



# AAV628 Series

Ku-Band VSAT  
Outdoor Transceiver

Agilis AAV628 Series Ku-Band SPT (Ku-Band Single Package Transceiver) is a highly cost-effective RF ODU (Outdoor Unit) Transceiver for Satellite Communication. It is designed for voice, data and broadband VSAT communication used in different modulation formats including BPSK, QPSK, QAM and FM.

Agilis AAV628 SPT is a highly integrated ODU that comprises of Upconverter, SSPA (Solid State Power Amplifier), Down Converter, low phase noise synthesizer, power supply and built-in M&C. With independent frequency synthesizer, it enables end-users for transmission through different uplink and downlink transponders. In addition, Agilis has a wide range of SSPA booster options for higher power applications.

Agilis AAV628 SPT is suitable for SCPC (Single Channel Per Carrier), MCPC (Multi-Channel Per Carrier), DAMA (Demand Assigned Multiple Access) and TDMA (Time Division Multiple Access) applications.

## Features

- Available for all Ku-Band frequencies
- Broadband data transmission
- Easy installation & configuration
- Built-in monitor and control
- Higher power options available
- Built-in image rejection filter
- Very stable OCXO reference oscillator
- Output power monitoring
- Electronically tuneable synthesizer for Transmit and Receive
- 1.0MHz frequency step size
- Redundancy ready
- Surge protection
- 70 or 140MHz IF interface

## Enhanced Monitoring and Control

AAV628 Ku-SPT offers M&C via RS232/485. It features full remote M&C through Windows using PC.

These include:

- Tx/Rx level monitoring
- Temperature monitoring
- RF output ON/OFF
- Frequencies selection
- Gain control
- Automatic fault identification & alarm

## Reliability

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

## Quality Assurance

All Agilis ODUs go through intensive active electrical stress screening with performance being monitored during screening. In addition, all units undergo 100% waterproof test equivalent to IP65 to ensure normal operation during tropical, cold and harsh environment.

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## Technical Specifications

### Ku-Band Frequency Range (GHz)

|          |                          |
|----------|--------------------------|
| Transmit | 13.75 – 14.25 (Offset)   |
|          | 14.00 – 14.50 (Standard) |
|          | 13.75 – 14.50 (Extended) |
| Receive  | 10.95 – 11.70            |
|          | 11.70 – 12.20            |
|          | 12.25 – 12.75            |

### Transmit

| Power | Output @P1dB (dBm) min | Min Gain (dB) | Typ AC Power Consumption (VA) |
|-------|------------------------|---------------|-------------------------------|
| 2W    | 33                     | 58 – 63       | 100                           |
| 4W    | 36                     | 61 – 66       | 150                           |
| 8W    | 39                     | 64 – 69       | 150                           |
| 16W*  | 42                     | 70            | 150                           |
| 25W*  | 44                     | 70            | 250                           |
| 40W*  | 46                     | 70            | 330                           |
| 80W*  | 49                     | 70            | 560                           |
| 100W* | 50                     | 75 – 85       | 1400                          |
| 150W* | 51.8                   | 75 – 85       | 1300                          |
| 200W* | 53                     | 75 – 85       | 2550                          |

|  |  |
|--|--|
| Input Frequency                          | 70±18MHz<br>(Optional 140 ±36MHz)  |
| Output Frequency                         | Ku-Band  |
| Frequency Step Size                      | 1.0MHz   |
| IF Input Power Range                     | -25 to -5dBm   |
| Gain Flatness for 500MHz BW For 36MHz BW | ±2.0dB max<br>±1.25dB max  |
| Gain Stability ( -40°C to +60°C)         | ±2.0dB max   |
| Gain Adjustment                          | 20dB@ 0.5dB steps  |
| Inter Modulation                         | -25dBc@ Relative to combine power of two carriers at 3dB total power backoff from Rated Output power |
| Spurious (36MHz BW)                      | -55dBc max   |
| Phase Noise                              |  |
| @ 100Hz offset                           | -60dBc/Hz  |
| @ 1KHz offset                            | -70dBc/Hz  |
| @ 10KHz offset                           | -80dBc/Hz  |
| @ 100KHz offset                          | -90dBc/Hz  |
| IF Input Interface                       | 50Ω N-Type Female  |
| RF Output Interface                      | WR75/G   |
| Frequency Stability                      | ±0.5 ppb/day   |

