kaiterra

WELL & Kaiterra

Achieving WELL Certification With Kaiterra's IAQ Monitoring Solutions

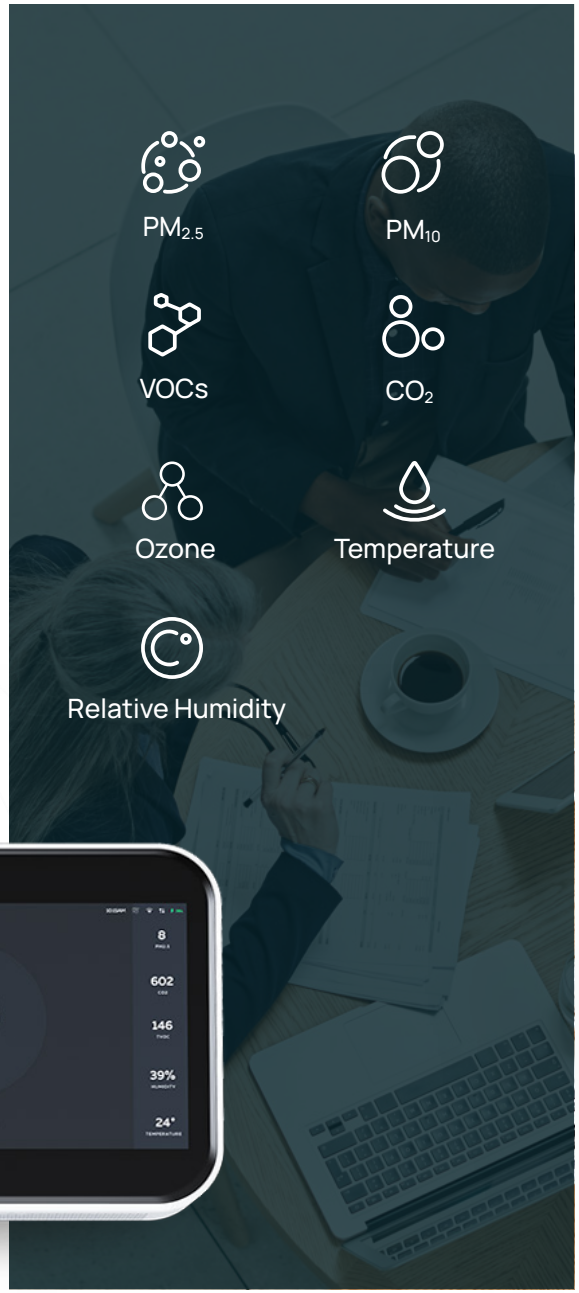
There are many facets to healthy indoor environments, from acoustics and lighting to ergonomics and thermal comfort. One of the most important of these facets is indoor air quality. With a deep connection to health and well-being, promoting good indoor air quality is essential for building occupant health and is crucial for earning a WELL certification.

In this guide, we will explore the requirements on indoor air quality for WELL v2, and how you can leverage Kaiterra's IAQ monitoring solutions to earn points.

What Is WELL v2?

The WELL Building Standard (WELL v2) builds off the foundation of WELL v1, with a comprehensive focus on occupant health. The system is designed to support diverse types of projects and geographies, as well as evolving public health needs—as evidenced in its uniquely tailored scorecard for performance verification.

WELL v2 addresses the impact of the built environment on human health and well-being through air, water, nourishment, light, fitness, comfort, and mind. It is a performance-based system for measuring, certifying, and monitoring features of the built environment.



Earn Points Through IAQ Monitoring

An air quality monitoring system can be an important component of a successful WELL v2 certification.

Kaiterra IAQ monitors measure $PM_{2.5}$, PM_{10}, VOCs, CO_2, ozone, temperature, and relative humidity in real time and let you know when your air becomes unhealthy or unsafe.

From installation to ongoing training and support, Kaiterra's line of commercial devices is designed to help you achieve WELL certification through continuous monitoring.

