TEST REPORT

Application No.:	HKEM1901000148AT
Applicant:	VTECH TELECOMMUNICATIONS LTD
Address of Applicant:	23/F, Tai Ping Industrial Centre, Block 1, 57 Ting Kok Road, Tai Po, Hong Kong
Manufacturer:	VTECH TELECOMMUNICATIONS LTD
Address of Manufacturer:	23/F, Tai Ping Industrial Centre, Block 1, 57 Ting Kok Road, Tai Po, Hong Kong
Factory:	VTech (Dongguan) Telecommunications Limited.
Address of Factory:	VTech Science Park, Xia Ling Bei Management Zone, Liaobu, Dongguan, Guangdong, China.
Equipment Under Test (EUT):	
EUT Name:	Video Monitor
HVIN:	35-201155BU
Model No.:	VM320 BU, VM320-2 BU, VM320-ab BU ♣
Trade mark:	VTech
♣	Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.
Standard(s):	47 CFR Part 1.1307 (2018) 47 CFR Part 1.1310 (2018) RSS102 Issue 5 March 2015
Date of Receipt:	02/12/2019
Date of Test:	02/12/2019 to 08/03/2019
Date of Issue:	03/15/2019
Test Result :	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Ivan Toa

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		03/15/2019		*Original*

Authorized for issue by:				
Tested By				03/15/2019
		Leo Xu /Project Engineer		**Date**
Checked By				03/15/2019
		Ivan Toa /Reviewer		**Date**

1 Contents

2 General Information

2.1 Details of E.U.T.

Power supply:	AC100-120V, 60Hz
Adapter	Adaptor 1*
	Adapter Model: CS3E060040LU
	Input: AC100-120V, 60Hz 200mA
	Output: DC 6.0V, 400mA
	Adaptor 2
	Adapter Model: S003AKU0600040
	Input: AC100-120V, 60Hz 150mA
	Output: DC 6.0V, 400mA
Cable	200cm 2 wires unshielded DC power cable
Funtion	Wireless Network camera, Local storage (micro sd card) recording
Test Voltage	AC120V 60 Hz
Operation Frequency:	2405MHz to 2475MHz
Channel Numbers:	32
Channel Separation:	2MHz
Type of Modulation:	GFSK
Sample Type:	Fixed production
Antenna Type:	Intergral Antenna
Antenna Gain:	0 dBi
Frequency List	

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

Remark: Test frequencies are the lowest channel: 1channel(2405MHz), middle channel: 17 channel (2439 MHz) and highest channel: 32 channel (2475 MHz).

2.2 Test Location

All tests were performed at:

SGS IECC Limited (Member of the SGS Group (SGS SA))
No. 16-B, Yip Wo Street, On Lok Tsuen, Fanling, N.T., Hong Kong
Tel: +852 2305 2570 Fax: +852 2756 4480

No tests were sub-contracted.

2.3 Test Facility

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

• HOKLAS (Lab Code: 125)

SGS IECC Limited has been accepted by HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a HOKLAS Accredited Laboratory, this laboratory meets the requirements of ISO/IEC 17025:2005 an it has been accredited for performing specific test as listed in the scope of accreditation within the test category of Electrical and Electronic Products.

• FCC Recognized Accredited Test Firm (CAB Registration No.: 446297)

SGS IECC 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: HK0010, Test Firm Registration Number: 446297.

• Industry Canada (Site Registration No.: 5193A; CAB Identifier No.: HK0001)

SGS IECC 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: HK0001, Site Registration Number: 5193A.

2.4 Deviation from Standards

None

2.5 Abnormalities from Standard Conditions

None

2.6 Deviation from Standards

None.

2.7 Abnormalities from Standard Conditions

None.

2.8 Other Information Requested by the Customer

None.

3 RF Exposure Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 FCC Radiofrequncy radiation Limits

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 Exposures				
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
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	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
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4* Pi * R 2)

Where

Pd = power density in mW/cm2

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 id the limit of MPE, 1 mW/cm2 . 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.

3.1.2 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).

3.1.3 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3.1.4 EUT RF Exposure Evaluation

Antenna Gain: 0dBi

The maximum Gain measured in fully anechoic chamber is 1 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

For FCC:

Channel	Frequency (MHz)	Conduct power (including Tune-up tolerance) (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm2)	Limit	MPE Ratios	Result
Middle	2439	18.9	77.625	0.0154	1	0.0154	PASS

For IC:

Channel	Frequency (MHz)	Conduct power (including Tune-up tolerance) (dBm)	E.I.R.P (W)	Limit (W)	Result
Highest	2439	18.9	0.0776	2.7	PASS

Note: Refer to report No. HKEM190100014801 for EUT test EIRP value. The distancer (5th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

- End of the Report -