

SMALL BARBARIS HORN

This horn was designed by Russian speaker DIY designer Mokshancev Boris Borisovich.
(Author's email: Bob-hornik@yandex.ru)

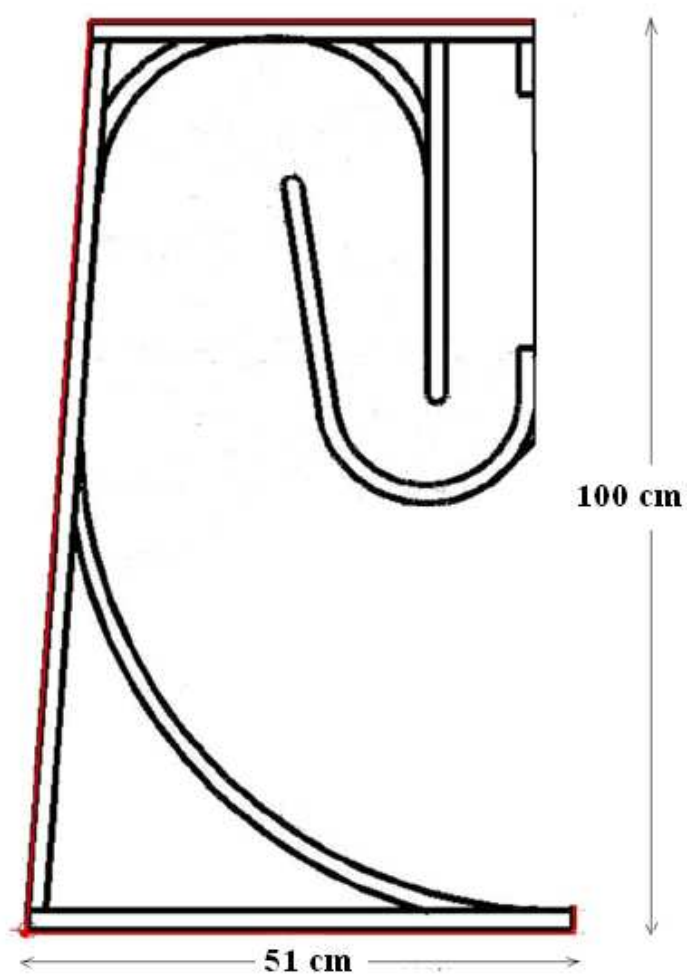


Fig. Small Barbaris Horn by Boris Borisovich

3D Response Simulation Report

Small Barbaris Horn + Fostex FE206E

Driver Model: Fostex FE206E

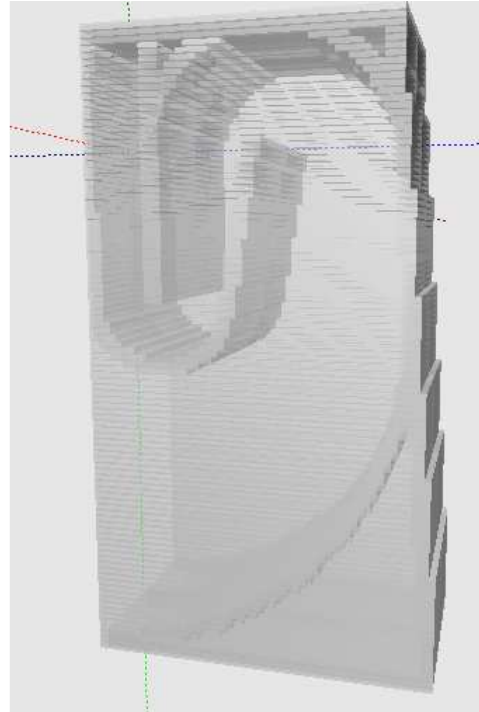
Enclosure:
 Report By: 3D Response version 0.0
 Report Date: 17.02.2010 15:33:10

Properties






Dimension: X:300 Y:200 Z:200
 Driver: X:160 Y:100 Z:120
 Microphone: X:60 Y:100 Z:120

Driver

Fs : 39.0000	BL : 11.8000
Re : 6.6900	Mms: 0.0154
Vas: 54.5300	Cms: 0.0000
Qes: 0.1800	R : 12.4890
Qms: 3.7300	Le : 0.0000
Sd : 0.0206	

