

Supplementary Information

Rational Design of Two-dimensional Flaky Fe/void/C Composites for Enhanced Microwave Absorption Properties

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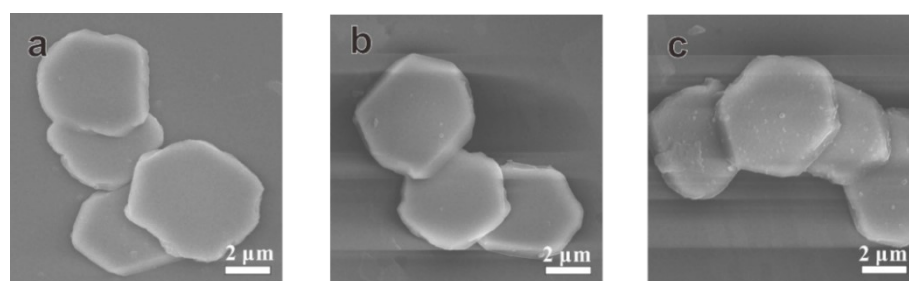


Fig. S1 SEM images of (a) Fe₂O₃@PDA-1, (b) Fe₂O₃@PDA-2, and (c) Fe₂O₃@PDA-3 Composites.

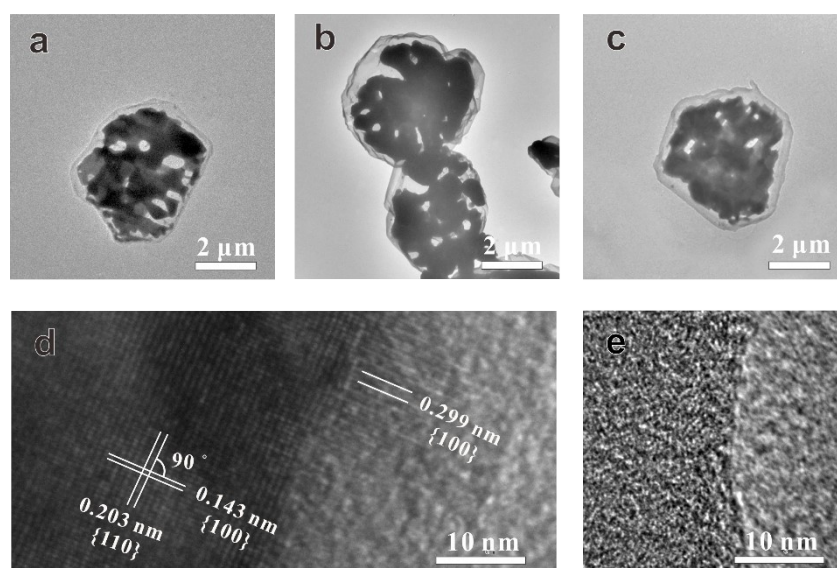


Fig. S2 TEM images of (a) Fe/void/C-1, (b) Fe/void/C-2, (c) Fe/void/C-3; HRTEM image of (d) metal cores and (e) amorphous carbon shell.

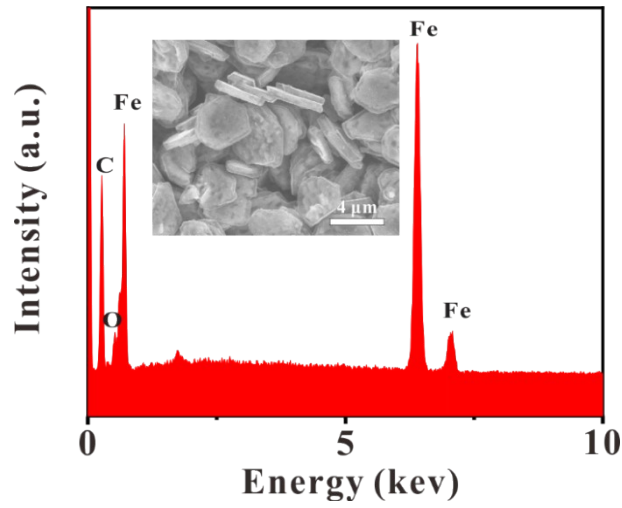


Fig. S3 Typical EDX spectrum of flaky Fe/void/C composites.

