

## Single Band 5GHz 2x2 802.11ac Wave 1 MiniPCle WiFi Module Designed for High Power Enterprise Wireless Access Points

**Model: WLE600V5-27ESD**



### KEY FEATURES

- Qualcomm Atheros QCA9882
- 5GHz, 2x2 MIMO OFDM Technology, up to 867Mbps physical data rate
- Single Band 5GHz 2x2 WiFi 5 (802.11ac Wave 1)
- MiniPCle interface with PCIe 1.2
- IEEE 802.11ac compliant & backward compatible with 802.11a/n
- Built-in ESD Protection with ESD/EMP Immunity Threshold: 15KeV<sup>1</sup>
- Supports Spatial Multiplexing, Cyclic Delay Diversity (CDD), Low-Density Parity-Check (LDPC) Codes, Maximal Ratio Combining (MRC), Space Time Block Code (STBC)
- Supports IEEE 802.11d, e, h, i, k, r, v time stamp, and w standards
- Supports Dynamic Frequency Selection (DFS)
- Cards are individually calibrated for Quality Assurance

## Specifications

Chipset	Qualcomm Atheros QCA9882 'Peregrine' Series
Reference Design	Qualcomm Atheros CUS223
Host Interface	MiniPCle interface with PCIe 1.2
Operating Voltage	3.3V, 5V
Power Consumption	7.5W (Max)
Wireless	5GHz 802.11a/n/ac, max 27dBm per chain 2x MMCX Connectors
Frequency Range	5.150~5.825GHz
Modulation Techniques	BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM
Channel Spectrum Widths for WLAN	Supports 20/40/80MHz at 5GHz
Supported Operating System	Supported by either CompexWRT with Atheros Reference Wireless Driver OR OpenWRT/LEDE with ath10k Wireless Driver on WPJ344
Certification	CE, FCC, IC, REACH and RoHS Compliance
Environmental Temperature	Operating: -20°C to 70°C with normal heatsink, -40°C to 85°C with large heatsink Storage: -40°C to 90°C
Environmental Humidity, Non-Condensing	Operating: 5% to 95%, Storage: Max. 90%
Dimensions (W x H x D) in mm	50.0 x 51.0 x 12.5 with normal heatsink, 95.0 x 51.0 x 13.0 with large heatsink

1. Module grounding cable included.

2. 5V supply is compulsory. Enable this by placing jumper on pin pair J5 on the WPJ344/WPJ558 board.

Otherwise supply to the 5V external power pin.

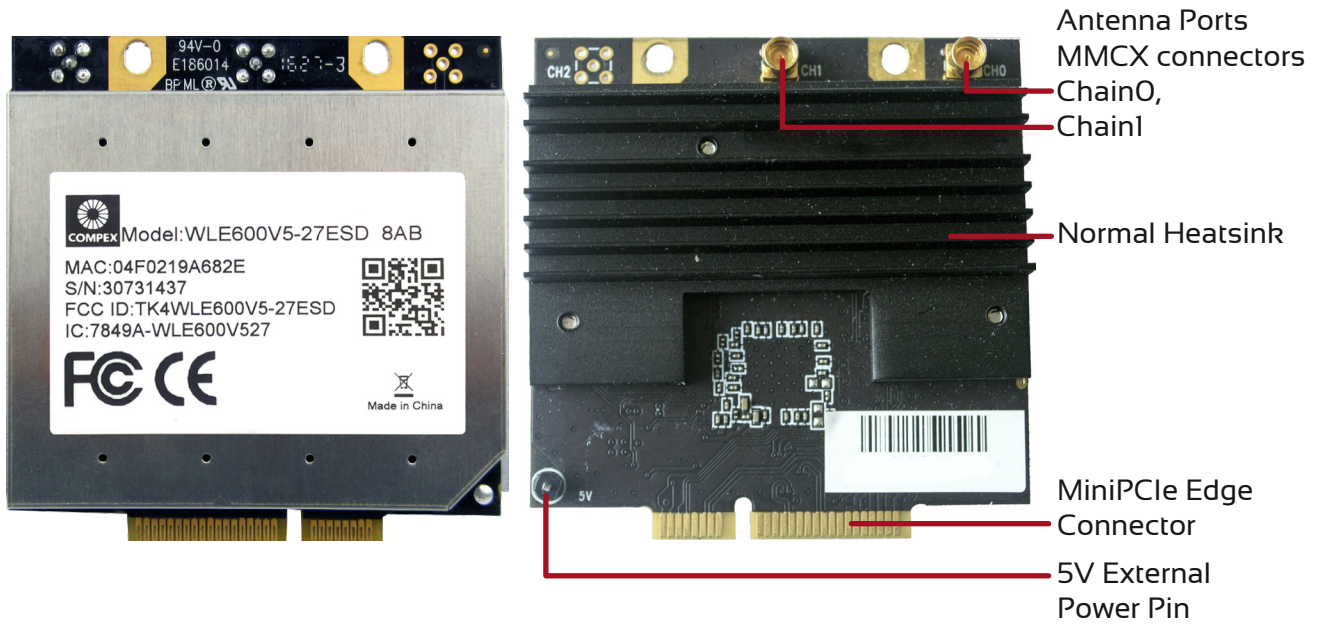
\*Configurations are subject to change without notifications.