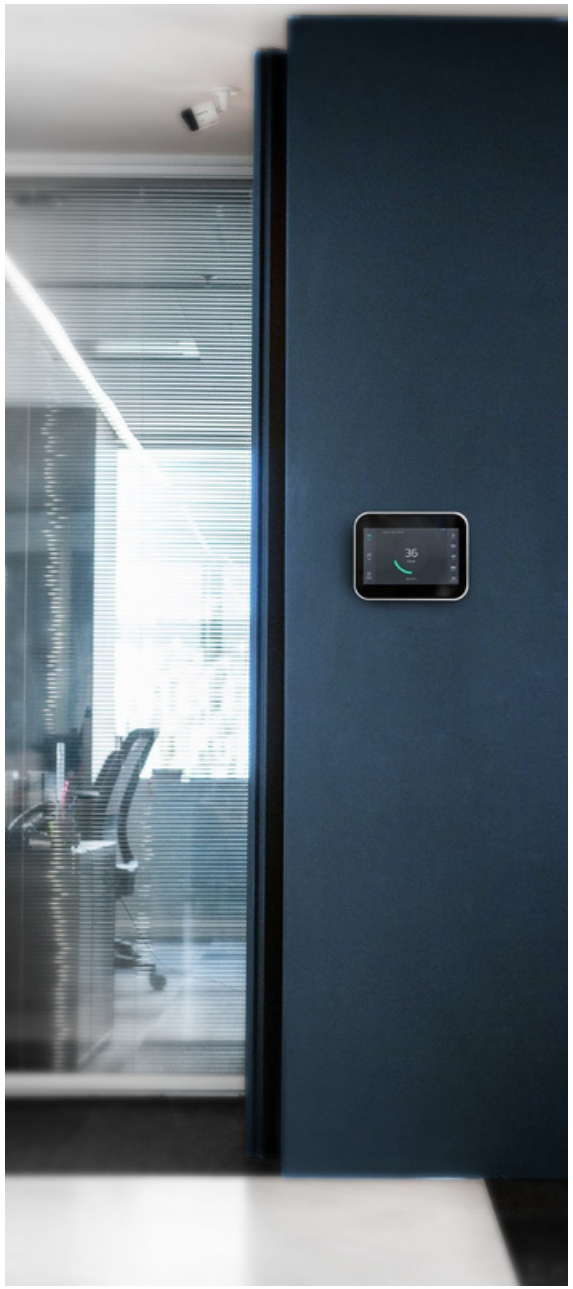
Achieving WELL v2 Through Continuous Monitoring Pathways

*Based on WELL Performance Guidebook 2023 Q1

Several WELL features within WELL v2 can be pursued through continuous monitoring pathways. View all the parameters Kaiterra's solutions provide and the features/parts you can earn points for in the table below:

Parameter		WELL v2 Feature/Part
Particulate Matter 2.5	$PM_{2.5}$	A01 Part 1; A01 Part 5; A05 Part 1; A07 Part 2; A08 Part 1
Particulate Matter 10	PM_{10}	A01 Part 1; A01 Part 5; A05 Part 1; A07 Part 2; A08 Part 1
Total Volatile Organic Compounds	TVOC	A01 Part 2; A01 Part 5; A08 Part 1
Carbon Dioxide	CO_2	A03 Part 1; A06 Part 1; A06 Part 4; A08 Part 1
Ozone	O_3	A01 Part 3; A01 Part 5; A08 Part 1
Temperature (dry-bulb)	T_{db}	A07 Part 2; T01 Part 1; T01 Part 2;T06 Part 1
Relative Humidity	RH	A07 Part 2; T01 Part 1; T01 Part 2;T06 Part 1; T07 Part 1

Note: simply monitoring the parameters doesn't guarantee the points under each feature or part.



Through the continuous monitoring pathway, you can earn a maximum of 8 points by implementing Kaiterra Solutions:

A01	Air Quality	Pre-condition
A03	Ventilation Design	Pre-condition
A05	Enhanced Air Quality	2 points
A06	Enhanced Ventilation Design	2 points
A08	Air Quality Monitoring and Awareness	2 points
T01	Thermal Comfort	Pre-condition
T06	Thermal Comfort Monitoring	1 point
T07	Humidity Control	1 point

Hardware Requirements

All of Kaiterra's monitors are RESET Certified Grade B air quality monitors and meet all the technical requirements for pursuing WELL Certification through continuous pathways.

