C. Planar Cases

Case 1: Analytic Example: Uniform Aperture

Case 2: A Slot Array Antenna

Case 3: A 2.4 GHz Patch Antenna

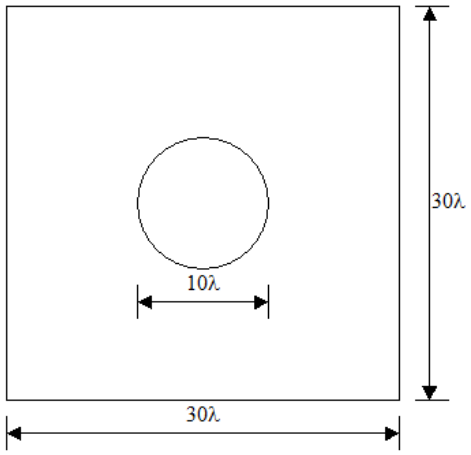
Case 4: A 2.4 GHz Patch Antenna with Blockage

Case 1: Analytic Example: Uniform Aperture

a. Device Under Test (DUT)

An circular aperture with uniform field distribution.

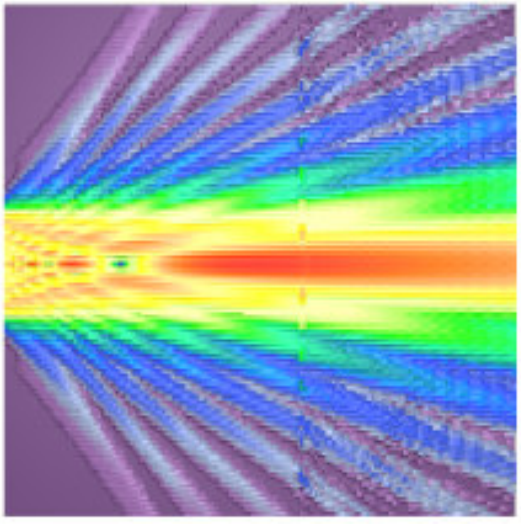
Diameter = 10 wavelengths



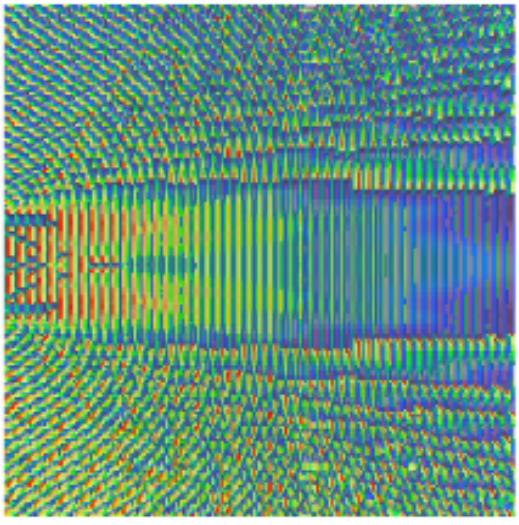
b. Microwave Photos

