

AFMG Reflex Report



Creation date: 26/08/2012
AFMG Reflex Version: 1.0.6

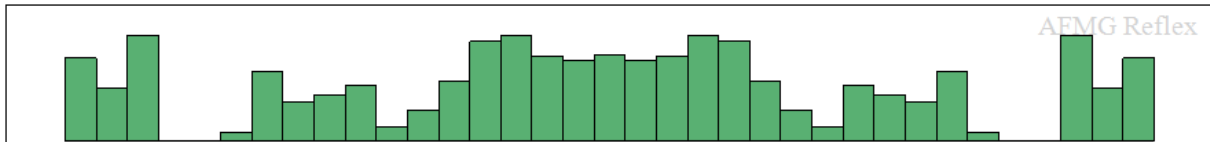
1. Models

1.1 New Model12

1.1.1 Description

N = 36 Optimized Stepped Diffuser (35 wells)
 [Trevor J. Cox, "The Optimization of Profiled Diffusers", 1994]

1.1.2 Model Outline

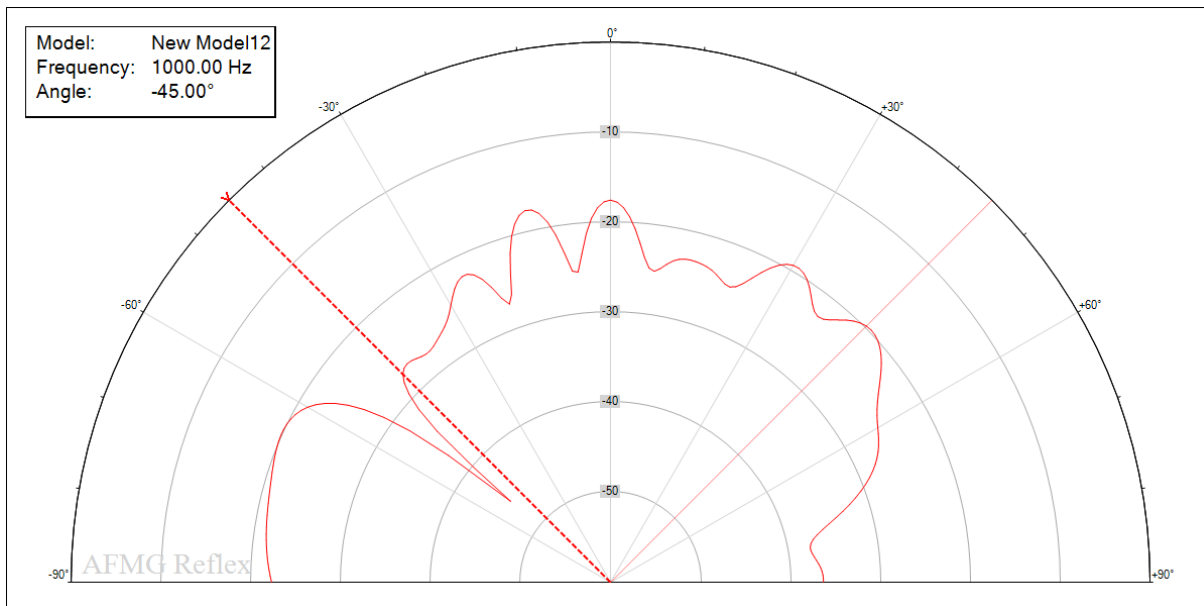


Model Outline

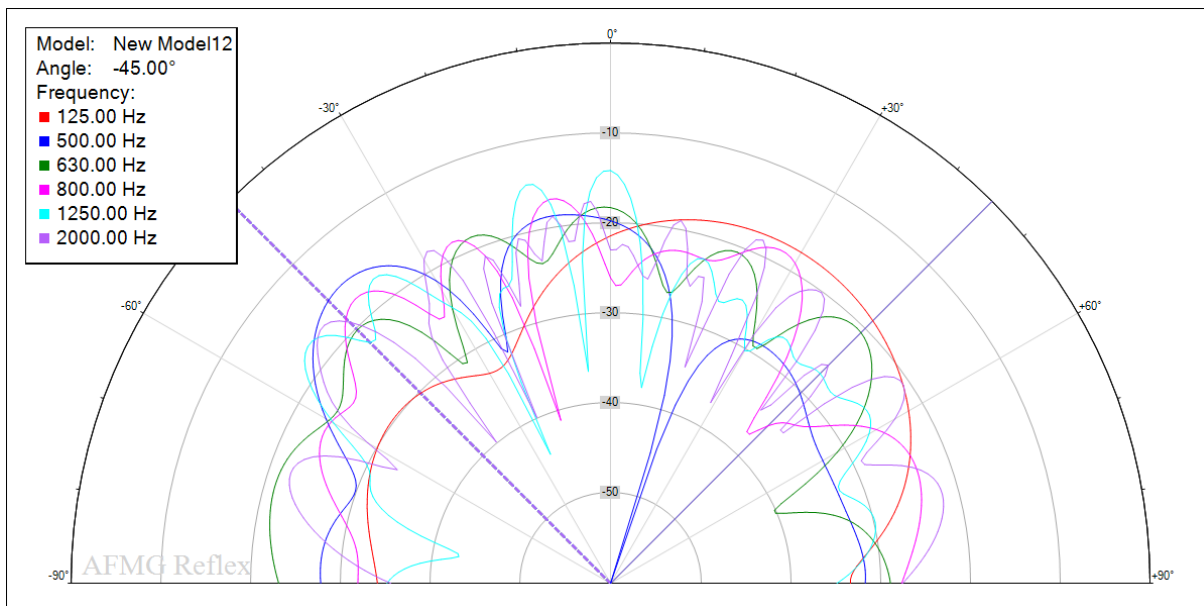
Element no.	Type	Width[cm]	Depth Base[cm]	Depth Top[cm]
1	Rectangle	5.9	15.6	0.0
2	Rectangle	5.9	10.0	0.0
3	Rectangle	5.9	19.9	0.0
4	Rectangle	5.9	0.1	0.0
5	Rectangle	5.9	0.1	0.0
6	Rectangle	5.9	1.6	0.0
7	Rectangle	5.9	13.1	0.0
8	Rectangle	5.9	7.2	0.0
9	Rectangle	5.9	8.7	0.0
