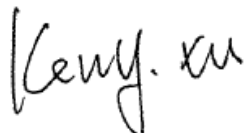


TEST REPORT

Application No.: HKEM1910001026AT
Applicant: Vtech Telecommunications Ltd
Address of Applicant: 23/F, Tai Ping Industrial Centre, Block 1, 57 Ting Kok Road, Tai Po, Hong Kong
Equipment Under Test (EUT):
EUT Name: Pan and Tilt Monitor
Model No.: RM5764 BU; RM5764HD BU; RM5764-2HD BU; RM5764-aHD BU; RM5864 BU; RM5864HD BU; RM5864-aHD BU; VM906HD BU; VM906-1bHD BU; VM906-abHD BU; RM7764 BU; RM7764HD BU; RM7764-2HD BU; RM7764-aHD BU; RM7864 BU; RM7864HD BU; RM7864-2HD BU; RM7864-aHD BU; VM907HD BU; VM907-1bHD BU; VM907-abHD BU ♣
 ♣ Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.
Standards: 47 CFR Part 1.1307 (2019)
 47 CFR Part 1.1310 (2019)
 RSS102 Issue 5 March 2015
FCC ID: EW780-1922-00
IC: 1135B-80192200
HVIN: 35-400243BU
Date of Receipt: 2019-10-25
Date of Test: 2019-10-25 to 2019-11-07
Date of Issue: 2019-11-13
Test Result : **Pass***

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



Keny Xu
EMC Laboratory Manager



Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-11-13		Original

Authorized for issue by:			
Tested by:		<i>Vincent Chen</i>	
		Vincent Chen /Project Engineer	
Checked by:		<i>Eric Fu</i>	
		Eric Fu /Reviewer	



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SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch, Shenzhen CSTC Laboratory

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2 General Information

2.1 Details of E.U.T.

Power supply:	AC 120 V, 60 Hz
Adapter	Adaptor 1 model: VT05EUS05100 Input: AC 100 V – 240 V, 50/60 Hz Output: DC 5 V, 1 A Adaptor 2 model: S005CAU0500100 Input: AC 100 V – 240 V, 50/60 Hz Output: DC 5 V, 1 A
Battery	N/A
Function	Monitoring Device
Test Voltage	AC120 V 60 Hz
Operation Frequency:	2412-2462MHz
Channel Numbers:	11
Channel Separation:	5MHz
Type of Modulation:	DSSS
Sample Type:	Indoor
Antenna Type:	Dipole
Antenna Gain:	1 dBi
Frequency List	

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447		

Remark: Test frequencies for 20MHz bandwidth are the lowest channel: 1 channel(2412MHz), middle channel: 6 channel (2437 MHz) and highest channel: 11 channel (2462 MHz).



2.2 Description of Support Units

The EUT has been tested with corresponding accessories as below:

Supplied by client

Description	Manufacturer	Model No.	SN/Certificate NO
UART Test board	N/A	MX3232	N/A
Test Software	MicroRidge System	Version 3.0.0.108	N/A

Supplied by SGS:

Description	Manufacturer	Model No.	SN/Certificate NO
NoteBook (EMC2)	Dell	P75F	N/A



2.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053

Fax: +86 755 2671 0594

2.4 Test Facility

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

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.



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2.5 Deviation from Standards

None

2.6 Abnormalities from Standard Conditions

None

Remark:

Item no.:

RM5764 BU; RM5764HD BU; RM5764-2HD BU; RM5764-aHD BU; RM5864 BU; RM5864HD BU;
RM5864-aHD BU; VM906HD BU; VM906-1bHD BU; VM906-abHD BU; RM7764 BU; RM7764HD BU;
RM7764-2HD BU; RM7764-aHD BU; RM7864 BU; RM7864HD BU; RM7864-2HD BU; RM7864-aHD BU;
VM907HD BU; VM907-1bHD BU; VM907-abHD BU

a=any alphanumeric character or blank is presenting number of baby unit.

b= any alphanumeric character or blank is presenting color option

According to the confirmation from the applicant, the above models are identical in all electrical aspects in relating to the circuit design, PCB layout, electrical components used, internal wiring and functions. The differences are only the model/item No, color and decorations.

Therefore only the model RM5764HD BU was tested in this report.



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3 RF Exposure Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 FCC Radiofrequency 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: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is 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.



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3.1.2 IC Radiofrequency 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 $22.48/f^{0.5}W$ (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 $1.31 \times 10^{-2} f^{0.6834} W$ (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: 1 dBi

The maximum Gain measured in fully anechoic chamber is 1.259 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

For FCC:

Channel	Frequency (MHz)	Conduct power (including Tune-up tolerance) (dBm)	Conduct power (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit	MPE Ratios	Result
Low	2412	14.4	27.542	0.00690	1	0.00690	PASS
Middle	2437	13.7	23.442	0.00587	1	0.00587	PASS
High	2462	13.4	21.878	0.00548	1	0.00548	PASS

For IC:

Channel	Frequency (MHz)	e.i.r.p (including Tune-up tolerance) (dBm)	E.I.R.P (W)	Limit (W)	Result
Low	2412	15.4	0.035	2.7	PASS
Middle	2437	14.7	0.030	2.7	PASS
High	2462	14.4	0.028	2.7	PASS

Note: Refer to report No. HKEM191200102601 on 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 -

