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To whom this may concern

February 13, 2003

OET Requested Information

FCC ID : ANO20020304T2L
Applicant : International Business Machines Corporation
Correspondence Reference Number: 230207TC.ANO
Confirmation Number : TC3012
Original Requested Date : February 07, 2003

Subject 1) Please clarify the frequency of operation of the transmitter. Theusers manual provided (pages 7, 13) shows 5.15-5.25, 5.25-5.35, and 5.65-5.85 GHz operation. Please revise users manual or send supporting test data, as appropriate.

Answer 1) Those frequency bands are not the specifications of the applying transmitter, but the ones of MSS or High Power radars. The notice of indoor use in 5.15-5.25GHz band is mandated by the CFR47 Part 15.407(e), and the other notice about the interference with High Power radars in 5.25-5.35G Hz or 5.65-5.85GHz band is voluntary. Therefore the manual revision may not be required.

Subject 2) Please clarify the user installed wireless module option antenna installation procedure stated on page 8-9 of the users manual. Please provide how the antenna will be installed or selected by the user and provide antenna installation to satisfy RF exposure compliance.

Answer 2)The users manual of the host device (IBM ThinkPad **X30** Series) introduces 4 kinds of transmitters. The page 8-9 are showing different transmitters which are to be certified separately from this application. Please refer to page **6-7** for the applying **ANO200204T2L.** The FCC ID and installation method is described clearly in those pages. Also please refer to "Outline of Submission" exhibit.

The applying transmitter is pre-installed by IBM, so the latter question is not applicable for the device.

Subject 3) Please clarify the RF Exposure (MPE) exhibit shown on the Power Table page 7/8 (5.725 - 5.85 GHz) which shows operational frequencies outside the requested frequency band of operation. Please confirm.

Answer 3) The measurement was performed with the full allocated frequency band of DTS devices (i.e. 5725M-5850MHz).

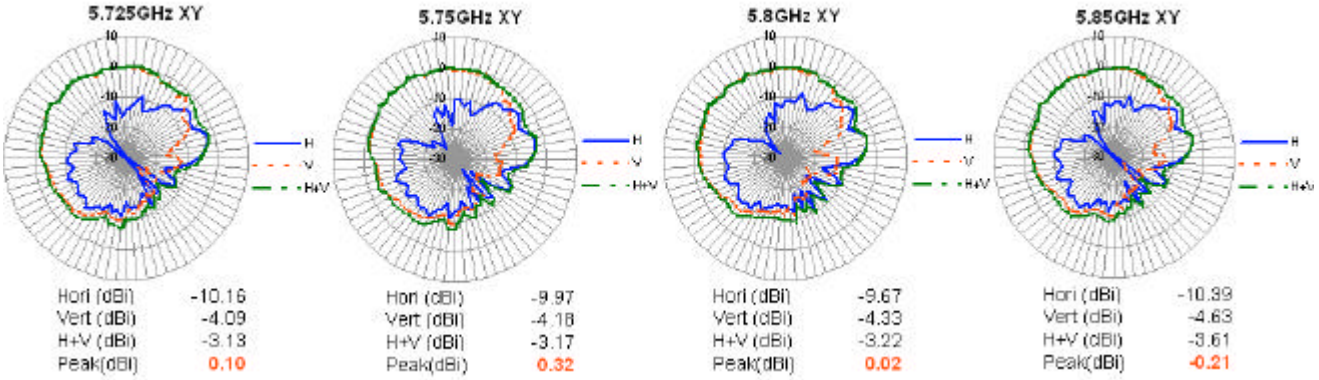
As shown by the plots of the next page, the highest peak antenna gain for the **main (left)** antenna was found around 5750MHz which is in the operation band. On the other hand, the highest peak antenna gain for the **Auxiliary (Right)** antenna was found at 5725MHz and declines the value gradually from low to high frequency. Thus the peak antenna gain in the operation band never exceed –0.87 dBi for the right antenna. So we would declare this value as the maximum for the right antenna gain.

Subject 4) Please clarify the circuit description shown on the Power Table page 8/8 which shows transmitter operation in the 5.18-5.32 GHz frequency band (Ch 36-64). Please provide a statement that the device will be marketed without this additional frequency/channel capability, as appropriate.

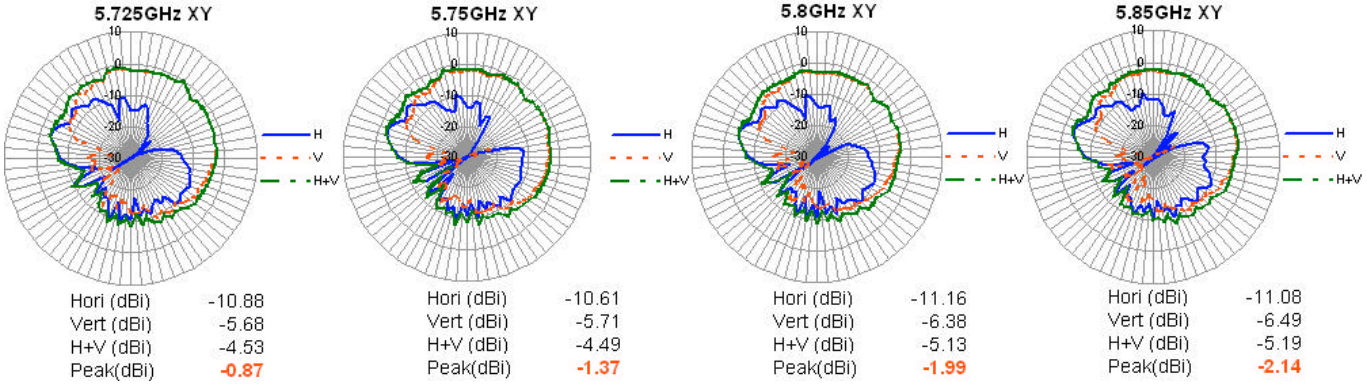
Answer 4) IBM can not agree with the request, since this is a composite application. The operation for the channel 36-64 is subjected to the separate application for the Subpart E submitted simultaneously with this. Please refer to the separate composite application for the Subpart E of FCC ID: ANO20020304T2L, Document #: FCC 19-0212.

Prepared by T. Murota.

Plots of the antenna gain (**left** antenna)



Plots of the antenna gain (**Right** antenna)



Subject 5) Please send the FCC/OET correspondence pertaining to the subject device. Each filing must stand on its own with all the required exhibits/documents.

Answer 5) Yes, we will send each correspondence to each subject device with each separate exhibit.
This is the answer for the Subpart **C** portion of FCC ID: **ANO20020304T2L**. (Document #: FCC 19-0213)

Sincerely, February 13, 2003

T. Murota

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Prepared by T. Murota.