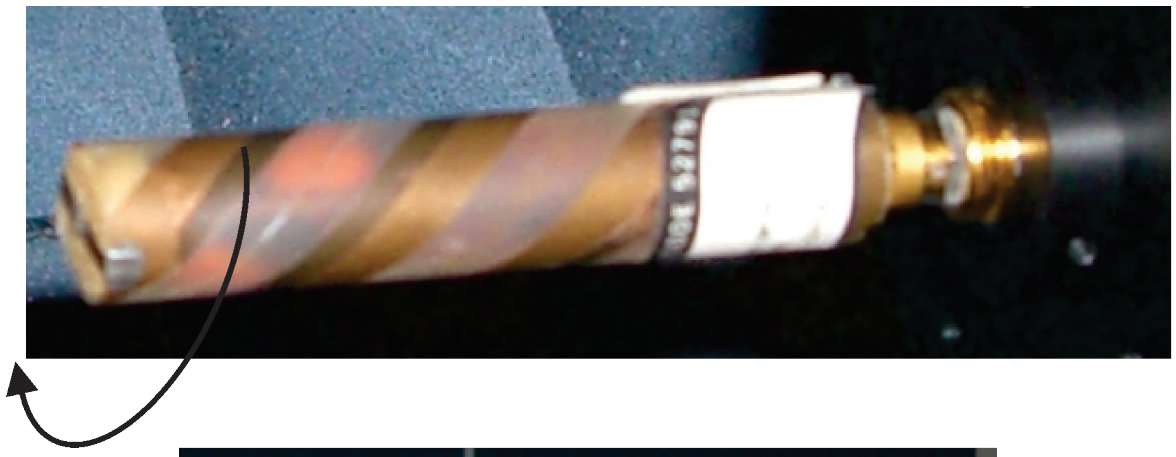
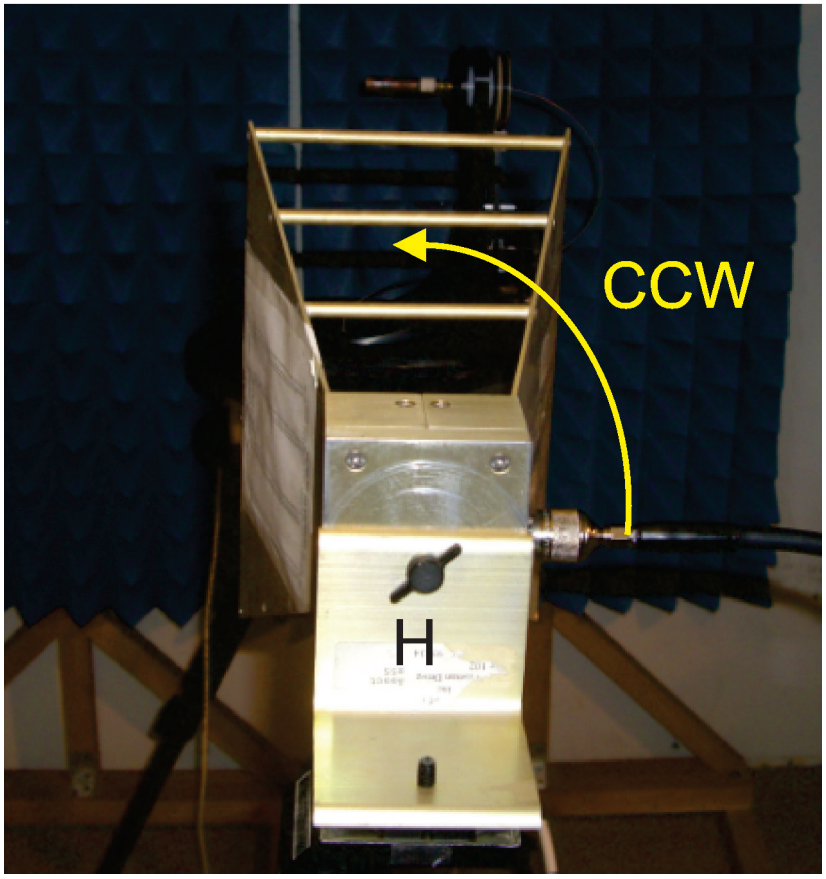
Diamond Engineering
Automated Measurement Systems

