

Considerations for 10Gb Backplane Ethernet Serial PHY

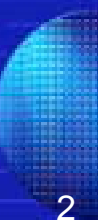
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System Considerations

- From current 10Gb serial signaling work, advanced backplane technology development is not required
- Electrical compatibility with high-speed production backplanes
 - For example XAUI backplanes
- Enable blade-server upgrades via card swapping
- Compatible with current connectors
- Routing group compatibility with current backplanes
 - For example 4-pair ATCA routing



Electrical/Technology Considerations

- Crosstalk compatibility with common backplane signaling standards
 - XAUI, TFI-5, PCI-Express, IB & FC1/2/4/8
- RF Compatibility
 - 6dB margin to FCC Class B useful
 - 6dB margin to FCC Class A essential
 - No disruption to datacomm & portable/handheld wireless traffic
- DC coupled signaling for devices
- System should tolerate a max BER of 10^{-12}
 - PHY & channel should typically be $< 10^{-18}$
- Technology compatible to the ITRS¹ 45nm technology node



¹ International Technology Roadmap for Semiconductors

