

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of

Amendment of the Commission's  
Rules to Establish New Personal  
Communications Services

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## UTAM REPORT TO THE FCC

July 1, 1997

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**UTAM REPORT TO THE FCC**

UTAM, Inc. ("UTAM"), the frequency coordinator for unlicensed personal communications service ("UPCS"), herewith submits its fifth report on implementation of the UTAM Plan for Financing and Managing 2 GHz Microwave Relocation.<sup>1</sup> As detailed below, UTAM has continued to fulfill its obligations to make significant progress in facilitating the deployment of UPCS devices. As stated in earlier reports, the successful deployment of UPCS products continues to increase quarter over quarter with additional manufacturers having completed the steps necessary to begin product deployment. UTAM is pleased with the procedures it has put in place for deploying UPCS products as well as the development of the UPCS market. With the increase in the number of manufacturers deploying products and the significant increase in products actually deployed, its procedures play a critical role in allowing UTAM to manage the deployment

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<sup>1</sup> UTAM Plan for Financing and Managing 2 GHz Microwave Relocation, GEN Docket No. 90-314 (filed Aug. 1, 1994) [hereinafter "UTAM Plan"]. On April 19, 1995, the Commission formally approved UTAM as the UPCS frequency coordinator. As part of its responsibilities, UTAM was charged with submitting biannual progress reports to update: (a) the financial and band-clearing plans; (b) projections of future band clearing; (c) the extent of incumbent microwave relocations; (d) the extent of UPCS device deployment; and (e) any difficulties encountered in implementing the UTAM Plan. Amendment of the Commission's Rules to Establish New Personal Communications Services, 10 FCC Rcd 7955 (1995) (Fourth Memorandum Opinion and Order).

of devices while protecting incumbent microwave licensees' operations from interference.

## I. EXECUTIVE SUMMARY

UTAM continues to meet the objectives established by the Commission in bringing UPCS systems to the public. During the latest reporting period, the processes and procedures put in place to allow the deployment of UPCS devices have worked well and continue to be readily adhered to by manufacturers of UPCS devices.<sup>2</sup> UTAM will continue to monitor these processes and procedures and make any refinements deemed necessary.

Since UTAM filed its fourth report with the Commission, UTAM is pleased to report that the following tasks have been accomplished:

- ▶ Additional manufacturers have begun deploying products in the UPCS band and overall product deployment continues to grow at an increased rate.
- ▶ UTAM has certified additional unlicensed PCS devices and systems in accordance with UTAM's Disablement Test Suite and Location Verification Process.
- ▶ In 1996, UTAM witnessed a four fold increase in volume of deployed products over the previous year and 1997 deployments to date are significantly ahead of last year's deployments for the same period.

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<sup>2</sup> Under FCC rules, parties must execute a signed Subscriber Agreement with UTAM, receive UTAM certification and obtain FCC authorization before marketing or installing a UPCS product or device. See 47 C.F.R § 15.307.

- ▶ With the increased deployment of UPCS products, an increasing diverse number of industries are beginning to realize the benefits of these products.
- ▶ UTAM has accelerated the Zone 1 Prior Coordination Notice (PCN) process issuing 240 PCNs within the previous 6 months and now has converted approximately 80% of the counties scheduled for Zone 1 conversion in the 1920 - 1930 GHz Isochronous band and approximately 68% of the counties scheduled for Zone 1 conversion in the 1910 - 1920 GHz Asynchronous band.
- ▶ UTAM has conducted a nomadic device study to determine the feasibility of deploying nomadic devices without causing interference to the microwave incumbents.
- ▶ UTAM has initiated annual audits of UPCS product deployments and clearing fee payments to insure the integrity of its Data Base Management System.

## **II. UPCS APPLICATIONS AND PUBLIC BENEFITS**

### **A. Applications**

Given the number of UPCS systems deployed to date, the applications and benefits of unlicensed products are now being realized. As these deployments evidence, a wide number of industry segments have demonstrated an effective use of wireless within their everyday business activity. Examples of current applications include:

- ▶ In school systems, teachers have access to a telephone in their classrooms or elsewhere on the school campus, allowing them instantly to report security problems or request medical assistance;
- ▶ Hospitals have equipped doctors and nurses with wireless telephones so that they can communicate directly from the patient's bedside rather than

paging the doctor from the nurses' station and waiting to receive a call from the doctor. Hospitals have also equipped operating room set-up staff with wireless telephones and have cut room preparation time significantly, allowing the hospitals to perform more operations without the need for additional operating rooms;

