

Lucent Technologies
Bell Labs Innovations



**Federal Communications Commission
Office of Engineering and Technology
Equipment Authorization Division,
Application Processing Branch**

Lucent Technologies Inc.
67 Whippany Road
Whippany, NJ 07981

January 15, 1999

Federal Communications Commission
Office of Engineering and Technology
Authorization and Evaluation Division
Equipment Authorization Branch
7435 Oakland Mills Road
Columbia, Maryland 21046

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 Federal Communication Commission for a Class II Change to the Product Certification Grant of Lucent Technologies Corp. Ultra Linear Amplifier Module/ Multi Carrier Amplifier, henceforth **ULAM**, **FCC ID: AS5CMP-36**.

The original Product Certification application and Grant under **FCC ID: AS5CMP-36** was for use in Domestic Personal Communication Services (PCS) Blocks A and B. This Class II Change is to add operation for the remaining PCS Blocks C, D, E and F.

This **ULAM** 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.

This Class II Change application for the **ULAM**, under **FCC ID: AS5CMP-36**, is for operation in PCS Blocks C, D, E and F. No changes or modifications to the **ULAM** were necessary to extend operation. The **ULAM** was designed to be is capable of operation in all PCS Blocks but production filters for the additional PCS Blocks were not available at the time of the original filing.

The **ULAM** is a nominally 32 Watt Class A CW amplifier designed to provide 16 watts of long term average at the antenna connection port. During actual operation under the dynamic conditions of CDMA service this amplifier will provide 24 watts at the antenna connection port (J4) and this is the value used for this filing.

The **ULAM** is configurable in a single, dual or three amplifier “Multi Carrier Amplifier” (**MCA**) with external passive signal combiners and splitters. The **ULAM/ MCA** provides up to 24 watts per carrier in each of the **MCA** configurations (single, dual or three amplifier) with a total J4 RF Power of 24, 48 or 72 watts for each of the respective configurations. Under the dynamic conditions of CDMA service a maximum of 24 watts per carrier/ 72 Watts total will be available at the antenna port (J4) of the three **ULAM / MCA** and this is the value to be used for this filing.

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

Manufacturer	Lucent Technologies, Inc.
Equipment Identification	AS5CMP-36
Rules Part Number	24 (E)
Frequency Range	1975–1990, 1945-1950, 1965-1970, 1970-1975 MHz: PCS Blocks C, D, E, and F
Output Power	0.16 to 24.0 Watts/carrier–up to 72 watts total (3 carrier): Software Controlled
Emission Designator	F9W

The unit is called the PCS Ultra Linear Amplifier Module/ Multi Carrier Amplifier. It is designed to the limitations specified in Part 24 subpart E. Whenever possible, the test procedures defined in CFR 47 Parts 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 ANSI J-STD-008 were used to define the tests and evaluation criteria used in this application.

The **ULAM**, at its output, is typically operated over the power range of 0.32 to 48.0 watts/carrier. Losses internal to the Modular Cell cabinet, software control, and the passive components of the Multi Carrier Amplifier configuration will limit the output power to 24.0 watts/ carrier when measured at the (J4) antenna connector. The total power is limited to the latter value and is the level for this application. The actual power levels delivered by the **ULAM/ MCA** are under the software control of the Mobile Switching Center of the local PCS system. The software control only allows for adjustment in power up to the 24.0 Watt maximum. This filing to operate the **ULAM/ AS5CMP-36** is based upon signals supplied to the **ULAM** by a Lucent Technologies Inc. CDMA Baseband Radio 1900 (**CBR-1900** henceforth **CBR**), **FCC ID: AS5CMP-26**, granted 23 March 1999 for all PCS Blocks.

This application for **AS5CMP-36**, is for PCS Blocks "C", "D", "E" and "F". The **ULAM** was previously granted for A and B Blocks. Since this application encompasses the single, dual and three carrier configurations it presents the required test data for each of those **ULAM/ MCA** operational configurations.

The **ULAM/ AS5CMP-36** is produced by Lucent Technologies Inc. solely for incorporation into Lucent Technologies Inc. products. The **CBR/ AS5CMP-26** is a Lucent Technologies Inc. designed and manufactured products.

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. The technical contact at Lucent Technologies, Bell Laboratories, will comply with any request for additional information should the need arise.

Sincerely,

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w/ Attachments

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TABLE OF CONTENTS

Exhibit 1	Section 2.911 (d)	Qualifications and Certifications
Exhibit 2	Section 2.1033(a) (b) (c)	Manufactures, Identification, Production
Exhibit 3	Section 2.1033(c) (1-5)	Emission, Freq. Range, Power Level
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) (11)	Circuitry for Suppression of Spurious
Exhibit 10	Section 2.1033(c) (13)	Description of Modulation System
Exhibit 11	Section 2.1033(e)	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(f)	Drawing of the Identification Label
Exhibit 19	Section 2.1033(g)	Photographs of the Equipment

EXHIBITS TO BE KEPT CONFIDENTIAL

Exhibit 4	Section 2.1033(c) (6)	Function of Active Circuit Devices
Exhibit 5	Section 2.1033(c) (7)	Complete Circuit Diagrams
Exhibit 6	Section 2.1033(c) (8)	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) (11)	Circuitry for Suppression of Spurious