

COM code change request submission process – Rev1.4

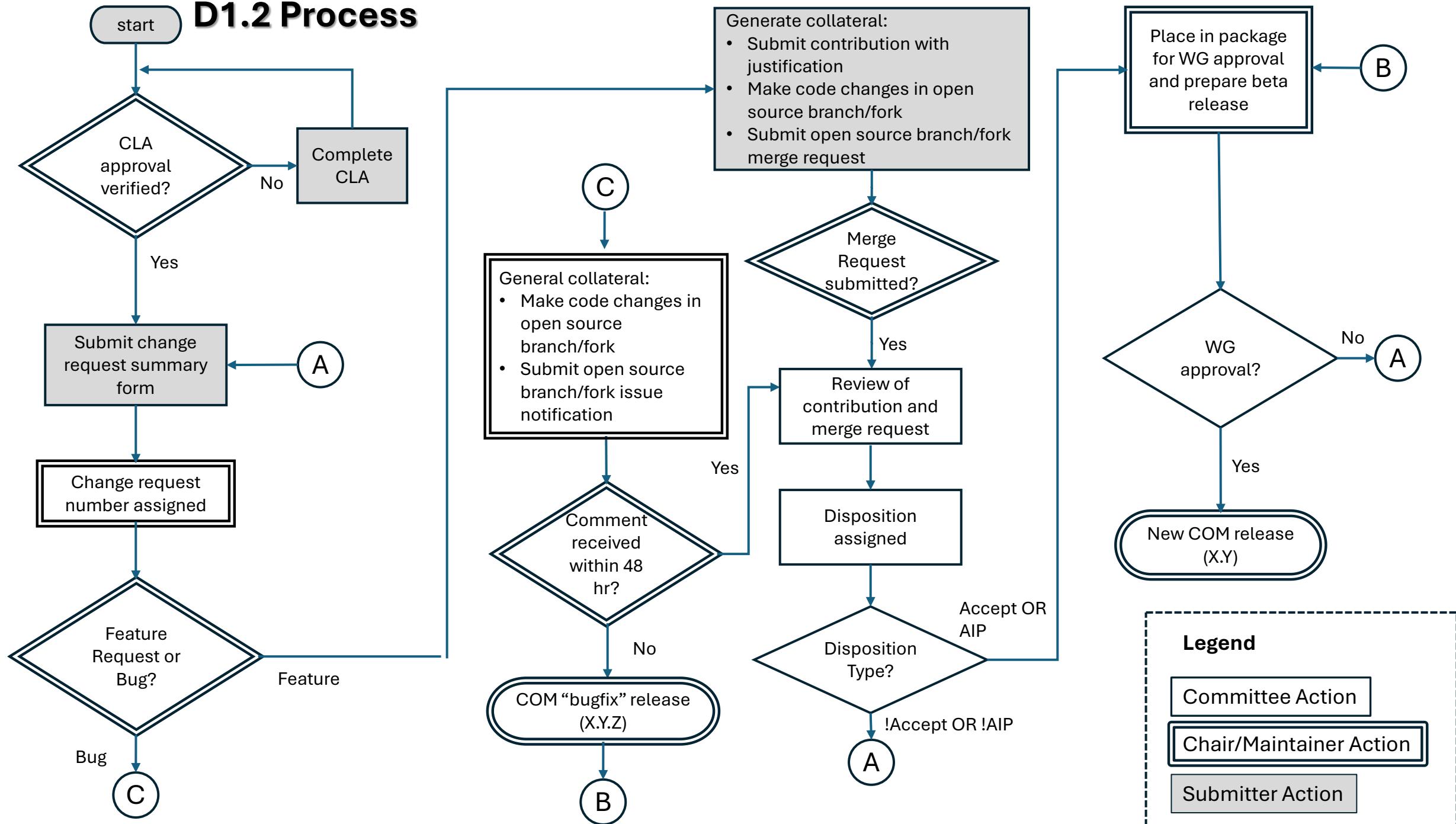
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Howard Heck, TE Connectivity

