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

Compatibity) 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% THDv 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% THDi 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 THDv and 20% for THDi.

Keywords: LISN, DC-DC Converter, Harmonic

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