



RF MEASUREMENT REPORT

FCC ID: 2A3Q6M300
Application: RecycleSmart Solutions Inc.
Product: Pello Smart Sensor
Model No.: DDW-M300
Brand Name: Recycle Smart
FCC Rule Part(s): Part 2, 22 (H)
Test Date: October 20 ~ November 27, 2021

Reviewed By:

Sunny Sun

Approved By:

Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.26-2015. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2109RSU053-U1	Rev. 01	Initial Report	01-07-2022	Invalid
2109RSU053-U1	Rev. 02	Removed the PCS1900 Band	03-09-2022	Valid

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1. GENERAL INFORMATION

1.1. Applicant

RecycleSmart Solutions Inc.

310-10851 Shellbridge Way, Richmond BC Canada V6X 2W8

1.2. Manufacturer

RecycleSmart Solutions Inc.

310-10851 Shellbridge Way, Richmond BC Canada V6X 2W8

1.3. Testing Facility

☒	Test Site – MRT Suzhou Laboratory				
	Laboratory Location (Suzhou - Wuzhong)				
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China				
	Laboratory Location (Suzhou - SIP)				
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China				
	Laboratory Accreditations				
A2LA: 3628.01		CNAS: L10551			
FCC: CN1166		ISED: CN0001			
VCCI:	☐ R-20025	☐ G-20034	☐ C-20020	☐ T-20020	
	☐ R-20141	☐ G-20134	☐ C-20103	☐ T-20104	
☐	Test Site – MRT Shenzhen Laboratory				
	Laboratory Location (Shenzhen)				
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China				
	Laboratory Accreditations				
	A2LA: 3628.02		CNAS: L10551		
	FCC: CN1284		ISED: CN0105		
☐	Test Site – MRT Taiwan Laboratory				
	Laboratory Location (Taiwan)				
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)				
	Laboratory Accreditations				
	TAF: L3261-190725				
FCC: 291082, TW3261		ISED: TW3261			

1.4. Product Information

Product Name	Pello Smart Sensor
Model No.	DDW-M300
Brand Name	Recycle Smart
Operating Temperature	-40 ~ 85 °C
Power Type	Power by Batter, 3.6Vdc
GSM Band	GSM 850
E-UTRA Band:	Band 2, 4, 5, 12, 13, 25, 26, 66
Integrated Modular Information	
Model No.	BG95-M3
Brand Name	Quectel
FCC ID	XMR201910BG95M3
Remark:	
- The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification; - This device is based on Quectel "BG95-M3" module, FCC ID "XMR201910BG95M3" to verify radiated spurious emission.	

1.5. Radio Specification under Test

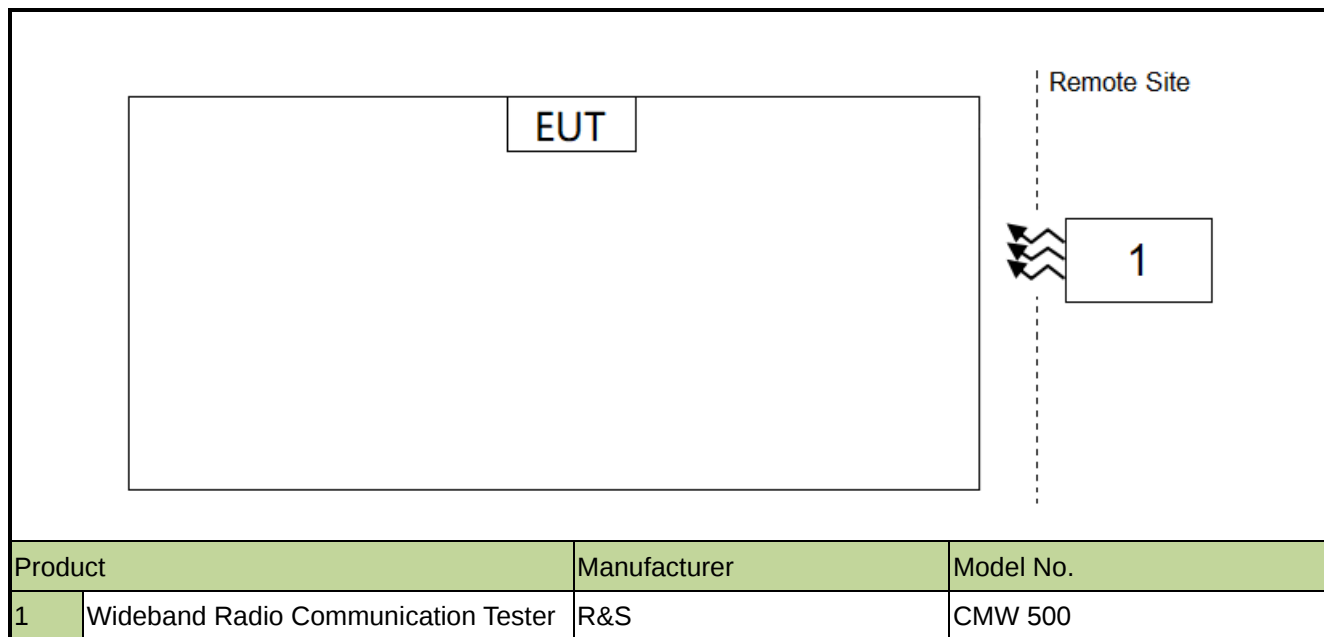
T _x Frequency Range	GSM 850: 824 ~ 849MHz
R _x Frequency Range	GSM 850: 869 ~ 894MHz
Modulation	GMSK, 8PSK
Multislot Class	33
Antenna Gain	GSM 850: 3.65dBi

