224G C2M MTF Measured Data

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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)
- Proposed specification for 224G C2M Compliance Test Board Insertion Loss (sekel_3dj_01_2406)

Intent

- Present additional measurement data from prototype 224G C2M compliance test fixtures
- Demonstrate feasibility to fabricate compliance test fixtures to recommended specifications and validate with measured data.
- Protypes developed agnostic to form factor. Both QSFP-DD and OSFP prototypes were fabricated and tested

Prototype Construction and Measurement

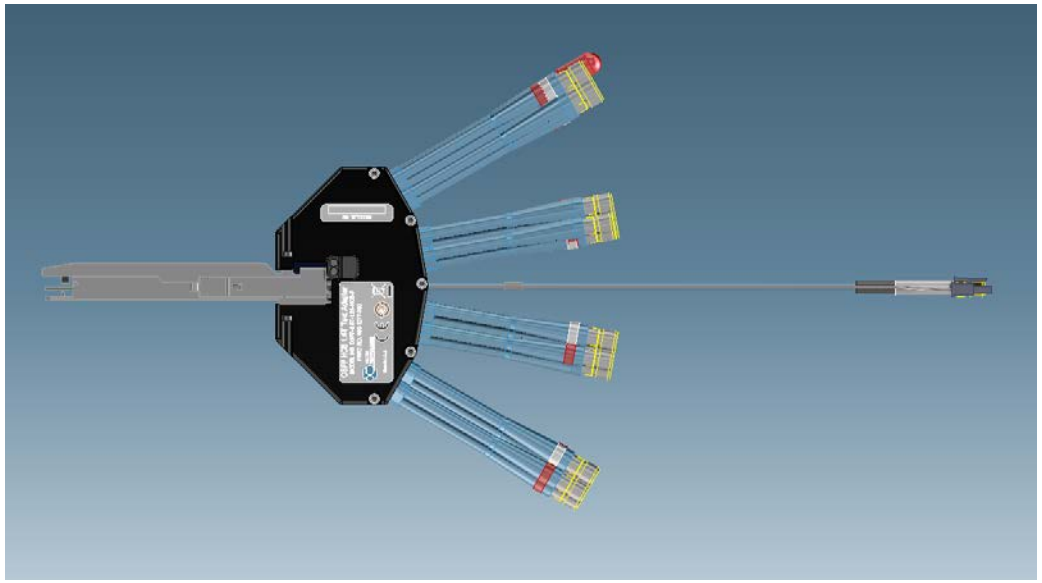
HCB and MCB loss reference boards were created and measured including all transmission lines up to, but excluding connector, connector pads, and vias in pads.

