Class II Permissive Change Certification Application

April 30, 2003

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

RE : Class II Permissive Change Certification Application
FCC Tx ID : AB6NT800MFRM2

Dear Sir/Madam

Please accept this application for the class II permissive change certification application of the product filed under Part 2 Subpart J, for equipment operating under Part 22 of the regulations of the Federal Communications Commission. The product for which authorization is sought is Nortel Networks' 800MHz MFRM2 radios.

The reasons for Nortel Networks to file a class II permissive change for the radio with FCC ID AB6NT800MFRM2 are:

(A) Design changes – Significant design modifications are listed below:
  (i) Modified the Tx LO distribution amplification circuitry.
  (ii) Fine-tuned the Tx circuitry by modifying discrete values.
  (iii) Changed distribution of digital reference clock.
  (iv) Changed the RF discrete attenuation pad to ceramic chip attenuator in the PA.
  (v) Cleaned up barnacles and fine-tuned the matching network in the PA.
  (vi) Improved the manufacturability of the PA.

(B) Supporting additional 1xEV-DO network:
The MFRM2 is going to support the 1xEV-DO network based on IS856 standard in addition of the existing IS95 and IS2000 network. Therefore, tests were carried out to ensure that the radio with the new modulation schemes (QPSK, 8-PSK, and 16-QAM) based on IS856 was still meeting the FCC Part 22 requirements. No hardware changes were required to be made in the radio to support the IS856 carrier.

(C) New FCC Part 22 rules effective on Feb 18, 2003:
The tests were also carried out according to the new FCC Part 22 rules effective on Feb 18, 2003 to ensure that the radio can meet the new out-of-band emission requirement which is –13dBm/100KHz.

(D) Rectified the mistake made in the original filing granted on Dec, 2002:
The test report named "Exhibit 2B - Test Report Provided by Sanmina.pdf" for the FCC Part 22 certification with FCC TX ID: AB6NT800MFRM2 granted on Dec 18, 2002 contained a measurement error that being corrected and re-tested in this filing. The measurement error was in section "4.3 Spurious Emissions at Antenna Terminals (Digital Mode)" and mainly on page 2-30. The test method for the out of band emission stated in the test report was pasted below for references:

> ***4.3.5 Test Method***
> *The EUT was configured to transmit at maximum power. Measurements were made on channels at the bottom, middle and top of the licensed bands. The following spectrum analyzer setting were used for the measurement of the antenna port spurious emissions:*
>
> ***Adjacent 1MHz to indicated cellular band (Upper and Lower)***
> *Resolution Bandwidth: 30 kHz (1 carrier, 2 carrier), 50 kHz(3 carrier)*
> *Video Bandwidth: 30 kHz (1 carrier, 2 carrier), 50 kHz(3 carrier)*
> *Video Average: 10 Averages*
> *Span: 1 MHz*
> *Attenuation: 30 dB*
> *Ref. Level: 46.5 dBm*
> *Ref. Level Offset: 36.2 dB*
> *All spectrum analyzer settings were coupled as per the manufacturers recommendations to improve measurement time, without compromising the data*
>
> ***All other Spurious Emissions up to 10 GHz***
> *Resolution Bandwidth: 1 MHz (1 carrier, 2 carrier, 3 carrier)*
> *Video Bandwidth: 1 MHz (1 carrier, 2 carrier, 3 carrier)*
> *Video Average: 10 Averages*
> *Span: Set accordingly*
> *Attenuation: 20 dB*
> *Ref. Level: 46.5 dBm*
> *Ref. Level Offset: 36.2 dBm*
> ***For out of band spurious emissions a Notch Filter was used to improve the dynamic range***
> ***of the spectrum analyzer and prevent non linearity in the measurement system.***

For "Adjacent 1MHz to indicated cellular band (upper and Lower)", no notch filter was used. However, for "All other Spurious Emissions up to 10GHz", a notch filter was put in to improve the dynamic range of the spectrum analyzer. Since a notch filter was used, the emission immediate outside from the adjacent 1MHz of the cellular band wasn't reported correctly. The notch filter knocked down the carrier and also the emissions close to the cellular band due to the wide filtering response of the notch filter. The test report submitted in with this Class II Permissive Change application has rectified the error by removing the notch filter during any of the emission tests in "Spurious Emissions at Antenna Terminals".

All detailed information is included in the respective exhibits as required by the Rules. Please find the following attached exhibits:

EXHIBIT 1: Application
EXHIBIT 2: Test Report Summary
EXHIBIT 2A: Test Report Provided by Nortel Networks
EXHIBIT 2B: Test Report Provided by Sanmina-SCI
EXHIBIT 3: Technical Description
EXHIBIT 4: Transmit Label Information
EXHIBIT 5: External Photos
EXHIBIT 6: Internal Photos
EXHIBIT 7: Test setup Photos
EXHIBIT 8A: Schematics (NTGY32AA pg 1-25)
EXHIBIT 8B: Schematics (NTGY32AA pg 26-50)
EXHIBIT 8C: Schematics (NTGY32AA pg 50-76)
EXHIBIT 8D: Schematics (NTGY33AA, NTGY35AA, and NTGY38AA)
EXHIBIT 9: Parts Lists (NTGY32AA, 33AA, 35AA, 38AA)
EXHIBIT 10: RF Exposure Guidelines for PCS and Cellular
EXHIBIT 11: User Manual

Please contact me for further information if necessary. Thank you for your attention to these matters.

Important: Please see attached request for confidentiality.

Sincerely,


Signature

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