

May 31, 2005

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Dear Mr. Kevin Kwong:

Enclosed you will find your file copy of a Part 15 Certification (FCC ID: RTZ318)

For your reference, TCB will normally take another 15-20 days for reviewing the report.
Approval will then be granted when no query is sorted.

Please contact me if you have any questions regarding the enclosed material.

Sincerely,



Tommy Leung
Assistant Manager

Enclosure



HKC Technology Ltd.

Application
For
Certification

2.4GHz 10 Channel Direct Sequence Spread Spectrum Cordless Phone
System with Caller ID and Digital Answering Machine

(FCC ID: RTZ318)

05032961
TL/Ann Choy
May 31, 2005

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
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- For Terms And Conditions of the services, it can be provided upon request.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

Intertek Testing Services Hong Kong Ltd.

2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
Tel: (852) 2173 8888 Fax: (852) 2741 1693 Website: www.hk.intertek-etlsemko.com

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INTERTEK TESTING SERVICES

MEASUREMENT/TECHNICAL REPORT

HKC Technology Ltd.- MODEL: WMC ER, WHE ER, WDE ER
FCC ID: RTZ318

This report concerns (check one) Original Grant ☒ Class II Change ☐

Equipment Type: DSS-Part 15 Spread Spectrum Transmitter and Class B
Personal Computer Peripheral

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ☐ No ☒

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 ☒

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [08-20-02 Edition] provision.

Report prepared by:

Tommy Leung
Intertek Testing Services
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INTERTEK TESTING SERVICES

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List of attached file

Exhibit type	File Description	filename
Cover Page	Confidentiality Request	request.pdf
Test Report	Test Report	report.pdf
Operation Description	Technical Description	descri.pdf
Test Setup Photo	Radiated Emission for Base	config photos.doc
Test Setup Photo	Radiated Emission for Handset	config photos.doc
Test Report	Maximum Output Power Plot	bmaxop.pdf, hmaxop.pdf, dmaxop.pdf
Test Report	6 dB Bandwidth Plot	b6dB.pdf, h6dB.pdf, d6dB.pdf
Test Report	Maximum Power Density Reading	bpowden.pdf, hpowden.pdf, dpowden.pdf
Test Report	Out Band Antenna Conducted Emission Plot	bobantcon.pdf, hobantcon.pdf, dobantcon.pdf
Test Report	Duty Cycle Calculation and Measurement	bdcc.pdf, hdcc.pdf, ddcc.pdf
Test Setup Photo	Conducted Emission	config photos.doc
Test Report	Conducted Emission Test Result	conduct.pdf
External Photo	External Photo	external photos.doc
Internal Photo	Internal Photo	internal photos_base.doc internal photos_handset.doc internal photos_desktop.doc
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual_base.pdf manual_handset.pdf manual_desktop.pdf
User Manual	FCC Information	FCC information.pdf
RF Exposure Info	RF Safety	RF exposure info.pdf
Operation Description	Security Code Information	security code information.pdf

EXHIBIT 1
SUMMARY OF TEST RESULTS

INTERTEK TESTING SERVICES

1.0 Summary of Test

**HKC Technology Ltd. - MODEL: WMC ER, WHE ER, WDE ER
FCC ID: RTZ318**

TEST	REFERENCE	RESULTS
Max. Output power	15.247(b)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(d)	Pass
Out of Band Antenna Conducted Emission	15.247(c)	Pass
Radiated Emission in Restricted Bands	15.247(c)	Pass
AC Conducted Emission	15.207	Pass
Radiated Emission from Digital Part	15.109	Pass
Antenna Requirement	15.203	Pass (See Notes)

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

INTERTEK TESTING SERVICES

2.0 General Description

2.1 Product Description

The models WMC ER, WHE ER, WDE ER are a 2.4GHz 10 Channel Direct Sequence Spread Spectrum Cordless Phone System with Caller ID and Digital Answering Machine. It operates at frequency range of 2403.648MHz to 2479.680MHz. 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 model of WMC ER is a base unit which has a page key to page corresponding handset unit or desktop unit. In addition, the base unit has other functional keys such as set and reset.

