

**RURAL TELECOMMUNICATIONS GROUP**  
*advocate of rural wireless telecommunications providers*

**1000 Vermont Avenue, NW, 10<sup>th</sup> Floor**  
**Washington, DC 20005**

June 10, 2003

Mr. Michael J. Wilhelm  
Public Safety and Private Wireless Division  
Wireless Telecommunications Bureau  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW, Room 4C-305  
Washington, DC 20554

**Re: Ex Parte**  
**WT Docket No. 02-55**

Dear Mr. Wilhelm:

On April 8, 2003, Caressa D. Bennet, Gregory W. Whiteaker, and Kenneth C. Johnson of Bennet & Bennet, PLLC, representing the Rural Telecommunications Group (“RTG”), spoke with you regarding the costs to small, rural wireless carriers to implement the 800 MHz relocation of Nextel pursuant to the “Consensus Plan.” RTG had noted that Motorola had determined that it would need to develop filtering equipment in accordance with the Consensus Plan’s technical specifications regarding interference, and install and calibrate the filters on each carriers’ individual cell sites. At that time, we had not heard from Nortel regarding the possible need to develop interference filters in line with any relocation of Nextel.

In order to update the record, we have attached a recent letter from Nortel in response to inquiries from RTG members regarding the need for costly RF filters. Nortel concludes, “it is likely that operators would be required to add Interference Mitigation Filtering to Nortel Networks Base Station configurations.” As noted in the Nortel letter, Nortel is examining the “potential impact” of proposed changes to the 800 MHz Band pursuant to this proceeding, leading us to conclude that most any change to the 800 MHz Band will result in a negative financial impact on small, rural A-Band carriers. Consistent with RTG’s February 25, 2003 comments filed in this proceeding, we suggest that the Commission consider a reimbursement mechanism or have Nextel and other carriers who competitively profit from the relocation plan to bear the cost for the interference filters.

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If you have any questions regarding this filing, please communicate directly with the undersigned.

Sincerely,

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/s/

Caressa D. Bennet  
General Counsel  
Rural Telecommunications Group

Enclosure

cc: Secretary, Federal Communications Commission

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To the Attention of Nortel Networks Customers:

The Federal Communications Commission is currently evaluating options and proposals for changing the spectrum environment within the 800 & 900 MHz, frequency bands. This letter is intended to provide Nortel Networks' customers with information that may help in assessing the potential implications of proposed changes for existing 800 MHz TDMA, and CDMA networks in the United States.

In March of 2002, the FCC released the "Notice of Proposed Rulemaking that Explores Options and Alternatives for Improving the Spectrum Environment for Public Safety Operations in the 800 MHz Band and Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels" (WT Docket No. 02-55). Following the public release of this notice, various stakeholder groups began submitting comments and proposals to the FCC as part of an ongoing dialogue. A complete listing of all submissions is available via the FCC web site: [www.fcc.gov](http://www.fcc.gov).

A joint proposal submitted by a consortium of wireless operating companies on Dec. 24, 2002 has generated considerable discussion amongst Wireless Network Operators and various Industry Organizations as well as within the FCC (DA 03-19 "Wireless Telecommunications Bureau seeks Comment on 'Supplemental Comments of the Consensus Parties' filed in the 800 MHz Public Safety Interference Proceeding – WT Docket No. 02-55" released January 3, 2003). This proposal not only includes a number of suggested modifications to the current spectrum environment and re-allocation of frequency blocks within the 800 MHz band, but also makes specific recommendations for revising Out-of-Band Emission (OOBE) specifications that could have potential implications for existing cellular operators (detailed in Appendix F, section 4.1.2 of the above document).

The current FCC Standard for OOBE in the 800 MHz Band is as follows:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. Following the FCC's measurement guidelines, this translates to OOBE that are less than -13 dBm/100 KHz.

There is some ambiguity in the phrasing of the submission from the Consensus Parties concerning the proposed OOBE specifications. Assuming that the existing 100 KHz measurement bandwidth is used, however, if the proposed new OOBE specifications are accepted by the FCC in their current form, existing base station transmitters operating in the 851-895 MHz band would be expected to comply with tighter OOBE performance standards. The new OOBE standards recommended by the Consensus Parties are summarized below:

- At 860.0 MHz;  $\leq -28$  dBm/100 KHz\*
- At 859.5 MHz;  $\leq -43$  dBm/100 KHz\*
- For all frequencies between 851 and 859 MHz;  $\leq -58$  dBm/100 KHz\*

\*Note: While the measurement bandwidth applicable to the proposed new OOBE specifications is not explicitly stated in the Consensus Parties' documents, it is assumed that the current FCC methodology would apply (i.e., using a 100 KHz bandwidth).

