Stealth 600P Gen 2 System Theory of Operation

The Stealth 600P Gen 2 Wireless Gaming System consists of two main communication modules, the Stealth 600P Gen 2 RX (“Headset”) and the Stealth 600P Gen 2 TX (“Transmitter”). These two modules comprise a closed-loop wireless audio gaming system that utilize an ultra-low power 2.4 GHz BLE communication technology to offer wireless streaming audio and chat/talkback capabilities. This system uses BLE GFSK modulation to deliver 1.0 and 2.0 Mbps data rates over 1.0 and 2.0 MHz channel frequencies in the 2402 to 2480 MHz band.

The Stealth 600P Gen 2 Transmitter module contains a BLE transceiver, the NXH3670UK, which transmits and receives data using a BLE audio communications protocol. Operation is in the 2.4 GHz frequency band and the operating channel bandwidth is 1.0 or 2.0 MHz. The chipset utilizes a single, omni-directional PCB antenna with a gain of -2.4 dBi and a rated maximum output power of +4.0 dBm +/- 1.5 dB.

In addition, the Stealth 600P Gen 2 Transmitter module has the ability to accept digital inputs from a standard PC via its USB interface. These signals are then converted by the internal circuitry and transmitted to the Headset (RX) via the 2.4 GHz communication link. Finally, the Stealth 600P Gen 2 Transmitter module is powered from a standard 5.0 VDC USB interface that is supplied by the host PC.

The Stealth 600P Gen 2 Headset contains a partner BLE transceiver, the NXH3670UK, which transmits and receives data with the TX chip in a closed-loop system. The NXH3670UK transceiver is used to receive the streaming audio from the gaming console or PC via the partner NXH3670UK over the 2.4 GHz link. The 2.4 GHz communication link is primarily uni-directional in that the audio is “sent” from the TX unit to the RX unit and the return path from the RX unit to the TX unit is only used for acknowledgement packets. The Headset (RX) utilizes a single, omni-directional PCB antenna with a gain of +2.17 dBi and a rated output power of +4.0 dBm +/- 1.5 dB.

In addition, the Stealth 600P Gen 2 Headset contains other circuitry, including a microprocessor, regulators and memory. It also contains battery recharging circuitry to power and recharge a 3.7 VDC Lithium-Polymer battery that enables the Stealth 600P Gen 2 Headset to operate for up to fifteen (15) hours. The headset can also be charged without interrupting game-play by using the included USB 2.0 Headset Charging Cable and plugging it into a standard gaming console or PC USB port.