## RF Performance Table for 5GHz

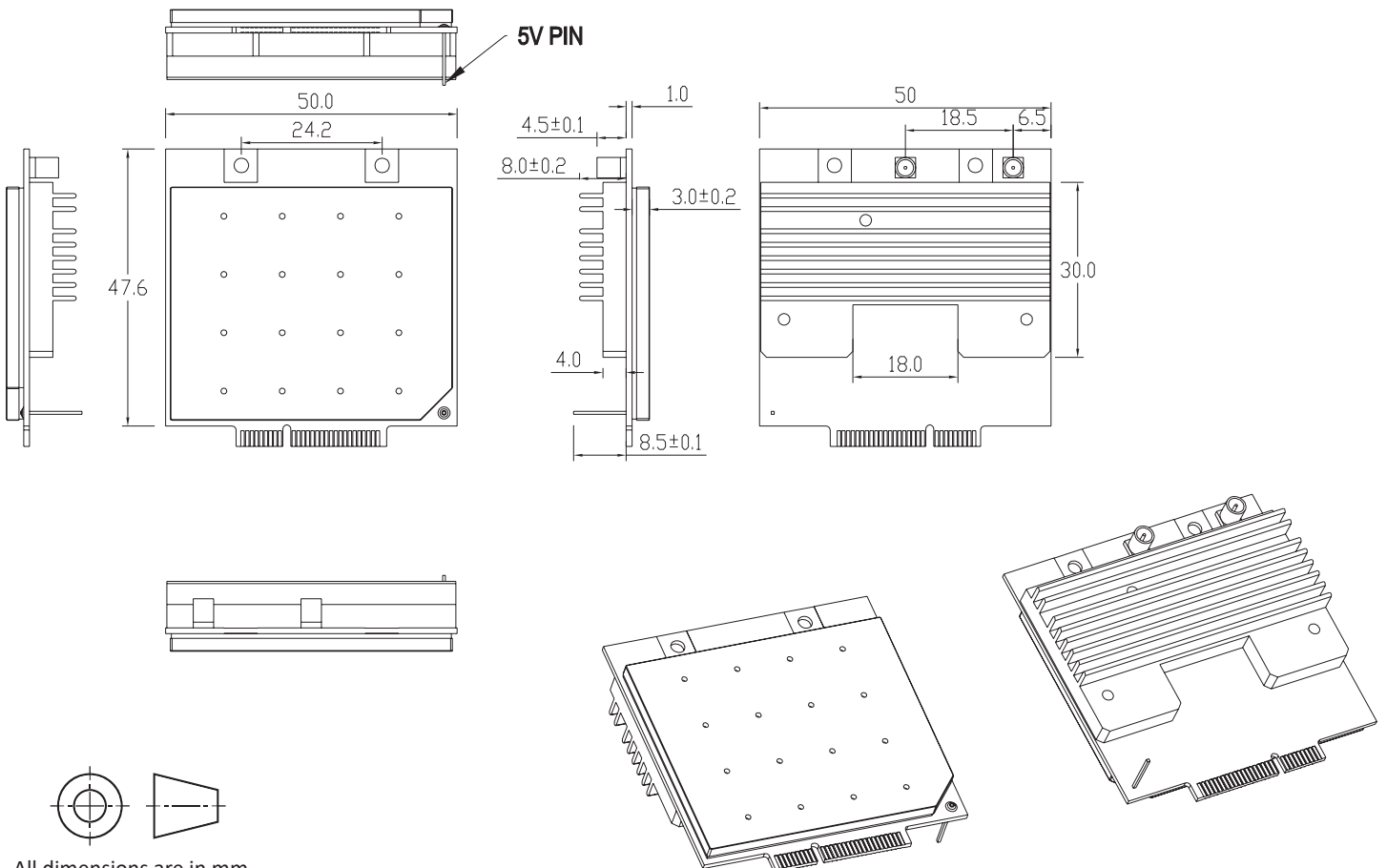
	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
5GHz 802.11a	6Mbps	27dBm	30dBm	±2dB
	9Mbps	27dBm	30dBm	±2dB
	12Mbps	27dBm	30dBm	±2dB
	18Mbps	27dBm	30dBm	±2dB
	24Mbps	27dBm	30dBm	±2dB
	36Mbps	25dBm	28dBm	±2dB
	48Mbps	24dBm	27dBm	±2dB
	54Mbps	23dBm	26dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	26dBm	29dBm	±2dB
	MCS 1	25dBm	28dBm	±2dB
	MCS 2	25dBm	28dBm	±2dB
	MCS 3	24dBm	27dBm	±2dB
	MCS 4	24dBm	27dBm	±2dB
	MCS 5	23dBm	26dBm	±2dB
	MCS 6	22dBm	25dBm	±2dB
	MCS 7	21dBm	24dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 0	26dBm	29dBm	±2dB
	MCS 1	25dBm	28dBm	±2dB
	MCS 2	25dBm	28dBm	±2dB
	MCS 3	24dBm	27dBm	±2dB
	MCS 4	24dBm	27dBm	±2dB
	MCS 5	23dBm	26dBm	±2dB
	MCS 6	22dBm	25dBm	±2dB
	MCS 7	21dBm	24dBm	±2dB
5GHz 802.11ac VHT80	MCS 0	26dBm	29dBm	±2dB
	MCS 1	25dBm	28dBm	±2dB
	MCS 2	25dBm	28dBm	±2dB
	MCS 3	24dBm	27dBm	±2dB
	MCS 4	24dBm	27dBm	±2dB
	MCS 5	23dBm	26dBm	±2dB
