

April 5, 2017

The Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Form 422 Conf. No.: EL192270  
Form 442 File No: 0219-EX-CN-2017

**Submitted Electronically via ELS**

To Whom It May Concern:

Parallel Wireless, Inc., an innovative company developing next-generation 3G, 4G, and 5G radio access networks, respectfully submits a request for an experimental license under 47 C.F.R. Part 5 (Experimental Radio Service). This letter is attached to the above-identified application according to FCC Form 422.

Parallel Wireless seeks an experimental license grant for multiple frequencies, across several 3G and 4G Bands. Parallel Wireless intends to operate fixed and mobile devices, in and around its new laboratories in Nashua, NH. Due to broadened experimental parameters, and relocation of the Parallel Wireless Offices, we now submit a new application with a 2-year term. The proposed term is May 1, 2017 to May 1, 2018.

Parallel Wireless has previously requested and received multiple Special Temporary Authorities (STA) licenses, e.g. 1135-EX-ST-2016 and 1775-EX-ST-2016. This experimental license request is for similar hardware, some of which is no longer experimental. A full listing of Parallel Wireless certified hardware may be found under FCC Grantee Code 2AI7F.

Grant of this experimental license application will enable Parallel Wireless to undertake additional product development, research, and testing that supports its goal to facilitate deployment of mobile broadband networks. The product, and the attendant experimental testing, is relevant to the continued expansion of mobile broadband networks, including methods for increasing capacity, network speed, equipment density, and ease of operation.

The following information is provided to satisfy FCC Form 422, Question 7, a–c.

*a. The complete program of research and experimentation proposed including description of equipment and theory of operation*

The equipment to be experimentally tested consists of the Parallel Wireless fixed and mobile base stations.

The Parallel Wireless equipment constitutes 3G and 4G eNodeB base stations. The base stations connect to the operator network and provide cellular service. In some cases, service is provided to mobile devices using Wi-Fi. Backhaul connections for the eNodeB base stations are provided wirelessly using Wi-Fi or using a conventional modem functionality. Testing of the base stations will entail conventional handsets connecting to the base stations in their typical operating environment.

*b. The specific objectives sought to be accomplished*

The objectives to be accomplished is continued testing of both Parallel Wireless software and hardware. This includes testing of hardware revisions and new software releases required to meet the requirements of, and fix bugs for, Parallel Wireless's customers, various network operators. Furthermore, Parallel Wireless hopes to assess performance in real-world RF environments, and performance of various UEs (user equipments) with the eNodeB base stations.

*c. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of radio art, or is along lines not already investigated.*

In testing the Parallel Wireless hardware and software, Parallel Wireless hopes to additionally further the understanding of 3G and 4G radios and algorithms, research meshing capabilities relevant to 3G and 4G radios, and study integration of multiple radio access technologies with antennas in over-the-air testing.

Parallel Wireless includes this letter as part of the above-referenced application to affirm its understanding of its obligation to conduct operations under this license. Parallel Wireless accordingly agrees that it:

- Will not utilize the license in conjunction with the provision of mission-critical communications.
- Has designated an overall project manager and a "stop buzzer" contact for these experiments, identified in an attachment to this letter.
- Understands that the experimental license will only permit shared use of the subject radio frequencies and that Parallel Wireless may have to coordinate with other licensed entities.
- Affirms that all of its experimental operations will be secondary, such that they must not cause interference to narrowband or broadband operations authorized on a primary basis; and that narrowband and broadband operators authorized on a primary basis have no obligation to mitigate any interference that such primary operation may present to the Parallel Wireless experimental operations.

We welcome any comments or questions from the Commission, either to Bijan Razzaghi, I.P. Counsel at the contact information below, or to Randy Rutherford, Director, Engineering, at [rrutherford@parallelwireless.com](mailto:rrutherford@parallelwireless.com).

Best Regards,

/s/ Bijan Razzaghi

Intellectual Property Counsel  
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## ATTACHMENT

The designated project management and “stop buzzer” contact for the experimental operations to be conducted as proposed under the Experimental License Service Application filed by Parallel Wireless Inc. and pending under File No. 0219-EX-CN-2017 is:

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