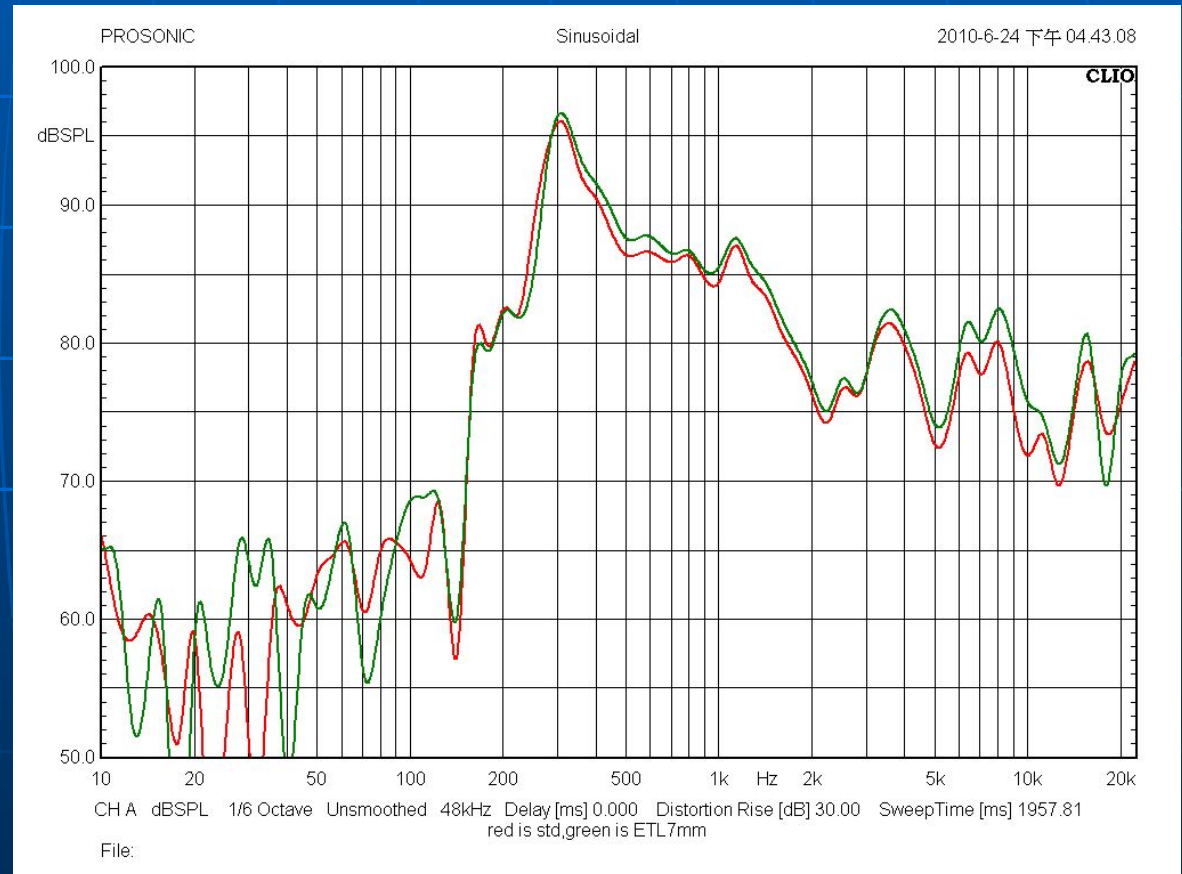


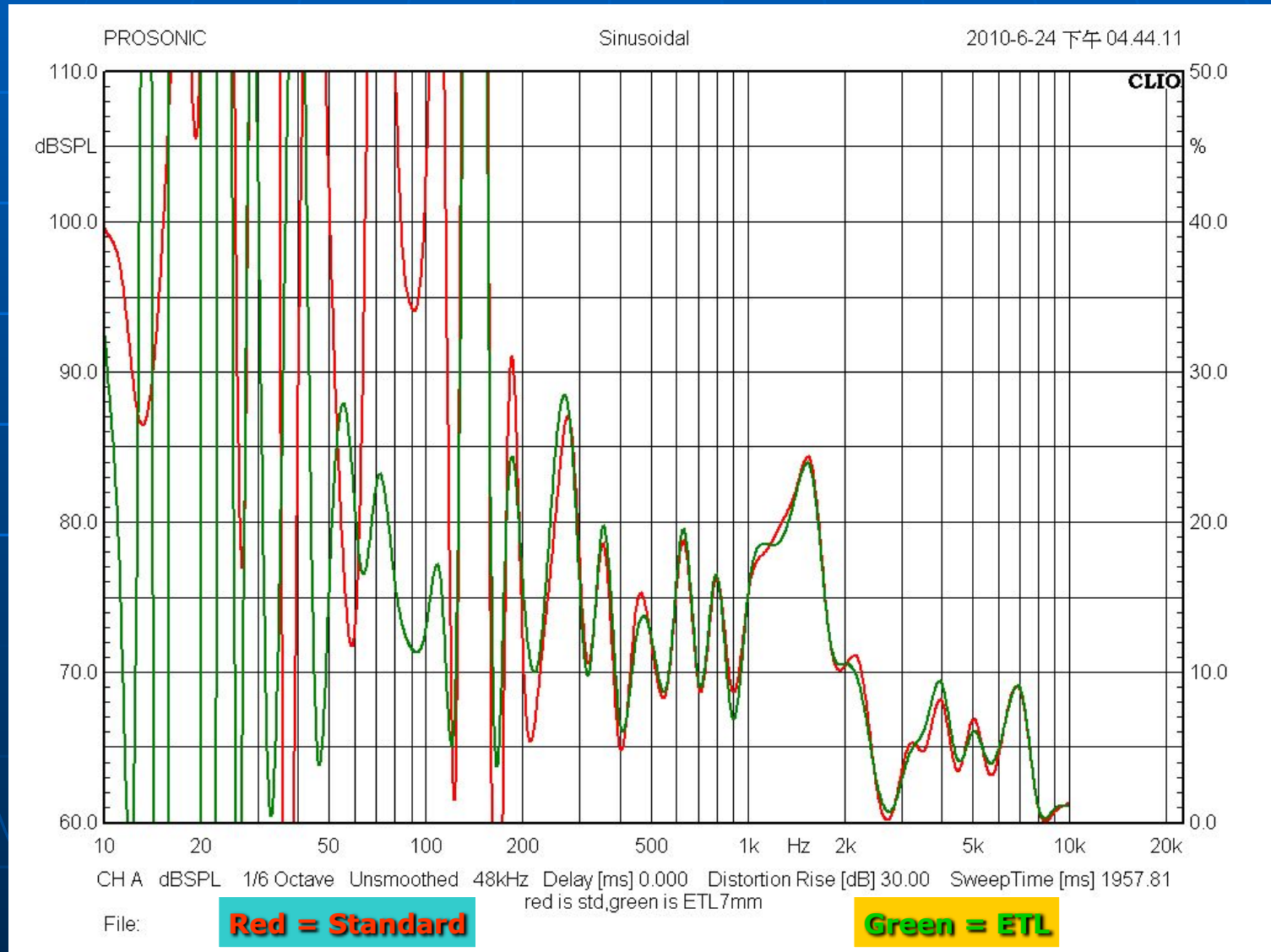
# TV speaker (SPL Comparison)



