



VTech Telecommunications Ltd.

Application
For
Permissive Change Class II

5.8GHz Frequency Hopping Spread Spectrum Cordless Phone with Caller
ID, Speakerphone and Digital Answering Machine

(FCC ID: EW780-5681-00)

HK08030521-1
KS/ ac
April 17, 2008

- The test report only allows to be revised within three years from its original issued date unless further standard or the requirement was noticed.
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Intertek Testing Services Hong Kong Ltd.

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INTERTEK TESTING SERVICES

MEASUREMENT/TECHNICAL REPORT

VTech Telecommunications Ltd. - MODEL: TL76XY8, TL76008

FCC ID: EW780-5681-00

This report concerns (check one) Original Grant _____ Class II Change X

Equipment Type: DSS-Part 15 Spread Spectrum Transmitter

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No X

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 _____ No X

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [05-04-07 Edition] provision.

Report prepared by:

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List of attached file

Exhibit type	File Description	filename
Test Report	Test Report	report.pdf
Cover Letter	Purpose of Application	product change.pdf
Test Report	Out Band Antenna Conducted Emission Plot	obantcon.pdf
Test Report	Duty Cycle Calculation and Measurement	dcc.pdf
Test Setup Photos	Radiated & Conducted Emission	config photos.pdf
Test Report	Conducted Emission Test Result	conduct.pdf
External Photos	External Photo	external photos.pdf
Internal Photos	Internal Photo	internal photos.pdf
ID Label/Location Info	Label Artwork and Location	label.pdf
Cover Letter	Label Location Justification	justification.pdf
Users Manual	User Manual	manual 1.pdf manual 2.pdf
Cover Letter	Letter of Agency	letter of agency.pdf
RF Exposure Info	RF Safety	RF exposure.pdf
	SAR Report	SAR report 1 of 2.pdf SAR report 2 of 2.pdf

EXHIBIT 1
SUMMARY OF TEST RESULTS

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1.0 Summary of Test

VTech Telecommunications Ltd. - MODEL: TL76XY8, TL76008

FCC ID: EW780-5681-00

TEST	REFERENCE	RESULTS
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
AC Conducted Emission	15.207	Pass
Spurious Emission from Transmitters	15.209	Pass
Antenna Requirement	15.203	Pass (See Notes)
Radio Frequency Radiation Exposure	15.247(i)	Pass

Notes: The EUT uses a permanently attached antenna which, in accordance to Section 15.203, is considered sufficient to comply with the provisions of this section.

EXHIBIT 2
GENERAL DESCRIPTION

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2.0 General Description

2.1 Product Description

The TL76108 is a 5.8GHz Frequency Hopping Spread Spectrum Cordless Phone with Caller ID, Speakerphone and Digital Answering Machine. It operates at frequency range of 5744.736MHz to 5825.952MHz with 94 physical hopping frequencies and 75 logical hopping frequencies. The unit is capable of either tone or pulse dialing. The internal power supply's isolation is accomplished through a power transformer having an adequate dielectric rating. The circuit wiring is consistent under the requirement of part 68.

The antennas used in base unit and handset are integral, and the test sample is a prototype.

The Model: TL76108 is one of the Model: TL76XY8, and the letters "X" and "Y" represent different number of handset and extra charger and different package material respectively. The Model: TL76008 is an additional identical handset with a charger for selling a handset standalone. The difference in model number serves as marketing strategy.

Connection between the device and the telephone network is accomplished through the use of USOC RJ11C in the 2-wire loop calling central office line.

2.2 Purpose of Application

The purpose of application is saved with filename: product change.pdf

The RF module and FHSS algorithm/mechanism of the Base Unit and Handset are the same as the previous granted Model: EP5962. Enclosure, PCB layout of base, and length of handset antenna are changed. Basic functionality, intended usage, and circuitry remain unchanged.

For RF safety, RF exposure information is saved with filenames: "RF exposure.pdf" for base and "SAR report 1 of 2.pdf and SAR report 2 of 2.pdf" for handset.

This is an application for Certification of a DSS-Part 15 Spread Spectrum Cordless Telephone System. Two transmitters are included in this application. A verification report has been prepared for the digital portion. The device is also subject to Part 68 Registration.

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2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. Antenna port conducted measurements were performed according to FCC Public Notice DA 00-705. All other measurements were made in accordance with the procedures in 47 CFR Part 2.

2.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is 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.

EXHIBIT 3
SYSTEM TEST CONFIGURATION

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3.0 **System Test Configuration**

3.1 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 handset was powered by a fully charged battery.

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 handset (if any) is remotely located as far from the antenna and the base as possible to ensure full power transmission from the base. Else, the base is wired to transmit full power without modulation.

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. Detector function is in peak mode. 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 980 μs and 1 ms respectively as shown in the plots of Section 4.5. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3 dB, the pulse desensitization factor was 0 dB.

As the base unit has 2 antennas, both have been checked. While conducting the test on one of antennas, another one was being disable its transmission. The data in this report represented the worst-case.

