

CM Hoverman Type 1 Omni-directional Antenna, 4nec2 by holl_and, 4Sep2009
 CM Dimensions per D. R. Hoverman (Type 1-Omni, No Reflector) Patent 2,918,672.
 CM Ang=45-deg. WL=7.0-in. Spur=5.5-in. SWR<3.1. Adjusted GW1 for AGT=1.0.
 CM Raw Gain Max=1.5(470MHz)-4.5(663)-4.0(698) dBi (For 105, 165, 285 & 345-deg).
 CM BTW: Hoverman said Spur=7.0-in, but 5.5-in is better for 120-deg bandwidth.
 CE

SY Rsrc=0.057 ' SOURCE Radius, Adjust for AGT=1.0: UHF=0.057 and Hi-VHF=y.yyy
 SY Spur=5.5 ' Length of Lateral Spurs at Top & Bottom of Antenna

GW 1	1	0.266	0.266	0	-0.266	-0.266	0	Rsrc
GW 2	7	0.266	0.266	0	0	5.32	4.95	0.04
GW 3	11	0	5.32	4.95	0	0.375	9.9	0.04
GW 4	11	0	0.375	9.9	0	5.32	14.85	0.04
GW 5	11	0	5.32	14.85	0	5.32+Spur	14.85	0.04
GW 6	7	-0.266	-0.266	0	0	-5.32	4.95	0.04
GW 7	11	0	-5.32	4.95	0	-0.375	9.9	0.04
GW 8	11	0	-0.375	9.9	0	-5.32	14.85	0.04
GW 9	11	0	-5.32	14.85	0	-5.32-Spur	14.85	0.04
GW 10	7	-5.32	0	-4.95	-0.266	-0.266	0	0.04
GW 11	11	-0.375	0	-9.9	-5.32	0	-4.95	0.04
GW 12	11	-5.32	0	-14.85	-0.375	0	-9.9	0.04
GW 13	11	-5.32-Spur	0	-14.85	-5.32	0	-14.85	0.04
GW 14	7	5.32	0	-4.95	0.266	0.266	0	0.04
GW 15	11	0.375	0	-9.9	5.32	0	-4.95	0.04
GW 16	11	5.32	0	-14.85	0.375	0	-9.9	0.04
GW 17	11	5.32+Spur	0	-14.85	5.32	0	-14.85	0.04

GS 0 0 0.0254 ' All of above in inches

GE 0

EK

LD 5 0 0 0 5.8e7 0 ' Copper Conductivity

EX 0 1 1 0 1 0

GN -1

' FR Freq Sweep choices in order of increasing calculation time (fm holl_and):

FR 0 29 0 0 470 12 ' Freq Sweep 470-806 every 12 MHz - OLD UHF BAND

' FR 0 34 0 0 410 12 ' Freq Sweep 410-806 every 12 MHz - Even Wider Sweep

' FR 0 39 0 0 470 6 ' Freq Sweep 470-698 every 6 MHz - PREFERRED FOR UHF

' FR 0 77 0 0 470 3 ' Freq Sweep 470-698 every 3 MHz

' FR 0 153 0 0 470 1.5 ' Freq Sweep 470-698 every 1.5 MHz

' FR 0 71 0 0 300 10 ' Freq Sweep 300-1000 every 10 MHz - WIDEBAND SWEEP

' FR Hi-VHF choices:

' FR 0 15 0 0 174 3 ' Freq Sweep 174-216 every 3 MHz

' FR 0 29 0 0 174 1.5 ' Freq Sweep 174-216 every 1.5 MHz - PREFERRED

' FR 0 43 0 0 174 1 ' Freq Sweep 174-216 every 1 MHz - Hi-Res

' FR 0 26 0 0 150 6 ' Freq Sweep 150-300 every 6 MHz - WIDEBAND SWEEP

' FR Lo-VHF choices:

' FR 0 35 0 0 54 1 ' Frequency Sweep every 1 MHz for Ch2-6

' FR 0 36 0 0 75 1 ' Frequency Sweep every 1 MHz for Ch5 + Ch6 + FM

' RP choices in order of increasing calculation time:

' RP 0 1 1 1510 90 0 1 1 0 0 ' 1D Gain toward 90-deg Azimuth

RP 0 1 1 1510 90 -15 1 1 0 0 ' 1D Gain toward 105-deg Azimuth (Phi = -15)

' RP 0 1 1 1510 90 180 1 1 0 0 ' 1D Gain toward 270-deg Azimuth

' RP 0 1 37 1510 90 0 1 5 0 0 ' 2D (Left only) Azimuthal Gain Slice

' RP 0 1 73 1510 90 0 1 5 0 0 ' 2D Azimuthal Gain Slice - PREFERRED

' RP 0 73 1 1510 90 0 5 1 0 0 ' 2D Elevation Gain Slice

' RP 0 73 73 1510 90 0 5 5 0 0 ' 3D Lower Hemisphere reveals antenna

' RP 0 285 73 1510 90 0 5 5 0 0 ' 3D Full Coverage obscures antenna

EN