



Test Report: 6W71776

Applicant: VTECH Telecommunications Canada Ltd.
200-7671 Alderbridge Way
Richmond, B.C.
V6X 1Z9

Apparatus: ia5823 Handset

FCC ID: EW780-5735-03

In Accordance With: FCC Part 15 Subpart C, 15.249
Class II Permissive Change
Operation in the 902-928MHz, 2400 - 2483.5 MHz,
5725-5850MHz and 24.0-24.25 GHz

Tested By: Nemko Canada Inc.
303 River Road
Ottawa, Ontario
K1V 1H2

Authorized By: 
Jin Xu, Wireless Specialist

Date: September 1, 2006

Total Number of Pages: 18

Report Summary

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart C. Radiated tests were conducted in accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

The assessment summary is as follows:

Apparatus Assessed:	ia5823 Handset
Specification:	FCC Part 15 Subpart C, 15.249
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None
Report Release History:	Original Release

Author: Jason Nixon, Telecom Specialist

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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Section 1: Equipment Under Test

1.1 Product Identification

The Equipment Under Test was identified as follows:

ia5823 Handset

1.2 Samples Submitted for Assessment

The following samples of the apparatus have been submitted for type assessment:

Sample No.	Description	Serial No.
1	ia5823 Handset	PA 06/07 163
2	Ia5823 Base	PA 06/07 178
3	Power supply (M/N: U093040D)	—

The first samples were received on: August 22, 2006

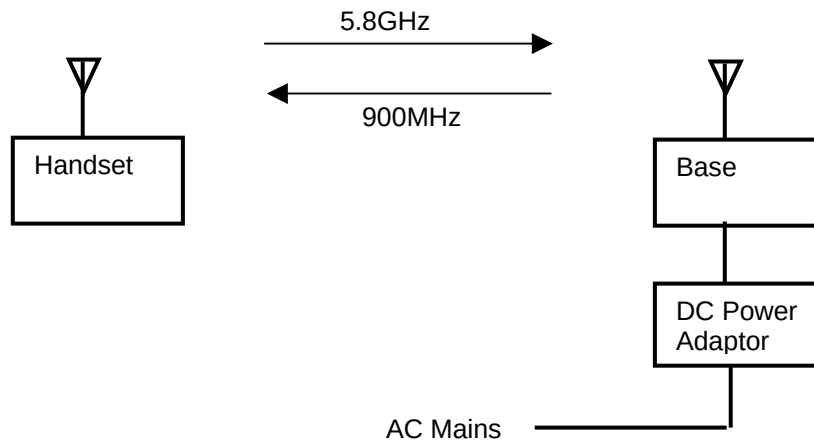
1.3 Theory of Operation

The ia5823 handset is part of an analogue cordless telephone with CID. The base and handset RF-module form a system that provides a full duplex wireless link between the handset and the base unit. The Base transmits to the Handset in the 902 – 928 MHz Band and receives from the Handset in 5.8 GHz band.

1.4 Technical Specifications of the EUT

Manufacturer:	VTECH
Operating Frequency:	Tx: 5863.8 – 5872.5MHz Rx: 912.75 – 917.1MHz
Emission Designator	F3E, F1D
Modulation:	Voice: FM, nominal deviation is 30kHz Data: FSK at 1000bps
Receiver Type:	Super Heterodyne
Antenna Data:	Integral
Power Source:	3.6VDC Ni-Cd Battery pack

1.5 Block Diagram of the EUT



Section 2 : Test Conditions

2.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart C, 15.249

Operation in the 902-928MHz, 2400 - 2483.5 MHz, 5725-5850MHz
and 24.0-24.25 GHz bands

2.2 Deviations From Laboratory Test Procedures

No deviations were made from laboratory test procedures.

2.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range	:	15 – 30 °C
Humidity range	:	20 - 75 %
Pressure range	:	86 - 106 kPa
Power supply range	:	+/- 5% of rated voltages

2.4 Test Equipment

Equipment	Manufacturer	Model No.	Asset/Serial No.	Next Cal.
Spectrum Analyzer	Hewlett-Packard	8565E	FA000981	Sept. 15/06
Biconical (1) Antenna	EMCO	3109	FA000805	May 03/07
Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 29/06
Horn Antenna #2	EMCO	3115	FA000825	Dec. 16/06
18.0 – 40.0GHz Horn Antenna	EMCO	3116	FA001847	May 3/07
1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	Aug. 02/07
2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	Aug. 02/07
4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	Aug. 02/07
5.0 – 18.0 GHz Amplifier	NARDA	DWT-186N23U40	FA001409	COU
18.0 – 26.0 GHz Amplifier	NARDA	BBS-1826N612	FA001550	COU
26 – 40.0 GHz Amplifier	NARDA	DBL-2640N610	FA001556	COU
Notch Filter	Microwave Circuits	5725-5850MHz	FA001921	COU

COU – Calibrate on Use

NCR – No Calibration Required

Section 3 : Observations

3.1 Modifications Performed During Assessment

No modifications were performed during assessment.

