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TM

Test Report:	4W07735
Applicant:	SWISSPHONE Telecom AG Roosstrasse 53 CH-8832 Wollerau Switzerland
Equipment Under Test:	SWISSPHONE HURRICANE voice
Model Number:	**DV500**
FCC ID:	**L3M866**
In Accordance With:	**FCC 47 CFR Part 15, Subpart B (RX)** **Class II Permissive Change**
Tested By:	Nemko Canada Inc. 303 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	Kevin Carr, Wireless Specialist
Date:	1 April 2004
Total Number of Pages:	11

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Measurement Uncertainty

Accuracy of Measurement

Measurement uncertainty was calculated using the methods described in CISPR 16-4 *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC measurements* and Nemko Canada Inc. procedure EMC/MUC/001 *Uncertainty in EMC Measurements.*

Test Specific Measurement Uncertainty

Measurement	Test Specification	Ulab
Conducted disturbance	9kHz – 150kHz	4.0dB
	150kHz – 30MHz	3.6dB
Radiated disturbance	30MHz – 200MHz Horizontal polarization	4.7dB
	200MHz – 1000MHz Horizontal polarization	4.7dB
	30MHz – 200MHz Vertical polarization	4.9dB
	200MHz – 1000MHz Vertical polarization	4.9dB

Lab Environmental Conditions

Lab Conditions

Ambient Temperature: 15°C to 35°C, Relative Humidity: 30% to 60%, Atmospheric Pressure: 86kPa (860mbar) to 106kPa (1 060mbar)

Declaration

Product Name: SWISSPHONE HURRICANE voice

Model No: DV500

Serial No: C200409.03770 ; C200409.03772 ; C200409.03771

Name of Applicant: SWISSPHONE Telecom AG

Name of Manufacturer: Sprintel Communications AG

Nemko Canada Inc., Ottawa, Ontario Canada	**TEST RESULT**	
	PASS	**FAIL**
In the configuration tested, the EUT complied with the requirements of: FCC 47 CFR Part 15, Subpart B for Class B Digital Devices.	X	

Note: See Summary of Test Results and Engineering Considerations for full details.

Tested by: _____ 31 March 2004
signature date
Chris Maidens, EMC Specialist

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Reviewed by: _____ 1 April 2004
signature date
Kevin Carr, Wireless Specialist

Nemko Canada Inc., a testing laboratory, is accredited by the Standards Council of Canada.
The tests included in this report are within the scope of this accreditation.

Summary of Test Results

General

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15, Subpart B for Digital Devices.

These tests were conducted using measurement procedures of ANSI C63.4-2001.

The equipment was tested for conducted emissions from 0.15MHz to 30MHz using a 50 microhenry line impedance stabilization network (L.I.S.N.) as described in ANSI C63.4-2001. Peripheral equipment was also operated through a 50 microhenry L.I.S.N.

Limits For Conducted Disturbance At The Mains Ports: Paragraph No. 15.107 for Class A

Frequency Range MHz	Limits dB(μV)		Result (Pass/Fail)
	Quasi-Peak	Average	
0.15 to 0.50	79	66	N/A
0.50 to 30	73	60	

Limits For Conducted Disturbance At The Mains Ports: Paragraph No. 15.107 for Class B

Frequency Range MHz	Limits dB(μV)		Result (Pass/Fail)
	Quasi-Peak	Average	
0.15 to 0.50	66 to 56	56 to 46	N/A
0.5 to 5	56	46	
5 to 30	60	50	

Notes

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50MHz.

Summary of Test Results, continued

Limits For Radiated Disturbance: Paragraph No. 15.109		
Frequency Range MHz	Limits For Radiated Disturbance At A Measuring Distance Of 10 Meters Class A	
	Quasi-Peak Limits dB (μV/m)	Result (Pass/Fail)
30 - 88	39.1	N/A
88 - 216	43.5	
216 - 960	46.4	
Above 960	49.5	
Frequency Range MHz	Limits For Radiated Disturbance At A Measuring Distance Of 3 Meters Class B	
	Quasi-Peak Limits dB (μV/m)	Result (Pass/Fail)
30 - 88	40.0	Pass
88 - 216	43.5	
216 - 960	46.0	
Above 960	54.0	

Notes

1. The lower limit shall apply at the transition frequency.
2. Additional provisions may be required for cases where interference occurs.

