

RF Exposure Evaluation
For
Dongguan Mingpan Electronic Technology Co., LTD
IPAD keyboard
Test Model: IPKBCASE11
Additional Model No.: Please Refer to Page 6

Prepared for : Dongguan Mingpan Electronic Technology Co., LTD
Address : Yayao Village Industrial Zone, Huide Community, Humen Town,
Dongguan City, China

Prepared by : Guangzhou LCS Compliance Testing Laboratory Ltd.
Address : No.44-1,Qianfeng North Road, Shiqi, Panyu District, Guangzhou,
Guangdong, China

Tel : (+86) 020-39166689
Fax : (+86) 020-39166619
Web : www.LCS-cert.com
Mail : webmaster@LCS-cert.com

Date of receipt of test sample : July 09, 2025
Number of tested samples : 2
Sample No. : A250707099-1, A250707099-2
Serial number : Prototype
Date of Test : July 09, 2025 ~ July 29, 2025
Date of Report : July 30, 2025

RF Exposure Evaluation

Report Reference No. : LCSC07085015EB

Date of Issue..... : July 30, 2025

Testing Laboratory Name..... : Guangzhou LCS Compliance Testing Laboratory Ltd.

Address..... : No.44-1,Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China

Testing Location/ Procedure..... : Full application of Harmonised standards Partial application of Harmonised standards Other standard testing method

Applicant's Name..... : Dongguan Mingpan Electronic Technology Co., LTD

Address..... : Yayao Village Industrial Zone, Huide Community, Humen Town, Dongguan City, China

Test Specification

Standard..... : FCC KDB publication 447498 D01 General RF Exposure Guidance v06
FCC CFR 47 part1 1.1310
FCC CFR 47 part2 2.1093

Test Report Form No..... : TRF-4-E-215 A0

TRF Originator..... : Guangzhou LCS Compliance Testing Laboratory Ltd.

Master TRF..... : Dated 2011-03

Guangzhou 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 Guangzhou LCS Compliance Testing Laboratory Ltd. is acknowledged as copyright owner and source of the material. Guangzhou 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..... : IPAD keyboard

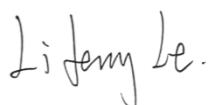
Trade Mark..... : MACALLY

Test Model..... : IPKBCASE11

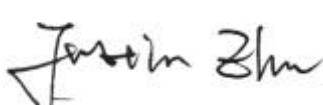
Ratings..... : Please Refer to Page 6

Result : **PASS**

Compiled by:



Supervised by:



Approved by:



Lifeng Le / File administrators

Justin Zhu / Technique Director

Gavin Liang/ Manager

RF Exposure Evaluation

Test Report No. :	LCSC07085015EB	<u>July 30, 2025</u>
		Date of issue

Test Model.....	: IPKBCASE11
EUT.....	: IPAD keyboard
Applicant.....	: Dongguan Mingpan Electronic Technology Co., LTD
Address.....	: Yayao Village Industrial Zone, Huide Community, Humen Town, Dongguan City, China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: Dongguan Mingpan Electronic Technology Co., LTD
Address.....	: Yayao Village Industrial Zone, Huide Community, Humen Town, Dongguan City, China
Telephone.....	: /
Fax.....	: /
Factory.....	: Dongguan Mingpan Electronic Technology Co., LTD
Address.....	: Yayao Village Industrial Zone, Huide Community, Humen Town, Dongguan City, 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	July 30, 2025	Initial Issue	---

TABLE OF CONTENTS

Description	Page
1. Product Information	6
2. Evaluation method and Limit.....	6
3. Refer Evaluation Method	7
4. Conducted Power Results	7
5. Manufacturing Tolerance	7
6. Evaluation Results	7
7. Conclusion	8
8. Description of Test Facility	8
9. Measurement Uncertainty	8

1. Product Information

Product name	: IPAD keyboard
Test Model	: IPKBCASE11
Additional Model No.	: IPKBCASEA11, IPKBCASEP11, IPKBCASEA13, IPKBCASEP13
Model Declaration	: PCB board, structure and internal of these model(s) are the same, It was just that the sizes were different, so a test was conducted using the largest size.
Ratings	: Input: DC 5V, 375mA DC 3.7V by Rechargeable Li-ion Battery, 750mAh
Hardware Version	: 00
Software Version	: /
Bluetooth	: 2402MHz ~ 2480MHz
Channel Number	: 40 channels for Bluetooth V5.4 (DTS)
Channel Spacing	: 2MHz for Bluetooth V5.4 (DTS)
Modulation Type	: GFSK for Bluetooth V5.4 (DTS)
Bluetooth Version	: V5.4
Antenna Type	: PCB Antenna
Antenna Gain	: 1.87dBi
Exposure category	: General population/uncontrolled environment
EUT Type	: Production Unit
Device Type	: Portable Device

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

2. Evaluation method and Limit

According to KDB447498 D01 General RF Exposure Guidance v06 Section 4.3.1 Standalone SAR test exclusion considerations: "Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.²² The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc."

[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance,

$[\text{mm}] \cdot [\sqrt{f} \text{ (GHz)}] \leq 3.0$ for 1-g SAR and ≤ 7.5 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
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to f) in section 4.1 is applied to determine SAR test exclusion.

When one of the following test exclusion conditions is satisfied for all combinations of simultaneous transmission configurations, further equipment approval is not required to incorporate transmitter modules in host devices that operate in the mixed mobile and portable host platform exposure conditions. The grantee is responsible for documenting this according to Class I permissive change requirements. Antennas that qualify for standalone SAR test exclusion must apply the estimated standalone SAR to determine simultaneous transmission test exclusion.

- a) The $[\sum \text{ (the highest measured or estimated SAR for each standalone antenna configuration, adjusted for maximum tune-up tolerance)} / 1.6 \text{ W/kg}] + [\sum \text{ of MPE ratios}] \leq 1.0$.
- b) The SAR to peak location separation ratios of all simultaneously transmitting antenna pairs operating in portable device exposure conditions are all ≤ 0.04 , and the $[\sum \text{ of MPE ratios}] \leq 1.0$.

3. Refer Evaluation Method

[ANSI C95.1-1999](#): IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

[FCC KDB publication 447498 D01 General 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 2.1093](#): Radiofrequency radiation exposure evaluation: portable devices

4. Conducted Power Results

[BLE 2M]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
GFSK	0	2402	0.97
	19	2440	0.15
	39	2480	-0.84

5. Manufacturing Tolerance

BLE 2M (Peak)

Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	0	0	0
Tolerance \pm (dB)	1.0	1.0	1.0

6. Evaluation Results

6.1 Standalone Evaluation

Band/Mode	f (GHz)	Antenna Distance (mm)	RF output power		SAR Test Exclusion Threshold	SAR Test Exclusion
			dBm	mW		
BLE 2M	GFSK	2.480	5	1.0	1.2589	0.3965 < 3.0

Remark:

1. Output power including tune up tolerance;

2. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to f) in section 4.1 is applied to determine SAR test exclusion.

6.2 Simultaneous Transmission for SAR Exclusion

The sample support one BT modular. No need consider simultaneous transmission.

7. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

8. Description of Test Facility

CNAS Registration Number is L11555

A2LA Certificate Number: 5099.01

FCC Designation Number is CN1379

Test Firm Registration Number: 729882

9. Measurement Uncertainty

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-----