

Figure S1. EDS images of raw SiBaFe alloy particles.

Table S1. Composition (except C and O) of raw SiBaFe alloy particles.

Elements	Si	Ba	Fe	Ca
Contents (wt.%)	50.93 ± 4.04	28.98 ± 3.44	17.40 ± 2.31	2.69 ± 1.31

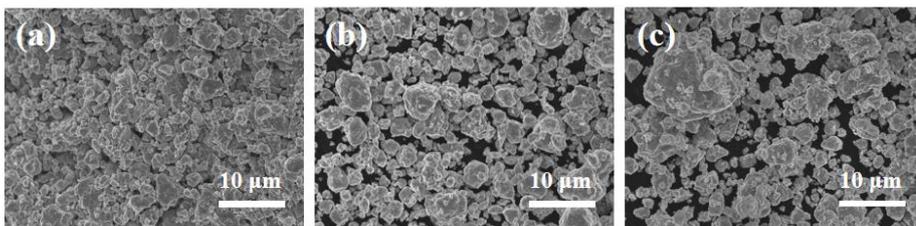


Figure S2. (a-c) SEM images of (a) CI, (b) CI/SiBaFe-5 and (c) CI/1SiBaFe-10 particles.

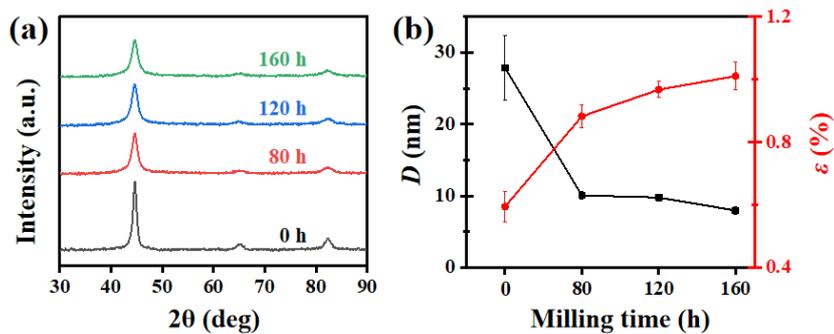


Figure S3. (a) XRD spectra, (b) grain size and internal strain of CI/SiBaFe-15 particles before and after milling for different times.

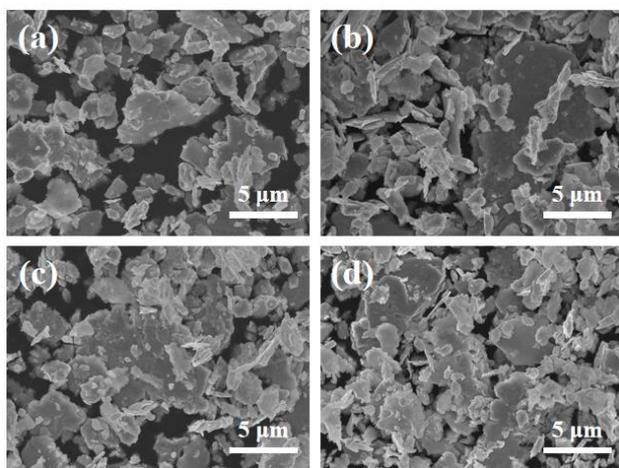


Figure S4. (a-d) SEM images of flaky (a) CI, (b) CI/SiBaFe-5, (c) CI/1SiBaFe-10 and (d) CI/1SiBaFe-15 particles after attritor ball milling.

