

VTech Telecommunications Ltd.

Application
For
Certification

1. 1.9GHz Digital Modulation Cordless Phone with Bluetooth - Base Unit Bluetooth Portion
2. 1.9GHz Digital Modulation Cordless Phone with Bluetooth and Digital Answering Machine - Base Unit Bluetooth Portion

(FCC ID: EW780-7264-00)

HK09060655-1
KS/cl
July 16, 2009

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Intertek Testing Services Hong Kong Ltd.

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INTERTEK TESTING SERVICES

MEASUREMENT/TECHNICAL REPORT

**VTech Telecommunications Ltd. - Model: DS6311, DS631Z-XY,
DS6321, DS6322, and DS632Z-XY
FCC ID: EW780-7264-00**

This report concerns (check one:)		Original Grant <input checked="" type="checkbox"/>	Class II Change <input type="checkbox"/>
Equipment Type : <u>DXX - Lower Power Transmitter</u>			
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
		If yes, defer until : _____ date	
Company Name agrees to notify the Commission by:		_____ date	
of the intended date of announcement of the product so that the grant can be issued on that date.			
Transition Rules Request per 15.37 ?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-08 Edition] Provision.			
Report prepared by:	Sit Kim Wai, Ken Intertek Testing Services Hong Kong Ltd. 2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. Phone : 852-2173-8538 Fax: 852-2741-1693		

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**EXHIBIT 1
GENERAL DESCRIPTION**

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1.0 General Description

1.1 Product Description

The Model:DS6311-2 is a 1.9GHz Digital Modulation Cordless Phone with Bluetooth – Base Unit Bluetooth Portion, while DS6321-2 is 1.9GHz Digital Modulation Cordless Phone with Digital Answering Machine and Bluetooth – Base Unit Bluetooth Portion. Only Base offers Bluetooth feature, and it operates at frequency range of 2402-2480MHz with 79 channels.

Handset unit has a “cell” button that manages Bluetooth connections to a Bluetooth-equipped mobile device. With Bluetooth and 1.9GHz wireless communications enable, the Base Unit allows user uses the cordless handset to dial out or receive cellular phone calls via the cellular network. Two Bluetooth equipped cellular phones can be connected but only one can be a call at a time.

Both Base Units for DS6311-2 and DS6321-2 are powered by an AC adaptor type A: 100-120VAC to 6VDC 400mA (model SSA-5AP-09 US 060040L), and an alternative AC adaptor type B: 100-120VAC to 6VDC 400mA (model: S005IU0600040).

The Bluetooth antenna used in base unit is integral, and the tested sample is a prototype.

The Model: DS6311 and DS631Z-XY are the same as the Model: DS6311-2 in hardware aspect. The Model: DS6321, DS6322, and DS632Z-XY are the same as the Model: DS6321-2 in hardware aspect. The RF Modules of DS6311-2 and DS6321-2 are identical including RF algorithm. Suffix (X) indicates different number of handset, suffix (Y) indicates different color of enclosure and suffix (Z) indicates different packaging material. The difference in model number serves as the marketing strategy.

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1.2 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Preliminary radiated scans were performed in the Open Area Test Site only to determine worst case modes. All radiated measurements were performed in Open Area Test Sites. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application.

1.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data and conducted data are located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC.

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**EXHIBIT 2
SYSTEM TEST CONFIGURATION**

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2.0 System Test Configuration

2.1 Justification

For emissions testing, the equipment under test (EUT) was setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables (if any) were manipulated to produce worst case emissions. The EUT was powered by an AC adaptor type A: 100-120VAC to 6VDC 400mA (model SSA-5AP-09 US 060040L), and an alternative AC adaptor type B: 100-120VAC to 6VDC 400mA (model: S005IU0600040). Two types of same-rating adaptor were considered.

For the measurements, the EUT is attached to a plastic stand if necessary and placed on the wooden turntable. If the base unit attaches to peripherals, they are connected and operational (as typical as possible).

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

Measurements of the radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF*. The effective period (τ_{eff}) was 625 μ s for Bluetooth. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3 dB, the pulse desensitization factor was 0 dB.

2.2 EUT Exercising Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

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2.3 Details of EUT and Description of Peripherals

Details of EUT:

An AC adaptor and/or a battery (provided with the unit) were used to power the device. Their description are listed below.

