

Before the
Federal Communications Commission
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Parts 2 and 97 of the)
Commission's Rules Concerning the Use)
of the 2400-2402 MHz Band by the)
Amateur and Amateur-Satellite Services)

ET Docket No. 02-98
RM-9949

To: The Commission

REPLY COMMENTS OF THE RADIO AMATEUR SATELLITE CORPORATION

1. The Radio Amateur Satellite Corporation (AMSAT®) hereby submits Reply Comments in this proceeding.

2. AMSAT supports the Comments of ARRL, CQ Communications and various individual radio amateurs in support of the proposed rulemaking, for the reasons set forth in our own Comments.

3. AMSAT strongly opposes the proposal in the Comments of the IEEE 802 Local and Metropolitan Area Network Standards Committee (IEEE 802) that the amateur-satellite service allocation in the 2400 MHz band be limited to downlink (Space to Earth) use only.

4. Coming from a group which appears to be attempting in every way it can to circumvent the intent of FCC Part 15 Rules, i.e. short range communication for devices such as cordless telephones, garage door openers and local area computer networks; the IEEE 802 comments serve as a clear statement as to their ultimate goal - long distance (10 to 15 miles) broadband Internet access. By making the proposal they do, and in the remainder of their Comments, IEEE 802 clearly signals their intentions.

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5. IEEE 802 does not mention what their position is, or will be, with respect to terrestrial amateur operation in the 2400 to 2450 MHz band. Perhaps this is because this proceeding deals only with upgrading the 2400 to 2402 MHz segment. However, AMSAT points out that amateur service operations, other than those involving the amateur-satellite service, take place in the 60 MHz between 2390 and 2450 MHz, in 25 MHz of which the amateur service is already Primary. Indeed, one wonders what action IEEE 802 and other Part 15 organizations will initiate if these long range Internet access systems should begin to experience interference from terrestrial amateur operation such as amateur television (ATV) stations. Such stations in this band are becoming more and more popular in cities across the country. Many run considerable power, in accordance with Part 97 rules, in order to achieve wide geographical coverage with good received signals.

6. IEEE 802 contends that it is concerned about the interference which high-powered Part 15 devices would cause to the sensitive uplink receivers aboard space stations in the amateur-satellite service. However, there are equally sensitive receivers in the earth stations, which would still experience harmful interference from the Part 15 devices they envision. This is a particularly serious problem in view of the fact that these Part 15 devices would frequently be co-located in the same residential neighborhoods as amateur and amateur-satellite service earth stations.

7. It would appear that IEEE 802 and other Part 15 organizations should be reminded that Part 15 devices must accept interference from licensed services and must not cause interference to licensed services. By proposing that the Commission restrict satellite operation in the 2400 MHz band to downlink only, IEEE 802 is clearly demonstrating that the Part 15 interests will not

accept interference from any service, licensed or not. AMSAT wonders how long it will be before IEEE 802, or some other Part 15 group, will seek to remove all amateur operation from the entire 2390 to 2450 MHz band.

8. IEEE 802 makes the statement, "In this situation," (referring to their proposal to limit the 2400 MHz band to downlink only) "there would be no concern about the possibility of aggregate interference from the total population of Part 15 devices into the amateur satellites' sensitive receivers." Unless Part 15 devices ultimately plan to begin running *tens* of Watts instead of *one* Watt, there is no reason for such concern anyway. Perhaps this statement should be taken as a signal of their eventual intention. After all, if unlicensed devices can access Internet providers over distances of 10 to 15 miles, why not 25 to 50 miles? An argument could certainly be made that those in outlying areas should have the same ability to get on the "information super highway" as those located closer to providers.

9. AMSAT points out that the current amateur-satellite service allocation in this band is a result of agreements reached at an ITU World Radio Conference (WRC) and appears in the ITU Table of Frequency Allocations. Were the Commission to adopt IEEE 802's proposal, space stations of other countries in the amateur-satellite service would continue to employ uplinks in this band. Indeed, we are aware of several such satellites which are currently under development. Were the United States to propose a change in the Table along the lines of IEEE 802's proposal, such a change would take many years to implement and there would be no assurance that it would even be adopted by a future WRC. It would surely face strong opposition from the International Amateur Radio Union and other Amateur Radio organizations throughout the world.

