

Lucent Technologies
Bell Labs Innovations



To: Timco Engineering Inc.
Telecommunication Certification Bodies
849 NW State Road 45
Newberry, Florida 32669

From: Lucent Technologies Inc.
67 Whippany Road
Whippany, NJ 07981

February 25, 2005

Subject: Application for Certification of FCC ID: AS5ONEBTS-06

Dear Examiner:

In accordance with Parts 2 and 24 of the Commission's Rules and Regulations, we are submitting herewith, statements and supporting data to show compliance with the requirements of the Commission for a FCC Class II Change of the Product Certification of the Lucent Technologies Corp **PCS 2 Power Amplifier Module**, henceforth **P2PAM**, under **FCC ID: AS5ONEBTS-06**, for use in Domestic Personal Communication Services. This **P2PAM** is used in Lucent Technologies Corp **FLEXENT®** Land Station Cellular system using Code Division Multiple Access (CDMA) technology, for use in Domestic Personal Communication Services.

The **P2PAM** was previously filed and granted as a single carrier CDMA amplifier on 10/16/2004 under **FCC ID: AS5ONEBTS-06**. An FCC Class II change was applied for and granted on 8/04/2004 to add the two amplifier bridged Multi Carrier Amplifier (**MCA**) operation for one to three carriers in all PCS Blocks with a CDMA signal. This Class II application for the **P2PAM** under **FCC ID: AS5ONEBTS-06**, is to add the operation of two carriers through a single amplifier and the operation of a three amplifier bridged Multi Carrier Amplifier (**MCA**) operation for up to five carriers. This Class II application for the **P2PAM** is for operation in all PCS Blocks with a CDMA signal.

The **P2PAM** is designed to amplify signals of all of the various CDMA wireless air interfaces including **cdmaOne™** under **IS-95**, the **3G-1x** (single carrier) formats of **CDMA2000** under **IS-97** and the high speed "data only" operation under the **IS-856** CDMA wireless air interface standard of **3G-1x-EV-DO**.

The **P2PAM** is a nominally 52 Watt, Class A, fixed gain, CW amplifier designed to provide 16 watts of average long term power per carrier at the antenna connection port. The **P2PAM** can be configured with external passive signal combiners and splitters as a single or bridged "Multi Carrier Amplifier" (**MCA**). Like the single **P2PAM** configuration the dual amplifier **P2PAM/ MCA** is also operated at 16 watts per carrier. Under the dynamics conditions of CDMA service a maximum of 20 watts per carrier is provided and this is the FCC filed power level. The single amplifier **P2PAM/ MCA** will now accommodate one or two carriers at the FCC power level of 20 W/carrier. In this configuration a maximum of 40 Watts total will be available at the antenna port. The three amplifier **P2PAM/ MCA** will accommodate one to five carriers at the FCC power level of 20 W/carrier. In this configuration a maximum of 100 Watts total will be available at the antenna port.

The data summarized below is in the form presently used by the Commission's Radio Equipment List.

| | |
|---------------------------------|--|
| Manufacturer | Lucent Technologies, Inc. |
| Equipment Identification | AS5ONEBTS-06 |
| Rules Part Number | 24 (E) |
| Frequency Range | 1930-1990 MHz All PCS Blocks |
| Output Power | 0.010 to 20.0 Watts/carrier -1 to 5 carriers, 100 Watts Total |
| Frequency Tolerance | N/A |
| Emission Designator | 1M25F9W |

This filing to operate the **P2PAM / FCC ID: AS5ONEBTS-06** is based upon signals supplied by a Lucent Technologies PCS CDMA Radio. There are two applicable products with which the amplifier will be used. The first is the **PCS UMTS CDMA Radio 1900 (UCR1900), FCC ID: AS5ONEBTS-04**, granted 24 September 2002 for all PCS Blocks. This radio provides for one to three carriers. The second radio is the **PCS CDMA Multi Carrier Radio (MCR1900), FCC ID: AS5ONEBTS-09**, granted 22 February 2005 for all PCS Blocks. The **Multi Carrier Radio (MCR1900)** provides for operation of one to eleven carriers. The **P2PAM** performance documented herein was evaluated in the Lucent Technologies Flexent® OneBTS™ CDMA PCS Modular Cell 4.0 Base Transceiver Station (BTS).

The unit is designed to the limitations specified in Code of Federal Regulations (CFR), Section 24 Subpart E, and is designed to be used with other FCC granted transmit (radio) devices. Whenever possible, the test procedures defined in CFR Sections 2 and 24 (E) were followed. Because of the "state of the art" nature of this equipment, some of the characteristics cannot be tested using the requirements in CFR 47. For those characteristics, **IS-95**, **IS-97** and **IS-856** were used to define the tests and evaluation criteria used in this application. The **P2PAM** was designed in accordance with the latest **3GPP2** guidelines of **C.S0010-A** and **TIA/EIA/IS-97-D** standard for CDMA applications.

