

ABSTRACT

One electronic device that produce high electromagnetic conduction is SMPS(Switching Mode Power Supply). Emission that produced SMPS came from switching regulator process and then produce discontinuous current that will generate voltage ripple. This voltage ripple will be conducted emission and can interfere the function of the other device around SMPS like power supply, load, and ect. To solve those problem, there is comitte that regulate and make standard of EMC on electronic device.

In this research, will be suppressed noise from input SMPS and toward to PLN viltage. To suppress those noise, placed the EMI filter between SMPS and LISN(Line Stabilization Network). The filter circuit consist of two shunt capacitor and one series induktor, thus shape like π word. To increase filter performance, can added ferrite beat between SMPS and LISN.

After installed the filter, conducted emission from LM2576 and LM2596 without load can be suppressed well at the 150 KHz – 30 MHz. The Average value of conducted emission on LM2576 is 42,97 dB μ V and on LM2596 is 43,353 dB μ V. For LM2576 wth 1 K Ω load, filter can work properly at 3 MHz – 30 MHz. And at 150 KHz – 3 MHz has not work well. The average value of conducted emission is 49,281 dB μ V

Keywords: EMC, emission, LISN, SMPS, filter, CISPR