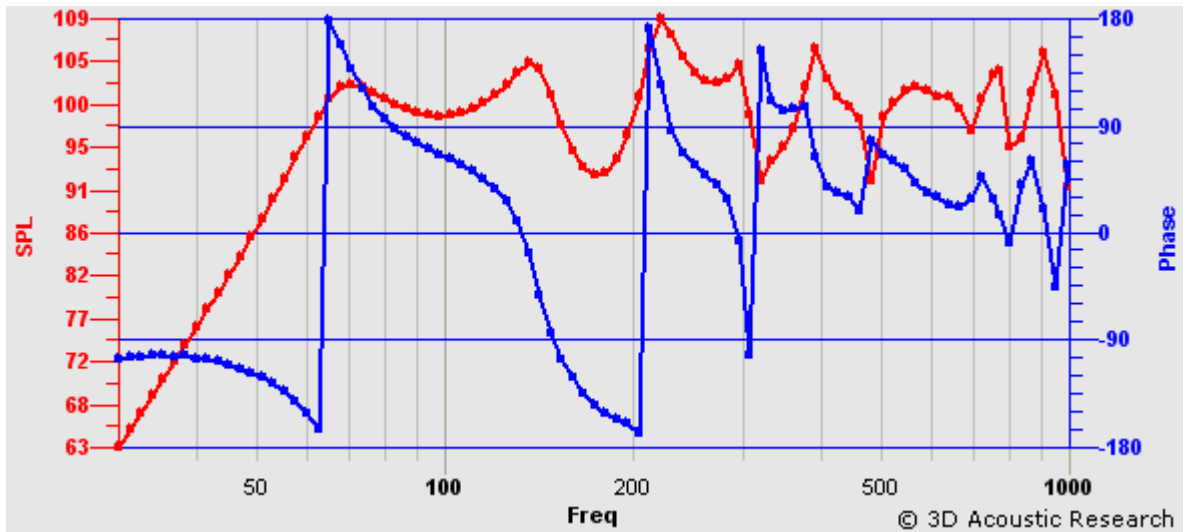


Layers for modeling:

