Single Band 5GHz 2x2 802.11ac Wave 1 MiniPCIe 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)
- MiniPCIe interface with PCIe 1.1
- IEEE 802.11ac compliant & backward compatible with 802.11a/n
- Built-in ESD Protection with ESD/EMP Immunity Threshold: 15KeV[1]
- 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	MiniPCIe interface with PCIe 1.1
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.
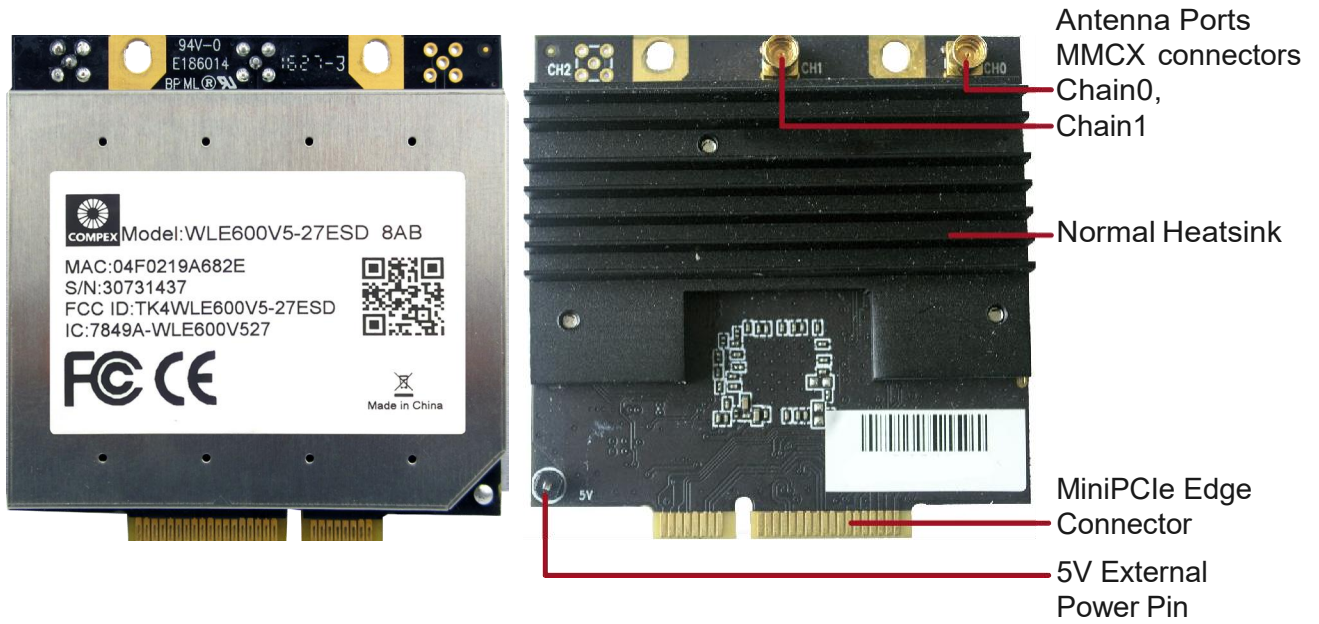*Otherwise supply to the 5V external power pin.*