The model of WHE ER is a cordless handset unit which is a part of a cordless telephone system. It consists of a keypad with twelve standard keys (0,...9,*,#), seven function keys (Three soft keys, Up, Down, Menu, Redial, Intercom, Speaker). A Talk and a END key are provided to control pick and release telephone line in a toggle base.

The model of WDE ER is a cordless desktop unit which is also a part of a cordless telephone system. It consists of a keypad with twelve standard keys (0,...9,*,#), fifteen function keys (Three soft keys, Up, Down, Menu, Redial, flash, L1, L2, L3, Voice Mail, Volume Up, Volume Down, Mute, Intercom, Speaker).

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

The circuit description is saved with filename: descri.pdf

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

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2.2 Related Submittal(s) Grants

This is an application for Certification of a DSS-Part 15 Spread Spectrum Cordless Telephone System and a Class B Personal Computer Peripheral. Three transmitters are included in this application. The system is also subject to Part 68 Registration.

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2001). 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. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

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

INTERTEK TESTING SERVICES

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 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. The base unit attaches to personal computer, they are connected by RS232 unshielded serial cable and operational (as typical as possible). The handset is remotely located as far from the antenna and the base unit as possible to ensure full power transmission from the base unit. Else, the base unit 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.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1MHz or greater for frequencies above 1000MHz.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9kHz to 25GHz.

3.2 EUT Exercising Software

The EUT exercise program (2.4GHz Cordless System – PC System Programming V2.12) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The maximum data rate (19200 bps) of the COM port was preset by program.

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3.3 Support Equipment List and Description

The FCC ID's for all equipment, plus descriptions of all cables used in the tested system (included inserted cards, which have grants) are:

HARDWARE:

The unit was operated standalone. An AC adaptor and a battery (provided with the unit) were used to power the device. Their descriptions are listed below.

- (1) Base Unit: An AC adaptor (120VAC to 9VDC 1300mA, Model: D57-09-1300) and A 7.2V 800mAH "Ni-MH" type rechargeable battery for backup
- (2) Handset and Desktop Unit: An AC adaptor (120VAC to 9VDC 500mA, Model: D9500) and/or A 3.6V 800mAH "Ni-MH" type rechargeable battery

CABLES:

Supplied by Intertek:

- (1) 3 x Telecommunication cable with RJ11C connectors (1m, unshielded), terminated
- (2) 3 x Telecommunication cable with RJ11C connectors (3m, unshielded)
- (3) 1 x RS-232 serial cable with 1.2m long
- (4) 1 x 2.5mm stereo cable with 1.2m long

OTHERS:

Supplied by Intertek:

- (1) Compaq Computer, Model: D510S, S/N: 3Z2AKN9ZJ023, DOC Product
- (2) TopVision LCD Monitor, Model 03761428, S/N: M0034H02390020, DOC Product
- (3) Compaq Keyboard, Model: KB-0133, S/N: B55940EGANR0CE, DOC Product
- (4) Compaq Mouse, Model: M-S69, FCCID: JNZ211443
- (5) Hayes Modem, Model: 6800CN, FCCID: BFJ9D907-00038
- (6) HP Printer, Model: C2642A, S/N: SG67B131RY, FCCID: B94C2642X
- (7) Lenoxx Sound Walkman, Model: 935, FCC Part 15 Verification
- (8) A headset for telephone use with 1.2m unshielded cable permanently affixed

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3.4 Measurement Uncertainty

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

3.5 Equipment Modification

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

No modifications were installed by ETL Division, Intertek Testing Services Hong Kong Ltd.

