



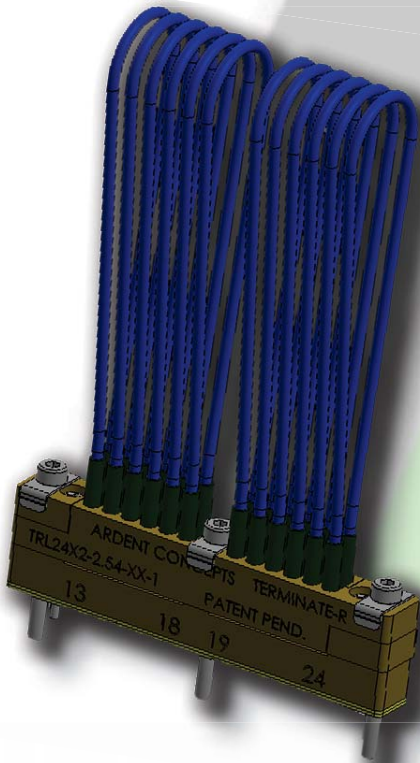
TR Multicoax Series 20/40/70

20GHz SerDes TX & RX Loopback Testing

Market: Semiconductor
Application: Functional Test

Challenge

A major IC manufacturer was developing chips for processors and needed a way to test high-speed IO signals for data rate and accuracy. In order to run tests on many chips with external test equipment, they would need several test benches and test equipment boxes costing hundreds of thousands of dollars and lots of work to set up and maintain.



Solution

Ardent's TR Multicoax Loopback provided a solution where the chip could test its own IO. It could run at speed and monitor various characteristics of the chip's transmitters and receivers quickly. The chip has a loopback that does not use the last stage of the TX driver so we were able to test using different transmitter signal output levels to run transmitter into receiver with this loopback solution.

Benefits

- Replaced expensive test equipment boxes
- Monitor chip transmitter and receiver characteristics quickly
- Test using different transmitter signal output levels

More Information

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"With this connector we were able drastically reduce our test budget and apply a simple solution to our test process."

- Validation Engineer



Specifications

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.

Footprints

