

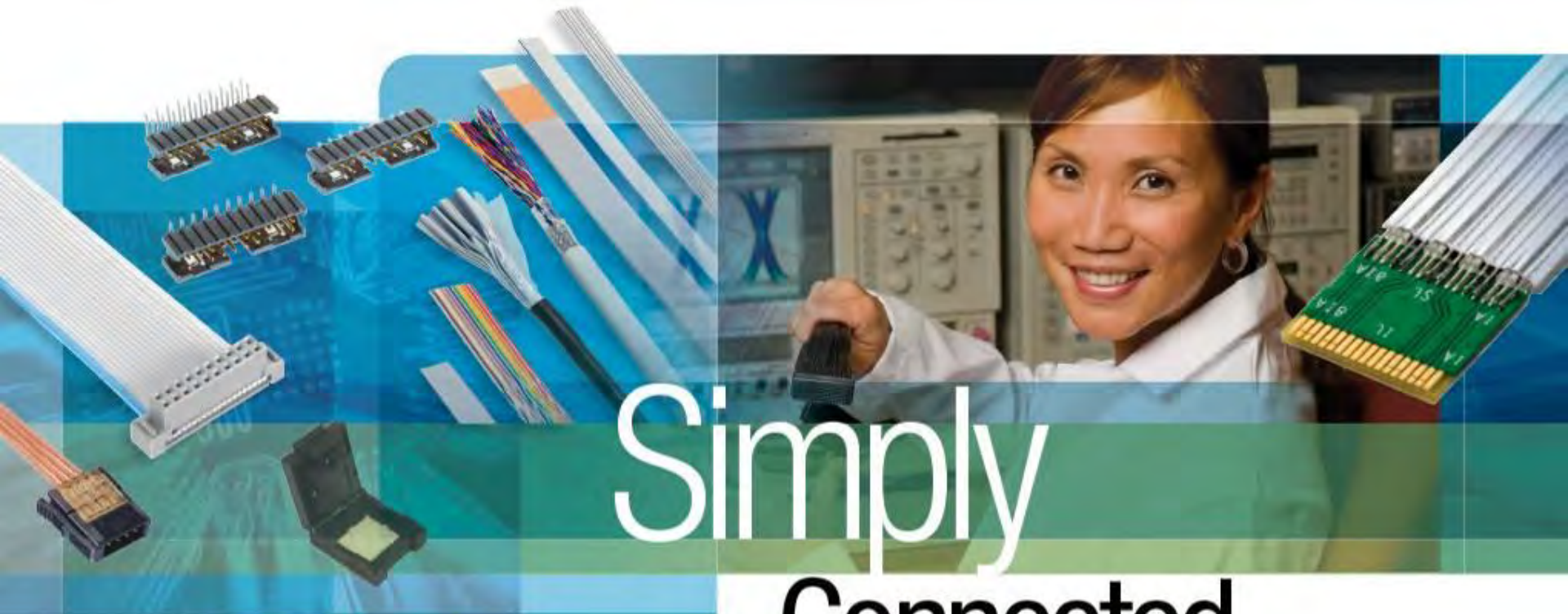


**THE DATASHEET OF
SPD08-080-RB-TR**



3M Electronic Solutions Division

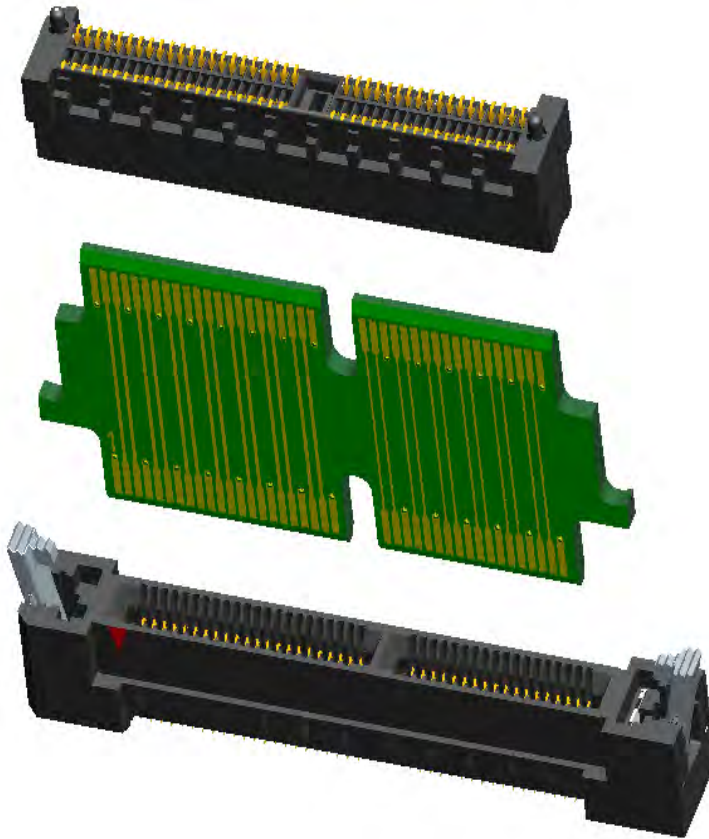
3M™ High-Speed Card-Edge Connector SPD08



Simply
Connected



3M™ High-Speed Card-Edge Connector SPD08

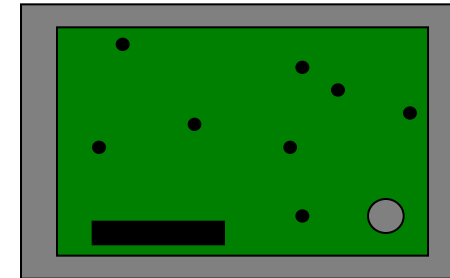
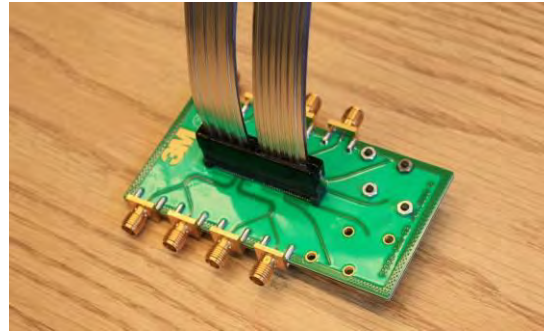
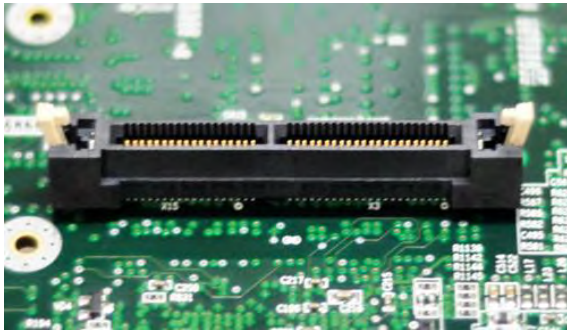


15 Gbps Board-to-Board and 25 Gbps Wire-to-Board Connector

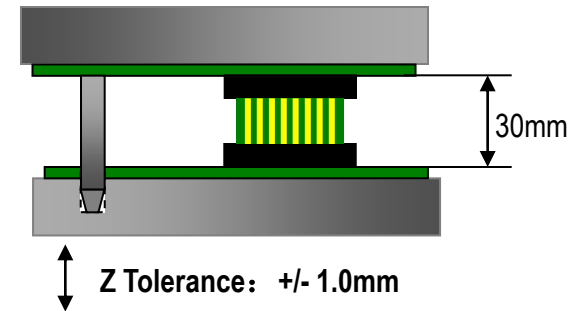
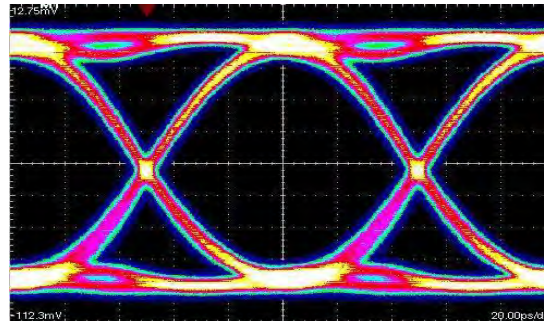


