

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Ericsson Wireless Communications, Inc.	)	
	)	Call Sign: WC2XPR
Request for Modification of Experimental License	)	
To Allow Development of New Wideband	)	
Technologies for Commercial and Private Wireless	)	
Products.	)	

To: Chief, Experimental Licensing Branch

Request for Modification of Experimental License

Background

Since 1876, Telefonaktiebolaget LM Ericsson ("Ericsson") has been active worldwide in the development of telecommunications products. Today Ericsson operates in more than 140 countries and employs over 50,000 people. Ericsson's dedication to cutting-edge R&D makes it a world leader in mobile infrastructure and mobile Internet, as evident by the fact that Ericsson holds over 16,000 patents with an additional 15,000 patent applications pending. Four out of every 10 mobile calls are handled by Ericsson equipment. The ability to conduct over-the-air research and development is critical to Ericsson being able to maintain its lead in wireless technologies.

The instant license was initially issued on November 15, 2001. The justification for the original license was to permit development of CDMA2000, a 3rd Generation solution based on the TIA/EIA-95 standard. The license has been, in fact, used for such development. During the four years since the license was first issued, however, new

technologies have begun to emerge. Although CDMA still forms the basis of many of these new technologies, much wider bandwidths are required for the new technologies (collectively referred to as “WCDMA”). Four years ago, 1.25 MHz bandwidth was considered sufficient. Today, many of the new technologies require bandwidths up to 5.0 MHz.

The purpose of this application is to add a new emission designator to each of the authorized bands in the license. No new frequencies are being requested. Ericsson has been cautious to assure that its experimental operations have caused no interference to other licensed users in the bands. No interference complaints have been received in the four years that the current license has been active. Ericsson will continue to exercise such caution when experimenting with newer technologies with bandwidths up to 5.0 MHz.

Ericsson additionally remains mindful that the experimental test site is within 12.8 kms of the coordinates listed in Section 1.924(b) of the Commission’s rules for the Table Mountain Radio Receiving Zone. All transmitting antennas used at the site will be pointed away from the Table Mountain facility and Ericsson will assure that the power flux density over the Table Mountain facility does not exceed the values listed in Section 1.924(b)(1) of the rules.

Continuing Need for the Experimental License

The FCC Rules and Regulations require that most transmitting equipment be licensed prior to placing it on the air. Under the rules, carriers are permitted to apply for developmental licenses under the specific rule parts for which they are licensed as carriers. For example, Cellular carriers can apply for developmental authority under 47

C.F.R. § 22.401. Developmental licenses generally permit carriers to conduct research related to propagation, interference, or development of new technologies. Such developmental authorizations are not available to companies such as Ericsson, as it is a manufacturer, not a carrier.

Part Five of the Commission's Rules and Regulations provides that authorizations in the Experimental Radio Service can be issued to "persons qualified to conduct experimentation utilizing radio waves for scientific or technical operation data directly related to a use of radio not provided by existing rules."¹ The rules further provide that authorizations can be granted for any of the following:²

- (a) Experimentations in scientific or technical radio research.
- (b) Experimentations under contractual agreement with the United States Government, or for export purposes.
- (c) Communications essential to a research project.
- (d) Technical demonstrations of equipment or techniques.
- (e) Field strength surveys by persons not eligible for authorization in any other service.
- (f) Demonstration of equipment to prospective purchasers by persons engaged in the business of selling radio equipment.
- (g) Testing of equipment in connection with production or regulatory approval of such equipment.
- (h) Development of radio technique, equipment or engineering data not related to an existing or proposed service, including field or factory testing or calibration of equipment.
- (i) Development of radio technique, equipment, operational data or engineering data related to an existing or proposed radio service.
- (j) Limited market studies.
- (k) Types of experiments that are not specifically covered under paragraphs (a) through (j) of this section will be considered upon demonstration of need for such additional types of experiments.

Ericsson believes that, as a manufacturer, it continues to qualify for an Experimental Radio License under most, if not all, of the above criteria. In order to develop high

¹ 47 C.F.R. § 5.51(a)

² 47 C.F.R. § 5.3

quality wireless communications equipment, Ericsson must have the ability to study the operation of that equipment in a real-world environment. That necessarily means the ability to put the equipment on the air. Ericsson believes that an authorization in the Experimental Radio Service is the only vehicle available to it that will permit required on-air testing of new products.

Emissions

The current implementation of WCDMA utilizes phase modulation and contains a minimum of three digital modulation channels in a 5 MHz bandwidth. Although emission designator “5M00G7W” would appear to characterize the current modulation scheme, Ericsson is requesting a somewhat less restrictive emission designator. Ericsson is requesting “5M00GXW.” This emission designator will allow Ericsson to experiment with a number of different technologies without having to modify the experimental license for each new modulation scheme.

Conclusion

Ericsson has a continuing need for an authorization in the Experimental Radio Service to allow it to develop new wireless telecommunications equipment and to test such equipment in an over-the-air environment. Such testing is critical to Ericsson’s being able to continue to lead the world in the development and production of new wireless technologies. The authorization also needs to be flexible enough to allow Ericsson to test new technologies quickly, without the requirement to modify the license for each new modulation scheme. Ericsson will utilize such authority cautiously to avoid

causing interference to any other authorized radio service licensee or to the Table Mountain facility.

For the above reasons, Ericsson respectfully requests that the Commission grant the application as submitted. If additional information is required, please contact Doug Sharp at (303) 473-6833 for technical details. Other questions can be directed to our regulatory consultant, Mr. Ralph A. Haller³, at (717) 334-7991, or to me.

Respectfully submitted,

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³ Ralph A. Haller is president of Fox Ridge Communications, Inc., 122 Baltimore Street, Gettysburg, PA 17325, phone (717) 334-7991, fax (717) 334-5656, or email at rhaller@frci.com. Prior to joint Fox Ridge, Mr. Haller held several positions with the Federal Communications Commission, including chief of the Private Radio Bureau.