



To: Federal Communications Commission
Industrie Canada
From: Nortel Networks
Subject: Professional Installation and Configuration
FCC ID: RVW2230W
IC: 332R-2230W
Date: 1 Mar 2005

Gentlemen,

A Class II Permissive change is being requested to Nortel's previously approved 802.11 A/B/G access point; FCC ID RVW2230W , IC: 332R-2230W The purpose of this letter is to address power reduction concerns when using high gain antennas on the 5.15 to 5.25 GHz UNII band.

The current FCC and Industrie Canada rules allow an RF transmit power of +17 dBm when operating within the 5.15 – 5.25 GHz band. Additionally, the FCC and Industrie Canada require that the RF transmit power limit be reduced 1dB for every additional dBi or antenna gain above 6 dBi.

In order to comply with the FCC requirements regarding maximum transmit power limit, it is necessary to reduce the RF transmit power when using the access point with the antennas (or an antenna of similar type and gain).

The following table outlines the maximum RF transmit power limits for the 5.15 – 5.25 GHz "802.11 A" band with the indicated antennas.

Mfg.	Part No.	Type	Specified Antenna Gain (dBi)	Power Limit Reduction (dB) (Gain - 6dBi)	5.15 - 5.25 GHz Max RF Power Allowed (dBm)	5.25 - 5.35 GHz Max RF Power Allowed (dBm)
Cushcraft	S51514WP36RTN	Panel	14	8	9	16
Cushcraft	S51212MPN36RTN	Panel	12	6	11	18
Cushcraft	MFB58009	Omni	9	3	14	21

Nortel Networks is cognizant of the fact that Nortel is responsible for continued compliance on the access point even when installed in the field. In order to ensure that the Nortel installation meet the FCC and Industrie Canada regulatory requirements, the configuration of the access points to the correct transmit power for a given antenna will be performed by a trained professional installer. Information detailing the correct RF power levels for the antennas requiring power reduction will be included in the installation notes. As this is a new permissive change, modified installation notes are not available at this time. The edited installation instructions will be added to the installation manual, or on the Nortel web site or both as soon as possible.

NOTES:

The 9dBi omni antenna in the table above is specified to have 9dBi in the 5.725 - 5.85GHz band. It was tested for its performance in both, UNII and ISM bands for this permissive change. For purposes of power reduction it is assumed to have 9dBi of gain in the UNII band as well as the ISM band.

The S51212MPN36RTN 12 dBi panel antenna is a UNII (5.15 - 5.35 GHz) only antenna. Unlike the omni antenna above, use of this antenna is limited to the specified operating band for this antenna.

Compliance with FCC Part 15.15

FCC Part 15.15(b) states:

"An intentional or unintentional radiator must be constructed such that the adjustments of any control that is readily accessible by or intended to be accessible to the user will not cause operation of the device in violation of the regulations."

Compliance with Part 15.15 will be accomplished by a professional, trained configuring the access-points correctly during the installation.

Professional installation and configuration of the devices is required due to the complexity of a typical installation. A typical installation may consist of several dozen access points installed throughout a corporate building or campus. Installation, configuration and testing of the system are not trivial tasks and must be performed by trained professionals. The configuration settings of the access point are password protected to eliminate the possibility of unauthorized personnel altering the configuration and thus disrupting the proper performance of the network, therefore the end user of the network will not have access to the configuration of the access points.

If there is any additional information required, please contact me at the email address below

A handwritten signature in dark ink, appearing to read 'David Waitt', with a stylized flourish at the end.

David Waitt
Consultant Representing Nortel Networks
david@waitt.us