10	Rectangle	5.9	10.3	0.0
11	Rectangle	5.9	2.7	0.0
12	Rectangle	5.9	5.8	0.0
13	Rectangle	5.9	11.3	0.0
14	Rectangle	5.9	18.7	0.0
15	Rectangle	5.9	19.9	0.0
16	Rectangle	5.9	15.8	0.0
17	Rectangle	5.9	15.0	0.0
18	Rectangle	5.9	16.1	0.0
19	Rectangle	5.9	15.0	0.0
20	Rectangle	5.9	15.8	0.0
21	Rectangle	5.9	19.9	0.0
22	Rectangle	5.9	18.7	0.0
23	Rectangle	5.9	11.3	0.0
24	Rectangle	5.9	5.8	0.0
25	Rectangle	5.9	2.7	0.0

26	Rectangle	5.9	10.3	0.0
27	Rectangle	5.9	8.7	0.0
28	Rectangle	5.9	7.2	0.0
29	Rectangle	5.9	13.1	0.0
30	Rectangle	5.9	1.6	0.0
31	Rectangle	5.9	0.1	0.0
32	Rectangle	5.9	0.1	0.0
33	Rectangle	5.9	19.9	0.0
34	Rectangle	5.9	10.0	0.0
35	Rectangle	5.9	15.6	0.0

