

Intersection STA Exhibit

Date: 08/11/2017

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Subject: Public and Redacted Version of Request for Confidential Treatment and Complementary Exhibits

File Number: 1148-EX-ST-2017

To Whom It May Concern:

Intersection pursuant to 5 U.S.C. § 552 and Sections 0.457 and 0.459 of the Commission's Rules, 47 C.F.R. §§ 0.457, 0.459, hereby requests that certain information complementary to its above-referenced application for Special Temporary Authority (STA) be treated as confidential and not subject to public inspection. The designated information constitutes confidential and proprietary information that, if subject to public disclosure, would cause significant commercial, economic, and competitive harm to Intersection. As described below, Intersection's request satisfies the standards for grant of such requests set forth in Sections 0.457 and 0.459 of the Commission's Rules.

In accordance with Section 0.459(b) and in support of this request, Intersection provides the following information:

1 IDENTIFICATION OF THE INFORMATION FOR WHICH CONFIDENTIAL TREATMENT IS SOUGHT:

Intersection's request for confidential treatment is limited to information that has been redacted from the STA and Exhibits. Intersection does not seek to withhold from public inspection information in the STA and associated exhibits necessary for interference mitigation, including applicant name, contact information, test location, frequency, output power, effective radiated power, emission characteristics, and modulation.

Exhibit A – Special Temporary Authority Justification:

Intersection requests confidential treatment of the the information underlined below and redacted from the publicly filed version of Exhibit A that contains confidential and proprietary information regarding the proposed tests/experiments:

Consistent with the standards set forth in Section 5.61 of the Federal Communications Commission's (Commission's) Rules, 47 C.F.R. § 5.61, Intersection requests Special Temporary Authority (STA) to conduct demonstrations of Shared Spectrum experimental Small Cell Base Stations in Brooklyn, NY. Operations under this STA would be consistent with the Part 96 rules the Commission has adopted to govern use of the 3.5 GHz band. The STA is sought for a period of 180 days beginning on 08/01/2017. Intersection outlines below its need for the requested STA and the reasons that the STA should be granted expeditiously.

The STA is needed to execute operation and performance of Small Cell in the 3.5 GHz band, which the Commission has designated for broader commercial use. The operation of Small Cell Base Stations will be consistent with the Commission's Part 96 rules and the incumbent operators will be protected from any harmful interference.

In Brooklyn, NY Intersection requests authorization to operate on the frequencies between 3550-3650 MHz, part of 3550-3700 MHz which have been opened for innovative small cell spectrum sharing in connection with the new Citizens Broadband Radio Service (CBRS). Operations across the proposed frequencies will be consistent with the rules for CBRS devices (CBSDs) set forth in Part 96 of the Commission's rules. As stated above and described below, Intersection will avoid harmful interference to incumbent operations throughout the band, and to operations in adjacent bands.

Planned Operations

Intersection anticipates performing the following tests under the requested STA. The proposed experimental operations in the 3.5 GHz band will be conducted without harmful interference to other authorized users.

- Small Cell Outdoor coverage and performance: Intersection in collaboration with its Radio supplier will test:
 - o The operation of the Small Cell base station to understand the coverage and performance of outdoor base stations in the 3.5 GHz band in dense urban environments.
 - The frequency of operation will be limited to 3550 to 3650 MHz.
 - The base stations will be installed outside, mounted on structures at approximately 10.5 feet from street level.
 - o The performance and operation of a CBSD when instructed by SAS to switch frequency.
 - o The impact on an end user when a CBSD has switched its frequency

- **SAS Management of Shared Spectrum:** Intersection, in collaboration with its SAS Administrator and radio partners, will test spectrum sharing, including General Authorized Access (GAA) registration, CBSD spectrum grant request and SAS response, spectrum grant revocation, and simulated protection scenarios in an operation environment.

Non-Interference Analysis

Operation under the STA will not adversely impact any authorized user of RF Spectrum.

