MTF Performance Evaluation

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Related to comments #365

HCB – Comment #365

Cl **179B** *SC* **179B.2.1** *P* **873** *L* **40** # 365

Kocsis, Sam — Amphenol

Comment Type **T** *Comment Status* **D** *Test fixture reference (E)*

Equation 179B-1, as plotted in Figure 179B-1 does not seem to track the insertion loss profile of an actual test fixture.

SuggestedRemedy

Update Equation 179B-1 and Figure 179B-1 with a more representative profile. Contribution to follow at the September Interim.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Panding review of contribution kocsis_3dj_01_.2509.
For CRG discussion.

179B.2.1 TP2 or TP3 test fixture insertion loss

The TP2 or TP3 test fixture reference insertion loss is defined as the insertion loss between the reference plane of the RF test connector and the center of the edge connector pad. The reference insertion loss is defined by Equation (179B–1) and illustrated by Figure 179B–1. The effects of differences between the insertion loss of an actual test fixture and the reference insertion loss are to be accounted for in the measurements.

$$ILdd_{tfref}(f) = 0.01567 - 0.2676\sqrt{f} + 0.322f - 0.0669f^{1.5} + 0.0051f^{2} \quad (179B–1)$$

where

$ILdd_{tfref}(f)$ is the test fixture reference insertion loss in dB at frequency f

f is the frequency in GHz

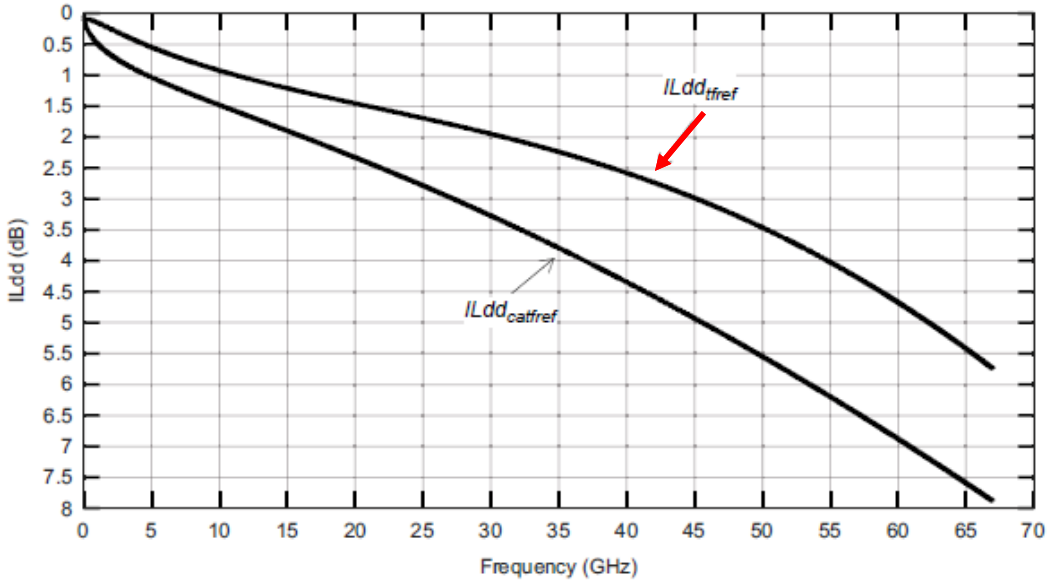
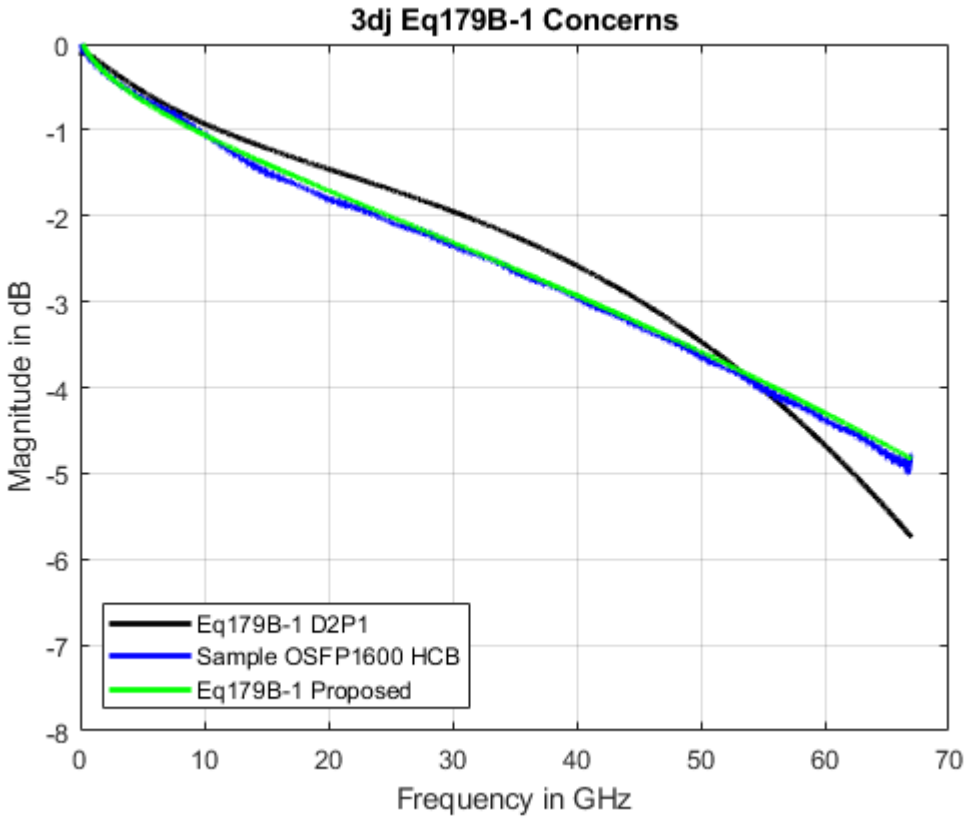


