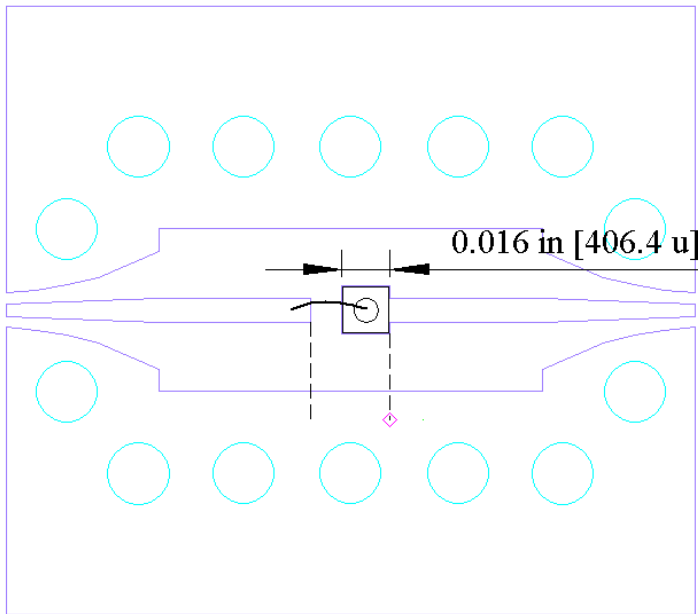# SPICE Model MA4P303-134

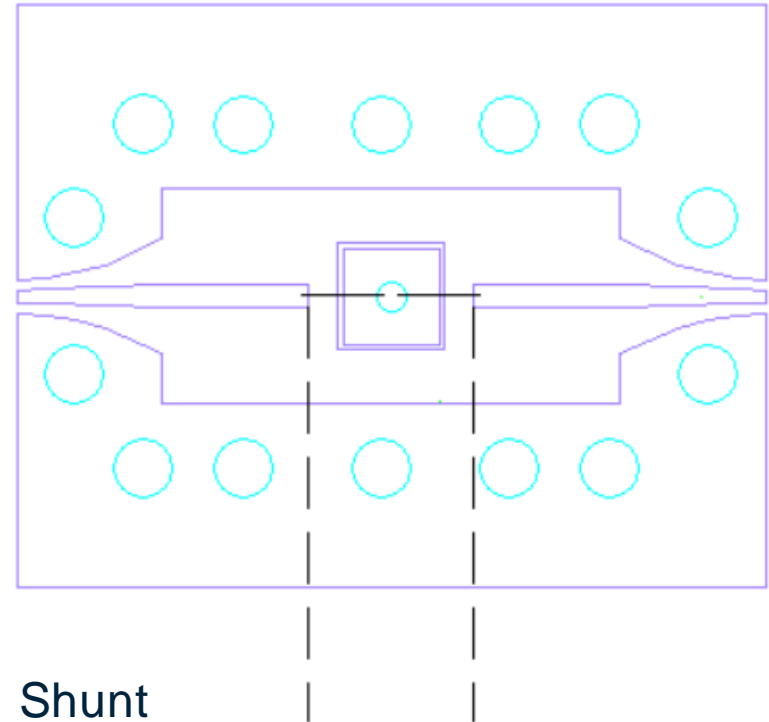Nov 11, 2022

Contents

- **Test Fixtures**
- **Bond Wire**
- **Diode**
- **Results**
  - IV Curve
  - Series 100 mA
  - Series -40 V
  - Shunt 100 mA
  - Shunt -40 V
- **Disclosure**

