

Dual Band 802.11a/b/g/n OEM Wireless Platform

The Scorpion SC300M OEM module offers a simple way for clients to integrate high performance Wi-Fi AP functionality into their own products. The SC300M offers dual band 2x2 802.11n/a performance, delivering over 240Mbit/sec to client devices.

Product Overview

The Scorpion SC300M forms part of Abicom's range of OEM Wireless Embedded boards that offer best in class, flexible performance. The SC300M can operate as either a standalone, credit card sized AP, or in a motherboard configuration to take advantage of the QCA9550 expansion peripherals. PCI-e, Ethernet, GPIO and Ethernet are all available through standard low cost board to board pin headers.

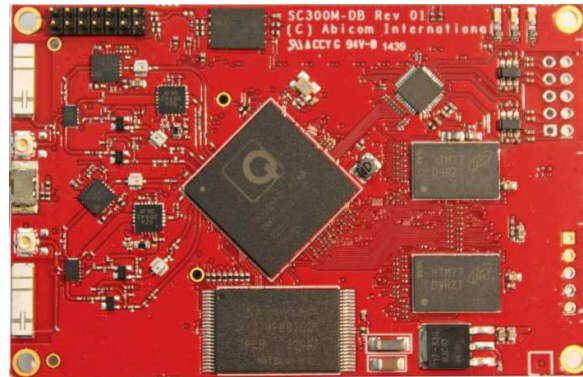
In addition to the high expansion capability, the SC300M offers high RF output power (up to 23dBm per channel), and optional onboard chip antennas. The SC300M can be powered from either a 12V DC supply, or a 3.6-6v supply, suitable for use with Li-Pol type batteries. The 3.6-6V power supply offers automatic shutdown, to prevent damage to the batteries being used.

Enhanced features include, DFS selection in all required bands, 5, 10, 20, 40MHz channelisation, cyclic-delay diversity (CDD), low density parity check (LDPC), maximal ration combining (MRC), Space Time Block Code (STBC), TX Beamforming (TxBF) and 8 bit spectral analysis resolution.

Inbuilt 128 Bit AES hardware encryption provides an unparalleled level of security and the SC300M supports all mandatory and optional modes specified in 802.11i, and WPA/WPA2 are offered as standard, along with hardware support for FIPS140 AES certification.

Hardware Configuration

- 1 Backplane Ethernet Port (10/100/1000)
- 22 Offboard GPIO's , 2x PCIe, 2x USB, 1x SERDES
- Integrated 32-bit 700MHz MIPS Processor
- 256MB DDR2 SDRAM, 272MB Flash Storage
- One high power 64QAM 802.11a/b/g/n 2x2 radio
- 12 V DC or 5V PSU Option
- Integrated Antenna Option



Solution Highlights

- Small Form-Factor 55x85mm
- Connects to any 2.4 and 5GHz 802.11 Client
- 300 Mbps Data Rate
- 220 Mbit/sec end to end Throughput
- Extended Tuning Range for Worldwide Use
- Hardware Encryption For WPA and 802.11i, AES TKIP and WEP
- DFS/TPC For International Operation
- Support for 802.11e,h and i standards
- AP, AP+WDS, WDS+Station and Client functionality for hotspot and bridging applications
- OpenWRT support
- +26dBm output power
- Industrial temperature options (- 40 - 110°C)

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Interface	
Ethernet interface	1 Gigabit backplane Ethernet port. Suitable for short range connection (<5m)
Antenna ports	2 x 50Ω U.FL Connectors or Optional onboard antenna
Power	12Vdc or 5V Li-POL Option
Hardware	
Processor	Qualcomm Atheros QCA9550
Flash memory	16MB SPI + 256MB NAND
SDRAM	256MB
Gigabit Ethernet Controller	Qualcomm Atheros 8035 VLAN Tagging
Functionality	
Security	Encryption: WEP, WPA, WPA2-PSK, WPA2-Enterprise with 802.1X TKIP and AES encryption VLAN tagging (802.1q)
Wireless Distribution System (WDS)	AP+WDS, Station+WDS
IEEE 802.1x Support	MAC Filtering (EAP or EAPOL)
Link Test Feature	Hardware Data Compression
Standard Compliant Bursting	Draft 802.11e QoS Support
Dynamic Frequency Selection (DFS)	Draft 802.11h, i Support
Extended Tuning Range	LED Indicators (Ethernet, Wifi, Power)
Dynamic Transmit Optimisation	Transmit Power Control (TPC)
Management	
TELNET Command Line Interface	WEB Interface
FTP Firmware Upload	SNMP Support
Frequency	
Tuning Range 802.11an 802.11gn	4.9GHz-6GHz 2.4GHz-2.5GHz
Quality Of service	
Wireless Quality of Service	WMM/802.11e

Transmit Power (dBm)				
Operating Mode	Data Rate (Mbps)	Min	Typ	Max
802.11an			23dBm	
802.11an - 2 stream			26dBm	
802.11gn			20dBm	
802.11gn -2 stream			23dBm	
Receive Sensitivity (dBm)				
Operating Mode	Data Rate (Mbps)	Min	Typ	Max
802.11an	6		-94	
	54		-81	
	MCS0 2x2		-92	
	MCS15 2x2		-70	
802.11gn	6		-92	
	54		-82	
	MCS0 2x2		-94	
	MCS15 2x2		-71	
Power Supply				
Parameter	Condition	Min	Typ	Max
	Standard DC Input		12V	
Power Draw	Pol Input	Idle: 1W	5W	Peak: 6W
Physical				
Size		85x55mm		
Weight		TBA		
Environmental				
Operating temperature		-40°C to 110°C (Industrial)		
Storage temperature		-65°C to 150°C		
Humidity		Max. 96% Relative Humidity Non-Condensing		
ESD/EMP protection for Ethernet Port		IEC 61000-4-2 IEC 61000-4-4 IEC 61000-4-5		
Surge level (data ports)		N/A		