

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: Oct. 24, 2018

Applicant: LatticeWork, Inc.

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



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Release Control Record

Issue No.	Description	Date Issued
SA180619C29	Original Release	Oct. 24, 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

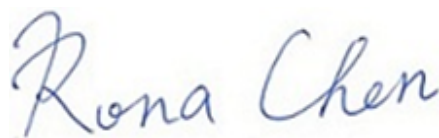
Standards: FCC Part 2 (Section 2.1091)

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:

Oct. 24, 2018

Rona Chen / Specialist

Approved by :



Date:

Oct. 24, 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 ²)	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 ²)*	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/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

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 ²)	Limit (mW/cm ²)
CDD Mode						
WLAN	2412-2462	29.21	9.66	33	0.563	1.00
	5260-5320	22.79	9.91	33	0.136	1.00
	5500-5700	22.64	9.92	33	0.132	1.00
Beamforming Mode						
WLAN	5260-5320	20.08	9.91	33	0.073	1.00
	5500-5700	20.07	9.92	33	0.073	1.00

Note:

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

5260 ~ 5320 MHz: Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10}) / N_{ANT}] = 9.91$

5500 ~ 5700 MHz: Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10}) / N_{ANT}] = 9.92$

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 + 0.136 = 0.699

Therefore the maximum calculations of above situations are less than the "1" limit.

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