Test Fixtures

- **10 mils Rogers RO3010 with 1/2 oz copper**
- **S-parameters measured with port extensions such that the reference planes are set to the dash lines on the input and output as shown below**
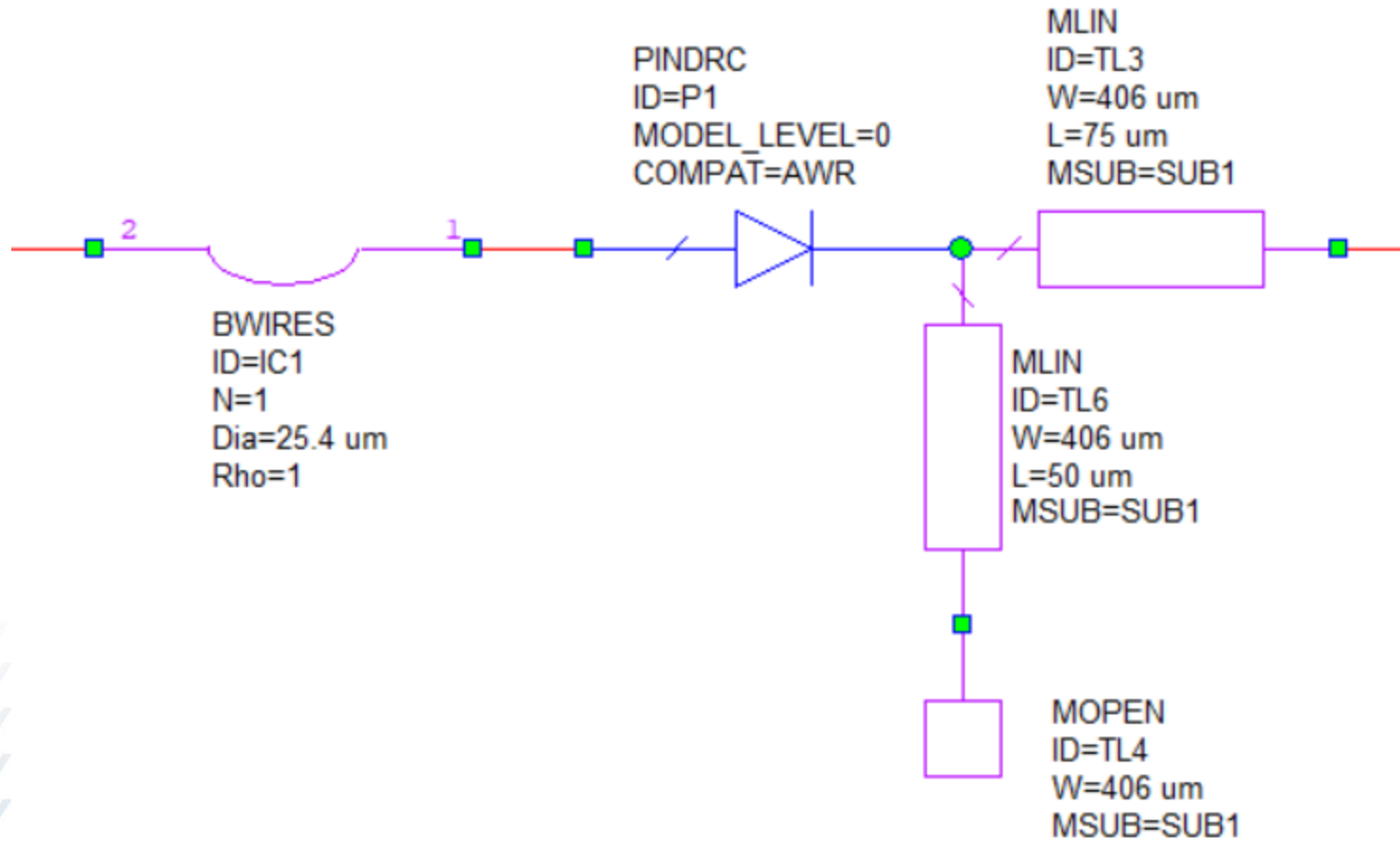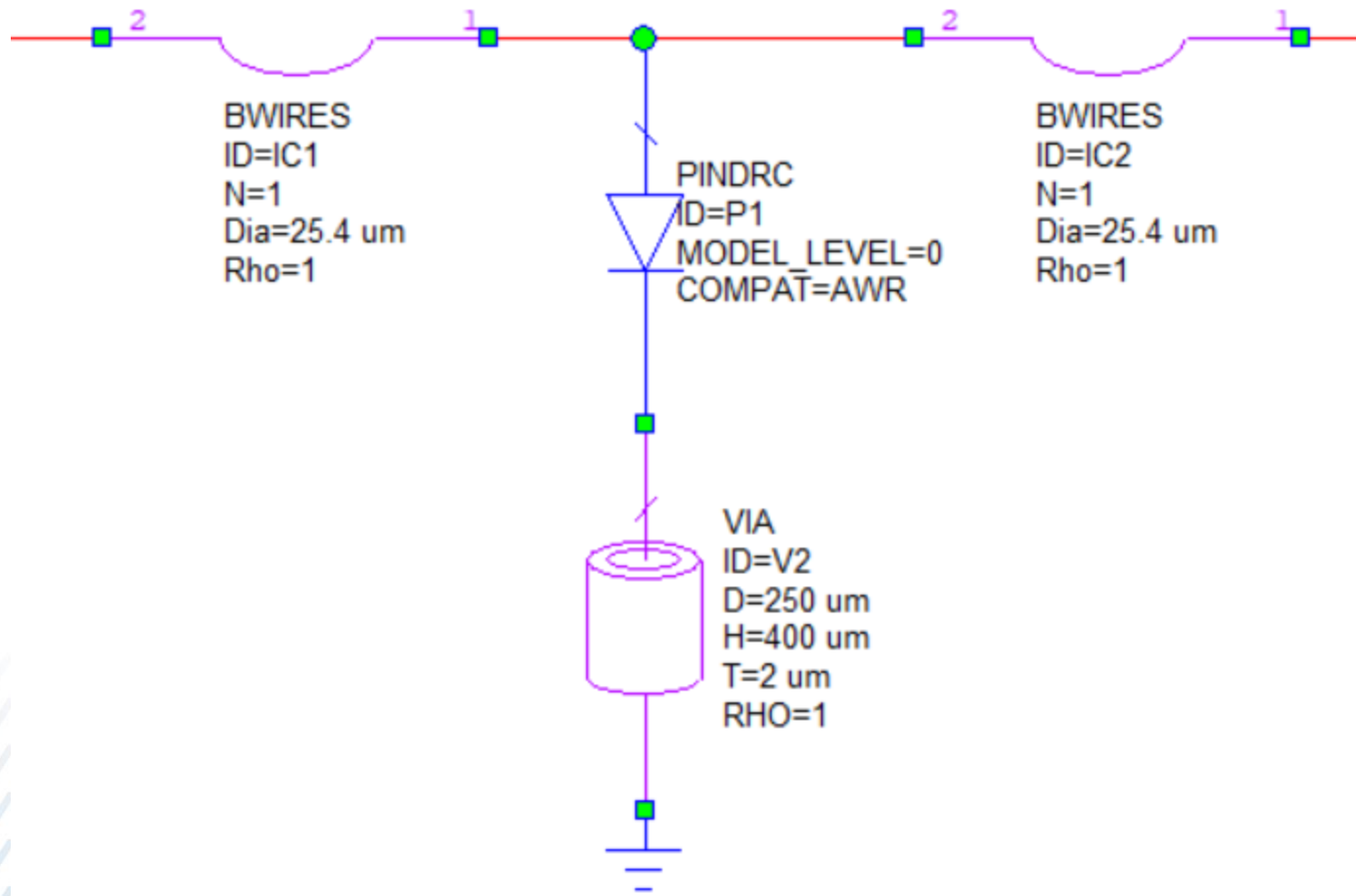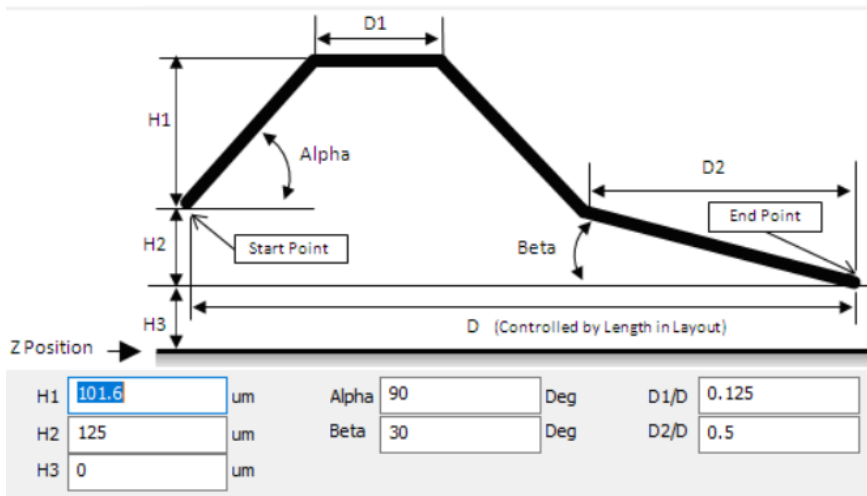

