NetStream 5x50 S1

NetStream 5x50 is a carrier-class radio supporting the 5.x GHz and 4.9 GHz bands, complying with FCC, IC (Canada), MII (China), WPC (India)and Universal regulations (factory default: 5.8 GHz FCC/IC).

The multi-band radio is part of the NetStream Series that delivers high capacity and extended range for carriers' backhaul needs.

Packing native TDM and Ethernet over a single wireless link, the NetStream Series provides 50 Mbps net aggregate throughput (up to 8 E1/T1 plus Ethernet) at a range of up to 120 km/75 miles.

NetStream 5x50 includes an embedded antenna and connectors for use with external antennas, offering a single Small Form Factor radio configuration.

Product Highlights

- 50 Mbps Ethernet net throughput and up to 8 E1s/T1s

- Native TDM transport

- Single Small Form factor with embedded antenna and connectorized for external antenna

- Long range – up to 120 km/75 miles

- Adaptive asymmetric throughput – dynamic allocation between uplink and downlink

- Single radio supporting multiple bands (4.9 GHz and 5.x GHz)

- Advanced MIMO, OFDM and Diversity technologies

- Robust and reliable to operate in tough conditions, extreme temperatures and non line-of-sight scenarios

Product Specifications

Architecture	Small Form Factor ODU Unit with embedded antenna and Connectorized for External Antenna
IDU to ODU Interface	Outdoor CAT-5e cable; Maximum cable length: 100 m

Radio

Capacity	50 Mbps net aggregate throughput (up to 8 E1s/T1s plus Ethernet)
Range	Up to 120 km / 75 miles
Channel Bandwidth	Configurable: 5, 10 or 20 MHz
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Adaptive Modulation & Coding	Supported
Automatic Channel Selection	Supported
Diversity	Supported
Spectrum Viewer	Supported
Min Tx Power	10 dBm adjustable in 1 dB steps
Max Tx Power	25 dBm adjustable in 1 dB steps
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Supported Indoor Units	IDU-NetStream RM 2xGBE and IDU-NetStream RM 4xE1 2xEth; ODU NetStream 5836 POE; NetStream PoE device
QoS	Packet classification to 4 queues according to 802.1p and Diffserv, Dynamic scheduling according to air interface changes
VLAN	Supported
Ethernet Ring Protection	Supported, including Ethernet 1+1
Hub Site Synchronization (HSS)	Up to 16 collocated links (NetStream)
Monitored Hot Standby (MHS)	1+1 with NetStream link

