

# Spiral Inductor Assistant for Sonnet

## Benefits

- Fast and accurate on-the-fly design and analysis of single ended and differential inductor layouts
- Complements the Sonnet Professional RFIC workflow

## Key Features

- Generate layouts for various single ended and differential inductor geometries
- Single or multiple parallel layer(s) for spiral and underpass/overpass
- Estimated inductance read-out for single ended spirals while geometry parameters are changed
- Read in technology information from existing Sonnet simulation models
- Write a full, complete Sonnet simulation model for accurate EM verification of the inductor, ready for immediate analysis
- Full wave EM analysis in Sonnet Professional provides accurate, calibrated S-parameters (Sonnet license required)
- Plot L, Q, series resistance, substrate resistance and capacitance from the Sonnet results (Sonnet license required)
- Extract a broad band SPICE model for Spectre and other time domain simulators for the inductor (Sonnet license required)
- Professional version available for Windows and Linux platforms

Metal Layer	Function	Diel. Layer	Thickness	Erel	Diel. Loss Tan	Diel Cond.	Mrel	Magn. Loss Tan
- 0 -	Lossless	none						
- 1 -	Lossless	none						
- 2 -	M1	spiral						
- 3 -	M2	bridge						
- 4 -	Lossless	none						
		Air above	2000um	1	0	0	1	0
		Oxide above M1	2um	3,9	0	0	1	0
		Oxide at M1	1um	3,9	0	0	1	0
		Oxide between M1 M2	2um	3,9	0	0	1	0
		Oxide below M2	2um	3,9	0	0	1	0
		Substrate	300um	11,9	0	5	1	0

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