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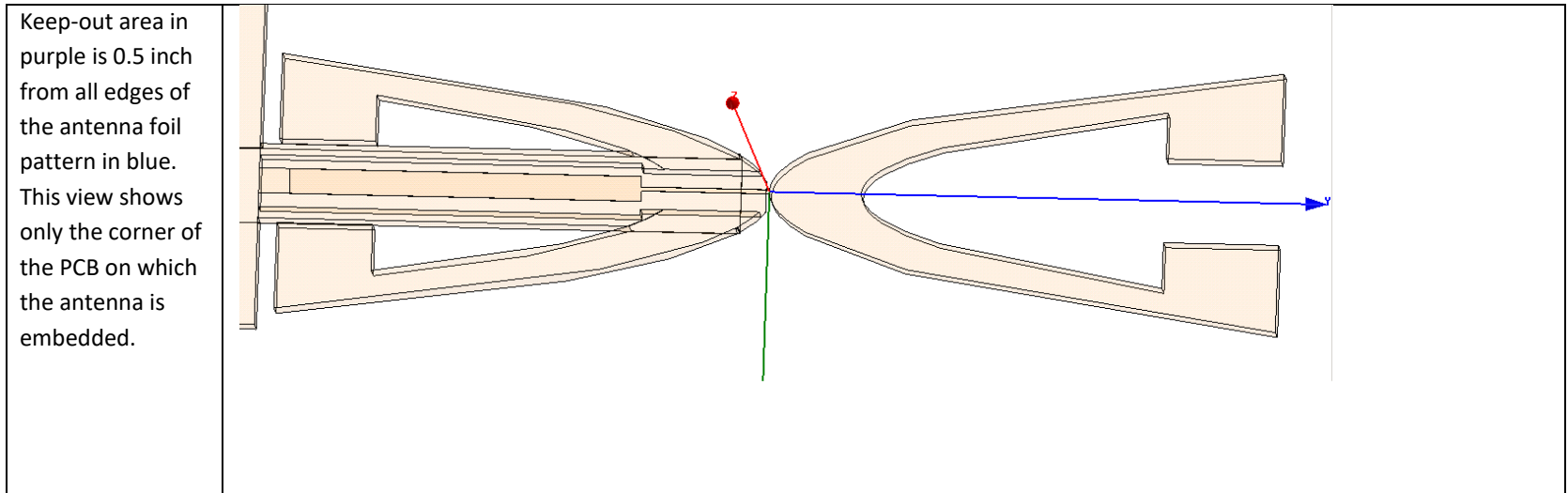
# Embedded Element Specification

Part Number	31000003-01
Revision	A
Element Type	2.4 & 5.5 GHz balanced & compressed bow tie Antennae
Description	2.4 & 5.5 GHz diversity Antennae
Frequency	2400-2483 MHz & 5.15-5.85 GHz
Date	9/29/2011
Designer	Robert Ridgeway

