RF EXPOSURE REPORT

CERTIFICATE OF CONFORMITY

FCC Rule Part:	**FCC Part 2 (Section 2.1091)**
Report No.:	MFBCKS-WTW-P22051021
FCC ID:	TVE-3918T05646
Product:	Secured Wireless Access Point
Brand:	FORTINET
Model No.:	FAP-431G, FAP-433G
Variant Model:	FortiAP 431Gxxxxxx, FAP-431Gxxxxxx, FORTIAP-431Gxxxxxx, FortiAP 433Gxxxxxx, FAP-433Gxxxxxx, FORTIAP-433Gxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only) (refer to item 3.1 for more details)
Received Date:	2022/5/31
Test Date:	2022/10/29
Issued Date:	2022/11/14
Applicant:	Fortinet, Inc.
Address:	899 Kifer Rd. Sunnyvale CA. 94086 United States
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., Kewi Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Approved by: Jeremy Lin , **Date:** **2022/11/14**

Jeremy Lin / Project Engineer

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Prepared by : Pettie Chen / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
MFBCKS-WTW-P22051021	Original release.	2022/11/14

1 Certificate

Product:	Secured Wireless Access Point
Brand:	FORTINET
Test Model:	FAP-431G, FAP-433G
Variant Model:	FortiAP 431Gxxxxxx, FAP-431Gxxxxxx, FORTIAP-431Gxxxxxx, FortiAP 433Gxxxxxx, FAP-433Gxxxxxx, FORTIAP-433Gxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only) (refer to item 3.1 for more details)
Sample Status:	Engineering sample
Applicant:	Fortinet, Inc.
Test Date:	2022/10/29
FCC Rule Part:	FCC Part 2 (Section 2.1091)
Standard:	KDB 447498 D04 Interim General RF Exposure Guidance v01

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.

2 Applicable RF Exposure Limit

§ 1.1310 Radiofrequency radiation exposure limits.

(a) Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b) of this part within the frequency range of 100 kHz to 6 GHz (inclusive).
(b) The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatialaverage SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.
(c) The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

(e) Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields

- Limits for General Population/Uncontrolled Exposure

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.

- Limits for Occupational/Controlled Exposure

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				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	$*(900/f^2)$	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6

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

3 Applicable Evaluation Criteria

Exemption Evaluation

MPE-based Exemption – §1.1307(b)(3)(i)(C)

- The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.
- Table applies to any RF source (i.e. single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits.

RF Source frequency (MHz)	Minimum Distance		Threshold ERP (watts)
	$\lambda_L/2\pi$	$\lambda_H/2\pi$	
0.3-1.34	159 m–35.6 m		1,920 R^2.
1.34-30	35.6 m–1.6 m		3,450 R^2/f^2.
30-300	1.6 m–159 mm		3.83 R^2.
300-1,500	159 mm–31.8 mm		0.0128 R^2f.
1,500-100,000	31.8 mm–0.5 mm		19.2 R^2.
R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters.			

MPE-based Exemption – §1.1307(b)(3)(i)(B)

- For mobile devices that are not exempt per Table 1 of §1.1307(b)(1)(i)(C) and device at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.

$$P_{\text{th}}\ (\text{mW}) = ERP_{20\ \text{cm}}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

SAR-based Exemption - §1.1307(b)(3)(i)(B)

- The SAR-based exemption formula of §1.1307(b)(3)(i)(B), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW). This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz.

$$P_{\text{th}}\ (\text{mW}) = \begin{cases} ERP_{20\ \text{cm}}(d/20\ \text{cm})^x & d \le 20\ \text{cm} \\ ERP_{20\ \text{cm}} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ \text{cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm)

When 10-g extremity SAR applies, SAR test exemption may beconsidered by applying a factor of 2.5 to the SAR-based exemption thresholds.

Routine Evaluation

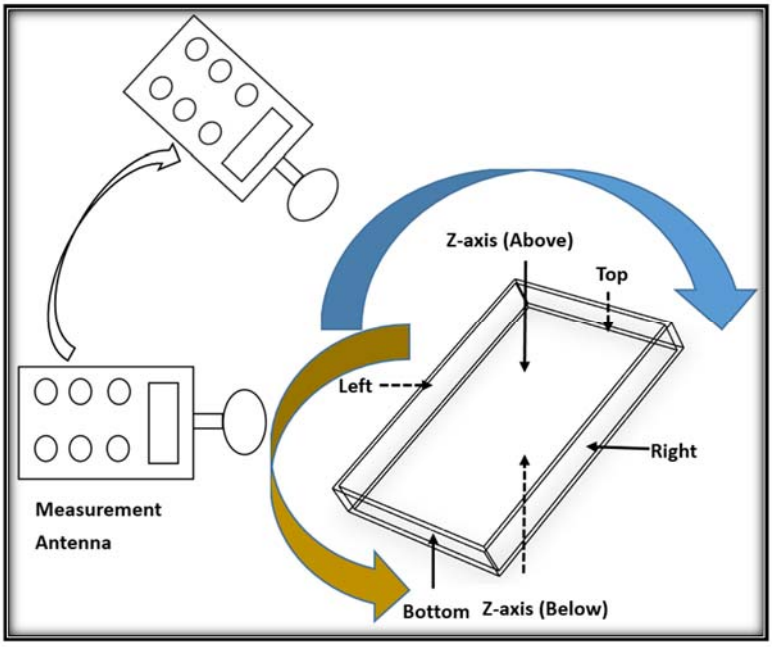
Routine Evaluation Procedure - Single and/or Multiple RF Sources

