Physiological recordings have been one of the most significant tools for today’s diagnosis technologies, allowing for non-invasive techniques that deliver useful insights in patient care. Electrocardiogram (ECG) recordings stand among the most important of the diagnosis tools, since for more than a decade heart related diseases have proven to be more lethal than cancer\(^1\). Nonetheless, ECG recordings electrodes suffer from material degradation which results in high impedance values that limit the usability of the technique for an accurate diagnosis. Therefore, hereby we report results on the implementation of large area bilayer graphene as a long term low impedance electrode for ECG applications. The large area bilayer graphene has been synthesized using the hot filament chemical vapor deposition (HF-CVD) technique on copper substrates. The as synthesized material was later transfer to a more suitable substrate for physiological recordings experiments. Raman spectroscopy, alongside sheet resistance measurements, ensures the high quality of our material, before and after the transfer process. Electrical measurements have been taken to determine the material impedance dependence on frequency, in the interface skin/gel/electrode. Results suggest that graphene offers a practical solution to extend the life cycle of an ECG electrode when interfacing with human skin. Thus, securing long term low impedance reliable recordings.

**Keywords:** graphene, physiological, recordings

**References:**


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