

# **Noble Electronics, Inc.**

## **Testing, Certification of DNA Products 2020-12-17**

### **Introduction**

Noble Electronics, Inc. (NEI) manufactures custom electronic devices that are used to reduce unwanted high frequency energy, so-called "Dirty Electricity (DE)", from AC power lines. The technical approach to this reduction is to "dissipate" the DE, i.e. turn it into heat. This is termed, Dissipative Noise Attenuation (DNA).

### **Product Design**

The DNA products are designed by Robert Palma. Robert Palma, a degreed Electronic Engineer, has 49 years of hands-on product hardware design experience including aerospace systems (satellites and launch vehicles), industrial systems and consumer products.

### **Product Development and Manufacturing**

The DNA products are developed, packaged and manufactured by Gregory Palma. Gregory Palma, a trained and highly skilled Electronic Technician, has 37 years product hardware development and package design experience including industrial systems and consumer products. Gregory is NASA-Certified to assemble electronic systems for NASA (National Aeronautics and Space Administration) spacecraft.

### **Product Assembly**

Great care is taken in the assembly and construction of NEI products. DNA products are assembled from the well known and widely accepted international standard, IPC-A-610D, Acceptability of Electronic Assemblies. All manufactured items are burned in and tested, prior to shipment. Great care is also applied in packing and shipping the DNA products.

### **Testing Laboratories**

There are numerous laboratories that test manufacturer's products, in a way to allow ascribing a degree of safety when the product is used in accordance with the manufacturer's specifications.

The Occupational Safety and Health Administration (OSHA) is a federal agency. It is concerned with the workplace. While it does not address residential installations, various efforts by OSHA are borrowed for residential applications. OSHA publishes a list of (currently) 18 international private laboratories for testing of manufacturer's products in regards to safety. This is entitled: Nationally Recognized Testing Laboratory (NRTL). Among these 18, is the well known Underwriters Laboratories Inc. (UL tm). Note that UL(tm) is not the only testing laboratory. It is one of 18. N.B. all of these 18 are private companies. They are not a government organization.

### **Product Safety Testing of DNA Products**

Each DNA product is custom assembled, either entirely or almost-entirely with components that have been tested by a laboratory from the NRTL list.

**DNA Line Inductors IND30, IND100:** 1] **terminal strip**, UL Recognized File #E62622, 2] **wire** heavy gauge conforms to UL 1063 and MTW, light gauge conform to UL 1015, 3] **inductor**, is UL Listed: Type 3AH 30V7 ED, and passes 2500 VAC 6 sec HiPot test. 4] **circuit breaker** that feeds RxDNA printed circuit board and parts thereof, UL1077 Recognized as Supplementary Protectors, 5] **steel enclosure**, UL-50 Type 1 Certified, CSA Type 1 Certified 6] **RxDNA** bare printed circuit board (PCB) is UL Certified, electronic parts on PCB, not currently tested.

**RxDNA-V2X standalone:** chassis, wire, IEC, circuit breaker, bare PCB are all UL Certified.