

Small Form-factor Versatile Transceiver (*SF-VTRx*)

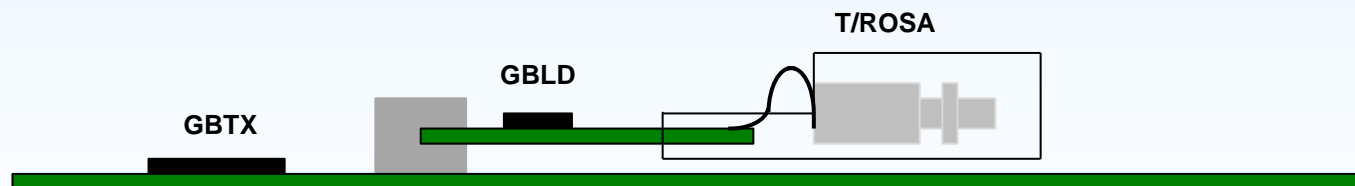
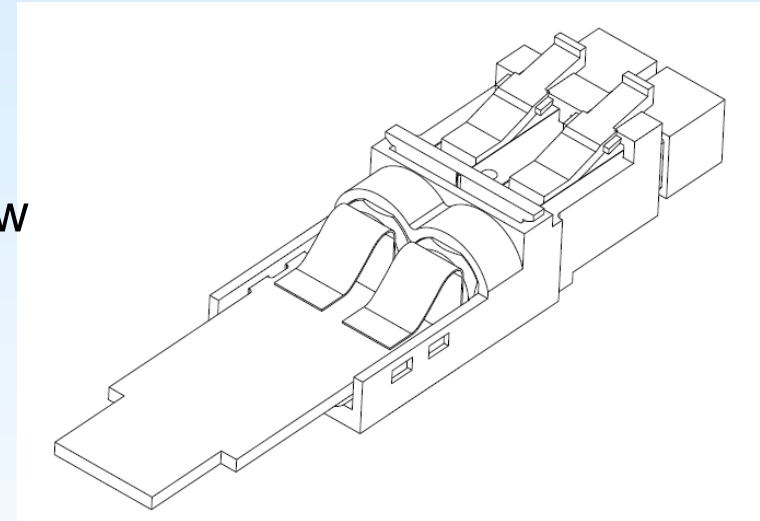


