

**EXHIBIT 3: FCC REQUIRED INFORMATION (PART 2.1033)**

The following information is presented in the content and format requested by the FCC:

**Section 2.911 (d) Qualification Of Engineers**

**Section 2.911 (d): Technical test data shall be signed by the person who performs or supervises the tests. The person signing the test data shall attest to the accuracy of such data. The Commission may require such person to submit a statement showing that he is qualified to make or supervise the required measurements.**

Michael P. Farina is a Member of Technical Staff at Alcatel-Lucent USA, Inc., Murray Hill, NJ, formerly AT&T Bell Laboratories, with 51 years of Professional Experience in Research and Development. He holds a BS in Physics from Upsala College and an MSEE from New Jersey Institute of Technology. During the past 19 years, his expertise was focused on RF Engineering and Regulatory Agency EMC compliance and certification, covering Analog, TDM, CDMA and UMTS technologies. He has submitted numerous Applications for Certification filings to the FCC covering many product variations and evolutions in each of the four technologies. Currently, he is the Lead Engineer for filing UMTS Wireless Base Station products with the FCC.

Rudolf J. Pillmeier  
Technical Manager  
FCC/EMC Compliance Test Group  
Murray Hill, New Jersey

**Section 2.911 (e)(g) Certification of Technical Test Data**

**Section 2.911 (e) The signatures of the applicant and the person certifying the test data shall be made personally by those persons on the original application; copies of such document may be confirmed. Signatures and certifications need not be made under oath.**

**Section 2.911 (g) Signed, as used in this section, means an original handwritten signature; however, the Office of Engineering and Technology may allow signature by any symbol executed or adopted by the applicant with the intent that such symbol be a signature, including symbols formed by computer-generated electronic impulses.**

I hereby certify that the technical test data are the results of tests either performed or supervised by me.

Michael P. Farina  
Member of Technical Staff  
FCC/EMC Compliance Test Group  
Murray Hill, New Jersey

**Section 2.1033 (c)(1):**

The full name and mailing address of the manufacturer of the device and the applicant for certification.

**Alcatel-Lucent USA, Inc.  
600-700 Mountain Ave  
Murray Hill, NJ 07974**

**Section 2.1033(c)(2): FCC Identifier AS50NEBTS-24**

**Section 2.1033(c)(4):**

Type or types of emission: **4M10F9W**

**Section 2.1033(c)(5): Frequency range Transmit: 869–894 MHz**

**Section 2.1033(c)(6):**

Range of operating power values or specific operating power levels, and description of any means provided for variation of operating power.

Alcatel-Lucent’s **850MHz High Efficiency RF Power Amplifier (HE PAM)** will be deployed in the **9391 OneBTS Macrocells**, in combination with the previously authorized **MCR 850MHz radio** for Universal Mobile Telecommunications System (UMTS) operation in the North America Region (NAR). The purpose of **this Class II Permissive Change request** is to add the UMTS emission designator **4M10F9W** to the initial filing.

The Frequency Spectrum subject of this application is **Part 22—Public Mobile Services 869-894 MHz**. The RF power at the downlink (DL) antenna terminal to be authorized, and subject of this Class II Permissive Change request, is:

- 1) single carrier operation (3S1C) at **60 Watts** (+47.8 dBm) with a single HE PAM
- 2) single carrier operation (3S1C) at **80 Watts** (+49.0 dBm) with a two HE PAM in parallel
- 3) two carrier operation (3S2C) at **30W/C** (+44.8 dBm/C) with a single HE PAM @ Total Composite = **60W**
- 4) two carrier operation (3S2C) at **50W/C** (+47.0 dBm/C) with a two HE PAM in parallel @ Total Composite = **100W**

The total composite RF power rating for a single 850 MHz HE PAM is 60W (47.8 dBm) for a single carrier and 30W/C for two adjacent carriers. The total composite power for 2 HE PAM in parallel is 100W (50 dBm), which is the maximum allowable power. Power adjustment is software controlled, using baseband digital scaling to set and adjust voltage variable attenuators in the transceiver. A full discussion of the power control and adjustment is contained in the documents requested to be held confidential.

**Section 2.1033(c)(7):**

Maximum power rating as defined in the applicable part (s) of the rules.

The maximum power rating at the transmit antenna terminal (downlink), is 60 Watts (+47.78 dBm) for a single HE PAM and 100W (+50 dBm) for 2 HE PAM in parallel.

**Section 2.1033 (c)(8):**

The dc voltages applied to and the dc currents into the several elements of the final radio frequency amplifying device for normal operation over the power range.

	DC Current(Typical)	DC Voltage(Typical)
Idle (No RF Input)	2.7 A	+ 24 V
Full Rated RF Power	11.7 A	+ 24 V

**EXHIBIT 3: FCC REQUIRED INFORMATION (PART 2.1033) - continued****Section 2.1033 (c)(9):**

Tune-up procedure over the power range, or at specific operating power levels.

There are no user tune-up features. All tuning is performed by the manufacturer during, and as part of, the manufacturing process.

**Section 2.1033 (c)(10)**

A description of all circuitry and devices for determining and stabilizing frequency.

The carrier frequency (the fundamental frequency) is determined by the up-conversion of digital baseband signals to IF frequencies. Frequency stability of the carrier frequency is achieved with an accuracy better than the rated  $\pm 0.05$  ppm by the 15 MHz reference frequency generated by a stable Crystal Oscillator Module (OMA) plus proprietary phase locked loop (PLL) circuitry.

**Section 2.1033 (c)(10): Description of circuitry and devices for suppression of spurious radiation.**

Spurious emissions radiated from Alcatel-Lucent's wireless UMTS **9391 OneBTS Macrocells**, base station transceiver system, are suppressed by implementing sound Electromagnetic Compatibility (EMC) design practices extending from the circuit board level to the system level: 1) grounded RF shielding on coaxial cables, 2) grounded RF shielding "cans" mounted on specific circuit elements, 3) effective grounding throughout, and 4) effective transmit and receive bandpass filters to suppress transmitted spurious and harmonic emissions by more than 20 dB below the FCC required limitation.

**Section 2.1033 (c)(10): Description of Circuitry and Devices for Limiting Modulation, and for Limiting Power.**

Modulation limiting is described in the documents that must be held as confidential, which are the same as on file with FCC under the initial Grant of Equipment Authorization, and therefore it is not necessary to repeat them.

Power control of the RF output from the transceiver is accomplished by software which controls a microprocessor that sends digital baseband signals to a voltage variable attenuator, which is used for output power adjustment. The transmitter can be disabled through firmware which sets the RF attenuator to maximum loss and thus disables the final RF amplifier stage. A complete description is provided in the exhibits that are required to be held as confidential, which are the same as on file with FCC under the initial Grant of Equipment Authorization, and therefore it is not necessary to repeat them.

**Section 2.1033 (c)(13): Description of the modulation system.**

The UMTS (W-CDMA) base station transceiver is designed for both QPSK and 16QAM modulation, with an emission designator 4M10F9W. Typical modulation schemes are: 1) Voice only with up to 68 active channels (QPSK), and 2) Voice + HSDPA (High Speed Downlink Packet Access) with up to 44 active channels that include 8 HSDPA (16QAM). The modulation process is fully described in the documents that must be held as confidential, which are the same as on file with FCC under the initial Grant of Equipment Authorization, and therefore it is not necessary to repeat them.