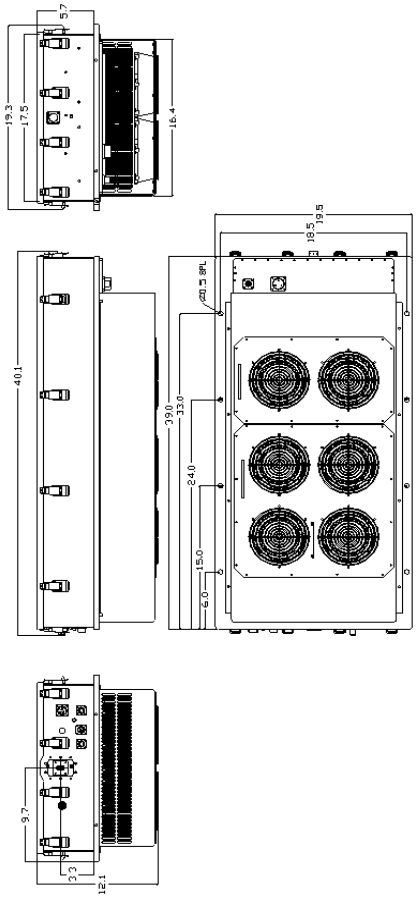
Ku-Band Transceiver
L-Band IF Interface

300W to 500W
AWMT-6000LK® series



Features

- Operating Ku-Band Tx:14.00 - 14.50 GHz
  13.75 - 14.50 GHz (optional)
  Rx: 10.95 - 12.75 GHz (sub-bands)
- L band Tx and Rx interface
- Easy to install and operate
- Compact light weight design
- Weatherproof package
- Phase-locked LNB
- Low phase noise
- Remote Monitor & Control (RS-232/RS-485)
- Relay alarm indicators
- LED status indicators
- Automatic high reflected power protection
- Harmonic Filter
- High stability internal 10MHz reference
- Downloadable PC GUI
- Redundant ready operation
- Power supply with PFC
- Ethernet interface

Overview

The **Advantech Wireless** range of transceivers uses the latest technology, thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-6000LK® is a family of hub-mount transceivers operating in the Ku-band from 300W to 500 W. These transceivers are designed for continuous operation in the harshest outdoor environment. The built-in microprocessor controller provides for external monitoring and control of the operating parameters, and for the redundancy control. The LNB is connected to the transceiver with a single coaxial cable. Apart from the LNB, the complete unit is available in a single integrated package.

The flexible and comprehensive monitor and control features on the transceiver ensure that it will fit into any network management system architecture. The user-friendly RS-232 interface will provide full set-up and fault monitoring facilities via a PC terminal mode communication or a hand-held terminal. The RS-485 interface will provide functional remote Monitor & Control, using the Graphic User Interface (GUI) or the Monitor & Control Panel.

Application

The AWMT-6000LK® is designed to operate in the Ku-band with L-band interface. The unit is self-contained and is intended for mounting outdoors, close to the OMT of an antenna.

Options

- Extended Ku-band (13.75 – 14.50 GHz)
- LNA operation
- Remote M&C panel
- External 10 MHz reference with auto sensing

Accessories

- Mounting kits for transceiver installation
- Redundancy kits
- Mounting frame for redundancy applications
- Transmit Reject Filter and/or Receive Reject Filter (external)
- Remote Control Panel
- Hand-Held terminal

Redundancy

The AWMT-6000LK® series of transceivers may be configured to operate in 1:1 redundancy mode. No extra controller is required for redundancy operation, as the built-in controller in each amplifier provides this function. Redundancy kits are required for redundant operation.

