



NetStream 5x200 (4.9)

NetStream 5x200 (4.9) is a carrier-class radio that supports 4.9 to 5.9 GHz and complies with FCC, IC (Canada), MII (China), WPC (India) and Universal regulations (factory default: 4.9 GHz FCC/IC). The multi-band radio is part of the NetStream Series that delivers highest capacity and extended range for carriers' backhaul needs.

Packing native TDM and Ethernet over a single wireless link, the NetStream 5x200 (4.9) provides 200 Mbps net throughput (up to 16 E1/T1 plus Ethernet) at a range of up to 40 km/25 miles.

NetStream 5x200 (4.9) comes with an integrated antenna.

Product Highlights

- 200 Mbps Ethernet net throughput and up to 16 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



Product Specifications

Configuration

Architecture	Outdoor Unit with 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	200 Mbps net aggregate throughput (up to 16 E1s/T1s plus Ethernet)
Range	Up to 40 km / 25 miles
Channel Bandwidth	Configurable: 5, 10, 20 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
Processing Speed	380,000 PPS
Encryption	AES 128; FIPS 197
Supported Indoor Units	IDU-NetStream RM and DT; NetStream PoE device
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
4.9 GHz FCC/IC*	4.9425 - 4.9875	4.940 - 4.990	4.940 - 4.990	-	FCC 47CFR Part 90 Subpart Y; IC RSS-111
4.9 GHz Universal	4.8975 - 5.0025	4.895 - 5.005	4.890 - 5.010	4.880 - 5.020	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	5.480 - 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 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
5.8 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

* 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



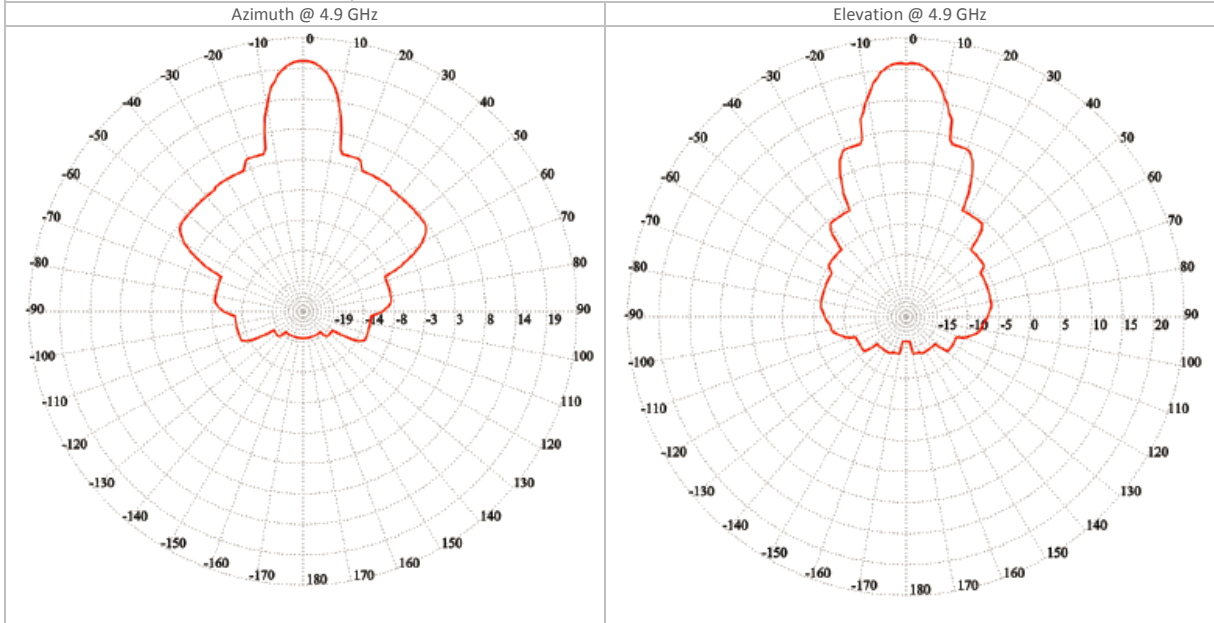
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Integrated Antenna

Gain	21 dBi
VSWR	1.5 : 1 (typ)
3 dB Azimuth Beam width	10° (typ)
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



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