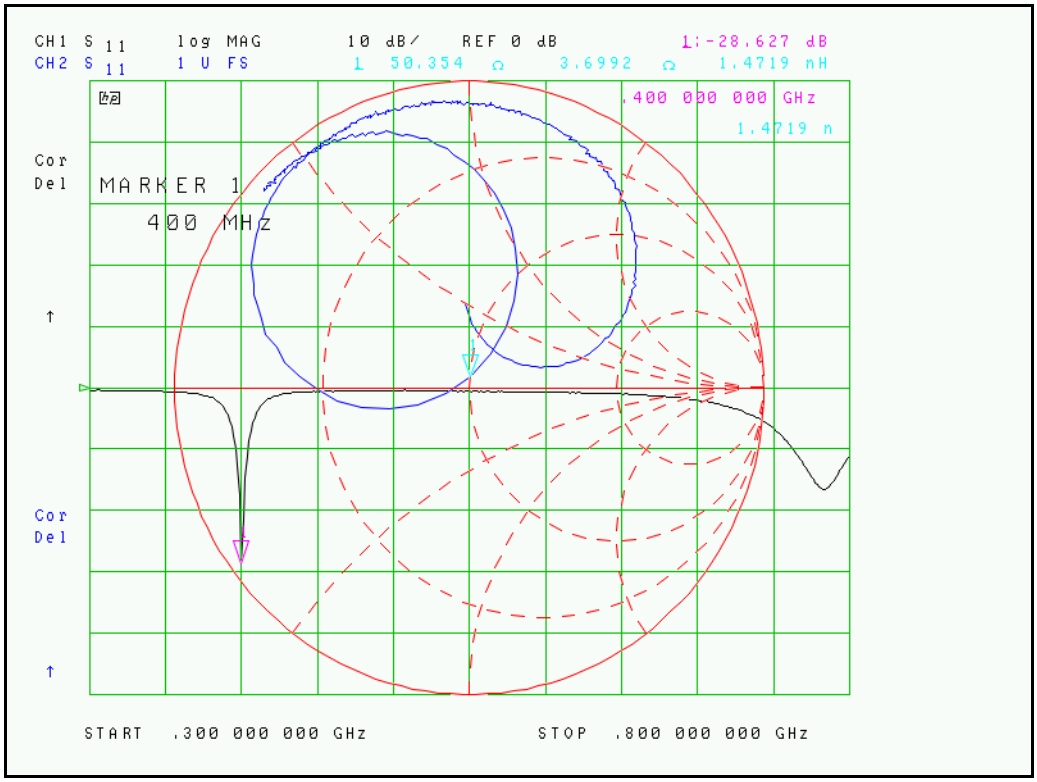
General:
The Misty West Encapsulated (MWE_21) prototype was mounted to the phantom. The resonance was verified and radiation patterns measured.



MWE_Apr_21 Prototype mounted on phantom, resonance at 400 MHz. Un-mounted resonance was ~ 420 MHz.

Radiation Pattern Plots:
The presence of the phantom produces a frequency shift in resonance as well as introducing loss and affecting the radiation pattern. These plots were taken to characterize the resulting emissions.

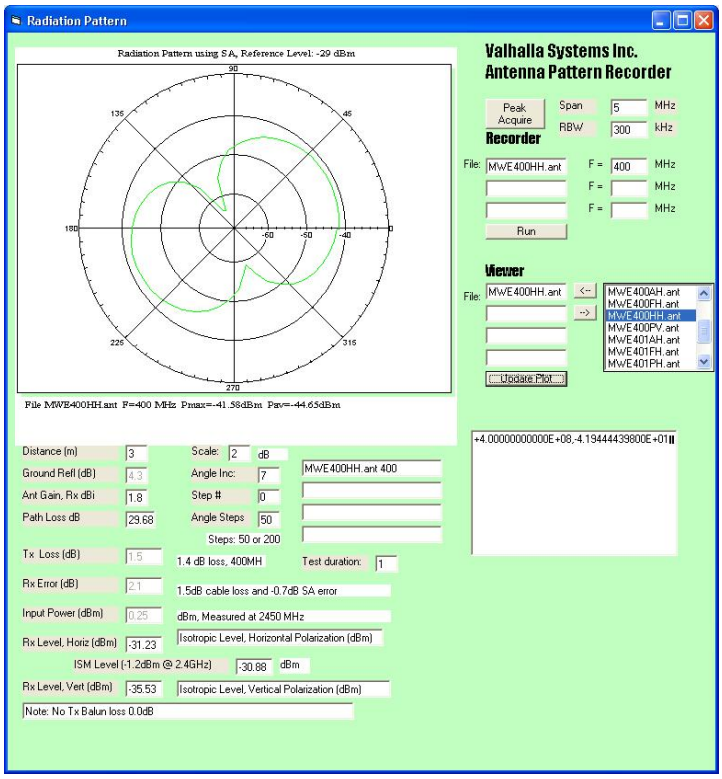
On loss, the difference in resonant freqeuncies makes performance comparision difficult but the peak levels phantom/nophantom appear to be within a couple of dB. A moderate increase in loss is assumed.

The radiation pattern is skyward from the transmitter side of the animal and slightly towards the rear. The ½ power beamwidth is also relatively wide (> 45 degrees) so the system should not be overly directional.