Product Features and Benefits

- High Density 0.8 0mm pitch SMT BM Socket, B-T-B / W-T-B application;

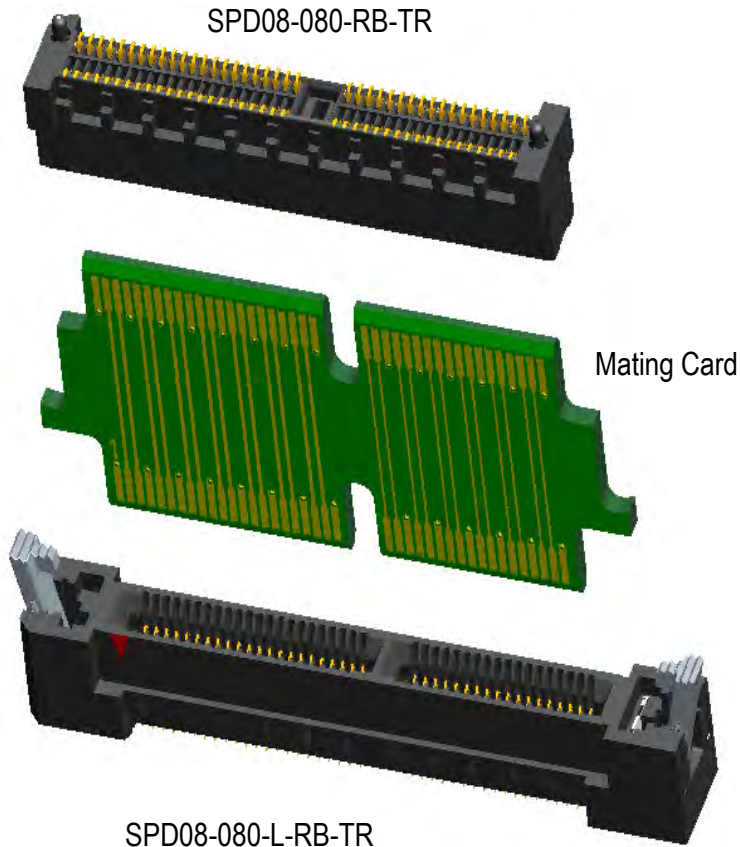


X,Y Tolerance: +/- 0.8mm

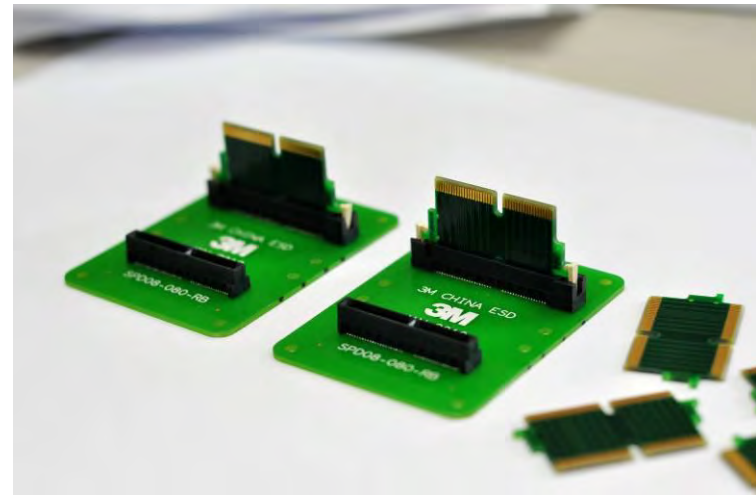
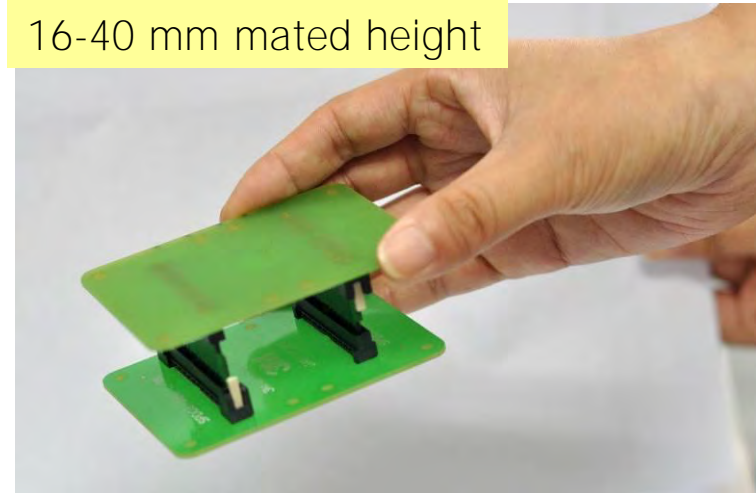


- High speed signal transmission performance up to **15 Gbps (B2B)** and **20 Gbps (W2B)**
- Flexible stack height, from **16 mm to 40 mm**
- Robust tolerance for misalignment - 0.8 mm in axis X, Y, 1.0 mm in axis Z (at 30 mm stack height)
- Current carrying capacity up to **3.0A** (single pin); 0.5 A current rating fully loaded
- High temp LCP resin for plastic housing (withstand 260 °C lead-free SMT)

Board-to-Board Application



16-40 mm mated height

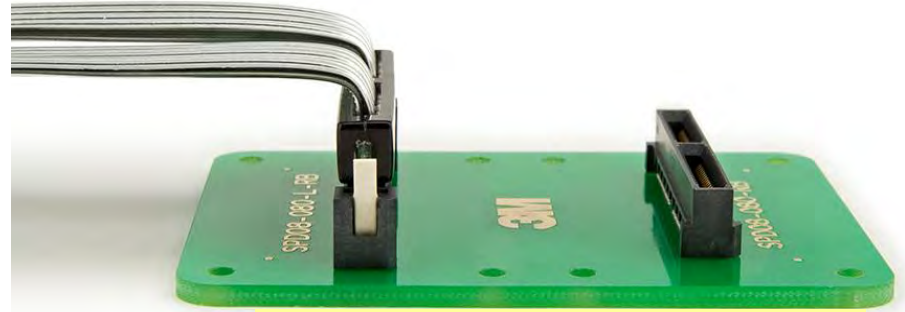


Spring contact can accept 1.57 ± 0.16 mm thick mating card with lower insertion force, average 0.40N/Pin. (mated with 1.57 mm thick card)

3M™ High-Speed Card-Edge Connector SPD08 + 3M™ Twin Axial Cable Application

Paddle Card design

Right Angle

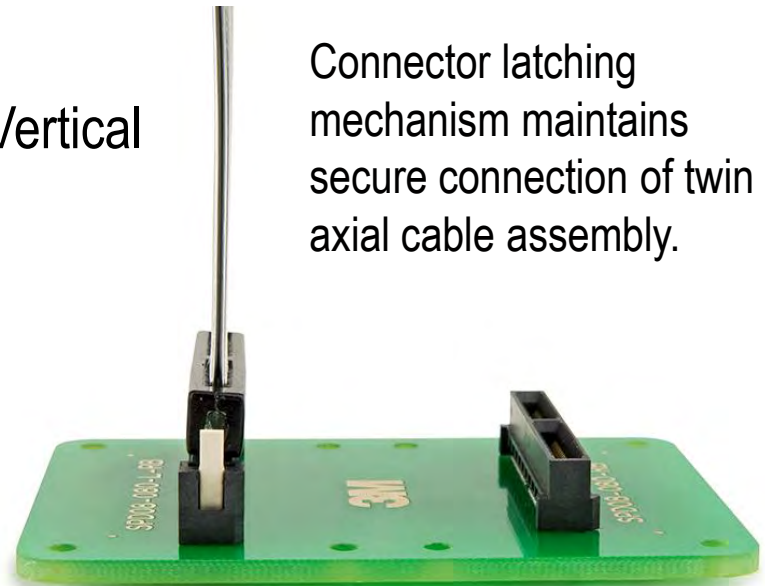


Typically used for internal protocols
such as PCI Express



Vertical

Connector latching
mechanism maintains
secure connection of twin
axial cable assembly.



