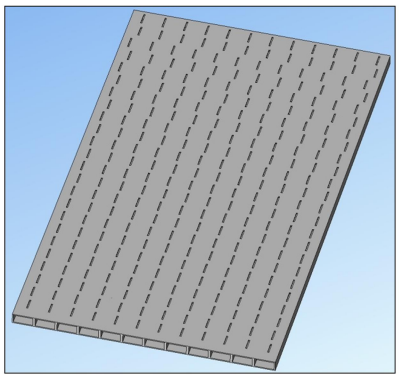
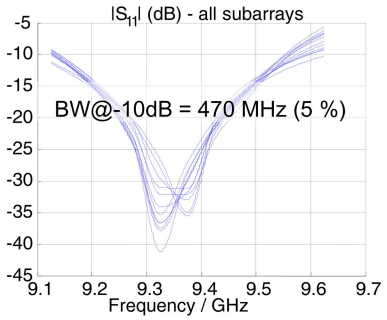
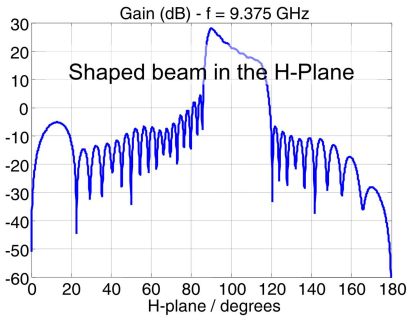
DESIGN EXAMPLE 1

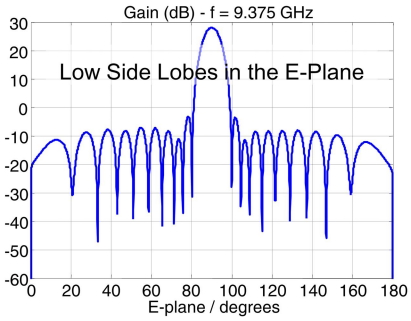


12 × 24 slots planar array on WR90
H-plane: *Cosec*^{2} Pattern (90° ÷ 115°)
E-plane: *Taylor* Pattern SLR = -35 dB

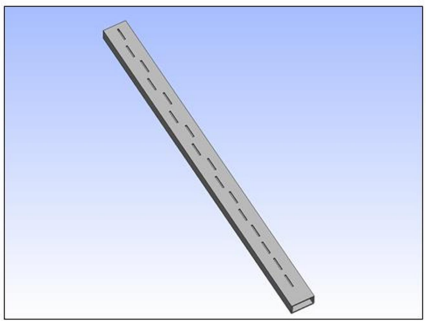
SWAN™ – CPU time (P4 @ 2.5 GHz)
Design = 93 sec
Analysis = 15 sec/freq. point