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3.2 EUT Exercising Software

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

3.3 Details of EUT and Description of Peripherals

Details of EUT:

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

- (1) Base Unit: An AC adaptor (117VAC to 8VDC 850mA 21.6W, Model: U080085D31) (Supplied by Client)
- (2) Extra Charger: An AC adaptor (117VAC to 8VDC 200mA, Model: U080020D12) (Supplied by Client)
- (3) Handset: "Ni-MH" type rechargeable battery pack (3.6V 800mAh) (Supplied by Client)

Description of Peripherals:

- (1) A headset for telephone use with 1.2m unshielded cable permanently affixed. (Supplied by Intertek)
- (2) 3 x Telecommunication cable with RJ11C connectors (1m, unshielded), terminated (Supplied by Intertek)

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3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of 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.

3.5 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 3.0 of this report are confirmed by:

Confirmed by:

*Sit Kim Wai, Ken
Supervisor
Intertek Testing Services Hong Kong Ltd.
Agent for VTech Telecommunications Ltd.*



Signature

April 17, 2008 Date

EXHIBIT 4
MEASUREMENT RESULTS

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.0 **Measurement Results**

4.1 Out of Band Conducted Emissions, FCC Rule 15.247(d):

In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, or else shall meet the general limits for radiated emissions at frequencies outside the passband, whichever results in lower attenuation.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

Refer to the following plots for out of band conducted emissions data:

Plot B6A1 - B6A2: Low Channel Emissions
Plot B6B1 - B6B2: Middle Channel Emissions
Plot B6C1 - B6C3: High Channel Emissions
Plot H6A1 - H6A2: Low Channel Emissions
Plot H6B1 - H6B2: Middle Channel Emissions
Plot H6C1 - H6C2: High Channel Emissions

The plots showed all spurious emission and up to 40GHz was measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

For electronic filing, the above plots are saved with filenames: obantcon.pdf

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.2 Out of Band Radiated Emissions (for emissions in 4.3 above that are less than 20 dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20 dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

- Not required, all emissions more than 20 dB below fundamental
- See attached data sheet

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Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.3 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b), (c):

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. All measurements were performed with peak detection unless otherwise specified.

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

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Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.4 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

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

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

PD = Pulse Desensitization in dB

AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

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

Example

Assume a receiver reading of 62.0 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. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$RA = 62.0 \text{ dB}\mu\text{V}$$

$$AF = 7.4 \text{ dB}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

$$PD = 0 \text{ dB}$$

$$AV = -10 \text{ dB}$$

$$FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 \text{ dB}\mu\text{V/m}$$

$$\text{Level in mV/m} = \text{Common Antilogarithm} [(32 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$$

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Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.5 Radiated Emission Configuration Photograph - Base Unit

Worst Case Radiated Emission
at

11570.688 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: config photos.pdf

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.6 Radiated Emission Data - Base Unit

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

Judgement -

Passed by 8.1 dB compare with the peak limit

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

April 17, 2008
Date

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
 Model: TL76108
 Mode : TX-Channel 0

Date of Test: March 15-April 9, 2008

Table 1, Base Unit

Radiated Emissions

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Average Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
H	*11489.472	57.6	33	40.8	65.4	29.2	36.2	54.0	-17.8
H	*22978.944	57.9	33	38.3	63.2	29.2	34.0	54.0	-20.0

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
H	*11489.472	57.6	33	40.8	65.4	74.0	-8.6
H	*22978.944	57.9	33	38.3	63.2	74.0	-10.8

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
 Model: TL76108
 Mode : TX-Channel 47

Date of Test: March 15-April 9, 2008

Table 2, Base Unit

Radiated Emissions

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Average Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
H	*11570.688	58.4	33	40.5	65.9	29.2	36.7	54.0	-17.3

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
H	*11570.688	58.4	33	40.5	65.9	74.0	-8.1

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
 Model: TL76108
 Mode : TX-Channel 94

Date of Test: March 15-April 9, 2008

Table 3, Base Unit

Radiated Emissions

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Average Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
H	*11651.904	57.9	33	40.5	65.4	29.2	36.2	54.0	-17.8

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
H	*11651.904	57.9	33	40.5	65.4	74.0	-8.6

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.7 Radiated Emission Configuration Photograph - Handset

Worst Case Radiated Emission
at

11489.472 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: config photos.pdf

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Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.8 Radiated Emission Data - Handset

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

Judgement -

Passed by 8.1 dB compare with the peak limit

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

April 17, 2008
Date

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
 Model: TL76108
 Mode : TX-Channel 0

Date of Test: March 15-April 9, 2008

Table 4, Handset

Radiated Emissions

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Average Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	*11489.472	58.1	33	40.8	65.9	35.7	30.2	54.0	-23.8
V	*22978.944	55.5	33	38.3	60.8	35.7	25.1	54.0	-28.9

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
V	*11489.472	58.1	33	40.8	65.9	74.0	-8.1
V	*22978.944	55.5	33	38.3	60.8	74.0	-13.2

- 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.
 4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
 Model: TL76108
 Mode : TX-Channel 47