View the requirements and how Kaiterra monitors compare below:

	WELL Requirement	Kaiterra Monitors	Meet Requirement?
Measurement Intervals	No greater than fifteen minutes except for radon; For radon, no greater than one hour.	Every minute	✓
Calibration	Sensors are recalibrated or replaced annually, and documentation attesting to their calibration are required. Software calibration or remote calibration is not accepted.	Sensor modules are replaced annually, certificates of calibration provided	✓
Technical Requirements	RESET Certified Grade B air quality monitors or higher.	RESET Certified Grade B	✓

To learn more about the detailed technical specifications for each parameter, see Appendix 1.

Monitor Density

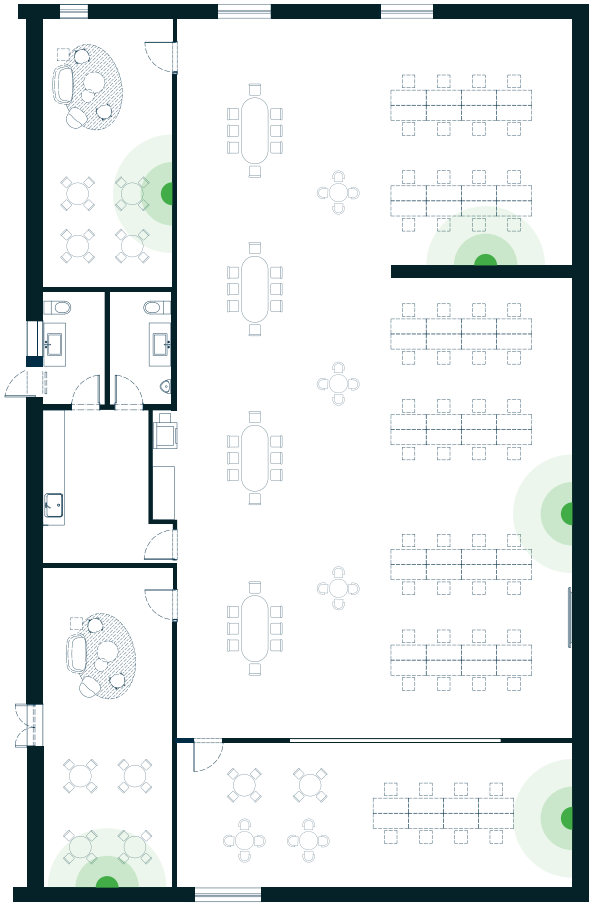
The number of air quality monitors you need will, of course, depend on the specific requirements of your project. It's often recommended to install air quality monitors in open spaces and rooms that are regularly occupied. For projects to meet certification requirements, WELL monitor density guidelines are broken down into the following tiers, and must be met according to occupiable space:

1. Projects with occupiable space of < 3250 m^2 : 1 monitor per 325 m^2 [3,500 ft^2] in occupiable spaces (minimum 2)

2. Projects with occupiable space of 3250-25,000 m^2 : 1 monitor per 500 m^2 [5,400 ft^2] in occupiable spaces (minimum 10)

3. Projects with occupiable space of > 25,000 m^2 : 1 monitor per 1000 m^2 [10,800 ft^2] in occupiable spaces (minimum 50)

Monitors must be placed throughout the project and should be representative of all HVAC zones, building faces, and frequently used areas like lobbies, open and private office areas, and conference rooms.



