

Security Level:

Modeling and Characterization Requirement

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Characterization Requirement

1. Characterization & modeling of baluns (x3):

- > Frequency: DC~20GHz,
- > Temperature: -30 ~ +125°C
- > S-parameter & Spice model for ADS & Spectre
 - > 4-port de-embedded balun S-parameter
 - > 5-port ADS, Spectre lumped-model

1. Load pull of high power device (x1)

- > Frequency: 2.4~2.5GHz (x1) & 4.8~5.8 (x1)
- > Temperature: room temp

2. Characterization of MOS device at high DC voltage (x8)

- > Temperature: room temp & high temp (+125degC)
- > Id vs Vds (0~2V) plot with different Vgs(0~1.6V)

3. 5 samples (min.) for each of the above

Delivery Requirement

1. Characterization & modeling of baluns (x3):

- ▶ Report
- ▶ All raw data
- ▶ 4-port de-embedded balun S-parameter
- ▶ 5-port ADS, Spectre lumped-model

2. Load pull of high power device (x1)

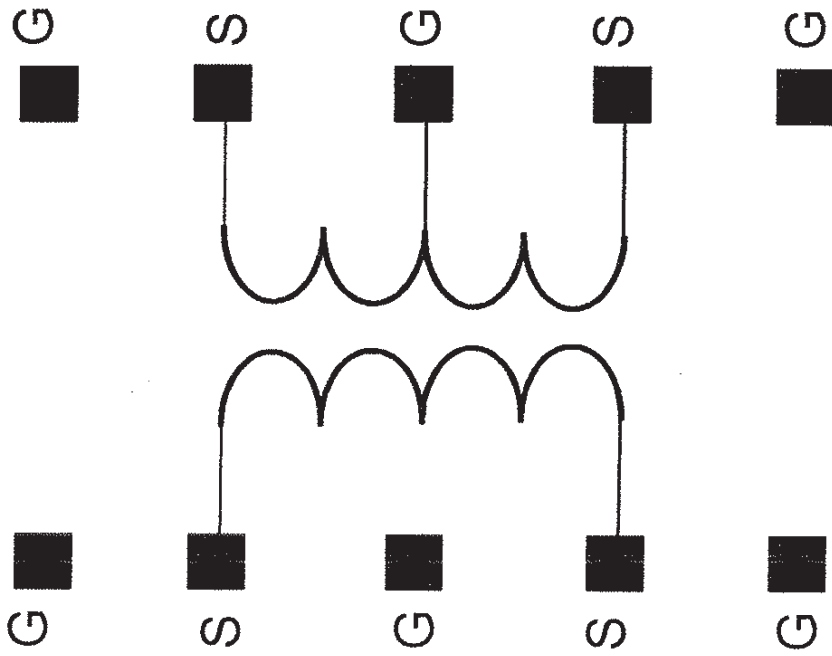
- ▶ Report & all raw data

3. Characterization of MOS device at high DC voltage (x8)

- ▶ Report & all raw data

Note: All delivery should be completed 2 months after the start of project. (Expected start of project ~Jan)