1.6. Test Methodology

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26:2015
- FCC CFR 47 Part 22
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems

1.7. Configuration of Tested System



1.8. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20% ~ 75%RH

2. TEST EQUIPMENT CALIBRATION DATE

No.	Instrument	Manufacturer	Model No.	Asset No.	Last Cali. Date	Cali. Due Date	Test Site
1	EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2022/1/12	SIP-AC1/SIP-AC2/SIP-AC3
2	Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2021/12/24	SIP-AC1
3	Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022/6/24	SIP-AC1/SIP-AC2/SIP-AC3/SIP-SR1
4	Preamplifier	EMCI	EMC051845SE	MRTSUE06600	1 year	2022/11/8	SIP-AC1
5	Signal Analyzer	Keysight	N9010B	MRTSUE06603	1 year	2022/10/31	SIP-AC1/SIP-AC2/SIP-AC3/SIP-SR1
6	Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2022/9/7	SIP-AC1/SIP-AC2/SIP-AC3/SIP-SR1
7	Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2022/8/5	SIP-AC1
8	EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2022/6/24	SIP-AC1/SIP-AC2/SIP-AC3
9	Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2022/11/2	SIP-AC1
10	Thermohygrometer	testo	608-H1	MRTSUE06620	1 year	2021/12/3	SIP-AC1
11	Preamplifier	EMCI	EMC001330	MRTSUE06643	1 year	2022/1/14	SIP-AC1/SIP-AC2/SIP-AC3
12	TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06645	1 year	2022/8/26	SIP-AC1

Software	Version	Function
EMI Software	V3	EMI Test Software

3. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Radiated Spurious Emissions

Measurement Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$):

Horizontal: 9kHz ~ 300MHz: 5.04dB

300MHz ~ 1GHz: 4.95dB

1GHz ~ 40GHz: 6.40dB

Vertical: 9kHz ~ 300MHz: 5.24dB

300MHz ~ 1GHz: 6.03dB

1GHz ~ 40GHz: 6.40dB

4. TEST RESULT

4.1. Summary

FCC Part Section(s)	Test Description	Test Condition	Test Result	Reference
2.1053, 22.917(a)	Spurious Emission	Radiated	Pass	Section 4.2

Notes:

- 1) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

4.2. Radiated Spurious Emission Measurement

4.2.1. Test Limit

Out of band emissions: The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20 \log D + 104.8$; where D is the measurement distance in meters. The emission limit equal to 82.3dB $\mu\text{V/m}$.

