RF EXPOSURE REPORT

(MOBILE MODE)

CERTIFICATE OF CONFORMITY

FCC Rule Part:	**FCC Part 2 (Section 2.1091)**
Report No.:	MFCDBM-WTW-P24100096
FCC ID:	QOQ-GM260P
Product:	Bluetooth Low Energy and 802.15.4 wireless radio module, Bluetooth Low Energy wireless radio modules
Brand:	SILICON LABS
Model No.:	MGM260P22A, MGM260P32A, MGM260P32N
Series Model:	BGM260P22A, BGM260P32A, BGM260P32N
Received Date:	2024/10/7
Test Date:	2024/11/25 ~ 2025/1/10
Issued Date:	2025/2/6
Applicant:	Silicon Laboratories Finland Oy
Address:	Alberga Business Park, Bertel Jungin aukio 3, FI-02600 Espoo, Finland
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

Approved by: Jeremy Lin , **Date:** 2025/2/6

Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist

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Release Control Record

Issue No.	Description	Date Issued
MFCDBM-WTW-P24100096	Original release.	2025/2/6

1 Certificate

Product:	Bluetooth Low Energy and 802.15.4 wireless radio module (for MGM260P22A, MGM260P32A, MGM260P32N), Bluetooth Low Energy wireless radio modules (for BGM260P22A, BGM260P32A, BGM260P32N)
Brand:	SILICON LABS
Test Model:	MGM260P22A, MGM260P32A, MGM260P32N
Series Model:	BGM260P22A, BGM260P32A, BGM260P32N
Sample Status:	Engineering samples fully representing the production models
Applicant:	Silicon Laboratories Finland Oy
Test Date:	2024/11/25 ~ 2025/1/10
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 spatial-average 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
300-1,500	…	…	f/1500	<30
1,500-100,000	…	…	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.

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.			

3 Test Results

Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin, Jisyong Wang

Model: MGM260P22A

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	11.350	2.87	13.397	20	768	Pass
802.15.4	2405-2480	10.965	2.87	12.942	20	768	Pass

Model: MGM260P32A

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	94.189	2.87	111.173	20	768	Pass
802.15.4	2405-2480	94.406	2.87	111.429	20	768	Pass

Model: MGM260P32N

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	95.940	2.80	111.429	20	768	Pass
802.15.4	2405-2480	99.312	2.80	115.346	20	768	Pass

Note:

1. BT LE (DTS/FHSS) and 802.15.4 modes technology cannot transmit at same time.
2. The BLE evaluation is valid for the BGM series models too, as they are just the subsets of the MGM variants where the 802.15.4 is disabled for marketing differentiation.
3. The antenna information is listed as below.

No.	Type	Connector	Gain (dBi)	Remark
1	Integral antenna	NA	2.87	For model: MGM260P22A, MGM260P32A, BGM260P22A, BGM260P32A
2	External reference dipole antenna**	RP-SMA	2.80	For model: MGM260P32N, BGM260P32N

*Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.
**The dipole antenna is not sold with the EUT, but is used during testing as a reference antenna for radiated measurements of the parts with the RF pin.

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

4 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.

5 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.

If you have any comments, please feel free to contact us at the following:

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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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