Typical Applications

Base Stations, Servers, Hubs, Switches, Routers



Ordering Information

SPD08 - XXX - X - XX - XX

NO OF POSITIONS

020, 040, 060

064, 080, 100, 120, 140,

160, 180, 200

LATCHING OPTION

BLANK= W/O LATCH

L = WITH LATCH

PACKAGING OPTION

BLANK= TRAY

TR= TAPE & REEL (Std. Option)

PLATING OPTION

RB= 0.76um GOLD (Std. Option)

RA= 0.25um GOLD

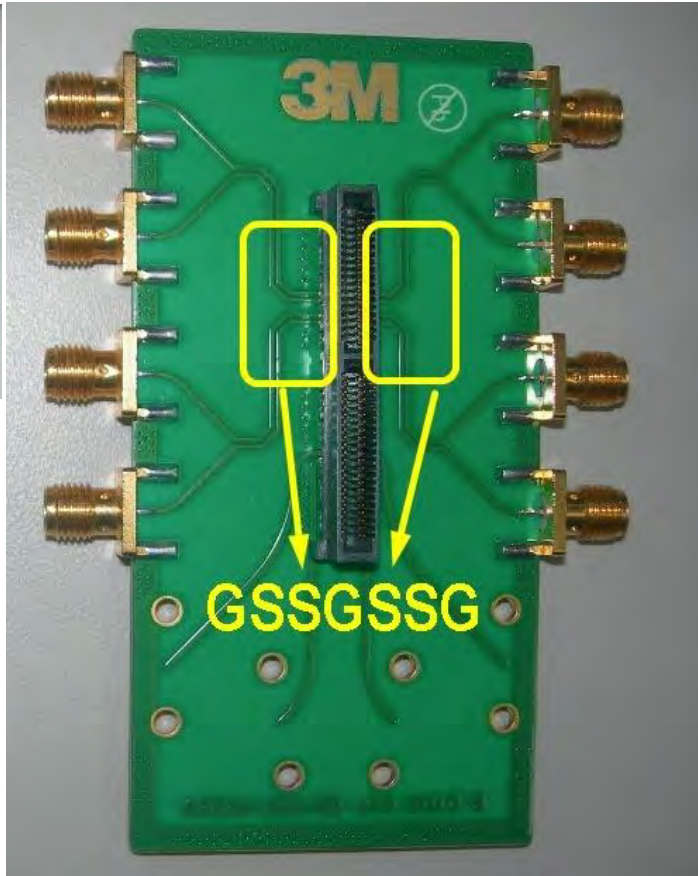
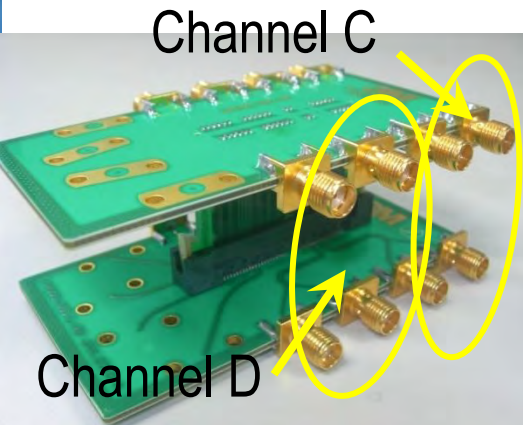
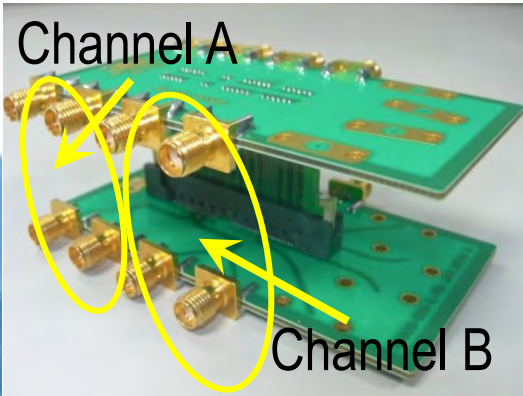
All positions are not tooled. Please refer to sales drawing for currently tooled positions.



B2B Performance Test

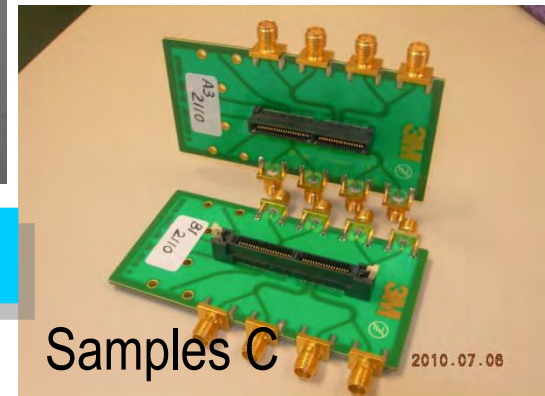
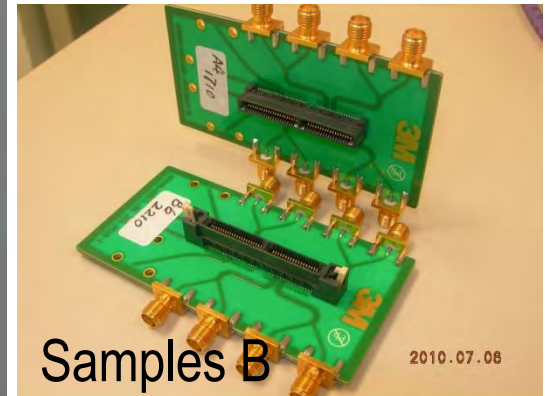


Test Ports and DUT Descriptions



DUT Test Channels

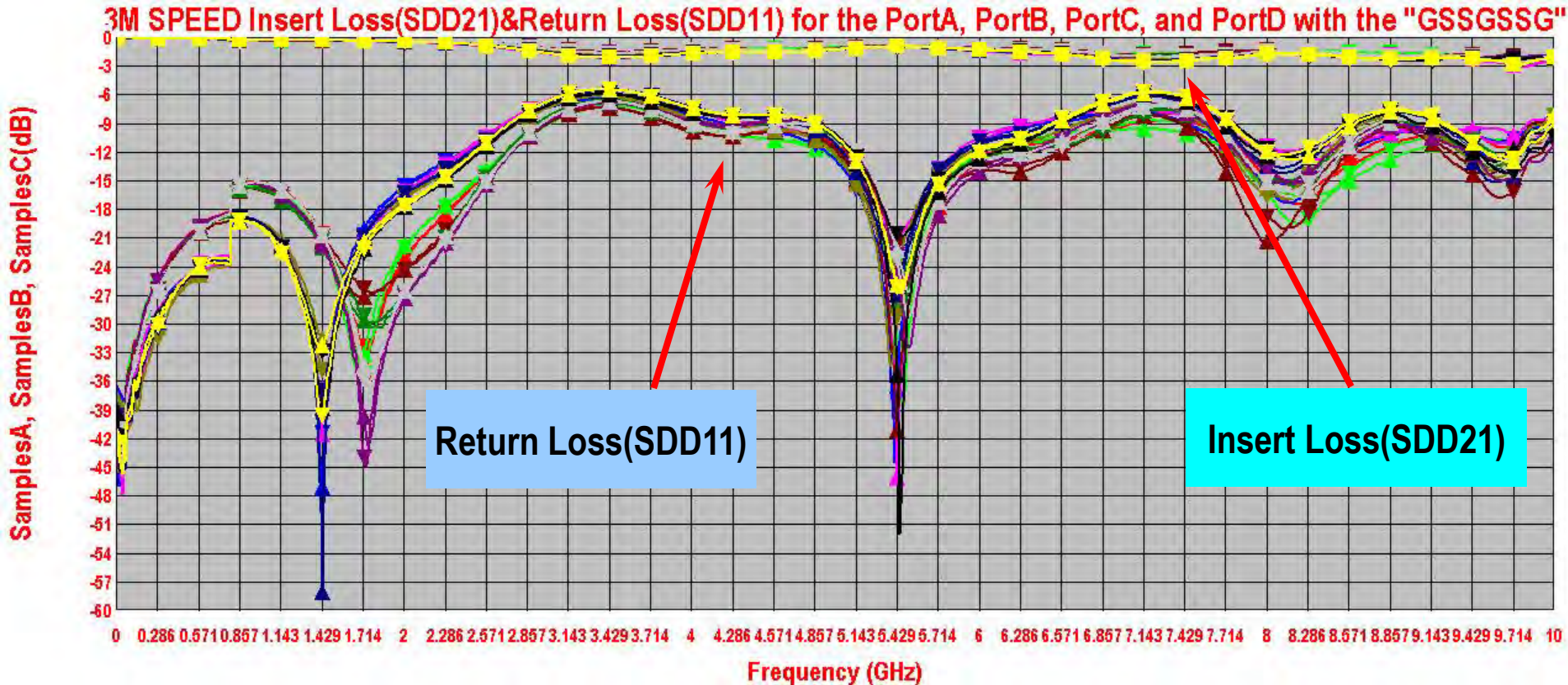
DUT Pin Mapping (GSSGSSG)



DUT Samples



3M™ High-Speed Card-Edge Connector SPD08 Insert Loss(SDD21) & Return Loss(SDD11) for the “GSSGSSG”



Test Curves for the Samples A, Samples B and Samples C.

