

# AAV900 Series

Ku-Band Transceiver

AAV900 Series Ku-Band SPT (Ku-Band Single Package Transceiver) is a 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.

AAV900 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.

AAV900 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
- Built-in image rejection filter
- Very stable OCXO reference oscillator
- Output power monitoring
- Electronically tuneable synthesizer for Transmit and Receive
- 1kHz frequency step size
- Redundancy ready (Built-in)
- Surge protection
- 70 or 140MHz IF interface

## Enhanced Monitoring and Control

AAV900 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

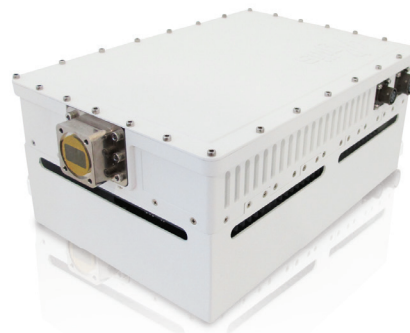
Field proven under harsh environment conditions, Agilis ODUs can withstand temperature ranging from  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  with up to 100% humidity.

## 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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16 – 40W Outdoor Transceiver



## Technical Specifications

### Ku-Band Frequency Range (GHz)

Transmit	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)
16W	42	75	150
25W	44	75	250
40W	46	75	300
80W	49	75	550
100W	50	75	550

Input Frequency	70±18MHz (Optional 140 ±36MHz)
Output Frequency	Ku-Band
Frequency Step Size	1kHz
IF Input Power Range	-25 to -5dBm
Gain Flatness for 500MHz BW	±2.0dB max
For 36MHz BW	±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	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	-40°C to +60°C
Relative Humidity	Up to 100%

### Receive (exclude LNB)

Input Frequency	950 to 1450MHz (Optional 900 to 1700MHz)
Output Frequency	70±18MHz (Optional 140 ±36MHz)
Output Frequency(Optional)	950 to 1450MHz
Output Power@ P1dB	0dBm min
Frequency Step Size	1kHz
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)	90 – 264 VAC
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	360L x 220W x 172H mm
Weight	11kg
Colour	White Powder Coat

Note: All specification are subject to change without notice.  
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