

NARRATIVE STATEMENT

By this application, and pursuant to Section 5.3(e), (f), (j) and (k) Section 5.53 of the FCC Rules, 47 C.F.R. §§ 5.3(e),(f), (j) & (k) and 5.53 (2014), Starry Spectrum LLC (“SLLC”) respectfully seeks experimental authority to evaluate the functionality, reliability and user acceptability of equipment and technologies being designed and developed to support new and innovative point-to-point and point-to-multipoint communications capabilities.

As described in greater detail below, the company also seeks authority to conduct market studies on a limited basis under the requested experimental authority. The participants in the test will be advised, however, that: (a) the operations are being conducted under an experimental authority issued to SLLC, (b) the company is responsible for the experimental activities, (c) all operations are being conducted on a non-interference basis, and (d) after the test is completed, SLLC will retrieve and recover all devices that do not comply with FCC regulations. The company understands that the FCC may specify these as well as other conditions on its authorization.

The following information is provided in support of this request:

1) Purpose of Operation

Starry Spectrum LLC, headquartered at 745 Atlantic Avenue, Boston, Massachusetts (FRN: 0025185505), designs and develops new and innovative equipment and technologies to meet users’ communications and information needs, such as for fixed and mobile cellular and private mobile radio communications, backhaul and backbone infrastructure, and broadband transmission capabilities.

Under the authority requested in this application, SLLC seeks to evaluate the functionality, reliability and user acceptability of equipment and technologies being designed and developed for operation in microwave bands to support point-to-point and point-to-multipoint communications capabilities. For example, grant of the requested authority will allow SLLC to test the technical characteristics of prototype equipment, including the propagation and interference effects related to: (a) weather (e.g., rain, snow); (b) foliage; (c) construction materials (e.g., brick, plaster, wood); (d) reflective and multipath transmissions); and (e) power level.

2) Spectrum Requested

SLLC seeks to conduct equipment tests and market trials on selected 50 MHz channels within the band 38.2 - 38.6 GHz. It recognizes that the proposed operations would be in a portion of the spectrum under consideration in a pending rulemaking recently initiated by the FCC. *See Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Notice of Proposed Rulemaking, FCC 15-138 (rel. Oct. 23, 2015). SLLC wishes to emphasize, however, that it does not seek to prejudice the FCC’s

efforts in that rulemaking and will ensure that its experimental operations comply with any requirements adopted by the agency in that rulemaking, including, if requested, the immediate discontinuance of its experimental operations.

SLLC also recognizes that this spectrum may be in use in some areas by other entities or licensees. Accordingly, it will coordinate its experimental tests so as not to operate on channels that are currently assigned to or used by other current or future licensees or entities. In addition, SLLC is amenable to the issuance of experimental authority to use other channels or to operate at other locations should the Commission staff or interested parties so prefer. For example, the company has determined that possible alternative channels for its tests could be derived from the 39 GHz band. In addition, alternative locations for the proposed operations include: San Francisco, Chicago, Dallas, Los Angeles, Phoenix, San Diego, Denver Detroit, Minneapolis, St. Louis, Cleveland, Indianapolis, Portland, Columbus, Milwaukee, Philadelphia, Houston, Kansas City, San Antonio, and Raleigh-Durham.

3) Technical Specifications

a. Power Levels and Emissions

- i. Maximum Transmitter Power Output ("TPO"): 12 Watts Peak
- ii. Maximum Effective Radiated Power ("ERP"): 1 kWatt Peak
- iii. Necessary bandwidth: 200 MHz
- iv. Emissions: D7D
- v. Other emission modes may be utilized, but in no event will the emissions extend beyond the frequency bands requested. All power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiation.