- ▶ A major university uses a wireless PBX system to provide wireless telephone service to students attending executive seminars;
- ▶ Prison guards are immediately able to request assistance in the event of an emergency;
- ▶ Customer service representatives in both large and small companies are able to seek assistance from other employees and answer customer questions without being limited to one location;
- ▶ Facilities and maintenance crews are able to directly receive calls requesting assistance without the need of a central dispatcher to relay calls;
- ▶ Warehouse staff are able to communicate directly with those placing service orders without the need to locate a conventional telephone and therefore have seen an increase in customer satisfaction;
- ▶ A New York convention center uses a wireless PBX system to provide wireless telephone service to attendees wherever they are located within the center; and
- ▶ Businesses are using wireless PBX systems to allow employees the ability to place or receive telephone calls as they move within an office building, whether they are in a conference room, another employee's office, or in their own office.

#### **B. Public Benefits**

Because of the manner in which the UPCS band has been authorized for use, as well as the processes that have been put in place by UTAM and other entities, the

benefits to the public that were intended with the allocation of unlicensed spectrum are being realized.

These benefits include:

- ▶ The availability of spectrum that does not require any air time charges making the above applications cost effective;
- ▶ The flexibility of UPCS products encourages innovation and the development of new technologies;
  - These products offer unparalleled flexibility and functionality by allowing users to install or expand their systems without the need for expensive internal wiring;
  - They increase efficiency in the workplace by eliminating delays in communication among employees; and
  - They encourage economic growth and increased job opportunities.

### **III. DEPLOYMENT ACTIVITIES**

UTAM is again pleased to report that the procedures developed to facilitate the deployment of UPCS devices continue to be effective and are being readily adhered to by manufacturers. In an ongoing effort to effectively streamline its operations and to respond to suggestions made by participating manufacturers and others, UTAM will continue to evaluate and refine these procedures, as needed.

#### **A. Coordinatable Equipment Certification**

UTAM has fully implemented the certification procedures necessary to ensure

that UPCS equipment will comply with the FCC's mandated disablement requirements. By requiring that installed UPCS equipment remain in its pre-coordinated location or cease operation, the Location Verification Process and Disablement Test Suite ("LVP") ensures that equipment deployed prior to full band clearing will not cause harmful interference to microwave incumbents.

Under UTAM's contract with Communications Certification Laboratory ("CCL"), an independent laboratory specializing in certification, manufacturers' UPCS equipment is tested for compliance with all applicable LVP requirements. In addition to those manufacturers currently deploying UPCS products, additional manufacturers are undergoing this certification process, indicating a growing number of manufacturers intend to deploy products in the UPCS band.

#### **B. UPCS and Microwave Database Management System**

Since UTAM filed its fourth report with the Commission, the UTAM Database Management System (DBMS) continues to perform as designed. Members are complying with the requirements set forth in the Subscriber Agreement to update the database when products are sold and installed, which allows UTAM to monitor market development, aggregate power generation and identify potential interference developments. UTAM members have also been using the DBMS as a product sales

tool to determine whether a particular customer's location is in a Zone 1 or Zone 2 county.<sup>3</sup>

UTAM is in the process of conducting its annual audit of subscriber members' deployment records to maintain the integrity of the UTAM DBMS. This audit is intended to ensure that UTAM's records accurately track product deployments and that data base monitoring mechanisms are operating as intended. UTAM also continues to review the performance of the DBMS and to upgrade database capabilities as required. For example, based on feedback from users, the DBMS is currently undergoing modifications to enhance its user interface, generate a number of new management reports, as well as provide on-line notification to users of outstanding records and status of pending installations.

### **C. Prior Coordination Notice ("PCN") Procedure**

As noted in earlier reports to the Commission, UTAM has completed the classification of counties in the United States based upon a two-zone classification system. Zone 1 counties are those counties distant from existing microwave operations, which permit deployment of UPCS products up to a pre-determined and "pre-coordinated" power limit. In contrast, Zone 2 counties have existing microwave operations either nearby or in the county and, as a result, UPCS product deployments

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<sup>3</sup> See section C - Prior Coordination Notice Procedure below for Zone 1 Zone 2 definition.

cannot occur within their boundaries until a site-specific coordination has been successfully completed.

