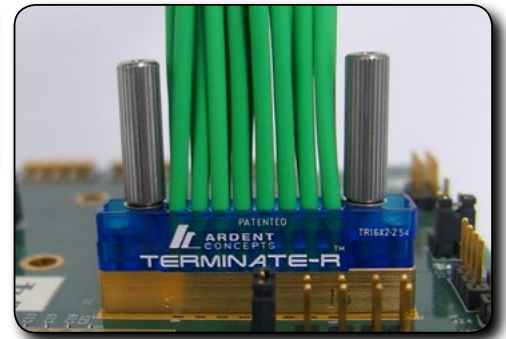
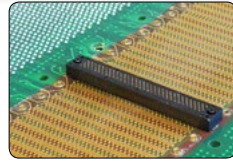
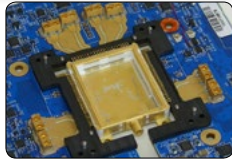


# Application Case Study

ACS #0002



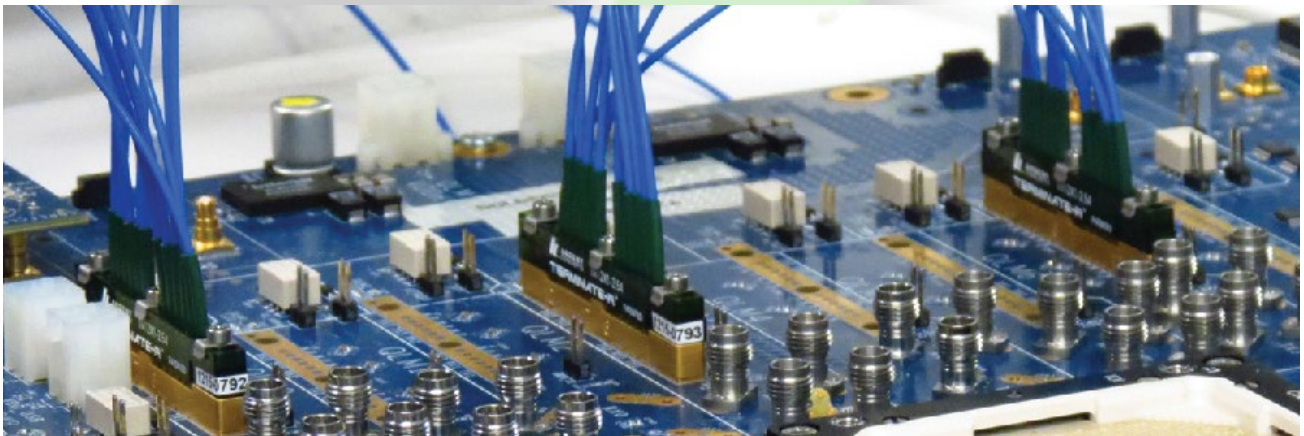
## 28 Gbps SerDes

### Problems Faced During Application

A major IC Manufacturer was developing a next generation chipset with multiple lanes of high speed SerDes for a highly integrated, scalable metro transport solution with reduced power, cost and complexity. The characterization board for this chipset had nearly 400 channels and the customer was seeking the most cost effective method to connect all of the high speed lanes out to test instrumentation for performance validation.

### The Ardent Solution

The IC Manufacturer selected the 12 Channel version Ardent TR™ Multicoax cable assembly to access the high speed lanes on their characterization board. This solution provided a high density connection that dramatically reduced the amount of real estate needed on the board for high speed connections.

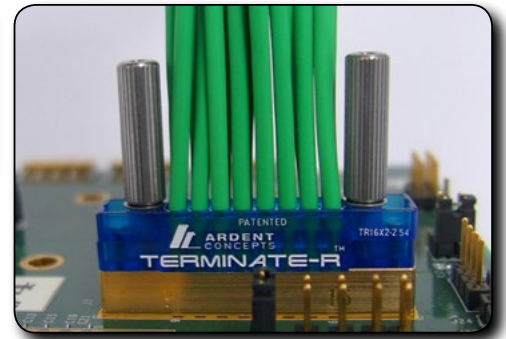
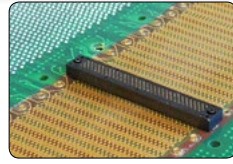
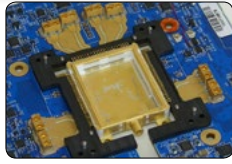