- MPE compliance are measurement in all directions surrounding the antenna and radiating structures of the device.

  For non-directional antennas, MPE evaluation points shall be along radials extending from the antenna (axis) that are no more than 30° apart. The direction of maximum exposure shall be aligned with one of the radials.

  For each specific exposure condition, the evaluation points along the longest dimension (e.g., vertical) shall use a spatial resolution of 10 cm or less, and shall extend at least 10 cm beyond the exposed portions of a person's body or until the evaluated results are less than 10% of the MPE limit. For exposures occurring next to the ground or next to a ground plane, the evaluation points shall be no closer than 10 cm from the ground.

Test Setup



Note: The measurement antenna are move and surrounding the EUT when performed the test, the test results recorded the highest values for each sides of the EUT (left/right/top/bottom/z-axis)

Test Instruments

Description & Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
EM Field Meter Wavecontrol	SMP2 Dual	22SN1913	2022/04/21	2023/04/20

Multiple RF Sources

Simultaneous Operations - Multiple RF Sources

- Fixed RF sources operating in the same time-averaging period – §1.1307(b)(3)(ii)(B)
  Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluatedk term) should be used to determine exemption for simultaneous transmission according to Formula below,

$$\sum_{i=1}^{a}\frac{P_i}{P_{th,i}}+\sum_{j=1}^{b}\frac{ERP_j}{ERP_{th,j}}+\sum_{k=1}^{c}\frac{Evaluated_k}{Exposure\ Limit_k}\leq 1$$

  The sum of the ratios of the applicable terms for SAR-based, MPE-based and measured SAR or MPE should be less than 1, to determine simultaneous transmission exposure compliance.

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for P_{th}, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

$P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source *i.*

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source *j,* at a distance of at least λ/2π according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

Exposure Limit$_k$ = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source *k,* as applicable from § 1.1310 of this chapter.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source *i* at a distance between 0.5 cm and 40 cm (inclusive).

ERP_j = the ERP of fixed, mobile, or portable RF source *j.*

Evaluated$_k$ = the maximum reported SAR or MPE of fixed, mobile, or portable RF source *k* either in the device or at the transmitter site from an existing evaluation at the location of exposure.

4 Test Results

4.1 RF Exposure

Environmental Conditions:	25°C, 60% RH	Tested By:	Gary Lin

Model: FAP-431G

For Signal RF Source

MPE-based Exemption §1.1307(b)(3)(i)(C)							
Operation Mode	Frequency Band (MHz)	Average Power (mW)	Antenna Gain (dBi)	Maximum ERP (mW)	Distance (cm)	Limit Threshold (mW)	Test Result
Bluetooth	2402-2480	59.841	3.8	87.498	20	768	Pass
Zigbee	2405-2480	73.621	3.8	107.647	20	768	Pass
Scan Radio_WLAN 2.4 GHz	2412-2462	169.078	3.5	230.721	20	768	Pass
Radio3_CDD_WLAN 6 GHz	5955-7115	103.803	4.8	191.078	20	768	Pass
Radio3_BF_WLAN 6 GHz	5955-7115	71.4	6.37	188.668	20	768	Pass
Scan Radio_WLAN 6 GHz	5955-7115	159.612	5.5	345.196	20	768	Pass