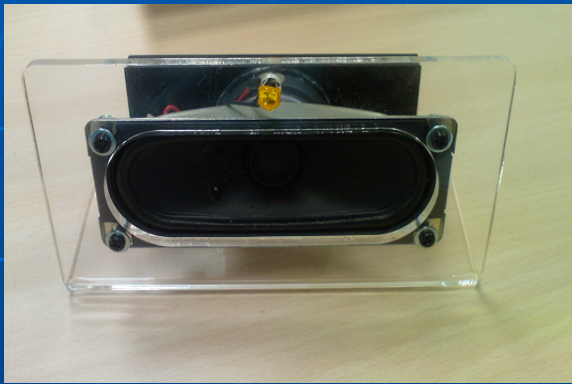
**Red = Standard**

**Green = ETL**

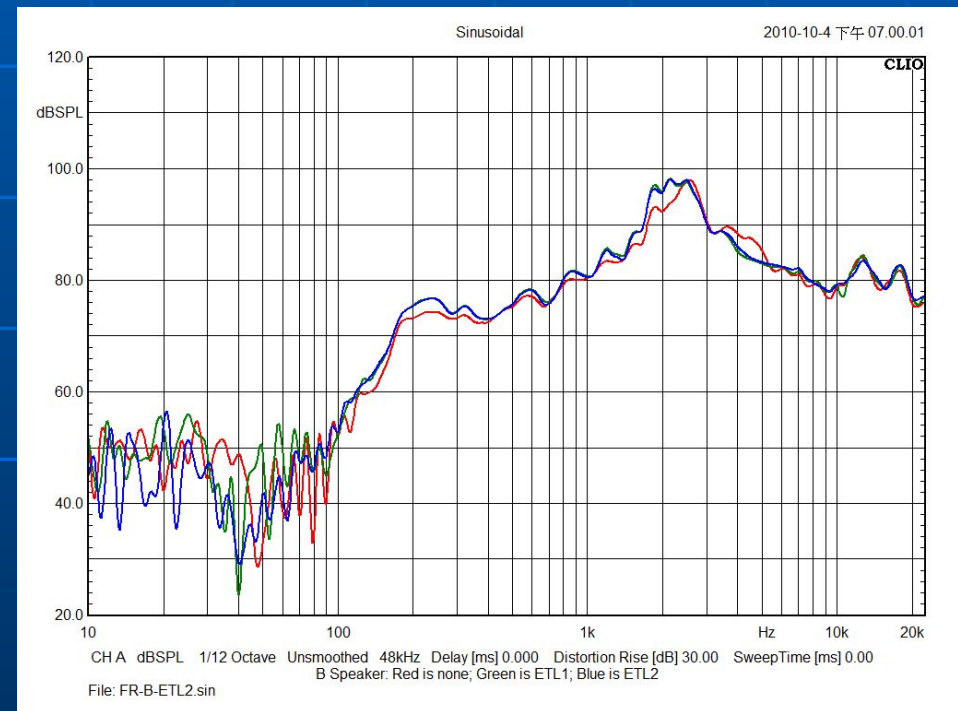
# Speaker Box 06-C (THD Comparison)