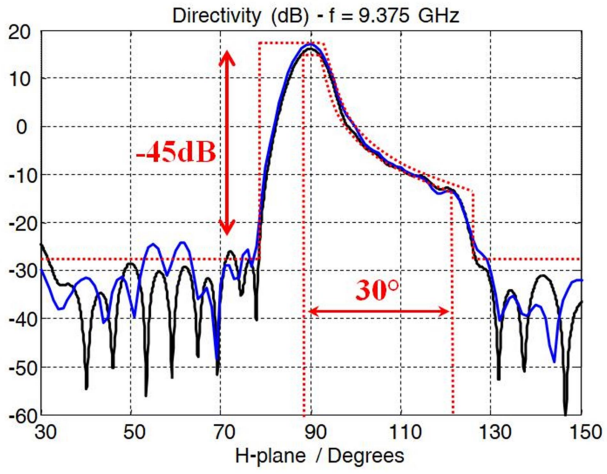


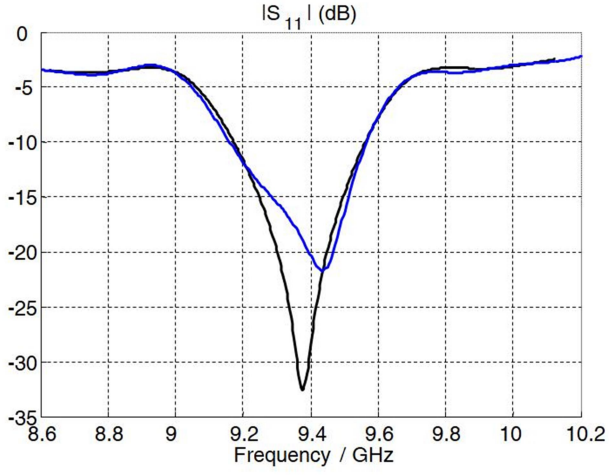
DESIGN EXAMPLE 2



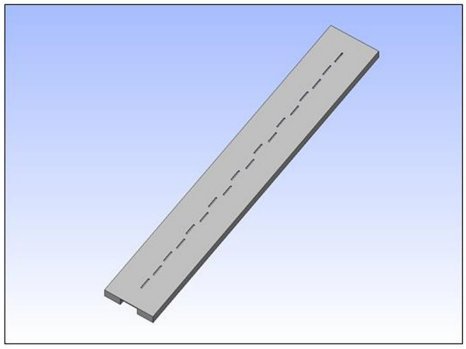
- *Cosec*^{2} radiation pattern
- 16-slots linear array on WR90

