



## AMD-SIMO User Manual

Thank you for your purchase of The AMD-SIMO Dual Element Antenna from Sventenna! The AMD-SIMO is intended to be used for receive applications, more specifically, diversity receivers that require two antenna inputs. It has a unique elliptical type pattern that is similar to an omni directional pattern but benefits from some gain in the forward and reverse directions of the main axis. The AMD-SIMO utilizes slant polarization which has been proven to out-perform linear polarized antennas mounted in a straight vertical or horizontal orientation.

### Technical Specifications:

#### **Antenna Element A:**

Impedance Bandwidth - 470 – 663 MHz

Average Gain – 1.5 dBi

Average Front to Back Ratio - .3 dB

Average Front to Side Ratio – 3.1 dB

Average Half Power Beamwidth - 136 Degrees

Characteristic Impedance - 50 Ohms

Polarization – Slant + 45 Degrees

**Antenna Element B:**

Impedance Bandwidth - 470 – 663 MHz

Average Gain – 1.7 dBi

Average Front to Back Ratio – 1.9 dB

Average Front to Side Ratio – 5.7 dB

Average Half Power Beamwidth - 127 Degrees

Characteristic Impedance - 50 Ohms

Polarization – Slant - 45 Degrees

Orthogonal gains of both antenna elements  $\leq$  - 3 dB

(Mismatch of antennas oriented in straight vertical or straight horizontal orientation in relation to the AMD-SIMO's 45 degree orientation).

Physical Dimensions:

L – 6.85" (174 mm)

W – 7.28" (185 mm)

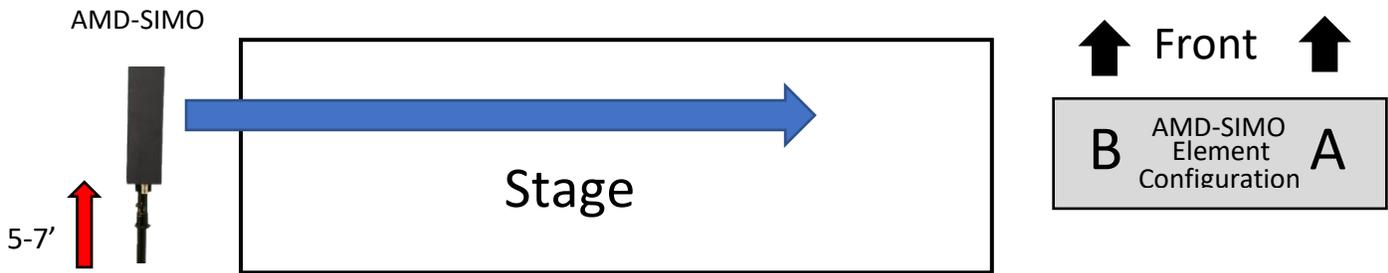
H – 1.77" (45 mm)

Approximate Weight – 13.22 oz (375 g)

