

Product Specification preliminary

XW725E

802.11a/b/g/n 2T2R Dual Band Half Mini-Card

Version : 0.1

Date : Jul.05.2011

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Release History

DATE	REV	Description of Change
2011/07/05	0.1	Initial release

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XW725E

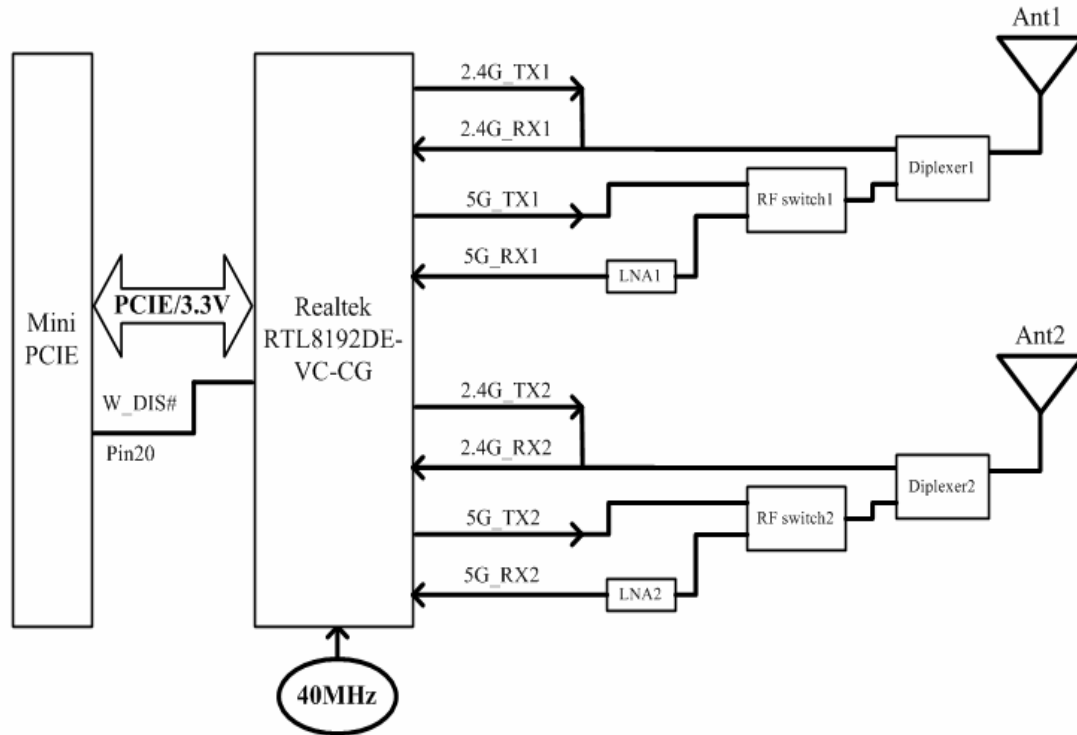
802.11a/b/g/n 2T2R Dual Band Half Mini-Card



1 WLAN Features

- Complete 802.11n MIMO solution for 2.4GHz and 5GHz band
- 2x2 MIMO technology for extended reception robustness and exceptional throughput
- Maximum PHY data rate up to 144.4Mbps using 20MHz bandwidth, 300Mbps using 40MHz bandwidth
- Channel management and co-existence
- Dual MAC architecture allows dual band or dual network access, or operation as a station and an AP concurrently
- WiFi Direct supports wireless peer to peer applications
- Configurable Bluetooth coexistence interface
- Two transmit and two receive paths (2T2R)
- 20MHz and 40MHz bandwidth transmission
- Short Guard Interval (400ns)
- Maximum data rate 54Mbps in 802.11a/g and 300Mbps in 802.11n
- Hardware antenna diversity
- Fast receiver Automatic Gain Control (AGC)

2 Block Diagram



3 General Specifications

Modle Name					
XW725E					
WLAN					
Product Specification					
WLAN Standard	IEEE 802.11a/b/g/n, 2T2R				
Host interface	PCIE				
Major Chipset	Realtek RTL8192DE-VC-CG				
DID	8193	PCIE Device ID			
VID	10EC	PCIE Vender ID.			
SDID	8193	PCIE Subsystem ID.			
SVID	10EC	PCIE Subsystem Vender ID.			
Dimensions					
		Minimum	Typical	Maximum	Unit
	Length	29.7		30	mm
	Width	26.5		26.8	mm
	Height		3.25		mm
	Weight		TBD		g
Antenna Connector	Dual antenna. Con1 is for TX1/RX1 and con2 is for TX2/RX2.				
Operating Condition					
		Minimum	Typical	Maximum	Unit
Voltage	DC	3.0	3.3	3.6	V
Temperature		0		70	°C
Storage temperature		0		70	°C
Humidity Non-Operating		5		80	%
Electrical Specification					
Frequency Range	2400 – 2483.5MHz				
Modulation	BPSK, QPSK, 16QAM, 64QAM, DBPSK, DQPSK, and CCK				
Output power					
		Minimum	Typical	Maximum	Unit
802.11b Mode	11MHz	14.5	16	17.5	dBm
802.11g Mode	54MHz	12.5	14	15.5	dBm
802.11a Mode	54MHz	8.5	10	11.5	dBm
802.11n Mode 2.4GHz	HT20-MCS7	11.5	13	14.5	dBm
802.11n Mode 2.4GHz	HT40-MCS7	11.5	13	14.5	dBm