1.1.3 Spatial Response Plots



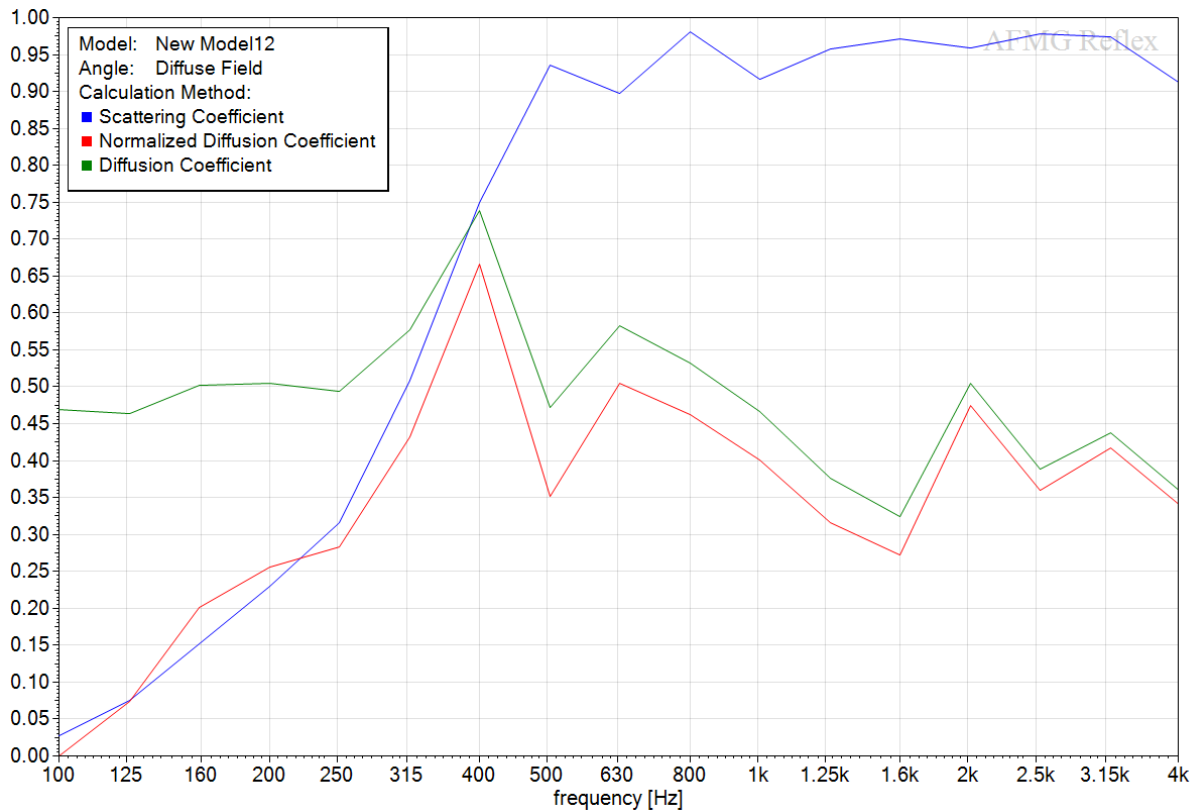
Spatial Response



Spatial Response

1.1.4 Coefficients Plots

Angle: Random Incidence, Frequency Range: [100 Hz, 4000 Hz]

