



# Parameter Values for Micro-Reflection Limits

Contribution to IEEE 802.3cy

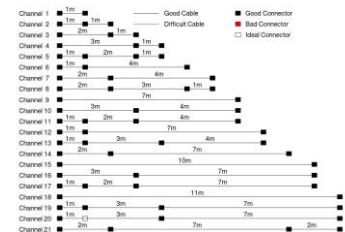
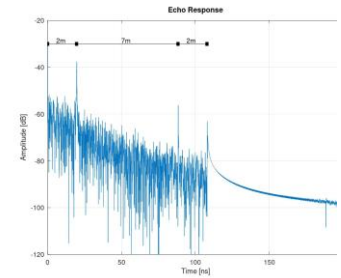
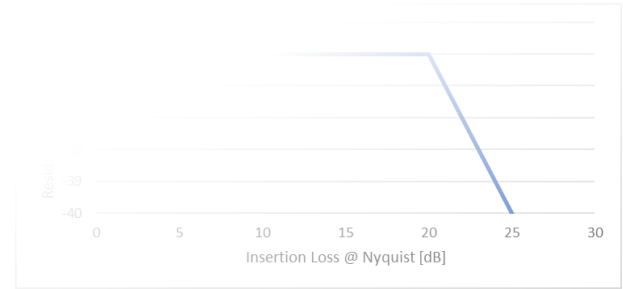
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Marvell

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# Introduction

- In the Telephonic Interim Meeting on March 30, 2021, the micro-reflection limit text from [jonsson 3cy 01a 03 30 21](#) was adopted
- Contribution [jonsson 3cy 01 08 10 21](#) suggests specific limits to use in the text
- This contribution proposes to adopt the values previously proposed in [jonsson 3cy 01 08 10 21](#)



# Evaluation of the Proposed Parameters

- Contribution [jonsson 3cy 01b 09 28 21](#) provided MATLAB code for easier evaluation of the micro-reflection limits
- Several cable experts have used this MATLAB code to evaluate the REM metric for real cables
- Contribution [mueller 3cy 01 10 26 21](#) shared measurement results for real cables and concluded that the REM did not put prohibitive limits on the cable design

## 802.3cy micro-reflexions measurement results

Rosenberger

### Summary

- The 10 m cable assembly with SPP cable in development status meets the REM requirements with the proposed parameters with some margin for inline connectors, temperature variation and ageing
- The proposal does not preclude using STP cable for shorter link segments

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From [mueller 3cy 01 10 26 21](#)

# Values Proposed in [jonsson\\_3cy\\_01\\_08\\_10\\_21](#)

Parameter	Parameter Value	Parameter Description
$\Delta f$	<b>2.5MHz</b>	The sample frequency spacing for the frequency domain transfer function measurements
$N$	<b>4096</b>	Number of sampling points to use for the time domain representation of the echo impulse response
$N_{seg}$	<b>4</b>	Number of samples in each segment
$N_{discard}$	<b>12</b>	Number of largest segments to discard

- $f_c$  is **4GHz**,
- $REM_{max}$  is **-30dB** and
- $REM_{offset}$  is **20dB**

# Straw Poll

- I support adopting the micro-reflection parameters for 802.3cy as described in slides 4 of jonsson\_3cy\_02\_11\_09\_21.pdf.

# Motion

Move to adopt the micro-reflection parameters for 802.3cy as described in slides 4 of jonsson\_3cy\_02\_11\_09\_21.pdf, with editorial license

- M:
- S:



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