

# SCORPION F450

Optimized for mid range point-to-point and point-to-multi-point applications, up to 870Mbps and up to 6Km

The Scorpion F450 delivers a professional grade wireless bridging solution, optimized for Data and CCTV services capable of Data Rates up to 870Mbps, at range up to 6km. Utilizing the IEEE 802.11a/n/ac standards and MIMO technology, based on the latest generation Qualcomm chipsets, the F450 is a highly integrated design optimized for Industrial and Professional applications.

Although our products operate on standard Wi-Fi spectrum 802.11a/n/ac spectrum they also have the capability to be operated on a new mode of operation that deviates from the IEEE802.11 CSMA/CA standards. Our innovative solution uses a state-of-art proprietary technique based on TDMA technology. This solution is designed to overcome the limitations of traditional CSMA/CA wireless communications at long distances, and reduce the noise and interference in surrounding radio environment.

Configurable as a point-to-point or point-to-multi-point base station capable of receiving video feeds from multiple satellite units. The F450 achieves exceptionally low latency and jitter transmission, critical for high quality 24/7 video delivery typical in CCTV applications.

Ideal for use with high-resolution megapixel cameras, Wavesight's Scorpion F450 delivers consistently high bandwidth at short and medium range and is exceptionally simple to configure and install.



## Key Features:

- ✓ Base station / Satellite, PtP, PtMP
- ✓ Integrated 2x2 MIMO antenna, 18dBi, 18° H/V
- ✓ Up to 6km operating range
- ✓ Up to 870Mbps data rates\*
- ✓ Up to 430Mbps compressed video throughput\*
- ✓ 20/40/80MHz Channelization support
- ✓ User configurable gain up to 18dBm\* (30dBm max)
- ✓ Screened FD GbE Interface, 48VDC POE Compliant (802.3af/at)
- ✓ Extremely compact and light
- ✓ Intelligent Channel Management
- ✓ IP67 Rated Enclosure
- ✓ Industrial Grade -20C / +70C



# SCORPION F450 Specifications

PRODUCT CODE		SC-F450
<b>WIRELESS INTERFACE</b>		
Operating Frequency Range	5.150-5.350GHz - 5.470-5.725GHz - 5.725-5.825GHz (country dependant)	
Operating Range	1m up to 6Km	
Operating Modes		
- Single-Point Base Station	Yes	
- Single-Point Satellite Station	Yes	
- Multi-Point Base Station	Yes	
- Multi-Point Satellite Station	Yes	
- Max Satellites Supported	1~15 + * (PtMP Video/WDS mode, subject to Resolution + FPS + Bandwidth + Total No. of Streams*) / 200* (AP/Client mode*)	
Modulation Types & MSC Schemes	OFDM - BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM - MCS-0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	
Wireless Standards	IEEE 802.11a/ac and TDMA	
Maximum RF Output Power	4W EIRP* (at +18dBm radio gain* Capable of +30dBm radio gain in IEEE non-compliant applications)	
Wireless PHY Data Rate	IEEE 802.11a/n/ac version 2.0, up to 870Mbps	
Wireless Data Throughput	up to 550Mbps TCP Unicast* (MCS15 256-QAM 5/6 80MHz)	
Wireless Compressed Video Throughput	up to 430Mbps UDP Unicast* (MCS15 256-QAM 5/6 80MHz)	
Frequency & Power	Dynamic Frequency Selection (DFS) IEEE 802.11h, Automatic Transmit Power Control (ATPC) IEEE 802.11-2007	
Channelization	20MHz/40MHz/80MHz support	
<b>SECURITY FEATURES</b>		
Encryption	Open, WPA-AUTO-PSK, WPA-PSK, WPA2-PSK, AES/TKIP	
Wireless MAC Filtering	Open, Allow, Deny, Flush, Disable	
Wireless SSID Suppress	Yes	
Authentication	802.1x with Radius Authentication EAP-Transport Layer Security (TLS)	
<b>PLATFORM ENHANCED FEATURES</b>		
CDD	cyclic-delay diversity	
LDPC	low-density parity check	
MRC	maximal ratio combining	
STBC	space-time block code	
TxBF	transmit beamforming & 8-bit spectral analysis resolution	
iHE	integrated hardware encryption	
EVMr	error vector magnitude reporting	
hBBF	hardware baseband filtering	
FIPS 140	hardware support for FIPS140 AES certification	
DTO	Intelligent Channel Management	
ICM	dynamic transmit optimization	
<b>ANTENNA FEATURES</b>		
Integrated 2x2 MIMO	Embedded 18dBi, Dual Linear H/V, 5.150-5.925 GHz, 17° Azimuth, 17° Elevation, VSWR 1.5:1 (typ), 1.7:1 (max)	
N-type Bulkhead	N/A	
<b>MANAGEMENT FEATURES</b>		
IEEE Standards support	802.1d, 802.1p, 802.1q, 802.11e, 802.11h, 802.11i, 802.11-2007	
Management Tools	Secure Web-Server Interface, Discovery & Configuration Software, Paessler PRTG Network Monitor	
Protocol Support	SNMPv1/v2/v3, HTTP, FTP, IPv4, IPv6	
VLAN support	IEEE 802.1Q	
QoS support	IEEE 802.1P	
STP support	IEEE 802.1D	
<b>PHYSICAL INTERFACE</b>		
Ethernet	10/100/1000 BaseT Auto Sensing, Full-Duplex, All ports screened	
Optical	N/A (optional in other chassis)	
Surge Protection	PoE & Data to IEC61000-4-2, 61004-4 and 61000-4-5, POE up to 58vdc, transient clamp at 65vdc	
<b>POWER SUPPLY FEATURES</b>		
POE Input	110VAC - 240VAC, 47Hz - 63Hz	
POE Output	Min. 38Vdc, Typ. 48Vdc, Max. 56Vdc, IEEE 802.3af/at compliant	
DC Input	N/A (optional in other chassis)	
Power Consumption	9 Watts (typ)	
<b>ENCLOSURE</b>		
Dimensions (HxWxD)	190mm x 190mm x 75mm	
IP Rating	IP67 Impact resistant ABS & Aluminium	
Weight	1.2Kg	
Mounting	Wall / Pole mount bracket	
<b>ENVIRONMENTAL</b>		
Operating Temperature	-20C/ +70C	
Storage Temperature	-40C/ +90C	
Humidity	5% to 95% Relative Humidity	
<b>REGULATORY</b>		
Approvals	EN 301-893, EN 300-328, EN 302 502, EMC 301-489/17, IEC 60950-1/-22 CB SCHEME, UK Approval to IR2007	

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When operating radio equipment in the 5GHz spectrum please consider the local governing radio authority legislation in the design of your radio network. Global harmonized standards by FCC & ETSI exist within the 5GHz radio spectrum, however there are worldwide variances in adoption of the harmonized standards.



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