

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

In the Matter of )  
 )  
Expanding Access to Broadband and Encouraging )  
Innovation through Establish of an Air- ) GN Docket No. 13-114  
Ground Mobile Broadband Secondary Service for ) RM-11640  
Passengers Aboard Aircraft in the 14.0-14.5 GHz )  
Band )

To: The Commission

**COMMENTS OF DELTA AIR LINES, INC.**

Delta Air Lines, Inc. (“Delta”), through counsel and pursuant to Section 1.1206 of the Commission’s Rules, 47 C.F.R. §1.1206, hereby submits the following Comments in the above-captioned proceeding:

Headquartered in Atlanta, Georgia, Delta employs nearly 80,000 employees worldwide and operates a mainline fleet of more than 700 aircraft. Delta serves more than 160 million customers each year. With its unsurpassed global network, Delta and the Delta Connection® carriers offer service to more than 327 destinations in 63 countries on six continents. Air-to-ground (“ATG”) communications are an important part of Delta’s operations. Therefore, Delta has a significant interest in the outcome of this proceeding.

Delta operates the largest fleet of Gogo Inflight Internet equipped aircraft – a total of 565 domestic mainline aircraft and 255 regional aircraft. Delta’s customers have come to expect access to the Internet on every domestic flight, and Delta means to meet those expectations. However, the demand for in flight access to the Internet is growing steadily, both in the number of customers and in bandwidth demands. U.S. airlines will soon look for additional capacity

alternatives to satellite based systems that suffer from high latency and high costs. Such an alternative is the Next Generation Air-Ground Communications Service proposed by Qualcomm Inc. in its Petition for Rulemaking, and the background of the Commission's Notice of Proposed Rulemaking.

As discussed in Delta's previously filed Ex Parte Comments, Delta is highly supportive of the Commission's proposal. Delta believes the service could successfully co-exist with current and future, primary and secondary users of the 14.0 to 14.5 GHz band, using the management techniques detailed in Qualcomm's proposal. In addition, the service will offer a lower cost alternative to satellite based systems for those aircraft operating domestically.

Generally, Delta supports the bulk of the Commission's proposed rules for the service. However, Delta offers the following comments and observations on several provisions proposed by the Commission.

In paragraphs 113 and 114 of the NPRM, the Commission makes EIRP proposals based upon assumptions regarding aircraft operations. Delta believes that an EIRP aggregate limit would provide more flexibility than a limit on individual aircraft antenna power. The ground network would then be able to negotiate individual aircraft transmit power levels, to optimize customer service, while assuring aggregate EIRP limits are not exceeded.

In addition, Delta believes that it is incorrect to assume worst case aircraft roll of five degrees. Aircraft will have roll angles much greater than five degrees. Aircraft pitch angles, not discussed by the Commission in the NRPM, will also occur. Delta believes that the Commission is assuming an initial aircraft antenna design. However, antenna designs are constantly improving and should evolve to enable operations when the aircraft is maneuvering at roll angles

far greater than five degrees. Therefore, the requirements for pointing the aircraft antenna beam should be detailed, in lieu of dictating aircraft roll (or pitch) angle limitations.

Delta supports the establishment of two service providers in the band. Delta believes that two nationwide providers will have sufficient bandwidth to enable adequate throughput and capacity, while still providing the potential for competition between providers in this and other bands. However, should such competition not emerge, either through failure of multiple bidders to participate in the Commission's auction or through failure in the marketplace, Delta would support the ability of a single company to acquire both authorizations.

WHEREFORE, the premises considered, Delta Air Lines respectfully requests that the Commission proceed to establish a new Air to Ground Service in the 14.0 to 14.5 GHz band as detailed in the Qualcomm, Inc. Petition for Rulemaking and the Commission's Notice of Proposed Rulemaking.

Respectfully submitted,

**DELTA AIR LINES, INC.**

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