- (1) Base Unit: An AC adaptor type A (100-120VAC to 6VDC 400mA, Model: SSA-5AP-09 US 060040L) (Supplied by Client)
- (2) Base Unit: An AC adaptor type B (100-120VAC to 6VDC 400mA, Model: S005IU0600040) (Supplied by Client)

Description of Peripherals:

- (1) Telecommunication cable with RJ11C connectors (1m, unshielded), terminated (Supplied by Intertek)
- (2) Handset: A "Ni-MH type rechargeable battery pack (2.4V, 500mAh/ 550mAh/ 750mAh) (Supplied by Client)
- (3) Handset, Model No: DS6311-2 / DS6321-2, FCC ID: EW780-7264-00 (Supplied by Client)
- (4) Nokia Mobile Phone, Model: 5300, FCC ID: PPIRM-146 (Supplied by Intertek)

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2.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty test has been considered.

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

2.5 Equipment Modification

Any modifications installed previous to testing by VTech Telecommunications Ltd. will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Commercial & Electrical Division, Intertek Testing Services Hong Kong Ltd.

All the items listed under section 2.0 of this report are confirmed by:

Confirmed by:

*Sit Kim Wai, Ken
Manager
Intertek Testing Services
Agent for VTech Telecommunications Ltd.*



Signature

July 16, 2009 Date

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**EXHIBIT 3
EMISSION RESULTS**

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3.0 Emission Results

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

where FS = Field Strength in dB μ V/m
 RA = Receiver Amplitude (including preamplifier) in dB μ V
 CF = Cable Attenuation Factor in dB
 AF = Antenna Factor in dB
 AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:-

$$FS = RR + LF$$

where FS = Field Strength in dB μ V/m
 RR = RA - AG in dB μ V
 LF = CF + AF in dB

Assume a receiver reading of 52.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 52.0 dB μ V
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
FS = RR + LF
FS = 23 + 9 = 32 dB μ V/m

RR = 23.0 dB μ V
LF = 9.0 dB

Level in μ V/m = Common Antilogarithm [(32 dB μ V/m)/20] = 39.8 μ V/m

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3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission

at

Base Unit with Adaptor Type B for Model: DS6311-2 – 4804.000 MHz

Base Unit with Adaptor Type A for Model: DS6321-2 – 4882.000 MHz

The worst case radiated emission configuration photographs are saved with filename: config photos.pdf

3.3 Radiated Emission Data

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Judgement :

Base Unit with Adaptor Type B for Model: DS6311-2 – Passed by 3.1 dB margin compared with average limit

Base Unit with Adaptor Type A for Model: DS6321-2 – Passed by 3.2 dB margin compared with average limit

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

July 16, 2009
Date

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6311-2
Mode : TX-Channel 0 (Adaptor Type A)

Date of Test: June 12-20, 2009

Table 1, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2402.000	92.4	33	29.4	88.8	94.0	-5.2
H	*4804.000	48.5	33	34.9	50.4	54.0	-3.6
H	7206.000	45.3	33	37.9	50.2	54.0	-3.8
H	9608.000	42.2	33	40.4	49.6	54.0	-4.4
H	*12010.000	41.7	33	40.5	49.2	54.0	-4.8
H	14412.000	41.7	33	40.0	48.7	54.0	-5.3

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6311-2
Mode : TX-Channel 39 (Adaptor Type A)

Date of Test: June 12-20, 2009

Table 2, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2441.000	92.4	33	29.4	88.8	94.0	-5.2
H	*4882.000	48.3	33	34.9	50.2	54.0	-3.8
H	*7323.000	45.5	33	37.9	50.4	54.0	-3.6
H	9764.000	42.4	33	40.4	49.8	54.0	-4.2
H	*12205.000	41.7	33	40.5	49.2	54.0	-4.8
H	14646.000	42.8	33	38.4	48.2	54.0	-5.8

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6311-2
Mode : TX-Channel 78 (Adaptor Type A)

Date of Test: June 12-20, 2009

Table 3, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2480.000	92.3	33	29.4	88.7	94.0	-5.3
H	*4960.000	48.9	33	34.9	50.8	54.0	-3.2
H	*7440.000	45.3	33	37.9	50.2	54.0	-3.8
H	9920.000	42.0	33	40.4	49.4	54.0	-4.6
H	*12400.000	41.8	33	40.5	49.3	54.0	-4.7
H	14880.000	43.2	33	38.4	48.6	54.0	-5.4

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6311-2

Mode : Talk (Adaptor Type A)

