

Data measurement and analysis comparison between Sample Champion© and MLSSA™ system

Room Acoustics measurements performed in a big hall.

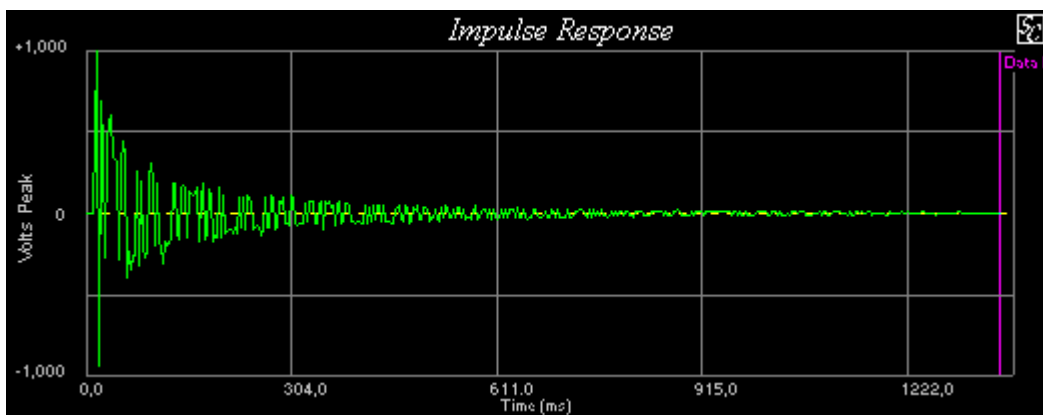
Measurement system 1:

- **Sample Champion**©
- Layla (16 bit) soundcard
- Sennheiser KE-4 Electret preamplified microphone

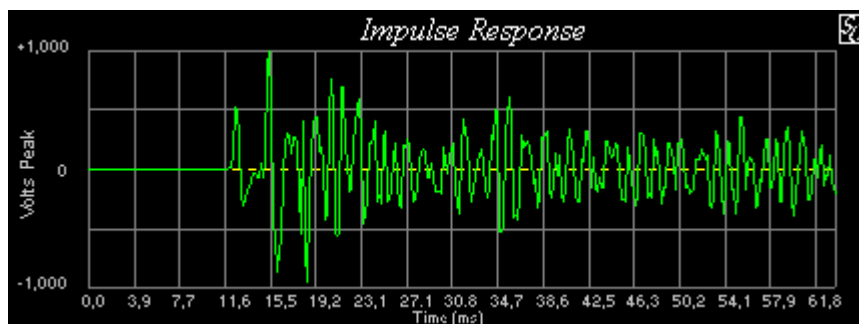
Measurement system 2:

- **MLSSA**™
- Sennheiser KE-4 Electret preamplified microphone

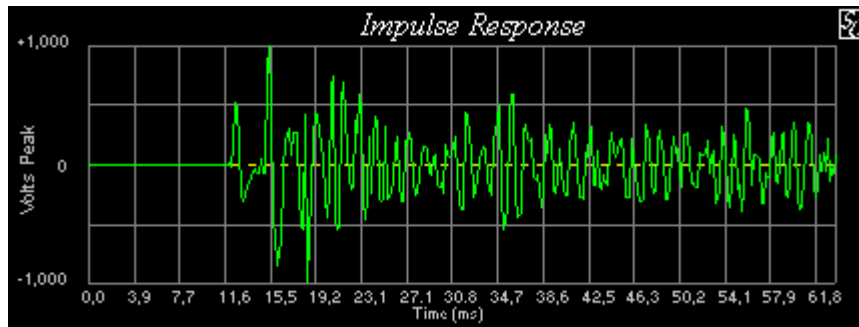
Measured Impulse Responses:



Impulse Response measured with **Sample Champion** (64K samples)



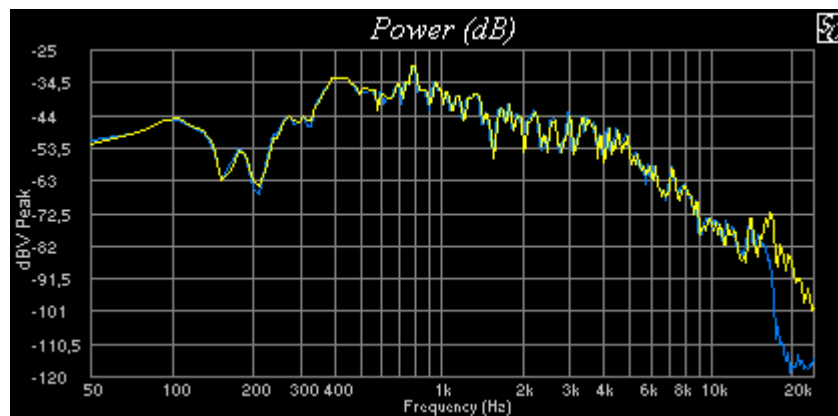
Impulse Response measured with **Sample Champion** (first 65 ms)



Impulse Response measured with **MLSSA** (first 65 ms)

Both impulses have been normalized for comparison purposes.

