To: T10 Technical Committee
From: Mahbubul Bari (bari@vitesse.com)
Subject: SAS-2 Return Loss Measurement Methodology

Revision History
R0: Initial posting

Related Documents
http://www.t10.org/ftp/t10/document.07/07-063r0.pdf
http://www.t10.org/ftp/t10/document.07/07-007r2.pdf
http://www.t10.org/ftp/t10/drafts/sas2/sas2r08.pdf

Overview
Return loss measurement methodology.

Discussion

1) T10/07-063r0
For the Transmitter Return Loss measurement define the transmit pattern to be used. For example D24.3 (1100110011 0011001100)

Transmitter device	Min	Nominal	Max	Units
Bit Rate		6000		Mbps
Differential Voltage Swing (pk-pk) Vpk	800		1200	mV
Transition Time (20%-80%)	41.667 (0.25)			ps (UI)
Tx Equalization (informative default de-emphasis)	2	3	4	dB
Sdd22 Differential Return Loss			see Plot	dB
Scc22 Common Mode Return Loss			see Plot	dB
Reference Diff Impedance		100		ohm
Reference Common Impedance		25		ohm
Scd22 Differential to Common Mode Conversion			see Plot	dB
Random Jitter			0.15	UI
Deterministic Jitter			0.15	UI
Total Jitter			0.3	UI
AC Coupling Cap (if attaches to SATA)			12	nF

2) SAS2r08
Section B.9 in Annex B describes S-parameter measurements. Add single ended to differential S-parameter derivation section.

Figure B.14 shows the set of S-parameters for a single-ended system and for a differential system.

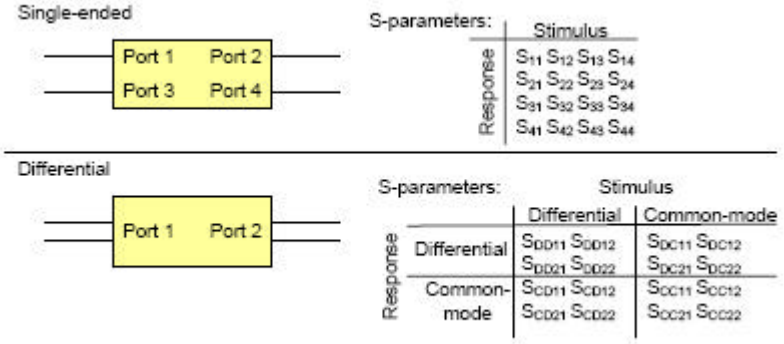

Figure B.14 — S-parameters for single-ended and differential systems