# TV Speaker 4 x 11 (SPL Comparison)



**4X11 Speaker Unit Photo**

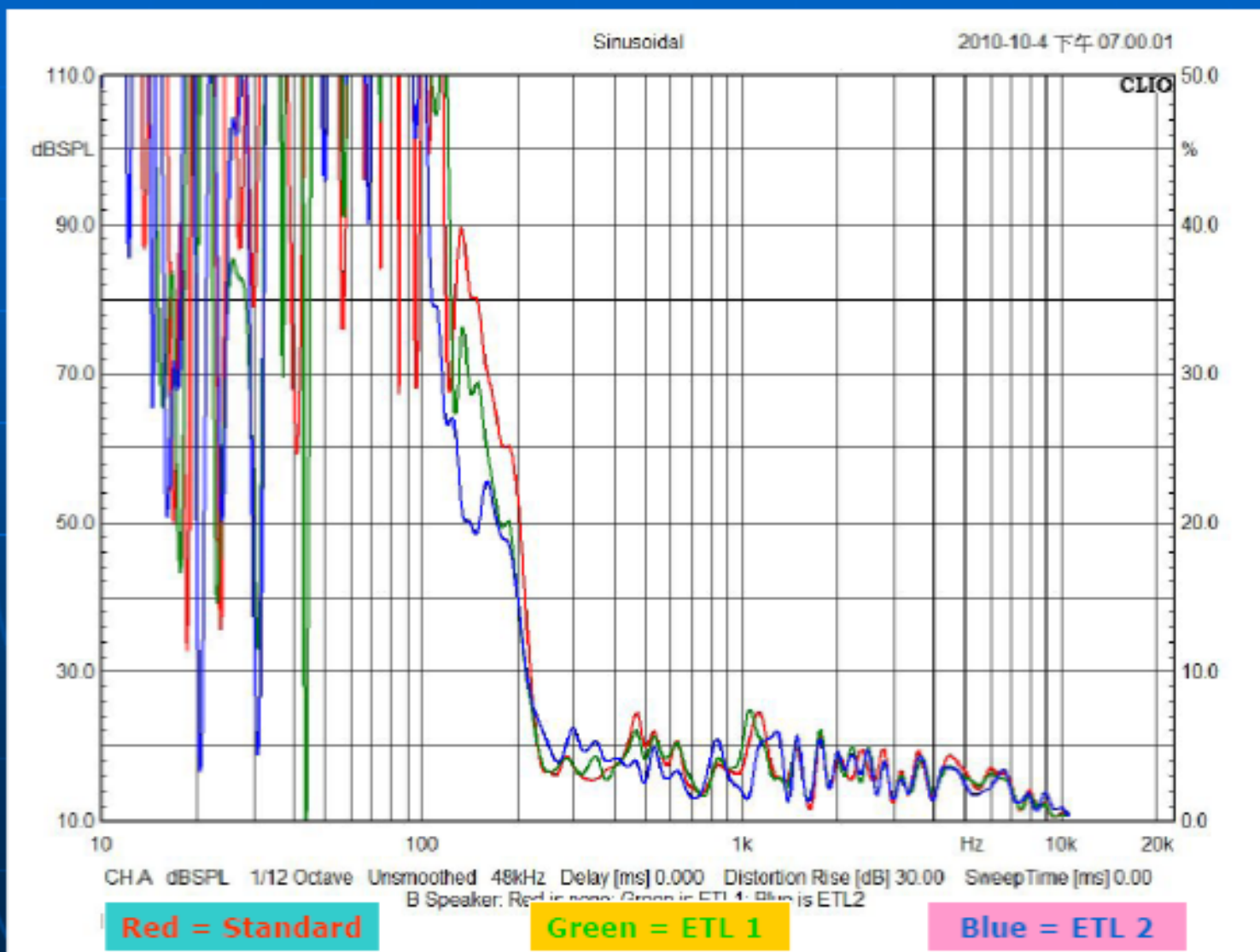


**Red = Standard**

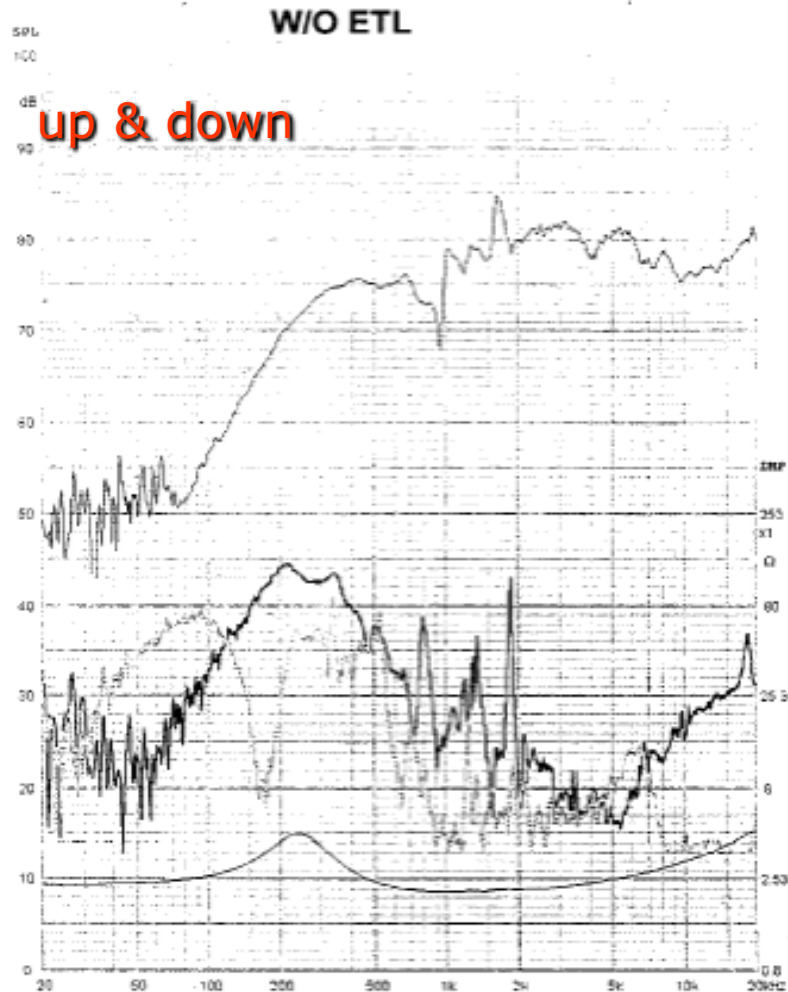
**Green = ETL 1**

**Blue = ETL 2**

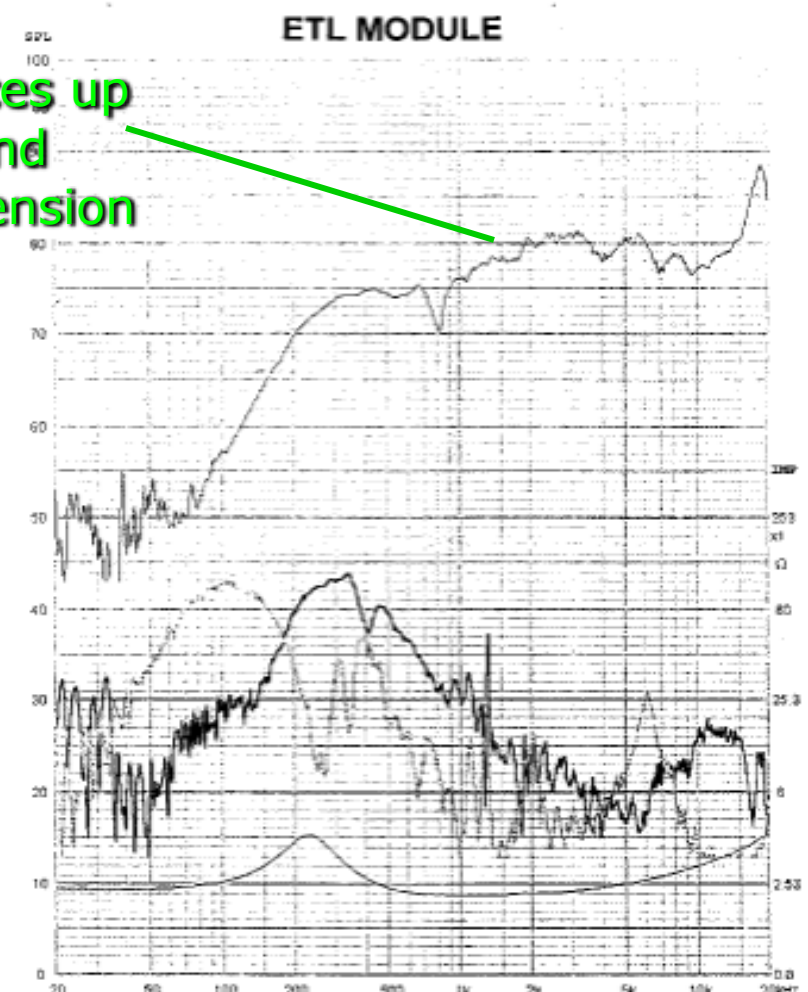
# 4 x 11 TV Speaker (THD Comparison)



# SPL & Harmonic Distortion



ETL reduces up & down and more extension



Customer Model: ZWAY BOX (4 ch)  
 Our Model: W/O T51  
 S/No.: 1  
 SPL(dB)=76.79  
