





State of the art Research & Development and Manufacturing Facility over 66,000 ft<sup>2</sup>

- Largest producer of High Power SSPAs.
- Over 15 Tuning Stations and 12 Environmental Chambers to test each SSPA prior to shipping.
- Sophisticated CNC Machinery to support rapid prototyping.





Production, Testing & Integration



Machine Shops



CNC Machines



Thermal Test – Temperature Cycling



Thermal Test – Burn In



Office Space

## Markets Covered



Broadcast



Enterprise & Corporate



Homeland Security



Maritime & Cruise Ships



Mobile Wireless, GSM &  
Satellite Backhaul



Oil & Gas



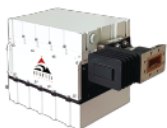
Disaster Recovery &  
Emergency Management



Government & Military

## C-Band / Ku-Band / X-Band Product Lines

Solid State Power Amplifiers & BUCs  
Available in **Ku, C** and **X Bands** - **GaN** and **GaAs** configurations



**Cadet**

**Rebel**

**Dakota**

**Phoenix**

**Ranier**

**Taurus**

**SapphireBlu**

16W

25W

60W

150W

250W

500W

800W

1000W

**Application**

VSAT  
SOTM (Mobile)  
ManPack )  
Flyaway

Mobile/SNG  
Military Terminals  
Oil & Gas  
Maritime/cruise ships

Maritime/Cruise Ships  
Oil & Gas  
TV Broadcast  
Mobile/SNG

TV Broadcast  
IP Gateways  
TT&C  
Earth Observation

DTH Broadcast  
Deep Space Exp.  
Satellite Jamming  
Int'l Gateways

Equivalent rack-mount products available in all frequency and band levels



## Ka-Band Product Line



*40W Ka-Band SSPA*



*80W Ka-Band SSPA*

The K-2 Series systems are designed for Ka-Band satellite uplink applications. The rugged outdoor design lends itself to any commercial or military application where size, weight and performance are key. Suitable for hub mount and well as any mobile application such as military mobile or SNG.

- Meets the requirements per MIL-STD-188-164A
- Internal High Stability Reference with auto-sensing
- Weatherproof package
- Remote Monitor & Control
- Ethernet SNMP v1, v2 with Web Server
- Compact packaging
- CE compliant



## S-Band Product Line



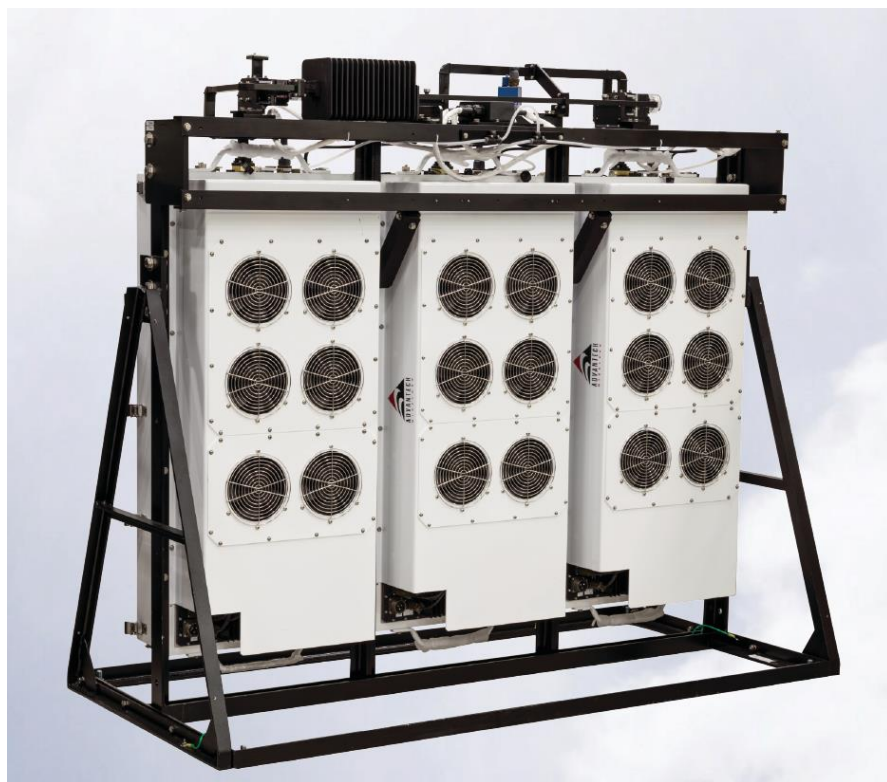
80W to 1250W SSPA Hub-Mount lines and 80W to 1250W SSPA Rack-Mount lines from 2.025 to 2.120 GHz intended for Satellite Uplinks utilizing GaAs and LMDOS architectures and with a range of features such as Temperature Gain Compensation, Infinite VWSR protection and Power Factor Correction among many others.



