
10GBASE-CX4 Study Group

Chris Di Minico
CDT Corporation
cd@mohawk-cdt.com

Channel Specification Development

PAR Objective

- 10-15 meter (24 AWG) - InfiniBand Cable Assembly

Establish Transmission Characteristics (worst case)

- Impedance
- Impedance Deviation
- Insertion Loss
- Pair-to-Pair Skew
- Jitter
- Return Loss
- MDNEXT
- other

HSPICE(?) Models for worst case

10GBASE-CX4 Cable Assembly Characteristics

4X InfiniBand Cable Assembly



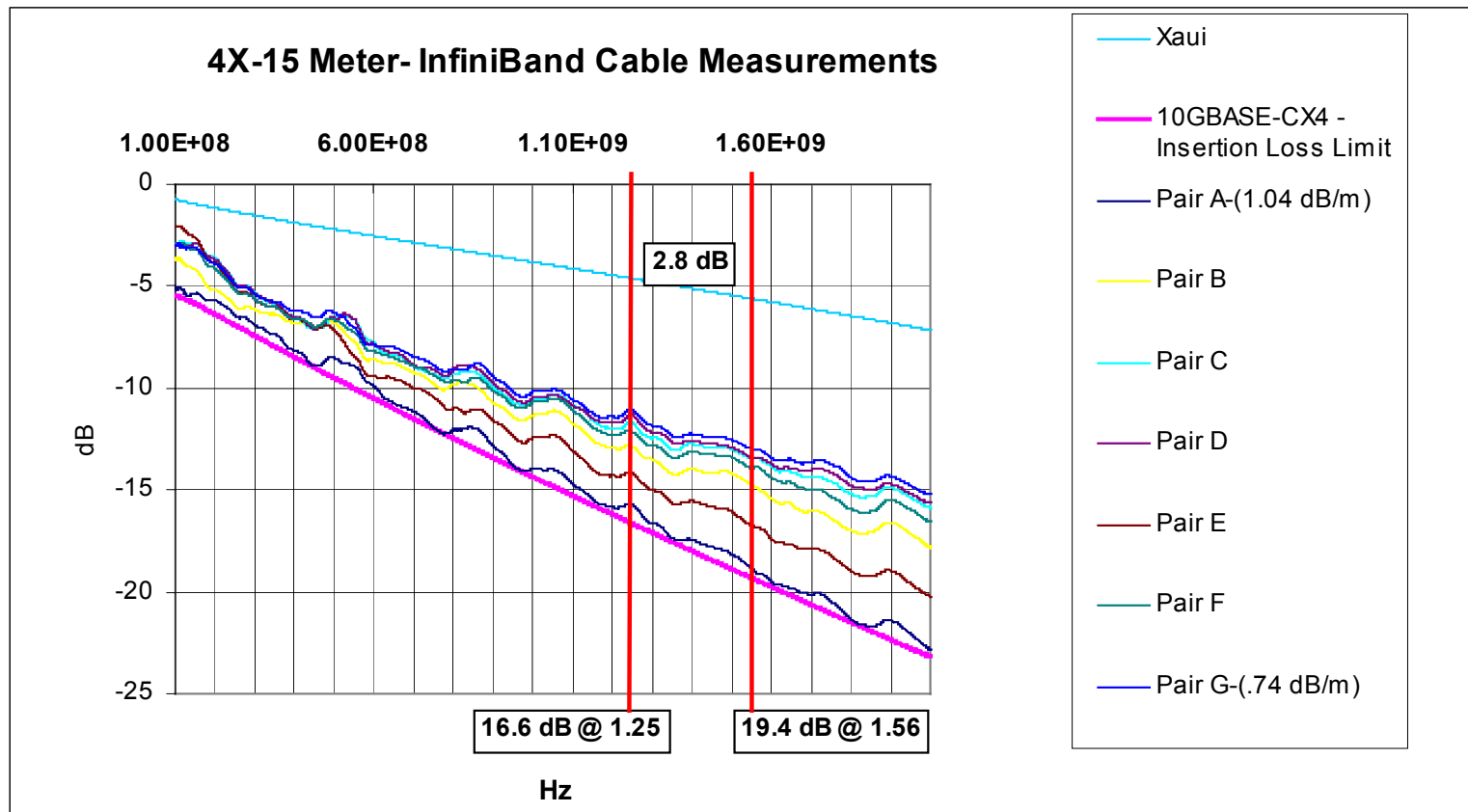
InfiniBand 4X Electrical Requirements (1.25 GHz)