 THD(%)=2.15  
 F0(Hz)=231.7  
 MAX SPL(dB)=80.47 at 1422.3 Hz

Micro-Sp: 2m  
 Input: 1.41V 11W at 600  
 Box: 215 BOX  
 (No. 24-8)  
 Mic: 1/2"  
 Resistor: 100k  
 Date: 2 Oct. 2006  
 Sign:

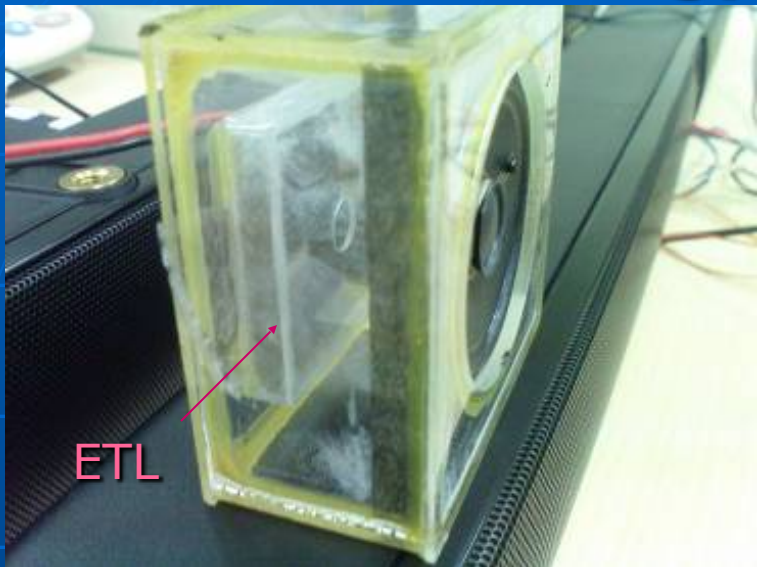
— Freq. res  
 — Imp.  
 — 2nd H.D.  
 — 3rd H.D.

Customer Model: ZWAY BOX (4 ch)  
 Our Model: W/T51  
 S/No.: 2  
 SPL(dB)=75.86  
 THD(%)=2.26  
 F0(Hz)=237.5  
 MAX SPL(dB)=85.67 at 10443.2 Hz

