

From: Douglas Young
To: "jstover@gilland.com".GWIA1.ROUTE_A
Date: Friday, February 08, 2002 1:43:02 PM
Subject: RE: Frequency tolerances.

Are you sure these are tolerances and not bandwidths? ± 125 MHz equals 250 MHz, which is the bandwidth you gave for your signal. From Part 2.1 of the FCC's Rules (47CFR2.1): "Frequency Tolerance - The maximum permissible departure by the center frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of the emission from the reference frequency." "Necessary Bandwidth - For a given class of emission, the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions." Tolerance is an expression of how stable the transmitter is with respect to frequency, and is usually in parts per million.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of February 07, 2002 may result in application dismissal pursuant to Section 5.67 and forfeiture of the filing fee pursuant to Section 1.1108.

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>>> "John Stover" <jstover@gilland.com> 02/08/2002 11:33:33 AM >>>
Dear Mr. Young,

Thank you for the frequency tolerance clarification. Did you mean that frequency tolerances are commonly .001% or .001 ? Our tolerances were entered in MHz (in GHz for the ULM-31), not percentage. The calculated equivalents are as follows (frequency tolerance by model number):

PPC-100/60
CF = 59.904 GHz and 61.632 GHz
Max. tolerance ± 125 MHz, ± 0.002 , $\pm 0.2\%$

PPC-100/42
CF = 40.652 GHz and 42.520 GHz
Max. tolerance ± 125 MHz, ± 0.003 , $\pm 0.3\%$

ULM-31
CF = 94.000 GHz
Max. tolerance ± 0.5 GHz, ± 0.005 , $\pm 0.5\%$

I have also attached the essence of this message to our application file on your Website.

Best regards,
John Stover
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