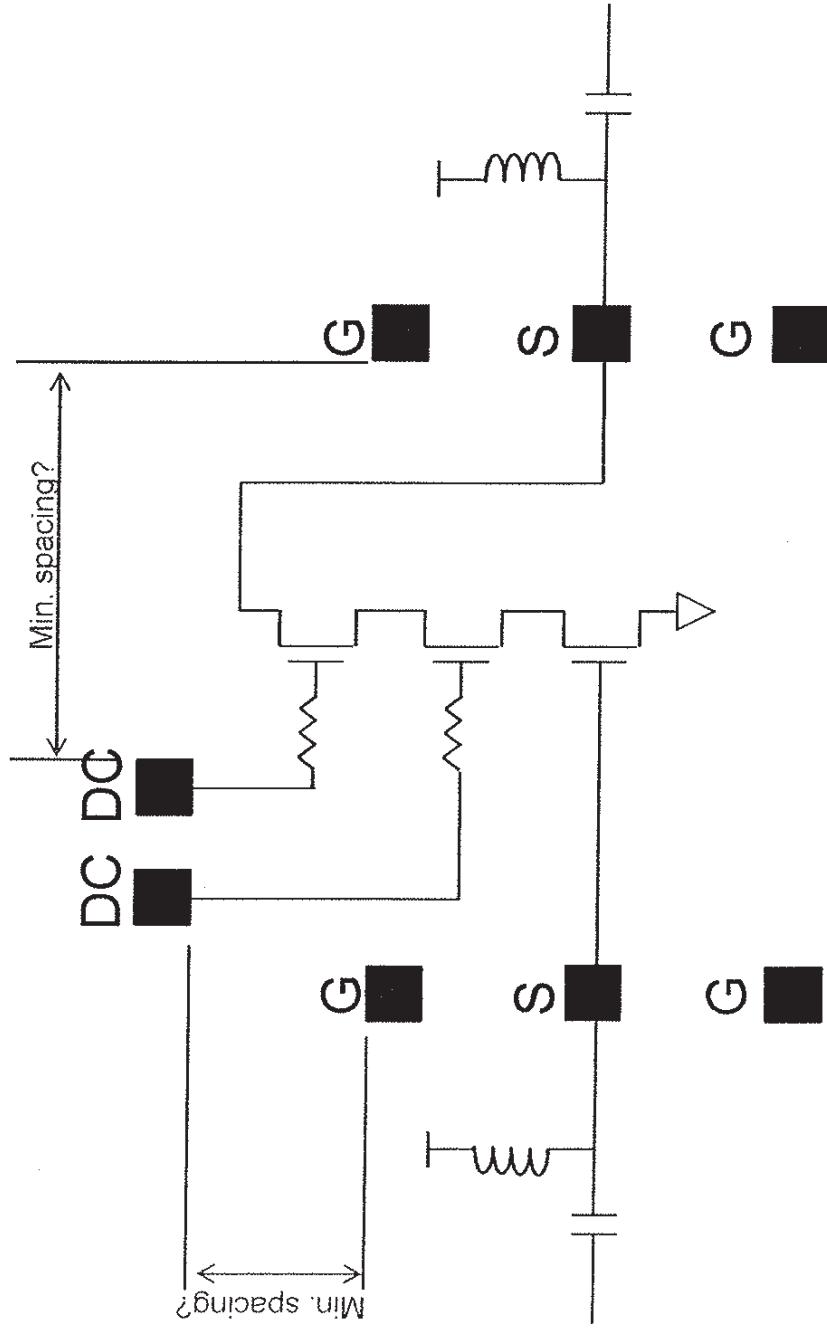
1. Characterization and Modeling of Balun



Question

- What type of de-embedding structure is required?
- What is the probe head pitch?
- What is the min. probe pad size?
- What is the probe head configuration? Eg. GSGSG.

2. Load Pull of high power device

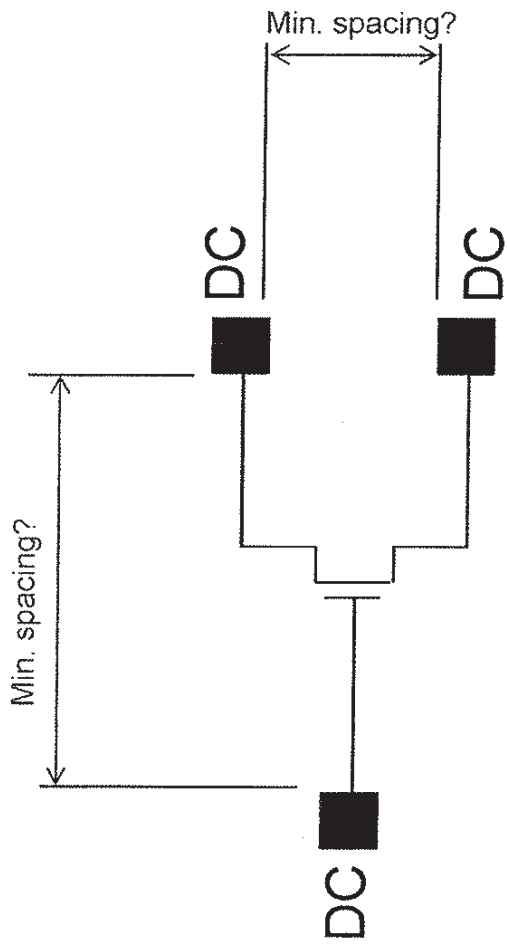


Question:

* What is the probe head pitch?