0.016 in [406.4 u]

Series

Shunt

Series Test Fixture Model

Shunt Test Fixture Model

Bond Wire

Element Options: BWIRES - Bond wire model (EIA/JEDEC Standard No. 59)

Name	Value	Unit	Tune	Optimize	Constrain	Lower
ID	IC1					
N	1					
Dia	25.4	um	☐	☐	☐	
Rho	1		☐	☐	☐	
WModel	4 segments		☐	☐	☐	
Alpha	90	Deg	☐	☐	☐	
Beta	30	Deg	☐	☐	☐	
H1	101.6	um	☐	☐	☐	
H2	125	um	☐	☐	☐	
H3	0	um	☐	☐	☐	
D1_Ratio	0.125		☐	☐	☐	
D2_Ratio	0.5		☐	☐	☐	
P0	{0,0}	um				
P1	{BW_len,0}	um				
IndModel	RLC		☐	☐	☐	

BW_len = 770

Robert Caverly PIN Diode Model

PINDRC
ID=P1
MODEL_LEVEL=0
COMPAT=AWR
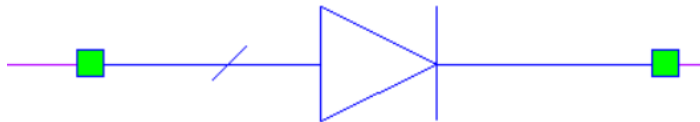
Name	Value	Unit
ID	P1	
IS	Is	mA
IKNEE	Iknee	mA
N	Npin	
RLIM	Rs	Ohm
REPI	Repi	Ohm
CJ	Cj	pF
CPKG	Cpkg	pF
TAU	LT	ns
W	W	
B	3	
LBOND	Lpkg	nH
TNOM	26.85	DegC
TEMP	26.85	DegC
AREA	1	
NFLAG	Noise Off	

