

## BIDIRECTIONAL AMPLIFIER ULS-MU

### KEY FEATURES

- frequency range 4.4-4.5 GHz  
(@ input 2.384-2.484 GHz)  
(other frequencies on request)
- 3 Watt Transmit Power
- 12 dB Receive Signal Gain
- compatible with IEEE 802.11b/g  
WLAN Radios
- 12-36 Vdc power supply through the  
antenna cable
- Tracking Antenna Power & Control  
Signal through the antenna cable
- WINS protocol compatible



**Dimensions**  
28 x 98 x 182 mm

### DESCRIPTION

The bi-directional RF amplifier ULS-MU is compatible with IEEE 802.11b/g WLAN radios as well as radios using Direct Sequence or Frequency Hopping Spread Spectrum modulation.

The integrated automatic power control circuit adjusts the amplifier's transmit gain to provide a constant output power regardless of cable length and input power. The receive gain compensates for cable losses and actually increases the receive sensitivity of most wireless LAN radios. The unit can be configured to deliver up to full transmit power with as little as 10 mW of input power. This feature permits long cable runs with no degradation in operating range.

The ULS-MU amplifier series features an all-metal weather-proof enclosure machined from a single billet of aluminum, making it suitable for demanding commercial and military applications. For outdoor applications, the ULS-MU improves range and reliability by placing up to full transmit power as well as 12 dB of low-noise receive gain directly at the antenna where it is most effective.

Power and control signals are supplied through the coaxial connections. They are both for controlling the power amplifier and for driving a tracking antenna. The control protocol is compatible with WINS, the modular IP transmission system.

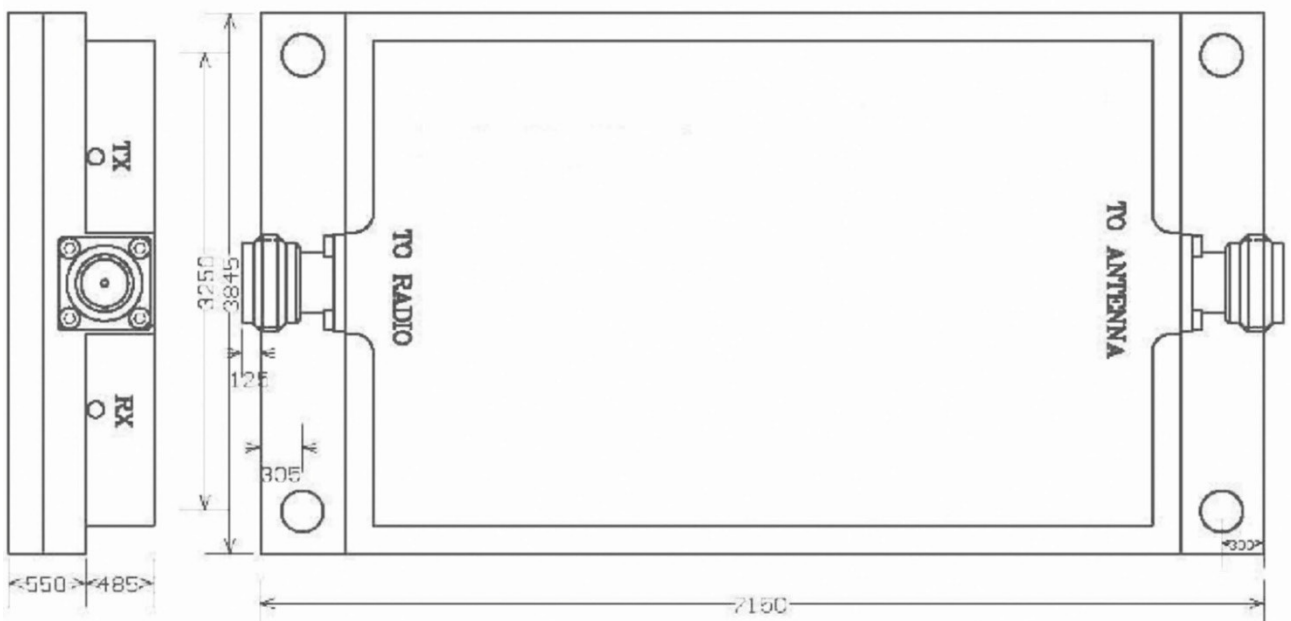
### FUNCTIONAL BLOCK DIAGRAM

- folgt in Version 002

## SPECIFICATIONS

Model	ULS-MU-1 (SMA) ULS-MU-2 (N)
Frequency Range	4.4 to 4.5 GHz @ input 2.384-2.484 GHz other frequencies on request
Output Power	3 Watt (programmable from 0.5 to 3 * Watt)
Input Power	10 mW (10 dBm) to 100 mW (20 dBm)
Receive Gain	12 dB nominal
Noise Figure	3.5 dB
Operating Mode	bi-directional, half-duplex time division duplex. Senses RF carrier from input and automatically switches from receive to transmit mode.
Supply Voltage	11.5 - 35 Vdc
Current Draw	3 Amps Peak Tx and 0.15A Peak Rx
Temp. Range *	-30°C to + 70°C ( * max. +50° @ output power > 1 Watt)
Humidity	≤ 95% RH
Vibration	10g (sine 20Hz-2kHz)
Shock (½ sine)	100g peak (11ms)
Dimensions (standard version)	28 x 98 x 182 mm
Weight (standard version)	0.95 kg
RF Input/Output Connectors	SMA-female ( ) N-femal ( )
RF Input Function (J1)	RF & DC & control signals from ULS-N-1
RF Output Function (J2)	RF & DC & control signals to tracking antenna ATS-M

## OUTLINE DRAWING



dimensions in mil