Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C. This journal is © The Royal Society of Chemistry 2017



Fig. S1. The images of flower-like NiO porous material.



Fig. S2. (a) RL curves for flower-like NiO@graphene composites, (b) Relationship between simulation thickness and peak frequency, (c) The relationship between  $Z_{in}/Z_0$  and frequency.



Fig. S3 The values of  $C_0 (C_0 = \mu''(\mu')^{-2} f^{-1})$  for porous flower-like NiO@graphene.



Fig. S4 The  $\varepsilon'$ - $\varepsilon''$  curves of NiO and NiO@graphene composites.



Fig. S5 The electrical conductivity of flower-, stratiform-, and particle-like NiO@graphene composites