

13JUN00

Federal Communications Commission  
Authorization and Evaluation Division

Gentlemen,

We are submitting this application is for adding an emission designator to our existing granted equipment B8HACL-70T. The emission designation we want to add is 10M0D9W.

The addition of this emission designator does not change the equipment characteristics as applied for under the original grant.

The ACL-70T is a heterodyne radio that accepts an internal or external 70MHz modulated signal. The 70MHz modulated signal can be either analog or digital.

**NECESSARY BANDWIDTH**

To calculate the necessary bandwidth the following formula was used:

$$B_n = 1/m(D_{in} + D_o)F_e \times \alpha$$

Where:  $B_n$  = Necessary Bandwidth

$m$  = Modulation Efficiency = 4 for 16QAM

$D_{in}$  = Input Data Rate = 24.9 MB/s

$D_o$  = Overhead Data = 2.0MB/s

$F_e$  = Forward Error Correction = 204/184 (Reed Solomon)

$\alpha$  = Filter Roll Off Factor = 1.35

$$B_n = 1/4(24.9 + 2)204/184 \times 1.35$$

$$B_n = 1/4(26.9)1.1 \times 1.35$$

$$B_n = (6.725)1.1 \times 1.35$$

$$B_n = 7.397 \times 1.35$$

$$B_n = 9.986 \text{ MHz}$$

Sincerely,

RF Technology, Inc.  
John Timm  
Technical Sales Manager