

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
Amendment of the Commission’s Rules to) WT Docket No. 04-435
Facilitate the Use of Cellular Telephones and)
other Wireless Devices Aboard Airborne)
Aircraft)

REPLY COMMENTS OF CTIA – THE WIRELESS ASSOCIATION™

CTIA – The Wireless Association™¹ submits these reply comments in response to the *Notice of Proposed Rulemaking* in the above-captioned proceeding (“*NPRM*”).² The record in this proceeding demonstrates that there are significant interference concerns that must be addressed prior to the removal of the current ban on airborne operation of wireless devices. Accordingly, and as previously indicated in CTIA’s comments, CTIA encourages the Commission to proceed with caution until these concerns are adequately addressed. CTIA looks forward to working with the Commission and industry on these issues, and if technically possible, working toward the creation of standards that will ensure terrestrial networks are protected from interference.

¹ CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. CTIA membership covers Commercial Mobile Radio Service (“CMRS”) providers and manufacturers, including cellular, broadband PCS, ESMR, as well as providers and manufacturers of wireless data services and products.

² *Amendment of the Commission’s Rules to Facilitate the Use of Cellular Telephones and other Wireless Devices Aboard Airborne Aircraft*, WT Dkt. No. 04-435, *Notice of Proposed Rule Making*, FCC 04-288 (Feb. 14, 2005) (“*NPRM*”).

I. THE FCC MUST RESOLVE INTERFERENCE CONCERNS PRIOR TO ELIMINATING THE BAN.

The vast majority of commenters recognize the difficulty associated with possibly eliminating the ban on airborne operation of wireless devices. Indeed, many commenters discussed concerns regarding interference to navigational communications,³ aircraft radio systems,⁴ and radio astronomy,⁵ as well as terrestrial networks.⁶ Although the FAA may be better situated to address some of these concerns, each must be satisfactorily resolved before operation of wireless devices onboard airborne aircraft is permitted.

The possibility for interference with terrestrial networks is well documented throughout the record.⁷ Several technical studies have demonstrated that terrestrial base stations can receive airborne signals that will cause unacceptable interference to terrestrial networks. For example, V-COMM performed interference tests at terrestrial cellular base stations and found that at least two handsets that were operated at window seats with a power level of 0 dBm EIRP caused unacceptable interference to terrestrial base stations.⁸ Similarly, QUALCOMM, after performing tests using CDMA technology, found that the use of transmitting wireless devices on

³ See, e.g., Comments of Association of Flight Attendants – CWA, AFL-CIO, 2-5.

⁴ See, e.g., Comments of the Air Line Pilots Association, 2-3.

⁵ See Comments of the National Academy of Sciences' Committee on Radio Frequencies, 4-6.

⁶ See, e.g., Comments of CTIA, 5-8; Sprint Comments, 3-6; Comments of Motorola, 5-8; Comments of Ericsson, 5.

⁷ *Id.*

⁸ Joint Comments of Cingular Wireless and Verizon Wireless, Attachment: V-COMM Technical Comments for Cellular Airborne NPRM, 2.

a plane would result in interference being radiated towards terrestrial networks.⁹

There currently is no identified solution that will adequately resolve all interference concerns. While several commenters state that the use of a picocell to facilitate airborne communications will prevent interference to terrestrial networks, this mechanism is not without potential problems.¹⁰ For example, handsets must identify with the picocell if it is to potentially limit interference emanating from the aircraft. As Motorola indicated, to be successful, handsets must remain associated with the picocell and not attempt to link to terrestrial base station sites.¹¹ Currently, handsets are not capable of implementing this restriction. Software modifications to address this issue may be impractical given the number of legacy handsets that may not be replaced in the near term. Additionally, the use of dedicated jammers (or “noise floor lifters” as described by commenters) could potentially cause even greater interference to large regions of terrestrial mobile phones and networks. Given the wide range of possible interference problems and the lack of any clear solutions, more investigation is clearly needed prior to eliminating the ban. As discussed below, CTIA has initiated an effort involving multiple working groups to address the host of difficult issues raised by this proceeding.

II. ONLY CMRS LICENSE HOLDERS MAY AUTHORIZE USE OF CMRS SPECTRUM ABOARD AIRBORNE AIRCRAFT.

Despite the implications of several commenters,¹² CMRS licensees already hold the sole

⁹ Comments of QUALCOMM Incorporated, iii (also indicating that the interference threat is greater when considering other wireless technologies that do not have the minimum output power floor of CDMA based devices).

¹⁰ *See, e.g.*, Response to Notice of Proposed Rulemaking by Honeywell International, 3-4; Comments of Motorola, 5.

¹¹ Comments of Motorola, 5.