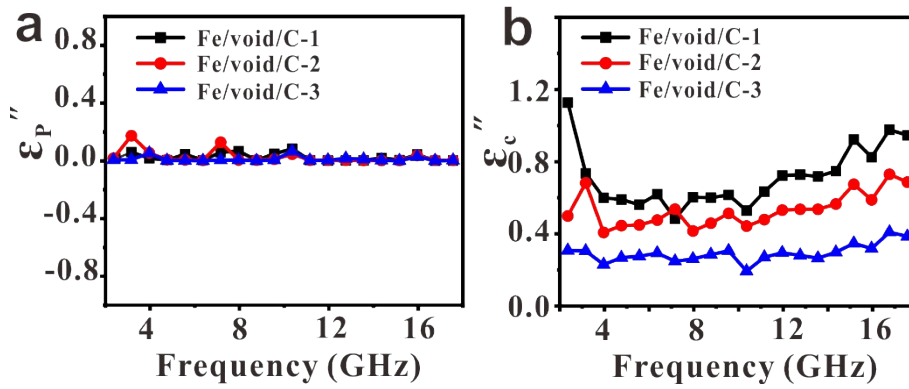


Fig. S4 Plots of ϵ_c'' and ϵ_p'' vs frequency of Fe/void/C composites.

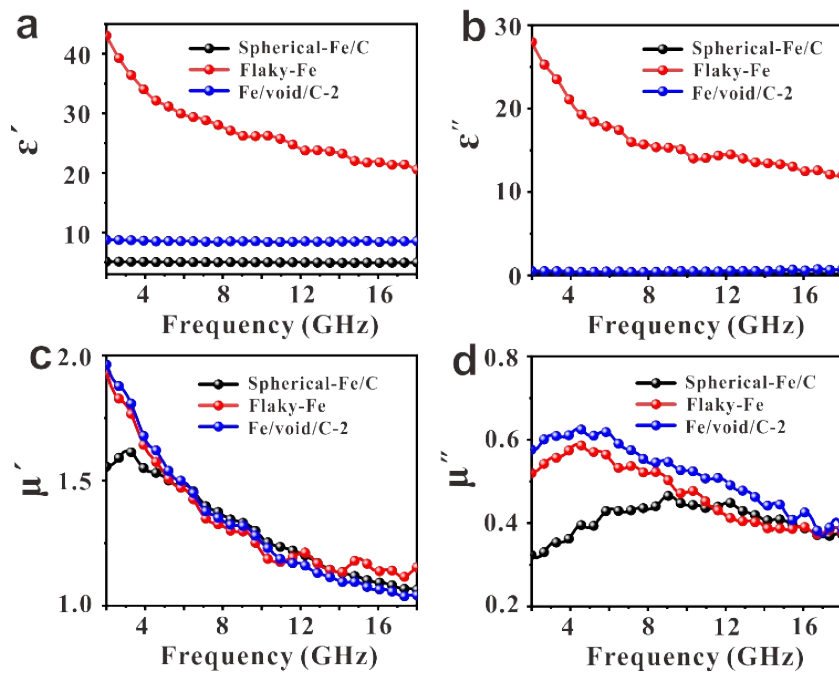


Fig. S5 (a, b) Relative complex permittivity of Flaky-Fe, Spherical Fe/C, Fe/void/C-2, respectively; (c, d) Relative complex permeability of Flaky-Fe, Spherical Fe/C, Fe/void/C-2, respectively.

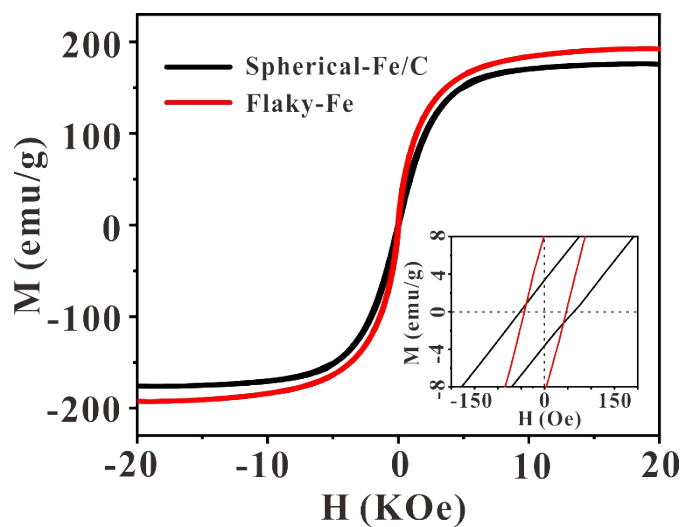


Fig. S6 Room-temperature magnetic hysteresis loops of Flaky-Fe and Spherical-Fe/C. Inset shows the corresponding part of hysteresis loops from -200 to 200 Oe.

Table S1. Carbon contents of different Fe/void/C composites and Spherical Fe/C measured by ICP-OES

Samples	The mass percent of carbon (wt %)	Calcination temperature (°C)
Fe/void/C-1	5.03	550
Fe/void/C-2	8.47	550
Fe/void/C-3	11.86	550
Spherical Fe/C	6.84	550