SOUNDFRAME

Acoustic Inspection Test Report [Pre, Interim & Post]

PROJECT: ATRIUM SPACE.

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14th MAY 2025

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TEST EQUIPMENT: TEST METERS:

1) REAL TIME AUDIO ANALYSER – NTi AL1 Acoustic Analyzer [Sr# ATU671B2A2] with Microphone as per IEC_61672 [ASTM S1.4] standard,
2) REAL TIME AUDIO ANALYSER –NTi XL2 [Serial No. A2A-02292-D2] with Microphone as per IEC_61672 [ASTM S1.4] standard for Background Noise Measurements
2) PHONIC PAA6 REAL TIME AUDIO ANALYSER [Sr# Sr No. : BAO0P70229].
AL1 will be measurement device, while PAA6 will be used for Signal Generation.

TEST SPEAKERS: EVERSE-8. Set at MAX SPL of 100dBA with PINK NOISE TEST Signal.

TEST GEAR CALIBRATION: Both Test Meters have been calibrated by IDEMI-MUMBAI (www.idemi.org). IDEMI is accredited to NPL-DELHI (National Physical Laboratory).
The Microphone was calibrated for deviations from indicated value at the reference frequency 1kHz @ 74,84,94,104 & 114 dB for 'A' & 'C" weighting network by using calibrated sound level calibrator (traceable to NPL vide their calibration certificate number 20031404/D1.07/C-002).
The readings taken were normalized for the deviations.
Test Certificates copy attached separately.

TEST DATE: [redacted]
TEST SIGNAL: a) PINK NOISE (A-Weighted) burst of 10 secs to 15 secs. Based on Room Volume.

TEST SETUP LOCATION: ATRIUM.

