

Supporting Information

Waxberry-like hierarchical Ni@C microspheres as high-performance microwave absorber

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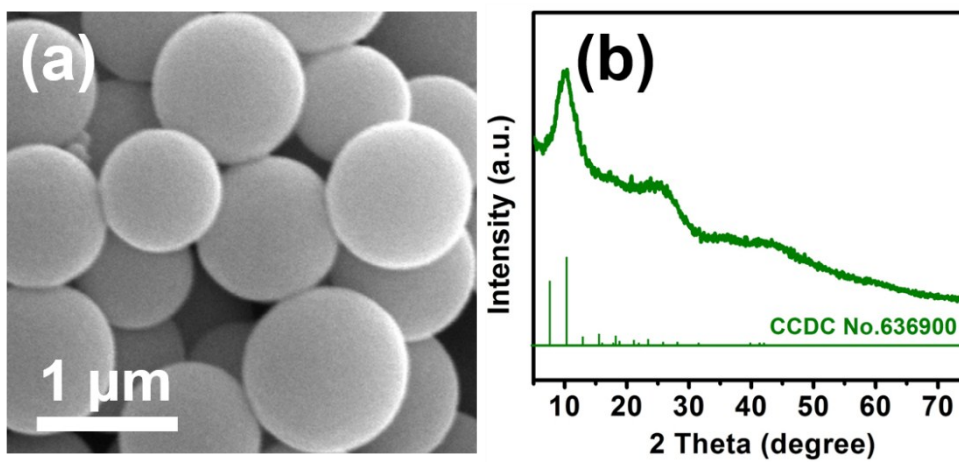


Fig. S1 SEM image (a) and XRD pattern (b) of Ni-btc microspheres.

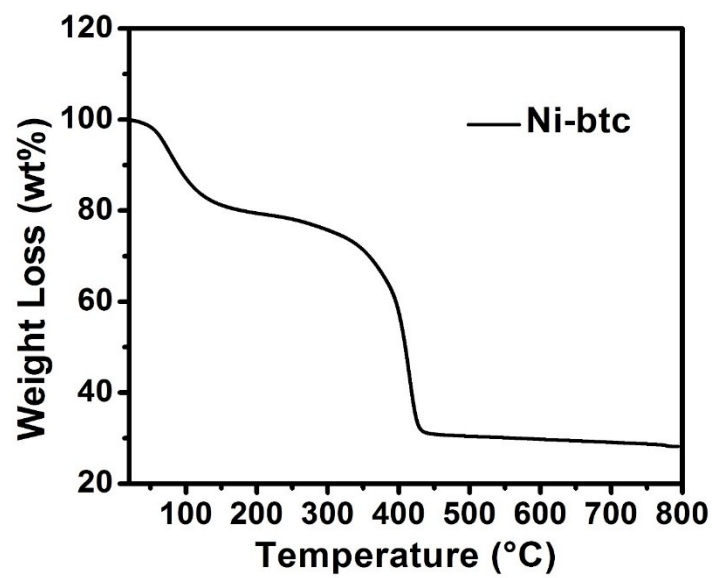


Fig. S2 TG curve under Ar atmosphere of Ni-btc.

