

Supplementary Material

A wireless sensor and energy harvesting system based on piezoelectric-electromagnetic synergy in P(VDF-TrFE) films

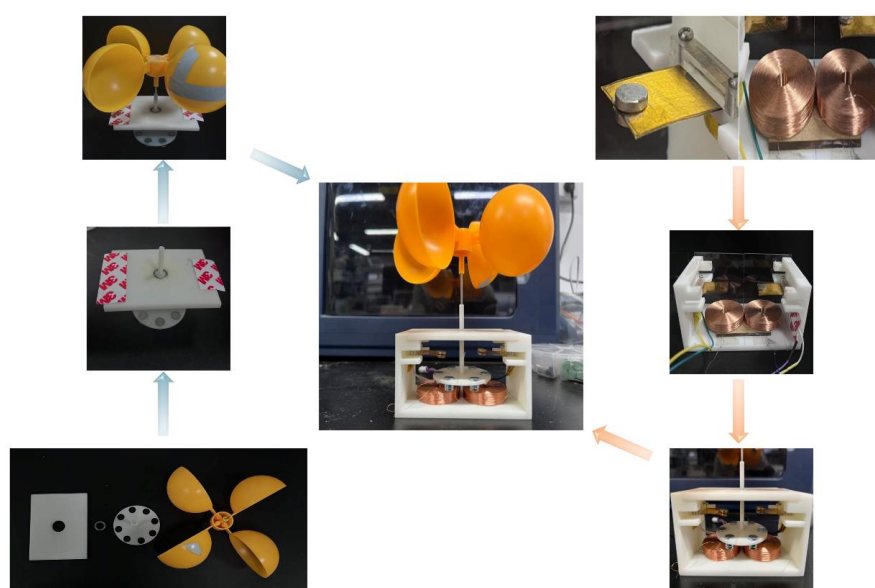
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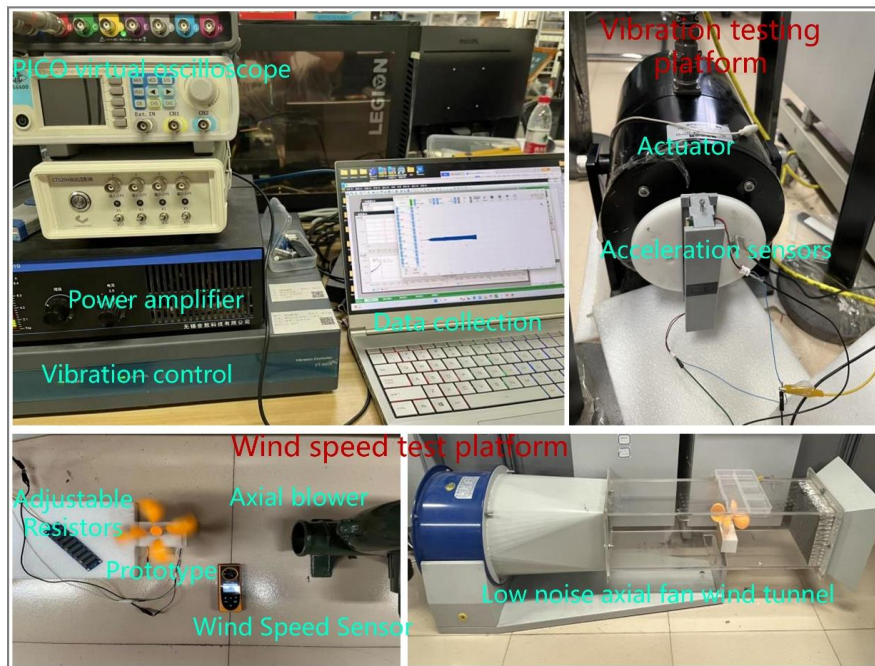
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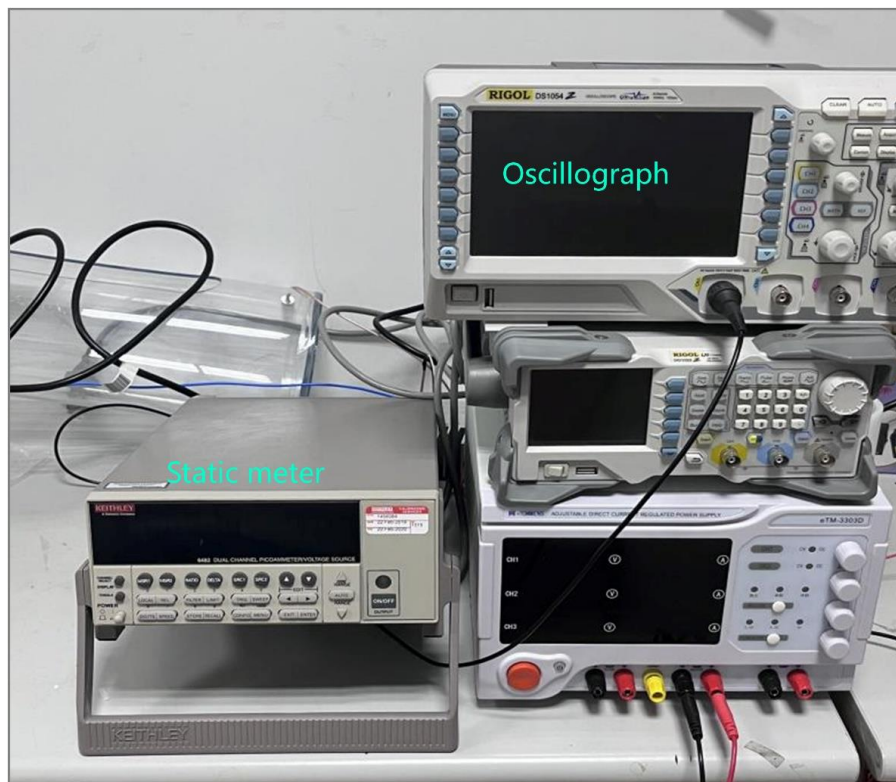
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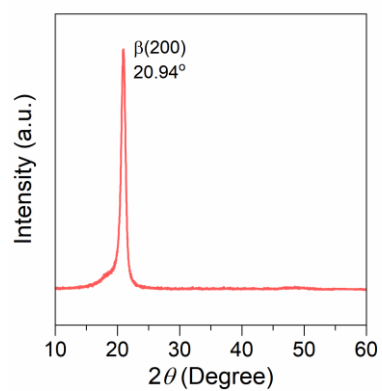
Supplementary Figure 1. Component parts and assembly process of PEEH.



