

COMMENT #101

Limit for Cable Assembly Diff-to-Common RL

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Overview

- Comment Overview
- Issues with existing limit
- Proposed limit
- Questions

Comment Overview

- Comment addresses issues with existing limit expressed in equation 162-9 concerning cable assembly differential to common-mode return loss

162.11.4 Differential to common-mode return loss

The cable assembly differential to common-mode return loss shall meet Equation (162-9).

$$Return_loss(f) \geq \begin{cases} 22 - 10(f/26.56) & 0.05 \leq f < 26.56 \\ 15 - 3(f/26.56) & 26.56 \leq f \leq 40 \end{cases} \quad (162-9)$$

where

$Return_Loss(f)$ is the cable assembly differential to common-mode return loss at frequency f in dB

f is the frequency in GHz

The cable assembly differential to common-mode return loss is illustrated in Figure 162-5.

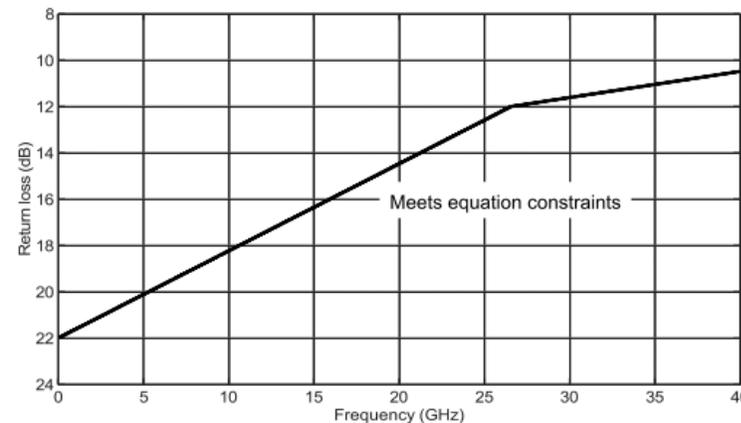
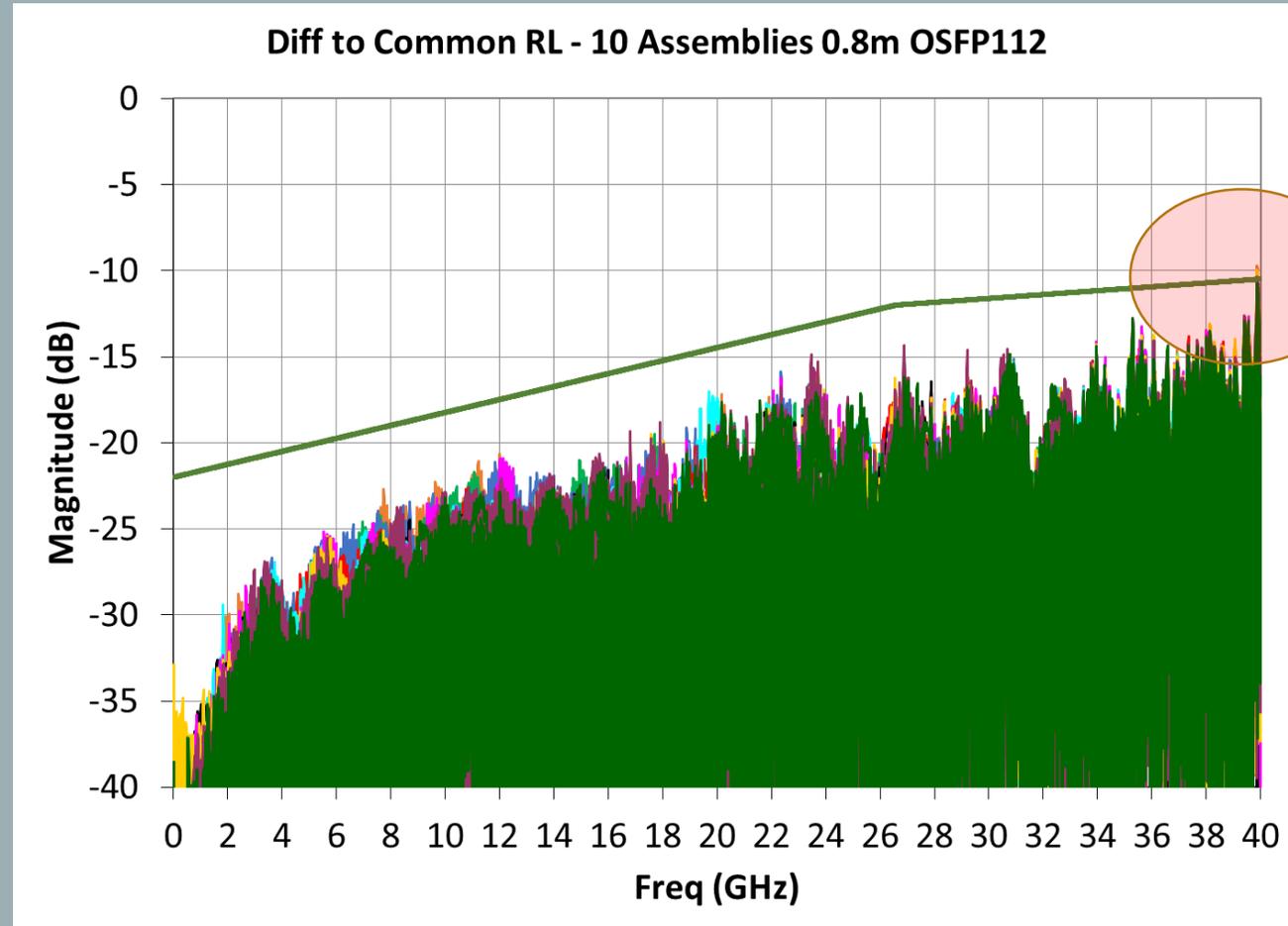