Figure 179B–1—Test fixtures reference insertion losses

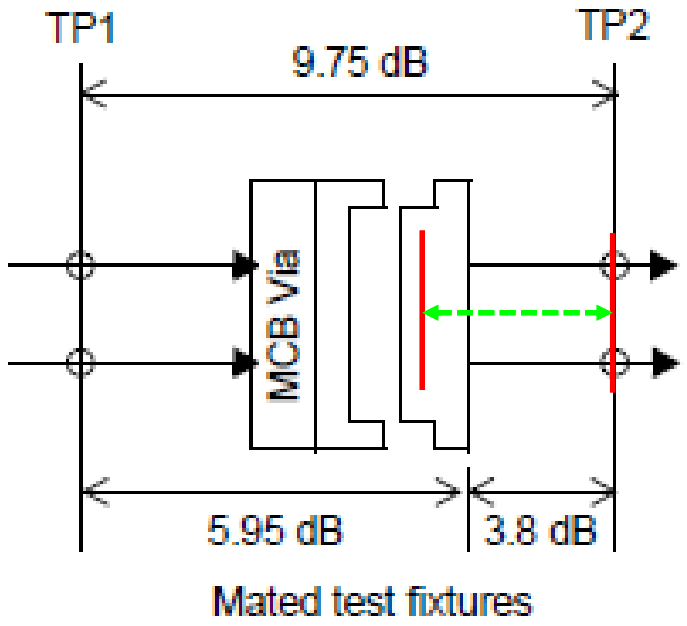
Supporting Data

- Eq179B-1 D2P1
  - Plotted equation fixes coefficient errors, comment #444
- Sample OSFP1600 HCB (.s4p*)
  - ‘OSFP1p6T_HCB-WT31053_TX3_Characterization_File_Corrected’
- Eq179B-1 Proposed

$$ILdd_{\text{tref}}(f) = -0.015 + 0.28\sqrt{f} + 0.03495f - 0.00495f^{1.5} + 0.00065f^{2}$$



Methodology



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- Characterization file obtained from an open circuit measurement of the HCB, then post-processing converts the .s2p to an .s4p* file

Summary

- Adopt the equation proposed below for Eq179B-1

$$ILdd_{tref}(f) = -0.15 + 0.3\sqrt{f} + 0.0351f - 0.005f^{1.5} + 0.00065f^{2}$$

- *Food for thought: This process would work well on an MCB, if the MDI connector was not present*