

CE

EMC REPORT

Prepared For : LINK-PP INT'L TECHNOLOGY CO., LIMITED
No.54, South of Jinhu Road, Chenjiang Town, Zhongkai District, Huizhou City, 516003, Guangdong, China

Manufacturer LINK-PP INT'L TECHNOLOGY CO., LIMITED
No.54, South of Jinhu Road, Chenjiang Town, Zhongkai District, Huizhou City, 516003, Guangdong, China

Product Name : SFP+ Optical Transceiver

Trade mark : N/A

Model : LS-SM3110-10I, LS-SMXXXXXX, LS-MMXXXXXX, LS-BLXXXXXX,
LS-RJXXXXXX, LS-XXXXXXXX, LXXXXXXXXX, LPXXXXXXXX,
LQXXXXXXXX, LS-SM3110-10C, LS-SM3110-02C, LS-SM3110-02I,
LS-SM3110-20C, LS-SM3110-20I, LS-SM3110-40C, LS-SM3110-40I,
LS-SM3110-60C, LS-SM3110-60I, LS-SM5510-40C, LS-SM5510-40I,
LS-SM5510-80C, LS-SM5510-80I, LS-SM5510-A0I, LS-MM8510-S3C,
LS-MM8510-S3I, LS-MM3110-02C, LS-MM3110-02I, LS-BL273310-10C,
LS-BL273310-10I, LS-BL332710-10C, LS-BL332710-10I,
LS-BL273310-20I, LS-BL332710-20I, LS-BL273310-40C,
LS-BL273310-40I, LP-RJ45TG-3YC, LP-RJ45TG-3YI, LP-RJ45TG-8YC

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Guangdong

Test Date: Sep. 07, 2026 - Sep. 15, 2026

Date of Report : Sep. 15, 2026

Report No.: RCT202609072401R

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2 Test Summary

Test	Test Requirement	Test Method	Criterion	Result
Conducted Emission 150kHz to 30MHz	EN 55032:2015+A11:2020	Clause 7 of CISPR 16-2-1	Limits	N/A
Radiated Emissions 30MHz to 1GHz 1GHz to 6GHz	EN 55032:2015+A11:2020	Clause 7.3 of CISPR 16-2-3	Limits	PASS
Harmonics	EN IEC 61000-3-2:2019/A2:2024	EN IEC 61000-3-2	Limits(A)	N/A
Flicker	EN 61000-3-3:2013/A2:2021/AC:2022-01	EN 61000-3-3	Limits	N/A
Electrostatic Discharge	EN 55035:2017+A11:2020	EN 61000-4-2	B	PASS
R/S	EN 55035:2017+A11:2020	EN 61000-4-3	A	PASS
Electric Fast Transients	EN 55035:2017+A11:2020	EN 61000-4-4	B	N/A
Surge	EN 55035:2017+A11:2020	EN 61000-4-5	B	N/A
C/S	EN 55035:2017+A11:2020	EN 61000-4-6	A	N/A
Power Frequency magnetic Field	EN 55035:2017+A11:2020	EN 61000-4-8	A	N/A
Dips	EN 55035:2017+A11:2020	EN IEC 61000-4-11	B& C	N/A

Note: 1 "N/A" denotes test is not applicable in this Test Report

2.1 Measurement Uncertainty

The report uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty Multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

No.	Item	Frequency Range	U , Value
1	Power Line Conducted Emission	150KHz~30MHz	1.20 dB
2	Disturbance Power Emission	30MHz~300MHz	2.96 dB
3	Radiated Emission Test	30MHz~1GHz	3.75 dB
4	Radiated Emission Test	1GHz~18GHz	3.88 dB

3 Test Facility

Shenzhen RCT Testing Technology Service Co., Ltd.

1507, NO.8 Building, Hengda Shishang Huigu Center, Fulong Road, Shanghenglang Community, Dalang Street, Longhua District, Shenzhen, Guangdong.

