

NARCO AVIONICS INC.

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Federal Communication Commission
Laboratory Division
7435 Oakland Mills Road
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FCC ID: A9SAT165

The purpose of this letter is to point out that the AT165 is an AVIATION TRANSPOUNDER and is not required to meet the 20 ppm spec for the 960-1215 Radionavigation band. The frequency tolerance for the ATC transponder system is defined in FAA document TSO C74c paragraph 2.10 as 1090MHz $\pm 3\text{MHz}$. Note that the 3MHz authorized by the FAA is a significantly tighter tolerance than that authorized by FCC part 87.133.d which would be equal to the authorized frequency band less $1.5/T$ relative to the upper and lower authorized band edges. In this instance it would be equal to the authorized bandwidth less $1.5/.45\mu\text{s}$ or 3.3MHz from the upper and lower frequency. TSO C74c 2.13d defines the maximum occupied bandwidth as that which would be created by a trapezoidal waveform having the minimum specified rise and fall times. This calculates a maximum occupied bandwidth of about 20MHz. This equates to an FCC frequency tolerance of $(20-6.66\text{MHz})/2$ which is $\pm 6.667\text{MHz}$. Since the FAA is the stricter of the two it is regarded as the applicable limit.

If you have any questions please contact me.

Sincerely,



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