EXHIBIT B

TECHNICAL DESCRIPTION

A. Product Description:

The SelectAmp 1900-FC bi-directional channelized amplifier provides selective frequency amplification of user specified frequencies in the PCS Broadband frequency of Blocks C and F. This unit will selectively filter for one channel in the Uplink and Downlink band as determined by the operator. Frequency selection, gain adjustment and fault monitoring is accomplished with monitor and control circuitry and firmware.

The SelectAmp 1900-FC channelized amplifier accepts a broadband input in the uplink and downlink bands, and selectively passes one discrete channel in each band while rejecting the others. This is accomplished by downconverting the desired signals to a 140MHz intermediate frequency and using narrowband SAW filters to provide adjacent channel rejection.

Downlink Frequency:

C Band: 1975-1990 MHz
F Band: 1970-1975 MHz

Uplink Frequency:

C Band: 1895-1910 MHz
F Band: 1890-1895 MHz

Power Output: 2 Watts
RF Gain: 65 to 95dB, adjustable steps - manually adjusted.

Modulation Types: This amplifier is designed for use with all types of Broadband PCS modulations. Specifically, the compliance tests were performed with the following representative PCS digital modulations.

Modulation Type	Channel Width
NADC (D-AMPS)	30 kHz
PCS1900	200 kHz
CDMA	1.23 MHz

The amplifier is described in further detail in the Users Guide presented in Exhibit D.

B. Production Quantity: Large scale production of this unit is planned.

C. Circuit Diagram:

The block diagrams for the device are shown in Figure B-1 and

Figure B-2.

D. Circuits Employed for Suppression of Spurious Radiation:

The amplifier consists of four major modules: diplexers, LNA/attenuator, channelizer, and power amplifier. The diplexer modules consists of dual filters with a common port on one end and two separate ports on the other. The LNA/attenuator module contains three gain stages and a digitally controlled attenuator. The channelizer is equipped with a downconverter board that consists of a mixer driven by a synthesizer, a SAW filter centered at 140MHz with a 1.5MHz, 3 dB bandwidth, and two gain stages. The output of the downconverter board is fed to the upconverter board. The upconverter board mixes the filtered 140MHz IF with a signal from the synthesizer and outputs the same frequency that was input to the downconverter. See Chapter 3 of Users Guide for further details.

E. Power Supply:

The AC/DC power supply converts the input power (115VAC) to a regulated +22 VDC output which is used by the power amplifier, and +15, +5, and -5 VDC outputs.