

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

Test Report No. : W178R-D020
AGR No. : A177A-285
Applicant : CHAHOO Limited
Address : B-4F, 25 Pangyo-ro 256beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, South Korea, 13487
Manufacturer : CHAHOO Limited
Address : B-4F, 25 Pangyo-ro 256beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, South Korea, 13487
Type of Equipment : Digital Door Lock
FCC ID. : 2AM9GIG301
Model Name : IG301
Multiple Model Name : Entrava Edge, E3041
Serial number : N/A
Total page of Report : 6 pages (including this page)
Date of Incoming : July 20, 2017
Date of issue : August 08, 2017

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:



Jae-Ho Lee / Chief Engineer
ONETECH Corp.

Approved by:



Kelin-Young, Choi / Vice President
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. MAXIMUM PERMISSIBLE EXPOSURE.....	6
4.1 RF EXPOSURE CALCULATION	6
4.2 EUT DESCRIPTION.....	6
4.3 TEST RESULT	6

Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
W178R-D020	August 08, 2017	Initial Issue	All

1. VERIFICATION OF COMPLIANCE

Applicant : CHAHOO Limited
Address : B-4F, 25 Pangyo-ro 256beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, South Korea, 13487
Contact Person : YoungJae Im / Team Leader
Telephone No. : +82-31-696-0499
FCC ID : 2AM9GIG301
Model Name : IG301
Brand Name : -
Serial Number : N/A
Date : August 08, 2017

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	Digital Door Lock
KIND OD EQUIPMENT	Modular 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 15.247
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 CHAHOO Limited, Model IG301 (referred to as the EUT in this report) is a Digital Door Lock. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	Digital Door Lock
Operating Frequency	2 402 MHz ~ 2 480 MHz
RF Output Power	-39.34 dBm
Number of Channel	40 Channel
Modulation Type	GFSK
Antenna Type	PCB Antenna
Antenna Gain	0.19 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	32.768 kHz, 16 MHz, 27.12 MHz
Rated Supply Voltage	DC 6.0 V

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

- The following lists consist of the added models and their differences.

Model Name	Differences	Tested
IG301	Basic Model.	<input checked="" type="checkbox"/>
Entrava Edge, E3041	The models are identical to basic model except for the OEM Brand.	<input type="checkbox"/>

Note: 1. Applicant consigns only basic model to test. Therefore this test report just guarantees the units, which have been tested.

2. The Applicant/manufacturer is responsible for the compliance of all variants.

3. EUT MODIFICATIONS

- None

4. MAXIMUM PERMISSIBLE EXPOSURE

4.1 RF Exposure Calculation

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	Digital Door Lock
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 ~ 5 240 MHz <input type="checkbox"/> WLAN: 5 745 MHz ~ 5 825 MHz <input type="checkbox"/> Bluetooth: 2 402 MHz ~ 2 480 MHz <input checked="" type="checkbox"/> Bluetooth BLE: 2 402 MHz ~ 2 480 MHz
MAX. RF OUTPUT POWER	-39.34 dBm
Antenna Gain	0.19 dBi
Exposure Evaluation Applied	<input type="checkbox"/> MPE <input type="checkbox"/> SAR <input checked="" type="checkbox"/> N/A

4.3 Test Result

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

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

$$= (0.000 12/5) \times \sqrt{2.402} = 0.000 037$$

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	-39.84 ± 0.5	-39.34	0.000 12	5	0.000 037