P802.3 D3.1 clauses 136 and 137 ERL-related comment summary, and proposed responses

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Comment Classification

Topic	Comments	Notes
Remove differential RL specifications or make them informative	136: 38, 34, 43, 26, 24, 40 137: 47, 63, 66, 24 (Mellitz, Rysin, Dawe, Ran)	
SNR_ISI	136: 84, 35, 25 137: 85, 28, 23, 43, 25 (Dudek, Mellitz, Rysin, Ran) rysin_3cd_01_0318: change in clause 137 to 30.5 dB rysin_3cd_02_0318: Replace SNR_ISI with ERL (KR) dudek_3cd_01_0318: new metric in clause 136	
ERL for Tx	136: 36, 37, 39, 26, 25, 84, 24 137: 89, 45, 65, 44, 26, 25, 46, 24 (Mellitz, Sakai, Dawe, Rysin, Ran) sakai_3cd_01_0318	+87 [unrelated to others]
ERL for Rx	136: 39, 26, 24 137: 67, 46, 24 (Mellitz, Rysin, Sakai, Dawe, Ran)	+88, 90 [unrelated to others]
ERL for channels	137: 68, 49, 48, 24 (Dawe, Mellitz, Ran)	
Value of parameter N	136: 36, 41 137: 44, 48 (Mellitz)	
Others	136: 33, 82, 93, 94, 95, 96, 160	Editorial, Likely AIP

Common themes (only comments related to ERL)

1. Removal of frequency-domain differential RL

There are 8 comments, for both 136 and 137, suggesting removal of RL specifications for transmitters, receivers, and channel. [I suggest a short discussion to see if there is task force consensus; perhaps better after discussion of making ERL normative]

Comment 24 suggests making RL specification informative for Tx, Rx, and channels, for both 136 and 137. [if no consensus to remove, I suggest a short discussion to see if there is consensus to make informative; try both, or separately for 136 and 137]

2. SNR_ISI

For clause 136:

- One comment (84) suggests changing SNR_ISI to a new metric (dudek_3cd_01_0318)
- 2 comments (25, 35) suggest removing the SNR_ISI specification entirely (rysin_3cd_02_0318)

For clause 137:

  - Three comments suggest changing the SNR_ISI value from 43 dB: 85: to 34.8 dB, 28: to 30.5 dB (rysin_3cd_01_0318), 23: to 31.5 dB
- Two comments (43, 25) suggest removing the SNR_ISI specification entirely

[I suggest a short discussion to see if there is consensus to remove, or converge to a value]

3. ERL for Tx

- 37, 45: rho_x=0.44, ERL>14.5 dB in Clause 136, ERL>16.1 dB in Clause 137 (mellitz_022118_3cd_adhoc)
- 89: ERL > 16.1 dB in clause 137 (sakai_3cd_01_0318)
- 25, 26: Make ERL normative for both Tx and Rx, both 136 (min 14.5 dB) and 137 (min 16.1 dB)
- 26, 25: Make ERL normative for both Tx and Rx, both 136 (min 14.5 dB) and 137 (min 16.1 dB)
- 65: Change to something reasonable and make it normative
- 24: Make normative
- 84: use a combination of ERL and Vpeak/Vf as a metric for 136 (dudek_3cd_01_0318)

[Consensus among most commenters seems to be: normative ERL for Tx, with minimum 14.5 dB for clause 136 and 16.1 dB for clause 137, rho_x=0.44; Comment 84 suggests a different metric for clause 136; Check task force consensus]

4. ERL for Rx

- 26: Make ERL normative for both Tx and Rx, both 136 (min 14.5 dB) and 137 (min 16.1 dB)
- 39: Make Rx spec consistent with Tx spec (136)
- 46: Make Rx spec consistent with Tx spec (137)
- 67: Change to more relaxed from the Tx and make it normative
- 24: Make normative

[Consensus among commenters seems to be normative ERL for Rx; No clear consensus about with minimum. Need technical discussion]

5. ERL for channel

- 68: (clause 137) ERL for channel min 9.5 dB is too low; change to something similar or higher than Tx spec
- 49: (clause 137) recommend rho_x=0.44 and minimum 11 dB (mellitz_022118_3cd_adhoc and heck_022118_3cd_adhoc) [assumed for channel; verify]
- 24: (both 136 and 137): make normative
- 42: (clause 136) recommend rho_x=0.44 and minimum 14 dB (mellitz_022118_3cd_adhoc) [assumed for channel; verify]

[No apparent consensus about values (few comments)]

[Try the following resolution: make normative for both clauses; in clause 137, ERL>11 dB; in clause 136, ERL>14 dB]

6. Value of N

- 36, 44: For Tx and Rx ERL, change N to >2x delay of TF+DUT: 300 (in 136) and 100 (in 137) [100 seems large enough for both cases, 300 seems excessive; needs short technical discussion to close. See proposed response]
- 41, 48: For channel / cable assembly, change N to >5x measured delay of channel [Concept seems agreeable but implementation needs technical discussion. See proposed response to 48]

Proposed changes

[Edit for final comment responses]

In clause 136:

1. Completely remove RL specifications for transmitters and receivers.
2. Remove / make informative / keep RL specifications for channels
3. Remove / change (to TBD) SNR_ISI specification.
4. Make ERL normative for Tx/Rx/Both, with minimum 14.5 dB and rho_x=0.44
5. Make ERL normative for cable assemblies, and change minimum to 11 dB and rho_x=0.44
6. Change N to 100/300 (choose one) for Tx/Rx ERL calculation
7. Define N as 5x measured delay of channel for cable assembly ERL calculation

In clause 137:

1. Completely remove RL specifications for transmitters and receivers.
2. Remove / make informative / keep RL specifications for channels
3. Remove SNR_ISI specification.
4. Make ERL normative for Tx/Rx/Both, with minimum 16.1 dB and rho_x=0.44
5. Make ERL normative for channel, with minimum 11 dB and rho_x=0.44
6. Change N to 100/300 (choose one) for Tx/Rx ERL calculation
7. Define N as 5x measured delay of channel for channel ERL calculation.

Note that comments 33, 82, 93, 94, 95, 96, 106 also need to be resolved.