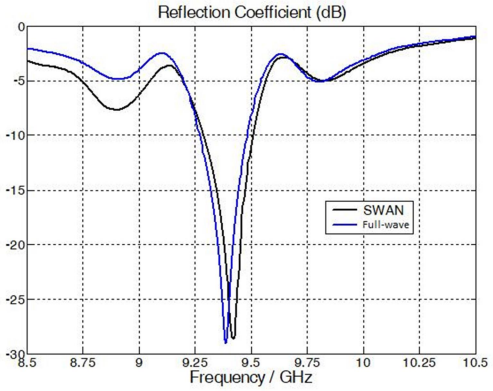
SWAN™ Full-wave



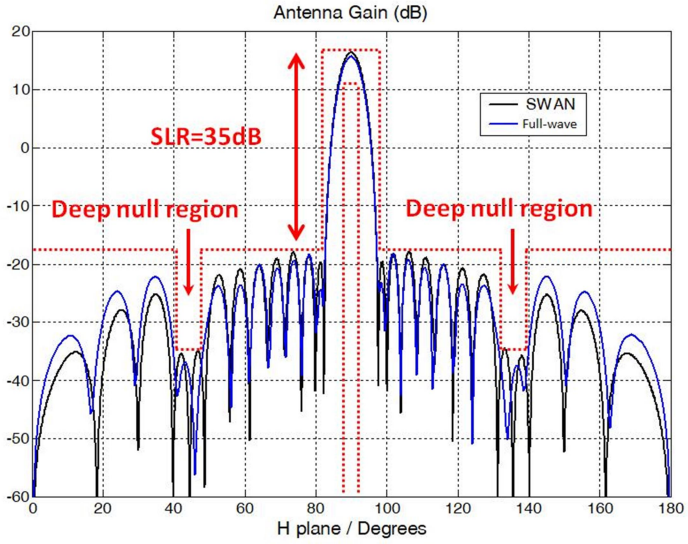


DESIGN EXAMPLE 3

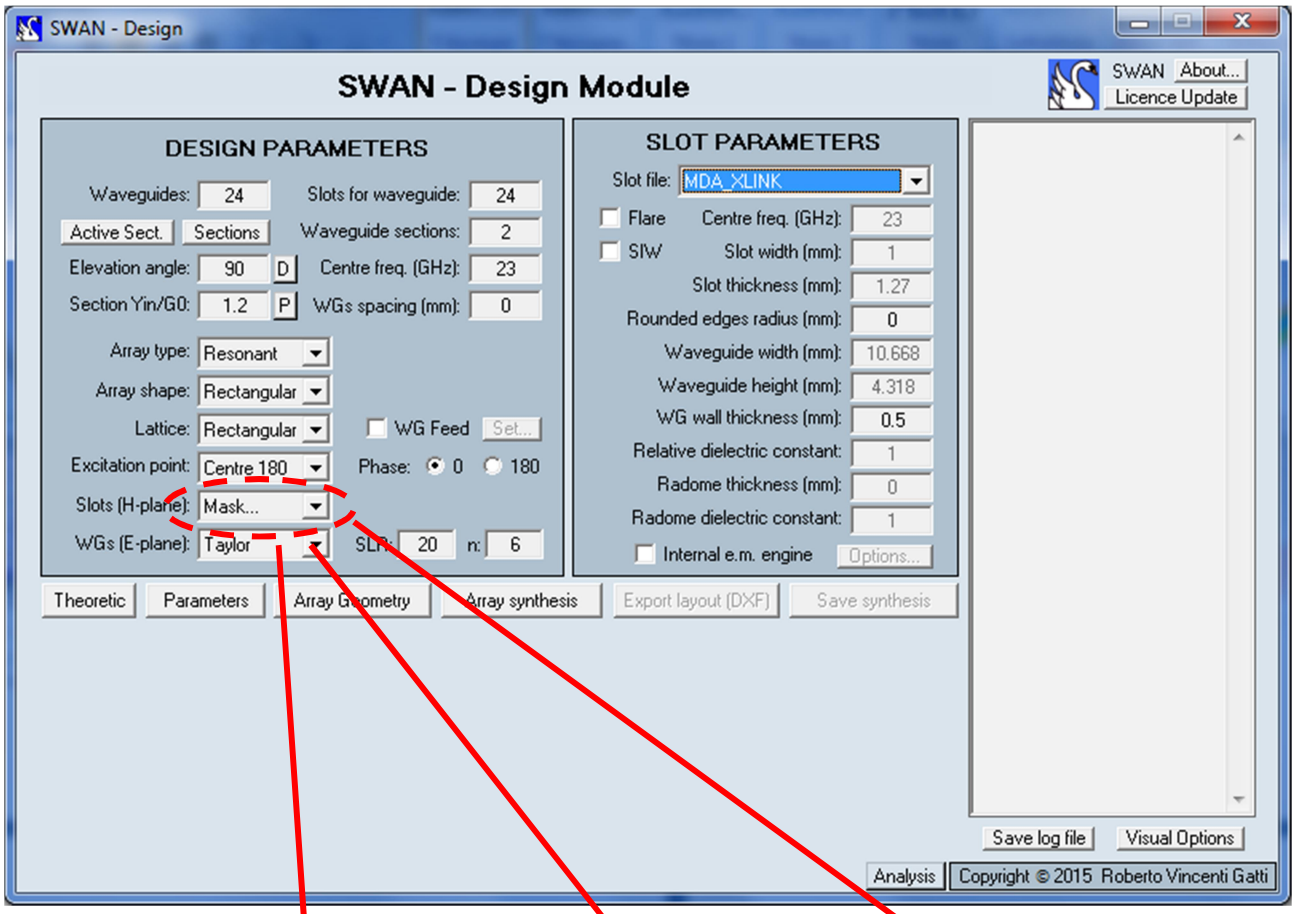




- 18-slots linear array on WR90
- Extremely low sidelobes (-35dB)
- Beam shaping (deep nulls)



MASK DEFINITION IN SWAN



/Upper Mask/
0 -30
40 -30
40 -50
50 -50
50 -30
86 -30
86 0
94 0
94 -30
110 -30
110 -60
120 -60
120 -30
180 -30

