

Exhibit 1

Introduction

AT&T requests an experimental license to perform developmental testing to evaluate the technical and engineering data with personal communications systems in a wireless PBX and public micro cell environment to improve the quality of service for future AT&T wireless products.

Description of the Research

The purpose of the tests is to evaluate the performance of wireless in-building voice and data communications equipment. The key measurements will focus on measuring the robustness of RF based voice communication (digital encoding) in the following micro cell environments:

- an "in-building" private network (PBX)
- in-building to outdoor
- outdoor

The intent is to use this research to improve the quality of service for future in-building wireless products.

The primary objectives are as follows:

- Test PCS equipment produced by various manufacturers to evaluate performance.
- Evaluate equipment durability.
- Research propagation.
- Test handoff functionality.
- Evaluate traffic and capacity issues.
- Evaluate interference shortcomings.
- Measure data error vs path impairments.
- Investigate battery life and power budget.

The wireless base stations and portable phones will be used to initiate calls through a PBX to evaluate the wireless system performance. The intent is to evaluate the robustness of the wireless communication link.

One purpose of this research is to evaluate the performance of wireless telephony hardware in the 864-868MHZ band.

The equipment to be evaluated is a multi-line indoor wireless telephone communication system capable of supporting multiple simultaneous telephone calls that can be initiated or terminated on hand held portable wireless terminals. The system operates as an adjunct to a PBX by providing mobile wireless communications in in-building environments. The wireless controller interfaces to the PBX via tip/ring wired telephone lines. The system consists of the following basic hardware elements:

Wireless Controller - supports up to 50-100 users with
handoffs between base stations

Base Stations - supports multiple simultaneous voice channels

Wireless Terminals - small pocketable wireless terminals provide
mobile users with voice communications
via PBX access

Wireless Data Modem - small wireless modem provides data interface
for mobile users via PBX access

The portable handsets communicate to the base stations using RF radiation via a standard agreed on protocol. Users are able to have continuous conversations as they walk throughout the system coverage area. Continuous conversations are handed-off between base stations as the user moves in the coverage area of another base station.

Specific Objective of the Research and Experimentation

The system will be evaluated for its robustness and quality of operation on AT&T premises, simulating, in-building, in-building to outdoor, and outdoor operation in small cells. The key areas that will be evaluated are:

- Voice quality as a function of radiated power and distance from the antenna in buildings of different construction materials and in buildings of different dimensions.
- Impact of external noise sources (industrial equipment) on signal quality. For example, how does the signal quality weaken ?
- Voice and data quality as a function of antenna location.
- Impact of multiple simultaneous users on voice quality.

How the Experiments will Contribute to the Development, Expansion and Utilization of the Radio Art

This research will help develop a better understanding of the robustness of wireless PBX adjunct based systems. The goal is to improve the reliability and quality of future wireless systems by developing a better understanding of the operation of existing systems.

Locations of Sites for Experiments and Equipment to be Installed

As per Item 5 of the application, the following information is provided.

Wireless "in-building" PCS experiments will be conducted at AT&T facilities using equipment developed by Shaye and other vendors. ~~AT&T~~