3.1 Deviation from standard

None

3.2 Abnormalities from standard conditions

None

4 General Information

4.1 General Description of EUT

EUT Name:	SFP+ Optical Transceiver
Model No:	LS-SM3110-10I
Series model:	LS-SMXXXXXX, LS-MMXXXXXX, LS-BLXXXXXX, LS-RJXXXXXX, LS-XXXXXXXX, LXXXXXXXXX, LPXXXXXXXX, LQXXXXXXXX, LS-SM3110-10C, LS-SM3110-02C, LS-SM3110-02I, LS-SM3110-20C, LS-SM3110-20I, LS-SM3110-40C, LS-SM3110-40I, LS-SM3110-60C, LS-SM3110-60I, LS-SM5510-40C, LS-SM5510-40I, LS-SM5510-80C, LS-SM5510-80I, LS-SM5510-A0I, LS-MM8510-S3C, LS-MM8510-S3I, LS-MM3110-02C, LS-MM3110-02I, LS-BL273310-10C, LS-BL273310-10I, LS-BL332710-10C, LS-BL332710-10I, LS-BL273310-20I, LS-BL332710-20I, LS-BL273310-40C, LS-BL273310-40I, LP-RJ45TG-3YC, LP-RJ45TG-3YI, LP-RJ45TG-8YC
Brand Name:	N/A
Power Supply Range:	N/A
Test Power Supply:	The same as above.
Model difference:	Except for the differences in model name, appearance color and length, all series models are exactly the same as the test model.

4.2 EUT Test Mode

Mode 1	The EUT is in Working mode
Note: Pre-test all modes, only record the worst mode in the report	

4.3 Description of Test setup

EUT was tested in normal configuration (Please See following Block diagrams)

1. Block diagram of EUT configuration-EMI

Mode 1:



2. Block diagram of EUT configuration-EMS

The same as above.

4.4 Test Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	signal cable
1	Adapter	szyngyuan	TYPE-C30G	N/A	N/A	N/A

4.5 EUT Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	signal cable
1	N/A	N/A	N/A	N/A	N/A	N/A

5 Equipments List for All Test Items

☒ Radiation Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI Measuring Receiver	R&S	ESR	101160	2026.09.06	2027.09.05
2	Low Noise Pre HUB	HP	HP8447E	1205323	2026.09.06	2027.09.05
3	TRILOG Super Broadband test Antenna	SCHWARZBEC K	VULB9160	9160-3206	2026.09.06	2027.09.05
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2026.09.06	2027.09.05
5	Spectrum Analyzer	R&S	FSV40	101470	2026.09.06	2027.09.05
6	Low Noise Pre HUB	Tsj	MLA-0120-A02-34	2648A04738	2026.09.06	2027.09.05
7	Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	452	2026.09.06	2027.09.05

☒ Conduction Test equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI Test Receiver	R&S	ESCI	100124	2026.09.06	2027.09.05
2	LISN	Kyoritsu	KNW-242	8-837-4	2026.09.06	2027.09.05
3	LISN	R&S	ESH3-Z5	892785/016	2026.09.06	2027.09.05
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2026.09.06	2027.09.05

☒ H/F Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Signal Conditioning Unit	Schaffner	CCN1000-1	72472	2026.09.06	2027.09.05

2	5KV AC Power Source	Schaffner	NSG1007-5-208-413	57227	2026.09.06	2027.09.05
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☒ **ESD Test Equipment**

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	ESD Simulator	Schaffner	NSG435	5866	2026.09.06	2027.09.05