3.2 Record Of Technical Judgements

The following technical judgement was made during this assessment:

3.2.1 Technical Judgement 1

It was judged that the Class II permissive changes were only to the RF portion of the transmitter and that only emissions would require testing. The original assessment was performed in Nemko Test Report 6W64837.

3.3 EUT Parameters Affecting Compliance

The user of the apparatus could not alter parameters that would affect compliance.

3.4 Test Deleted

No Tests were deleted from this assessment.

3.5 Additional Observations

There were no additional observations made during this assessment.

Section 4 : Results Summary

This section contains the following:

FCC Part 15 Subpart C : Test Results

The column headed 'Required' indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

- N No : not applicable / not relevant.
- Y Yes : Mandatory i.e. the apparatus shall conform to these tests.
- N/T Not Tested, mandatory but not assessed. (See section 3.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.

4.1 FCC Part 15 Subpart C : Test Results

Part 15	Test Description	Required	Result
15.207(a)	Powerline Conducted Emissions	N	
15.209(a)	Radiated Emissions within Restricted Bands	Y	PASS
15.249(a)	Radiated emissions not in Restricted Bands	Y	PASS
15.249(b)	Fixed Point-to-Point operation in the 24.0-24.25 GHz Band	N	
15.249(d)	Spurious emissions (except Harmonics)	Y	PASS

Notes:

Appendix A : Test Results

Clause 15.209(a) Radiated Emissions within Restricted Bands

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvoltsmeter)	Measurement Distance (meters)
0.009-0.490	2400/F (kHz)	300
0.490-1.705	24000/F (kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Conditions:

Sample Number:	1	Temperature:	24
Date:	August 23, 2006	Humidity:	32
Modification State:	0	Tester:	Jason Nixon
		Laboratory:	Wireless

Test Results:

See Attached Table for Results

Additional Observations:

The Spectrum was searched from 30MHz to 40GHz.

These results apply to emissions found in the Restricted bands defined in FCC Part 15 Subpart C, 15.205.

The EUT was measured on three orthogonal axis with fully charged batteries.

All measurements were performed at 1m using a Peak detector with 1MHZ RBW/VBW. Measurements were only performed using a Peak detector since the Peak results pass the average limit.

Frequency (MHz)		Antenna	Polarity	RCVD Signal (dBuV)	Ant. Factor (dB)	Amp. Gain / Cable Loss (dB)	Duty Cycle Corr.	Distance Correction	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	11727.600	Horn2	V	51.2	39.5	34.5	N/A	9.5	46.7	74	27.3	Peak
2	11727.600	Horn2	H	51.7	39.3	34.5	N/A	9.5	46.7	54	7.3	Average
									47.0	74	27.0	Peak
3									47.0	54	7.0	Average
4	11736.000	Horn2	V	51.2	39.5	34.5	N/A	9.5	46.7	74	27.3	Peak
5	11736.000	Horn2	H	52.2	39.3	34.5	N/A	9.5	46.7	54	7.3	Average
									47.5	74	26.5	Peak
6									47.5	54	6.5	Average
7	11745.000	Horn2	V	51.2	39.5	34.5	N/A	9.5	46.7	74	27.3	Peak
8	11745.000	Horn2	H	51.7	39.3	34.5	N/A	9.5	46.7	54	7.3	Average
									47.0	74	27.0	Peak
									47.0	54	7.0	Average

Clause 15.249(a) Radiated emissions not in Restricted Bands

Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

Test Conditions:

Sample Number:	1	Temperature:	16
Date:	August 23, 2006	Humidity:	72
Modification State:	0	Tester:	Jason Nixon
		Laboratory:	OATS

Test Results: See attached Table

Additional Observations:

The Spectrum was searched from 30MHz to 40GHz.

The EUT was measured on three orthogonal axis with fully charged batteries.

All measurements were performed at 3m using a Peak detector with 1MHZ RBW/VBW and Average measurements were performed using a Peak detector with 1MHz RBW/10Hz VBW.

Freq. (MHz)	Ant	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
5863.8000	Horn2	V	50.7	34.4	N/A	9.7	94.8	114.0	19.2	Peak
5863.8000	Horn2	H	51.3	34.3	N/A	9.7	95.4	114.0	18.6	Peak
5863.8000	Horn2	V	46.5	34.4	N/A	9.7	90.6	94.0	3.4	Average
5863.8000	Horn2	H	47.2	34.3	N/A	9.7	91.2	94.0	2.8	Average
5868.0000	Horn2	V	50.0	34.4	N/A	9.7	94.1	114.0	19.9	Peak
5868.0000	Horn2	H	49.8	34.3	N/A	9.7	93.9	114.0	20.1	Peak
5868.0000	Horn2	V	43.0	34.4	N/A	9.7	87.1	94.0	6.9	Average
5868.0000	Horn2	H	45.2	34.3	N/A	9.7	89.2	94.0	4.8	Average
5872.5000	Horn2	V	49.5	34.4	N/A	9.7	93.6	114.0	20.4	Peak
5872.5000	Horn2	H	49.8	34.3	N/A	9.7	93.9	114.0	20.1	Peak
5872.5000	Horn2	V	45.3	34.4	N/A	9.7	89.4	94.0	4.6	Average
5872.5000	Horn2	H	44.0	34.3	N/A	9.7	88.0	94.0	6.0	Average
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole										

