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Wiitek 400G QSFP-DD to QSFP-DD Passive Cable SI Test Report

P/N: PNQSFP-DD
S/N: SODC1m(0001

Shenzhen Wiitek Technology Co.,Ltd.

Report Date:

11/10/2023 (15:38:23)

Tester: Admin

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.Equipments Information

ID	Equipment	Description	Date
1	E5071C	SN:MY47002713	2022/9/28
2	RD16	RC932225123042	2023/8/16
3	Fixture Life	50000#19924	
4	VNA State File	VNA_20230719.STA	2023/7/20

.Test Information

Length	1	m	Type	1 to 1
Tested Link	16	Pairs	Testing following	QSFP-DD
Max Freq	20	Ghz	DeEmbed	2xTHRU
Tempture	25	℃	Calibration	SOLT:85052D
Relative Humidity	70	%	Test Result	PASS

.Tested Parameters List

.SDD11/SDD22 Differential Return Loss	PASS
.SDD12/SDD21 Differential Insertion Loss	PASS
.ILD	PASS
.Differential Impedance	PASS

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Summary Result

TX0---> RX0

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-10.036	17.46	QSFP-DD_RL.temp	6.396	PASS	
SDD22	MAX	-9.525	17.35	QSFP-DD_RL.temp	5.847	PASS	
SDD12	Marker	-8.25	13.28	QSFP-DD-IL.temp,-1	8.91	PASS	
SDD21	Marker	-8.23	13.28	QSFP-DD-IL.temp,-1	8.93	PASS	
ILD	MAX	-0.134	6.73	802.3ba	1.908	PASS	

TX1---> RX1

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-8.784	16.55	QSFP-DD_RL.temp	4.818	PASS	
SDD22	MAX	-7.549	16.55	QSFP-DD_RL.temp	3.583	PASS	
SDD12	Marker	-8.15	13.28	QSFP-DD-IL.temp,-1	9.01	PASS	
SDD21	Marker	-8.13	13.28	QSFP-DD-IL.temp,-1	9.03	PASS	
ILD	MAX	-0.199	7.51	802.3ba	1.999	PASS	

TX2---> RX2

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-9.028	17.46	QSFP-DD_RL.temp	5.388	PASS	
SDD22	MAX	-9.134	16.26	QSFP-DD_RL.temp	5.061	PASS	
SDD12	Marker	-8	13.28	QSFP-DD-IL.temp,-1	9.16	PASS	
SDD21	Marker	-7.97	13.28	QSFP-DD-IL.temp,-1	9.19	PASS	
ILD	MAX	-0.121	7.44	802.3ba	2.063	PASS	

TX3---> RX3

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-9.457	16.45	QSFP-DD_RL.temp	5.455	PASS	
SDD22	MAX	-7.801	16.54	QSFP-DD_RL.temp	3.832	PASS	
SDD12	Marker	-8.18	13.28	QSFP-DD-IL.temp,-1	8.98	PASS	
SDD21	Marker	-8.15	13.28	QSFP-DD-IL.temp,-1	9.01	PASS	
ILD	MAX	-0.155	7.31	802.3ba	2.003	PASS	

TX4---> RX4

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-8.907	15.19	QSFP-DD_RL.temp	4.42	PASS	
SDD22	MAX	-4.994	18.32	QSFP-DD_RL.temp	1.647	PASS	
SDD12	Marker	-7.51	13.28	QSFP-DD-IL.temp,-1	9.65	PASS	
SDD21	Marker	-7.51	13.28	QSFP-DD-IL.temp,-1	9.65	PASS	
ILD	MAX	-0.131	4.06	802.3ba	1.377	PASS	

TX5---> RX5

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-5.131	18.42	QSFP-DD_RL.temp	1.817	PASS	
SDD22	MAX	-6.73	18.83	QSFP-DD_RL.temp	3.55	PASS	
SDD12	Marker	-8.53	13.28	QSFP-DD-IL.temp,-1	8.63	PASS	
SDD21	Marker	-8.51	13.28	QSFP-DD-IL.temp,-1	8.65	PASS	
ILD	MAX	-0.12	5.49	802.3ba	1.674	PASS	

TX6---> RX6

Type	Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)