☒ **R/S Test Equipment**

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	MXG analog signal generator	Agilent	N5181A	MY46240859	2026.09.06	2027.09.05
2	Power HUB	Schaffner	CBA9433	T43574	2026.09.06	2027.09.05
3	Power HUB	Schaffner	CBA9409	T43605	2026.09.06	2027.09.05
4	Logarithmic-periodic Antenna	Schwarzbeck	VULP9118E	820	2026.09.06	2027.09.05
5	Broadband Horn Antenna	Schwarzbeck	BBHA 9120LF	255	2026.09.06	2027.09.05
6	Power meter	Agilent	E4419B	MY45102079	2026.09.06	2027.09.05
7	Power sensor	Agilent	8481A	MY41097696	2026.09.06	2027.09.05
8	Power sensor	Agilent	8481A	MY41097697	2026.09.06	2027.09.05
9	RF Relay matrix	tsj	RFM-S621	04261	2026.09.06	2027.09.05

☒ **EFT/B Test equipment**

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	INS6501 Step-transformer	Schaffner	INA 6501	136	2026.09.06	2027.09.05
2	MODULA GENERATOR	Schaffner	MODULA 6150	34475	2026.09.06	2027.09.05
3	Capacitive Coupling Clamp	Schaffner	CDN8014	22519	2026.09.06	2027.09.05

☒ **Surge Test Equipment**

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	INS6501 step-transformer	Schaffner	INA 6501	136	2026.09.06	2027.09.05
2	MODULA GENERATOR	Schaffner	MODULA 6150	34475	2026.09.06	2027.09.05

☒ C/S Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	SML01 Signal Generator	HP	8665B	3315A00436	2026.09.06	2027.09.05
2	Power HUB	Schaffner	CBA9437	T43660	2026.09.06	2027.09.05
3	Attenuator	Aeroflex / Weinschel	40-6-33	PA130	2026.09.06	2027.09.05
4	Power Line CDN	tsj	TSCDN-M1-16A	07010	2026.09.06	2027.09.05
5	Power Line CDN	tsj	TSCDN-M2-16A	07024	2026.09.06	2027.09.05
6	Power Line CDN	tsj	TSCDN-M3-16A	07032	2026.09.06	2027.09.05

☒ PFMF Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Magnetic field generator	Schaffner	MFO6501	34299	2026.09.06	2027.09.05
2	Magnetic Field Loop Antenna	Schaffner	INA 702	148	2026.09.06	2027.09.05

☒ Dips Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	INS6501 Step-transformer	Schaffner	INA 6501	136	2026.09.06	2027.09.05
2	MODULA GENERATOR	Schaffner	MODULA 6150	34475	2026.09.06	2027.09.05

Note:

1. ☐ is not applicable in this Test Report. ☒ is applicable in this Test Report.

6 Emission Test Results

6.1 Mains Terminals Disturbance Voltage Measurement

Frequency (MHz)	☐ Class A (dBμV)		☒ Class B (dBμV)	
	Q.P. (Quasi-Peak)	A.V. (Average)	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 ~ 0.50	79	66	66 to 56	56 to 46
0.50 ~ 5.0	73	60	56	46
5.0 ~ 30	73	60	60	50

