



EXHIBIT 2

Test Report Summary (MFRM with DOM)

Applicant: Nortel Networks

**For Class II Permissive Change
Certification on:**

**FCC ID: AB6NT800MFRM
IC ID: 332292158**



Test Report Summary for FCC Class II Permissive Change Equipment Authorization

FCC ID : AB6NT800MFRM Multi-carrier Flexible Radio Module

Document:	TRS_AB6NT800MFRM
Stream:	00
Issue:	03
Issue Date:	Aug 19, 2004
Security Status:	Nortel Networks Confidential
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1. Introduction

This test report is submitted in accordance with the FCC Rules and Regulations, Part 2, Subpart J, Sections 2.1046 through 2.1057 for equipment authorization of Nortel Networks' CDMA 800 MHz Multi-carrier Flexible Radio Module (MFRM). The 800 MHz_MFRM is intended for use in the Domestic Public Cellular Radio Telecommunications Service and is designed in accordance with the following standards:

- *CFR 47, Part 22, Subpart H, Subpart H, Cellular Radiotelephone Service[1]*
- *CFR 47, Part 2, Subpart J, Equipment Authorization Procedures - Equipment Authorization[2]*

2. Test Result Summary

Table 1 summarizes the measurement results for the CDMA 800 MHz MFRM.

Table 1: Test Results Summary

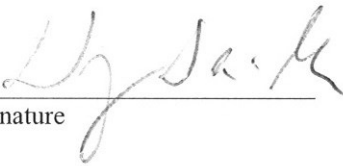
FCC Measurement Specification	FCC Limit Specification	Description	Results	Test(s) Conducted by	Remarks
2.1046		RF Output Power		Nortel Networks	See Exhibit 2A and 2B
2.1049		Occupied Bandwidth		Nortel Networks	See Exhibit 2A and 2B
2.1051, 2.1057	22.901, 22.917	Spurious Emission at Antenna Terminals	Compliant	Nortel Networks	See Exhibit 2A and 2B
2.1053, 2.1057	22.901, 22.917	Field Strength of Spurious Radiation	Compliant	Sanmina Canada ULC	See Exhibit 2C
2.1055	22.355	Frequency Stability	Compliant	Nortel Networks	See Exhibit 2A and 2B

3. Engineering Declaration

The CDMA 800 MHz Multi-carrier Flexible Radio has been tested in accordance with the requirements contained in the Federal Communication Rules and Regulations Part 2 and 22.

To the best of my knowledge, these tests were performed in accordance with good engineering practices using measurement procedures consistent with industry or commission standards or previous Commission correspondence or guidance and demonstrate that this equipment complies with the appropriate standards. All tests (including tests performed by Sanmina Canada ULC) were conducted on a representative sample of the equipment for which type acceptance/certification is sought.

Report Prepared by


Signature

Thomas Wong
Regulatory Prime
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4. Type Acceptance Application Requirements

4.1 Name of Applicant

The applicant is Nortel Networks Inc.

4.2 Identification of Equipment

The equipment in this application for type acceptance is the Nortel's CDMA 800 MHz Multi-carrier Flexible Radio Module (MFRM). The 800MHz MFRM is marketed under the model number NT800MFRM. The FCC ID number sought is AB6NT800MFRM.

4.3 Quantity Production

The 800 MHz MFRM will be produced in quantity.

4.4 Type of Emissions

The 800 MHz MFRM Assembly is designed to operate in digital mode. The emission type is F9W for IS95 and IS2000 digital modulation, and D9W for IS856 digital modulation. The emission designators for IS95 and IS2000 are 1M25F9W (1 Channel), 2M50F9W (2 Channels) and 3M73F9W (3 Channels). The emission designators for IS856 are 1M25D9W (1 Channel), 2M50D9W (2 Channels) and 3M73D9W (3 Channels). Testing was conducted in single channel, two channel, and 3 channel mode to determine compliance. The emission designators were calculated based on requirements of FCC Rule Part 2, Subpart C - Emissions, section 2.201 and Section 2.202.

4.5 Frequency Range

The 800 MHz MFRM operates in the 800 MHz cellular band where the operating frequency ranges are 824 – 849 MHz for the receiver and 869 - 894 MHz for the transmitter. The following table shows the CDMA channels within this band meeting FCC requirements for single, two, and three carrier modes. For two and three carrier modes, the channel number used in the table is the outer carrier center frequency that is the closest to the band edge.

