PHY Performance Test Suite Report

Color Key: Nominal | Marginal | Failure

192.168.221.109 | Test Port 8,1 | Date April 29 2023 | Time 3:09 AM | DUT Type Sample 10/100/1000 Rx Limitations Port 1

Suite Version: 5.3.11 05-01-23 | PVA H/W Ver: 1

Sifos Technologies

Basic Capablities

Auto-Negotiation

AUTO-NEG	ACKS	1000BaseT	100BaseTX	10BaseT	100BaseT4	Pause	Link_OK	MDI/MDI-X	NLP_Link
EXTENDED	EXTENDED	FULL	HALF+FULL	HALF+FULL	NO	RESPOND	YES	AUTO	LINKED

	Rx_OK	Gig Mode	M-S Fault	Mstr Fault	Slv Fault	Stability	Stability Details
1000Base-T Links	YES	AUTO	NONE	NONE	NONE	OK	N/A

Link Verification and Integrity

	MDI Connection				MDI-X Connection			
	10BaseT	100BaseTx	1000BaseT Master	1000BaseT Slave	10BaseT	100BaseTx	1000BaseT Master	1000BaseT Slave
Full Duplex	100	100	100	100	100	100	100	100
Half Duplex	100	100	N/A	N/A	100	100	N/A	N/A
Link Time*(sec)	0.4	0.3	1.1	1.6				

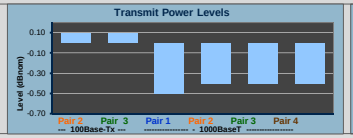
* Link Time is auto-negotiated for MDI/MDI-x

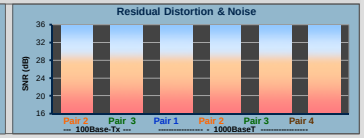
Transmitter & Interface Tests

Tx Power Level

Link Rate	Pair 1	Pair 2	Pair 3	Pair 4	Units
100BaseTX		0	0		dBVnom
1000BaseT	-0.5	-0.4	-0.4	-0.4	dBVnom

1000 Tx Power Adaptation	
Cable Len?	PVA Stim.
NO	N/A





Signal Quality (SNR)

Link Rate	Pair 1	Pair 2	Pair 3	Pair 4	Average	Min SNR	Units
100BaseTX		36	36		36	36	dB
1000BaseT	36	36	36	36	36	36	dB

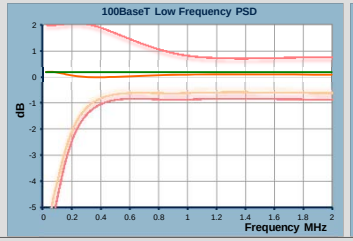
Low Frequency PSD

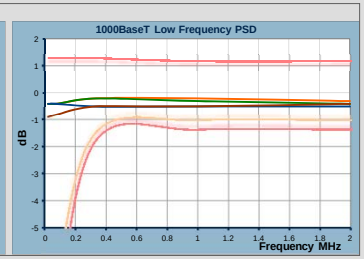
Link Rate	Frequency		Pair 1 PSD	Pair 2 PSD	Pair 3 PSD	Pair 4 PSD	Average	Min PSD	Units
100BaseTX	0.02	MHz		0.2	0.2		0.2	0.2	dB
	0.08	MHz		0.2	0.2		0.2	0.2	dB
	0.33	MHz		0	0.2		0.1	0	dB
	1	MHz		0.1	0.2		0.15	0.1	dB
	2	MHz		0.1	0.2		0.15	0.1	dB
1000BaseT	0.02	MHz	-0.4	-0.4	-0.4	-0.9	-0.525	-0.9	dB
	0.08	MHz	-0.4	-0.4	-0.4	-0.8	-0.5	-0.8	dB
	0.33	MHz	-0.5	-0.2	-0.2	-0.5	-0.35	-0.5	dB
	1	MHz	-0.5	-0.2	-0.3	-0.5	-0.375	-0.5	dB
	2	MHz	-0.5	-0.3	-0.4	-0.4	-0.4	-0.5	dB

