



## TR Multicoax Series 20/40/70

Characterizing High Speed Analog to Digital Converter

Market: Communications

Application: Functional Test

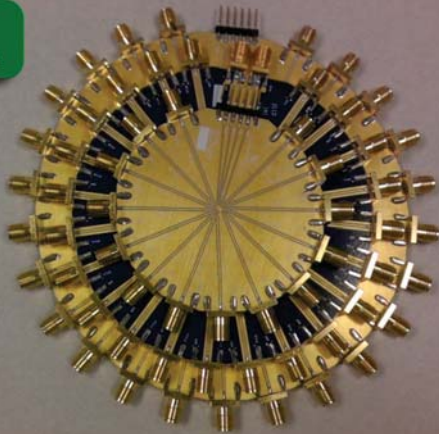
### Challenge

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

### 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.

#### Problematic Legacy Solution



*"Having access to multiple channels so close to our device allowed us to characterize our converter with the lowest possible losses."*

- Characterization Engineer

#### Benefits

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

#### More Information

Phone: (603)474-1760

E-mail: [info@ardentconcepts.com](mailto:info@ardentconcepts.com)

Ardent Concepts, Inc.  
130 Ledge Road  
Seabrook, NH 03874

Sales: [sales@ardentconcepts.com](mailto:sales@ardentconcepts.com)

Technical: [engineering@ardentconcepts.com](mailto:engineering@ardentconcepts.com)




 株式会社 エス・イー・アール  
CUSTOMIZED SOCKETS & CONNECTORS

## Specifications

### 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.

## Footprints

