

1 Cover Page

RF Exposure Evaluation Report

Application No.: SHCR2111000798HS
FCC ID: 2ATEV-BL1206-P
IC: 25062-BL1206P
Applicant: Hangzhou BroadLink Technology Co.,Ltd
Address of Applicant: Room 101,1/F,Unit C,Building 1,No.57 Jiang'er Road,Changhe Street,Binjiang District,Hangzhou,Zhejiang,P.R.China
Manufacturer: Hangzhou BroadLink Technology Co.,Ltd
Address of Manufacturer: Room 101,1/F,Unit C,Building 1,No.57 Jiang'er Road,Changhe Street,Binjiang District,Hangzhou,Zhejiang,P.R.China
Factory: Hangzhou Gubei Intelligent Manufacturing Co.,Ltd
Address of Factory: D218,Building 2,Hangzhou Xiaoshan(China) Hardware Machinery Technology Innovation Park,Liansan Village,Yiqiao Town,Xiaoshan District,Hangzhou,310052

Equipment Under Test (EUT):
EUT Name: WIFI Module
Model No.: BL1206-P
Trade mark: Broadlink
Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06
 RSS-102 Issue 5 Amendment 1 (February 2, 2021)

Date of Receipt: 2021-11-16
Date of Test: 2021-11-17 to 2021-12-17
Date of Issue: 2021-12-22

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Parlam Zhan

Parlam Zhan
Laboratory Manager



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Revision Record			
Version	Description	Date	Remark
00	Original	2021-12-22	/

Authorized for issue by:			
		<i>Wade Zhang</i>	

		Wade Zhang / Project Engineer	
		<i>Parlam Zhan</i>	

		Parlam Zhan /Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 5V By USB port
Serial Number:	EC0BAE9DD860
Firmware Version:	V1.0

3.2 Technical Specifications

Antenna Gain:	1dBi (Provided by manufacturer)
Antenna Type:	PCB Antenna
Channel Spacing:	5MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
Data Rate:	802.11b:1/2/5.5./11Mbps 802.11g:6/9/12/18/24/36/48/54Mbps 802.11n:MCS0-MCS7



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3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 6332.01)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

- **FCC (Designation Number: CN1301)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory
Company Number: 8617A

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.



4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

4.2 IC Radiofrequency radiation exposure limits:

According to RSS-102 section 2.5.2, RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);

- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

For 2.4G device, the limit of worse case is 2.68 W



5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHCR211100079801.

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	13.77	23.82
11B	2437	Ant1	14.29	26.85
11B	2462	Ant1	14.03	25.29
11G	2412	Ant1	12.57	18.07
11G	2437	Ant1	12.66	18.45
11G	2462	Ant1	12.54	17.95
11N20SISO	2412	Ant1	12.20	16.60
11N20SISO	2437	Ant1	12.70	18.62
11N20SISO	2462	Ant1	12.47	17.66
11N40SISO	2422	Ant1	12.36	17.22
11N40SISO	2437	Ant1	12.34	17.14
11N40SISO	2452	Ant1	12.40	17.38



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5.2 MPE Calculation

For FCC:

According to the formula $S=P/4\pi R^2$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm²

The max. antenna gain is 1 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
26.85	1.259	20	0.00672	1	Pass

For IC:

$$E.I.R.P. = P \cdot G = 0.02685 \times 1.259 = 0.034W < 2.68W$$

So the device is exclusion from SAR test.

--End of the Report--



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