RF Exposure Evaluation

For

SHEN ZHEN LIAN JI XING TECHNOLOLGY CO.,LTD

Projector

Test Model: Q7

Additional Model No.: Please Refer to Page 6

Prepared for	:	SHEN ZHEN LIAN JI XING TECHNOLOLGY CO.,LTD
Address	:	302, Building 6, Zone C, South Biantou Industrial Zone, Dongfang Community, Songgang Street, Bao'an District, Shenzhen
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel	:	(+86)755-82591330
Fax	:	(+86)755-82591332
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	March 31, 2025
Number of tested samples	:	2
Sample No.	:	A250327063-1, A250327063-2
Serial number	:	Prototype
Date of Test	:	March 31, 2025 ~ April 16, 2025
Date of Report	:	April 17, 2025

RF Exposure Evaluation	
Report Reference No.	**: LCSA03315004EB**
Date of Issue.....	: April 17, 2025
Testing Laboratory Name.....	**: Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address.....	: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Testing Location/ Procedure.....	: Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....	**: SHEN ZHEN LIAN JI XING TECHNOLOLGY CO.,LTD**
Address.....	: 302, Building 6, Zone C, South Biantou Industrial Zone, Dongfang Community, Songgang Street, Bao'an District, Shenzhen
Test Specification	
Standard.....	: FCC KDB publication 447498 D01 General 1 RF Exposure Guidance v06 FCC CFR 47 part1 1.1310 FCC CFR 47 part2 2.1091
Test Report Form No.....	**: TRF-4-E-214 A/0**
TRF Originator.....	: Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	: Dated 2011-03
Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen LCS Compliance Testing Laboratory Ltd. is acknowledged as copyright owner and source of the material. Shenzhen LCS Compliance Testing Laboratory Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.	
EUT Description.....	**: Projector**
Trade Mark.....	: N/A
Test Model.....	: Q7
Ratings.....	: Please Refer to Page 6
Result	: **PASS**

Compiled by:	**Supervised by:**	**Approved by:**
Ling Zhu/ Administrator	Jack Liu/ Technique principal	Gavin Liang/ Manager

RF Exposure Evaluation

Test Report No. :	LCSA03315004EB	April 17, 2025 Date of issue

EUT.....	:	Projector
Test Model.....	:	Q7
Applicant.....	:	**SHEN ZHEN LIAN JI XING TECHNOLOLGY CO.,LTD**
Address.....	:	302, Building 6, Zone C, South Biantou Industrial Zone, Dongfang Community, Songgang Street, Bao'an District, Shenzhen
Telephone.....	:	/
Fax.....	:	/
Manufacturer.....	:	**SHEN ZHEN LIAN JI XING TECHNOLOLGY CO.,LTD**
Address.....	:	302, Building 6, Zone C, South Biantou Industrial Zone, Dongfang Community, Songgang Street, Bao'an District, Shenzhen
Telephone.....	:	/
Fax.....	:	/
Factory.....	:	**SHEN ZHEN LIAN JI XING TECHNOLOLGY CO.,LTD**
Address.....	:	302, Building 6, Zone C, South Biantou Industrial Zone, Dongfang Community, Songgang Street, Bao'an District, Shenzhen
Telephone.....	:	/
Fax.....	:	/

Test Result:	PASS

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Report Version	Issue Date	Revision Content	Revised By
000	April 17, 2025	Initial Issue	---