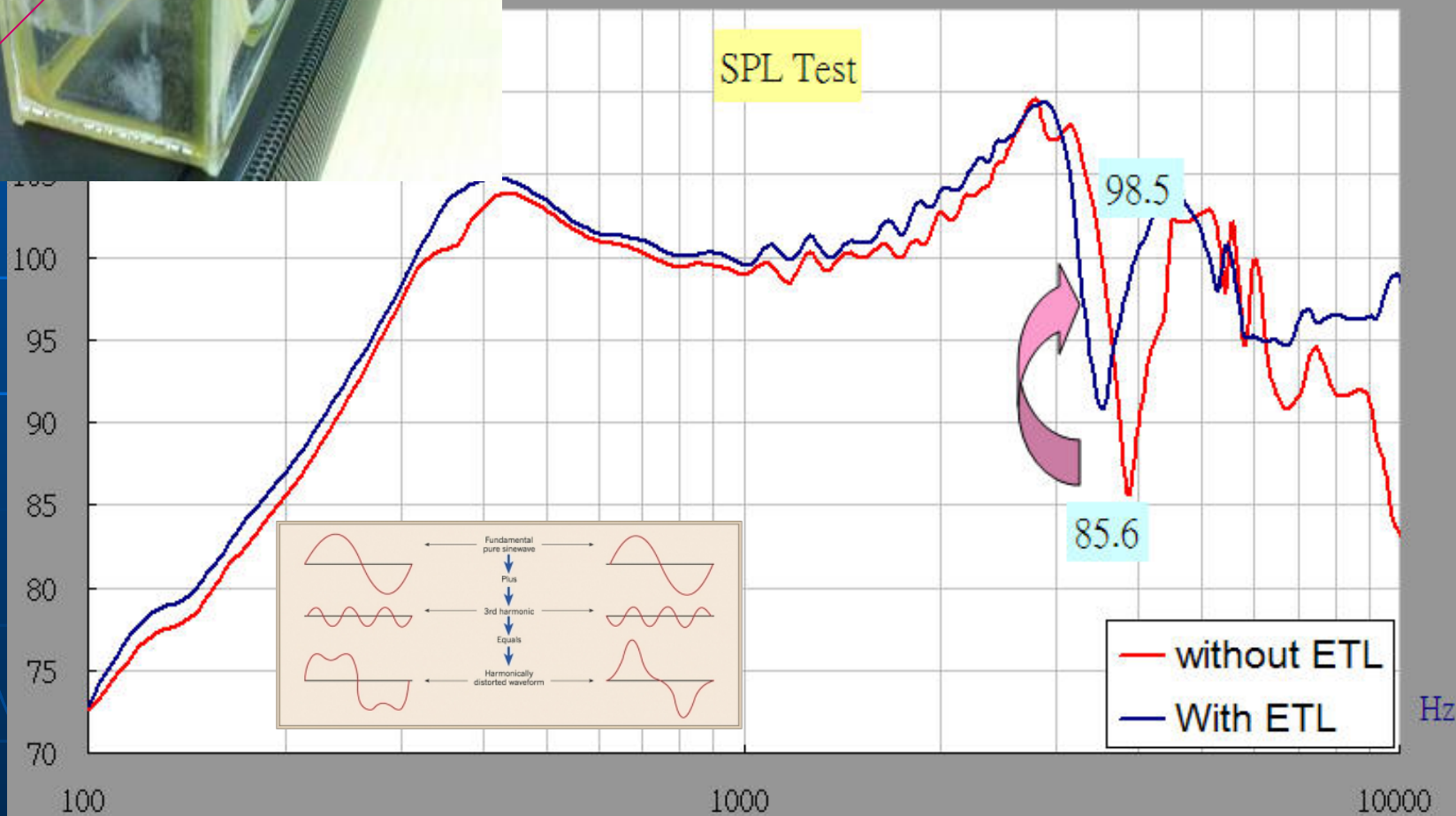
Micro-Sp: 2m  
 Input: 1.41V 11W at 600  
 Box: 215 BOX  
 (No. 24-8)  
 Mic: 1/2"  
 Resistor: 100k  
 Date: 2 Oct. 2006  
 Sign:

— Freq. res  
 — Imp.  
 — 2nd H.D.  
 — 3rd H.D.

