RF Exposure Report

Report No.:	MFBAOZ-WTW-P22010912A
FCC ID:	HBW-GDOCAMF1
Test Model:	GDOCAMF1
Received Date:	2024/5/8
Date of Evaluation:	2024/6/6
Issued Date:	2024/7/3
Applicant:	The Chamberlain Group, LLC
Address:	300 Windsor Drive Oak Brook, IL 60523
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 / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
MFBAOZ-WTW-P22010912A	Original Release	2024/7/3

Report Issue History Record

Issue No.	Description	Date Issued
SABIBJ-WTW-P22010912	Original Release	2022/5/4

MFBAOZ-WTW-P22010912A	1. BT shielding change from (Frame+ COVER) to Soldering Cover) for SKU 2
	2. Add 2nd source for SKU 2
	  a. Flash/ IC/power IC vendor change
	  b. BT Matching component/MCU vendor change
	  c. 2.4G/5G RF component and diplexer vendor change
		2024/7/3

1   Certificate of Conformity

Product:	Camera Module
Brand:	Chamberlain
Test Model:	GDOCAMF1
Sample Status:	Engineering sample
Applicant:	The Chamberlain Group, LLC
Date of Evaluation:	2024/6/6
FCC Rule Part:	FCC Part 2 (Section 2.1091)
Standards:	KDB 447498 D01 General RF Exposure Guidance v06

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.

Prepared by : _Gina Liu_ , **Date:** 2024/7/3

Gina Liu / Specialist

Approved by : _Jeremy . Lin_ , **Date:** 2024/7/3

Jeremy Lin / 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

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

where

Pd = power density in mW/cm^2

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 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 Average Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN	2412-2462	18.92	4.3	20	0.042	1.00
	5180-5240	17.11	5.29	20	0.035	1.00
	5745-5825	19.49	5.29	20	0.060	1.00
BLE	2402-2480	-0.02	4.25	20	0.001	1.00

Note:

1. This report is issued as a supplementary report to the original report no.: SABIBJ-WTW-P22010912. The differences compared with original report are refer as below. Therefore, update RF output power of EUT and we did re-calculated MPE value.
   - BT shielding change from (Frame+ COVER) to Soldering Cover) for SKU 2
   - Add 2nd source for SKU 2
     a. Flash/ IC/power IC vendor change
     b. BT Matching component/MCU vendor change
     c. 2.4G/5G RF component and diplexer vendor change

2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

3. The above Antenna information refers to the manufacturer's antenna specifications, the laboratory shall not be held responsible.

Conclusion:

Both of the WLAN and BLE can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN + BLE = 0.060/1 + 0.001/1 = 0.061

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

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