Horiztonal Pattern,
The assembly was positioned as shown in the images before the patterns were measured. The 0 degree orientation of the plots corresponds to the right side of the image and the rotation is clockwise.

The unit shown in measurement orienation.

The unit shown on measurement stand.



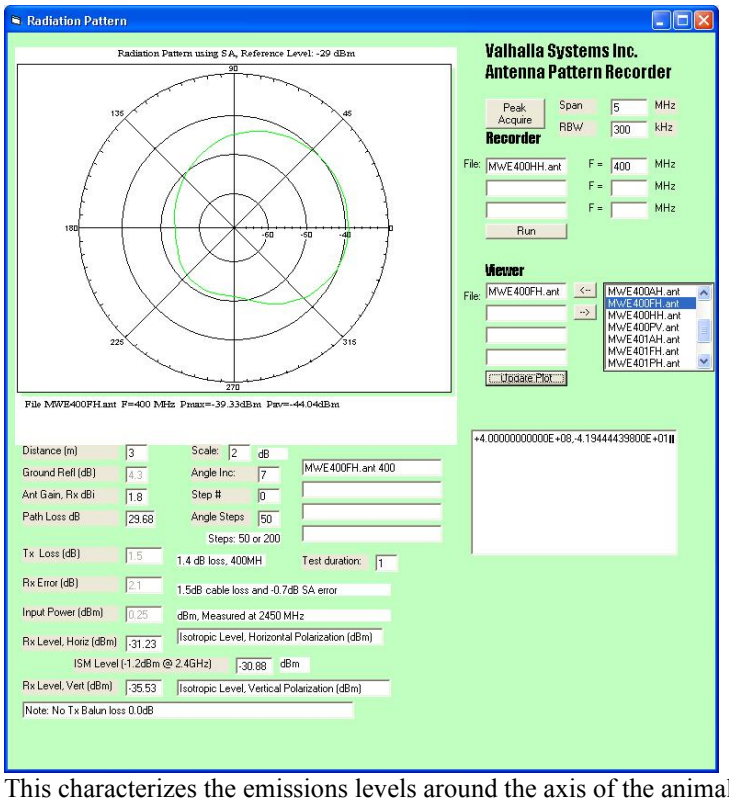
This characterizes the emissions levels around the animal. The 0 degree orientation is the right side, 90 degrees is the rear, 180 degrees is the left side, and 270 degrees would be the nose.

Main lobe direction is looking slightly back from the ear.

Axial Pattern,
The assembly was positioned as shown in the images before the patterns were measured. The 0 degree orientation of the plots corresponds to the right side of the image and the rotation is clockwise.

The unit shown in measurement orienation.

The unit shown on measurement stand.



This characterizes the emissions levels around the axis of the animal. The 0 degree orientation is looking at the back side, 90 degrees is the nose, 180 degrees is underneath, and 270 degrees would be the rear.

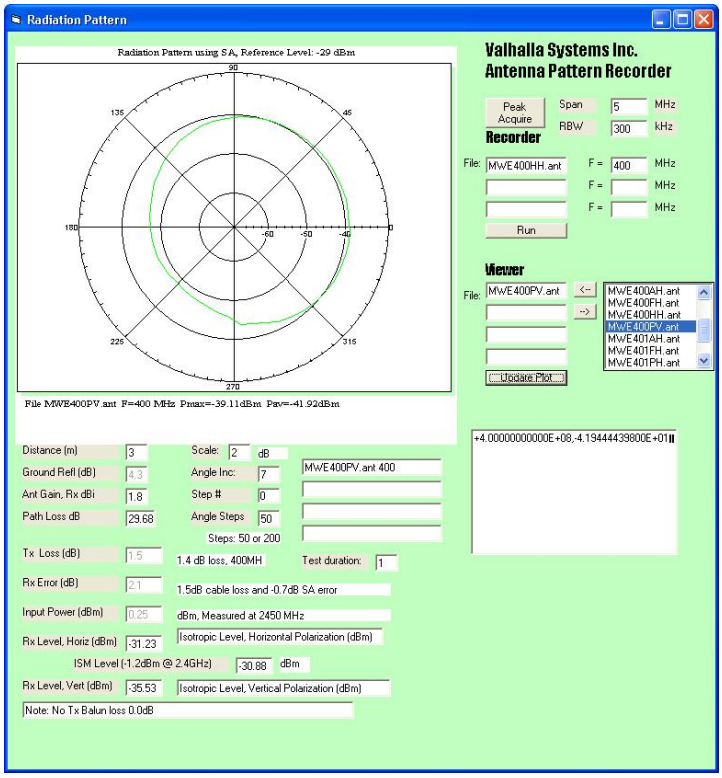
Main lobe direction is up from the animal's back, pointing skywards.

Profile Pattern,
The assembly was positioned as shown in the images before the patterns were measured. The 0 degree orientation of the plots corresponds to the right side of the image and the rotation is clockwise.

Note: The receive antenna was vertical for these measurements to match the orientation of the unit.

The unit shown in measurement orienation.

The unit shown on measurement stand



This characterizes the emissions levels around the middle of the animal. The 0 degree orientation is looking at the right ear, 90 degrees is the back, 180 degrees is the left side, and 270 degrees would be under the animal.

Main lobe direction is out from the transmitter or from the right side of the animal.