

EMF TEST REPORT

Test Report No. : OT-234-RWD-027

Reception No. : 2303000827

Applicant : Nttworks Co., Ltd

Address : 5-10, Nttworks Bldg. Tongil-ro 89-gil, Eunpyeong-gu, Seoul, 03328, South Korea

Manufacturer : Nttworks Co., Ltd

Address : 5-10, Nttworks Bldg. Tongil-ro 89-gil, Eunpyeong-gu, Seoul, 03328, South Korea

Type of Equipment : Transmitter

FCC ID : 2BAO4-ST800

Model No. : ST-800

Multiple Model Name : N/A

Serial number : N/A

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

Date of Incoming : March 22, 2023

Date of issuing : April 19, 2023

SUMMARY

The equipment complies with the regulation; *FCC CFR 47 PART 2.1091*

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.

This report is not correlated with the "KS Q ISO/IEC 17025 and KOLAS accreditation" of Korean Laboratory Accreditation Scheme.



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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-234-RWD-027	April 19, 2023	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : Nttworks Co., Ltd
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Contact Person : Jun Young, Kim / Engineer
Telephone No. : +82-2-387-3790
FCC ID : 2BAO4-ST800
Model Name : ST-800
Brand Name : Syscall/Nttworks Co., Ltd
Serial Number : N/A
Date : April 19, 2023

EQUIPMENT CLASS	DSC - Part 15, Security/Remote Control Transmitter
E.U.T. DESCRIPTION	Transmitter
THIS REPORT CONCERNS	Original grant
MEASUREMENT PROCEDURES	KDB 447498 D01 General RF Exposure Guidance v06
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	None

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 Nttworks Co., Ltd, Model: ST-800 (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.

DEVICE TYPE	Transmitter
TX FREQUENCY	433.42 MHz
RX FREQUENCY	433.42 MHz
MODULATION	FSK
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>= 1 MHz)	26 MHz
DUTY CYCLE FACTOR	6.61 dB (Duty Cycle: 46.74 %)
ANTENNA TYPE	PCB Antenna
ANTEENA GAIN	-5.69 dBi
RATED SUPPLY VOLTAGE	DC 3.0 V

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

-. None

3. EUT MODIFICATIONS

-. None

4. MAXIMUM PERMISSIBLE EXPOSURE

4.1 Standard Applicable

According to 1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to the procedure, KDB 447498 D06, the standalone SAR test exclusion threshold is

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

4.2 EUT Description

Kind of EUT	Transmitter
MAX. RF OUTPUT POWER	79.85 dBμV/m
Device Category	<input checked="" type="checkbox"/> Portable (< 20 cm separation) <input type="checkbox"/> Mobile (> 20 cm separation) <input type="checkbox"/> Others
Exposure Evaluation Applied	<input type="checkbox"/> MPE <input type="checkbox"/> SAR <input checked="" type="checkbox"/> SAR Exemption

4.3 Test Result of SAR Exclusion for Portable Devices

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

$$= (0.03/5) \times \sqrt{0.43342} = 0.00431 < 3$$

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
433.42	-15.35 ± 0.5	-14.85	0.03	5	0.00431

$$* 79.85 \text{ dB}\mu\text{V/m} - 95.2 = -15.35 \text{ dBm}$$