Supported Bands

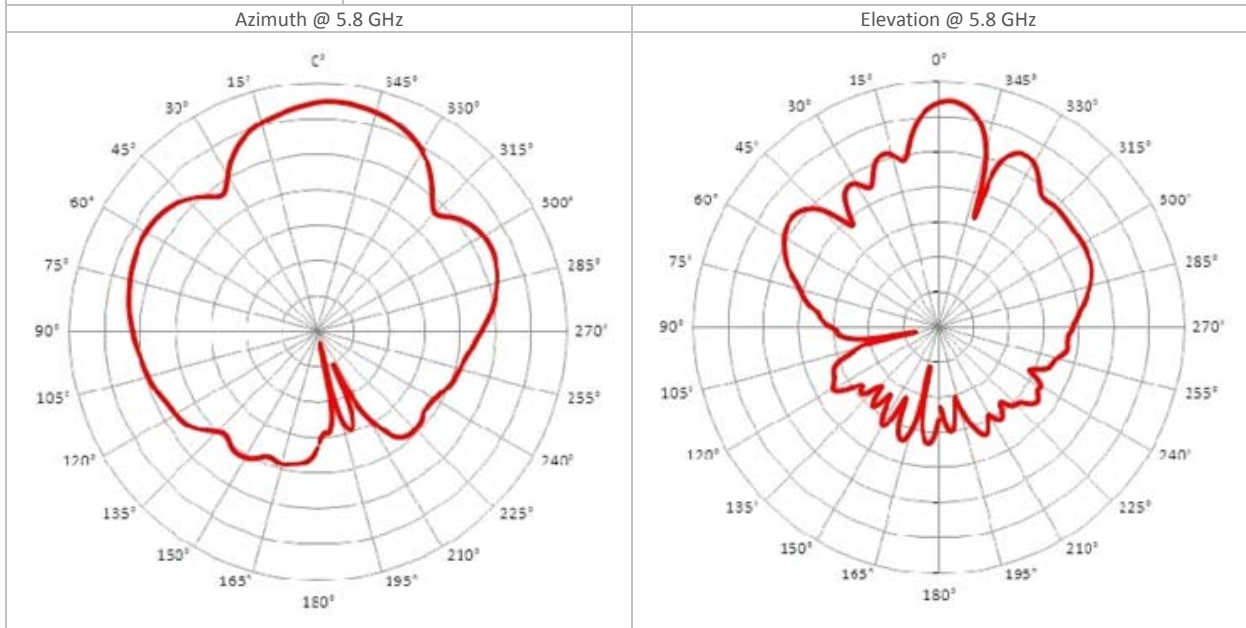| Band	Occupied Frequency Range	Radio Compliance
5.8 GHz FCC/IC*	**5.725 - 5.850 GHz***	**FCC 47CFR, Part 15, Subpart C and IC RSS-210**
5.9 GHz Universal	5.730 - 5.960 GHz	
6.0 GHz Universal	5.690 - 6.060 GHz	
5.4 GHz Universal	5.475 - 5.720 GHz	
5.3 GHz Universal	5.140 - 5.345 GHz	
4.9 GHz Universal	4.890 - 5.010 GHz	

* Default Band

Mechanical

ODU Dimensions	19.5(w) x 27.0(h) x 8.0(d) cm
ODU Weight	1.8 kg / 3.6 lbs

Power

Power Feeding	Power provided over ODU-IDU cable
Power Consumption	<35 W (IDU + ODU)

Environmental

Operating Temperatures	-35°C - 60°C / -31°F – 140°F
Humidity	100% condensing, IP67 (totally protected against dust and against immersion up to 1 m)

Safety

FCC/IC (cTUVus)	UL 60950-1, UL 60950-22, CAN/CSA C22.2 60950-1, CAN/CSA C22.2 60950-22
ETSI	EN/IEC 60950-1, EN/IEC 60950-22

EMC

FCC	CFR47 Class B, Part15, Subpart B
ETSI	EN 300 386, EN 301 489-1, EN 301 489-4
CAN/CSA-CEI/IEC	CISPR 22-04 Class B
AS/NZS	CISPR 22-2004 Class B

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Integrated Antenna

Minimum Peak Gain	13.0 ±1.0 dBi @ 4.9-5.15 GHz 15.0 ±1.0 dBi @ 5.15-5.47 GHz 15.5 ±1.0 dBi @ 5.47-5.875 GHz 12.5 ±1.0 dBi @ 5.875-6.02 GHz
VSWR	1.5 : 1 (typ) 2 : 1 (max)
3 dB Azimuth Beam width	35° (typ)
3 dB Elevation Beam width	15° (typ)
AZ & EL Beam Squint	± 2.5° Port V & Port H
Polarization	Dual Linear (Vertical and Horizontal)
Side lobes Level	ETSI EN 302 085 V1.1.2, TS1-TS3
Cross Polarization	ETSI EN 302 085 V1.1.2, TS1-TS3
F/B Ratio	20 dB (max)
Port To Port Isolation	40 dB (min)
Lightning Protection	DC grounded

Antenna Pattern

Azimuth @ 5.8 GHz	Elevation @ 5.8 GHz

Part Number	Description
NS 5x50 S1	Outdoor unit with embedded antenna and Connectorized for External Antenna

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