600W SSPA GaN Solid State Technology for Satellite TT&C and Deep Space Communication covering both L and S-Bands: from 1.760 -2.160 GHz

700W SSPA GaN Solid State Technology for Satellite TT&C and Deep Space Communication covering S-Band: from 2.025-2.120 GHz

# Olympus



Standard C-band Olympus Terminals

Model No.	Configuration	Band	Device	P-sat		P1dB		Pol	Optional L-band BUC
Type 1-Cs	1:1 Redundant	5.85-6.425 GHz	GaAs	60.0dBm	1000W	59.0dBm	800W	Single	Internal to amplifiers
Type 2-Cs	1:1 Phase Combined	5.85-6.425 GHz	GaAs	62.5dBm	1800W	61.5dBm	1400W	Single	External 1:1 Redundant
Type 3-Cs	1:2 Redundant	5.85-6.425 GHz	GaAs	60.0dBm	1000W	59.0dBm	800W	Dual	Internal to amplifiers
Type 4-Cs	1:2 Phase Combined	5.85-6.425 GHz	GaAs	62.5dBm	1800W	61.5dBm	1400W	Single	External 1:1 Redundant

Extended C-band Olympus Terminals

Model No.	Configuration	Band	Device	P-sat		P1dB		Pol	Optional L-band BUC
Type 1-Cx	1:1 Redundant	5.85-6.725 GHz	GaAs	59.5dBm	900W	58.5dBm	700W	Single	Internal to amplifiers
Type 2-Cx	1:1 Phase Combined	5.85-6.725 GHz	GaAs	62.0dBm	1600W	61.0dBm	1250W	Single	External 1:1 Redundant
Type 3-Cx	1:2 Redundant	5.85-6.725 GHz	GaAs	59.5dBm	900W	58.5dBm	700W	Dual	Internal to amplifiers
Type 4-Cx	1:2 Phase Combined	5.85-6.725 GHz	GaAs	62.0dBm	1600W	61.0dBm	1250W	Single	External 1:1 Redundant

X-band Olympus Terminals

Model No.	Configuration	Band	Device	P-sat		P1dB		Pol	Optional L-band BUC
Type 1-X	1:1 Redundant	7.9-8.4 GHz	GaAs	60.0dBm	1000W	59.0dBm	800W	Single	Internal to amplifiers
Type 2-X	1:1 Phase Combined	7.9-8.4 GHz	GaAs	62.5dBm	1800W	61.5dBm	1400W	Single	External 1:1 Redundant
Type 3-X	1:2 Redundant	7.9-8.4 GHz	GaAs	60.0dBm	1000W	59.0dBm	800W	Dual	Internal to amplifiers
Type 4-X	1:2 Phase Combined	7.9-8.4 GHz	GaAs	62.5dBm	1800W	61.5dBm	1400W	Single	External 1:1 Redundant

Standard Ku-band Olympus Terminals

Model No.	Configuration	Band	Device	P-sat		P-linear		Pol	Optional L-band BUC
Type 1-Ks	1:1 Redundant	14.00-14.5 GHz	GaN	60.0dBm	1000W	57.0dBm	500W	Single	Internal to amplifiers
Type 2-Ks	1:1 Phase Combined	14.00-14.5 GHz	GaN	62.5dBm	1800W	59.5dBm	900W	Single	External 1:1 Redundant
Type 3-Ks	1:2 Redundant	14.00-14.5 GHz	GaN	60.0dBm	1000W	57.0dBm	500W	Dual	Internal to amplifiers
Type 4-Ks	1:2 Phase Combined	14.00-14.5 GHz	GaN	62.5dBm	1800W	59.5dBm	900W	Single	External 1:1 Redundant

