

High-Speed Protocol Guide

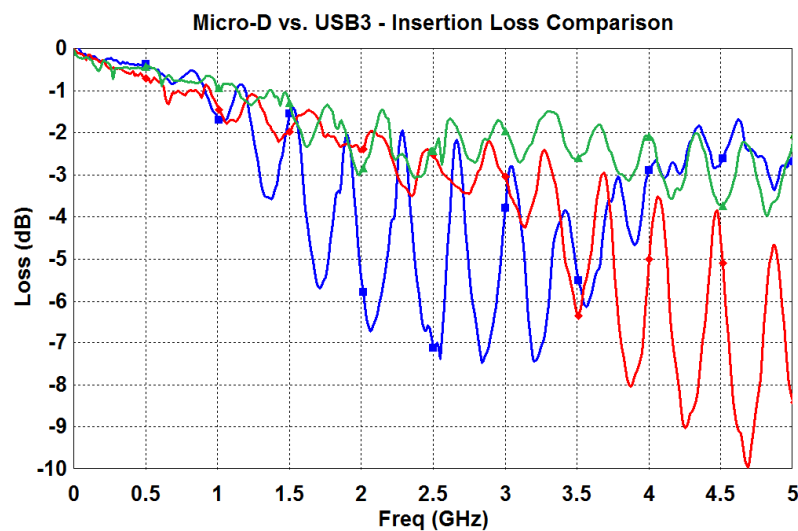
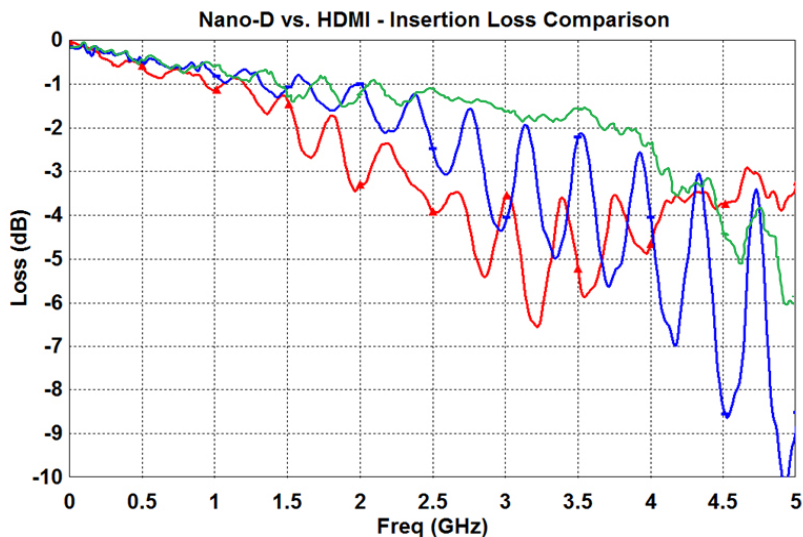
- Omnetics connectors can be used with many high-speed application standards
 - Camera Link
 - Ethernet (Cat5/5e/6/6a)
 - HDMI
 - USB 3.0
- Measurements taken to compare Omnetics connectors to HDMI and USB 3.0*
- High-Speed protocol table created

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- Omnetics vs. HDMI/USB Connectors – Measurement

Connector	-3dB	Data Rate
Commercial HDMI	1.9 GHz	3.8 Gbps
Nano-D 1x Pitch	2.6 GHz	5.2 Gbps
Nano-D 2x Pitch	4.1 GHz	8.2 Gbps




















Connector	-3dB	Data Rate
Commercial USB3	2.2 GHz	4.4 Gbps
Micro-D 1x Pitch	1.3 GHz	2.6 Gbps
Micro-D 2x Pitch	2.4 GHz	4.8 Gbps



Nano-D 1x and 2x outperforms HDMI

Micro-D 2x outperforms USB3

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	Camera Link	Cat 5/5e/6/6a GigE/10GbE	HDMI	USB 3.0
Cable Length	10 meters (26 AWG) 7 meters (30 AWG) 5 meters (32 AWG)	10 meters (24 AWG) 8 meters (26 AWG) 6 meters (30 AWG) 4 meters (32 AWG)	5 meters (26 AWG) 3 meters (30 AWG) 2 meters (32 AWG)	3 meters (26 AWG) 2 meters (30 AWG) 1.5 meters (32 AWG)
Data Rate (per Lane)	85 Mbps	125 Mbps (GigE) 800 Mbps (10GbE)	3.4 Gbps	5 Gbps
Cable/Connector Shielding	Required	Optional	Required	Required
Micro-D	 31-position	 9-position	 31-position	 21-position
Nano-D	 31-position	 9-position	 31-position	 21-position
Micro Strip		 9-position		
Nano Strip		 9-position		
Plastic Micro Circular		 16-position		
Metal Micro Circular		 16-position	 39-position	 16-position
Plastic Nano Circular		 16-position		
Metal Nano Circular		 16-position	 28-position	 16-position