

**Application on Form 405 for Renewal of Experimental Radio License WC2XUE
File No. 0201-EX-RR-2006**

**DESCRIPTION OF APPLICATION
AND JUSTIFICATION FOR NATIONWIDE AUTHORITY**

Introduction and Background

MeshNetworks has developed a data-centric wireless communication system that provides multimedia services (voice, data, video, and location) to mobile personal Internet devices such as personal digital assistants (PDAs) and laptop computers. Its system achieves this through the use of advanced, patented IP-based peer-to-peer ad hoc networking technologies and high performance wireless modems. Connections are established between users within a neighborhood, metropolitan area, or region via a QDMA LAN/WAN and between users via the public switched telephone network, the wired Internet, and other networks.

MeshNetworks has filed for renewal of the above-referenced experimental license it uses to support its research and development in the 2.4, 2.5, 4.9, 5.8 and 5.9 GHz bands. Grant of the renewal license will allow the company to continue testing new generations of innovative wireless equipment for functionality and customer suitability over the course of the next several years.

MeshNetworks has also filed an assignment application, pending under File No. 0006-EX-AU-2006, to reflect the company's acquisition by Motorola, Inc. Motorola is a leading manufacturer of radio-frequency devices sold in the United States and overseas. It maintains its position in the industry by continually developing new products in response to evolving technologies and consumer demand.

Justification for Nationwide Authority

MeshNetworks uses its experimental authority to display, test, and operate prototype wireless equipment so that it may meet competitive challenges, investor expectations, and user needs. It conducts experimental operations centered primarily at its company headquarters, located at 485 North Keller Road, Suite 250, Maitland, Florida (NAD-83 coordinates: 28-37-55.5 N; 81-23-57.3 W). Fixed units are placed on rooftops, billboards, water towers, cell towers, utility poles, and streetlight poles within 80 kilometers of that address. Mobile units are used by persons in vehicles and by pedestrians that traverse the area in which coverage is provided by the fixed units.

Although MeshNetworks has to date conducted tests primarily at its facilities, it has entered the next phase of its research and development and now plans to demonstrate equipment at other locations in the United States. As it cannot at this time determine the specific locations of such demonstrations, however, MeshNetworks requires authority to operate nationwide (within the United States and its territories). Specifically, MeshNetworks seeks to retain authority to demonstrate and operate products (1) at its own premises; (2) at the premises of entities working under MeshNetworks' authorization in the design and development of the devices and related products; (3) at trade shows or non-residential exhibitions; and (4) at non-residential, business, commercial, industrial, scientific, or medical locations during the design, development, and pre-production stages. Indeed, these operations would be consistent with the

requirements set forth in Section 2.803 of the Commission's marketing rules. 47 C.F.R. § 2.803 (2000); *see also* Revision of Part 2 of the Commission's Rules Relating to the Marketing and Authorization of Radio Frequency Devices, ET Docket No. 94-45, Report and Order, released Feb. 12, 1997, at 11-13, 19-20 ("Marketing Rule Revisions").

In addition, MeshNetworks obtained authority to operate mobile devices at certain end user locations, including residential locations. The nature of the services and devices associated with wireless services—for example cellular and PCS services in particular—typically involve such usage and therefore should be tested at user locations.

MeshNetworks could obtain either an experimental license or special temporary authority for each specific effort to conduct compliance, performance, functionality, and acceptance testing of its prototype products as well as to demonstrate its prototype products. It believes, however, that this approach requiring it to obtain a regular experimental or special temporary authority for each product or experiment before conducting tests and demonstrations does not provide it needed flexibility to adapt quickly to changes in its research plans and prospective customer requirements. Further, the very nature of MeshNetworks' equipment—its ability to quickly set-up ad hoc networks without requiring significant infrastructure—is different from more traditional equipment where a period of time would be required to set up a demonstration. This ad hoc networking capability allows fast set-up at customer locations, which would not be consistent with the time required to obtain individual licenses for each demonstration. Consequently, MeshNetworks sought and was granted a nationwide experimental license under call sign WC2XUE (subject to the noninterference and other conditions described below) to test, demonstrate and operate prototype products on a variety of bands and at temporary locations on a nationwide basis throughout the United States. As such, the request was fully consistent with the FCC's rule changes regarding blanket licenses in ET Docket No. 96-256. See Amendment of Part 5 of the Commission's Rules to Revise the Experimental Radio Service Regulations, ET Docket No. 96-256, Report and Order, 13 FCC Rcd 21391 (1998) ("ERS Streamlining Order").

