Supplementary Information (SI) for Journal of Materials Chemistry C. This journal is © The Royal Society of Chemistry 2025

Supporting Information

A strategy to fabricate lightweight multifunctional microwave absorbing composite with load-

bearing and infrared stealth by modified 3D integrated hollow E-glass fiber

Yaru Cao^a, Yuchang Qing^{a,*}, Junjie Yang^a, Chuanyang Jiang^a, Liuchao Zhang^a, Chunhai Wang^a, and

Fa Luo^a

^a State Key Laboratory of Solidification Processing, School of Materials Science and Engineering,

Northwestern Polytechnical University, Xi'an, 710072, China

* Corresponding Author: Yuchang Qing, E-mail: qingyuchang@nwpu.edu.cn



Fig. S1. Microscopic morphology of HGM (a) and HGM@Ni (b).



Fig. S2. (a) Flexural stress-strain curves of S0 and SFMC(S4). Flexural strength bar graph of (b) raw (S0) and modified E-glass fiber (PS1, PS2, PS3, and PS4); (c) S0 and S4.



Fig. S3. (a, c, and e) 3D RL of the EMW attenuation of S1, S2, and S3. (b, d, and f) 2D impedance

matching projection mappings of S1, S2, and S3.



Fig. S4. RCS simulated model: the 3D spherical coordinates of samples in different directions.