



G2G GRAPHENE RAMAN LAB REPORT

NAME:

G2G Graphene

DATE:

Aug 12, 2025

SUMMARY

This report presents a comprehensive characterization of graphene samples produced by G2G Nano Advanced Materials, analyzed using Raman spectroscopy and optical microscopy with the support of an academic institution in Israel. The analysis was conducted to evaluate the structural integrity, layer thickness, purity, and morphology of the produced graphene.

The results confirm high-quality few-layer graphene with minimal structural defects, excellent layer uniformity, and low levels of contamination. These findings align with the company's proprietary production methods, demonstrating scalability, environmental sustainability, and suitability for a broad range of advanced fields, including industrial applications, electronics, advanced material additives, energy and energy storage, composites, conductive coatings, smart transportation, aerospace and space technologies, medical and biomedical engineering, and other cutting-edge sectors that demand materials with exceptional performance characteristics.

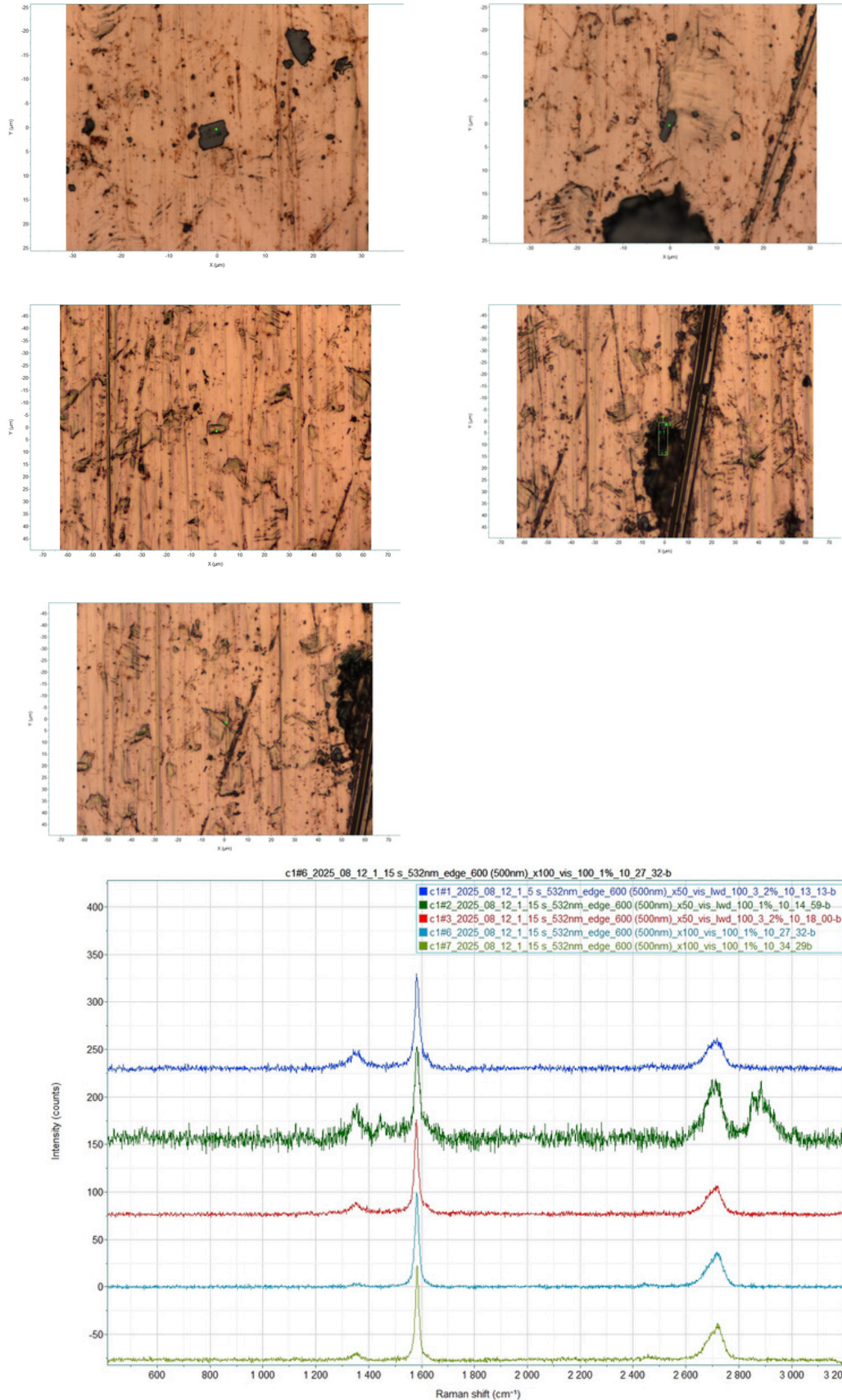
COMPANY BACKGROUND

G2G Nano Advanced Materials specializes in sustainable, high-volume production of graphene and advanced nanomaterials. Our proprietary process produces single-layer to few-layer graphene on various substrates without harmful chemicals, ensuring minimal environmental impact.

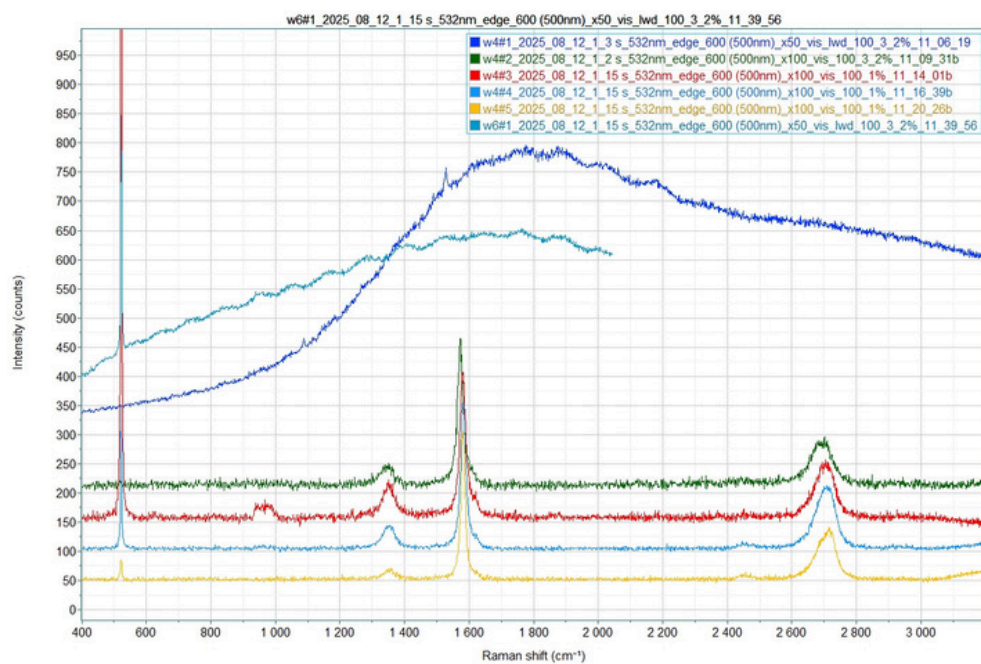
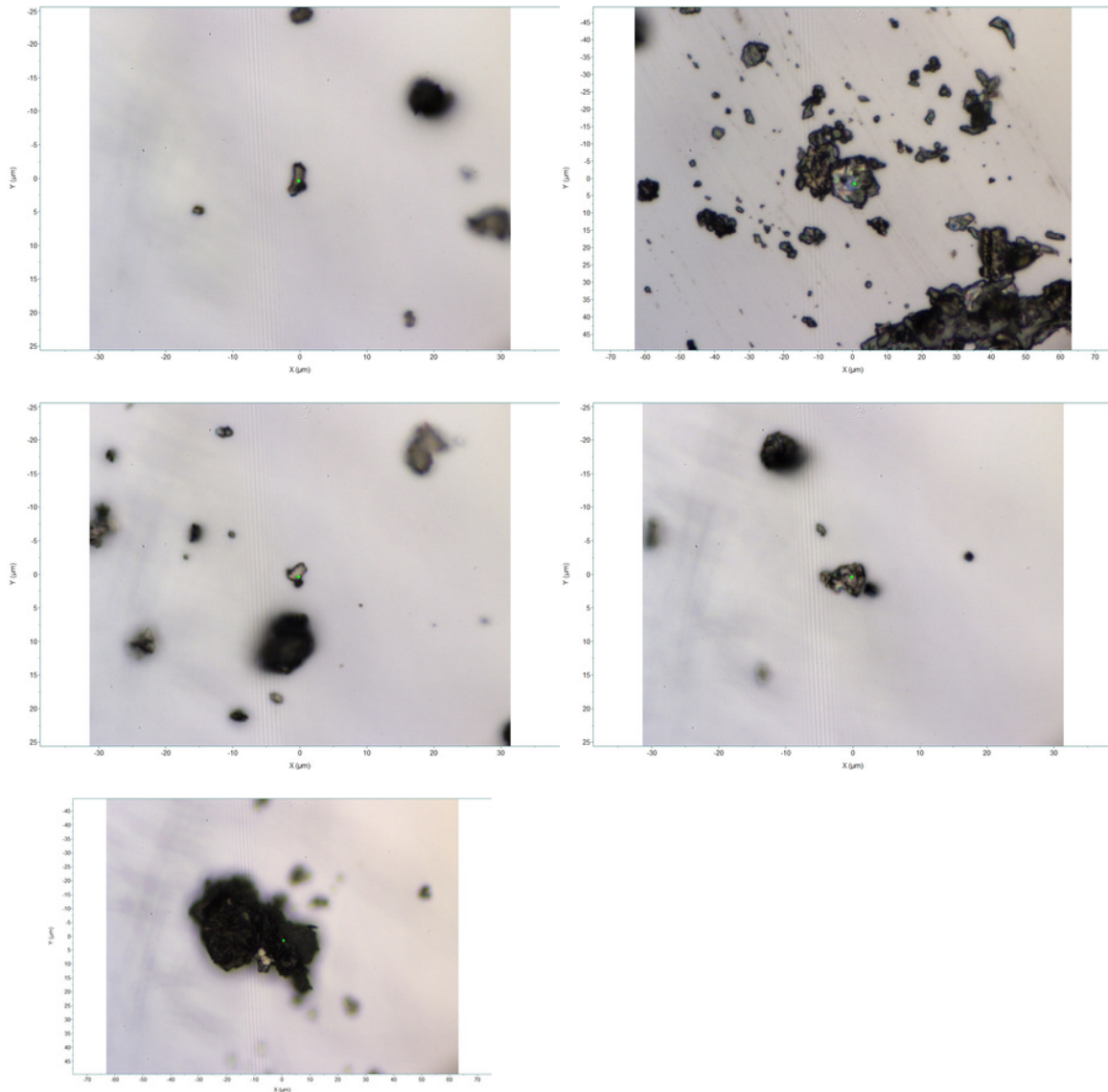
Key strengths:

- Chemical-free production, reducing pollution and footprint.
- High-purity graphene, validated by spectroscopy and microscopy.
- Solutions for electronics, composites, coatings, and green technologies.
- Our technology bridges lab-scale innovation with full industrial implementation

G2G GRAPHENE ON COPPER



G2G GRAPHENE POWDER



RESULTS

The analysis revealed:

Results – G2G Graphene on Copper

- *Sharp 2D peaks with low full-width at half maximum (FWHM), characteristic of few-layer graphene.*
- *High I_2D/IG ratio, indicating low defect density.*
- *Weak or absent D-band, indicating high crystalline quality.*
- *Minor variations in peak width and relative intensities observed between measurement points.*

Results – G2G Graphene Powder Samples

- *Relatively sharp 2D peaks with FWHM within the range for high-quality graphene.*
- *High I_2D/IG ratio.*
- *Weak D-band, indicating good crystalline quality.*

Glossary of Terms:

FWHM (Full Width at Half Maximum) – A measure of the width of a spectral peak, taken at 50% of its maximum intensity. In graphene, lower FWHM values for the 2D band typically indicate single- or few-layer material with high structural quality.

I_2D/IG Ratio – The ratio between the intensity of the 2D band and the G band in the Raman spectrum. Higher ratios generally indicate fewer layers and lower defect density.

D-band – A Raman band that appears around 1350 cm^{-1} , serving as an indicator of defects in the graphene lattice. A weak or absent D-band suggests high crystalline quality.

CONCLUSION

The Raman spectra indicate the presence of high-quality graphene in the few-layer range, with characteristics suggesting the potential proximity to single-layer structure, and with low defect density as evidenced by the minimal D-band intensity and sharp 2D peaks. Optical microscopy supports the Raman findings, showing continuous flakes with minimal contamination. These results demonstrate that G2G's production method consistently yields graphene suitable for high-performance applications, including flexible electronics, advanced composites, and energy storage devices.