IEEE 802.3 COM Open Source Ad Hoc
6 January 2026

Introduction

- COM and the COM code was originally adopted to replace the Annex 69B interconnect channel parameters
- The COM code evolved to include additional functionality
 - COM code contributions in the past were from individuals that could add features and capabilities at their discretion
- In Dec 2024, the COM code moved into the IEEE SA Open Source domain
- Now, all COM code changes to the main trunk of the code are under IEEE 802.3 ratification

D1.2 Process



Requirements for Submitting Change Requests or Bugs

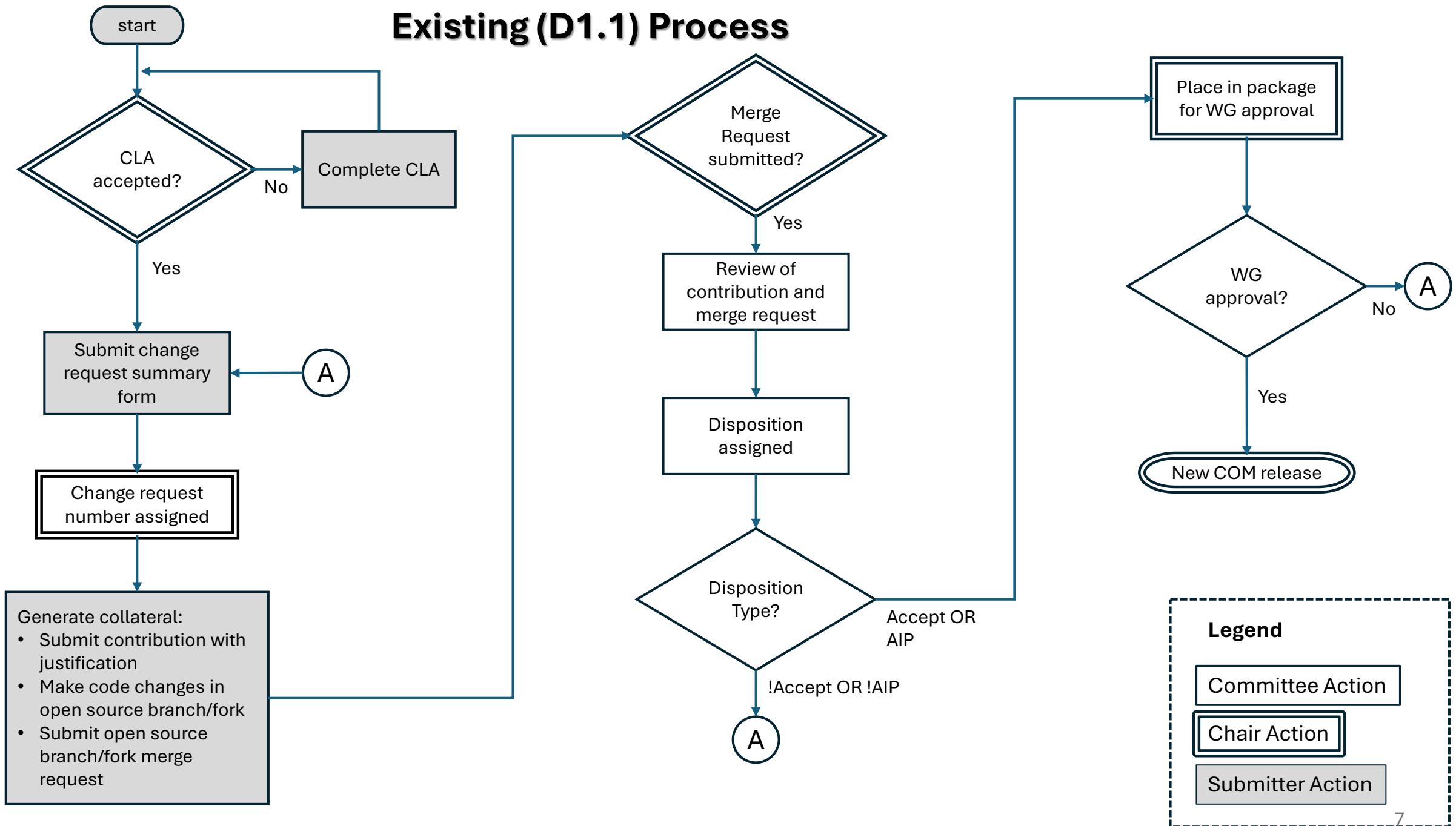
- Change request
 - Signed Contributor License Agreement (CLA) in place
 - Change request form submission to COM leadership
 - Contribution to COM ad hoc (include change request form)
 - GIT repository merge request
- Bug
 - Change request form submission to COM leadership
 - Only make a merge request or supply suggested code if you have a CLA in place.
 - GIT repository issue submission will be redirected to the change request process

