AEROSPACE & DEFENSE

NASA Publishes Acoustic Dataset from STRIVES-5 eVTOL Tests

✓ **CUSTOMER**
NASA

✓ **PRODUCT**
GRAS 67AX

✓ **VERTICAL VALOR**
Findings from NASA and Joby's first published eVTOL acoustic test data.
By Jen Boyer

NASA's STRIVES-5 acoustic dataset shines a spotlight on the critical role played by **58 GRAS 67AX ground embedded microphones** in capturing high-fidelity eVTOL noise signatures—powering better modeling, regulation, and public acceptance for tomorrow's urban aircraft.

What happened?

National Aeronautics and Space Administration - NASA's Vertical Lift Stratos (STRIVES-5) campaign—the first to publicly release comprehensive eVTOL noise measurements—deployed a ground array of 58 GRAS 67AX pressure microphones to capture in-flight acoustic data from new electric aircraft prototypes.

How were they arranged?

These precision microphones were embedded in specially designed 400 mm ground boards, arranged across a hemispherical measurement array to provide full coverage of sound emission angles during eVTOL overpasses.



GRAS
An Axiometrix Solutions Brand

GRAS 67AX ø400 mm CCP Ground Array Microphone Kit.
Freq range: 3.15 Hz to 20 kHz
Dyn range: 22 dB(A) to 150 dB
Sensitivity: 12.5 mV/Pa



Why GRAS 67AX?

- **Designed for aerospace ground-array measurements,** it offers a **frequency range from 3.15 Hz to 20 kHz**, dynamic range of **22–150 dB(A)**, and a low profile pressure sensor embedded flush in the plate—ideal for mitigating wind noise and ground reflection effects.

- Embedding the diaphragm into the board avoids high frequency nulls from diaphragm to board reflections—a significant improvement over older inverted pressure setups.

Data Highlights & Public Release

NASA published raw acoustic and flightpath data alongside atmospheric conditions—an unprecedented open dataset for eVTOL noise modeling.

These measurements advance understanding of urban air mobility's environmental sound footprint and support future noise regulation.

Why It Matters

BENEFIT	DESCRIPTION
Comprehensive coverage	58 high-fidelity microphones provide hemisphere-level sound mapping
Standardized instrumentation	Flush mounted GRAS 67AX plus WAMS II systems ensure clean, consistent acoustics data
Open data access	Enables researchers and urban planners to model eVTOL noise impacts more accurately and transparently

Looking Ahead

Following STRIVES5, subsequent phases—including a phasedarray of 117 GRAS 67AX sensors—will further isolate noise sources (main/tail rotors, ducted fans).

This work paves the way for quieter, community-friendly eVTOL design and certification frameworks.

QUESTIONS? We're Here to Help!

If you have any questions about the **GRAS flush mount microphones** or how they're used in **eVTOL acoustic testing**, please don't hesitate to get in touch.

CONTACT: Lars Winberg

Lars is ready to assist you with expert guidance on selecting the right microphones for your aerospace noise measurement needs — and to share insights from NASA's groundbreaking work.



Lars Winberg
Sales Development Manager
+25 years of experience in acoustics and measurement solutions specializing in Aerospace & Defense, and the Automotive sector. Discovered the importance of acoustics on board submarines in the Swedish Navy.

Read more here:

- Findings from NASA and Joby's first published eVTOL acoustic test data - Vertical Mag
- Aeroacoustics2022_Pascioni_STRIVES5.pdf
- See the video here https://youtu.be/HwDGJgUpjCk
- Products - GRAS Measurement & Vibration Products | GRAS Sound and Vibration

About GRAS Sound & Vibration

GRAS is a worldwide leader in the sound and vibration industry. We develop and manufacture state-of-the-art measurement microphones to industries where acoustic measuring accuracy and repeatability is of the utmost importance in R&D, QA and production. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, and consumer electronics. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect and trust.
GRAS Sound & Vibration is represented through subsidiaries and distributors in more than 40 countries and is part of Axiometrix Solutions, a leading test solutions provider comprised of globally recognized measurement brands.

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