

SM Cirius E-band 71-76/81-86 GHz

Product Description

The SM Cirius E-Band provide a turn-key solution for carrier grade mobile backhaul application



As compact full outdoor radio equipment, the

Advantage SM Cirius E-Band integrates all functions in a chassis and does not need an extra installation site. Therefore, it allows mobile service providers to construct and operate networks at lower costs than traditional split mount radio equipment.

The SM Cirius E-Band supports the “Power over Ethernet (PoE)” function, which provides DC power and Ethernet service access with a single Ethernet cable through a DC Power Injector.

The SM Cirius E-Band can work with other radio transmission devices to form a network, improving service convergence capabilities.

Product Features

- Operates at a high frequency band (71-76 GHz or 81-86 GHz),
- RF Bandwidth 250 and 500MHz
- Supports multiple modulation schemes, including QPSK/16-QAM/32-QAM/64-QAM/128-QAM/256-QAM Hitless ACM (Adaptive Coding and Modulation)
- Provides an air-interface capacity for up to 2.6 Gbit/s.
- Ethernet Throughput 2.6 Gbps (with SFP)
- Automatic Transmit Power Control adaptively controls RF transmit power to support maximum capacity under all link conditions
- IEEE1588v2 PTP protocol
- FEC

Applications

- LTE/4G backhaul
- Fiber Extension
- Mobile Backhaul
- Local Area Network Extension
- Metropolitan Area Networks (MAN)

Technical Specifications

Frequency Info	
Low Band	TX:71-76GHz; RX:81-86GHz
High Band	TX:81-86GHz; RX:71-76GHz
Specification	
Duplex Scheme	FDD
Channel Bandwidth	250MHz, 500MHz
System Configurations	1+0
Modulation	Supports multiple modulation schemes, including QPSK/16-QAM/32-QAM/64-QAM/128-QAM/256-QAM Hitless ACM (Adaptive Coding and Modulation)
Output Power Control	Fixed or ATPC
Maximum TX Power	+20.0 dBm
Maximum RX Power	-6.0 dBm
Service Types	1000Base-T compliant, 1000Base-X2, 10GBASE-SR/LR3
Interfaces	RJ-45 Copper Ethernet - 1000Base-T compliant 1 GE SFP - 1000Base-X2 10 GE SFP - 10GBASE-SR/LR3 Antenna Alignment Analog Signal Strength Indicator - BNC
Clock and Time Sync	Synchronous Ethernet, IEEE 1588v2
Device Management	SNMP-based Web Terminal, Support In-band Connections
Network Management	SNMP-based NMS
Power Supply	PoE via Power Injector or other PSE Devices, Input Voltage range: -38.4V ~ -57.6V
Power Environment	Outdoor
Power Supply Voltage	-48V DC
Protection Rating	IP65
Ambient Temperature	-33°C ~ +55°C (Operation) -40°C ~ +70°C (Storage or Transport)
MTBF (1+0)	57 Years
Power Consumption (Typical)	39 W
Dimensions (HxWxD)	265X305X65mm
Wight	4.5 Kg
Volume	5L

Data Link Capacity

Mod Type	250 MHz (Mbps)	500 MHz
QPSK	329.706	640.622
16QAM	667.454	1,296.869
32QAM	836.328	1,624.993
64QAM	1,005.202	1,953.116
128QAM	1,174.076	2,281.239
256QAM	1,342.950	2,609.363

Link performance

73.00GHz Link Error Free Operation

Tx Output Power (dBm)

		-6	-4	-2	0	2	4	6	8	10	12	14	16	18	20	
Rx Input Power (dBm)	-20	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	64QAM	64QAM	32QAM	32QAM	16QAM	
	-22	128QAM	128QAM	128QAM	256QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	64QAM	64QAM	32QAM	16QAM
	-24	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	128QAM	128QAM	64QAM	32QAM	16QAM
	-26	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-28	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-30	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-32	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-34	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-36	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-38	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-40	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-42	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-46	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-48	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-50	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM
	-52	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	256QAM	128QAM	128QAM	64QAM	32QAM	16QAM
	-54	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	128QAM	64QAM	64QAM	64QAM	32QAM	16QAM
	-56	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	32QAM	32QAM	16QAM
	-58	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	16QAM	32QAM	16QAM
	-60	32QAM	32QAM	32QAM	64QAM	32QAM	64QAM	64QAM	64QAM	64QAM	32QAM	32QAM	16QAM	16QAM	16QAM	16QAM
-62	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	16QAM	16QAM	QPSK	
-64	16QAM	16QAM	16QAM	16QAM	16QAM	32QAM	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	QPSK	QPSK	QPSK	
-66	QPSK	16QAM	16QAM	16QAM	QPSK	16QAM	16QAM	16QAM	QPSK	16QAM	QPSK	QPSK	QPSK	QPSK	QPSK	
-68	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	
-70	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	

Link performance

83.00GHz Link Error Free Operation															
Tx Output Power (dBm)															
	-6	-4	-2	0	2	4	6	8	10	12	14	16	18	20	
Rx Input Power (dBm)	-20	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	128QAM	64QAM	64QAM	32QAM	16QAM	QPSK
	-22	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-24	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-26	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-28	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-30	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-32	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-34	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-36	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-38	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-40	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-42	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-46	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	128QAM	64QAM	32QAM	16QAM	QPSK
	-48	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	256QAM	64QAM	64QAM	32QAM	16QAM	QPSK
	-50	128QAM	256QAM	128QAM	128QAM	256QAM	128QAM	256QAM	256QAM	128QAM	64QAM	64QAM	32QAM	16QAM	QPSK
	-52	64QAM	128QAM	64QAM	64QAM	128QAM	64QAM	128QAM	64QAM	64QAM	64QAM	64QAM	32QAM	16QAM	QPSK
	-54	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	32QAM	32QAM	16QAM	QPSK
	-56	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM	32QAM	32QAM	QPSK	QPSK
	-58	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	32QAM	QPSK	QPSK
	-60	32QAM	32QAM	32QAM	32QAM	16QAM	32QAM	16QAM	32QAM	32QAM	16QAM	16QAM	16QAM	QPSK	QPSK
-62	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	16QAM	QPSK	QPSK	
-64	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	
-66	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	
-68	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	
-70															