

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

Test Report No. : W15DR-D025

AGR No. : A15NA-010

Applicant : LG Electronics USA

Address : 1000 Sylvan Avenue, Englewood Cliffs, New Jersey, 07632, United States

Manufacturer : LG Electronics Inc.

Address : 222 LG-ro, Jinwi-Myeon, Pyeongtaek -Si, Gyeonggi-Do, 451-713, Korea

Type of Equipment : Zigbee Module

FCC ID. : BEJ-WZB1NP6

IC Certification No. : 2703K-WZB1NP6

Model Name : WZB1NP6

Serial number : N/A

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

Date of Incoming : October 02, 2015

Date of issue : December 29, 2015

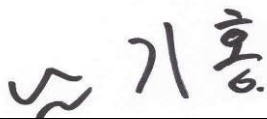
SUMMARY

The equipment complies with the regulation; *FCC PART 15 SUBPART C Section 15.247 and IC RSS-Gen Issue 4 Nov 2014 and RSS-247 Issue 1 May 2015*

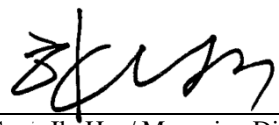
This test report only contains the result of a single test of the sample supplied for the examination.

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:


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ONETECH Corp.

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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
W15DR-D025	December 29, 2015	Initial Issue	All

1. VERIFICATION OF COMPLIANCE

Applicant : LG Electronics USA
 Address : 1000 Sylvan Avenue, Englewood Cliffs, New Jersey, 07632, United States
 Contact Person : Yongduk Kwon / Research Engineer
 Telephone No. : +82-31-610-9606
 FCC ID : BEJ-WZB1NP6
 IC CERTIFICATION NO. : 2703K-WZB1NP6
 Model Name : WZB1NP6
 Serial Number : N/A
 Date : December 29, 2015

EQUIPMENT CLASS	FCC: DTS – DIGITAL TRNSMISSION SYSTEM IC: Low Power License-Exempt Radio-communication Device
E.U.T. DESCRIPTION	Zigbee 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 and RSS-Gen Issue 4 Nov 2014, RSS-247 Issue 1 May 2015
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& IC 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 LG Electronics USA, Model WZB1NP6 (referred to as the EUT in this report) is a Zigbee Module. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	Zigbee Module
Temperature Range	0 °C ~ + 60 °C
Operating Frequency	2 405 MHz ~ 2 480 MHz
RF Output Power	18.59 dBm
Number of Channel	16 Channel
Modulation Type	O-QPSK
Antenna Type	PCB Antenna
USED RF CHIP	Marker: Silicon Labs Model Name: EM3588
Antenna Gain	1.33 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	24 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 and IC rule RSS-102, 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	Zigbee Module
Operating Frequency Band	☐ Wireless Microphone: 494.000 MHz ~ 501.000 MHz and 498.200 MHz ~ 505.200 MHz ☐ 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: 2 402 MHz ~ 2 480 MHz ☒ Zigbee: 2 405 MHz ~ 2 480 MHz
Device Category	☐ Portable (< 20 cm separation) ☐ Mobile (> 20 cm separation) ☒ Others
Max. Output Power	18.59 dBm
Used Antenna	PCB Antenna
Used Antenna Gain	1.33 dBi
Exposure Evaluation Applied	☒ MPE ☐ SAR ☐ N/A

4.3 Test Result

According to above equation, the following result was obtained.

Frequency (MHz)	Target Power W/tolerance	Max tune up power		Antenna Gain		Safe Distance (cm)	Power Density (mW/cm ²) @ 20 cm Separation	Limit (mW/cm ²)
	(dBm)	(dBm)	(mW)	Log	Linear			
2 405	17.0 ± 0.5	17.5	56.23	1.33	1.36	2.46	0.015 2	1.00
2 440	18.5 ± 0.5	19.0	79.43			2.93	0.021 5	
2 480	11.0 ± 0.5	11.5	14.13			1.24	0.003 8	