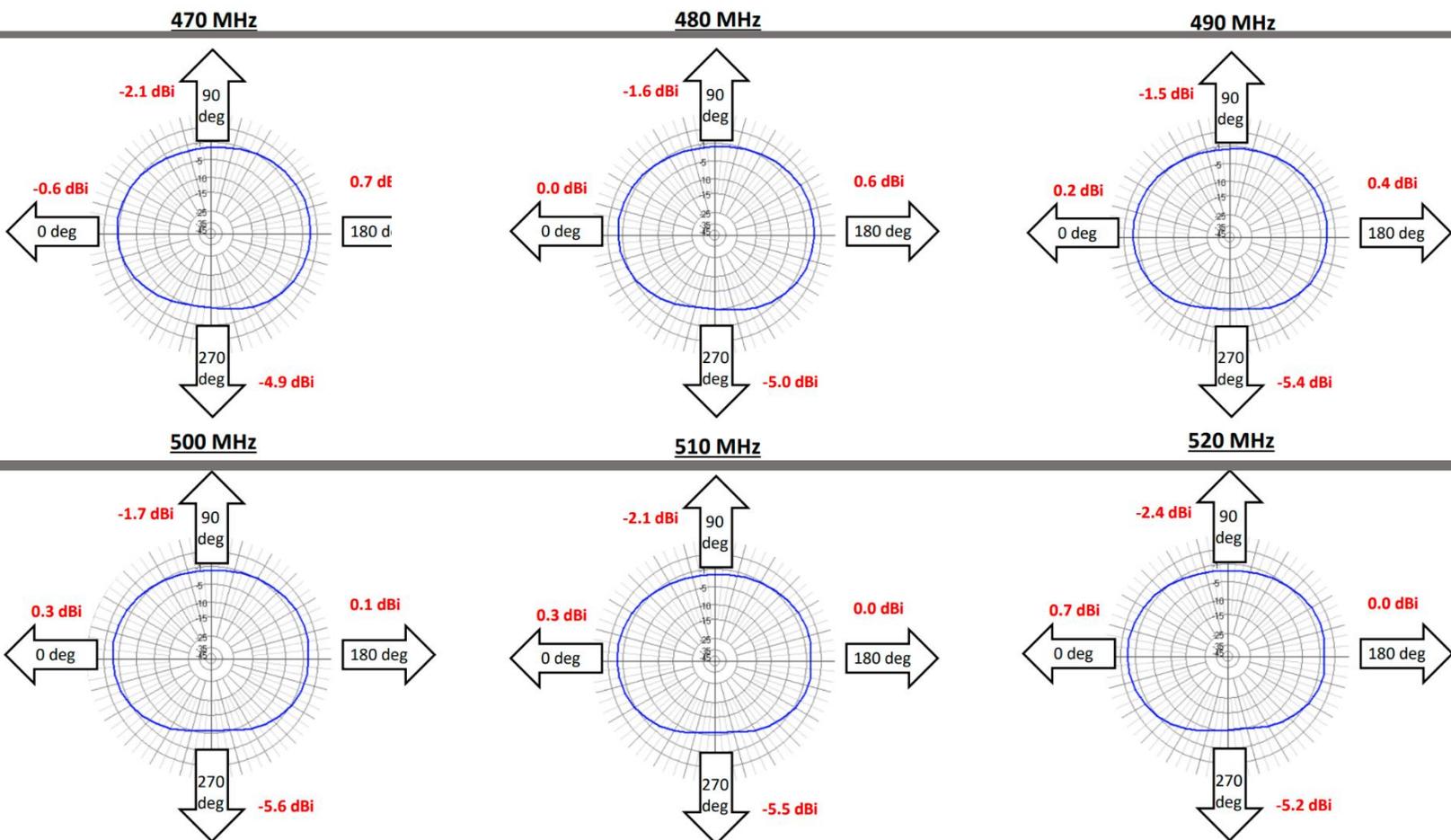
Additional Information:

The AMD-SIMO Dual Element Antenna is a unique antenna. It places two antennas in extreme proximity without sacrificing their impedance match or radiation efficiency. This gives us an antenna that is extremely quick and easy to deploy in an all in one package with no additional parts. Just put it on a mic stand, connect two BNC cables (not included) to the A and B port of your receiver or multicoupler/distro and you are done. That being said, due to the close proximity

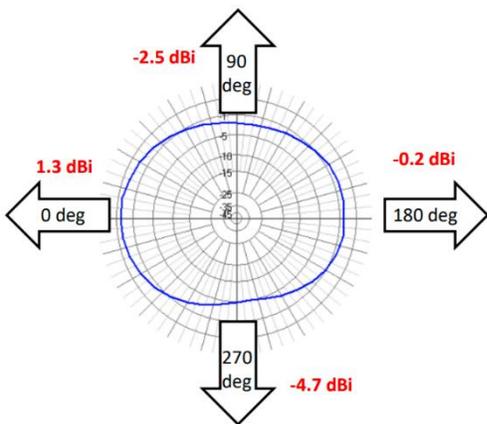
and design of the two antennas the radiation pattern is quite unique. The radiation pattern is basically an ellipse. It is closer to omni directional than a figure 8 but it does have some rejection off to the sides. We have found that placing the AMD-SIMO off to one side of the stage and pointing it directly across to the other side of the stage works best. It is also advantageous to give this antenna (and all antennas) some height. About 5-7' works well.