*Configurations are subject to change without notifications.
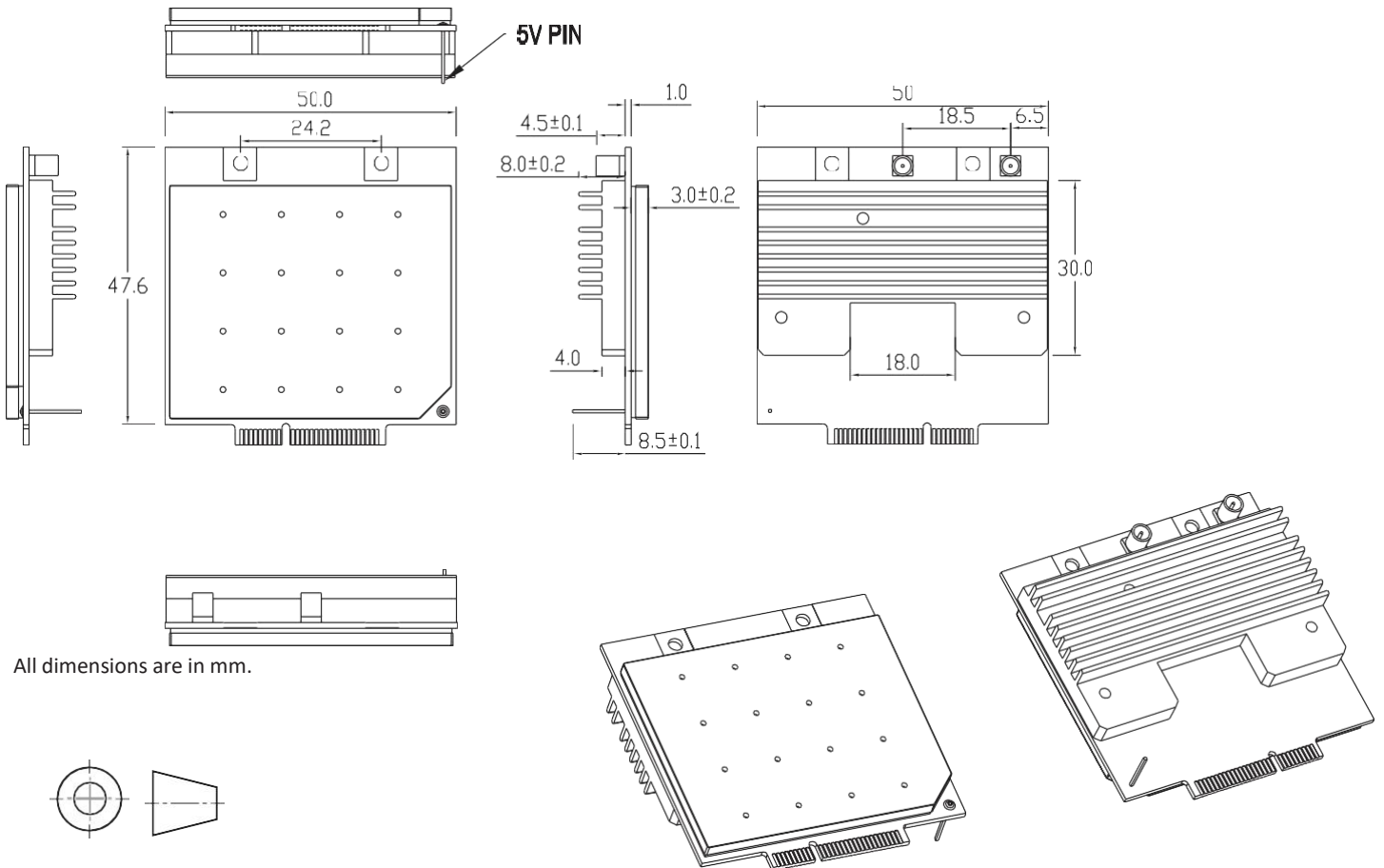
RF Performance Table for 5GHz

	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 802.11/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
	MCS 8	20dBm	23dBm	±2dB
5GHz 802.11/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
	MCS 8	20dBm	23dBm	±2dB
	MCS 9	19dBm	22dBm	±2dB
5GHz 802.11/ac 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
	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 802.11/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
	MCS 8	-74dBm	±2dB
5GHz 802.11/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
	MCS 8	-73dBm	±2dB
	MCS 9	-71dBm	±2dB
5GHz 802.11/ac 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
	MCS 8	-70dBm	±2dB
	MCS 9	-68dBm	±2dB

Component Map with Normal Heatsink

Model:WLE600V5-27ESD 8AB
MAC:04F0219A682E
S/N:30731437
FCC ID:TK4WLE600V5-27ESD
IC:7849A-WLE600V527

Made in China

Antenna Ports MMCX connectors Chain0, Chain1

Normal Heatsink

MiniPCIe Edge Connector

5V External Power Pin

Mechanical Dimensions with Normal Heatsink

5V PIN

50.0
24.2
47.6

4.5±0.1
1.0
8.0±0.2
3.0±0.2
4.0
8.5±0.1

50
18.5
6.5
30.0
18.0

All dimensions are in mm.

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Component Map with Large Heatsink Option

Antenna Ports
MMCX connectors
Chain1,
Chain0

Large Heatsink

MiniPCIe Edge
Connector
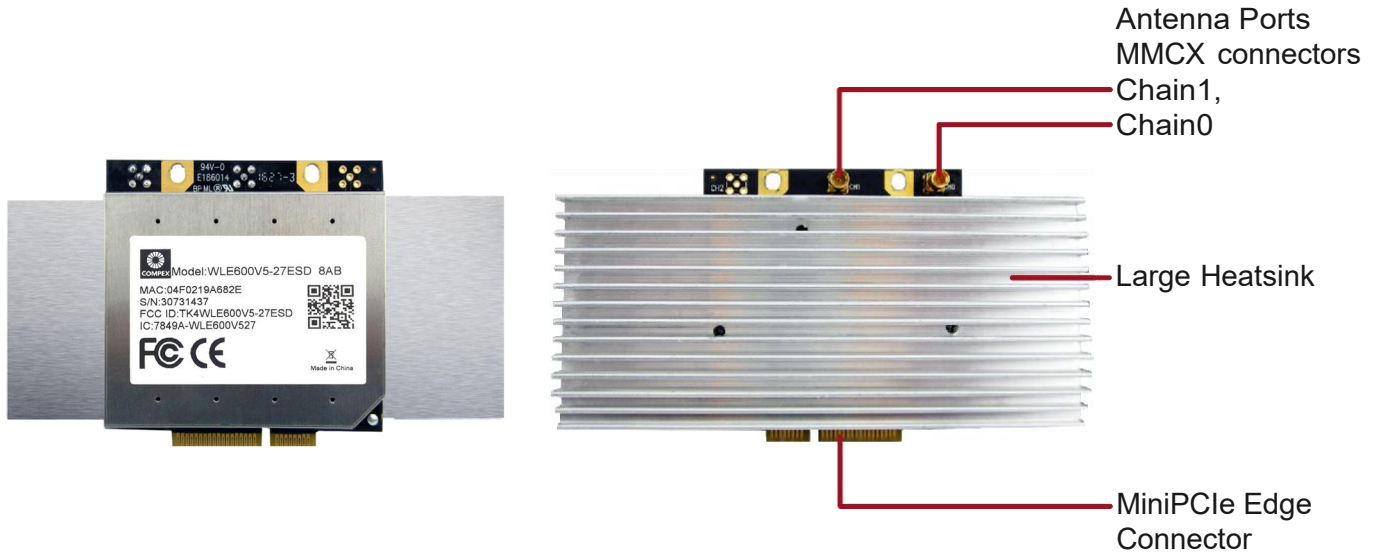
Mechanical Dimensions with Large Heatsink Option