The **P2PAM / AS5ONEBTS-06** data presented in this filing represents a design produced by Remec / Spectrian Corporation for Lucent Technologies, Inc. solely for incorporation into Lucent Technologies, Inc. products. The **PCS UCR1900 and MCR1900** is a Lucent Technologies, Inc. designed and manufactured product.

Enclosed in this electronically transmitted online package is a copy of FCC Form 731 (Application for Equipment Authorization – Radio Frequency Devices) and the required exhibits. These exhibits contain the technical data, and the required statements and documents for product certification.

Enclosed in this application package are a copy of Timco's TCB Application Form 731, a letter of Request for Confidentiality and the required exhibits. These exhibits contain the technical data, and the required statements and documents for equipment certification. The technical contact at Lucent Technologies Bell Laboratories will comply with any request for additional information should the need arise.

The fees are submitted as required for a FCC Class II Change to a Product certification filing.

Sincerely,

R.J.Pillmeier
Technical Manager
Wireless FCC Compliance Group
Phone: 973-386-3837
email: rpillmeier@lucent.com

Att
FCC Form 731 w/ Attachments

Primary Administrative Contact
Lucent Technologies, Inc.
Room 4C-621
101 Crawfords Corner Rd
Holmdel, NJ 07733-3030 U.S.A.
Attention: Cynthia S. Donovan
Phone: (732) 949 2938
email: csdonovan@lucent.com

Filing Engineer
W. Steve Majkowski NCE
Wireless FCC Compliance Group
Lucent Technologies, Inc.
Lab Phone: 973-386-2434
email: majkowski@lucent.com

TABLE OF CONTENTS

| | | |
|------------|-----------------------------|---|
| Exhibit 1 | Section 2.911 (d) | Qualifications and Certifications |
| Exhibit 2 | Section 2.1033(c) (1,2) | Manufactures, FCC Identifier |
| Exhibit 3 | Section 2.1033(c) (4,5,6,7) | Emission, Freq. Range, Power Range, Maximum Power |
| Exhibit 4 | Section 2.1033(c) (8) | Active Circuit Devices Drive Levels |
| Exhibit 5 | Section 2.1033(c) (10) | Complete Circuit Diagrams |
| Exhibit 6 | Section 2.1033(c) (3) | Instruction Book |
| Exhibit 7 | Section 2.1033(c) (9) | Tune-Up procedure |
| Exhibit 8 | Section 2.1033(c) (10) | Circuitry for determining frequency |
| Exhibit 9 | Section 2.1033(c) (10) | Circuitry for Suppression of Spurious |
| Exhibit 10 | Section 2.1033(c) (13) | Description of Modulation System |
| Exhibit 11 | Section 2.1033(c) (14) | Listing of Required Measurements |
| Exhibit 12 | Section 2.1046 | Measurement of Radio Frequency Power Output |
| Exhibit 13 | Section 2.1047 | Measurement of Modulation Characteristics |
| Exhibit 14 | Section 2.1049 | Measurement of Occupied Bandwidth |
| Exhibit 15 | Section 2.1051 | Measurement of Spurious Emissions at Antenna |
| Exhibit 16 | Section 2.1053 | Field Strength of Spurious Radiation |
| Exhibit 17 | Section 2.1055 | Measurement of Frequency Stability |
| Exhibit 18 | Section 2.1033(c) (11) | Drawing of the Identification Label |
| Exhibit 19 | Section 2.1033(c) (12) | Photographs of the Equipment |
| Exhibit 21 | | Test Equipment List |

Confidential Exhibits

| | | |
|------------|------------------------|---------------------------------------|
| Exhibit 9A | Section 2.1033(c) (10) | Circuitry for Suppression of Spurious |
|------------|------------------------|---------------------------------------|

Lucent Technologies
Bell Labs Innovations



subject: **Request for Confidentiality for FCC ID:
AS5ONEBTS-06**

date: **February 25, 2005**

from: Rudolf J. Pillmeier
67 Whippany Road
Telephone: 973 386 3837
E-Mail rpillmeier@lucent.com

Sid Sanders – President

Timco Engineering Inc.
849 N.W. State Road 45
P.O. Box 370
Newberry, Florida 32669

Dear Mr. Sanders

Re: Request for Confidentiality for FCC ID: **AS5ONEBTS-06**

Dear Mr. Sanders

On behalf of the Lucent Technologies Network Wireless System Business Unit, I hereby request that the following exhibits included in the Product Certification application for **FCC ID: AS5ONEBTS-06** be maintained as confidential information and not be made available for public inspection at any time.

Exhibit 9A Section 2.1033(c) (10) Circuitry for Suppression of Spurious

These exhibits contain Lucent Technologies proprietary information considered to be trade secrets and the property of Lucent Technologies, pursuant to the provisions of Section 0.457(d) of the Commission's Rules. These exhibits also contain design information that is highly propriety to Lucent's contracted manufacturer/supplier.

Thank you for your consideration in this matter.

Sincerely,

R.J.Pillmeier
Technical Manager
EMC Conformance Test Group, Whippany