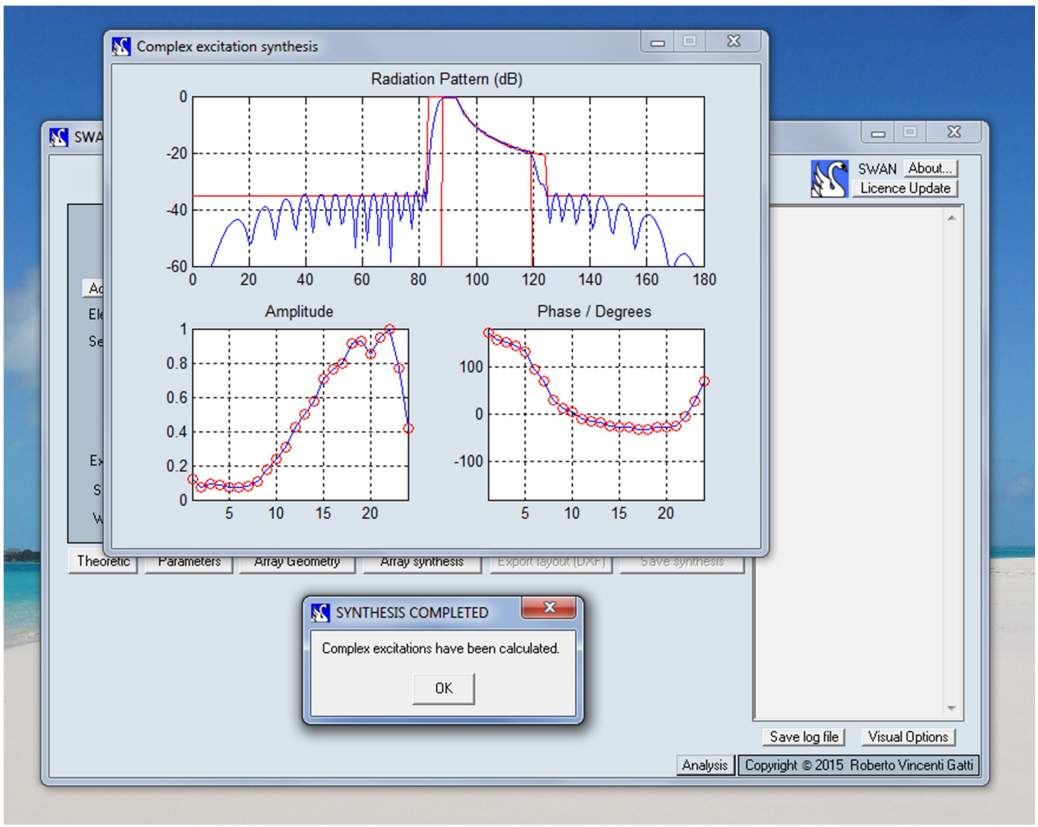
/Lower Mask/
0 -1000
89 -1000
89 -3
91 -3
91 -1000
180 -1000

/Parameters/
Iterations 100
Amin 0
Theta 30

/Cosecant Squared/
Pointing Angle 90
Transition Range 5
Plateau 5
Ripple 0.5
SLR 35
Height 10
Dmin 20
Dmax 200
Symmetry 0
/Parameters/
Method 0
Iterations 200
Amin 0
Theta 90
Starting Point 0

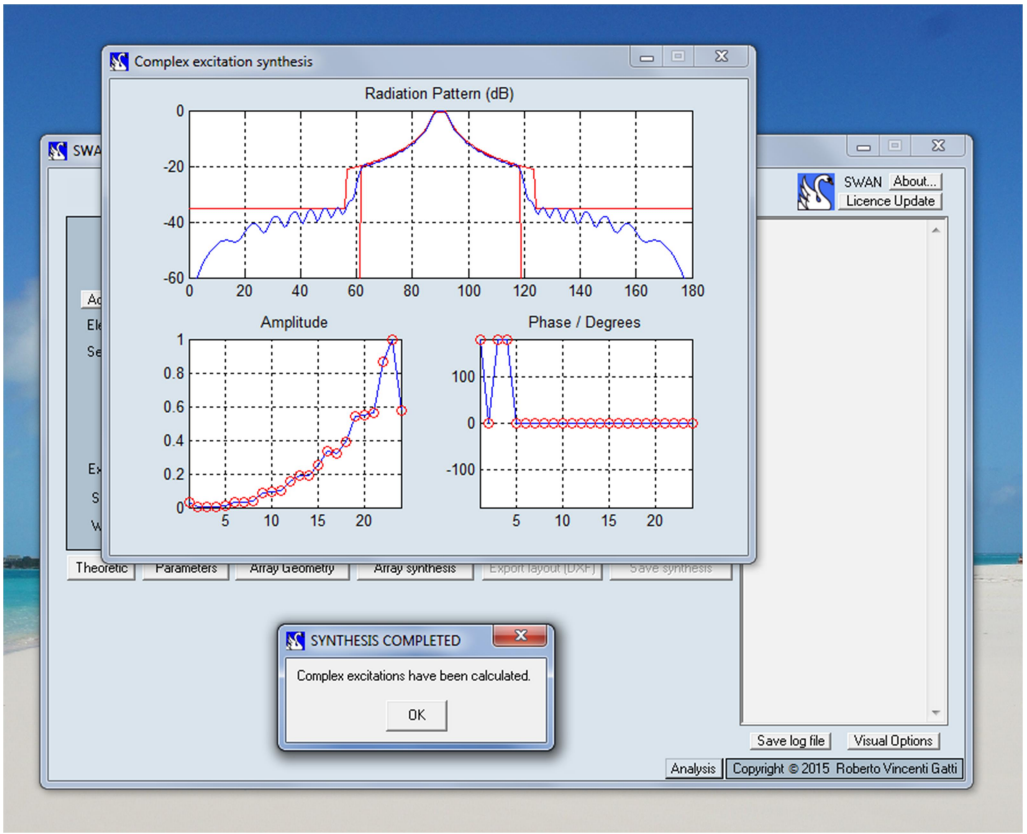
/Cosecant Squared/
Pointing Angle 90
Transition Range 5
Plateau 5
Ripple 0.5
SLR 25
Height 10
Dmin 20
Dmax 200
Symmetry 0
/Parameters/
Method 1
Iterations 100
Amin 0
Theta 60
Real Excitation 0
Excitation Symmetry 0
Weight 10
Gradient Step 1
Steepest Descent Steps
1 2 5 10 20 50 100 200
Starting Point 0

