# **Exhibit 3 FCC REQUIRED INFORMATION**

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

Section 2.1033 (c)(1): The full name and mailing address of the manufacturer of the device and the applicant for certification

Manufacturer: Alcatel-Lucent USA Inc.

**Building 28-114H** 

600-700 Mountain Avenue, P.O. Box 636

New Providence, 07974-0636 Attention: Rudolf J Pillmeier

Applicant: Alcatel-Lucent USA Inc.

Building 28-114H

600-700 Mountain Avenue, P.O. Box 636

New Providence, 07974-0636 Attention: Rudolf J Pillmeier Phone: 908 582 2810

email: Rudy.Pillmeier@alcatel-lucent.com

Alcatel-Lucent USA Inc. will be the manufacturer of this product. The **AS5ONEBTS-10** will only be marketed under the Alcatel-Lucent trademark.

Section 2.1033(c)(2): FCC Identifier

ASSONEBTS-10

**Section 2.1033(c)(4):**Type or types of emission:

4M1F9W (This designator remains as previously filed for the 1930-1990 MHz spectrum)
1M25F9W (This designator remains as previously filed for the 1930-1995 MHz spectrum)
3M00F9W This designator is a new request for the 1930-1990 MHz spectrum

5M00F9W This designator is a new request for the 1930-1990 MHz spectrum
This designator is a new request for the 1930-1990 MHz spectrum

The 4M1F9W emissions designator was previously authorized at the 40 Watt per carrier level with 120W Total power at the antenna terminal..

The 1M25F9W emissions designator was previously authorized at the 40 Watts for single carrier applications and 20 watts/carrier for multi-carrier applications with 160W Total power at the antenna terminal..

Section 2.1033(c)(5): Frequency range, Transmit: 1930–1990 MHz

The product was previously authorized over the 1930 to 1990 MHz and 1930-1995 MHz Frequency ranges. There is no change to frequency range.

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.

The Range of output power shall be:

0.032 to 32 Watts for 3M00F9W operation 0.048 to 48 Watts for 5M00F9W operation

Alcatel-Lucent's Broadband PCS UMTS-CDMA EDPD Transceiver System (1900), which is incorporated into the BTS 9228 Macro wireless base station (previously OneBTS<sup>TM</sup> Modular Cell 4.0B), is the subject of this Class II Change under the FCC ID: **AS5ONEBTS-10**.

The Transceiver System utilizes RF feedback from the transmit filters to the MCR-1900 Radio enabling Alcatel-Lucent's Closed Loop Gain Control (CLGC) which provides constant output power over temperature. Alcatel-Lucent's proprietary Enhanced Digital Pre-Distortion (EDPD) technology utilizes communication between the transceiver, power amplifier and the transmit filter to achieve this goal.

## **Exhibit 3** FCC REQUIRED INFORMATION continued

Section 2.1033(c)(6): *continued* Range of operating power values or specific operating power levels, and description of any means provided for variation of operating power.

For single carrier UMTS and CDMA the maximum rated output power at the antenna terminal of 40 Watts (+46.02 dBm), 3-second average, for either a single 4.1 MHz UMTS or 1.25MHz emission bandwidth carrier. Power adjustment is software controlled, using a digital signal to set and adjust voltage variable attenuators in the MCR1900 transceiver. The range of attenuation control is 30 dB, with a resolution of 0.05 dB.

For one to six carrier Multi-carrier CDMA applications using 3 P2PAMs the maximum rated output power at the antenna terminal, of 20 Watts per carrier (+43.01 dBm), 3-second average, for each 1.25MHz emission bandwidth carrier. Power adjustment is software controlled, using a digital signal to set and adjust voltage variable attenuators in the MCR1900 transceiver. The range of attenuation control is 30 dB, with a resolution of 0.05 dB.

For a seven carrier Multi-carrier CDMA applications using 3 P2PAMs the Alcatel-Lucent Flexent<sup>TM</sup> OneBTS<sup>TM</sup> PCS UMTS-CDMA EDPD Transceiver System has a maximum rated CDMA output power at the antenna terminal of 17.1 Watts per carrier (+42.34 dBm), for one through seven carrier. The total power at the antenna port is 120 Watts for this seven carrier/ 3 P2PAM configuration.