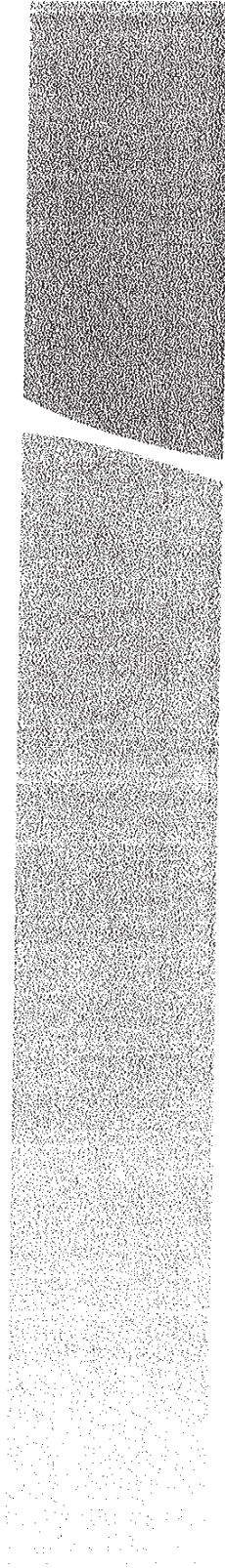
* What is the probe head configuration? Eg. GSG.

3. Characterization of 1.2V device at high DC voltage



Thank you

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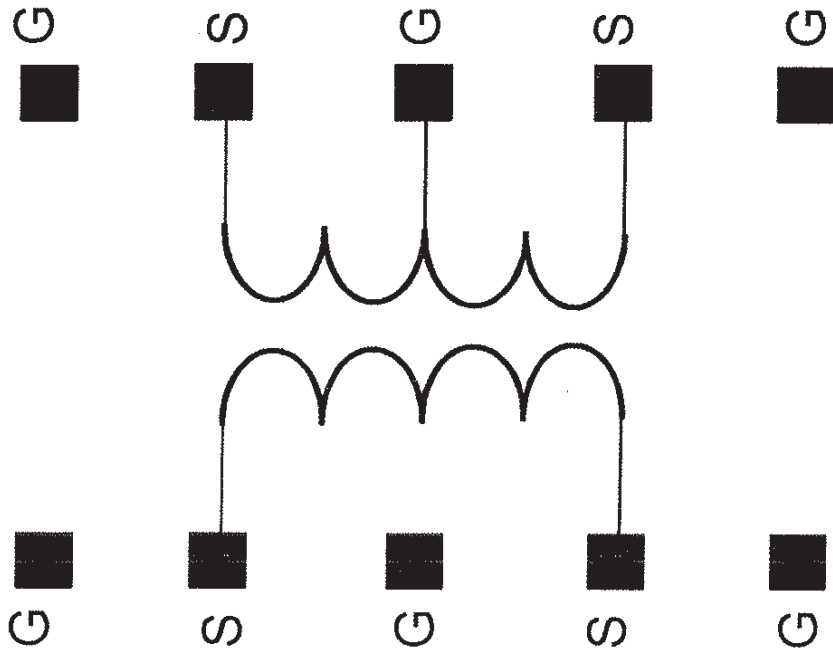
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Characterization Requirement

- 1. Characterization & modeling of baluns (x9): No issue**
 - Frequency: 0.1G~10GHz
 - Temperature: -30 ~ +125°C
 - S-parameter & Spice model for ADS & Spectre
- 2. Load pull of high power device (x2) No issue**
 - Frequency: 2.4~2.5GHz (x1) & 4.8~5.8 (x1)
 - Temperature: room temp
- 3. Characterization of 1.2V device at high DC voltage (x4) No issue**
 - Temperature: room temp
 - Id vs Vds (0~2V) plot with different Vgs(0~1.6V)
- 4. 5 samples for each of the above 5-10 sets**