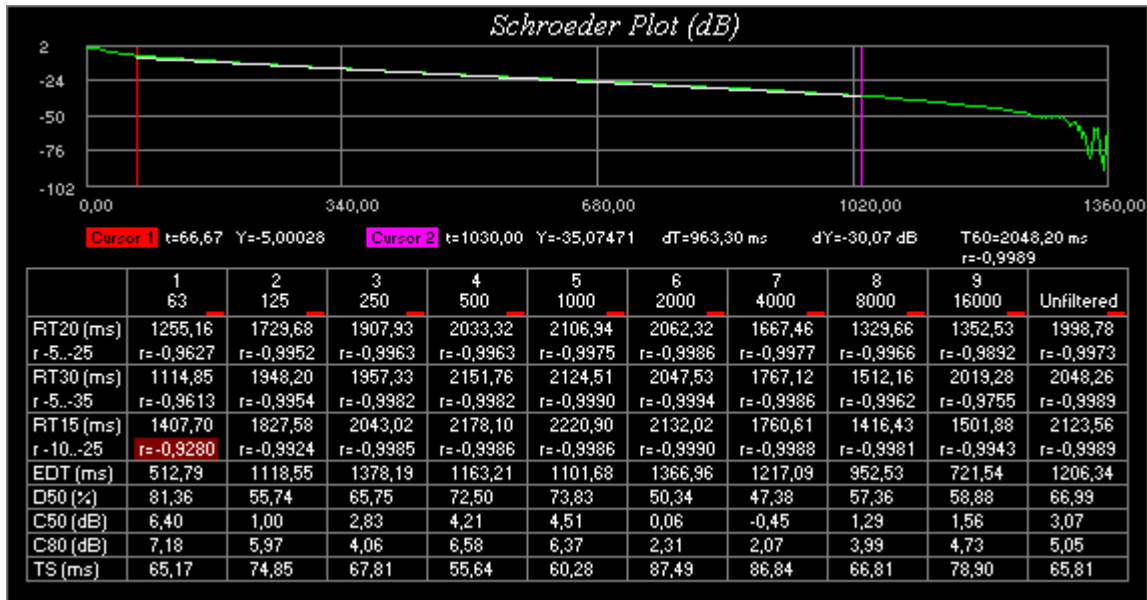
Frequency analysis of first 4K samples of the room impulses:



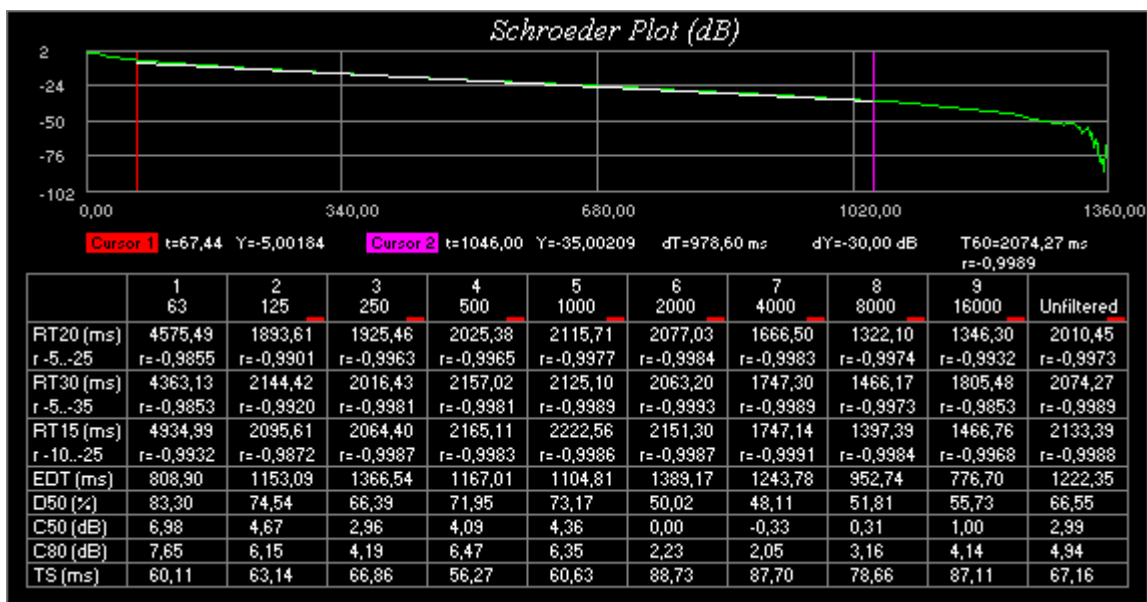
Frequency analysis
(blue=**MLSSA**, yellow=**Sample Champion**)

