

Supporting information

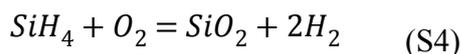
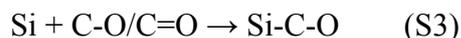
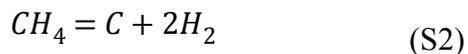
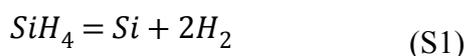
Dual-functional SiOC Ceramics coating modified Carbon Fibers with Enhanced Microwave Absorption Performance

*Sifan Zeng^{a, b}, Wanlin Feng^a, Shuyuan Peng^c, Zhen Teng^a, Chen Chen^a, Haibin Zhang^a
*, Shuming Peng^a**

- a. Innovation Research Team for Advanced Ceramics, Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics, Mianyang, 621900, China
- b. Department of Engineering and Applied Physics, University of Science and Technology of China, Hefei, 230026, China
- c. Department of Product Design, School of Art & Design, Dalian Polytechnic University, Dalian, 116034, China

* Author to whom correspondence should be addressed. Electronic mail:
hbzhang@caep.cn, pengshuming@caep.cn

Equations



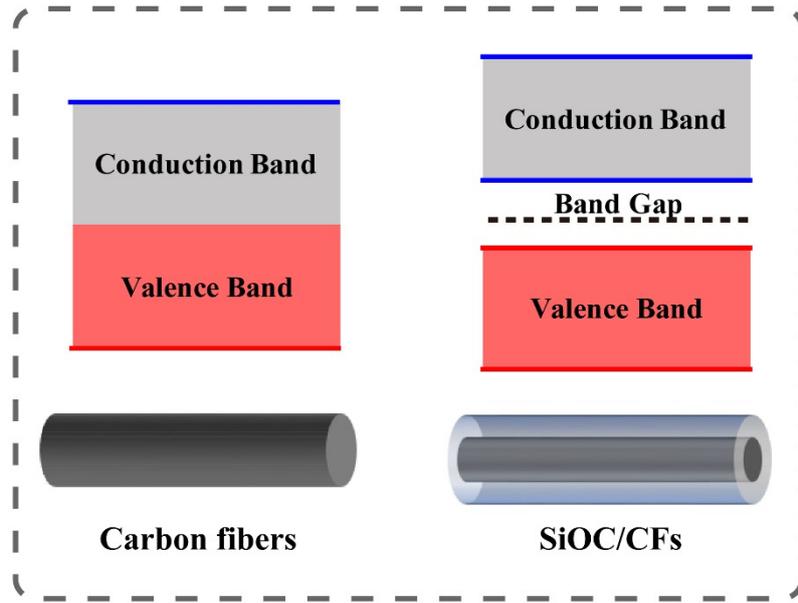


Figure S1. The schematic representation of band gap of SiOC/Cfs and Cfs.

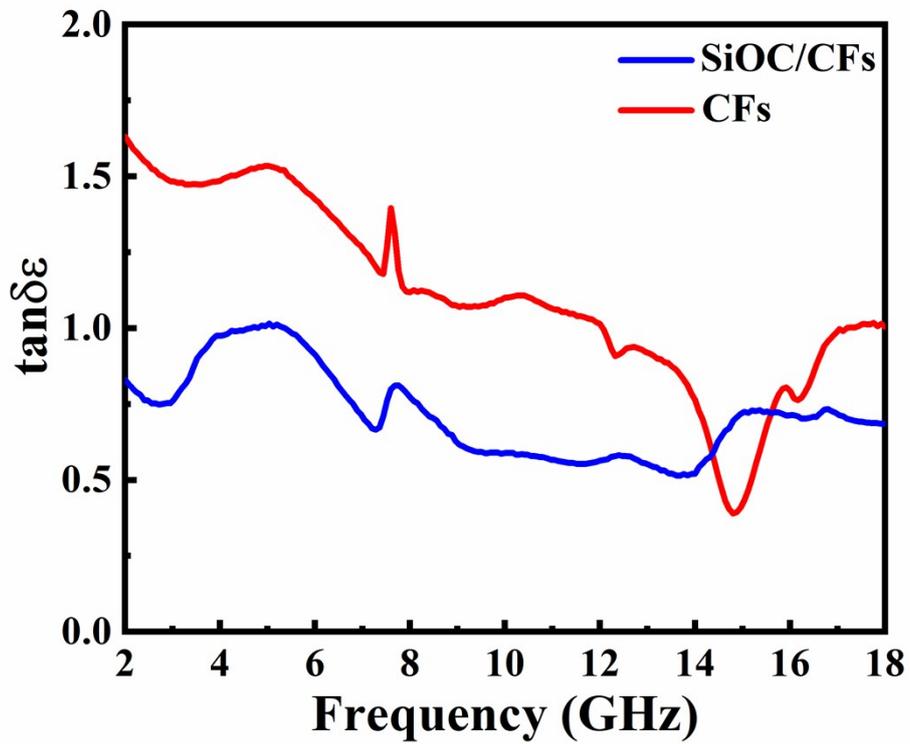


Figure S2. The $\tan\delta$ curves of SiOC/CFs and CFs samples

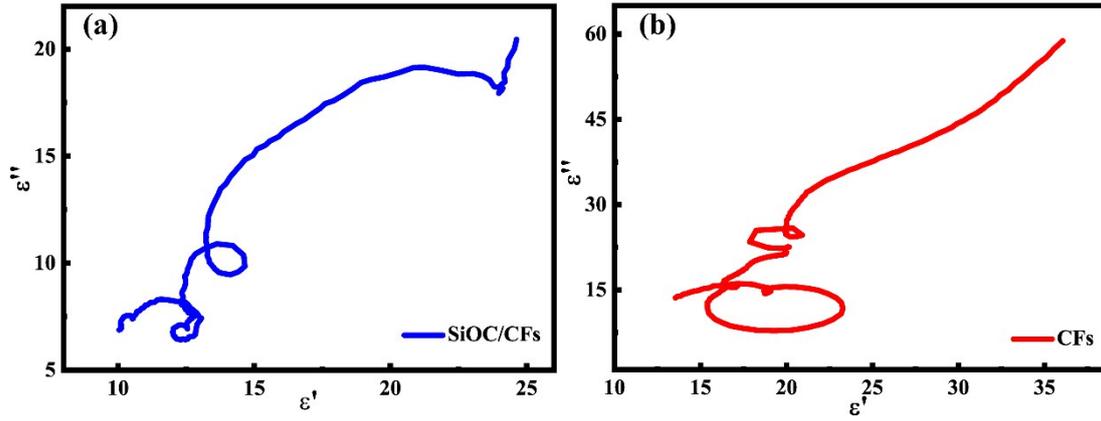


Figure S3. The Cole-Cole plots of (a) SiOC/CFs and (b) CFs

Table 1. The MA performance of Si-based CFs composites

Absorber	Mass ratio (wt.%)	The optimal RL			Ref.
		RL value (dB)	Frequency (GHz)	Thickness (mm)	
Cf/BN/SiC	20	-13.30	~ 12.20	3.00	[15]
CF/SiO ₂	-	-10.22	9.90	5.00	[16]
SiCNFs/CF	20	-28.30	5.60	3.50	[29]
CFs/Si ₃ N ₄	8	-14.00	~10.00	2.75	[30]
SiCnw/Cf	30	-21.50	7.70	2.00	[31]
SiOC/CFs	50	-47.50	2.64	5.10	Herein