2. FUNCTIONAL DESCRIPTION

2.1 GENERAL

This repeater is designed to help improve communications signal by extending the coverage of a base station. The Donor (Base) antenna receives the signal from a base station and conveys it to the iDEN Repeater. The Repeater amplifies the signal. After amplification, the signal is passed through to the Mobile antennas. Conversely, signals from handsets are amplified and retransmitted by the Repeater to the base station.

2.2 FUNCTIONAL DESCRIPTION

The incoming signal processing in the iDEN Repeater is processed similarly for both the Uplink and Downlink paths. Figure 1 provides a functional block diagram of the iDEN Repeater.

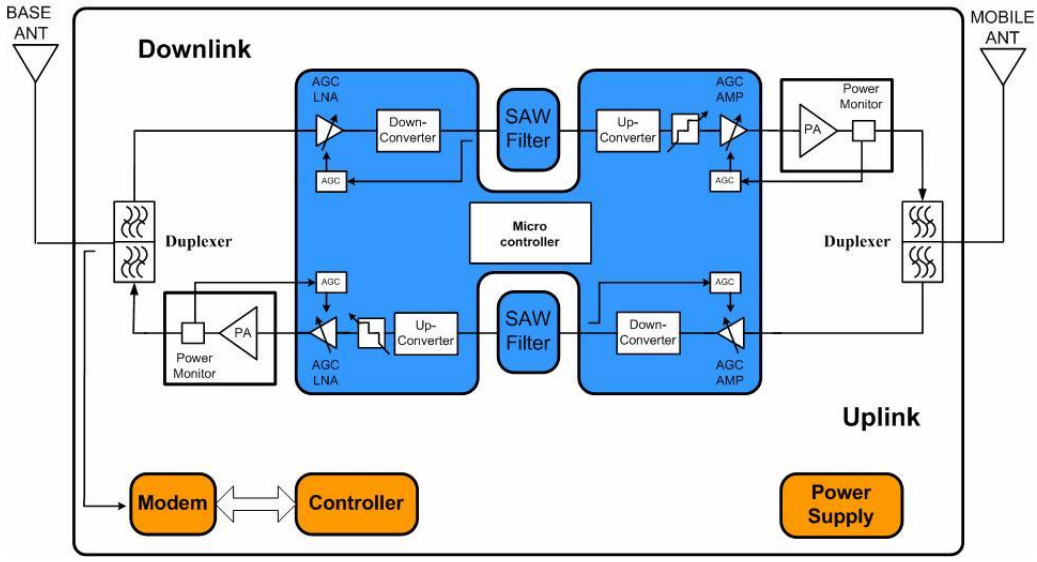

Figure 1: iDEN Repeater - Block Diagram

The block diagram showed in Figure 1 illustrates the overall functionality of the iDEN Repeater. Dekolink's programmable iDEN Repeaters employ advanced up/down conversion Intermediate Frequency (IF) Surface Acoustic Waves (SAW) filtering architecture. This new technology offers distinct advantages over conventional repeaters, when high adjacent selectivity and spectrum purity is required.

The Channeler Module (center unit) consists of dual Radio Frequency Up/Down Converter sub-modules for Downlink and Uplink paths. The Channeler amplifies the received RF signals and converts them into an intermediate frequency (IF). The IF outputs are connected to a SAW Filter. The IF outputs are converted back to the original RF frequencies.

The cellular modem is an option for remote monitoring and repeater parameters control.