MPE-based Exemption §1.1307(b)(3)(i)(B)							
Operation Mode	Frequency Band (MHz)	Average Power (mW)	Antenna Gain (dBi)	Maximum ERP (mW)	Distance (cm)	Limit Threshold (mW)	Test Result
Radio1_CDD_WLAN 2.4 GHz	2412-2462	975.407	2.38	1028.456	20	3060	Pass
Radio2_CDD_WLAN 5 GHz	5180-5825	993.315	4.3	1629.622	20	3060	Pass
Radio2_Low Band_BF_WLAN 5 GHz	5180-5240	758.479	6.94	2285.302	20	3060	Pass
Radio2_CDD_WLAN 5.9 GHz	5835-5885	889.751	4.3	1459.716	20	3060	Pass
Radio2_BF_WLAN 5.9 GHz	5835-5885	544.738	6.31	1419.671	20	3060	Pass
Scan Radio_WLAN 5 GHz	5180-5825	403.211	5.3	832.784	20	3060	Pass
Radio3_Band4_CDD_WLAN 5 GHz	5745-5825	704.842	5.3	1455.767	20	3060	Pass
Radio3_Band4_BF_WLAN 5 GHz	5745-5825	704.842	6.91	2109.074	20	3060	Pass
Radio3_CDD_WLAN 5.9 GHz	5815-5885	563.181	5.3	1163.183	20	3060	Pass
Radio3_BF_WLAN 5.9 GHz	5815-5885	352.685	6.91	1055.327	20	3060	Pass
Scan Radio_WLAN 5.9 GHz	5815-5885	425.79	5.3	879.418	20	3060	Pass

Routine Evaluation (General Population)					
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Test Distance (cm)	Limit (mW/cm^2)	Test Result
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	20	1	Pass
Radio2_BF_WLAN 5 GHz	5180-5825	0.021	20	1	Pass
Radio2_Low Band_CDD_WLAN 5 GHz	5180-5240	0.023	20	1	Pass

For Multiple RF Sources (Simultaneous Operations Condition 1)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	87.498	3060	0.029	0.355	1	Pass
Scan Radio_WLAN 5 GHz	5180-5825	832.784	3060	0.272			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio2_BF_WLAN 5 GHz	5180-5825	0.021	1	0.021			

For Multiple RF Sources (Simultaneous Operations Condition 2)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	87.498	3060	0.029	0.812	1	Pass
Scan Radio_WLAN 6 GHz	5955-7115	559.891	768	0.729			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio2_BF_WLAN 5 GHz	5180-5825	0.021	1	0.021			

For Multiple RF Sources (Simultaneous Operations Condition 3)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	87.498	3060	0.029	0.357	1	Pass
Scan Radio_WLAN 5 GHz	5180-5825	832.784	3060	0.272			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio 2_LB_BF_WLAN 5 GHz	5180-5320	0.023	1	0.023			

For Multiple RF Sources (Simultaneous Operations Condition 4)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	87.498	3060	0.029	0.332	1	Pass
Radio 3_CDD_WLAN 6 GHz	5955-7115	191.078	768	0.249			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio2_BF_WLAN 5 GHz	5180-5825	0.021	1	0.021			

For Multiple RF Sources (Simultaneous Operations Condition 5)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Zigbee	2405-2480	107.647	3060	0.035	0.361	1	Pass
Scan Radio_WLAN 5 GHz	5180-5825	832.784	3060	0.272			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio2_BF_WLAN 5 GHz	5180-5825	0.021	1	0.021			

For Multiple RF Sources (Simultaneous Operations Condition 6)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Zigbee	2405-2480	107.647	3060	0.035	0.818	1	Pass
Scan Radio_WLAN 6 GHz	5955-7115	559.891	768	0.729			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio2_BF_WLAN 5 GHz	5180-5825	0.021	1	0.021			

For Multiple RF Sources (Simultaneous Operations Condition 7)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Zigbee	2405-2480	107.647	3060	0.035	0.363	1	Pass
Scan Radio_WLAN 5 GHz	5180-5825	832.784	3060	0.272			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio2_LB_BF_WLAN 5 GHz	5180-5320	0.023	1	0.023			

For Multiple RF Sources (Simultaneous Operations Condition 8)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Zigbee	2405-2480	107.647	3060	0.035	0.338	1	Pass
Radio3_CDD_WLAN 6 GHz	5955-7115	191.078	768	0.249			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.033	1	0.033			
Radio2_BF_WLAN 5 GHz	5180-5825	0.021	1	0.021			

Model: FAP-433G

For Signal RF Source

MPE-based Exemption §1.1307(b)(3)(i)(C)							
Operation Mode	Frequency Band (MHz)	Average Power (mW)	Antenna Gain (dBi)	Maximum ERP (mW)	Distance (cm)	Limit Threshold (mW)	Test Result
Bluetooth	2402-2480	58.884	3.8	86.099	20	768	Pass
Zigbee	2405-2480	72.946	3.8	106.66	20	768	Pass
Scan Radio_WLAN 2.4 GHz	2412-2462	229.132	3.11	285.815	20	768	Pass
Scan Radio_WLAN 5 GHz	5180-5825	345.182	2.81	401.835	20	768	Pass
Radio3_CDD_WLAN 6 GHz	5955-7115	86.715	2.71	98.649	20	768	Pass