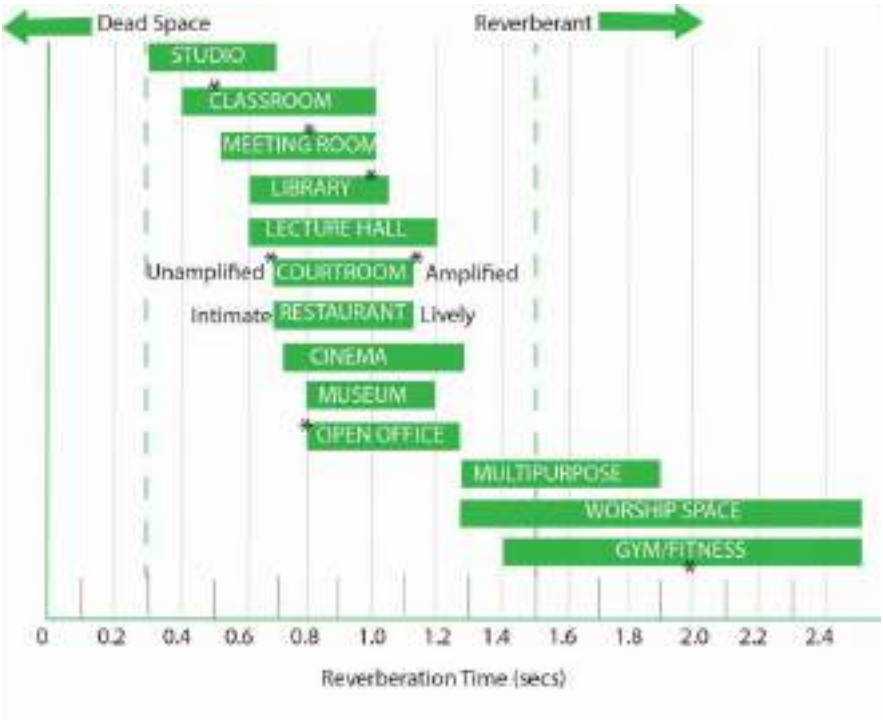


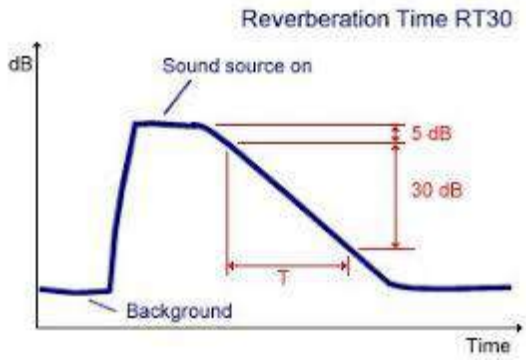


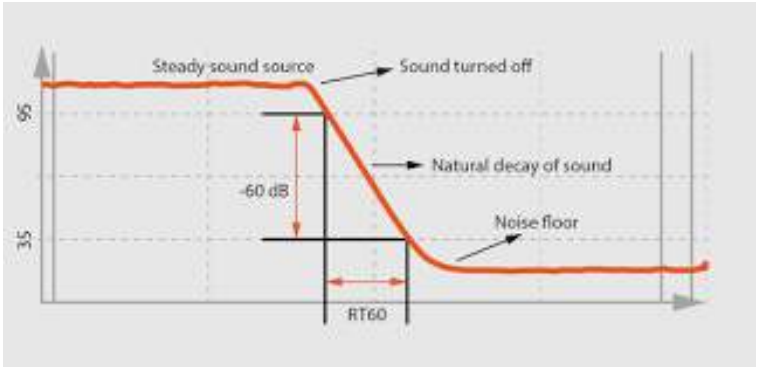

NOTE on REVERBERATION TIME (Rt60):
OPTIMAL RT60 ACOUSTICS IN LARGE SPACES

The complex topic of acoustics is extremely important in the workplace, yet is far too often neglected - even though around 70 percent of all employees work in offices. In office and work environments unwanted noise is often perceived as a disruptive factor which severely affects both performance and the local feel-good factor - especially in open-plan offices. Studies show that acoustics is one of the most important factors for our well-being: any investment in good room acoustics is therefore an investment in satisfaction, health, concentration