



Nemko

Test Report:

3W06967

Applicant:

SWISSPHONE Telecom AG
Roosstrasse 53
CH-8832 Wollerau
Switzerland

**Equipment Under Test:
(EUT)**

SWISSPHONE DE900

In Accordance With:

FCC Part 15, Subpart B, 15.109

Tested By:

Nemko Canada Inc.
303 River Road, R.R. 5
Ottawa, Ontario K1V 1H2

Authorized By:

Russell Grant, Senior Technical Assessor

Date:

29 April 2003

Total Number of Pages:

13

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EQUIPMENT: SWISSPHONE DE900

Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15, Subpart B. Measurement procedure ANSI C63.4-1992 was used for all tests. Radiated Emissions were measured on an open area test site. A description of the test facility is on file with the FCC.

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE. NONE
See "Summary of Test Data".



TESTED BY: _____
Kevin Carr, EMC Specialist

DATE: 25 April 2003

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This report applies only to the items tested.

EQUIPMENT: SWISSPHONE DE900

Summary Of Test Data

Name Of Test	Para. No.	Results
Antenna Conducted Emissions	15.111	N/A
Radiated Emissions	15.109	Complied
Powerline Conducted Emissions	15.107	N/A

N/A's: The EUT is Battery Power and has no accessible antenna port

Test Conditions:**Outdoor**

27 March 2003

Temperature: 4°C

Humidity: 70%

25 April 2003

Temperature: 1°C

Humidity: 64%

EQUIPMENT: SWISSPHONE DE900

Section 2. General Equipment Specification

Manufacturer: Sprintel Communications AG (belongs to
SWISSPHONE)
Betriebsstätte Samstagen
Fälmisstrasse 21
CH-8833 Samstagen

Brand Name: SWISSPHONE DE900

Serial No's.:	138.050MHz	C200307.03535
	155.050MHz	C200307.03539
	173.950MHz	C200307.03542
	400.050MHz	C200306.02252
	410.050MHz	C200306.02251
	419.950MHz	C200306.02253
	430.050MHz	C200306.02254
	450.050MHz	C200306.02256
	469.950MHz	C200306.02257

Frequency Range:	VHF	138 – 174 MHz
	UHF	400 – 420 MHz
	UHF	430 – 470 MHz

Frequencies Tested:	VHF	138.050, 155.050, 173.950 MHz
	UHF	400.050, 410.050, 419.950 MHz
	UHF	430.050, 450.050, 469.950 MHz

Date Received In Laboratory: 26 March 2003

Nemko Identification No.: 1 - 9

EQUIPMENT: SWISSPHONE DE900

Section 3. Radiated Emissions**Para. No.: 15.109(a)****Test Performed By:** Kevin Carr**Date of Test:** 27 March 2003,
25 April 2003**Minimum Standard:**

Frequency(MHz)	Field Strength (dB μ V/m @ 3m)
30 - 88	40.0
88 - 216	43.5
216 - 960	46.0
Above 960	54.0

Test Results:

Complied.

The device was verified for worst case emissions on 3 orthogonal axis.

Measurement Data:

See attached table.

