Date: June 8, 2010

Test Report Cover Sheet

Applicant : U-SHIN LTD.
Product : TRANSMITTER,KEYLESS ENTRY
Model : H7079
FCC ID: OBIH7079TX
IC: 3313A-H7079TX

Based on the declaration letter, the following Test Report from next page is applicable to the product of this FCC ID / IC Number .

The only difference between original and new model is external appearance, therefore the declaration letter is also valid for new model.
Please refer attached "External Photo" for details.

T. Arai

Tatsuya Arai
EMC Service

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RADIO TEST REPORT

Test Report No.: 29LE0111-HO-01-B-R1

Applicant	:	**U-SHIN LTD.**
Type of Equipment	:	**SWITCH ASSY, DOOR CONTROL**
Model No.	:	**WRDCE0050TX**
FCC ID	:	**OBIWRDCE0050TX**
Test regulation	:	**FCC Part15 Subpart C: 2009**
Test result	:	**Complied**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by any agency of the Federal Government.
6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
7. This report is a revised version of 29LE0111-HO-01-B. 29LE0111-HO-01-B is replaced with this report.

Date of test: December 16 to 22, 2009

Tested by: H. Shirasawa — Hikaru Shirasawa, Engineer of EMC Service

A. Hayashi — Akio Hayashi, Engineer of EMC Service

Approved by: T. Arai — Tatsuya Arai, EMC Service

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation".

JAB Testing RTL02610

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1 Applicant Information

Company Name	:	U-SHIN LTD.
Address	:	Shiba NBF Tower, 1-1-30 Shiba-daimon, Minato-ku, Tokyo 105-0012, Japan
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Facsimile Number	:	+81-3-5401-4685
Contact Person	:	Naoki Mukai

2 Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment	:	SWITCH ASSY, DOOR CONTROL
Model No.	:	WRDCE0050TX
Serial No.	:	17(for Automatically Deactivate test), 19(for other tests)
Rating	:	DC3.0V (CR2032)
Country of Manufacture	:	Japan
Receipt Date of Sample	:	December 16, 2009
Condition of EUT	:	Production Prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No Modification by the test lab.

2.2 Product Description

Equipment type	:	Transmitter
Frequency of operation	:	315MHz
Clock frequency	:	Microcomputer: 1MHz, PLL synthesizer: 9.8437MHz
Type of modulation	:	ASK
Antenna type	:	PWB Pattern antenna
Antenna connector type	:	none

*FCC Part15.31 (e)
The test was performed with the New Battery (DC 3.0V) and the constant voltage was supplied to the EUT during the tests.

*FCC Part15.203
It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the requirement.

3 Test Specification, Procedures and Results

3.1 Test specification

Test specification : FCC Part15 Subpart C: 2009 , final revised on December 2, 2009.
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.209 Radiated emission limits, general requirements
Section 15.231 Periodic operation in the band 40.66 - 40.70 MHz and above 70 MHz

3.2 Procedures & Results

Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin	Results
Conducted Emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	FCC 15.207	-	N/A *1)	-	N/A
Automatically Deactivate	ANSI C63.4:2003 13. Measurement of intentional radiators	FCC 15.231(a)(1)	Radiated	N/A	-	Complied
Electric Field Strength of Fundamental Emission	ANSI C63.4: 2003 13. Measurement of intentional radiators	FCC 15.231 (b)	Radiated	N/A	14.6dB (Horizontal, Peak with Duty Factor)	Complied
Electric Field Strength of Spurious Emission	ANSI C63.4: 2003 13. Measurement of intentional radiators	FCC 15.205 FCC 15.209 FCC 15.231 (b)	Radiated	N/A	0.3dB (2519.984MHz, Horizontal and Vertical, Peak with Duty Factor)	Complied
-20dB Bandwidth	ANSI C63.4: 2003 13. Measurement of intentional radiators	FCC 15.231(c)	Radiated	N/A	-	Complied

*1) The test is not applicable since the EUT has no AC mains.
Note: UL Japan's EMI Work Procedures No.QPM05 and QPM15.

