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## **Supporting Information**

## **Evaluation Analysis of Electromagnetic Waves Absorption for Self-Assemble 3D**

## Graphene Skeleton-Supported BN/SiC Composites

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Fig. S1 The 3D reflection loss map of 3D-rGO/BN/SiC composites.



Fig. S2 The 3D reflection loss maps of 3D-rGO/BN/SiC composites after 4h oxidation under (a) 400 °C, (b) 600 °C, (c) 800 °C, and (d) 1000 °C, respectively.



Fig. S3 The MS curves of (a-c) 3D-rGO, and (d-f) 3D-rGO/BN/SiC during the

thermogravimetric test.



Fig. S4 The (a) XRD and (b) Raman patterns dependent of oxidizing temperature for 3D-

rGO/BN/SiC.



Fig. S5 FESEM high-magnification fracture surface micrographs of 3D-rGO/BN/SiC after oxidation under (a) 400 °C, (b) 600 °C, (c) 800 °C, and (d) 1000 °C, respectively. (e)
Corresponding EDS elemental maps of (d). (f) FESEM external surface micrograph of 3D-rGO/BN/SiC after oxidation under 1000 °C.