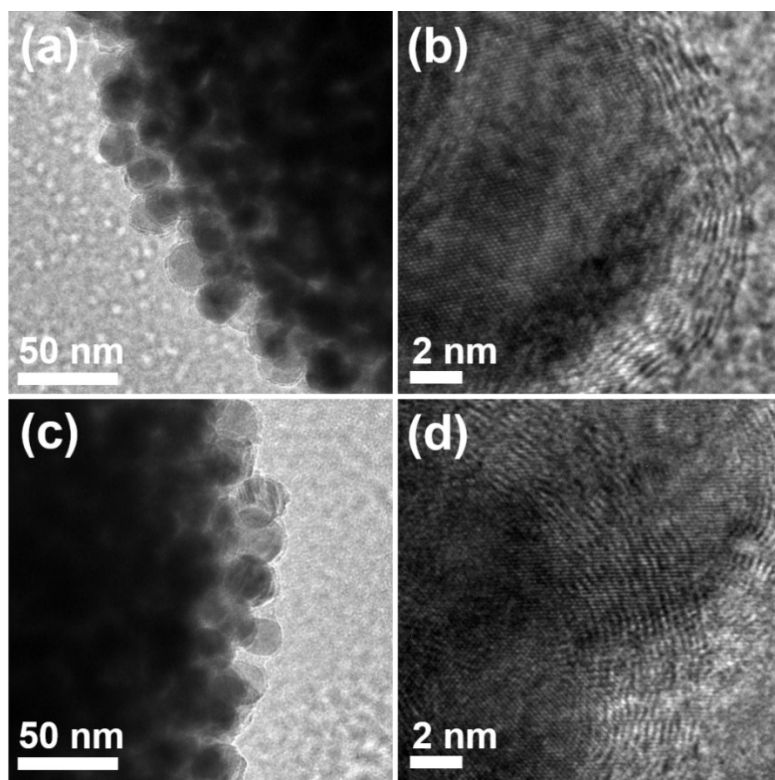


Fig. S3 TEM images of Ni@C-650 (a and b) and Ni@C-750 (c and d).

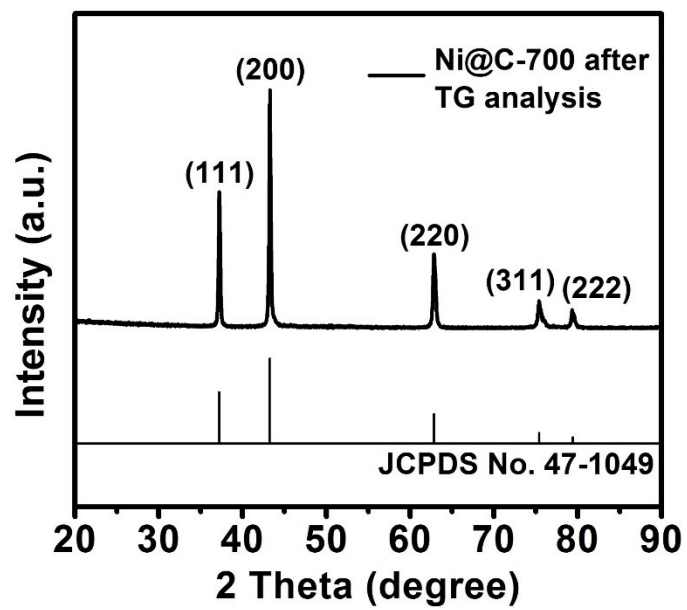


Fig. S4 XRD pattern of Ni@C-700 after TG analysis.