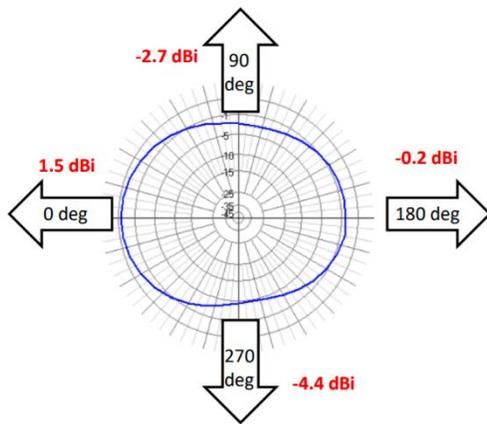
One of our goals is to provide as much information as reasonably possible. Being as though the patterns of AMD-SIMO are unique, below are graphs in roughly 10 MHz increments throughout the AMD-SIMO's two antenna's tuning ranges with Gains plotted in dBi at 0, 90, 180 and 270 degrees. This will help give you a better picture of the antennas performance and assist with placement.



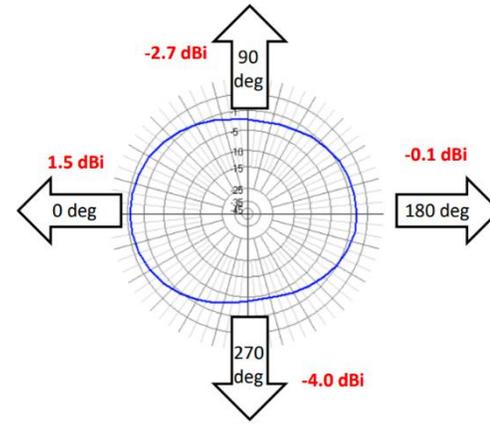
**530 MHz**



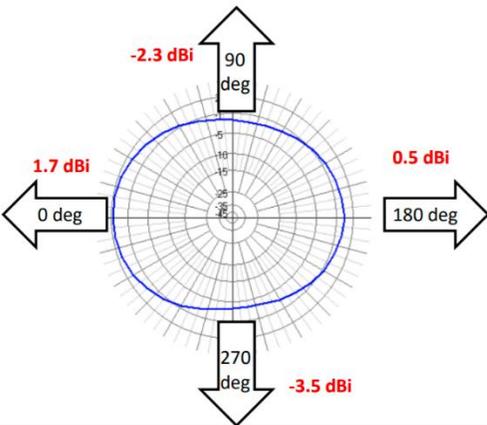
**540 MHz**



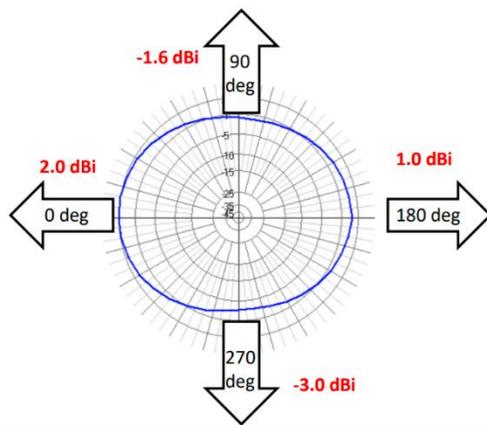
**550 MHz**



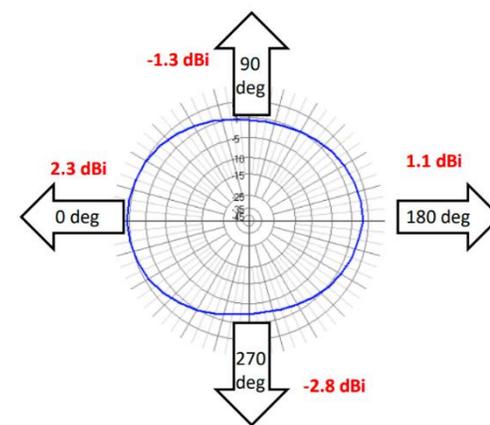
