



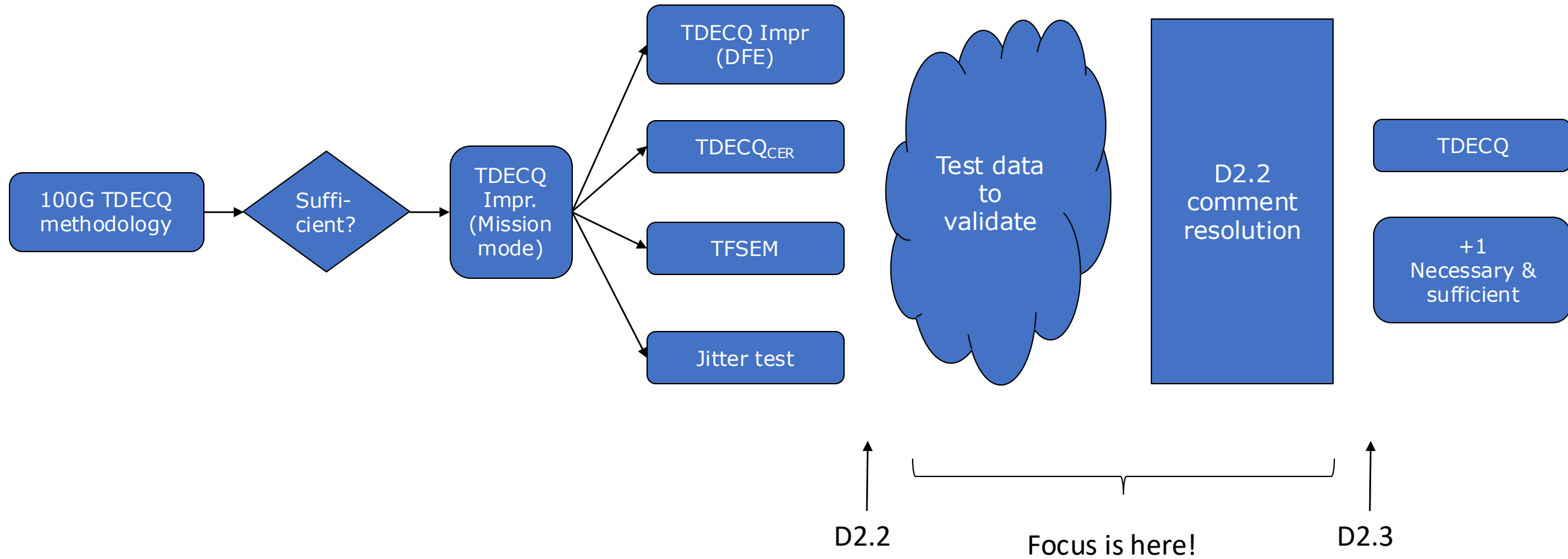
Reconciling the SMF IMDD transmitter test methods

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D2.2 current situation

- The P802.3dj Task Force has been working to improve the test methodology for a transmitter quality metric (TQM) for 200G IMDD specs
- Previous generations using PAM4 modulation use the TDECQ parameter as the TQM and specs are built around this.
- Previous definition of TDECQ has had concerns raised that it is not as good a predictor of the impact on the 200G link performance as many would like so alternatives have been investigated
- D2.2 now has 4 TQM alternatives included. Are they all necessary?

Path to convergence



Concerns raised & observations

- Too many tests
- Too much activity underway to spend time validating these tests
- Impact to manufacturing productivity
 - Test time, CapEx, value, yield
- Education needed to explain these issues to wider Task Force
 - DSP/ASIC testing/manufacturing
 - Cable testing/manufacturing
 - Optical module testing/manufacturing

How to converge

- Call to action:
 - gather data **now** before November meeting
 - Burst of effort now, limit a lingering issue ongoing
- Comments will be submitted to remove each of the test methodologies unless they are validated with data

What is the data to be gathered? What is goal here?

The main purpose of the IEEE 802.3 specs is to write interoperable specifications that many can implement. With that as backdrop for this SMF test methodology topic, the focus is to develop set of tests that result in test criteria that:

- a) guarantees interoperability
- b) is repeatable and consistent
- c) Minimizes yield hit due to false negatives
- d) Commercially compatible with market requirements

The goal is to gather data to help make these decision in November. What is data?

- Test data showing efficacy & performance of any of these tests
- Test data showing validity of some subset of tests meeting the targets above
- Analysis showing the strengths/weaknesses of these tests (where gathering test may be not be immediately possible)

Submitted comments (#136, 137, 138, 139)

Comment:

Submitting this comment on behalf of the Task Force.

The 200G SMF IMDD clauses currently include four separate transmitter quality metric test criteria which is likely more than is required to provide specification criteria that guarantees interoperability.

Currently there has been insufficient supporting evidence to justify the need to include all of the tests as a requirement in order to stay in the specification in order to guarantee interoperability. Without enough supporting evidence being contributed to the Task Force, it is proposed to remove each test due to lack of support or validity of effectiveness.

Suggested Rem: (136 – TDECQ)

Remove the changes to the TDECQ methodology which include the addition of the DFE equalizer to the reference receiver. See resolution to comment #384 of D2.0 comments to identify the changes that were made and remove. Within subclause 180.9.6.3 remove references to the DFE equalizer in the reference equalizer and remove any associated references or parameters. Apply the equivalent changes to clauses 181, 182 and 183.

A background presentation will be provided.

Suggested Rem: (137 – TDECQ_{CER})

Remove the changes made due to the adoption of the TDECQ_CER methodology into D2.2

See resolution to comment #179 of D2.1 comments to identify the changes and remove.

Delete subclause 180.9.7 and associated references. Apply the equivalent changes to clauses 181, 182 and 183.

A background presentation will be provided.

Suggested Rem: (138 – TFSEM)

Remove the changes made due to the adoption of the TFSEM methodology into D2.1 and modifications into D2.2.

See resolution to comment #392 of D2.0 comments to identify the changes and remove.

See resolution to comment # 510 of D2.1 comments to identify the changes and remove.

Delete subclause 180.9.9 and associated references. Apply the equivalent changes to clauses 181, 182 and 183.

A background presentation will be provided.

Suggested Rem: (139 – Jitter)

Remove the changes made due to the adoption of the jitter test methodology for the optical IMDD specs methodology into D2.2

See resolution to comment #399 of D2.1 comments to identify the changes and remove.

Delete subclause 180.9.15 and associated references. Apply the equivalent changes to clauses 181, 182 and 183.

A background presentation will be provided.



Thank you