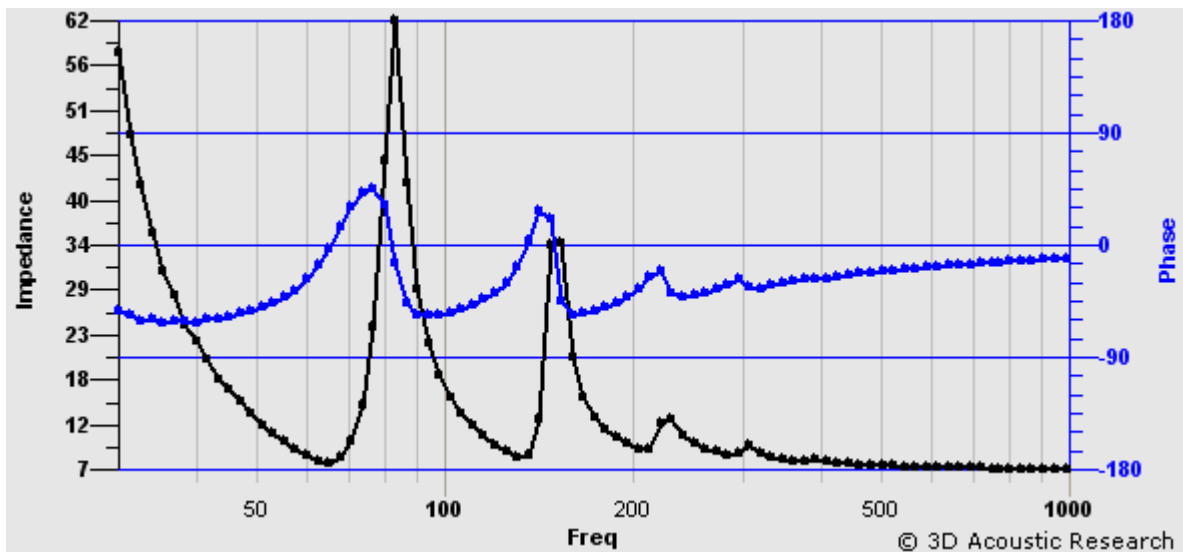
Width, cm	1	15	1	15	1
Import BMP					

Total width = 33 cm

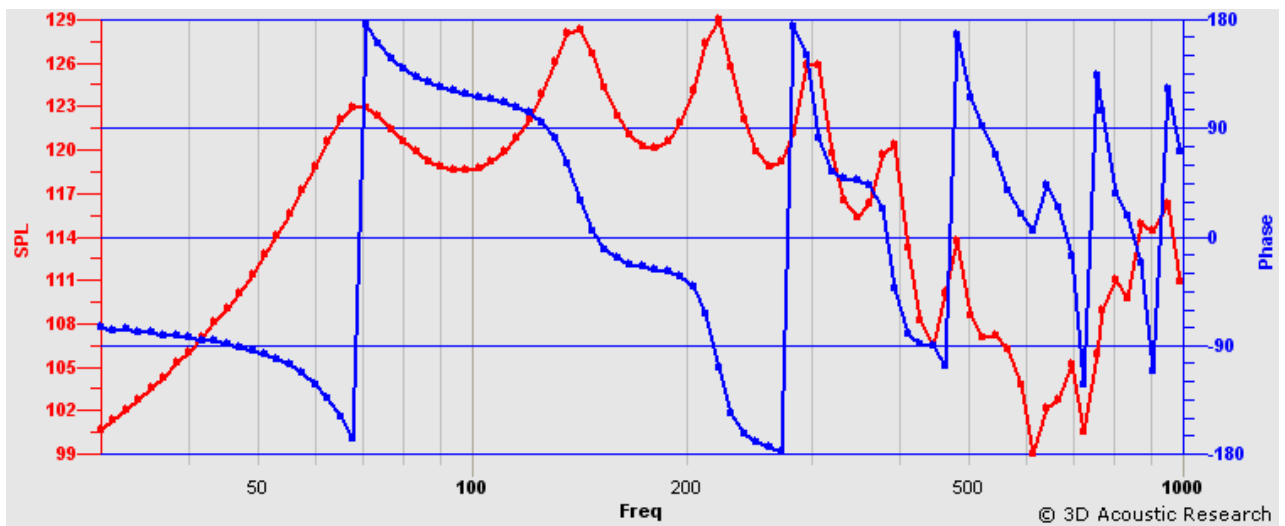
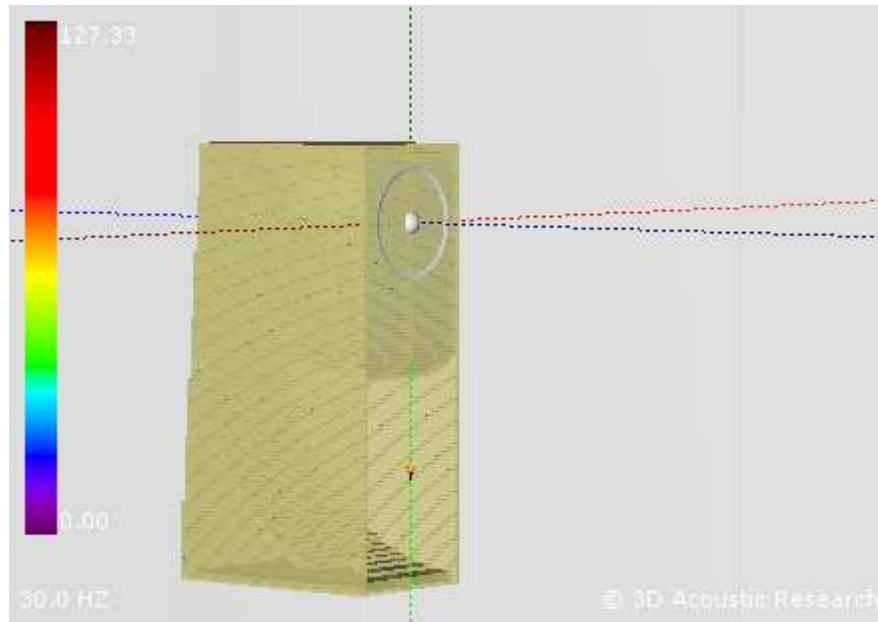
Frequencies (1/24 octave step): 30.00 31.25 32.55 33.91 35.32 36.79 38.33 39.92 41.59 43.32 45.12 47.00 48.96 51.00 53.13 55.34 57.65 60.05 62.55 65.16 67.87 70.70 73.65 76.72 79.91 83.24 86.71 90.32 94.09 98.01 102.09 106.34 110.77 115.39 120.20 125.21 130.42 135.86 141.52 147.42 153.56 159.96 166.62 173.56 180.79 188.33 196.18 204.35 212.86 221.73 230.97 240.60 250.62 261.06 271.94 283.27 295.07 307.37 320.18 333.52 347.41 361.89 376.97 392.67 409.04 426.08 443.83 462.33 481.59 501.65 522.56 544.33 567.01 590.64 615.25 640.88 667.58 695.40 724.38 754.56 770.00 802.08 835.50 870.32 906.58 950.00 989.58 1030.82



