

EXHIBIT 1

Application for Certification and Letters

Applicant: Northern Telecom Ltd.

For Certification on:

AB6S8000



Certification Application

February 28, 2003

American Telecommunications Certification Body, Inc.
6731 Whittier Avenue
Suite C110
McLean, VA 22101

RE: Certification Application
FCC ID: AB6S8000

Dear Sir/Madam,

As per our recent discussions with ATCB, please accept this application for the certification of the product filed under Part 2 Subpart J, for equipment operating under Part 22, Subpart H and Part 24 Subpart E of the regulations of the Federal Communications Commission. With authority to act as an agent, Sanmina-SCI is filing this application for certification on behalf of Nortel Networks.

The product for which certification is sought is Nortel Network's 850 MHz/1900 MHz GSM indoor and outdoor basestations (S8000). All detailed information for the system is included in the respective exhibits as required by the Rules. The S8000 was previously certified for the following configurations-

FCC ID numbers: AB6OUD850S8000/AB6OUDS8000

1900 Band only - PA (GMSK 30W / Edge 30W)
850 Band only - PA (GMSK 30W / Edge 30W)
1900/ 850 Dual Band - PA (GMSK 30W / Edge 30W)
GMSK modulation
8PSK modulation

Please reference the above filings for test data and documentation supporting the configurations identified. The Data and documentation presented in this application supports the following additional configurations:

1900 MHz Band only –with HePA (GMSK 60W / Edge 45W)
GMSK modulation code
8PSK with HePA configuration
H4D coupler
H2D coupler
Duplexer

The above configurations all use the identical platform and are field configurable systems. Nortel wishes to introduce a 60 Watt High Power amplifier, which as per FCC part 2 of the rules requires a new application for equipment authorization be



SANMINA-SCI

Certification Application

submitted. Due complexity of managing many ID numbers for the same system, Nortel is submitting the new application with test data for the new increased power configurations, and all of the configurations noted above under the existing approvals. As previously done with S8000 (AB6S8000) the indoor and outdoor platforms will be included in one filing as the transmit paths and components are electrically identical with respect to the requirements of FCC Parts 2, 22 and 24 (please see attached attestation letter).

Note that the 1900 MHz HePa (power amplifier) has received stand-alone certification by their manufacturer **Powerwave Technologies**. The PA is certified under **FCC ID: QTPSCPAPCS1900**

Please find the following attached exhibits:

- EXHIBIT 1 Application and Letters
- EXHIBIT 2 Test Report List
- EXHIBIT 2A S8000 Radio Report
- EXHIBIT 2B S8000 EMC Report
- EXHIBIT 3 Transmit Label Photo
- EXHIBIT 4 Technical and Functional Description
- EXHIBIT 5 External Photographs
- EXHIBIT 6 Internal Photographs
- EXHIBIT 7 Parts Lists
- EXHIBIT 8 Schematics List
- EXHIBIT 8A E-DRX Assembly Schematics
- EXHIBIT 8B E-RDRX (Radio Board) Schematics
- EXHIBIT 8C E-LDRX (Logic Board) Schematics
- EXHIBIT 9 RF Exposure
- EXHIBIT 10 Factory Test Specification
- EXHIBIT 11 Reference Manual

Please contact me if any further information is required.
Important: Please see attached request for confidentiality.

Sincerely,

Glen Moore
Manager, EMC Design Services
Sanmina-SCI Canada ULC
Ph: (403) 295-5144
Glen.moore@sanmina-sci.com
Sanmina-SCI Canada ULC
On behalf of Nortel Networks



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Letter on behalf of Manufacturer

February 26, 2003

American Telecommunications Certification Body, Inc.
6731 Whittier Avenue
Suite C110
McLean, VA 22101

RE: Certification Application
FCC ID: AB6S8000

To Whom It May Concern:

Please be advised that the manufacturer will ensure that the above-referenced model will be manufactured in accordance with the FCC Rules and Regulations.

Thank you for your attention to this matter.

Sincerely,

Glen Moore
Manager, EMC Design Services
Ph: (403) 295-5144
glen.moore@sanmina-sci.com
Sanmina-SCI Canada ULC
On behalf of Nortel Networks



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Request for Confidentiality

February 26, 2003

American Telecommunications Certification Body, Inc.
6731 Whittier Avenue
Suite C110
McLean, VA 22101

RE: Certification Application
FCC ID: AB6S8000

Please accept this request on behalf of Nortel Networks for the confidentiality of sensitive information contained in this application. The request for confidentiality applies to the following sections:

EXHIBIT 4	Technical and Functional Description
EXHIBIT 7	Parts List
EXHIBIT 8	Schematics List
EXHIBIT 8A	E-DRX Assembly Schematics
EXHIBIT 8B	E-RDRX (Radio Board) Schematics
EXHIBIT 8C	E-RDRX (Logic Board) Schematics
EXHIBIT 10	Factory Test Specification

The application contains technical information that Nortel Networks deems to be trade secrets and proprietary. If made possible, the information might be used to the disadvantage of the applicant in the market place.