MeshNetworks submits that the public interest, necessity and convenience are served by the renewal of its nationwide license. As noted at paragraph 12 of the *ERS Streamlining Order*, such action would enhance the company's ability to obtain information needed to ensure that the products it designs will accommodate and promote new technologies and services. It also allows MeshNetworks to reduce the administrative burdens imposed upon the company and upon the Commission associated with the processing of hundreds of specific initial applications for regular licenses and requests for special temporary authority or their renewals when needed for tests, demonstrations or trade shows.

Operational Safeguards

As MeshNetworks stated in its narrative underlying the original application, submitted under File No. 0079-EX-ML-2003, and which it affirms here, none of the prototype units would be marketed to the public under this experimental license. It would not, without appropriate additional FCC authority, conduct market studies under its license or unconditionally market, sell, or lease any prototype equipment to the public or to end-users. Consistent with that policy, MeshNetworks labels the equipment conspicuously as follows:

This device has not been authorized as required by the rules of the FCC. This device is not, and may not be, offered for sale or lease, or sold or leased until authorization is obtained.

In addition, MeshNetworks informs participants in the experiments that operation is for experimental purposes only and may be cancelled at any time. To that end, MeshNetworks advises entities using the equipment that permission to operate the equipment has been granted under experimental authority issued to MeshNetworks, is strictly temporary, and may be canceled at any time. It also informs entities that operation is subject to the condition that the equipment may not cause harmful interference.

In any event, MeshNetworks submits that its experimental operations are unlikely to cause interference. First, MeshNetworks plans to coordinate its operations with any existing licensees in the areas of proposed operation as appropriate. Indeed, it expects that many of its experiments will be conducted on behalf of and with the cooperation of existing licensees. Second, MeshNetworks intends to monitor use of the relevant frequencies before commencing transmissions, and it will not operate if the frequencies are in use.

Moreover, after the experimentation is completed, MeshNetworks recalls and recovers all devices that are not in compliance with FCC regulations. If any different treatment becomes necessary during the course of its experimentation, MeshNetworks would seek separate and additional authority from the agency.

As another safeguard supporting grant of nationwide authority, MeshNetworks limits the number of prototype devices that are operated at any given time. As stated in its underlying application, many of the consumer products MeshNetworks proposes to test are typically sold in quantities of hundreds of thousands. For example, the potential market for its products include the entities that service over one hundred fifty million consumers that subscribe to cellular and cellular-like services in the United States. Nevertheless, as specified as a condition on its current license, MeshNetworks operates not more than 200 unapproved fixed and mobile units at each of not more than five sites at any given time for demonstration purposes. In other words, at no time would MeshNetworks operate more than 1,000 fixed and mobile units at its facilities in Maitland, Florida, and no more than 200 fixed and mobile units at each of five or fewer locations

nationwide. It will limit the number of units to the minimum necessary to evaluate the system, however. If required, MeshNetworks would seek separate and specific authority if additional units or operating authority were needed.

As a final safeguard, which is consistent with the conditions specified on its current license and with the *ERS Streamlining Order*, Motorola will file progress reports notifying the FCC of the details of its operations.

Conclusion

MeshNetworks submits that renewal of its license on a nationwide basis would serve the public interest, convenience and necessity, as it would allow the company to enhance its ability to continue its on-going efforts to develop innovative products to support the information needs of the public.

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