Table 4, Base unit

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	55.990	38.4	16	11.0	33.4	40.0	-6.6
V	103.980	37.6	16	13.0	34.6	43.5	-8.9
H	155.970	34.2	16	16.0	34.2	43.5	-9.3
H	181.965	29.9	16	20.0	33.9	43.5	-9.6
H	207.960	33.1	16	17.0	34.1	43.5	-9.4
H	285.947	28.6	16	22.0	34.6	46.0	-11.4
H	363.955	30.6	16	24.0	38.6	46.0	-7.4
H	*399.925	26.2	16	25.0	35.2	46.0	-10.8
H	467.985	29.4	16	26.0	39.4	46.0	-6.6
H	545.895	23.1	16	28.0	35.1	46.0	-10.9
H	649.875	22.0	16	29.0	35.0	46.0	-11.0

NOTES: 1. Peak detector is used for the emission measurement.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

* Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6311-2
Mode : TX-Channel 0 (Adaptor Type B)

Date of Test: June 12-20, 2009

Table 5, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2402.000	92.1	33	29.4	88.5	94.0	-5.5
H	*4804.000	49.0	33	34.9	50.9	54.0	-3.1
H	7206.000	45.5	33	37.9	50.4	54.0	-3.6
H	9608.000	42.2	33	40.4	49.6	54.0	-4.4
H	*12010.000	41.7	33	40.5	49.2	54.0	-4.8
H	14412.000	41.6	33	40.0	48.6	54.0	-5.4

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6311-2

Mode : TX-Channel 39 (Adaptor Type B)

Table 6, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2441.000	92.2	33	29.4	88.6	94.0	-5.4
H	*4882.000	48.9	33	34.9	50.8	54.0	-3.2
H	*7323.000	45.7	33	37.9	50.6	54.0	-3.4
H	9764.000	41.8	33	40.4	49.2	54.0	-4.8
H	*12205.000	41.9	33	40.5	49.4	54.0	-4.6
H	14646.000	43.1	33	38.4	48.5	54.0	-5.5

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6311-2
Mode : TX-Channel 78 (Adaptor Type B)

Date of Test: June 12-20, 2009

Table 7, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2480.000	92.3	33	29.4	88.7	94.0	-5.3
H	*4960.000	48.7	33	34.9	50.6	54.0	-3.4
H	*7440.000	45.5	33	37.9	50.4	54.0	-3.6
H	9920.000	41.8	33	40.4	49.2	54.0	-4.8
H	*12400.000	42.1	33	40.5	49.6	54.0	-4.4
H	14880.000	42.8	33	38.4	48.2	54.0	-5.8

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6311-2

Mode : Talk (Adaptor Type B)

Table 8, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.209 Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	55.990	38.6	16	11.0	33.6	40.0	-6.4
V	103.980	37.1	16	13.0	34.1	43.5	-9.4
H	155.970	34.2	16	16.0	34.2	43.5	-9.3
H	181.965	29.8	16	20.0	33.8	43.5	-9.7
H	207.960	32.8	16	17.0	33.8	43.5	-9.7
H	285.947	28.9	16	22.0	34.9	46.0	-11.1
H	363.955	30.4	16	24.0	38.4	46.0	-7.6
H	*399.925	26.2	16	25.0	35.2	46.0	-10.8
H	467.985	29.5	16	26.0	39.5	46.0	-6.5
H	545.895	23.6	16	28.0	35.6	46.0	-10.4
H	649.875	21.8	16	29.0	34.8	46.0	-11.2

- NOTES: 1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6321-2
Mode : TX-Channel 0 (Adaptor Type A)

Date of Test: June 12-20, 2009

Table 9, Base unit

**Radiated Emissions
Pursuant to FCC Part 15 Section 15.249(a) Requirements**

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2402.000	92.2	33	29.4	88.6	94.0	-5.4
H	*4804.000	48.5	33	34.9	50.4	54.0	-3.6
H	7206.000	45.3	33	37.9	50.2	54.0	-3.8
H	9608.000	42.2	33	40.4	49.6	54.0	-4.4
H	*12010.000	41.7	33	40.5	49.2	54.0	-4.8
H	14412.000	41.6	33	40.0	48.6	54.0	-5.4

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6321-2

Mode : TX-Channel 39 (Adaptor Type A)

Table 10, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2441.000	92.4	33	29.4	88.8	94.0	-5.2
H	*4882.000	48.9	33	34.9	50.8	54.0	-3.2
H	*7323.000	45.7	33	37.9	50.6	54.0	-3.4
H	9764.000	42.1	33	40.4	49.5	54.0	-4.5
H	*12205.000	41.8	33	40.5	49.3	54.0	-4.7
H	14646.000	43.0	33	38.4	48.4	54.0	-5.6

