

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.

Address: No. 18, Lane 7, Li-De Street, Chung Ho District, New Taipei City, 235, Taiwan

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

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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.

Prepared by :

Annie Chang

Date: Sep. 8, 2021

Annie Chang / Senior Specialist

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 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

$$Pd = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

Pd = power density in mW/cm²

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 ²) | Limit (mW/cm ²) |
|----------|----------------------|--------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 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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