# SPL response

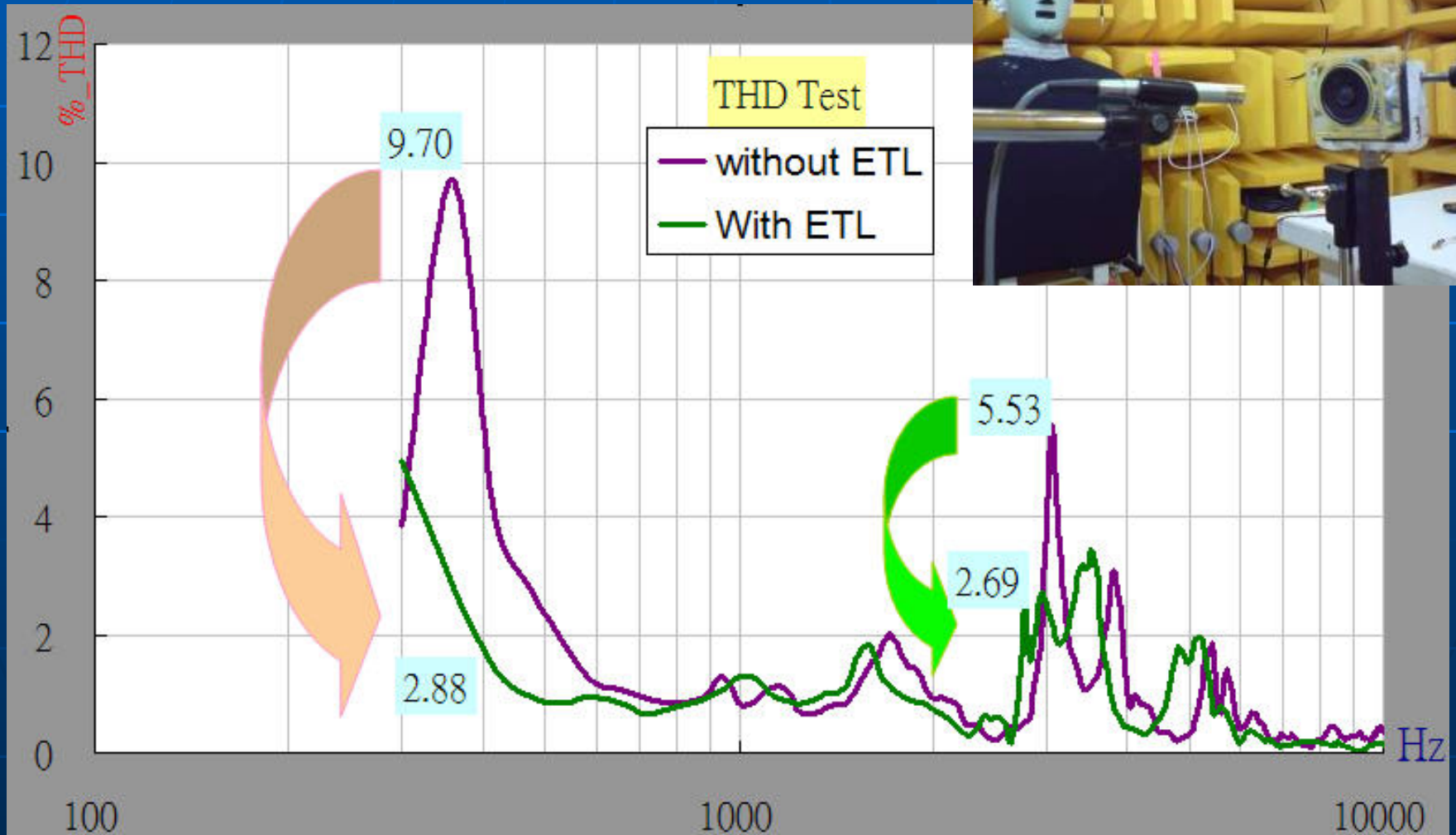


1. SPL at 100~3000Hz up 1~2dB, middle & high is more clear
2. SPL at 3500Hz above up 8~13dB, reduce up-down, get more detail



# THD% Total Harmonic Distortion

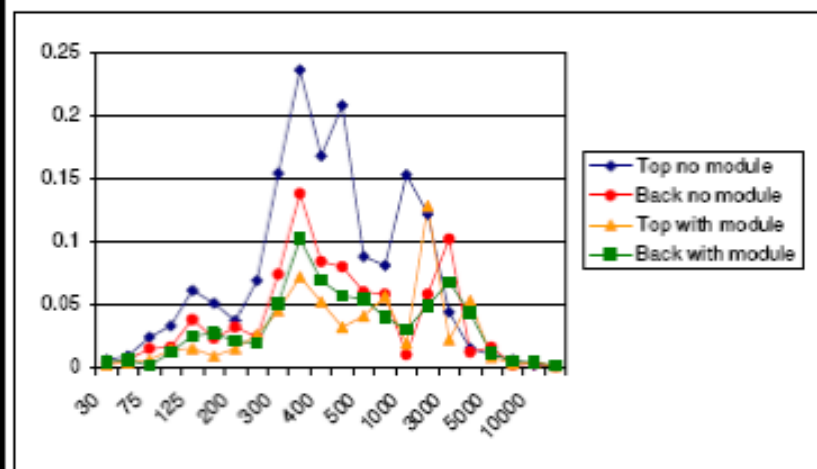
1. THD at 350Hz decreases by 70%
2. THD at 3000Hz decreases by 51%
3. After ETL 400~2.8K Hz THD% is below 2%,  
Distortion is greatly reduced.



# (TBI ETL – MODULE VIBRATION TEST)

Fre (Hz)	Non Module		With Module	
	Top no module	Back no module	Top with module	Back with module
30	0.006	0.003	0.002	0.004
50	0.009	0.006	0.004	0.006
75	0.024	0.015	0.006	0.0012
100	0.033	0.016	0.014	0.012
125	0.061	0.038	0.015	0.025
150	0.051	0.023	0.009	0.027
200	0.037	0.032	0.015	0.021
250	0.069	0.024	0.026	0.019
300	0.154	0.074	0.045	0.051
350	0.236	0.138	0.072	0.102
400	0.168	0.084	0.052	0.069
450	0.208	0.08	0.032	0.057
500	0.088	0.06	0.041	0.054
600	0.0809	0.058	0.056	0.04
1000	0.153	0.01	0.019	0.03
2000	0.122	0.058	0.128	0.049
3000	0.044	0.102	0.022	0.068
4000	0.015	0.012	0.053	0.043
5000	0.01	0.016	0.008	0.011
8000	0.006	0.002	0.003	0.005
10000	0.002	0.003	0.004	0.004
12000	0.001	0.001	0.001	0.001

