

EXHIBIT 3

MANUFACTURING AND PRODUCT INFORMATION

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Type of Authorization: Type Acceptance of 1900MHz Picocell System

FCC Identifier: **K3Y-PICO-1900**

Applicable FCC RULES: **FCC Part 2 and Part 24**

Manufacturer: Hughes Network Systems
11717 Exploration Lane
Germantown, MD 20876

Applicant's Relationship to MFR: same

Quantity Production Planned: yes

Testing Dates: April 12, to May 10, 2000

Manufacturer's Representative: Mr. John Corrigan

2.983(d) Technical Description

The Picocell BTS includes 1 to 4 radio, one scanning receiver, a power supply module and master oscillator, and a BTS controller which includes T1 interface function. Only digital mode operation is supported, using full-rate traffic channels and a Digital Control Channel. The Wireless Station Base Unit is used in the 1900 MHz Domestic Public PCS. The system was tested using TIA/IS-136/IS-138, and will operate in digital mode at a maximum power output of 100 milliwatts. The system was tested for compliance with FCC Rule Part 15 and Part 24. Each radio supports one RF carrier, which has 6 TDMA time slot. In the full-rate digital operation, slot 1&4 is designated as digital channel #1, slot 2&5 as digital channel #2, and slot 3&6 as digital channel #2 and #3 assigned as Digital Traffic Channels (DTCs). The DCCH shall support private system registration functions as specified in IS-136A. In call processing, whether it is origination or paging, the Wireless Base Station Unit (WBSU) is a slave unit under the control of the Wireless Office Service Controller (WOSC), which controls one or more Picocell BTSs. The WOSC communicates with each Picocell BTS using a dedicated control time slot (per Picocell BTS) on the T1 interface. This control interface is designated Abis, in that it is similar in nature to the interface between BTS and BSC in the GSM standard. The main duty of the controller function within the Picocell BTS is as a message translator between the air interface messages and the Abis interface messages. For more information on the unit please refer to manual included.

2.1033(c)(3) Instructions/Installation Manual

Refer to Exhibit: **Installation and Service manual.**

2.1033(c)(4) Types of Emissions

DIGITAL= 40K0DXW {TDMA (pi/4 DQPSK)}

2.1033(c)(5) Frequency Range

Transmitter: 1930 - 1990 MHz

Receiver: 1850 - 1910 MHz

2.1033(c)(6) Range of Operating Power

-8dBm to +20dBm (Maximum)

.158mW to 100mW (Maximum)

2.1033(c)(7) Maximum Power Rating

Section 22.913(a); base transmitters and cellular repeaters must not exceed 500 Watts.

2.1033(c)(8) Applied voltages and currents into the final transistor elements

6 Vdc @ 400 mA

2.1033(c)(9) Tune-up/Optimization Procedure

Refer to Exhibit: **Installation and Service manual.**

2.1033(c)(10) Complete Circuit Diagrams and Functional Block Diagram

Refer Exhibits: **Schematics and Parts list.** Confidentiality is requested for these items.

2.1033(c)(10a) Means for Frequency Stabilization

A 9.6 MHz Ovenized reference Oscillator (OCXO) is used. The OCXO has frequency drift of +/- 0.25ppm

2.1033(c)(10b) Means for Attenuating Higher Audio Frequencies

Built-in filters in Radio and Branching Board.

2.1033(c)(10c) Means for Limiting Modulation

DSP

2.1033(c)(10d) Means for Limiting Power

DSP

2.1033(c)(11) Equipment Identification

A drawing of the equipment identification nameplate appears under Exhibit: **PROPOSED FCC ID LABEL FORMAT.**

2.1033(c)(12) Photographs

Photographs of the equipment, internal and external views, are found in the Exhibit: **Eut Photographs**.

2.1033(c)(13) Description of Digital Modulation Techniques

Digital Mode: TDMA (p/4 DQPSK)

2.1033(c)(14) Standard Test Conditions

The transmitter was tested under the following conditions:

Room Temperature: 20 - 23 °C

Relative Humidity: 35 - 50%

DC Supply Voltage: 24 to 48Vdc

The transmitter was aligned and tuned up according to manufacturer's alignment procedure, prior to testing. All data presented represents the worst case parameter being measured.

2.1033 Description of Various Base Station Configurations

Not applicable.

2.1033 Use of Various Power Supplies

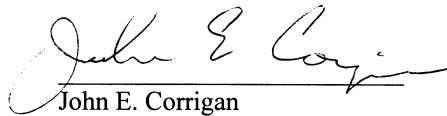
Ac Adapter Input: 120Vac, 60Hz: Output: 48Vdc

Dc power supply form 24 to 48 Vdc

Engineering Statement

I hereby attest that the measurements shown in this report were made in accordance with the procedures indicated, and that the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

I further attest that, on the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 24 of the FCC Rules under normal use and maintenance.



John E. Corrigan
Sr. Vice President
Hughes Network Systems

Manufacturer's Statement Regarding Modifications

I hereby attest that the product will be manufactured with all modifications for Part 24 compliance as submitted in this report.



Hitendra Ghosh
Vice President, Quality
Hughes Network Systems