Estimated Pk-Pk Voltage & Droop		Pair 1 Vpp	Pair 2 Vpp	Pair 3 Vpp	Pair 4 Vpp
100BaseTX	UTP Diff. Volts Pk-Pk		2.019	2.042	
	500ns Droop%, >2.4µsec τ		98.4%	98.2%	
1000BaseT	Pk. Diff. Volts T.S. #1 A->B	1.424	1.456	1.440	1.440
	Droop% T.S. #1 F->G,H->J	96.0%	95.5%	95.8%	94.8%

PSD Trace Color Key: Pair 1 | Pair 2 | Pair 3 | Pair 4

Marginal Limit Line | Failing Limit Line





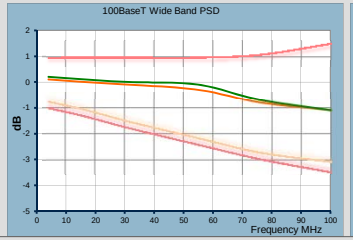
Wide Band PSD

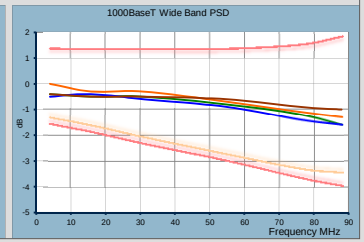
Link Rate	Frequency		Pair 1 PSD	Pair 2 PSD	Pair 3 PSD	Pair 4 PSD	Average	Min PSD	Units
100BaseTX	4	MHz		0.1	0.2		0.15	0.1	dB
	16	MHz		0	0.1		0.05	0	dB
	31	MHz		-0.1	0		-0.05	-0.1	dB
	55	MHz		-0.3	-0.1		-0.2	-0.3	dB
	76	MHz		-0.8	-0.7		-0.75	-0.8	dB
	100	MHz		-1.1	-1.1		-1.1	-1.1	dB
1000BaseT	4	MHz	-0.5	0	-0.4	-0.4	-0.325	-0.5	dB
	16	MHz	-0.4	-0.3	-0.5	-0.5	-0.425	-0.5	dB
	31	MHz	-0.6	-0.3	-0.5	-0.5	-0.475	-0.6	dB
	55	MHz	-0.9	-0.7	-0.8	-0.6	-0.75	-0.9	dB
	76	MHz	-1.4	-1.1	-1.2	-0.9	-1.15	-1.4	dB
	88	MHz	-1.6	-1.3	-1.6	-1	-1.375	-1.6	dB

Estimated Mask Fits		Pair 1 Fit	Pair 2 Fit	Pair 3 Fit	Pair 4 Fit
100BaseTX	Rise/Fall Time: 4+1 nsec		4.28	4.31	
1000BaseT	Test Signal #1 Mask Fit	Fit_OK	Fit_OK	Fit_OK	Fit_OK

Pair 1 | Pair 2 | Pair 3 | Pair 4

Marginal Limit Line | Failing Limit Line

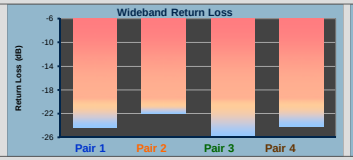


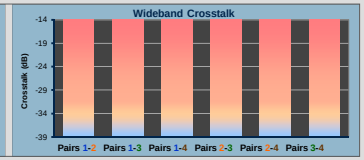


Skew, Echo, Xtalk *(1000BaseT Interfaces)*

	Pair 1	Pair 2	Pair 3	Pair 4	Average	Maximim	Units
Time Skew	0	0	0	8	0	8	nsec
Return Loss	-24.3	-21.9	-26	-24.2	-24.1	-21.9	dB

	Pairs 1-2	Pairs 1-3	Pairs 1-4	Pairs 2-4	Pairs 2-4	Pairs 3-4	Average	Maximim	Units
Crosstalk	-39	-39	-39	-39	-39	-39	-39	-39	dB