5V PIN

18.5 6.5

40.0±0.2

95.0

1.0±0.1
3.0±0.2
9.0±0.2
1±0.1

50.0±0.1
24.2±0.1
51.0 47.6

All dimensions are in mm.

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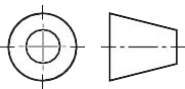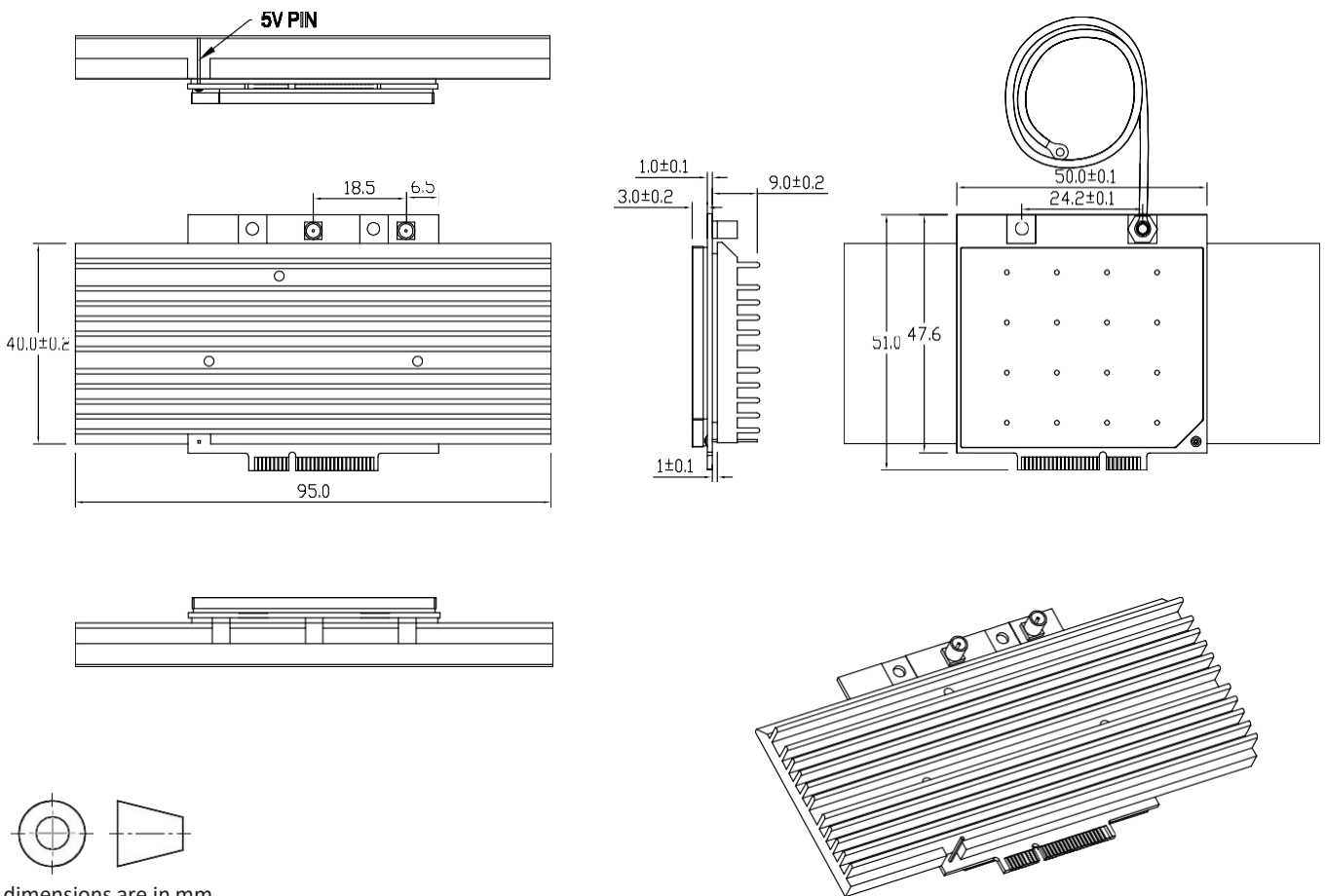
Ordering Configuration

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