



www.nemko.com



Test Report: 90040TRFWL

Applicant: BelAir Networks Inc.
603 March Road,
Ottawa, Ontario
K2K 2M5

Apparatus: BRM3

FCC ID: RAR20001003

In Accordance With: FCC Part 15 Subpart E, 15.407
Unlicensed National Information Infrastructure
Devices
Class II permissive change

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

Authorized By: 
Sim Jagpal, Resource Manager

Date: July 19, 2007

Total Number of Pages: 10

Report Summary

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart E, 15.407. 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:	BRM3
Specification:	FCC Part 15 Subpart E, 15.407
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None
Report Release History:	Original

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.

Nemko Canada Inc. authorizes the applicant to reproduce this report provided it is reproduced in its entirety and for use by the company's employees only.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Nemko Canada Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

TABLE OF CONTENTS

Report Summary	2
Section 1 : Equipment Under Test.....	4
1.1 Product Identification	4
1.2 Samples Submitted for Assessment.....	4
1.3 Technical Specifications of the EUT	4
Section 2 : Test Conditions.....	5
2.1 Specifications	5
2.2 Deviations From Laboratory Test Procedures	5
2.3 Test Environment	5
2.4 Test Equipment.....	5
2.5 Measurement Uncertainty.....	5
Section 3 : Observations	6
3.1 Modifications Performed During Assessment	6
3.2 Record Of Technical Judgements	6
3.3 EUT Parameters Affecting Compliance	6
3.4 Test Deleted.....	6
3.5 Additional Observations	6
Section 4 : Results Summary	7
4.1 FCC Part 15 Subpart E : Test Results.....	8
Appendix A : Test Results.....	9
Clause 15.403(i) Emission Bandwidth	9
Appendix B : Block Diagram of Test Setups	10

Section 1 : Equipment Under Test

1.1 Product Identification

The Equipment Under Test was identified as follows:
BRM3

1.2 Samples Submitted for Assessment

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

Sample No.	Description	Serial No.
1	BRM3	K001362009
2	Digital board LMP	K001245162

The first samples were received on: July 12, 2007

1.3 Technical Specifications of the EUT

Manufacturer: BelAir Networks Inc.

Frequency Band 5150MHz-5250MHz

Operation Frequency 5180MHz-5240MHz

Rated Conducted Output Power*: 16dBm for 4dBi Maxrad Antenna
12dBm for 10dBi Maxrad Antenna
7dBm for 15dBi Belair Patch Antenna

Emission Designator 19M8G1W

Modulation: 802.11 a

Antenna Data: (1) Maxrad 10dBi Antenna
(2) Maxrad 4dBi Antenna
(3) 15dBi BelAir Patch Antenna

Antenna Connector: MCX

* Manufacture's rated power is average power measured using a wide band power meter with a thermocouple detector.

Section 2 : Test Conditions

2.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart E, 15.407

Unlicensed National Information Infrastructure Devices

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	Rohde & Schwarz	FSP40	FA001920	Mar 19/08

COU – Calibrate on Use

NCR – No Calibration Required

2.5 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.

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

The reason for the class II permissive change on the BRM3 is to de-list the DFS bands from the UNII bands of operation. It was judged that the only testing required would be the 20dB bandwidth of the highest channel in the 5150 to 5250MHz band to show that the channel does not enter the DFS mandatory band of operation.

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 E : 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 E : Test Results

Part 15	Test Description	Required	Result
15.403(i)	Emission Bandwidth	Y	PASS

Notes: As per FCC guidance the Emission bandwidth was measured as the 20dB bandwidth, not the 26dB bandwidth as specified by the requirements of 15.407(i)

Appendix A : Test Results

Clause 15.403(i) Emission Bandwidth

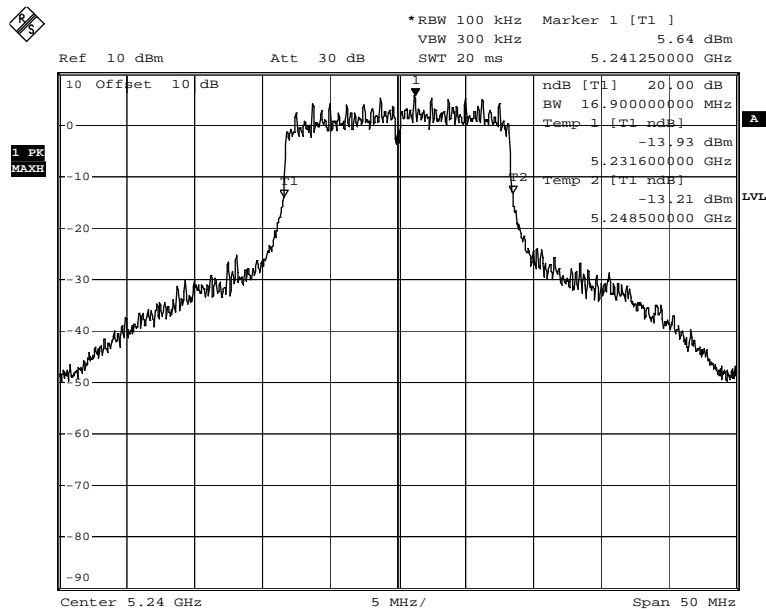
The emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement

Test Conditions:

Sample Number:	1	Temperature (°C):	24
Date:	July 12, 2007	Humidity (%):	43
Modification State:	0	Tester:	Jason Nixon
		Laboratory:	Wireless

Test Results:

Test Data for Channel 48, center frequency 5240MHz:



Date: 12.JUL.2007 11:29:38

Appendix B : Block Diagram of Test Setups

Conducted Measurements