Ku-Band Transceiver
L-Band IF Interface

Advantech Wireless

Technical Specifications

Transmit Path

Model	300W	400W	500W
P1dB min. (dBm)	+53	+54	+56
Gain min @ max. gain set (dB)	74	76	77
Power Consumption	2700W	3200W	4200W
Unit Weight	80 Kg (176bs)		
Dimensions (L x W x H)	39" x 18.5" x 12.1" (99.00 cm x 47.00 cm x 30.70 cm)		

Transmit Path

L-Band Input		**RF Output**	
Frequency range	950-1450 MHz 950 – 1700 MHz (optional)	Frequency range (Non-inverting)	14.00 – 14.50 GHz 13.75 – 14.50 GHz (optional)
Input Connector	N Type female / 50 Ω	Output connector	WR 75
Input Return Loss	18 dB / 50 Ω	Output Return Loss	20 dB (18 dB for coaxial output)
		Third order IMD (2 tones 5 MHz apart)	-25 dBc max at 3dB total back-off from rated P1dB
Gain Specification			
Gain control range	20 dB (0.1 dB step size)	Spurious	-55 dBc max at rated power
Gain flatness	3.0 dB p-p	Noise Power Density	-70 dBm/Hz max in TX band -135 dBm/Hz max in 10.95 – 12.75 GHz in RX band
Gain stability	3.0 dB p-p max over temp. range		

Receive Path

RF Input		Gain Specification	
RF Input Frequency	10.95 – 12.75 GHz in sub-bands	Gain (LNB + Receiver)	75 dB @ max gain set
Bands	1) 10.95 – 11.70 GHz 2) 11.70-12.20 GHz 3) 12.25-12.75 GHz	Gain control range	20 dB (0.1 dB step size)
		Gain flatness	±2.5 dB max over full RF band
		Gain stability	±3.0 dB max over temp. range
RF Input Interface	WR75	Spurious	-55 dBc max
Input VSWR	2.5:1	Image Rejection	50 dB
L-Band Output		**LNB Parameters**	
Frequency range	950 – 1450 MHz	LNB type	Phase locked to 10 MHz ref. (from Transceiver via coax. cable)
	950 – 1700 MHz (optional)		
Output P1dB, min	+10 dBm		
Output Connector	N Type female / 50 Ω	Noise Temperature	65°K
Output Return Loss	18 dB/50 Ω	L-band Output Frequency	950-1750 MHz
		L-band Output Interface	N Type female / 50 Ω
		Conversion Gain	60 dB
		DC power	12÷18V DC (via coaxial cable)
		LNA Parameters(optional)	
		Noise Temperature	60°K
		Output Interface	Type N female 50 Ω
		Gain	60 dB
		DC Power	12÷18V DC (via coaxial cable)

Common Parameters (Tx & Rx)

Frequency Stability	*(With internal 10MHz reference)*	**Environmental**	
± 2 x 10^{-8} over 0ºC to +50ºC	± 2 x 10^{-10} / day	Cooling	Forced Air
Aging	± 5 x 10^{-8} / year	Operational	-30℃ to +55℃ standard (-40℃ to +55℃ option)
Phase Noise	*(With internal 10MHz reference)*		
Offset frequency	Phase noise (max)	Storage	-55℃ to +85℃
100 Hz	-63 dBc/Hz	Humidity	Up to 100% condensing
1000 Hz	-73 dBc/Hz	Altitude	3,000 m AMSL (derated 2℃/300m)
10 KHz	-83 dBc/Hz		
100 KHz	-93 dBc/Hz		
		Power Requirements	
Monitor & Control		AC input voltage	180-264 VAC (47-63 Hz)
Serial port (RS-485/Ethernet)	MS3112E12-10P	AC Connector	MS3102R20-19P
Serial port (RS-232)	MS3112E10-6P	**Mechanical**	
Redundancy Port	MS3112E16-26P	Dimensions	See Table above
Discrete Port	MS3112E12-10P	Packaging	Weatherproof for outdoor use

NORTH AMERICA
USA
Tel: +1 703 659 9796
Fax: +1 703 635 2212
info.usa@advantechwireless.com

CANADA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.canada@advantechwireless.com

EUROPE
UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS
Tel: +7 495 971 59 18
info.russia@advantechwireless.com

INDIA
Tel: +91 33 2415 5922
info.india@advantechwireless.com

SOUTH AMERICA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.latam@advantechwireless.com

BRAZIL
Tel: +55 11 3054 5701
Fax: +55 11 3054 5701
info.brazil@advantechwireless.com

An ISO 9001 : 2008 Company

Ref.: PB-AWMT6000-LK-300-500-13150