

OPERATIONAL DESCRIPTION

1. GENERAL

The 800 / 1900 MHz Dual Band Linear RF Compensator is a bi-directional power amplifier. It is used to compensate for signal attenuation in cellular phones due to antenna and cable losses. It operates on a single channel, in both analog (AMPS) and digital modes (TDMA and CDMA).

2. LINEUP

Cellular band: Transmit path: consists of duplexers, attenuators and RF power amplifier.
Receiver path: consists of duplexers and MIMIC gain block.

PCS band: Transmit path: consists of duplexers, attenuators and RF power amplifier.
Receiver path: consists of duplexers, MIMIC gain blocks and attenuators.

3. I/O SIGNALS

- Antenna port: PA to antenna connection.
- Portable port: PA to phone connection.
- ON/OFF control: control the PA's on and off state.
- RST, CLK and DATA: control signals, setting the digital potentiometer's value.
- A+: PA's DC input power.

4. PRINCIPLES OF OPERATION

Transmit signal from both cellular and PCS bands is attenuated and fed to a RF power amplifier device before going out to the antenna port.

Receive signal in the cellular band is amplified and send to the portable port.

Receive signal in the PCS band is amplified, attenuated and amplified again before being sent to the portable port.

The PA's gain is varied using the digital potentiometers locating in transmit paths. It is done by ways of the RST, CLK and DATA signals.

The PA can be turning ON and OFF through the ON/OFF control line.