Application Note #0424
April 2012
Revised:

Measuring a Left Hand Circular Double Helix

Application Note





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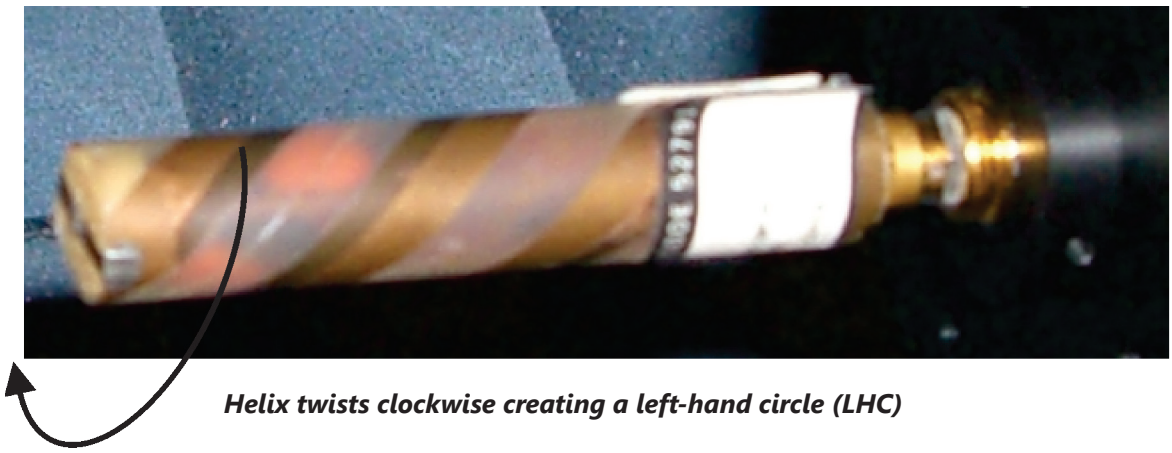
Overview

