RF Exposure Evaluation Declaration

FCC ID:	2A3Q6M300
Application:	RecycleSmart Solutions Inc.
Product:	Pello Smart Sensor
Model No.:	DDW-M300
Brand Name:	Recycle Smart
Test Procedure(s):	KDB 447498 D01v06
Test Date:	October 20 ~ November 27, 2021

Reviewed By: Sunny Sun

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2109RSU053-U3	Rev. 01	Initial Report	01-07-2022	Invalid
2109RSU053-U3	Rev. 02	Removed the PCS1900 Band	03-09-2022	Valid

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:

1. 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;
2. This device is based on Quectel “BG95-M3” module, FCC ID “XMR201910BG95M3” to verify radiated spurious emission.

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

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

Pd is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	LTE Module
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Conducted Power (dBm)	Antenna Gain (dBi)	ERP (EIRP) (dBm)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
GSM850	824 ~ 849	25.97	3.65	27.47	0.1111	0.5493
LTE B2	1850 ~ 1910	22.00	6.00	28.00	0.1255	1.0000
LTE B4	1710 ~ 1755	22.00	5.76	27.76	0.1188	1.0000
LTE B5	824 ~ 849	22.00	3.65	23.50	0.0445	0.5493
LTE B12	699 ~ 716	22.00	4.31	24.16	0.0518	0.4660
LTE B13	777 ~ 787	22.00	4.31	24.16	0.0518	0.5180
LTE B25	1850 ~ 1915	22.00	6.00	28.00	0.1255	1.0000
LTE B26	814 ~ 849	22.00	3.65	25.65	0.0731	05427
LTE B66	1710 ~ 1780	22.00	5.76	27.76	0.1188	1.0000

Appendix A – EUT Photograph

Refer to “2109RSU053-UE” file.

The End