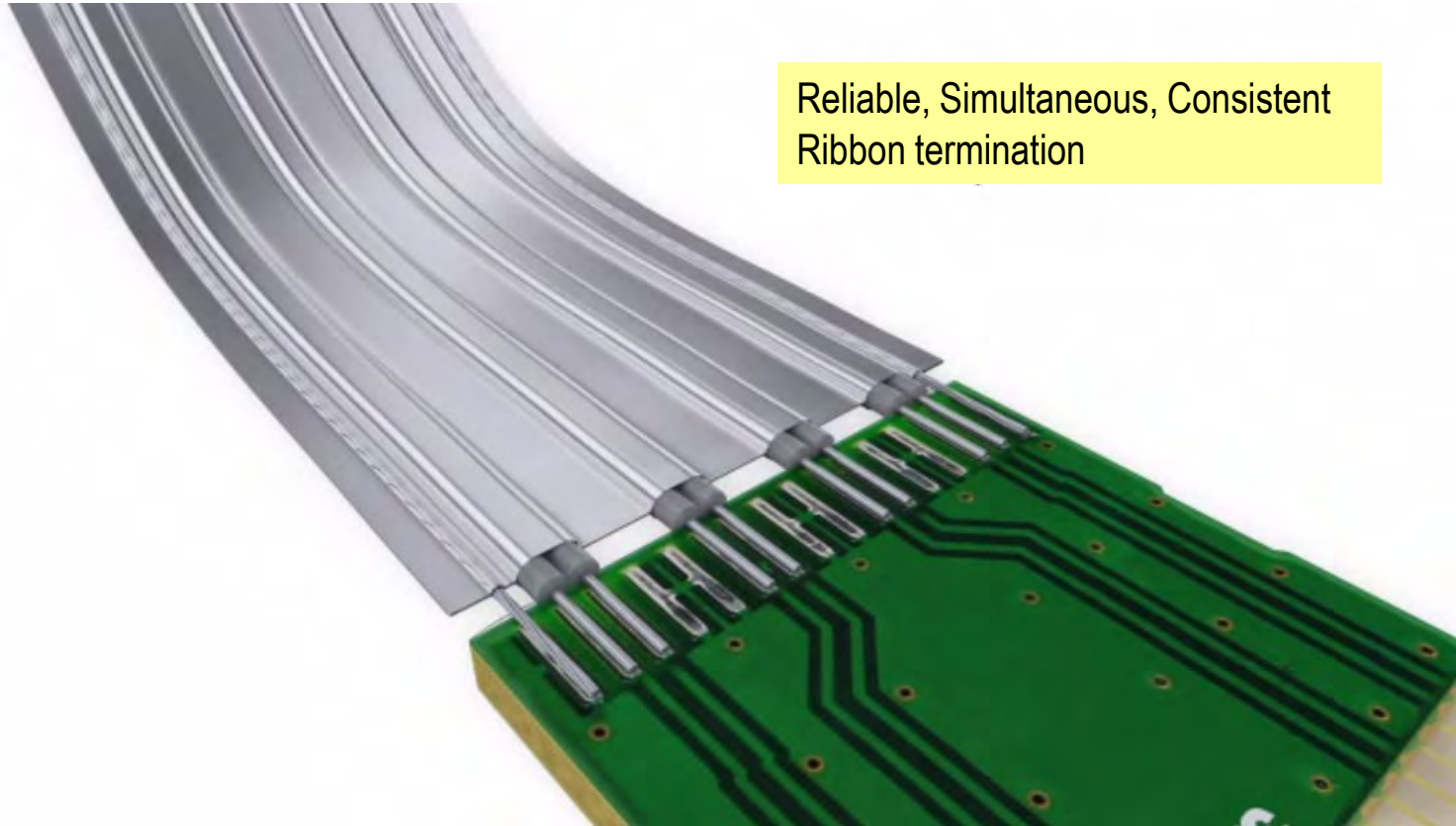
Insertion Loss 7.5GHz@-3dB



W2B Performance Test

3M™ Twin Axial Ribbon Cable Example

Reliable, Simultaneous, Consistent
Ribbon termination



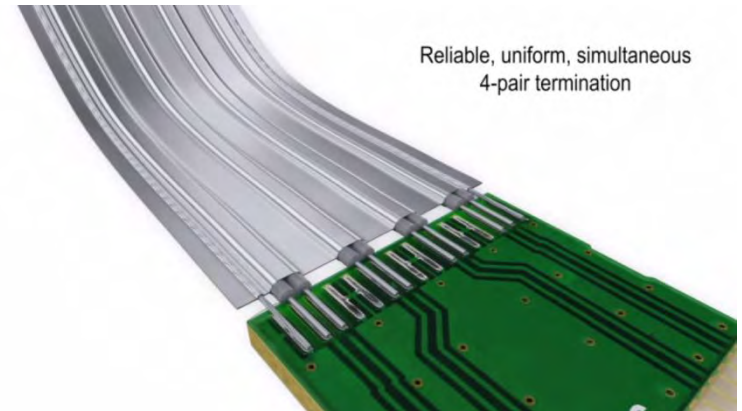
3M™ Twin Axial Ribbon Cable Features and Benefits

- **Thin and Foldable** enables excellent system density and “routability”
 - Thin profile enables enhanced routability for internal applications
 - Can be folded at very tight bend radii with virtually no performance sacrifice
- **Electrical Performance**
 - **High Bandwidth**; unique longitudinal shield has resonant free insertion loss up to at least 20 GHz
 - Excellent EMI performance
- **Ribbon construction fixes locations of signals and grounds improves the termination process**
 - Efficient termination process with no wire routing errors
 - Reduced termination variability improves reliability

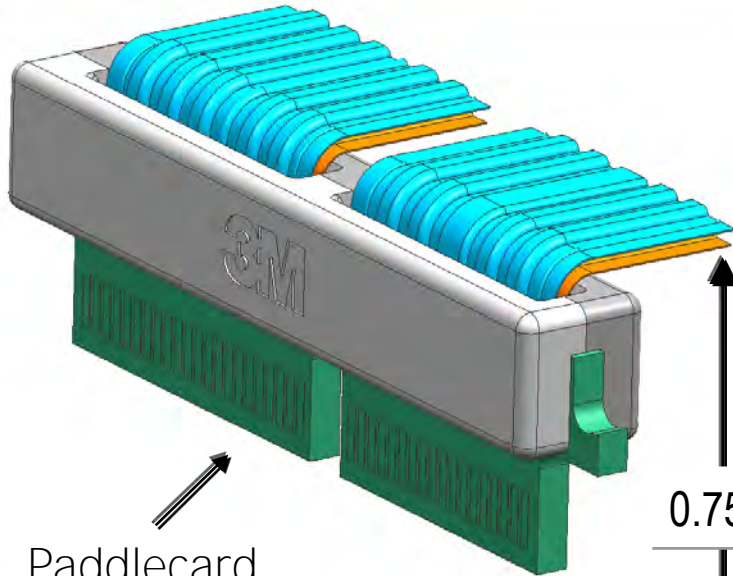
3M™ High-Speed Card-Edge Connector SPD08 and 3M™ Twin Axial Ribbon Cable Assembly Example

3M SPD08 0.8 mm Board-to-Board Connector
(Paddle-card/Card-edge compatible)

3M Twin Axial Ribbon Cable terminated to a
paddlecard



3M™ High-Speed Card-Edge Connector SPD08 + 3M™ Twin Axial Cable Plug Design...

