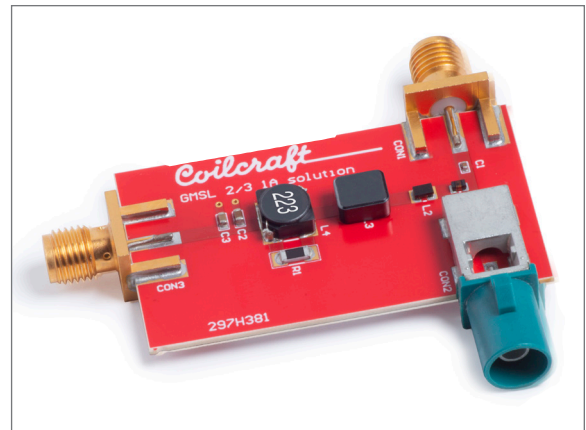


# PoC Filter Solution – SMD-POC-008

## Overview

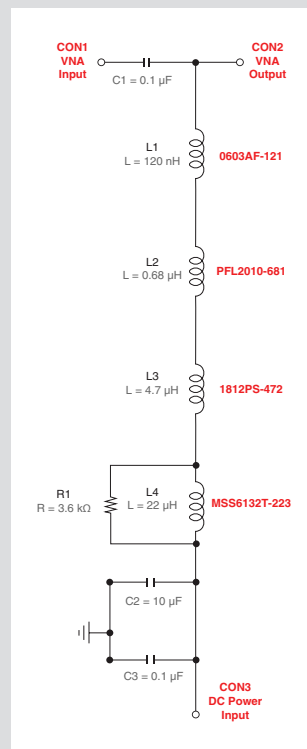
The SMD-POC-008 is for PoC applications spanning an 8 MHz to 3 GHz frequency range, injecting a current of 1.0 Amp. The impedance measurement was generated in simulation using measured Z-Parameter files for each component. S-Parameters were generated by taking two SMD-POC-008 boards connected by a Leoni Dacar-302 coaxial cable. Using a DC Power supply, the DC<sub>in</sub> was connected to CON3 of the first board, while the DC<sub>out</sub> 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.



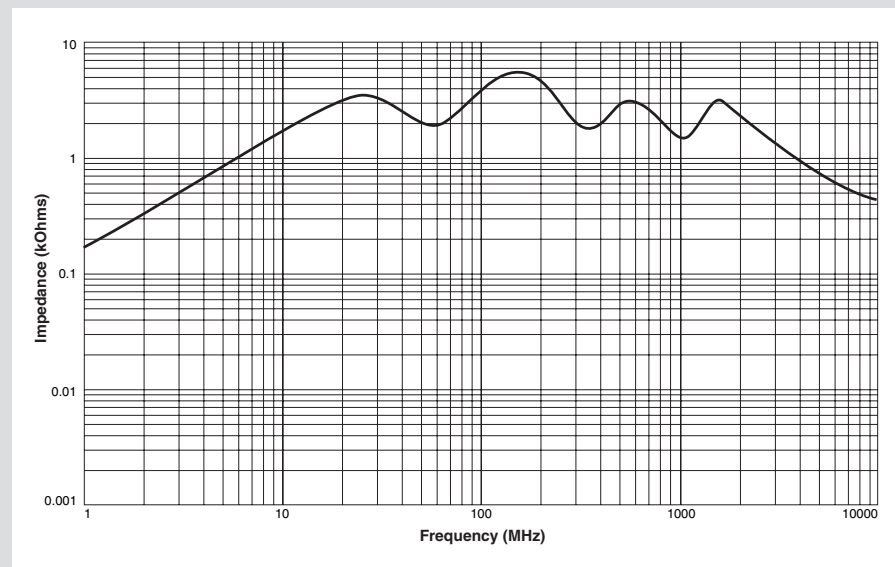
## Coilcraft 1,000 mA Solution

Inductors	DCR max. (Ohms)	Max. Area (mm <sup>2</sup> )	Isat (A) 30%		Irms (A)		Notes
			25°C	125°C	25°C	125°C	
0603AF-121 (0.12 μH)	0.089	2.016	2.80	2.40	1.40 (15°C rise)	1.19 (15°C rise)	
PFL2010-681 (0.68 μH)	0.095	3.190	1.50	0.85	1.60 (40°C rise)	1.0 (15°C rise)	
1812PS-472 (4.7 μH)	0.110	29.230	1.50	1.00	2.10 (40°C rise)	1.79 (40°C rise)	
MSS6132T-223 (22 μH)	0.158	42.250	1.22	1.10	1.90 (40°C rise)	1.61 (40°C rise)	3.6 kΩ resistor in parallel
<b>Totals:</b>	<b>0.452</b>	<b>76.686</b>					

