

## 1.2. Operational Description

The EUT is a PC USB Headset with a built-in 2.4GHz transceiver.

It uses the latest 2.4GHz wireless audio solution which can provide high quality wide-band audio and robust wireless audio transmission. Total numbers of channels supported by this device are 37 channels operating from 2405 to 2477MHz with 2MHz channel spacing.

This is a digital transmission system but not a FHSS since only one fixed channel is selected to transmit and receive data. This device uses the preset channel number to transmit and receives data and it will scan to select a fixed channel to transmit and receive data when no channel is preset.

The EUT built-in Avnera ICs (AV7101) are fully integrated single-chip wireless audio solutions, including a complete RF transceiver, Audio Fidelity Processing™ signal coding and processing, complete digital audio interfaces, and voltage regulation. The antenna type is Printed antenna and the modulation type is  $\pi/4$  DQPSK (Differential Quadrature Phase Shift Keying).

SPDT TQS5200 is a T/R switch used to control the signal path. When transmitting data, it is switched to “transmit switch” which allows RF DQPSK modulation data sent from CPU AV7101 through PA TQP770001, BPF, T/R switch and then Antenna.

PA TQP770001 is a power amplifier used to amplify the modulation frequency range from 2405MHz to 2477MHz. BPF (Band pass Filter) is used for suppressing the harmonics including 2nd and 3rd harmonics which usually are generated after power amplifier.

When receiving data, the SPDT TQS5200 is controlled to be at “receive switch” which allows the data received from the air by the antenna directly to the single chip CPU AV7101 to be processed.