

Exhibit 5a - System Description

Enhanced Digital Predistortion (EDPD)

Response:

The block diagrams attached to this exhibit are considered to be highly proprietary both to Lucent Technologies and to Lucent's contracted manufacturer/supplier. It contains critical design information that can not be made available for public inspection. It's distribution is restricted solely for Lucent employees with "a need to know". Lucent Technologies requests that this information be held confidential and it must not be made available for public inspection.

Lucent Technologies FLEXENT® OneBTS PCS 4.0 Modular Cell with Enhanced Digital Predistortion (EDPD) incorporates the PCS UMTS-CDMA Radio (UCR1900), BNJ27; the P2PAM power amplifier; the 20 MHz wideband, low loss, A/D Dual Duplex (DDpx) bandpass filters, and the Enhanced Test and Diagnostic Unit (ETDU). This **PCS CDMA EDPD Transceiver System** is the subject of this application for certification. The PCS CDMA EDPD Transceiver System consists of two principle RF active component circuit packs: (1) the UMTS-CDMA Radio (UCR1900), Model BNJ27, which was previously authorized by the Federal Communications Commission under FCC ID: AS5ONEBTS-04, and (2) the P2PAM power amplifier. The block diagrams are attached to this exhibit and are requested to be held as confidential information in compliance with the request for confidentiality submitted with this initial filing for the PCS CDMA EDPD Transceiver System.

Operational Description

The Lucent Technologies PCS CDMA Transceiver System with Enhanced Digital Pre-Distortion is a system that evaluates the output signal from the amplifier and via digital signal processing compensates it by digitally pre-distorting the signal prior to the radio RF stage in order to enhance overall system performance.

For EDPD, the UCR's digital hardware performs complex correction on the combined multi-carrier signal to pre-distort each I and Q sample at its baseband frequency. This pre-distorted signal is affected by natural distortion during amplification in such a way that the fully-amplified RF signal is significantly more linear than it would have been without EDPD. The more linear signal means lower spectral growth and an improved FCC compliance margin.

The System Block diagram attached below shows two typical layouts of a EDPD Transceiver. This shows both a single P2PAM and Dual P2PAM/ MCA configuration. In each case the Dual duplex filter sends a calibrated transmit waveform to the ETDU. The ETDU receives, samples and digitizes the signal from the amplifier output and conveys the information to the UCR for EDPD signal processing.

RF Transmit Path- 5 Carrier