	MCS 6	22dBm	25dBm	±2dB
	MCS 7	21dBm	24dBm	±2dB
5GHz 802.11ac VHT80	MCS 8	20dBm	23dBm	±2dB
	MCS 9	19dBm	22dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	-94dBm	±2dB
	9Mbps	-94dBm	±2dB
	12Mbps	-94dBm	±2dB
	18Mbps	-92dBm	±2dB
	24Mbps	-89dBm	±2dB
	36Mbps	-86dBm	±2dB
	48Mbps	-82dBm	±2dB
	54Mbps	-80dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	-94dBm	±2dB
	MCS 1	-94dBm	±2dB
	MCS 2	-92dBm	±2dB
	MCS 3	-88dBm	±2dB
	MCS 4	-84dBm	±2dB
	MCS 5	-81dBm	±2dB
	MCS 6	-78dBm	±2dB
	MCS 7	-77dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 0	-94dBm	±2dB
	MCS 1	-94dBm	±2dB
	MCS 2	-92dBm	±2dB
	MCS 3	-88dBm	±2dB
	MCS 4	-84dBm	±2dB
	MCS 5	-81dBm	±2dB
	MCS 6	-78dBm	±2dB
	MCS 7	-77dBm	±2dB
5GHz 802.11ac VHT80	MCS 0	-89dBm	±2dB
	MCS 1	-88dBm	±2dB
	MCS 2	-85dBm	±2dB
	MCS 3	-81dBm	±2dB
	MCS 4	-79dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-74dBm	±2dB
	MCS 7	-72dBm	±2dB
5GHz 802.11ac VHT80	MCS 8	-70dBm	±2dB
	MCS 9	-68dBm	±2dB