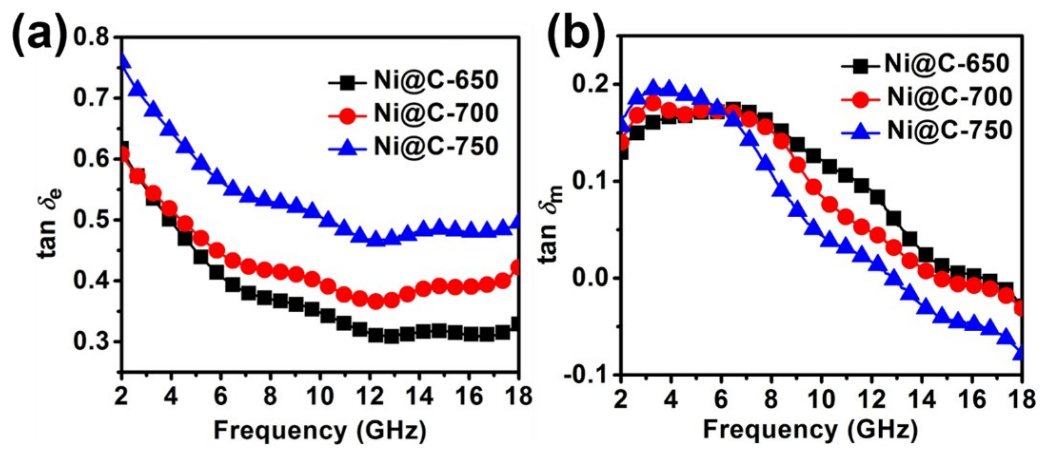


Fig. S5 Dielectric loss tangents (a) and magnetic loss tangents (b) of Ni@C-650, Ni@C-700 and Ni@C-750.

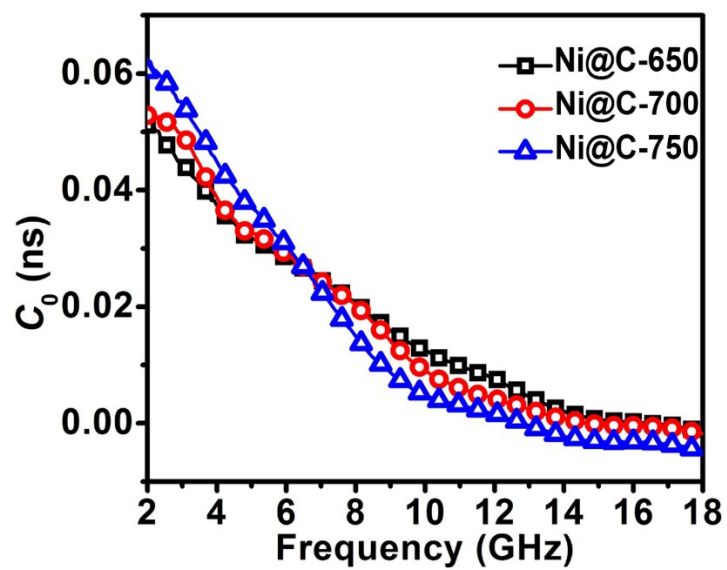


Fig. S6 C_0 curves of Ni@C-650, Ni@C-700 and Ni@C-750.

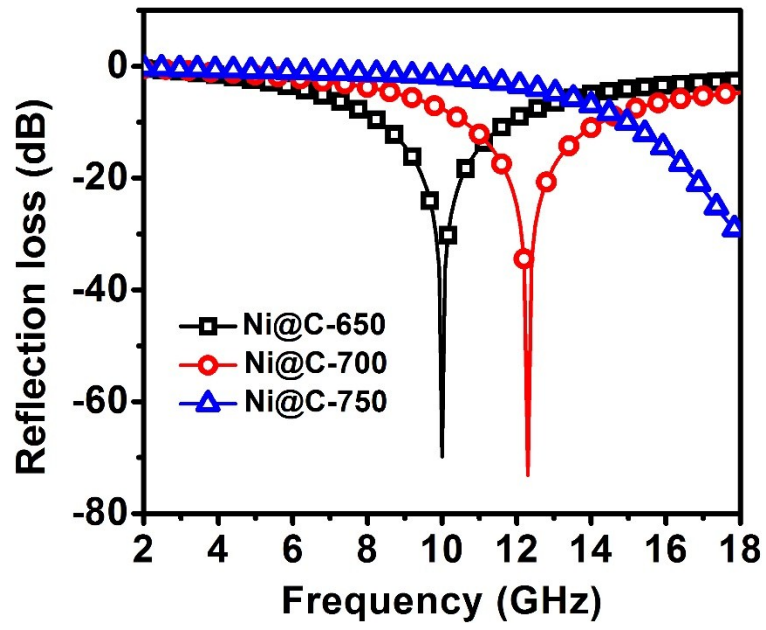


Fig. S7 The reflection loss curves of Ni@C-650, Ni@C-700 and Ni@C-750.

