



RF Exposure Evaluation Declaration

FCC ID: 2APLNCL3

APPLICANT: Seura Inc

Application Type: Certification

Product: NTP Clock

Model No.: CL.3

Brand Name: Seura

FCC Classification: Digital Transmission System (DTS)
Unlicensed National Information Infrastructure (NII)

Test Procedure(s): KDB 447498 D01 General RF Exposure Guidance v06

Reviewed By:

Sunny Sun

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Approved By:

Robin Wu

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The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date	Note
1909RSU033-U3	Rev. 01	Initial Report	10-18-2019	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	NTP Clock
Model No.:	CL.3
Brand Name:	Seura
Wi-Fi Specification:	802.11a/b/g/n

1.2. Product Specification Subjective to this Report

Frequency Range:	<u>2.4GHz</u> 802.11b/g/n-HT20: 2412 ~ 2462 MHz 802.11n-HT40: 2422 ~ 2452 MHz <u>5GHz</u> For 802.11a/n-HT20: 5745~5825MHz For 802.11n-HT40: 5755~5795MHz
Type of Modulation:	802.11b: DSSS 802.11a/g/n: OFDM
Data Rate:	802.11b: 1/2/5.5/11Mbps 802.11a/g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 150Mbps
Antenna Type:	PCB Antenna
Antenna Gain:	1.5dBi

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1500	30
1,500-100,000	--	--	1.0	30

f= Frequency in MHz

* = Plane-wave equivalent power density

Calculation Formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	NTP Clock
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to Clause 1.2 of this report.

Test Mode	Frequency Band (MHz)	Maximum Total Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
802.11b/g/n	2412 ~ 2462	17.33	0.0108	1
802.11a/n	5745 ~ 5825	10.34	0.0022	1

CONCLUSION:

The 2.4GHz WLAN and 5GHz WLAN can't transmit simultaneously. Therefore, the Max Power Density at R (20 cm) = 0.0108mW/cm² < 1mW/cm².

So the EUT complies with the requirement.

_____ The End _____

Appendix - EUT Photograph

Refer to “1909RSU033-UE” file.