

Feb. 21, 2000

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
USA

Attn: Mr. Joe Dichoso & Mr. Kwok Chan

Re.: Applicant: NgeeAnn Polytechnic, FCC ID: ORLINLINK-2000, CORRESPONDENCE # 11994

This concerns your correspondence # 11994

- (1) Even though the data rate can be different, 1 Mbps or 2 Mbps, the processing gain or chip rate are exactly identical since bit-per-symbol rate is 2 bits/symbol for 2 Mb/s data rate and 1 bit/symbol for 1 Mb/s data rate.

For example:

- For the 2 Mb/s Data Rate:

$$\text{Theoretical Process Gain} = \frac{11 \text{ MHz}}{(2\text{Mb/s})/(2\text{bits/symbol})} = 11 \text{ numeric or } 10.4 \text{ dB}$$

- For the 1 Mb/s Data Rate:

$$\text{Theoretical Process Gain} = \frac{11 \text{ MHz}}{(1\text{Mb/s})/(1\text{bits/symbol})} = 11 \text{ numeric or } 10.4 \text{ dB}$$

In our earlier submission of other DSSS transmitter using the same Harris chip set, we did repeat the process gain tests at different data rate, but the results always came out to be the same. As matter of fact if we look at the signal spectrums at 1 Mb/s and 2Mb/s they are exactly identical since the chip/symbol rates are the same.

I do not think that it is necessary to repeat the process gain tests based on this argument. Please review this matter and let us know if you still want us to repeat the test.

- (2) The antenna type indicated in the test report is wrong, it does not seem to be what it is, and the corrected one is as follows:

Manufacture: Murata
Type: Chip Dielectric Antenna
Model: ANCLC2R44J084AAA
Frequency Range: 2.4GHz - 2.4835GHz
Input Impedence:50 Ohm
Gain: +0.5dBi

It is a pcb component with short leads soldered on the pcb. The antenna is contained inside the EUT's enclosure.

The photograph sent earlier showed no antenna mounted on it since it is removed for rf conducted tests and the technician forgot to put it back for pictures after tests. Attached in "Internal Photos" exhibit, please find the new picture of the radio board.

- (3) This is a PCMCIA card for laptop computer, and it is considered as mobile equipment with low power. Therefore, the RF Exposure Warning is required. The applicant has agreed to update their Users Manual with the FCC RF Exposure Warning as follows:

RF EXPOSURE



WARNING: To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.