

**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)

**COMMENTS OF
CTIA – THE WIRELESS ASSOCIATION™**

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CTIA – The Wireless Association™¹ submits these comments in response to the *Notice of Proposed Rulemaking* in the above-captioned proceeding (“*NPRM*”).² This *NPRM* seeks to remove or relax the ban on airborne usage of 800 MHz cellular handsets and proposes other steps to facilitate the use of wireless handsets and devices on airborne aircraft. CTIA’s primary concerns in this environment are the safety of the plane and its passengers, as well as the integrity of the existing terrestrial Commercial Mobile Radio Service (“*CMRS*”) network that serves more than 182 million wireless consumers. The safety of the plane and its passengers will be addressed by the Federal Aviation Administration (“*FAA*”) and is not a subject of this Commission *NPRM*. The integrity of the existing terrestrial *CMRS* network, however, is a subject of this proceeding. CTIA believes that the risk of interference into the terrestrial *CMRS*

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. 15, 2005) (“*NPRM*”).

network, for all air interfaces, is real and urges the Commission to proceed in an extremely cautious fashion so as to protect CMRS licensees from detrimental effects to their service.

CTIA and its members are significantly concerned about relaxing such restrictions, and believe that the service should not be authorized unless and until it is demonstrated that such action would not cause harmful interference into existing terrestrial CMRS operations. The potential for harmful interference from airborne usage is real until such time as a solution is developed that will guard against interference. That solution currently does not exist. CTIA believes that until there is a consensus in the CMRS industry that there is no harmful interference into terrestrial operations, airborne use of CMRS spectrum should not be initiated.

While not ready for deployment in the near term, CTIA and the industry would like to work with the Commission toward investigating and establishing a solution that will benefit the American public. While some studies are underway, more work needs to be completed before cellular telephone and other CMRS-based services can be utilized aboard airborne aircraft. Going forward, if the FAA and FCC ultimately lift the restriction on airborne use, CTIA believes that any proposal adopted by the Commission must be technology neutral and not require the modification of existing CMRS hardware.

I. INTRODUCTION AND SUMMARY

With more than 180 million subscribers in the United States alone, the CMRS industry has experienced rapid and unprecedented growth and success in the marketplace. As the Commission has consistently recognized, the wireless industry is robustly successful and marked by extensive competition.³ In light of this success, consumers of wireless products and services

³ See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Ninth Report, 19 FCC Rcd 20597, ¶ 2 (2004) (concluding that there is “robust” competition in the CMRS marketplace).

have grown to expect that wireless service will be available at any time or location. However, the Commission and the FAA have consistently been concerned about the potential for harmful interference from airborne cellular systems to terrestrial wireless networks and to aviation communications and navigation systems.⁴ CTIA shares those concerns. As stated above, CTIA's primary focus is on protecting aviation and terrestrial CMRS communications networks. CTIA's goal is to ensure that any relaxation of restrictions on aeronautical use of CMRS devices does no harm to these vital systems.

The FAA, through its advisory body RTCA,⁵ is addressing the issue of wireless use and its impact on in-flight navigation and communications. Therefore, as recognized by the Commission in the *NPRM*,⁶ any effects on aviation systems will be studied and addressed by the FAA based on inputs provided by RTCA, and will not be governed by this *NPRM* process. Accordingly, CTIA will focus its comments on the FCC elements of this proceeding, including the prohibition, adopted by the Commission in 1991, on the use of 800 MHz cellular handsets

⁴ See, e.g., *Amendment of Sections of Part 22 of the Commission's Rules in the Matter of Airborne Use of Cellular Telephones and the Use of Cell Enhancers in the Domestic Public Cellular Radio Service*, Report and Order, 7 FCC Rcd 23, ¶ 5 (1991) (banning airborne use of cellular equipment because of harmful interference to terrestrial cellular networks); 47 C.F.R. § 90.423(a) (banning airborne use of Part 90 devices unless steps are taken to minimize interference with terrestrial systems); *Use of Portable Electronic Devices Aboard Aircraft*, Advisory Circular, AC No. 91.21-1A at ¶ 1 (Oct. 2, 2000) (indicating that the FAA is concerned about the potential for portable electronic devices to interfere with aircraft communications and navigation equipment).