Receiver Tests — Maximum Impairment

10Base-T MDI Line Loss and		Packets
Slew_Rate=	5_ns -2.7dB	100 %
Tx Offset	-50 ppm	100 %
Tx Offset	50 ppm	100 %
Tx Offset	-100 ppm	100 %
Tx Offset	100 ppm	100 %
Noise	10 dB(40mV)	100 %
Noise	14 dB(40mV)	20 %
Jitter	11.5 dB(1.4ns)	100 %
Jitter	16 dB(1.4ns)	100 %
Noise+Jitter	10.5_11.5 dB & dB	100 %
Noise+Jitter	13.5_15 dB & dB	20 %

100Base-Tx MDI Line Loss and		Packets
Slew_Rate=	5_ns -2.7dB	100 %
Tx Offset	-50 ppm	100 %
Tx Offset	50 ppm	100 %
Tx Offset	-100 ppm	100 %
Tx Offset	100 ppm	100 %
Noise	5 dB(40mV)	100 %
Noise	11 dB(40mV)	100 %
Jitter	8.5 dB(1.4ns)	16 %
Jitter	14 dB(1.4ns)	0 %
Noise+Jitter	4_7.5 dB & dB	100 %
Noise+Jitter	10_13 dB & dB	100 % SNR1

1000Base-T MASTER: Line Loss and		Packets
Slew_Rate=	3.5_ns -1.9dB	100 %
Slew_Rate=	5_ns -2.7dB	100 %
Noise	-1 dB(40mV)	100 %
Noise	1.5 dB(40mV)	100 %
Noise	4 dB(40mV)	99.9 %
Jitter	-4 dB(1.4ns)	100 %
Jitter	-2 dB(1.4ns)	86.5 %
Jitter	0 dB(1.4ns)	13.3 %
Noise+Jitter	-1.5_-4.5 dB & dB	100 %
Noise+Jitter	1_-3 dB & dB	100 %
Noise+Jitter	3.5_-1 dB & dB	6.5 % SNR3

Summary	Limited	Good	Excellent
10Base-T			
100Base-Tx			
1000Base-T			

10Base-T MDI-X Line Loss and		Packets
Slew_Rate=	5_ns -2.7dB	100 %
Tx Offset	-50 ppm	100 %
Tx Offset	50 ppm	100 %
Tx Offset	-100 ppm	100 %
Tx Offset	100 ppm	100 %
Noise	10 dB(40mV)	100 %
Noise	14 dB(40mV)	40 %
Jitter	11.5 dB(1.4ns)	100 %
Jitter	16 dB(1.4ns)	100 %
Noise+Jitter	10.5_11.5 dB & dB	100 %
Noise+Jitter	13.5_15 dB & dB	40 %

100Base-Tx MDI-X Line Loss and		Packets
Slew_Rate=	5_ns -2.7dB	100 %
Tx Offset	-50 ppm	100 %
Tx Offset	50 ppm	100 %
Tx Offset	-100 ppm	100 %
Tx Offset	100 ppm	100 %
Noise	5 dB(40mV)	100 %
Noise	11 dB(40mV)	100 %
Jitter	8.5 dB(1.4ns)	24 %
Jitter	14 dB(1.4ns)	0 %
Noise+Jitter	4_7.5 dB & dB	100 %
Noise+Jitter	10_13 dB & dB	100 % SNR2

1000Base-T SLAVE: Line Loss and		Packets
Slew_Rate=	5_ns -2.7dB	100 %
Tx Offset	-100 ppm	100 %
Tx Offset	100 ppm	100 %
Tx Offset	-115 ppm	100 %
Tx Offset	115 ppm	100 %
Offset+Noise	-100_-1 ppm & dB	100 %
Offset+Noise	100_-1 ppm & dB	100 %
Offset+Noise	-100_1.5 ppm & dB	100 %
Offset+Noise	100_1.5 ppm & dB	100 %
Offset+Noise	-100_4 ppm & dB	99.9 %
Offset+Noise	100_4 ppm & dB	99.9 % SNR4

Local Rx Health (Lowest Pair)		SNR dB
100 Base-TX	SNR1	32
100 Base-TX	SNR2	28.9
1000 Base-T	SNR3	24
1000 Base-T	SNR4	24.3

Report Ver: 5.3.06