TABLE OF CONTENTS

1. Product Information

EUT	:	Projector
Test Model	:	Q7
Additional Model No.	:	Q7 Pro, Q7 Mate, Q7 Max
Model Declaration	:	PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Ratings	:	For EUT: Input: 14V⎓1.7A For AC Adapter 1: Input:100-240V~, 50/60Hz Output: 14V⎓1.7A For AC Adapter 2: Input:100-240V~, 50/60Hz, 0.5A Output: 14V⎓1.7A Battery: 11.1V, 4000mAh
Hardware Version	:	LCX107_X600_V1.2
Software Version	:	HC16D3100V10 2504220026
WIFI(2.4G Band)		
Frequency Range	:	2412MHz~2462MHz
Channel Spacing	:	5MHz
Channel Number	:	11 Channels for 20MHz bandwidth (2412~2462MHz) 7 Channels for 40MHz bandwidth (2422~2452MHz)
Modulation Type	:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Description	:	FPC Antenna, 3.89dBi(Max.)
Exposure category	:	General population/uncontrolled environment
EUT Type	:	Production Unit
Device Type	:	Mobile Devices
Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.		

2. Evaluation Method

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.
In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.
In accordance with KDB447498D01 for Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modelled or measured field strengths or power density, is ≤ 1.0. The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to MPE limit, at the test frequency. Either the maximum peak or spatially averaged results from measurements or numerical simulations may be used to determine the MPE ratios. Spatial averaging does not apply when MPE is estimated using simple calculations based on far-field plane-wave equivalent conditions. The antenna installation and operating requirements for the host device must meet the minimum test separation distances required by all antennas, in both standalone and simultaneous transmission operations, to satisfy compliance.

3. Limit

3. 1 Refer Evaluation Method

ANSI C95.1–2019: IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz
FCC KDB publication 447498 D01 General 1 RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.
FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.
FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

3. 2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f2)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Uncontrolled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f2)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density

4. MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

$S=PG/4\pi R^2$

Where: S=power density
P=power input to antenna
G=power gain of the antenna in the direction of interest relative to an isotropic radiator
R=distance to the center of radiation of the antenna

5. Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

Internal/External Identification	Antenna type and antenna number	Operate frequency band	Maximum antenna gain	Notes
Internal	FPC Antenna	2400-2500 MHz	2.4GWIFI: 3.89dBi	WIFI Antenna

6. Conducted Power

[2.4G WLAN]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
IEEE 802.11b	1	2412	15.34
	6	2437	14.89
	11	2462	15.45
IEEE 802.11g	1	2412	14.67
	6	2437	14.02
	11	2462	13.83
IEEE 802.11n HT20	1	2412	13.22
	6	2437	13.55
	11	2462	13.36
IEEE 802.11n HT40	3	2422	13.73
	6	2437	13.6
	9	2452	13.43

7. Manufacturing Tolerance

IEEE 802.11b(Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	15.0	14.0	15.0
Tolerance ± (dB)	1.0	1.0	1.0
IEEE 802.11g(Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	14.0	14.0	13.0
Tolerance ± (dB)	1.0	1.0	1.0
IEEE 802.11n20(Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	13.0	13.0	13.0
Tolerance ± (dB)	1.0	1.0	1.0
IEEE 802.11n40(Peak)			
Channel	Channel 03	Channel 06	Channel 09
Target (dBm)	13.0	13.0	13.0
Tolerance ± (dB)	1.0	1.0	1.0

8. Measurement Results

8.1 Standalone MPE Evaluation

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

[2.4GWLAN]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm2)	MPE Limits (mW/cm2)
	dBm	mW				
IEEE 802.11b	16.0	39.8107	3.89	2.4491	0.0194	1.0000
IEEE 802.11g	15.0	31.6228	3.89	2.4491	0.0154	1.0000
IEEE 802.11n HT20	14.0	25.1189	3.89	2.4491	0.0122	1.0000
IEEE 802.11n HT40	14.0	25.1189	3.89	2.4491	0.0122	1.0000

Remark:
1. Output power including tune-up tolerance;
2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 20cm from user manual provide by manufacturer.

8.2 Simultaneous Transmission MPE Evaluation

Not applicable.

9. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

10. Description of Test Facility

NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.
Test Firm Registration Number: 254912.

11. Measurement Uncertainty

2.4GWIFI

Test Item		Frequency Range	Uncertainty	Note
Output power	:	1GHz-40GHz	±0.57dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

----------THE END OF REPORT----------