

sat-nms CBRX19 and C2BRX19 C-Band Beacon Receiver

The **sat-nms** CBRX19 -Band Beacon Receiver manufactured by SatService GmbH is a measurement tool measuring the RF input level and provides this information as output signal for control systems. The **sat-nms** CBRX19 is based on the proven **sat-nms** LBRX L-band Beacon Receiver module operating jointly with a block down converter (BDC) in front of it, defining the input frequency range of the C-band beacon receiver. The main application of this receiver is in antenna tracking systems, where the receiver provides the tracking signal level to the antenna step track controller. Other applications can be pilot measurement and control loops like uplink power control.



The **sat-nms** CBRX19 does not demodulate any satellite signals because the satellite signals are not always CW signals but even more often modulated in FM or QPSK. Due to this fact, the best implementation is a non-coherent receiver that measures the input level in a user selectable defined bandwidth and provides this digitized level information via local and remote interfaces. The signal level information is provided via four different interface types: an http web interface via internal web server, UDP datagram's, RS232 interface and the dB linear analog output voltage. The **sat-nms** CBRX19 Beacon Receiver is controlled remotely by a monitoring and control application via the TCP/IP interface. Communication with the beacon receiver is made with http requests or over a serial Monitoring and Control protocol.

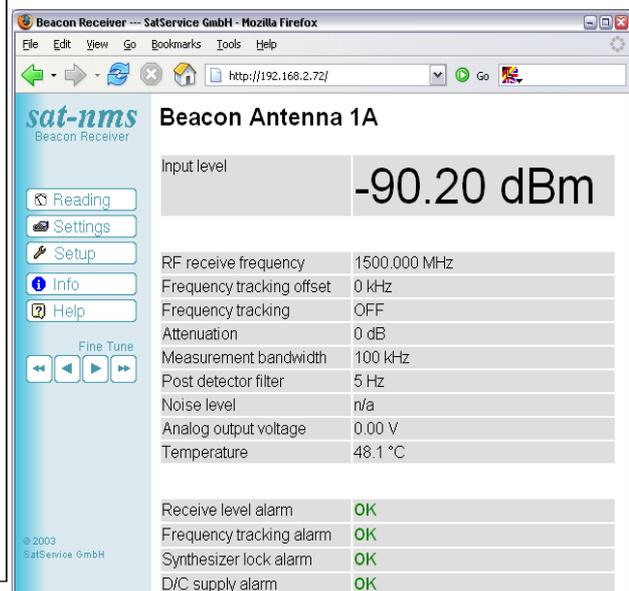
The 19" rack-mount version of the beacon receiver is equipped with a LCD display and a front panel keypad for local control. The beacon receiver can be provided with one C-Band input port (**sat-nms** CBRX19) or with 2 C-band input ports (**sat-nms** C2BRX19) so that you can connect both polarization planes (RHCP / LHCP) to the beacon receiver and select input port by software both locally or via remote.

Key Features

- Full C-Band Tuning Range 4200 to 3400 MHz with 1KHz Step Size
- Modulation Independent Level Measurement
- No unpredictable Lock on PM/PSK Side Carriers
- Compact, 19" rack-mountable Unit with 1RU
- Front Panel Display and Keypad for Local Control
- Front Panel Test Output
- One or two C-Band input ports
- TCP/IP-based Design, Web Browser Interface
- Unlimited Number of Clients possible
- 14/18V 0/22kHz Interface to Switches and Switch Matrixes on L-Band interface
- Full Remote Administration & Support Capability
- Relay Contact Output for Level Alarm
- Electronically calibrated for Level and Temperature Linearity, which provides excellent Level Accuracy even in Outdoor Environments

Applications

- Antenna Tracking and Control Systems
- Pilot Measurement
- Uplink Power Control
- The **sat-nms** CBRX19 can operate as a stand-alone solution or fits into the overall **sat-nms** NMS Network Management System



| Beacon Antenna 1A | |
|---------------------------|--------------|
| Input level | -90.20 dBm |
| RF receive frequency | 1500.000 MHz |
| Frequency tracking offset | 0 kHz |
| Frequency tracking | OFF |
| Attenuation | 0 dB |
| Measurement bandwidth | 100 kHz |
| Post detector filter | 5 Hz |
| Noise level | n/a |
| Analog output voltage | 0.00 V |
| Temperature | 48.1 °C |
| Receive level alarm | OK |
| Frequency tracking alarm | OK |
| Synthesizer lock alarm | OK |
| D/C supply alarm | OK |

Contact Information

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Technical Specification

RF Specification

| | |
|---|---|
| Input Frequency Range in C-Band | 4200 to 3400 MHz |
| Frequency Step Size | 1KHz |
| Frequency Accuracy | 1*E-6 |
| C-Band Input Connector | N female 50 Ohm |
| L-Band Input Connector | SMA female 50 Ohm |
| LNB Voltage via L-Band Input Connector | OFF/14/18V 0/22 kHz |
| L-Band Test Output Connector | SMA female 50 Ohm |
| Input Level Measurement Range | -30dBm to -95 dBm |
| Large Signal Behavior | No Impact at -25dBm total input power |
| Damage Level | +10dBm |
| Measurement Bandwidths | 6, 12, 30 and 100KHz |
| Minimum C/N ₀ (6KHz) | 45dBHz |
| Analog Output Voltage | 0V to 10V |
| Analog Voltage Slope adjustable by Software | -5V/dB to 5V/dB |
| 0V Point adjustable by Software | |
| Output Connector for analog Output Voltage | SMA female |
| Linearity Failure | +/-1dB in any 10dB |
| Switchable Input Attenuator to adapt the dynamic Range and Input Signal Level | 0, 10, 20, 30dB |
| Video Bandwidth selectable by Micro Controller | 0.1Hz, 0.2Hz, 0.5Hz, 1Hz, 5Hz |
| C/N Measurement Functionality | Measured in Intervals relative to N Reference Frequency |

MNC Interface Specification

| | |
|---|----------------------------------|
| Ethernet Interface for MNC and User Interface | 10-Base-T, via HTTP GET Requests |
| RS232 MNC Interface | D-SUB 9 female |
| Summary Fault Indication | Relay Contact D-SUB 9 male |
| Level Alarm Indication | Relay Contact D-SUB 9 male |

Electrical and Mechanical Specification, Environmental Conditions

| | |
|-------------------|-------------------------------------|
| Supply Voltage | 90 to 240V AC 50 to 60Hz |
| Temperature Range | 5° to 50° C |
| Humidity | Up to 90% non-condensing |
| Mechanical size | 483x43x(460/530)mm (WxHxD), 1RU 19" |
| Weight | 6 kg |



sat-nms CBRX19-Band Beacon Receiver Rear Panel