Constructed Fields

Amplitude



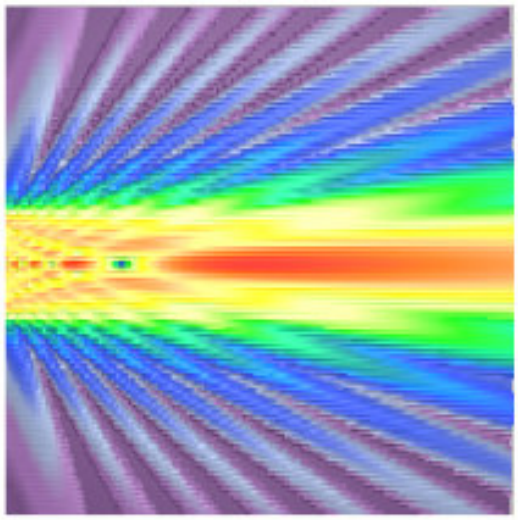
Phase



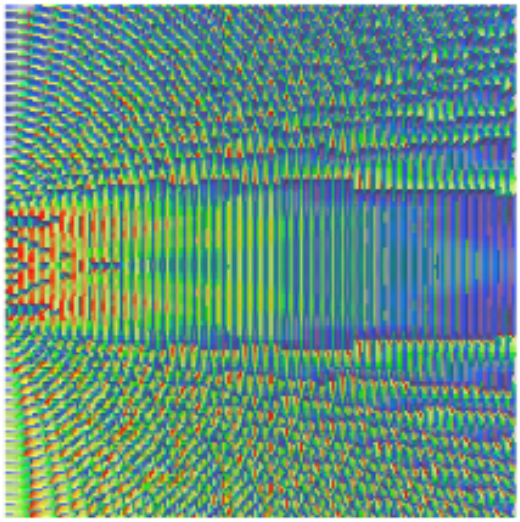
c. Verification

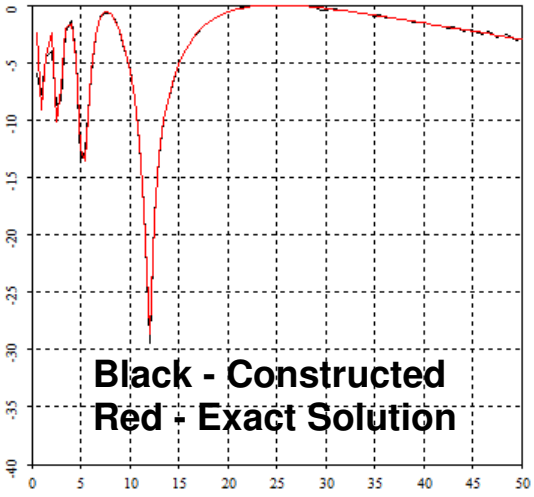
The Microwave Photography technique was verified by the comparison of constructed fields and exact solutions.

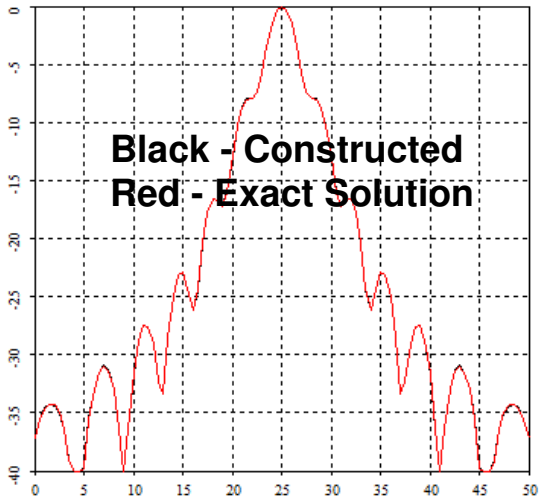
Amplitude



Phase







Case 2: A Slot Array Antenna

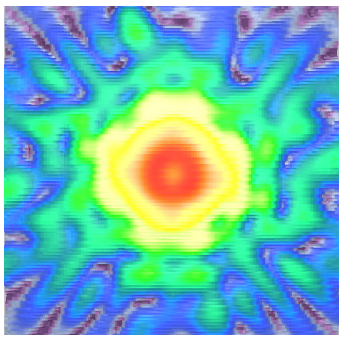
a. Device Under Test (DUT)