Is=5e-07
Iknee=3
Npin=1
Repi=1000
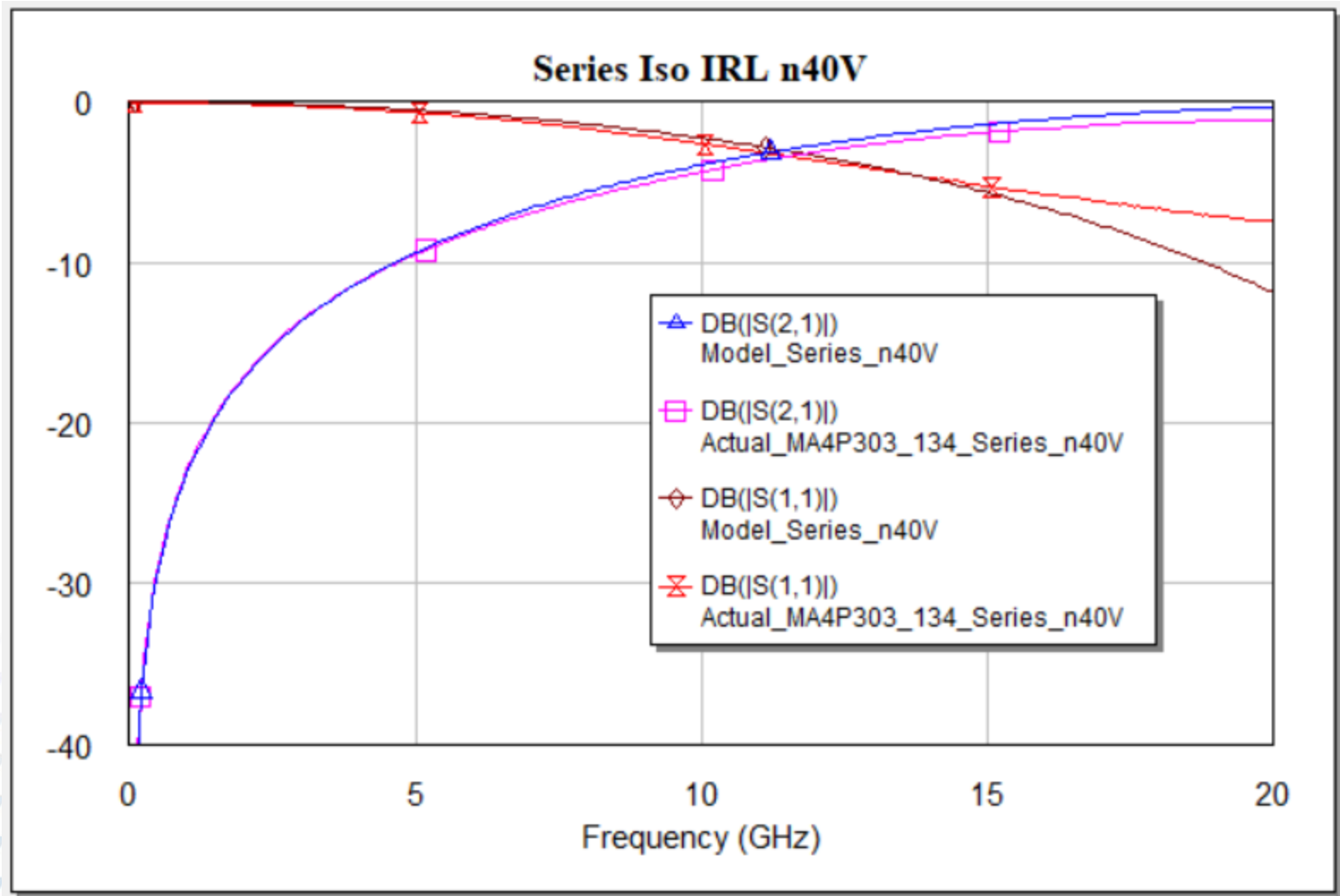LT=310
W=19
Cj=0.11
Rs=0.19
