

Exhibit A

By this application, LightSquared Subsidiary LLC, Debtor-in-Possession (“LightSquared”) requests an experimental license to conduct limited testing and demonstrations of four prototype models of Access Terminals (“ATs”) communicating with SkyTerra-1, a licensed and in-orbit satellite, using L-band spectrum coordinated for LightSquared’s satellite system. *See Mobile Satellite Ventures Subsidiary LLC*, 20 FCC Rcd 9752 (2005) (authorizing the launch and operations of SkyTerra-1, then MSV-1) (“*SkyTerra-1 Licensing Order*”). The instant application seeks experimental authority identical to that granted to LightSquared under its previous, now-expired experimental license, and would enable LightSquared to continue testing of ATs utilizing its licensed and coordinated L-band spectrum. *See* ELS File Nos. 0106-EX-PL-2011, 0153-EX-ML-2011; Call Sign WF2XSA.

Table 1 below provides the specific prototype AT models and the number of each AT model that LightSquared seeks to test.

<u>Manufacturer</u>	<u>Model Number</u>	<u>No. of Units</u>	<u>Experimental</u>
Qualcomm	FFA	10	Yes
AnyData	ADU960-S	125	Yes
Band Rich	C500	125	Yes
Band Rich	R500	125	Yes

Figure 1 below provides an overview of the network.

The diagram illustrates the network architecture of the EGAL system. It shows a Satellite in the L band connected to an AT (Air Terminal) and a GBBF (Global Base Band Forwarder) in the Ku band. The GBBF is connected to a 3-BTS (Base Transceiver Station) which is connected to a 7750 SR (Service Router). The 7750 SR is connected to various network elements including OA&M, OMP-FX, OMC-RAN, SAM, BSOC, RNC, AAA, HSGW 1/PGW, and PCRF. The 7750 SR is also connected to a cloud representing the IP Network 1, which is connected to HSGW 2 (Home Subscriber Gateway 2) and a To GW Country 2 link. The entire system is labeled as EGAL Air Interface.

Enhanced Geosynchronous Air Link (EGAL) System Diagram

Access Terminal Transmissions. The ATs would transmit in frequency division multiplex (FDM) mode when operating. The transmitted signals would be either a 6.4 or 12.8 kHz-wide signal with modulation ranging from QPSK to 16QAM. The signals would be transmitted in authorized and coordinated L-band spectrum in the 1626.5 to 1660 MHz frequency range. The ATs would receive the same type of signal in authorized and coordinated L-band spectrum in the satellite downlink band, 1525-1559 MHz. The peak EIRP of the mobile AT would be less than 1 W, with an omni-directional antenna. The beamwidth of SkyTerra-1 is 0.4 degrees, and the antenna gain of each AT model would be approximately 47 dBi. The AT would comply with the out-of-band emission (“OOBE”) limits required by the Commission.¹

Geographic Area of Testing. Initial testing of the ATs would occur within a 150-mile radius of the LightSquared facility at Napa, California. Follow-on testing would occur within a 150-mile radius of Ottawa, Canada, subject to the necessary regulatory approvals from Industry Canada. Further testing will occur in selected areas throughout North America (including Hawaii and Alaska). All of the proposed testing in the United States would occur within the authorized service area of SkyTerra-1. See *SkyTerra-1 Licensing Order* ¶ 1. The radiated power spectral density from the mobile ATs would be much

¹ Although the ATs would communicate only with LightSquared's satellite and not directly with terrestrial base stations, the devices, nonetheless, would meet the more stringent OOB limits established by the Commission for dual-mode satellite-terrestrial devices. *Mobile Satellite Ventures Subsidiary LLC*, 19 FCC Rcd 22144, at ¶¶ 35, 36, 95(c) (2004); cf. 47 C.F.R. § 25.216(h), (i). The ATs also would meet the more general OOB limits set forth in 47 C.F.R. § 25.202(f).

lower than that of currently operating mobile terminals communicating with LightSquared's current generation satellites, MSAT-1 and MSAT-2, which also operate in this same geographic area. See Call Signs E930367, E980179. Accordingly, the testing would not cause harmful interference to spectrum users, including LightSquared's own customers communicating with the MSAT satellites. LightSquared would keep records of the dates and times when operations are conducted pursuant to this experimental authority.

Satellite Gateway Transmissions. The mobile ATs would communicate with SkyTerra-1, and thence to gateways located in Napa, California and Ottawa, Canada. Operation of SkyTerra-1 and these base stations already is authorized under separate authority by the appropriate regulatory agency. See *SkyTerra-1 Licensing Order*; Call Sign E080030.

Contemplated Hours of Operation. The gateways and ATs are capable of operation 24 hours per day and 7 days per week, but LightSquared expects testing typically would be conducted during regular business hours (*i.e.*, 9 AM – 6 PM, Monday – Friday).

Goal of Experiment. The major aim of this testing is to: i) test LightSquared's next-generation satellite EGAL air interface; ii) develop and test ATs for use over the EGAL network in preparation for the commercial launch of MSS. The equipment to be operated pursuant to the requested authorization is strictly for testing purposes only, and no commercial service would be offered.

LightSquared acknowledges that operations pursuant to an experimental license must proceed on a strict non-harmful interference basis. LightSquared's Network Operations Center ("NOC") can be contacted 24 hours/7 days per week in the event of interference concerns at the following number: 1-877-277-2360.