¹² *See e.g.*, Comments of Aircell, 6 (“[r]ather than limiting the provisioning of picocell service to incumbent terrestrial licensees, the Commission should adopt a flexible and

authority to utilize CMRS spectrum aboard airborne aircraft. CTIA agrees with Sprint, Verizon Wireless (“Verizon”), and Cingular Wireless (“Cingular”) who note that CMRS licensees have exclusive licenses for the use of their assigned spectrum and that there are no elevation limits on the geographic scope of a cellular or PCS license.¹³ As noted by commenters, the Commission has recognized that the operation of airborne transmitters at 100,000 feet is within the scope of a narrowband PCS licensee’s authorization.¹⁴ Indeed, as stated previously, CTIA believes that, absent the FAA ban on such services, nothing in the Commission’s rules would legally prevent PCS providers from immediately providing intra-cabin service utilizing existing infrastructure.¹⁵

Thus, authorization to provide airborne service on CMRS spectrum is an existing element of the licenses already held by service providers. Moreover, these licenses are “exclusive in the sense that no other carriers will be allowed to provider cellular or PCS service in the same frequency band, in the same areas, and at the same time.”¹⁶ The effect of this exclusivity is a prohibition on any third party providing airborne service without obtaining the existing licensee’s consent.

As indicated by CTIA’s previous filing in this proceeding, if the Commission ultimately determines that it is in the public interest to eliminate the ban on airborne use of cellular

(Continued . . .)

competitive approach that will also permit . . . other third parties to develop innovative business models using airborne picocells.”).

¹³ Sprint Comments, 20; Joint Comments of Cingular Wireless and Verizon Wireless, 4-5.

¹⁴ *See id.*

¹⁵ As discussed subsequently, CTIA realizes that such a service would be imprudent at this time given the significant interference concerns.

¹⁶ *See Revision of Part 15 of the Commission’s Rules regards Ultra-Wideband Transmission Systems*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 3857, ¶ 74 (2003).

telephones, CTIA will work with the FCC and the industry to establish reasonable airborne roaming agreements between and among existing licensees or third parties.¹⁷ CTIA agrees with Verizon and Cingular that the Commission should “rely on market forces to develop the solution [to the challenges of airborne cellular] through industry cooperation and standards development.”¹⁸ This includes allowing existing licensees to privately negotiate roaming agreements rather than imposing them upon service providers.

III. CTIA HAS FORMED THREE INDUSTRY GROUPS TO EXPLORE THE MULTITUDE OF ISSUES RAISED BY THIS PROCEEDING.

CTIA has initiated an industry process to explore the threshold question of whether an airborne wireless service could be operated that would not cause unwanted interference into existing terrestrial CMRS systems. Three working groups have been formed to explore the host of issues raised in this proceeding, and, if possible, establish an industry-developed set of parameters for the use of wireless devices aboard airborne aircraft. As the licensees whose spectrum rights and network facilities and operations are directly at issue, CTIA’s members are best situated to address the significant issues surrounding potential interference and, where feasible, develop parameters for airborne operation of wireless devices. In particular, CMRS licensees have both the technical and operational expertise, as well as the relationships with equipment suppliers, to both identify potential concerns and work to possibly address them in a manner that prevents unwanted interference.

Accordingly, the goal of this industry process is to investigate the myriad technical issues that arise as a result of the consideration of wireless use on aircraft. In attempting to fulfill this goal, the industry’s analysis will ensure that two fundamental principles remain at the heart of

¹⁷ See Comments of CTIA, 16.

¹⁸ Joint Comments of Cingular Wireless and Verizon Wireless, 9.

any proposed parameters: (1) CMRS licensees must not be subject to unwanted interference as a result of airborne operation of wireless devices, and (2) CMRS licensees' rights to use their spectrum extend to any and all atmospheric space within the geographical borders of their license.

Structurally, the three working groups will be comprised of CMRS carriers and manufacturers, and will be open to other interested parties. The working groups also would invite the participation of interested government agencies, including the FCC. The first working group will be responsible for examining the threshold technical/interference issues that have been raised by many of the commenters, including identification of the interference environment today and whether solutions are possible to address such interference. The second working group will be responsible for examining issues related both to picocell licensing as well as roaming and settlement. In particular, this group will look at how to license the picocell, as well as how to address roaming and billing issues, among other things. Finally, the third working group will examine the multiple security issues raised by the Federal Bureau of Investigation, Department of Justice, and Department of Homeland Security in their comments, including the ability to comply with security-related requirements, such as CALEA, E-911, and passenger identification.¹⁹ This working group also will look at the need for cost recovery regarding implementation of any such requirements.

Each of these working groups has had an initial meeting to begin to formulate the tasks that they will address. The groups will then work to establish dates by which they can deliver their findings on the host of issues that will be identified for investigation. These findings and recommendations could then be used to potentially inform the RTCA process.

¹⁹ Comments of the Department of Justice, Including the Federal Bureau of Investigation, and the Department of Homeland Security, 4-12.

IV. CONCLUSION

Based on the foregoing, CTIA commends the Commission for its investigation into the potential for wireless device use on airplane. CTIA, however, urges the Commission to be cautious regarding the removal of the current ban until more investigation is completed to ensure the protection of terrestrial CMRS networks. In the interim, CTIA looks forward to working with the Commission and industry to investigate these issues.

Respectfully submitted,

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