Cpkg=0.0
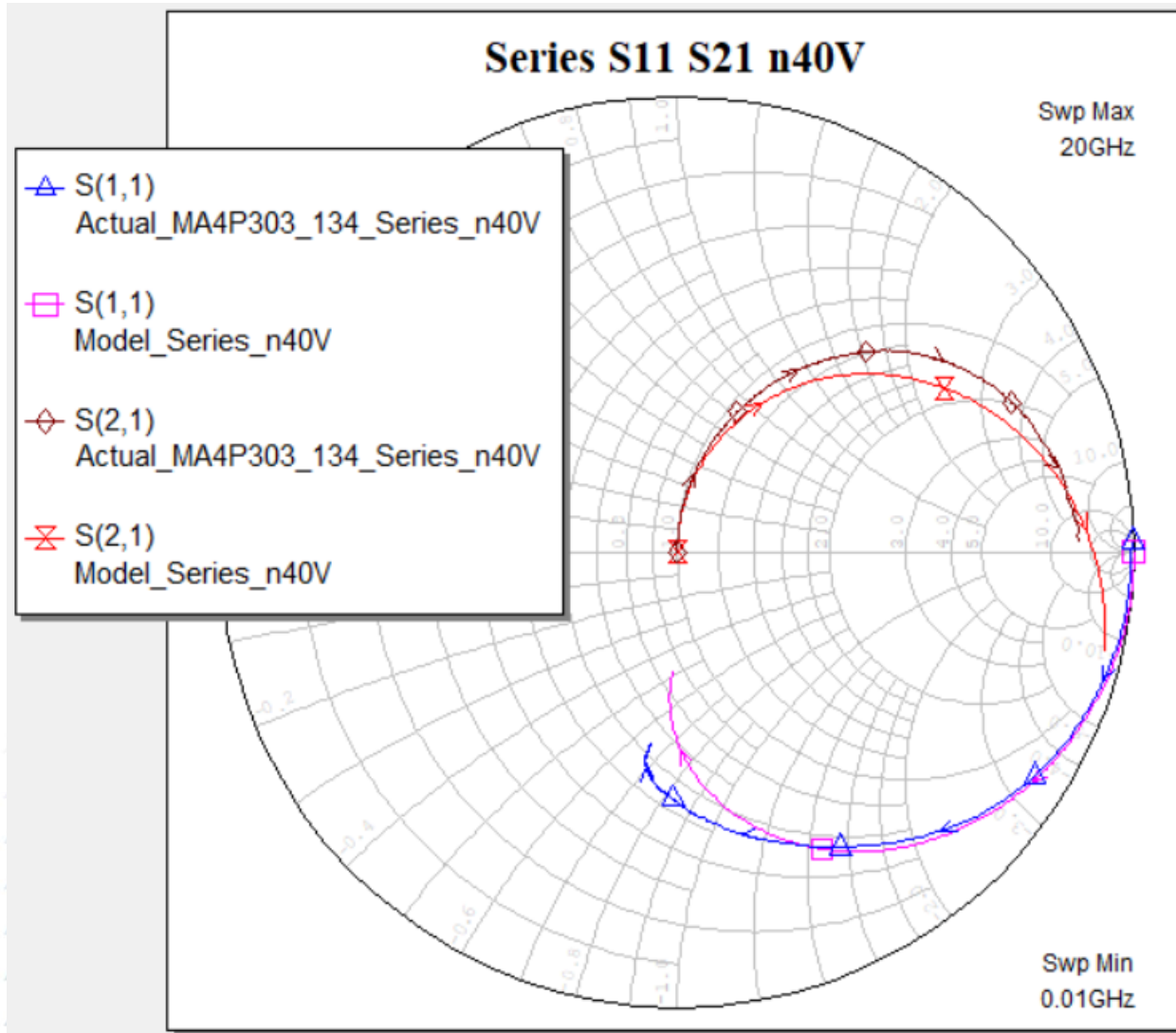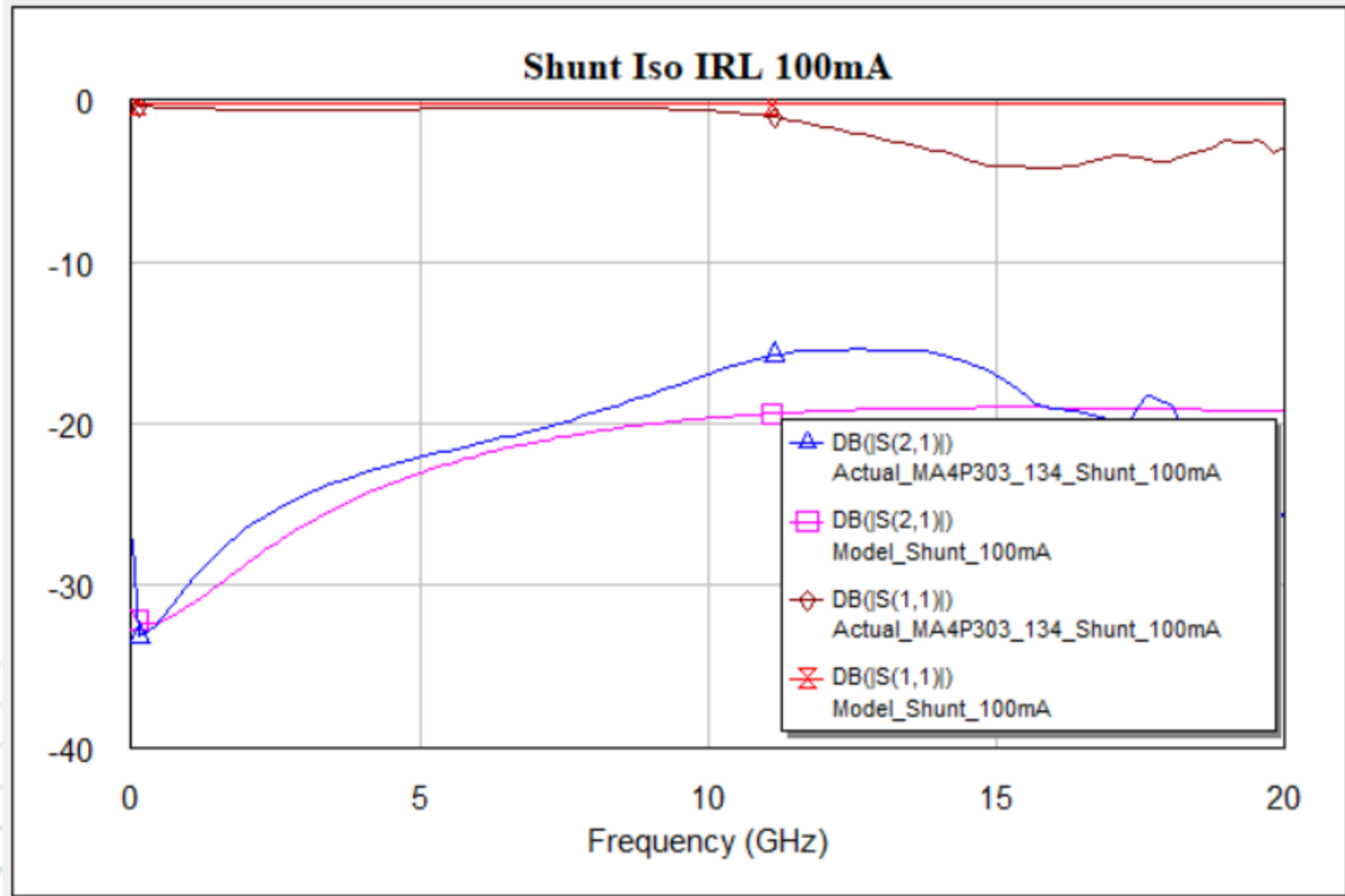Lpkg=0.0