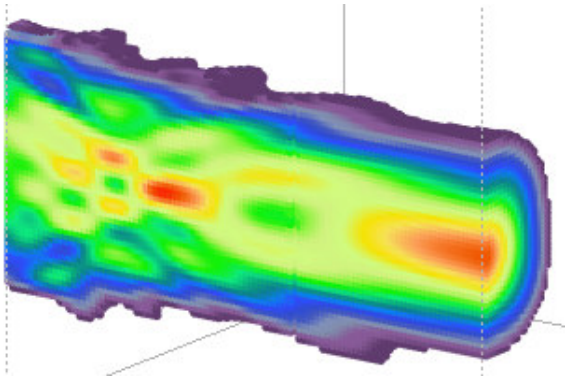
DUT: Slot array antenna

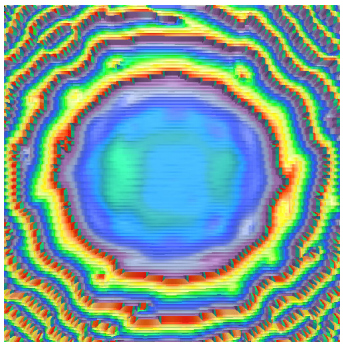
Frequency: X-band

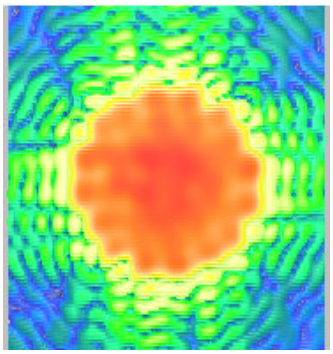
Size: 12”-diameter circular

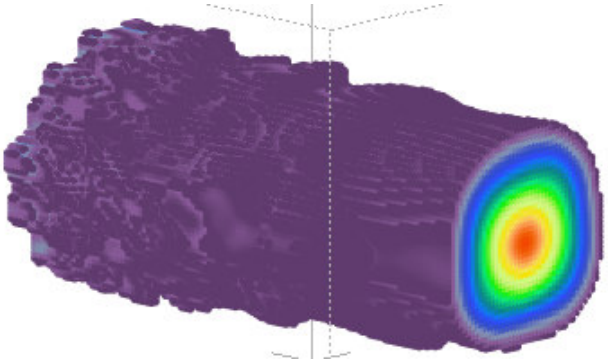
b. Microwave Photos

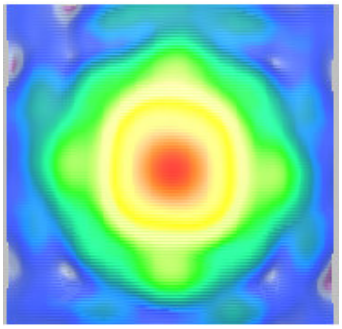


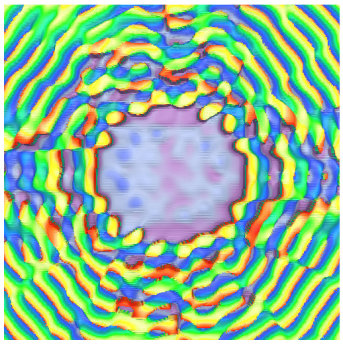


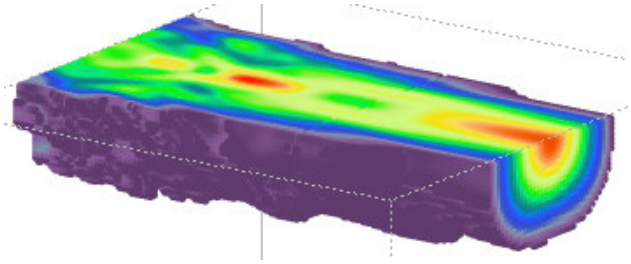


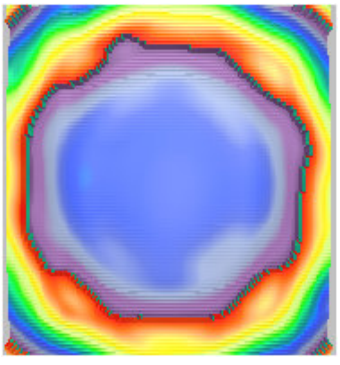










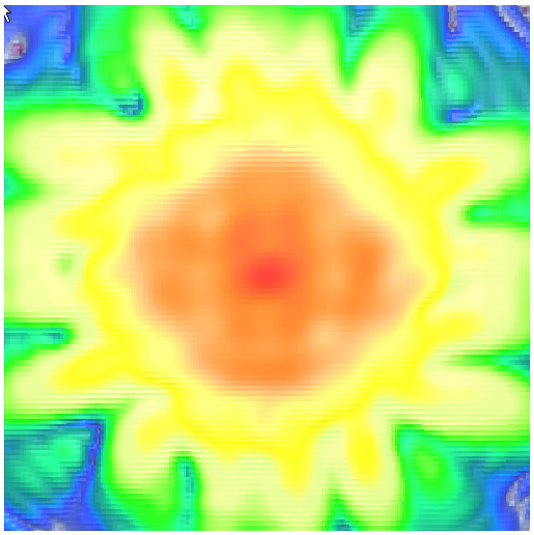


c. Verification

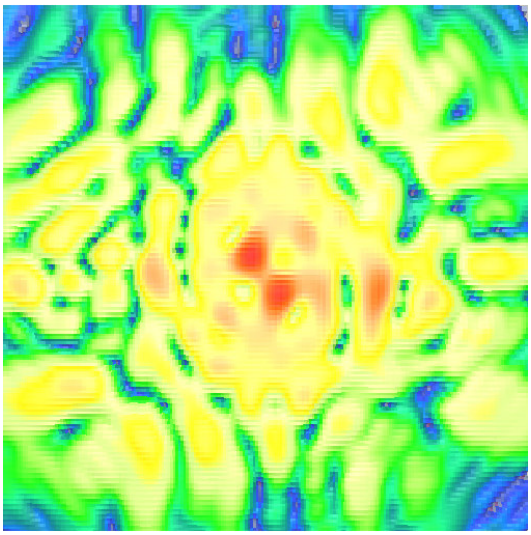
The Microwave Photography was verified by the correlation of constructed and measured fields at the same points in space.

