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FCC ID: AB6BTR2807M Nortel Networks Inc.
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This application is to request Modification of the original Grant of Certification by adding two new line entries / emissions.

1.) The original Grant of Certification was made for 16 QAM modulation (only). The Modified TCB Grant is intended to include additional modulation modes of 4 and 64 QAM. Only one plot / measurement of occupied bandwidth submitted (Page 8 of the KTL report). This plot does not specify whether 4, 16 or 64 QAM modulation was used. Measurement of the occupied bandwidth for the additional modulation modes (4 and 64 QAM) is requested.

[Lalonde, Denis [KAN:0S42:EXCH]] The test lab didn't record which modulation was used. They responded that all 3 types of modulation were tested and that the recorded bandwidth was a reflection of the worst case. New plots showing the occupied bandwidth of the signal with 4QAM, 16QAM, and 64QAM are attached to this message. As you can see the modulation type doesn't affect the occupied bandwidth.

2.) The original Grant of Certification shows the power output listed on a per-carrier basis - which is reduced as the number of carriers is increased. However, the request for Modification shows no proportional power output reduction for the four - carrier situation (Page 6 of the KTL report). Please explain this. Changes in the power output rating / capability requires a new FCC ID.

[Lalonde, Denis [KAN:0S42:EXCH]] The power levels in the original grant are not on a per-carrier basis. Lower power levels were used for the multi-carrier signals in the original grant in order to reduce inter-modulation distortion. The power levels in the original grant and the Class 2 Permissive Change application were measured with a power meter while all carriers were on. The power level of the signals is determined on the number of carriers and the type of modulation used (4QAM, 16QAM, or 64QAM). The original grant was for signals with 16QAM modulation. The per-carrier backoff for a 4 carrier signal was 9.5 dB (referenced to single carrier 16QAM signal). The sum of the 4 carriers made the 4 carrier power level 3.5 dB lower than the single carrier one. The Class 2 Permissive Change application is for signal with 4QAM, 16QAM, and 64QAM. The per-carrier backoff for 4 carrier 4QAM signal is 7.5 dB (referenced to single carrier 4QAM signal). The sum of the 4 carriers makes the 4 carrier power level 1.5 dB lower than the single carrier. The 16QAM and the 64QAM version of the 4 carrier signal will have lower power levels.