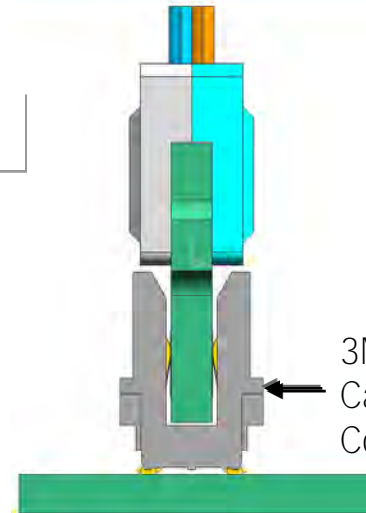
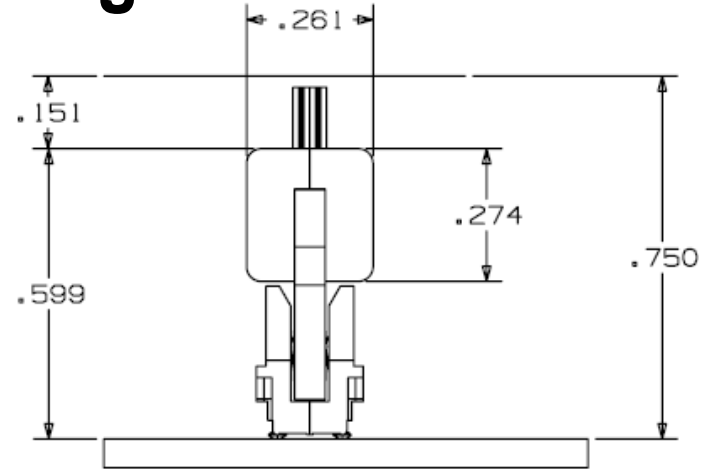


Paddlecard design

0.750 max height

Length 2.1" with latches open

80 total contacts



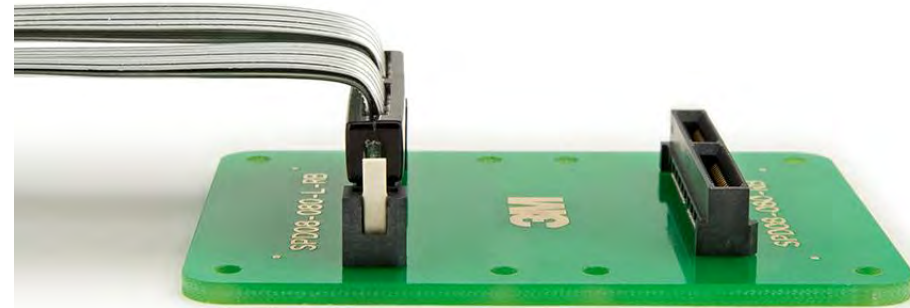
3M™ High-Speed Card-Edge Connector SPD08



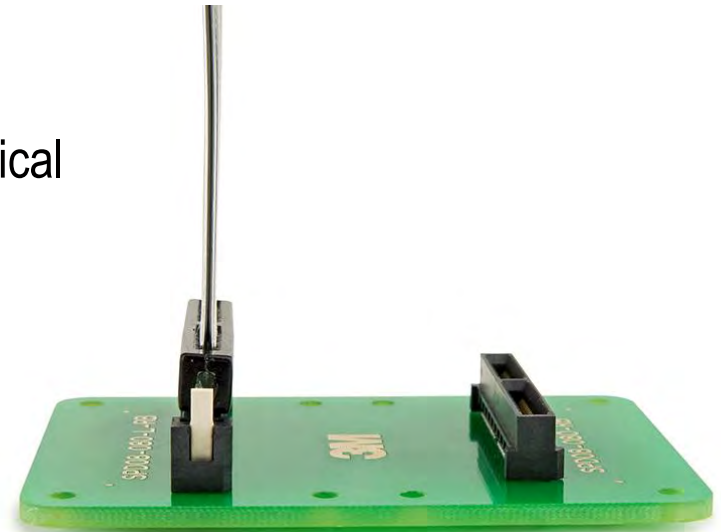
3M™ High-Speed Card-Edge Connector SPD08 + 3M™ Twin Axial Cable Assembly Prototype...

