

### CLEAR-WAV™ ADVANTAGE

X-WAV™

SHOCK-WAV™

PRO-WAV™



The Luxul Shock-WAV™ Frequency Translating Amplifier (FTA) is an ideal solution to convert commercial off the shelf (COTS) 5.x Wireless LAN technologies to the secured 4.4 - 4.6 GHz Military band and transmit that signal over long distances. The bi-directional frequency translator and amplifier enables any 802.11a wireless LAN radio to operate in the 4.4 - 4.6 GHz Military Band. No user adjustment, configuration, or provisioning is required. Built in patented digital Automatic Gain Control (D-AGC) guarantees maximum signal performance.

The FTA is a transverter combined with a transmit side amplifier and a receive side Low Noise Amplifier (LNA). A transverter is a radio frequency device that consists of an upconverter and a downconverter in one unit. The Luxul FTA supports 802.11a modulation up to 64QAM OFDM. This requires a high degree of linearity to support the high data rates. The Luxul FTA is available in 2W and 8W peak TX power output options, supporting up to a 54Mbit/s data rate utilizing 802.11a commercially available radios. In normal operation, the FTA "down-converts" the 5.x GHz radio signal to the 4.4 -4.6 GHz band to be broadcast by the antenna. The RX signals received at 4.4 - 4.6 GHz are then "up-converted" to 5.x GHz with a gain of 10dB provided by the LNA. This process utilizes Luxul's patented Shock-WAV™ Signal Booster technology to determine input power and properly adjust the gain to maintain a constant output power. The FTA is installed near the antenna to minimize RF loss between the antenna and the radio system. Two type N connectors provide the only external connections to the FTA. One connector attaches to the antenna, while the other connects to the radio system installed at ground level. The radio connection also provides the power required to operate the FTA. The FTA is fully self contained and outdoor-rated.

### FTA SPECIFICATIONS

Part Number	FTA-52-44M-05W	FTA-52-44M-2W
RF Input Operating Range	5150 - 5350 MHz	5151 - 5350 MHz
RF Output Operating Range	4400 - 4600 MHz	4400 - 4600 MHz
802.11a Channels Supported*	36, 40, 44, 48, 52, 56, 60, 64	36, 40, 44, 48, 52, 56, 60, 64
Average Power Output	500 mW	2 Watt
Peak Transmit Power	2 Watt (33dBm) Peak	8 Watt (39dBm) Peak
Peak Transmit Gain	25dB Typical (under AGC Control)	25dB Typical (under AGC Control)
Receive Gain	10dB Typical	10dB Typical
TX RF Input Power Range	+5dBm to +24dBm	+5dBm to +24dBm
LED Indicators (Power)	Green	Green
LED Indicators (TX)	Blue for Transmit, Off for Receive	Blue for Transmit, Off for Receive
LED Indicators (Temperature)	Red	Red
LED Indicators (Low Input Power)	Yellow	Yellow
LED Indicators (VSWR)	Blue	Blue
LED Indicators (PLL Unlock)	Orange	Orange
Power Consumption	6W (RX) 13W (TX) Typical	6W (RX) 30W (TX) Typical
Input Power Range	+24 to 57VDC	+24 to +57VDC
Operating Temp	-40°C to +60°C	-40°C to +60°C
Dimensions	W: 8" (203.2mm) L: 4.75" (120.7mm) H: 10.5" (266.7mm)	W: 8" (203.2mm) L: 4.75" (120.7mm) H: 10.5" (266.7mm)
Enclosure	Outdoor (IP-66/NEMA 4X)	Outdoor (IP-66/NEMA 4X)
Connector	Two (2) Type N Female	Two (2) Type N Female
Weight	16lbs.	16lbs.

\* These are the US Regulatory Domain supported channels. The FTA is able to support other channels outside the US Regulatory Domain but within the specified operating Frequencies.

### POWER OVER COAX (POC) INJECTOR SPECIFICATIONS

Power Options	Power Over Ethernet, Direct DC
Input Power Range	24 to 57VDC
Power Consumption	1.0W Typical
Insertion Loss (5150 - 5350 MHz)	<1.0dB Typical
LED Indicator	Green for Power
Operating Temp	-40°C to +60°C
Dimensions	W: 3.4" (86.3mm), L: 2.6" (66.1mm), H: 1.7" (43.2mm)
Enclosure	Outdoor (IP-54)
Connector	Two (2) Type N Female
Weight	<0.75lbs