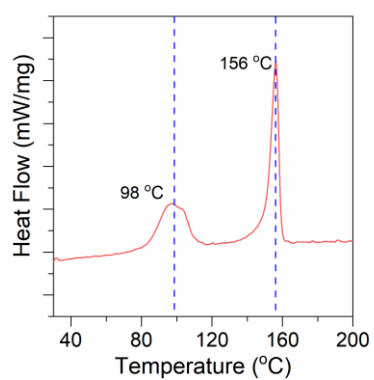
Supplementary Figure 2. Experimental platform for wind speed test and vibration test.



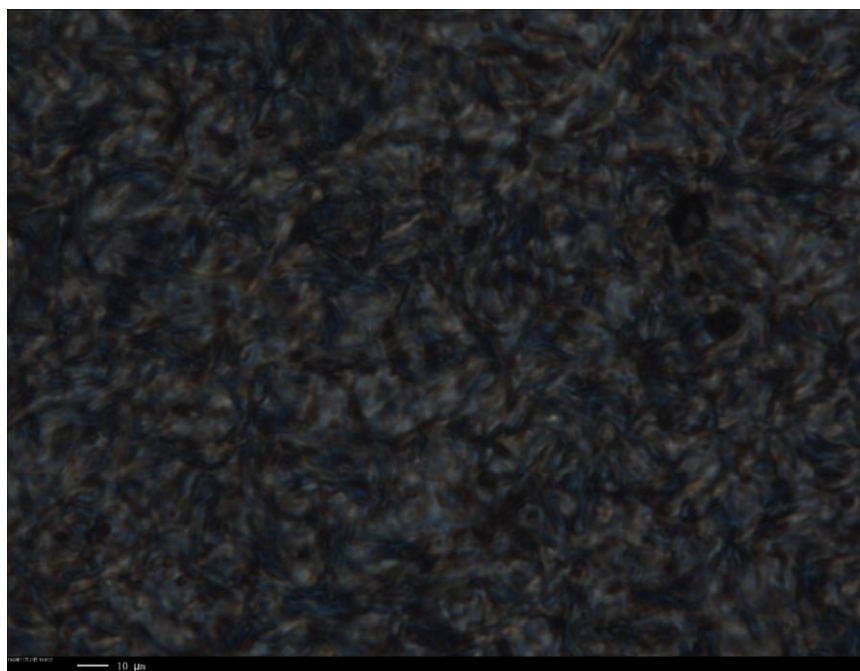
Supplementary Figure 3. Current output test bench.



