



PUBLIC NOTICE

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OFFICE OF ENGINEERING AND TECHNOLOGY ANNOUNCES FIRST INNOVATION ZONES FOR PROGRAM EXPERIMENTAL LICENSES

ET Docket No. 19-257

By this Public Notice, the Office of Engineering and Technology (OET) creates Innovation Zones for Program Experimental Licenses in designated portions of New York City and Salt Lake City. These are the first Innovation Zones established under our experimental license rules and will provide opportunities for qualified licensees to test new advanced technologies and prototype networks – such as those that can support 5G technologies – outside a traditional small campus or laboratory setting.

These Innovation Zones are based on a detailed proposal from the Platforms for Advanced Wireless Research (PAWR) program. According to PAWR, this program, “... will enable experimental exploration of robust new wireless devices, communication techniques, networks, systems, and services that will revolutionize the nation's wireless ecosystem, thereby enhancing broadband connectivity, leveraging the emerging Internet of Things (IoT), and sustaining US leadership and economic competitiveness for decades to come.”¹ This program for new technology experimentation is funded by the National Science Foundation along with a consortium consisting of thirty technology and telecommunications companies.²

Innovation Zones were conceived as part of the Commission's 2013 rulemaking that updated the experimental radio service (ERS) program by, *inter alia*, establishing new Program Licenses.³ Under a Program License, qualified institutions may conduct testing for multiple non-related experiments under a single authorization within a defined geographic area under control of the licensee and where the licensee has institutional processes to manage and oversee experiments. The Innovation Zone takes this concept a step further by effectively providing an extension of a Program License's authorized area of operation.

¹ See Letter from Joseph Kochan, Project Director, PAWR Program Office, to Ira Keltz, Office of Engineering and Technology, Federal Communications Commission (March 1, 2019) (available in ET Docket No. 19-257) and Letter from Joseph Kochan, Project Director, PAWR Program Office, to Ira Keltz, Office of Engineering and Technology, Federal Communications Commission (July 15, 2019) (available in ET Docket No. 19-257).

² See *Id.* PAWR, Platforms for Advanced Wireless Research, <https://advancedwireless.org> (last visited August 9, 2019); National Science Foundation, Platforms for Advanced Wireless Research (PAWR): Establishing the PAWR Project Office (PPO) (PAWR/PPO), https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505316 (last visited August 9, 2019).

³ *Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission's Rules and Streamlining Other Related Rules*, ET Docket No. 10-236, Report and Order, FCC 13-15, 28 FCC Rcd 758 (2013) (Experimental R&O).

Such licensees are permitted to operate within an Innovation Zone, under the parameters set for that particular Zone, without having to modify their licenses to cover the new location.⁴

We can create Innovation Zones in response to a particular request as well as on our own motion. We are using OET’s Experiments System webpage to post the Innovation Zone designations and detail the guidelines we have established for each particular zone – including the specific geographic area(s) we have designated and applicable technical parameters, such as frequency bands and power limits.⁵ Those wishing to test in an Innovation Zone must meet the Program License eligibility requirements, hold an existing Program License and operate in accordance with the geographic areas and technical limits detailed herein.⁶ Prior to operating in an Innovation Zone, details for each Program Licensee experiment will be posted to the FCC webpage as described below. This posting will implement the Program License rules procedures that require notification of intended operations so that all nearby licensees and federal users have full knowledge of operations in an area. Program licensees must still meet the requirement to wait 10-days prior to beginning tests on spectrum allocated exclusively for non-federal use and 15-days when using spectrum allocated for federal use including shared non-federal/federal use. Finally, as detailed below, the PAWR Project Office will serve as a frequency coordinator for these Innovation Zones; operation may not commence without prior coordinating through that office.⁷

New York City Innovation Zone

Location:

The New York City Innovation Zone will encompass just under a tenth of a square mile in Manhattan bounded by W 123rd Street on the south, Amsterdam Avenue to the east, W 134th Street to the north and Broadway to the west.

Technical Limits and Band Information:

The allowable frequency bands, radiated power limits, and operations are shown in the following table:

| Frequency Band | Type of operation | Allocation | Maximum EIRP (dBm) |
|----------------|-------------------|-------------|--------------------|
| 2500-2690 MHz | Fixed | Non-federal | 20 |
| 3700-4200 MHz | Mobile | Non-federal | 20 |
| 5850-5925 MHz | Mobile | Shared | 20 |
| 5925-7125 MHz | Fixed & Mobile | Non-federal | 20 |
| 27.5-28.35 GHz | Fixed | Non-federal | 20 |
| 38.6-40.0 GHz | Fixed | Non-federal | 20 |

Salt Lake City Innovation Zone

Location:

The Salt Lake City Innovation Zone will encompass approximately 4 square miles over three connected

⁴ Experimental R&O, 28 FCC Rcd at 792, para 93.

⁵ The Experiments System webpage can be accessed at: <https://www.fcc.gov/els>.

⁶ Program licensees with experimentation needs that differ from those permitted for the New York City and Salt Lake City Innovation Zones will be required to apply for and obtain a conventional experimental license through the Commission’s experimental licensing system prior to operating. In such instances, requests to operate on federally allocated spectrum will be coordinated with NTIA.

⁷ The PAWR Project Office will coordinate with non-federal licensees as appropriate as well as establish coordination procedures with potentially affected federal spectrum users.

areas providing options for testing over a campus (University of Utah), within a downtown area and within a corridor connecting the two.

