

## Exhibit A - NARRATIVE STATEMENT AND TECHNICAL INFORMATION

### Narrative Statement

Consistent with the standards set forth in Section 5.63 of the Federal Communications Commission's (FCC's or Commission's) Rules, 47 C.F.R. § 5.63, Loon LLC (Loon) requests a new Experimental Radio Service License (Experimental License) and outlines below the compelling reasons why the application should be granted expeditiously.

Loon requests that this license be granted for a period of one year. The Experimental License is needed to support continued experimental testing within a portion of LTE Band 28 in the area of Lanai, HI. Specifically, Loon balloons with directional antennas will be positioned over the proposed test area and used to relay communications between fixed ground terminals and mobile handsets. Loon will itself be using ordinary, FCC-approved handsets to communicate with the balloons, and then Wi-Fi or the E-band frequencies allocated under call signs W12XCS and WH2XUP to interconnect with the ground terminals. The frequencies specified in this application will be to support these communications.

Loon will provide service to the proposed test area only to the extent it can be done without interference to neighboring services. Loon holds all necessary government authorizations for the related aeronautical activities.

Loon will have the ability to terminate transmissions if the platforms exit the test area. First, the platforms will contain a GPS receiver. If the receiver detects that the platform has exited the test area, it will automatically disable transmissions over the test frequencies. Second, connections to the ground infrastructure can be used to manually disable transmissions. Third, the airborne radios will automatically be disabled if the connection to the ground infrastructure is lost for a defined period of time.

The proposed experimental operations accordingly will be conducted without harmful interference to other authorized users. Should any interference be reported, the proposed tests will cease immediately unless and until the interference is resolved to the satisfaction of the complainant. Protected users should report possible interference to Ben Wojtowicz of Loon (email: [loon-fcc@google.com](mailto:loon-fcc@google.com); telephone: (847) 767 0554).

Regulatory Contact	Technical Contact
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## Transmitter Equipment and Station Details

### 1. Radio Information

Equipment: Loon

Quantity: Up to 5 at any time

Area of Operation: Operation not to exceed 18km east/west and 25km north/south from the following geographic center-point:

- 20° 45' 51.7356" N, 156° 33' 39.6432" W

Frequency	Low (MHz)	High (MHz)
Various custom	788	799
Various custom	722	733

### 2. Antenna Details

Antenna	Ethertronics Part No. 1004680
Type	Dual-polarization
Gain	11 dBi @ 0 degrees from bore-sight
Beam Width at Half-Power Point	48 degrees from boresight, symmetric
Orientation in the Horizontal Plane	Variable
Orientation in the Vertical Plane	Boresight pointing 30 degrees from earth

### 3. Transmitter

Radio	Modulation	Emission Designator	Bandwidth (MHz)	Max Output Power (W)	Max ERP (W)
Various custom with antenna #1004680	LTE (BPSK, QPSK, 16QAM, 64QAM)	10M0W7W	10MHz	5W	38.5W