Csaba Soos
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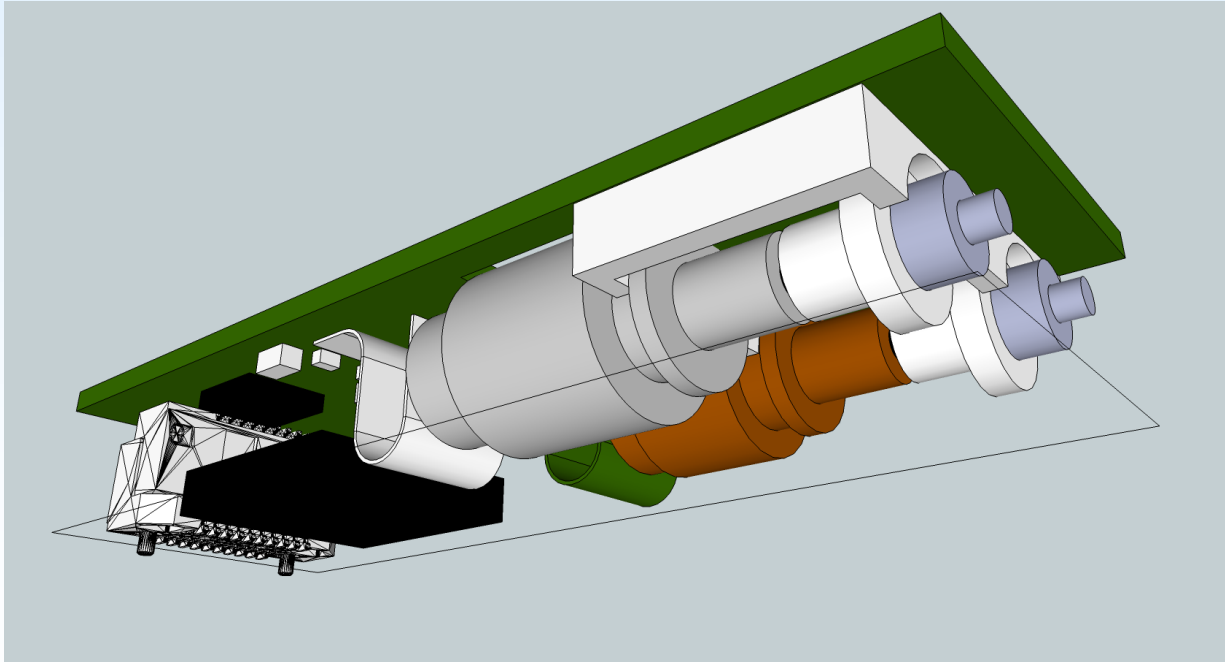
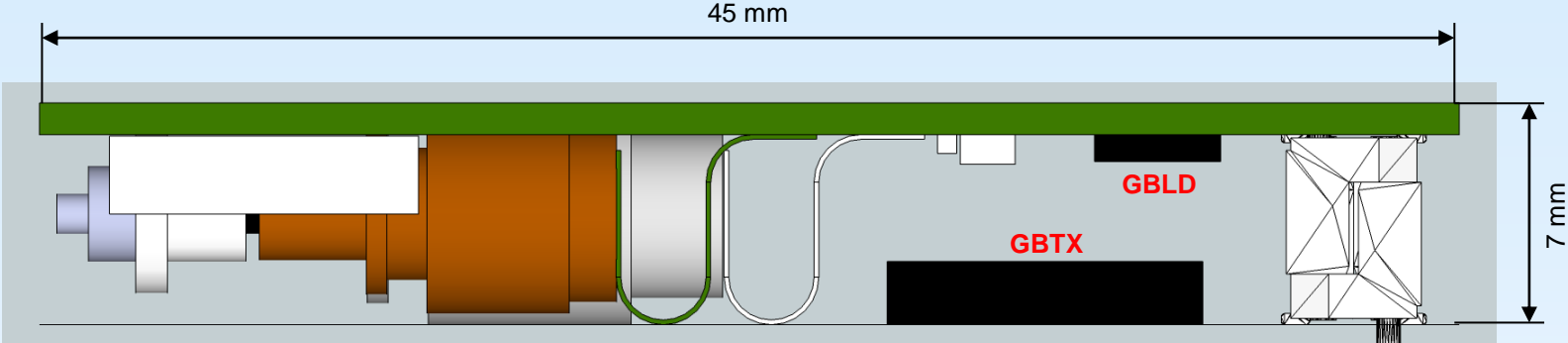
- CMS tracker Phase II upgrade
 - Need low profile optical interface for the new front-end hybrid
- Footprint constraint
 - 45 x 15 x 8 mm³
 - Must include serializer (GBTX, 10 x 10 mm²)
- Keep stand-alone module concept
 - Easier prototyping and maintenance
- Reuse work done in the framework of the VL project

VTRx real estate

- Current VTRx is based on the SFP+ standard
 - Designed for board edge
- Connectors use lot of space
 - Optical connection is not flexible as it is now
- Board space under VTRx is *lost*

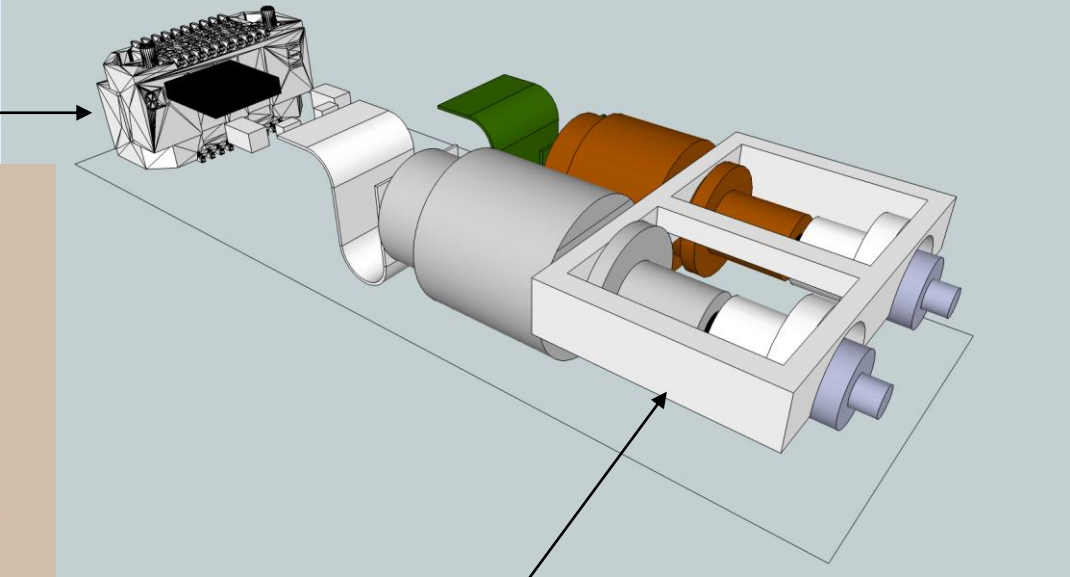
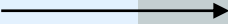


