

ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

Test Report No. : W156R-D002

AGR No. : A155A-208

Applicant : PROCHILD INC.
Address : RM.806, 8FL, KURO ACE TECHNO TOWER #197-48, KURO, KURO-GU,
SEOUL, 152-053, Korea

Manufacturer : PROCHILD INC.
Address : RM.806, 8FL, KURO ACE TECHNO TOWER #197-48, KURO, KURO-GU,
SEOUL, 152-053, Korea

Type of Equipment : Bluetooth LE Module

FCC ID. : 2AEEY-PBLN51822M

Model Name : PBLN51822m

Serial number : N/A

Total page of Report : 6 pages (including this page)

Date of Incoming : May 25, 2015

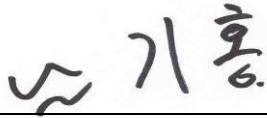
Date of issue : June 03, 2015

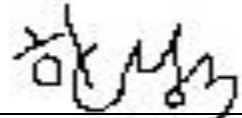
SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART C Section 15.247**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by: 
Ki-Hong, Nam / Asst, Chief Engineer
ONETECH Corp.

Approved by: 
Sung-Ik, Han/ Managing Director
ONETECH Corp.

CONTENTS

PAGE

1. VERIFICATION OF COMPLIANCE	4
2. GENERAL INFORMATION	5
2.1 PRODUCT DESCRIPTION.....	5
2.2 ALTERNATIVE TYPE(S)/MODEL(S); ALSO COVERED BY THIS TEST REPORT.....	5
3. EUT MODIFICATIONS.....	5
4. RADIO FREQUENCY EXPOSURE	6
4.1 RF EXPOSURE LIMIT	6
4.2 EUT DESCRIPTION.....	6
4.3 TEST RESULT	6

Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
W156R-D002	June 03, 2015	Initial Issue	All

1. VERIFICATION OF COMPLIANCE

Applicant : PROCHILD INC.

Address : RM.806, 8FL, KURO ACE TECHNO TOWER #197-48, KURO, KURO-GU, SEOUL, 152-053, Korea

Contact Person : Se-Wook Shin / Manager

Telephone No. : +82-2-2619-9662

FCC ID : 2AEEY-PBLN51822M

Model Name : PBLN51822m

Brand Name : 

Serial Number : N/A

Date : June 03, 2015

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
KIND OF EQUIPMENT	Modular Transmitter
E.U.T. DESCRIPTION	Bluetooth LE Module
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2013
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. GENERAL INFORMATION

2.1 Product Description

The PROCHILD INC., Model PBLN51822m (referred to as the EUT in this report) is a Bluetooth LE Module. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	Bluetooth LE Module
Temperature Range	-25 °C ~ +75 °C
Operating Frequency	2 402 MHz ~ 2 480 MHz
RF Output Power	-9.91 dBm
Number of Channel	40 Channel
Modulation Type	GFSK
Antenna Type	Chip Antenna
USED RF CHIP	Marker: Nordic Semiconductor Model Name: nRF51822
Antenna Gain	-3.81 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	32 kHz, 16 MHz

2.2 Alternative type(s)/model(s); also covered by this test report.

-. None

3. EUT MODIFICATIONS

-. None

4. RADIO FREQUENCY EXPOSURE

4.1 RF Exposure Limit

According to the FCC rule §1.1310, the limit for General Population/Uncontrolled exposure is 1 mW/cm² for the device operating 1 500 ~ 100 000 MHz.

4.2 EUT Description

Kind of EUT	Bluetooth LE Module
Operating Frequency Band	☐ WLAN: 2 412 MHz ~ 2 462 MHz ☐ WLAN: 5 180 MHz ~ 5 320 MHz / 5 500 MHz ~ 5 700 MHz ☐ WLAN: 5 745 MHz ~ 5 825 MHz ☒ Bluetooth LE: 2 402 MHz ~ 2 480 MHz
Device Category	☐ Portable (< 20 cm separation) ☐ Mobile (> 20 cm separation) ☒ Others
Max. Output Power	-9.91 dBm
Used Antenna	Chip Antenna
Used Antenna Gain	-3.81 dBi
Exposure Evaluation Applied	☐ MPE ☐ SAR ☒ N/A

4.3 Test Result

According to the procedure, KDB 447498 D01, the standalone SAR test exclusion threshold is

$$[(\text{Max. Power of channel, including tune-up tolerance, mW})/(\text{Min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] < 3$$

$$= (0.102/5) \times \sqrt{2.402} = 0.049$$

Conclusion: The SAR test exclusion threshold is less than 3, so the device meets the RF Exposure Requirement and excluded SAR Test.

	Frequency (MHz)	Target Power W/tolerance (dBm)	Max tune up power (dBm)	Max tune up power (mW)	Separation distance (mm)	RF exposure
BLE (GFSK)	2 402	-9.5 ± 0.5	-9.91	0.102	5	0.049
	2 440	-11.0 ± 0.5	-11.41	0.072	5	0.035
	2 480	-13.0 ± 0.5	-13.24	0.047	5	0.023