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6321-2

Mode : TX-Channel 78 (Adaptor Type A)

Table 11, Base unit

Radiated Emissions
Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polari- zation	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2480.000	92.5	33	29.4	88.9	94.0	-5.1
H	*4960.000	48.7	33	34.9	50.6	54.0	-3.4
H	*7440.000	45.3	33	37.9	50.2	54.0	-3.8
H	9920.000	42.2	33	40.4	49.6	54.0	-4.4
H	*12400.000	41.7	33	40.5	49.2	54.0	-4.8
H	14880.000	42.8	33	38.4	48.2	54.0	-5.8

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6321-2

Mode : Talk (Adaptor Type A)

Table 12, Base unit

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	51.990	38.6	16	11.0	33.6	40.0	-6.4
V	77.985	44.1	16	6.0	34.1	40.0	-5.9
H	103.980	36.9	16	13.0	33.9	43.5	-9.6
H	155.970	34.6	16	16.0	34.6	43.5	-8.9
H	181.965	30.2	16	20.0	34.2	43.5	-9.3
H	207.960	32.2	16	17.0	33.2	43.5	-10.3
H	233.955	31.6	16	19.0	34.6	46.0	-11.4
H	*259.950	29.9	16	21.0	34.9	46.0	-11.1
H	285.945	28.8	16	22.0	34.8	46.0	-11.2
H	337.935	27.2	16	24.0	35.2	46.0	-10.8
H	363.955	31.4	16	24.0	39.4	46.0	-6.6
H	*399.925	26.6	16	25.0	35.6	46.0	-10.4
H	415.995	26.2	16	25.0	35.2	46.0	-10.8
H	467.985	28.6	16	26.0	38.6	46.0	-7.4
H	519.900	24.8	16	27.0	35.8	46.0	-10.2
H	545.895	22.9	16	28.0	34.9	46.0	-11.1
H	597.885	21.6	16	29.0	34.6	46.0	-11.4
H	649.875	21.0	16	29.0	34.0	46.0	-12.0

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

Test Report Number: HK09060655-1

FCC ID: EW780-7264-00

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6321-2
Mode : TX-Channel 0 (Adaptor Type B)

Date of Test: June 12-20, 2009

Table 13, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2402.000	92.2	33	29.4	88.6	94.0	-5.4
H	*4804.000	48.5	33	34.9	50.4	54.0	-3.6
H	7206.000	45.4	33	37.9	50.3	54.0	-3.7
H	9608.000	42.0	33	40.4	49.4	54.0	-4.6
H	*12010.000	41.5	33	40.5	49.0	54.0	-5.0
H	14412.000	41.6	33	40.0	48.6	54.0	-5.4

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6321-2

Mode : TX-Channel 39 (Adaptor Type B)

Table 14, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2441.000	92.4	33	29.4	88.8	94.0	-5.2
H	*4882.000	48.7	33	34.9	50.6	54.0	-3.4
H	*7323.000	45.5	33	37.9	50.4	54.0	-3.6
H	9764.000	42.1	33	40.4	49.5	54.0	-4.5
H	*12205.000	41.8	33	40.5	49.3	54.0	-4.7
H	14646.000	42.8	33	38.4	48.2	54.0	-5.8

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6321-2
Mode : TX-Channel 78 (Adaptor Type B)

Date of Test: June 12-20, 2009

Table 15, Base unit

Radiated Emissions
Pursuant to FCC Part 15 Section 15.249(a) Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	2480.000	92.0	33	29.4	88.4	94.0	-5.6
H	*4960.000	48.5	33	34.9	50.4	54.0	-3.6
H	*7440.000	45.5	33	37.9	50.4	54.0	-3.6
H	9920.000	41.8	33	40.4	49.2	54.0	-4.8
H	*12400.000	41.5	33	40.5	49.0	54.0	-5.0
H	14880.000	42.7	33	38.4	48.1	54.0	-5.9

- NOTES: 1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.