Extended Ku-band Olympus Terminals

Model No.	Configuration	Band	Device	P-sat		P-linear		Pol	Optional L-band BUC
Type 1-Kx	1:1 Redundant	13.75-14.5 GHz	GaN	60.0dBm	1000W	57.0dBm	500W	Single	Internal to amplifiers
Type 2-Kx	1:1 Phase Combined	13.75-14.5 GHz	GaN	62.5dBm	1800W	59.5dBm	900W	Single	External 1:1 Redundant
Type 3-Kx	1:2 Redundant	13.75-14.5 GHz	GaN	60.0dBm	1000W	57.0dBm	500W	Dual	Internal to amplifiers
Type 4-Kx	1:2 Phase Combined	13.75-14.5 GHz	GaN	62.5dBm	1800W	59.5dBm	900W	Single	External 1:1 Redundant

S-band Olympus Terminals

Model No.	Configuration	Band	Device	P-sat		P1dB		Pol	Optional L-band BUC
Type 1-S	1:1 Redundant	2.025 - 2.12 GHz	LDMOS	61.0dBm	1250W	60.0dBm	1000W	Single	N/A



# SUMMIT I



4 Module System				
SSPA Module Power Level	Maximum Output Power 4 modules Psat	Maximum Output Power 4 modules P Linear	Redundant Output Power, 3 modules Psat	Redundant Output Power, 3 modules P Linear
<b>X-Band</b>				
800W	2500W (64.0dBm)	1300W (61.0dBm)	1400W (61.5dBm)	700W (58.5dBm)
1000W	3200W (65.0dBm)	1600W (62.0dBm)	1800W (62.5dBm)	900W (59.5dBm)

8 Module System				
SSPA Module Power Level	Maximum Output Power 8 modules Psat	Maximum Output Power 8 modules P Linear	Redundant Output Power, 7 modules Psat	Redundant Output Power, 7 modules P Linear
<b>X-Band</b>				
800W	4500W (66.5dBm)	2250W (63.5dBm)	3400W (65.3dBm)	1700W (62.3dBm)
1000W	5600W (67.5dBm)	2800W (64.5dBm)	4300W (66.3dBm)	2160W (63.3dBm)

4 Module System				
SSPA Module Power Level	Maximum Output Power 4 modules Psat	Maximum Output Power 4 modules P Linear	Redundant Output Power, 3 modules Psat	Redundant Output Power, 3 modules P Linear
<b>C-Band</b>				
800W	2500W (64.0dBm)	1300W (61.0dBm)	1400W (61.5dBm)	700W (58.5dBm)
1000W	3200W (65.0dBm)	1600W (62.0dBm)	1800W (62.5dBm)	900W (59.5dBm)

8 Module System				
SSPA Module Power Level	Maximum Output Power 8 modules Psat	Maximum Output Power 8 modules P Linear	Redundant Output Power, 7 modules Psat	Redundant Output Power, 7 modules P Linear
<b>C-Band</b>				
800W	4500W (66.5dBm)	2250W (63.5dBm)	3400W (65.3dBm)	1700W (62.3dBm)
1000W	5600W (67.5dBm)	2800W (64.5dBm)	4300W (66.3dBm)	2160W (63.3dBm)

4 Module System				
SSPA Module Power Level	Maximum Output Power 4 modules Psat	Maximum Output Power 4 modules P Linear	Redundant Output Power, 3 modules Psat	Redundant Output Power, 3 modules P Linear
<b>Ku-Band (14.0-14.5, 13.75-14.5)</b>				
300W	1000W (60.0dBm)	500W (57.0dBm)	570W (57.5dBm)	280W (54.5dBm)
400W	1300W (61.0dBm)	650W (58.0dBm)	700W (58.5dBm)	360W (55.5dBm)
500W	1600W (62.0dBm)	800W (59.0dBm)	900W (59.5dBm)	450W (56.5dBm)

8 Module System				
SSPA Module Power Level	Maximum Output Power 8 modules Psat	Maximum Output Power 8 modules P Linear	Redundant Output Power, 7 modules Psat	Redundant Output Power, 7 modules P Linear
<b>Ku-Band (14.0-14.5, 13.75-14.5)</b>				
300W	1700W (62.3dBm)	850W (59.3dBm)	1350W (61.3dBm)	675W (58.3dBm)
400W	2250W (63.5dBm)	1125W (60.5dBm)	1700W (62.3dBm)	850W (59.3dBm)
500W	2800W (64.5dBm)	1400W (61.5dBm)	2150W (63.3dBm)	1080W (60.3dBm)