Air quality monitor

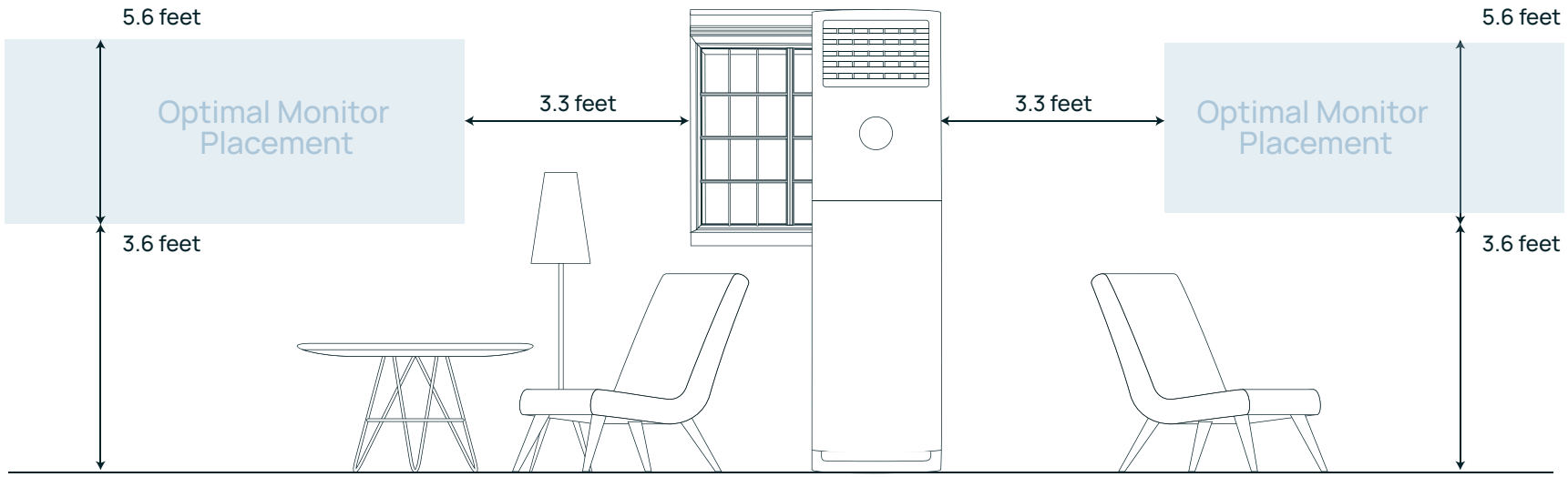
Monitor Placement

In addition to the required density, monitors should also be sited at locations compliant with the following requirements:

1. Monitors are installed on a wall (vertically), at a height of 1.1-1.7 m (3.6-5.6 ft) above the finished floor at locations where occupants would typically be seated or standing.

2. Sampling points must be at least 1m (3.3ft) away from doors, windows and air supply or exhaust outlets, air purifiers, or other potential influences (e.g., humidifiers, cleaning supplies, printers and photocopiers). Whenever possible, it's recommended that sampling points should be at least 5 m (16.4 ft) from exterior doors.

3. Additionally, monitors measuring temperature and relative humidity must be at least 1 m (3.3 ft) away from any substantial source of heat or cold, including direct sunshine, mechanical system supply outlets, fans, and heaters.



Why Choose Kaiterra for Your WELL Project

From installation to continuous training, automated smart reporting, and support on improving your indoor environment, Kaiterra's IAQ monitoring solutions are designed to help you achieve WELL v2 certification, adding value at every step:

Understand Your Air with Continuous Monitoring

Kaiterra's commercial air quality monitors measure $PM_{2.5}$, TVOC, CO_2, dry-bulb temperature, and relative humidity every minute, well within requirements for accuracy, resolution, and collection frequency. Continuous monitoring also helps you gain a holistic view of your air and make data-driven decisions to improve your indoor environment in the long run.

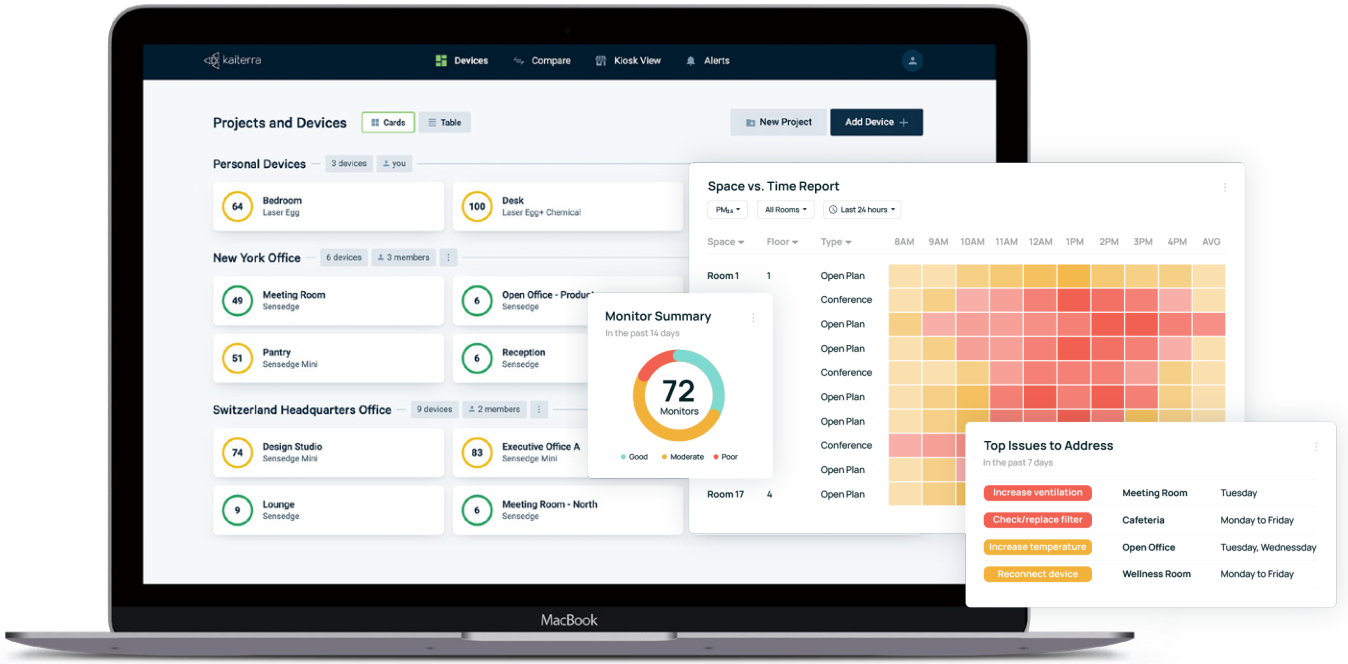
Easy Calibration, Lowest Maintenance Cost

