

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

**Test Report No.** : E14OR-058

**AGR No.** : A140A-036

**Applicant** : LG Innotek Co., Ltd.  
**Address** : 978-1, Jangduk-dong, Gwangsan-gu, Gwangju, 506-731, South Korea

**Manufacturer** : LG Innotek Co., Ltd.  
**Address** : 978-1, Jangduk-dong, Gwangsan-gu, Gwangju, 506-731, South Korea

**Type of Equipment** : Class 2 Bluetooth Multimedia Module

**FCC ID.** : YZP-RBFAC21SA

**Model Name** : RBFA-C21SA

**Serial number** : N/A

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

**Date of Incoming** : October 16, 2014

**Date of issue** : October 22, 2014

## 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.

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### Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
E14OR-058	October 22, 2014	Initial Issue	All

## 1. VERIFICATION OF COMPLIANCE

APPLICANT : LG Innotek Co., Ltd.  
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 TELEPHONE NO : +82-62-950-0332  
 FCC ID : YZP-RBFAC21SA  
 MODEL NAME : RBFA-C21SA  
 BRAND NAME : -  
 SERIAL NUMBER : N/A  
 DATE : October 22, 2014

EQUIPMENT CLASS	<b>DSS – PART 15 SPREAD SPECTRUM TRANSMITTER</b>
KIND OF EQUIPMENT	Modular Transmitter Class 2 Bluetooth Multimedia Module
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2009
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 open area test site

-. 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 LG Innotek Co., Ltd., Model RBFA-C21SA (referred to as the EUT in this report) is a Class 2 Bluetooth Multimedia Module. The product specification described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	Portable Device	
OPERATING FREQUENCY	2 402 MHz ~ 2 480 MHz	
RF OUTPUT POWER	1 Mbps	3.76 dBm
	2 Mbps	2.77 dBm
	3 Mbps	2.93 dBm
NUMBER OF CHANNEL	79 Channels	
MODULATION TYPE	GFSK for 1 Mbps, DQPSK for 2 Mbps, 8-DPSK for 3 Mbps	
ANTENNA TYPE	PCB Antenna	
ANTENNA GAIN	1.0 dBi	
LIST OF EACH OSC. OR CRYSTAL. FREQ.(FREQ.>=1 MHz)	32 MHz	
RATED SUPPLY VOLTAGE	DC 3.3 V	

### 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/cm<sup>2</sup> for the device operating 1 500 ~ 100 000 MHz.

### 4.2 EUT Description

Kind of EUT	Class 2 Bluetooth Multimedia Module
Operating Frequency Band	<input type="checkbox"/> Wireless Microphone: 494.000 MHz ~ 501.000 MHz and 498.200 MHz ~ 505.200 MHz <input type="checkbox"/> WLAN: 2 412 MHz ~ 2 462 MHz <input type="checkbox"/> WLAN: 5 180 MHz ~ 5 320 MHz / 5 500 MHz ~ 5 700 MHz <input type="checkbox"/> WLAN: 5 745 MHz ~ 5 825 MHz <input checked="" type="checkbox"/> Bluetooth: 2 402 MHz ~ 2 480 MHz
Device Category	<input checked="" type="checkbox"/> Portable (< 20 cm separation) <input type="checkbox"/> Mobile (> 20 cm separation) <input type="checkbox"/> Others
Max. Output Power	1 Mbps: 3.76 dBm (2.38 mW) 2 Mbps: 2.77 dBm (1.89 mW) 3 Mbps: 2.93 dBm (1.96 mW)
Used Antenna	PCB Antenna
Used Antenna Gain	1.0 dBi
Exposure Evaluation Applied	<input checked="" type="checkbox"/> MPE <input type="checkbox"/> SAR <input type="checkbox"/> N/A

### 4.3 Test Result

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

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

$$= [(2.38/5)] \times \sqrt{2.402} = 0.74$$

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