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Supporting Information

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Transparent Perfect Microwave Absorber Employing Asymmetric Resonance Cavity

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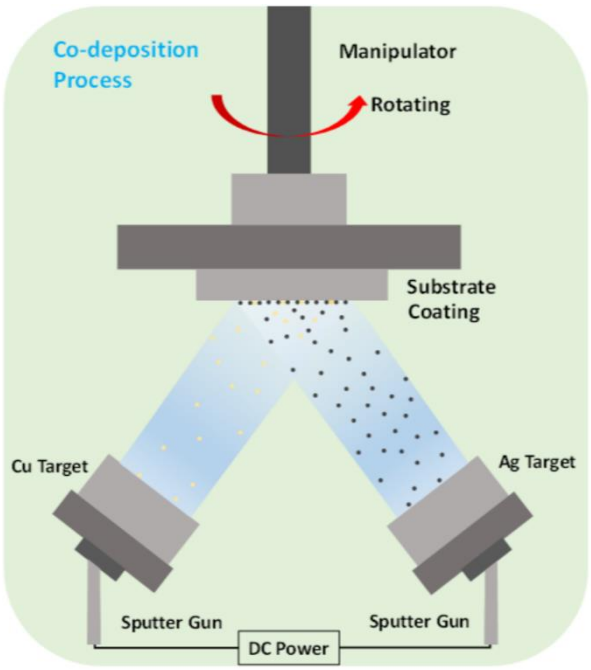

Figure S1. Set-up of co-deposition of Cu and Ag.

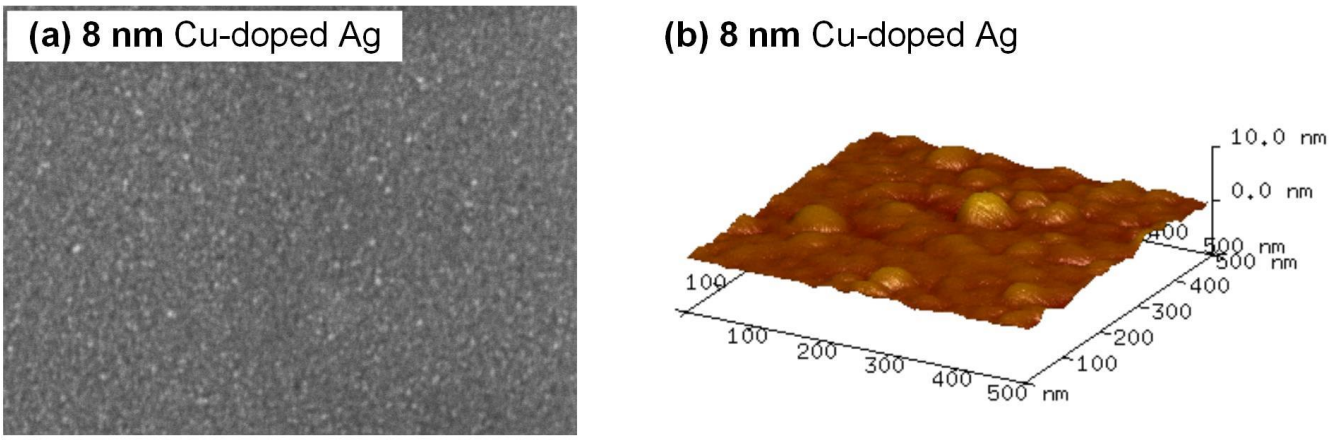

Figure S2. Surface morphology of 8 nm Cu-doped Ag film. a) SEM image. b) AFM image.

