

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

**Test Report No.** : W167R-D023  
**AGR No.** : A164A-028R2  
**Applicant** : SEOYON ELECTRONICS CO., LTD.  
**Address** : 424, Sinwon-ro, Danwon-gu, Ansan-Si, Kyonggi-Do, South Korea  
**Manufacturer** : SEOYON ELECTRONICS CO., LTD.  
**Address** : 424, Sinwon-ro, Danwon-gu, Ansan-Si, Kyonggi-Do, South Korea  
**Type of Equipment** : FOB-SMART KEY  
**FCC ID** : NYOSYEC3FOB1608  
**Model No.** : SYEC3FOB1608  
**Serial number** : N/A  
**Total page of Report** : 5 pages (including this page)  
**Date of Incoming** : April 11, 2016  
**Date of issuing** : July 07, 2016

## SUMMARY

The equipment complies with the regulation; *FCC PART 15 SUBPART C Section 15.231*

This test report contains only the result of a single test of the sample supplied for the examination. It is not a general 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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 Sung-Ik, Han/ Managing Director  
 ONETECH Corp.

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**1. VERIFICATION OF COMPLIANCE**

APPLICANT : SEOYON ELECTRONICS CO., LTD.  
 ADDRESS : 424, Sinwon-ro, Danwon-gu, Ansan-Si, Kyonggi-Do, South Korea  
 CONTACT PERSON : KEUNSU KIM / Assistant Manager  
 TELEPHONE NO : +82-31-420-3489  
 FCC ID : NYOSYEC3FOB1608  
 MODEL NAME : SYEC3FOB1608  
 BRAND NAME : HYUNDAI  
 DATE : July 07, 2016

EQUIPMENT CLASS	DSC - Part 15, Security/Remote Control Transmitter
E.U.T. DESCRIPTION	Folding Transmitter
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 15.231
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 SEOYON ELECTRONICS CO., LTD., Model: SYEC3FOB1608 (referred to as the EUT in this report) is a Transmitter that it controls locking and unlocking the door of a vehicle. Product specification information described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic	
OPERATING FREQUENCY	TX	433.92 MHz
	RX	134.20 kHz
MODULATION	FSK	
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>= 1 MHz)	13.08 MHz	
ANTENNA TYPE	PCB Pattern Antenna, LF 3D Antenna	
RATED SUPPLY VOLTAGE	DC 3 V from a battery	
NUMBER OF LAYERS	4 Layers	

### 2.2 Related Submittal(s) / Grant(s)

Original submittal only

### 3. RADIO FREQUENCY EXPOSURE

#### 3.1 Introduction

The device with FCCID : NYOSYEC3FOB1608 , IC : 3109A-SYEC3FOB1608 is designed to be used in portable exposure conditions.

This product integrates a transmitter operated in 433.92 MHz frequency band.

#### 3.2 Output power considerations :

Worst case output power transmitter : 74.44 dBμV/m @ 3 m = -20.76 dBm = 0.008 mW eirp

#### 3.3 Compliance criteria :

Transmitter is decided to comply with FCC § 2.1093 requirements and IC RSS-102 Issue 5 as the output power of the device meets the conditions specified in section 4.3.1 (SAR test exclusion) considerations of the document ‘ KDB 447498 D01 General RF Exposure Guidance v06’ and in section 2.5.1 (Exemption from Routine Evaluation Limits – SAR Evaluation) of RSS-102 Issue 5.

FCC:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f_{(\text{GHz})}}] \leq 3.0$

$[0.008/5] \cdot [\sqrt{0.43392}] = 0.0011 \leq 3.0$

IC:

Max output power (mW)  $\leq$  54.037 mW (limit at 433.92 MHz resulting of the linear interpolation of the limits at 300 MHz and 450 MHz specified in table 1 of section 2.5.1 of RSS-102 Issue 5)

$0.008 \text{ mW} \leq 54.037 \text{ mW}$