



## RF EXPOSURE TEST REPORT

For

### Vital Home Systems LLC

4870 Palmetto Woods Dr Naples, FL 34119 United States

Report Type	Original Report
FCC Identity:	FCC ID: 2AD4D-AWSAMCP
Brand Name	Vital Home Systems
Product Name	Control Panel
Model Name	AWSAM-CP
Report Number	RLK210218005-MPE
Report Date	2021/11/19
Reviewed By	Danny Sung <i>Danny Sung</i>
<b>Prepared By:</b> Bay Area Compliance Laboratories Corp. (Linkou Lab) No. 6, Wende 2Rd., Guishan Dist., Taoyuan City 33382, Taiwan (R.O.C.) Tel: +886 (3)3961072; Fax: +886 (3) 3961027 www.bacl.com.tw	

**Note:** This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Linkou Lab)

## Revision History

Revision	Report Number	Issue Date	Description
1.0	RLK210218005-MPE	2021/11/19	Original Report

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## 1 General Information

### 1.1 Product Description for Equipment under Test (EUT)

<b>Applicant</b>	Vital Home Systems LLC 4870 Palmetto Woods Dr Naples, FL 34119 United States
<b>Manufacturer</b>	Nutek Corporation No. 167, Lane 235, Bauchiau Rd., Xindian District, New Taipei City 23145, Taiwan
<b>Brand(Trade) Name</b>	Vital Home Systems
<b>Product (Equipment)</b>	Control Panel
<b>Model Name</b>	AWSAM-CP
<b>Frequency Range</b>	LTE Band 2: 1850-1910 MHz(TX), 1930-1990MHz(RX) LTE Band 4: 1710-1755 MHz(TX), 2110-2155MHz(RX) LTE Band 5: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 7: 2500-2570 MHz(TX), 2620-2690 MHz(RX) LTE Band 12: 699-716 MHz(TX), 729-746 MHz(RX) LTE Band 18: 815-830 MHz(TX), 860-875 MHz(RX) LTE Band 19: 830-845 MHz(TX), 875-890 MHz(RX) SRD: 433.92MHz
<b>Modulation Type</b>	LTE: QPSK,16QAM SRD: ASK
<b>Antenna Type</b>	Dipole Antenna
<b>Maximum Antenna Gain</b>	LTE Band 2: 5.43 dBi LTE Band 4: 5.48 dBi LTE Band 5: -1.3 dBi LTE Band 7: 3.13 dBi LTE Band 12: -0.88 dBi LTE Band 18: -1.3 dBi LTE Band 19: -1.3 dBi
<b>Received Date</b>	Mar. 11, 2021
<b>Date of Test</b>	Mar. 15, 2021 ~ Sep. 07, 2021

Note: All measurement test data in this report was gathered from original report: I17D00184-MPE01

(FCC ID: QIPPLS62-W)

## 1.2 Operation Condition of EUT

Power Operation (Voltage Range)	<input checked="" type="checkbox"/> AC 120V/60Hz <input checked="" type="checkbox"/> Adapter Brand Name: Xing Yuan Electronics Co., Ltd Model: XY12J-0502000Q-UW I/P: 100-240VAC, 0.5A Max 50/60Hz O/P: 5Vdc, 2.0A.
	<input type="checkbox"/> By Power Core
	<input type="checkbox"/> DC Type <input type="checkbox"/> DC Power Supply <input type="checkbox"/> Battery <input type="checkbox"/> External from USB Cable <input type="checkbox"/> External DC Adapter
	<input type="checkbox"/> Host System

## 1.3 Objective

**The Objective of this Test Report was to document the compliance of the Vital Home Systems LLC. Appliance (Model: AWSAM-CP) to the requirements of the following Standards:**

- FCC Part 1 (§1.1310) · Part 2 (§2.1091)

## 1.4 Test Methodology

All measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2 as the following parts:

Part 2 (§2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

## 1.5 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Linkou Lab) to collect test data is located on No.6, Wende 2Rd., Guishan Dist., Taoyuan City 33382, Taiwan (R.O.C.)

Bay Area Compliance Laboratories Corp. (Linkou Lab) Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3546) and the FCC designation No. TW3546 under the Mutual Recognition Agreement (MRA) in FCC Test. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.10.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 974454. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

## 2 Summary of Test Results

FCC Rules	Description of Test	Result
§1.1310	Maximum Permissible Exposure (MPE)	Compliance

### 3 FCC §1.1310 – Maximum Permissible Exposure (MPE)

#### 3.1 Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

#### Limits for Maximum Permissible Exposure (MPE) (§1.1310)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; \* = Plane-wave equivalent power density;

According to §1.1310 RF exposure is calculated.

**Calculated Formulary:** Predication of MPE limit at a given distance

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

### 3.2 RF Exposure Evaluation Result

#### MPE Evaluation:

Mode	Frequency Range (MHz)	Antenna Gain		Target Power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
		(dBi)	(numeric)	(dBm)	(mW)			
LTE Band 2	1850-1910	5.43	3.4914	25	316.2278	20	0.2198	1
LTE Band 4	1710-1755	5.48	3.5318	25	316.2278	20	0.2223	1
LTE Band 5	824-849	-1.3	0.7413	25	316.2278	20	0.0467	0.549
LTE Band 7	2500-2570	3.13	2.0559	25	316.2278	20	0.1294	1
LTE Band 12	699-716	-0.88	0.8166	25	316.2278	20	0.0514	0.466
LTE Band 18	815-830	-1.3	0.7413	25	316.2278	20	0.0467	0.543
LTE Band 19	830-845	-1.3	0.7413	25	316.2278	20	0.0467	0.549

#### Result:

- MPE evaluation transmission meet the requirement of standard.
- For SRD, the power is very low, so no evaluation is performed.

----- END OF REPORT -----