All the items listed under section 3.0 of this report are confirmed by:

Confirmed by:

*Tommy Leung
Assistant Manager
Intertek Testing Services Hong Kong Ltd.
Agent for HKC Technology Ltd.*



Signature

May 31, 2005 Date

EXHIBIT 4
MEASUREMENT RESULTS

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b) :

- ☐ The antenna power of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.
- ☒ The antenna port of the EUT was connected to the input of a spectrum analyzer. The analyzer was set for RBW> 6dB bandwidth and power was read directly in dBm. External attenuation and cable loss were compensated for using to OFFSET function of the analyzer.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm).

(Base Unit) Antenna Gain = 1 dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2403.798	20.15	103.51
Middle Channel: 2467.584	19.71	93.54
High Channel: 2479.700	19.85	96.61

Cable loss : 0.5 dB External Attenuation : N/A dB

Cable loss, external attenuation: ☒ included in OFFSET function
☐ added to SA raw reading

dBm max. output level = 20.15 dBm (30 dBm or less)

Please refer to the attached plots for details:

Plot B1a: Low Channel Output Power
Plot B1b: Middle Channel Output Power
Plot B1c: High Channel Output Power

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER

Date of Test: April 20-May 16, 2005

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b) - Continued:

(Handset Unit) Maximum Antenna Gain = 2 dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2403.308	17.90	61.66
Middle Channel: 2467.964	18.73	74.64
High Channel: 2479.280	18.75	74.99

Cable loss : 0.5 dB External Attenuation : N/A dB

Cable loss, external attenuation: [x] included in OFFSET function
[] added to SA raw reading

dBm max. output level = 18.75 dBm (30 dBm or less)

Please refer to the attached plots for details:

Plot H1a: Low Channel Output Power
Plot H1b: Middle Channel Output Power
Plot H1c: High Channel output Power

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER

Date of Test: April 20-May 16, 2005

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b) - Continued:

(Desktop Unit) Maximum Antenna Gain = -2 dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2403.528	21.54	142.56
Middle Channel: 2467.344	20.73	118.30
High Channel: 2479.500	20.71	117.76

Cable loss : 0.5 dB External Attenuation : N/A dB

Cable loss, external attenuation: [x] included in OFFSET function
[] added to SA raw reading

dBm max. output level = 21.54 dBm (30 dBm or less)

Please refer to the attached plots for details:

Plot D1a: Low Channel Output Power
Plot D1b: Middle Channel Output Power
Plot D1c: High Channel output Power

For electronic filing, the above plots are saved with filename: bmaxop.pdf, hmaxop.pdf, dmaxop.pdf

For RF safety, the information is saved with filename: RF exposure info.pdf.

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a)(2):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Base Unit	
Frequency (MHz)	6 dB Bandwidth (kHz)
2403.648 / 2467.584 / 2479.680	1134

Refer to the following plots for 6 dB bandwidth sharp:

Plot B2a: Low Channel 6 dB RF Bandwidth
Plot B2b: Middle Channel 6 dB RF Bandwidth
Plot B2c: High Channel 6 dB RF Bandwidth

Limit: at least 500kHz

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER

Date of Test: April 20-May 16, 2005

4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a)(2) - Continued:

(Handset Unit)	
Frequency (MHz)	6 dB Bandwidth (kHz)
2403.648	964

Refer to the following plots for 6 dB bandwidth sharp:

Plot H2a: Low Channel 6 dB RF Bandwidth
Plot H2b: Middle Channel 6 dB RF Bandwidth
Plot H2c: High Channel 6 dB RF Bandwidth

Limit: at least 500kHz

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER

Date of Test: April 20-May 16, 2005

4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a)(2) - Continued:

(Desktop Unit)	
Frequency (MHz)	6 dB Bandwidth (kHz)
2467.584	964

Refer to the following plots for 6 dB bandwidth sharp:

Plot D2a: Low Channel 6 dB RF Bandwidth
Plot D2b: Middle Channel 6 dB RF Bandwidth
Plot D2c: High Channel 6 dB RF Bandwidth

Limit: at least 500kHz

For electronic filing, the above plots are saved with filename: b6dB.pdf, h6dB.pdf, d6dB.pdf