Room acoustics parameters:

Impulse measured with **Sample Champion**, analyzed with **Sample Champion Room Acoustics** plugin:



Impulse measured with **MLSSA**, analyzed with **Sample Champion Room Acoustics** plugin:



Impulse measured with **Sample Champion**, analyzed with **MLSSA**:

IEC 1/1-Octave Band Acoustical Parameters								
Band Parameter	2 63	3 125	4 250	5 500	6 1000	7 2000	8 4000	500- 4000
S [dB-SPL]	--	--	--	--	--	--	--	SPL-weighted Averages
N [dB-SPL]	--	--	--	--	--	--	--	
SNR [dB]	--	24.3	29.6	30.1	29.1	27.6	31.7	3.866
C50 [dB]	6.51	5.67	2.87	4.41	4.57	0.16	-0.43	5.990
C80 [dB]	8.56	6.57	4.18	6.65	6.42	2.36	2.09	68.878
D50 [%]	81.7	78.7	65.9	73.4	74.1	50.9	47.5	61.328
TS [ms]	49.6	52.2	63.5	53.3	58.7	86.1	86.2	1.167
EDT-10dB [s]	0.752	1.103	1.360	1.147	1.094	1.365	1.215	2.036
RT-20dB [s]	6.364	1.740	1.910	2.035	2.111	2.064	1.668	-0.997
(-5:-25) r	-0.946	-0.995	-0.996	-0.996	-0.997	-0.999	-0.998	2.118
RT-30dB [s]	5.977	1.975	1.964	2.165	2.137	2.057	1.769	-0.999
(-5:-35) r	-0.931	-0.995	-0.998	-0.998	-0.999	-0.999	-0.999	2.159
RT-USER [s]	7.308	1.842	2.045	2.181	2.227	2.134	1.761	-0.999
(-10:-25) r	-0.962	-0.992	-0.999	-0.999	-0.999	-0.999	-0.999	

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Impulse measured with **MLSSA**, analyzed with **MLSSA**:

IEC 1/1-Octave Band Acoustical Parameters								
Band Parameter	2 63	3 125	4 250	5 500	6 1000	7 2000	8 4000	500- 4000
S [dB-SPL]	--	--	--	--	--	--	--	SPL-weighted Averages
N [dB-SPL]	--	--	--	--	--	--	--	
SNR [dB]	--	26.5	29.3	30.3	28.4	28.1	31.9	3.874
C50 [dB]	7.11	5.52	3.01	4.42	4.59	0.04	-0.31	5.992
C80 [dB]	8.83	6.26	4.33	6.64	6.46	2.27	2.09	68.875
D50 [%]	83.7	78.1	66.7	73.5	74.2	50.2	48.2	61.969
TS [ms]	43.6	54.1	62.5	54.0	59.0	87.4	87.0	1.175
EDT-10dB [s]	0.741	1.137	1.346	1.151	1.097	1.387	1.241	2.037
RT-20dB [s]	4.573	1.883	1.894	2.030	2.117	2.080	1.665	-0.997
(-5:-25) r	-0.986	-0.990	-0.997	-0.996	-0.998	-0.998	-0.998	2.126
RT-30dB [s]	4.361	2.131	1.982	2.181	2.133	2.074	1.742	-0.998
(-5:-35) r	-0.985	-0.992	-0.998	-0.998	-0.999	-0.999	-0.999	2.155
RT-USER [s]	4.932	2.082	2.028	2.171	2.225	2.155	1.745	-0.999
(-10:-25) r	-0.993	-0.987	-0.999	-0.998	-0.999	-0.999	-0.999	

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