

Final SMA Launch Results

Michael's Work on the SMA Launch
as of 2/09/2009

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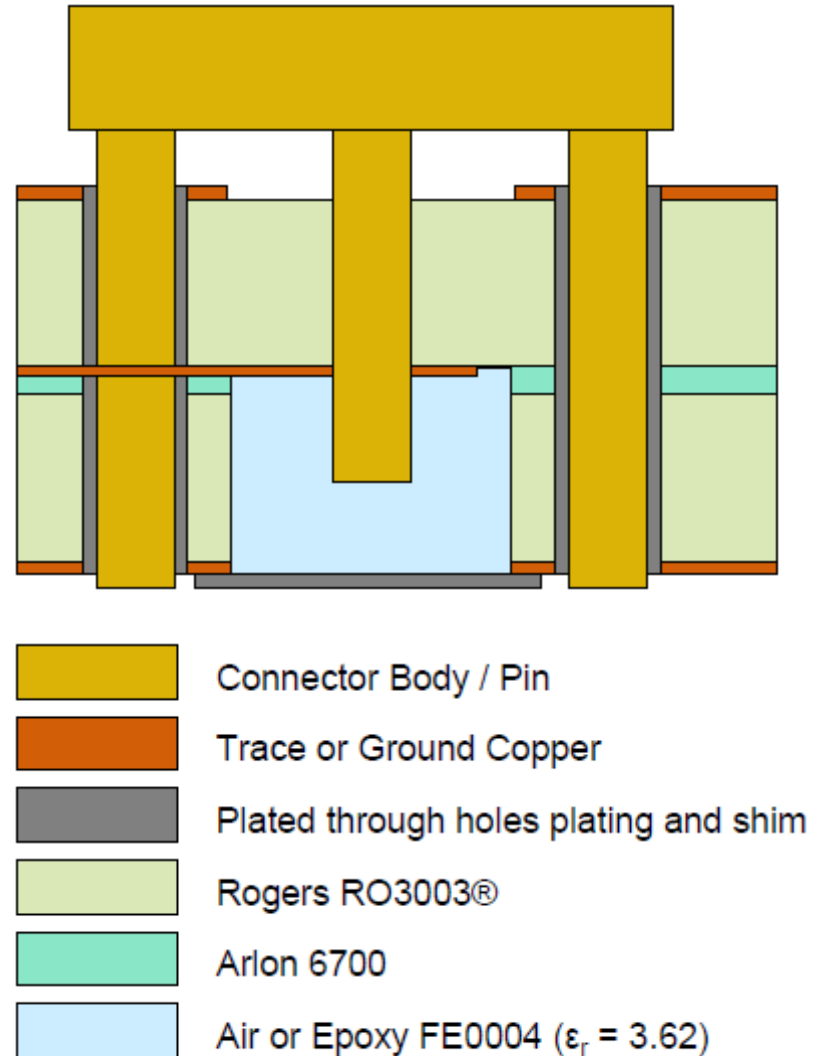
- Overview of the Model
- Final Results
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1-19GHz and 9-13GHz

The Model

A summary of the changes of this model:

1. The SMA connector is placed on the 'bottom' of the board (it hits the fifty ohm line first)
2. There is no center thru-hole
3. There is no copper 'pad' where the center pin enters the dielectric

In many respects, this model is simpler than the previous model. There are less variables so tuning should be easier, assuming the response is receptive to changes.

