

RF Exposure Evaluation Declaration

Product Name : HomeStation
Trade Name : 
Model No. : EA2R040JPA10-00
FCC ID : 2AX8SEA2R040JPA1000

Applicant : Electrify America, LLC

Address : 2003 Edmund Halley Drive Reston, Virginia 20191, USA

Date of Receipt : Nov. 18, 2020
Date of Declaration : Dec. 14, 2020
Report No. : 20B0626R-E3012310002
Report Version : V1.0



The declaration results relate only to the samples calculated.

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Issued Date : Dec. 14, 2020

Report No. : 20B0626R-E3012310002



Product Name : HomeStation

Applicant : Electrify America, LLC

Address : 2003 Edmund Halley Drive Reston, Virginia 20191, USA

Manufacturer : Electrify America, LLC

Address : 2003 Edmund Halley Drive Reston, Virginia 20191, USA

Trade Name : 

Model No. : EA2R040JPA10-00

FCC ID : 2AX8SEA2R040JPA1000

Applicable Standard : FCC 47 CFR Part 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.

Test Lab : Hsin Chu Laboratory

Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958

Test Result : Complied

Tested By :



(Lion Wang / Senior Engineer)

Approved By :



(Louis Hsu / Deputy Manager)

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Dec. 14, 2020

Note: This device and the original report (report number 20B0618R-E3032410101, Applicant: Delta Electronics, Inc.) have the hardware aspect, enclosure material and design are exactly the same. Only changes the Applicant, Manufacturer information, Trade Name and Model No. by the original applicant to quote the test data of the report number 20B0618R-E3032410101.

1.1. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required	Test Site
Temperature (°C)	Peak Output Power	15 - 35	1
Humidity (%RH)		25 - 75	

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA : FCC Registration Number: TW3024
Canada : IC Registration Number: 22397-1 / 22397-2 / 22397-3

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: <http://www.dekra.com.tw>

If you have any comments, please don't hesitate to contact us. Our test sites as below:

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
Address	1. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. 2. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
Phone number	1. +886-3-582-8001 2. +886-3-582-8001
Fax number	1. +886-3-582-8958 2. +886-3-582-8958
Email address	info.tw@dekra.com
Website	http://www.dekra.com.tw

1.2. List of Test Equipment

Peak Output Power / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2020/11/30	2021/11/29
Pulse Power Sensor	Anritsu	MA2411B	1531043	2020/11/30	2021/11/29
Pulse Power Sensor	Anritsu	MA2411B	1531044	2020/11/30	2021/11/29
Power Meter	Keysight	8990B	MY51000248	2020/05/20	2021/05/19
Power Sensor	Keysight	N1923A	MY57240005	2020/05/20	2021/05/19

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

1.3. Uncertainty

Test item	Uncertainty
Peak Output Power	± 1.27 dB

Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

RF Field Strength Limits for Controlled Use Devices (Controlled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-1023	170	180	-	Instantaneous*
0.1-10	-	1.6/ f	-	6**
1.29-10	193/ f 0.5	-	-	6**
10-20	61.4	0.163	10	6
20-48	129.8/ f 0.25	0.3444/ f 0.25	44.72/ f 0.5	6
48-100	49.33	0.1309	6.455	6
100-6000	15.60 f 0.25	0.04138 f 0.25	0.6455 f 0.5	6
6000-15000	137	0.364	50	6
15000-150000	137	0.364	50	616000/ f 1.2
150000-300000	0.354 f 0.5	9.40 x 10 ⁻⁴ f 0.5	3.33 x 10 ⁻⁴ f	616000/ f 1.2
Note: f is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm^2

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, $1 \text{ mW}/\text{cm}^2$. 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 Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

2.3. Test Result of RF Exposure Evaluation

Product	HomeStation
Test Mode	Transmit Mode
Test Condition	RF Exposure Evaluation

Antenna Gain: The maximum antenna gain is 2.42 dBi.

Output Power into Antenna & RF Exposure Evaluation Distance:

WLAN Function					
2.4GHz Band					
Mode	Frequency (MHz)	Conducted Output Power		Power Density at R = 20cm (mW/cm ²)	Limit (mW/cm ²)
		dBm	mW		
802.11b	2412	18.690	73.961	0.026	1.000
	2437	18.720	74.473	0.026	1.000
	2462	19.530	89.743	0.031	1.000
802.11g	2412	11.530	14.223	0.005	1.000
	2437	20.780	119.674	0.042	1.000
	2462	14.710	29.580	0.010	1.000
802.11n (20MHz)	2412	12.150	16.406	0.006	1.000
	2437	20.420	110.154	0.038	1.000
	2462	13.780	23.878	0.008	1.000

Note:

1. The antenna information is from the customer declaration.
2. The results are evaluated using the maximum power.