RF Exposure Evaluation Declaration

FCC ID:	2ATW7-77GRADARNA
Applicant:	STONKAM CO., LTD
Application Type:	Certification
Product:	Radar Sensor
Model No.:	77GHz 2T4R Sensor
Brand Name:	STONKAM
Test Rule(s):	Part 95 Subpart M, Section 95.3385
Test Date:	January 19, 2021

Reviewed By: (Kevin Guo)

Approved By: (Robin Wu)

Revision History

Report No.	Version	Description	Issue Date	Note
2011RSU081-U4	Rev. 01	Initial Report	01-19-2021	Valid

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1. INTRODUCTION

1.1. Applicant

STONKAM CO., LTD
5/F, #3 Building, Huangzhou Industrial Park, Chebei Rd., Tianhe Dist., 510665 Guangzhou, China

1.2. Manufacturer

STONKAM CO., LTD
5/F, #3 Building, Huangzhou Industrial Park, Chebei Rd., Tianhe Dist., 510665 Guangzhou, China

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	
☐	**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

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Radar Sensor
Model No.	77GHz 2T4R Sensor
Brand Name	STONKAM
EUT Identification No.	20201127Sample#06
Working Frequency Range	76 ~ 77GHz
Modulation:	FMCW
Working Voltage Range:	6VDC ~ 32VDC
Working Temperature Range:	-20°C ~ 70°C
Antenna Type:	Integrated antenna

3. RF EXPOSURE EVALUATION

3.1. Limits

FCC 95.3385

Regardless of the power density levels permitted under this subpart, devices operating under the provisions of this subpart are subject to the radiofrequency radiation exposure requirements specified in §§1.1307(b), 2.1091, and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

§2.1091 Radiofrequency radiation exposure evaluation: portable devices

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

§1.1310 Radiofrequency radiation exposure limits.

Below sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f2	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f2	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1500	30
1,500-100,000	--	--	1.0	30

f= Frequency in MHz

* = Plane-wave equivalent power density

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

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

E = EIRP in mW

G = gain of antenna in linear scale

Pi = 3.14

r = distance between observation point and center of the radiator in cm

3.2. Test Result of RF Exposure Evaluation

Product	Radar Sensor
Test Item	RF Exposure Evaluation

Frequency Range (GHz)	Maximum EIRP (dBm)	Power Density at r = 20 cm (mW/cm^2)	Limit (mW/cm^2)
76 ~ 77	18.66	0.0146	1

CONCLUSION:

The Power density at 20cm as below:

$P_d(20cm) = 0.0146\ mW/cm^2 < 1\ mW/cm^2$

So the EUT complies with the FCC 95.3385 requirement.

The End

Appendix A - EUT Photograph

Refer to “2011RSU081-UE” file.