Maximum Permissible Exposure Report

Applicant	**:**	**Sunrise Technology Co., Ltd**
Model Name	**:**	**FB00000**
FCC ID	**:**	**2AMPP-FB00000**
Test Regulation	**:**	**47 CFR FCC Part 2.1091**
Test Result	**:**	**Complied**

Date of Test : Apr. 9, 2018

Date of Sample Received : Mar. 15, 2018

Prepared By : Alan Liu
Project Engineer / Alan Liu

Representative Test Engineer : WaterNil Guan
Engineer / WaterNil Guan

Approved By : John Cheng
Project Engineer/ John Cheng

Testing Laboratory
3398

The tested sample is in compliance with the above regulation.
The test results in the report apply only to the sample tested and are traceable to the national or international standards.
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REVISION HISTORY

Original Test Report No.:

Rev.	Test report No.	Date	Page revised	Contents
Original	4788402176A-US-R0-V0	Apr. 9, 2018	-	Initial issue

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1. Attestation of Test Results

Applicant

Company Name:	Sunrise Technology Co., Ltd
Address:	No.28, Longshan St., Xitun Dist., Taichung City 407, Taiwan

Manufacturer

Company Name:	Sunrise Technology Co., Ltd
Address:	No.28, Longshan St., Xitun Dist., Taichung City 407, Taiwan

APPLICABLE STANDARDS	
STANDARD	**Test Results**
47 CFR FCC PART 2.1091	PASS

2. Test Methodology

The tests documented in this report were performed in accordance with KDB 447498 D01 General RF Exposure Guidance v06.

3. Facilities and Accreditation

Test Location	Underwriters Laboratories Taiwan Co., Ltd.
Address	Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Accreditation Certificate	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398. The full scope of accreditation can be viewed at http://accreditation.taftw.org.tw/taf/public/basic/viewApplyItems.action?unitNo=3398

4. Equipment Under Test

4.1. Description of EUT

Product Name	Dual-band WiFi Module
Brand Name	Sunrise
Model Name	FB00000
Radio Technology and Operating Frequency	IEEE 802.11b: 2412 MHz - 2462 MHz IEEE 802.11g: 2412 MHz - 2462 MHz IEEE 802.11n HT20: 2412 MHz - 2462 MHz IEEE 802.11a: 5180 MHz - 5240 MHz
Modulation	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Beamforming Function	Without beamforming
Power Supply	DC 3.2~4.5 V
Hardware Version	N/A
Software Version	N/A

4.2. Description Of Available Antennas

Antenna	Brand Name	Model Name	Antenna Type	Connector Type	Antenna Gain(dBi)
Chain(0)	Shenzhen Xiangboyi Technology Co. Ltd	XBY20170262 (L=220MM)	PCB Antenna	IPEX I	2

5. Requirement

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time |E|2, |H|2 or S (minutes)**
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
Note 1: f = frequency in MHz, * means Plane-wave equivalent power density				
Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.				

Power Density (S) is calculated by the following formula:

$S=(P*G)/4\pi R^2$

where: S = power density (in appropriate units, e.g. mW/cm^2)
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 R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

6. Radio Frequency Radiation Exposure Evaluation

WLAN 2.4GHz

WIFI 2.4 GHz							
Operating Mode	Freq.	Max. Average power	Antenna Gain	Max. EIRP	Max. EIRP	Power density @ 20 cm	Limit
	(MHz)	(dBm)	(dBi)	(dBm)	(mW)	(mW/cm^2)	(mW/cm^2)
802.11b	2462	13.77	2	15.77	37.76	0.008	1

Note:
1. Max. EIRP (dBm) = Max. Average power (dBm) + Antenna Gain (dBi)
2. Max. EIRP (mW) = $10^{(\text{Max. EIRP (dBm)} / 10)}$
3. Power density (mW/cm^2) = Max. EIRP (mW) / [$4 \times \pi \times$ (calculated distance)^2], the calculated distance is 20 cm.

WLAN 5GHz

WIFI 5 GHz							
Operating Mode	Freq.	Max. Average power	Antenna Gain	Max. EIRP	Max. EIRP	Power density @ 20 cm	Limit
	(MHz)	(dBm)	(dBi)	(dBm)	(mW)	(mW/cm^2)	(mW/cm^2)
802.11a	5240	11.20	2	13.20	20.89	0.004	1

Note:
1. Max. EIRP (dBm) = Max. Average power (dBm) + Antenna Gain (dBi)
2. Max. EIRP (mW) = $10^{(\text{Max. EIRP (dBm)} / 10)}$
3. Power density (mW/cm^2) = Max. EIRP (mW) / [$4 \times \pi \times$ (calculated distance)^2], the calculated distance is 20 cm.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.