Figure 162-5—Differential to common-mode cable assembly return loss

Issues with Existing Limit

- Existing limit is too tight for high-volume production testing
- Production testing will have some testing artifacts due to constant use of MCBs and test points
- Minor issues like this should not be causing assemblies to fail

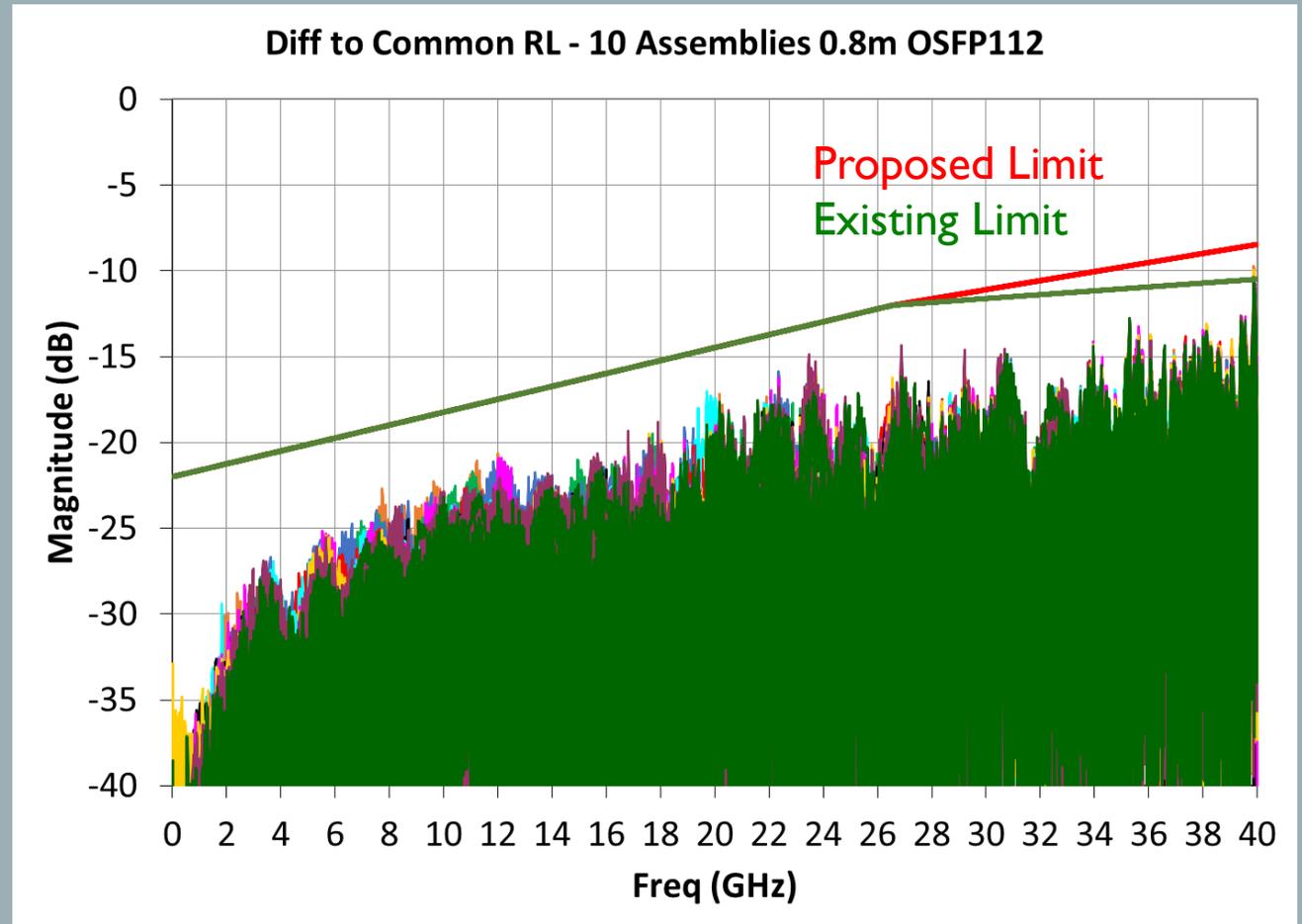


Proposed Limit

- Proposed limit adds some extra margin at the higher frequencies to account for some minor wear on module compliance boards during high-volume production

Proposed Limit (Shown in Red on Plot)

$$\text{Return Loss}(f) \geq \begin{cases} 22 - 10(f/26.56) & \text{for } 0.05 \leq f < 26.56 \\ 19 - 7(f/26.56) & \text{for } 26.56 \leq f \leq 40 \end{cases}$$



Summary

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- Questions