SDD11	MAX	-9.77	18.02	QSFP-DD_RL.temp	6.322	PASS	
SDD22	MAX	-4.903	18.32	QSFP-DD_RL.temp	1.556	PASS	
SDD12	Marker	-7.41	13.28	QSFP-DD-IL.temp,-1	9.75	PASS	
SDD21	Marker	-7.43	13.28	QSFP-DD-IL.temp,-1	9.73	PASS	
ILD	MAX	-0.138	6.83	802.3ba	1.924	PASS	

TX7---> RX7

Type		**Value(dB)**	**Freq(GHz)**	**Spec**	Value	**Results**	**Fail@(GHz)**
SDD11	MAX	-5.072	18.42	QSFP-DD_RL.temp	1.758	PASS	
SDD22	MAX	-6.092	17.91	QSFP-DD_RL.temp	2.607	PASS	
SDD12	Marker	-8.19	13.28	QSFP-DD-IL.temp,-1	8.97	PASS	
SDD21	Marker	-8.14	13.28	QSFP-DD-IL.temp,-1	9.02	PASS	
ILD	MAX	-0.121	7.44	802.3ba	2.063	PASS	

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Summary Result

RX0---> TX0

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-9.504	17.47	QSFP-DD_RL.temp	5.868	PASS	
SDD22	MAX	-9.923	16.6	QSFP-DD_RL.temp	5.976	PASS	
SDD12	Marker	-7.74	13.28	QSFP-DD-IL.temp,-1	9.42	PASS	
SDD21	Marker	-7.75	13.28	QSFP-DD-IL.temp,-1	9.41	PASS	
ILD	MAX	-0.235	7.04	802.3ba	1.869	PASS	

RX1---> TX1

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-10.018	16.56	QSFP-DD_RL.temp	6.056	PASS	
SDD22	MAX	-8.045	16.55	QSFP-DD_RL.temp	4.079	PASS	
SDD12	Marker	-7.92	13.28	QSFP-DD-IL.temp,-1	9.24	PASS	
SDD21	Marker	-7.92	13.28	QSFP-DD-IL.temp,-1	9.24	PASS	
ILD	MAX	-0.086	1.56	802.3ba	0.922	PASS	

RX2---> TX2

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-9.24	17.47	QSFP-DD_RL.temp	5.604	PASS	
SDD22	MAX	-7.933	15.28	QSFP-DD_RL.temp	3.482	PASS	
SDD12	Marker	-7.91	13.28	QSFP-DD-IL.temp,-1	9.25	PASS	
SDD21	Marker	-7.85	13.28	QSFP-DD-IL.temp,-1	9.31	PASS	
ILD	MAX	-0.118	7.51	802.3ba	2.08	PASS	

RX3---> TX3

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-10.148	16.47	QSFP-DD_RL.temp	6.153	PASS	
SDD22	MAX	-8.133	17.22	QSFP-DD_RL.temp	4.409	PASS	
SDD12	Marker	-7.91	13.28	QSFP-DD-IL.temp,-1	9.25	PASS	
SDD21	Marker	-7.9	13.28	QSFP-DD-IL.temp,-1	9.26	PASS	
ILD	MAX	-0.158	6.31	802.3ba	1.8	PASS	

RX4---> TX4

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-8.592	18.93	QSFP-DD_RL.temp	5.444	PASS	
SDD22	MAX	-4.77	18.19	QSFP-DD_RL.temp	1.379	PASS	
SDD12	Marker	-7.67	13.28	QSFP-DD-IL.temp,-1	9.49	PASS	
SDD21	Marker	-7.66	13.28	QSFP-DD-IL.temp,-1	9.5	PASS	
ILD	MAX	-0.146	7.48	802.3ba	2.046	PASS	

RX5---> TX5

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)
SDD11	MAX	-5.108	18.43	QSFP-DD_RL.temp	1.797	PASS	
SDD22	MAX	-6.637	18.96	QSFP-DD_RL.temp	3.498	PASS	
SDD12	Marker	-8.21	13.28	QSFP-DD-IL.temp,-1	8.95	PASS	
SDD21	Marker	-8.2	13.28	QSFP-DD-IL.temp,-1	8.96	PASS	
ILD	MAX	-0.132	2.05	802.3ba	0.974	PASS	

RX6---> TX6

Type		Value(dB)	Freq(GHz)	Spec	Value	Results	Fail@(GHz)