# SUMMIT II



4 Module System				
SSPA Module Power Level	Maximum Output Power 4 modules P <sub>sat</sub>	Maximum Output Power 4 modules P <sub>Linear</sub>	Redundant Output Power, 3 modules P <sub>sat</sub>	Redundant Output Power, 3 modules P <sub>Linear</sub>
<b>C-Band</b>				
800W	2500W (64.0dBm)	1300W (61.0dBm)	1400W (61.5dBm)	700W (58.5dBm)
1000W	3200W (65.0dBm)	1600W (62.0dBm)	1800W (62.5dBm)	900W (59.5dBm)

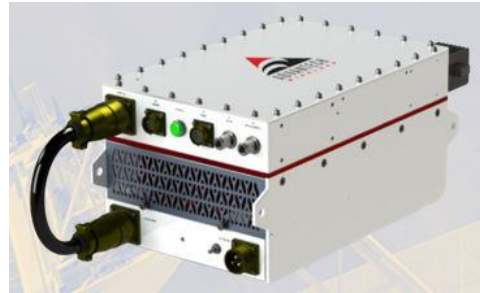
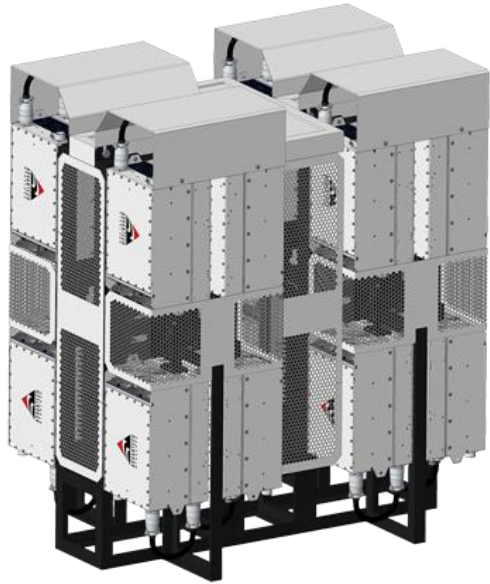
8 Module System				
SSPA Module Power Level	Maximum Output Power 8 modules P <sub>sat</sub>	Maximum Output Power 8 modules P <sub>Linear</sub>	Redundant Output Power, 7 modules P <sub>sat</sub>	Redundant Output Power, 7 modules P <sub>Linear</sub>
<b>C-Band</b>				
800W	4500W (66.5dBm)	2250W (63.5dBm)	3400W (65.3dBm)	1700W (62.3dBm)
1000W	5600W (67.5dBm)	2800W (64.5dBm)	4300W (66.3dBm)	2160W (63.3dBm)

4 Module System				
SSPA Module Power Level	Maximum Output Power 4 modules P <sub>sat</sub>	Maximum Output Power 4 modules P <sub>Linear</sub>	Redundant Output Power, 3 modules P <sub>sat</sub>	Redundant Output Power, 3 modules P <sub>Linear</sub>
<b>Ku-Band (14.0-14.5, 13.75-14.5)</b>				
300W	1000W (60.0dBm)	500W (57.0dBm)	570W (57.5dBm)	280W (54.5dBm)
400W	1300W (61.0dBm)	650W (58.0dBm)	700W (58.5dBm)	360W (55.5dBm)
500W	1600W (62.0dBm)	800W (59.0dBm)	900W (59.5dBm)	450W (56.5dBm)

8 Module System				
SSPA Module Power Level	Maximum Output Power 8 modules P <sub>sat</sub>	Maximum Output Power 8 modules P <sub>Linear</sub>	Redundant Output Power, 7 modules P <sub>sat</sub>	Redundant Output Power, 7 modules P <sub>Linear</sub>
<b>Ku-Band (14.0-14.5, 13.75-14.5)</b>				
300W	1700W (62.3dBm)	850W (59.3dBm)	1350W (61.3dBm)	675W (58.3dBm)
400W	2250W (63.5dBm)	1125W (60.5dBm)	1700W (62.3dBm)	850W (59.3dBm)
500W	2800W (64.5dBm)	1400W (61.5dBm)	2150W (63.3dBm)	1080W (60.3dBm)

