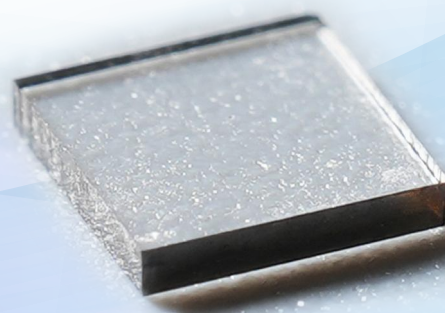


Single NV Diamond

Optimized for quantum networking and high-resolution sensing.

ViQium™ Single NV Diamonds offer high spin and optical coherence, excellent transparency, strong contrast, and $\langle 100 \rangle$ $\langle 110 \rangle$ $\langle 111 \rangle$ crystal orientations. Ideal for quantum computing, networking, simulation, high-resolution quantum sensing, and single-molecule NMR.



Product Parameters

Quantum Performance	Values
Center Type	Single
T_2	$\sim 300 \mu\text{s}$
T_2^*	$\sim 1 \mu\text{s}$

Notes: 1. NV density measured by second-order correlation function.
2. Density specifications selected according to application.
3. T_2 measured by Spin Echo.
4. T_2^* measured by FID.

Thermal Properties	Values
Thermal Conductivity	$> 2000 \text{ Wm}^{-1}\text{K}^{-1}$
CTE (300 K)	$1.0 \pm 0.1 \text{ ppm} \cdot \text{K}^{-1}$
CTE (1000 K)	$4.4 \pm 0.1 \text{ ppm} \cdot \text{K}^{-1}$

Geometric Properties	Values
Standard Size	3 mm $\times$ 3 mm & 2 mm $\times$ 2 mm
Standard Thickness	0.5 mm
Polished Surface Roughness	$R_a < 5 \text{ nm}$

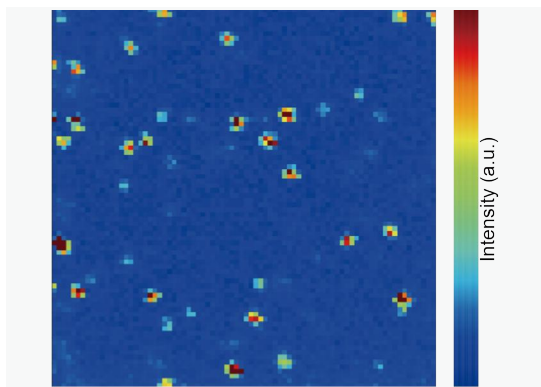


Fig 1. Confocal fluorescence image of Single NV Diamond

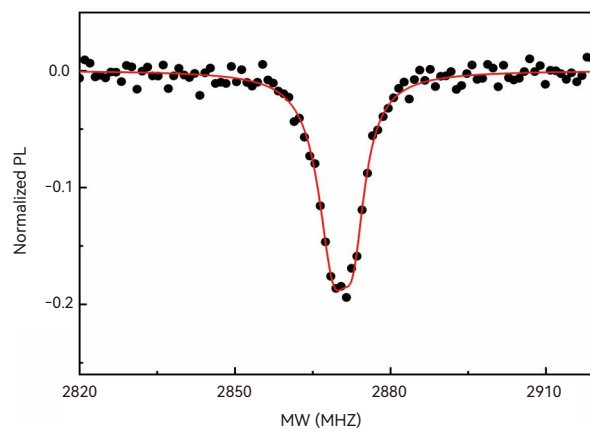


Fig 2. Continuous-wave ODMR spectrum of Single NV Diamond

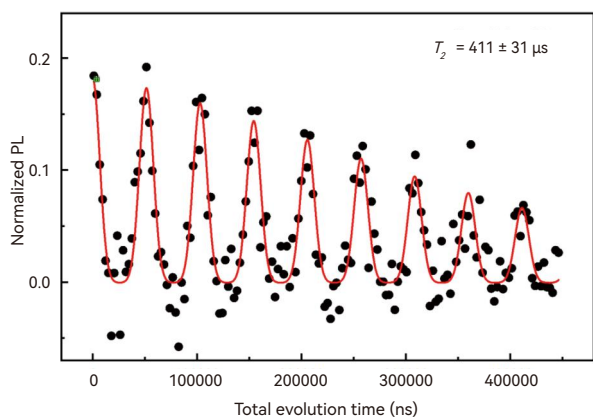


Fig 3. Coherence properties of Single NV Diamond: T_2

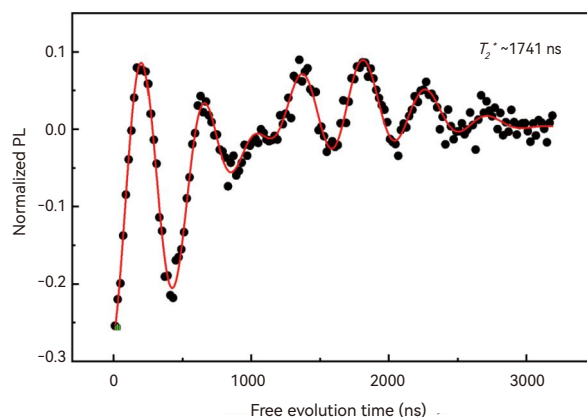


Fig 4. Coherence properties of Single NV Diamond: T_2^*

ViQium™ Single NV Diamond

No.	Product Code	Dimensions (mm)	Crystal Orientation	T_2
1	SNV100F12	$2 \times 2 \times 0.5$	$\langle 100 \rangle$	$\sim 300 \mu\text{s}$
2	SNV100F13	$3 \times 3 \times 0.5$	$\langle 100 \rangle$	$\sim 300 \mu\text{s}$
3	SNV110F12	$2 \times 2 \times 0.5$	$\langle 110 \rangle$	$\sim 300 \mu\text{s}$
4	SNV110F13	$3 \times 3 \times 0.5$	$\langle 110 \rangle$	$\sim 300 \mu\text{s}$
5	SNV111F12	$2 \times 2 \times 0.5$	$\langle 111 \rangle$	$\sim 300 \mu\text{s}$
6	SNV111F13	$3 \times 3 \times 0.5$	$\langle 111 \rangle$	$\sim 300 \mu\text{s}$

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