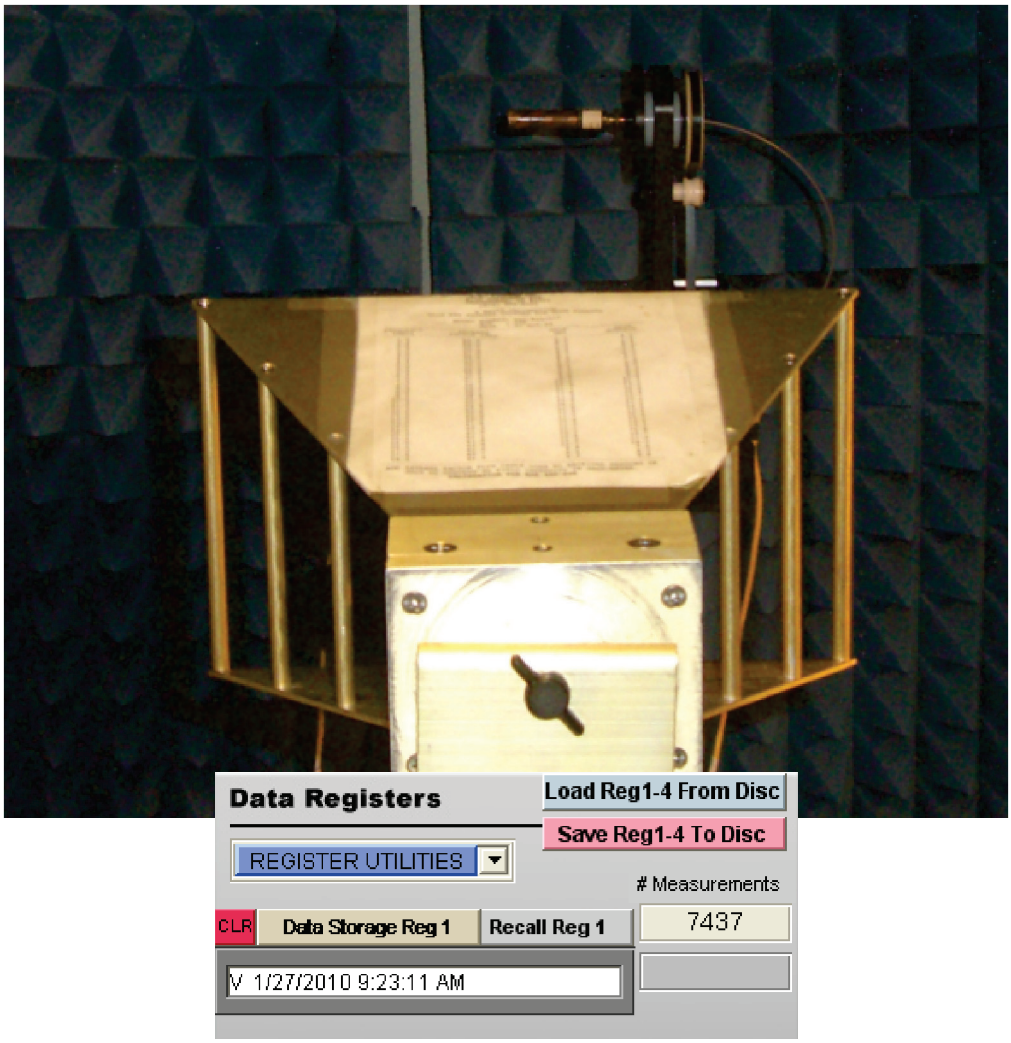
Using the horizontal-vertical (H-V) method the Helix left-hand circle (LHC) and right-hand circle (RHC) will be measured.



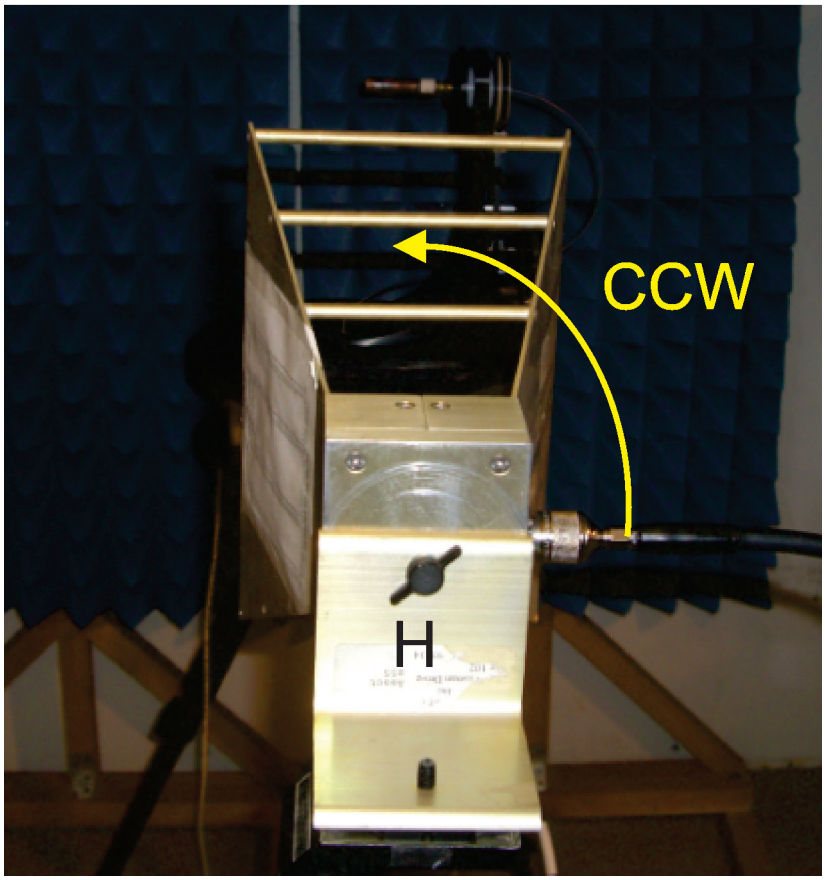
Helix twists clockwise creating a left-hand circle (LHC)