Date of Test: June 12-20, 2009

Model: DS6321-2

Mode : Talk (Adaptor Type B)

Table 16, Base unit

Radiated Emissions Pursuant to FCC Part 15 Section 15.209 Requirements

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	51.990	38.4	16	11.0	33.4	40.0	-6.6
V	77.985	44.1	16	6.0	34.1	40.0	-5.9
H	103.980	36.9	16	13.0	33.9	43.5	-9.6
H	155.970	34.6	16	16.0	34.6	43.5	-8.9
H	181.965	30.2	16	20.0	34.2	43.5	-9.3
H	207.960	32.2	16	17.0	33.2	43.5	-10.3
H	233.955	31.6	16	19.0	34.6	46.0	-11.4
H	*259.950	29.9	16	21.0	34.9	46.0	-11.1
H	285.945	28.8	16	22.0	34.8	46.0	-11.2
H	337.935	27.2	16	24.0	35.2	46.0	-10.8
H	363.955	31.6	16	24.0	39.6	46.0	-6.4
H	*399.925	26.4	16	25.0	35.4	46.0	-10.6
H	415.995	26.2	16	25.0	35.2	46.0	-10.8
H	467.985	28.5	16	26.0	38.5	46.0	-7.5
H	519.900	24.6	16	27.0	35.6	46.0	-10.4
H	545.895	22.8	16	28.0	34.8	46.0	-11.2
H	597.885	21.6	16	29.0	34.6	46.0	-11.4
H	649.875	21.2	16	29.0	34.2	46.0	-11.8

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
- * Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

Test Report Number: HK09060655-1

FCC ID: EW780-7264-00

INTERTEK TESTING SERVICES

3.4 Radiated Emission on the Bandedge - FCC Rule 15.249(d)

From the following plots, they show that the fundamental emissions are confined in the specified band (2400MHz to 2483.5MHz). In case of the fundamental emissions are within two standard bandwidths from the bandedge, the delta measurement technique is used for determining bandedge compliance. Standard bandwidth is the bandwidth specified by ANSI C63.4 (2003) for frequency being measured.

Emissions radiated outside of the specified frequency bands, except harmonics, are attenuated by 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation, which meet the requirement of part 15.249(d).

The plots for radiated emission on the bandedge are saved with filename: emission.pdf

Pursuant to FCC Part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

INTERTEK TESTING SERVICES

3.5 Line Conducted Configuration Photograph

Worst Case Line-Conducted Configuration

Base Unit with Adaptor Type A for model: DS6311-2 at 0.393 MHz

Base Unit with Adaptor Type A for model: DS6321-2 at 0.420 MHz

The worst case line conducted configuration photographs are saved with filename: config photos.pdf

3.6 Line Conducted Emission Data

The data on the following pages list the significant emission frequencies, the limit, and the margin of compliance.

Judgement :

Base Unit with Adaptor Type A for model: DS6311-2 – Passed by 12.88 dB margin compared with average limit

Base Unit with Adaptor Type A for model: DS6321-2 – Passed by 16.30 dB margin compared with average limit

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

July 16, 2009
Date

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: DS6311-2, DS6321-2

Date of Test: June 12-20, 2009

Conducted Emissions Pursuant to FCC Part 15 Section 15.207 Requirements

The conducted emission test result is saved with filename: conduct.pdf

INTERTEK TESTING SERVICES

**EXHIBIT 4
EQUIPMENT LIST**

INTERTEK TESTING SERVICES

4.0 Equipment List

1) Radiated Emissions Test

Equipment	EMI Test Receiver	Spectrum Analyzer	RF Pre-Amplifier
Registration No.	EW-0014	EW-2188	EW-1779a
Manufacturer	R&S	AGILENTTECH	MITEQ
Model No.	ESVS30	E4407B	AMF-4D-001120-34-13P
Calibration Date	Jun. 01, 2009	Dec. 18, 2008	Jul. 05, 2008
Calibration Due Date	Jun. 01, 2010	Dec. 18, 2009	Aug. 01, 2009

Equipment	Biconical Antenna	Log Periodic Antenna	Double Ridged Guide Antenna
Registration No.	EW-0954	EW-0446	EW-1015
Manufacturer	EMCO	EMCO	EMCO
Model No.	3104C	3146	3115
Calibration Date	Sep. 30, 2008	Oct. 02, 2008	Jul. 28, 2008
Calibration Due Date	Mar. 30, 2010	Apr. 02, 2010	Jan. 28, 2010

2) Conducted Emissions Test

Equipment	EMI Test Receiver	LISN	Pulse Limiter
Registration No.	EW-2251	EW-0192	EW-0698
Manufacturer	R&S	R&S	R&S
Model No.	ESCI	ESH3-Z5	ESH3-Z2
Calibration Date	Oct. 28, 2008	Nov. 12, 2008	Feb. 03, 2009
Calibration Due Date	Oct. 28, 2009	Nov. 12, 2009	Feb. 03, 2010

INTERTEK TESTING SERVICES

**APPENDIX
EXHIBITS FOR APPLICATION OF CERTIFICATION**