RF Exposure Report

Report No.:	MFBBGM-WTW-P22110832
FCC ID:	WIYS1MINI001
Test Model:	SATURN1000MINI
Received Date:	Nov. 30, 2022
Date of Evaluation:	Mar. 07, 2023
Issued Date:	Mar. 13, 2023
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
MFBBGM-WTW-P22110832	Original Release	Mar. 13, 2023

1 Certificate of Conformity

Product:	POS Terminal
Brand:	CASTLES TECHNOLOGY
Test Model:	SATURN1000MINI
Sample Status:	Identical Prototype
Applicant:	CASTLES TECHNOLOGY CO., LTD.
Date of Evaluation:	Mar. 07, 2023
FCC Rule Part:	FCC Part 2 (Section 2.1091)
Standards:	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 : Lena Wang , **Date:** Mar. 13, 2023

Lena Wang / Specialist

Approved by : Jeremy Lin , **Date:** Mar. 13, 2023

Jeremy Lin / Project Engineer

2 Evaluation Result

Following FCC KDB 447498 D01 “General SAR test exclusion guidance”

The corresponding SAR Exclusion Threshold condition, listed below:

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
   - f(GHz) is the RF channel transmit frequency in GHz.
   - Power and distance are rounded to the nearest mW and mm before calculation.
   - The result is rounded to one decimal place for comparison The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:
   a) [Threshold at 50 mm in step 1) + (test separation distance - 50mm)·(f(MHz)/150)] mW, at 100MHz to 1500 MHz
   b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
   a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by [1 + log(100/f(MHz))] for test separation distances > 50 mm and < 200 mm.
   b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by ½ for test separation distances ≤ 50 mm.
   c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

3 SAR Test Exclusion Thresholds

Maximum measured transmitter power:

Frequency (MHz)	Field Strength (dBuV/m@3m)	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value(NOTE)	1-g extremity SAR test exclusion thresholds	Result
13.56	75.1	0.009705	5	0.009705	1107.433774	Pass

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Calculate SAR test exclusion thresholds from condition “3” formulas.
3. Field Strength (dBuV/m@3m) = Field Strength (dBuV/m@30m) + 40*log(30/3).
4. Max Power (dBm) = Field Strength of Fundamental (dBuV/m@3m) – 95.23,
   Max Power (mW) = 10^(Max power (dBm)/10)
5. The EUT contains certified smart module with FCC ID: WIYSLM500QA.

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