UTAM has directed its Prime Frequency Coordinator, Comsearch, to accelerate the issuance of PCNs in order to increase the number of counties classified for "pre-coordinated" deployment. Comsearch issued a total of 240 PCNs for Zone 1 candidate counties during the most recent reporting period, bringing the total number of Zone 1 PCNs issued to 968 Zone 1 counties in the 1920 - 1930 GHz Isochronous band and 826 counties in the 1910 - 1920 GHz Asynchronous band. A Zone 1 PCN notifies appropriate microwave incumbents that UTAM has declared a county to be a Zone 1 candidate and that the county will be "pre-coordinated" for a particular power level as determined in accordance with current TIA Bulletin 10 guidelines. UTAM plans to continue accelerate the issuance of PCNs and, at minimum, will issue an additional 200 PCNs in Zone 1 candidate counties in the second half of 1997.

#### **D. Product Deployment**

The current reporting period continues to show an increased pace of product deployment reflecting a growing demand for such products. In 1996, deployments of UPCS products were four times greater than the number of units deployed in 1995. Through the first half of 1997, deployments are significantly ahead of last year's pace and growing month over month, indicating significant usefulness in products utilizing the UPCS band. UTAM continues to coordinate the deployment of these unlicensed

devices and to collect the associated clearing fees. As more fully detailed in the UTAM Plan filed with the Commission, UTAM will use these fees to finance the relocation of microwave incumbents from the spectrum allocated to UPCS.

#### **E. Nomadic Device Deployment**

In UTAM's last report to the Commission it indicated that it had formed a subcommittee to assess the feasibility of a rapid deployment of nomadic devices. In conjunction with Comsearch, the subcommittee evaluated incumbent microwave receivers within the contiguous United States, Alaska, Hawaii, and the U.S. territories of Guam, Puerto Rico and the Virgin Islands to determine which receivers would suffer the greatest risk of interference from potential nomadic devices. The study suggests that alternative nomadic deployment models will need to be considered, or additional relocation activities must take place before such deployments are feasible. UTAM will re-evaluate the potential for the deployment of these devices next year and anticipates that feasibility will improve after additional microwave links have been removed.

#### **IV. RELOCATION ACTIVITIES**

The successful deployment of UPCS products ultimately depends on the relocation of existing microwave incumbents. In order to effectively facilitate such relocation, UTAM has identified the incumbents that currently occupy the unlicensed band, as well as the respective PCS licensees of the frequencies of the co-channels that

share the unlicensed band. Since the last report, UTAM has divided the U.S. into seven geographic regions targeted for clearing. This regional approach will allow UTAM to focus its resources on a select number of links to be relocated, rather than trying to address the entire U.S. at one time. It will also open up large geographic areas of the U.S. for manufacturers to deploy products readily without the need for frequency coordination, simplifying the sales and implementation processes.

**V. OPERATIONAL, ORGANIZATIONAL AND FINANCIAL STATUS**

**A. Operational Status**

As previously noted, UTAM continues to successfully use the operational procedures that it put in place to oversee the deployment of UPCS devices and coordinate deployment with incumbent microwave systems. UTAM will continue to evaluate these processes and refine them as necessary.

UTAM has also completed the relocation of its offices from Washington, DC to Bridgewater, NJ minimizing its operating expenses. UTAM's 800 contact number (1-800-429-UTAM) will remain the same.

**B. Membership and Staffing**

The voting membership consists of Ericsson, Inc., Harris Digital Telephone Systems, Lucent Technologies, Motorola, Inc., NEC America, Nortel, Omnipoint Corporation, Siemens Business Communications Systems, Inc., SpectraLink Corporation and Tadiran Electronic Industries, Inc. In addition, UTAM also has numerous associate members<sup>4</sup>. UTAM is confident that additional manufacturers and distributors will become voting members with the increased levels of UPCS product deployment.

UTAM's subcommittee structure continues to provide the Board of Trustees with additional operational support. Subcommittee membership is open to any interested party, and several member and non-member companies continue to participate actively in this regard. A list of the current UTAM subcommittees is provided in Appendix B.

**C. Funding**

UTAM has continued to collect clearing fees from the deployment of UPCS products. The actual and forecasted growth in clearing fees resulting from increased deployments indicates that these fees and UTAM's current assets will keep UTAM in a sound financial position into the foreseeable future.