Right Angle

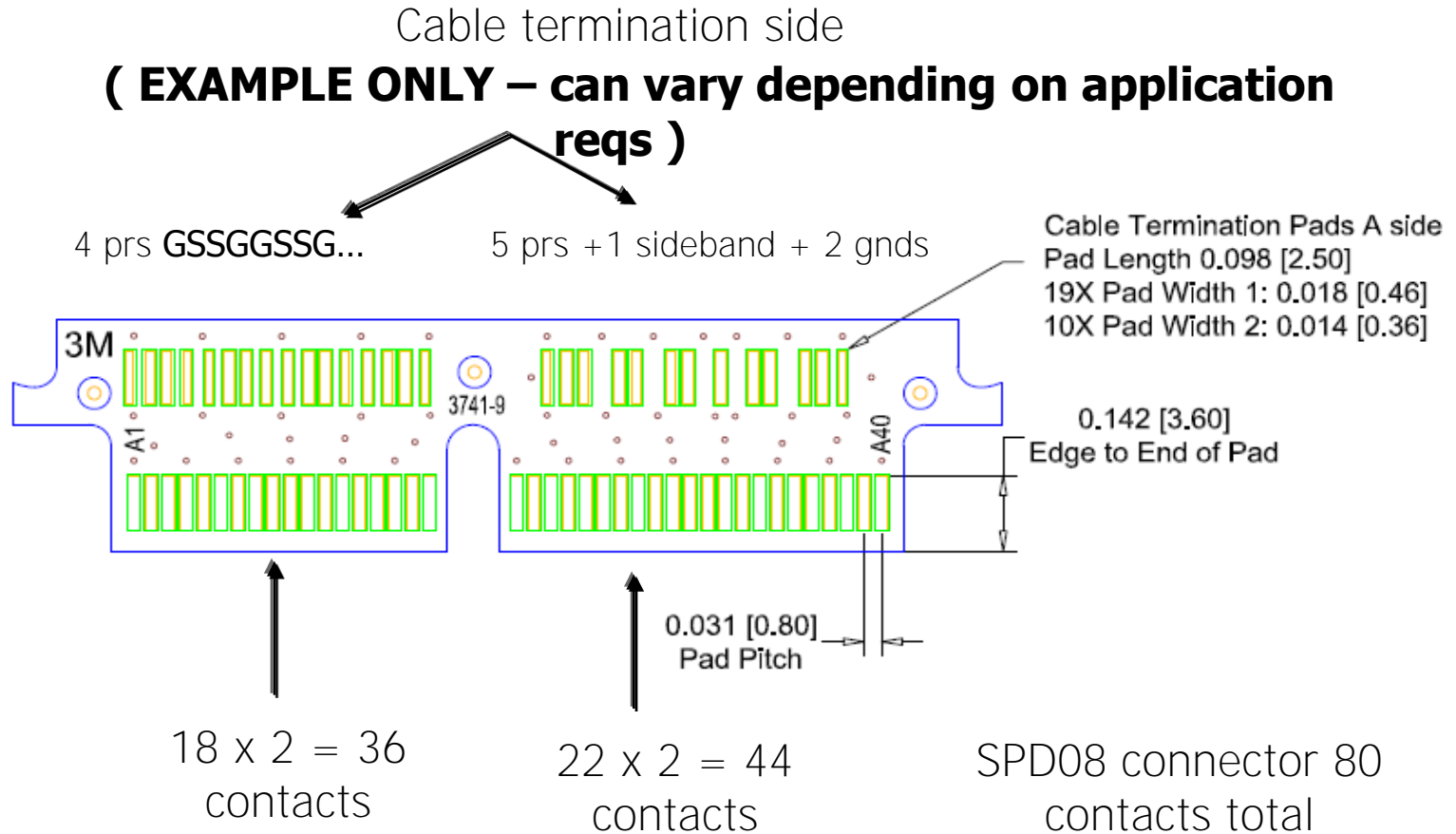
Paddlecard design



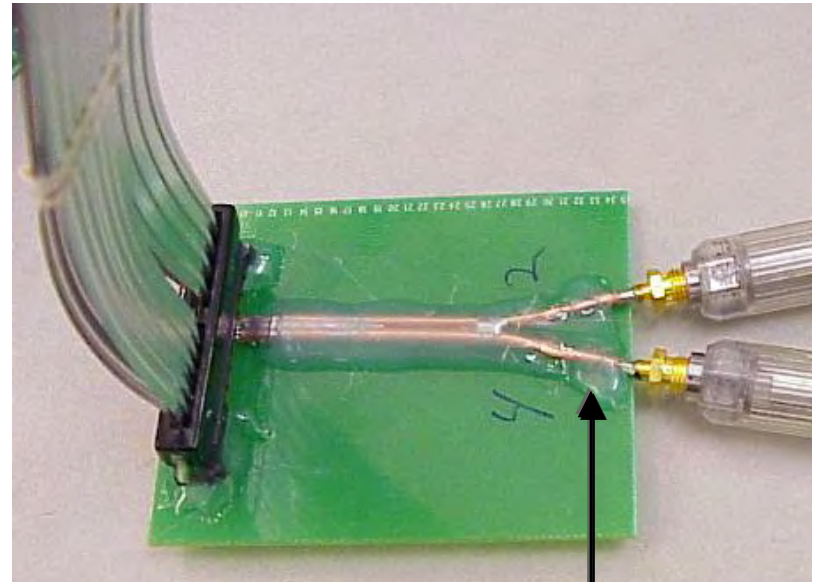
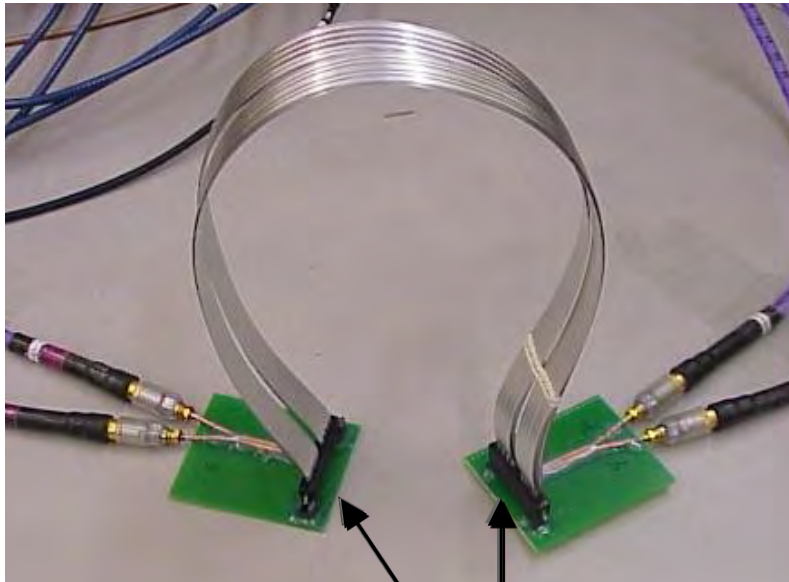
Vertical



3M™ High-Speed Card-Edge Connector SPD08 Paddlecard example

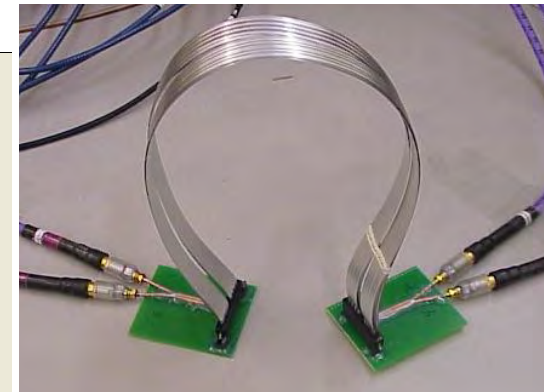
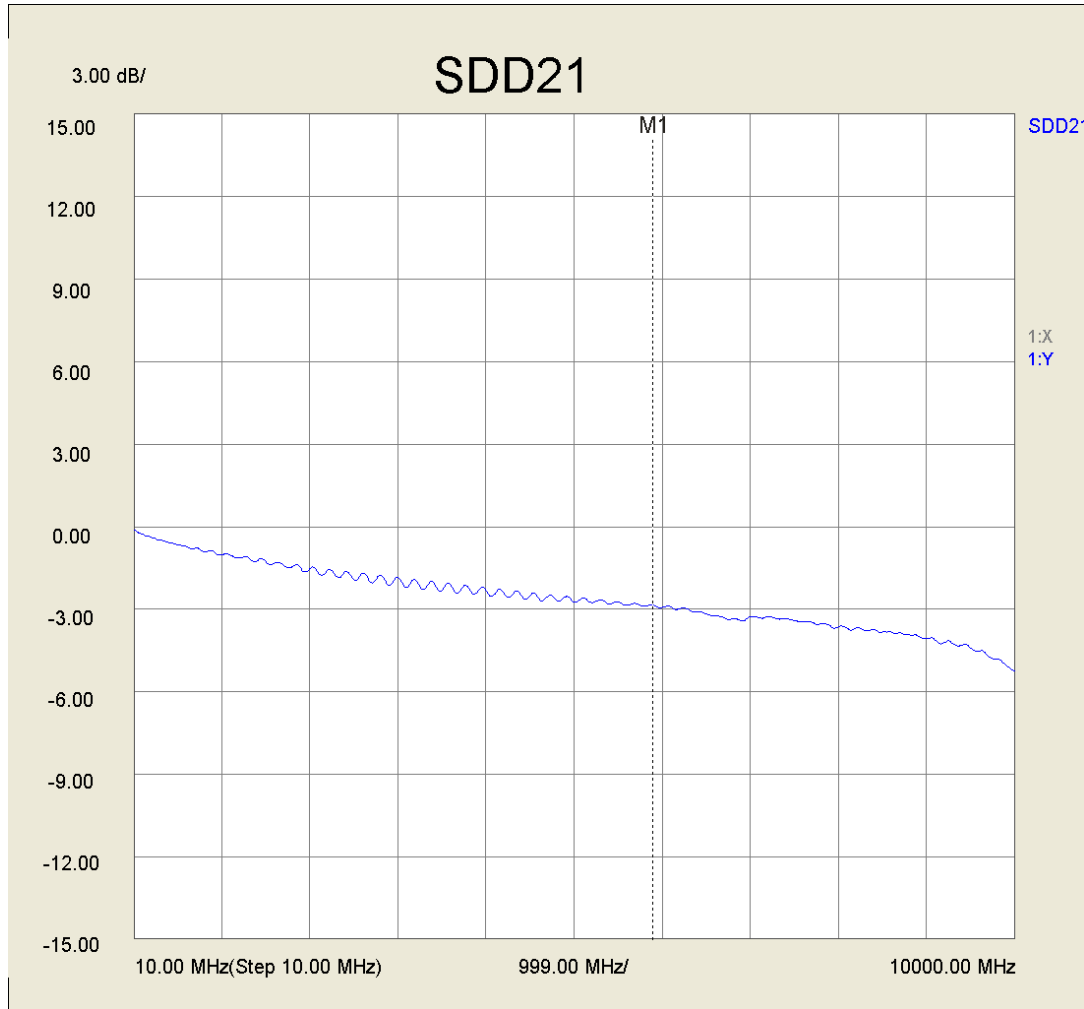


3M™ High-Speed Card-Edge Connector SPD08 + 3M™ Twin Axial Cable Assembly DUT...



