

### DEM L5ULNA - Ultra Low Noise Amplifier

#### Specifications:

Model:	L5ULNA
Frequency:	5600-5850MHz
Gain:	15dB minimum
Noise Figure:	<0.8dB
Current Drain:	<30mA
Voltage:	+7 - +16 VDC

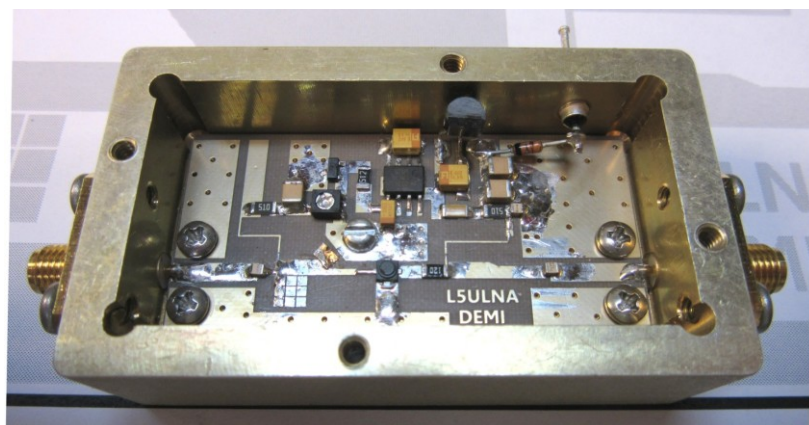


#### Product Description:

The DEM LXXULNA is one of a series of **Ultra Low Noise Amplifiers** that was designed by W5LUA and produced by Down East Microwave Inc. The LXXULNA series utilizes the latest in PHEMT technology and is designed for receive systems such as EME stations and satellite reception that requires the lowest noise figure possible. All of the LXXULNAs do not provide any RF bypass switching circuitry. Standard gain of the LXXULNA may range from 14 to 17 dB. The noise figure is FET dependant. The LXXULNAs are adjusted on an individual basis for the best performance possible. Each LXXULNA may be biased through the coax or from the external DC feed through. The internal power supply provides external power supply isolation for the FET DC supply.

Our LXXULNA design incorporates low loss microstrip circuitry and resistive loading to accomplish all RF matching. During testing, the input circuit is optimized for gain and noise figure. The resistive loaded output circuit, is adjusted to control the gain and is tested for a constant wide bandwidth output impedance. This resistive load impedance absorbs products caused by reflections from band pass filters or high Q receiver front ends. We do not use tuned output circuits or baluns in our LXXULNA designs. Tuned output circuits and baluns do not offer constant output impedances over wide bandwidths and may cause out of band instabilities from reflected signals. Tuned circuits may also require returning if a cable length or the tuning of a filter that is connected to the output of a tuned circuit LNA is changed.

This LXXULNA design is provided with type "N" or SMA connectors that are mounted on a



machined aluminum enclosure that measures 2.6" L x 2.5" W x 0.9" H. This enclosures enhances RF insusceptibility and protects against stray external EMI. DC power is either applied through a Pi-circuit feed through filter connector which is a simple solder connection that attenuates frequencies through 18 GHz. or it may be applied through the coax.. The LXXULNA design is also offered in kit form as a PCB kit or complete kit depending on your requirements.

**Schematic Diagram of L5ULNA Design:**

