

Operational Description

This device is a Personal Computer with built-in a WLAN IEEE802.11a/b/g/n card, Bluetooth module and 2.4GHz GFSK receiver.

For WLAN IEEE802.11a/b/g/n card:

The device is including a WLAN card. The WLAN card is power by host equipment (Personal Computer). The type of the antenna is PIFA antenna with I-PEX & UFL connectors. Under normal use condition, the user has to keep at least 2.5cm separation distance between radiator and the body of the user.

The WLAN card is operates in both of the 5GHz (OFDM technique) and 2.4GHz (DSSS and OFDM technique) bands. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 270Mbps.

The EUT incorporates a MIMO function. Physically, the card provides two completed transmitters and three receivers. For the 802.11n, the EUT is 2 * 3 spatial MIMO (2Tx & 3Rx) without beam forming function. When the EUT operating in 802.11b, 802.11g, 802.11a, the software operation, which is defined by manufacturer, only set single Tx. The EUT complies with draft 802.11n standards and backwards compatible with 802.11b, 802.11g, 802.11a products.

FCC 15.407(c) states: The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of hoe this requirement is met.

Data transmission is always initiated by software, which is then pass down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets (ACKs, CTS, PSpoll, etc...) are initiated by the MAC. There are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets are being transmitted.

For Bluetooth module:

The device is a Frequency Hopping device with 79 hopping frequencies. The antenna type is Chip Antenna and there is no antenna connector used.

The EUT is a unit that contains a Bluetooth radio module. Bluetooth is a short-range wireless technology operating in the 2.4GHz band. It enables devices to have the ability to form networks and exchange information.

For 2.4GHz GFSK receiver:

The device is powered by host equipment (Personal Computer). The type of antenna is Printed antenna. The output power of this device is very low. Under normal use condition, the transmitter and the receiver are quite close, so high EIRP power is neither necessary nor allowed because of interference.