MPE-based Exemption §1.1307(b)(3)(i)(B)							
Operation Mode	Frequency Band (MHz)	Average Power (mW)	Antenna Gain (dBi)	Maximum ERP (mW)	Distance (cm)	Limit Threshold (mW)	Test Result
Radio1_CDD_WLAN 2.4 GHz	2412-2462	861.933	5.65	1929.628	20	3060	Pass
Radio2_CDD_WLAN 5 GHz	5180-5825	981.196	5.45	2097.76	20	3060	Pass
Radio2_BF_WLAN 5 GHz	5180-5825	762.53	7.16	2416.89	20	3060	Pass
Radio2_Low Band_BF_WLAN 5 GHz	5180-5320	666.99	7.06	2065.948	20	3060	Pass
Radio2_Low Band_CDD_WLAN 5 GHz	5180-5320	666.99	5.31	1380.764	20	3060	Pass
Radio3_High Band_CDD_WLAN 5 GHz	5500-5825	797.041	2.81	927.856	20	3060	Pass
Radio3_High Band_BF_WLAN 5 GHz	5500-5825	566.733	8.26	2314.081	20	3060	Pass

Routine Evaluation (General Population)					
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Test Distance (cm)	Limit (mW/cm^2)	Test Result
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	20	1	Pass
Radio3_BF_WLAN 6 GHz	5955-7115	0.019	20	1	Pass
Scan Radio_WLAN 6 GHz	5955-7115	0.016	20	1	Pass

For Multiple RF Sources (Simultaneous Operations Condition 1)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	86.099	3060	0.028	0.976	1	Pass
Radio2_BF_WLAN 5 GHz	5180-5825	2416.89	3060	0.79			
Scan Radio_WLAN 5 GHz	5180-5825	401.835	3060	0.131			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			

For Multiple RF Sources (Simultaneous Operations Condition 2)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	86.099	3060	0.028	0.861	1	Pass
Radio2_BF WLAN 5 GHz	5180-5825	2416.89	3060	0.79			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			
Scan Radio_WLAN 6 GHz	5955-7115	0.016	1	0.016			

For Multiple RF Sources (Simultaneous Operations Condition 3)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	86.099	3060	0.028	0.861	1	Pass
Radio2_LB_BF_WLAN 5 GHz	5180-5320	2065.948	3060	0.675			
Scan Radio_WLAN 5 GHz	5180-5825	401.835	3060	0.131			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			

For Multiple RF Sources (Simultaneous Operations Condition 4)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Bluetooth	2402-2480	86.099	3060	0.028	0.864	1	Pass
Radio2_BF_WLAN 5 GHz	5180-5320	2416.89	3060	0.79			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			
Radio3_BF_WLAN 6 GHz	5955-7115	0.019	1	0.019			

For Multiple RF Sources (Simultaneous Operations Condition 5)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Radio2_BF_WLAN 5 GHz	5180-5825	2416.89	3060	0.79	0.983	1	Pass
Scan Radio_WLAN 5 GHz	5180-5825	401.835	3060	0.131			
Zigbee	2405-2480	106.66	3060	0.035			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			

For Multiple RF Sources (Simultaneous Operations Condition 6)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Radio2_BF_WLAN 5 GHz	5180-5825	2416.89	3060	0.79	0.868	1	Pass
Zigbee	2405-2480	106.66	3060	0.035			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			
Scan Radio_WLAN 6 GHz	5955-7115	0.016	1	0.016			

For Multiple RF Sources (Simultaneous Operations Condition 7)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Radio2_LB_BF WLAN 5 GHz	5180-5320	2065.948	3060	0.675	0.868	1	Pass
Scan Radio_WLAN 5 GHz	5180-5825	401.835	3060	0.131			
Zigbee	2405-2480	106.66	3060	0.035			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			

For Multiple RF Sources (Simultaneous Operations Condition 8)

Multiple RF Sources (Simultaneous Operations)							
Exemption Evaluation					Sum of Ratios	Limit of Ratios	Test Result
Operation Mode	Frequency Band (MHz)	Maximum ERP (mW)	Limit Threshold (mW)	Ratio			
Radio2_BF_WLAN 5 GHz	5180-5825	2416.89	3060	0.79	0.871	1	Pass
Zigbee	2405-2480	106.66	3060	0.035			
Routine Evaluation (General Population)							
Operation Mode	Frequency Band (MHz)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio			
Radio1_BF_WLAN 2.4 GHz	2412-2462	0.027	1	0.027			
Radio3_BF_WLAN 6 GHz	5955-7115	0.019	1	0.019			

5 Conclusion

Source-base time average power is below Exemption Criteria and/or Routine Evaluation MPE thresholds, therefore the device is compliant FCC RF exposure requirement.

6 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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