Instructions

First, measure AUT with Horn in vertical position and save that data to ***REG1***.

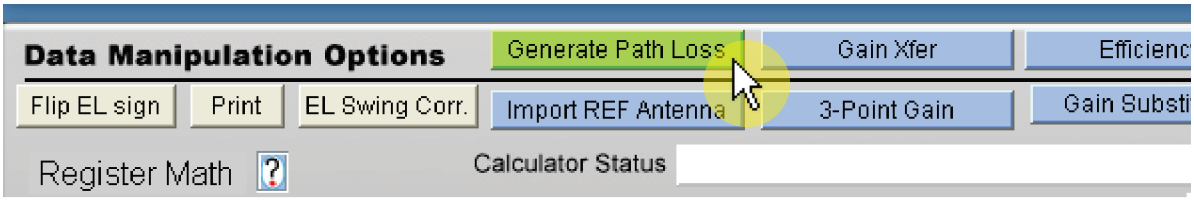


Next, Rotate Reference Horn 90 deg counter clock-wise, repeat measurement and save data to ***REG2***.

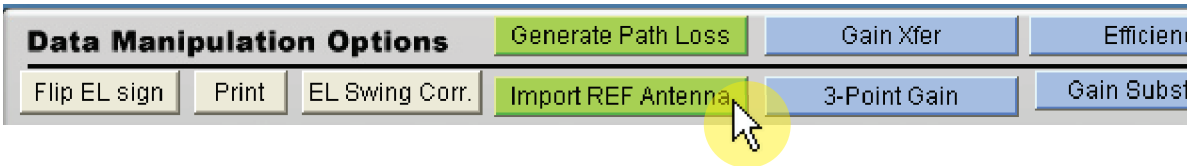


NOTE: Incorrect rotation of the reference horn will switch LHC and RHC. The DAMs is set up for CCW rotation. Vertical orientation is arbitrary. The difference between the H and V measurement must be 90 deg.

Now invoke the Path Loss calculator and specify the appropriate figures. Once completed, ensure the "***Generate Path Loss***" button is green as shown below. The green signifies that the data has been saved internally.



Once completed, invoke the "***Import REF Antenna***" button to load the appropriate calibration data. Again, verify this button has also now turned green as shown below:



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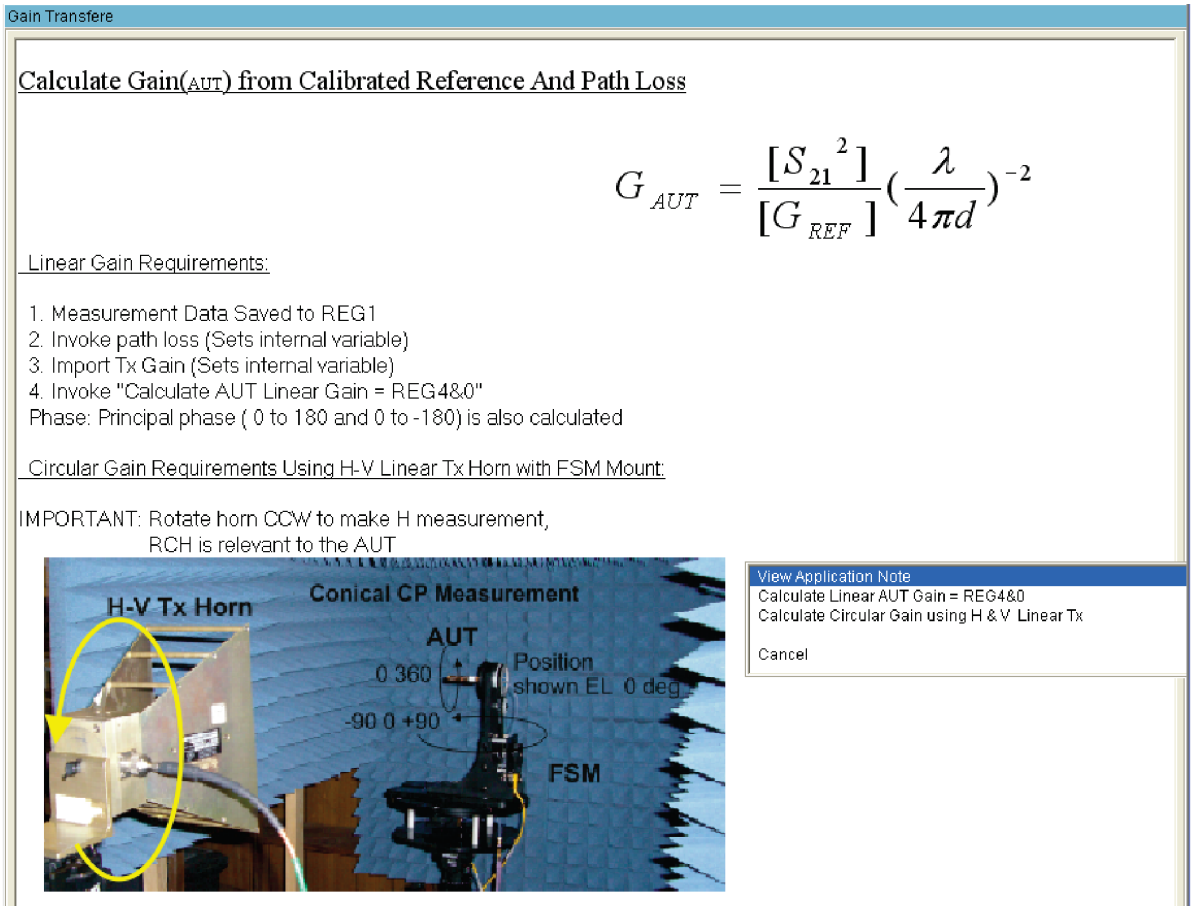
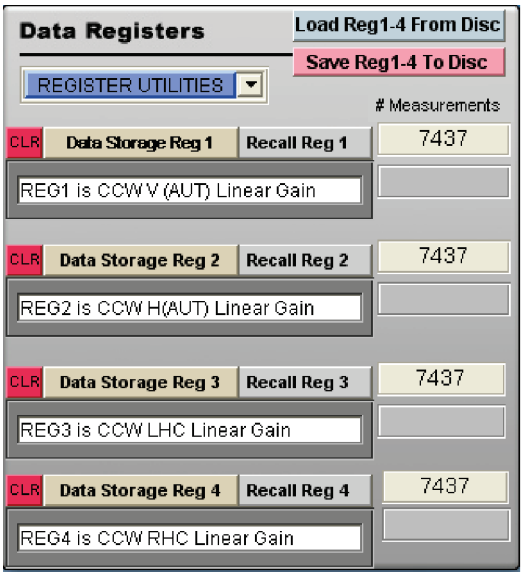
Invoke Gain Xfer and specify Circular Gain





REG Output of Gain Xfer

REG1 is V Gain

REG2 is H Gain

REG3 is LHC Gain

REG4 is RHC Gain

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Use KEEP, Normalize and Don't Plot to compare LHC RHC