TEST REPORT

Application No.:	HKEM2206000565AT
Applicant:	Meizhou Guo Wei Electronics Co., Ltd.
Address of Applicant:	AD1 Section, Economic Development Area, Dongsheng Industrial District, Meizhou, Guangdong, China.
Equipment Under Test (EUT):	
EUT Name:	Video baby monitor
Model No.:	VM481BU
Trademark:	Motorola
FCC ID:	2ARRB-VM481ABU
IC:	20353-VM481ABU
HVIN:	VM481ABU
Standard(s) :	47 CFR Part 1.1307; 47 CFR Part 2.1091 KDB447498 D04 General RF Exposure Guidance v01 RSS102 Issue 5
Date of Receipt:	2022-06-09
Date of Test:	2022-06-10 to 2022-06-22
Date of Issue:	2022-06-23
Test Result:	The submitted sample was found to comply with the test requirement

Law Man Kit
EMC Manager

Revision Record				
Version	***Chapter***	***Date***	***Modifier***	***Remark***
01		2022-06-23		*Original*

Authorized for issue by:				
				
		Panny Leung **/Project Engineer**		Date: 2022-06-23
				
		Law Man Kit **/Reviewer**		Date: 2022-06-23

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
RF Exposure	47 CFR Part 1.1307, 47 CFR Part 2.1091, KDB 447498 D04	KDB447498D04	KDB447498D04	PASS
RF Exposure	RSS102 Issue 5	RSS-102 Section 2.5.1	RSS102 Issue 5	PASS

Declaration of EUT Family Grouping:

None.

Abbreviation:

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

CH: In this whole report CH means channel.

Volt: In this whole report Volt means Voltage.

Temp: In this whole report Temp means Temperature.

Humid: In this whole report Humid means humidity.

Press: In this whole report Press means Pressure.

N/A: In this whole report not application.

3 Contents

4 General Information

4.1 Details of E.U.T.

	Power supply:	Adaptor 1 Model: BQ05A-0501000-U Input: AC 100-240V, 50/60Hz, Max 300mA Output: DC 5V, 1.0A or Adaptor 2 Model: AT-538A-050100A Input: AC 100-240V, 50/60Hz, 200mA Output: DC 5V, 1.0A
	Test voltage:	AC 120V
	Cable:	Power Cable: 185cm unshielded 2 wires DC cable
	Antenna Gain:	0 dBi
	Antenna Type:	Integral antenna
	Modulation Type:	GFSK
	Number of Channels:	32
	Operation Frequency:	2405MHz to 2475MHz
	Series number:	A1
	Hardware Version:	V1.0
	Software Version:	V0.17
		Remark: Power level setting was not adjustable and fixed default through SW Version.

Frequency List

Channel Number	TX Freq (MHz)	Channel Number	TX Freq (MHz)	Channel Number	TX Freq (MHz)
1	2405	13	2430	25	2458.5
2	2407	14	2433	26	2460.5
3	2409	15	2435	27	2462.5
4	2411	16	2437	28	2467
5	2413	**17**	2439	29	2469
6	2415	18	2441	30	2471
7	2418	19	2444	31	2473
8	2420	20	2446	**32**	2475
9	2422	21	2450		
10	2424	22	2452		
11	2426	23	2454		
12	2428	24	2456		

Remark: 1. Operation channel is total 32.
2. Testing Channels are highlighted in **bold**.

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Test Location

All tests were performed at:

SGS Hong Kong Limited

Unit 2 and 3, G/F, Block A, Po Lung Centre,

11 Wang Chiu Road, Kowloon Bay, Kowloon, Hong Kong

Tel: +852 2305 2570 Fax: +852 2756 4480

No tests were sub-contracted.

4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **IAS Accreditation (Lab Code: TL-817)**

SGS Hong Kong Limited has met the requirements of AC89, IAS Accreditation Criteria for Testing Laboratories, and has demonstrated compliance with ISO/IEC Standard 17025:2017, General requirements for the competence of testing and calibration laboratories. This organization is accredited to provide the services specified in the scope of accreditation maintained on the IAS website (www.iasonline.org).

The report must not be used by the client to claim product certification, approval, or endorsement by IAS, NIST, or any agency of the Federal Government.

- **FCC Recognized Accredited Test Firm(CAB Registration No.: 514599)**

SGS Hong Kong Limited has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: HK0015, Test Firm Registration Number: 514599.

- **Industry Canada (Site Registration No.: 26103; CAB Identifier No.: HK0015)**

SGS Hong Kong Limited has been recognized by Department of Innovation, Science and Economic Development (ISED) Canada as a wireless testing laboratory. The acceptance letter from the ISED is maintained in our files. CAB Identifier No: HK0015, Site Registration Number: 26103.

4.5 Deviation from Standards

None

4.6 Abnormalities from Standard Conditions

None

5 Radio Spectrum Technical Requirement

5.1 RF Exposure

5.1.1 Test Requirement:

CFR 47 Part 1.1310

Limit:

According to FCC Part1.1310: 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 Part1.1307(b)

TABLE 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)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	$*900/f^2$	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 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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

S = power density (mW/cm^2)
P = the net power delivered to the antenna (mW)
G = gain of the antenna in linear scale
d = distance between observation point and center of the radiator (cm)

5.1.1 IC Radiofrequncy radiation

According to RSS-102 Issue 5, section 2.5.2 Exemption.

RF exposure evaluation is required if the separation distance between the user and the device's radiating element is greater than 20 cm, except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);

at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 22.48/f0.5W (adjusted for tune-up tolerance), where f is in MHz;

at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);

at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1.31 x 10-2 f0.6834 W (adjusted for tune-up tolerance), where f is in MHz;

at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

5.1.2 EUT RF Exposure Evaluation

Antenna Gain:

The maximum Gain measured in fully anechoic chamber is 1.0 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

For FCC;

FHSS:

Channel	Frequency (MHz)	Conduct power (including Tune-up tolerance) (dBm)	Conduct power (mW)	Power Density at R = 20 cm (mW/cm2)	Limit	MPE Ratios	Result
Low	2405	18.5	70.795	0.014	1	0.014	PASS
Middle	2439	17.1	51.286	0.010	1	0.010	PASS
High	2475	16.6	45.709	0.009	1	0.009	PASS

For IC:

FHSS:

Channel	Frequency (MHz)	Conduct power (including Tune-up tolerance) (dBm)	E.I.R.P (dBm)	E.I.R.P (W)	Limit (W)	Result
Low	2405	18.5	18.5	0.071	2.679	PASS
Middle	2439	17.1	17.1	0.051	2.705	PASS
High	2475	16.6	16.6	0.046	2.732	PASS

Note: 1. Refer to report No. HKEM220600056502 for EUT test conducted power value. requirement.

6 Photographs

Remark: Photos refer to Appendix: External Photo, Internal Photo, and setup Photo.

- End of the Report -