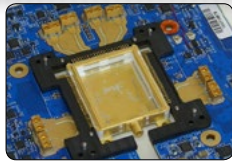
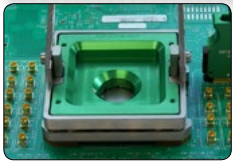


Application Case Study

ACS #0008



High Speed Analog to Digital Converter

Problems Faced During Application

A major global telecommunications company was developing their own, custom Analog to Digital Converter (ADC) and was looking to replace traditional, end launch connector solutions for getting high speed signals off of PCB during device characterization. With a high number (24) of high speed channels on their ADC, the customer was looking at the prospect at having to build a large, expensive PCB in order to fan all of their high speed signals to end launch connectors—trace length needed to be uniform across all 24 channels. Additionally, the customer was looking for a solution that would reduce test setup time



The Ardent Solution

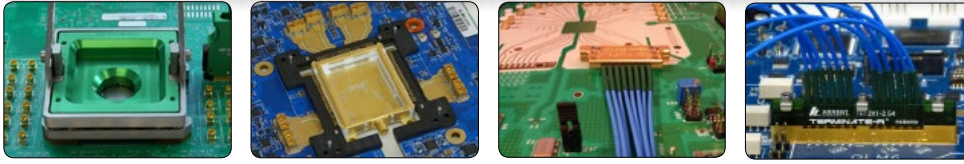
Ardent's TR Multicoax was able to replace their end launch connectors. This allowed them to place their high speed signals in closer proximity to their ADC, greatly reducing trace length. Also, the TR connector provided them the ability to make 12 connections simultaneously rather than manually threading and unthreading 12 individual 2.92mm or 1.85mm end launch connectors—greatly reducing their overall test setup time.

Key Benefits

- Shorter trace lengths to keep losses low
- Necessary PCB real estate drastically reduced
- Reduced overall test setup time

Application Case Study

ACS #0008



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

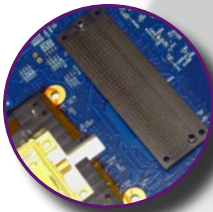
Mechanical Specifications

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



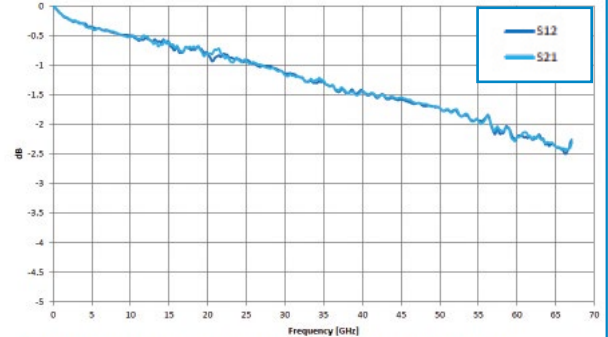
- 32 Gbps+
- Area array to 0.4mm pitch
- Compression mount & solderless
- Pure vertical interface – no offset required
- Ideal for high shock and vibration/extreme temperatures applications

SK Series™ - Multi-GHz Sockets

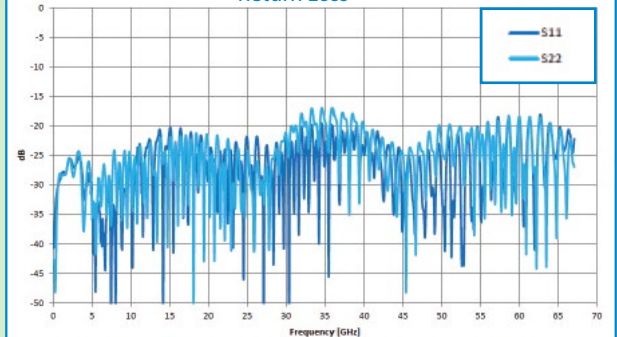


- 40 Ghz+/32 Gbps+ performance
- Thermal management ready
- Solderless/compression mount system provides flexibility throughout design
- Quick connection of multiple signals to PCB
- Custom designed to your application

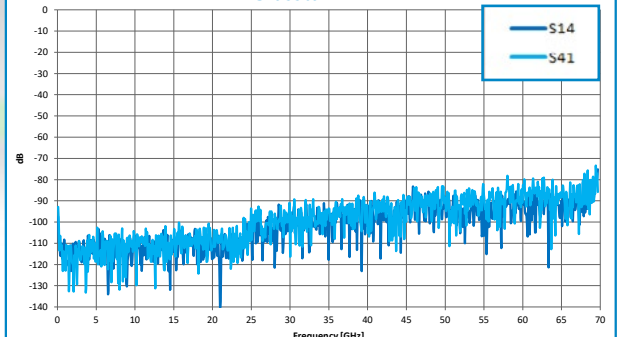
Insertion Loss



Return Loss



Crosstalk



More Information

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