

RF Exposure Report

Report No.: SA181219C02D

FCC ID: 2ANBG-OR100

Regulatory Model: APOR100

Marketing Model: APOR100-B18, APOR100-X00, APOR100-C23, APOR100-C18

Received Date: Feb. 18, 2020

Test Date: Apr. 10 ~ Jun. 03, 2020

Issued Date: Jun. 08, 2020

Applicant: KeyWest Networks, Inc.

Address: 3033 Oliver Dr, San Jose, CA - 95135 USA

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

Lin Kou Laboratories

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

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City

33383, TAIWAN

FCC Registration / 788550 / TW0003

Designation Number:





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Release Control Record

Issue No.	Description	Date Issued
SA181219C02D	Original release	Jun. 08, 2020

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1 Certificate of Conformity

Product: Outdoor Wireless Radios

Brand: KeyWest Radios

Regulatory Model: APOR100

Marketing Model: APOR100-B18, APOR100-X00, APOR100-C23, APOR100-C18

Sample Status: Engineering sample

Applicant: KeyWest Networks, Inc.

Test Date: Apr. 10 ~ Jun. 03, 2020

Standards: FCC Part 2 (Section 2.1091)

IEEE C95.3 -2002

References Test KDB 447498 D01 General RF Exposure Guidance v06

Guidance:

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 RF characteristics under the conditions specified in this report.

Celine Chou / Senior Specialist

Approved by: Jun. 08, 2020

Bruce Chen / Senior Project Engineer



2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)			Power Density (mW/cm²)	Average Time (minutes)				
Limits For General Population / Uncontrolled Exposure								
300-1500			F/1500	30				
1500-100,000			1.0	30				

F = Frequency in MHz

2.2 MPE Calculation Formula

 $Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm²

Pout = 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 165cm away from the body of the user. So, this device is classified as **Mobile Device**.

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3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)				
2412-2462	23.16	6.00	165	0.002	1				
EUT with Sector antenna									
4940-4990	24.96	21.01	165	0.116	1				
5150-5250	17.51	21.01	165	0.021	1				
5250-5350	11.79	21.01	165	0.006	1				
5470-5725	11.67	21.01	165	0.005	1				
5725-5850	17.96	21.01	165	0.023	1				
EUT with Omni antenna									
4940-4990	24.59	13.01	165	0.017	1				
5150-5250	25.12	13.01	165	0.019	1				
5250-5350	19.97	13.01	165	0.006	1				
5470-5725	19.96	13.01	165	0.006	1				
5725-5850	25.84	13.01	165	0.022	1				
EUT with Panel antenna									
4940-4990	24.77	23.00	165	0.175	1				
5150-5250	15.44	23.00	165	0.020	1				
5250-5350	6.82	23.00	165	0.003	1				
5470-5725	6.91	23.00	165	0.003	1				
5725-5850	29.28	23.00	165	0.494	1				

Note:

- 1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- 2. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2.4GHz: Directional gain = 3.70dBi + 10log(2) = 6.71dBi

5GHz: EUT with Sector antenna: Directional gain = 18dBi + 10log(2) = 21.01dBi EUT with Omni antenna: Directional gain = 10dBi + 10log(2) = 13.01dBi EUT with Panel antenna: Directional gain = 23dBi + 10log(2/2) = 23dBi



Conclusion:

2.4GHz & 5GHz & 4.9GHz can transmit at same time.

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz + 4.9GHz = 0.002 + 0.494 + 0.175 = 0.671

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

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