



Parallel Wireless, Inc.
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Nov. 21, 2023

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

Form 442 File No: 1802-EX-CN-2023
Form 442 Conf. No.: EL314547

Submitted Electronically via ELS

To Whom It May Concern:

Parallel Wireless, Inc., an innovative company developing next-generation 2G, 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 2G, 3G, and 4G Bands. Parallel Wireless intends to operate at and around an existing cellular tower at or around its headquarters at 100 Innovative Way, Suite 2310, Nashua, NH 03062. The proposed term is Dec. 1, 2023 to Dec. 31, 2024.

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 products, 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. A listing of Parallel Wireless certified hardware may be found under FCC Grantee Code 2AI7F.

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 Parallel Wireless remote radio head (RRH) base stations.

The Parallel Wireless equipment constitutes 2G, 3G, 4G, and 5G eNodeB/gNodeB 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 functionality such as fiber backhaul. Testing of the base stations will entail conventional commercial handsets connecting to the base stations in their typical operating environment. Users (user equipments/cellular phones) that will be connecting to this radio network are test devices from Parallel Wireless. Commercial users from other carriers will not be able to use this network or its services.

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 remote radio head. Specifically, coverage tests and drive tests are anticipated to be performed, for testing, e.g., range, radio link adaptation, radio link stability and throughput, performance under various weather conditions, and stability of the system (hardware and software) under normal operating conditions.

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 4G/5G radios and algorithms, research meshing and baseband offload (logical functional split) capabilities relevant to advanced 4G/5G 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. Parallel Wireless has successfully coordinated such testing for all of its licenses to date.
- 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 Michael Saji, Senior Corporate Counsel at the contact information below, or to Amit M. Joshi – Quality Program and System Test, at amjoshi@parallelwireless.com.



Best Regards,

/s/ Michael Saji

Senior Corporate Counsel
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1-603-367-3607



ATTACHMENT

The designated project management and “stop buzzer” contacts 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. 1727-EX-CN-2023 is:

Amit M. Joshi
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