The University of Utah campus portion of the Innovation zone measures approximate 2.43 square miles in area and is defined as the region between North Campus Drive (in the north), Arapeen Drive (in the east), East Sunnyside Ave (in the south) and 1200 East (in the west). This area is bounded by the following geographic coordinates (NAD83):

- Northeast: 40.77309 N, 111.82639 W
- Northwest: 40.77313 N, 111.85669 W
- Southwest: 40.75076 N, 111.82661 W
- Southeast: 40.75096 N, 111.85656 W

The Salt Lake City downtown portion of the Innovation zone is approximately 0.954 square miles in area and is defined by South Temple (in the north), 400 East (in the east), 700 South (in the south) and 200 West (in the west). This area is bounded by the following geographic coordinates (NAD83):

- Northeast: 40.76941 N, 111.87971 W
- Northwest: 40.76938 N, 111.89692 W
- Southwest: 40.75413 N, 111.89696 W
- Southeast: 40.7541 N, 111.87971 W

The connecting corridor between the University of Utah and downtown Salt Lake City encompasses an area of approximately 0.46 square miles and is bound by 1st Avenue (in the north), 1200 East (in the west), 200 South (in the south) and 400 East (in the west). This area is bounded by the following geographic coordinates (NAD83):

- Northeast: 40.77055 N, 111.85679 W
- Northwest: 40.77058 N, 111.87975 W
- Southwest: 40.76505 N, 111.87979 W
- Southeast: 40.76502 N, 111.85666 W

Technical Limits and Band Information:

The allowable frequency bands, radiated power limits, and operations are shown in the following table:

| Frequency Band | Type of operation | Allocation | Fixed Station Maximum EIRP (dBm) | Mobile Station Maximum EIRP (dBm) |
|-------------------|-------------------|-------------|----------------------------------|-----------------------------------|
| 698-763 MHz | Fixed & Mobile | Non-federal | 65 | 20 |
| 914.87-915.13 MHz | Fixed & Mobile | Shared | 65 | 20 |
| 1710-1780 MHz | Mobile | Shared | 65 | 20 |
| 2110-2180 MHz | Fixed | Non-federal | 65 | 20 |
| 2390-2483.5 MHz | Fixed & Mobile | Shared | 65 | 20 |
| 3300-3600 MHz | Fixed & Mobile | Shared | 65 | 20 |
| 3700-4200 MHz | Mobile | Non-federal | 65 | 20 |
| 5650-5850 MHz | Fixed & Mobile | Shared | 55 | 20 |
| 5850-5925 MHz | Fixed & Mobile | Shared | 65 | 20 |
| 5925-7125 MHz | Fixed & Mobile | Non-federal | 65 | 20 |

Innovation Zone Term

Both the New York City and Salt Lake City Innovation Zones are established for a period of five years from the release date of this public notice. The term may be renewed upon request at the end of this term.

Program License Registration within Innovation Zones

Program licensees must register on OET's Experiments System webpage under the respective Innovation Zone webpage at: <https://www.fcc.gov/els> prior to operation. The online registration process will provide a record of program licensees that indicate an intent to operate in each Innovation Zone. This registration process along with the required coordination process through the PAWR program office will provide an opportunity for incumbent licensees and federal spectrum users to be an integral part of any necessary compatibility evaluation. The website will further be useful to alert other program licensees and experimental licensees of nearby operations.

The process for the New York City and Salt Lake City Innovation zones will require each program licensee to indicate its call sign and identify the Innovation Zone(s) in which it intends to operate. It will provide specific technical data, a description of the experiment, and a stop buzzer contact person for posting on the appropriate Innovation Zone page(s). Parties will use OET's Experiments System webpage to submit this information.⁸

Innovation Zone Frequency Coordination

In addition to requesting to operate in an Innovation Zone, a Program Licensee must also coordinate its operations prior to commencing its tests.⁹ The PAWR Project Office will serve as the frequency/operations coordinator for the New York City and Salt Lake City Innovation Zones. In this role, the PAWR Project Office will offer non-discriminatory service to all interested Program Licensees to coordinate specific times and locations for each Program Licensee's operations to avoid interference to other spectrum users and between Program Licensees' tests. The frequency coordinator may act as a central clearinghouse to obtain consent from other potentially affected Commission licensees and/or federal spectrum users for Innovation Zone operations. Alternatively, Program Licensees may coordinate their own arrangements with these authorized spectrum users. In such cases, Program Licensees must still coordinate specific operations through the PAWR Project Office. Note that designating PAWR as the Innovation Zone frequency coordinator does not confer operating authority on PAWR nor does it confer sole authority for PAWR to permit operations as Program Licensees must also register on OET's Innovation Zone Registration Webpage.

Interested Program Licensees may contact Joe Kochan, PAWR Program Director, at joe.kochan@advancedwireless.org.

OET Contact

Program licensees interested in operating in the New York City or Salt Lake City Innovation Zones may contact Ira Keltz at 202-418-0616 or ira.keltz@fcc.gov or Anthony Serafini at 202-418-2456 or anthony.Serafini@fcc.gov with questions regarding this public notice.

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⁸ Further information and detailed filing instructions can be found at <https://www.fcc.gov/els>.

⁹ We note that the bands being designated for the New York City and Salt Lake City Innovation Zones contain or are adjacent to important incumbent uses, including safety-of-life applications. The PAWR project office will take these uses by non-federal and federal spectrum users into consideration when coordinating Program Licensees' specific operations for each area.