SDD11	MAX	-9.747	17.69	QSFP-DD_RL.temp	6.187	PASS	
SDD22	MAX	-4.676	18.32	QSFP-DD_RL.temp	1.329	PASS	
SDD12	Marker	-7.7	13.28	QSFP-DD-IL.temp,-1	9.46	PASS	
SDD21	Marker	-7.71	13.28	QSFP-DD-IL.temp,-1	9.45	PASS	
ILD	MAX	-0.179	7.47	802.3ba	2.011	PASS	

RX7---> TX7

Type		**Value(dB)**	**Freq(GHz)**	**Spec**	Value	**Results**	**Fail@(GHz)**
SDD11	MAX	-4.804	18.44	QSFP-DD_RL.temp	1.496	PASS	
SDD22	MAX	-6.25	17.92	QSFP-DD_RL.temp	2.768	PASS	
SDD12	Marker	-8.01	13.28	QSFP-DD-IL.temp,-1	9.15	PASS	
SDD21	Marker	-8.01	13.28	QSFP-DD-IL.temp,-1	9.15	PASS	
ILD	MAX	-0.145	2.05	802.3ba	0.961	PASS	

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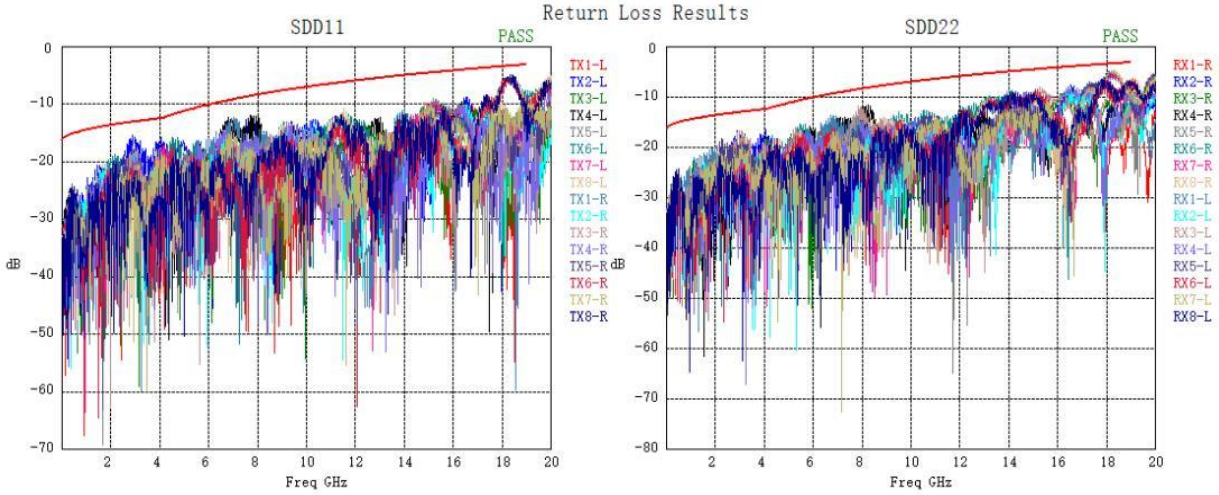
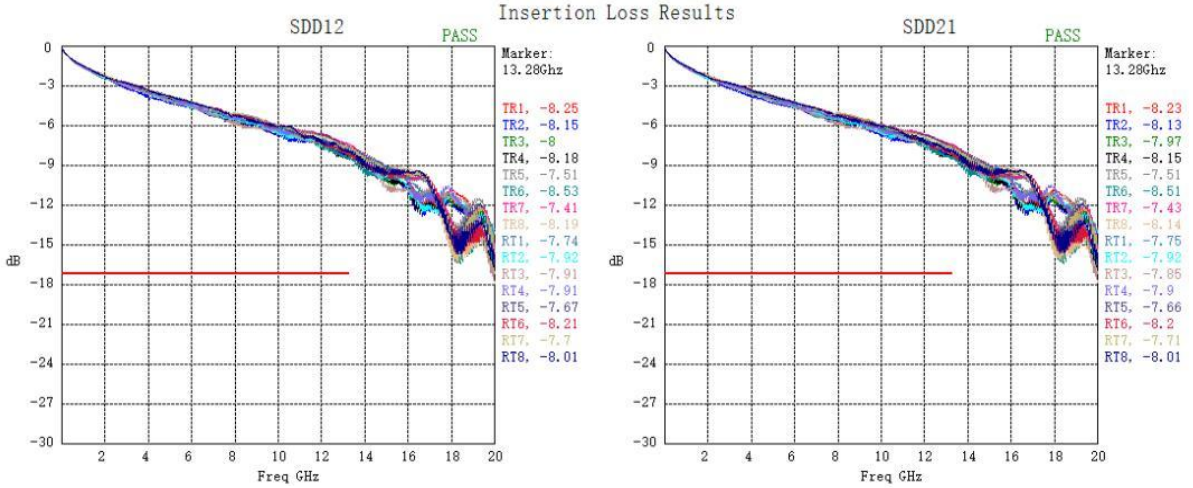
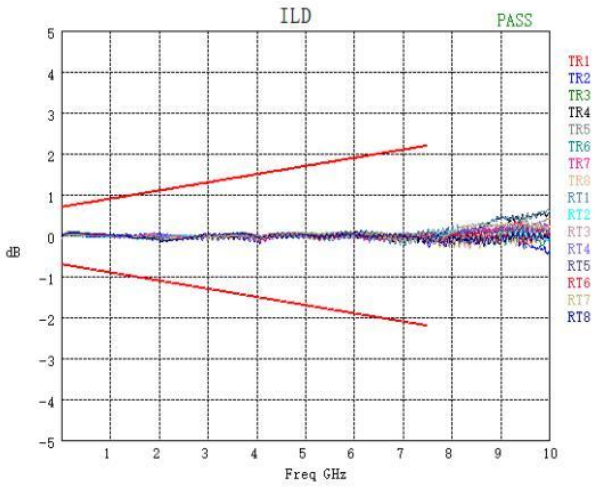
Return Loss Results