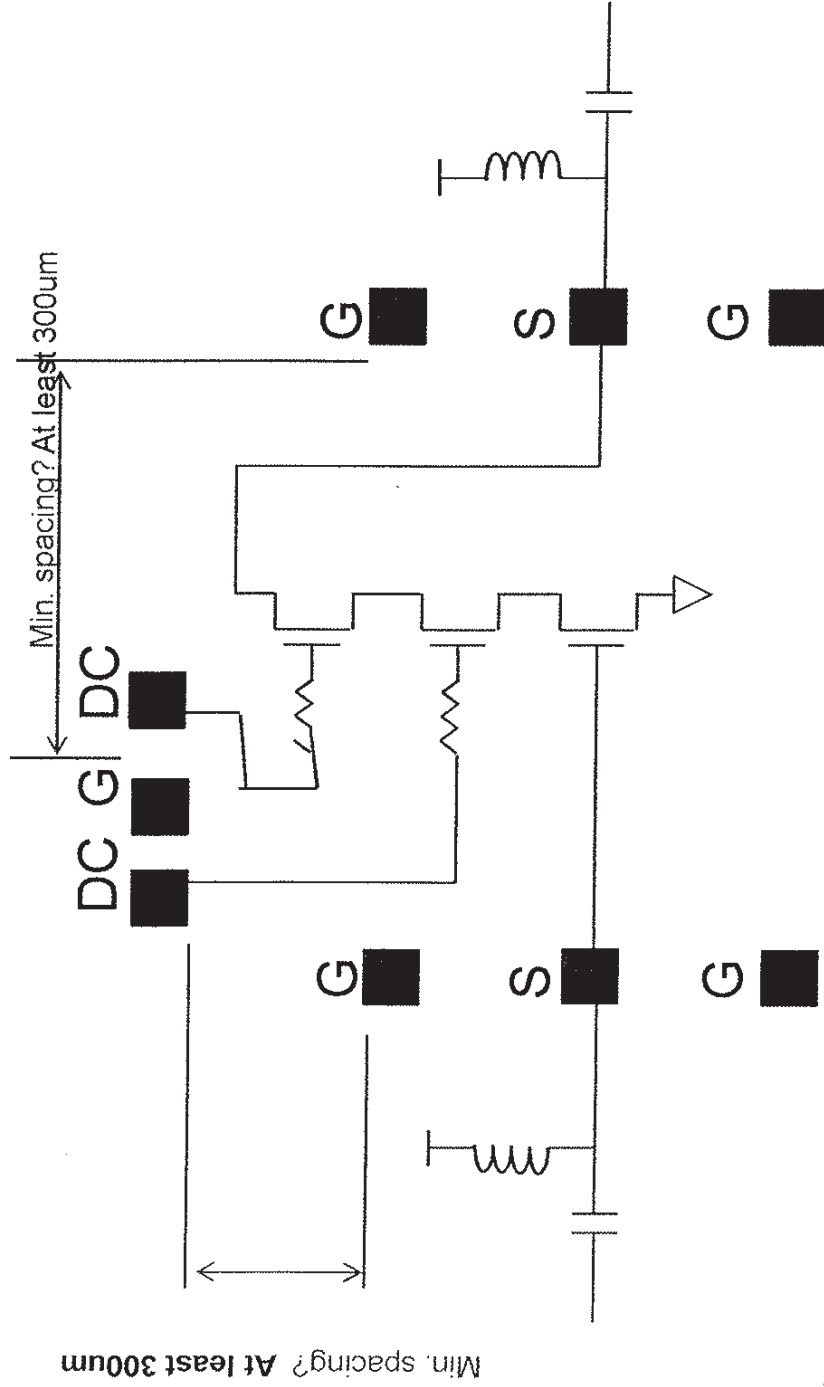
1. Characterization and Modeling of Balun



Question

- What type of de-embedding structure is required? **Thru only**
- What is the probe head pitch? **100um**
- What is the min. probe pad size? **50x50um²**
- What is the probe head configuration? Eg. **GSGSG. Yes**

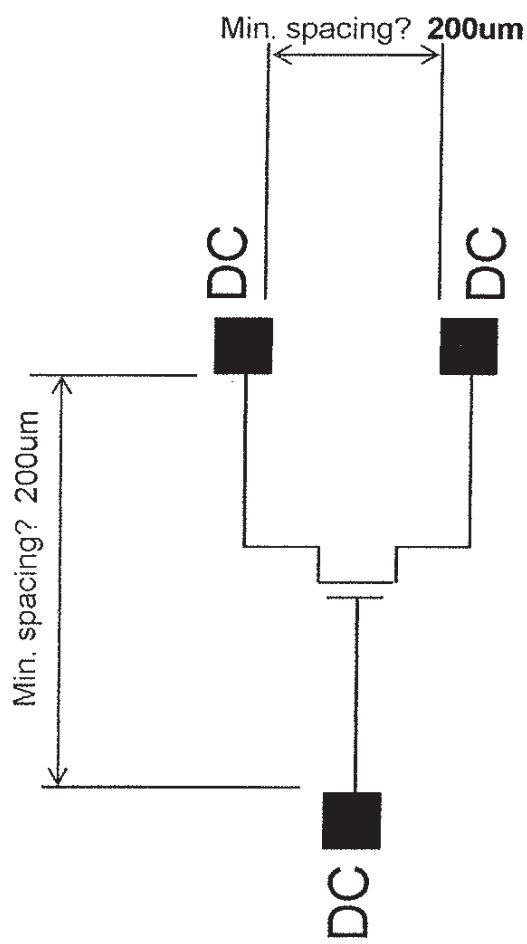
2. Load Pull of high power device



Question:

- * What is the probe head pitch? **100um**
- * What is the probe head configuration? Eg. GSG Yes for RF . For DC PGP.

3. Characterization of 1.2V device at high DC voltage



Thank you

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