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

4.3 Maximum Power Density Reading, FCC Rule 15.247(d) :

The spectrum analyzer RES BW was set to 3 kHz. The START and STOP frequencies were set to the band edges of the maximum output passband. If there is no clear maximum amplitude in any given portion of the band, it may be necessary to make measurements at a number of bands defined by several START and STOP frequency pairs. The specification calls for a 1 second interval at each 3 kHz bandwidth; total SWEEP TIME is calculated as follows:

$$\text{SWEEP TIME (SEC)} = (\text{Fstop, kHz} - \text{Fstart, kHz}) / 3\text{kHz}$$

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

Base Unit	
Frequency (MHz)	Power Density (dBm)
2467.077	4.39

Frequency Span = 1500 kHz

Sweep Time = Frequency Span/3 kHz
= 500 seconds

Cable Loss: 0.5 dB

Refer to the following plots for power density data :

Plot B3a: Low Channel power density
Plot B3b: Middle Channel power density
Plot B3c: High Channel power density

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER

Date of Test: April 20-May 16, 2005

4.3 Maximum Power Density Reading, FCC Rule 15.247(d) – Continued:

Handset Unit	
Frequency (MHz)	Power Density (dBm)
2467.566	4.38

Frequency Span = 1500 kHz

Sweep Time = Frequency Span/3 kHz
= 500 seconds

Cable Loss: 0.5 dB

Refer to the following plots for power density data :

Plot H3a: Low Channel power density
Plot H3b: Middle Channel power density
Plot H3c: High Channel power density

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Company: HKC Technology Ltd.
Model: WDE ER

Date of Test: April 20-May 16, 2005

4.3 Maximum Power Density Reading, FCC Rule 15.247(d) – Continued:

Desktop Unit	
Frequency (MHz)	Power Density (dBm)
2479.662	6.83

Frequency Span = 1500 kHz

Sweep Time = Frequency Span/3 kHz
= 500 seconds

Cable Loss: 0.5 dB

Refer to the following plots for power density data :

Plot D3a: Low Channel power density
Plot D3b: Middle Channel power density
Plot D3c: High Channel power density

For electronic filing, the above plots are saved with filename: bpowden.pdf, hpowden.pdf, dpowden.pdf

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER, WHE ER, WDE ER

Date of Test: April 20-May 16, 2005

4.4 Out of Band Conducted Emissions, FCC Rule 15.247(c):

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 20dB 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:

Base Unit:

Plot B4a.1 - B4a.2: Low Channel Emissions
Plot B4b.1 - B4b.2: Middle Channel Emissions
Plot B4c.1 - B4c.2: High Channel Emissions
Plot B4d.1 - B4d.2: Modulation Products Emissions

Handset Unit:

Plot H4a.1 - H4a.2: Low Channel Emissions
Plot H4b.1 - H4b.2: Middle Channel Emissions
Plot H4c.1 - H4c.2: High Channel Emissions
Plot H4d.1 - H4d.2: Modulation Products Emissions

Desktop Unit:

Plot D4a.1 - D4a.2: Low Channel Emissions
Plot D4b.1 - D4b.2: Middle Channel Emissions
Plot D4c.1 - D4c.2: High Channel Emissions
Plot D4d.1 - D4d.2: Modulation Products Emissions

The plots showed the 2nd harmonic and modulation products at the band edges of 2400.0MHz and 2483.5MHz. In addition, all spurious emission and up to the tenth harmonic was measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

For the electronic filing, the above plots are saved with filename: bobantcon.pdf, hobantcon.pdf, dobantcon.pdf

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Company: HKC Technology Ltd.
Model: WMC ER, WHE ER, WDE ER

Date of Test: April 20-May 16, 2005

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(c):

For out of band emissions that are close to or that exceed the 20dB 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
- ☐ See attached data sheet

4.6 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.

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER, WHE ER, WDE ER

Date of Test: April 20-May 16, 2005

4.7 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.