While Nortel's CDMA and TDMA equipment meets or exceeds existing FCC standards, including OOBE limits, should the proposed new standards be adopted by the FCC, some Base Station configurations may no longer be compliant. It is expected that "A-band" cellular operators would be most directly affected by this change.

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An analysis of current CDMA and TDMA base station performance relative to the existing and proposed standards at 859 MHz is summarized in the table below.

**Summary of Nortel Networks Base Station Out-of-Band Emissions Performance**

<b>Nortel Base Station Configuration</b>	<b>FCC Spec ≤ 859 MHz (dBm/100 KHz)</b>	<b>Nortel BTS OOBE Performance Spec (dBm/100 KHz @ 859 MHz)<sup>1</sup></b>	<b>Proposed Spec ≤ 859 MHz (dBm/100 KHz)</b>	<b>Additional RF - OOBE Filtering Requirement (dB)</b>
<b>CDMA</b>				
800 MHz SFRM with DPM	- 13	- 36	- 58	Yes (~22 dB)
800 MHz SFRM with DPM & Combiner	- 13	- 48	- 58	Yes (~10 dB)
800 MHz SFRM with DPM & IMF	- 13	- 101	- 58	No
800 MHz MFRM with DPM	- 13	- 36	- 58	Yes (~22 dB)
800 MHz MFRM with DPM & IMF	- 13	- 101	- 58	No
<b>TDMA</b>				
Macro (SCLPA)	- 13	- 30	- 58	Yes (~28 dB)
Metro (DPA)	- 13	- 30	- 58	Yes (~28 dB)
Urban (MCPA)	- 13	- 30	- 58	Yes (~28 dB)
Minicell (MCPA)	- 13	- 30	- 58	Yes (~28 dB)
Microcell (No PA)	- 13	- 30	- 58	Yes (~28 dB)

**NOTES:**

- The above analysis is intended only to illustrate the potential impact of the proposed new OOBE standards on various Nortel Base Station configurations at 859 MHz. Should the FCC decide to assign new OOBE standards, Nortel will undertake a detailed assessment of Base Station performance for TDMA and CDMA configurations based on whatever specifications and measurement methodologies are adopted.

The Nortel Networks Base Station Specifications shown above represent product performance specifications as measured under laboratory test conditions in accordance with current FCC test procedures (with Nortel Networks' equipment operating at the bottom end of the A band licensed spectrum). Actual OOBE field measurements for a given base station may vary depending upon specific Base Station configuration and deployment parameters (i.e., including antenna, cabling, filtering, carrier frequency, etc.).

As can be seen from the table above, it is likely that operators would be required to add Interference Mitigation Filtering to Nortel Networks Base Station configurations that do not meet the proposed new

OOBE emissions standards. The type and extent of filtering required will vary depending on the air interface technology in use (e.g., TDMA or CDMA) and the specific hardware configuration deployed at each cell site. Similarly, the cost, complexity and RF performance impact of deploying any such additional filtering will vary depending on the air interface technology and base station configuration in question.

Nortel is providing this information to help customers understand and assess the potential impact of the proposed changes to their wireless networks operating in the 800 MHz band. While customers are encouraged to assess the implications of the proposed specification changes in terms of network RF performance and regulatory compliance, it should be emphasized that the proposed new Out-of-Band Emissions standards for the 800 MHz Band remain under review by the FCC.

Should new standards be approved and implemented by the FCC, however, Nortel Networks will immediately begin working with all affected customers to ensure that the appropriate hardware upgrades are identified and made available for ordering to bring affected sites into compliance.

This notice should not be viewed as a Nortel Networks' statement of position either for, or against, the proposed new 800 MHz OOBE standards. Customers may, or may not, choose to provide comments to the FCC, but are advised to monitor the FCC web site on a regular basis to keep apprised of the ongoing discussion.

Please contact me should you have any questions or require further information.

On Behalf of Nortel Networks,

(COL or Account Representative)

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