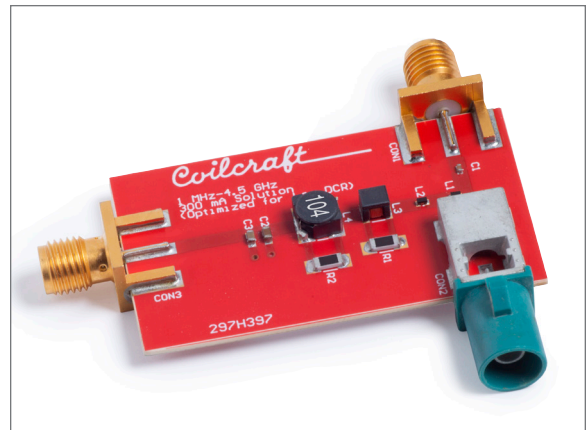


PoC Filter Solution – SMD-POC-002

Overview

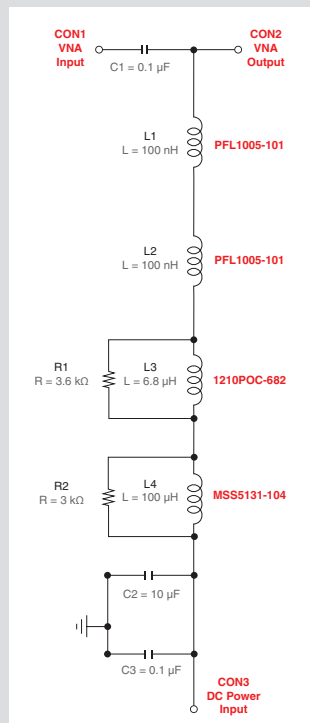
The SMD-POC-002 is for PoC applications spanning a 1 MHz to 4.2 GHz frequency range, injecting a current of 0.3 Amps. The impedance measurement was generated in simulation using measured Z-Parameter files for each component. S-Parameters were generated by taking two SMD-POC-002 boards connected by a Leoni Dacar-302 coaxial cable. Using a DC Power supply, the DC_{in} was connected to CON3 of the first board, while the DC_{out} was connected to the CON3 of the second board to close the circuit. All measurements were at room temperature and are considered typical responses for the solution.



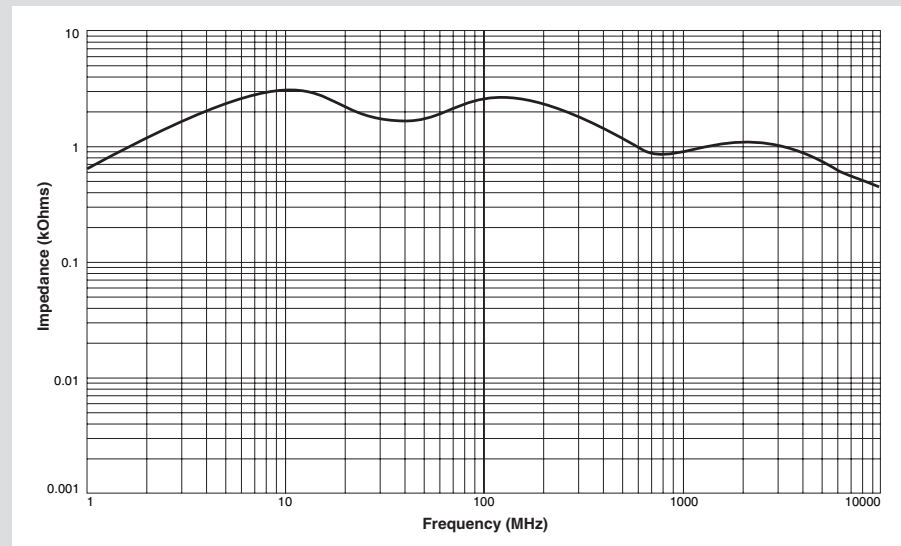
Coilcraft 300 mA Solution

Inductors	DCR max. (Ohms)	Max. Area (mm ²)	Isat (A) 30%		Irms (A)		Notes
			25°C	125°C	25°C	125°C	
PFL1005-101 (100 nH)	0.075	0.724	1.90	0.97	1.50 (40°C rise)	0.74 (15°C rise)	
PFL1005-101 (100 nH)	0.075	0.724	1.90	0.97	1.50 (40°C rise)	0.74 (15°C rise)	
1210POC-682 (6.8 µH)	0.240	8.811	1.40	0.80	1.36 (40°C rise)	0.80 (15°C rise)	3.6 kΩ resistor in parallel
MSS5131-104 (100 µH)	0.580	36.00	0.33	0.27	0.69 (40°C rise)	0.40 (15°C rise)	3.0 kΩ resistor in parallel
Totals:	0.970	46.259					

