Feedback coefficient constraints

(comment #205)

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April 2021 (r0)

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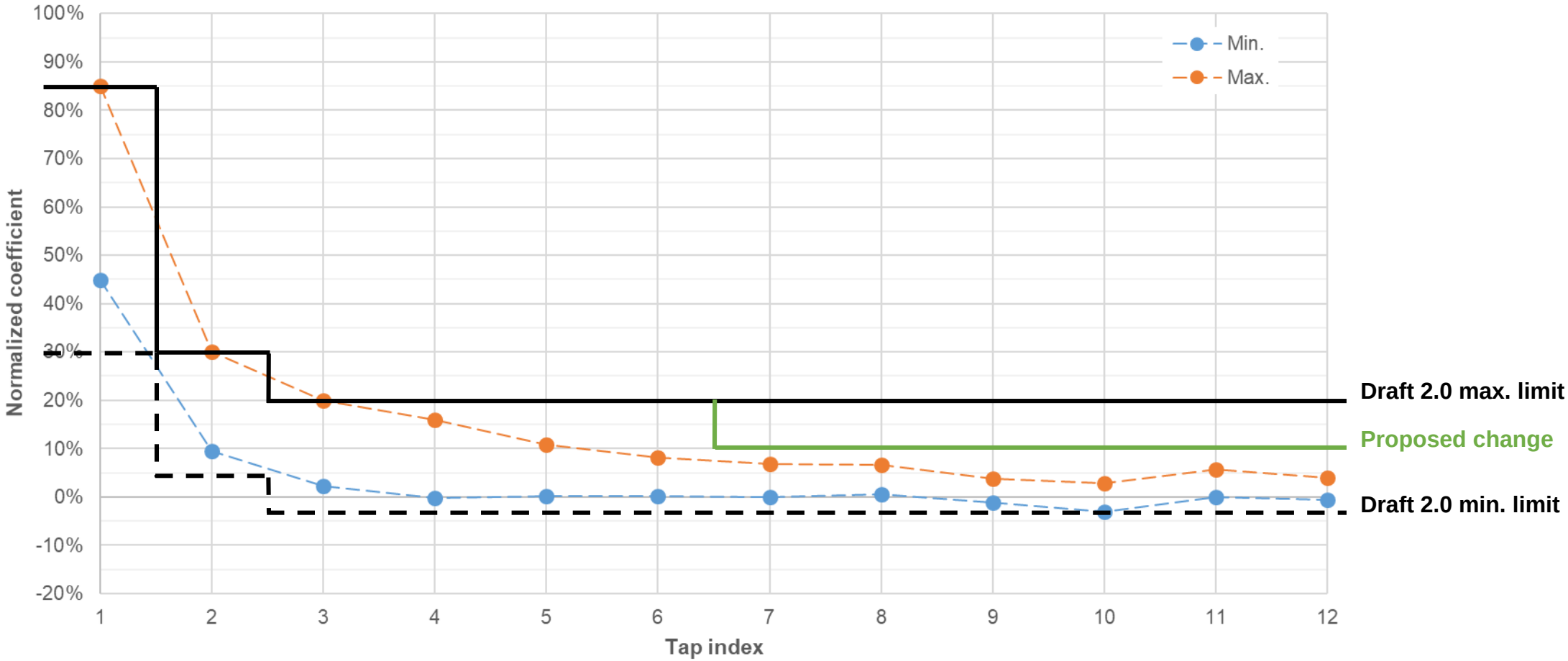
Overview