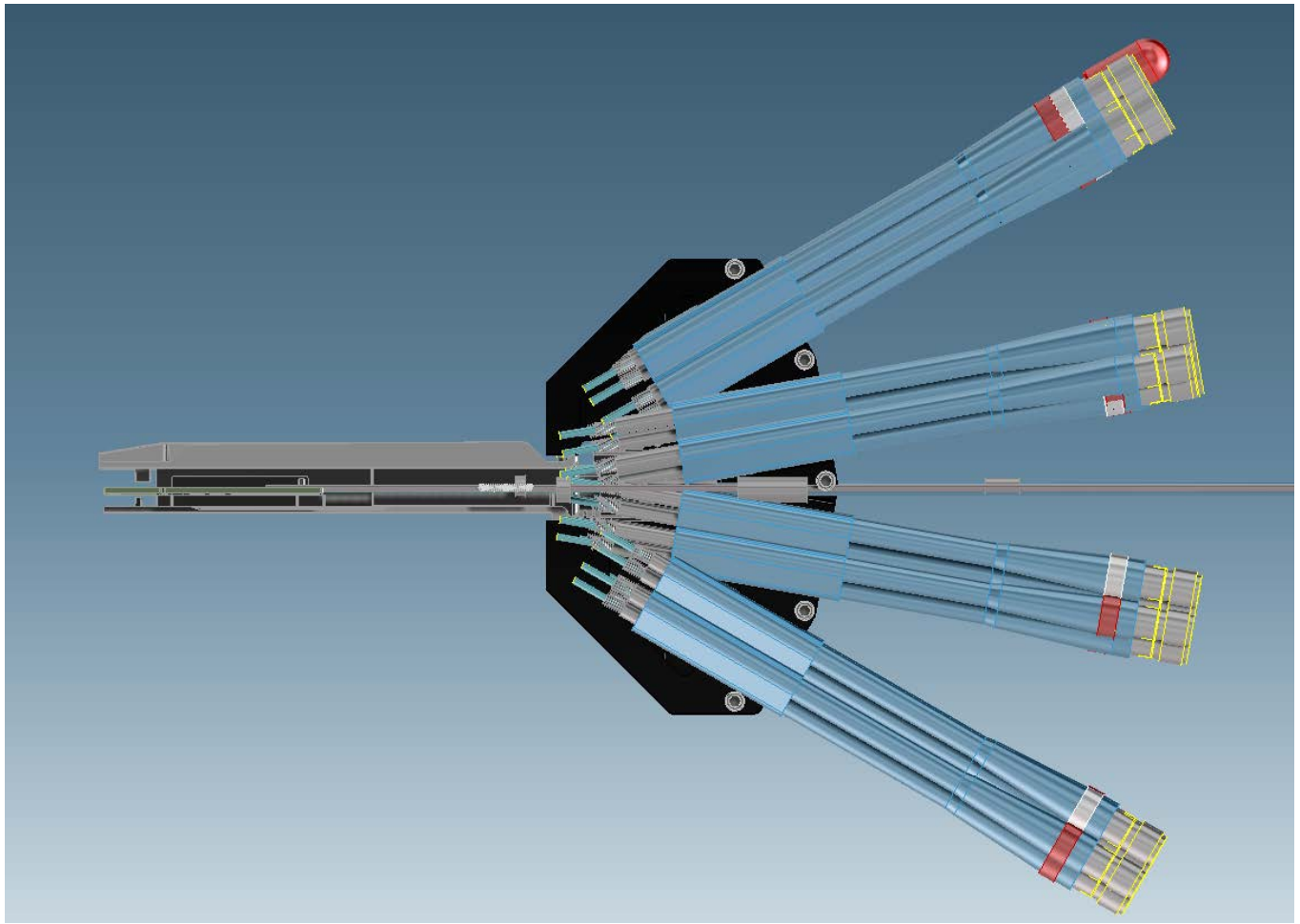
HCB, MCB and MTF IL @ 53.125 GHZ

Component	Insertion Loss (dB)
Module Compliance Board transmission line	2.7
Host Compliance Board transmission line	3.8
Mated Test Fixture	9.4
MTF connector + 2 via's	2.9