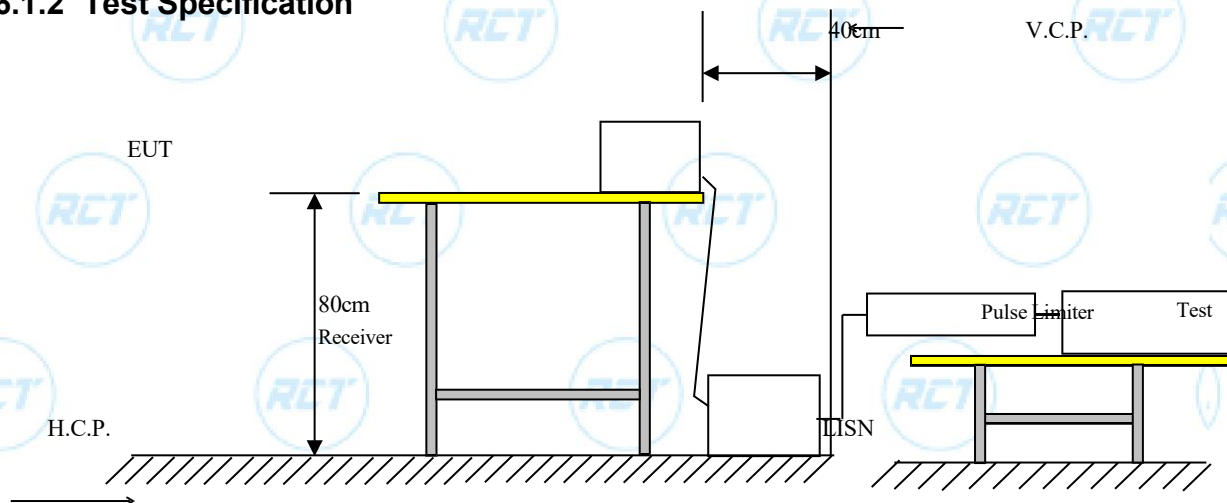
Detector:

Peak for pre-scan (9kHz Resolution Bandwidth)
Quasi-Peak & Average if maximized peak within 6dB of Average Limit

6.1.1 E.U.T. Operation

Temperature:	25°C	Humidity:	54% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	N/A			Worst mode	N/A	

6.1.2 Test Specification



EUT was placed upon a wooden test table 0.8m above the horizontal metal reference plane and 0.4m from the vertical ground plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m. All peripherals were connected to another AMN, and placed at a distance of 10cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

6.1.3 Measurement Data

N/A

The EUT is powered by DC power.

6.2 Radiated Emission Measurement

Limits of Radiated Emission Measurement (Below 1GHz)

Frequency (MHz)	☐ Class A (3m)	☒ Class B (3m)
	Quasi-Peak dB(μV/m)	Quasi-Peak dB(μV/m)
30 ~ 230	50.0	40.0
230 ~ 1000	57.0	47.0

Limits of Radiated Emission Measurement (Above 1GHz)

Frequency (MHz)	☐ Class A (3m)		☒ Class B (3m)	
	Peak dB(μV/m)	Average dB(μV/m)	Peak dB(μV/m)	Average dB(μV/m)
1000~3000	76	56	70	50
3000~6000	80	60	74	54

Detector:

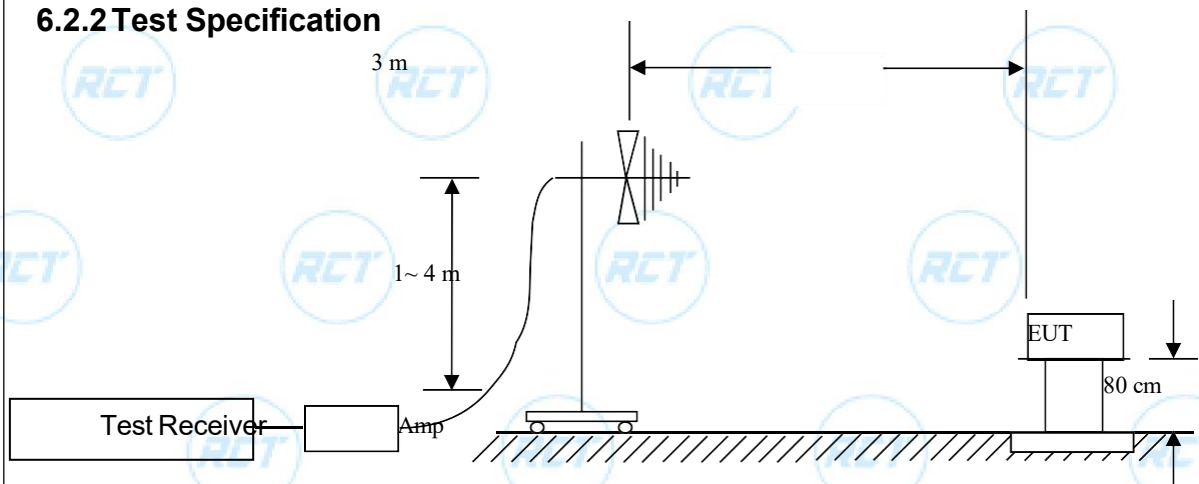
Peak for pre-scan (120kHz resolution bandwidth)

