Operational Description

This device is a VDSL/GbE WiFi Data Router, which operates in both of the 5GHz and 2.4GHz bands and can transmitting simultaneously, the maximum data rate could be up to 450Mbps which OFDM technique. If the signal to noise radio is too poor which could not support 450Mbps, the 11Mbps data rate with DSSS technique will be applied.

The transmitter of the EUT is powered by DC 12V from power adapter. The antenna provided to the EUT, please refer to following table.

Transmitter Circuit (Ant. No.)	Brand	Model	Antenna Type	Gain (dBi) (including cable loss)	Diversity Function	Frequency range (GHz to GHz)	Connecter Type	Cable Length (mm)
Chain (0) A2	Airgain	M2450DL CM-T1-G 100U	PIFA	3.0	Yes	5.15 to 5.35	I-PEX	100
				5.1		5.47 to 5.85		
Chain (1) A3	Airgain	M2450DL CM-T-G8 5CC20R2	PIFA	2.6	Yes	2.4 to 2.49	I-PEX	85
				2.5		5.15 to 5.35		
				3.8		5.47 to 5.85		
Chain (2) A1	Airgain	M2450DL CM-T1-G 190UR2	PIFA	1.8	Yes	2.4 to 2.49	I-PEX	190
				2.1		5.15 to 5.35		
				3.1		5.47 to 5.85		

Note. : 1. For 2.4GHz<1Tx mode>: Chain (1) was chosen for final test.
2. For 5GHz<1Tx mode>: Chain (0) was chosen for final test.
3. For 5GHz<2Tx mode>: Chain (0) & Chain (1) were chosen for final test.

The other instruction, please have a look at the users manual.

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 how 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.