3.3 Addition to standard

Item	Test Procedure	Specification	Remarks	Worst Margin	Results
Occupied Bandwidth (99%)	RSS-Gen 4.6.1	RSS-Gen 4.6.1	Radiated	-	Complied

* Other than above, no addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

	No.1 anechoic chamber (±)	No.2 anechoic chamber (±)	No.3 anechoic chamber (±)
Radiated emission (3m)			
30-300MHz	4.4 dB	4.3 dB	4.5 dB
300-1000MHz	4.3 dB	4.2 dB	4.5 dB
1GHz<	5.7 dB	5.6 dB	5.6 dB

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

3.5 Test Location

UL Japan, Inc. Shonan EMC Lab.
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Telephone : +81 463 50 6400 Facsimile : +81 463 50 6401
JAB Accreditation No. : RTL02610

Test room	Width x Depth x Height (m)	Test room	Width x Depth x Height (m)
No.1 Semi-anechoic chamber	20.6 x 11.3 x 7.65 Maximum measurement distance: 10m	No.1 shielded room	6.8 x 4.1 x 2.7
No.2 Semi-anechoic chamber	20.6 x 11.3 x 7.65 Maximum measurement distance: 10m	No.2 shielded room	6.8 x 4.1 x 2.7
No.3 Semi-anechoic chamber	12.7 x 7.7 x 5.35 Maximum measurement distance: 5m	No.3 shielded room	6.3 x 4.7 x 2.7
No.4 Semi-anechoic chamber	8.1 x 5.1 x 3.55	No.4 shielded room	4.4 x 4.7 x 2.7
		No.5 shielded room	7.8 x 6.4 x 2.7
		No.6 shielded room	7.8 x 6.4 x 2.7

No.1/ No.2/ No.3 anechoic chamber has been fully described in a report submitted to FCC office, and accepted on April 17, 2009 (Registration No.: 697847).
IC Registration No. : 2973D-1 (No1 Semi-anechoic chamber)
2973D-2 (No2 Semi-anechoic chamber)
2973D-3 (No3 Semi-anechoic chamber)

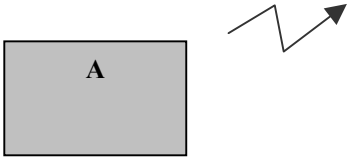
4 System Test Configuration

4.1 Justification

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to typical use.

Test item	Operating mode	Tested frequency
Automatically Deactivate	Normal Use	315MHz
Other tests	Transmitting 315MHz	315MHz

4.2 Configuration of Tested System



* Setup were taken into consideration and test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number *1)	Manufacturer	Remarks
A	SWITCH ASSY, DOOR CONTROL	WRDCE0050TX	17,19	U-SHIN	EUT

*1) Test of Automatically deactivate and Bandwidth: 17, Other test: 19

5 Automatically Deactivate

5.1 Operating environment

The test was carried out in No.5 Shielded Room.

5.2 Test procedure

The test was measured with a spectrum analyzer and a search coil placed by the EUT.

Limit: A manually transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

5.3 Results

Summary of the test results : Pass

6 Radiated Emissions (Fundamental & Spurious)

6.1 Operating environment

The test was carried out in No.1 Semi-anechoic chamber.

6.2 Test configuration

EUT was placed on a styrofoam of nominal size, 0.5m by 0.5m, raised 80cm above the conducting ground plane.
A drawing of the set up is shown in the photos of Appendix.

6.3 Test conditions

Frequency range : 30MHz - 3.2GHz
Test distance : 3m
EUT operation mode : Transmitting 315MHz

The Radiated Electric Field Strength intensity has been measured with a ground plane and at a distance of 3m.
The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for both vertical and horizontal antenna polarization.

Measurements were performed with Peak detector.
The radiated emission measurements were made with the following detector function of the test instruments.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver	Spectrum Analyzer
Detector IF Bandwidth	PK: BW 120kHz AV: PK with Duty factor	PK: RBW: 1MHz/VBW: 1MHz AV: PK with Duty factor

The equipment was previously checked at each position of three axes X, Y and Z. The position in which the maximum noise occurred was chosen to put into measurement. See the photographs in appendix.

6.4 Results

Summary of the test results : Pass

7 Bandwidth

7.1 Operating environment

The test was carried out in No.2 Semi-anechoic chamber.

7.2 Test procedure

The bandwidth was measured with a spectrum analyzer and an antenna which is placed by the EUT.

7.3 Results

Summary of the test results: Pass

Contents of Appendixes