The spectrum was investigated from 30MHz up to the frequency shown in the following table based on the highest operating frequency used in the EUT

The highest operational frequency used in the EUT was 173.95MHz.

Highest Frequency Generated or Used in the Device Which the Device Operates or Tunes (MHz)	Upper Frequency of Measurement Range (MHz)
Below 1.075	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5th harmonic of the highest frequency or 40GHz, whichever is lower.

Engineering Considerations

Product Modification
To achieve compliance the following change(s) were made during compliance testing: None
Justification
The EUT was tested for emissions in 3 orthogonal axes. Fresh batteries were used in the EUT during testing.
Deviations
The following deviations from, additions to, or exclusions from the test specification have been made:
None

Test Report Revision History	
Issue #	Details of changes made to test report
-	Original Report Issued

General Information Regarding the Equipment Under Test (EUT)

Date Received In Laboratory:	March 22, 2004
Nemko Identification Number:	Refer to Nemko Canada receiving report.
EUT Mains Input Voltage and Frequency	
The EUT is powered by a standard Ni-MH rechargeable AA battery.	
Description & Theory of Operation	
Alphanumeric POCSAG receivers with synthesized voice Test RIC 500 A, B, C, D Baudrate 1200	
Exercise/Monitoring method	
The EUT was tested in a normal operating state with the battery save function disabled.	
Software Version	
None.	
Description of Change: 12.5 kHz channel spacing has been added	

Radiated Disturbance

Test Date: March 29, 2004

Engineer's Name: Chris Maidens

Tested as per: Hand-Held

Enclosure Investigation Data

Test Distance (meters): 3 | Dome: Almonte

Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBµV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Amp.
Low											
54.6835	BL	V	12.2	9.0	N/A	0.9	22.2	40.0	17.8	Q-Peak	N/A
164.0500	BL	V	9.6	11.1	N/A	1.7	22.4	43.5	21.1	Q-Peak	N/A
Mid											
57.5601	BL	V	11.5	8.5	N/A	0.9	20.9	40.0	19.1	Q-Peak	N/A
172.6802	BL	V	9.3	10.9	N/A	1.6	21.8	43.5	21.7	Q-Peak	N/A
High											
57.9835	BL	V	11.7	8.4	N/A	0.9	21.0	40.0	19.0	Q-Peak	N/A
173.9500	BL	V	9.1	10.9	N/A	1.6	21.6	43.5	21.9	Q-Peak	N/A

Legend:
Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole
Detector Legend: Q-Peak = 120kHz RBW, Average = 1.0MHz RBW

Notes

None.

Deviations

Refer to Engineering Considerations.

Test Result

Final Test Result: Pass

Radiated Disturbance, continued

Equipment List – Prescan for Radiated Emissions (Shielded Chamber)

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
1 Year	Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	June. 05/03	June. 05/04
1 Year	Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	June. 05/03	June. 05/04
NCR	Bilog	Schaffner	CBL6112B	FA001504	NCR	NCR
NCR	0.1 – 1300 MHz Amplifier	Hewlett Packard	8447D	FA001748	NCR	NCR

Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use, OUT = Out For CAL/Repair

Equipment List - Radiated Emissions OATS

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
1 Year	Receiver	Rohde & Schwarz	ESVS-30	FA001445	June 27/03	June 27/04
1 Year	Bilog	Schaffner	CBL6112B	FA001503	July 03/03	July 03/04

Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use, OUT = Out For CAL/Repair

Radiated Disturbance, continued

Radiated Disturbance Setup Photos

Axis 1

Axis 2

Axis 3