IV Curve
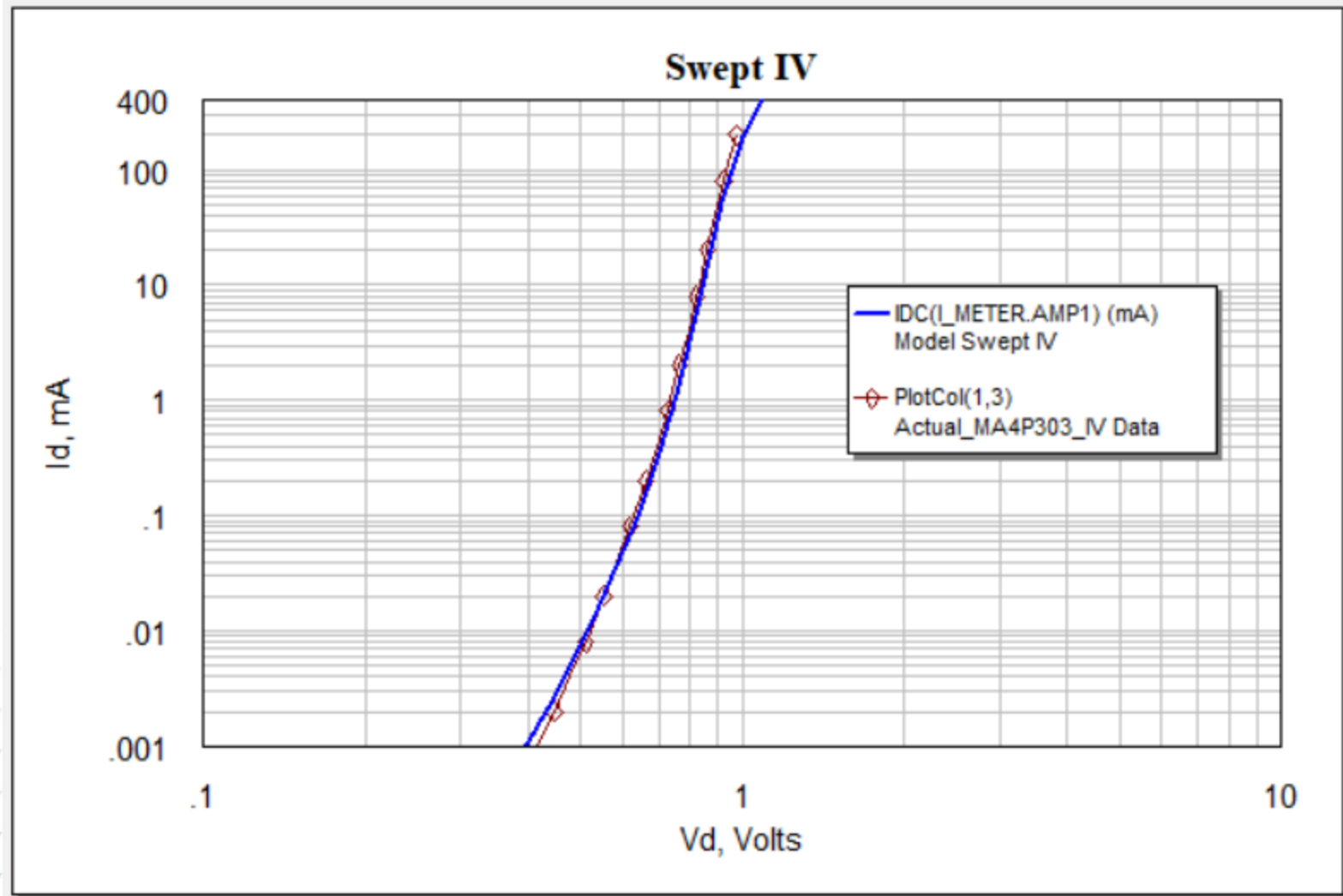
Series 100 mA

Series IL IRL 100mA
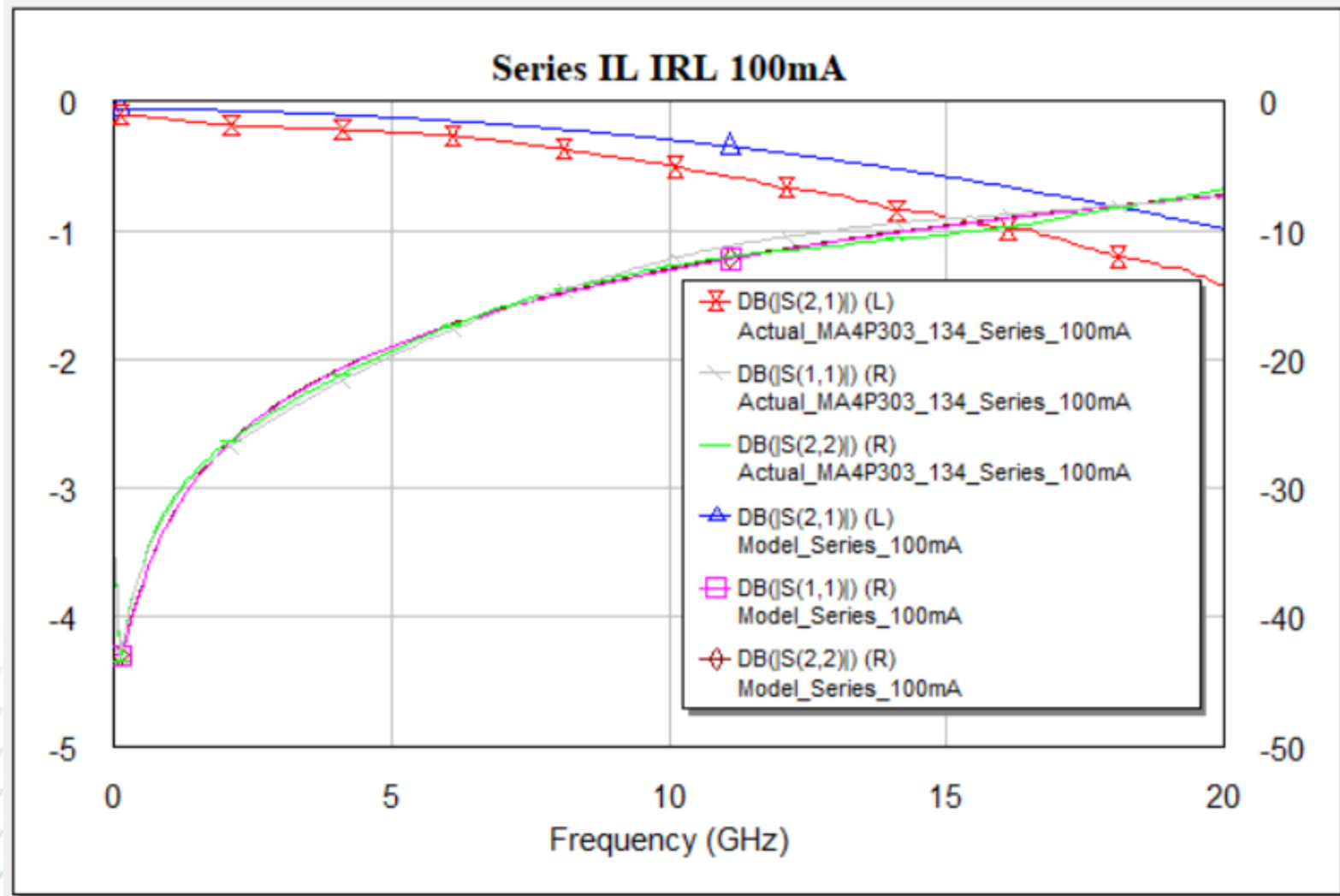
Series 100 mA

Series -40 V

Series -40 V

Series S11 S21 n40V

- S(1,1) Actual_MA4P303_134_Series_n40V
- S(1,1) Model_Series_n40V
- S(2,1) Actual_MA4P303_134_Series_n40V
- S(2,1) Model_Series_n40V

