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**TELESIS TECHNOLOGIES
LABORATORYSM**

A Pacific Telesis Company

August 21, 1998

Mr. James Burtle, Chief
Experimental Licensing Branch
Federal Communications Commission
2000 M Street, N.W.
Suite 281
Washington, D.C. 20554

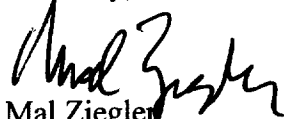
Dear Mr. Burtle,

*Re: Progress Report for Experimental License
Call Sign KM2XOF File Number 5022-EX-ML-95*

On behalf of Telesis Technologies Laboratory, please find enclosed two copies of its "Fourth Progress Report" covering activity for the time period from February 1998 through August 1998. This report is provided in compliance with the conditions set forth in the Experimental Radio Station Construction Permit and License granted on February 8, 1996. An application for renewal was filed on January 26, 1998, and is still pending action (file number 5317 EXR 98).

Please stamp and return the provided copy of this transmittal letter to confirm your receipt. Please contact Link Brown on (202) 326-8890 or me on (510) 227-7432 should you have any questions or require additional information concerning this matter.

Sincerely,



Mal Ziegler
e-mail mziegler@tri.sbc.com

Enclosure

Experimental License Progress Report

August 1998



**TELESIS TECHNOLOGIES
LABORATORY_{SM}**

A Pacific Telesis Company

One of the SBC Companies

Experimental License Progress Report

1. Current Trial Activity

This report provides a brief description of TTL's activities since the last progress report - February 1998. The trials in progress include:

- Investigation of various technical issues associated with point-to-point propagation of MMDS digital signals over a 40-mile path as well as point to multi-point transmission of the same signal over a variety of path lengths. The main item of interest being considered is the correlation of the fading phenomena.
- Field verification of the effectiveness of various shielding methodologies to improve the interference characteristics of the receiver portion of a wide-band repeater system.

1.1 Testing Digital MMDS Channel Fading

TTL has been investigating propagation including fading of digital MMDS channels. These investigations have been mainly concerned with the fading of a forty (40) mile, point-to-point, path ("spot beam"). This in conjunction with measurements of the same signal originated through a multipoint antenna. The main concern is the integrity of the "spot beam" signal as it is the signal source for an MMDS repeater. The difference this and most other fading studies we are familiar with is the broadband nature of this signal. The signal of concern is composed of thirty-one (31) 6 MHz channels. We are also comparing the fading on this wide-band, "spot beam" to the identical signal being transmitted using traditional MMDS antennas (point-to-multipoint).

Since these signals are being transmitted on the same path effects of low signal level on-pole and off-pole signals on the "spot beam" as well as the traditional MMDS signal must also be studied as well as associated methods for minimizing these. The related subjects of multi-path and fade margins will also be considered on this digital signal.

All of this is part of the Telesis' attempt to test a digitally modulated, compressed, video, MMDS signal through a repeater, as discussed in a previous Progress Report.

1.2 Wideband Shielding Effectiveness

TTL has been experimenting with a variety of methods for shielding receivers from a wide-band digital signal. The MMDS repeater, discussed above is composed of thirty-one (31) receivers and thirty-one (31) transmitters. Each transmitter-receiver pair is on the same frequency and in close proximity to each other. The high power from the transmit antenna is prone to find the very sensitive receiver and create what can interrupt the signal or just act like noise. A simple case of desired to undesired signal that must be controlled. We are testing a wide variety of methods to minimize the interfering effects. These have or will include equipment physical location, use of RF absorption material, use of RF shielding material, etc. The results of these studies will be included in our next progress report.

Telesis Technologies Laboratory (TTL), a subsidiary of Pacific Telesis Group, an SBC company, is filing this fifth semiannual progress report pursuant to the terms of an experimental license issued February 8, 1996 (Call Sign KM2XOF, File Number 5022-EX-ML-95). The application for renewal was filed on January 26, 1998, and is still pending action (file number 5317 EXR 98). This report covers activities since our February, 1998 report.

Over this period TTL, in association with Pacific Bell Video Services personnel, has continued to pursue investigation of the technical propagation issues associated with delivery of multi-channel digital video service. We plan further experimentation based on the conclusions drawn from these reports. Additionally, other projects, in other parts of the spectrum, are presently under internal review.