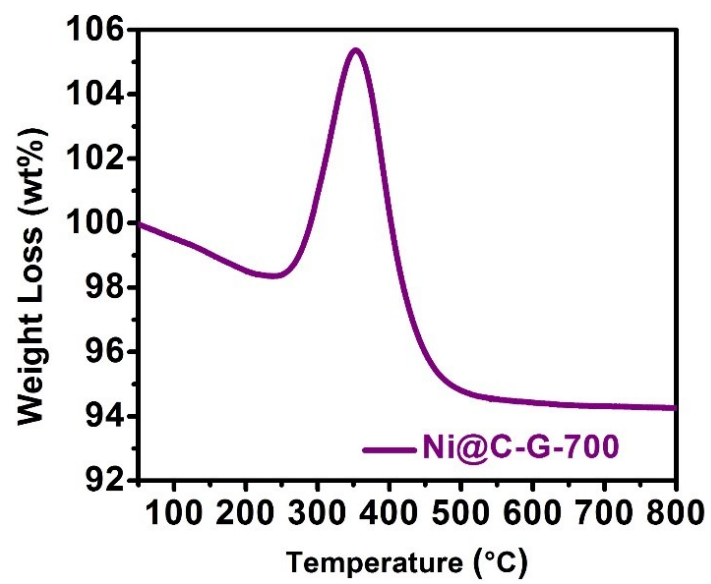


Fig. S8 TG curve of Ni@C-G-700.

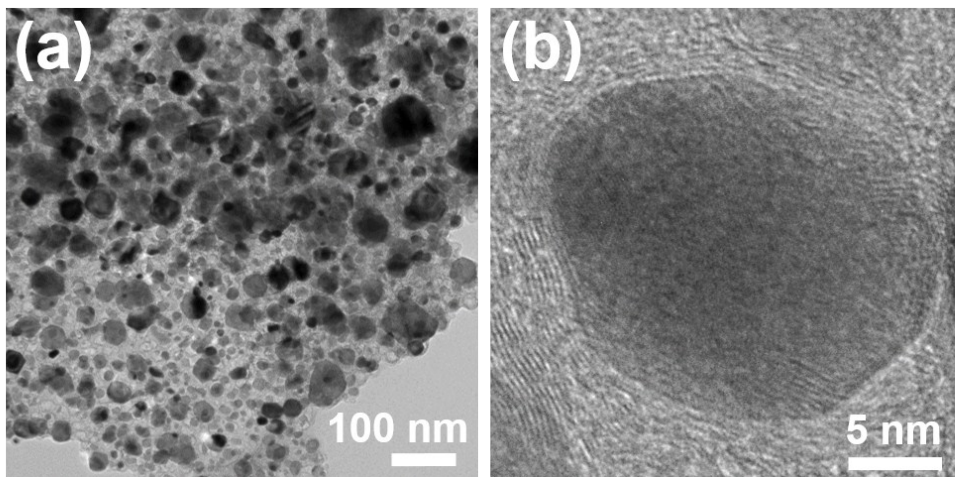


Fig. S9 TEM images of Ni@C-G-700.

