



# GORE™ Ultra High Density

INTERCONNECTS

## Reduce overall cost of test

GORE™ Ultra High Density (UHD) Interconnects provide an integrated system of board-mount headers and ganged cable assemblies with reliable signal integrity performance. Cost savings are achieved through shorter test set-up, fewer calibrations, and smaller boards. GORE™ UHD Interconnects enable lower loss, lower skew, better impedance control, and shorter board trace lengths.

### CABLE ASSEMBLY SOLUTIONS AVAILABLE ON-LINE

GORE™ UHD Interconnects can be configured on-line to meet specific application requirements.

The cables are constructed with Gore’s ePTFE dielectric that provides lower relative losses. GORE™ Low-Loss UHD Cable Assemblies utilize our low-loss coaxial cable with UHD-S, UHD-P, and SMA-P connectors. For additional bandwidth, GORE™ High-Frequency UHD Cable Assemblies utilize our ultra low-loss coaxial cable and precision UHD connectors to support up to 10 Gigabit data rates with performance up to 15 GHz.

GORE™ UHD Cable Assemblies are available as single lines or ganged assemblies (2-, 4- or 8-position housings) for easier handling, quick connect/disconnect, and better cable management. A 10 ps relative time match is standard for all ganged GORE™ UHD Cable Assemblies.

Assembly Options	Max Data Rate	Max Frequency	Insertion Loss
Low-Loss Cable Assembly	4 Gb	6 GHz	0.90 dB/ft @ 6 GHz (2.95 dB/m @ 6 GHz)
High-Frequency Cable Assembly	10 Gb	15 GHz	1.23 dB/ft @ 15 GHz (4.04 dB/m @ 15 GHz)

### BOARD-MOUNT HEADERS

GORE™ UHD Board-Mount Headers are available in both vertical and edge-launch versions. GORE™ UHD Headers are lighter weight and maintain a signal-to-signal pitch of 0.120” (3.05 mm), achieving higher density than SMA board-mount jacks. All GORE™ UHD Board-Mount Headers are populated with UHD-P connectors and mate to ganged UHD-S cable assemblies.

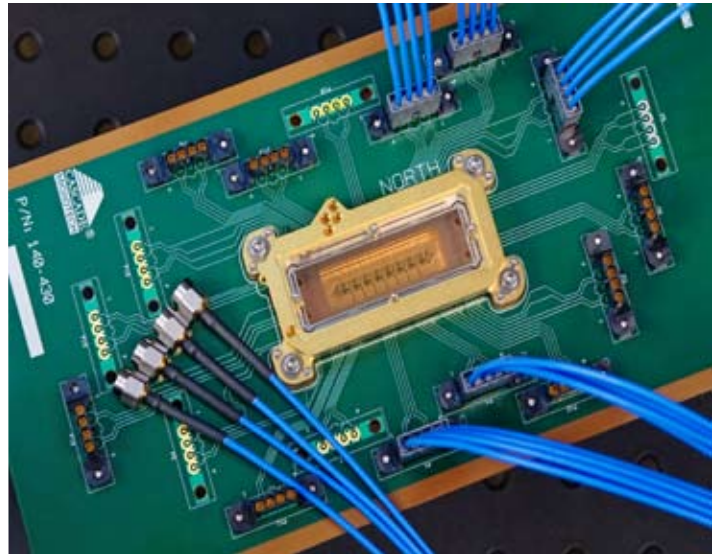


Photo courtesy of Cascade Microtech

[gore.com/uhdbuilder](http://gore.com/uhdbuilder)

### KEY FEATURES

- Signal-to-signal pitch of 0.120” (3.05 mm)
- High precision electrical length matching
- Push-on connector design
- Ganged configurations available

### KEY BENEFITS

- Operating frequency up to 15 GHz
- Supports up to 10 Gigabit data rates
- Increased connector density
- Shorter test set-up time



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## ELECTRICAL SPECIFICATIONS