and thus efficiency of employees. A forward-looking planned or subsequently optimised room acoustic is therefore worthwhile and pays off through lasting effects. Acoustic Solutions for open-spaces now can be deployed, resulting in higher employee satisfaction and increased productivity through sound absorption and sound shielding - without the need for structural changes. Existing spaces can be also easily retrofitted.

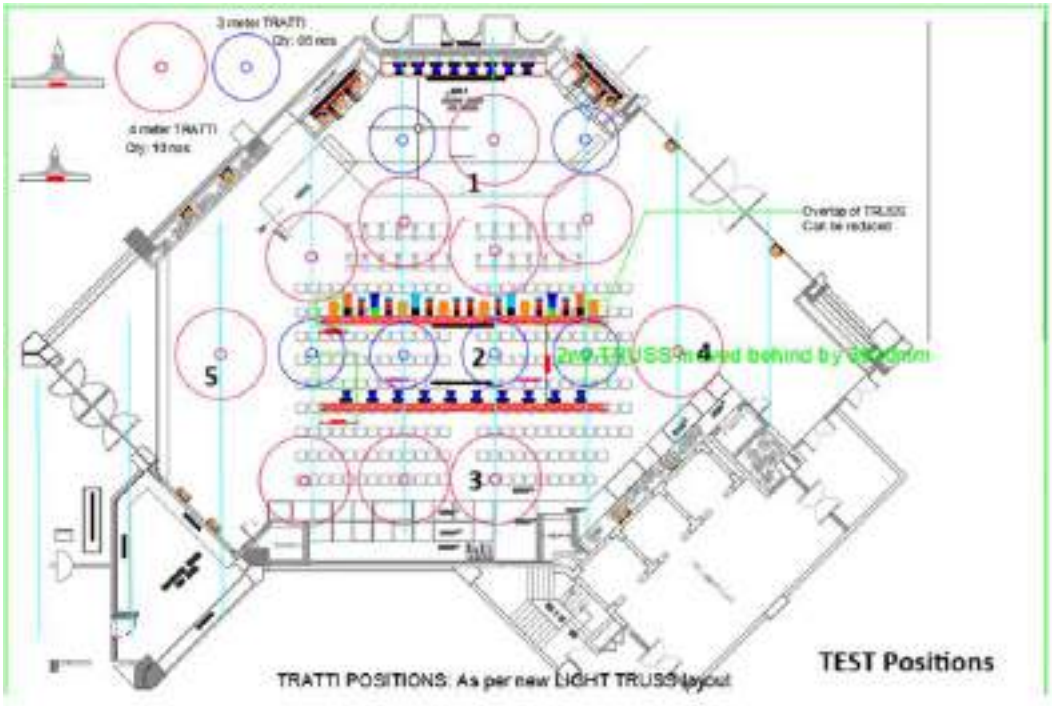
With the help of acoustic calculations and precise measurements it is possible to determine exactly where, which, acoustic elements should be placed in order to achieve acoustic optimisation, meaning that each space can receives its own customised solution.





