

Report No.: HKEM191200122803 Page: 1 of 7

RF Exposure Evaluation Report

- Application No.:					
Applicant:	23/F., Tai Ping Ind Center Block 1, 57 Ting Kok Rd Tai Po NT Hong Kong				
Address of Applicant:	VTech Telecommunications Ltd				
Manufacturer:	23/F., Tai Ping Ind Center Block 1, 57 Ting Kok Rd Tai Po NT Hong Kong				
Address of Manufacturer:	23/F., Tai Ping Ind Center Block 1, 57 Ting Kok Rd Tai Po NT 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:	DECT Audio Baby monitor				
	DM1212 BU, DM1212-2 BU, DM1212-ab BU A				
+	actually tested and which were electrically identical.				
Trade mark:	Vtech				
FCC ID:	EW780-1993-00				
HVIN:	35-201286BU				
Standards:	47 CFR Part 1.1307				
	47 CFR Part 1.1310				
	47 CFR Part 2.1091				
Date of Receipt:	2019-12-12				
Date of Test:	2019-12-13 to 2020-01-02				
Date of Issue:	2020-01-03				
Test Result :	PASS*				

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

Keny. KN

Keny Xu EMC Laboratory Manager



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2 Version

Revision Record							
Version	Chapter	Date	Modifier	Remark			
01		2020-01-06		Original			

Authorized for issue by:		
	Vincent Chen	
	Vincent Chen /Project Engineer	-
	EvicFu	
	Eric Fu /Reviewer	-



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4 General Information

4.1 General Description of EUT

Power supply:	Adapter 1 model: S003AKU0600040		
	Input: AC 100-120V, 60Hz, 150mA		
	Output: DC 6V, 400mA		
	Adapter 2 model: VT05UUS06040		
	Input: AC 100-120V, 60Hz, 150mA		
	Output: DC 6V, 400mA		
	Both adapters are tested, only show the worst adapter's data in this report.		
Frequency Range:	1921.536 to 1928.448 MHz		
Number of Channels:	5 RF Channels, 5 × 12 = 60 TDMA Duplex Channels		
Type of Modulation:	Digital (Gaussian Frequency Shift Keying)		
Modulation Technique:	GFSK		
Antenna Connector:	None		
Antenna Gain:	0dBi		
Number of Antennas:	2		
Antenna Diversity Supported:	Yes		
Hardware Version:	35-201313BU		
Software Version:	B004B1103		
Remark:	Two antennas can not simultaneous transmission, only show the worst case antenna 1 in this report.		

Remark:

Model No.: DM1212 BU, DM1212-2 BU, DM1212-ab BU

Only the model DM1212 BU was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on color and model No. and others as below:

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

b = any alphanumeric character or blank is presenting color of enclosure.



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4.2 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

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.3 Test Facility

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

• 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.

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.



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5 **RF Exposure Evaluation**

5.1 RF Exposure Compliance Requirement

5.1.1 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) Lim	its for Occupational	I/Controlled Exposu	res		
0.3–3.0 3.0–30 30–300 300–1500 1500–100,000	614 1842/f 61.4	1.63 4.89/f 0.163	*(100) *(900/f²) 1.0 f/300 5	6 6 6 6	
(B) Limits	for General Populati	on/Uncontrolled Exp	oosure		
0.3–1.34	614	1.63	*(100)	30	

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.

5.1.2 Test Procedure

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



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5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 0dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.00 in linear scale. Output Power Into Antenna & RF Exposure Evaluation Distance:

Worst case Antenna 1:

Channel	Frequency (MHz)	Max Conducted Peak Output	Output Power to Antenna	Power Density at R = 20 cm	Limit	Result
	()	Power (dBm)	(mW)	(mW/cm ²)		
Highest	1928.448	20.84	121.34	0.024	1.0	PASS

Note: Refer to report No. HKEM191200122802 for EUT test Max Conducted Peak Output Power value. The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

- End of the Report -



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