Constructed Fields at Z=6” Plane

Amplitude

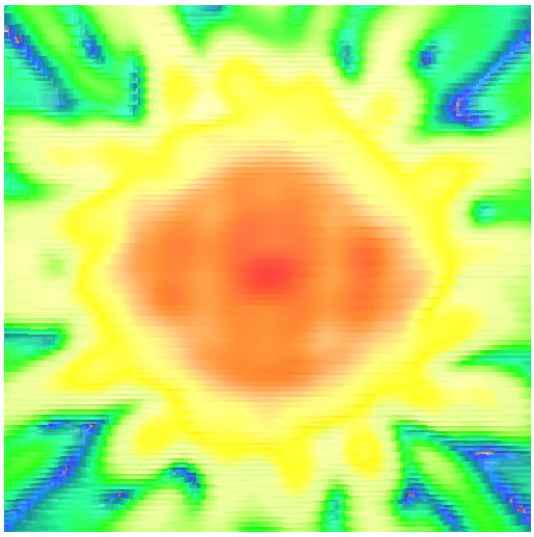


Phase

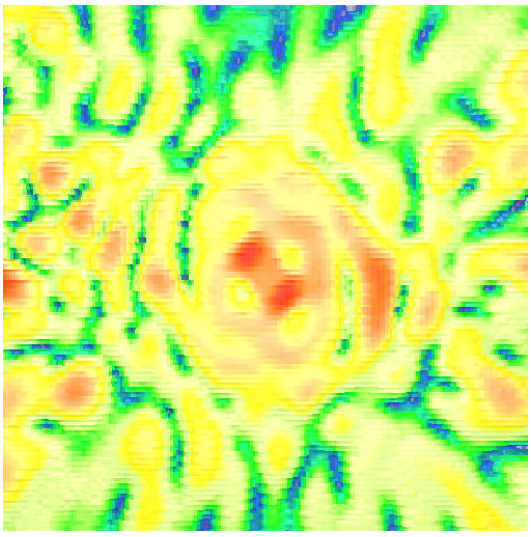


Measured Fields at Z=6” Plane

Amplitude



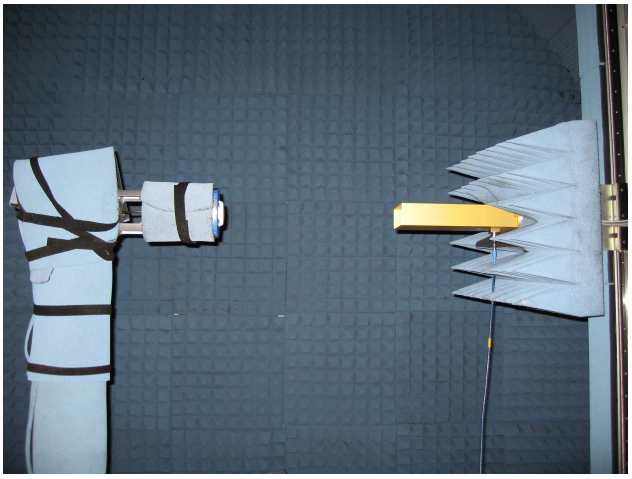
Phase