Swp Max 20GHz

Swp Min 0.01GHz

Shunt 100 mA

Shunt Iso IRL 100mA

Legend:
- DB(|S(2,1)|) Actual_MA4P303_134_Shunt_100mA
- DB(|S(2,1)|) Model_Shunt_100mA
- DB(|S(1,1)|) Actual_MA4P303_134_Shunt_100mA
- DB(|S(1,1)|) Model_Shunt_100mA

Frequency (GHz)

Shunt 100 mA

Shunt -40 V

Shunt IL IRL neg40V

Shunt -40 V
Believe model over measurement

Disclosure
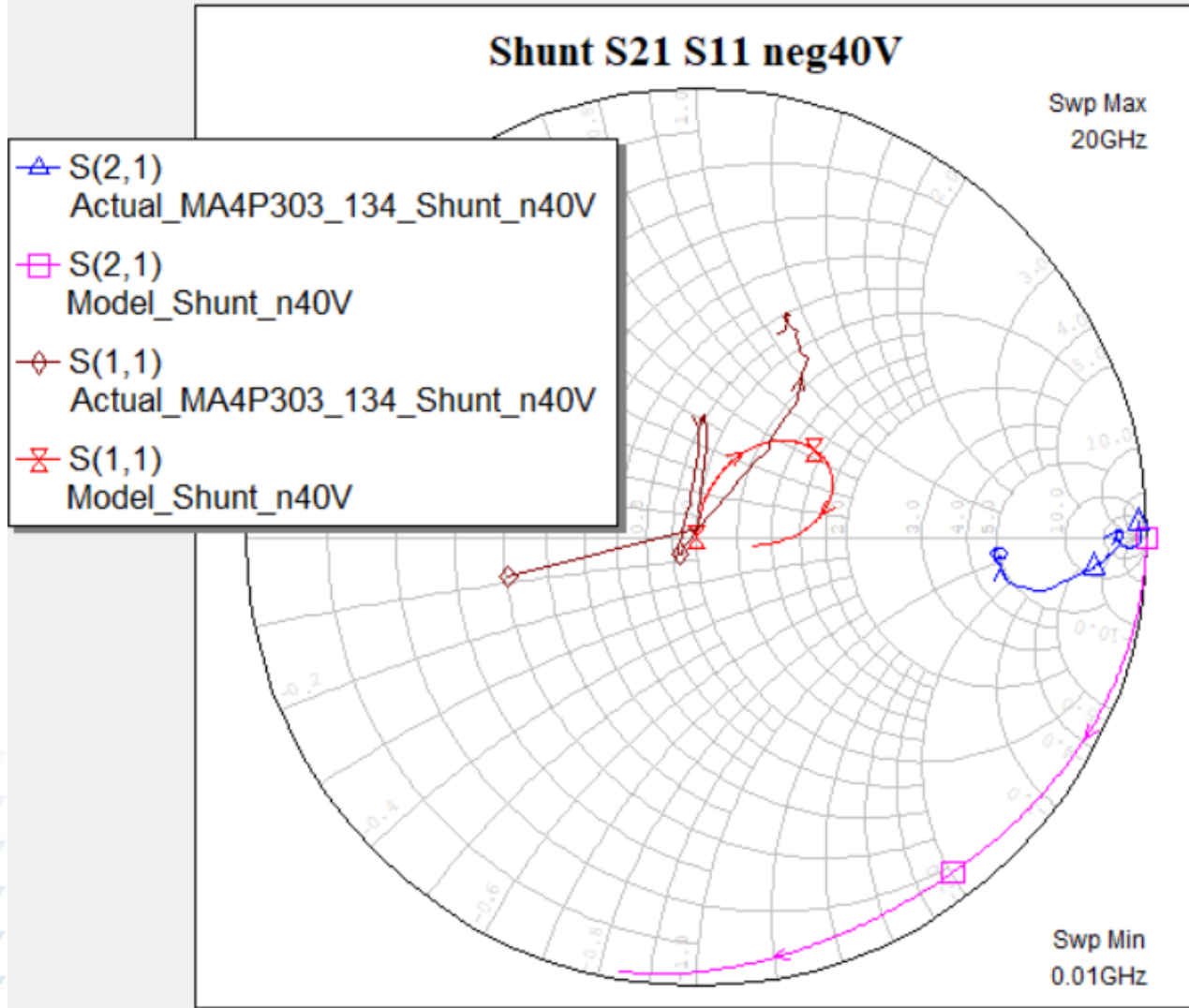
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