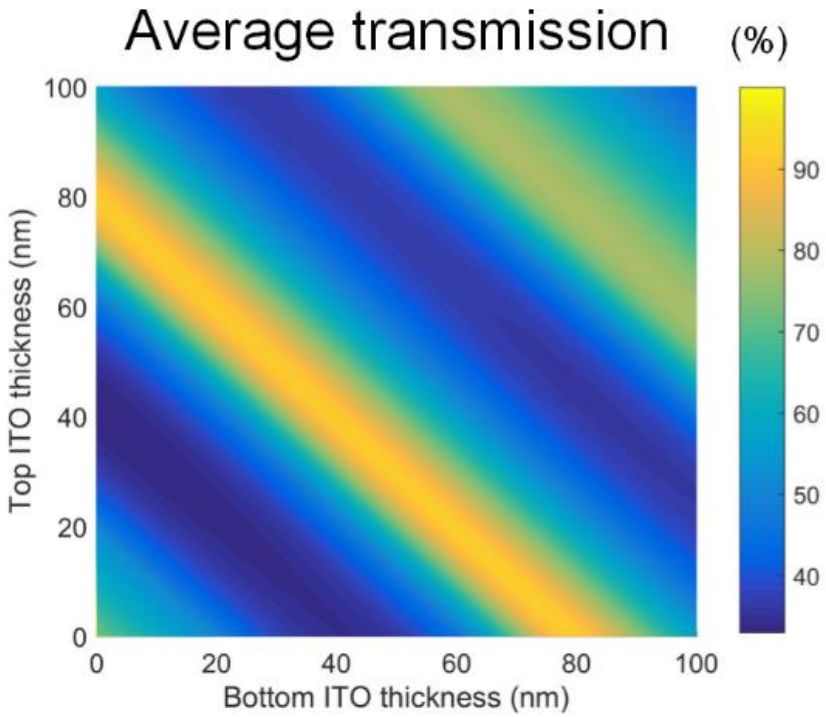

Figure S3. Calculated average visible transmittance for various thickness of the top and bottom ITO layers on 8-nm Ag.

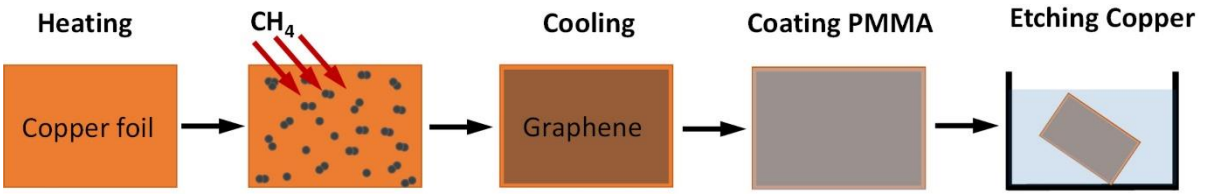

Figure S4. Synthesis and transfer process for graphene films.

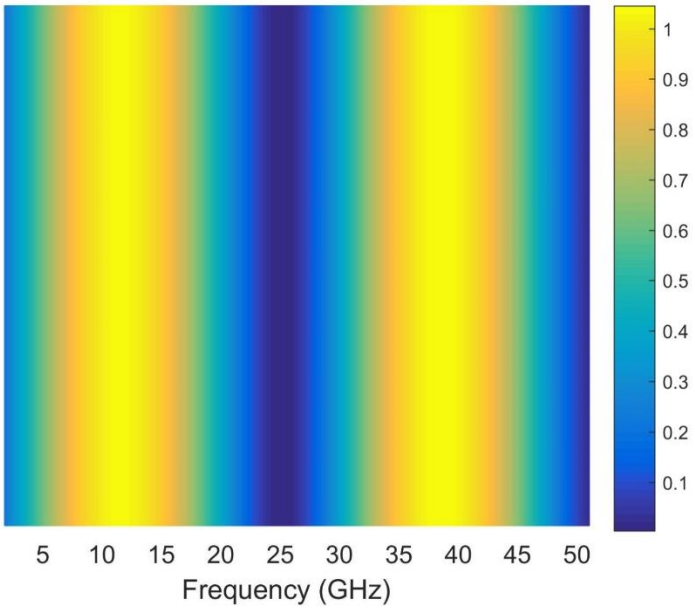

Figure S5. Calculated electric field distribution within the graphene in the GDS cavity layer at concerned frequencies. It shows that at resonant frequencies the electric field intensity is close to 1 (same to the incident field), and the electric field is stable at one particular frequency within the graphene