**560 MHz**



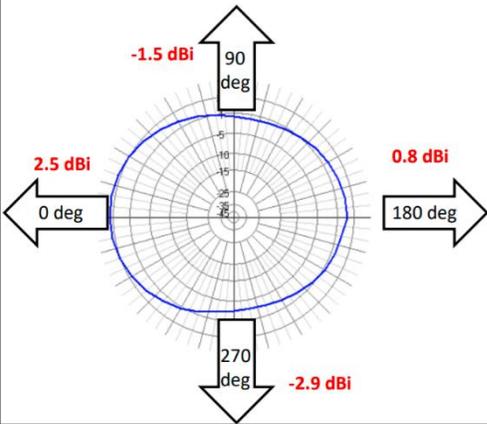
**570 MHz**



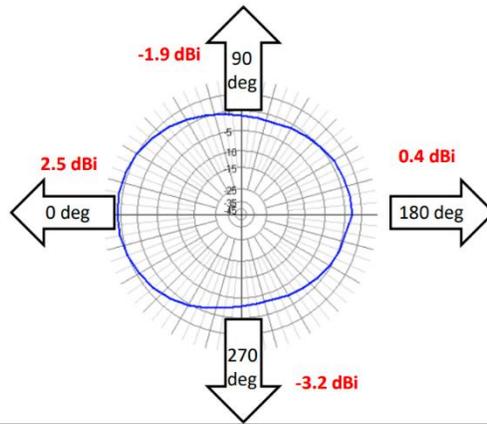
**580 MHz**



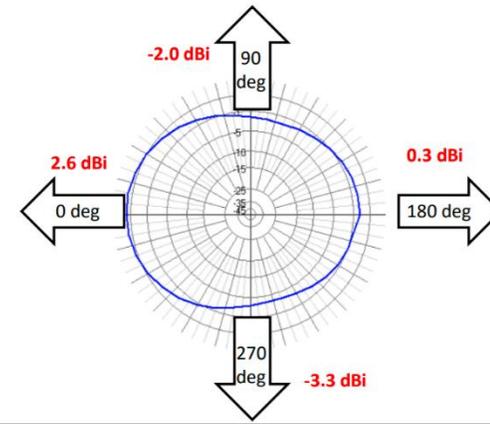
**590 MHz**



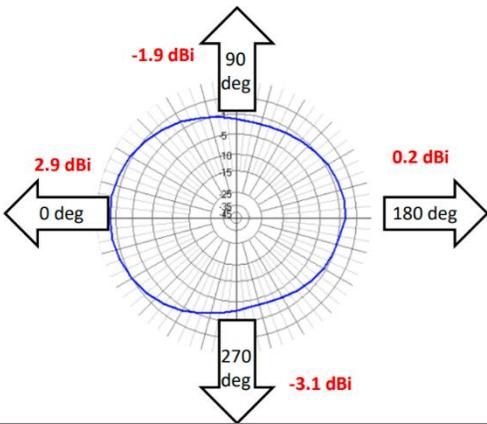
**600 MHz**



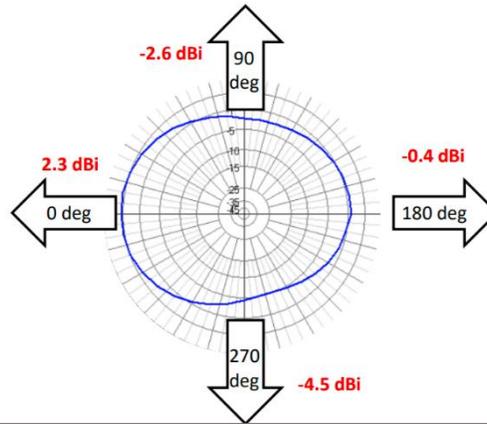
**608 MHz**



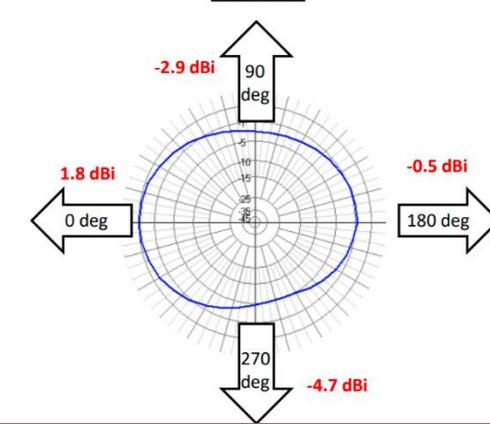
