

RF Exposure Report

Project Number: 5172414

Proposal: SUW-202407006851

Report Number: 5172414EMC05

Revision Level: 0

Client: Renesas Electronics America, Inc

Equipment Under Test: Arduino Shield

Model: WS031-NFCShield-REFZ PTX105R Arduino Shield

FCC ID: 2AU6X-WS031NFCSD

Applicable Standards: 47 C.F.R. §§ 2.1091; FCC KDB 447498

FCC KDB 447498 D04 General RF Exposure Guidance v01

Report issued on: 09 October 2024

Report revised on: 10 April 2025

Test Result: Compliant



FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01

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TABLE OF CONTENTS

1	GENERAL INFORMATION	3
1.1	CLIENT INFORMATION	3
1.1	TEST LABORATORY	3
1.2	GENERAL INFORMATION OF EUT	3
2	RF EXPOSURE	4
2.1	TEST RESULT	4
2.2	TEST METHOD	4
2.3	1-MW TEST EXEMPTION	4
2.4	SINGLE TRANSMISSION RF EXPOSURE LEVELS (MW/CM ²)	4
3	REVISION HISTORY	5

1 General Information

1.1 Client Information

Name: Renesas Electronics America, Inc
Address: 710 Slater Rd, Suite 200
City, State, Zip, Country: Morrisville, North Carolina 27560

1.1 Test Laboratory

Name: SGS North America, Inc.
Address: 620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country: Suwanee, GA 30024, USA

Accrediting Body: A2LA
Type of lab: Testing Laboratory
Certificate Number: 3212.01

1.2 General Information of EUT

Equipment Under Test: Arduino Shield
Model Number: WS031-NFCShield-REFZ PTX105R Arduino Shield
Serial Number: SGS ID# 20240903638

Operating Frequency: 13.56 MHz
Transmitter: PTX105R NFC Reader
Modulation: RFID – ASK
Antenna*: PCB Loop antenna
Maximum Power: 0.0000121mw (Based on 57.8 dBuV/m @ 3meters)

Rated Voltage: +5 VDC
Test Voltage: +5 VDC

Sample Received Date: 14 September 2024
Dates of testing: 14 September 2024 – 02 October 2024

**Data was not measured; therefore, the lab is not responsible for accuracy. Data was obtained via customer, specification sheet, previous regulatory filing, or other means.*

2 RF Exposure

2.1 Test Result

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 1.1307	Compliant

2.2 Test Method

Using the maximum power (including tune-up tolerances), the power density was calculated. Maximum antenna gain was assumed for this exercise.

2.3 1-mW Test Exemption

Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

2.4 Single transmission RF Exposure Levels (mW/cm²)

Measured Maximum Output Power: EIRP = 0.0000121mW

Product complies with the 1mW limit.

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	09 October 2024
1	Updated model number	10 April 2025