4 Module System				
SSPA Module Power Level	Maximum Output Power 4 modules P <sub>sat</sub>	Maximum Output Power 4 modules P <sub>Linear</sub>	Redundant Output Power, 3 modules P <sub>sat</sub>	Redundant Output Power, 3 modules P <sub>Linear</sub>
<b>X-Band</b>				
800W	2500W (64.0dBm)	1300W (61.0dBm)	1400W (61.5dBm)	700W (58.5dBm)
1000W	3200W (65.0dBm)	1600W (62.0dBm)	1800W (62.5dBm)	900W (59.5dBm)

8 Module System				
SSPA Module Power Level	Maximum Output Power 8 modules P <sub>sat</sub>	Maximum Output Power 8 modules P <sub>Linear</sub>	Redundant Output Power, 7 modules P <sub>sat</sub>	Redundant Output Power, 7 modules P <sub>Linear</sub>
<b>X-Band</b>				
800W	4500W (66.5dBm)	2250W (63.5dBm)	3400W (65.3dBm)	1700W (62.3dBm)
1000W	5600W (67.5dBm)	2800W (64.5dBm)	4300W (66.3dBm)	2160W (63.3dBm)



Powered by the Genesis module with a secure SNMPv3 interface

## SUMMIT III

- Soft-Fail Redundant SSPA System
- Delivers 500W to 2kW of linear, Ku-band power
- Ethernet SNMPv3 & Embedded Web server
- Removable Power Supplies
- Compact package, factory assembled and tested
- No waveguide switching or external logic controller
- High availability and low MTTR

4 Module System				
SSPA Module Power Level	Maximum Output Power 4 modules Psat	Maximum Output Power 4 modules P Linear	Redundant Output Power, 3 modules Psat	Redundant Output Power, 3 modules P Linear
150W	500W (57dBm)	250W (54.0dBm)	141W (51.5Bm)	70W (48.5dBm)
200W	676W (58.3dBm)	339W (55.35dBm)	380W (55.8dBm)	190W (52.8dBm)
250W	851W (59.3dBm)	425W (56.3dBm)	480W (56.8dBm)	240W (53.8dBm)

8 Module System				
SSPA Module Power Level	Maximum Output Power 8 modules Psat	Maximum Output Power 8 modules P Linear	Redundant Output Power, 7 modules Psat	Redundant Output Power, 7 modules P Linear
150W	912W (59.6dBm)	457W (56.6dBm)	690W (58.4dBm)	346W (55.4dBm)
200W	1245W (60.9dBm)	624W (57.9dBm)	933W (59.7dBm)	466W (56.7dBm)
250W	1700W (62.3dBm)	850W (59.3dBm)	1288W (61.1dBm)	644W (58.1dBm)

16 Module System				
SSPA Module Power Level	Maximum Output Power 16 modules Psat	Maximum Output Power 16 modules P Linear	Redundant Output Power, 15 modules Psat	Redundant Output Power, 15 modules P Linear
150W	1513W (61.8dBm)	758W (58.8dBm)	1288W (61.1dBm)	645W (58.1dBm)
200W	2000W (63dBm)	1000W (60.0dBm)	1773W 62.4dBm)	870W (59.4dBm)
250W	2510W (64.0dBm)	1558W (61.0dBm)	2137W (63.3dBm)	1071W (60.3dBm)



# EARTH CALLING...



When 'Long Distance' takes on a whole new meaning...

Advantech Wireless Technologies

## **SUMMIT**

for Near and Deep Space applications.

### **HIGH POWER Solid State Amplifiers and Systems**

- 800W to 16kW of transmit power in L/S, C, Low X, Std. X and Ku-Bands
- Communications and Ranging
- Antenna-Pad, Work-Platform and Side-Arm Mounting Configurations
- Gateway Earth Stations, Deep Space, DTH, Satellite Tracking



[advantechwireless.com](http://advantechwireless.com)

## Frequency Converters



- ◆ Available in L, S, C, X, Ku, and Ka-Bands
- ◆ 70MHz or 140MHz and L-Band
- ◆ Single, dual, quad, or 1:1 redundant in the same 1RU Chassis.
- ◆ Multiple frequency bands, in the same 1RU chassis.
- ◆ Hot swapping, plug in, built in redundancy.
- ◆ No traffic interruption when replacing a failed converter.
- ◆ Optional feature for Satellite Tracking & Navigation.