SWAN SYNTHESIS EXAMPLE 1



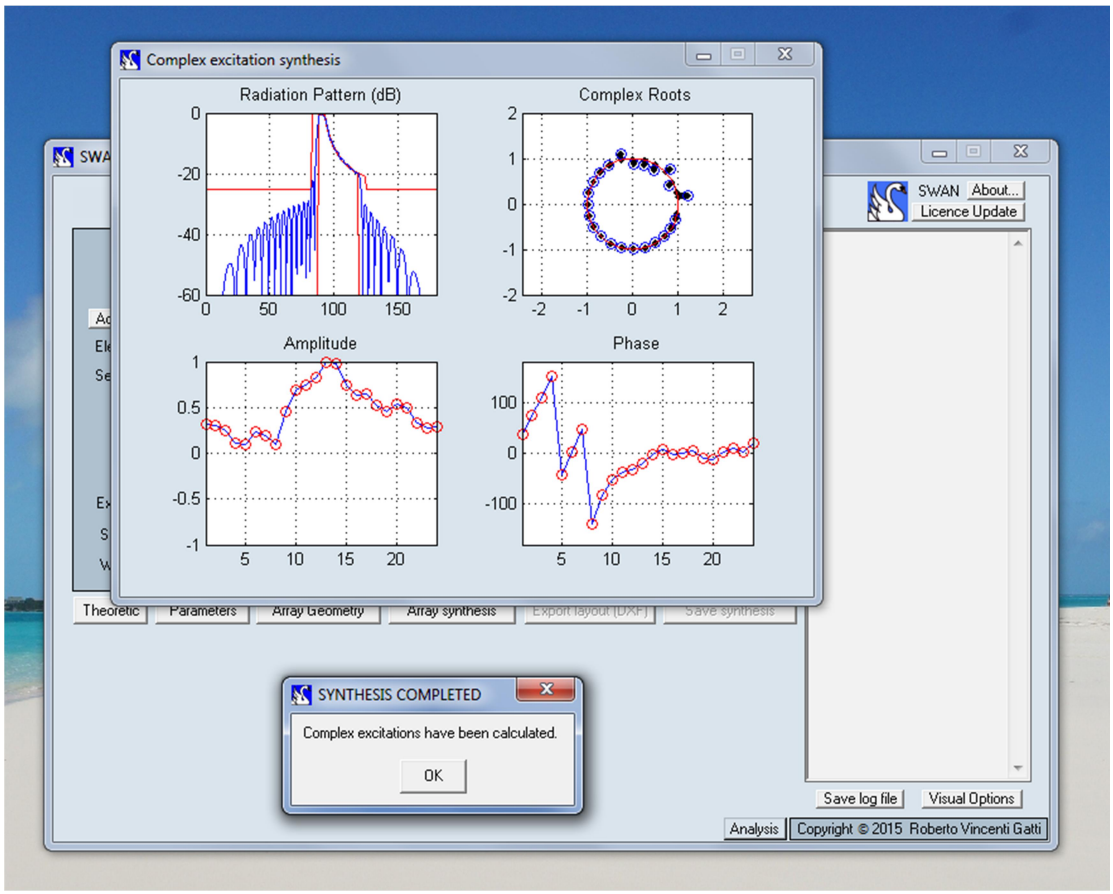
Synthesis performed with PROJECTION METHOD

SWAN SYNTHESIS EXAMPLE 2



Synthesis performed with PROJECTION METHOD

SWAN SYNTHESIS EXAMPLE 3



Synthesis performed with ORCHARD METHOD