Demonstrated Implementation Feasibility of Suggested 224G C2M Test Fixture Loss with Measurement Data

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Supporters:

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References:

- Considerations for CR Insertion Loss Budget Baseline: Cable Assemblies and Test Fixtures (diminico_3dj_01_2311)
- Considerations of Technical Feasibility for Mated Compliance Fixtures (kocsis_3dj_01_2311)

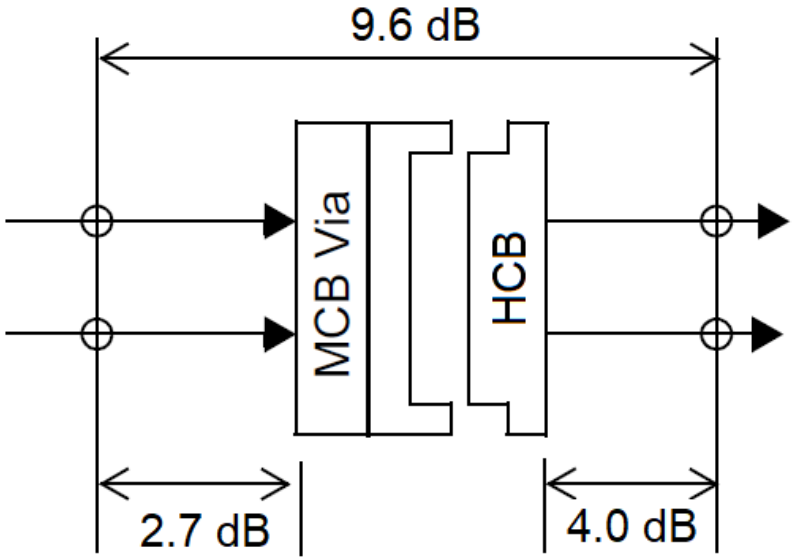
Intent

Follow up on previously measured HCB, MCB, and MTF contributions recommending IL budget (diminico_3dj_01_2311). Show measured HCB, MCB, and MTF IL s-parameter data.

Prototype Construction and Measurement

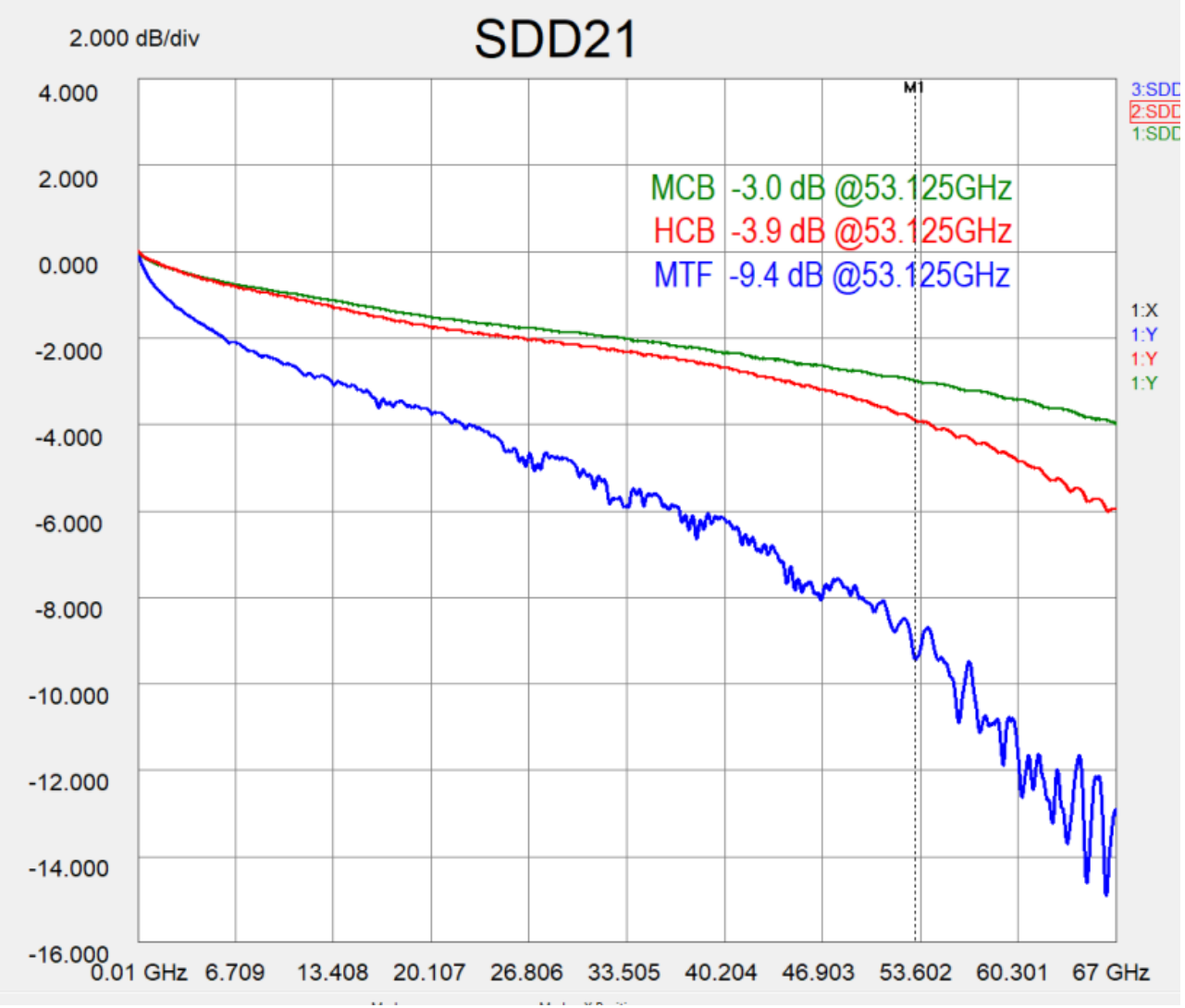
HCB and MCB loss reference boards were created and measured including all transmission lines up to, but excluding connector, connector pads, and vias in pads.

Proposed HCB, MCB, and MTF IL @ 53.125 GHZ



Component	Insertion Loss (dB)
Module Compliance Board transmission line	2.7
Host Compliance Board transmission line	4.0 (proposed target)
Mated Test Fixture	9.6 (proposed target)
MTF connector + 2 via's	2.9

Prototype Measurement Results



Component	Measured Insertion Loss @ 53.125 GHz (dB)
MCB transmission line	-3.0
HCB transmission line	-3.9
MTF	-9.4
MTF connector + 2 via's	-2.5

Summary and Conclusion

- Measured data shows reasonable insertion loss for HCB, MCB, and MTF
- Protypes developed agnostic to form factor
- Measurements demonstrate 4.0 dB IL target for HCB may be more practical than 3.4 dB target.
- More work planned for Mated Test Fixture ERL, ICN, and conversion parameters

Thank You