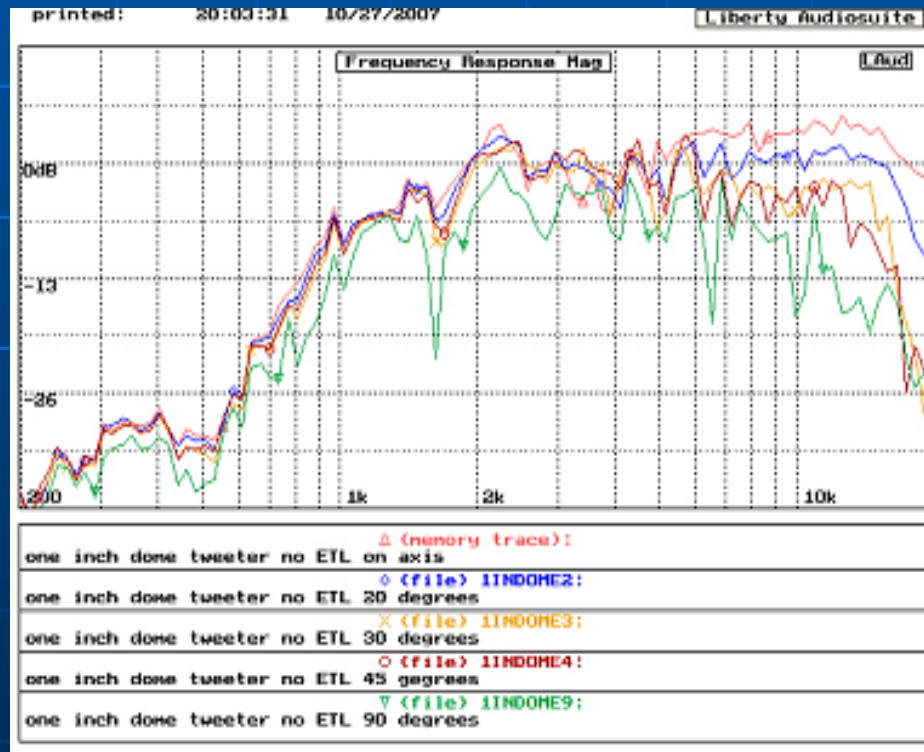
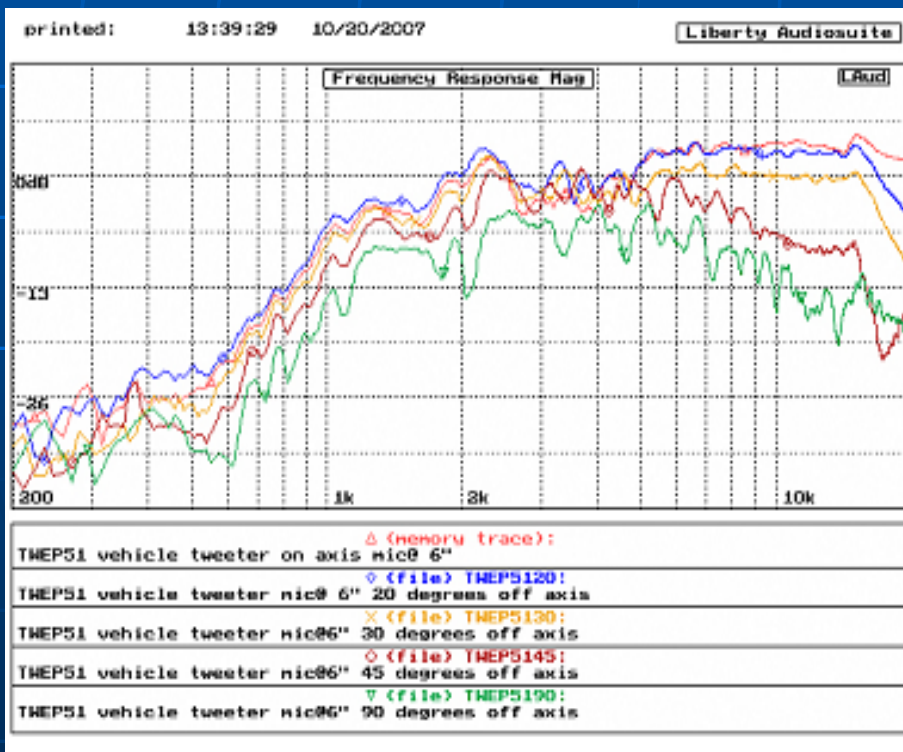
Blue and red lines are without ETL Module, showing higher vibration of the speaker box.



