

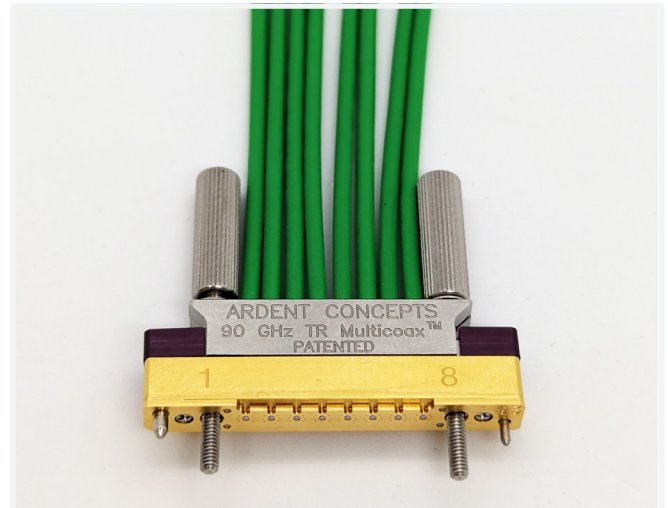
TR90™ Multicoax Connector

90 GHZ GANGED CABLE ASSEMBLY

The TR90 Multicoax connector is a compression mount, multi-port cable assembly for carrying high speed analog or digital signals. With true 90 GHz performance targeting the design and development of 112G and 224G PAM4 based technologies and a compression mount interface which drives lower total cost of testing by avoiding costly solder-down components that can't be recovered, and encouraging reuse across programs, TR is ideal for designers of cutting edge systems.

Designers and manufacturers of optical module, transmission line, switch/routing ASIC, SerDes IP, switch/routing box, datacenter chassis, and AI accelerator products can leverage TR90's newly designed interface and printed circuit board (PCB) footprint to achieve exceptional signal integrity.

Compared to traditional solder down coaxial connectors, TR Multicoax takes up 80% less space on PCBs and is easily re-usable as it can be moved from position to position on PCBs without the need for any surface mount components.



TARGET MARKETS



FEATURES

- Newly designed interface and footprint symbol
- 1mm (W Band) connectors on cable end
- Patented solderless interface
- 2.54mm pitch signal-to-signal

BENEFITS

- Exceptional signal integrity out to 90 GHz
- Industry standard to mate to high frequency VNA/PNA
- No costly PCB solder-down leave behinds required
- Dense footprint gets TR closer to device under test

TECHNICAL INFORMATION

MATERIAL

- Strain Relief, Board Stiffener – 6061 Aluminum, 17-4 PH Stainless Steel
- Ground Block, Interface Assembly – Brass
- RC Springprobe – Gold Plated BeCu
- Hardware – 303 Stainless Steel

ELECTRICAL PERFORMANCE

- Insertion Loss:
Loss due to interface¹ ≤ 0.12 * √(f) (in GHz)
Cable Loss ≤ 0.0172 db/mm @ 90 GHz
- Return Loss²: -18 dB @ 40 GHz, -15 dB @ 67.5 GHz, -12 dB @ 90 GHz
- SNR: 45 dB separation between PWR. SUM XTALK and I.L. @ 28 GHz
- Phase Match: ±1ps cable to cable
- Impedance: 50 Ω ±5% @ 10 p.s. R.T.

¹Up to 90 GHz

²Gated measurements include TR90 cable, interface, and PCB footprint transition

MECHANICAL SPECIFICATIONS

- Form Factor: 4 and 8 channel (in-line), 16 channel (dual-row) in development
- Pitch (Signal): 2.54mm
- 047 Type Flexible Coax
- >1,000 Mechanical Cycles of TR interface
- 1.0mm (W Band) cable offerings

ENVIRONMENTAL

- Temperature Range: Performance verified at room temperature

SPECIFICATIONS

- 1.0mm connector must meet IEC 61169-31
- 2011/65/EU (RoHS) Compliant
- 2006/1907/EC (REACH) Compliant
- Mil-STD 202, Mechanical Shock, Vib, Thermal Shock

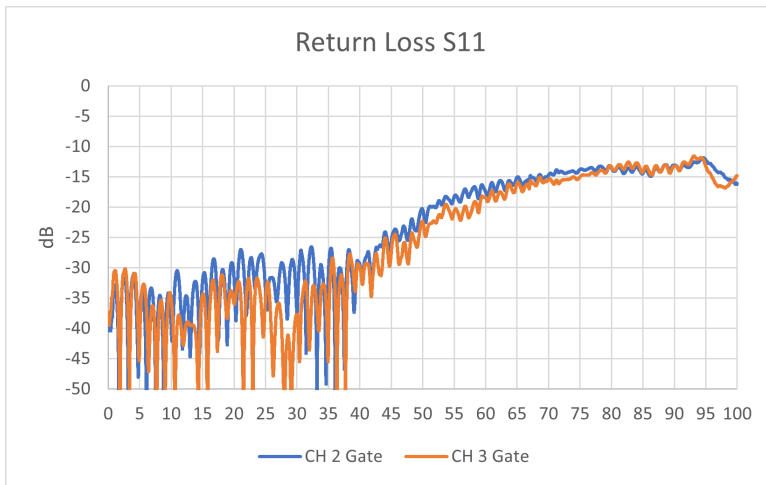


Figure 1: Gated through measurements were taken to represent the return loss performance of the TR90 cable, interface, and PCB footprint transition

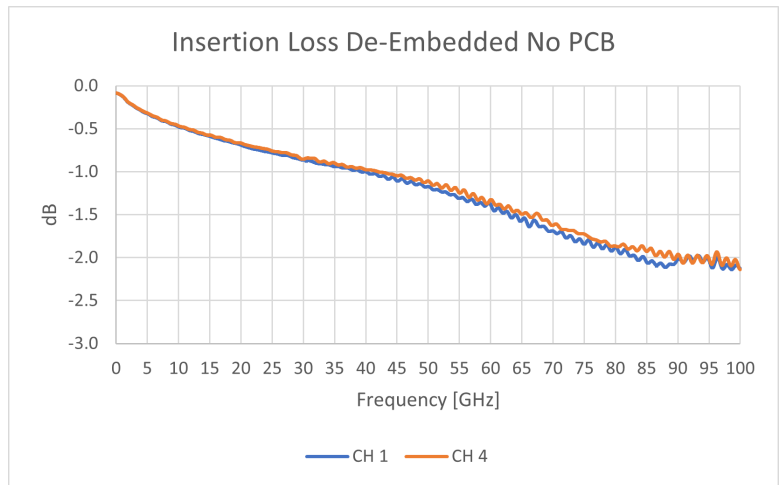


Figure 2: Insertion loss of 3" TR90 assembly de-embedded with no PCB included