Proposal




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Mezzanine connector, Samtec LSS family



LC TOSA clip (plastic version)

Mates with: LSS



- High retention contacts
- Audible click when mated
- Shrouded

High Speed/High Density

Low cost Blade & Beam contact

Audible click when properly mated

Self-mating system can reduce inventory costs

Slim row-to-row design

Mated height variety/flexibility

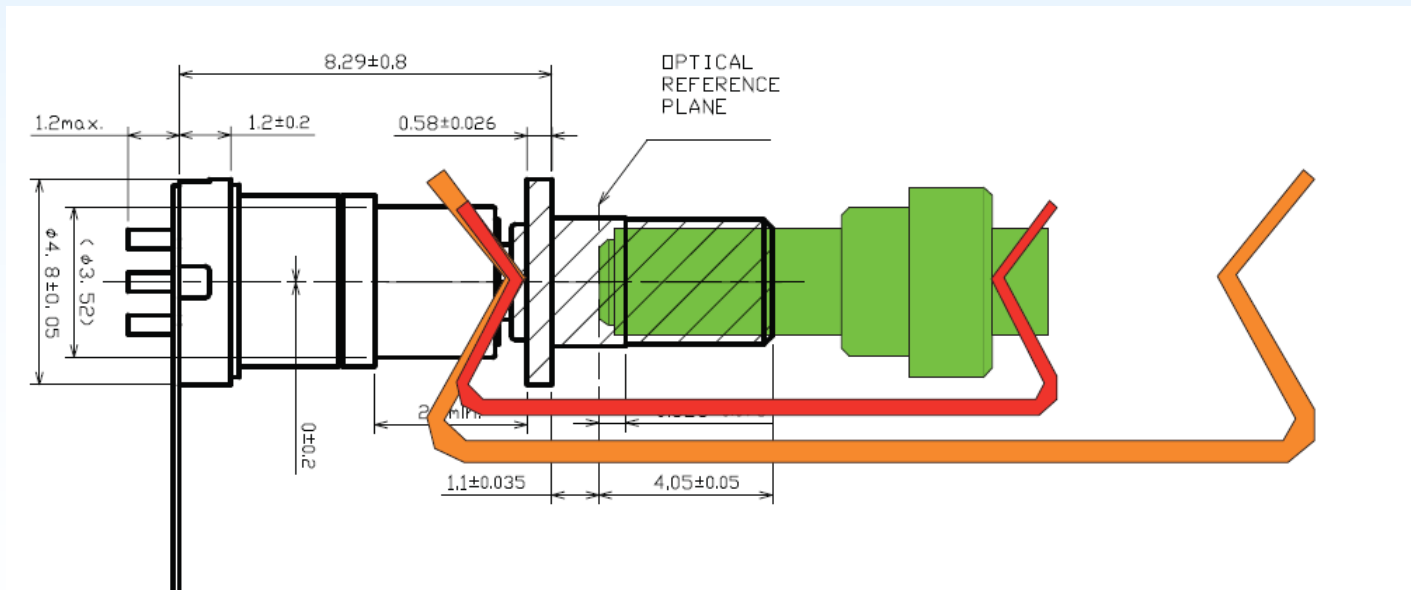
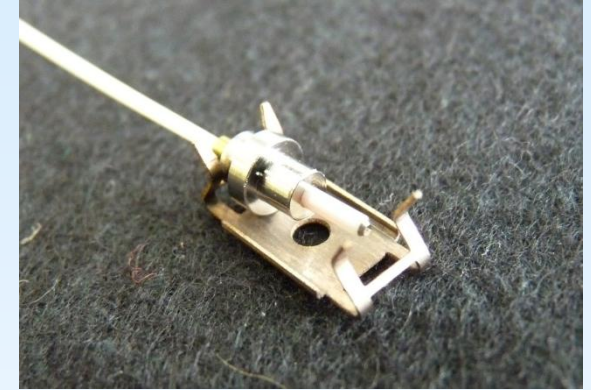
(0,635mm) .025" pitch

6mm Stack Height	Rated @ 3dB Insertion Loss
Single-Ended Signaling	10 GHz / 20 Gbps
Differential Pair Signaling	9 GHz / 18 Gbps