Quasi-Peak if maximum peak within 6dB of limit

6.2.1 E.U.T. Operation

Temperature:	25°C	Humidity:	53% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1	Worst mode	Mode 1			

6.2.2 Test Specification

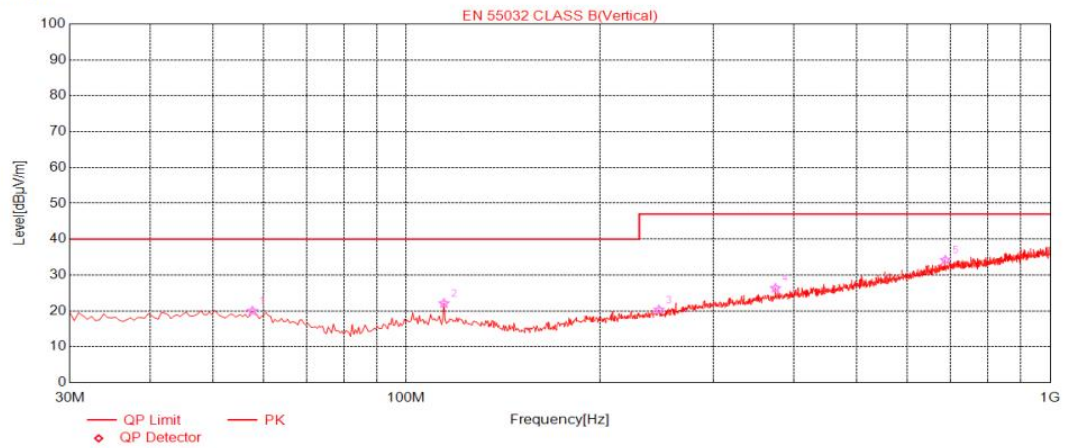


EUT was placed upon a wooden test table which was placed on the turn table 0.8m above the horizontal metal ground plane, and operating in the mode as mentioned above. A receiving antenna was placed 3m away from the EUT. During testing, turn around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested.