**614 MHz**



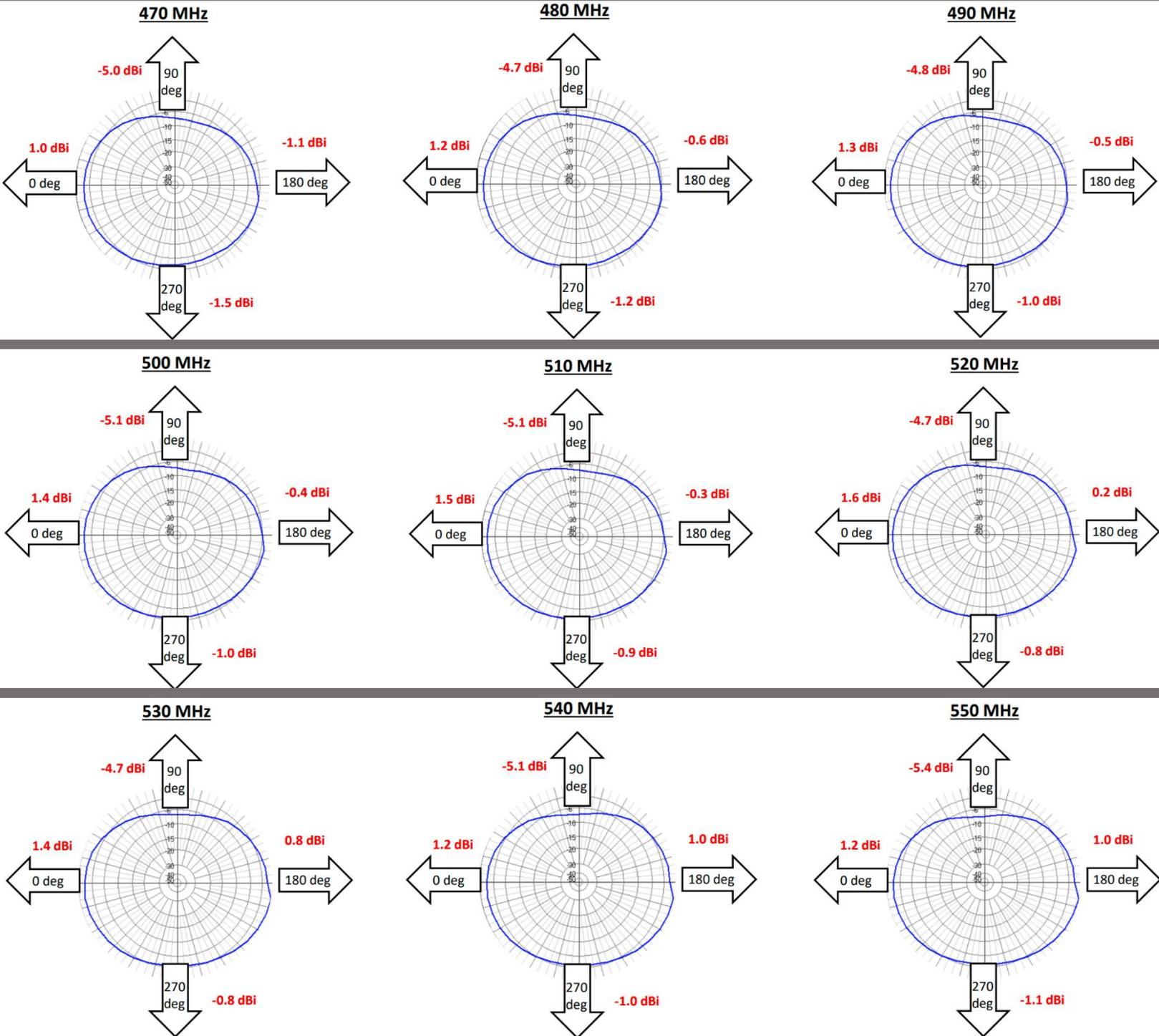
**654 MHz**



**664 MHz**

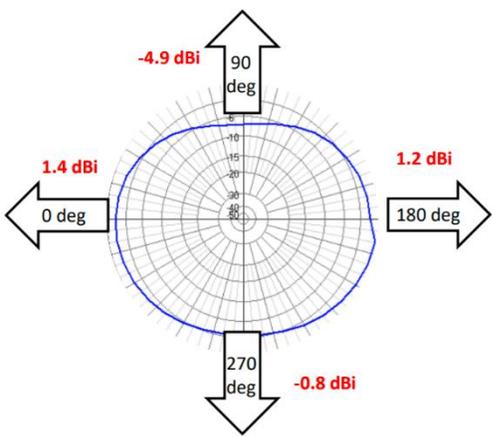


# Antenna Element B

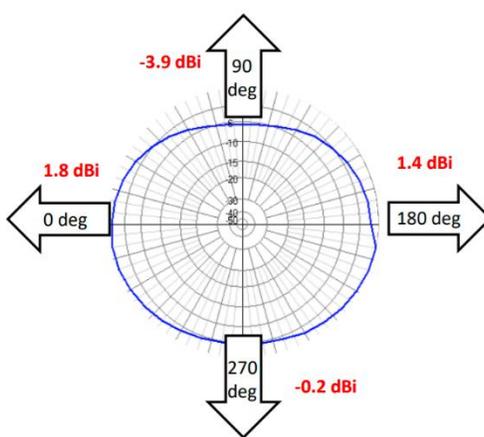


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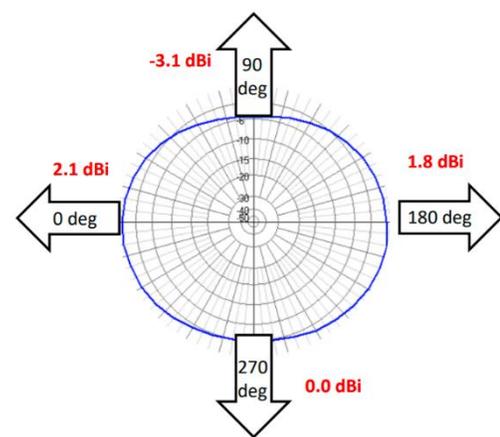
**560 MHz**



