3.1 Terminology Review

- **1.4.237c DWDM PHY:** An Ethernet PHY that is capable of running over one DWDM channel in each direction of transmission.
- **1.4.237a DWDM channel:** The transmission path between a DWDM PHY transmitting to another DWDM PHY.
- **1.4.237b DWDM link:** One DWDM PHY transmitting to one other DWDM PHY through the transmission path between them.
- **1.4.237d DWDM system:** An aggregate of DWDM links optically multiplexed and demultiplexed onto and off either a single optical fiber or a single optical fiber per direction.
- **1.4.160a black link:** A multi-channel link specified using a methodology where the input, output, and transfer characteristics of the uni-directional transmission path between TP2 to TP3 for a given DWDM channel are specified, without specifying how the transmission path is implemented. (See, for example, IEEE Std 802.3, Clause 154, Figure 154–3)

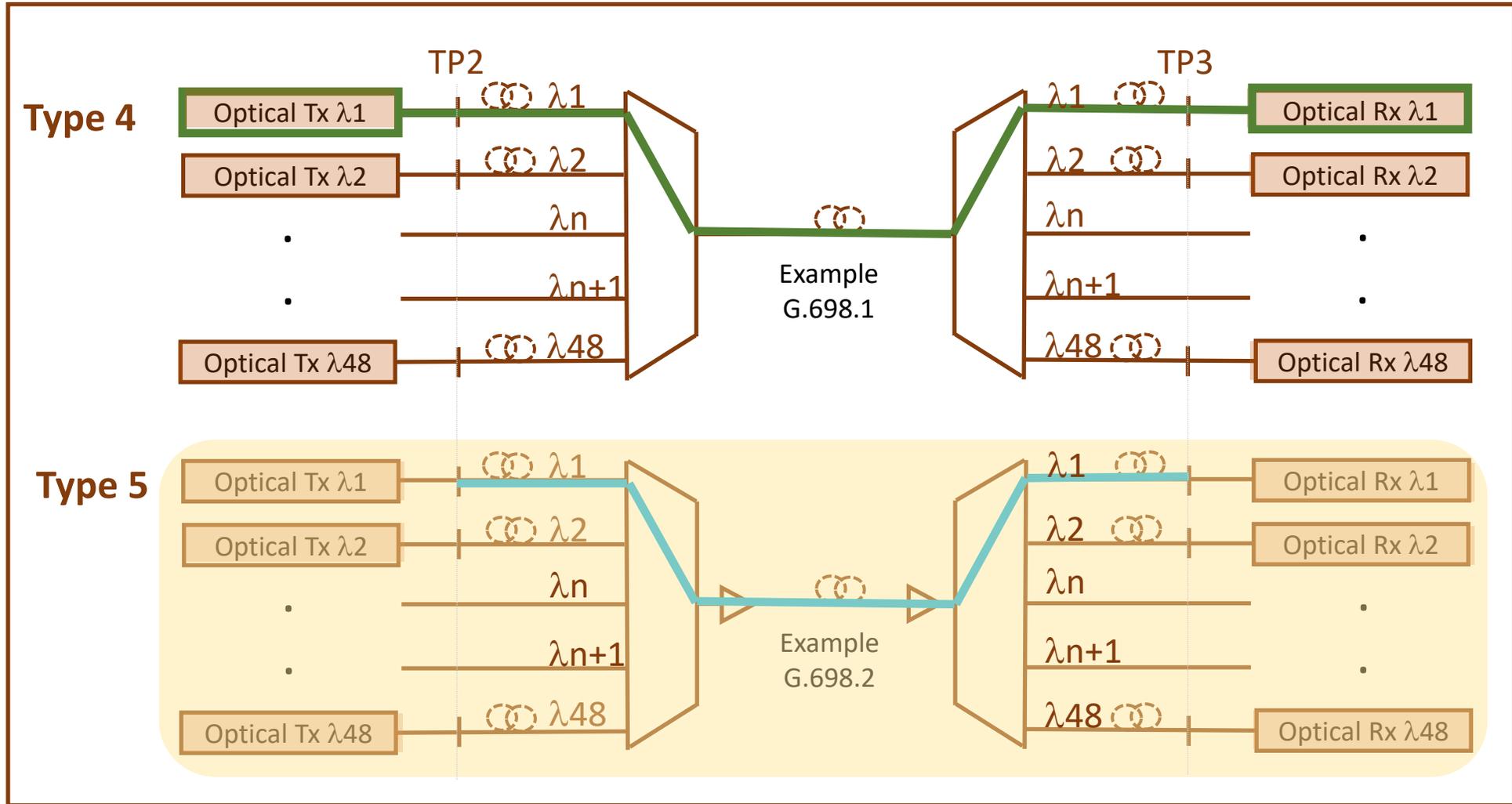
# IEEE P802.3ct D3.1 Terminology Review

DWDM PHY:

DWDM Channel:

DWDM Link:

DWDM System:



Source: dambrosia\_3ct\_01\_0719

# IEEE P802.3ct D3.1 Terminology Considerations

1. There should be consistent use of terminology between IEEE P802.3ct and ITU-T G698.1 / .2.
  1. IEEE P802.3ct should not create new definitions for terms used in referenced ITU-T documents.
  2. IEEE P802.3ct should create a new term, before assigning a new definition to an ITU-T used term.
  3. Terminology should be consistent with IEEE 802.3 usage.
2. The term “Black Link” should not be used to define **both**:
  1. The specification methodology
  2. The “grey box” (everything between TP2 and TP3 for the aggregate of DWDM channels) as implemented
3. A different term is required for the “grey box” (see Figure 154-3 below).

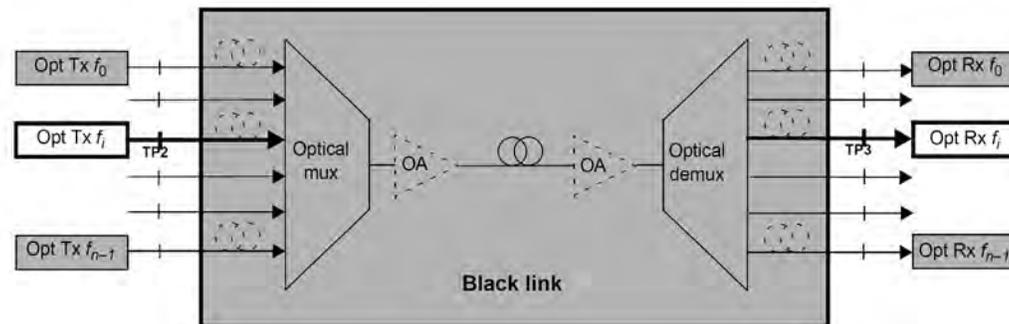


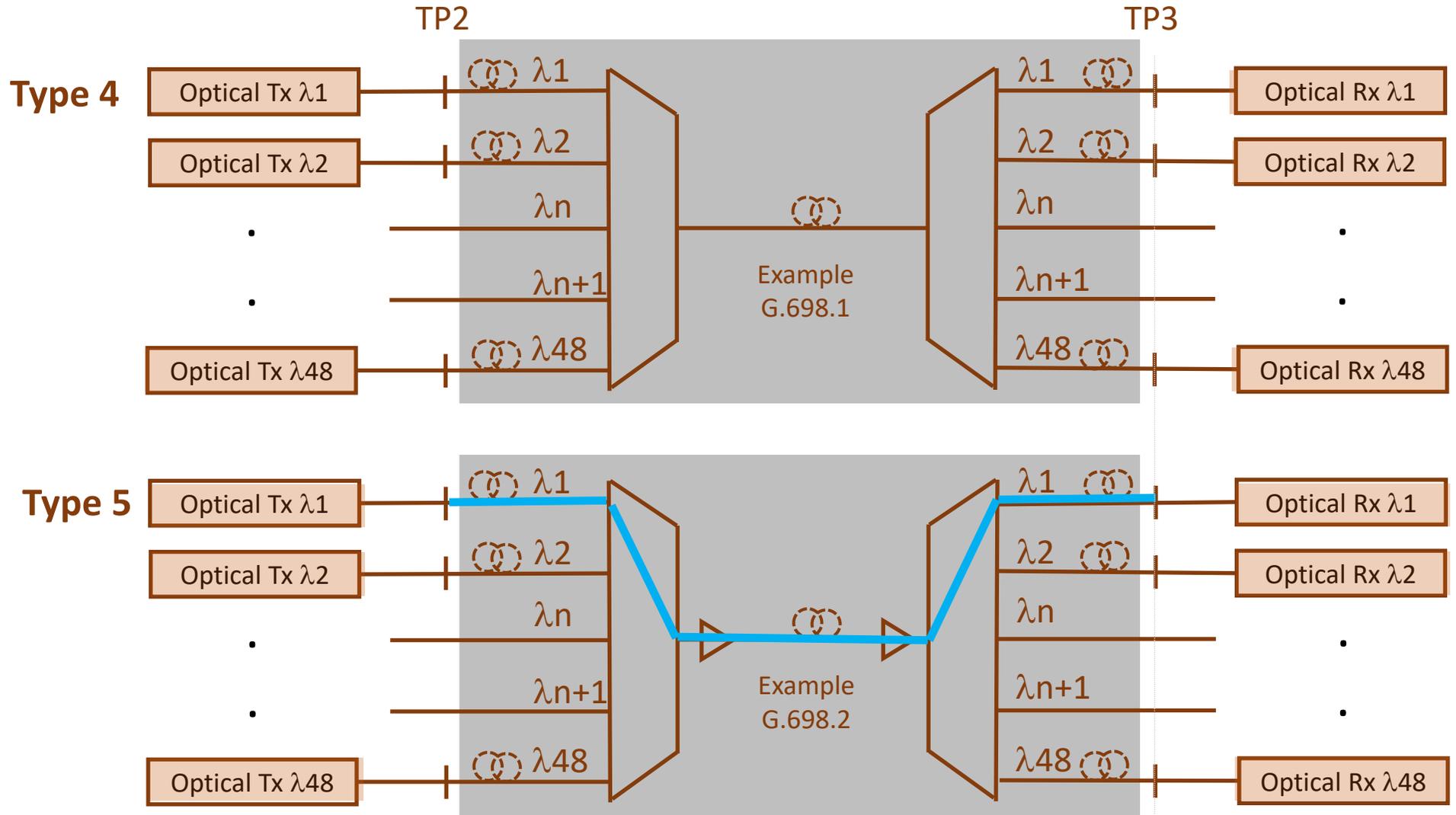
Figure 154-3—Black link example configuration for specifying  $n$  DWDM channels

