

Ericsson Inc. Application 0655– EX-PL-2007
EXHIBIT 1

Response to Question 7: Purpose of Experiment

Ericsson Inc. is a world leader in telecommunications. Ericsson has a long tradition of innovation that is founded in its strong commitment to the research and development of wireless technologies. To build on its engineering and research expertise, Ericsson established the Advanced Technology Lab at its U.S. headquarters in Plano, Texas. At its Advanced Technology Lab, Ericsson investigates the latest technologies in wireless and broadband communications.

Today, wireless technologies are advancing rapidly. Operators, consumers, and government organizations are searching for ways to provide users with higher bandwidth capabilities in mobile environments. What qualified as considerable bandwidth just yesterday is insufficient in many respects today. The number of users as well as the bandwidth required for public safety applications, consumer services, and enterprise services are spurring the search for more advanced and efficient technologies that are capable of satisfying ballooning bandwidth needs. Ericsson's Advanced Technology Lab plays a key role in this effort.

Ericsson has already started to develop extremely high bandwidth capable wireless networks that are focused on mobile users. For example, Ericsson is a principal contributor to Long Term Evolution (LTE), the latest development in the 3GPP technology family, which promises very high data rates, reduced latency, high spectral efficiency, and spectrum flexibility. At its Advanced Technology Lab, Ericsson proposes to test an LTE system that can provide mobile users with up to 150MB of data connectivity.

Ericsson has multiple research goals for its LTE test bed between today, and when LTE systems will be commercially deployed. LTE is expected to come to market in 2009 and to be firmly incorporated into existing and evolving networks by 2012. Further, analysts predict that highly developed technologies, like LTE, will capture substantial market share.

To evaluate the various LTE deployment scenarios and the system requirements, Ericsson proposes the following multistage investigation program:

- Stage 1 - Using a non-radiating connection (e.g. Wired cable between base station and mobile device), Ericsson proposes to verify bandwidth and simulate fading and interference conditions for up and down link connectivity;
- Stage 2 - Using a very low power radiating condition inside its Advanced Technology Lab facility, Ericsson proposes to explore actual communications connectivity: 1) at multiple bandwidths (up to 20MHz for each Uplink and Downlink FDD Channel); 2) at changing power levels (up to 1W EIRP); and 3) when various interference levels are introduced;

- Stage 3 - Using up to 5W EIRP, Ericsson proposes to evaluate true environmental fading and transmission issues in an open environment such as through drive testing in off-peak hours. Such testing would focus on actual throughput at various bandwidths and power levels (Maximum 5W EIRP), which will have been defined, after exploration of system capabilities, at the levels deemed necessary to meet communications and applications requirements;
- Stage 4 - Using both the indoor and outdoor system, Ericsson proposes to evaluate the effects of SISO and MIMO configurations ranging from 1x1 to 4x4 streams;
- Stage 5 - Using the outdoor system, Ericsson proposes to evaluate the improvements and impacts of using Beam Steering capabilities for mobile environments; and
- Stage 6 - Ericsson proposes to test throughput and to conduct above described test scenarios using various bandwidth configurations such as 20 MHz channels, 10 MHz channels, 5 MHz Channels, and 2.5 MHz channels.

At the start, Ericsson proposes to use an omni directional antenna. However, throughout the experiment, Ericsson may, from time to time, deploy a directional antenna in order to compare the properties and functionality of each transmission arrangement. Any directional antenna used during testing would have the following values: (a) a beam width of 170 degrees, (b) a 60 degree orientation in the horizontal plane at the half power point, and (c) a 50 degree orientation in the vertical plane at the half power point.

Ultimately, Ericsson intends to make the information it learns through the course of its investigation available to internal product units and customer sources. In addition, Ericsson anticipates serving as a test facility to demonstrate how LTE technology performs in a live environment to media and government organizations.

The proposed wireless communications experiment and the associated evaluation of LTE deployment considerations and system optimization will create significant benefits for the public at large, and has the potential to lead to the more efficient utilization of the radio spectrum. In addition, the proposed experimentation will lead to the further understanding of system design considerations and technology capabilities as well as to the development and expansion of evolved applications and technologies. Further, Ericsson Inc. believes that its planned course of investigation will provide significant public benefit and will contribute to further understanding and advancement of radio communications.