Between 30 MHz - 1000 MHz

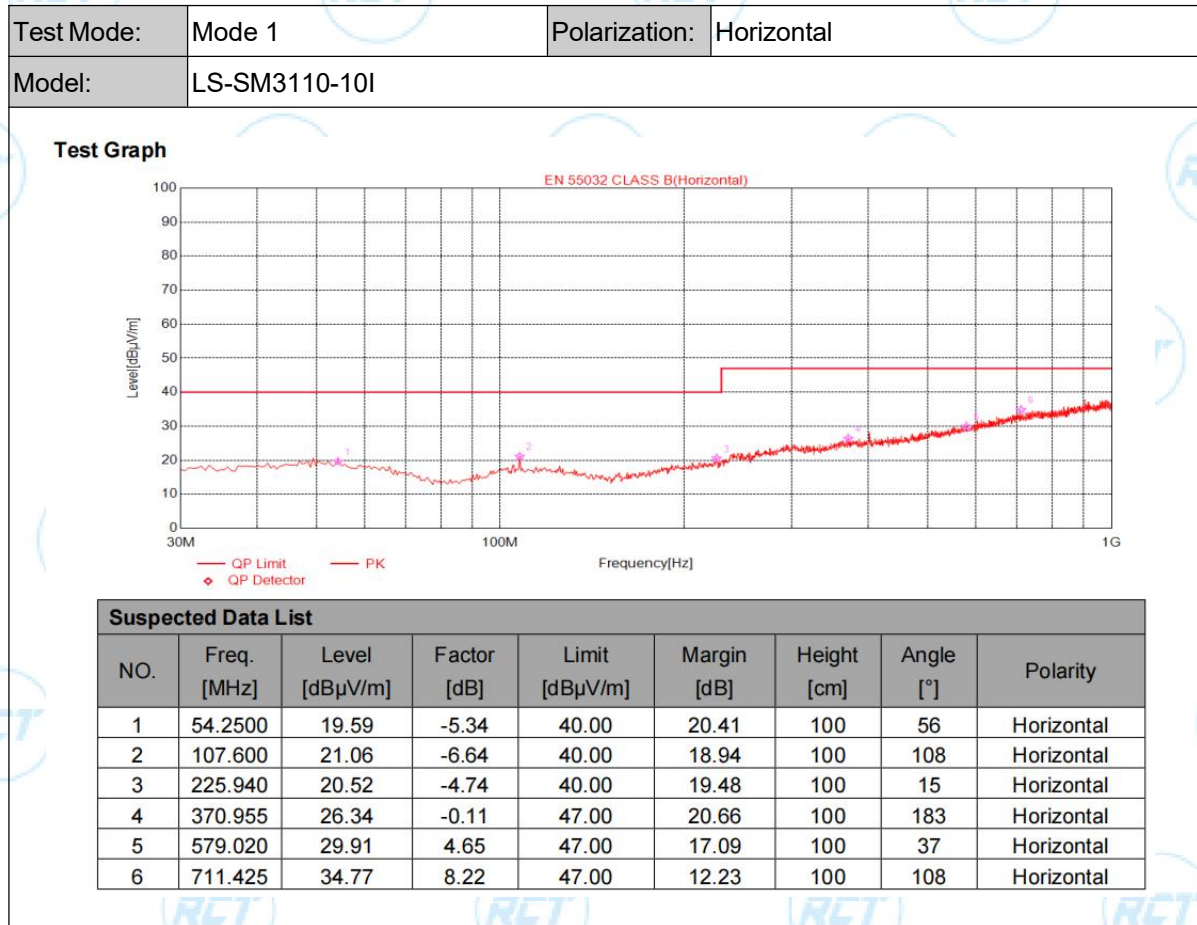
Test Mode:	Mode 1	Polarization:	Vertical
Model:	LS-SM3110-10I		

Test Graph



Suspected Data List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	57.6450	19.97	-5.66	40.00	20.03	100	46	Vertical
2	114.390	22.08	-6.67	40.00	17.92	100	342	Vertical
3	246.795	20.30	-4.03	47.00	26.70	100	50	Vertical
4	374.350	26.32	-0.05	47.00	20.68	100	174	Vertical
5	687.175	34.18	7.61	47.00	12.82	100	20	Vertical



7 Immunity Test Results

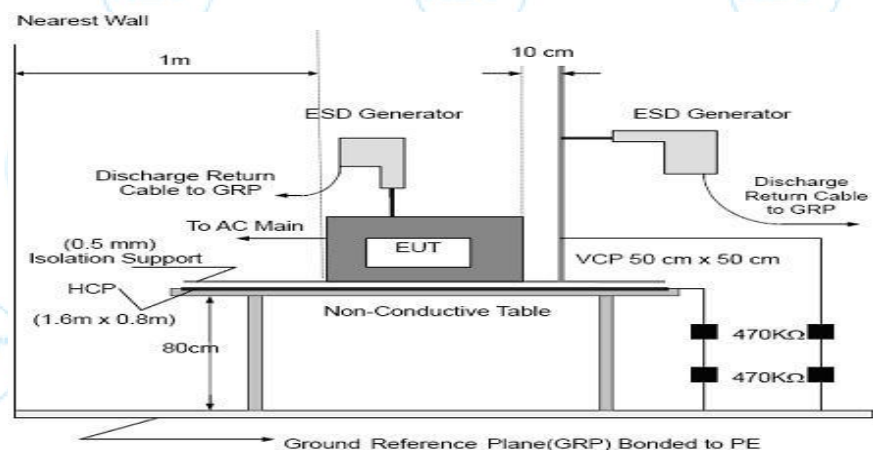
7.1 Electrostatic discharge immunity test