Date of Test: March 15-April 9, 2008

Table 5, Handset

Radiated Emissions

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Average Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	*11570.688	57.9	33	40.5	65.4	35.7	29.7	54.0	-24.3

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
V	*11570.688	57.9	33	40.5	65.4	74.0	-8.6

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108
Mode : TX-Channel 94

Date of Test: March 15-April 9, 2008

Table 6, Handset

Radiated Emissions

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Average Factor (dB)	Calculated at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
V	*11651.904	57.8	33	40.5	65.3	35.7	29.6	54.0	-24.4

Polarization	Frequency	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
V	*11651.904	57.8	33	40.5	65.3	74.0	-8.7

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.9 AC Line Conducted Emission, FCC Rule 15.207:

Not required; battery operation only

Test data attached

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.10 AC Line Conducted Configuration Photograph

Worst Case Line-Conducted Configuration
at

Base Unit: 12.000 MHz

Handset: 10.370 MHz

For electronic filing, the worst case line conducted configuration photographs are saved with filename: config photos.pdf

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.11 AC 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: Passed by 17.6 dB margin compare with average limit

Handset: Passed by 6.2 dB margin compare with average limit

For electronic filing, the worst case line conducted emission data are saved with filename: conduct.pdf

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

April 17, 2008
Date

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108

Date of Test: March 15-April 9, 2008

4.12 Spurious Emissions from Transmitter, FCC Ref: 15.209

Worst Case Radiated Emission
at

Base Unit: 110.580 MHz

Handset: 47.150 MHz

Judgement -

Base Unit: Passed by 3.0 dB margin

Handset: Passed by 6.8 dB margin

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

April 17, 2008
Date

INTERTEK TESTING SERVICES

Company: VTech Telecommunications Ltd.
Model: TL76108
Mode: Talking

Date of Test: March 15-April 9, 2008

Table 7, Base Unit

Radiated Emissions

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	55.290	38.6	16	11.0	33.6	40.0	-6.4
V	110.580	42.5	16	14.0	40.5	43.5	-3.0
V	165.870	37.6	16	17.0	38.6	43.5	-4.9
H	221.160	34.1	16	17.0	35.1	46.0	-10.9
H	276.450	27.8	16	22.0	33.8	46.0	-12.2
H	331.740	25.2	16	24.0	33.2	46.0	-12.8
H	387.030	24.2	16	24.0	32.2	46.0	-13.8
H	442.320	22.0	16	26.0	32.0	46.0	-14.0

- NOTES:
1. Quasi-peak detector is used for the emission below or equal to 1000 MHz.
 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.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

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Table 8, Handset

Radiated Emissions

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	47.150	38.2	16	11.0	33.2	40.0	-6.8
H	141.450	34.6	16	14.0	32.6	43.5	-10.9
H	188.600	33.6	16	16.0	33.6	43.5	-9.9
H	282.900	28.6	16	22.0	34.6	46.0	-11.4
H	471.500	24.8	16	26.0	34.8	46.0	-11.2
H	504.629	23.2	16	26.0	33.2	46.0	-12.8

- NOTES: 1. Quasi-peak detector is used for the emission below or equal to 1000 MHz.
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.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

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4.13 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEEP function on the analyzer was set to ZERO SPAN. The transmitter ON time was determined from the resultant time-amplitude display:

Base Unit:

Duty cycle (DC) = Maximum ON time in 100ms/100ms
= (0.860 x 4)ms/100ms for 4 handsets operation

Duty cycle correction, dB = $20 \cdot \log(\text{DC})$
= $20 \cdot \log(0.0344)$
= -29.2dB

Handset:

Duty cycle (DC) = Maximum ON time in 100ms/100ms
= (0.820 x 2)ms/100ms for double-slots operation

Duty cycle correction, dB = $20 \cdot \log(\text{DC})$
= $20 \cdot \log(0.0164)$
= -35.7 dB

X	See attached spectrum analyzer chart (s) for transmitter timing Base Unit: Plot B7A, Handset: Plot H7A
	See transmitter timing diagram provided by manufacturer
	Not applicable, duty cycle was not used.

For electronic filing, the above plots are saved with filenames: dcc.pdf

**EXHIBIT 5
EQUIPMENT PHOTOGRAPHS**

5.0 **Equipment Photographs**

For electronic filing, the photographs are saved with filename: external photos.pdf, and internal photos.pdf

EXHIBIT 6
PRODUCT LABELLING

INTERTEK TESTING SERVICES

6.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and location is saved with filename:
label.pdf

For electronic filing, the label location justification letter is save as filename:
justification.pdf

EXHIBIT 7
INSTRUCTION MANUAL

INTERTEK TESTING SERVICES

7.0 **Instruction Manual**

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual 1.pdf and manual 2.pdf

Please note that the required FCC Information to the User is on P.80 of Instruction Manual.

This manual will be provided to the end-user with each unit sold/leased in the United States.

EXHIBIT 8
LETTER OF AGENCY

8.0 **Letter of Agency**

A copy of the Letter of Agency is saved as filename: letter of agency.pdf