

# 17WFM21

## Description of Operation

### General Description

The 17WFM21 WI-FI module design is a highly integrated MIMO wireless LAN (WLAN) used for high speed wireless local network access. The card is built with 2T2R capable RF/baseband single chip.

The 17WFM21 WI-FI module design implements multiple input, multiple output (MIMO) orthogonal frequency division multiplexing (OFDM) with 2 transmit and 2 receive paths and is compatible with 802.11 a/b/g/n specifications.

For legacy compatibility, direct sequence spread spectrum (DSSS), complementary code keying (CCK) and OFDM baseband processing are included to support all 802.11b, and 802.11g data rates.

Differential phase shift keying modulation schemes, DBPSK and DQPSK with data scrambling capability, are available along with complementary code keying to provide the data rates of 1, 2, 5.5 and 11Mbps with long or short preamble. The high speed FFT/IFFT paths, combined with BPSK, QPSK, 16QAM, and 64QAM modulation of the individual subcarriers and rate compatible punctured convolutional coding with coding rate of 1/2, 2/3, 3/4, and 5/6, provides the maximum data rate of 54 Mbps and 300 Mbps phy rate for IEEE 802.11g and 802.11n MIMO OFDM respectively. Module is only a DFS Client.

## Features

- IEEE 802.11a/b/g/n standards
- 2.4 & 5 GHz dual band, HT20 & HT40
- 2x2 MIMO
- Phy-rates up to 300Mbps
- USB interface
- Printed PIFA antennas

## Key Specifications

Main chipset	MT7600, Mediatek
Frequency range *	2402-2482 MHz, 5170-5330 MHz, 5490-5710 MHz
Channels support *	CH 1-13, CH 36-64, CH100-140
Host interface	USB 2.0

\* Country code control by host device

## RF Characteristic

Typical power levels for wi-fi radio are given in figure below.

2.4G BAND				
Standard	802.11b	802.11g	802.11n	802.11n
Modulation	DSS,CCK	OFDM	OFDM	OFDM
Data Rate	1,2,5.5,11	6,9,12,18,24,36,48,54	MCS0 - 7 (HT20)	MCS0 - 7 (HT40)
Channel*	CH 1-13	CH 1-13	CH 1-13	CH 1-13
Power (dBm)	12,5	12,5	12,5	12,5
5G BAND				
Standard	802.11a	802.11n	802.11n	
Modulation	OFDM	OFDM	OFDM	
Data Rate	6,9,12,18,24,36,48,54	MCS0 - 7 (HT20)	MCS0 - 7 (HT40)	
Channel*	CH 36-64/ CH 100-140	CH 36-64/ CH 100-140	CH 36-64/ CH 100-140	
Power (dBm)	10.5 / 11	10.5 / 11	10.5 / 11	

\*See country regulations

## Antenna Characteristic

Printed PIFA antennas

	2.4 Ghz	5 Ghz low band (5180 to 5320 ) (ch 36-64)	5 Ghz medium band (5500 to 5700) (ch100-140)
Antenna 0	3,4 dBi	2,97 dBi	3,69 dBi
Antenna 1	2,12 dBi	3,7 dBi	3,68 dBi