

## RF Exposure Report

**Report No.:** SABEOA-WTW-P21030189-1

**FCC ID:** BYG-PHC18

**Test Model:** PHC 18

**Received Date:** Mar. 5, 2021

**Test Date:** Jul. 26, 2021

**Issued Date:** Sep. 8, 2021

**Applicant:** Sangean Electronics Inc.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

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**FCC Registration /**  
**Designation Number:** 198487 / TW2021



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### Release Control Record

Issue No.	Description	Date Issued
SABEOA-WTW-P21030189-1	Original release.	Sep. 8, 2021

## 1 Certificate of Conformity

**Product:** Phone Charger

**Brand:** FESTOOL

**Test Model:** PHC 18

**Sample Status:** Engineering sample

**Applicant:** Sangean Electronics Inc.

**Test Date:** Jul. 26, 2021

**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.

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**Approved by :** Rex Lai, **Date:** Sep. 8, 2021  
Rex Lai / Associate Technical Manager

## 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**.

## 2.4 Calculation Result Of Maximum Conducted Power

FCC ID: 2AL2E-BPLI (For BT Battery)

Function	Frequency Band (MHz)	Max AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
BT EDR	2402-2480	3	2.14	20	0.0006	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The worst MPE result of Qi function, refer to BV CPS report no.: SABEOA-WTW-P21030189.

### Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$$BT + Qi = 0.0006 / 1.00 + 0.0912 / 1.63 = 0.05655$$

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

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