4.2.2. Test Procedure

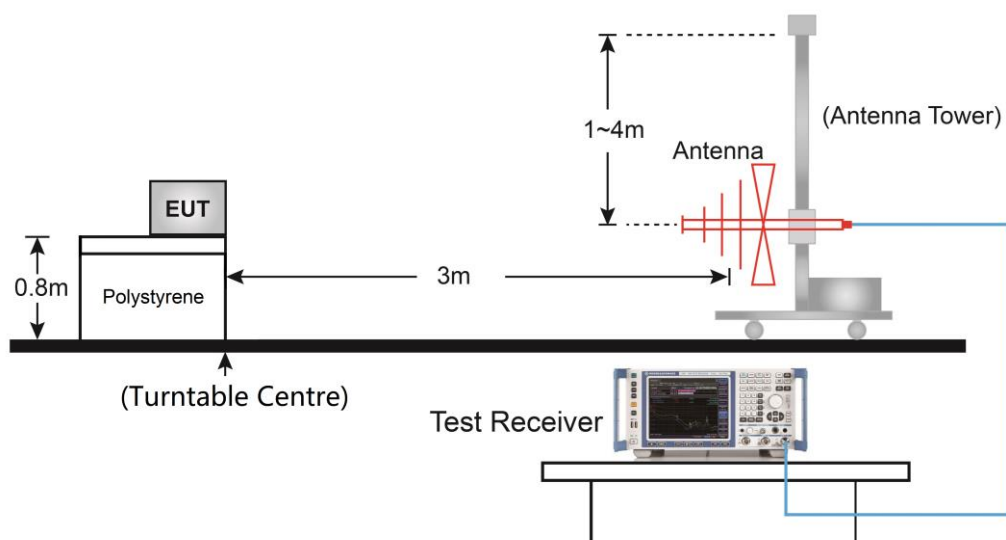
ANSI C63.26-2015 - Section 5.2.7 & 5.5

4.2.3. Test Setting

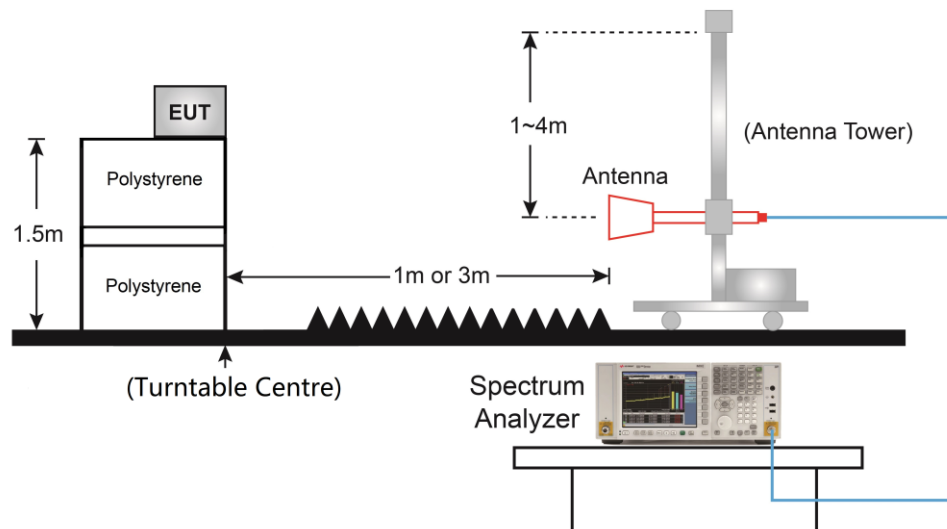
1. RBW = 1MHz
2. VBW $\geq 3 \times$ RBW
3. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

4.2.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.2.5. Test Result

Product	Pello Smart Sensor	Test Site	SIP-AC1
Test Engineer	Kyrie Xie	Test Date	2021/11/01 ~ 2021/11/04
Test Band	GSM 850		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
460.68	12.45	22.14	34.59	82.30	-47.71	Peak	Horizontal
768.17	11.44	27.60	39.04	82.30	-43.26	Peak	Horizontal
460.68	10.78	22.14	32.92	82.30	-49.38	Peak	Vertical
989.82	1.87	29.75	31.62	82.30	-50.68	Peak	Vertical
1671.50	67.21	-19.86	47.35	82.30	-34.95	Peak	Horizontal
2513.00	69.77	-16.64	53.13	82.30	-29.17	Peak	Horizontal
1671.50	65.04	-19.86	45.18	82.30	-37.12	Peak	Vertical
2513.00	63.62	-16.64	46.98	82.30	-35.32	Peak	Vertical
Middle Channel							
768.17	10.46	27.60	38.06	82.30	-44.24	Peak	Horizontal
978.18	11.18	29.60	40.78	82.30	-41.52	Peak	Horizontal
614.43	7.88	25.52	33.40	82.30	-48.90	Peak	Vertical
876.33	5.57	27.87	33.44	82.30	-48.86	Peak	Vertical
1646.00	68.08	-20.03	48.05	82.30	-34.25	Peak	Horizontal
2470.50	75.74	-16.69	59.05	82.30	-23.25	Peak	Horizontal
1646.00	62.20	-20.03	42.17	82.30	-40.13	Peak	Vertical
2470.50	67.32	-16.69	50.63	82.30	-31.67	Peak	Vertical
High Channel							
691.06	10.62	26.40	37.02	82.30	-45.28	Peak	Horizontal
768.17	10.70	27.60	38.30	82.30	-44.00	Peak	Horizontal
460.68	9.78	22.14	31.92	82.30	-50.38	Peak	Vertical
868.08	5.39	28.03	33.42	82.30	-48.88	Peak	Horizontal
1697.00	70.20	-19.80	50.40	82.30	-31.90	Peak	Horizontal
2547.00	66.50	-16.51	49.99	82.30	-32.31	Peak	Vertical
1697.00	68.23	-19.80	48.43	82.30	-33.87	Peak	Vertical
2547.00	61.30	-16.51	44.79	82.30	-37.51	Peak	Horizontal

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

5. CONCLUSION

The data collected relate only the item(s) tested and show that unit is compliance with FCC Rules.

Appendix A - Test Setup Photograph

Refer to “2109RSU053-UT” file.

Appendix B - EUT Photograph

Refer to “2109RSU053-UE” file.