Thank you for your attention to this matter.

Sincerely,

Glen Moore
Manager, EMC Design Services
Ph: (403) 295-5144
glen.moore@sanmina-sci.com
Sanmina-SCI Canada ULC
On behalf of Nortel Networks

January 22, 2003

American Telecommunications Certification Body, Inc.
6731 Whittier Avenue
Suite C110
McLean, VA 22101

RE: FCC Part 24 Certification Application
FCC ID: AB6S8000

Dear Sir/Madam,

This letter is an explanation of the steps taken to ensure :

- The S8000 Indoor and Outdoor PCS base station systems configured with 60Watt Hc Pa's meet the band edge requirements (section 4.5.5 for PCS1900 of "Exhibit - Radio Test Report" for details of this issue).
- The Band 850 MHz S8000 system meets the band edge requirements (see Section 6.5 for GSM 850 of "Exhibit - Radio Test Report" for details of this issue).

GSM 1900 System Information:

GSM 1900 band operates in the following band:
1930 MHz to 1990 MHz uplink, 1850 MHz to 1910 MHz downlink.

That correspond to ARFCN in the [512; 810] range.

GSM 1900 band is divided in following sub bands below, defined in frequency and corresponding ARFCN, as:

sub_band	Mobile TX MHz (UL)	BTS TX MHz (DL)	ARFCN
A	1850.2 – 1864.8	1930.2 – 1944.8	512 to 585
D	1865.2 – 1869.8	1945.2 – 1949.8	587 to 610
B	1870.2 – 1884.8	1950.2 – 1964.8	612 to 685
E	1885.2 – 1889.8	1965.2 – 1969.8	687 to 710
F	1890.2 – 1894.8	1970.2 – 1974.8	712 to 735
C	1895.2 – 1909.8	1975.2 – 1989.8	737 to 810

The condition to be met is that the edge channels (ARFCN 512, 585, 587, 610, 612, 685, 687, 710, 712, 735, 737 and 810) shall not emit at maximum power in order to meet the spurious emissions at the antenna terminals requirements.

With Nortel S8000 Band 1900 MHz BTS, max power for these channels has to be reduced by 6 dB to be compliant with requirements. In order to accomplish this the OMC-R software that controls the output power of the system has been modified so that the maximum output power of the system is limited so that if one edge channel belongs to a cell and the max power of this cell is greater than the max power authorized for an edge channel, the cell creation or modification is forbidden. In this way the spurious emissions cannot exceed the limit required. This limitation is done at the software level.

GSM 850 System Information:

GSM 850 band operates in the following band:

824 MHz to 849 MHz uplink, 869 MHz to 894 MHz downlink.

That correspond to ARFCN in the [128;251] range.

GSM 850 band is divided into two non-contiguous sub bands A and B, defined in frequency and corresponding ARFCN, as:

sub band	Mobile TX MHz (UL)	BTS TX MHz (DL)	ARFCN
A''	824.2 – 824.8	869.2 – 869.8	128 to 131
A	825.2 – 834.8	870.2 – 879.8	133 to 181
B	835.2 – 844.8	880.2 – 889.8	183 to 231
A'	845.2 – 846.2	890.2 – 891.2	233 to 238
B'	846.8 – 848.8	891.8 – 893.8	241 to 251

The edge channels (ARFCN 238 and 241) shall emit at maximum power and meet the spurious emissions at the antenna terminals requirements.

The condition to be met is that the edge channels (ARFCN 128, 131, 133, 181, 183, 231, 233 and 251) shall not emit at maximum power in order to meet the spurious emissions at the antenna terminals requirements.

With Nortel S8000 850 MHz Band BTS, max power for these channels has to be reduced by 2 dB to be compliant with requirements. In order to accomplish this the OMC-R software that controls the output power of the system has been modified so that the maximum output power of the system is limited so that if one edge channel belongs to a cell and the max power of this cell is greater than the max power authorized for an edge channel, the cell creation or modification is forbidden. In this way the spurious emissions cannot exceed the limit required. This limitation is done at the software level.

Sincerely,

A. de Lannoy
GSM & GPRS BSS Architect