10. ARRL, CQ Communications and Whedbee also address this issue in their Comments. As ARRL notes, at 24:

...the Commission's question at paragraph 50 of the Notice is difficult to fathom. The Commission requests "comment on whether the proposed primary amateur and amateur-satellite service allocations would conflict with unlicensed use of the band." This question makes no sense. The amateur service is a licensed radio service which now has allocation status in the 2400-2402 MHz band. Part 15 devices operate there without any allocation status. Part 15 devices cannot continue to operate (on an individual device basis) where interference is caused by that device to any licensed station, by rule. The change in the allocation status of the amateur service or amateur-satellite service from secondary to primary can therefore have no effect on the unlicensed use of the band, because the obligations of unlicensed Part 15 devices to both accept and not cause any interference does not change under any circumstances. ARRL continues to remind the Commission that *it cannot make allocation decisions involving incumbent services based on concerns about unlicensed services without allocation status*. That is unsound spectrum management. Accordingly, while the Commission has appropriately cautioned that the instant proposal does not, without more, displace existing Part 15 devices from the 2400-2402 MHz band, the concerns of Part 15 device manufacturers about conflicts between their devices and amateur and amateur-satellite services are irrelevant in the context of this proceeding.

AMSAT agrees.

11. AMSAT takes particular offense that IEEE 802 cites the AMSAT-OSCAR-40 spacecraft's unfortunate accident following launch, in support of its downlink-only recommendation. The matter is irrelevant at best. If there were no likelihood that future amateur radio satellites would use this band for uplinks, then why is IEEE 802 bothering to make this proposal at all?

12. IEEE 802 fails to consider the good reasons why future amateur satellites may well use the 2400 to 2450 MHz band as an uplink. This is the only amateur-satellite service allocation below 10 GHz with a bandwidth of 50 MHz. All other allocations are much narrower. Such bandwidth may be used in future satellites for wide band digital communication. The 2400 to 2450 MHz band would be superior to the 10450 to 10500 MHz band as the uplink because of the greater ease and lesser cost of generating reasonable power at the lower frequency.

13. With respect to AMSAT-OSCAR-40, IEEE 802 is even incorrect on the facts. First, it is not true that the two receivers in the 2400 to 2450 MHz range are not functional. They are. The difficulty is that all but two transmitters -- the one operating at 2401 MHz and the 24 GHz unit -- are not operable. Since the use of the 2401 MHz transmitter precludes the use of either of the two receivers in that band, the only transmitter that can be used in conjunction with either of these receivers is the 24 GHz unit. An experiment may yet be conducted utilizing either or both 2400 MHz receivers using the 24 GHz transmitter as the downlink.

14. Merely because there is little use of the 2400 to 2450 MHz segment for amateur satellite uplinks at present, does not mean it will not be used extensively in the future. Basing decisions regarding the use of this region of the spectrum by the amateur-satellite service under present conditions is both unwise and unfair. The time will come when it is one of the most valuable parts of the spectrum for such use. Radio amateurs do not possess the financial resources available to exploit new spectrum as rapidly as do commercial interests. Therefore, they must be given more time than might be given such commercial interests to move into hitherto less-used bands.

RESPECTFULLY SUBMITTED,

The Radio Amateur Satellite Corporation

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By  Date August 13, 2002

Dr. Perry I. Klein, W3PK
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CERTIFICATE OF SERVICE

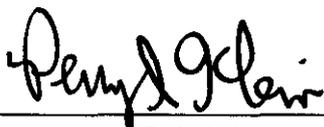
I, Perry I. Klein, do hereby certify that true and correct copies of the foregoing document, "Reply Comments of the Radio Amateur Satellite Corporation," filed in RM-9949 on behalf of the Radio Amateur Satellite Corporation were served by First Class United States Mail, postage prepaid, this 13th day of August 2002, on the following:

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