

Final Output Scan Comparison

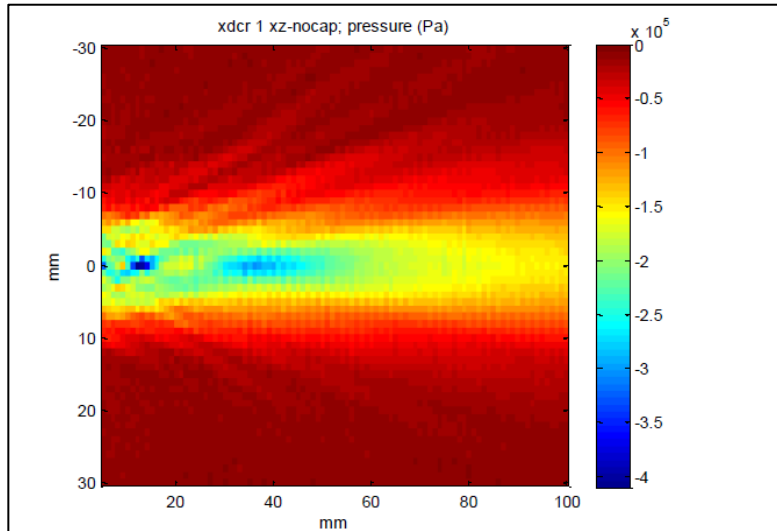


Figure 1. Supplied scan from benchmarked lab device (xz plane 0-100mm in z, -30 to 30 mm in x)

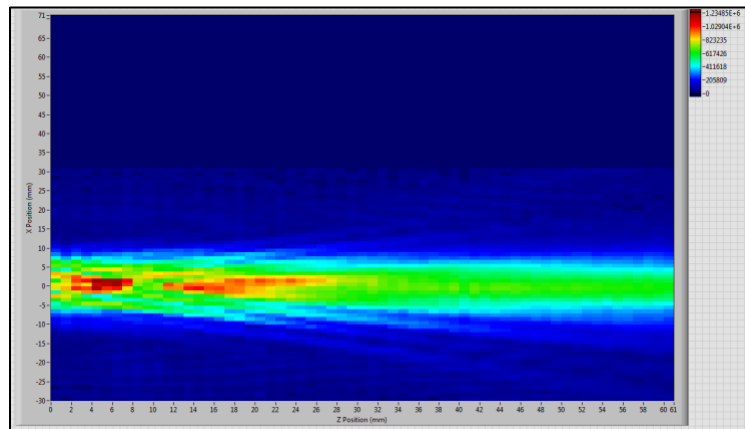


Figure 2. Our validation scan. Inverted scale to above output, but same general trends. Incorrect setup by test operator, so scan boundaries were off, but captured signal.

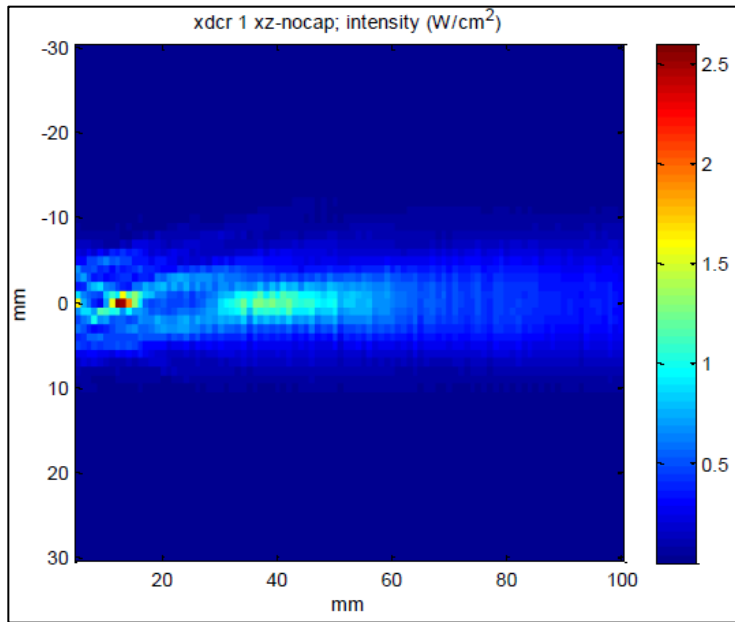


Figure 3. Supplied scan of xz plane intensity, same position and boundaries as above.

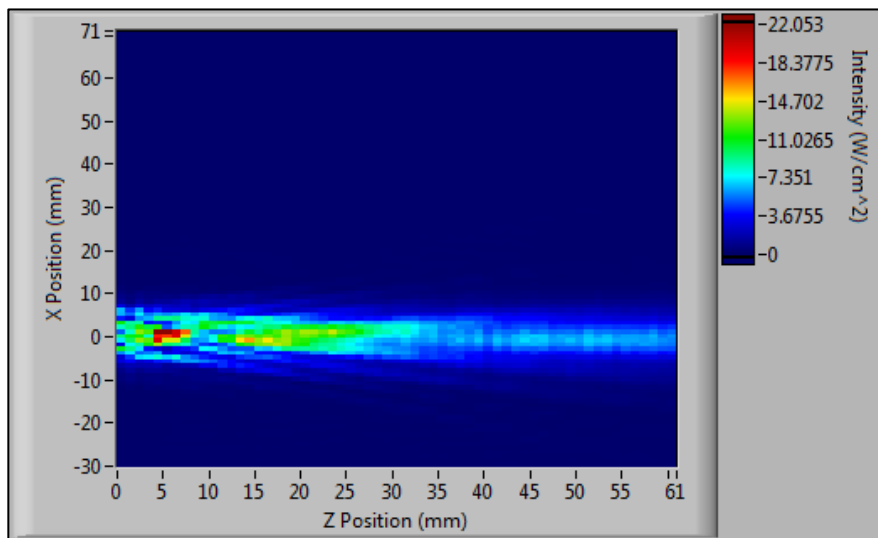


Figure 38. Intensity plot generated by our device of xz plane.