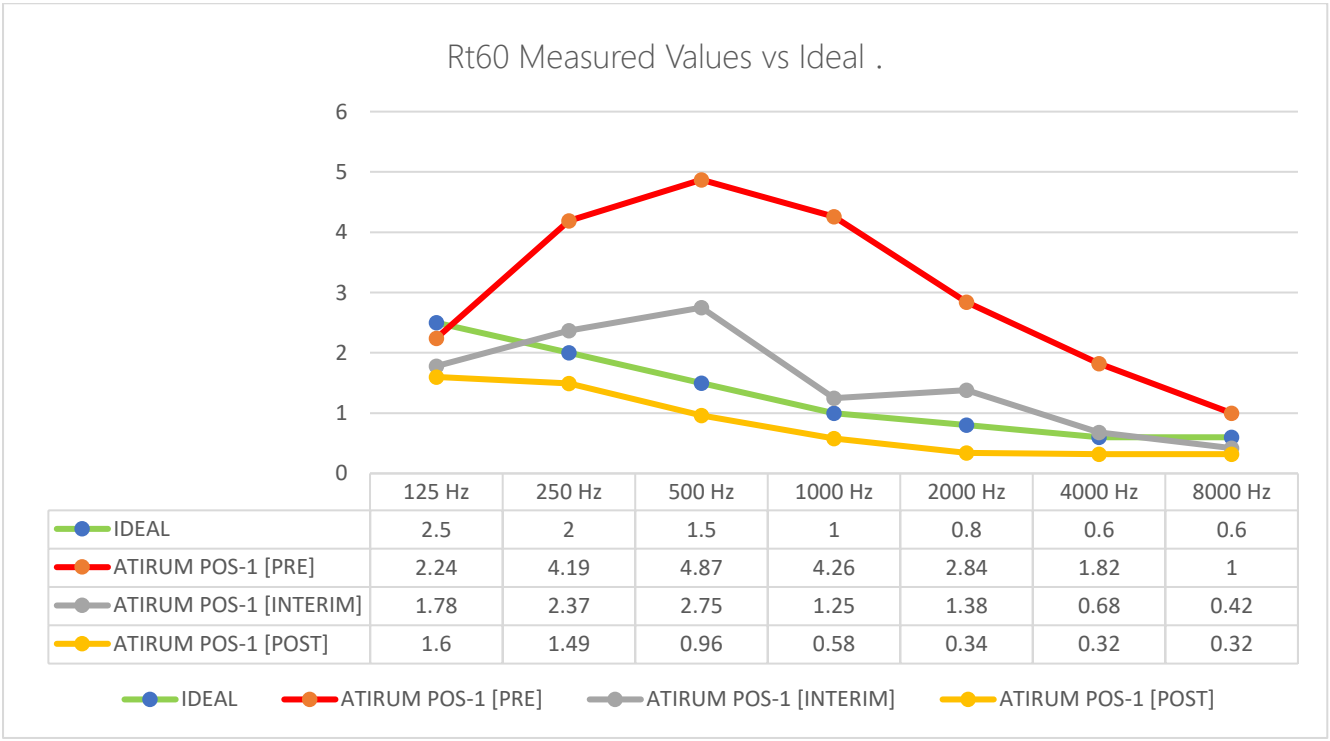


AREA COVERED UNDER ACOUSTIC ASSESSMENT & SOLUTIONS: ATRIUM



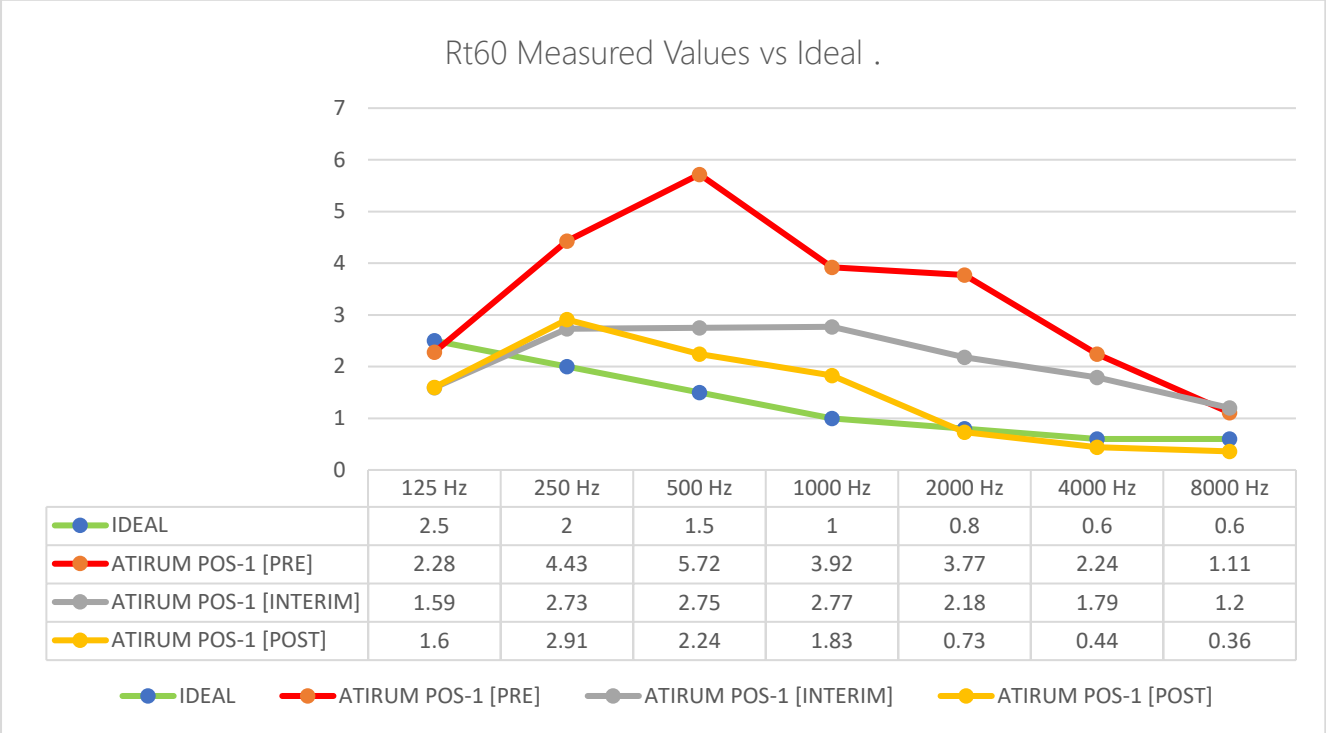
TEST METER POSITIONS 1,2,3,4 &5.

REVERBERATION TIME [Rt60]:



