



## Advantech Wireless AMT-50X

Advantech Wireless AMT-50X Enhanced SCPC Satellite Modem, seamlessly integrates with Advantech Wireless' A-SAT-II™, packed with DVB-S2X, NS4, and advanced Carrier-Echo-Cancelling technologies.

### Overview

The AMT-50X Enhanced model, is a member of the Advantech Wireless SCPC Satellite Modem series along with the AMT-50, completing the series with the highest performance.

As part of the A-SAT-II™ family, the AMT-50X seamlessly integrates to Advantech Wireless management systems, and changes waveforms according to artificial intelligence or preconfigured triggers.

The AMT-50X typically boosts spectral efficiency by 40% to 60% compared with DVB-S2 equipment. NS4 also adds superior resilience to jamming, interference, phase-noise and weather fluctuations. For additional savings in operational costs, add optional Carrier-Echo-Cancelling to double the bandwidth available on a single carrier.

The AMT-50X can operate with either the NS4 proprietary technology, or within the state of the art standard DVB-S2X, performing Generic Stream Encapsulation (GSE), allowing the native carriage of IP with a significant reduction in the overhead required compared to using MPE, supports ACM, and performs the modulation function.

The AMT-50X can either function as a Remote Site or HUB integrated unit, providing maximal performance and scalability.

Demonstrating outstanding performance and superiority, the AMT-50X includes built-in IP processing features to make data transmission more efficient and cost-effective. The AMT-50X integrated IP processing unit supports a wide range of features such as advanced QoS, transparent bridging (Layer 2), VLAN switching (Layer 2), routing mode (Layer 3) and TCP header and payload acceleration.

In addition to the ultra-high data rate capabilities, the AMT-50X also packs special features such as advanced secured transmission, OC-3/STM-1, and ASI direct interface connections, for multi solutions and higher grade integration.

### Key Features

- NS4
- DVB-S2X
- DVB-GSE
- Carrier-Echo-Cancellation
- Up to 80 Msps
- Up to 850 Mbps throughput
- ASI Interfaces
- OC-3/STM-1 Interface
- Up to 4 x E1/T1 Interfaces
- Down to 1% Roll-Off
- Time Slice Number (TSN) Technology
- Enhanced DVB-S2X modcods up to 256 APSK
- Advanced ACM
- 1:N Redundancy Support
- Transmit Frequency Range 950-2150 MHz

## Modulator/Demodulator Technical Specifications

<b>Market</b>	Network Architecture	Point to Point, Point to Multipoint	
	Sample Applications	B2C, Internet/Intranet Access, LAN/WAN connectivity, File Transfer, Video Conferencing, Video Streaming, Backup Services, Private Networking, Video-On-Demand, SNG, Content Distribution and Contribution, and Maritime	
	Sample Market	Enterprise, Government, Network Operator/Service Provider	
<b>Technology &amp; Modulations</b>		<b>DVB-S2/S2X</b>	<b>NS4</b>
	QPSK	1/4, 1/3, 2/5, 1/2 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	1/4, 1/3, 2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 3/5, 19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10
	8PSK	3/5, 2/3, 3/4, 5/6, 8/9, 9/10	2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 3/5, 19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10
	16APSK	2/3, 3/4, 4/5, 5/6, 8/9, 9/10	2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 33/5, 19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10
	32APSK	3/4, 4/5, 5/6, 8/9, 9/10	2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 3/5, 19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10
	64APSK	<b>11/15, 7/9, 4/5, 5/6</b>	19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10
	128APSK	<b>3/4, 7/9</b>	N/A
	256APSK	<b>32/45, 3/4</b>	N/A
	Roll-Off	1%, 2%, 5%, 10%, 15%, 20%, 25%, 35%	5%, 10%, 15%, 20%, 25%, 35%
	Frame Length	16200, 64800	16200, 64800
	<b>RF Characteristics</b>	Symbol Rate	Up to 80 Msps
All Technologies		DVB-S, DVB-S2, DVB-S/S2 with 5% ROF, DVB-S2X, DVB-DSNG, NS3 & NS4	
All Modulations		BPSK, QPSK, 8APSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK	
Coding and Error Correction		DVB-S: CC/RS, DVB-S2X/S2/NS4/NS3: LDPC/BCH	
Frequency range		L-Band: 950-2150MHz in 10Hz steps   IF: 50MHz – 180MHz in 10Hz steps	
Special Features		<ul style="list-style-type: none"> <li>- ACM – Adaptive Coding &amp; Modulation, Up to 1dB/Sec / PtMP configuration</li> <li>- <b>Carrier-echo-Cancellation technology / PtP &amp; PtMP</b></li> <li>- AUPC – Automatic Uplink Power Control</li> <li>- Dynamic Distortion Compensator</li> <li>- Carrier ID (CID) compliant</li> <li>- IP Encapsulation (optional with NS3/4 and DVB-S2)</li> </ul>	
<b>Data Characteristics</b>	Data Rate	Up to 850 Mbps (bidirectional)	
	Acceleration	WAN Acceleration (TCP, Payload Acceleration)	
	Compression	Header Compression	
	Redundancy	1:1, 1:N	
	Modes/Layers	Router mode (Layer 3) / Bridge mode (Layer 2)/ VLAN switching (Layer 2)	
	Special Features	<ul style="list-style-type: none"> <li>- Advanced encryption</li> <li>- Jumbo frame support</li> <li>- QoS (Quality of Service)</li> <li>- IP Transparent Bridging</li> <li>- Dual Channel Mode (2 IP channels in a single carrier)</li> <li>- Over-the-Air (OTA): Management &amp; Control and Software upgrades</li> <li>- Management: Command line interface, Web based graphic user interface, SNMP V3</li> </ul>	
	RF Interfaces	L-Band Out/Tx: SMA (F) 50 Ohm or N-type (F) 50 Ohm   L-Band In/Rx: F-Type (F) 75 Ohm IF Out/Tx: BNC (F) 75 Ohm   IF In/Rx: BNC (F) 75 Ohm	
<b>Physical</b>	Data Interfaces	Ethernet RJ45 10/100/1000, 4 x E1/T1, E3/T3 -G.703 Interfaces, SFP-(additional GbE/Optical Interface), OC-3/STM-1/TSolP, 2 x ASI input & output	
	M&C Interfaces	Front panel, Serial RS232, Ethernet 10/100	
	10MHz Clock	± 1.0 ppm over 0°C to 50°C (standard)	
	Supply Voltage	AC Power: 100-240 VAC; 50Hz / 60 Hz (48VDC Optional)	
	Operating Temperature	0 to 50°C	
	Storage Temperature	-40°C to 70°C	
Weight & Dimensions	4Kg (8.8 lbs), 19" W x 18" D x 1.75" H, 48.3 x 45.7 x 4.45 cm		

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