# AAV110 Series

## Compact 5W
## Ka-Band Transceiver

This small and light weight new Ka-Band Transceiver is ideal for mobile and satellite uplink & downlink applications. Designed to be mounted on the feed horn, the Transceiver has excellent efficiency. The unit works on a wide range input DC power supply from 18V to 50V. Innovative and efficient thermal design makes this Transceiver one of the smallest, lightest and most reliable in the industry.

## Features

- Compact and lightweight
- Feed mountable
- Excellent linearity
- Extremely reliable
- High power efficiency
- Excellent phase noise characteristics
- Low spurious
- Forward power detection function
- Remote monitor & control through RS232/RS485 and Ethernet (SNMP & HTTP)
- Wide input DC voltage range
- Automatic fault identification & alarm generation
- Automatic temperature compensation feature
- Redundancy option
- Wide operating temperature range -40ºC to +60ºC
- RoHS compliant
- Waterproof
- LED indicator for Transceiver status

## Quality Assurance

100% of all Transceiver go through stringent quality checks in addition to well defined Electrical Stress Screening to ensure operation in harsh outdoor environments. The Transceivers are also subjected to seal test for water ingress verification.

## Reliability

Field proven under harsh environment conditions, Agilis ODUs can withstand temperature ranging from -40ºC to +60ºC with up to 100% humidity.

Agilis

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## Technical Specifications

### RF Specifications (Transmit)

| | |
|---|---|
| **Transmit Frequency** | 29.5GHz to 30GHz |
| **IF Frequency Range** | 950MHz to 1950MHz |
| **Out Power @ P1dB** | 37dBm (5W) |
| **Small Signal Gain** | 65dB |
| **Gain Flatness** | ±1.5dB 500MHz BW<br>±0.5dB typ over 40MHz |
| **Gain Variation** | ±2dB over the operating temperature range |
| **Inter Modulation** | -25dBc @ Relative to combine power of two carriers at 3dB total power backoff from Rated Output power |
| **Phase Noise @ Offset** | |
| **100Hz** | -55dBc/Hz max |
| **1KHz** | -65dBc/Hz max |
| **10KHz 100KHz** | -79dBc/Hz max<br>-95dBc/Hz max |

### RF Specifications (Receive)

| | |
|---|---|
| **Input Frequency** | 19.2 to 20.2 GHz |
| **Noise Figure @ 25$^0$C** | 1.3dB |
| **Input VSWR** | 2.1:1 |
| **Output Frequency** | 950MHz to 1950MHz |
| **Output Impedance** | 50 ohm |
| **Gain @ 25$^0$C** | 65dB min |
| **Output P1dB IF** | +10dBm |
| **Output IP3** | +20dBm |
| **Gain ripple Variation over any 45MHz** | ±1dB |
| **Group delay Variation over any 45MHz** | 2 ns p-p |
| **Image Rejection** | 40dB |
| **Lo Leakage at Waveguide** | -37dBm/100KHz |

### DC Power

| | |
|---|---|
| **Prime Power** | 24VDC (range 18 to 50VDC |
| **Power Consumption** | 60W @ 48VDC input (max for 5W) |

### Interfaces

| | |
|---|---|
| **IF Input Interface** | 50Ohms N-type Female /<br>75Ohms F-type Female (optional) |
| **Output Interface** | Circular Waveguide |

### External Reference

| | |
|---|---|
| **Frequency** | 10 MHz |
| **Power** | -5dBm to +5dBm |
| **External reference phase noise requirement @ frequency offset** | |
| **1KHz** | -150dBc/Hz |
| **10KHz** | -155dBc/Hz |
| **100KHz** | -160dBc/Hz |

### Monitor & Control

| | |
|---|---|
| **Monitor** | Transceiver temperature<br>LO unlocked alarm<br>Status alarm<br>RF Output Power detection<br>LED indication |
| **Control** | Adjustable gain with 0.5dB step size<br>RF output mute |
| **Interface** | RS232/RS485, Ethernet (SNMP & HTTP) |

### Environmental

| | |
|---|---|
| **Operating Temperature** | -40ºC to +60ºC |
| **Humidity** | Up to 100%<br>Weather protection sealed to IP65 |

### Mechanical

| | |
|---|---|
| **Size** | 185L x 100W x 70H mm / 7.3 x 3.9 x 2.7 In |
| **Weight** | 1.7kg / 3.74lbs |
| **Color** | White Powder Coat |

### Compliance Standard

| | |
|---|---|
| **IEC 609501-2nd Edition** | International Safety Standard for Information Technology Equipment |
| **ETSI EN 301 489-12** | Electromagnetic Compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) Standard for radio equipment and services; Part 12: Specific conditions for Very Small Aperture Terminal, Satellite Interactive Earth Stations operated in the frequency ranges between 4 GHz and 30 GHz in the fixed Satellite Service (FSS) |
| **ETSI EN 301 489-1** | Electromagnetic Compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility Standard for Radio Equipment and Services |
| **FCC Part 15 Class B** | Two levels of radiation and conducted emissions Limits for unintentional radiators (FCC Mark) |

Note: All specifications are subject to change without notice.
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