# Review of ITU-T Recommendation G.698.2

([https://www.itu.int/rec/dologin\\_pub.asp?lang=e&id=T-REC-G.698.2-201811-I!!PDF-E&type=items](https://www.itu.int/rec/dologin_pub.asp?lang=e&id=T-REC-G.698.2-201811-I!!PDF-E&type=items))

- The following terms are not defined in Clause 3 (Terms and definitions)
  - DWDM Link
  - Black Link
  - DWDM system
- “DWDM Link” appears 10 times
  - In the box between all Ss and Rs: Fig’s 5-1, 5-2, 5-3, 5-4, II.2
  - In Clause 5.3, Nomenclature, 7.2.1 Maximum and minimum mean channel output power, 7.4.4
- “Black Link” appears 52 times
  - Observation – appears to be used similarly as what is implemented in P802.3ct D3.1 –
    - The “approach” (P802.ct: “specification methodology”)
    - The “grey box” – everything between all Ss and Rs (P802.3ct: everything between TP2 and TP3 for the aggregate of DWDM channels)
  - Only instance of “Black Link” appearing in grey box diagram is Figure II.2 (also called DWDM Link)
- “DWDM System” appears 5 times
  - In “Summary” – not clear if the “grey box” or as defined in P802.3ct D3.1

# IEEE P802.3ct D3.1 Terminology Update



DWDM PHY:

DWDM Channel:

DWDM Link:

~~DWDM System:~~

# Recommendations

- The following recommendations are made in attempt to align terminology between the 802.3ct draft and ITU-T G.698.1 / .2
  - Leave definition 1.4.237c “DWDM PHY” unchanged
  - Modify 1.4.237a “DWDM channel” definition:
    - DWDM channel: The transmission path between a DWDM PHY transmitting (TP2) to another DWDM PHY receiving (TP3).
  - Change 1.4.237b “DWDM Link” definition:
    - DWDM Link – an aggregate of DWDM channels over either a single optical fiber or a single optical fiber per direction
    - Would require the replacement of “black link” throughout the entire .3ct draft when used in that context
  - Delete 1.4.237d “DWDM System” (or consider updating definition)
  - Change “Black Link” to “Black Link Approach” and the associated definition:
    - Black Link Approach - the specification of the input, output, and transfer characteristics of the unidirectional transmission path between TP2 to TP3 for a given DWDM channel within a DWDM Link, without specifying how the transmission path is implemented. (See, for example, IEEE Std 802.3, Clause 154, Figure 154–3)