Insertion Loss Results





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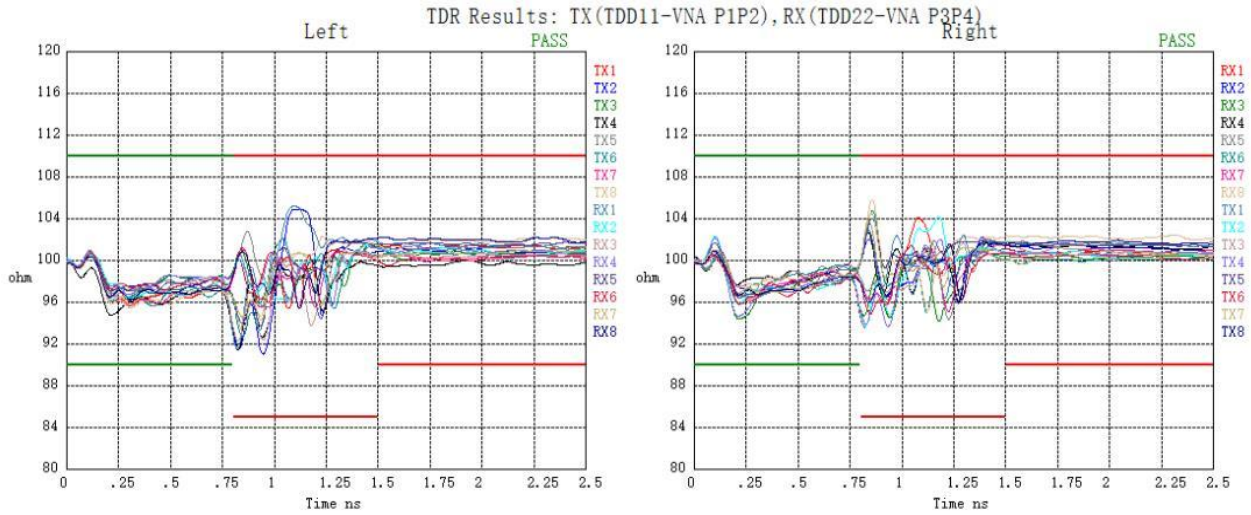
Differential Impedance

TDR Results @35ps (20-80%),TX(TDD11-VNA P1P2),RX(TDD22-VNA P3P4)

