

Form 442 Confirmation Number: EL380944

Form 442 File Number: 0090-EX-CN-2017

Date of Submission: February 8, 2017

Form 442 Question 7: Experimentation Description

Pursuant to Section 5.54 of the Commission's rules, Straight Path Ventures ("SPV") hereby seeks a conventional experimental radio license. SPV is developing radios that can support fixed 5G services in the 39 GHz band (38.6 – 40.0 GHz). The research and experimentation project will enable SPV to develop cost-effective fixed broadband solutions in the 39 GHz band.

We have secured 3 sites in Richardson, Texas for our outdoor trials:

1909 N Glenville Dr, Richardson, TX 75081

1981 N Central Expy, Richardson, TX 75080

100 N Central Expy, Richardson, TX 75081

We plan to conduct a series of outdoor experimentations to test and demonstrate the performance of SPV's fixed 5G products, including the Gigarray Access Point (AP) and Gigarray Consumer Premise Equipment (CPE). Gigarray AP uses a planar antenna array with 8 transceiver chains. Beamforming and MIMO operations are achieved via analog and digital processing. We target 39 – 51 dBm EIRP with 90 degree horizontal (azimuth) coverage per AP. The units are designed to support up to 4 MIMO streams. Gigarray CPE uses a 6-inch or 8-inch dish antenna with a target EIRP of 45 dBm. The units are designed to support up to 2 downlink MIMO streams and 1 uplink stream. We plan to test baseband systems with 50 MHz, 100 MHz, and 200 MHz system bandwidth. We target 50 – 250 Mbps throughput for 50-MHz systems, 100 – 500 Mbps for 100-MHz systems, and 200 Mbps – 1 Gbps for 200-MHz systems.

The Gigarray AP will be deployed at the aforementioned 3 locations. Gigarray CPEs may also be deployed at these 3 locations. Additionally, we may deploy and test the coverage of these sites by driving vehicles with Gigarray APs and CPEs to various locations within 3 km radius of these sites.

All equipment is designed to operate in the 39 GHz band. In most cases, operation will be on frequencies for which SPV's affiliate – Straight Path Spectrum, LLC – is authorized. SPV is unaware of any active use of the other frequencies on which it may operate. In any case, we will use power levels that will prevent us from transmitting outside of immediate geographic area in which tests will occur. Accordingly, there is no risk of harmful interference to co-channel third parties. All equipment is designed to meet the FCC emission requirements in the 39 GHz band so that it will pass compliance testing upon completion of development.

We also request waiver of Section 5.115 of the rules, which otherwise requires us to transmit station identification. We plan to use devices that are only radio transceivers without a baseband unit. We plan to inject test signals such as single tones or waveforms generated by Arbitrary Waveform Generators. These signals typically do not have the ability to carry station identification. We also plan to connect the radios with off-the-shelf LTE and Wi-Fi based baseband solutions, which we do not have the ability to modify to add additional station identification. The station identification requirements are intended to permit the Commission or other interested parties to contact the licensee in the event that there is harmful interference. However, as noted above, based on the proposed operations and the frequencies that SPV intends to use, the likelihood of interference is minimal and SPV expects that it will be the only entity using these frequencies in the affected area in the unlikely case that others are able to detect its transmissions.