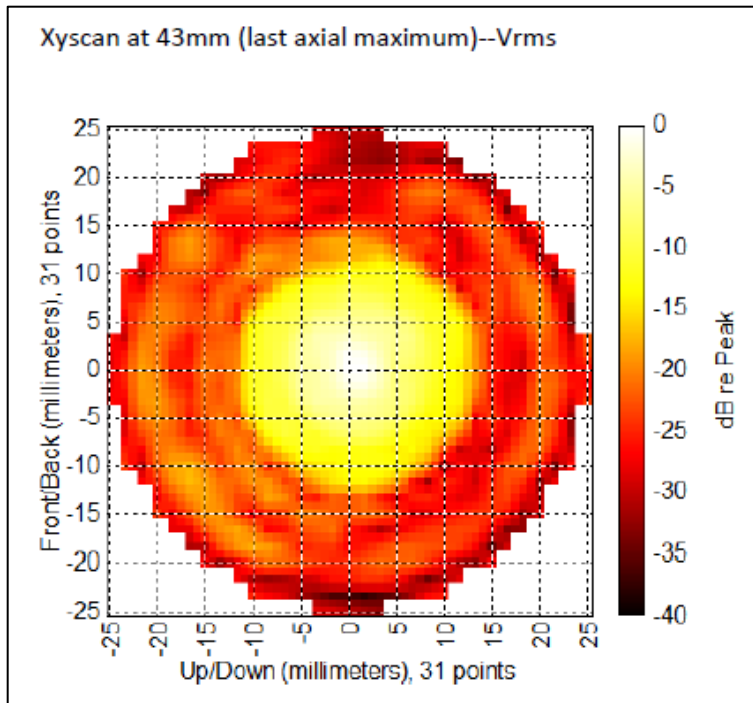


Figure 39. Supplied xy plot taken at 43mm from source showing dB peak, this measurement was not a requirement, but closely trends with the peak pressure variation plotted below.

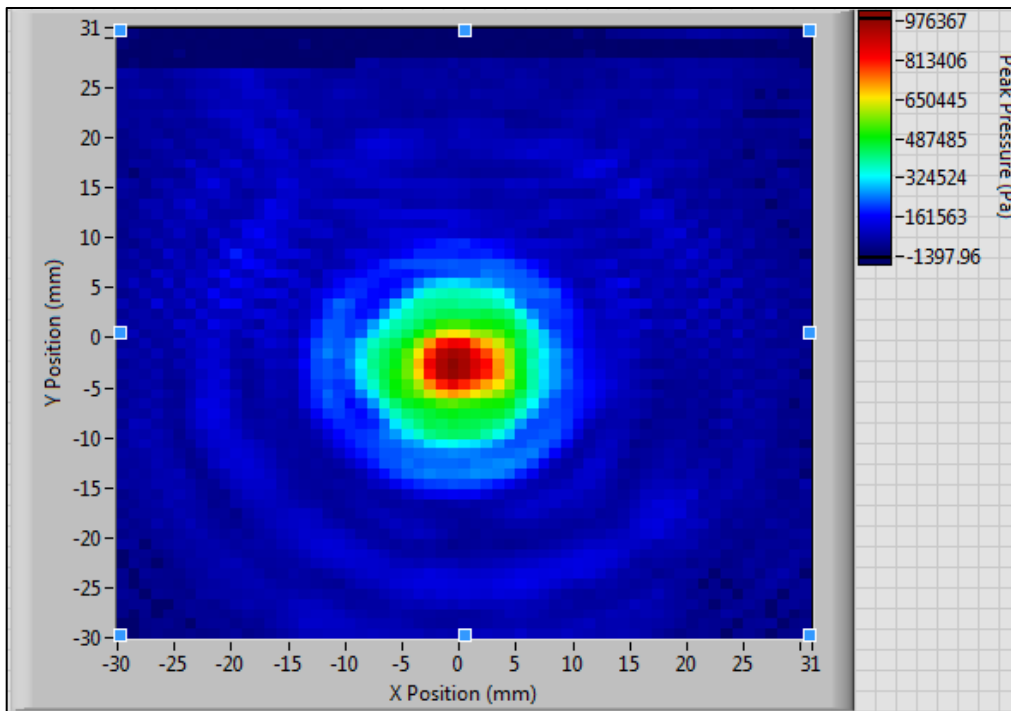


Figure 40. Our scan of xy plane showing peak pressure. My senior project team was not provided with a peak, RMS, or intensity of the xy plane, so this plot is compared to the dBpeak plot provided to see general trends. The effects of the water surface is visible in the reflected wave, the water in the tank was not filled to testing height, so this would eliminate this problem