With an innovative modular design, Kaiterra IAQ monitors - the Sensedge and Sensedge Mini - can be easily recalibrated by swapping out old sensors for new ones. New sensors come with a certificate of calibration, which you can submit to WELL online. This process replaces traditional calibration and field calibration, significantly reducing maintenance costs and sensor down time, while minimizing the carbon footprint compared to replacing the whole monitoring system.

Advanced Data Analytics and Reporting

The Kaiterra Dashboard provides a new way of analyzing your IAQ data. Manage, compare, and analyze your data in one place, and generate intelligent reports with our pre-built template. Users can opt-in to receive weekly reports with detailed insights, optimization tips, and opportunities to improve IAQ - all powered by Kaiterra's unique algorithm.

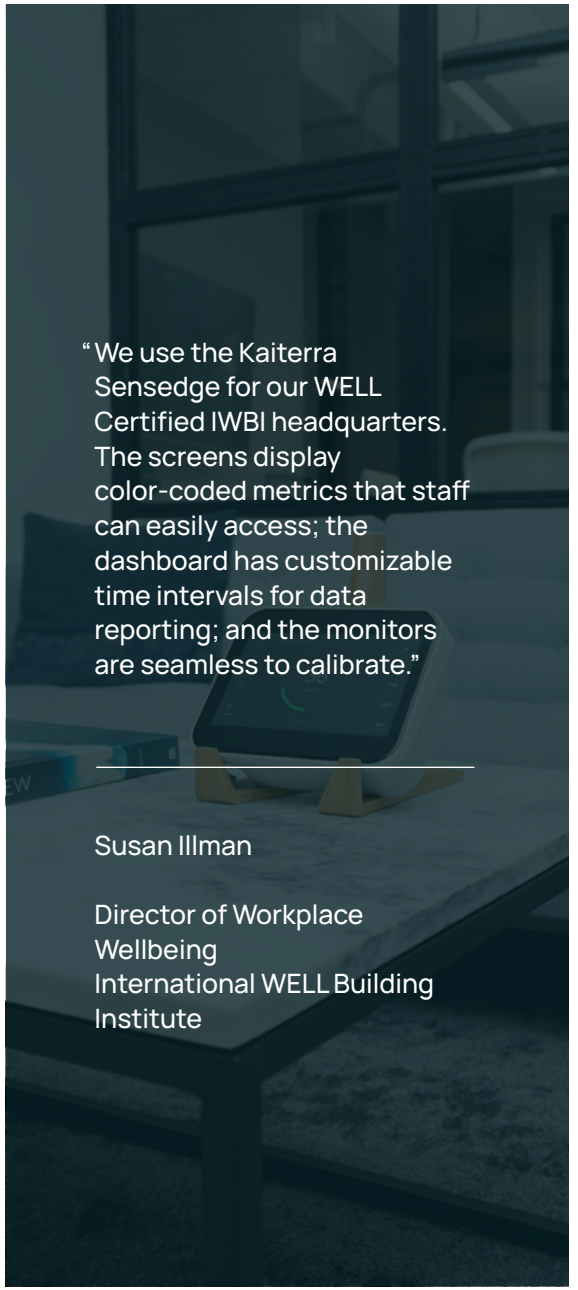
You can also leverage the WELL Certification report to get a clear pass/fail result to stay on top of your certification progress. Export your data directly in the format recognized for WELL certification.



