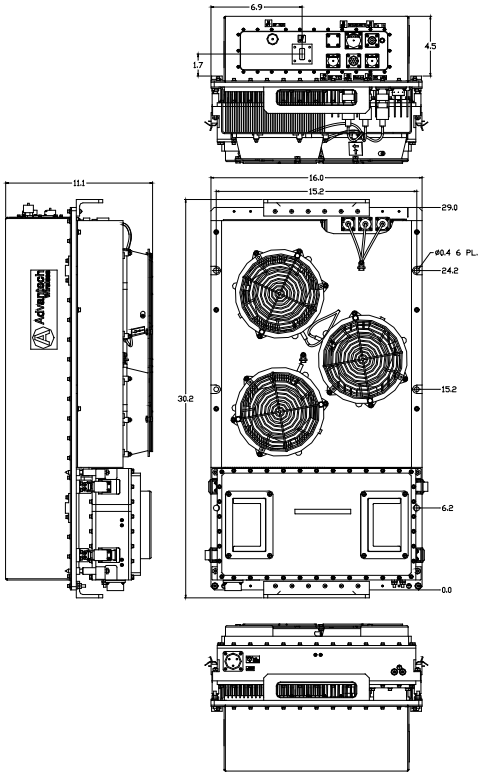
Ku-Band GaN based TRANSCEIVER 300W TO 400 W
L-BAND INTERFACE
With Integrated Automatic Uplink Power Control System
AWMT-6000KL-G™ series



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

Options

- Integrated AUPC system
- Extended Ku-band (13.75 – 14.50 GHz)
- LNA operation
- Remote M&C panel
- External 10 MHz reference with auto sensing
- 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-6000KL-G™ is a GaN based family of hub-mount transceivers, operating in the Ku-band from 300W to 400W. 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.
The transceiver can have optionally integrated a full Automatic Uplink Power Control System, which will adjust the strength of the TX signal in Ku-band to compensate for varying weather conditions. The AUPC function can be accessed via Serial or Ethernet interface.
The unit integrates a versatile Beacon Receiver designed to lock into the desired carrier and which provides accurate signal strength measurements to the internal UPC.

APPLICATION

The AWMT-6000KL-G™ 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.

REDUNDANCY

The AWMT-6000KL-G™ 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.

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

PRODUCT FEATURES & SPECIFICATIONS

Automatic Uplink Power Control Feature

As an option, the AWMT-6000KL-G™ line of L-band transceivers, includes a built in AUPC system, including a Beacon Receiver.
The Beacon Receiver is a high performance FFT based unit that searches a range of 80 KHz either side of the nominal frequency, for the largest signal in a 3 KHz resolution bandwidth. It continuously measures the level of that signal and passes it to the internal UPC system controller. The lock time is under 1 second.

The built in AUPC system, digitally controls using advanced algorithms the beacon receivers and ensures that the receiver locks rapidly and reliably into the main beacon.

The AUPC function can be completely setup and adjusted via Serial or Ethernet interface

When ordered, 1:1 redundancy for the transceiver, provides full redundancy for the TX part, RX part, and AUPC .

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-WMT600-01-13315

Automatic Up Link Power Control	
AUPC and Beacon Receiver	
Input Frequency Range	920 MHz to 2150 MHz
Maximum Input Level	-45 dBm
Input Level Dynamic Range	-80 dBm to -45 dBm
Maximum Total Input Power	-10 dBm (-25 dBm with 50 MHz of beacon frequency)
Required C/No for signal aquisition	> 40dB-Hz
Search Range	+/- 80 KHz
Lock time	< 1 sec for signal with C/No > 40 dB-Hz
Attenuation Range	10 dB
Reference	Internal 10 MHz reference, or Internal/External 10 MHz with Autosensing
Remote Interface	User Selectable RS232 or RS485, Optional Ethernet

RF Specifications

Transmit Path		
Model	**300W**	**400W**
Psat min. (dBm)	55	56
Plinear (dBm)	51	52
Gain min @ max. gain set (dB)	74	76
Power Consumption at Plinear	2200w	2400w
Power Consumption at Psat	3200w	
Unit Weight	119lbs (54kg)	
Dimensions (L x W x H)	36.2” x 15.8” x 11.1” (920 x 401 x 282 mm)	

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-WMT600-01-13315

Ku-Band GaN based TRANSCEIVER 300W TO 400 W
L-BAND INTERFACE
With Integrated Automatic Uplink Power Control System
AWMT-6000KL-G™ series

Advantech Wireless

Transmit Path			
L-Band Input		**RF Output**	
Frequency range	950-1450 MHz	Frequency range	14.00 – 14.50 GHz
	950 – 1700 MHz (optional)	(Non-inverting)	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)
Gain Specification		Third order IMD (2 tones 5 MHz apart)	-25 dBc max at Plinear, two carriers versus total power
Gain control range	20 dB (0.1 dB step size) 10 dB when AUPC option used	Spurious	-55 dBc max at Plin
Gain flatness	4.0 dB p-p	Noise Power Density	-70 dBm/Hz max in TX band
Gain stability	3.0 dB p-p max over temp. range		-135 dBm/Hz max in 10.95 – 12.75 GHz in RX band
		Spectrum Regrowth	30dB @ Plin

Receive Path			
RF Input		**Gain Specification**	
RF Input Frequency	10.95 – 12.75 GHz in sub-bands	Gain (LNB + Receiver)	80 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
		Spurious	-55 dBc max
		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)	Noise Temperature	65°K
Output P1dB, min	+10 dBm	L-band Output Frequency	950-1750 MHz
Output Connector	N Type female / 50 Ω	L-band Output Interface	N Type female / 50 Ω
Output Return Loss	18 dB/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)			
		Environmental	
Frequency Stability	(*With internal 10MHz reference)*	Cooling	Forced Air
-40°C to +55°C	±2 x 10^{-8}	Operational	-30°C to +55°C standard (-40°C to +55°C option)
Aging	±1 x 10^{-7}/year		
Phase Noise	(*With internal 10MHz reference)*	Storage	-55°C to +85°C
Offset frequency	Phase noise (max)	Humidity	Up to 100% condensing
100 Hz	-63 dBc/Hz	Altitude	3,000 m AMSL (derated 2°C/300m)
1000 Hz	-73 dBc/Hz		
10 KHz	-83 dBc/Hz	**Power Requirements**	
100 KHz	-93 dBc/Hz	AC input voltage	180-264 VAC (47-63 Hz)
Monitor & Control		AC Connector	MS3102 type
Serial port (RS-485/Ethernet)	MS3112 type	**Mechanical**	
Serial port (RS-232)	MS3112 type	Dimensions	See Table above
Redundancy Port	MS3112 type	Packaging	Weatherproof for outdoor use
Discrete Port	MS3112 type		

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-WMT600-01-13315