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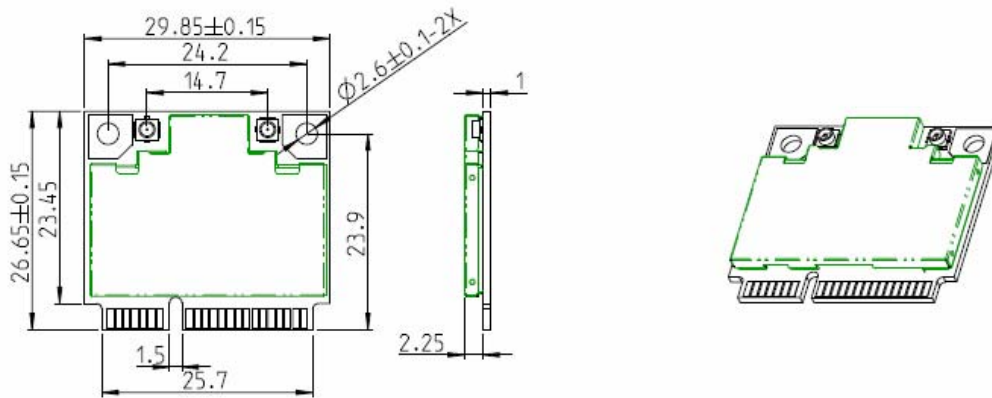
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802.11n Mode 5GHz Lo Ch (5180MHz)	HT20-MCS7	8.5	10	11.5	dBm
Hi Ch (5825MHz)		5.5	7	8.5	
802.11n Mode 5GHz Lo Ch (5190MHz)	HT40-MCS7	7.5	9	10.5	dBm
Hi Ch (5795MHz)		4.5	6	7.5	

Receiver Sensitivity					
		Minimum	Typical	Maximum	Unit
802.11b Mode	11Mbps			-83	dBm
802.11g Mode	54Mbps			-70	dBm
802.11a Mode	54MHz			-70	dBm
802.11n Mode 2.4GHz	HT20 MCS7			-67	dBm
802.11n Mode 2.4GHz	HT40 MCS7			-64	dBm
802.11n Mode 5GHz	HT20 MCS7			-67	dBm
802.11n Mode 5GHz	HT40 MCS7			-64	dBm
Data Rate					
		Minimum	Typical	Maximum	Unit
802.11b CCK Mode		11, 5.5, 2, 1			Mbps
802.11a/g OFDM Mode		54, 48, 36, 24, 18, 12, 9, 6			Mbps
802.11n HT20 Mode	800ns GI	130, 117, 104, 78, 52, 39, 26, 13 65, 58.5, 52, 39, 26, 19.5, 13, 6.5			Mbps
802.11n HT20 Mode	400ns GI	144.4, 130, 115.6, 86.6, 57.8, 43.4, 28.8, 14.4; 72.2, 65, 57.8, 43.3, 28.9, 21.7, 14.4, 7.2			Mbps
802.11n HT40 Mode	800ns GI	270, 243, 216, 162, 108, 81, 54, 27 135, 121.5, 108, 81, 54, 40.5, 27, 13.5			Mbps
802.11n HT40 Mode	400ns GI	300, 270, 240, 180, 120, 90, 60, 30 150, 135, 120, 90, 60, 45, 30, 15			Mbps
Security					
WEP, TKIP, and AES hardware encryption					

Absolute Maximum Rating		
■	Maximum I/O supply voltage	+3.6 V
■	Maximum WLAN RF input level (reference to 50Ohm)	0 dBm

4 Mechanical Dimensions



Unit:mm

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5 Connector Pin-out Definitions

Pin	Definition	Type	Description
1	WAKE#	I/O	Request the system return from a sleep state. Low active
2	3.3V	P	3.3V power supply.
3	COEX1	I/O	WL_ACT
4	GND	P	Ground.
5	COEX2	I/O	BT_PRI
6	NC		No connect.
7	CLK_REQ#	I/O	Request clock from host
8	NC		No connect.
9	GND	P	Ground.
10	NC		No connect.
11	REFCLK-	I	REFCLK-
12	NC		No connect.
13	REFCLK+	I	REFCLK+
14	NC		No connect.
15	GND	P	Ground.
16	NC		No connect.
17	NC		No connect.
18	GND	P	Ground.
19	NC		No connect.
20	W_DIS#	I	Low disable WLAN. High enable WLAN
21	GND	P	Ground.
22	PERST	O	Reset signal from PCIe slot
23	PERn0	I/O	PCIe RX-
24	NC		No connect.
25	PERp0	I/O	PCIe RX+
26	GND	P	Ground.
27	GND	P	Ground.
28	+1.5V	P	No connect.
29	GND	P	Ground.
30	NC		No connect.

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Pin	Definition	Type	Description
31	PETn0	I/O	PCIe TX-
32	NC		No connect.
33	PETp0	I/O	PCIe TX+
34	GND	P	Ground.
35	GND	P	Ground.
36	HSDM	I/O	USB2.0 differential signal DM
37	GND	P	Ground.
38	HSDP	I/O	USB2.0 differential signal DP
39	NC		No connect.
40	NC		No connect.
41	NC		No connect.
42	NC		No connect.
43	GND	P	Ground.
44	LED_WLAN#	O	Driving LED when wireless is active. High active. High enable LED.
45	NC		No connect.
46	NC		No connect.
47	NC		No connect.
48	+1.5V	P	No connect.
49	NC		No connect.
50	GND	P	Ground.
51	NC		No connect.
52	3.3V	P	3.3V power supply.

P : Power/Ground; I : Input; O : Output.

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