b. Proposed Locations

SLLC seeks authority to conduct its experimental operations at the locations listed in Attachment A and in the accompanying FCC Form 442. Specifically, SLLC seeks authority to operate and demonstrate products and services: (i) at its own offices; and (ii) at the premises of entities working under SLLC's authorization to evaluate the devices and related software and services. As described below, the company also seeks to conduct limited market studies at the requested locations that will involve the lease, but not the sale, of the test equipment so that the company may evaluate the acceptability of various marketing models and policies. Accordingly, these operations would be consistent with the requirements set forth in Section 2.805 of the Commission's marketing rules and 47 C.F.R. § 2.805 (2014); *see also* Revision of Part 2 of the Commission's Rules Relating to the Marketing and Authorization of Radio Frequency Devices, ET Docket No. 94-45, Report and Order, released Feb. 12, 1997, at 11-13, 19-20 ("Marketing Rule Revisions").

c. Equipment To Be Used

To obtain valid data and present an accurate demonstration of real-world operations, the company must deploy a sufficient number of units during its tests to simulate actual usage. The type of capabilities SLLC seeks to evaluate would likely be deployed by hundreds of thousands of users. For example, the potential market for the capabilities include the over 350 million consumers that currently subscribe to cellular and cellular like services in the United States.

SLLC expects that it will be able to complete its experimentation at each location with 15 or fewer temporary fixed base stations and 450 temporary fixed end user devices at each location identified in Attachment A. In limited cases, however, SLLC might need up to 30 temporary fixed base stations and 400 temporary fixed end user devices at a location. In other words, 225 temporary base stations and 6,000 temporary fixed end user devices reflect the *maximum* number of unapproved or unlicensed devices that would be in operation at any given time under the requested authorization.

Moreover, after the experimentation and evaluations cease, SLLC would recall and recover all unapproved devices. If any different treatment becomes necessary during the course of its experimentation, SLLC will seek separate and additional authority from the agency.

d. Antenna Information and Station Identification

The antennas to be deployed are omnidirectional and will not extend more than 6 meters above the ground or man-made structure. The antennas will be installed and operated in accordance with all FCC and Federal Aviation Administration ("FAA") rules and regulations.

SLLC does not propose to supply station identification as set forth in Section 5.115 of the Commission's Rules, 47 C.F.R. § 5.115 (2014).

4) Limited Market Studies

As noted above, agency grant of the requested authority will allow SLLC to test the technical characteristics of prototype equipment, including the propagation and interference effects related to: (a) weather (e.g., rain, snow); (b) foliage; (c) construction materials (e.g., brick, plaster, wood); (d) reflective and multipath transmissions); and (e) power level.

In addition, SLLC respectfully requests authority to conduct limited market studies in connection with its experimentation that will involve the lease, but not the sale, of the test equipment. As explained above, to obtain valid data and present an accurate demonstration of real-world operations, the company must deploy the proposed

capabilities in a manner that simulates actual usage. In particular, the company must evaluate the acceptability of various marketing models and policies. For example, such authority will allow SLLC to determine, among other things, the effect of: (a) demographics (e.g., household size, household income, age and gender, current type of service/provider used); (b) psychographics / behavioral characteristics (e.g., attitudes, values, lifestyles); (c) competition (e.g., the use and availability of fiber, cable and DSL alternatives); (d) adoption dynamics; (e) penetration/growth rate; (f) customer acquisition costs; (g) usage (e.g., during peak and non-peak periods, type and frequency, maximums and minimums, capacity and usage limitations); (h) pricing; and (i) operational performance and reliability (e.g., propagation and interference characteristics). Accordingly, SLLC respectfully requests that it be granted authority to conduct limited market studies as permitted under Section 5.3(k) of the FCC's rules, 47 C.F.R. § 5.3(k) (2014).

5) Protection Against Interference

As noted above, SLLC recognizes that the 38 GHz band is allocated for other uses and has been assigned in some areas to other licensees. Accordingly, it will coordinate and cooperate with other current or future licensees and users to ensure against interference. Further, company personnel will monitor the operations of other licensees and users before commencing transmissions to avoid interference to such licensees and users. In the event that SLLC receives a complaint of harmful interference resulting from the operations as proposed, it will take immediate action to address the interference, including if necessary discontinuing its operations. The company has designated Mr. John Westbrook, whose contact information is provided below, to act as the "stop buzzer" for this purpose.