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

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

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

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

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

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

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

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

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

4.8 Radiated Emission Configuration Photograph - Base Unit

Worst Case Radiated Emission
at
4935.517 MHz

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

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER


Date of Test: April 20-May 16, 2005

4.9 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 6.8 dB

TEST PERSONNEL:



Tester Signature

Kenneth C. C. Lam, Senior Lead Engineer
Typed/Printed Name

May 31, 2005
Date

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER
Mode : TX-Channel 0

Date of Test: April 20-May 16, 2005

Table 1 (Base Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
V	*4807.642	65.5	34	34.0	65.5	18.8	46.7	54	-7.3
V	*12019.105	49.7	34	40.2	55.9	18.8	37.1	54	-16.9
V	*19230.568	42.3	34	45.3	53.6	18.8	34.8	54	-19.2

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER
Mode : TX-Channel 4

Date of Test: April 20-May 16, 2005

Table 2 (Base Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
V	*4935.517	66.0	34	34.0	66.0	18.8	47.2	54	-6.8
V	*7401.783	53.9	34	37.0	56.9	18.8	38.1	54	-15.9
V	*12336.305	49.6	34	40.2	55.8	18.8	37.0	54	-17.0
V	*19738.088	43.3	34	45.3	54.6	18.8	35.8	54	-18.2
V	*22205.349	41.9	34	45.3	53.2	18.8	34.4	54	-19.6

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER
Mode : TX-Channel 9

Date of Test: April 20-May 16, 2005

Table 3 (Base Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
V	**2479.823	120.5	34	29.1	115.6	18.8	96.8	---	---
V	*4959.646	65.5	34	34.0	65.5	18.8	46.7	54	-7.3
V	*7439.469	54.1	34	37.0	57.1	18.8	38.3	54	-15.7
V	*12399.115	49.7	34	40.2	55.9	18.8	37.1	54	-16.9
V	*19840.009	43.3	34	45.3	54.6	18.8	35.8	54	-18.2
V	*22318.407	41.8	34	45.3	53.1	18.8	34.3	54	-19.7

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function.
- ** Fundamental emission was measured for determining band-edge compliance of using delta measurement technique.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER

Date of Test: April 20-May 16, 2005

4.10 Radiated Emission Configuration Photograph - Handset Unit

Worst Case Radiated Emission
at
4958.974 MHz

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

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER

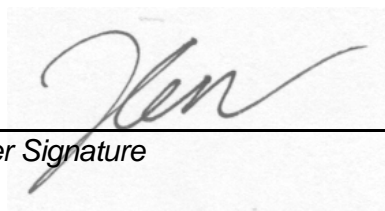
Date of Test: April 20-May 16, 2005

4.11 Radiated Emission Data - Handset Unit

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

Judgement : Passed by 0.2 dB compare with the peak limit

TEST PERSONNEL:



Tester Signature

Kenneth C. C. Lam, Senior Lead Engineer
Typed/Printed Name

May 31, 2005
Date

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER
Mode : TX-Channel 0

Date of Test: April 20-May 16, 2005

Table 4, (Handset Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
H	*4808.386	71.2	34	34.0	71.2	28.4	42.8	54	-11.2
H	*12016.465	53.2	34	40.2	59.4	28.4	31.0	54	-23.0
H	*19226.344	43.9	34	45.3	55.2	28.4	26.8	54	-27.2

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER
Mode : TX-Channel 4

Date of Test: April 20-May 16, 2005

Table 5, (Handset Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
H	*4936.175	73.6	34	34.0	73.6	28.4	45.2	54	-8.8
H	*7401.783	53.1	34	37.0	56.1	28.4	27.7	54	-26.3
H	*12336.305	54.3	34	40.2	60.5	28.4	32.1	54	-21.9
H	*19738.088	44.3	34	45.3	55.6	28.4	27.2	54	-26.8
V	*22205.347	42.5	34	45.3	53.8	28.4	25.4	54	-28.6

- NOTES: 1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER
Mode : TX-Channel 9

