

RF Exposure Report

Report No.: SA190408C21

FCC ID: QOQGM210P

Test Model: MGM210P32A, MGM210P22A

Series Model: BGM210P32A, BGM210P22A

Received Date: Apr. 08, 2019

Test Date: Apr. 13 ~ Jun. 12, 2019

Issued Date: Jun. 21, 2019

Applicant: Silicon Laboratories Finland Oy

Address: Alberga Business Park - Bldg D/Floor 5, Bertel Jungin aukio 3, 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,
R.O.C.

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City
33383, TAIWAN (R.O.C.)

**FCC Registration /
Designation Number:** 788550 / TW0003



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Calculation Result of Maximum Conducted Power	6



Release Control Record

Issue No.	Description	Date Issued
SA190408C21	Original release	Jun. 21, 2019

1 Certificate of Conformity

Product: Bluetooth Low Energy and ZigBee wireless radio modules

Brand: Silicon Labs

Test Model: MGM210P32A, MGM210P22A

Series Model: BGM210P32A, BGM210P22A

Sample Status: Engineering sample

Applicant: Silicon Laboratories Finland Oy

Test Date: Apr. 13 ~ Jun. 12, 2019

Standards: FCC Part 2 (Section 2.1091)

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 :  , **Date:** Jun. 21, 2019
Polly Chien / Specialist

Approved by :  , **Date:** Jun. 21, 2019
Bruce Chen / 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/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

π = 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.

3 Calculation Result of Maximum Conducted Power

Mode	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BT LE						
EUT (FHSS) / Dipole antenna						
A1	2402~2480	19.56	2.14	20	0.029	1
A2		10.80	2.14	20	0.004	1
A3		19.41	2.14	20	0.028	1
A4		10.83	2.14	20	0.004	1
EUT (FHSS) / Chip antenna						
B1	2402~2480	19.77	1.86	20	0.029	1
B2		10.81	1.86	20	0.004	1
B3		19.96	1.86	20	0.030	1
B4		10.81	1.86	20	0.004	1
EUT (DTS) / Dipole antenna						
C1	2402~2480	19.56	2.14	20	0.029	1
C2		10.80	2.14	20	0.004	1
C3		19.41	2.14	20	0.028	1
B4		10.83	2.14	20	0.004	1
EUT (DTS) / Chip antenna						
D1	2402~2480	19.77	1.86	20	0.029	1
D2		10.81	1.86	20	0.004	1
D3		19.96	1.86	20	0.030	1
D4		10.81	1.86	20	0.004	1
Zigbee						
EUT / Dipole antenna						
A1	2405 ~ 2480	20.18	2.14	20	0.034	1
A2		10.89	2.14	20	0.004	1
EUT / Chip antenna						
B1	2405 ~ 2480	20.09	1.86	20	0.031	1
B2		10.69	1.86	20	0.004	1

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

---END---