For an eight carrier Multi-carrier CDMA applications using 3 P2PAMs the Alcatel-Lucent Flexent<sup>TM</sup> OneBTS<sup>TM</sup> PCS UMTS-CDMA EDPD Transceiver System has a maximum rated CDMA output power at the antenna terminal of 15 Watts per carrier (+41.76 dBm), for one through eight carrier. The total power at the antenna port is 120 Watts for this eight carrier/ 3 P2PAM configuration. This power will be available for the 1M25F9W emissions designator.

For one to eight carrier Multi-carrier CDMA applications using 4 P2PAMs the maximum rated output power at the antenna terminal, of 20 Watts per carrier (+43.01 dBm), 3-second average, for each 1.25MHz emission bandwidth carrier. Power adjustment is software controlled, using a digital signal to set and adjust voltage variable attenuators in the MCR1900 transceiver. The range of attenuation control is 30 dB, with a resolution of 0.05 dB. The total power at the antenna port is 160 Watts for this eight carrier/4 P2PAM configuration. This Multi-Carrier applications cover one to eight CDMA carriers.

#### (The above data is unchanged from prior filings)

#### **Additional Capacity Operation**

For a single 3M00F9W LTE carrier operation using one to three P2PAMs, the maximum rated output power at the antenna terminal is 32 Watts (+45.05 dBm), 3-second average. Power adjustment is software controlled, using a digital signal to set and adjust voltage variable attenuators in the MCR1900 transceiver. The range of attenuation control is 30 dB, with a resolution of 0.05 dB.

For a single 5M00F9W LTE carrier operation using two to three P2PAMs, the maximum rated output power at the antenna terminal is 48 Watts (+46.81 dBm), 3-second average. Power adjustment is software controlled, using a digital signal to set and adjust voltage variable attenuators in the MCR1900 transceiver. The range of attenuation control is 30 dB, with a resolution of 0.05 dB.

(This is new data and is a change from prior filings)

### **Exhibit 3** FCC REQUIRED INFORMATION continued

**Section 2.1033(c)(7):** Maximum power rating as defined in the applicable part (s) of the rules.

The Alcatel-Lucent Flexent<sup>TM</sup> OneBTS<sup>TM</sup> PCS UMTS-CDMA EDPD Transceiver System has a maximum rated CDMA or UMTS output power at the antenna terminal of 40 Watts (+46.02 dBm), for one carrier. This power will be available for either the 4M1F9W or the 1M25F9W emissions designator. This 40 Watt/carrier (+46.02 dBm) output is per a single 4.1 or 1.25 MHz emission bandwidth carrier.

For a seven carrier Multi-carrier CDMA applications using 3 P2PAMs the Alcatel-Lucent Flexent<sup>TM</sup> OneBTS<sup>TM</sup> PCS UMTS-CDMA EDPD Transceiver System has a maximum rated CDMA output power at the antenna terminal of 17.1 Watts per carrier (+42.34 dBm), for one through seven carrier. The total power at the antenna port is 120 Watts for this seven carrier/ 3 P2PAM configuration. This power will be available for the 1M25F9W emissions designator. This 17.1 Watt/carrier (+42.34 dBm) output is per each 1.25 MHz emission bandwidth CDMA carrier.

For one to eight carrier Multi-carrier CDMA applications using 3 P2PAMs the Alcatel-Lucent Flexent<sup>TM</sup> OneBTS<sup>TM</sup> PCS UMTS-CDMA EDPD Transceiver System has a maximum rated CDMA output power at the antenna terminal of 15 Watts per carrier (+41.76 dBm), for one through eight carrier. The total power at the antenna port is 120 Watts for this eight carrier/ 3 P2PAM configuration. This power will be available for the 1M25F9W emissions designator. This 15 Watt/carrier (+41.76 dBm) output is per each 1.25 MHz emission bandwidth CDMA carrier.

For one to eight carrier Multi-carrier CDMA applications using 4 P2PAMs the Alcatel-Lucent Flexent<sup>TM</sup> OneBTS<sup>TM</sup> PCS UMTS-CDMA EDPD Transceiver System has a maximum rated CDMA output power at the antenna terminal of 20 Watts per carrier (+43.02 dBm), for one through eight carrier. The total power at the antenna port is 160 Watts for the eight carrier maximum configuration. This power will be available for the 1M25F9W emissions designator. This 20 Watt/carrier (+43.02 dBm) output is per each 1.25 MHz emission bandwidth CDMA carrier. Multiple antenna ports may be combined internally for additional capacity.

