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Supplementary Information

Layered Double Hydroxide-derived Exchange Spring Magnet Array Grown on Graphene and its Application as an Ultrathin Electromagnetic Wave Absorbing Material †

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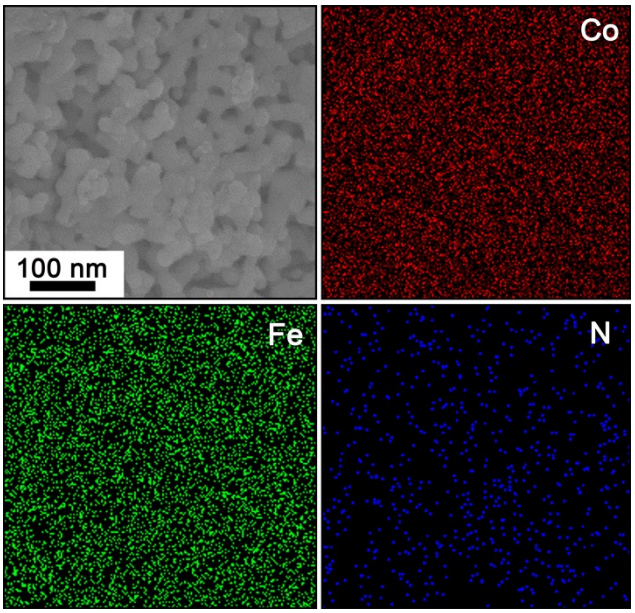

Figure S1. EDS elemental mappings of S-N450.

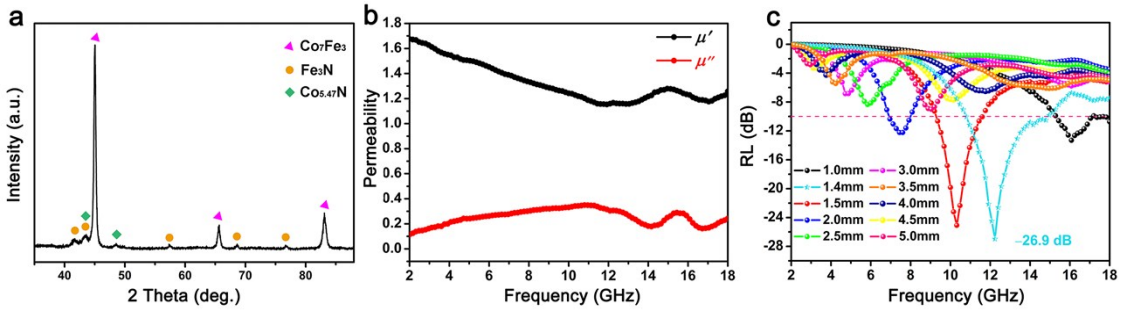

Figure S2. (a) XRD pattern, (b) complex permeability and (c) RL curves of $Fe_3N/Co_{5.47}N/Co_7Fe_3$ composite.

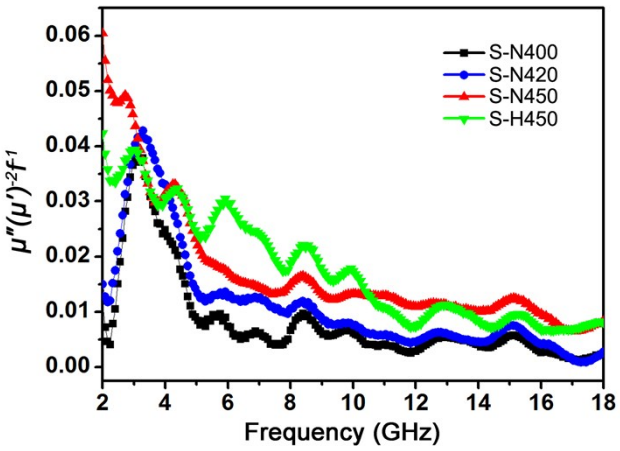

Figure S3. Frequency dependence of $\mu''(\mu')^{-2}f^{-1}$ values for S-N400, S-N420, S-N450 and S-H450.

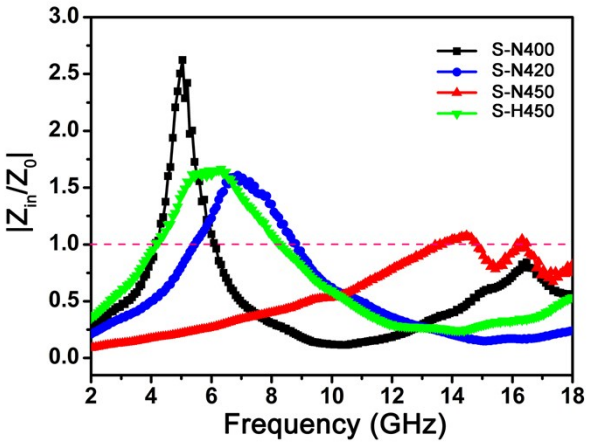

Figure S4. Frequency dependence of relative input impedance ($|Z_{in}/Z_0|$) of S-N400, S-N420, S-N450 and S-H450.

Table S1. Comparison of EMW absorbing properties of rGO-based magnetic/dielectric hybrid absorbers.

Samples	Matching thickness (mm)	Matching frequency (GHz)	Effective bandwidth	Min. RL (dB)	Min. RL/ Matching thickness (dB/mm)	Ref.
Fe/rGO	3.0	5.6	1.4	–36.5	–12.2	1
Co_3O_4/Co/rGO	2.0	13.1	/	–52.8	–26.4	2
Fe_3O_4/rGO	2.5	6.7	4.2	–41. 9	–16.8	3
$MnFe_2O_4$/rGO	1.7	15.4	5.2	–47.5	–27.9	4
CoNi/rGO	6.0	17.5	> 2.1	–23.3	–3.9	5
$BiFeO_3$/rGO	1.6	10.7	2.1	–28.7	–17.9	6
CoS/rGO	4.0	6.8	2.0	–54.2	–13.6	7
ZnO-Ni-C/rGO	2.1	15.2	5.6	–59.3	–28.2	8
MoS_2/rGO	2.3	11.7	4.2	–50.9	–22.1	9
$ZnFe_2O_4$/rGO	2.5	9.4	3.2	–41.1	–16.4	10
$ZnFe_2O_4$/rGO/CuS	2.2	14.6	7.5	–55.4	–25.2	11
$CoFe_2O_4$/rGO	2.0	12.4	5.0	–47.9	–23.9	12
FeNi/rGO	4.6	4.8	1.9	–26.7	–5.9	13
$BaFe_{12}O_{19}$/Fe_3O_4/rGO	1.8	10.0	5.7	–46.0	–25.7	14
$Ni_{0.33}Co_{0.67}Fe_2O_4$/rGO	3.0	9.1	3.2	–47.5	–15.8	15
Fe_3O_4/Fe/rGO	4.0	9.2	3.9	–23.1	–5.8	16
$NiFe_2O_4$/rGO	2.7	11.5	4.1	–58.0	–21.5	17
CeO_2/rGO	3.5	6.4	2.3	–53.7	–15.3	18
Fe_3N/$Co_{5.47}N$/Co_7Fe_3/N-rGO	1.4	16.4	> 4	–59.1	–41.7	This work

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