Morphology of Test Site: The test site is surrounded by tall buildings on all sides, which will aid in limiting the signal to areas in very close proximity to the test site.

- o The test site is surrounded by large buildings and a large private parking lot
- o Front: An 8 story building, blocking the signal approximately 500 feet in either direction
- o Rear: Large, private parking lot, extending 400 feet from the test site

CBSD power will be limited to +3dBm (EIRP) to ensure that very insignificant signal radiates outside the building and hardly any detectable signal can reach one block away from the test site.

Radar Protection (Shoreline): Because the CBSDs will be limited to +3 dBm (EIRP), and the site includes a large building blocking line of sight to the shoreline, Intersection does not expect any interference to Radars that operate on the shorelines.

Federal Government Radiolocation Facilities: The City test bed is approximately 41 km away from the nearest Military Installation in Morristown, NJ.

Ground Based Radar: The City test bed is located within the ground-based radar Exclusion Zone.

International Border: Brooklyn, NY is more than 400 km from the nearest Canadian border and over 2700 km from the Mexican border. Therefore, no interference to incumbent operations is expected for international operation.

In-Band FSS Protection: The Commission has identified in-band fixed

satellite service (FSS) operations in 3600-3700 MHz that require protection under Part 96. Part 96 further requires coordination with any in-band FSS operations within a 150 km coordination contour, operating within the 3650-3700 MHz band. This application is limited to 3550-3650 MHz bands. Additionally, we do not expect to create any interference for these existing licensees as we're limiting our radios to 3db. With this limitation, we expect less than half a kilometer of coverage, further reduced by the nearby buildings.

Adjacent Band FSS Protection: The Commission has identified adjacent band FSS operations in the 3700-4200 MHz that require protection under Part 96. Part 96 requires adjacent band FSS protection within 40km of the FSS site. The City test site is approximately 7 km away from nearest adjacent band FSS, Intersection expects that, with the building and other clutter between the test site and the FSS site, the actual out of band emissions will be even further below this level.

Part 90 (GWBL): We have not identified any nearby operations of interfering with Part 90 (GWBL) within 18km of the test site.

Exhibit B – Technical Information:

Intersection requests confidential treatment of the information underlined below and redacted from the publicly filed version of Exhibit B that contain confidential and proprietary information regarding the proposed testing in Brooklyn, NY:

Applicant Name: Intersection Parent Co.

Applicant FRN: 0026663260

Legal Contact Details:

Name of Contact	Deirdre Sullivan
Contact Address	10 Hudson Yards Floor 26 New York, NY 10001

Technical Contact Details:

Name of Contact	Erik Childs
Contact Address	10 Hudson Yards Floor 26 New York, NY 10001

Base Station General Information

Equipment	Ruckus Q910
Quantity	2
Area of Operation	Operation not to exceed 1 km from the following geographic center points: Latitude: 40° 38' 36.3264", Longitude: -74° 1' 28.182"

Amplifier Detail

Antenna	Internal
Type	Omni-directional
Quantity	2 per Base Station
Gain	3 dB
Beamwidth at Half-Power Point	360° Horizontal and 180° vertical
Orientation in Horizontal Plane	0°
Orientation in Vertical Plane	0°

Radio	Modulation	Emission Designator	Bandwidth	Maximum Output Power	Maximum EIRP
Ruckus Q910	Digital BPSK, QPSK, 16QAM, 64QAM	10M0W7W	10 MHz	<u>250 mW</u>	<u>30 dBm</u>
Ruckus Q910	Digital BPSK, QPSK, 16QAM, 64QAM	20M0W7W	20 MHz	<u>250 mW</u>	<u>30 dBm</u>

2 IDENTIFICATION OF THE CIRCUMSTANCE GIVING RISE TO THE SUBMISSION

Intersection is submitting an application for Special Temporary Authority to test certain aspects of prospective wireless operations in the 3.5 GHz band

