



RF Exposure Evaluation

FOR

Hongdian Corporation

Cellular Wi-Fi Router

Test Model: H8959

Additional Model No.: Please Refer to Page 6

Prepared for : Hongdian Corporation
Address : Tower A, Hongdian Building, 100 Huabao Road, Pinghu,
Longgang District, Shenzhen, China

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 12, 2026
Number of tested samples : 2
Sample No. : A260309142-1, A260309142-2
Serial number : Prototype
Date of Test : March 12, 2026 ~ March 30, 2026
Date of Report : March 31, 2026



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: (+86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

**RF Exposure Evaluation****Report Reference No. : LCSA03106024ED**

Date of Issue..... : March 31, 2026

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, ChinaTesting Location/ Procedure : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □**Applicant's Name : Hongdian Corporation**Address..... : Tower A, Hongdian Building, 100 Huabao Road, Pinghu, Longgang
District, Shenzhen, China**Test Specification**Standard : FCC KDB publication 447498 D01 General 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.

Test Item Description..... : Cellular Wi-Fi Router

Trade Mark : N/A

Test Model..... : H8959

Ratings..... : Please Refer to Page 6

Result : Pass**Compiled by:**

Jack Liu/ Administrators

Supervised by:

Kevin Huang/ RF Manager

Approved by:

Gavin Liang/ Manager



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen,
518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



RF Exposure Evaluation

Test Report No. : LCSA03106024ED	March 31, 2026 Date of issue
----------------------------------	---------------------------------

EUT.....	: Cellular Wi-Fi Router
Test Model.....	: H8959
Applicant.....	: Hongdian Corporation
Address.....	: Tower A, Hongdian Building, 100 Huabao Road, Pinghu, Longgang District, Shenzhen, China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: Hongdian Corporation
Address.....	: Tower A, Hongdian Building, 100 Huabao Road, Pinghu, Longgang District, Shenzhen, China
Telephone.....	: /
Fax.....	: /
Factory.....	: Hongdian Corporation
Address.....	: Tower A, Hongdian Building, 100 Huabao Road, Pinghu, Longgang District, Shenzhen, China
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	March 31, 2026	Initial Issue	---





TABLE OF CONTENTS

Description	Page
1. Product Information.....	6
2. Evaluation Method	8
3. Limit	8
4. MPE Calculation Method	9
5. Conducted Power.....	9
6. Manufacturing Tolerance	9
7. Measurement Results	11
8. Conclusion.....	12
9. Description of Test Facility.....	12
10.Measurement Uncertainty.....	12





1. Product Information

EUT	: Cellular Wi-Fi Router
Test Model	: H8959
Additional Model No.	: H8952, H8951, H8949, H8959-GL
Model Declaration	: PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Ratings	: Input: 12V $\overline{\text{---}}$ 1.5A
Hardware Version	: V10A
Software Version	: /
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	: External Antenna, 4.13dBi(Max.)
3G	:
Support Band	: WCDMA Band II (U.S.-Band) WCDMA Band IV (U.S.-Band) WCDMA Band V (U.S.-Band)
Release Version	: R8
Type Of Modulation	: QPSK/16QAM
Antenna Description	: External Antenna 1.62dBi (max.) For WCDMA Band II 1.83dBi (max.) For WCDMA Band IV -1.95dBi (max.) For WCDMA Band V
LTE	:
Support Band	: E-UTRA Band 2(U.S.-Band) E-UTRA Band 4(U.S.-Band) E-UTRA Band 5(U.S.-Band) E-UTRA Band 7(U.S.-Band) E-UTRA Band 12(U.S.-Band) E-UTRA Band 13(U.S.-Band) E-UTRA Band 17(U.S.-Band) E-UTRA Band 25(U.S.-Band) E-UTRA Band 26(U.S.-Band) E-UTRA Band 41(U.S.-Band)
LTE Release Version	: R11
Type Of Modulation	: QPSK/16QAM
Antenna Description	: External Antenna 1.62dBi (max.) For E-UTRA Band 2 1.83dBi (max.) For E-UTRA Band 4 -1.95dBi (max.) For E-UTRA Band 5 1.73dBi (max.) For E-UTRA Band 7 1.64dBi (max.) For E-UTRA Band 12 -2.33dBi (max.) For E-UTRA Band 13 1.64dBi (max.) For E-UTRA Band 17 1.62dBi (max.) For E-UTRA Band 25 -1.34dBi (max.) For E-UTRA Band 26 2.82dBi (max.) For E-UTRA Band 41



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



Power Class : Class 3
Exposure category General population/uncontrolled environment
EUT Type Production Unit
Device Type : Mobile Device

Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



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/cm ²)	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/f ²)*	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/cm ²)	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/f ²)*	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



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



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. Conducted Power

[2.4G WIFI]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
11B	1	2412	14.88
	6	2437	14.11
	11	2462	13.53
11G	1	2412	13.87
	6	2437	12.4
	11	2462	12.01
11N20 SISO	1	2412	12.27
	6	2437	11.69
	11	2462	11.17
11N40 SISO	3	2422	11.76
	6	2437	10.81
	9	2452	11.34