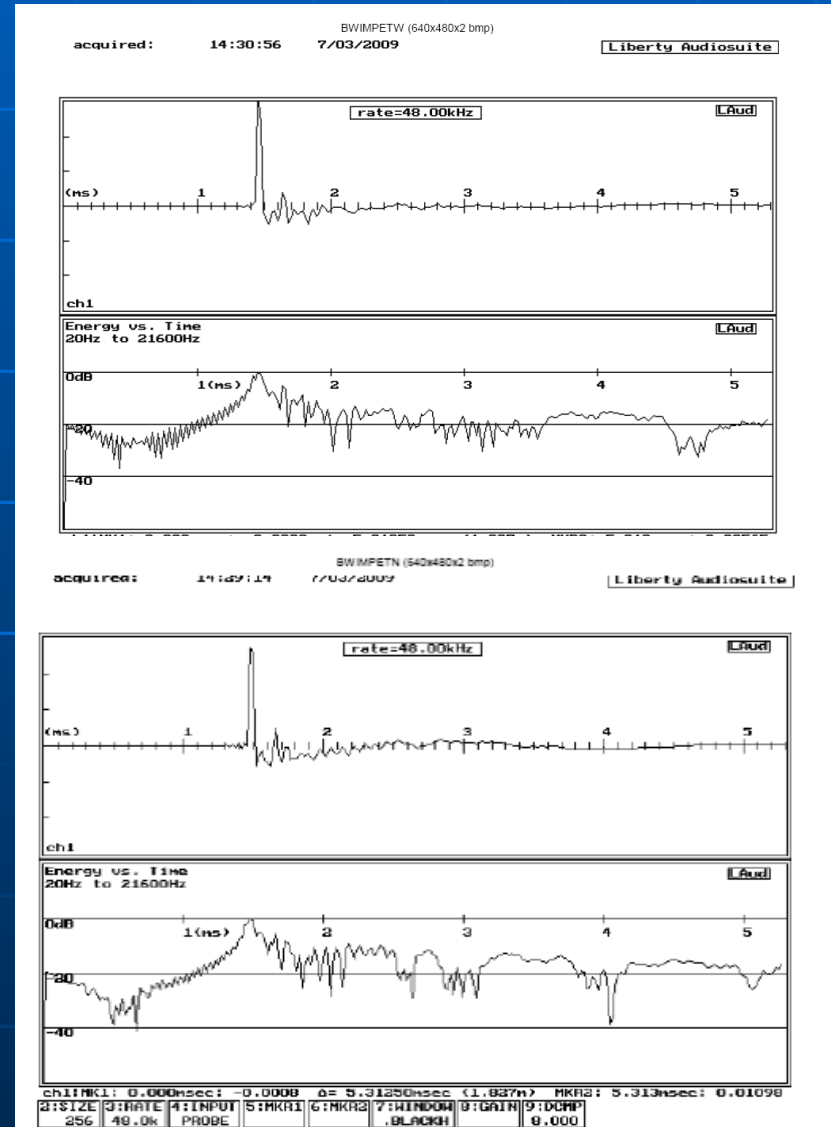
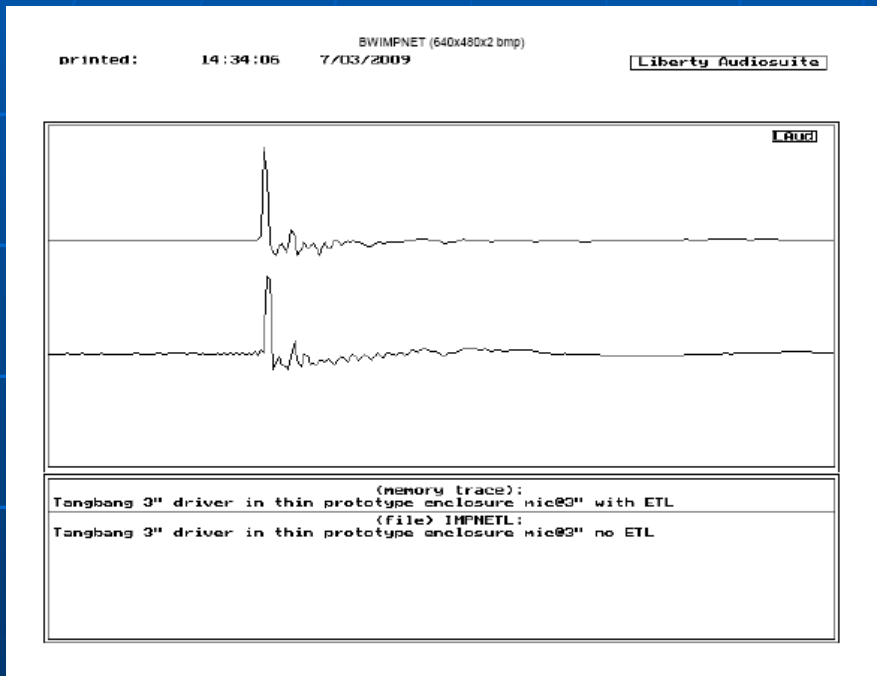


# Sound Dispersion (Angle) Measure

Measurement from 20°, 30°, 45° & 90° off axis of the speaker. The speaker with ETL Module shows a smoother graph (left diagram). ETL Technology will let listeners enjoy the same high quality music from different angles.



# Impulse comparison

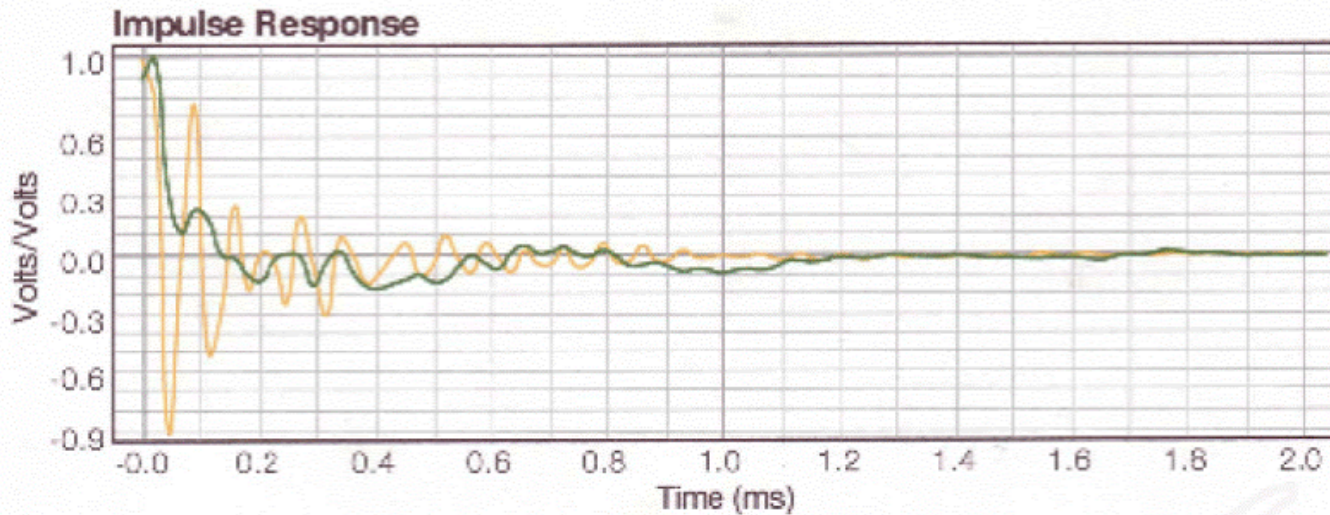


# Impulse comparison

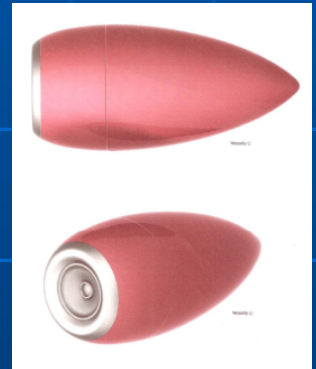
TBI

HDSS®

## MAJESTIC DIAMOND IR IMPULSE RESPONSE



MD-1R Impulse Response vs. High Quality 3" System



# Impulse comparison