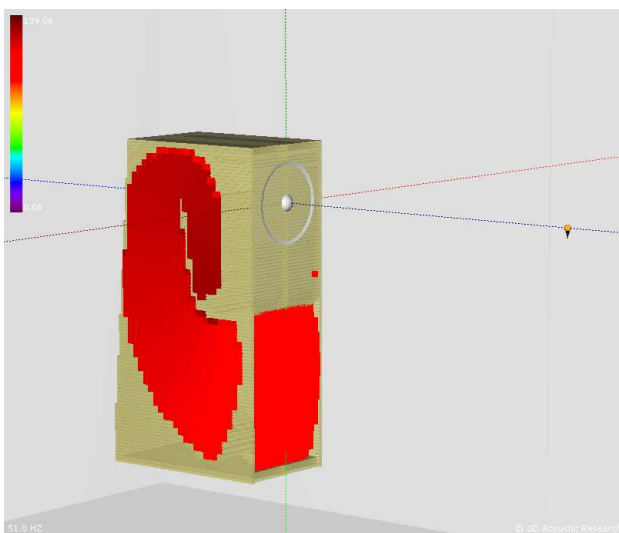
SPL vs. frequency on driver axis 2.83V/1m



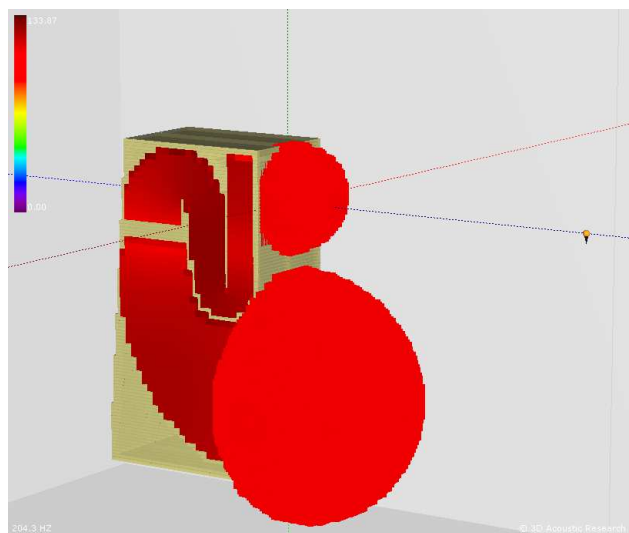
Electrical impedance vs. frequency



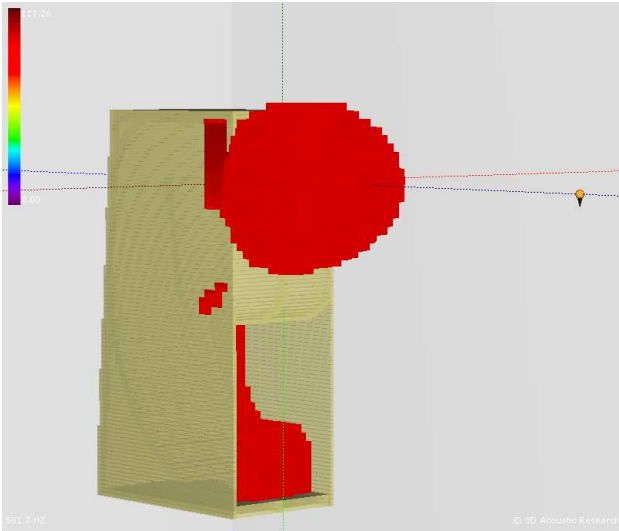
SPL vs frequency at mouth exit