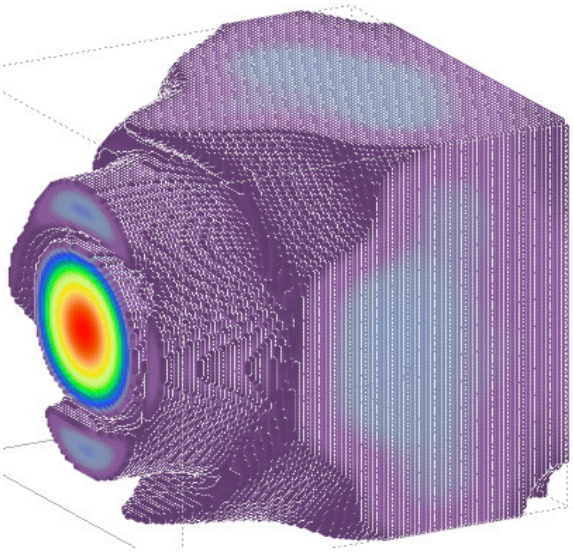


Case 3: A Patch Antenna

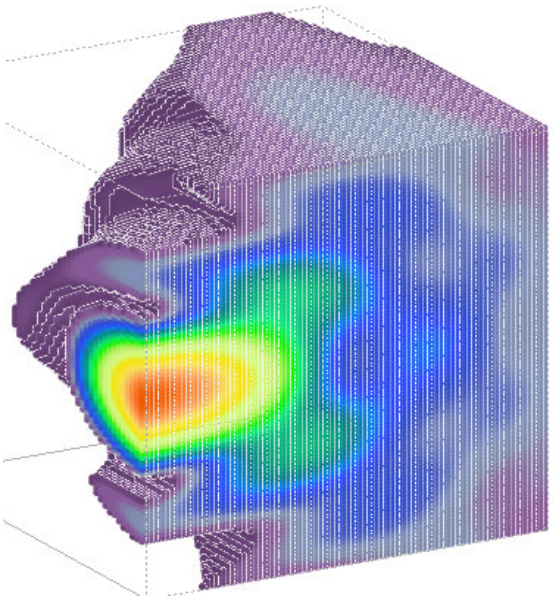
a. Device Under Test (DUT)

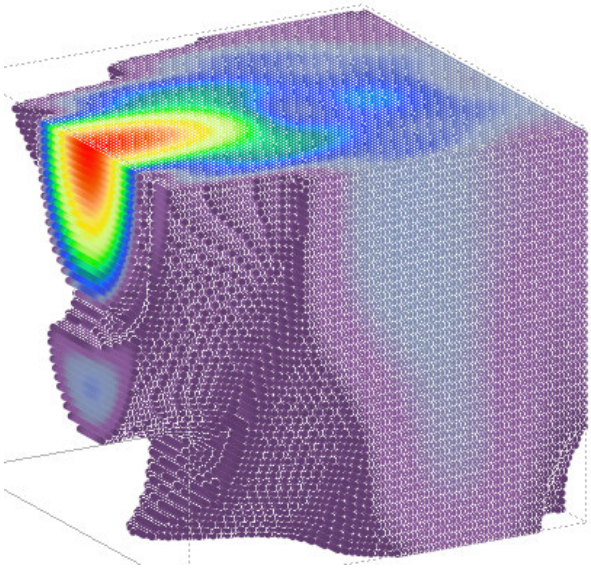
DUT: A 3”-diameter circular patch antenna, 2.4 Ghz