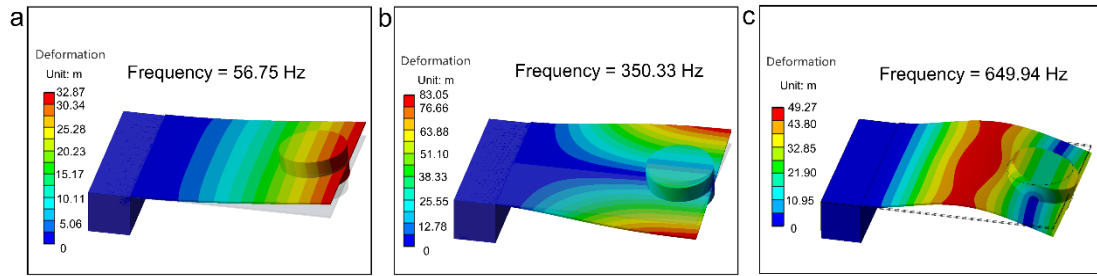
Supplementary Figure 4. XRD pattern of P(VDF-TrFE) film.



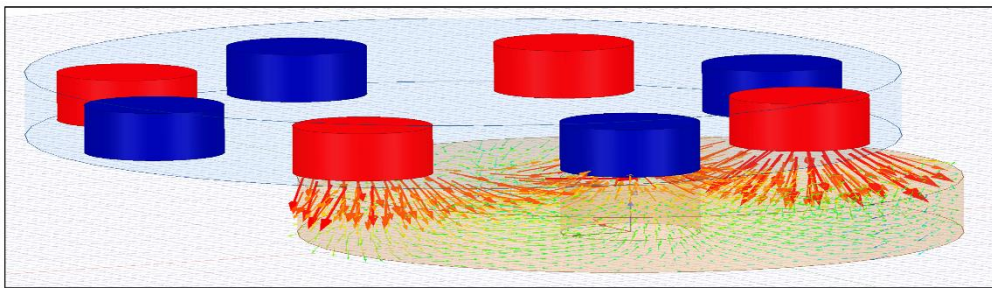
Supplementary Figure 5. DSC curve of P(VDF-TrFE) film.



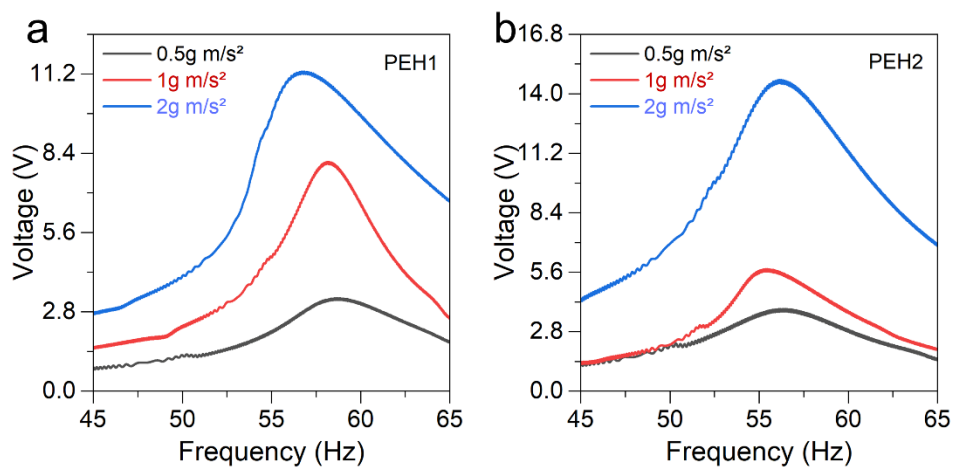
Supplementary Figure 6. Original POM image of the P(VDF-TrFE) film.