Clause 15.249(d) Spurious emissions (except Harmonics)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Test Conditions:

Sample Number:	1	Temperature:	24
Date:	August 23, 2006	Humidity:	32
Modification State:	0	Tester:	Jason Nixon
		Laboratory:	Wireless

Test Results:

Freq. (MHz)	Ant	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
5604.4700	Horn2	H	48.5	34.3	54.2	9.2	37.8	54.0	16.2	Average
5604.4700	Horn2	H	60.2	34.3	54.2	9.2	49.5	74.0	24.5	Peak
5604.4700	Horn2	V	47.3	34.3	54.2	9.2	36.6	54.0	17.4	Average
5604.4700	Horn2	V	58.7	34.3	54.2	9.2	48.0	74.0	26.0	Peak
5880.6700	Horn2	V	47.7	34.4	55.0	9.7	36.8	54.0	17.2	Average
5880.6700	Horn2	V	58.7	34.4	55.0	9.7	47.8	74.0	26.2	Peak
5880.6700	Horn2	H	48.8	34.3	55.0	9.7	37.9	54.0	16.1	Average
5880.6700	Horn2	H	59.0	34.3	55.0	9.7	48.0	74.0	26.0	Peak
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole										

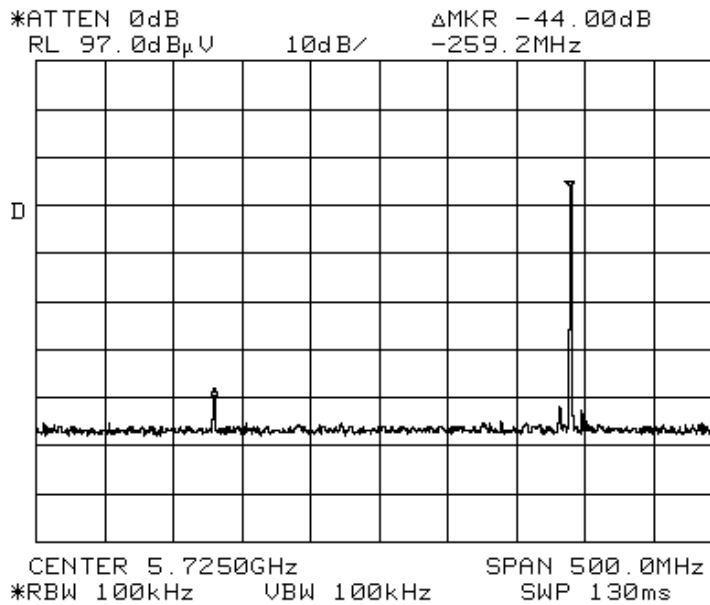
Additional Observations:

The Spectrum was searched from 30MHz to 40GHz.

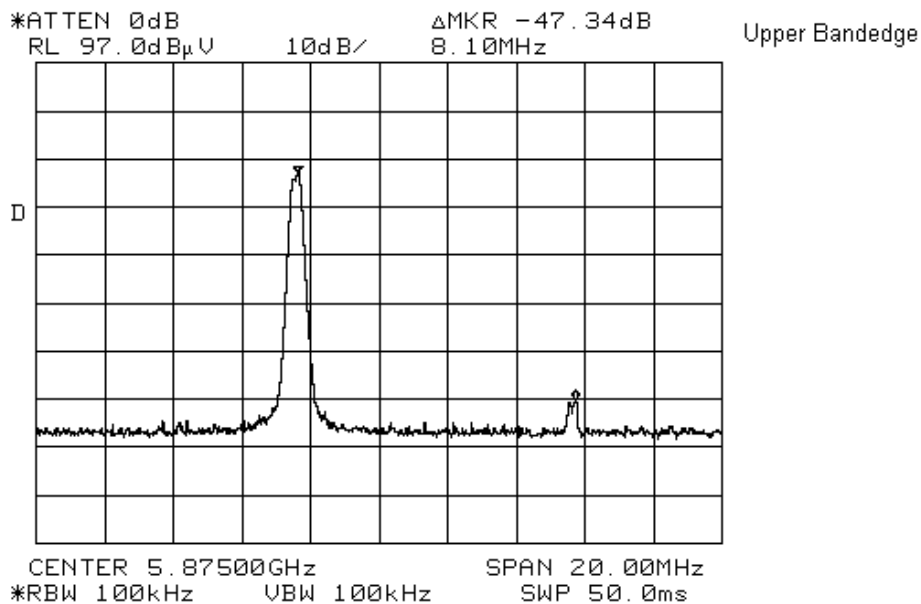
The EUT was measured on three orthogonal axis with fully charged batteries.

All measurements were performed at 3m using a Peak detector with 1MHZ RBW/VBW and Average measurements were performed using a Peak detector with 1MHz RBW/10Hz VBW.

Lower Bandedge



Upper Bandedge



Appendix B : Setup Photographs

Spurious Emissions Setup:





Appendix C : Block Diagram of Test Setups

Test Site For Radiated Emissions