Schematic

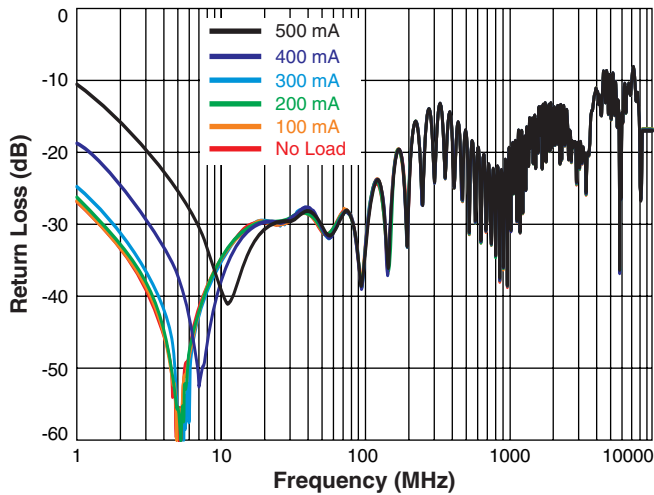


Impedance vs. Frequency

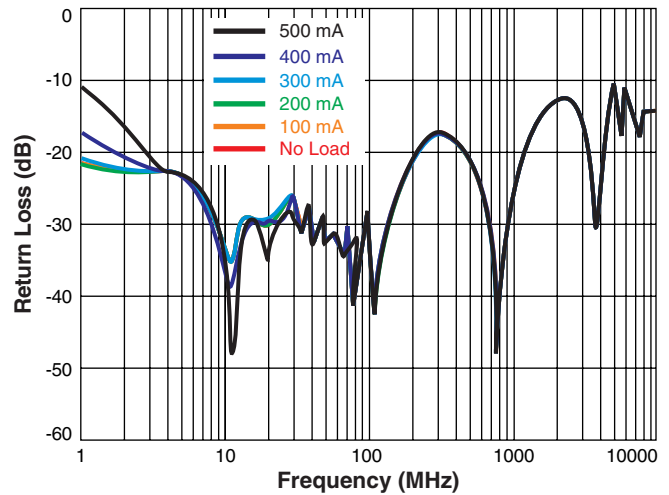


PoC Filter Solution – SMD-POC-002

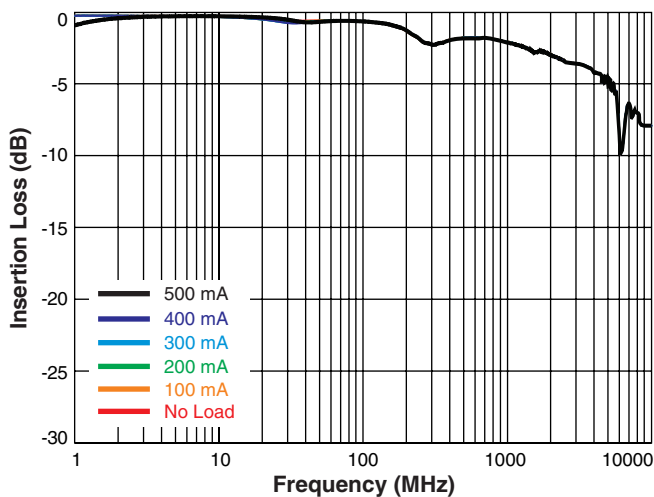
Return Loss (2 m cable)



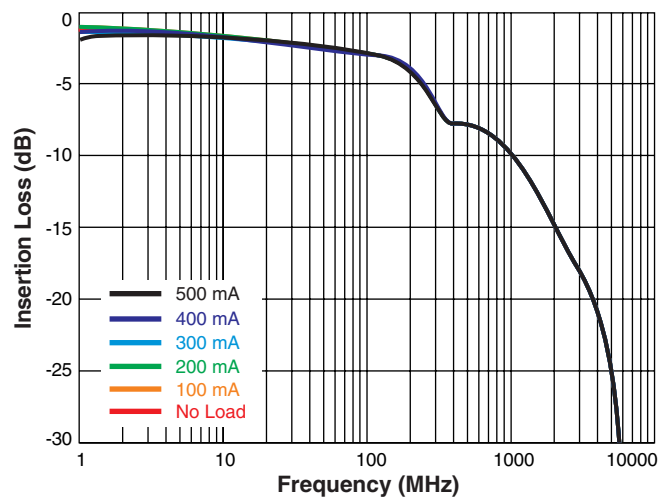
Return Loss (10 m cable)



Insertion Loss (2 m cable)



Insertion Loss (10 m cable)



PoC Filter Solution – SMD-POC-002

S-Parameters (300 mA, 2 m cable at temperature)