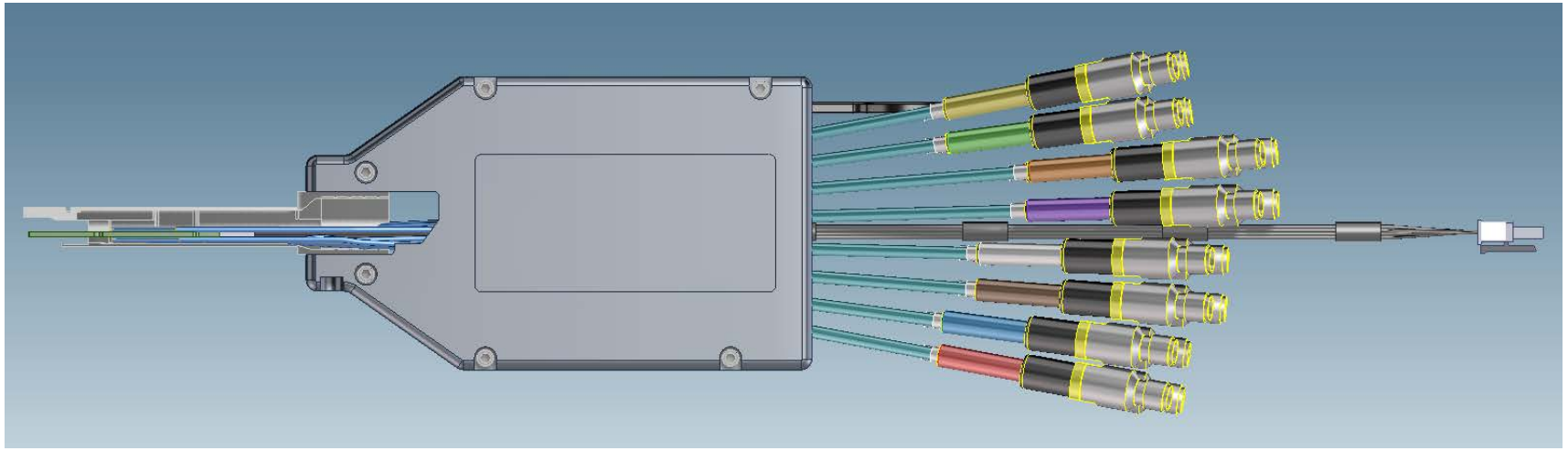
Prototype Construction – OSFP

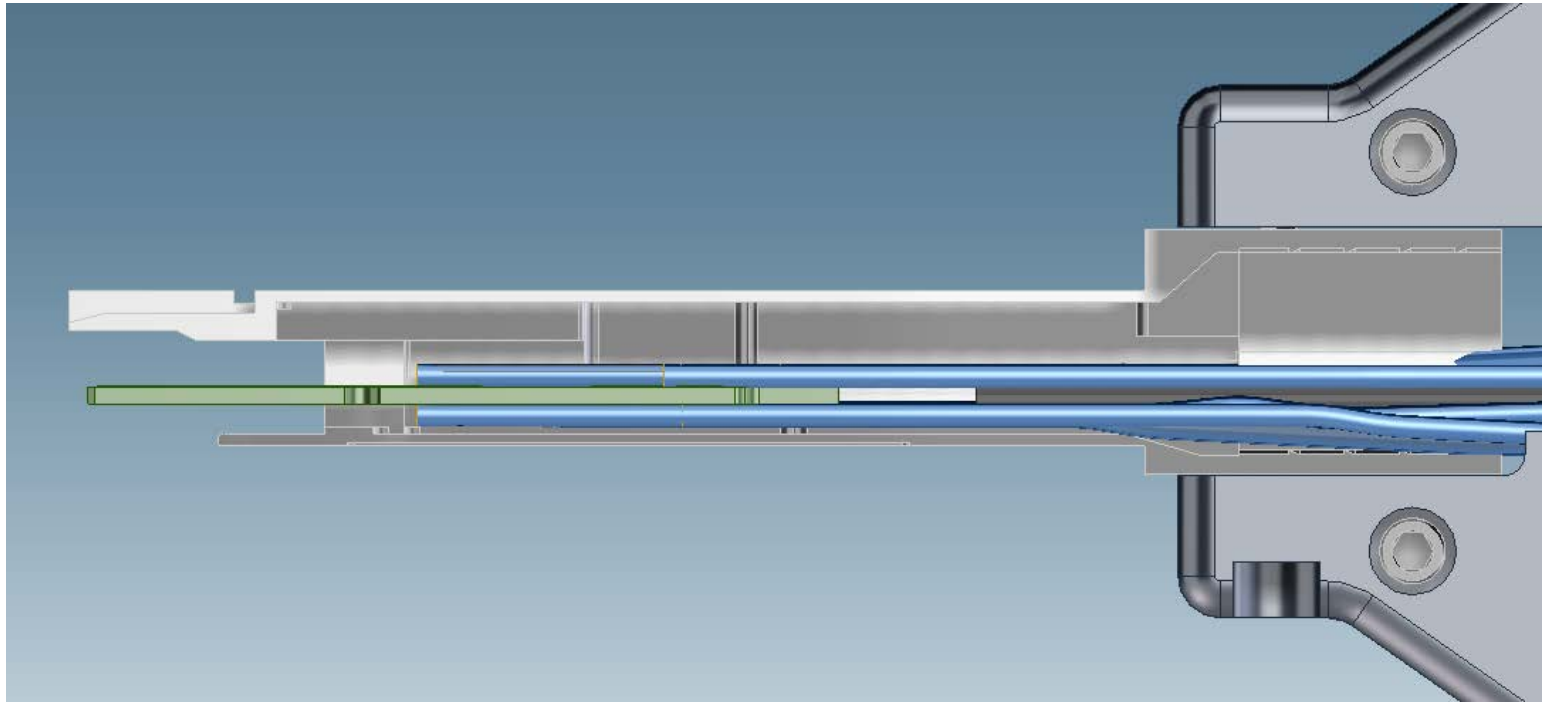
To minimize loss, HCB uses short paddle card PCB launched into coax cables