Notwithstanding the precautions it will take, SLLC does not expect harmful interference to occur. First, the proposed operations will be limited in scope. Second, the company will monitor the operations of other users before commencing transmissions to avoid interference. Last, SLLC proposes to select channels that are not currently assigned to other licensees or users or are assigned to licensees that have granted consent to SLLC for the proposed operations.

6) Restrictions on Operation

SLLC also recognizes that experimental operations must not cause harmful interference to authorized facilities. It does not anticipate that such interference will occur, but should interference occur, SLLC will immediately take reasonable steps to resolve the interference, including if necessary discontinuing operation.

In addition, SLLC proposes to advise entities using the equipment that permission to operate the equipment has been granted under experimental authority issued to

the company, is strictly temporary and may be canceled at any time. Specifically, SSSLIC proposes to label any unapproved equipment or associated user information conspicuously as follows:

FCC STATEMENT

Permission to operate this device has been granted under experimental authority issued by the Federal Communications Commission to Starry Spectrum LLC, is strictly temporary, and may be cancelled at any time. Operation is subject to the condition that this device not cause harmful interference.

This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not offered for sale and may not be sold until authorization is obtained. Thus, the user does not hold a property right in the device and is required to return the device to Starry Spectrum LLC upon its request.

Also, as stated above, SSSLIC will recall and recover all unapproved devices after the experimentation and studies have been completed. If any different treatment becomes necessary during the course of its experimentation, SSSLIC will seek separate and additional authority from the agency.

7) Public Interest

SSSLIC submits that issuance of a license as requested is in the public interest, convenience, and necessity. Grant of a license will permit SSSLIC to research the operational and marketing characteristics of innovative equipment and technologies to support important communications capabilities.

8) Contact Information

Company Contact and Stop Buzzer

Mr. John Westbrook
Starry Spectrum LLC
745 Atlantic Ave, Floor 7
Boston, MA 02111
781.361.9096
fcc@starryspectrum.com

Legal Representative Contact

Eric W. DeSilva
Wiley Rein LLP
1776 K Street, N.W.
Washington, DC 20006
202.719.3182
edesilva@wileyrein.com

ATTACHMENT A - PROPOSED LOCATIONS

SLLC seeks experimental authority to operate on channels within the 38.2 – 38.6 GHz band that are not currently assigned to, or used by, other licensees or entities or that are assigned to licensees that have granted it permission for the proposed operation within a 40 km radius of the coordinates listed below. The company will change to other channels within the band when necessary to avoid interference. In addition, the company will monitor the operations of other licensees or users before commencing transmissions to avoid interference.

Test Location	Center Coordinates (NAD83)
Boston	42° 21' 01" N; 71° 03' 25" W
New York City	38° 54' 07" N; 77° 02' 26" W
Washington, DC	38° 54' 17" N; 77° 00' 59" W
Los Angeles	34° 03' 00" N; 118° 15' 00" W
San Francisco	37° 47' 00" N; 122°25' 00" W
Dallas-Ft. Worth	32° 46' 33" N; 96° 47' 48" W
Houston	29° 45' 46" N; 95° 22' 59" W
Philadelphia	39° 57' 00" N; 75° 10' 00" W
Detroit	42° 19' 53" N; 83° 02' 45" W
Atlanta	33° 45' 18" N; 84° 23' 24" W
Miami	25° 46' 31" N; 80° 12' 32" W
Minneapolis-St. Paul	44° 59' 00" N; 93° 16' 00" W
Seattle	47° 36' 35" N; 122° 19' 59" W
Denver	39° 45' 43" N; 104° 52' 52" W
Chicago	41° 50' 13" N; 87° 41' 05" W