NetStream 5x50 A

NetStream 5x50 A is a carrier-class radio that supports 5.x to 6.0 GHz and complies 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, NetStream 5x50 series provides 50 Mbps net aggregate throughput (up to 8 E1/T1 plus Ethernet).

NetStream 5x50 A comes with an integrated antenna.

Product Highlights

- 50 Mbps Ethernet net throughput and up to 8 E1s/T1s (Native TDM transport)

- Long range – up to 40 km/25 miles

- Supports intra-site and inter-site TDD synchronization to maximize network capacity

- Adaptive asymmetric throughput – dynamic allocation between uplink and downlink

- Advanced OFDM & MIMO technologies for operation in nLOS/NLOS and dense radio environments

- Robust and reliable to operate in tough conditions and extreme temperatures

- Upgradeable with a license key to 100 and 200 Mbps net aggregate throughput

Product Specifications

Configuration

Architecture	Outdoor Unit with an integrated antenna
PoE to ODU Interface	Outdoor CAT-5e cable; Maximum cable length: 100 m for 10/100BaseT and 75 m for 1000BaseT

Radio

Capacity	50 Mbps net aggregate throughput (up to 8 E1s/T1s plus Ethernet); Upgradeable with a license key to 100 and 200 Mbps net aggregate throughput
Range	Up to 40 km / 25 miles
Channel Bandwidth	Configurable: 5, 10, 20 and 40 MHz (for the default band)
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Adaptive Modulation & Coding	Supported
Automatic Channel Selection	Supported
DFS	Not Supported (for the default band)
Diversity	Supported
Spectrum View	Supported
Max Tx Power	25 dBm
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128; FIPS 197
Supported Indoor Units	IDU-NetStream RM and DT; NetStream PoE devices
Bandwidth Allocation	Configurable: Symmetric or Asymmetric
QoS	Packet classification to 4 priority queues according to 802.1p and Diffserv
VLAN Support	802.1Q, QinQ, 4094 VLANs
Ethernet Ring Protection	Supported, including Ethernet 1+1
TDD Intra Site Synchronization	Supported
TDD Inter Site Synchronization	Supported through common GPS receiver per site
Monitored Hot Standby (MHS)	1+1 with NetStream link

Supported Bands

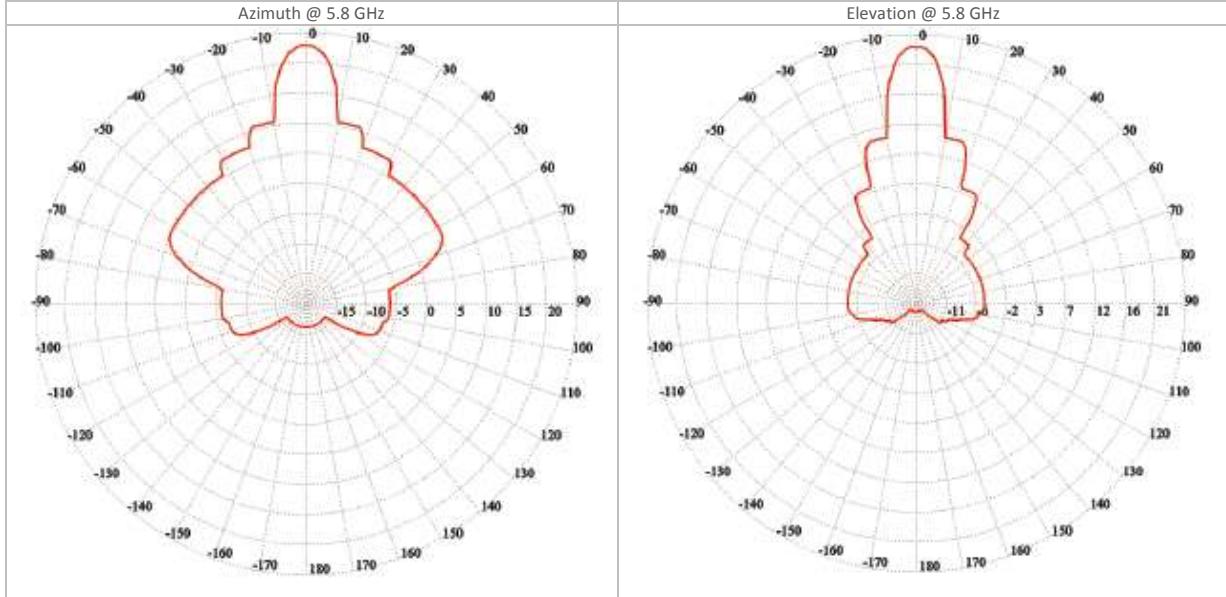| Band	Channel BW 5 MHz	Channel BW 10 MHz	Channel BW 20 MHz	Channel BW 40 MHz	Radio Compliance
5.8 GHz FCC/IC*	**5.7275 - 5.8475**	**5.725 - 5.850**	**5.725 - 5.850**	**5.725 - 5.850**	**FCC 47CFR Part 15.247; IC RSS-210**
5.0 GHz Universal	4.9975 - 5.1525	4.995 - 5.155	4.990 - 5.160	4.980 - 5.170	Universal
5.1 GHz Universal	5.1475 - 5.3375	5.145 - 5.340	5.140 - 5.345	5.130 - 5.355	Universal
5.2 GHz FCC/IC	5.2525 - 5.3475	5.255 - 5.345	5.255 - 5.345	5.255 - 5.345	FCC 47CFR Part 15.407; IC RSS-210
5.4 GHz FCC/IC	5.4775 - 5.7175	5.480 - 5.715	5.480 - 5.715	5.480 - 5.715	FCC 47CFR Part 15.407; IC RSS-210
5.4 GHz IC	5.4775 - 5.7175	5.480 - 5.715	5.480 - 5.715	5.460 - 5.715	IC RSS-210
5.4 GHz Universal	5.4725 - 5.7225	5.470 - 5.725	5.465 - 5.730	5.455 - 5.740	Universal
5.8 GHz MII China	5.7375 - 5.8375	5.735 - 5.840	5.730 - 5.845	5.720 - 5.855	CMIIT RTA
5.8 GHz WPC	5.8325 - 5.8675	5.830 - 5.870	5.825 - 5.875	5.815 - 5.855	WPC (India) G.S.R 38(E) dated 19 January. 2007 Notification
5.9 GHz Universal	5.7275 - 5.9525	5.725 - 5.955	5.720 - 5.960	5.710 - 5.970	Universal
6.0 GHz Universal	5.6975 - 6.0525	5.695 - 6.055	5.690 - 6.060	5.680 - 6.070	Universal

* Default Band

Mechanical

ODU Dimensions	30(w) x 30(h) x 10(d) cm
ODU Weight	2.9 kg / 6.39 lbs

Power

Power Feeding	Power provided over ODU-IDU cable
Power Consumption	<20 W

Environmental

Operating Temperatures	-35°C to 60°C / -31°F to 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

Integrated Antenna

Gain	23 dBi
VSWR	1.5 : 1 (typ)
3 dB Beam width	10° (typ)
AZ & EL Beam Squint	0
Polarization	Dual Linear (Vertical and Horizontal)
Side lobes Level	ESTI EN 302 326-3 V1.1.2 DN3
Cross Polarization	ESTI EN 302 326-3 V1.1.2 DN3
F/B Ratio	-30 dB
Port To Port Isolation	30 dB (max)
Lightning Protection	DC grounded

Antenna Pattern

Azimuth @ 5.8 GHz	Elevation @ 5.8 GHz

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