⁵ RTCA, Inc. is a private, not-for-profit corporation that develops consensus-based recommendations regarding communications, navigation, surveillance, and air traffic management system issues. It is organized under the Federal Advisory Committee Act, and its recommendations are used by the FAA as the basis for policy, program, and regulatory decisions and by the private sector as the basis for development, investment, and other business decisions. See www.rtca.org

⁶ *NPRM* at ¶ 9.

while airborne.⁷

With regard to the use of wireless devices on aircraft and the impact on terrestrial CMRS operations, CTIA and its members continue to have the same concerns about interference to terrestrial wireless networks that were the basis of the prohibition found in Section 22.925. While the wireless industry is cognizant of the consumer demand for ubiquitous access, the current potential for harmful interference outweighs the potential benefits of airborne CMRS spectrum use. Customers have a growing expectation that wireless service will be available in an airplane, but they have an even greater expectation that the ground-based commercial service that they subscribe to will be available.

CTIA is supportive of the efforts of the Commission to obtain more information on novel technology solutions such as “pico cells.” CTIA and the industry looks forward to reviewing any data on this service placed in the record and, if possible, working with the Commission on developing a solution that would lead to a service that does not result in harmful interference to terrestrial operations. However, until such time as a non-interfering solution is available, the Commission should not relax the current restrictions on airborne CMRS operations.

II. IN FLIGHT USE OF WIRELESS HANDSETS HAS NOT BEEN SHOWN TO PROTECT EXISTING TERRESTRIAL CMRS SERVICES FROM HARMFUL INTERFERENCE

In the *NPRM*, the Commission seeks comment on several proposals, including use of

⁷ 47 C.F.R. § 22.925 (“Cellular telephones installed in or carried aboard airplanes, balloons or any other type of aircraft must not be operated while such aircraft are airborne (not touching the ground). When any aircraft leaves the ground, all cellular telephones onboard that aircraft must be turned off. The following notice must be posted on or near each cellular telephone installed in any aircraft: The use of cellular telephones while this aircraft is airborne is prohibited by FCC rules, and the violation of this rule could result in suspension of service and/or a fine. The use of cellular telephones while this aircraft is on the ground is subject to FAA regulations.”)

airborne “pico cells,”⁸ establishment of a standards-based approach for airborne cellular use,⁹ and the use of airborne cellular on a secondary basis.¹⁰ CTIA believes that the detrimental effects of in-flight cellular system use are of great concern. No technical data or analysis has been provided by the FCC or other commenters that demonstrates the achievability of aeronautical cellular system use without interference to terrestrial cellular use. Furthermore, the use of pico cells aboard aircraft, while a concept that under the right circumstances could potentially address some of the CMRS industry’s concerns, clearly needs more investigation. In addition to the concerns regarding interference, many difficult technical and policy considerations also would arise.

A. Due To Propagation Effects, Airborne Cellular Operations, Even At Low Power, Can Affect Terrestrial Networks.

Transmissions from wireless handsets while on planes have a tremendous ability to adversely affect the existing ground-based infrastructure of CMRS networks. CMRS networks, whether using any of the existing air interfaces (e.g., Global System for Mobile (“GSM”), Code Division Multiple Access (“CDMA”), Integrated Digital Enhanced Network (“iDEN”), Time Division Multiple Access (“TDMA”), or analog), requires uninterrupted and carefully controlled communications between the mobile unit and the fixed base station. System networks are designed to ensure that these communications do not adversely affect other mobiles in the same geographic area or adjacent areas. The introduction of an airborne CMRS signal greatly disrupts the careful network planning by introducing a new interfering signal into the system. Such a new signal is detrimental to the existing terrestrial network as it adds a signal that was not

⁸ *Id.* at ¶ 13.

⁹ *Id.* at ¶ 23.

¹⁰ *Id.* at ¶ 24.

considered or planned for during the deployment of the system.