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<sup>4</sup> A complete list of UTAM Board of Trustees and Associate Members is attached as Appendix A.

## **VI. OUTREACH ACTIVITIES**

UTAM has continued its efforts to maintain contacts with other PCS-related industry groups in order to remain current on industry developments. UTAM continues to discuss its participation in the FCC's cost sharing process with representatives of the PCIA and ITA clearinghouses. Through its members, UTAM also participates in other industry-wide seminars and trade shows to increase the awareness of the market for UPCS devices. Most recently, UTAM has also participated actively in the MultiMedia Telecommunications Association's (MMTA) trade show and the FCC's Forum on Unlicensed Spectrum use. In addition, UTAM continues to answer inquiries regarding its objectives and processes and provides information to interested parties as necessary.

## **VII. CONCLUSION**

UTAM is pleased to report that the framework that has been established for the deployment of unlicensed devices continues to work successfully. The continued growth of UPCS sales, the continued adherence by manufacturers to UTAM's operational processes and UTAM's continued efforts to prevent interference to microwave incumbents indicate that UTAM is maintaining a proper course for fulfilling its

overall charter. UTAM will continue to monitor and refine its operations to meet the dynamics of the UPCS market and looks forward to the challenges that lie ahead.

Respectfully Submitted,

UTAM, INC.

By:



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July 1, 1997

## APPENDIX A

### UTAM BOARD OF TRUSTEES AND ASSOCIATE MEMBERS

#### VOTING MEMBERS

Ericsson, Inc.- Guy Campbell \*\*  
Harris Digital Telephone Systems - David Hochman  
Lucent Technologies, Inc. - Sandy Abramson (*President*) \*\*  
Motorola, Inc. - Robert Hayes \*\*  
NEC America - Paul Weismantel (*Vice-President*) \*\*  
Northern Telecom - Ron Cross (*Treasurer*) \*\*  
Omnipoint Corporation - Anna Miller \*\*  
Siemens Business Communications Systems Inc. - Peter Kozdon \*\*  
SpectraLink Corporation - Ben Guderian (*Secretary*) \*\*  
Tadiran Telecommunications Inc. - Yaron Shaul\*\*

\*\* Member of the Board of Trustees

#### UTAM ASSOCIATE MEMBERS (1996 and 1997)

Alcatel Network Systems	American Association of Railroads
Bell South Personal Communications	Columbia Spectrum Management
Communications Certification Laboratory	CTP Systems
Comsearch	Digital Microwave Corporation
Harris Corporation	Nitsuko America Corp.
Industrial Telecommunications Association	Intel
Iwatsu America, Inc.	Mitel Corporation
Nokia Mobil Phones	Novatel
NTT America	Pacific Telecom
Panasonic	Path Tel, Inc.
Personal Technology Services	Radio Dynamics Corp.
Redcom Laboratories	Rockwell International
Southwestern Bell	SPC Electronics
Sprint	Tadiran Electronics
Tenneco Energy	U.S. West
UTC	

## APPENDIX B

### UTAM SUBCOMMITTEES

The following identifies the UTAM subcommittees and the issues over which each has oversight responsibilities. Parties interested in participating in any of the subcommittees should contact Mike Stima at (908) 526-3636.

**Certification Subcommittee.** The Certification Subcommittee is responsible for addressing issues relating to UTAM's Certification Procedures and Disablement and Location Verification Process ("LVP").

**Database Subcommittee.** The Database Subcommittee is responsible for the continued operation and enhancement of UTAM's database management system.

**Operations Subcommittee.** The Operations Subcommittee is charged with developing and executing UTAM's policies and operational procedures for microwave relocation. It also works with the Prime Frequency Coordinator on coordination activities and the development and implementation of UPCS procedures. Current tasks include considering cost sharing issues and working with the Market Subcommittee to recommend microwave link relocation priorities.

**Market Subcommittee.** The Market Subcommittee is responsible for modifications to the clearing fee collection mechanism, the prioritization of microwave links for the relocation of microwave links, and UTAM's outreach activities. It also is the forum for handling deployment-related concerns and for coordinating UTAM publicizing activities.

**Nomadic Device Evaluation Subcommittee.** The Nomadic Device Evaluation Subcommittee is responsible for reviewing issues relating to nomadic device deployment and determining the action required to facilitate early deployment of such devices.