

## RF Exposure Report

**Report No.:** SA180619C29

**FCC ID:** 2AP7A-AMBER12

**Test Model:** AM12

**Received Date:** Jun. 19, 2018

**Date of Evaluation:** Sep. 03, 2018

**Issued Date:** Sep. 05, 2018

**Applicant:** Latticework, Inc.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SA180619C29	Original Release	Sep. 05, 2018

## 1 Certificate of Conformity

**Product:** Amber Life

**Brand:** LatticeWork

**Test Model:** AM12

**Sample Status:** Engineering Sample

**Applicant:** Latticework, Inc.

**Date of Evaluation:** Sep. 03, 2018

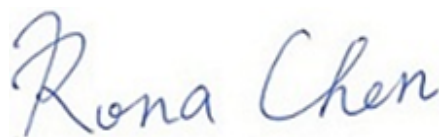
**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :**



**Date:**

Sep. 05, 2018

Rona Chen / Specialist

**Approved by :**



**Date:**

Sep. 05, 2018

Dylan Chiou / Project Engineer

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
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

### 2.2 MPE Calculation Formula

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

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

## 2.4 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
CDD Mode						
WLAN	2412-2462	29.21	9.66	33	0.563	1.00
	5180-5240	25.25	9.75	33	0.231	1.00
	5745-5825	26.85	10.36	33	0.384	1.00
Beamforming Mode						
WLAN	5180-5240	25.25	9.75	33	0.231	1.00
	5745-5825	25.52	10.36	33	0.283	1.00

Note:

2.4 GHz: Directional gain =  $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10}) / N_{ANT}] = 9.66$

5180 ~ 5240 MHz: Directional gain =  $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10}) / N_{ANT}] = 9.75$

5745 ~ 5825 MHz: Directional gain =  $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10}) / N_{ANT}] = 10.36$

### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4G + WLAN 5.0G = 0.563 + 0.384 = 0.947

**Therefore the maximum calculations of above situations are less than the “1” limit.**

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