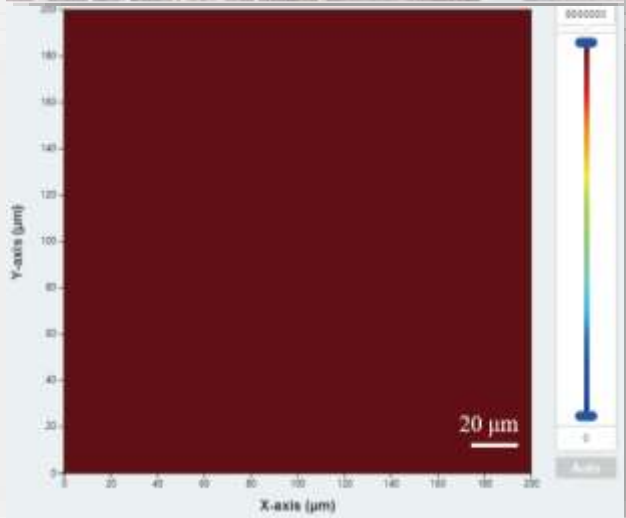


Ensemble NV Diamond



PARAMETER

Quantum Properties	Content	Notes
Typical NV center type	Ensemble NVcenter	
Typical NV center density	50 ppb/1ppm/2ppm	Measured by ODMR
Typical spin coherence time (T_2)	$\geq 100 \mu\text{s}$	Measured by Spin Echo
Typical spin coherence time (T_2^*)	***	Measured by FID
Thermal Properties		
Thermal conductivity	$> 2000 \text{ Wm}^{-1}\text{K}^{-1}$	
Coefficient of thermal expansion(300K)	$1.0 \pm 0.1 \text{ ppm} \cdot \text{K}^{-1}$	
Coefficient of thermal expansion(1000K)	$4.4 \pm 0.1 \text{ ppm} \cdot \text{K}^{-1}$	
Geometric properties		
Standard size	$2 \times 2 \text{ mm} / 3 \times 3 \text{ mm}$	
Standard thickness	0.5mm	
Roughness(nm) upper and lower surfaces	$R_a < 5 \text{ nm}$	
Roughness(nm) side surfaces	$R_a < 100 \text{ nm}$	
Crystallographic orientation	100, 110, 111	