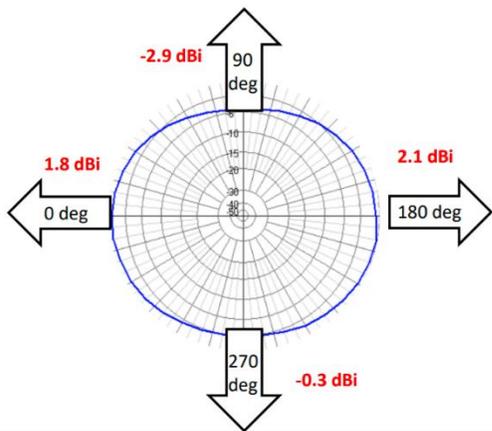
**570 MHz**



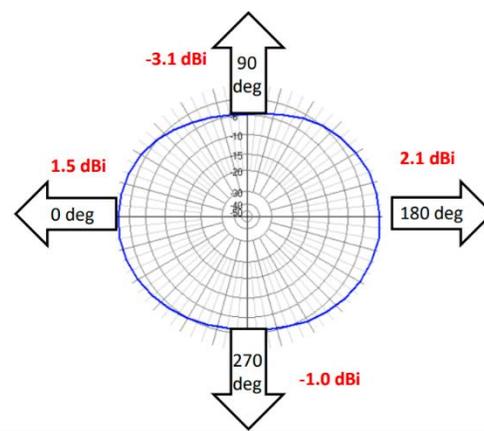
**580 MHz**



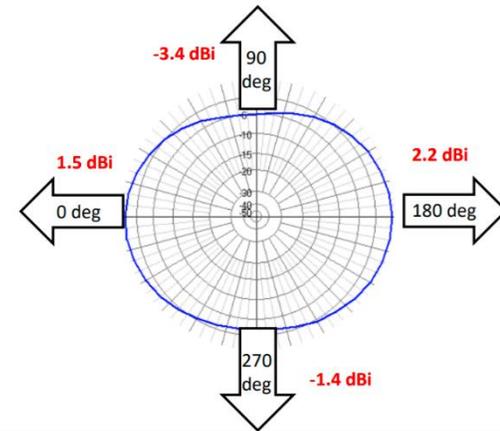
**590 MHz**



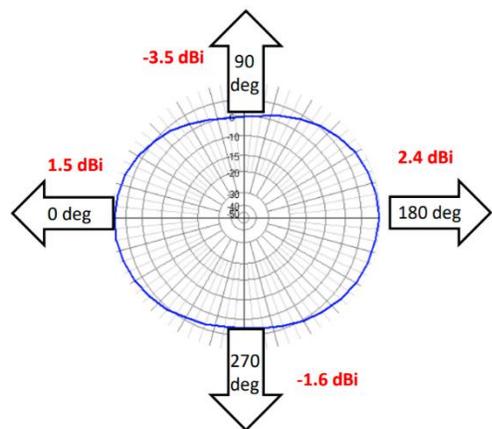
**600 MHz**



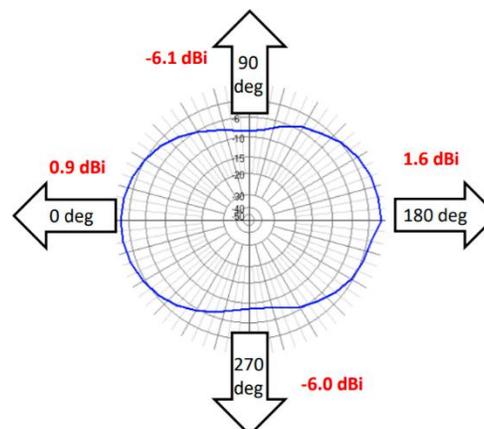
**608 MHz**



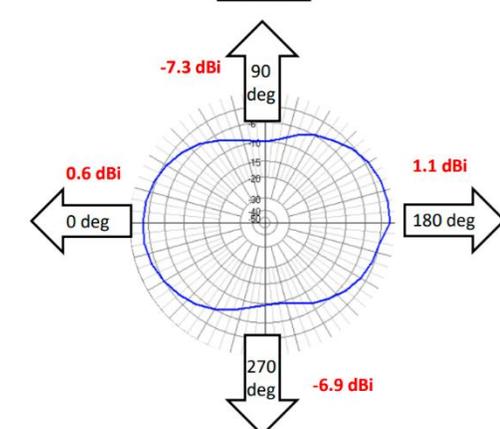
**614 MHz**



**654 MHz**



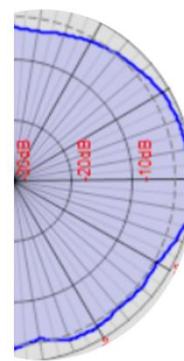
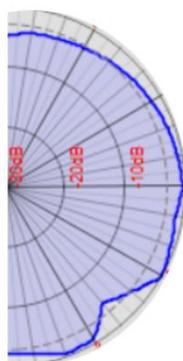
**664 MHz**



**elevation patterns of both antenna elements averaged over the their tuning bandwidth of 470-663 MHz.**

**Antenna Element A**

**Antenna Element B**



\* The AMD-SIMO is constructed primarily by additive manufacturing (3d Printing) it is possible that during production some impurities may occur. These are cosmetic only and while unfortunate, are a necessary evil in keeping costs to the consumer low.

Thank you so much for your support and trust in purchasing the AMD-SIMO dual element antenna from Sventenna. If you have any issues with your antenna we are happy to send replacement parts or replace your antenna (parts and replacement cost may vary). Contact us at [sventenna@gmail.com](mailto:sventenna@gmail.com) or visit us at [www.sventenna.com](http://www.sventenna.com)

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*“Patent Pending”*