b. Microwave Photos

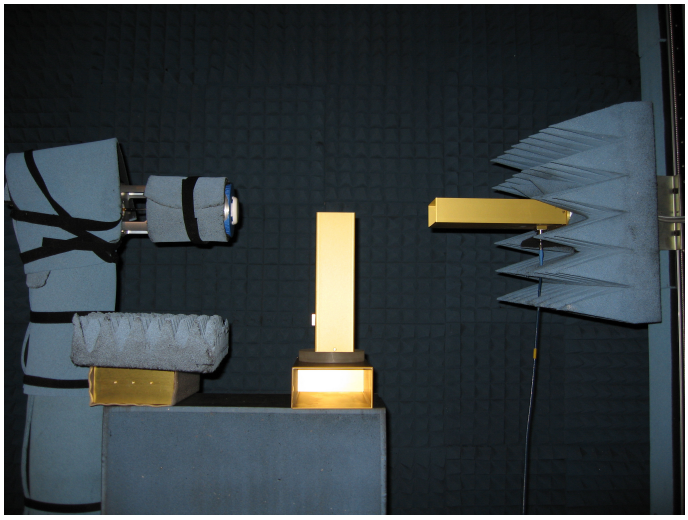




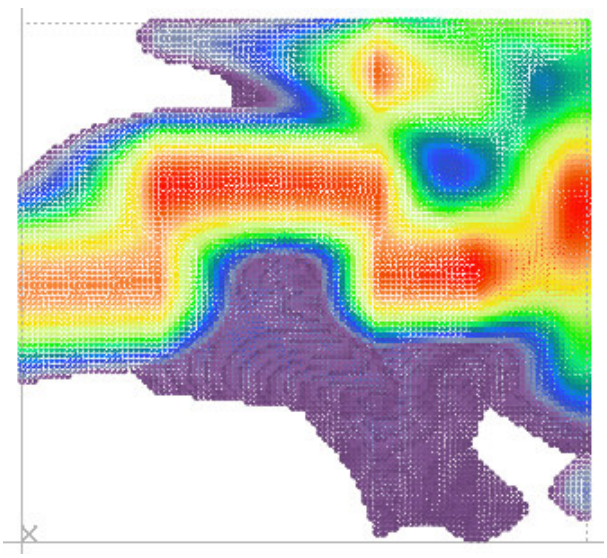
Case 4: A Patch Antenna with Blockage

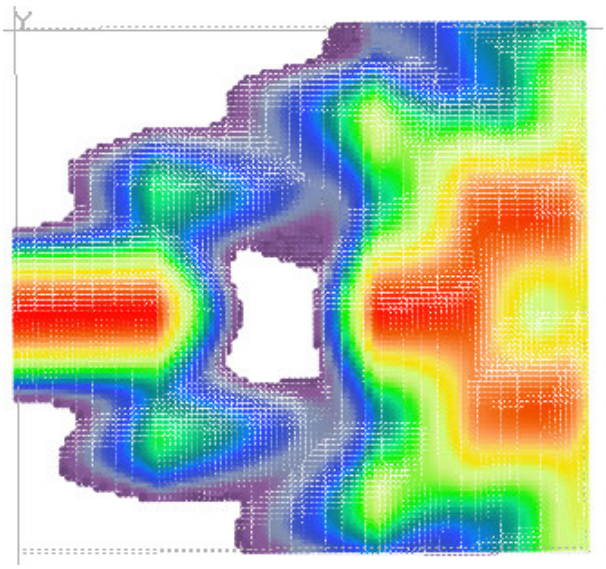
a. Device Under Test (DUT)

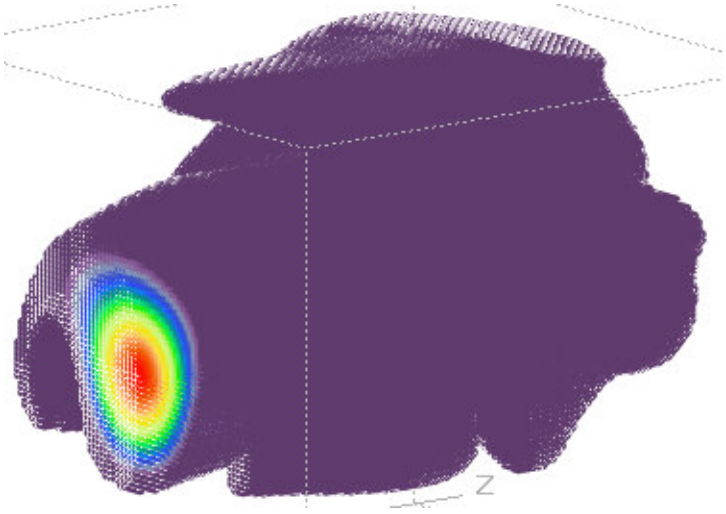
DUT: A patch antenna with a blockage



b. Microwave Photos



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