

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
Amendment of the Commission's Rules to)	
Establish a Next-Generation Air-Ground)	RM-11640
Communications Service on a Secondary)	
Licensed Basis in the 14.0 to 14.5 GHz Band)	

To: The Commission

COMMENTS OF PANASONIC AVIONICS CORPORATION

Panasonic Avionics Corporation (“Panasonic”) respectfully submits these comments on the petition for rulemaking of Qualcomm, Incorporated (“Qualcomm”) to establish a new air-to-ground (“ATG”) service on a secondary basis in the 14.0-14.5 GHz band (the Earth-to-space portion of conventional Ku-band satellite spectrum).¹ Panasonic is the world’s leading developer of in-flight entertainment and communications systems for commercial aircraft, and Panasonic’s recently licensed “eXConnect” Ku-band aeronautical mobile-satellite service (“AMSS”) system will support broadband Internet access, real-time video content, voice and other services to passengers and crew on board aircraft in flight.²

¹ See Public Notice, Report No. 2933 (Aug. 30, 2011) (seeking comments on the Petition for Rulemaking of Qualcomm, Incorporated regarding Amendment of the Commission’s Rules to Establish a Next-Generation Air Ground Communications Service on a Secondary Licensed Basis in the 14.0-14.5 GHz Band, RM No. 11640 (filed Jul. 7, 2011) (“Petition”).

² *Panasonic Avionics Corporation, Application for Authority to Operate up to 50 Technically Identical Aeronautical Mobile-Satellite Service Aircraft Earth Stations in the 14.0-14.5 GHz and 11.7-11.2 GHz Frequency Bands*, File Nos. SES-LIC-20100805-00992, SES-AMD-20100914-01163, SES-AMD-20101115-01432, SES-AMD-20110325-00358, SES-AFS-20110405-00402, SES-STA-20110104-00005, Call Sign E100089, Order and Authorization, DA 11-1480 (Aug. 31, 2011).

Panasonic has a direct and substantial interest in Qualcomm’s proposed spectrum new allocation and service rules in Ku-band spectrum. Panasonic, the most recent US AMSS licensee, and other licensees operating in Ku-band fixed-satellite service (“FSS”) spectrum, have invested considerable resources to develop and implement advanced, broadband communications services for a wide range of governmental, military and commercial users. In granting the Panasonic AMSS license, the Commission concluded that its action would serve the public interest by allowing Panasonic “to provide two-way, in-flight broadband services, including Internet access, to passengers and flight crews aboard commercial airliners, thereby enhancing competition in an important sector of the mobile telecommunications market in the United States.”³

The Petition threatens to undermine the substantial public interest benefits achieved by Panasonic and other users of the 14.0-14.5 GHz band. Qualcomm proposes an entirely new service that could dramatically alter the operating environment in the band, without any demonstrated need for its proposal. In addition, the Petition presents complex interference and operational issues that cannot be adequately addressed with the information provided. Finally, to the extent the Commission concludes it should evaluate the Qualcomm proposal further, Panasonic urges the Commission to conclude the pending AMSS rulemaking prior to consideration of new services in the Ku-band.

I. THERE IS NO DEMONSTRATED PUBLIC BENEFIT FROM INITIATING A RULEMAKING PROCEEDING

The Petition seeks to establish the need for a new ATG service based solely on general statistics regarding the usage of smartphones, tablets and other mobile communications devices that provide broadband connectivity. Panasonic does not contest these statistics but the Petition

³ See *id.*, ¶ 1.

offers no link between terrestrial mobile broadband statistics and demand for in-flight broadband connectivity.⁴ As significant, the Petition is essentially silent as to whether current terrestrial and satellite-based offerings – in the Ku-band and elsewhere -- are able to meet existing and future demand for in-flight broadband connectivity.⁵ Qualcomm’s cursory dismissal of these significant aeronautical communications offerings, which have operated for years and are expanding to meet expected demand, belies its claim that alternative in-flight connectivity services are not successfully deployed.⁶

In addition, the very specific system architecture of the proposed ATG service could have

⁴ See *In the Matter of Industrial Telecommunications Association, Inc., Amendment of Part 95 of the Commission’s Rules to Establish a Very Short Distance Two-Way Radio Service*, RM-10564, Order, 19 FCC Rcd 6988, 6991 (2004) (the need for a rulemaking must be supported by factual data and evidence, not hypothetical scenarios).

