

RaDeKL Antenna Data

The Radar Developer's Kit – Lite (RaDeKL) (Figure 1) utilizes two identical directional antennas for the transmitter and the receiver. RaDeKL antenna consists of four elements in a two by two patch array. The antenna peak gain is approximately 12 dBi, and the Fields of View (FOVs) (at the -3 dB from peak) for both azimuth and elevation are approximately 45 x 45 degrees. The orientation of the antenna shown Figure 1 has electrical field plane polarity in the horizontal direction. The physical dimensions of each antenna are 63 x 63 x 8 millimeters including radome and excluding the SMA connector on the back.



Figure 1. Radar Developer's Kit – Lite (RaDeKL) Unit with Identical Dual Antennas, One for Transmit and the Other for Receive

The Figure 2 shows the gain pattern for the lower, center and high frequency of the RaDeKL Ultra Wideband (UWB) channel. The Voltage Standing Wave Resonance (VSWR) across the UWB channel has an average value of 1.5.

The antenna back-plate is mounted and grounded to the chassis faceplate. For the production RaDeKL unit, Multispectral Solutions, Inc. will mount the antennas and RaDeKL chassis faceplate with tamperproof screws that require a special tool for fastening.

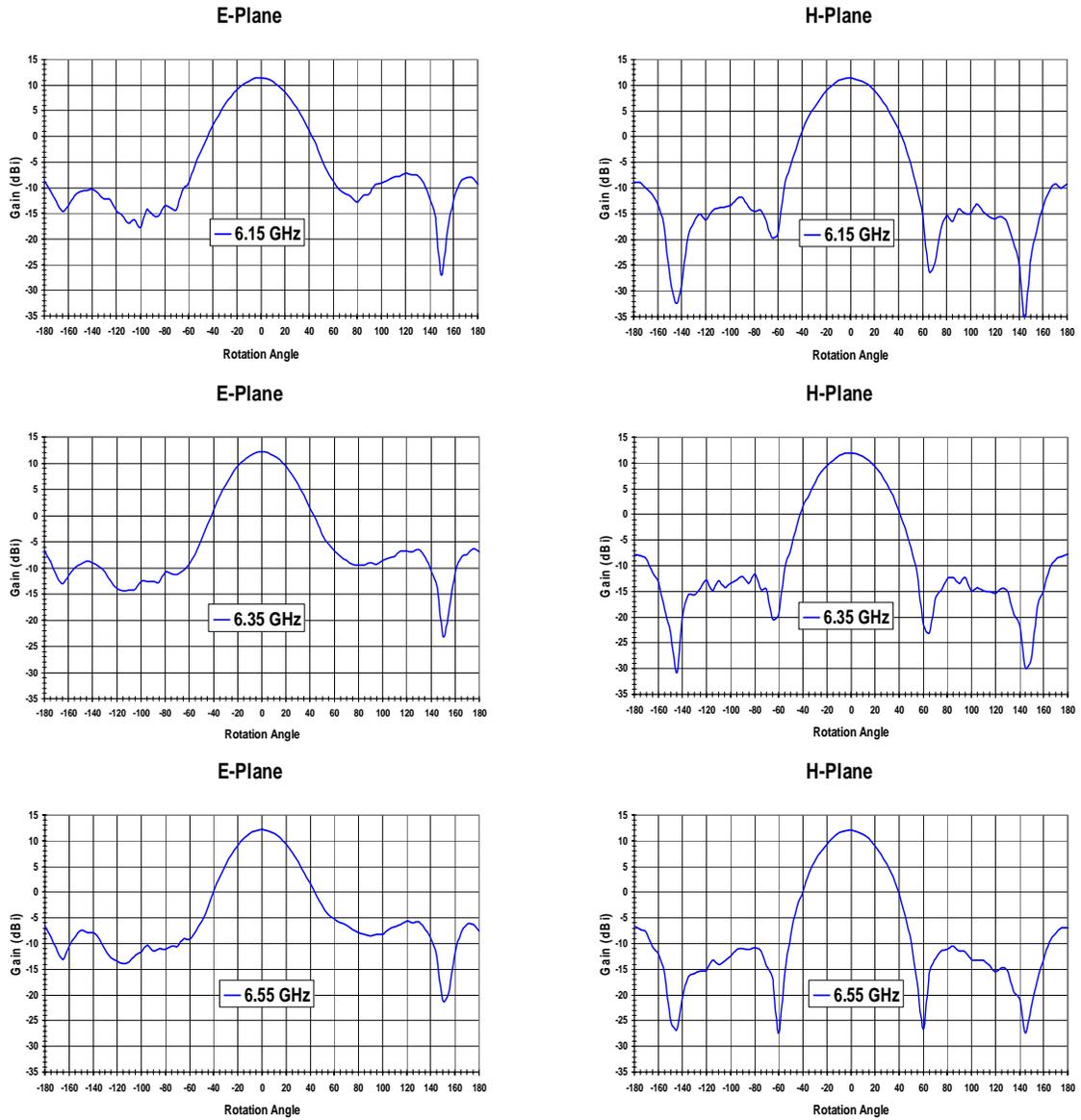


Figure 2. RaDeKL Antenna Gain Patterns for Electric and Magnetic Planes for Lower, Center and Higher UWB Channel Frequencies