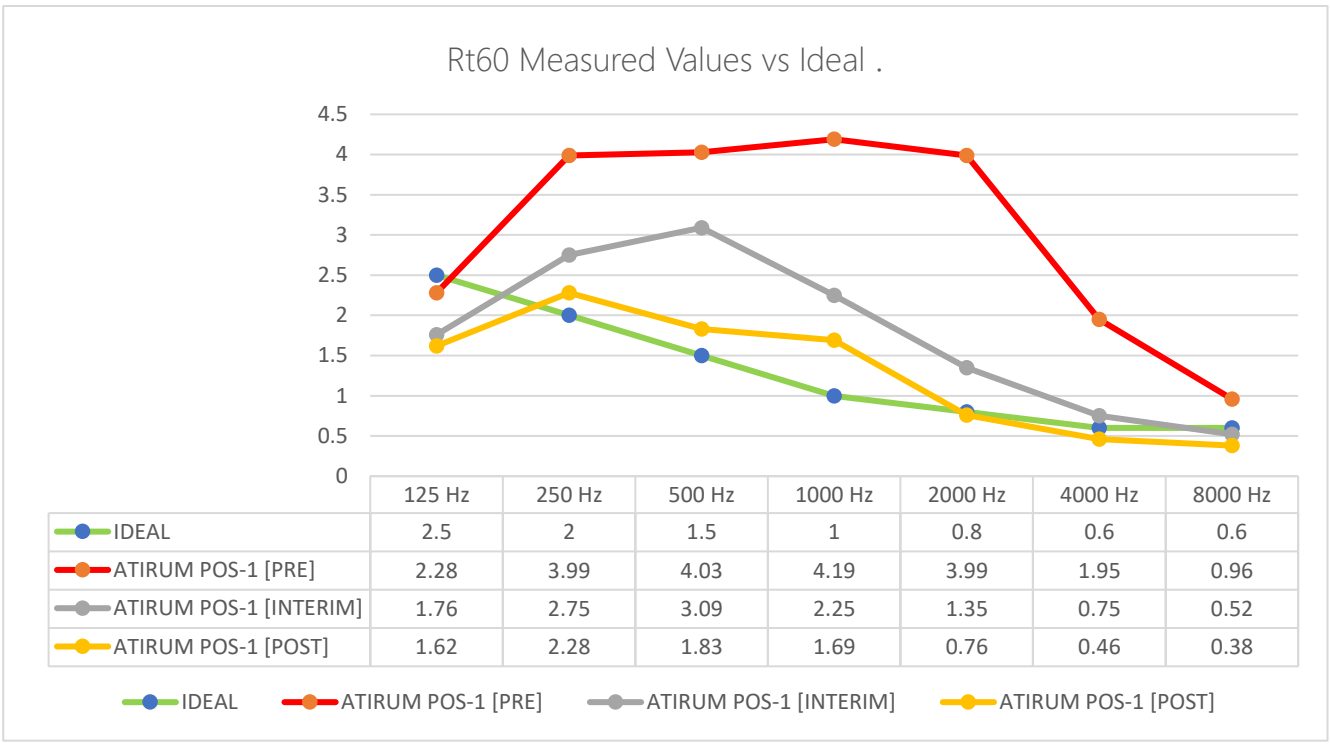
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
IDEAL	2.5	2	1.5	1	0.8	0.6	0.6
ATIRUM POS-1 [PRE]	2.24	4.19	4.87	4.26	2.84	1.82	1
ATIRUM POS-1 [INTERIM]	1.78	2.37	2.75	1.25	1.38	0.68	0.42
ATIRUM POS-1 [POST]	1.6	1.49	0.96	0.58	0.34	0.32	0.32