Date of Test: April 20-May 16, 2005

Table 6, (Handset Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
V	**2480.001	121.0	34	29.1	116.1	28.4	87.7	---	---
H	*4958.974	73.8	34	34.0	73.8	28.4	45.4	54	-8.6
H	*7440.003	53.9	34	37.0	56.9	28.4	28.5	54	-25.5
H	*12400.005	54.1	34	40.2	60.3	28.4	31.9	54	-22.1
H	*19840.008	44.6	34	45.3	55.9	28.4	27.5	54	-26.5
V	*22320.009	42.8	34	45.3	54.1	28.4	25.7	54	-28.3

- NOTES: 1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function, and this is the worst-case of 0.2dB margin at 4958.974MHz.
- ** Fundamental emission was measured for determining band-edge compliance of using delta measurement technique.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER

Date of Test: April 20-May 16, 2005

4.12 Radiated Emission Configuration Photograph - Desktop Unit

Worst Case Radiated Emission
at
4959.098 MHz

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

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER

Date of Test: April 20-May 16, 2005

4.13 Radiated Emission Data - Desktop Unit

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

Judgement : Passed by 5.4 dB compare with the peak limit

TEST PERSONNEL:



Tester Signature

Kenneth C. C. Lam, Senior Lead Engineer
Typed/Printed Name

May 31, 2005
Date

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER
Mode : TX-Channel 0

Date of Test: April 20-May 16, 2005

Table 7, (Desktop Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
V	*4808.386	65.4	34	34.0	65.4	28.4	37.0	54	-17.0
V	*12016.465	50.9	34	40.2	57.1	28.4	28.7	54	-25.3
V	*19226.344	43.7	34	45.3	55.0	28.4	26.6	54	-27.4

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER
Mode : TX-Channel 4

Date of Test: April 20-May 16, 2005

Table 8, (Desktop Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
V	*4936.175	66.2	34	34.0	66.2	28.4	37.8	54	-16.2
V	*7401.783	64.5	34	37.0	67.5	28.4	39.1	54	-14.9
V	*12336.305	52.0	34	40.2	58.2	28.4	29.8	54	-24.2
V	*19738.088	44.9	34	45.3	56.2	28.4	27.8	54	-26.2
V	*22205.347	43.9	34	45.3	55.2	28.4	26.8	54	-27.2

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER
Mode : TX-Channel 9

Date of Test: April 20-May 16, 2005

Table 9, (Desktop Unit)

Radiated Emissions

Polarization	Frequency (MHz)	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)	Limit at 3m (dB μ V/m)	Margin (dB)
V	**2480.002	119.9	34	29.1	115.0	28.4	86.6	---	---
V	*4958.974	68.6	34	34.0	68.6	28.4	40.2	54	-13.8
V	*7440.003	60.9	34	37.0	63.9	28.4	35.5	54	-18.5
V	*12400.005	48.4	34	40.2	54.6	28.4	26.2	54	-27.8
V	*19840.008	43.8	34	45.3	55.1	28.4	26.7	54	-27.3
V	*22320.009	41.9	34	45.3	53.2	28.4	24.8	54	-29.2

- NOTES: 1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Harmonic 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 harmonic 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. 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. The radio frequency emissions above 1000MHz also meet corresponding 20 dB permitted peak limit with a peak detector function, and this is the worst-case of 5.4dB margin at 4958.974MHz.
- ** Fundamental emission was measured for determining band-edge compliance of using delta measurement technique.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER, WDE ER

Date of Test: April 20-May 16, 2005

4.14 AC Line Conducted Emission, FCC Rule 15.207:

☐ Not required; battery operation only

☒ Test data attached

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

4.15 Line Conducted Configuration Photograph - Base Unit (Talk mode with 2 handsets)

Worst Case Line-Conducted Configuration
at
18.430 MHz

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

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

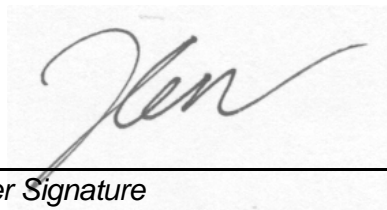
4.16 Line Conducted Emission Data - Base Unit (Talk mode with 2 handsets)