Acceptable Performance Criterion:	B
Discharge Impedance:	330 Ω / 150 pF
Discharge Voltage:	Air Discharge: ± 8 kV
	Contact Discharge: ± 4 kV
	VCP, HCP: ± 4 kV
Polarity:	Positive & Negative
Minimum discharge Interval:	1 second

7.1.1 E.U.T. Operation

Temperature:	25°C	Humidity:	53% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1					

7.1.2 Test specification



EUT was operated in the mode as mentioned above. Both contact and air discharge was executed. Contact discharge to the conductive surfaces and to coupling planes; air discharge at insulating surfaces. Each test point shall be subjected to 25 discharges at least (For each voltage and polarity).

7.1.3 Measurement Data

Test Record

Electrostatic Discharge Test Results																		
M/N:	LS-SM3110-10I										Test Result: ☒ Pass ☐ Fail							
Test Voltage:	DC from adapter																	
Discharge times	Contact discharge: minimum <u>10</u> times (+/-respectively) at each point, Air discharge: minimum <u>10</u> times (+/-respectively) at each point.																	
Discharge Mode	Air Discharge								Contact Discharge								Performance Criterion	Result
Test level (kV)	4		8		10		15		2		4		6		8			
Test Location	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-		
VCP											A	A					B	Pass
HCP											A	A						Pass
C1											B	B						Pass
C2											B	B						Pass
Note: "P" means Pass, Horizontal Coupling Plane (HCP) and Vertical Coupling plane (VCP). "Cx" means Contact Point ,x=1~N,"Ax" means Air Point, x=1~N.																		

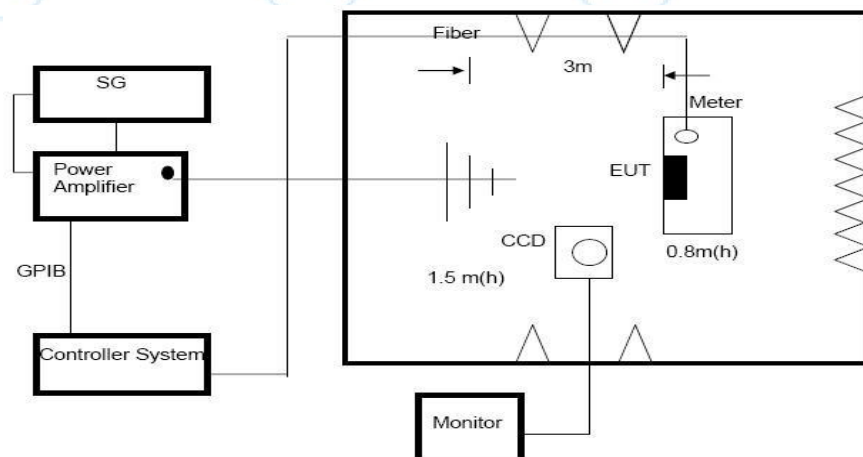
7.2 RF field strength immunity test

Acceptable Performance Criterion:	A
Frequency Range & Test Level	80MHz~1000MHz, 1800 MHz, 2600 MHz, 3500 MHz, 5000 MHz, 3V/m
Test Distance	3 m
Polarity:	Horizontal & Vertical

7.2.1 E.U.T. Operation

Temperature:	25°C	Humidity:	53% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1					

7.2.2 Test specification



Test was executed in a fully Anechoic chamber. An antenna was used to transmit interference signal. EUT was placed upon a wooden table above the reference ground 0.8m, and was positioned so that the four sides of the EUT shall be exposed to the electromagnetic field in a sequence. In each position the performance of the EUT was investigated. A camera was used to monitor the loss of function or degradation of performance of the EUT.

