

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

September 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 Commission for Product Certification of the Lucent Technologies Corp. Ultra Linear Amplifier Module/ Multi Carrier Amplifier, henceforth **ULAM**, **FCC ID: AS5CMP-36**. 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 application for the **ULAM**, under **FCC ID: AS5CMP-36**, is for operation in PCS Blocks A and B. The **ULAM** is capable of operation in all PCS Blocks but production filters are only available at the time of filing for the tested Blocks.

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	1930–1945 MHz and 1950-1965 MHz: PCS Blocks A and B
Output Power	0.16 to 24.0 Watts/carrier–up to 72 watts total (3 carrier): Varied By Software
Frequency Tolerance	+/- 0.5 ppm
Emission Designator	1M25G9W

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 "A" and "B". The amplifier is capable of operation in all PCS Blocks but production transmit filters for other PCS Blocks are not yet available. 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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Att
FCC Form 731 w/ Attachments

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