



## NetStream 5x10 AS1

NetStream 5x10 AS1 is a carrier-class radio supporting the 5.x GHz bands FCC, IC (Canada), MII (China) and WPC (India) regulations (factory default: 5.8 GHz FCC). The multi-band radio is part of the NetStream Series that delivers 10 Mbps throughput and extended range.

Providing Ethernet over a single wireless link, the NetStream 5x10 provides 10 Mbps net aggregate throughput.

NetStream 5x10 AS1 comes with an integrated antenna.

### Product Highlights

- 10 Mbps Ethernet net throughput
- Adaptive asymmetric throughput – dynamic allocation between uplink and downlink
- Single radio supporting multiple bands (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

### Configuration

|                      |   |
|----------------------|---|
| Architecture         | Outdoor Unit with Integrated Antenna              |
| PoE to ODU Interface | Outdoor CAT-5e cable; Maximum cable length: 100 m |

### Radio

|                              |   |
|------------------------------|---|
| Capacity                     | 10 Mbps net aggregate throughput  |
| Range                        | Up to 40 km / 25 miles  |
| Channel Bandwidth            | Configurable: 10 and 20 MHz   |
| Modulation                   | 2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)   |
| Adaptive Modulation & Coding | Supported   |
| Automatic Channel Selection  | Supported   |
| Diversity                    | Supported   |
| Spectrum View                | Supported   |
| DFS                          | Supported   |
| Transmit Power Control       | Supported   |
| Dynamic Frequency Selection  | Supported   |
| Min Tx Power                 | 1 dBm adjustable in 0.5 dBm steps   |
| Max Tx Power                 | 25 dBm adjustable in 0.5 dBm steps  |
| Duplex Technology            | TDD   |
| Error Correction             | FEC k = 1/2, 2/3, 3/4, 5/6  |
| Encryption                   | AES 128   |
| Ethernet Interface           | 10/100BaseT   |
| 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   |
| Monitored Hot Standby (MHS)  | 1+1 with NetStream links  |

### Supported Bands

| Band              | Occupied Frequency Range |                   |                   |
|-------------------|--------------------------|-------------------|-------------------|
|                   | Channel BW 10 MHz        | Channel BW 20 MHz | Radio Compliance  |
| 5.8 GHz FCC/IC*   | 5.725-5.850 GHz          | 5.725-5.850 GHz   | Non FCC certified |
| 5.9 GHz Universal | 5.735-5.955 GHz          | 5.730-5.960 GHz   |                   |
| 5.8 GHz MII China | 5.735-5.840 GHz          | 5.730-5.845 GHz   | MI I for 5.8 GHz  |
| 5.8 GHz WPC India | 5.830-5.870 GHz          | 5.825-5.875 GHz   | WPC GSR-38        |
| 5.4 GHz Universal | 5.470-5.725 GHz          | 5.465-5.730 GHz   |                   |
| 5.3 GHz Universal | 5.145-5.340 GHz          | 5.140-5.345 GHz   |                   |
| 4.9 GHz Universal | 4.895-4.995 GHz          | 4.890-5.000 GHz   |                   |

\* Default Band

### Mechanical

|                        |  |
|------------------------|--|
| ODU Dimensions         | 24.1(w) x 19.7(h) x 7.7(d) cm  |
| ODU Weight             | 1.3 kg / 2.8 lbs   |
| <b>Power</b>           |  |
| Power Feeding          | Power provided over ODU-IDU cable  |
| Power Consumption      | <10 W  |
| <b>Environmental</b>   |  |
| 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) |
| <b>Safety</b>          |  |
| 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  |
| <b>EMC</b>             |  |
| 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  |



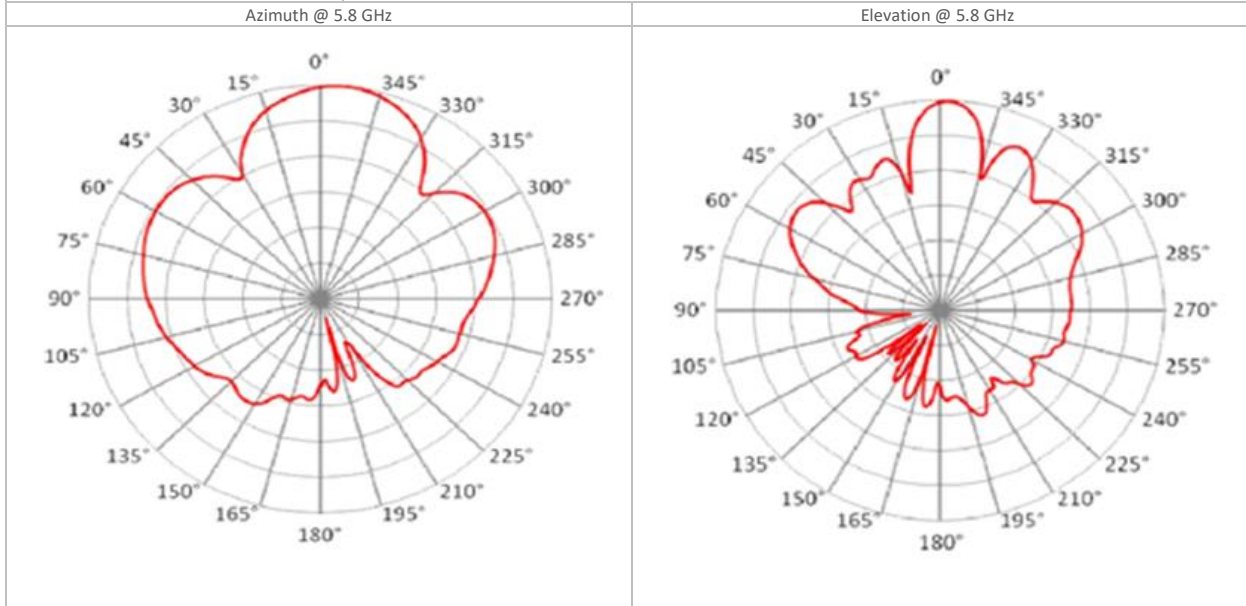
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**Integrated Antenna**

|                        |                                       |
|------------------------|---------------------------------------|
| Gain                   | 23 dBi                                |
| VSWR                   | 1.5 : 1 (typ)                         |
| 3 dB Beam width        | 10° (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              | -30 dB (max)                          |
| Port To Port Isolation | 30 dB (min)                           |
| Lightning Protection   | DC grounded                           |

**Antenna Pattern**



| Part Number | Description                          |
|-------------|--------------------------------------|
| NS 5x10 AS1 | Outdoor unit with Integrated antenna |



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