

## Edge channels 850 MHz band management



July 10, 2002

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

RE: Certification Application  
FCC ID: AB6OUD850S8000

Dear Sir/Madam,

This letter is an explanation of the steps taken to ensure that the 850 MHz S8000 system meets the band edge requirements of the FCC (see Section 3.5.2 of "Exhibit 2A – Radio Test Report" for details of this issue).

### 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	825.00 - 835.00	870.00 - 880.00	128 to 131
A	824.00 - 825.00	869.00 - 870.00	133 to 181
B	845.00 - 846.50	890.00 - 891.50	183 to 231
A	835.00 - 845.00	880.00 - 890.00	233 to 238
B	846.50 - 849.00	891.50 - 894.00	241 to 251

The condition to be met is that the edge channels (ARFCN 128, 131, 133, 181, 183, 231, 233, 238, 241 and 251) shall not emit at maximum power in order to meet the FCC spurious emissions at the antenna terminals requirements.

With Nortel S8000 850 MHz 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 by the FCC. This limitation is done at the software level and cannot be changed by the customer.

Sincerely,

Amal Drici  
Nortel Networks  
GSM BTS R&D Director