



Subject: **Application for FCC Grant of Equipment  
Authorization under FCC ID: AS5ONEBTS-19,  
Covering the UMTS 9341 RRH 40W 1721 MHz Base  
Station, Operating in the Advanced Wireless Services  
Band under 47CFR Part 27.**

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**November 4, 2008**

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

**Dear Mr. Sanders:**

Alcatel-Lucent USA Inc., a subsidiary of Alcatel-Lucent, is submitting this application to the FCC Office of Engineering and Technology (OET) for initial authorization under FCC ID: AS5ONEBTS-19, subject to 47CFR Part 27 – Miscellaneous Wireless Communications Services (10-01-07). This UMTS wireless base station product “9341 RRH 40W 1721 MHz” is designed to operate over the 45 MHz bandwidth of the Advanced Wireless Services Band (AWS) Downlink 2110-2155 MHz and Uplink 1710-1755 MHz. The system is comprised of two components: **1)** the remote radio head (RRH) and **2)** the associated digital base band unit (BBU), which are interconnected via fiber optic cable. Rated RF power at the RRH antenna terminal is 40 Watts (+46 dBm) for a single carrier and 40 Watts total composite for two carriers at 20 Watts (+43 dBm) per carrier, and for three carriers at 13.3 Watts (+41.2 dBm) per carrier. This power level is based on the 3-second average using the Aggregate Overload Control (AOC) algorithm. Enhanced Digital Predistortion (EDPD) and Closed Loop Gain Control (CLGC) are also integral features of the power control circuitry. The RRH incorporates a single multi-carrier transceiver (FTR1721) that can transmit/receive either 1, 2 or 3 carriers as previously cited.

The UMTS 9341 RRH 40W 1721 MHz System, subject of this certification, is comprised of two separate modules interconnected by fiber optic cable: **1)** the Remote Radio Head (RRH), and **2)** the associated digital Base Band Unit (BBU). They have the flexibility of being installed either in close proximity (co-located) to or remotely located from each other. The BBU has the capability of controlling up to 3 remotely located RRH units, via fiber optic cable, and incorporates **a)** the 15 MHz reference frequency oscillator module, **b)** the digital baseband circuitry, **c)** T1/E1 interface, **d)** alarm interface, and **e)** the RF-to-Optical and Optical-to-RF conversion circuitry. The 1721 MHz RRH incorporates **a)** the Future Technology Radio (FTR) transceiver, **b)** the power amplifier (PA) and **c)** the passive tuned cavity filter with single transmit (Tx0) and diversity receive functionality (Rx0, Rx1). This system complies with the European Telecommunications Standards Institute (ETSI) 3<sup>rd</sup> Generation Partnership Project (3GPP) Technical Specifications TS 25.104 and TS 25.141. UMTS functionality was developed in accordance to the guidelines of the ETSI TS 25.141 V7.4.0 (2006-06) standard: “Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD) (3GPP TS 25.141 version 7.4.0 Release 7)”.

In accordance with ETSI TS 25.141, the single UMTS carrier has a 5 MHz bandwidth, with an emission designator at 4M10F9W, based on measurement of the Necessary Bandwidth. The TS 25.141 Test Modulation (TM) capability demonstrated includes: **1)** TM1-64 with up to 68 active channels, consisting of 64 voice + 4 control, and **2)** TM5-44 with up to 44 active channels, which include 8 High Speed Downlink Packet Access (HSDPA) channels.

**Exhibit 2**

The measurement exhibits attached to this application demonstrate full compliance with 47CFR Part 27 – Miscellaneous Wireless Communications Services (10-01-07), and with ETSI TS 25.141, following the procedural requirements specified in 47CFR Part 2. The 9341 RRH 40W 1721 MHz System, wireless base station product, is summarized in the following categories:

Manufacturer	Alcatel-Lucent USA Inc. 600-700 Mountain Ave, Murray Hill, NJ
Equipment Identification	FCC ID: AS5ONEBTS-19
Applicable Rule Part	Part 27 – Miscellaneous Wireless Communications Services
Frequency Ranges	Transmit 2110-12155 MHz (Downlink); Receive 1710-1755 MHz (Uplink)
Output Power	40 Watts (+46 dBm) 3-second average at the Tx antenna terminal
Frequency Tolerance	± 0.05 ppm
Emission Designator	4M10F9W

Attached are the Certification Application Form 731 and the FCC required measurement data and exhibits specific to this request for a Grant of Equipment Authorization for the UMTS 9341 RRH 40W 1721 MHz System, under FCC ID: AS5ONEBTS-19. The technical contact at Lucent Technologies will comply with any request for additional information should the need arise. The attached exhibits are assembled and presented in the sequence recommended by Timco Engineering, in accordance with the *Table of Contents* attachment.

Confidentiality is requested for the following exhibits:

<b>Confidential Exhibits</b>	<b>Filename</b>
Exhibit 8: Internal Photos (Part 2.1033 (C)12))	08-IntPho-Conf-AS5ONEBTS-19
Exhibit 10: Operational Description (Theory of Operation)	10-OpDes-Conf- AS5ONEBTS19
Exhibit 11: Block Diagrams/Functional Diagrams of the Apparatus	11-BlkDia-Conf-Conf-AS5ONEBTS19
Exhibit 12: Schematics	12-Schem-Conf-AS5ONEBTS19
Exhibit 14: Users Manual	14-UserMan-Conf-AS5ONEBTS19

Sincerely,

Rudolf J. Pillmeier  
Technical Manager  
FCC/EMC Compliance Test Group  
Whippany, NJ

Att.

Table of Contents for the UMTS 9341 RRH 40W 1721 MHz System Certification Report

## Exhibit 2

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Required Exhibit	Confidential	File Name
Exhibit 1: FCC Form 731	No	01-Form731-AS5ONEBTS-19
Exhibit 2: Cover Letter	No	02-Cover-AS5ONEBTS-19
Exhibit 3: Request for Confidentiality	No	03-ReqConf-AS5ONEBTS-19
Exhibit 4: Label Sample	No	04-LabelSmpl-AS5ONEBTS-19
Exhibit 5: Label Location Information	No	05-LabelLoc-AS5ONEBTS-19
Exhibit 6: FCC Required Information (Part 2.1033)	No	06-ReqInfo-AS5ONEBTS-19
Exhibit 7: External Photos (Part 2.1033 (C)12))	No	07-ExtPho-AS5ONEBTS-19
<b>Exhibit 8: Internal Photos (Part 2.1033 (C)12))</b>	<b>YES</b>	08-IntPho-Conf-AS5ONEBTS-19
Exhibit 9: Test Set-Up Photos	No	09-TSup-AS5ONEBTS-19
<b>Exhibit 10: Operational Description (Theory of Operation)</b>	<b>YES</b>	10-OpDes-Conf-AS5ONEBTS-19
<b>Exhibit 11: Block Diagrams/Functional Diagrams of the Apparatus</b>	<b>YES</b>	11-BlkDia-Conf-AS5ONEBTS-19
<b>Exhibit 12: Schematics</b>	<b>YES</b>	12-Schem-Conf-AS5ONEBTS-19
Exhibit 13: Test Report	No	13-TestRpt-AS5ONEBTS-19
<b>Exhibit 14: Users Manual</b>	<b>YES</b>	14-UserMan-Conf-AS5ONEBTS-19
Exhibit 15: Tuning Procedure, if Applicable	No	15-TunPro-AS5ONEBTS-19
Exhibit 16: Parts List, if Applicable	No	16-PartsLst-AS5ONEBTS-19