EQUIPMENT: SWISSPHONE DE900

Radiated Disturbance Test Data: 138 – 174 MHz Band

Test Date: 27 March 2003											
Engineer's Name: Kevin Carr											
Temperature (C°): 4							Humidity %: 70				
Tested as per (Table Top/Floor Standing): Table Top											
Test Distance (meters): 3							Dome: 1				
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 Freq.											
159.4500	ED3	V	13.5	13.0	N/A	1.5	28.0	43.5	15.6	Q-Peak	None
159.4500	ED3	H	14.5	12.4	N/A	1.5	28.4	43.5	15.1	Q-Peak	None
318.9000	LP1	V	7.8	14.9	N/A	2.3	25.0	46.0	21.0	Q-Peak	None
318.9000	LP1	H	7.9	15.3	N/A	2.3	25.5	46.0	20.6	Q-Peak	None
478.3500	LP1	V	7.6	17.8	N/A	2.8	28.2	46.0	17.8	Q-Peak	None
478.3500	LP1	H	7.4	18.0	N/A	2.8	28.3	46.0	17.8	Q-Peak	None
637.8000	LP1	V	7.3	19.8	N/A	3.3	30.3	46.0	15.7	Q-Peak	None
637.8000	LP1	H	7.3	20.7	N/A	3.3	31.3	46.0	14.8	Q-Peak	None
797.2500	LP1	V	8.4	21.7	N/A	3.7	33.8	46.0	12.2	Q-Peak	None
797.2500	LP1	H	7.5	22.5	N/A	3.7	33.7	46.0	12.3	Q-Peak	None
Mid. Freq.											
176.4500	ED3	V	7.4	13.8	N/A	1.7	22.9	43.5	20.7	Q-Peak	None
176.4500	ED3	H	6.5	13.1	N/A	1.7	21.3	43.5	22.3	Q-Peak	None
352.9000	LP1	V	7.9	15.0	N/A	2.4	25.3	46.0	20.8	Q-Peak	None
352.9000	LP1	H	7.9	15.3	N/A	2.4	25.6	46.0	20.4	Q-Peak	None
529.3500	LP1	V	7.4	18.4	N/A	2.9	28.7	46.0	17.3	Q-Peak	None
529.3500	LP1	H	7.5	19.0	N/A	2.9	29.4	46.0	16.6	Q-Peak	None
705.8000	LP1	V	6.9	21.6	N/A	3.4	31.9	46.0	14.1	Q-Peak	None
705.8000	LP1	H	7.0	21.8	N/A	3.4	32.3	46.0	13.8	Q-Peak	None
882.2500	LP1	V	8.4	22.8	N/A	3.9	35.2	46.0	10.9	Q-Peak	None
882.2500	LP1	H	8.5	23.6	N/A	3.9	36.0	46.0	10.0	Q-Peak	None
High Freq.											
152.5500	ED3	V	16.1	12.5	N/A	1.5	30.1	43.5	13.4	Q-Peak	None
152.5500	ED3	H	17.1	12.1	N/A	1.5	30.7	43.5	12.8	Q-Peak	None
305.1000	LP1	V	7.8	15.0	N/A	2.3	25.1	46.0	21.0	Q-Peak	None
305.1000	LP1	H	8.4	15.8	N/A	2.3	26.5	46.0	19.5	Q-Peak	None
457.6500	LP1	V	7.6	17.1	N/A	2.7	27.4	46.0	18.6	Q-Peak	None
457.6500	LP1	H	8.4	17.8	N/A	2.7	28.9	46.0	17.1	Q-Peak	None
610.2000	LP1	V	7.4	19.8	N/A	3.3	30.5	46.0	15.5	Q-Peak	None
610.2000	LP1	H	7.6	19.7	N/A	3.3	30.6	46.0	15.4	Q-Peak	None
762.7500	LP1	V	8.5	20.7	N/A	3.7	32.9	46.0	13.1	Q-Peak	None
762.7500	LP1	H	8.5	21.9	N/A	3.7	34.1	46.0	11.9	Q-Peak	None
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:											

