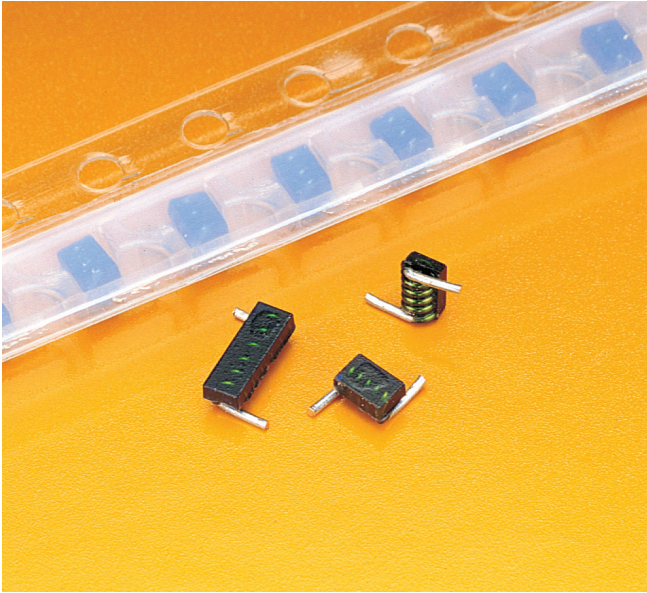


# Reference Design for a 9th Order Elliptical Filter



## Designing a Filter for MoCA® Applications



The Multimedia over Coax Alliance (MoCA®) is the universal standard for home entertainment networking. MoCA is the only home entertainment networking standard with appeal to all three pay television segments, cable, satellite and IPTV.

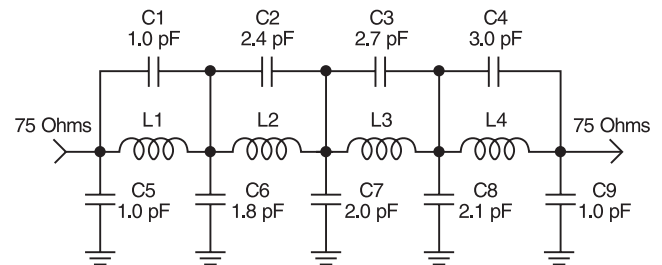
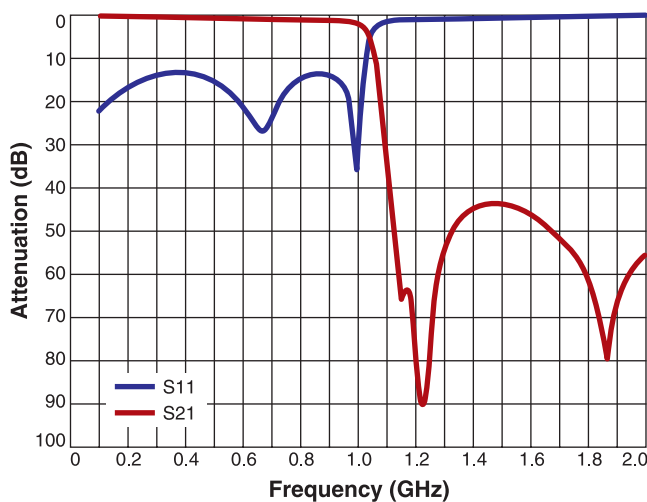
— from [www.mocalliance.org](http://www.mocalliance.org)

Services such as “whole home DVR” communicate using the MoCA standard. Filtering is required for all in-home networks, including those designed to DOCSIS and MoCA standards.

Coilcraft air core inductors provide the high performance needed for MoCA filters. The combination of inductance values and performance make them ideal for the implementation of these filters in set top boxes and cable modems. With tolerances as tight as 1%, the need to tune these filters is no longer required.

The example shown below uses four Coilcraft Micro Spring Inductors, and should require no more than 225 mm<sup>2</sup> of board space.

Typical Response Curves (Ref: 75 Ohms)



- L1 Coilcraft 1606-7GLB (7.15 nH ±2%)
- L2 Coilcraft 1606-7GLB (7.15 nH ±2%)
- L3 Coilcraft 1606-7GLB (7.15 nH ±2%)
- L4 Coilcraft 1606-6GLB (5.60 nH ±2%)

**Note:** Values shown are for reference only. Actual component values may vary with board material, layout and shielding.