(The above data is unchanged from prior filings)

#### **Additional Capacity Operation**

For single 3M00F9W LTE carrier operation using one to three P2PAMs, the maximum rated output power at the antenna terminal is 32 Watts (+45.05 dBm), 3-second average. Total output power is unchanged at 40 Watts per P2PAM amplifier.

For single 5M00F9W LTE carrier operation using two to three P2PAMs, the maximum rated output power at the antenna terminal is 48 Watts (+46.81 dBm), 3-second average. Total output power is unchanged at 40 Watts per P2PAM amplifier.

(This is new data and is a change from prior filings)

### **Exhibit 3** FCC REQUIRED INFORMATION continued

Section 2.1033 (c)(10): A description of all circuitry and devices for determining and stabilizing frequency.

The Alcatel-Lucent Flexent<sup>TM</sup> OneBTS<sup>TM</sup> PCS UMTS-CDMA-LTE Broadband EDPD Transceiver System, is a 15 MHz wide digital transceiver designed to operate in the Broadband PCS frequency spectrum. 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 GPS locked stable Rubidium Oscillator Module (OMR) using proprietary phase-locked-loop (PLL) circuitry. There has been no change to the frequency determining and stabilizing circuitry in this product from previous filings.

**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.

Response: The PCS UMTS-CDMA-LTE EDPD Transceiver, FCC ID: AS50NEBTS-10 utilizes the MCR-1900 / FCC ID AS50NEBTS-09 and the P2PAM/ FCC ID: AS50NEBTS-06 with additional EDPD spurious reduction from that presented in the MCR-1900 and P2PAM filings. The P2PAM/ AS50NEBTS-06 is a nominally rated 52 Watt/ 47.16 dB fixed gain linear amplifier. The output power that is delivered to the J4 antenna output connector of the cabinet in which the P2PAM's are mounted is reduced from this maximum value by filter insertion loss, RF transmission losses and margin for long term reliability. For single and multi carrier operation the FCC "Range of Power" delivered at the J4 antenna connection is 0.04 to 40 Watts per single amplifier (+2 /-4 dB). This power is under continuous software control.

The total FCC "Range of Power", for one to eight carrier Multi Carrier operation, delivered at the J4 antenna connection is 0.04 Watts (single carrier) to 160 Watts (eight carrier) total power. This power is under continuous software control.

#### **Additional Capacity Operation**

For a single 3M00F9W LTE carrier operation using one to three P2PAMs, the maximum rated output power at the antenna terminal is 32 Watts (+45.05 dBm), 3-second average. Total output power is unchanged at 40 Watts per P2PAM amplifier with 120W total power for this configuration.

For a single 5M00F9W LTE carrier operation using two to three P2PAMs, the maximum rated output power at the antenna terminal is 48 Watts (+46.81 dBm), 3-second average. Total output power is unchanged at 40 Watts per P2PAM amplifier with 120W total power for this configuration.

(This is new data and is a change from prior filings)

**SECTION 2.1033(c)** (7): Maximum power rating as defined in the applicable part of the rules.

Response: The maximum average power output of the PCS UMTS-CDMA EDPD Transceiver, FCC ID: AS5ONEBTS-10 at the J4 antenna output connector is 40.0 Watts per single carrier 40 watts total +2 /-4 dB maximum with a single transmit amplifier configuration.

When configured with 4 P2PAM amplifiers in the seven or eight carrier Multi-Carrier Configurations the Maximum Power delivered at the J4 antenna connection is 160 Watts total.

The use of post transmit filter combiners can allow multiple transmitter J4 outputs to share a given antenna connection. The transmitter combiners may be internal or external mounted.

(The data above is unchanged from prior filings)

#### **Additional Capacity Operation**

When configured for LTE operation using one to three P2PAMs, The maximum rated output power at the antenna terminal is 40 Watts per P2PAM amplifier for one to three amplifiers 120W total. Total output power is unchanged at 40 Watts per P2PAM amplifier

(This is new data)