

ABSTRACT

The immune system of electronic equipment against electromagnetic environment at the moment is one of the most important issues for the electronics industry. EMC (Electromagnetic Compatibility) is a branch of science, that studies how to improve the capability or the immunity of electronic equipment, in order to run properly in an electromagnetic environment. In addition, the AC source for household needs is a source of AC single phase voltage 220V nets and frequency of 50 Hz. The problem with the AC source is the existence of harmonics on the AC fundamental wave caused by the use of non-linear loads that cause distortion on the AC fundamental wave. So that the fundamental wave that was pure sinusoidal AC becomes no longer a pure sine.

LISN (Line Impedance Stabilization Network) is a filter that is used to provide the proper impedance for the power input of the EUT (Equipment Under Test), in order to obtain the measurement of EUT noise at the LISN port. LISN filter is designed to reduce Harmonics on the EUT, where the EUT in this final project consists of a transformer, rectifier, DC-DC Converter and load. Installation is in the filter before the input to the transformer and measurement to determine the harmonics using Harmonic meter performed on the input and output of the transformer.

From this final project the results of the measurements that have been done, shows that on the testing LISN passive filter for the value% THD_v by installing filters LISN obtained yield was 4,2%, and after the installation of emi filter obtained yield was 3,8% - 3,7%. Then for the value% THD_i prior to the installation of filters LISN obtained yield was 109,6% – 70,8 %, and after the installation of filters LISN obtained yield was 85,14% - 51,47 %. Then after installing the filter LISN LISN passive filter passive testing, voltage and current values obtained did not meet the IEEE 519-1992 standard is 3% for THD_v and 20% for THD_i.

Keywords: LISN, DC-DC Converter, Harmonic