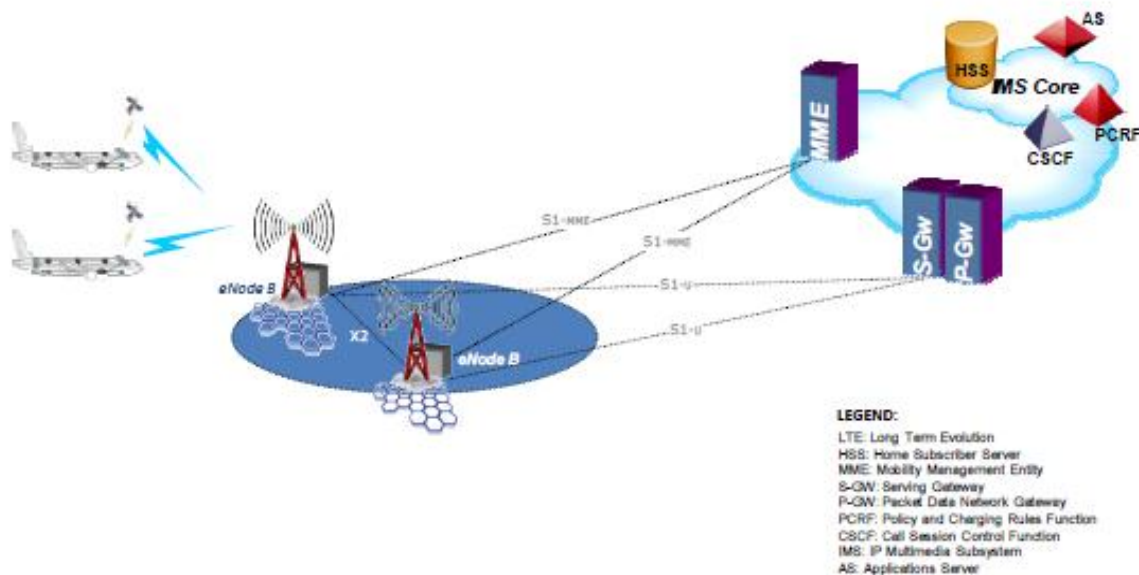


Exhibit I

AT&T requests an experimental license in order to test, under proposed rules, equipment standardized under 3GPP LTE specifications but with modifications to permit an air-to-ground service to airplanes. The proposed experiment includes a set of base stations located throughout the continental United States that transmit and receive to and from the equipment on-board commercial and private airplanes. The ground stations are based on the 3GPP LTE standards and transmit in the D Block of the Wireless Communications Services in the 2.3 GHz band (“WCS”) and receive in the WCS C Block, to connect the airplane to the ground core network, which in turn has connectivity to other networks including the Internet. The system will provide messaging, data, and entertainment services to passengers, as well as the capability for aircraft data telemetry. A set of access points on-board the airplanes will provide wireless connectivity using standard wireless local area network (“WLAN”) equipment, while a 3GPP LTE-based mobile device transmitting in the WCS C Block and receiving in the WCS D Block connects to the ground base stations. All equipment will be type approved by the FCC and FAA as required. The system concept is depicted in the following diagram.



As a result of this trial, data services can be provided to airline passengers at higher rates and quality than available today. The radio technology used to provide the air-to-ground connectivity is new to this application. Additionally the WCS frequencies have not been previously used in such an application.

AT&T has been granted licenses and is authorized by the FCC to operate in the WCS C and D Blocks. In order to enable the air-to-ground system discussed above, AT&T has filed a Petition for Rulemaking and multiple Petitions for Limited Waiver (together, the “Technical

Rule Filings”),¹ requesting that the Commission amend, or in the alternative waive, certain of its rules governing the technical standards and construction requirements for the WCS C and D Blocks. As the Technical Rule Filings are pending, AT&T seeks this experimental authority so that trials can be conducted before the equipment is finalized and certified. In addition, the trials will ensure that providing air-to-ground service consistent with the technical standards in the Technical Rule Filings will not result in harmful interference (as defined in 47 C.F.R. § 27.64(d)) to adjacent band operations of Sirius XM Radio Inc. (“Sirius XM”). AT&T will coordinate these trials, and share the results, with Sirius XM.

Present 3GPP LTE standards allow for mobile stations to operate at speeds no greater than that of a high-speed train and at distances from the base station no greater than 108 kilometers. By contrast, air-to-ground service to airplanes must allow for mobile station speeds two to three times greater than a high-speed train and distances from the base station greater than 150 kilometers.

To allow for the much faster mobile station speeds, both the LTE base station (eNodeB) and the mobile station equipment need to be modified to compensate for the increase in Doppler shift. To allow for the greater distances from the base stations, the LTE base station scheduler must be modified so that scheduling any air-to-ground transmissions in the sub-frame following the physical random access channel (PRACH) process is not allowed.

In addition, the MIMO (Multiple Input Multiple Output) feature will be implemented in a different manner than under the LTE standards. Terrestrial LTE MIMO deployments utilize a multipath environment to create multiple links on the same frequency. Under the experimental license, AT&T will be testing the LTE MIMO feature in an air-to-ground deployment using cross-polarization paths to establish multiple links on the same frequency. Lastly, for the air-to-ground base station to communicate with the aircraft, specialized base station antennas must be designed to look up (uptilt) instead of down (downtilt) to communicate with the aircraft.

Each of the modifications mentioned above will be tested to assure that the modified equipment performs to the specifications required for air-to-ground service.

AT&T requests a nationwide experimental license, as the services will be provided throughout the continental United States and compatibility, conformity, and compliance tests are required at various locations throughout the proposed system. Initially a set of base stations will be deployed in the state of Arizona, including the ones at the following locations:

¹ See *AT&T Mobility Spectrum LLC; BellSouth Mobile Data, Inc.; New Cingular Wireless PCS, LLC; and SBC Telecom Inc. Petition for Rulemaking to Amend WCS Rules*, WT Dkt RM 11731, Petition for Rulemaking (filed Aug. 8, 2014); ULS File Nos. 0006417143, *et al.* (filed Aug. 8, 2014). Identical waiver requests were filed for each WCS C and D block license possessed by AT&T.

<u>Latitude</u>	<u>Longitude</u>
34.747	-112.453
33.4227	-112.635
35.0759	-110.839
33.3662	-111.433
32.3102	-111.237

Test antenna and transmit power specification are as follows:

Manufacturer	WindMaster (APXVLL13U-C-A20)
Beamwidth, deg	63
Gain, dBi	17
Maximum antenna height, m	50
Peak EIRP power, kW	40
Average EIRP power, kW	2

In addition, initial testing also will take place in a lab in New Jersey to ensure that the proposed rule changes will not cause harmful interference to adjacent spectrum licensees in the Satellite Digital Audio Radio Service band (collectively, “Sirius XM”). That testing will occur, in accordance with protocols agreed to with Sirius XM, at the following location:

<u>Latitude</u>	<u>Longitude</u>
40.2878	- 74.7090

The services offered through this air-to-ground system will further expand the extent of the radio art and contribute to improved services and wireless applications. They will serve the public interest by permitting a robust, nationwide deployment of AT&T’s innovative in-flight connectivity service using currently fallow spectrum, while at the same time preserving adequate interference protection to users of adjacent bands. Accordingly, the Commission should grant this request expeditiously.