

RF Exposure Report

Report No.: SA201105C04

FCC ID: WIYUPT1000F-BLE

Test Model: UPT1000, UPT1000F

Received Date: Nov. 05, 2020

Date of Evaluation: Jan. 19 ~ Jan. 20, 2021

Issued Date: Jan. 25, 2021

Applicant: CASTLES TECHNOLOGY CO., LTD.

Address: 6F, NO. 207-5, SEC. 3, BEIXIN RD., XINDIAN DISTRICT, NEW TAIPEI CITY 23143, TAIWAN (R. O. C.)

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
SA201105C04	Original Release	Jan. 25, 2021

1 Certificate of Conformity

Product: POS Terminal

Brand: CASTLES TECHNOLOGY

Test Model: UPT1000, UPT1000F

Sample Status: Engineering Sample

Applicant: CASTLES TECHNOLOGY CO., LTD.

Date of Evaluation: Jan. 19 ~ Jan. 20, 2021

Standards: FCC Part 2 (Section 2.1091)

References Test Guidance : KDB 447498 D01 General RF Exposure Guidance v06
IEEE C95.3 -2002

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:** Jan. 25, 2021
Lena Wang / Specialist


Approved by : _____, **Date:** Jan. 25, 2021
Dylan Chiou / Senior 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

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

where

P_d = power density in mW/cm²

P_{out} = 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**.

2.4 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BT	2402-2480	3.39	2	20	0.59	1.00

Frequency (MHz)	Max. Field Strength (dBuV/m)@3m	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value ^(NOTE)	1-g SAR test exclusion thresholds	Result
13.56	36.9	0.00000147	5	0.0000147	1107.433774	Pass

Note:

1. Calculate SAR test exclusion thresholds from condition "3" formulas.
2. Output power (dBm) = Field Strength (dBuV/m)@3m - 95.23, Output power (mW) = $10^{(\text{Max power (dBm)}/10)}$
3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
4. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible
5. WWAN, BT and NFC module cannot transmitter simultaneous. WWAN mode detailed as below.

	LTE module	FCC ID
A	LE910-NA1	RI7LE910NAV2
B	LE910-SV1	RI7LE910SVV2

Note: A, B WWAN module are only used by different telecom.

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