Proven Success: Kaiterra Commercial Air Quality Monitoring in IWBI's NYC Office

In 2019, IWBI's global headquarters relocated its office and earned a WELL Platinum rating. Featuring Kaiterra's Sensedge, among other indoor health optimizations, IWBI received over 80 points toward its own certification program. To read more about this project, check out our full case study: How IWBI Transformed Its Aging NYC Office Into a Healthy Workplace.

For more information on how Kaiterra's commercial air quality monitors can help you achieve a WELL certification, click here to speak with an accredited professional.



"We use the Kaiterra Sensedge for our WELL Certified IWBI headquarters. The screens display color-coded metrics that staff can easily access; the dashboard has customizable time intervals for data reporting; and the monitors are seamless to calibrate."

Susan Illman

Director of Workplace Wellbeing
International WELL Building Institute

Appendix 1

Parameter		Unit	Sensor Type	Range	Accuracy	Resolution	Parameter-specific Sensor Requirements	Kaiterra IAQ Solutions
Particulate Matter 2.5	$PM_{2.5}$	$\mu g/m^3$	Optical/Laser particle counter (light scattering)	1-1000 $\mu g/m^3$ ±	± 5 $\mu g/m^3$ + 20 % at 1-100 $\mu g/m^3$	1 $\mu g/m^3$	Adjustable particle density (K-factor) to accommodate project/region specific particulate profile	✓ RESET Certified Grade B air quality monitor; automatically meet technical requirements for these parameters.
Particulate Matter 10	PM_{10}	$\mu g/m^3$	Optical/Laser particle counter (light scattering)	1-1000 $\mu g/m^3$ ±	± 5 $\mu g/m^3$ + 20 % at 1-100 $\mu g/m^3$	1 $\mu g/m^3$	Adjustable particle density (K-factor) to accommodate project/region specific particulate profile	
Total Volatile Organic Compounds	TVOC	ppb or $\mu g/m^3$	Electrochemical, metal oxide semiconductor	1-2000 $\mu g/m^3$	± 20 $\mu g/m^3$ + 15% at 1-500 $\mu g/m^3$	1 $\mu g/m^3$	Calibration gas: ethanol Target gas profile (ppb=$\mu g/m^3$ conversion factor under STP): 22 VOC mixed per Molhav et al.* (1 ppb = 4.57 $\mu g/m^3$) OR to project-specific VOC profile	
Ozone	O_3	ppb or mg/m^3	Electrochemical	10-500 ppb	± 10 ppb at 0-100 ppb	5 ppb	–	
Carbon Dioxide	CO_2	ppm	Non-dispersive infrared	400-5000 ppm	± 50 ppm + 5 % at 500-2000 ppm	1 ppm	–	
Temperature (dry-bulb)	T_{db}	C° or F°	Metal oxide semiconductor	10-40 °C [50- 100 °F]	± 0.5 °C [± 0.9 °F] 0.5 °C	[±0.9 °F]	–	
Relative Humidity –	RH	%	Metal oxide semiconductor	5-95 %	± 5 % at 10-90 %	1%	–	

Notes: - Continuous monitoring sensor requirements may differ from device requirements specified in the Performance Testing Protocols for WELL - Continuous monitors utilizing sensor types not listed in Table 4 are encouraged to submit an Alternative Adherence Path that includes 1) technical specifications listed in Table 4 and 2) evidence indicating the alternative sensor technology provides performance that is similar or exceeds approved sensor technologies. * Mølhave, L., Clausen, G., Berglund, B., De Ceaurriz, J., Kettrup, A., Lindvall, T., Maroni, M., Pickering, A.C., Risse, U., Rothweiler, H., Seifert, B. and Younes, M. (1997), Total Volatile Organic Compounds (TVOC) in Indoor Air Quality Investigations. Indoor Air, 7: 225-240. https://doi.org/10.1111/j.1600-0668.1997.00002.x