

Technical Descriptions:

NeoPoint 1600 is a Single Band Cellular Dual Mode CDMA/AMPS phone with Personal Digital Assistant (PDA) functionality. It is designed to comply with Part 15 and Part 22 of the CFR as well as ANSI IS-98A standard. The PDA functionality of NeoPoint 1600 allows electronic organizer capabilities and data communications with a PC through a cable.

TX frequencies: 824.04 MHz (Ch. 991) – 848.97MHz (Ch. 799)

RX frequencies: 869.04 MHz (Ch. 991) – 893.97MHz (Ch. 799)

LO frequencies: 954.42 MHz (Ch. 991) – 979.35MHz (Ch. 799)

Output Power: (1) CDMA: -50dBm (min) to +23dBm (max)

(2) AMPS: 8dBm (min) to +28dBm (max or lower per SAR requirement)

DC voltage and current into final RF power amplifier: 4V to 5V, 120mA to 350mA

Battery voltage: nominal 7.6V prismatic two-cell Li-Ion (supplied with phone)

Antenna Specifications:

Peak gain: 0dBi (retracted) and 2dBi (extended) over TX and RX frequencies;
Omnidirectional; VSWR < 3:1

Alignment/Tune-up Procedure:

This product has factory preset frequency adjustments. There is no frequency field adjustment for this product. In field operation, frequency is locked to the base station and controlled by the VCTCXO adjustments to offset any possible errors through microprocessor control in the phone.

Frequency Stabilization:

A voltage controlled temperature compensated crystal oscillator (VCTCXO) is utilized as a frequency reference for all of the transceiver local oscillators. This crystal oscillator is specified to a frequency stability of +/- 2.45ppm. The synthesizer lock status is constantly monitored by the microprocessor and transmission is disabled whenever an out of lock condition is detected. The mobile is locked to the base station during operation. The mobile receiver constantly monitors the received signal from the base station and makes necessary frequency adjustment on the VCTCXO to correct any frequency errors between the mobile and the base station.

Suppression of Spurious Radiation:

Spurious and harmonic suppression is achieved by proper design with various filters and sufficient use of metallic shields. Rigorous testing at the factory ensures continuous compliance.

Limiting Output Power:

Each mobile is individually calibrated at the factory to ensure max power within specified limits by employing proper frequency and temperature compensation schemes for both the TX and RX automatic gain control amplifiers. A power detector at the output of the power amplifier also constantly monitors TX output power to ensure proper limiting.

Limiting Modulation:

The audio input is sampled, digitally limited, and then filtered to amplitude and frequency limit the signal applied to the modulator. The device supports the ANSI IS98A dual mode operation. The device has an operating temperature range of -30C to +60C. The functions include Combandor, PLL lock detector, filtering of received data, audio signal filtering for signals.

Oscillator Frequencies:

19.68MHz TCXO reference frequency
27MHz Resonator frequency for microprocessor
32.768KHz Real time clock crystal