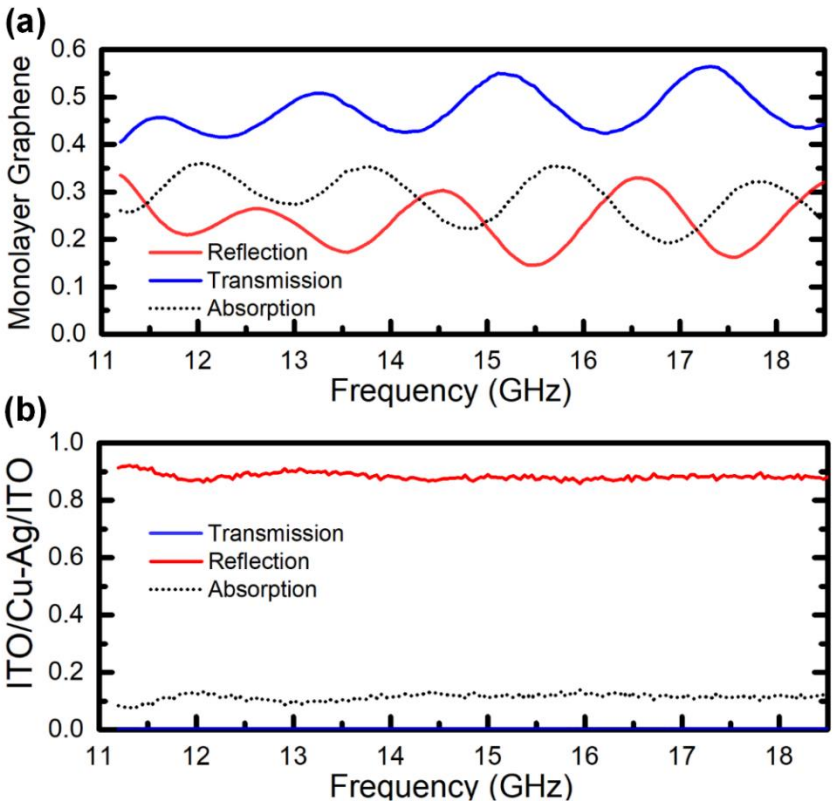

Figure S6. Microwave transmission (T), reflection (R) and absorption (A) for a) monolayer graphene on 1 mm thick silica substrate and b) ITO/Cu-doped Ag/ITO on 50 μm thick PET substrate.

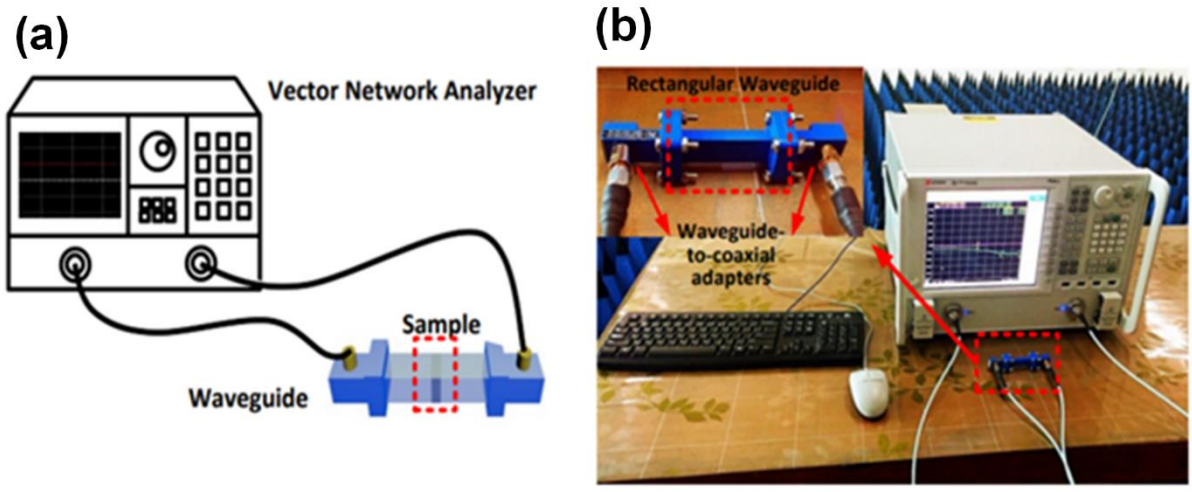

Figure S7. a) Schematic illustration and b) photograph of the measurement setup for the EMI shielding. Inset in the b) shows the rectangular waveguide of the Ku band.