Frequency reuse is one system component that would be adversely affected by an aeronautical signal. CMRS networks rely heavily upon frequency reuse to deliver voice, data and other services throughout the network. GSM, iDEN and analog CMRS base stations are allocated a group of particular frequencies to be used within a small geographic area (typically referred to as a cell). In these cases, base stations in adjacent cells are assigned completely different groups of frequencies, with base station antennas optimized to achieve coverage only within the particular cell.

In those systems that limit the coverage area to within the cell and the particular set of frequencies, the exact same frequency group can be used to cover different cells that are separated by distances large enough to keep interference levels within tolerable limits. Furthermore, these frequency groups are allocated more and more on a dynamic basis. Dynamic channel assignment allows for the switch at the base station of the cell to follow an algorithm that takes into account the likelihood of future blocking within the cell, the frequency of use of the candidate frequency, the reuse distance of the frequency, and other cost functions. In addition, CDMA CMRS technology uses the same frequencies from cell-to-cell, increasing the potential for interference from airborne use as all the pertinent CMRS frequencies are in use in the same geographic area. The introduction of airborne communications greatly disrupts the normal operations of a CMRS network.

For example, phones served by those impacted cell sites would need to increase their transmit power in order to overcome the interference. This would cause some handsets to drop off since they were already operating at full power. For example, this is the case for phones that are located at some distance from the cell site or located in a building or other areas where the

path back to the cell was not very direct. There would be lost coverage in buildings, urban canyons and rural areas. Handoff between cell sites could become a problem, since this typically occurs in weak signal areas. There also would be a reduction in terrestrial system capacity. Some technologies would see a capacity decrease because of the power increase necessary to overcome the interference. Other technologies could have to take channels out of service temporarily due to the rise in interference levels.

Additionally, in the terrestrial network, a non-CDMA-based CMRS handset communicates with the cell base station that provides the most robust signal (generally speaking, this is likely to be the base station closest to the handset in a terrestrial environment). Frequency reuse is viable in this environment because the farther the handset is away from the terrestrial base station, the more the signal attenuates due to terrain, obstacles such as buildings, curvature of the earth and distance from the transmitting base station. In the aeronautical environment, attenuation from terrain, terrestrial obstacles and the curvature of the earth are removed. Therefore, frequency reuse is no longer achievable in the CMRS network, as a single airborne mobile transmitter could operate with sufficient power to cause interfering signals to arise not only at the base station it communicates with, but also with any of a number of other adjacent base stations.

For CDMA-based networks, each user within a cell uses the same radio channel and users in adjacent cells also use the same radio channel. Frequency reuse and planning, as defined above, are not necessary for a CDMA-based system. However, the power of total multiple handsets/users at a receiver (in this case at the base station) determines the noise floor and operating ability of the cell. If the power of each user within a cell is not controlled such that they do not appear equal at the base station receiver, interference would occur. In general, the

strongest received mobile signal (in the airborne case, likely to be the airborne mobile) will capture the base station receiver and overwhelm the desired signals from other terrestrial signals without careful power control.

There are many other significant effects that the introduction of an airborne CMRS signal would have to the terrestrial CMRS network (e.g., raises the network noise floor, degradation of service quality generally, etc.). CTIA and its members are greatly concerned about the harmful consequences that in flight operations will have. As such, the Commission should not move forward to permit aeronautical CMRS use until extensive testing and data is provided that demonstrates that terrestrial CMRS systems are fully and completely protected.

B. The Use of Pico Cells Aboard Aircraft To Control CMRS Handset Operations Needs Additional Investigation.

The Commission notes that a promising technological approach to in-flight cellular use on a non-interference basis is to control handset operation through use of “pico cells.” The Commission describes a pico cell as a low power cellular base station installed in the aircraft for the purpose of communicating with (and controlling the operations of) cellular handsets or other wireless devices brought on the aircraft by passengers and crew.¹¹ The cellular signal travels from the handset to the pico cell, which then relays the call to the ground via a separate air-to-ground link.¹² The Commission proposes to permit cellular handsets to be used in airborne aircraft so long as they are operating under the control of a pico cell (installed in accordance with FAA rules) that will instruct the handsets to operate at a sufficiently low power setting so as not to interfere with airborne or terrestrial systems. CTIA, while acknowledging the potential viability of pico cell technology, urges that such systems be deployed only after additional

¹¹ *NPRM* at ¶ 13.