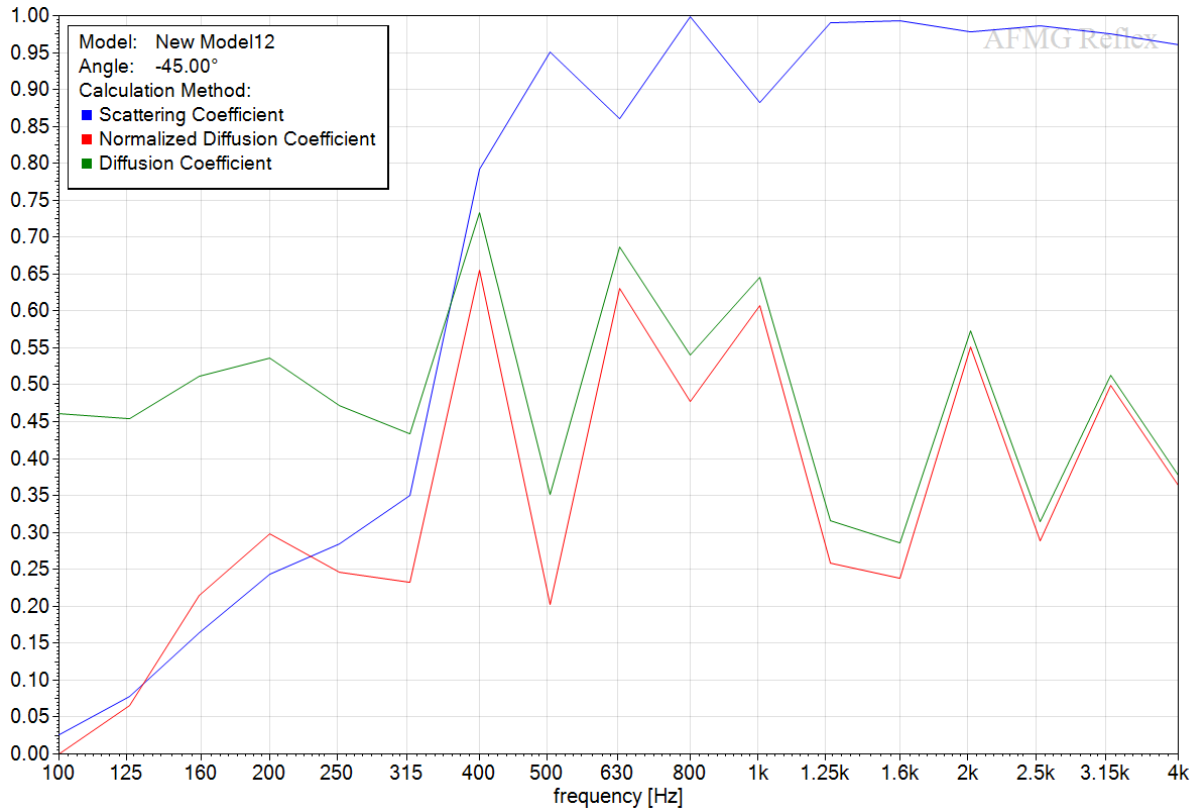


Coefficients

Frequency [Hz]	Scattering Coefficient	Normalized Diffusion Coefficient	Diffusion Coefficient
100	0.027	0.000	0.469
125	0.075	0.074	0.464
160	0.151	0.201	0.503
200	0.229	0.256	0.505
250	0.316	0.284	0.494
315	0.509	0.433	0.577
400	0.750	0.666	0.739
500	0.936	0.351	0.472
630	0.897	0.505	0.582
800	0.981	0.462	0.532
1000	0.916	0.401	0.466
1250	0.957	0.315	0.376
1600	0.971	0.273	0.325
2000	0.959	0.475	0.505
2500	0.978	0.359	0.389
3150	0.974	0.417	0.438

4000	0.911	0.339	0.358
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Angle: -45°, Frequency Range: [100 Hz, 4000 Hz]



Coefficients

Frequency [Hz]	Scattering Coefficient	Normalized Diffusion Coefficient	Diffusion Coefficient
100	0.027	0.000	0.461
125	0.078	0.066	0.455
160	0.163	0.215	0.511
200	0.244	0.298	0.536
250	0.284	0.246	0.472
315	0.350	0.232	0.433
400	0.792	0.655	0.733
500	0.951	0.203	0.351
630	0.860	0.631	0.687
800	0.999	0.477	0.540
1000	0.883	0.607	0.646
1250	0.990	0.258	0.316
1600	0.993	0.239	0.285
2000	0.978	0.552	0.574
2500	0.986	0.288	0.315
3150	0.975	0.499	0.513
4000	0.961	0.359	0.373