EQUIPMENT: SWISSPHONE DE900

Radiated Disturbance Test Data: 400 – 420 MHz Band

Test Date: 27 March 2003											
Engineer's Name: Kevin Carr											
Temperature (C°): 4						Humidity %: 70					
Tested as per (Table Top/Floor Standing): Table Top											
Test Distance (meters): 3						Dome: 1					
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 Freq.											
355.0500	ED3	V	18.1	19.9	N/A	2.4	40.4	46.0	5.6	Q-Peak	None
355.0500	ED3	V	19.4	19.9	N/A	2.4	41.7	46.0	4.3	Q-Peak	None
710.1000	ED4	V	6.7	25.4	N/A	3.4	35.5	46.0	10.5	Q-Peak	None
710.1000	ED3	H	6.7	20.9	N/A	3.4	31.0	46.0	15.0	Q-Peak	None
1065.1500	Horn1	V	57.0	25.1	47.8	3.1	37.4	54.0	16.6	Peak	1-2GHz
1065.1500	Horn1	H	57.6	24.9	47.8	3.1	37.8	54.0	16.1	Peak	1-2GHz
1420.2000	Horn1	V	55.2	26.3	48.0	3.3	36.9	54.0	17.1	Peak	1-2GHz
1420.2000	Horn1	H	56.0	26.3	48.0	3.3	37.7	54.0	16.3	Peak	1-2GHz
1775.2500	Horn1	V	51.8	27.6	48.0	3.9	35.2	54.0	18.8	Peak	1-2GHz
1775.2500	Horn1	H	51.0	27.5	48.0	3.9	34.3	54.0	19.7	Peak	1-2GHz
High Freq.											
374.9500	ED3	V	20.0	20.6	N/A	2.4	43.0	46.0	3.0	Q-Peak	None
374.9500	ED3	H	17.5	20.1	N/A	2.4	40.1	46.0	5.9	Q-Peak	None
749.9000	ED4	V	11.8	26.1	N/A	3.6	41.5	46.0	4.5	Q-Peak	None
749.9000	ED4	H	14.1	26.0	N/A	3.6	43.7	46.0	2.3	Q-Peak	None
1124.8500	Horn1	V	57.3	25.3	48.0	3.1	37.7	54.0	16.3	Peak	1-2GHz
1124.8500	Horn1	H	58.1	25.2	48.0	3.1	38.4	54.0	15.6	Peak	1-2GHz
1499.8000	Horn1	V	54.5	26.6	47.8	3.2	36.6	54.0	17.4	Peak	1-2GHz
1499.8000	Horn1	H	50.0	26.6	47.8	3.2	32.1	54.0	21.9	Peak	1-2GHz
1874.7500	Horn1	V	53.6	27.9	48.2	4.0	37.4	54.0	16.6	Peak	1-2GHz
1874.7500	Horn1	H	56.5	27.8	48.2	4.0	40.1	54.0	13.8	Peak	1-2GHz
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:											

EQUIPMENT: SWISSPHONE DE900

Radiated Disturbance Test Data: 400 – 420 MHz Band

Test Date: 25 April 2003											
Engineer's Name: Kevin Carr											
Temperature (C°): 1						Humidity %: 64					
Tested as per (Table Top/Floor Standing): Table Top											
Test Distance (meters): 3						Dome: 2					
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)	Margi n (dB)	Detector	Amp.
Mid. Freq.											
365.0500	LP1	V	19.2	15.2	N/A	3.4	37.8	46.0	8.3	Q-Peak	N/A
365.0500	LP1	V	25.3	15.2	N/A	3.4	43.9	46.0	2.2	Q-Peak	N/A
730.1000	LP1	V	8.9	21.3	N/A	5.0	35.2	46.0	10.8	Q-Peak	N/A
730.1000	LP1	H	8.3	21.3	N/A	5.0	34.6	46.0	11.4	Q-Peak	N/A
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:											

Radiated Disturbance Test Data: 400 – 420 MHz Band

Test Date: 25 April 2003											
Engineer's Name: Kevin Carr											
Temperature (C°): 1						Humidity %: 64					
Tested as per (Table Top/Floor Standing): Table Top											
Test Distance (meters): 3						Dome: 1					
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.
Mid. Freq.											
1095.1500	Horn1	V	56.9	25.2	48.0	3.1	37.3	54.0	16.7	Peak	1-2GHz
1095.1500	Horn1	H	57.4	25.1	48.0	3.1	37.6	54.0	16.4	Peak	1-2GHz
1460.2000	Horn1	V	53.7	26.5	47.9	3.3	35.6	54.0	18.4	Peak	1-2GHz
1460.2000	Horn1	H	51.2	26.4	47.9	3.3	33.1	54.0	20.9	Peak	1-2GHz
1825.2500	Horn1	V	52.8	27.8	48.2	3.9	36.3	54.0	17.7	Peak	1-2GHz
1825.2500	Horn1	H	54.0	27.6	48.2	3.9	37.4	54.0	16.6	Peak	1-2GHz
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:											