Two SPD08 boardmount connectors and two paddle card connectors interconnected by 0.5 meter 30(1) SPC twin axial cable with semi-rigid launches

DUT 6 GHz – 3 dB point

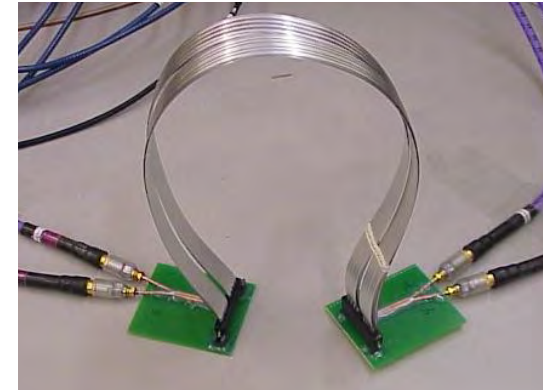
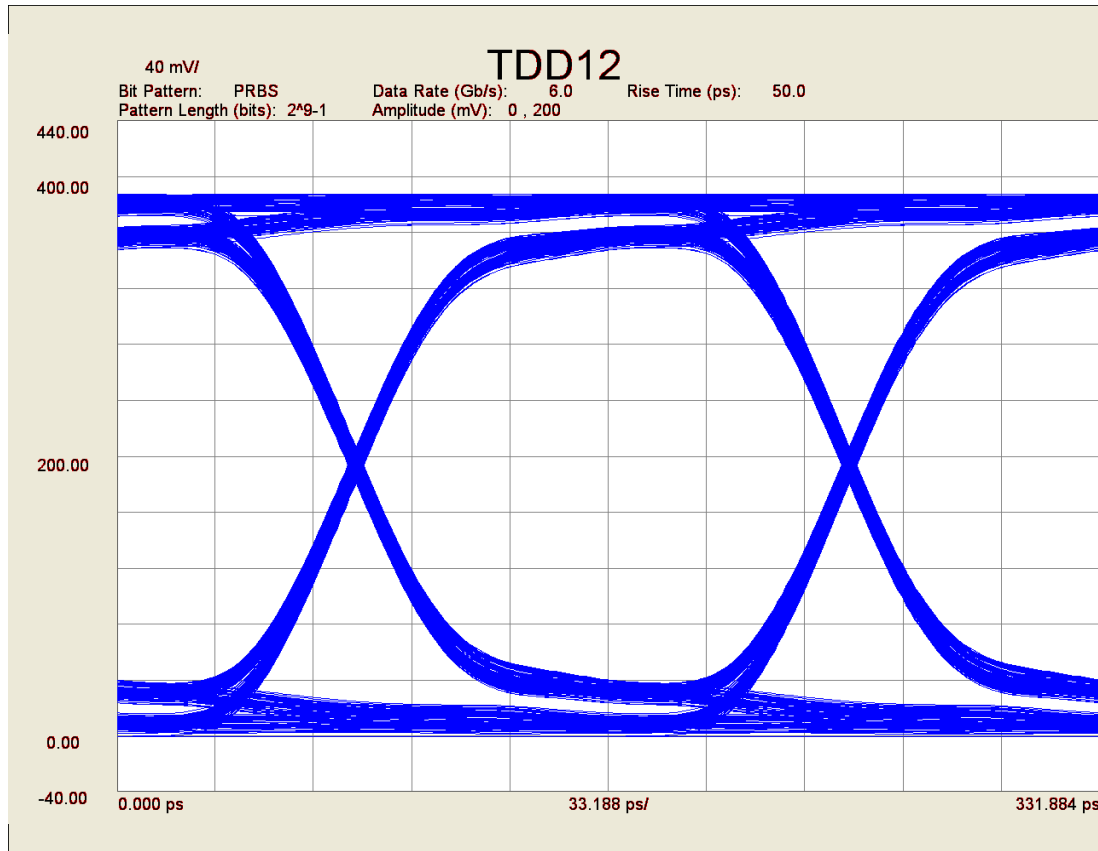


1/2 meter 30 AWG
SPC 3M™ Twin Axial
Cable Assembly

+ 2 each 3M™
High-Speed Card-
Edge Paddlecard
Connectors

+ 2 each 3M High-
Speed Boardmount
Connectors SPD08

6 Gbps / 50 ps rise time > 85% opening factor

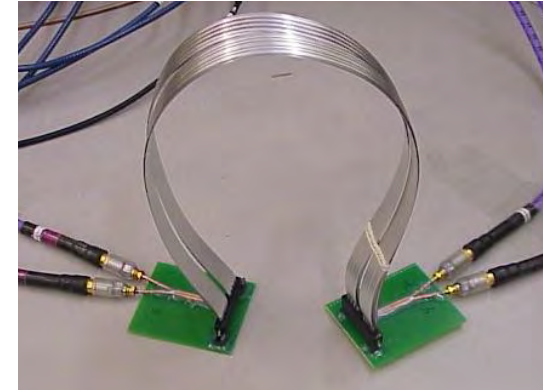
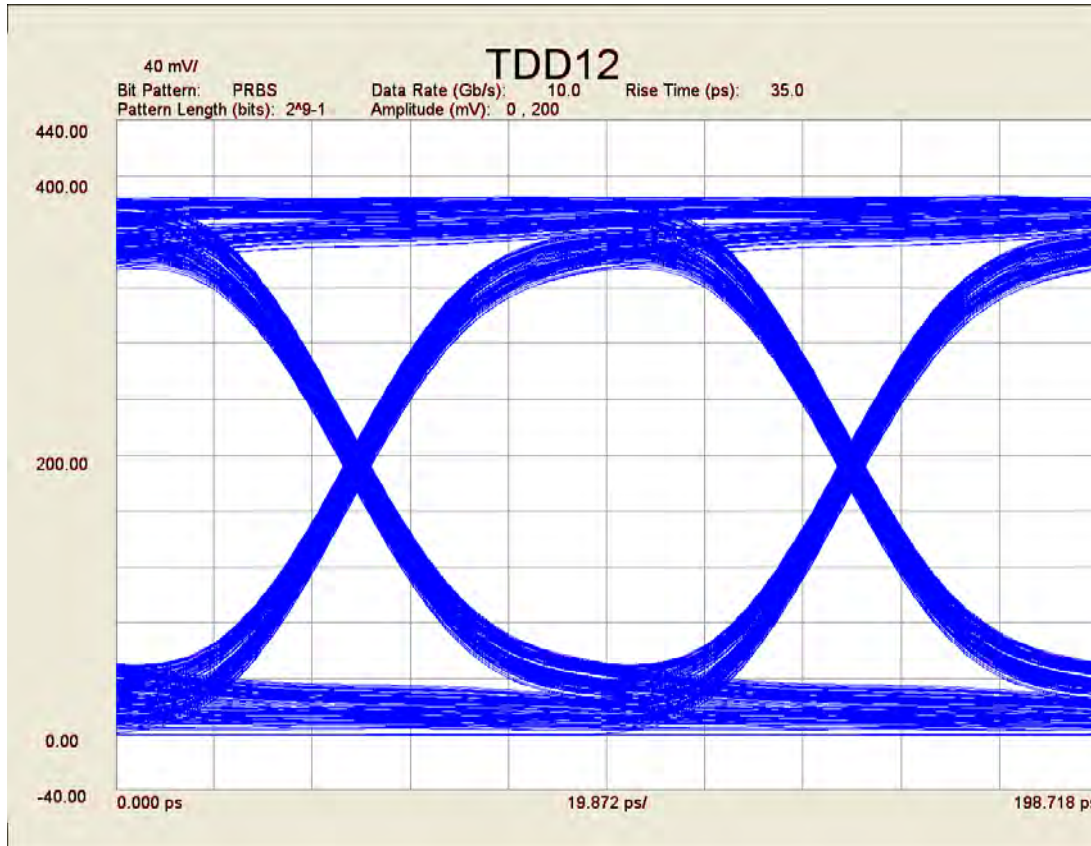


