

Dual Band 802.11ac + a/n/g Bridge/Router

The Scorpion SC1750 wireless offers dual enterprise level, 3 stream, 802.11ac and 802.11ng radios on a single platform, with dual gigabit IEEE1588V2 Ethernet and SFP Fibre Module port.

Product Overview

The Scorpion SC1750 forms part of Abicom's range of OEM Wireless Embedded boards that target high performance, best in class applications. The SC1750 supports concurrent 2.4GHz 802.11gn and 5GHz 802.11ac/an operation through a highly integrated solution, using just three antenna ports.

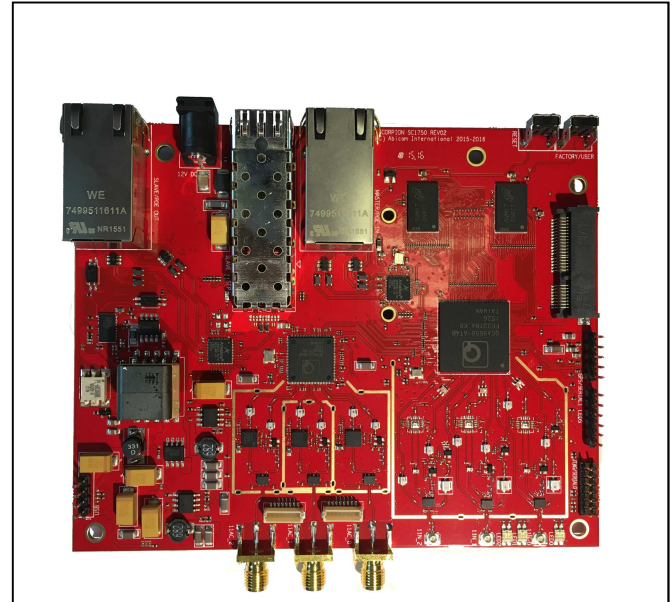
Enhanced features include, DFS selection in all required bands, 5, 10, 20, 40 and 80MHz channelisation, cyclic-delay diversity (CDD), low density parity check (LDPC), maximal ration combining (MRC), Space Time Block Code (STBC), TX Beamforming (TxBF) and 8 bit spectral analysis resolution.

The SC1750 includes a SFP Fibre module port and a PCIe expansion port to allow a wide range of additional devices to be connected to the system.

Inbuilt 128 Bit AES hardware encryption provides an unparalleled level of security and the SC1750 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

- Two Full-Duplex two gigabit Ethernet ports (possible additional port for WAN for higher throughput)
- SFP Fibre module port (Auto Switches between Port2)
- PCIe expansion port
- Integrated 32-bit 700MHz MIPS Processor
- 256MB DDR2 SDRAM, 272MB Flash Storage
- 2 x USB2.0 Ports
- One high power 256QAM 802.11ac 3x3 radio
- One high power 64QAM 802.11gn 3x3 radio
- Auto detecting Gigabit Power over Ethernet (802.3at) eases installation in confined and remote sites
- Optional 12 Vdc power supply
- IEEE1588V2 for Synchronous Ethernet Applications



Solution Highlights

- Connects to any 2.4 and 5GHz 802.11 Client
- 450 Mbps Data Rate with 2.4MHz radio
- 1.3 Gbps Data Rate with 5GHz radio
- 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
- +27dBm output power for 3x3 2.4GHz radio
- +27dBm output power for 3x3 5GHz radio
- Industrial temperature options (- 40 - 85°C)
- IEEE1588V2 Synchronous Ethernet Support
- SFP Fibre Interface
- POE+
- 12V DC Power Option

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Interface	
Ethernet interface	1 Gigabit x RJ45 WAN port (possible two ports for higher throughput) 1 Gigabit x RJ45 LAN port 1 SFP Fibre module port (Ethernet interface 2 I will auto switch between copper and fibre)
Antenna ports	3 x 50Ω MMCX Connectors
Power	802.3at, POE+ 12 Vdc Option
Hardware	
Processor	Qualcomm Atheros QCA9550
Flash memory	16MB SPI + 256MB NAND
SDRAM	256MB
Gigabit Ethernet Controller	Qualcomm Atheros 8031 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
Dynamic Transmit Optimisation	Transmit Power Control (TPC)
Management	
TELNET Command Line Interface	FTP Firmware Upload
WEB Interface	SNMP Support
Frequency	
Tuning Range 802.11ac/an 802.11gn	4.9GHz-6GHz 2.4GHz-2.5GHz
Quality Of service	
Wireless Quality of Service	WMM/802.11e
Layer 7 application traffic shaping and firewall	

Transmit Power (dBm)				
Operating Mode	Data Rate (Mbps)	Min	Typ	Max
802.11ac			23dBm	
802.11ac - 3 stream			29dBm	
802.11an			23dBm	
802.11an - 3 stream			29dBm	
802.11gn			20dBm	
802.11gn -3 stream			26dBm	
Receive Sensitivity (dBm)				
Operating Mode	Data Rate (Mbps)	Min	Typ	Max
802.11ac	VHT-MCS0 HT80 3x3 VHT-MCS23 HT80 3x3		-87 -62	
802.11an	6 54 MCS0 3x3 MCS23 3x3		-94 -81 -92 -70	
802.11gn	6 54 MCS0 3x3 MCS23 3x3		-92 -82 -94 -71	
Power Supply				
Parameter	Condition	Min	Typ	Max
Voltage Range	PoE Input		-57V	
	Standard DC Input		12V	
Physical				
Size	100x135mm			
Weight	TBA			
Environmental				
Operating temperature	-40°C to 85°C (Industrial)			
Storage temperature	-65°C to 150°C			
Humidity	Max. 96% Relative Humidity Non-Condensing			
ESD/EMP protection for two RJ45 connectors	IEC 61000-4-2 IEC 61000-4-4 IEC 61000-4-5			
Surge level (data ports)	N/A			