

SM Sygnus SHC MIMO 2X2 OFDM

Star Microwave 2.3-10.0 GHz Band Ethernet



The Sygnus SHC is the most advanced OFDM 2x2 MIMO carrier class wireless backhaul at the most competitive price in the market

Star Microwave introduces superior net throughput of up

to 270 Mbps. The system dynamically optimizes the uplink and downlink capacity according to the actual traffic load, providing net throughput of up to 250 Mbps in a single direction.

Designed for RF interference robustness, the Sygnus SHC eliminates false receptions of background noise via unique Automatic Interference Sensibility (AIS) algorithm, thus guaranteeing stable performance with constant latency and throughput.

High Performance Radio

- Superior net throughput – 270 Mbps
- Dynamic asymmetric capacity
- Very low latency – 1ms typical
- More than 60,000 PPS (Packets Per Second)
- Long range – up to 130 Km
- Configurable channel bandwidth – 5 / 10 / 20 / 40 MHz
- 128-bit AES encryption & MAC level authentication

RF & Interference Robustness

- AIS (Automatic Interference Sensibility) – unique algorithm that makes Sygnus SHC the most stable wireless solution in the market
- Time Synchronization eliminates self interference and allows frequency reuse
- MIMO Radio – higher capacity, longer range and diversity
- The only solution with Hitless ACM (Adaptive Coding & Modulation)
- ACS – Automatic Channel Selection
- DFS - Dynamic Frequency Selection
- ATPC - Automatic Transmit Power Control
- FEC - Forward Error Correction
- Fast ARQ - Automatic Retransmit reQuest

INDUSTRY LEADING FEATURES

- Point-to-Point & Point-to-Multipoint modes
- WEB, EMS, SNMP and Telnet management
- QoS based on 802.1q & 802.1p
- VLAN tagging/stripping
- Up/downstream bandwidth control
- Packet filtering – based on broadcast & VLAN
- Over the air remote management
- Most competitive price
- Rugged & Reliable weather resistant design
- Compact & Simple to install:
- RSSI buzzer for easy alignment
- Built in RF Analyzer
- < 6Watt power consumption
- Built in power redundancy
- Multiple frequency bands in one radio
- Flexible licensed / unlicensed radio

Technical Information

Use Category 5e or 6 Outdoor rated Ethernet cable to connect the outdoor component to the Indoor PoE (Power over Ethernet) device. Very easy to deploy with built-in link testing tool and web-based GUI

RADIO								
Radio Frequency (GHz)	2.3-2.7, 3.3-3.8, 4.5, 4.85-5.20, 5.15-5.85, 6.0-7.0-10.0							
Net Throughput	Up to 270 Mbps (Dynamic, up to 250 Mbps one way)							
PPS	60,000 Packets Per Second							
Range	Up to 130 Km							
Channel Size	Configurable – 5 / 10 / 20 / 40 MHz							
Waveform	Advanced OFDM 2x2 dual polarization MIMO							
Output Power	Configurable up to 30 dBm, 40 dB dynamic range							
Handling Interference	AIS – Automatic Interference Sensibility							
	Hitless ACM – Adaptive Coding & Modulation							
	ACS – Automatic Channel Selection							
	FEC – Forward Error Correction, k = 1/2, 2/3, 3/4, 5/6							
	Fast ARQ – Automatic Retransmit reQuest							
Encryption & Security	128-bit AES & MAC level authentication							
Modulation	BPSK	QPSK		16QAM		64QAM		
TX Out Power (dbm)	30	30		26		22		
FEC	1/2	1/2	3/4	1/2	3/4	2/3	3/4	5/6
Data Rate @ 5 MHz (Mbps)	3.25	6.5	9.75	13	19.5	26	29.25	32.5
Data Rate @ 10 MHz (Mbps)	6.5	13	19.5	26	39	52	58.5	65
Data Rate @ 20 MHz (Mbps)	13	26	39	52	78	104	117	130
Data Rate @ 40 MHz (Mbps)	30	60	90	120	180	240	270	300
Sensitivity @ 20 MHz (dBm)	-87	-85	-83	-80	-78	-72	-70	-67

Networking and Management	
Topology	Point-to-Point (PTP), Point-to-Multipoint (PTMP)
Access Technology	Time Division Duplex (TDD) – Dynamic or Symmetric
Data Latency	1ms typical
Traffic Handling	Layer 2 transparent bridging
VLAN	Transparent or tagging/stripping
QoS	Based on 802.1q & 802.1p
Management	WEB, EMS, SNMP, Telnet, Built in throughput tests and RF Analyzer tools

Physical and Environmental	
Physical Interface	10/100/1000 Base-T (ODU)
Connector Type	RJ-45
Mechanical	19 x 19 x 4 cm (external Mechanical antenna port)
PoE Adapter:	
• Input Power	100-240 VAC, 47-63 Hz
• Mechanical	10 x 5 x 2.5 cm
Mounting	Wall or pole
Power Consumption < 6Watt	
Operating Temperature	-30°C to 55°C
Operating Humidity	100% non condensing (Rainproof)
Power	Power over Ethernet (PoE) - 48 VDC