APPLICANT: Alcatel-Lucent FCC ID: AS50NEBTS-18



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

January 14, 2009

Sid Sanders - President Timco Engineering Inc. 849 N.W. State Road 45 P.O. Box 370 Newberry, Florida 32669 **Alcatel-Lucent USA Inc.** 67 Whippany Road Whippany, NJ 07981

Dear Mr. Sanders

Alcatel-Lucent's Universal Mobile Telecommunications System (UMTS) Distributed Base Station specifically the 9341 RRH 40W 1900 MHz System, is the subject of this request for a Class II Permissive Change. The 9341 RRH 40W 1900 MHz System was previously authorized under **FCC ID: AS5ONEBTS-18** as a UMTS Transceiver for 40 Watts total power. Alcatel-Lucent hereby requests that the CDMA emission designator **1M25F9W** be added for operation for the authorized PCS spectrum from 1930 to 1990 MHz. The multi carrier CDMA operation is for one to seven carriers with the same combined total power rating of 40 Watts.

There were no physical, hardware or circuit changes required to 9341 RRH 40W 1900 MHz System. Only the digital d2U Baseband Unit was changed to accommodate this additional capacity. The 9341 RRH 40W 1900 MHz System **or Remote Radio Head (RRH)**, contains the Future Technology Radio 1900 (FTR1900) which is the frequency generating and stabilizing component of the product authorized under FCC ID: **ASSONEBTS-18.** There were no hardware changes to the Future Technology Radio 1900 within the RRH in order to support CDMA operation. All required supporting exhibits, not previously submitted with the initial filing, are attached.

Alcatel-Lucent's Distributed Base Station System (1900 MHz) is designed to operate in the North America Region (NAR) Broadband Personal Communications Service. The System can be configured for either Universal Mobile Telecommunications System (UMTS) or Code Domain Multiple Access (CDMA). Configured for CDMA the 9341 RRH 40W 1900 MHz System can be configured and operated for one to seven carriers at 40 Watts total. The range of performance from single carrier operation at 40 Watts (+46 dBm), for two carrier operation at 20 Watts (+43 dBm) per carrier, three carrier at 13.3 Watts per carrier and like configurations of up to seven carriers all with a total composite power of 40 Watts. 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, 2) 2 channels of 3G1x-EV-DO capability per Baseband unit.

This Class II change applies to the Grant delineations for **1M25F9W** CDMA Emissions designator authorized under **FCC ID: AS5ONEBTS-18**. The only change is the addition of the CDMA **1M25F9W** emissions designators. The total output power for the **UMTS-CDMA 9341 RRH 1900 MHz System** will remain 40 Watts total for the 1 to 7 carriers of CDMA operation. 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-18

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: 0.04 to 40 Watts Total Power. 1 to 7 CDMA carriers.

Frequency Tolerance: \pm 0.05 ppm Emission Designator: \pm 1M25F9W

Alcatel-Lucent - ProprietaryUse 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 UMTS-CDMA 9341 RRH 40W 1900 MHz System. The technical or non-technical contact at 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 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,

Rudolf J. Pillmeier

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Attached: Table of Contents for the UMTS-CDMA 9341 RRH 40W 1900 MHz System Product Certification Report

TABLE OF CONTENTS

Cover Letter Request for Confidentiality

Exhibit #	FCC Rule Number	<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)	Manufacturer, Applicant, FCC Identifier, Emission, Frequency Ran	nge and RF Power Range
Exhibit 4	Section 2.1033(c) (8,9)	Active Circuit Devices Drive Levels, Tune-Up procedure	
Exhibit 5	Section 2.1033(c) (10)	Complete Circuit Diagrams	(Confidential)
Exhibit 6	Section 2.1033(c) (12,3)	Instruction Book	(Confidential)
D 1955	G .: 0.1000() (10)		
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

Exhibit #	FCC Rule Number	Description of Test Report Exhibits
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