



RF Exposure Evaluation Report

Applicant: GP Electronics (HK) Limited.

Address of Applicant: 9/F, Building 12W, 12 Science Park West Avenue, Hong Kong Science Park, Pak Shek Kok, New Territories

Equipment Under Test (EUT)

Product Name: BLUETOOTH HEADPHONES

Model No.: Mu7

Trade mark: N/A

FCC ID: UXD210707

Applicable standards: FCC CFR Title 47 Part 2 Subpart J Section 2.1093

Date of sample receipt: 31 Aug., 2021

Date of Test: 2 Sep., 2021

Date of report issue: 14 Sep., 2021

Test Result: PASS*

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	14 Sep., 2021	Original

Tested by: Carl Wei
Test Engineer

Date: 14 Sep., 2021

Reviewed by: Wiby Zhang
Project Engineer

Date: 14 Sep., 2021

3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS.....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION	4
4.2 GENERAL DESCRIPTION OF E.U.T.	4
4.3 OPERATING MODES	4
4.4 ADDITIONS TO, DEVIATIONS, OR EXCLUSIONS FROM THE METHOD	4
4.5 LABORATORY FACILITY	5
4.6 LABORATORY LOCATION	5
4.7 TEST EQUIPMENT LIST	5
4.8 MEASUREMENT UNCERTAINTY	5
4.9 MEASUREMENT PROCEDURE.....	6
5 TECHNICAL REQUIREMENTS SPECIFICATION IN FCC CFR TITLE 47 PART 2.1093.....	6
5.1 LIMITS	6
5.2 RESULT.....	6
5.3 CONCLUSION.....	7

4 General Information

4.1 Client Information

Applicant:	GP Electronics (HK) Limited.
Address:	9/F, Building 12W, 12 Science Park West Avenue, Hong Kong Science Park, Pak Shek Kok, New Territories
Manufacturer:	GP Electronics (HK) Limited.
Address:	9/F, Building 12W, 12 Science Park West Avenue, Hong Kong Science Park, Pak Shek Kok, New Territories
Factory:	Innovation Sound Technology Company Limited
Address:	Floors 3rd-5th of Building 8th, Buildings 2nd-6th, 3rd Floor and 5th Floor of Building 1st, 1#Area, Industrial Area of Huaide Cuihai, No.602, Fengtang Road, Tang wei Community, Fuhai Street, Bao'an District, Shenzhen City,518103 Guangdong, P.R. China

4.2 General Description of E.U.T.

Product Name:	BLUETOOTH HEADPHONES
Model No.:	Mu7
Operation Frequency:	Bluetooth/ BLE: 2402MHz~2480MHz
Modulation technology:	Bluetooth BDR /BLE: GFSK, Bluetooth EDR: $\pi/4$ -DQPSK, 8DPSK
Antenna Type:	Internal Antenna
Antenna gain:	BT/ BLE: 2.7 dBi
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

4.3 Operating Modes

Operating mode	Detail description
BLE mode	Keep the EUT in continuously transmitting in BLE mode
BT mode	Keep the EUT in continuously transmitting in BT mode

4.4 Additions to, deviations, or exclusions from the method

No

4.5 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

4.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

No. 101, Building 8, Innovation Wisdom Port, No. 155 Hongtian Road, Huangpu Community, Xinqiao Street, Boa'an District, Shenzhen, Guangdong P.R.C.

Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366,

Email: info-JYT@lets.com, Website: <http://www.ccis-cb.com>

4.7 Test Equipment list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Spectrum Analyzer	Keysight	N9010B	MY60240202	11-27-2020	11-26-2021

4.8 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Power (9kHz ~ 6GHz)	±1.28 dB (k=2)

4.9 Measurement Procedure

Receiver setup:	RBW=3MHz, VBW=10MHz, Detector=Average
Test setup:	
Test mode:	Non-hopping mode

5 Technical Requirements Specification in FCC CFR Title 47 Part 2.1093

5.1 Limits

According to 447498 D01 General RF Exposure Guidance v06 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

5.2 Result

Conducted Power:

Bluetooth Average Power (dBm)					
Channel	Frequency (MHz)	GFSK	π/4-DQPSK	8DPSK	Tune up Limit
CH 00	2402	7.42	8.55	8.51	8 ± 1
CH 39	2441	8.04	8.23	8.31	8 ± 1
CH 78	2480	8.04	8.51	8.68	8 ± 1

BLE Average Power (dBm)				
Channel	Frequency (MHz)	BLE 1M	BLE 2M	Tune up Limit
CH 00	2402	-2.27	-2.25	-2 ± 1
CH 19	2440	-2.23	-2.23	-2 ± 1
CH 39	2480	-2.39	-2.36	-2 ± 1

Worse case for BT as below:
[2402MHz: 9.0dBm (7.94 mW) output power]
 $(7.94 \text{ mW} / 5\text{mm}) \cdot [\sqrt{2.402(\text{GHz})}] = 2.461 < 3.0$ for 1-g SAR

5.3 Conclusion

The device is exempt from the SAR evaluation.

-----End of report-----