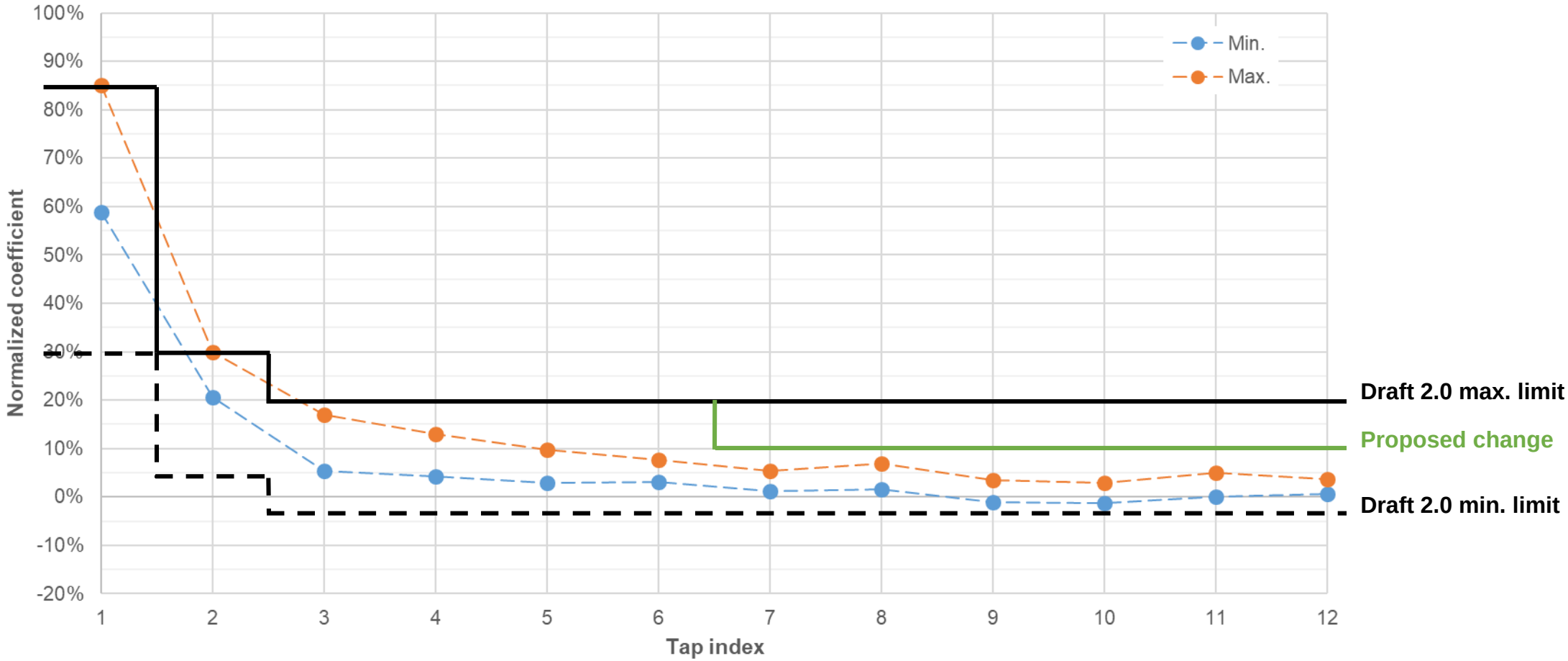
- In Clauses 162 and 163, reference receiver feedback coefficient $b(n)$ is allowed to have a maximum value of 0.2 for n = 3 to 12
- Channels observed to meet minimum Channel Operating Margin (COM) requirements produce much smaller values for later coefficients
- The constraint may have initially been set for sake of simplicity, but more complicated constraints have since been added
  - Separate lower and upper limits
  - Separate limits for n = 1, 2, and 3 … N_b
- Limit for larger n should be tightened so that unexpected channels have more difficulty satisfying the COM limit
- Consider the coefficient profiles for models and measurements provided to the Task Force

Backplane and cable (TP0-TP5) channels



101 channels with COM ≥ 2.5 dB, 2 tests (package transmission line length) per channel, 202 coefficient sets

Cable assembly (TP1-TP4) channels



17 channels with COM ≥ 2.5 dB, 2 tests (package transmission line length) per channel, specified host trace model added, 34 coefficient sets

Summary

- Propose the following changes to Table 162–18 and Table 163–10

Parameter	Symbol	Value	Units
Normalized DFE coefficient maximum limit for n = 1 for n = 2 for n = 3 to 6~~N_b~~ for n = 7 to N_b	$bb_{\max}(n)$	 0.85 0.3 0.2 0.1	——

- No impact to compliance of channels studied (coefficients are already within the proposed limits)