



**Federal Communications Commission  
Office of Engineering and Technology  
Equipment Authorization Division  
Application Processing Branch  
7435 Oakland Mills Road**

**Alcatel-Lucent USA Inc.**  
MH 5A-115, Global Product Compliance Laboratory  
600-700 Mountain Avenue  
P.O. Box 636  
Murray Hill NJ, 07974-0636, USA

**Columbia, MD 21046**

June 17, 2010

Dear Examiner:

Alcatel-Lucent’s PCS High Efficiency EDPD P4PAM Transceiver System is the subject of this request for an FCC Product Certification Class II Change to **FCC ID: AS5ONEBTS-25**. Alcatel-Lucent’s PCS High Efficiency EDPD P4PAM Transceiver System previously filed under **FCC ID: AS5ONEBTS-25** is a CDMA Base Station Transceiver which is authorized for PCS Block B (1950–1965) at an operating power of 80 Watts of total power per amplifier. This FCC Class II Change documents compliant operation and requests authorization for the remaining Blocks to fully authorize the product for PCS Blocks A through G (1930 to 1995 MHz).

One and two multi carrier amplifier configurations of the P4PAM Transceiver system are utilized in the **9228 Base Station Macro System** (Formally PCS FLEXENT 4.0 and 4.0B Modular Cells). The P4PAM Transceiver system uses Alcatel-Lucent’s patented Enhanced Digital Predistortion (EDPD), PCS Multi-Carrier Radios (MCR-1900 FCC ID: AS5ONEBTS-09) and Dual Duplex Transmit filters to form an integrated transceiver system.

Alcatel-Lucent’s P4PAM Transceiver System (P4PAM) (1900 MHz) is designed to operate in the North America Region (NAR) Broadband Personal Communications Service (1900 MHz). The P4PAM Transceiver System can be configured for various digital modulations systems. This application is for Code Domain Multiple Access (CDMA) only. Future use for other modulation systems will be processed by application for an FCC Class II Change as is appropriate. Configured for CDMA the P4PAM Transceiver System can be configured and operated for one to eleven CDMA carriers at 80 Watts of total composite RF power per amplifier. One and two amplifier configurations are presented in this application. The MCR-1900 which was previously filed under AS5ONEBTS-09 (without the use of EDPD) provides the generation and stabilization of the transmit signal has not changed. The hardware and software of this product has not changed from the original filing.

The RF power rating is based the 3-second average, employing the Aggregate Overload Control (AOC) algorithm. Enhanced Digital Predistortion (EDPD) and Closed Loop Gain Control (CLGC) are features that are enabled for each carrier. The single CDMA carrier has a 1.25 MHz bandwidth, with an emission designator at 1M25F9W, based on measurement of the Necessary Bandwidth. The CDMA modulation capability demonstrated includes: 1) up to 40 active channels, consisting of 37 voice + 3 control channels.

This FCC Product Certification Filing applies to the **1M25F9W** CDMA Emissions designator to be authorized under **FCC ID: AS5ONEBTS-25**. The measurement exhibits attached to this application demonstrate full compliance with FCC Part 24 Subpart E – Broadband PCS following the procedural requirements specified in FCC Part 2 Subpart J – Equipment Authorization Procedures. The data, summarized below, is in the form presently used by the Commission’s Radio Equipment List.

<b>Equipment Identification:</b>	<b>AS5ONEBTS-25</b>
<b>Rules Part Number:</b>	<b>Part 24, Subpart E – Broadband PCS</b>
<b>Frequency Range:</b>	<b>Transmit (1930 to 1995 MHz) MHz (PCS Block A, B, C, D, E, F and G)</b>
<b>Output Power:</b>	<b>0.08 to 80 Watts Total Power per amplifier (2 to 11 CDMA carriers)</b>
<b>Frequency Tolerance:</b>	<b>± 0.05 ppm</b>
<b>Emission Designator:</b>	<b>1M25F9W</b>

**Alcatel-Lucent - Proprietary**  
Use pursuant to Company Instructions.

Attached are the FCC Form 731 (Application for Equipment Authorization – Radio Frequency Devices), the required measurement data and exhibits specific to this request for initial equipment authorization of the **PCS P4PAM EDPD Transceiver System**. The technical or non-technical contact at Alcatel-Lucent will comply with any request for additional information should the need arise. The attached exhibits with the applicable FCC Rule section are assembled and presented in accordance with the *Table of Contents* attachment.

Should there be any questions or procedural issues please feel free to contact me by email and/or phone.  
Sincerely,

Dheena Moongilan  
Distinguished Member of Technical Staff  
Global Product Compliance Laboratory  
Phone: (908) 582 5539  
Email: Dheena.Moongilan@alcatel-lucent.com

## TABLE OF CONTENTS

### Cover Letter Request for Confidentiality

<u>Exhibit #</u>	<u>FCC Rule Number</u>	<u>Description</u>
Exhibit 1	Section 2.1033(a)	FCC Form 731
Exhibit 2	Section 2.911 (d)	Qualifications and Certifications (Same information as original filing is provided)
Exhibit 3	Section 2.1033(c) (1,2,4,5,6,7)	Manufacturer, Applicant, FCC Identifier, Emission, Frequency Range and RF Power Range
Exhibit 4	Section 2.1033(c) (8,9)	Active Circuit Devices Drive Levels, Tune-Up procedure (No Change from original filing – No new information added)
Exhibit 5 (Confidential)	Section 2.1033(c) (10)	Complete Circuit Diagrams (No Change from original filing – No new information added)
Exhibit 6 (Confidential)	Section 2.1033(c) (12,3)	Users Manual (No Change from original filing – No new information added)
Exhibit 7	Section 2.1033(c) (10)	Circuitry for determining frequency and Suppression of Spurious (No Change from original filing – No new information added)
Exhibit 8	Section 2.1033(c) (11)	Drawing of the Identification Label (Same information as original filing is provided)
Exhibit 9A	Section 2.1033(c) (12)	Photographs of the Equipment External (No Change from original filing – No new information added)
Exhibit 9B (Confidential)	Section 2.1033(c) (12)	Photograph of the Equipment Internal (No Change from original filing – No new information added)
Exhibit 10	Section 2.1033(c) (13)	Operational Description (Description of Modulation System) (No Change from original filing – No new information added)

### Test Report Exhibits

<u>Exhibit #</u>	<u>FCC Rule Number</u>	<u>Description of Test Report Exhibits</u>
Exhibit 11	Section 2.1033(c) (14)	Listing of Required Measurements
Exhibit 11a	Section 2.1033(c) (8)	Measurement of DC Power (Same information as original filing is provided)
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 (Same information as original filing is provided)
Exhibit 17	Section 2.1055	Measurement of Frequency Stability (No Change from original filing – No new information added)
Exhibit 18	Section 2.1057	Test Instrumentation Used for Tests – See Test Reports