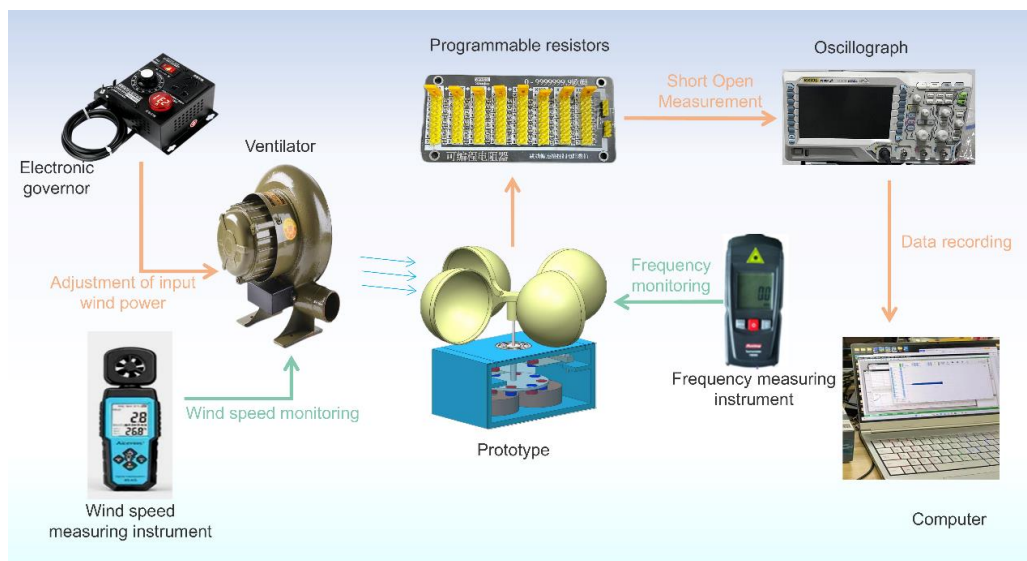
Supplementary Figure 7. Simulation results of piezoelectric cantilever beam in three different vibration modes.



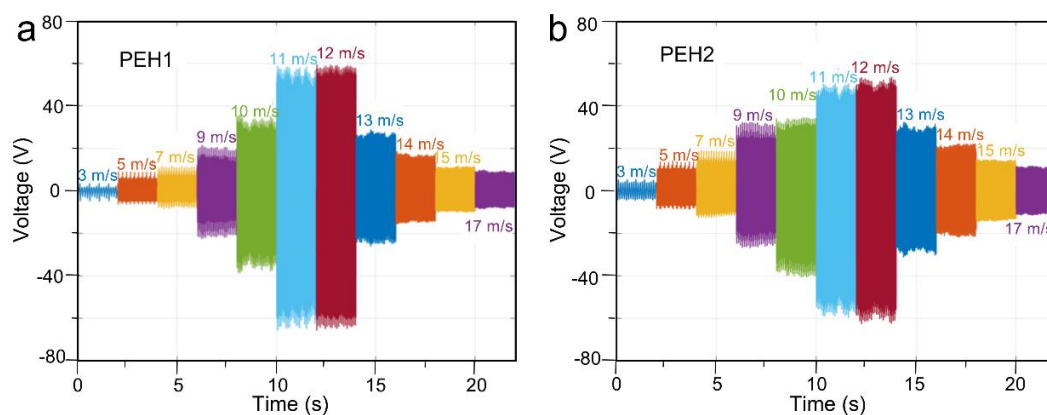
Supplementary Figure 8. Simulation analysis of magnetic field strength of electromagnetic modules.