Description	Value		Unit
Differential Impedance Nominal value	95	155	ohm
Differential Impedance deviation from Nominal value	5		ohm
Insertion Loss	10		dB up to 1.25 GHz
Pair to pair skew			ps
Jitter	0.25		UI

10GBASE-T Additional Electrical Requirements (1.56 GHz)

Description	Value @ 1.56 GHz	Unit
Insertion Loss	TBD	dB
Return Loss	TBD	dB
MDNEXT	TBD	dB

10GBASE-CX4 Compliance Channel



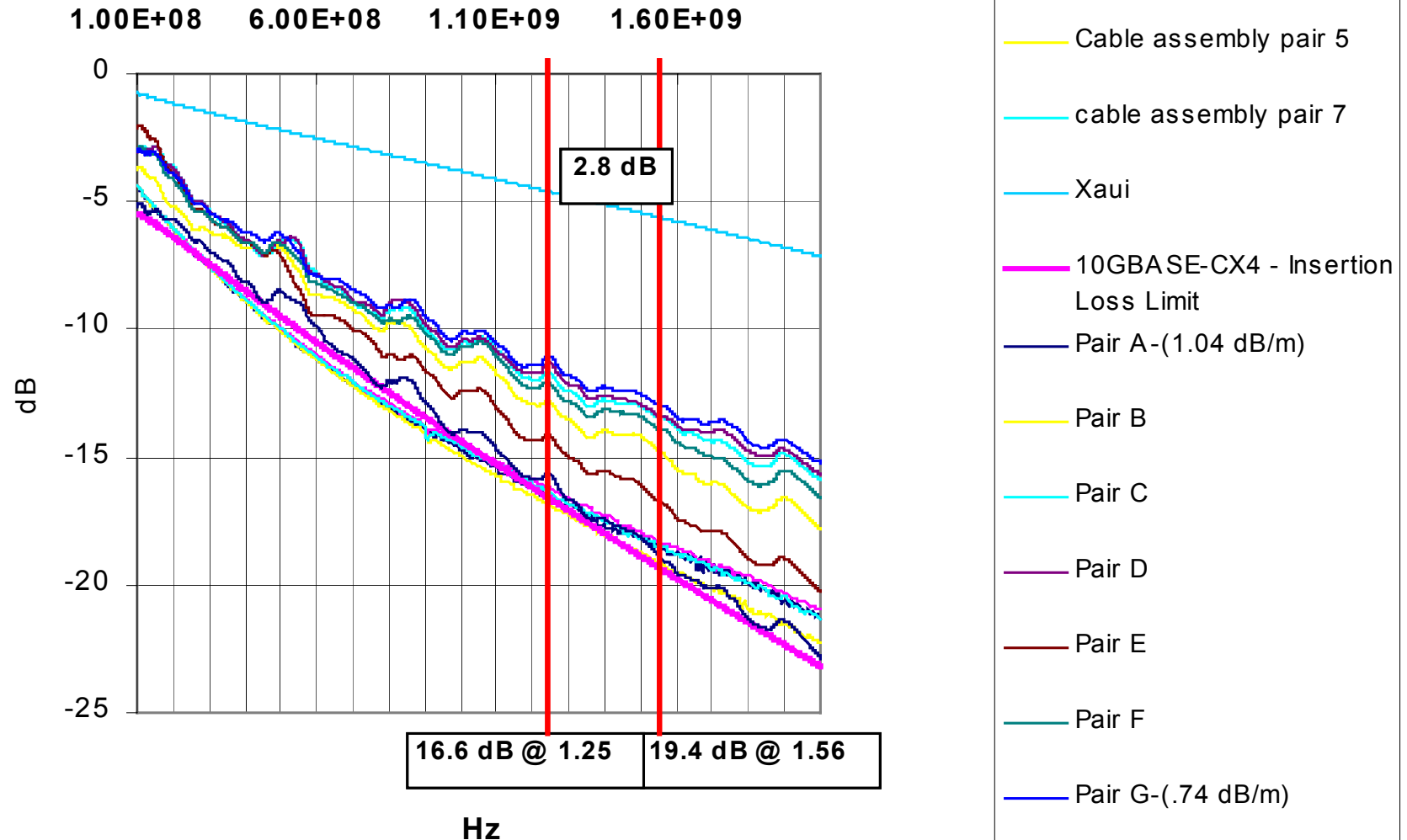
10GBASE-CX4- Compliance Channel Insertion loss:

The insertion loss of each pair of the CX4 cable assembly shall be less than:

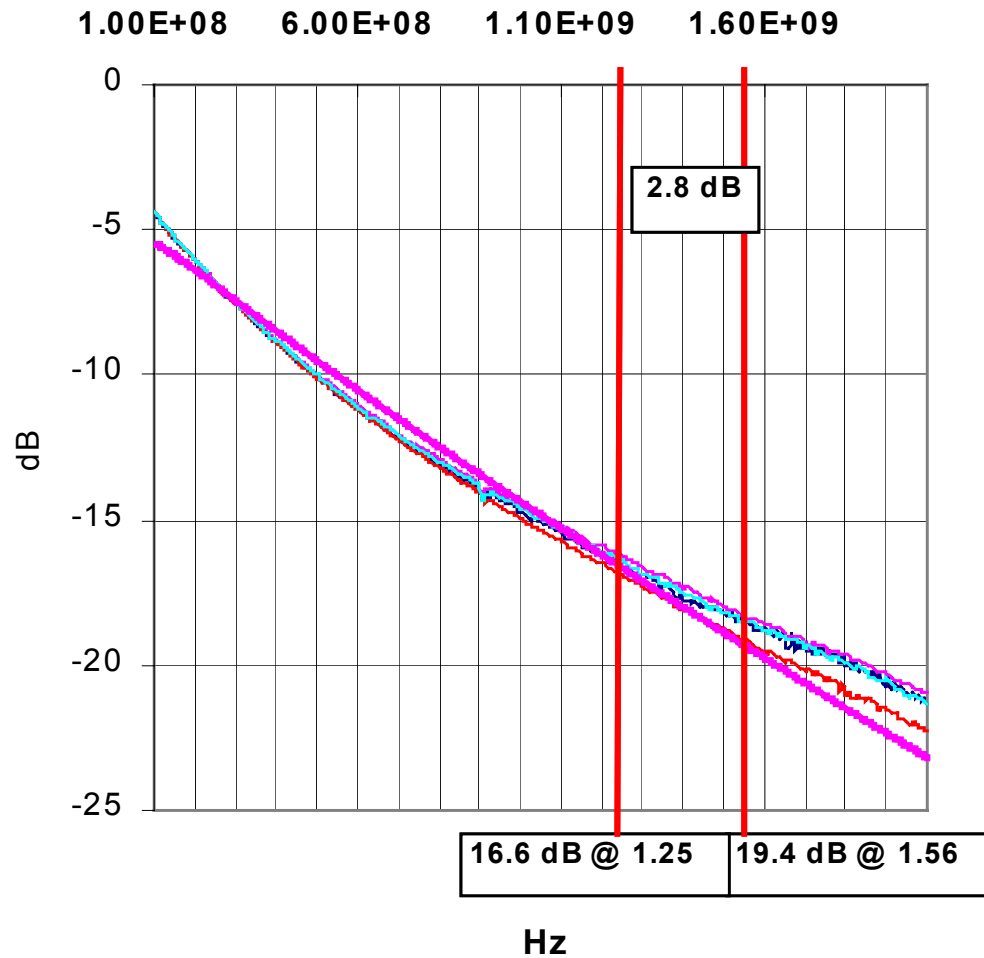
Insertion_Loss(f) < TBD (dB) at all frequencies from TBD MHz to TBD GHz.

This includes the attenuation of the differential cabling pairs, and the connector (i.e., the assembly).

4X-15 Meter- InfiniBand Cable Measurements



4X-15 Meter- InfiniBand Cable Assembly Measurements



- Cable assembly Pair 1
- Cable assembly Pair 3
- Cable assembly pair 5
- cable assembly pair 7
- 10GBASE-CX4 - Insertion Loss Limit