



RF Exposure Evaluation Declaration

FCC ID: 2ANOT-204890
IC: 23166-204890
APPLICANT: Alliance Laundry Systems LLC

Application Type: Certification
Product: Wireless Network Control
Model No.: 204890
Brand Name: Alliance
FCC Classification: Digital Transmission System (DTS)
Test Procedure(s): KDB 447498 D01 General RF Exposure Guidance v06

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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
1910TW0109-U2	Rev. 01	Initial Report	11-05-2019	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	Wireless Network Control
Model No.:	204890
Brand Name:	Alliance
Wi-Fi Specification:	802.11b/g/n-HT20

1.2. Product Specification Subjective to this Report

Frequency Range:	802.11b/g/n-HT20: 2412MHz ~ 2462MHz
Channel Number:	802.11b/g/n-HT20: 11
Type of Modulation:	802.11b: DSSS 802.11g/n: OFDM
Data Rate:	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 72.2Mbps
Antenna Type:	Dipole Antenna
Antenna Gain:	2.0dBi

1.3. Working Frequencies for this report

802.11b/g/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	--	--

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

Pi = 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	Wireless Network Control
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to Clause 1.2 of antenna description.

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-HT20	2412 ~ 2462	17.72	0.0187	1

CONCLUSION:

The Max Power Density at R (20 cm) = 0.0187mW/cm² < 1mW/cm².

So the EUT complies with the requirement.

_____ The End _____

Appendix - EUT Photograph

Refer to “1910TW0109-UE” file.