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# Characterization of a Flow-Through Plasma Ion Air Purification Device in Deactivation of Aerosolized SARS-CoV-2 Delta Variant

Final Report

FOR

**Aurabeat Technology Limited**

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## Section 2. Sponsor, Testing Laboratory, and Personnel Responsibilities

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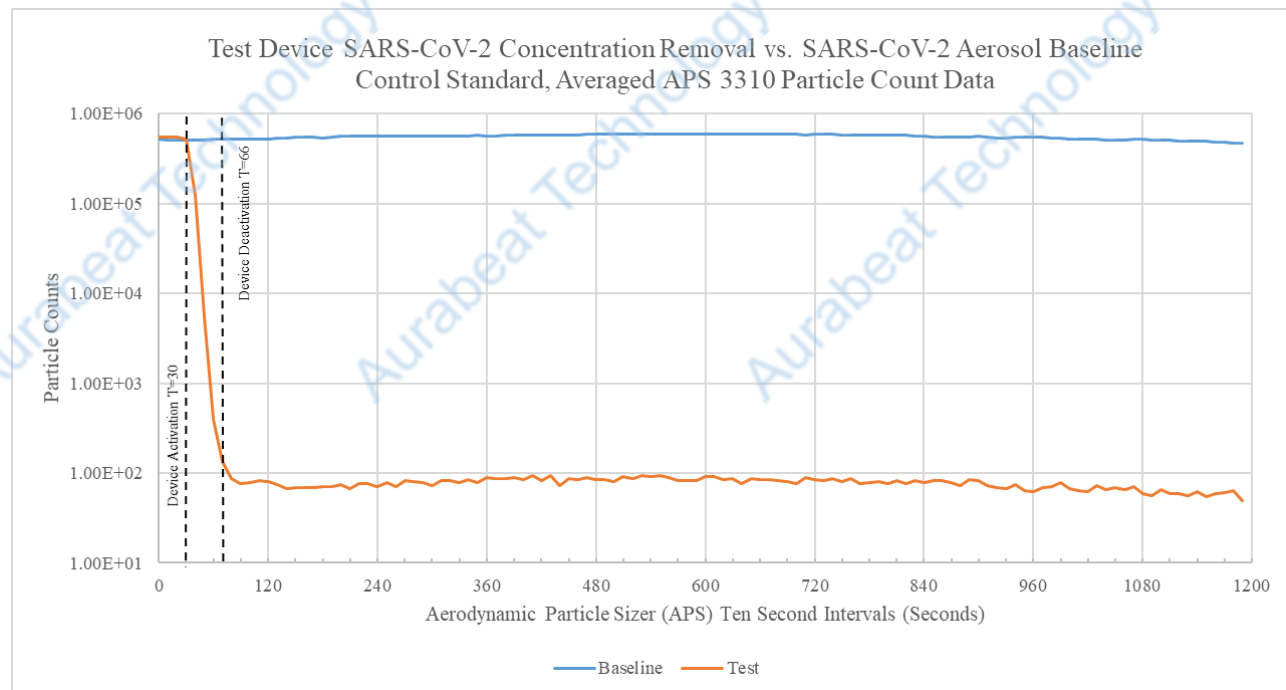
## Section 7. Aerosol Testing Results

Aerosol plates were read five (5) days after testing. The Aurabeat AG+ Sanitizing Air Purifier reduced viral infectivity by  $\geq 4.50$  log ( $\geq 99.997\%$ ) within thirty-six (36) seconds of operation. Table 2 summarizes these findings.

**Table 2. TCID<sub>50</sub>/mL Calculations for Aerosol Testing of the Test Device**

Sample Name	Sample Type	Replicate No.	TCID <sub>50</sub> /mL	Log <sub>10</sub> TCID <sub>50</sub> /mL	Average TCID <sub>50</sub> /mL	Average Log <sub>10</sub> TCID <sub>50</sub> /mL	Log Reduction	Percent Log Reduction
T1	Test	1	$\leq 3.51E-01$	$\leq -0.45$	$\leq 3.51E-01$	$\leq -0.45$	$\geq 4.50$	$\geq 99.997\%$
T2		2	$\leq 3.51E-01$	$\leq -0.45$				
T3		3	$\leq 3.51E-01$	$\leq -0.45$				
C1	Control	1	$1.76E+04$	4.25	$1.19E+04$	4.05		
C2		2	$1.11E+04$	4.05				
C3		3	$7.01E+03$	3.85				
20211209BMC	Stock Titer		$1.47E+07$	7.17				

APS particle counts were taken sequentially over the same time periods for control tests and Test Device tests. A plot of the averaged control and Device Test particle count profiles vs time is shown in Figure 2.



**Figure 2. Aerodynamic Particle Sizer (APS) Aerosol Particle Count vs Sample Time Plot**

## Section 8. Conclusions

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The Aurabeat AG+ Sanitizing Air Purifier was effective at removing aerosolized SARS-CoV-2 virus (Delta Variant) from the air. The device showed a  $\geq 4.50$  log ( $\geq 99.997\%$ ) reduction in viable virus from the test system within thirty-six (36) seconds of operation as compared to control test results. The Test Device reduced aerosol particle count and mass concentration with high efficiency as verified with APS count, mass ( $\text{mg}/\text{m}^3$ ), and mass median particle size data in relation to control test results. The APS data showed a nearly complete removal within the thirty-six (36) seconds of operation with approximately five (5) logs of mass reduction and four (4) logs of particle count reduction.