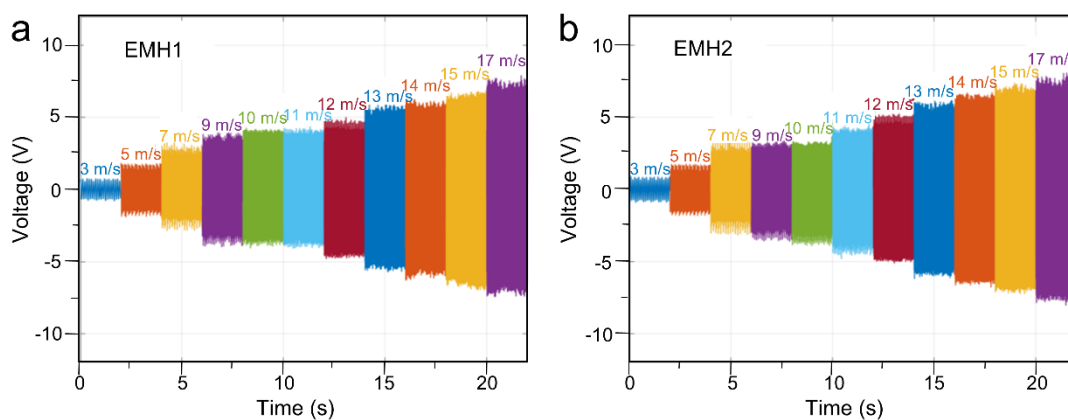
Supplementary Figure 9. Sweep curves of PEH1 a and PEH2 b at different accelerations.



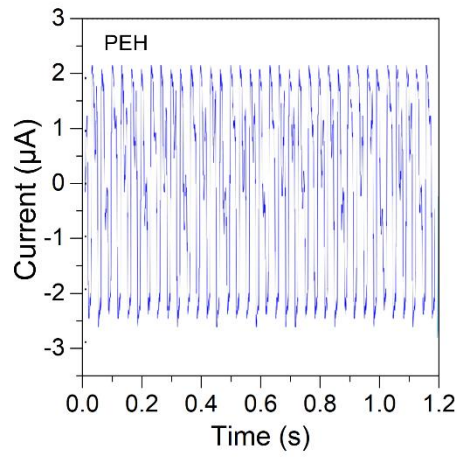
Supplementary Figure 10. Flow chart of experimental test.



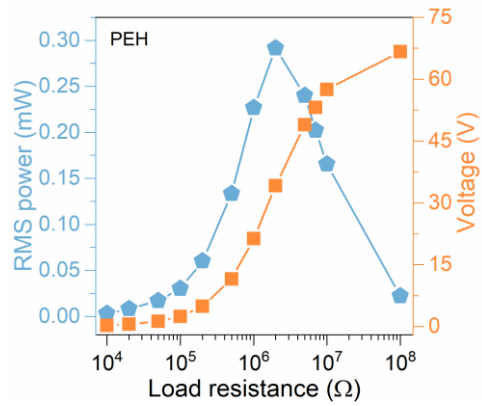
Supplementary Figure 11. Plot of open-circuit voltage output of PEH1 a and PEH2 b versus wind speed.



