



DATA.AIR Gen 2

Executive Summary

Document No. GHG-21850-6305

25 April 2025



1 SUBMISSION INFORMATION

Request Number	
Submission Date	2025-04-25
Company Name	GHGSat Inc.
Submission Point of contact Name	Jason McKeever
Product Name	DATA.AIR Gen 2
Technology Type	Airborne Mobile
Target Applicability	Broadly applicable across sector
Target Emission Leak Rate Threshold	10 kg/hr
Request Numbers of any connected submitted requests	

2 TECHNICAL SUMMARY OF TECHNOLOGY

GHGSat provides remote sensing of methane emissions, based on the principle of optical absorption spectroscopy. For the DATA.AIR Gen 2 product, the instrument is mounted on small aircrafts which survey the target facilities as they fly above them.

The GHGSat spectrometers collect ground-scattered solar illumination in the shortwave infrared (SWIR) portion of the electromagnetic spectrum. Methane concentration is inferred by monitoring light intensity at specific wavelengths that are absorbed by methane molecules.

The measurements are spatially resolved, providing a two-dimensional map of methane concentration enhancements. This map is used to detect emission plumes and locate their origin. For each detected plume, the emission flow rate can then be calculated from the sum of detectable methane in the plume and gas dissipation rate at a given wind speed (integrated mass enhancement algorithm).

3 UPDATES TO THE APPLICATION

Date	Description of Changes
2024-04-25	Initial submission to EPA



4 SUMMARY OF DOCUMENTS SUBMITTED

4.1 Description of Technology

Document Name(s) with extension	Document Description
GHG-21850-6301-a_dataair2-description-of-technology.pdf	Document describing the physical principles, instrumentation, and processing algorithms used by the technology.
GHG-21850-6302-a_dataair2-visual-workflow.pdf	Diagram describing the flow of information through the processing pipeline.

4.2 Formal Alternative Test Method

Document Name(s) with extension	Document Description
GHG-21850-6303-a_dataair2-formal-test-method.pdf	Description of the test method following the EPA standard document convention.