802-COM Change Request Form

- Form contents:
 - DATE:
 - NAME:
 - COMPANY/AFFILIATION:
 - E-MAIL:
 - COM VERSION:
 - BRIEF ABSTRACT: In addition, for a request that is not implemented in an 802.3 standard, it is recommended to include references/pointers to any relevant collaterals (presentations, comments) in the abstract.
 - **IS THIS ADOPTED INTO AN 802.3 DRAFT?**
- Submit form contents as follows
 - To: Howard Heck, Chair, IEEE 802.3 COM Open Source
 - CC: Kent Lusted, Vice-Chair, IEEE 802.3 COM Open Source, Rich Mellitz and Adam Gregory, Maintainer(s), IEEE 802.3 COM Open Source

Historical info

Existing (D1.1) Process



COM Code Change Philosophy Alignment

- Clearly, COM code changes needed to align the code with the existing IEEE 802.3 standard or draft IEEE 802.3 amendments are mandatory to implement
 - Bug fixes, too
- How do we handle merge requests for features that have not been adopted into the IEEE Std. 802.3 or an existing amendment?
 - What about changes to explore features/capabilities to a future technology (e.g. 400 Gbps/lane signaling)?

Some Initial Considerations

- The main branch of the COM code must always align to the base standard and existing draft amendments
- Unused features in the COM code that are retained create a long-term support burden for the volunteer maintainers
 - More lines of code, regression tests, debug, etc.
- New features in the COM code are useful for exploring ideas and building consensus prior to adoption in an amendment
 - E.g. FFE+DFE equalizer, MLSE, Modal ERL
- People can create their own branches/forks from the main trunk and share the code & merge requests with others
 - There are mechanisms to keep the branch/fork aligned with the trunk if the trunk changes.

Possible Ways to Handle

- **Option 1:** Recommend adoption of a merge request only if it implements something that is in an 802.3 standard or draft amendment.
- **Option 2:** Recommend adoption of a merge request based on correctness without regard for adoption in an 802.3 standard or draft amendment.
- **Compromise:** Allow adoption of any merge request that passes our review process. For merge requests that do not reflect features that are in an 802.3 standard, implement a ‘switch’ to enable/disable the feature. Include the switch in the description of the merge request.
- The leadership team recommends the compromise path.
 - Requires that we add a field or two to the change request form (next slide).

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Reporting Table Example

Commit Request #	Submitter	Description	Draft Status	Proposed Disposition
4p11_1	Rich Mellitz	Align to 178A.1.3	Adopted (2.2)	Accept
4p11_2	Rich Mellitz	Modal ERL	Proposed	Accept
4p11_3*	Howard Heck	New Features for 400G	Exploratory	Accept

* Made up example

Example of “Switch” to Enable/Disable Feature

COM used to evaluate impact of modal ERL specifications

- ❑ Using COM with modal awareness
- ❑ https://opensource.ieee.org/richard.mellitz/com_code-/raw/Modal_VTF/release/com_ieee8023_4p12p0_Modal_VTF.m?ref_type=heads&inline=false
- ❑ 2 Keyword to support modal ERL specifications
 - TX_modal_ERL_spec [{ERLcc} {ERLdc} {ERLcd}]
 - RX_modal_ERL_spec [{ERLcc} {ERLdc} {ERLcd}]