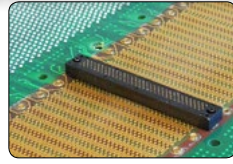
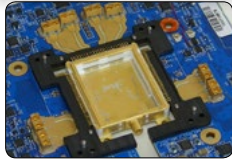


# Application Case Study

ACS #0004



## 40 GHz Signals on Consumer Product Test System

### Problems Faced During Application

A major consumer product company was developing sub-system that required 40GHz+ signals to come off the board and out to instrumentation for functional testing of production units. Test time needed to be short. The high-speed channels created a great challenge with SMA/SMP connectors due to the system's limited space constraints. Also connector wear led to cycling and repeatability issues resulting in false failures.



### The Ardent Solution

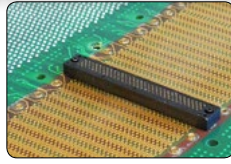
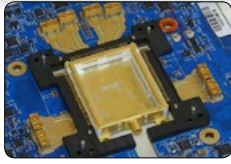
Ardent recommended a Quick latch, compression mount version of TR which increased first pass yield rates on functional test of the sub-system. This improved repeatability of measurements and proved to be a great solution for high volume testing. This design greatly reduced the cost of the board with no reflow and no wasted parts.

### Key Benefits

- Improved repeatability of measurements
- Time saving solution for high volume testing
- Greatly reduced the cost of the board with no reflow and no wasted parts

# Application Case Study

ACS #0004



## 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 $\Omega$ +/- 2.5 $\Omega$
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

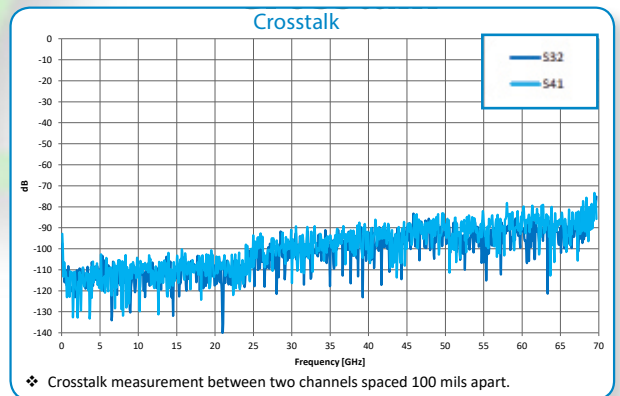
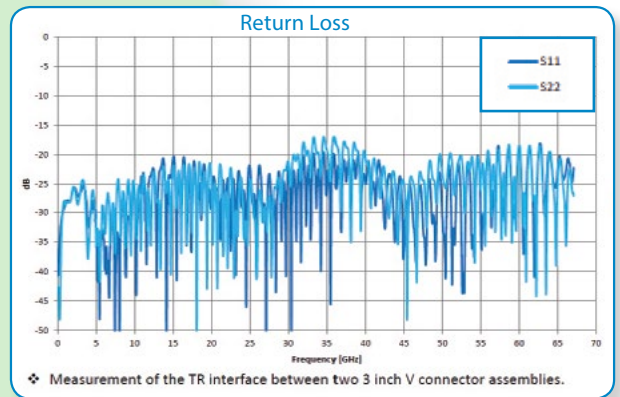
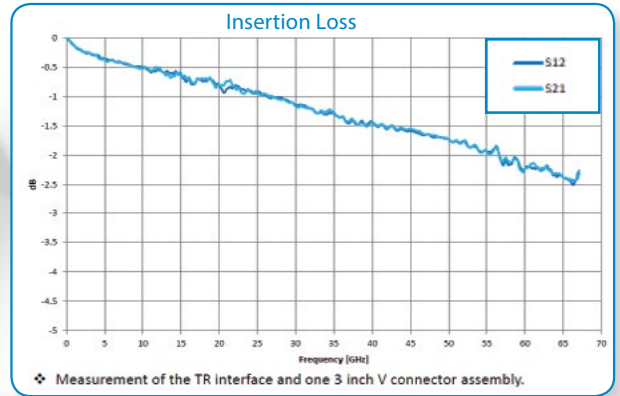


- 32 Gbps+
- Area array to 0.4mm pitch
- Compression mount & solderless
- Pure vertical interface – no offset required
- Ideal for high shock and vibration/extreme temperatures applications

### 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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