¹² *Id.*

investigation and cautious deliberation.

As the Commission has tentatively concluded, under the right circumstances, use of pico cells may very well provide a path to allow commercial mobile radio service onboard aircraft. CTIA notes that such base stations should be able to present the strongest signal to onboard handsets seeking to operate and could have the ability to restrict the power of the CMRS handsets to the lowest possible level necessary for communications. However, there are additional obstacles facing the deployment of such systems, including addressing questions such as: what if the pico cell stops working, what if a handset or handsets do not recognize the pico cell as a preferred signal or do not support the use of a pico cell, and what if a given licensee does not desire to participate in a roaming arrangement with the pico cell licensee?

CTIA urges the Commission to gather technical data on this issue. While there are some industry-led efforts to study such systems – including studies by Qualcomm and Boeing – any decision to move forward with cellular or wireless use on aircraft should be based on complete test data that addresses all technology platforms. With the provision of this test data, CTIA and its members will be better equipped to understand the effect that airborne use of CMRS systems, including pico cell operations, will have on the existing ground-based network.

As stated above, even if a carefully planned and maintained pico cell system is deployed, CTIA remains concerned about other technical and policy effects that such technology will have. The Commission has sought comment on how the rules should address the risk of airborne cell phones searching for terrestrial base stations and transmitting at maximum power.¹³ First, CTIA notes that even if pico cells are transmitting on a plane, there is no guarantee that the pico cell will provide the preferred signal to a CMRS handset. Most CMRS handsets have a “preferred”

¹³ *NPRM* at ¶ 16.

list of carriers and signals that they prioritize over others when scanning for suitable signals to connect and provide communications. This “home” network preference is established by system identification codes that are present in the CMRS network. The highest priority is generally established for the consumer’s home network, with roaming partners (entities that the subscribing carrier has reached a commercial agreement with) assigned the next level of priority.

Second, these priorities are set by software and, while some can be modified over the air, a great many handsets in the marketplace cannot be modified without being physically brought in by customers. Therefore, assuming these priorities are to be manipulated to prefer the airborne pico cell over any other strong received signal, legacy handsets present a significant obstacle to low-powered in-flight operations. If it is possible in the future for handsets to include an “airplane-only” mode in some fashion to ensure that they do not scan first for the terrestrial mobile network, but rather only utilize the pico cell, that may be beneficial.

Third, if the onboard pico cell fails for any reason, the CMRS handset likely would begin scanning and searching for other signals. Terrestrial-based signals are sufficient to capture and present a reliable signal to airborne CMRS handsets. Should the onboard pico cell cease functioning, existing handsets will immediately power up and begin searching for new ground base station signals. At a minimum, on board operations would need to be tailored in a manner to assure that the loss of the pico cell would not create the potential for higher power scanning and transmitting, and therefore interference into existing CMRS operations.

Finally, any pico cell rules will need to accommodate all air interface technologies. Under the pico cell concept, a difficult situation arises if certain handsets utilize the pico cell, while for a variety of reasons other handsets may not. Those handsets that are activated, but that do not recognize the pico cell, will likely begin to search at full power for the terrestrial network.

Airline personnel should not be responsible for determining the types of handsets or operations that will be permitted in-flight. Adopting rules that address all technology platforms is the first step toward avoiding this potential problem.

C. Use of Noise Floor Lifters or Jammers Would Be Problematic.

CTIA is aware that RTCA has created a subcommittee to discuss potential methods for in-flight CMRS use. In these meetings, proponents of airborne use have indicated there is a need for the use of “noise floor lifters” or “jammers” to remedy the potential for interference between the ground and air-based CMRS systems. A noise floor lifter would serve several purposes. First, any unapproved use of CMRS spectrum aboard a plane would be blocked. Second, any signals from ground-based networks would be overwhelmed by the noise floor lifter signals. CTIA notes that the use of such devices presents legal and technical challenges.