⁵ Qualcomm provides only a passing comment – in its introduction – that current in-flight communications services using satellite-based systems “have much higher equipment costs and potentially crippling latency issues, and thus have been deployed with marginal success.” Petition at i. There are also terrestrial-based offerings from Aircell and LiveTV, as well as L-band and new Ka-band proposals. Of these, Qualcomm only references Aircell’s “GoGo Inflight “Internet” service (Petition at 3 & n.6), which is a terrestrial-based system currently installed on aircraft from nine airlines operating in the United States and Canada. (<http://www.gogoair.com/gogo/cms/airlines.do>.)

⁶ In addition to the recent Commission grant of the Panasonic AMSS license, four other Ku-Band AMSS operators, Row 44, ViaSat, ARINC and Boeing, have each previously received similar license authority. See *Row 44, Inc. Application for Authority to Operate Up to 1,000 Technically Identical Aeronautical Mobile Satellite Service Transmit/Receive Earth Stations Aboard Commercial and Private Aircraft*, Order and Authorization, DA 09-1752 (2009) (Call Sign E080100) (File No. SES-LIC-20080508-00570); *ViaSat Inc., Application for Blanket Authority for Operation of Up to 1,000 Technically Identical Ku-Band Aircraft Earth Stations in the United States and Over Territorial Waters*, Order and Authorization, DA 07-4674 (2007) (Call Sign E050318) (File No. SES-LIC-20051028-01494); *ARINC Incorporated, Application for Blanket Authority for Operation of up to One Thousand Technically Identical Ku-Band Transmit/Receive Airborne Mobile Stations Aboard Aircraft Operating in the United States and Adjacent Waters*, Order and Authorization, DA 05-1016 (2005) (Call Sign E030205) (File No. SES-LIC-20030910-01261); and *The Boeing Company Application for Blanket Authority To Operate up to Eight Hundred Technically Identical Receive-Only Mobile Earth Stations Aboard Aircraft in the 11.7-12.2 GHz Frequency Band*, Order and Authorization, DA 01-658 (2001) (Call Sign E000723) (File No. SES-LIC-20001204-02300).

the effect of stifling competition and technical innovation for in-flight broadband connectivity services, as it appears that only Qualcomm (or another provider that adopts Qualcomm's network implementation) could satisfy the technical and operational requirements identified in the Petition. The effect would be to "lock in" a single technical approach that would leave little room for innovation in response to market demand and competition among service providers. Panasonic does not oppose the introduction of new, competitive in-flight broadband connectivity services, whether in the Ku-band or in other bands. However, the Commission cannot commence a proceeding that would unfairly advantage a single competitor and/or a specific technological solution.⁷ Such a result would clearly not be in the public interest.

II. THE PETITION FAILS TO ADEQUATELY ADDRESS COMPLEX INTERFERENCE AND OPERATIONAL CONCERNS

Qualcomm's proposal raises complex and serious interference and operational concerns that may render the ATG service technically non-viable. As the Commission is aware, the 14.0-14.5 GHz band is used by hundreds of thousands of transmit earth stations throughout the United States, as well new mobile VSAT terminals that provide broadband connectivity for vehicles, maritime vessels and aircraft. These next-generation services co-exist in the Ku-band as a result of a stable and well-defined operating environment. Introducing a new service into the 14.0-14.5 GHz band, particularly one with materially different technical and operational characteristics, must be considered very carefully lest the environment that has fostered innovation and competition be negatively impacted for existing users.

Qualcomm does not answer the fundamental question of how the proposed ATG service

⁷ *In the Matter of the Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ku-Band*, Report and Order and Further Notice of Proposed Rulemaking, 17 FCC Rcd 7841, at ¶¶ 27-38 (2002) (FCC declined to adopt sharing solution that favored particular patented design and applicant).

would tolerate interference from primary operations in the Ku-band. Existing and future Ku-band earth station deployments would likely impact the operations of the proposed ATG service. As a secondary service, ATG operators would be required to tolerate all interference from primary services and would have no recourse to require primary operations to take steps to mitigate interference.⁸ However, the Petition does not provide a sufficient basis for the Commission to conclude that a secondary ATG could possibly co-exist with primary FSS and other services.

