

From: Aparna Sridhar

To: Doug Young

Date: September 01, 2015

Subject: Request for Info - STA File #0829-EX-ST-2015

Message:

Dear Mr. Young:

Please see below for responses to the FAA's questions concerning File No. 0829-EX-ST-2015.

5775-5825 MHz and 24.2 GHz bands: Consistent with Exhibit B in support of our STA application, Google seeks authority to use these frequencies for ground-based operations only. Accordingly, in response to the FAA's inquiry, we do not propose to use these frequencies for safety-of-life or any other air-to-ground or ground-to-air operations.

2568-2640 MHz band (2.5 GHz band): Google does not propose to use the 2.5 GHz band for aeronautical mobile service, as that term is defined in the ITU's Radio Regulations and incorporated into the FCC rules. The Radio Regulations define aeronautical mobile service as "a mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate," and specify two types of aeronautical mobile services: aeronautical mobile off-route (OR) service or aeronautical mobile route service.[1] Both types of aeronautical mobile service are limited to communications related to safety and regularity of flight or communications related to flight coordination more generally.[2] As a result, aeronautical mobile use does not include communications to and from aircraft that are unrelated to operation of the aircraft (and, indeed, are not even communications to and from persons on the aircraft). Part 87 of the Commission's Rules, which governs the aeronautical mobile service, confirms this understanding. In this Part, the Commission defines aviation services, including aeronautical mobile service, as "radio-communication services for the operation of aircraft." [3]

In the proposed testing, Google will use 2.5 GHz band frequencies solely for communications payload (specifically, to relay data communications from one fixed ground station to another via an aircraft), not flight-related activities or communications to and from either maritime or mobile satellite use. Therefore, the general restriction on aeronautical mobile use of the 2.5 GHz band does not apply to these tests.

Google's proposed operations, moreover, do not implicate concerns surrounding the safety of aviation operations. To the extent that the limitation on aeronautical mobile operations in the 2.5 GHz band was adopted to prevent use of this band for aeronautical services that require a very high quality of service, Google's proposed payload operations are outside the scope of that intent because they will be latency-tolerant data communications that do not impact aircraft operations or safety of life. To the extent that the limitation on aeronautical mobile use was adopted to protect satellite operations in the band below 2500 MHz or above 2655 MHz, Google's operations will be spectrally separated from these operations by 15 MHz or more and are not likely to cause harmful interference to those distantly adjacent satellite services.

Finally, regardless of whether the aeronautical mobile restriction would apply in a different context, Google's STA application meets the requirements set forth by the Commission for a grant of experimental authority. As set forth in Exhibit A accompanying Google's application, the proposed experimentation "has a reasonable promise of contribution to the development, extension, or expansion, or use of the radio art." [4] Exhibit A also explains how Google's proposed experimentation meets the non-interference criterion set forth in the Commission's rules, and the FAA's response identifies no threat of interference to any aviation systems it oversees. [5] The Commission grants experimental authorizations precisely to enable radio operations outside the ordinary requirements of its rules, and such permission is warranted here.

Please do not hesitate to contact me with further questions.

Sincerely,
Aparna Sridhar
Counsel
Google Inc.

[1] See 47 C.F.R. § 2.1 (incorporating these definitions into the Commission's rules).

[2] See id.

[3] Id. § 87.5. Aviation services also include, on a secondary basis, "the handling of public correspondence on frequencies in the maritime mobile and maritime mobile satellite services to and from aircraft." But Google's request for experimental authorization does not propose public correspondence to or from maritime stations.

[4] Id. § 5.63(c)(1).

[5] Id. § 5.84.