TX0---> RX0						RX0---> TX0					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	101.8	QSFP-DD	8.2	PASS	TDD11	MAX	102.9	QSFP-DD	7.1	PASS
	MIN	95.4	QSFP-DD	10.4			MIN	96.4	QSFP-DD	6.4	
TDD22	MAX	104.1	QSFP-DD	5.9	PASS	TDD22	MAX	105.2	QSFP-DD	4.8	PASS
	MIN	93.6	QSFP-DD	8.6			MIN	91.5	QSFP-DD	6.5	
TX1---> RX1						RX1---> TX1					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	104.9	QSFP-DD	5.1	PASS	TDD11	MAX	104.2	QSFP-DD	5.8	PASS
	MIN	91.1	QSFP-DD	6.1			MIN	93.7	QSFP-DD	8.7	
TDD22	MAX	102.3	QSFP-DD	7.7	PASS	TDD22	MAX	101.5	QSFP-DD	8.5	PASS
	MIN	95.9	QSFP-DD	10.9			MIN	96.2	QSFP-DD	11.2	
TX2---> RX2						RX2---> TX2					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	101.5	QSFP-DD	8.5	PASS	TDD11	MAX	103.7	QSFP-DD	6.3	PASS
	MIN	95.9	QSFP-DD	10.9			MIN	97	QSFP-DD	12	
TDD22	MAX	101	QSFP-DD	9	PASS	TDD22	MAX	101	QSFP-DD	9	PASS
	MIN	94.2	QSFP-DD	9.2			MIN	92.3	QSFP-DD	7.3	
TX3---> RX3						RX3--->TX3					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	100.1	QSFP-DD	9.9	PASS	TDD11	MAX	102.2	QSFP-DD	7.8	PASS
	MIN	91.4	QSFP-DD	6.4			MIN	93.7	QSFP-DD	8.7	
TDD22	MAX	102.7	QSFP-DD	7.3	PASS	TDD22	MAX	101.3	QSFP-DD	8.7	PASS
	MIN	96	QSFP-DD	11			MIN	95.6	QSFP-DD	10.6	
TX4---> RX4						RX4--->TX4					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	102.8	QSFP-DD	7.2	PASS	TDD11	MAX	104	QSFP-DD	6	PASS
	MIN	96.7	QSFP-DD	6.7			MIN	96.5	QSFP-DD	6.5	
TDD22	MAX	101.8	QSFP-DD	8.2	PASS	TDD22	MAX	102	QSFP-DD	8	PASS
	MIN	94.3	QSFP-DD	9.3			MIN	93.7	QSFP-DD	8.7	
TX5---> RX5						RX5--->TX5					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	102.2	QSFP-DD	7.8	PASS	TDD11	MAX	101.4	QSFP-DD	8.6	PASS
	MIN	92.6	QSFP-DD	7.6			MIN	94.9	QSFP-DD	9.9	
TDD22	MAX	104.8	QSFP-DD	5.2	PASS	TDD22	MAX	101.2	QSFP-DD	8.8	PASS
	MIN	95	QSFP-DD	10			MIN	95.6	QSFP-DD	10.6	
TX6---> RX6						RX6--->TX6					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	101	QSFP-DD	9	PASS	TDD11	MAX	104.5	QSFP-DD	5.5	PASS
	MIN	95.5	QSFP-DD	10.5			MIN	96.8	QSFP-DD	6.8	
TDD22	MAX	101.2	QSFP-DD	8.8	PASS	TDD22	MAX	101	QSFP-DD	9	PASS
	MIN	95.1	QSFP-DD	10.1			MIN	94.3	QSFP-DD	9.3	
TX7---> RX7						RX7--->TX7					
Type		Value(ohm)	Spec	Value	Results	Type		Value(ohm)	Spec	Value	Results
TDD11	MAX	102.3	QSFP-DD	7.7	PASS	TDD11	MAX	101.9	QSFP-DD	8.1	PASS
	MIN	93.2	QSFP-DD	8.2			MIN	96	QSFP-DD	11	
TDD22	MAX	105.8	QSFP-DD	4.2	PASS	TDD22	MAX	102.3	QSFP-DD	7.7	PASS
	MIN	95.2	QSFP-DD	10.2			MIN	95.4	QSFP-DD	10.4	



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