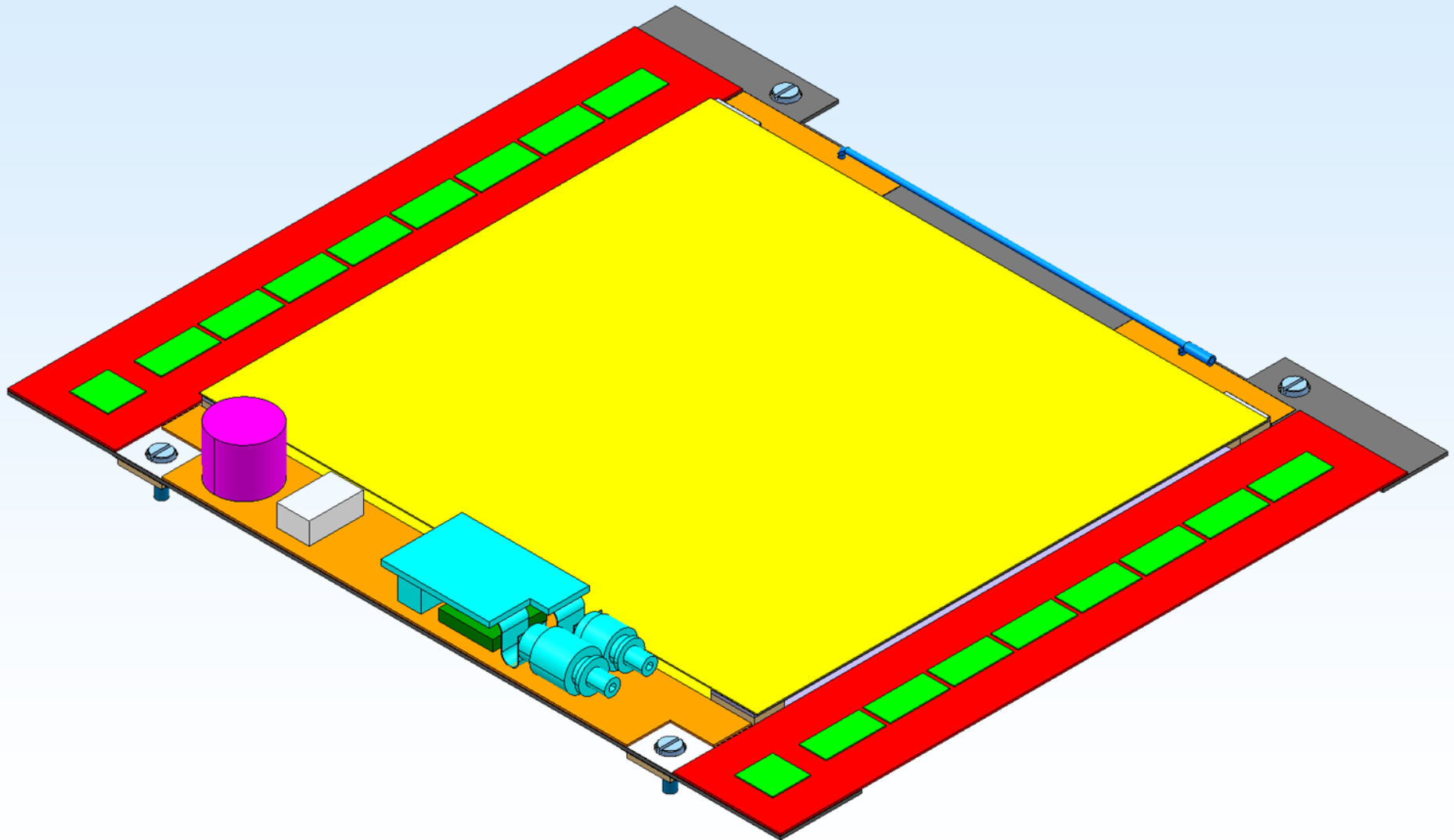
Performance data for other stack heights and complete test data available at www.samtec.com?LSS or contact sig@samtec.com

Optical connector

- LC TOSA clip and connector
- Metal spring guarantees reliable optical connection
- Can be tailored for different TOSA packages



Front-end module with SF-VTRx



- Concept demonstrator
 - Prototypes SF-VTRx (MM) and test board are being manufactured
- LC TOSA/ROSA clip
 - Can we use a commercial TOSA clip?
 - Can we design (and 3D print) our own TOSA/ROSA clip?