In particular, the Petition does not explain is how the ATG service could tolerate interference from new, primary Ku-band FSS earth station deployments near ATG ground stations, or ubiquitous mobile VSAT operations, including earth stations onboard vessels (“ESVs”) and vehicle-mounted earth stations (“VMESs”). Increasing numbers of mobile VSAT terminals are being deployed for governmental, military and commercial uses, and there is certainly a potential for all of these transmit operations to impact a secondary ATG service.

The Petition, moreover, fails to consider the impact of AMSS transmit operations. It is not clear how two aeronautical services, a terrestrial ATG service and incumbent, satellite-based AMSS operations (which may well be afforded primary status) could share the 14.0-14.5 GHz band.⁹ The practical ability to operate viably and on an interference-free basis is a critical issue

⁸ Qualcomm proposes that the two ATG licenses be auctioned. Petition at Appendix A-9. It is questionable whether an auction winner, after having spent considerable funds to acquire the licenses, would be willing to accept, without recourse, interference into its systems from any and all primary operations.

⁹ *Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 05-20, Notice of Proposed Rulemaking, 20 FCC Rcd 2906 (2005) (“AMSS NPRM”). There is also a pending request to elevate AMSS to co-primary status in the Ku-Band. See Letter from Bruce A. Olcott and Joshua Guyan, Counsel to The Boeing Company, to Mindel De La Torre, Chief, International Bureau, FCC, IB Docket No. 5-20 (filed Apr. 20, 2010); see also The Boeing Company, *Petition for Reconsideration*, IB Docket No. 07-101 (filed Dec. 4, 2009).

in assessing a new spectrum allocation and service, but the Petition is silent on this issue.¹⁰

III. THE COMMISSION SHOULD CONCLUDE THE CURRENT AMSS PROCEEDING BEFORE CONSIDERING THE PROPOSED ATG SERVICE

More than six years ago, the Commission released a *Notice of Proposed Rulemaking* to establish AMSS licensing and service rules in the 14.0-14.5 GHz band.¹¹ This proceeding remains pending. Despite the lack of established rules for the service, the Commission has granted AMSS operating licenses to several entities over the past decade.¹² These existing – and future -- AMSS licensees require regulatory certainty before a new service is authorized in the Ku-band, especially as many of these licensees are providing critical broadband communications services to US Government and military users. In addition, introducing a new secondary spectrum use in the Ku-band would likely be disruptive while the regulatory status of AMSS remains unresolved. Panasonic therefore strongly urges the Commission to complete the AMSS rulemaking prior to any consideration of the proposed ATG service. At the same time, the Commission should rule on Boeing's pending request to elevate AMSS to co-primary status.

IV. CONCLUSION

For all of the foregoing reasons, Panasonic believes that the Commission should not proceed with a rulemaking to permit secondary ATG operations in the 14.0-14.5 GHz band. The Petition fails to demonstrate a public interest need for the proposed service or address the significant interference and operational issues that are implicated by the proposal. In any event,

¹⁰ See, e.g., *Amendment of the Commission's Rules to Provide Ancillary Services in the 849-851 and 894-896 MHz Bands*, RM No. 7871, Order, 8 FCC Rcd 3920 (2004) (petition for rulemaking is premature where limited experience with recently established services created uncertainty whether new secondary service could operate effectively on shared frequencies and not adversely impact growth and development of the primary service.)

¹¹ AMSS NPRM at *supra* n. 9.

¹² *Id.* at *supra* n. 6.

before embarking on any new service allocation in the band, the Commission should first conclude the pending AMSS rulemaking.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Mark D. Johnson, do hereby certify that on this 29th day of September, 2011, I caused to be sent via First Class, postage prepaid US mail, a copy of the foregoing, "Comments of Panasonic Avionics Corporation," to the following persons:

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