Nemko Test Report:	122108-2TRFWL
Applicant:	DAP Technologies 875 Boul. Charest O., Suite 200 Quebec, QC G1N 2C9
Apparatus:	Handheld Computer 3000B2 series
FCC ID:	T5M3000B2
In Accordance With:	Spurious Emissions
Authorized By:	Sim Jagpal, Production Manager
Date:	April 1, 2009
Total Number of Pages:	9

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Section 1 : Report Summary

Radiated tests were conducted in accordance with ANSI C63.4-2003.

The assessment summary is as follows:

Apparatus Assessed:	Handheld Computer 3000B2 series
Specification:	Spurious emissions
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None
Report Release History:	Original Release
Test Location:	Nemko Canada Inc. 303 River Road Ottawa, Ontario K1V 1H2
Registration Number:	176392 (3 m Semi-Anechoic Chamber)
Tests Performed By:	Andrey Adelberg, EMC/Wireless Specialist
Test Dates:	March 30, 2009

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. All results contain in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

Section 2 : Equipment Under Test

2.1 Identification of Equipment Under Test (EUT)

The following information identifies the EUT under test:

Type of Equipment:	Identity Verification Handheld Computer
Brand Name:	Microflex
Model Name or Number:	3000B2-1, 3000B2-2*
Serial Number:	FW03327
Nemko Sample Number:	2
FCC ID:	T5M3000B2
Date of Receipt:	March 26, 2009

* - There is no hardware difference between 3000B2-1 and 3000B2-2 models. The difference is in the Ethernet function that enabled by software in the 3000B2-2 model.

2.2 Accessories

No accessories were used during this assessment.

2.3 EUT Description

The EUT is Identity Verification Handheld Computer with, internal Bluetooth and WiFi connectivity.

2.4 Operation of the EUT during testing

The EUT was operated using test software that would cause the EUT to transmit continuously.

2.5 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

2.6 Technical Judgements

2.6.1 Technical Judgement 1

The EUT uses pre-approved modules for the Bluetooth/WiFi interface. However the antennas are not separated by more than 20 cm and the Bluetooth and WiFi can simultaneously transmit. It was our technical judgment that the spurious emissions for the WiFi and the Bluetooth must be performed as well as the simultaneous conditions.

Section 3 : Test Conditions

3.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart C, 15.247
FHSS System and Digitally Modulated Radiators
902–928 MHz, 2400–2483.5 MHz, 5725–5850 MHz
FCC Part 2 Subpart J, Equipment Authorization Procedures

3.2 Deviations From Laboratory Test Procedures

No deviations were made from laboratory test procedures.

3.3 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

3.4 Measurement Uncertainty

Nemko Canada measurement uncertainty has been calculated using guidance of UKAS LAB 34:2003 and TIA-603-B Nov 7, 2002. All calculations have been performed to provide a confidence level of 95 % and can be found in Nemko Canada document MU-003.

3.5 Test Equipment

Equipment	Manufacturer	Model No.	Asset/Serial No.	Cal. Date	Next Cal.
3m EMI Test Chamber	TDK	SAC-3	FA002047	May 06/08	May 06/09
Bilog	Sunol	JB3	FA002108	Jan. 27/09	Jan. 27/10
Biconical	Sunol	BC2	FA002078	July 30/08	July 30/09
Log Periodic Antenna	Sunol	LP5	FA002077	July 23/08	July 23/09
Flush Mount Turntable	Sunol	FM2022	FA002082	NCR	NCR
Controller	Sunol	SC104V	FA002060	NCR	NCR
Mast	Sunol	TLT2	FA002061	NCR	NCR
LISN	Rohde & Schwarz	ENV216	FA002023	Sept. 02/08	Sept. 02/09
Receiver/Spectrum Analyzer	Rohde & Schwarz	ESU 26	FA002043	Dec. 16/08	Dec. 16/09
50 Coax cable	HUBER + SUHNER	None	FA002022	July 07/08	July 07/09
50 Coax cable	HUBER + SUHNER	None	FA002074	July 07/08	July 07/09
Horn Antenna #2	EMCO	3115	FA000825	Jan. 21/09	Jan. 21/10
18.0 – 40.0GHz Horn Antenna	EMCO	3116	FA001847	May 12/08	May 12/09
1 – 18 GHz Amplifier	JCA	JCA118-503	FA002091	Oct 2/08	Oct 2/09
18.0 – 26.0 GHz Amplifier	NARDA	BBS-1826N612	FA001550	COU	COU

COU – Calibrate on Use
NCR – No Calibration Required

Appendix A : Test Results

Clause 15.247(d) Radiated Emissions Not in Restricted Bands

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Results: Pass

Frequency (MHz)	Pol. (V/H)	Rcvd (dBµV)	A.F. (dB)	Cable (dB)	Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Modulation
2400	V	21.86	29.2	4.4	55.46	74.00	18.54	Peak	OFDM
2400	H	20.98	29.3	4.4	54.68	74.00	19.32	Peak	OFDM
2400	V	8.57	29.2	4.4	42.17	54.00	11.83	Avg	OFDM
2400	H	7.82	29.3	4.4	41.52	54.00	12.48	Avg	OFDM
2400	V	22.15	29.2	4.4	55.75	74.00	18.25	Peak	CCK
2400	H	20.57	29.3	4.4	54.27	74.00	19.73	Peak	CCK
2400	V	8.15	29.2	4.4	41.75	54.00	12.25	Avg	CCK
2400	H	7.40	29.3	4.4	41.10	54.00	12.90	Avg	CCK
2483.5	V	18.43	29.2	4.4	52.03	74.00	21.97	Peak	OFDM
2483.5	H	18.75	29.3	4.4	52.45	74.00	21.55	Peak	OFDM
2483.5	V	6.38	29.2	4.4	39.98	54.00	14.02	Avg	OFDM
2483.5	H	6.25	29.3	4.4	39.95	54.00	14.05	Avg	OFDM
2483.5	V	18.03	29.2	4.4	51.63	74.00	22.37	Peak	CCK
2483.5	H	18.01	29.3	4.4	51.71	74.00	22.29	Peak	CCK
2483.5	V	6.37	29.2	4.4	39.97	54.00	14.03	Avg	CCK
2483.5	H	6.28	29.3	4.4	39.98	54.00	14.02	Avg	CCK

Emissions measured at a distance of 3 m and the spectrum was searched from 30 MHz to 25 GHz. Measurements were performed using a Peak detector with 1 MHz RBW / 1 MHz VBW for the Peak detector and 1 MHz RBW / 10 Hz VBW for the Average detector. The emission levels did not change when the WiFi was operated simultaneously with the Bluetooth transmitter.

Appendix B : Block Diagram of Test Setups

Radiated Emissions Test Site