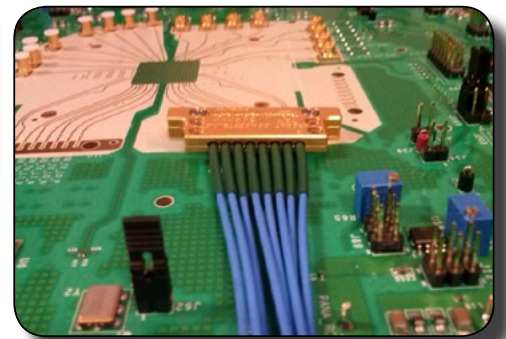
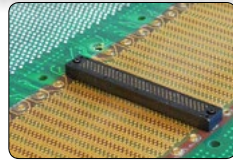
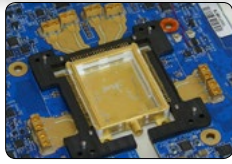
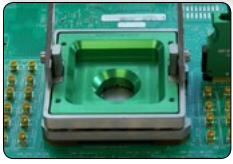


Application Case Study

ACS #0006



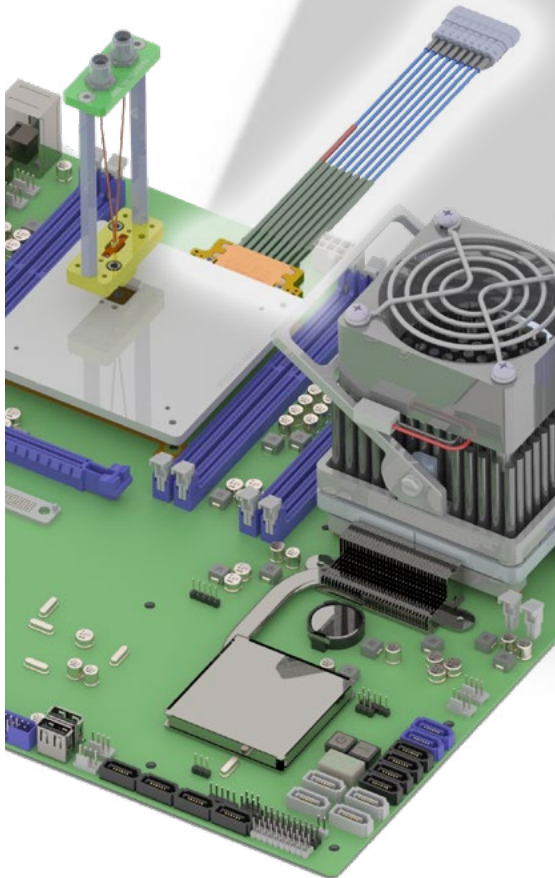
Characterization of a Cross Point Switch

Problems Faced During Application

A Characterization Engineer needed an alternative to SMP Connectors for device characterization and design correlation—the device being tested is a Cross-Point Switch. For this particular application, the engineer was faced with taking 64 differential pairs from PCB to test instrumentation. With SMP connectors, this would have meant having to place 128 individual connectors on the board.

This posed two issues:

- The number of SMP connectors would require a prohibitively large/expensive/lossy PCB and present layout problems.
- They had Z-Height constraints due to the thermal head on the device and the engineers needed to get closer to the device than traditional straight up connectors would allow.



The Ardent Solution

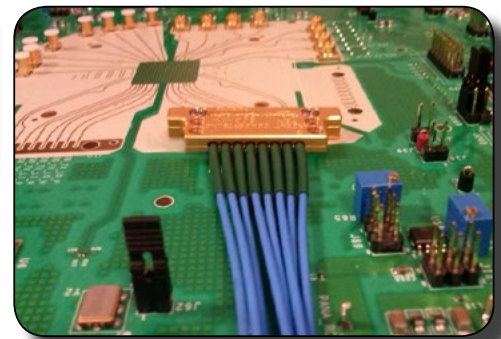
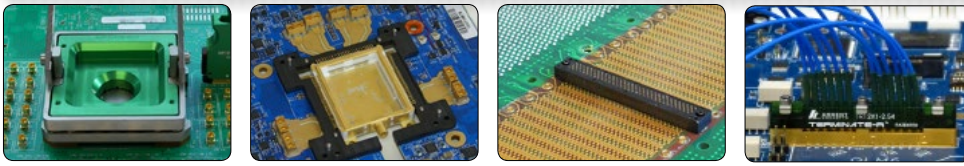
The engineer elected to use Ardent's Right Angle TR™ Multicoax connector as it addressed both of the concerns. The connector allowed the team to pack multiple high speed signals into a high density connector.

Key Benefits

- Get closer to the DUT—allowing for shorter trace lengths
- A Z-Height of 212 mils, allows for easy escape under a thermal head

Application Case Study

ACS #0006



Key Performance Data

Electrical Specifications

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

Mechanical Specifications

Pitch	2.54 mm
Cables	.047" diameter cables ³
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: ¹Largely a function of PCB design. ²Measurement includes 3" of cable. ³Consult factory for additional cable options.

Related Products

CA Series™ - Connectors & Interposers



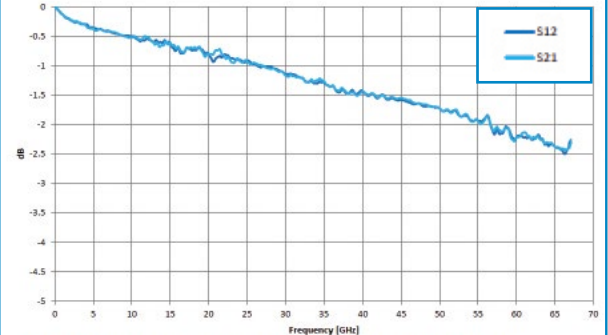
- 32 Gbps+
- Area array to 0.4mm pitch
- Compression mount & solderless
- Pure vertical interface – no offset required
- Ideal for high shock and vibration/extreme temperatures applications

SK Series™ - Multi-GHz Sockets

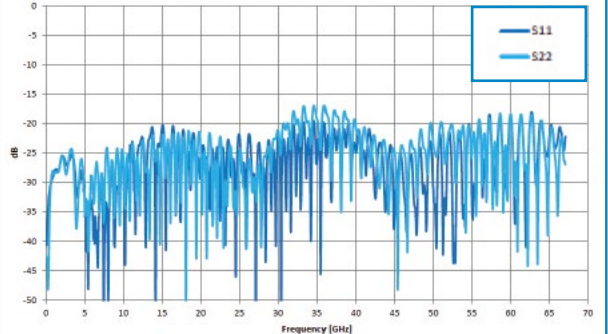


- 40 Ghz+/32 Gbps+ performance
- Thermal management ready
- Solderless/compression mount system provides flexibility throughout design
- Quick connection of multiple signals to PCB
- Custom designed to your application

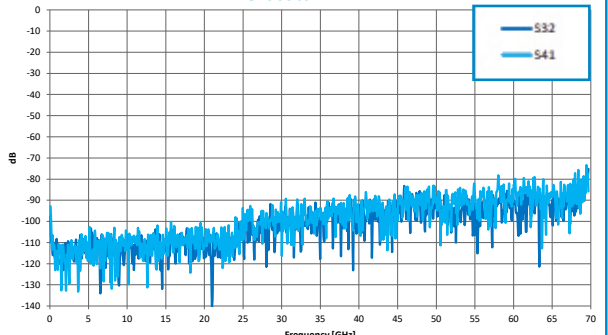
Insertion Loss



Return Loss



Crosstalk



More Information

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