½ meter 30 AWG
SPC 3M™ Twin Axial
Cable Assembly

+ 2 each 3M™
High-Speed Card-
Edge Paddlecard
Connectors

+ 2 each 3M High-
Speed Boardmount
Connectors SPD08

10 Gbps / 35 ps rise time > 80% opening factor

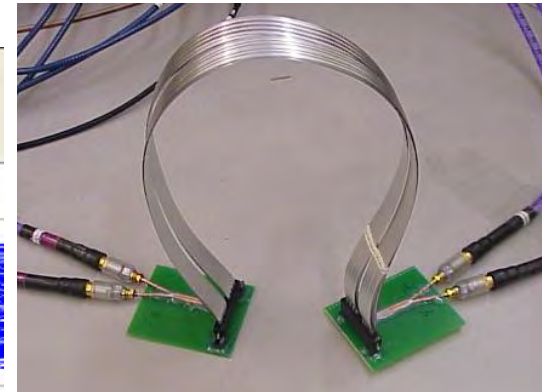
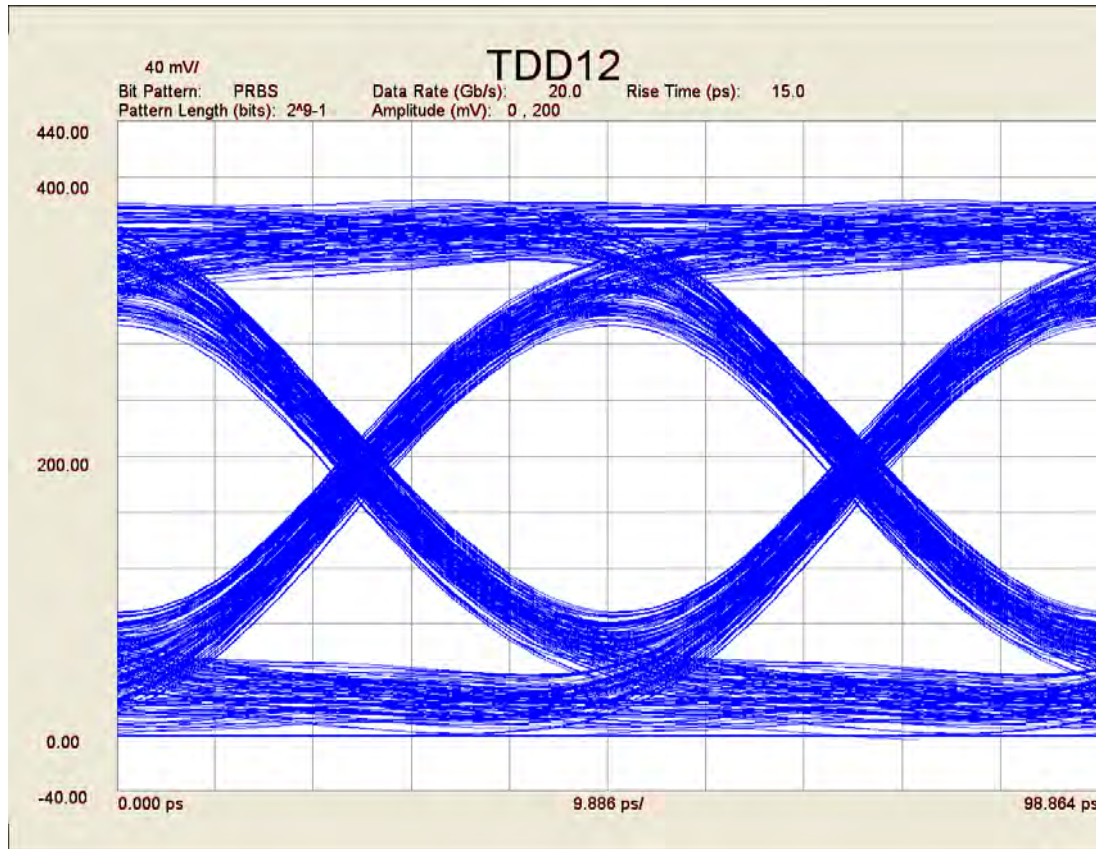


½ meter 30 AWG
SPC 3M™ Twin Axial
Cable Assembly

+ 2 each 3M™
High-Speed Card-
Edge Paddlecard
Connectors

+ 2 each 3M High-
Speed Boardmount
Connectors SPD08

20 Gbps / 15 ps rise time > 67% opening factor

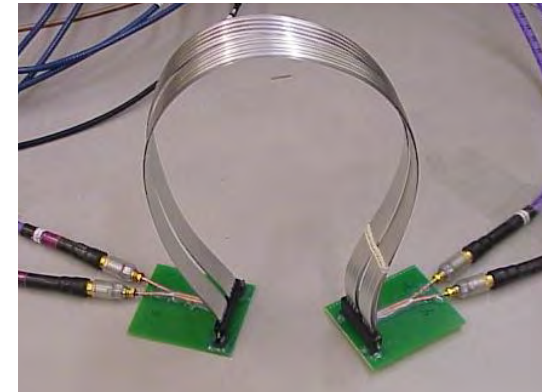
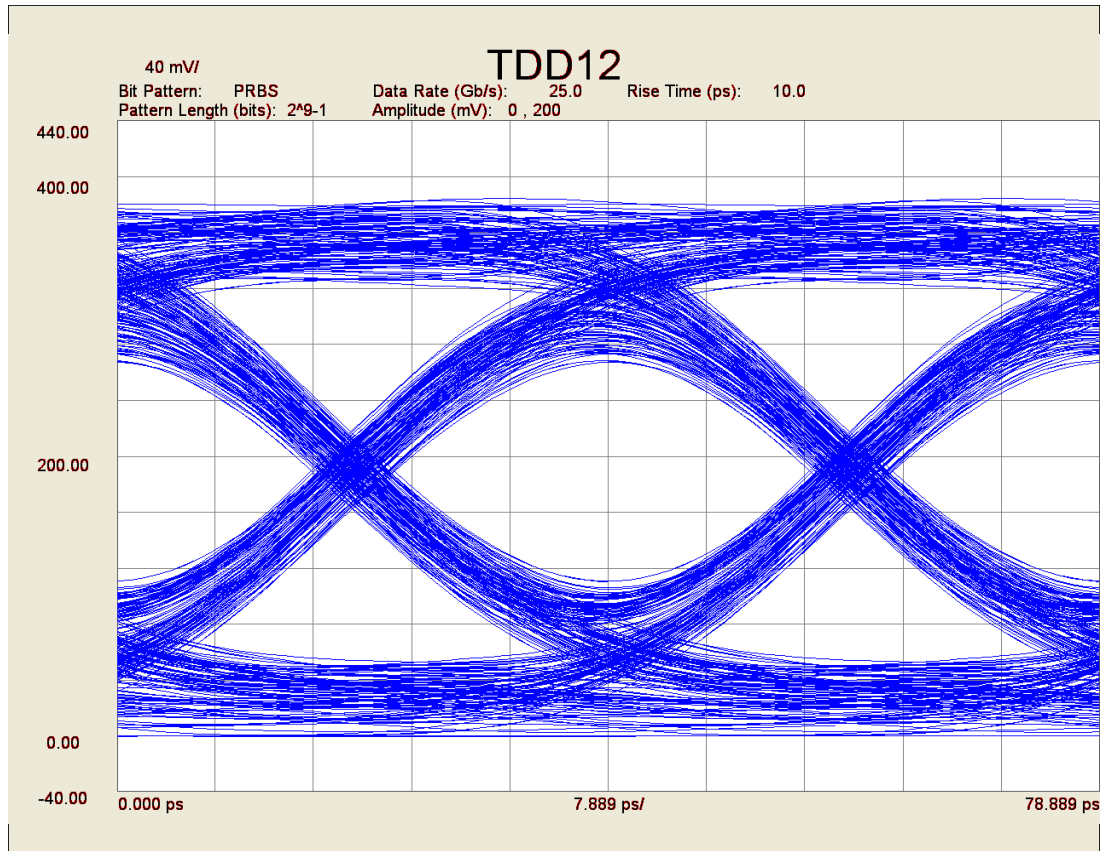


½ meter 30 AWG
SPC 3M™ Twin Axial
Cable Assembly

+ 2 each 3M™
High-Speed Card-
Edge Paddlecard
Connectors

+ 2 each 3M High-
Speed Boardmount
Connectors SPD08

25 Gbps / 10 ps rise time > 57% opening factor



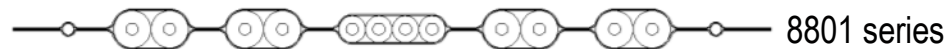
½ meter 30 AWG
SPC 3M™ Twin Axial
Cable Assembly

+ 2 each 3M™
High-Speed Card-
Edge Paddlecard
Connectors

+ 2 each 3M High-
Speed Boardmount
Connectors SPD08

3M™ Twin Axial Cable, SL8800 Series

- Wide range of AWG sizes with 85 ohm and 100 ohm differential impedance pairs
- Various pair and sideband combinations for differential pair serial interfaces such as Mini-SAS, and PCIe Gen 2 and Gen 3, SFP and QSFP applications
- Examples of standard cable designs with and without sidebands...



Drawings available at www.3Mtwinx.com



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