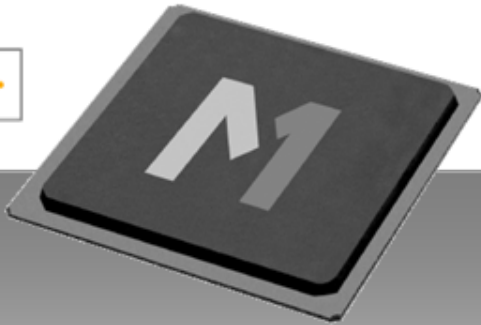


# Host Budget Consensus Building



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# Supporters & Contributors

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- Tom Palkert (Molex)
- Mark Bugg (Molex)
- Pravin Patel (IBM)
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- Megha Shanbhag (TE Connectivity)
- Nathan Tracy (TE Connectivity)
- Mark Gustlin (Xilinx)
- Mike Li (Altera)

# Consensus Building Summary

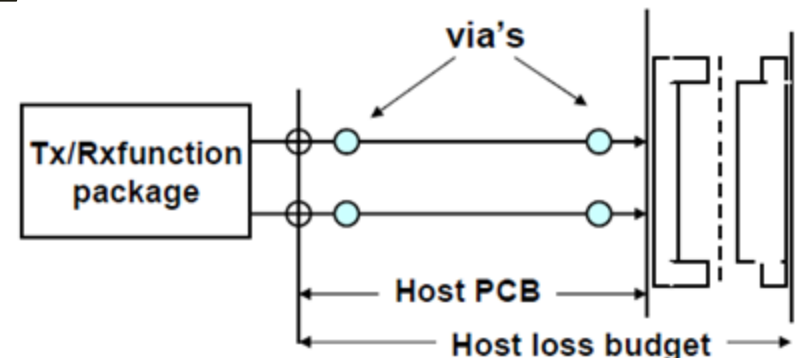
- Leveraging input from Material Loss Proposal (kochuparambil\_01\_0112), host loss consensus group was able to add context around the loss assumptions used in CEI-28G-VSR and diminico\_01\_1111
  - VSR: 1.7dB/inch @ 14GHz
  - DiMinico: 1.27dB/inch @ 14GHz
  - Material Loss Proposal:
    - Meg6\_HighSR-narrow: 1.7dB/in @14G
    - ImpFR4\_LowSR-narrow: 1.55dB/in @14G
- Group agreed that VSR target for host board + 5m passive copper cable would be greater than the 30dB link budget (without FEC)
- To preserve the potential for commonality between optics (VSR budget) and copper (5m), FEC would be needed to make up for the ~3dB difference at 12.89GHz
  - Strong need to be able to turn off FEC for shorter reach cases (1m and 3m for example)

# Recommendation

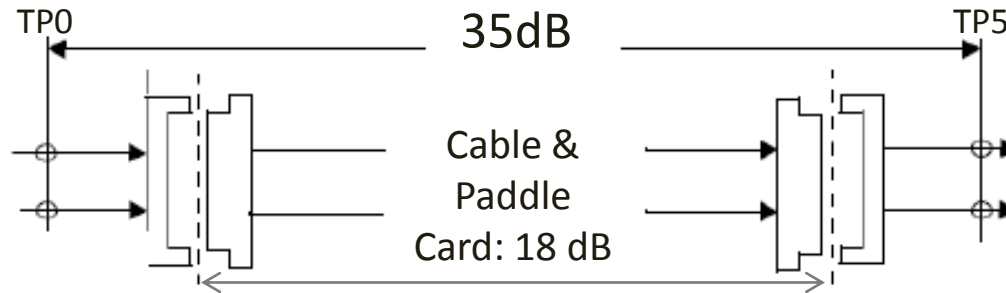
- Budget host loss assuming FEC is used to meet 5m reach
  - Ensures adequate loss for hosts
  - Enables compatibility with optical ports
- Task force to study how FEC can be turned on/off for low loss latency sensitive applications

- Host Loss Budget: 8.5dB at 12.89GHz

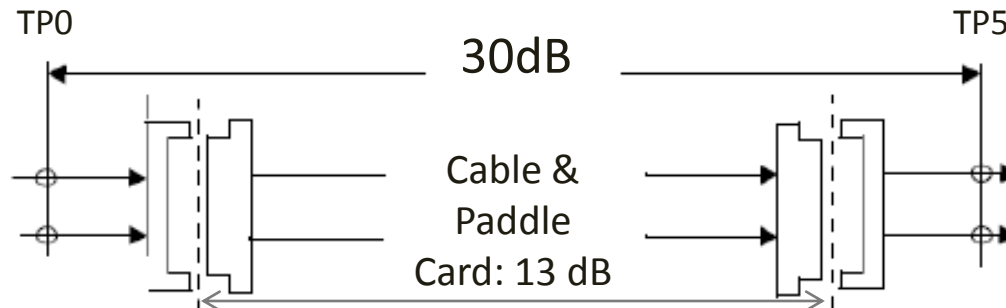
- includes PCB loss, two sets of vias and mated connector



# Copper Cable Link Budget



5 m cable assembly link budget example with 8.5 dB host loss: 35 dB @12.89 GHz (FEC Required)



3.5 m cable assembly link budget example with 8.5 dB host loss: 30 dB @12.89 GHz (FEC not Required)

# Next Gen Optical Budget