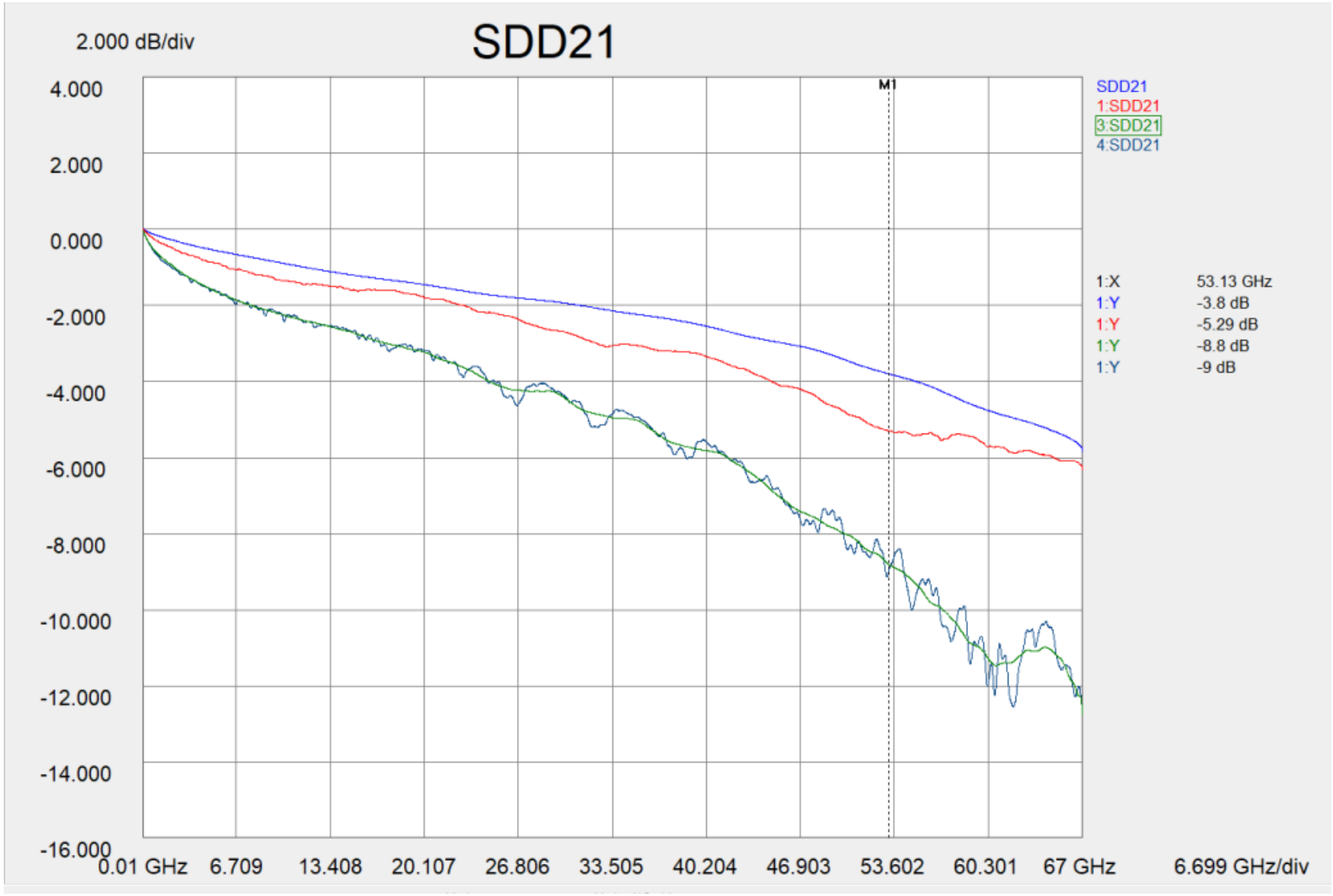


Prototype Construction – QSFP-DD





Prototype Measurement Results – MTF QSFP-DD



Blue: HCB (o.c. estimate)

Red: MCB w/ connector (o.c. estimate)

Green: MTF (actual thru, raw & smoothed)

Summary and Conclusion

- Measured data shows good correlation with insertion loss simulation results for HCB, MCB, and MTF.