## Component Map with Normal Heatsink

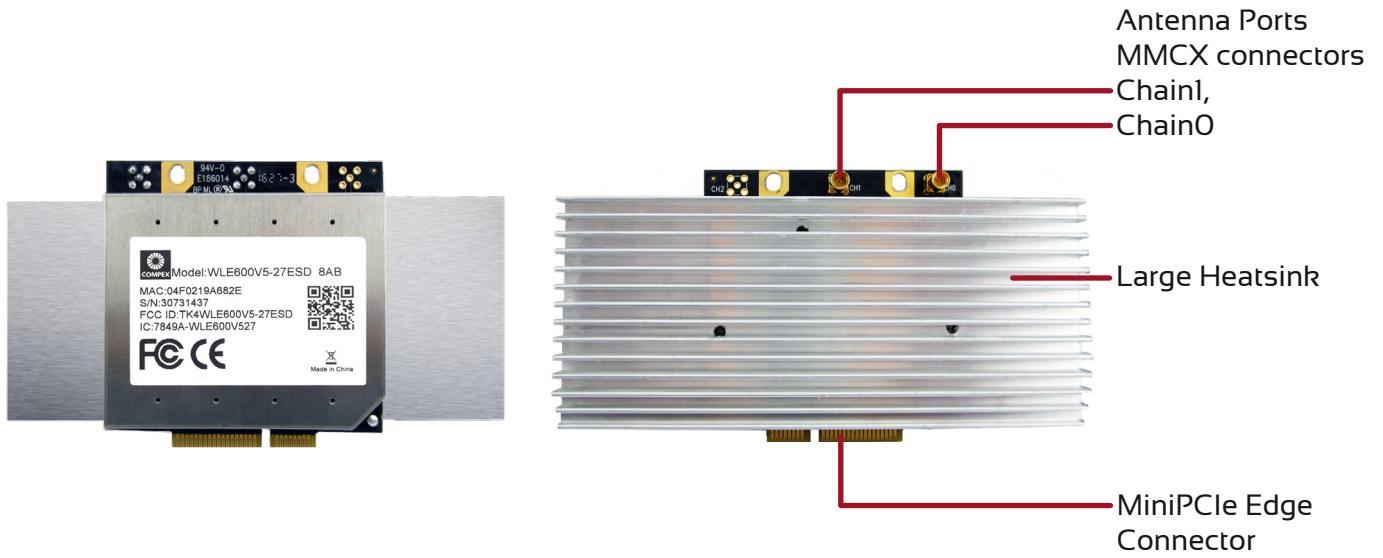


## Mechanical Dimensions with Normal Heatsink

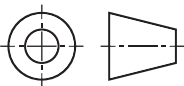
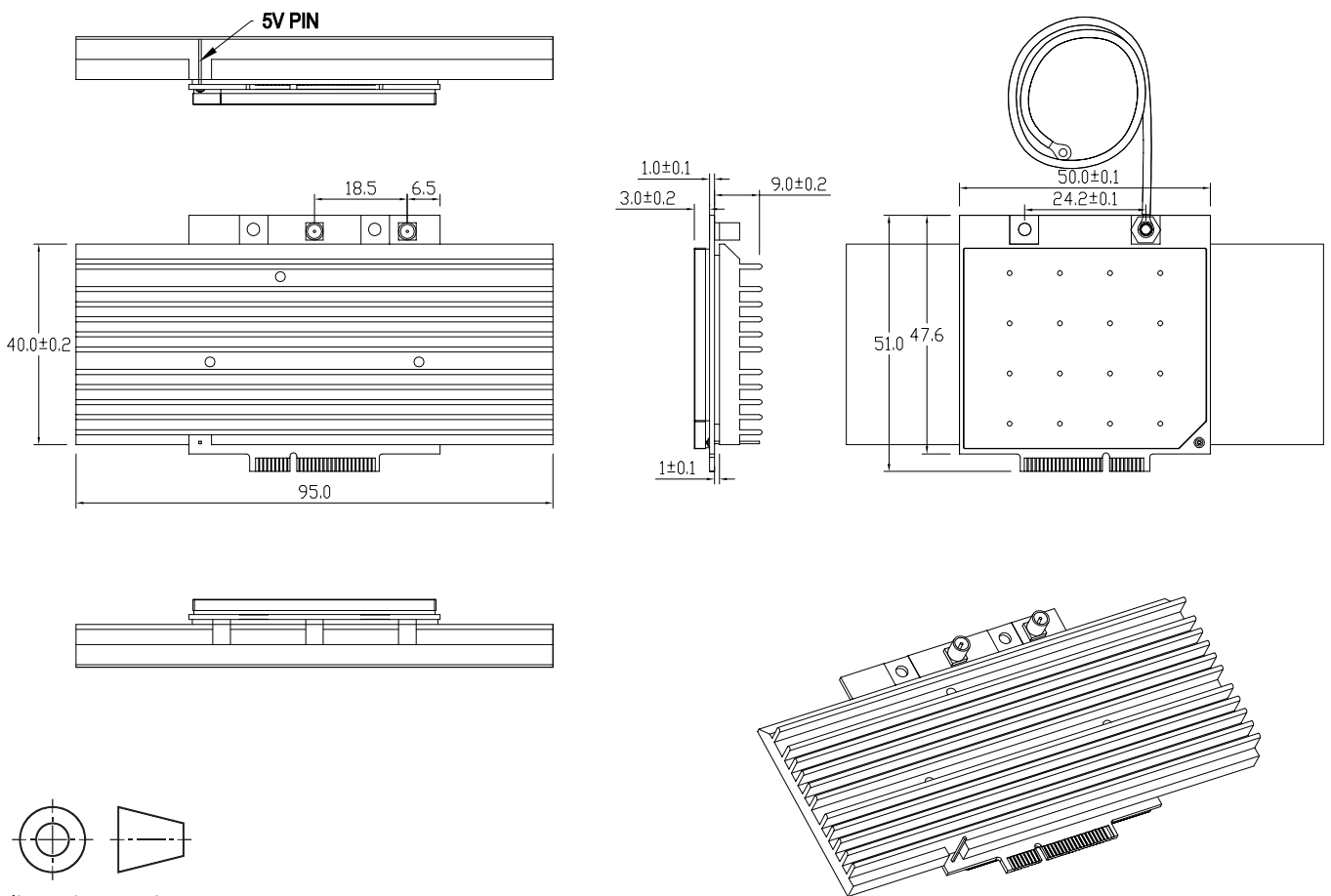


All dimensions are in mm.

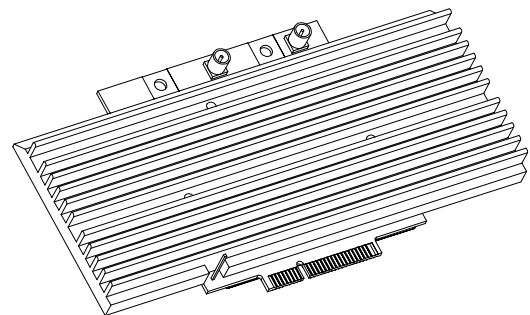
## Component Map with Large Heatsink Option



## Mechanical Dimensions with Large Heatsink Option



All dimensions are in mm.



## Ordering Configuration

Item Code	Model	Description
WLE600V5-27 8AB000ESD	WLE600V5-27ESD	2x2 802.11ac 5GHz High Power with Normal Heatsink
WLE600V5-27 8AB000ESD-LH	WLE600V5-27ESD	2x2 802.11ac 5GHz High Power with Large Heatsink