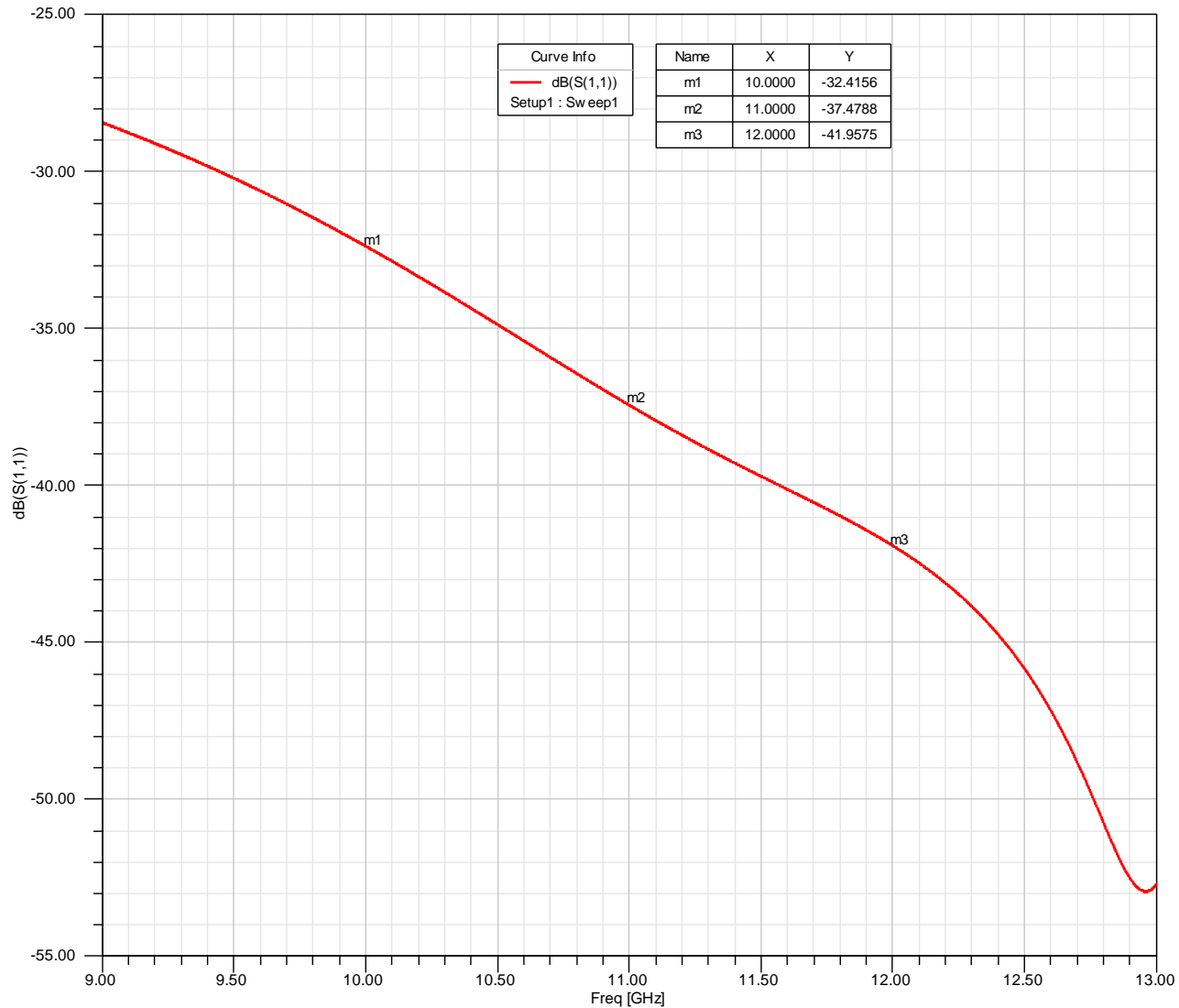


Final Results, 9-13GHz

Ansoft Corporation

Return Loss

59646-0001 Final Launch 1-19GHz Sweep



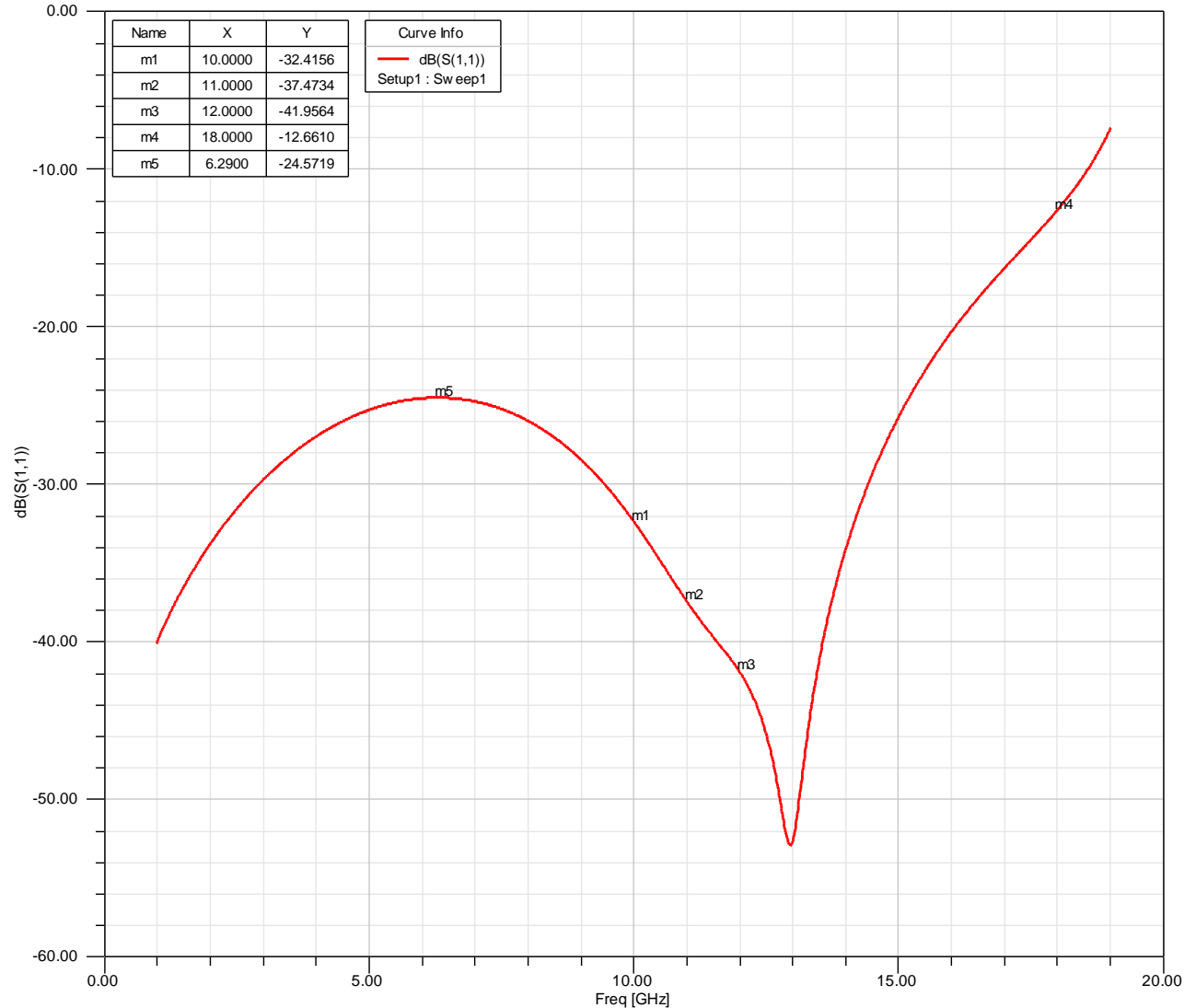
This plot shows the final results for the SMA Launch over the 9-13GHz range. This range is important because we run our components (and hence our system) over the 10-12GHz range. Note that sub-30dB return loss has been achieved across this bandwidth.

Final Results, 1-19GHz

Ansoft Corporation

Return Loss

59646-0001 Final Launch 9-13GHz Sweep



This plot shows the final results for the SMA Launch over the 1-19GHz range. This range is important because the component was to be designed from DC to 18GHz. Performance at 18GHz was not easily changed – these results here were, qualitatively, the best compromise between return loss at 18GHz and return loss everywhere else. 12dB down translates to approximately 93.75% of the power transmitting through the device. Besides 18GHz, the worst performance is at 6.3GHz with -24.57dB return loss. 24dB down translates to approximately 99.6% of the power transmitting through the device.