

Step by Step Guide for EMI Filter Selection

1. Determine whether system 1 (input side of the filter) is of high or low impedance at the frequency of interest.
2. Choose the filter with the opposite (inverse) impedance. If the system is high impedance, the filter input should be low impedance. If the system is low impedance, the filter input should be high impedance.
3. Do the same for System 2 on the opposite side of the filter. See The Chart Below. Power lines should be considered low impedance.

Note, when performing EMC Testing such as MIL-STD-461, a $10\mu f$ capacitor is specified in the line (a low impedance); Therefore, a filter of high impedance should be used, such as in 'L' or a 'T' (with the inductor toward the $10\mu f$ capacitor).

Insertion loss data is normally provided in a 50 OHM System. TSE has the computer capability to design with your real impedances and convert to a 50 OHM System for your QA Testing.

SYSTEM 1	FILTER	SYSTEM 2
LO		LO
LO		HI
HI		LO
HI		HI