Band	CDMA Channel Number	Transmitter Center Frequency Assignment for Base Station (MHz)	Channel Meeting FCC Requirements
A'' + A	991-1014	869.040-869.730	Non-compliance
	1015-308	869.760-879.240	Compliance
	309-333	879.270-879.990	Non-compliance
B	334-357	880.020-880.710	Non-compliance
	358-642	880.740-889.260	Compliance
	643-666	889.290-889.980	Non-compliance
A'	667-691	890.010-890.730	Non-compliance
	692	890.760	Compliance
	693-716	890.790-891.480	Non-compliance

B'	717-741	891.510-892.230	Non-compliance
	742-775	892.260-893.250	Compliance
	776-799	893.280-893.970	Non-compliance

4.6 Range of Operating Power

The 800 MHz MFRM range of operating RF power is 0 dBm to 47.3 dBm . The maximum RF power output is 47.3 dBm..

4.7 Complete Circuit Diagrams

The RF chain of the 800 MHz MFRM is made up of Nortel's MTRM (Multi-carrier Transmit/Receive Module) and OEM equipment. Exhibit 8 contains the schematics of the MTRM and Exhibit 9 contains the parts lists of the MTRM.

The OEM MCPA 800 MHz power amplifier is approved under FCC ID E675JS0047.

4.8 Tune-up Procedure

The tune-up tests will be performed as part of the factory testing on the MFRM. This procedure includes power output levels, spurious emissions, and occupied bandwidth. There are no end-user adjustments that will have any effect on these settings. No tune-up testing is required in the field.

4.9 Circuit Description for Frequency Determining and Stabilizing

The Global Positioning Satellite Timing Module (GPSTM) is the primary clock source in the system. It consists of two outputs:

EVEN_SEC Clock and,
SYS_CLK (at 8fc or 9.8304 MHz)

In addition, the GPSTM has a 10 MHz reference output that can be used to synchronize external measurement equipment during system testing.

The GPSTM distributes the primary clock signals directly to the Control Module (CM) and the CORE modules (see Exhibit 3) which in-turn distribute the clock signals to the digital modules and to the MFRM via the high speed optical link.

The GPSTM has a frequency stability of better than 1.0 part per billion.

4.10 Circuit Description for Suppression of Spurious Radiation

The Tx band pass filter in the DPM provides out of band emission rejection and permits only signals in the Tx band to the antenna for emission.

4.11 Circuit Description for Limiting Modulation

This systems employs digital modulation techniques producing CDMA forward and reverse channel air interfaces which are compatible with IS 95A, IS2000, and IS856 technical standards.

5. Test Method and Test Result

5.1 Tests performed by Nortel Networks

The MFRM consists of two versions of PAs: a old version and a cost reduced version. Both version has been tested to ensure the FCC compliance with DOM carriers. The Exhibit 2A test report was based on the old version PA. The Exhibit 2B test report was based on the cost reduced version PA.

5.1.1 Old Version PA Tested in Exhibit 2A

RF Power Output

The maximum measured RF output power was 47.41 dBm for single carrier.

The maximum measured RF output power was 47.50 dBm for two carriers.

The maximum measured RF output power was 47.39 dBm for three carriers.

Occupied Bandwidth

The maximum measured occupied bandwidth was 1,259 KHz for single carrier.

The maximum measured occupied bandwidth was 2,450 KHz for two carriers.

The maximum measured occupied bandwidth was 3,671 KHz for three carriers.

Spurious Emissions at Antenna Terminals

The minimum pass margin for one, two and three carrier(s) is:

1 MHz upper and lower band edge measurements was 9.05 dB

1 MHz to 10 GHz measurements was 6.89 dB.

Frequency Stability

The worst case frequency stability result over temperature and voltage level was 9.6 ppb.

Please refer to the Exhibit 2A for all test setups and results in details provided by Nortel Networks.

5.1.2 Cost Reduced Version PA Tested in Exhibit 2B

RF Power Output

The maximum measured RF output power was 47.40 dBm for single carrier.

The maximum measured RF output power was 47.32 dBm for two carriers.

The maximum measured RF output power was 47.40 dBm for three carriers.

Occupied Bandwidth

The maximum measured occupied bandwidth was 1,258.5 KHz for single carrier.

The maximum measured occupied bandwidth was 2,460.9 KHz for two carriers.

The maximum measured occupied bandwidth was 3,671 KHz for three carriers.

Spurious Emissions at Antenna Terminals

The minimum pass margin for one, two and three carrier(s) is:

1 MHz upper and lower band edge measurements was 10.52 dB

1 MHz to 10 GHz measurements was 7.58 dB.

Frequency Stability

The worst case frequency stability result over temperature and voltage level was 6.3 ppb.

Please refer to the Exhibit 2B for all test setups and results in details provided by Nortel Networks.

5.2 Tests performed by Sanmina Canada ULC

Radiated Emission Test Results from 30MHz to 9 GHz

The minimum pass margin: 34.52 dB for H-Pol
31.98 dB for V-Pol

Please refer to the Exhibit 2C for all test setups and results in details provided by Sanmina Canada ULC.