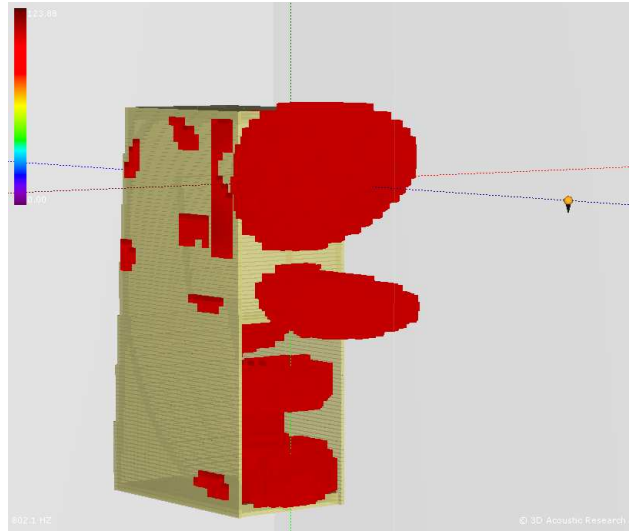
3D points in 110-130 dB range, 51 Hz



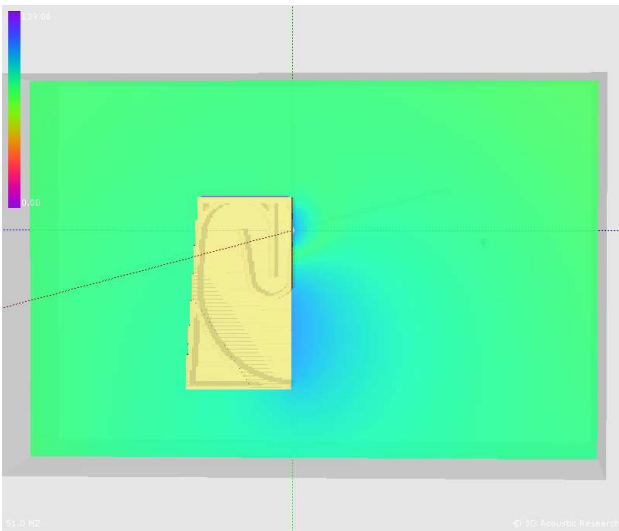
3D points in 110-130 dB range, 204 Hz



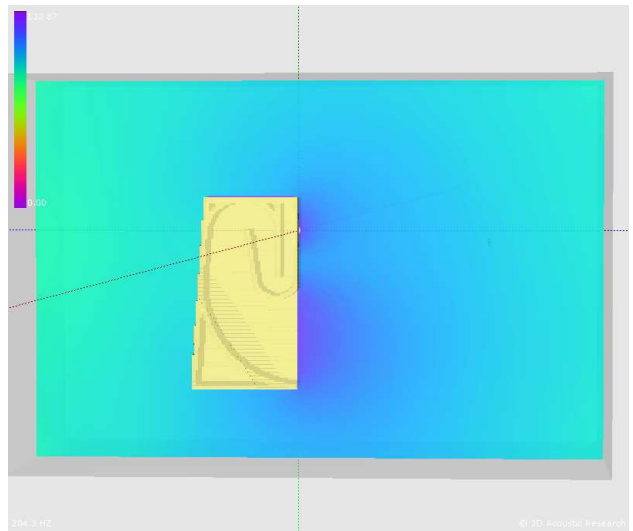
3D points in 110-130 dB range, 501 Hz



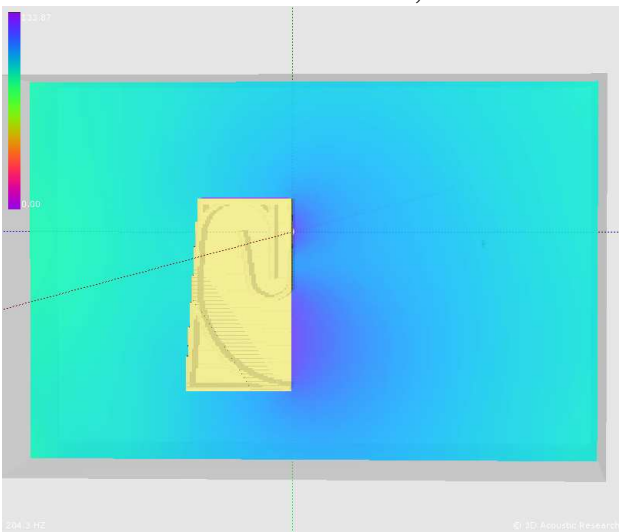