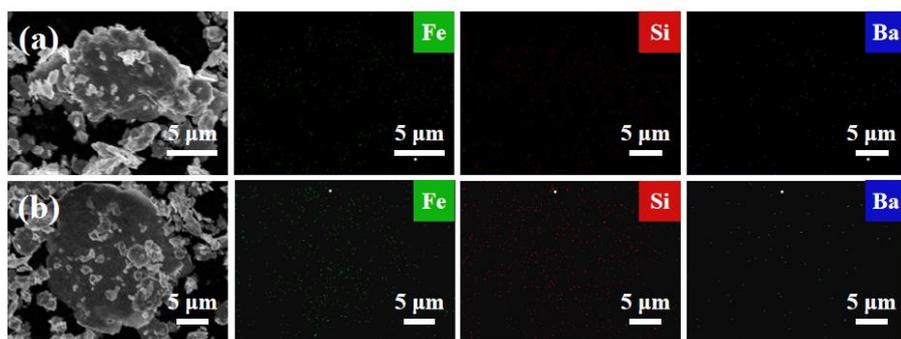


Figure S5. (a,b) EDS images of (a) flaky CI/SiBaFe-5 and (b) CI/SiBaFe-10 particles.

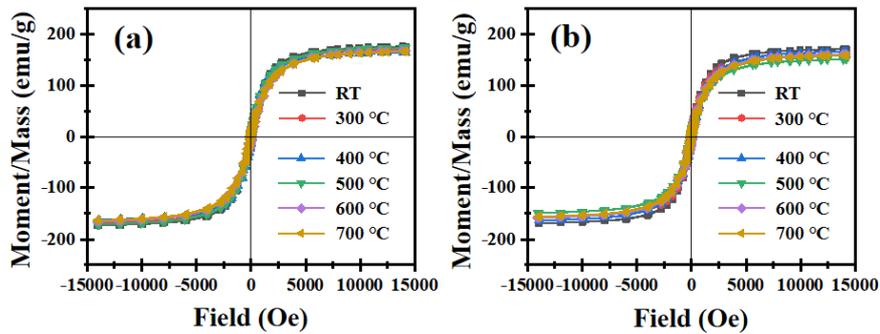


Figure S6. Hysteresis loops of flaky (a) CI/SiBaFe-5 and (b) CI/SiBaFe-10 particles before and after heat treatment.

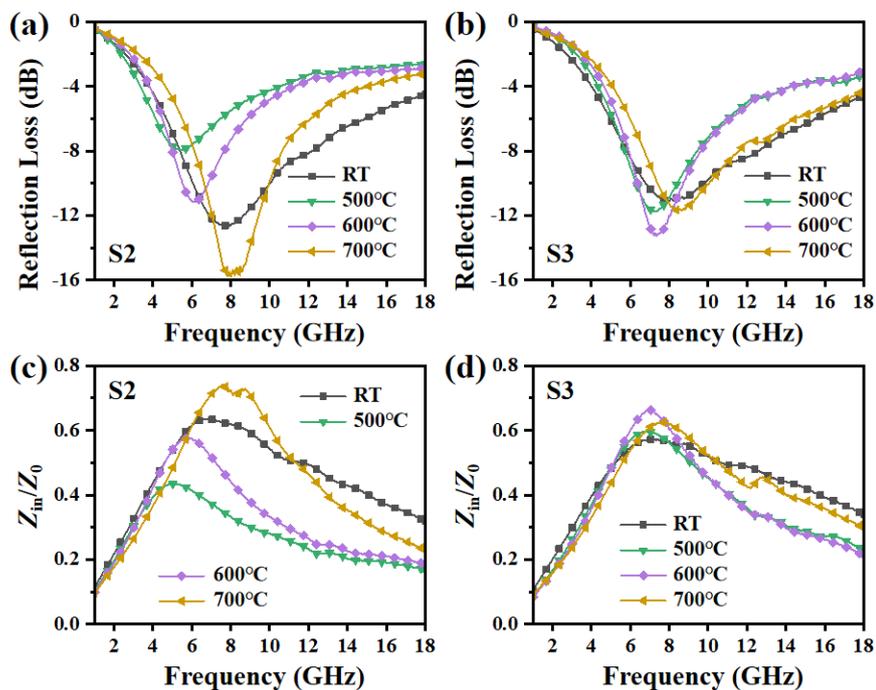


Figure S7. (a,b) Microwave absorption of (a) CI/SiBaFe-5 and (b) CI/SiBaFe-10 particles; (c,d) impedance matching analysis for (c) CI/SiBaFe-5 and (d) CI/SiBaFe-10 particles before and after heat treatment.