Property	Value
Frequency rating	15 GHz
VSWR rating (typical)	< 1.25:1 through 6 GHz
Velocity of propagation (Vp)	85 ±2%
Voltage rating	350 V DC
Current rating - signal	9 A DC
Current rating - shield	9 A DC
Current rating - UHD	3 A DC at 50°C
Insulation resistance	100M ohm at 500 V AC
TDR impedance reflection	< ±2.5 ohm at 75 ps < ±2.0 ohm at 180 ps < ±1.0 ohm at 250 ps
Crosstalk	< 0.5% through 3 GHz
RF leakage - connectors	60 dB min through 6 GHz 70 dB min through 2 GHz
RF leakage - cable	80 dB min through 6 GHz

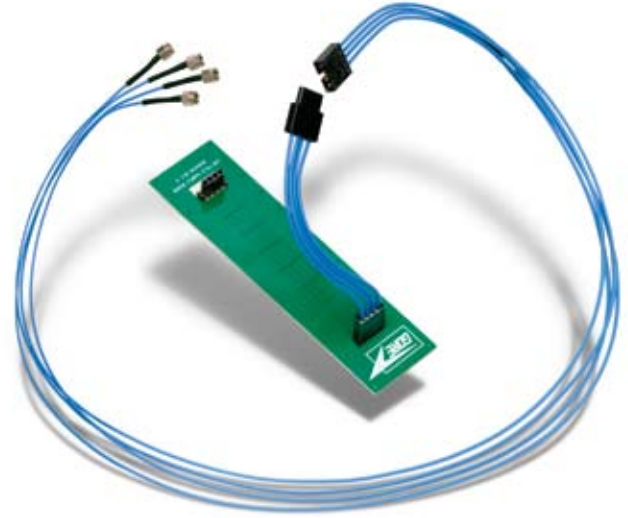
## APPLICATIONS

- Bench Top Test Systems
- Instrument Probe Cable
- Parallel Data Link
- Production Floor Equipment
- Automated Test Equipment
- Wafer Probing

## INSERTION LOSS

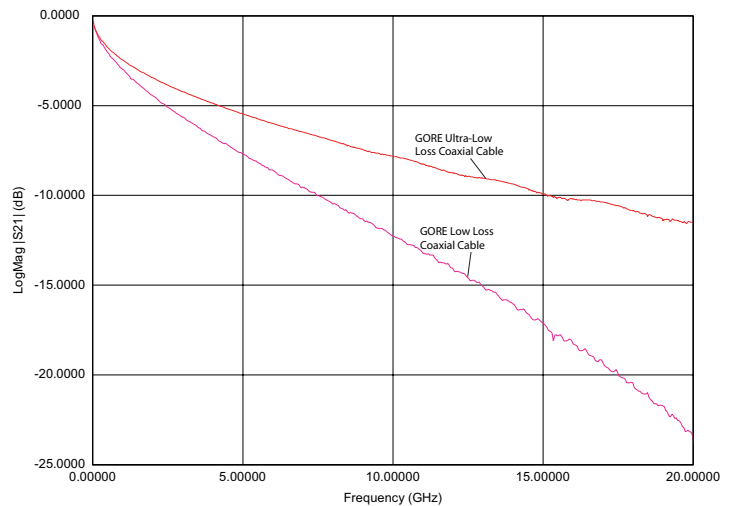
Insertion loss values were measured for GORE™ Low-Loss Coaxial Cable and GORE™ Ultra Low-Loss Coaxial Cable. To minimize the effects of the SMA-P connectors and more accurately measure the insertion loss of the cable itself, 10 ft (3.04 m) cable lengths were used.

Testing was conducted from 45 MHz through 20 GHz using an Agilent PNA series vector network analyzer. Typical insertion loss values were plotted for the low-loss and the ultra low-loss coaxial cable. A single trace representing the typical insertion loss value of each cable type was plotted for simplicity.



## MATING SPECIFICATIONS AND FORCES

Durability (mating cycles)	1000+ insertions and extractions
Insertion and removal force	0.15 lb to 0.35 lb
1x8 retention forces	1 to 100 times = 2.4 lb to 2.8 lb
1x4 retention forces	1 to 100 times = 1.1 lb to 1.4 lb



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