3D points in 110-130 dB range, 802 Hz



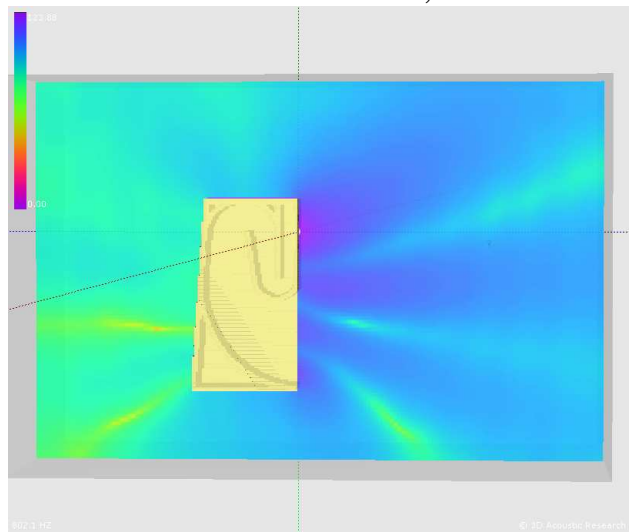
SPL at Cross Section, 51 Hz



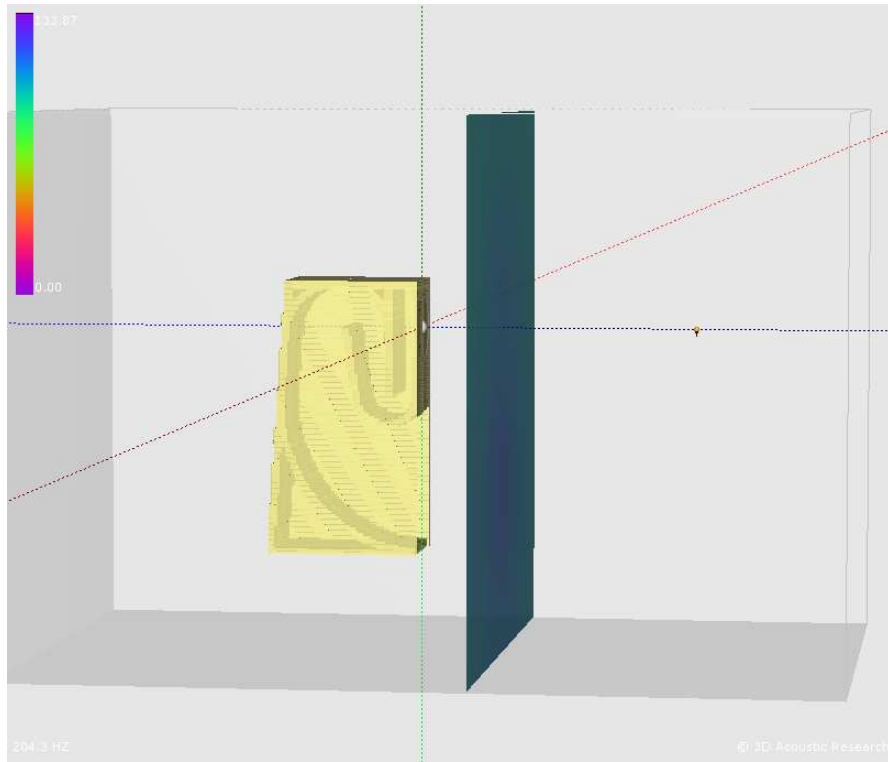
SPL at Cross Section, 204 Hz



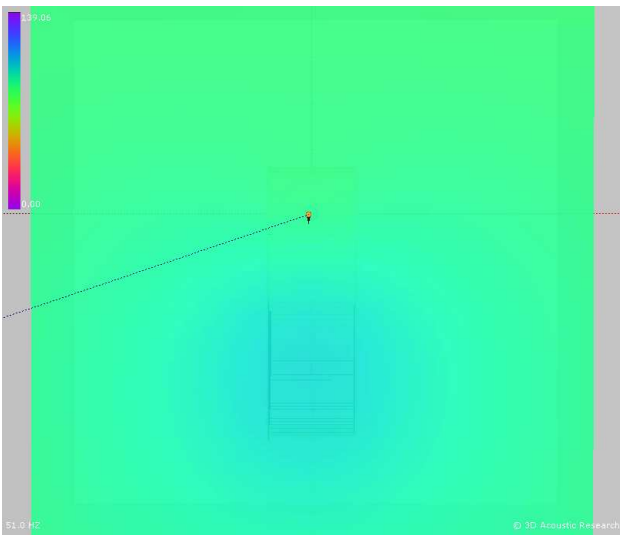
SPL at Cross Section, 501 Hz