The Commission has previously found the operation of transmitters designed to jam or block wireless communications as a violation of the Communications Act of 1934, as amended ("Act").¹⁴ The Act prohibits any person from willfully or maliciously interfering with the radio communications of any station licensed or authorized under the Act or operated by the U.S. government.¹⁵ The manufacture, importation, sale or offer for sale, including advertising, of devices designed to block or jam wireless transmissions is prohibited.¹⁶ Therefore, any use of noise floor lifters would appear to be in clear violation of the Act.

Additionally, even if the use were legal, use of such devices raises significant technical questions. When would such devices be turned on? If they are transmitting too close to the

¹⁴ See 47 U.S.C. §§ 301, 302a, 333. See also <http://wireless.fcc.gov/services/broadbandpcs/operations/blockingjamming.html>.

¹⁵ See 47 U.S.C. § 333.

¹⁶ See 47 U.S.C. § 302a(b).

ground, obvious deleterious interference will occur at CMRS base station sites. Further, information on the power, spectrum bandwidth and other technical characteristics of noise floor lifters has only just begun to be discussed. Each of these critical factors will have a bearing on the viability of such devices performing the role envisioned and in mitigating interference to other legacy networks. Finally, as is true of pico cells, it is unclear how CMRS handsets operating in an airborne environment would respond if such noise floor limiters suddenly failed to operate. Assuming that such systems are necessary for safe, effective aeronautical use of CMRS spectrum, such a failure of these devices must be investigated, with ramifications understood and procedures clearly defined.

III. CMRS LICENSE HOLDERS ARE THE SOLE PARTIES LICENSED TO TRANSMIT AND OPERATE IN THE CMRS SPECTRUM BANDS.

In addition to addressing technical issues, the Commission sought comment on the issue of who should have rights to operate on 800 MHz cellular spectrum in an airborne pico cell environment.¹⁷ The Commission also asks whether any parties other than cellular licensees should have rights to airborne use of cellular spectrum.¹⁸ Additionally, comment is sought on the mechanism for licensing use of airborne cellular spectrum, as well as the necessity for promulgating rules for PCS and SMR CMRS entities for airborne uses.¹⁹ If the Commission ultimately removes or relaxes the restrictions on cellular telephones and other wireless devices on aircraft, CTIA believes that use of CMRS spectrum aboard aircraft for such services is a part of the existing CMRS licenses granted by the Commission, and that no new “mechanism for licensing use of airborne cellular spectrum” is needed and that no “parties other than cellular

¹⁷ See *NPRM* at ¶ 17.

¹⁸ *Id.* at ¶ 18.

¹⁹ *Id.* at ¶¶ 17, 21.

licensees should have rights to airborne use of cellular spectrum.”

A. CMRS License Holders Already Are Authorized for Airborne Mobile Use.

CMRS license holders for cellular, PCS and SMR spectrum have licenses for fixed and mobile use of their licensed spectrum for large geographic areas. These licenses were all authorized on an exclusive basis and, as such, any use of CMRS spectrum aboard aircraft would simply be an extension of their existing CMRS network. The Commission has previously stated that PCS and cellular licenses are “exclusive in the sense that no other carriers will be allowed to provide cellular or PCS service in the same frequency band, in the same area, and at the same time.”²⁰ Use of cellular and PCS handsets onboard aircraft is certainly cellular and PCS service in the same frequency band, in the same area, and at the same time as would be provided by a CMRS licensee.²¹ Because CMRS providers already have a broad authorization to provide wireless services using this spectrum, no additional licensing is required of CMRS providers for the provision of airborne services to their customers.

Airborne service on CMRS spectrum is an element of the licenses held by service providers. Absent the existing FAA limitations on the use of mobile devices aboard commercial aircraft,²² PCS licensees could immediately begin to offer intra-cabin service utilizing existing

²⁰ See *Revision of Part 15 of the Commission’s Rules Regarding Ultra-Wideband Transmission Systems*, Memorandum Opinion and Order and Further Notice of Proposed Rule Making, 18 FCC Rcd 3857, ¶74 (2003).