### Monitor & Control

|                         |                                      |
|-------------------------|--------------------------------------|
| Interface               | RS232/485                            |
| Optional Interface      | FSK, Ethernet IP 10/100 Base-T, SNMP |
| Form "C" Relay Contacts | Optional                             |

### Compliance Standard

|                   |  |
|-------------------|--|
| IEC 60950         | International Safety Standard for Information Technology Equipment   |
| ETSI EN 300 673   | Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC) Standard for Very Small Aperture Terminal (VSAT) |
| ETSI EN 301 489-1 | Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility Standard for Radio Equipment and Services              |

### Environmental

Operating Temperature  
Relative Humidity

### Receive (exclud

|                                |                                   |
|--------------------------------|-----------------------------------|
| Input Frequency                | (Optional 900 to 1700MHz)         |
| Output Frequency               | 70±18MHz<br>(Optional 140 ±36MHz) |
| Output Frequency(Optional)     | 950 to 1450MHz                    |
| Output Power@ P1dB             | 0dBm min                          |
| Frequency Step Size            | 1.0MHz                            |
| Gain                           | 25dB min                          |
| Gain Adjustment                | 20dB @1dB steps                   |
| Gain Flatness (36MHz BW)       | ±1.25dB max                       |
| Gain Stability ( -40° to +60°) | ±3.0dB max                        |
| Intermodulation Product        | -35dBc max                        |
| Spurious (36MHz BW)            | -55dBc max                        |
| Phase Noise                    |                                   |
| @ 100Hz offset                 | -60dBc/Hz                         |
| @ 1KHz offset                  | -70dBc/Hz                         |
| @ 10KHz offset                 | -80dBc/Hz                         |
| @ 100KHz offset                | -90dBc/Hz                         |
| Input Interface                | 50Ω N-Type Female                 |
| Output Interface               | 50Ω N-Type Female                 |

### Power Supply

|                                |                                  |
|--------------------------------|----------------------------------|
| Input Voltage (Factory Preset) | 220Vac (Optional 110Vac , 48Vdc) |
| DC Output Voltage to LNB       | +13Vdc at RF IN connector        |

### Phase Locked Low Noise Block (PL LNB)

|                                    |                   |
|------------------------------------|-------------------|
| Input Frequency                    | Ku-Band           |
| Output Frequency                   | 950 to 1700MHz    |
| Noise Figure/Temperature at +25 °C | 1.0dB / 75°K      |
| Gain                               | 58dB typ          |
| Gain Flatness (36MHz BW)           | ±0.25dB max       |
| External Reference                 | 10MHz             |
| Input Interface                    | WR75/G            |
| Output Interface                   | 50Ω N-Type Female |

### Mechanical

|            |                        |                    |
|------------|------------------------|--------------------|
| Dimensions | 310L x 240W x 98H mm   | (2W, 4W, 8W SPT)   |
|            | 200L x 130W x 99.5H mm | (16W, 25W Booster) |
|            | 200L x 130W x 130H mm  | (40W Booster)      |
|            | 360L x 200W x 140H mm  | (80W,100W Booster) |
|            | 495L x 440W x 175H mm  | (150W Booster)     |
|            | 550L x 440W x 350H mm  | (200W Booster)     |

|        |       |                     |
|--------|-------|---------------------|
| Weight | 7.5kg | (2W, 4W, 8W SPT)    |
|        | 3.5kg | (16W, 25W Booster)  |
|        | 3.7kg | (40W Booster)       |
|        | 10kg  | (80W, 100W Booster) |
|        | 20kg  | (150W Booster)      |
|        | 50kg  | (200W Booster)      |

Colour White Powder Coat

\*Booster with 2W driver  
Note: All specification are subject to change without notice.  
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