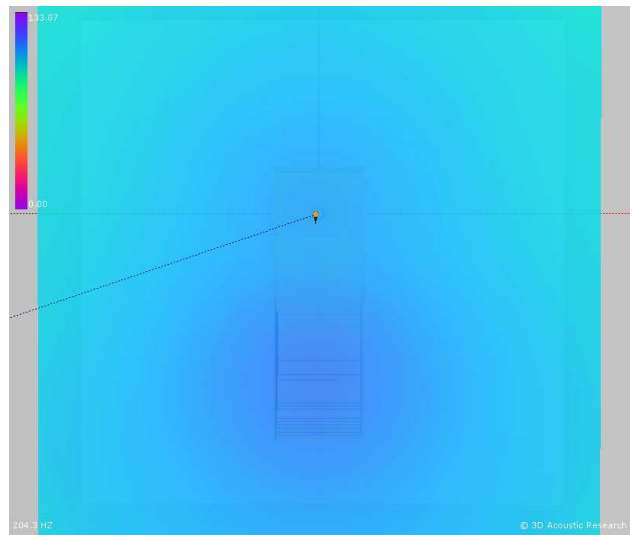
SPL at Cross Section, 802 Hz



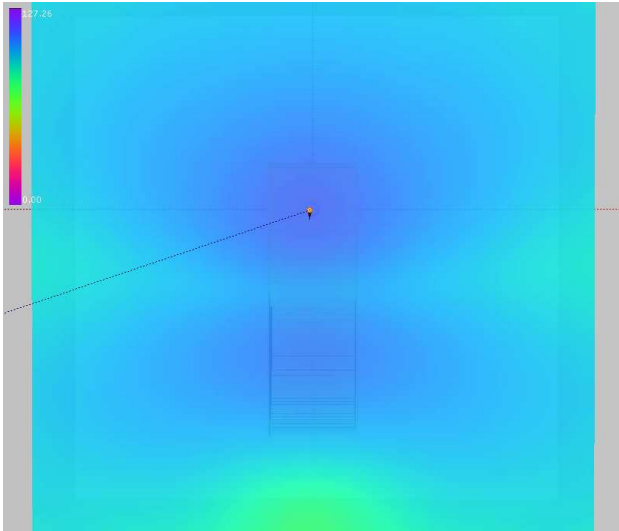
Front plane



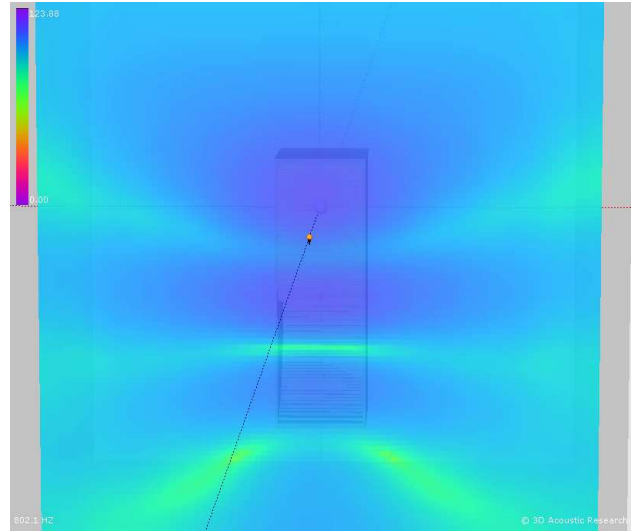
SPL at front plane 51 Hz



SPL at front plane 204 Hz

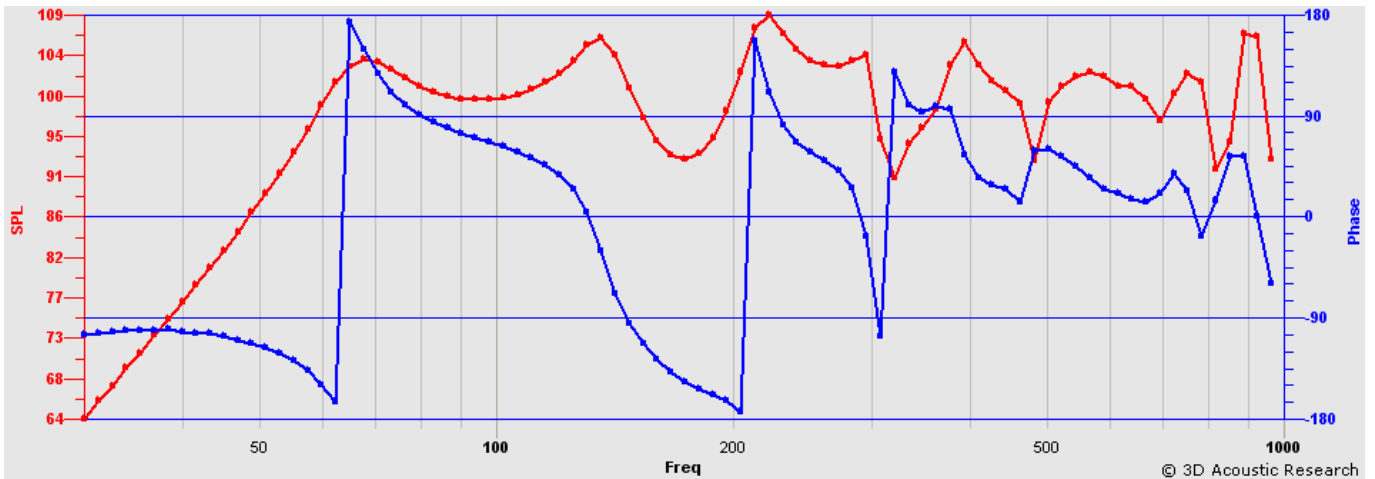