Government & Defence at every vertical

## AIR

Air-Land Integration is vital to bring the maximum combined effort of all capabilities to the operation. Advantech Wireless delivers solutions that can minimize the complexity in a modern battle-space:

- RF Converters, Amplifiers & BUCs
- Satellite Antennas

## GROUND STATION

Being able to minimise operational costs while maximising operational effectiveness is fundamental in today's military. Advantech Wireless deliver innovative technology that ensures maximum return on investment:

- RF Converters, Amplifiers & BUCs
- Tropospheric Scatter
- Satellite Antennas
- Antenna Controllers
- Microwave

## LAND ENVIRONMENT – MOBILE

Mobility is essential to military operations and through our detailed research and development programme. Advantech Wireless is able to support 'SOTM' with our leading technologies:

- RF Converters, Amplifiers & BUCs
- Satellite Antennas

## UAV

Distributing ISTAR products efficiently and in real-time is paramount to supporting decision makers. Advantech Wireless delivers world winning technology that ensures maximum return on investment:

- RF Converters, Amplifiers & BUCs
- Satcom On The Move



## MARITIME

Naval units operate in remote places where resilient and trusted communications are critical. Advantech Wireless deliver this through our innovative maritime compatible products:

- RF Converters, Amplifiers & BUCs
- Tropospheric Scatter
- Radar Pulse Amplifiers
- Satellite Antennas
- Antenna Controllers
- Microwave

## LAND ENVIRONMENT – DISMOUNTED USER

Robust, lightweight and quickly deployable solutions are essential to support the dismounted user. Advantech Wireless is experienced in delivering such solutions to NATO member countries:

- RF Converters, Amplifiers & BUCs
- Tropospheric Scatter
- Satellite Antennas

## DEPLOYED HEADQUARTERS

The transformation to 'Smart' HQs demands efficient and reliable broadband communications. Advantech Wireless support this with state of the art deployable solutions:

- RF Converters, Amplifiers & BUCs
- Tropospheric Scatter
- Radar Pulse Amplifiers
- Satellite Antennas
- Antenna Controllers
- Microwave



## Engage Class Integrated SATCOM Terminals

- ◆ High Performance 1.2m, 1.8m and 2.4m Flyaway SATCOM Terminal Solution
- ◆ Ruggedized tri-band ready antenna which can cover X-Band, Ku-Band and/or Ka-Band by replacing the feed only.
- ◆ Fully integrated system for easy deployment and use
- ◆ Modem agnostic for customer requirements.
- ◆ Fully integrated with UPS, GPS, Anti-Jamming GPS, Satellite Finding Controller, NMS, Handheld Spectrum Analyser and Location finding toolset
- ◆ NATO Approved





## Skylark Class Integrated TROPO Terminals

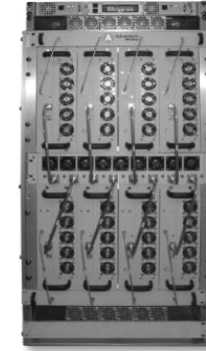
- ◆ Secure Non Line of Sight (NLOS) links in difficult terrain
- ◆ Seamless integration with Satellite Networks
- ◆ Agile, Mobile, or Fixed Strategic Links
- ◆ Immune to jamming
- ◆ Very difficult to locate
- ◆ No latency, ideal for real time applications like missile detection and air defense







## Solid State Pulsed Amplifiers for Mobile Tactical Radar Applications



- ◆ Improved efficiency
- ◆ Improved reliability
- ◆ Modular compact design
- ◆ Built-in redundancy for high reliability
- ◆ Advanced technology
- ◆ Very high spectral purity, linearity, and low phase noise.
- ◆ Adopted for applications ranging from 80 MHz up to 1.5 GHz.



## Maintenance & Repairs



- Dedicated technicians trained by Advantech Wireless Technologies for Maintenance & Repairs on our SSPA/SSPB product lines.
- Due to come on line Q2 2024





THANK YOU



[www.advantechwireless.com](http://www.advantechwireless.com)

[chris.chapman@advantechwireless.com](mailto:chris.chapman@advantechwireless.com)