



**Timco Engineering Inc.
FCC Authorized Telecommunications
Certification Body (TCB)**

**Alcatel-Lucent Inc.
Global Product Compliance Laboratory**
Building 28-114H
600 Mountain Avenue
Murray Hill, NJ 07094

July 30, 2014

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

Dear Mr. Sanders

The Alcatel-Lucent Broadband PCS UMTS-CDMA-LTE Transceiver System (1900), the subject of this request for a Class II Permissive Change, was previously authorized under **FCC ID: AS5ONEBTS-10** as a CDMA and UMTS Transceiver for up to 160W per antenna port using 4 P2PAM amplifiers (40W/amplifier). Alcatel-Lucent hereby requests the addition of two new emissions designators, **3M00F9W** and **5M00F9W** be added for LTE operation. The power level for these will be 32W and 48W respectively using a minimum of two P2PAM amplifiers.. There were no physical, hardware or circuit changes required to either the PCS Multi Carrier Radio, **MCR-1900**, or to the PCS 2 Power Amplifier Module, P2PAM. The product was tested in a 2x MIMO configuration. The **MCR-1900**, which is the frequency generating and stabilizing component of the **AS5ONEBTS-10** authorization, was designed and individually authorized as a broadband 15 MHz bandwidth radio under **FCC ID: AS5ONEBTS-09** and has not changed. All required supporting exhibits, not previously submitted with the initial filing, are attached.

The Alcatel-Lucent **BTS9228 Macro** product family, formally **FLEXENT® PCS UMTS-CDMA EDPD Transceiver System with Enhanced Digital Pre-Distortion (EDPD)**, configures a PCS Multi Carrier Radio (**MCR-1900**) and up to four PCS 2 Power Amplifier Module (**P2PAM**). This is to allow for increased RF capacity but does not change the previously authorized 40 Watt per amplifier RF power. The Transceiver System includes the principle RF components which have been previously filed under this FCC ID: **AS5ONEBTS-10** and various other FCC ID's. These include the (1) Multi-Carrier Radio (**MCR1900**), Model BNJ64, authorized under FCC ID: **AS5ONEBTS-09**, (2) P2PAM power amplifier authorized under FCC ID: **AS5ONEBTS-06**, (3) 60/65 MHz wide Dual Duplex (DDpx) low loss transmit filters covering the PCS Spectrum 1930-1995 MHz and (4) Rubidium and Crystal Reference Oscillator Module (OMR/OMC) 15 MHz.

This Class II change requests that an FCC authorization for **3M00F9W** and **5M00F9W** LTE Emissions designator be granted under **FCC ID: AS5ONEBTS-10**. The only product change is the supply of digital channel information to the PCS Multi Carrier Radio (**MCR-1900**). The total output power capability for the product has not changed and will remain 40W/ amplifier for all combined signals. 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.

Equipment Identification:	AS5ONEBTS-10
Rules Part Number:	Part 24, Subpart E – Broadband PCS
Frequency Range:	Transmit 1930–1990 MHz (PCS Blocks) (A, D, B, E, F & C)
Output Power:	0.032 to 32 Watts for 3M00F9W operation 0.048 to 48 Watts for 5M00F9W operation
Frequency Tolerance:	± 0.05 ppm
Emission Designator:	3M00F9W and 5M00F9W

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 CDMA EDPD

Alcatel-Lucent Inc. - 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 CDMA 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. Included is a formal letter requesting confidentiality for the following exhibits:

Exhibit # FCC Rule Section Exhibit Title

Exhibit 4 Section 2.1033(c) (8,9) Active Circuit Devices Drive Levels, Tune-Up procedures

Exhibit 5 Section 2.1033(c) (10) Complete Circuit Diagrams, Circuitry for Spurious Suppression

Exhibit 6 Section 2.1033(c) (12,3) Installation and Operating Instructions

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

Sincerely,



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Att. Table of Contents for the Broadband PCS UMTS-CDMA-LTE Transceiver System Product Certification Report

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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
Exhibit 3	Section 2.1033(c) (1,2,4,5,6,7)	Manufactures, 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 (Confidential)
Exhibit 5	Section 2.1033(c) (10)	Complete Circuit Diagrams (Confidential)
Exhibit 6	Section 2.1033(c) (12,3)	Instruction Book (Confidential)
Exhibit 7	Section 2.1033(c) (10)	Circuitry for determining frequency and Suppression of Spurious
Exhibit 8	Section 2.1033(c) (11)	Drawing of the Identification Label
Exhibit 9	Section 2.1033(c) (12)	Photographs of the Equipment
Exhibit 10	Section 2.1033(c) (13)	Description of Modulation System

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 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		Photographs of the Test Setups