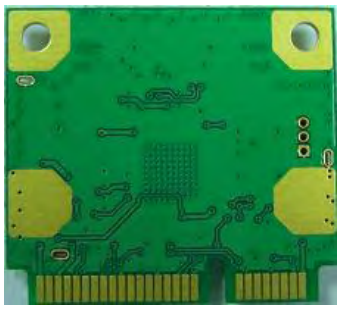
1. INTRODUCTION

1.1 Scope

The **WMW01-RTL8188** is the WLAN card 802.11n for the Notebook / Netbook / UMPC/ MID to enable Wireless LAN functionalities on your portable systems.
RTL8188CE-VL HMC is composed of the latest Realtek single chip RTL8188CE-VL.

- The form factor is Half Mini Card standard 30mm*26.8mm.
- Diversity to choose the best performance Tx/Rx among two antennas.
- The lowest power consumption in comparison to other WLAN solution. When the card is Radio off or hardware disable, it consumes only 10mW.

Top View



Bottom View

1.2 Features

- PCIe v.1.2 HMC (Half MiniCard H2 Type) specification.
- WLAN 802.11n , 1T1R.
- I/O: PCIe.
- 50 Ohm RF connectors for external 2.4G antennas.
- Win7, Vista, XP WHQL certified.
- RoHS compliant.

2. SPECIFICATION

2.1 HARDWARE SPECIFICATION

2.1.1 General Specification

Specification	IEEE 802.11 b/g/n Wireless Local Area Networks
Protocol	WEP 64/128, WPA, WPA2, TKIP, AES
PHY Rate	1T1R mode with 150Mbps PHY Rate for both transmit and receiving
RF Frequency Range	2.4G~2.5GHz
Operating Voltage	+3.3V (+/-0.3V)
Interface	PCI Express v.1.1

2.1.2 Board Specification

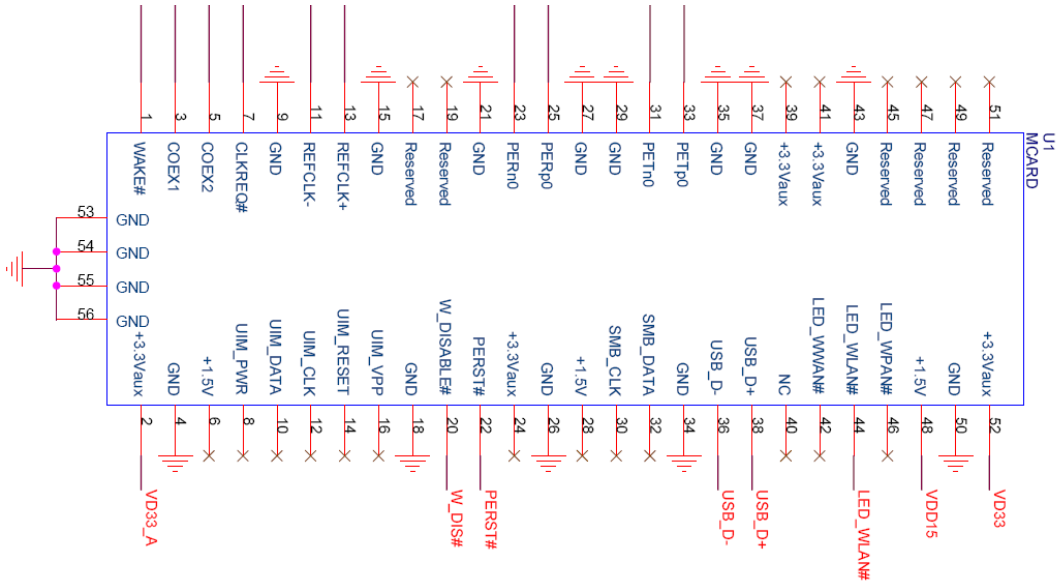
WLAN Chip	Realtek RTL8188CE-VL
Antenna	External antenna
RF connector	iPEX or U.F.L , or equivalent
Form Factor	Half Mini Card

2.1.3 Environmental

Operating	Operating temperature: 0 to 85 degree C Relative Humidity : 5-90% (non-condensing)
Storage	Temperature: -20 to 85 degree C Relative Humidity : 5-95% (non-condensing)

2.1.4 PIN Define

Please refer to the following circuits to know the pin-definition.