SPL at front plane 501 Hz

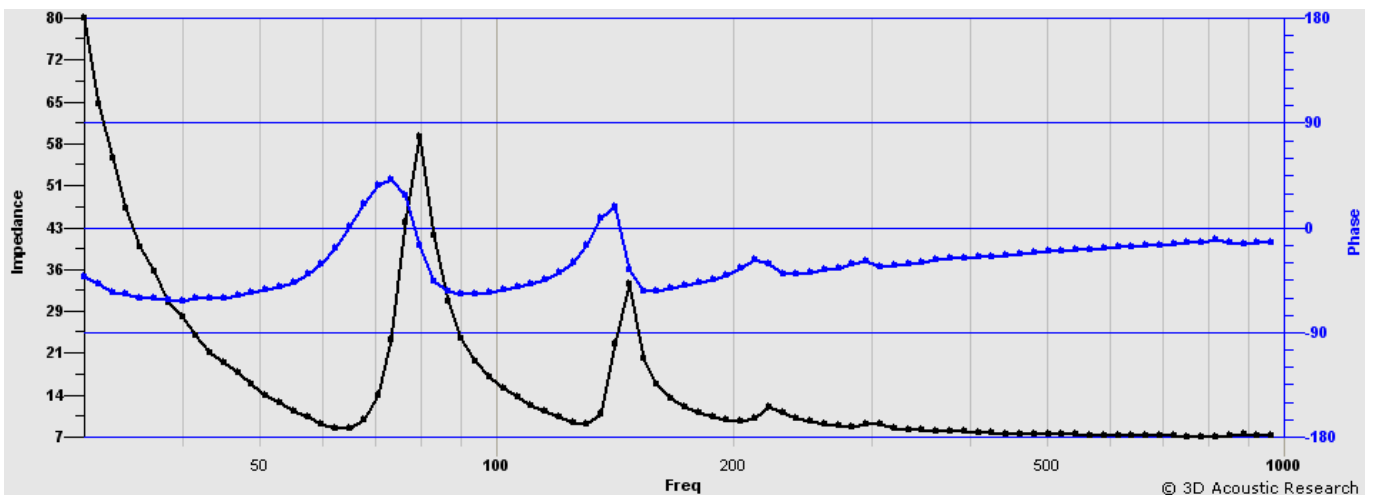


SPL at front plane 802Hz

Simulation for wider Horn (width 43 cm)



SPL vs. frequency on driver axis 2.83V/1m (width 43 cm)



Electrical impedance vs. frequency (width 43 cm)