**3 EXPLANATION OF THE DEGREE TO WHICH THE INFORMATION IS
COMMERCIAL OR FINANCIAL OR CONTAINS A TRADE SECRET OR IS
PRIVILEGED:**

The information requested to be kept confidential has significant commercial and financial value to Intersection. The exhibits supporting the STA discuss tests/experiments that include trade secret information. The Commission has clarified that confidential treatment should be afforded to trade secrets. Intersection's tests and experiments and proprietary wireless applications using particular radio frequency equipment and shared spectrum technology represent "secret commercially valuable plan" within the meaning of a trade secret as recognized by the Commission.

**4 EXPLANATION OF THE DEGREE TO WHICH THE INFORMATION
CONCERNS A SERVICE THAT IS COMPETITIVE:**

Intersection is planning to test its shared spectrum solutions, and operation of Small Cell in the 3.5 GHz band in Brooklyn, NY. The services and shared spectrum technologies that are the subject of this STA have not been fully developed, but are expected to be implemented in hardware, software, and service offerings in the 3.5 GHz band. SAS Administrators, equipment manufacturers, and software developers and network operators will compete vigorously on the basis of their products in this band.

**5 EXPLANATION OF HOW DISCLOSURE OF THE INFORMATION COULD
RESULT IN SUBSTANTIAL COMPETITIVE HARM**

The technology under test is very sensitive and confidential in nature. Disclosure of the redacted information could cause substantial competitive harm to Intersection, because it would provide competitors insight into confidential development, operational, and strategic information that would not otherwise be available, which would work to Intersection's competitive disadvantage.

**6 IDENTIFICATION OF ANY MEASURES TAKEN BY THE REQUESTING
PARTY TO PREVENT UNAUTHORIZED DISCLOSURE.**

Intersection routinely treats the redacted information as highly confidential and exercises significant care to ensure that such information is not disclosed to its

competitors or the public. Intersection has taken steps to keep confidential the information set forth in the confidential exhibits by limiting the number of people involved in the tests/experiments to only those on a “need to know” basis, and by requiring that any third parties involved in the preliminary analysis execute robust nondisclosure agreements.

7 IDENTIFICATION OF WHETHER THE INFORMATION IS AVAILABLE TO THE PUBLIC AND THE EXTENT OF ANY PREVIOUS DISCLOSURES OF THE INFORMATION TO ANY THIRD PARTIES

The information contained in the confidential exhibits is not available to the public, and will only be disclosed to third parties pursuant to the restrictive safeguards described above. Intersection voluntarily provides the information to the Commission at this time with the expectation that it will be treated confidentially in accordance with the Commission's rules.

8 JUSTIFICATION OF THE REQUESTED PERIOD OF CONFIDENTIALITY

Intersection requests that the redacted information be treated as confidential on an indefinite basis as it cannot identify a date certain on which this information could be disclosed without causing competitive harm to Intersection. Shared spectrum is new technology that is being developed. As such Intersection expects that confidential treatment will be necessary for the length of the proposed experiment and thereafter in order to protect its evolving business and technology strategies.

9 ANY OTHER INFORMATION THAT WOULD BE USEFUL IN ASSESSING WHETHER THIS REQUEST SHOULD BE SUBMITTED

The information subject to this request for confidentiality should not be made available for public disclosure at any time. There is nothing material that public review of this information would add to the Commission's analysis of Intersection's request for an experimental authorization.

Moreover, public disclosure of the sensitive information in the confidential exhibits to the STA after the Commission has ruled on the Request for Confidentiality is not necessary for the Commission to fulfill its regulatory responsibilities.

Consistent with 47 C.F.R. § 0.459(d)(l), Intersection requests notification if

release of the information subject to this request is requested pursuant to the FOIA or otherwise, so that Intersection may have an opportunity to oppose grant of any such request.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Colin O'Donnell', with a stylized, flowing script.

Colin O'Donnell
Chief Innovation Officer