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

Judgement : Passed by more than 7.4 dB margin compare with the average limit

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

TEST PERSONNEL:



Tester Signature

Kenneth C. C. Lam, Senior Lead Engineer
Typed/Printed Name

May 31, 2005
Date

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

4.17 Line Conducted Configuration Photograph - Base Unit (Class B Personal Computer Peripheral: Standby mode)

Worst Case Line-Conducted Configuration

at 20.000 MHz

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

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER

Date of Test: April 20-May 16, 2005

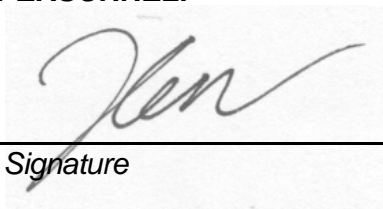
4.18 Line Conducted Emission Data - Base Unit (Class B Personal Computer Peripheral: Standby mode)

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

Judgement : Passed by more than 8.6 dB margin compare with the average limit

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

TEST PERSONNEL:



Tester Signature

Kenneth C. C. Lam, Senior Lead Engineer

Typed/Printed Name

May 31, 2005

Date

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER

Date of Test: April 20-May 16, 2005

4.19 Line Conducted Configuration Photograph - Desktop Unit

Worst Case Line-Conducted Configuration

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

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER

Date of Test: April 20-May 16, 2005

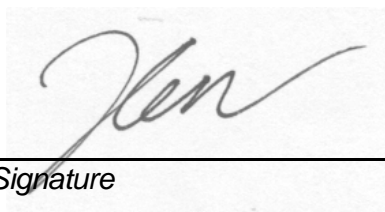
4.20 Line Conducted Emission Data - Desktop Unit

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

Judgement : Passed by more than 20 dB margin

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

TEST PERSONNEL:



Tester Signature

Kenneth C. C. Lam, Senior Lead Engineer
Typed/Printed Name

May 31, 2005
Date

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER, WHE ER, WDE ER

Date of Test: April 20-May 16, 2005

4.21 Radiated Emissions from Digital Section of Transceiver (Transmitter) and Class B Personal Computer Peripheral, FCC Ref: 15.109

☐ Not required - No digital part

☒ Test results are attached

☐ Included in the separated DOC report.

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER
Mode: Talk

Date of Test: April 20-May 16, 2005

Table 10, Base Unit

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	55.296	37.1	16	11.0	32.1	40.0	-7.9
V	96.766	45.9	16	10.6	40.5	43.5	-3.0
V	110.591	46.8	16	12.6	43.4	43.5	-0.1
V	165.886	44.7	16	13.8	42.5	43.5	-1.0
V	179.712	43.1	16	15.5	42.6	43.5	-0.9
V	193.536	37.8	16	17.1	38.9	43.5	-4.6
V	207.369	41.0	16	11.8	36.8	43.5	-6.7
V	235.002	38.0	16	11.4	33.4	46.0	-12.6
V	248.833	40.5	16	11.4	35.9	46.0	-10.1
V	276.489	37.2	16	13.3	34.5	46.0	-11.5
V	331.782	37.2	16	14.6	35.8	46.0	-10.2
V	359.428	38.7	16	14.9	37.6	46.0	-8.4
V	442.357	33.9	16	16.3	34.2	46.0	-11.8
V	497.675	33.3	16	17.3	34.6	46.0	-11.4