6. Manufacturing Tolerance

[2.4G WIFI]

11B (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	14.0	14.0	13.0
Tolerance ±(dB)	1.0	1.0	1.0
11G (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	12.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20 (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	12.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
11N40 (Peak)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	11.0	10.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



[WCDMA Max Average Power]

Test Mode	Channel	Frequency (MHz)	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
WCDMA Band II	Low	1852.4	23.44	23.0±1.0
	Middle	1880	23.53	23.0±1.0
	High	1907.6	23.31	23.0±1.0
WCDMA Band IV	Low	1712.4	23.18	23.0±1.0
	Middle	1732.6	23.31	23.0±1.0
	High	1752.6	23.20	23.0±1.0
WCDMA Band V	Low	826.4	23.01	23.0±1.0
	Middle	836.4	23.14	23.0±1.0
	High	846.6	23.19	23.0±1.0

[LTE Max Average Power]

Test Mode	Channel	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
LTE	Band 2	LCH	22.82
		MCH	22.99
		HCH	23.16
	Band 4	LCH	23.02
		MCH	22.96
		HCH	23.07
	Band 5	LCH	23.24
		MCH	23.53
		HCH	23.47
	Band 7	LCH	22.7
		MCH	22.67
		HCH	22.8
	Band 12	LCH	24.09
		MCH	23.82
		HCH	23.55
	Band 13	LCH	23.93
		MCH	23.53
		HCH	23.32
	Band 17	LCH	23.79
		MCH	23.69
		HCH	23.62
	Band 25	LCH	25.43
		MCH	23.94
		HCH	24.0
	Band 26-1	LCH	23.09
		MCH	23.37
		HCH	23.06
	Band 26-2	LCH	23.17
		MCH	23.35
		HCH	22.91
	Band 41	LCH	25.0
		MCH	25.1
		HCH	24.15



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



7. Measurement Results

7.1 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, $r = 20\text{cm}$, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

[2.4G WIFI]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios1
	dBm	mW					
IEEE 802.11b	15.0	31.6228	4.13	2.5882	0.0163	1.0000	0.0163
IEEE 802.11g	14.0	25.1189	4.13	2.5882	0.0129	1.0000	0.0129
IEEE 802.11n HT20	13.0	19.9526	4.13	2.5882	0.0103	1.0000	0.0103
IEEE 802.11n HT40	12.0	15.8489	4.13	2.5882	0.0082	1.0000	0.0082

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios2
	dBm	mW					
WCDMA Band II	24.0	251.1886	1.62	1.4521	0.0726	0.5493	0.1322
WCDMA Band IV	24.0	251.1886	1.83	1.5241	0.0762	1.0000	0.0762
WCDMA Band V	24.0	251.1886	-1.95	0.6383	0.0319	1.0000	0.0319
LTE Band 2	24.0	251.1886	1.62	1.4521	0.0726	0.5493	0.1322
LTE Band 4	24.0	251.1886	1.83	1.5241	0.0762	1.0000	0.0762
LTE Band 5	24.0	251.1886	-1.95	0.6383	0.0319	1.0000	0.0319
LTE Band 7	23.0	199.5262	1.73	1.4894	0.0591	1.0000	0.0591
LTE Band 12	25.0	316.2278	1.64	1.4588	0.0918	0.4660	0.1970
LTE Band 13	24.0	251.1886	-2.33	0.5848	0.0292	0.5180	0.0564
LTE Band 17	24.0	251.1886	1.64	1.4588	0.0729	0.4693	0.1554
LTE Band 25	26.0	398.1072	1.62	1.4521	0.1151	1.0000	0.1151
LTE Band 26	24.0	251.1886	-1.34	0.7345	0.0367	0.5427	0.0677
LTE Band 41	26.0	251.1886	2.82	1.9143	0.1517	1.0000	0.1517

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.



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



7.2 Simultaneous Transmission MPE Evaluation

The sample support one 2.4GWLAN, another one WCDMA<E transmit antenna, so need consider simultaneous transmission;
Simultaneous transmission MPE
According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

$$TER = \sum_{k=1}^{N_s} \left(\frac{SAR_k}{SAR_{lim}} \right) + \sum_{k=1}^{N_f} \left(\frac{MPE_{field,k}}{MPE_{field,lim}} \right)^2 + \sum_{k=1}^{N_{pd}} \left(\frac{MPE_{pd,k}}{MPE_{pd,lim}} \right)$$

ΣΣof MPE ratios ≤ 1.0

Max MPE ratios1	Max MPE ratios2	Σ MPE ratios	Limit	Results
0.0163	0.1970	0.2133	1.000	Pass

8. Conclusion

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

9. 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.

10.Measurement Uncertainty

2.4GWLAN/WCDMA/LTE:

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-----