EQUIPMENT: SWISSPHONE DE900

Radiated Disturbance Test Data: 430 – 470 MHz Band

Test Date: 27 March 2003											
Engineer's Name: Kevin Carr											
Temperature (C°): 4						Humidity %: 70					
Tested as per (Table Top/Floor Standing): Table Top											
Test Distance (meters): 3						Dome: 1					
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 Freq.											
385.0500	ED3	V	13.0	21.0	N/A	2.6	36.6	46.0	9.5	Q-Peak	None
385.0500	ED3	H	13.9	20.5	N/A	2.6	36.9	46.0	9.1	Q-Peak	None
770.1000	ED4	V	9.1	26.5	N/A	3.7	39.3	46.0	6.7	Q-Peak	None
770.1000	ED4	H	9.1	26.5	N/A	3.7	39.3	46.0	6.7	Q-Peak	None
1155.1500	Horn1	V	49.4	25.4	48.1	3.1	29.9	54.0	24.1	Peak	1-2GHz
1155.1500	Horn1	H	50.0	25.3	48.1	3.1	30.3	54.0	23.7	Peak	1-2GHz
1545.2000	Horn1	V	49.7	26.8	47.8	3.4	32.1	54.0	21.9	Peak	1-2GHz
1545.2000	Horn1	H	50.0	26.7	47.8	3.4	32.4	54.0	21.6	Peak	1-2GHz
1925.2500	Horn1	V	56.4	28.1	48.1	4.1	40.5	54.0	13.5	Peak	1-2GHz
1925.2500	Horn1	H	49.8	28.0	48.1	4.1	33.7	54.0	20.2	Peak	1-2GHz
Mid. Freq.											
405.0500	ED4	V	21.8	21.3	N/A	2.6	45.7	46.0	0.3	Q-Peak	None
405.0500	ED4	H	22.4	20.6	N/A	2.6	45.6	46.0	0.4	Q-Peak	None
810.1000	ED4	V	11.5	27.2	N/A	3.7	42.4	46.0	3.6	Q-Peak	None
810.1000	ED4	H	14.5	27.2	N/A	3.7	45.4	46.0	0.6	Q-Peak	None
1215.1500	Horn1	V	59.7	25.6	48.2	3.2	40.3	54.0	13.7	Peak	1-2GHz
1215.1500	Horn1	H	59.3	25.5	48.2	3.2	39.8	54.0	14.2	Peak	1-2GHz
1620.2000	Horn1	V	57.4	27.0	47.8	3.7	40.4	54.0	13.6	Peak	1-2GHz
1620.2000	Horn1	H	55.4	27.0	47.8	3.7	38.3	54.0	15.7	Peak	1-2GHz
2025.2500	Horn1	V	64.1	28.4	57.5	4.2	39.2	54.0	14.8	Peak	2-4GHz
2025.2500	Horn1	H	64.3	28.3	57.5	4.2	39.2	54.0	14.8	Peak	2-4GHz
High Freq.											
424.9500	ED4	V	18.3	21.6	N/A	2.6	42.5	46.0	3.5	Q-Peak	None
424.9500	ED4	H	15.7	21.0	N/A	2.6	39.3	46.0	6.7	Q-Peak	None
849.9000	ED4	V	8.8	28.0	N/A	3.9	40.7	46.0	5.3	Q-Peak	None
849.9000	ED4	H	9.1	27.5	N/A	3.9	40.5	46.0	5.5	Q-Peak	None
1274.8500	Horn1	V	51.8	25.8	48.2	3.2	32.7	54.0	21.3	Peak	1-2GHz
1274.8500	Horn1	H	51.8	25.7	48.2	3.2	32.6	54.0	21.4	Peak	1-2GHz
1699.8000	Horn1	V	52.8	27.3	47.7	3.9	36.3	54.0	17.7	Peak	1-2GHz
1699.8000	Horn1	H	50.0	27.2	47.7	3.9	33.4	54.0	20.5	Peak	1-2GHz
2124.7500	Horn1	V	58.3	28.6	58.2	4.4	33.1	54.0	20.9	Peak	2-4GHz
2124.7500	Horn1	H	60.4	28.4	58.2	4.4	35.0	54.0	19.0	Peak	2-4GHz
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:											