### Key Benefits

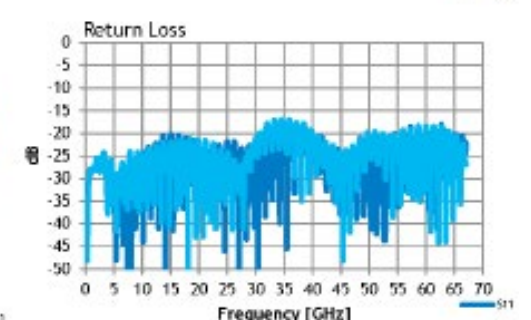
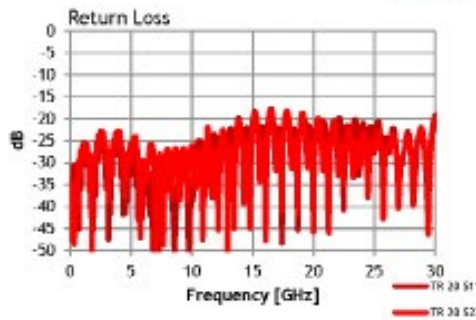
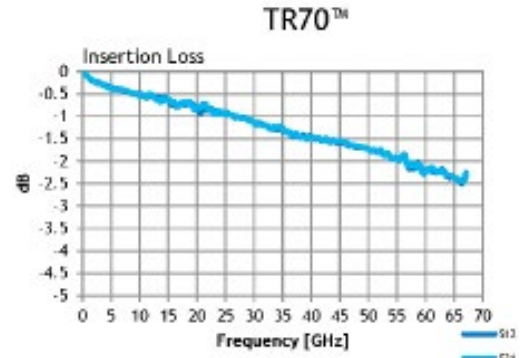
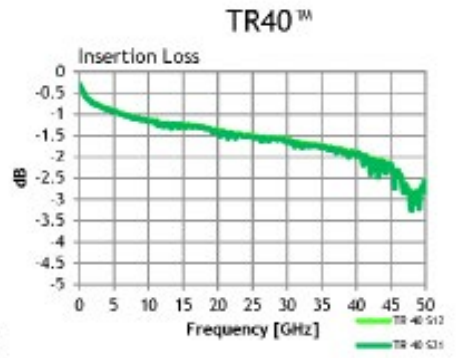
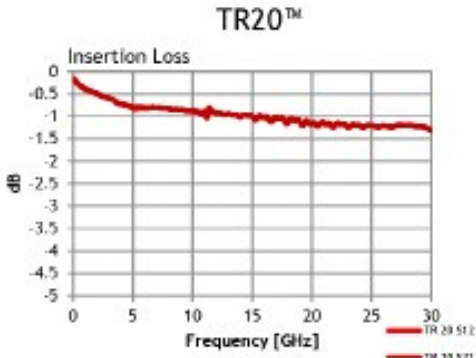
- Improved repeatability of measurements
- Reduced the component cost of the PCB
- Eliminated the need for traditional surface mount connectors like SMAs and SMPs

# Application Case Study

ACS #0002



## Key Performance Data



### Electrical Specifications

Frequency Range	DC to 70 GHz
Return Loss <sup>1</sup>	-18 dB through 70 GHz
Insertion Loss <sup>2</sup>	-1.5 dB through 40 GHz, -3 dB through 70 GHz
Crosstalk	-70 dB through 70 GHz
Impedance <sup>1</sup>	50 Ω +/- 2.5 Ω
Phase Matching	+/- 2 ps standard

### Mechanical Specifications

Pitch	2.54 mm
Cables	.047" diameter cables <sup>3</sup>
Connectors	SMA, SMK (2.92 mm), or V (1.85 mm)
Cable Length	6"/152 mm, 12"/304 mm, 24"/608 mm
Insertion Life	1,000+ mating cycles
Field Replaceable Interface	Yes
Footprint	Microstrip & Stripline compatible

Notes: <sup>1</sup>Largely a function of PCB design. <sup>2</sup>Measurement includes 3" of cable. <sup>3</sup>Consult factory for additional cable options.

## Related Products

### CA Series™ - Connectors & Interposers



- 32 Gbps+
- Area array to 0.4mm pitch
- Compression mount & solderless
- Pure vertical interface – no offset required
- Ideal for high shock and vibration/extreme temperatures applications

### SK Series™ - Multi-GHz Sockets



- 40 GHz+/32 Gbps+ performance
- Thermal management ready
- Solderless/compression mount system provides flexibility throughout design
- Quick connection of multiple signals to PCB
- Custom designed to your application

### More Information

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E-mail: info@ardentconcepts.com

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