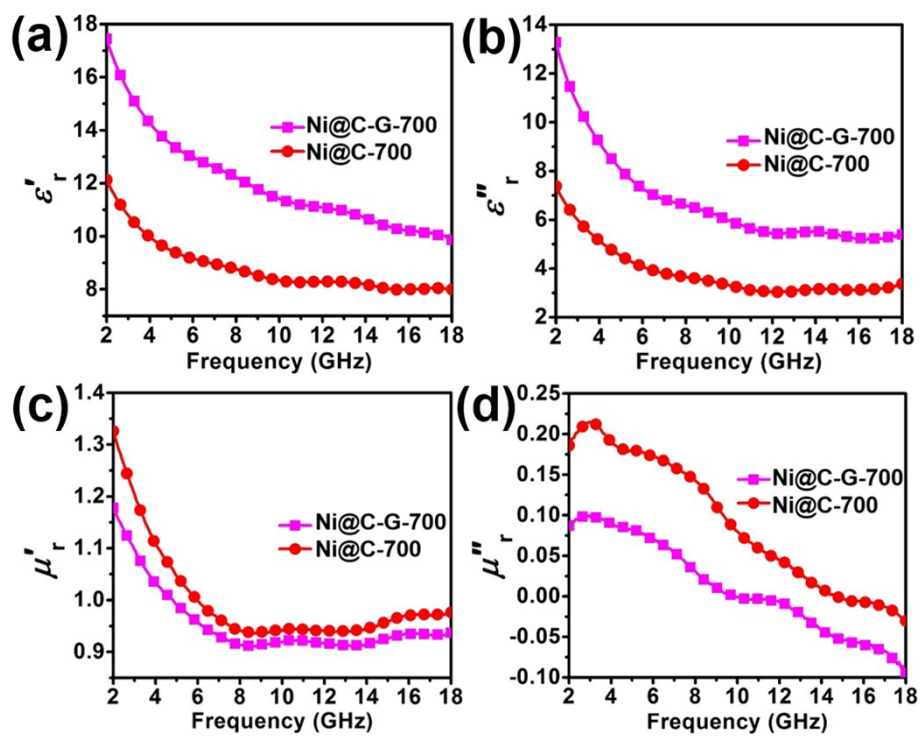


Fig. S10 ϵ_r' (a), ϵ_r'' (b), μ_r' (c), and μ_r'' (d) values of Ni@C-G-700 and Ni@C-700.

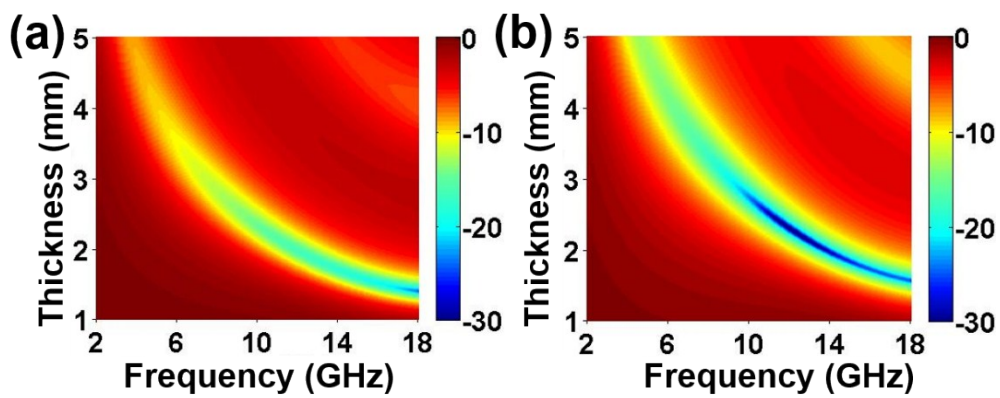


Fig. S11 Two-dimensional RL maps of Ni@C-G-700 (a) and Ni@C-700 (b).

Table S1 Some detailed parameters about RL characteristics of Ni@C-G-700 and Ni@C-700.

Samples	Minimum RL values (dB) (frequency, thickness)	Bandwidth <-10 dB (GHz) (range, thickness)	Integrated thickness	Integrated response bandwidth (GHz) (range)
Ni@C-G-700	-24.7 (18.0 GHz, 1.4 mm)	4.4 (13.6-18.0 GHz, 1.6 mm)	1.0-5.0 mm	12.2 (5.8-18.0 GHz)
Ni@C-700	-73.2 (12.3 GHz, 2.2 mm)	4.8 (13.2-18.0 GHz, 1.8 mm)	1.0-5.0 mm	14.2 (3.8-18.0 GHz)