## Schematic

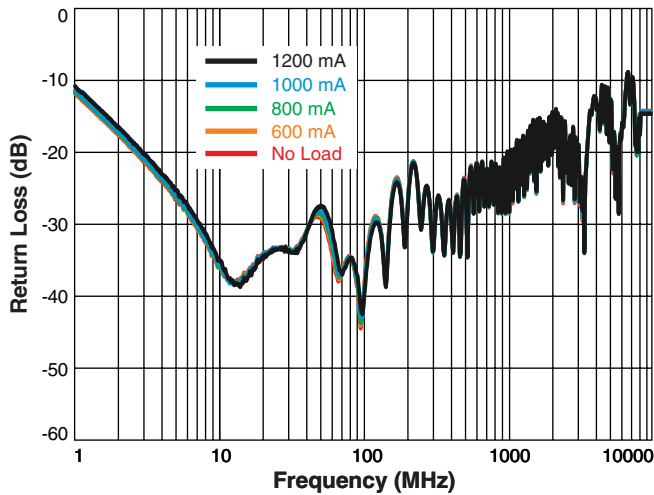


## Impedance vs. Frequency

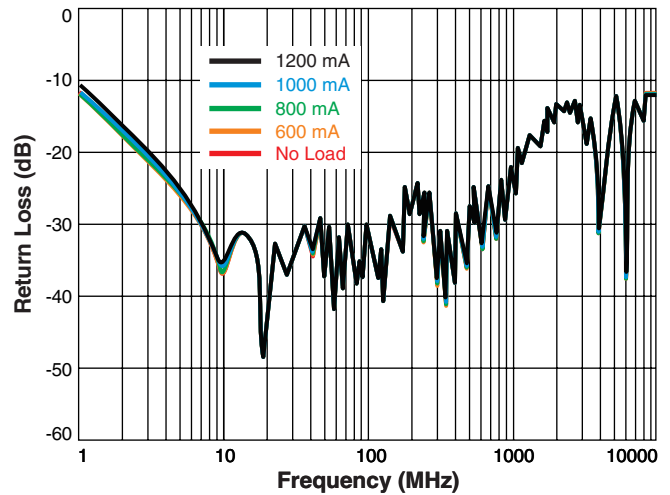


# PoC Filter Solution – SMD-POC-008

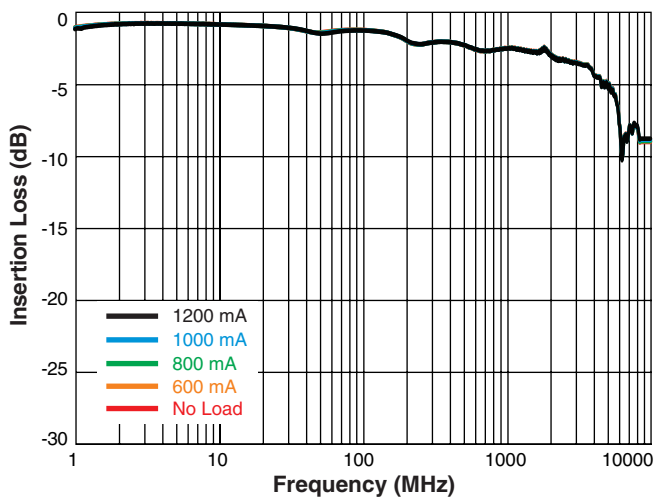
**Return Loss (2 m cable)**



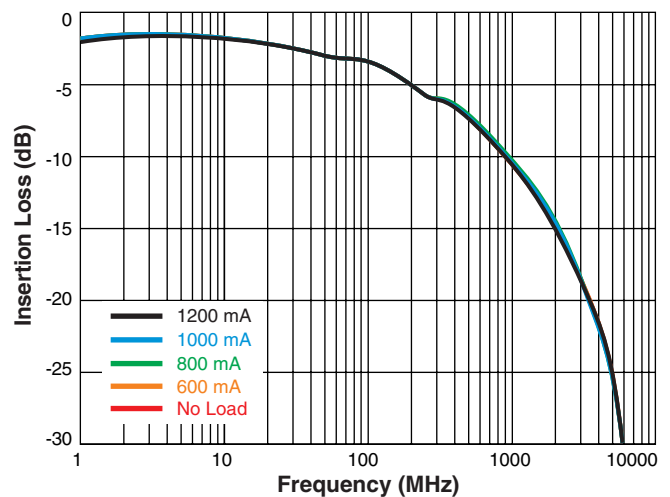
**Return Loss (10 m cable)**



**Insertion Loss (2 m cable)**



**Insertion Loss (10 m cable)**



# PoC Filter Solution – SMD-POC-008

## S-Parameters (1000 mA, 2 m cable at temperature)