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER
Mode: Data Transfer

Date of Test: April 20-May 16, 2005

Table 11, Base Unit

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	76.036	42.3	16	6.3	32.6	40.0	-7.4
V	96.765	45.9	16	10.6	40.5	43.5	-3.0
V	110.591	46.6	16	12.6	43.2	43.5	-0.3
V	152.069	46.6	16	11.9	42.5	43.5	-1.0
V	165.902	45.1	16	13.8	42.9	43.5	-0.6
V	193.540	40.9	16	17.1	42.0	43.5	-1.5
H	221.181	41.8	16	11.8	37.6	46.0	-8.4
H	248.833	39.1	16	11.4	34.5	46.0	-11.5
H	276.489	36.9	16	13.3	34.2	46.0	-11.8
H	297.230	35.9	16	13.3	33.2	46.0	-12.8
V	331.782	37.2	16	14.6	35.8	46.0	-10.2
V	359.428	37.3	16	14.9	36.2	46.0	-9.8
V	442.357	33.9	16	16.3	34.2	46.0	-11.8
V	497.254	32.7	16	17.3	34.0	46.0	-12.0

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WHE ER
Mode: Talk

Date of Test: April 20-May 16, 2005

Table 12, Handset Unit

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
V	34.701	33.6	16	11.6	29.2	40	-10.8
V	41.702	34.2	16	11.7	29.9	40	-10.1
V	48.714	34.2	16	11.9	30.1	40	-9.9
V	55.697	34.0	16	11.0	29.0	40	-11.0
V	62.741	34.5	16	9.9	28.4	40	-11.6
V	68.789	35.5	16	8.5	28.0	40	-12.0

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WDE ER
Mode: Talk

Date of Test: April 20-May 16, 2005

Table 13, Desktop Unit

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	34.621	34.1	16	11.6	29.7	40	-10.3
V	41.689	34.6	16	11.7	30.3	40	-9.7
V	48.652	35.2	16	11.9	31.1	40	-8.9
V	55.569	34.8	16	11.0	29.8	40	-10.2
V	62.407	35.5	16	9.9	29.4	40	-10.6
V	68.009	36.2	16	8.5	28.7	40	-11.3

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Harmonic 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 harmonic 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.

Test Engineer: Kenneth C. C. Lam

INTERTEK TESTING SERVICES

Company: HKC Technology Ltd.
Model: WMC ER, WHE ER, WDE ER

Date of Test: April 20-May 16, 2005

4.22 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 SWEF 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 = Maximum ON time in 10ms/10ms for worst case 3 handsets/ desktop units operation
= $(0.38 \times 3)\text{ms}/10\text{ms}$
= 0.114

Duty Cycle correction, dB = $20 \cdot \log(\text{Duty Cycle})$
= $20 \cdot \log(0.114)$
= -18.8 dB

Handset/ Desktop Unit:

Duty Cycle = Maximum ON time in 10ms/10ms
= 0.38ms/10ms
= 0.038

Duty Cycle correction, dB = $20 \cdot \log(\text{Duty Cycle})$
= $20 \cdot \log(0.038)$
= -28.4 dB

X	See attached spectrum analyzer chart (s) for transmitter timing Base Unit: Plot B5, Plot H5, Plot D5
	See transmitter timing diagram provided by manufacturer
	Not applicable, duty cycle was not used.

For electronic filing, the above plots are saved with filename: bdcc.pdf, hdcc.pdf, ddcc.pdf

EXHIBIT 5
EQUIPMENT PHOTOGRAPHS

5.0 **Equipment Photographs**

For electronic filing, the photographs are saved with filename: external photos.doc & internal photos.doc.

EXHIBIT 6
PRODUCT LABELLING

6.0 **Product Labelling**

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

EXHIBIT 7
TECHNICAL SPECIFICATIONS

7.0 **Technical Specifications**

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.

EXHIBIT 8
INSTRUCTION MANUAL

8.0 **Instruction Manual**

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

Please note that the required FCC Information to the User is saved with filename: FCC information.pdf.

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

EXHIBIT 9
SECURITY CODE INFORMATION

9.0 **Security code information**

For electronic filing, a security code information is saved with filename: security code information.pdf.

EXHIBIT 10
CONFIDENTIALITY REQUEST

10.0 **Confidentiality Request**

For electronic filing, a confidentiality request is saved with filename: request.pdf.