PIN	Definition	Remark
1	WAKE#	
3	COEX1	
5	COEX2	
7	CLKREQ#	
9	GND	GND
11	REFCLK-	
13	REFCLK+	

PIN	Definition	Remark
2	+3.3V	+3.3V
4	GND	GND
6	+1.5V	NU
8	UIM_PWR	NU
10	UIM_DATA	NU
12	UIM_CLK	NU
14	UIM_RESET	NU

15	GND	GND
17	RESERVED	NU[1]
19	RESERVED	NU
21	GND	GND
23	PERn0	
25	PETp0	
27	GND	GND
29	GND	GND
31	PETn0	
33	PETp0	
35	GND	GND
37	GND	GND
39	+3.3Vaux	NU
41	+3.3Vaux	NU
43	GND	GND
45	RESERVED	NU
47	RESERVED	NU
49	RESERVED	NU
51	RESERVED	NU

16	UIM_VPP	NU
18	GND	GND
20	W_DISABE#	0: WiFi Radio OFF 1: WiFi Radio ON
22	PERST#	0: to Disable WiFi (power off)[2] 1: to Enable WiFi
24	+3.3Vaux	NU
26	GND	GND
28	+1.5V	NU
30	SMB_CLK	NU
32	SMB_DATA	NU
34	GND	GND
36	USB_D-	NU
38	USBD+	NU
40	NC	NU
42	LED_WWAN#	NU
44	LED_WLAN#	LED for WiFi
46	LED_WPAN#	NU
48	+1.5V	NU
50	GND	GND
52	+3.3V	+3.3V

[1] NU: Not used.

[2] "Power off" means the device is disabled, you cannot find it in Windows device manager.

2.1.5 Power Consumption

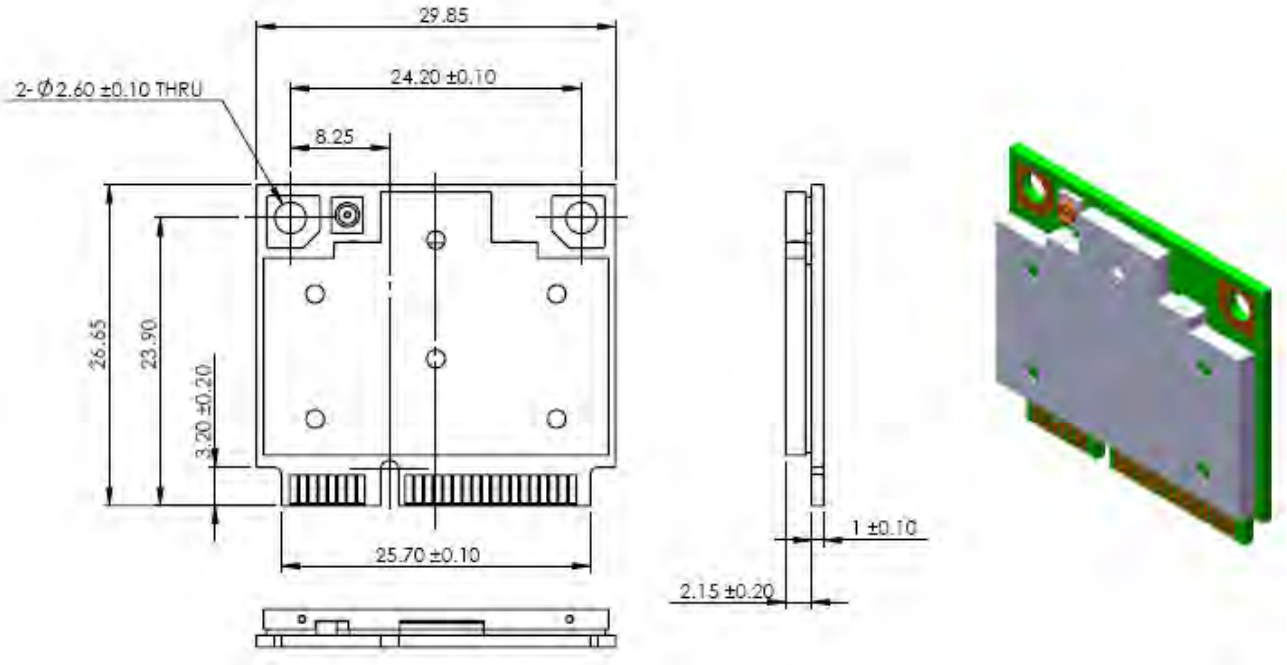
Mode	Power consumption	Remark
Unassociated	3mA @ 3.3V	WLAN On and Without connecting to AP
Associated	18~98mA @3.3V	WLAN On and connecting to AP
Radio Off	3mA @3.3V	
Card Disable	3mA @3.3V	
Transmit Packet at 40MHz	265mA @ 3.3V	
Receive Packet at 40MHz	140mA @ 3.3V	

2.2 MECHANICAL SPECIFICATION

2.2.1 Board Dimension

Form factor	Half Mini Card		
PCB Dimension	30mm*26.8mm		
PCB thickness	1.0mm		
SMD	Single side		
Max. height of components (from PCB)	Top side	Shielding case	2.15mm
	Bottom side	0mm	

2.2.2 Mechanical Drawing



Unit: mm

2.3 SOFTWARE SPECIFICATION

2.3.1 Operating system

Windows XP, Vista, Win7.

3. PACKING & ACCESSORIES

Contents	Unit	Remarks
RTL8188CE-VL	*1	Follow customer Labeling spec.
Cable	*0	No cable is necessary.
Carton	TBD	

The package spec will be subject to updated until customer approval.