²¹ For example, when considering airborne operations of a PCS licensee, the Commission’s Wireless Telecommunications Bureau did not find that such operations failed to comply with any allocation rules. See *Petition for Declaratory Ruling, a Clarification or, in the Alternative, a Waiver of Certain Narrowband Personal Communications Services (PCS) Rules as they Apply to a High-Altitude Balloon-Based Communications System*, Memorandum Opinion and Order, 16 FCC Rcd 16421 (2001). In this decision, the Commission simply waived its base station requirements to allow Space Data Corporation to use balloons for “base station” operations. The Bureau did not indicate that operations from high altitudes (approximately 100,000 feet) were outside the scope of the PCS license granted to Space Data.

²² See 14 C.F.R. §§ 91.21, 121.306, 125.204, and 135.144. These FAA regulations prohibit

infrastructure. While such a service is not prudent at this point due to the serious concerns about interference discussed herein, CTIA believes there is nothing in the existing Commission rules to prevent such a service. This is further buttressed by the fact that the Commission took affirmative action to *ban* such services by cellular and SMR licensees.²³ Clearly, the Commission would not have taken such actions if these license holders did not already have authority to offer aeronautical mobile services.

Further, the FCC has found a contractual relationship to exist between the FCC and an auction winner once it accepts the winning bid in its public notice closing the auction.²⁴ The Commission's license grant therefore implies a covenant of good faith and fair dealing on both the government and the licensee to "not interfere with the other party's performance and not to act so as to destroy the reasonable expectation of the other party regarding the fruits of the contract."²⁵ Accordingly, any subsequent change to allow other entities to utilize CMRS providers' licensed spectrum would likely violate that contract because it would destroy the licensees' reasonable expectation that they would have control over this spectrum, under the terms of the license and the service rules. The Commission, in licensing CMRS providers, did

(Continued . . .)

the use of personal electronic devices, including mobile telephones, aboard aircraft unless the operator, or certificate holder in the case of an air carrier, verify that the use of any personal electronic device will not interfere with the aircraft's communications and navigation systems.

²³ See 47 C.F.R. §§ 22.925; 90.423(a).

²⁴ *Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees; Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures*, Second Order on Reconsideration of the Second Report and Order, 14 FCC Rcd 6571, ¶ 17, n. 66 (1999) ("At the time the Commission accepts the winning bid in its public notice closing the auction, the Commission becomes bound to issue a license to the winning bidder if it is determined to be qualified as a licensee pursuant to the Commission's rules and procedures, and concomitantly, the winning bidder becomes contractually bound at the close of the auction to pay the full winning bid").

²⁵ *Centex v. United States*, 395 F.3d 1283, 1304 (Fed. Cir. 2005). See also *United States v. Winstar*, 518 U.S. 839 (1996).

not restrict the mobile operations for these systems to terrestrial operations. Thus, based on the current contractual terms of the CMRS providers' licenses, existing licensees are the only ones currently authorized to provide services on this spectrum, both terrestrially and in the air.

B. Third Parties Must Contract with CMRS Licensees to Obtain Use of CMRS Spectrum.

If, in the future, the legal, technical and policy questions raised herein are solved, there are several ways the service could be deployed. The Commission could, for example, look to its secondary markets initiatives for spectrum leasing and sharing so that commercial agreements can be reached among CMRS providers and other interested parties. The Commission should not directly license third party providers who desire service on licensed CMRS spectrum.

Rather, these parties should be directed to negotiate with license holders.

Adoption of an "unlicensed" or secondary status model for CMRS spectrum in flight would be inappropriate in CMRS spectrum bands for the legal, policy, and technical reasons discussed throughout these comments. As detailed above, CMRS license holders have the rights to use their licensed spectrum in aircraft as well as terrestrially, to include pico cell operations. In order to expand the scope of use of the spectrum, the affected CMRS licensees would have to be contacted by third parties who desire to provide airborne service utilizing previously licensed spectrum. CMRS license holders could either enter into secondary market agreements with other parties or, if the other party is also a CMRS licensee, a universal roaming agreement that would cover use of the spectrum while airborne.

