



DRC 3500

Versatile Ka-Band Transceiver



Key Features:

- Flexible Polarization: RHCP/ LHCP and cross/co-polar
- 2 GHz operation by switchable sub-bands
- Optimized, integrated Feed-chain for highest EIRP and G/T
- True 5 Watt P1dB (10 Watt in H1 2015) at the Feed
- L-Band IFL
- Wide DC supply voltage range 18 – 50 V
- Auto-detect 10 MHz and 50 MHz TX reference
- IP67 rated housing and feed
- OpenBMIP Monitoring and Control - other protocols through firmware update
- Fan-less design



The new DRC 3500 is a high performance Ka-Band transceiver with unprecedented versatility. The product includes the complete antenna feed chain with polarizer, a true 5 Watt BUC (10 W version available in H1 2015), a wide-band PLL LNB and an OpenBMIP Monitoring and Control facility – all in a single, IP67 rated, enclosure.

The unit is convection cooled (fan-less) to ensure best reliability. The DRC has the capability to operate over commercial and military Ka-Band frequencies by electronic sub-band switching. It also features electronic polarization switching between RHCP/LHCP as well as co-polar and cross-polar modes.

All this versatility allows the DRC to switch between any satellite without changing hardware. Standard L-Band RX-IF and TX-IFL interfaces match common VSAT modems. All production units are 100 % RF tested under environmental extremes.

Options:

- Electronic Polarization and band switching
- High stability Rx LO with 10 MHz reference conversion
- Integrated narrow-band RSSI for assisted pointing
- Auxiliary Power Supply Unit
- Modem Reference Tone Cleanup Accessory

Feed and Polarizer

| Parameter | Minimum | Typical | Maximum | Unit | Note |
|------------------------------|-------------------------|---------|---------|------|--------------------|
| Feed and Polarizer Subsystem | integrated | | | | Field configurable |
| Polarizations | RHCP/LHCP & co-/x-polar | | | | Switchable via M&C |
| XPD | | 27 | | dB | |
| | | 26 | | dB | |

TX Subsystem (BUC)

| Parameter | Minimum | Typical | Maximum | Unit | Note |
|--------------------------------------|-----------------------------|---------|---------|------|---------------------|
| IF Input Frequency Range | 950 | | 1950 | MHz | |
| RF Output Frequency Range | | | | | |
| Commercial | Low | 29.0 | 29.4 | GHz | |
| | High | 29.4 | 30.0 | GHz | |
| RF Output Frequency Range | | | | | |
| Military | Low | 30.0 | 30.6 | GHz | |
| | High | 30.4 | 31.0 | GHz | |
| Local Oscillator Frequency | 28.05/29.05 | | | GHz | Switchable via M&C |
| Local Oscillator Phase Noise | | | 2.3 | deg | 100 Hz – 100 kHz |
| Local Oscillator Reference Frequency | 10 & 50 | | | MHz | Auto-detect |
| RF Output Power | ACPR >20 dBc | 37 | | dBm | |
| Conversion Gain | 58 | | | dB | |
| RF Output Spurious | EN 301459 and FCC 47 CFR 25 | | | | With 53 dBi antenna |
| IF Input Connector | N or F-Type | | | | 50 or 75 Ohm |
| Supply Voltage | 18 | | 50 | V | DC over M&C |
| Supply Current at 48 V | 1.0 | | | A | |

Rx Subsystem (LNB)

| Parameter | Minimum | Typical | Maximum | Unit | Note |
|--------------------------------------|-----------------------------------|---------|---------|------|---------------------------------|
| RF Input Frequency | | | | | |
| Commercial | 19.2 | | 20.2 | GHz | |
| Military | 20.2 | | 21.2 | GHz | |
| IF Output Frequency Range | 950 | | 1950 | MHz | |
| Local Oscillator Frequency | 18.25/19.25 | | | GHz | Switchable via M&C |
| Local Oscillator Frequency Tolerance | ±0.7 ppm, ± 3 ppm or external REF | | | | Internal / External Auto-detect |
| Local Oscillator Phase Noise | | | 2.0 | deg | 1 kHz - 1MHz |
| Noise Figure | | | 1.3 | dB | |
| Conversion Gain | 60 | | | dB | |
| IF Output Connector | N or F-Type | | | | 50 or 75 Ohm |
| Supply Current at 24 V | 150 | | | mA | |
| Supply Voltage | 12 | | 30 | V | DC over IF |

Monitoring and Control

| Parameter | Minimum | Typical | Maximum | Unit | Note |
|---------------------|-----------------------|---------|---------|------|---|
| M&C communication | RS422 serial bus | | | | |
| Serial bus protocol | Open BMIP | | | | Other protocols through firmware update |
| M&C Connector | Amphenol PT02E-14-12P | | | | |

General

| Parameter | Minimum | Typical | Maximum | Unit | Note |
|------------------------------------|-------------|---------|---------|------|------|
| Operational Temperature | -40 | | 60 | °C | |
| Moisture/Humidity Protection Class | IP67 | | | | |
| Weight | 3.7 | | | kg | |
| Color | White Satin | | | | |