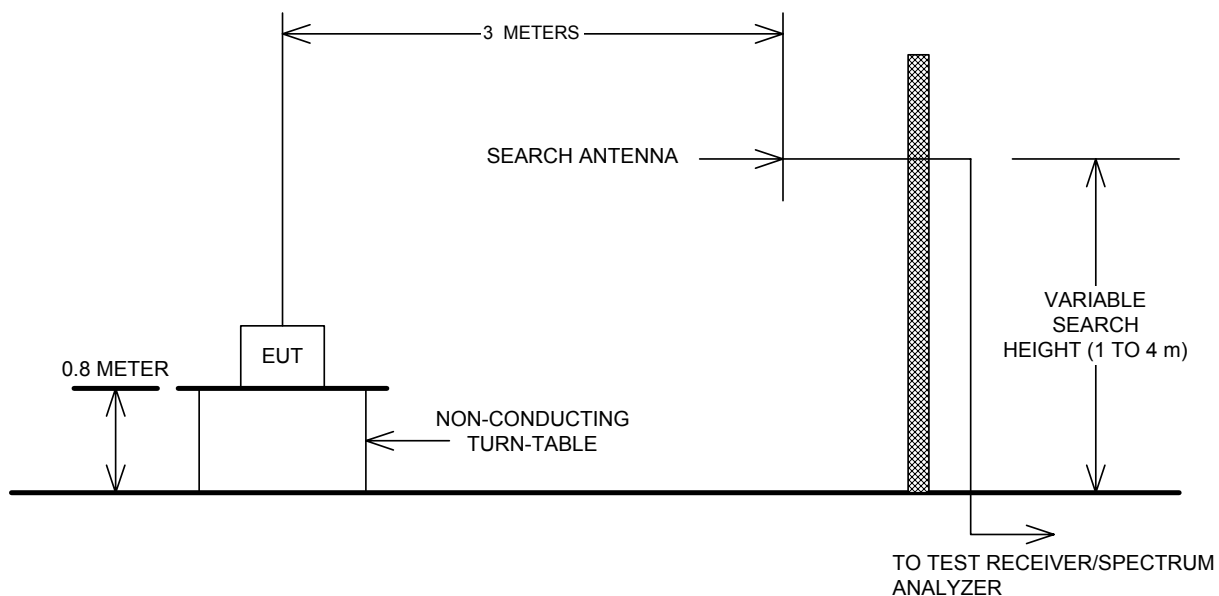
EQUIPMENT: SWISSPHONE DE900

Set-Up Photo's



Section 4. Block Diagrams

Outdoor Test Site For Radiated Emissions



EQUIPMENT: SWISSPHONE DE900

Section 5. Test Equipment List**Equipment List - Radiated Emissions**

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
1 Year	Receiver	Rohde & Schwarz	ESVS-30	FA001437	July. 04/02	July. 04/03
1 Year	Spectrum Analyzer	Hewlett-Packard	8565E	FA000981	July. 15/02	July. 15/03
1 Year	Dipole Antenna Set	EMCO #1	3121C	FA000814	May. 06/02	May. 06/03
1 Year	Horn Antenna #1	EMCO	3115	FA000649	Dec. 23/02	Dec. 23/03
1 Year	Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 23/02	Aug. 23/03
1 Year	1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	June. 04/02	June. 04/03
1 Year	2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	June. 04/02	June. 04/03
Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use, OUT = Out For CAL/Repair						