

**What the Product is used for:**

AWIRE is a direct response to the lack of communication options for action sport athletes. AWIRE is a lifestyle brand devoted to addressing the needs of its consumers by reinventing the two-way radio.

Wearable technology is experiencing growth in popularity as products continue to adapt to the needs of those on-the-go. AWIRE is responding to this trend by developing, AWIRE, the first of a unique product line ideal for on-the-hill talk between friends. Users can provide safety alerts and performance tips on-the-go while remaining safe, stylish, and constantly in touch.

**Product Description:**

AWIRE Device is a 2 way radio operating in the FRS (Family Radio Service) Frequency. AWIRE focuses on a small module footprint, with a radio transceiver module approximately the same size as a standard business card. In order to accomplish this, many of AWIRE functions are located on a smartphone that functions as a remote control for the AWIRE module. In very basic terms, the AWIRE can be considered a Bluetooth headset that incorporates a two way radio communication into the suite of radio communications that already exist on today's smartphones. The AWIRE will allow users the ability to communicate with each other within 2 Kilometers of each other. AWIRE will still allow for common features of Bluetooth headsets, including music playback and cellular phone call pickup through the device.

AWIRE accomplishes FRS/GMRS communication using the BEKEN BK4813 radio transceiver chip. The BK4813 is a half duplex TDD FM transceiver operating from 130 MHz to 490 MHz band for worldwide personal radio. AWIRE utilizes functional frequencies in the FRS/GMRS channels (462 & 467 MHz Frequencies with channel span of 1-14). This Transceiver module is coupled with a custom designed Class C amplifier with 21.7Mhz reference clock speed. The radio transceiver transmits using an integral ground referenced pAWIREh type antenna, SplAWIREh ANT-458-SP. The ground system is a common ground plane in the PCB tying into the negative battery terminal.

Beyond the FM transceiver, AWIRE utilizes PIC Microcontroller PIC18F24K22 with internal clock speed of 8MHz. This microcontroller regulates all aspects of the transceiver module and integration with the Amp'ed RF BT53i Bluetooth module. The BT53i controls communication over Bluetooth with external paired smart device such as an iPhone.