7.2.3 Measurement Data

Test Record

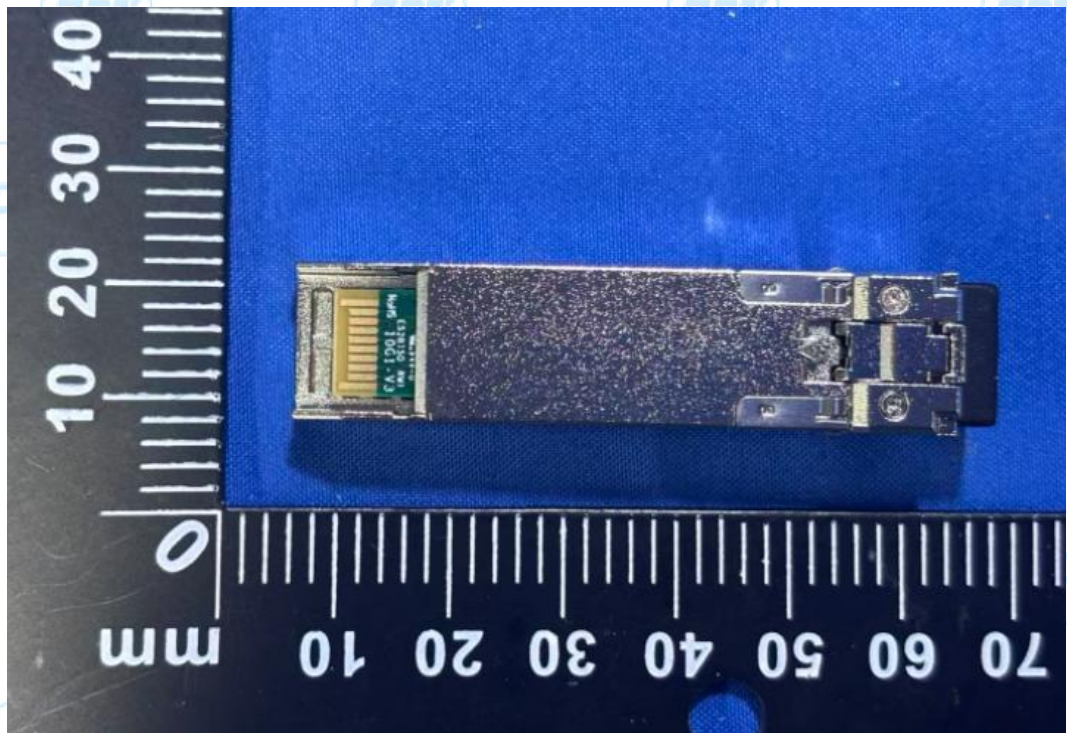
Radiated Frequency Field Strength Susceptibility Results				
M/N:	LS-SM3110-10I	Test Result: ☒ Pass ☐ Fail		
Test Voltage:	DC from adapter			
Test Port	Enclosure			
Operating Mode	Mode 1			
Test Level	3 V/m(r.m.s) (unmodulated)		Criterion	A
Frequency Range(MHz)	Antenna polarity	Modulation	EUT position	Result
80~1000 1800 2600 3500 5000	Horizontal	1KHz, 80% AM	Front	Pass
			Rear	Pass
			Left	Pass
			Right	Pass
			Top	Pass
			Bottom	Pass
80~1000 1800 2600 3500 5000	Vertical	1KHz, 80% AM	Front	Pass
			Rear	Pass
			Left	Pass
			Right	Pass
			Top	Pass
			Bottom	Pass

8 Photographs of EUT Constructional Details

Overview
of EUT



Overview
of EUT



***** (End of report) *****