integration

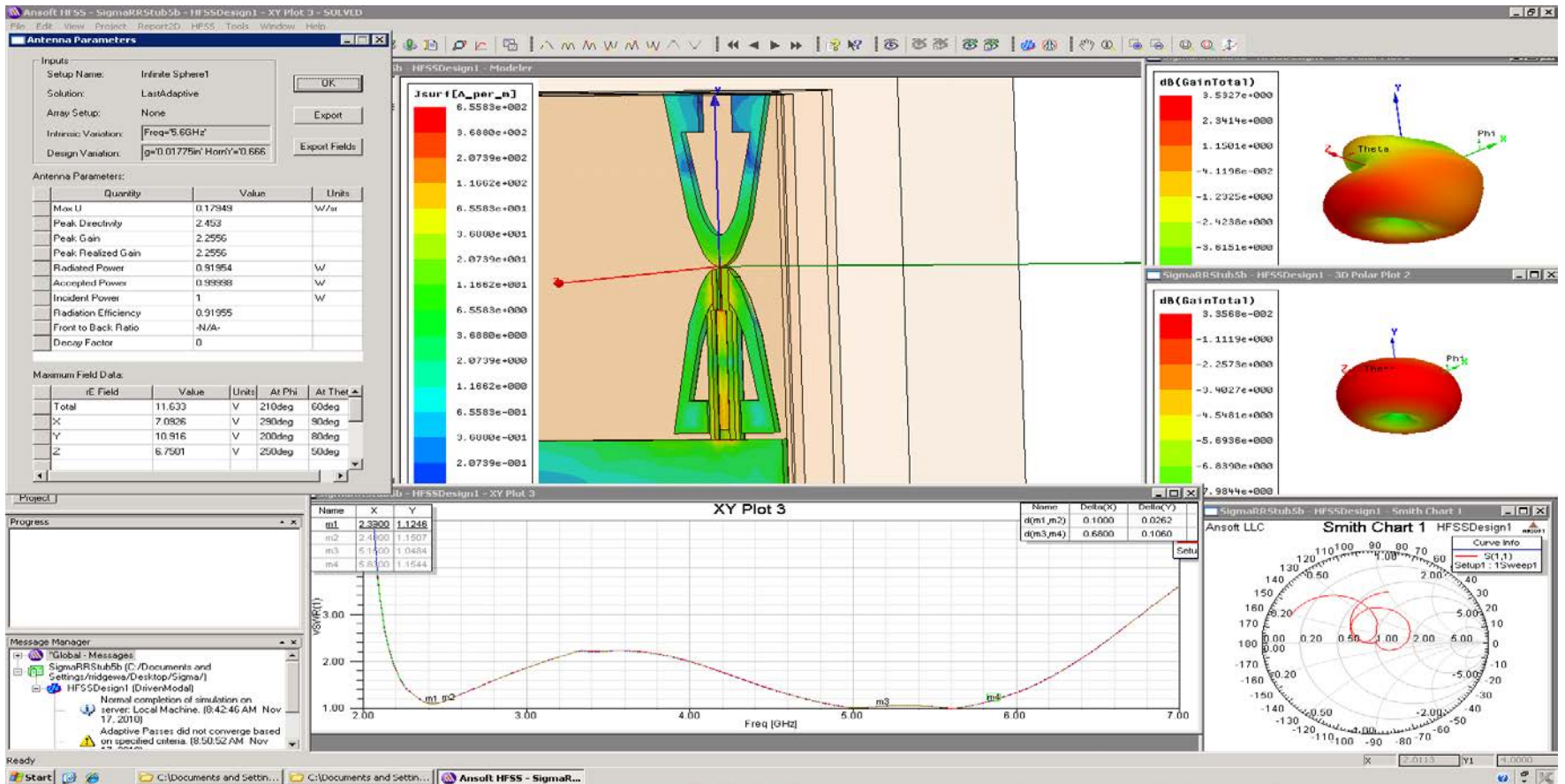
PCB	Material: ISOLA370HR, Dk = 3.7 @ 2.4GHz 38 mil thick dielectric yields 40 thick PCB with copper laminates. Copper: 1 oz all layers
Enclosure	Model assumes ABS plastic (Dk = 3. @ 2.4GHz) surface 0.5" from antenna on all sides.





<p>Special Considerations</p>	<ol style="list-style-type: none"> <li>1) Designed for use with specific enclosure? (Digi PN?)</li> <li>2) Ground plane requirements? There needs to be &gt; 0.1" insulator gap between the pcb ground the two antenna arms at the bottom.</li> <li>3) Other dependencies (This antenna requires a plastic enclosure for proper dielectric loading &amp; correct frequency performance)</li> <li>4) Special feed point requirements – The ground plane used here is made with the two outer layers for maximum thickness.</li> </ol>

## Simulation Results



## Measured S11

**Measured S11 Magnitude in Smith chart format all are with plastic cover.**

**3D radiation Pattern (and Gain) is similar to doughnut with maximum gain on the horizon.**  
2d-radiation patterns (E-field)

### Change Log

Revision	Date	Author	Sections	Comment
A	9/29/2011	Robert Ridgeway	All	Initial Document