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To: EDGES Group

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Subject: Automated S11 measurement system calibration

Several algorithms are possible. Here is one used for comparison:

In the lab:

1] Put calibration SOL at reference plane

2] Solve for S-parms using SOL models based on datasheet

3] Get data for internal SOL

4] Solve for S11 values for internal SOL using S-parameters from step 2.

In the field with antenna at reference plane and internal SOL available via switch:

5] Get internal SOL data

6] Solve for S-parameters using values of internal S11 for SOL from step 4.

7] Get antenna data

8] Solve from corrected antenna S11 using S-parameters from step 6.