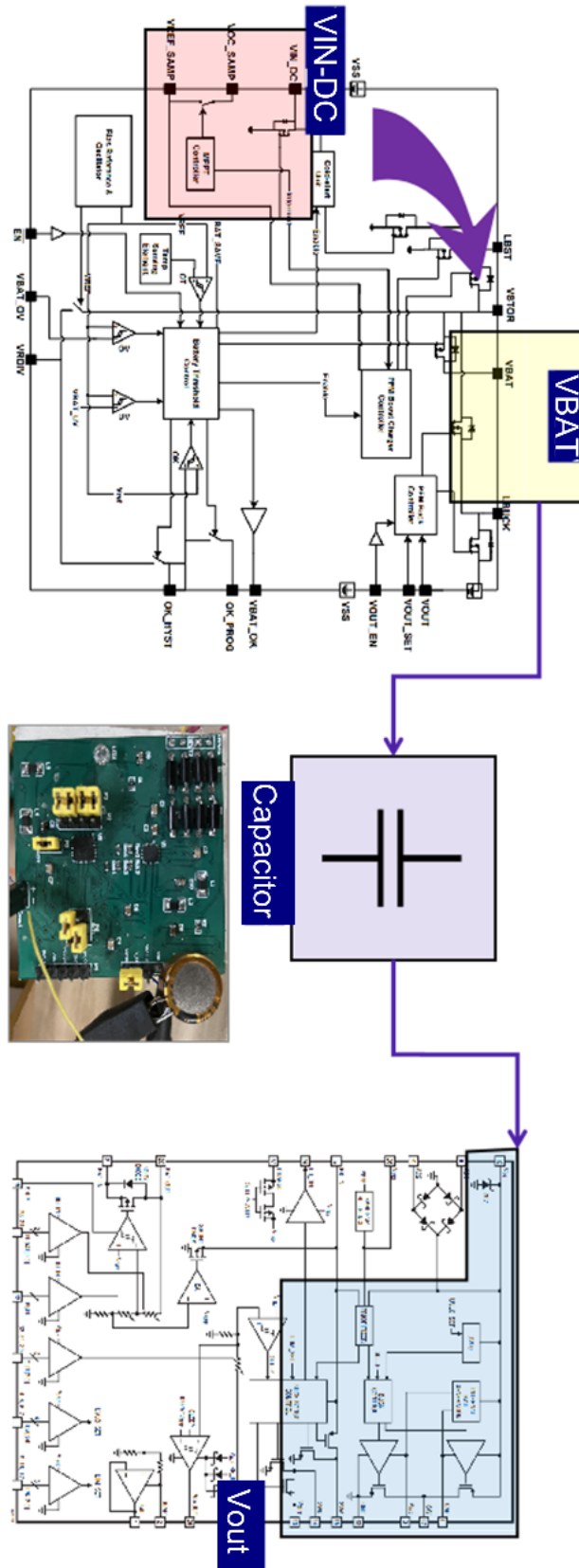
Supplementary Figure 12. Plot of open-circuit voltage output of EMH1 a and EMH2 b versus wind speed.



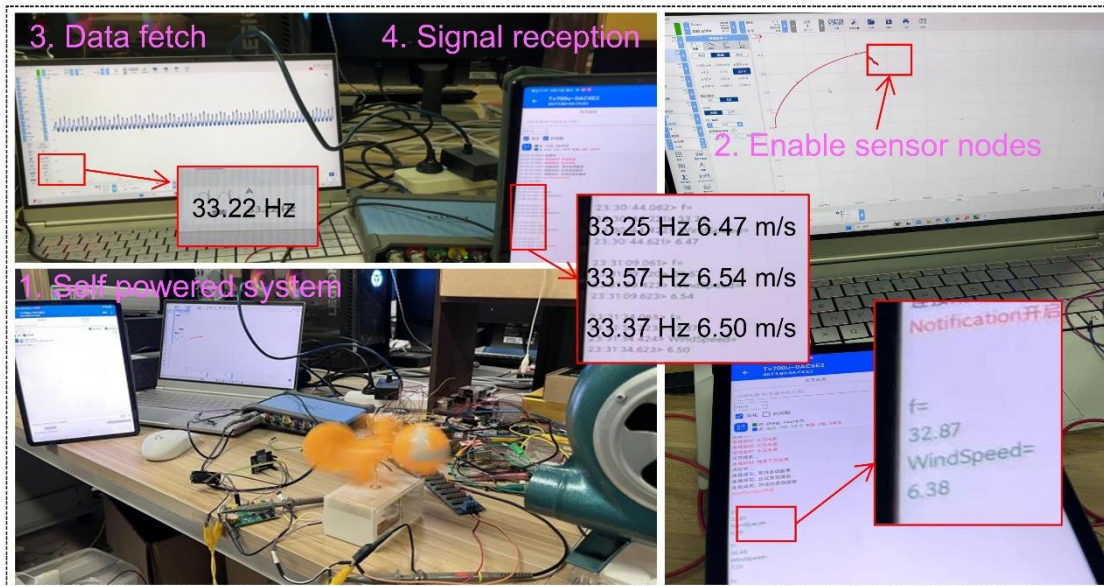
Supplementary Figure 13. Current response of PEH at 11 m/s wind speed.



Supplementary Figure 14. Output power and output voltage response of PEH with different load resistances at 11 m/s wind speed.



Supplementary Figure 15. Circuit design diagram of energy storage circuit and voltage regulator circuit.



Supplementary Figure 16. Photograph of the PEEH system test.