COMPARATIVE GRAPHS-1 : RT60 MEASURED VALUES FOR POSITION-1



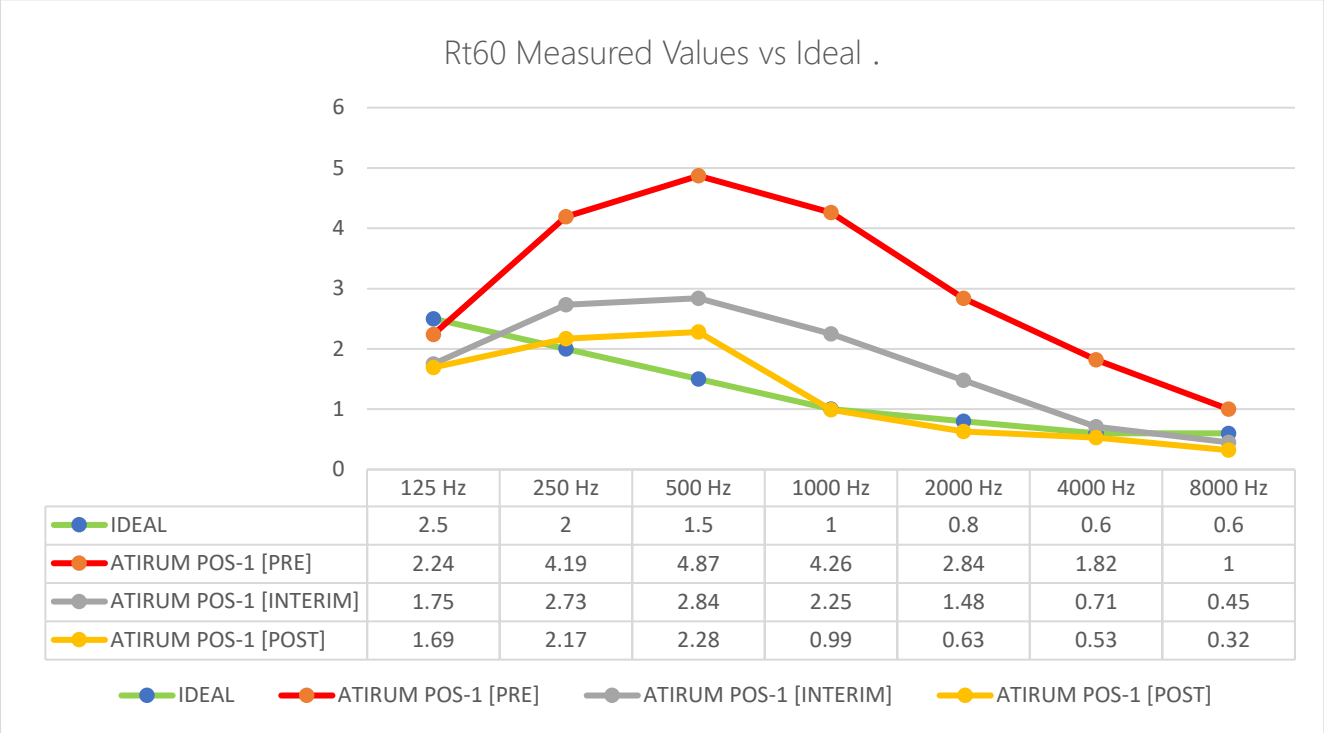
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
IDEAL	2.5	2	1.5	1	0.8	0.6	0.6
ATIRUM POS-1 [PRE]	2.28	4.43	5.72	3.92	3.77	2.24	1.11
ATIRUM POS-1 [INTERIM]	1.59	2.73	2.75	2.77	2.18	1.79	1.2
ATIRUM POS-1 [POST]	1.6	2.91	2.24	1.83	0.73	0.44	0.36

