

Subject : Strong opposition to the Petition for Rulemaking RM11715 (10.0-10.5 GHz) from Mimosa Networks

A. The proposed use of the 10.0-10.5 GHz band for wireless broadband is not to be recommended.

Mimosa's claim that the band is susceptible to attenuation due to rain-fading effects is NOT correct. In fact, received signal strengths during rain events are usually enhanced. However, rain (or snowfall) in the transmit-receive link path causes scattering in many directions and creates severe distortion (garbling) and spreading of any type of signal modulation (digital or analog). In addition, no acknowledgment of the attenuation effects of atmospheric water vapor was mentioned in the Mimosa petition.

Other negative effects include airplane, terrain and building reflections and other multipath reflections which create both enhancement and severe nulls in received signal strength. Daily atmospheric inversion layer and coastal ducting effects typically change not only signal strength but deflect the direction to a great degree.

B. The Mimosa 55dBW power level proposed is highly likely to be disruptive other users of the 10.0 to 10.5 GHz band. There is no provision made to arbitrate harmful (Mimosa broadband) interference received by other users (including the Amateur Radio Service).

C. The ongoing removal of the public airwaves to commercial interests is gradually chipping away any possible future use of the remaining non-commercial spectrum. Such spectrum is a non-renewal resource which has many present and future educational and research possibilities. To continue to remove such spectrum is damaging to the nation's growth and security. 1. Co-channel interference to other users cannot be minimized.

D. Despite the proposed high-power transmitter fitted with "brick-wall" output filtering, the strong passband signal will be adjacent to other user's frequencies who operate in weak signal modes. The result will be receiver overload for those users.

E. The transmitted signal will be spread out in frequency into any adjacent guard bands due to rain and snow scatter and other atmospheric dispersion effects. This will happen no matter how well the transmitter output is filtered.

F. Due to the high power proposed (55dBW), the Mimosa system signal will not just be localized, it will have strong propagation for hundreds of miles, due to ducting and inversion effects in the atmosphere.

This type of transmission is not suited for this frequency band!