Use of secondary market mechanisms would ensure that interference to license holders would be mitigated. The Commission has determined that the interference and RF safety rules applicable to the licensee as a condition of its license authorization will also apply to any

spectrum lessee.²⁶ Spectrum manager licensees will have direct responsibility and accountability for ensuring that their spectrum lessees comply with these rules, including responsibility for resolving all interference disputes and complying with safety guidelines relating to radiofrequency radiation.²⁷

Additionally, if in the future the legal, technical and policy questions raised herein are solved, and CMRS licensees can extend or establish new roaming agreements that cover use of CMRS spectrum while airborne, consumers flying aboard aircraft could be able to communicate directly to an onboard pico cell (under, for example, the Commission's pico cell proposal) regardless of the service or spectrum their handsets are capable of providing. CTIA believes that such commercial agreements, assuming interference issues can be resolved, could be readily accomplished.

C. CTIA Is Committed to Working with the FCC and Industry to Establish Airborne Roaming Agreements.

In view of this, CTIA is cognizant of the fact that if the Commission ultimately concludes the wireless use on aircraft is permitted, coordination among CMRS providers will be vital to enabling the airborne CMRS systems. CTIA recommends that the Commission work with the CMRS industry on the creation of such a solution but does not believe that such commercial agreements should be mandated or regulated by the government. Rather, if the Commission ultimately approves the use of CMRS wireless devices on aircraft, the marketplace should be able to accommodate the needs of consumers as it has traditionally done in the wireless industry. In that event, CTIA is committed to working with the Commission and the industry to establish a "roaming in the sky" agreement that would facilitate seamless in-cabin communications on

²⁶ See 47 C.F.R. § 1.9020(d)(1).

²⁷ *Id.*

CMRS handsets.

IV. THE SOCIAL ETIQUETTE ASPECTS OF WIRELESS USE ON AIRPLANES ARE NOT APPROPRIATE FOR THE FCC TO CONSIDER

Recent press accounts and several thousand comments to the FCC have expressed general public concern about the relaxation of the cellular prohibition while in aircraft.²⁸ CTIA realizes that significant concern has been expressed on the record regarding the social etiquette aspect of wireless use on aircraft, however, this is an issue that can and should be addressed through dialogue outside of the FCC proceeding, addressing the differing issues regarding voice, text, and data use. If, in the future, the significant technical, legal, and policy issues are addressed and wireless service is authorized on aircraft, the industry looks forward to participating in such a dialogue.

As expressed by the Commissioners in adopting the *NPRM*, social policies governing the use of CMRS handsets are beyond the scope of the Commission's authority. Just as the Commission does not regulate the use of CMRS devices in other public and semipublic locations (*e.g.*, restaurants, theaters, subways, etc.),²⁹ so the use aboard aircraft should not be regulated. CTIA believes that the sole question to be answered in this proceeding is whether the use of CMRS handsets while airborne causes harmful interference to Commission licensees.

²⁸ See, *e.g.*, Cell Phones on Planes: Survey Warns of Air Rage, ConsumerAffairs.com (Apr. 8, 2005) (indicating that sixty-three percent of those responding to a poll sponsored by the Association of Flight Attendants-CWA and the National Consumers League were against the idea and that only 21 percent were for removing restrictions on using cell phones in flight); Brief Comment of Robert Windscheffel, WT Docket 04-435 (filed May 24, 2005); Brief Comment of Dorene Christensen, WT Docket 04-435 (filed May 24, 2005).

²⁹ See 47 U.S.C. § 151 (limiting the FCC's jurisdiction regulating interstate and foreign communication by wire and radio so as to make it available at reasonable charges, to facilitate the national defense, and to promote safety of life and property).

V. CONCLUSION

CTIA commends the Commission for investigating the use of CMRS products while airborne. However, many significant legal, technical and policy questions must be examined and analyzed prior to any relaxation of current prohibitions. Going forward, if the Commission ultimately authorizes this service, CMRS license holders should be fully empowered to govern the use of their exclusively licensed spectrum and any action the Commission takes should ensure wireless networks on the ground, serving more than 182 million consumers, continue operating without interference. While airborne service may be premature, CTIA would like to continue to work with the Commission throughout this proceeding in the interest of providing services to customers without adversely affecting existing systems and service.

Respectfully submitted,

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