

## RF Exposure Report

**Report No.:** SABHAA-WTW-P21080670

**FCC ID:** UJH-R1LOW

**Test Model:** R1LOW

**Received Date:** Nov. 22, 2019

**Test Date:** Dec. 29, 2019 ~ Jan. 03, 2020  
Sep. 03 ~ Sep. 13, 2021

**Issued Date:** Oct. 08, 2021

**Applicant:** Mitsubishi Electric Corporation Sanda Works

**Address:** 2-3-33 Miwa, Sanda-City, Hyogo 669-1513, Japan

**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
SABHAA-WTW-P21080670	Original release	Oct. 08, 2021

## 1 Certificate of Conformity

**Product:** Display Audio

**Brand:** Mitsubishi Electric

**Test Model:** R1LOW

**Sample Status:** DV

**Applicant:** Mitsubishi Electric Corporation Sanda Works

**Test Date:** Dec. 29, 2019 ~ Jan. 03, 2020

**Standards:** FCC Part 2 (Section 2.1091)

**References Test Guidance:** 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 :** Pettie Chen, **Date:** Oct. 08, 2021  
Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen, **Date:** Oct. 08, 2021  
Bruce Chen / Senior 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 <sup>2</sup> )	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 <sup>2</sup> )*	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<sup>2</sup>

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.

### 3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Module 1					
WLAN 2412~2462	14.51	5.07	20	0.0181	1
WLAN 5180~5240	6.31	6.07	20	0.0034	1
WLAN 5260~5320	6.63	6.07	20	0.0037	1
WLAN 5500~5700	6.73	6.07	20	0.0038	1
WLAN 5745~5825	6.46	6.07	20	0.0036	1
BT EDR 2402~2480	-0.80	3	20	0.0003	1
BT LE 2402~2480	-1.15	3	20	0.0003	1
Module 2					
BT LE 2402~2480	4.08	3	20	0.0010	1

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

WLAN 2.4GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.07\text{dBi}$

WLAN 5.0GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.07\text{dBi}$

#### Conclusion:

Module 1:5GHz Band & Module 2: BT LE can transmit at same time.

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

Module 1: WLAN 5GHz Band + Module 2: BT LE =  $0.0038 / 1 + 0.0010 / 1 = 0.0048$

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

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