COMPARATIVE GRAPHS-2: RT60 MEASURED VALUES FOR POSITION-2



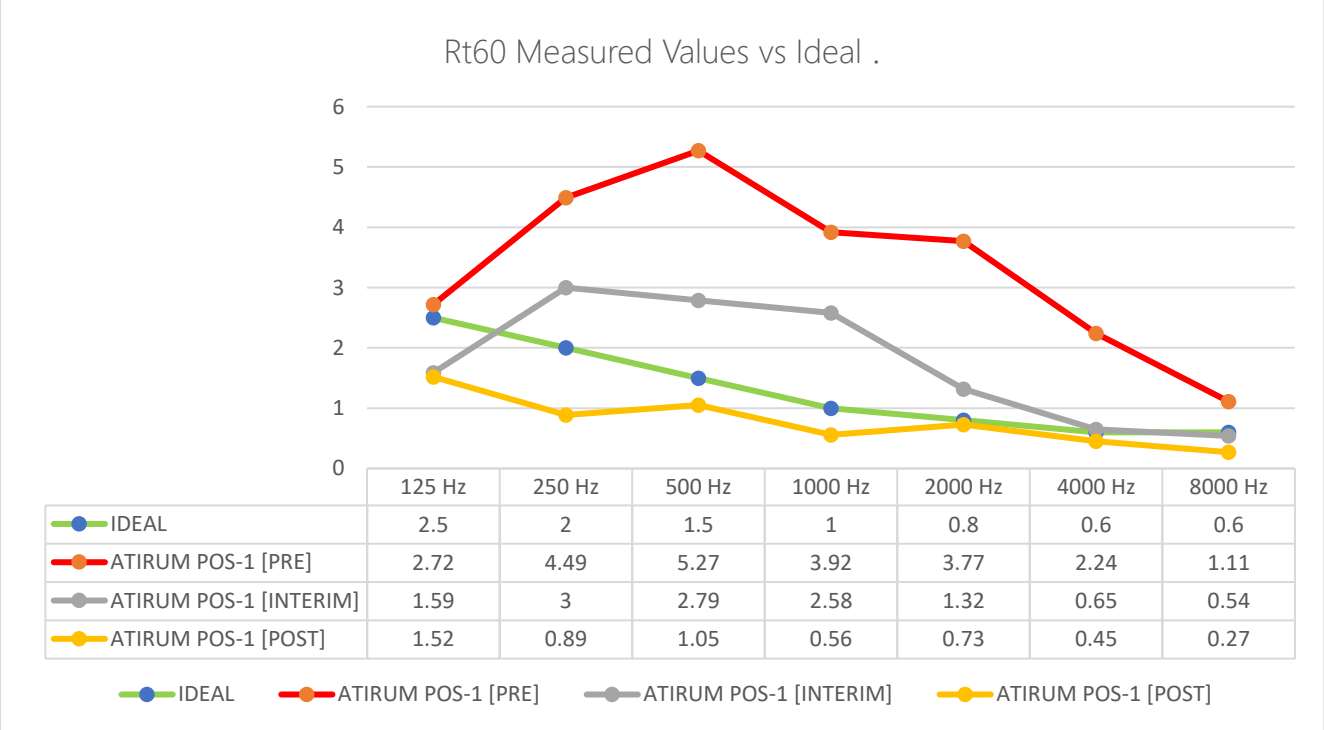
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
IDEAL	2.5	2	1.5	1	0.8	0.6	0.6
ATIRUM POS-1 [PRE]	2.28	3.99	4.03	4.19	3.99	1.95	0.96
ATIRUM POS-1 [INTERIM]	1.76	2.75	3.09	2.25	1.35	0.75	0.52
ATIRUM POS-1 [POST]	1.62	2.28	1.83	1.69	0.76	0.46	0.38

COMPARATIVE GRAPHS-3: RT60 MEASURED VALUES FOR POSITION-3



	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
IDEAL	2.5	2	1.5	1	0.8	0.6	0.6
ATIRUM POS-1 [PRE]	2.24	4.19	4.87	4.26	2.84	1.82	1
ATIRUM POS-1 [INTERIM]	1.75	2.73	2.84	2.25	1.48	0.71	0.45
ATIRUM POS-1 [POST]	1.69	2.17	2.28	0.99	0.63	0.53	0.32

COMPARATIVE GRAPHS-4 : RT60 MEASURED VALUES FOR POSITION-4



	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
IDEAL	2.5	2	1.5	1	0.8	0.6	0.6
ATIRUM POS-1 [PRE]	2.72	4.49	5.27	3.92	3.77	2.24	1.11
ATIRUM POS-1 [INTERIM]	1.59	3	2.79	2.58	1.32	0.65	0.54
ATIRUM POS-1 [POST]	1.52	0.89	1.05	0.56	0.73	0.45	0.27

COMPARATIVE GRAPHS-5 : RT60 MEASURED VALUES FOR POSITION-5

OBSERVATIONS:

1.As we observe from above graphs (*and Appendix-A*), the Rt60 – reverberation time values have had an exceptional reduction.

Especially in the key spectrum of 250Hz to 2000 Hz frequency spectrum/band.

2. The Rt60 below 125Hz is comfortable since beginning.

3. We could retain an unobstructed view of all Video Wall displays.

4. The inclusion of DSP processor helped us fine-tune the Loudspeaker system tonal anomalies well as utilize the digital domain to reduce room excitation of 250Hz- 500Hz room reverb.

5. The SPEECH INTELLIGIBLITY has certainly improved for Speech events as wells as Music events.

COMMENTS:

1] Lastly, we had predicted a target reduction to 1.5- 2.2 seconds in our presentation to the management. And we have certainly achieved the same with efforts put in by the entire team.

DISCLAIMER:
-The report presented is our finding based on E336 test procedures. The report contents should not be used to contest/counter any other (third-party) report/s.

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