Microwave scattering parameters of ferro-nano-carbon–composites for short range tracking countermeasures

Ashwini P. Alegaonkar [a], Himangshu B. Baskey [b], Prashant S. Alegaonkar [c, 1]

[a] *Department of Chemistry, Savitribai Phule Pune University, Pune 411 007, Maharashtra, India*

[b] *RF and Microwave Engineering Laboratory, Department of Strategic Materials, DMSRDE-DRDO, GT Road, Kanpur 208013, Uttar Pradesh, India*

[c] *Department of Physics, School of Basic and Applied Sciences, Central University of Punjab, Bathinda 151 401, Punjab, India*

Supporting information

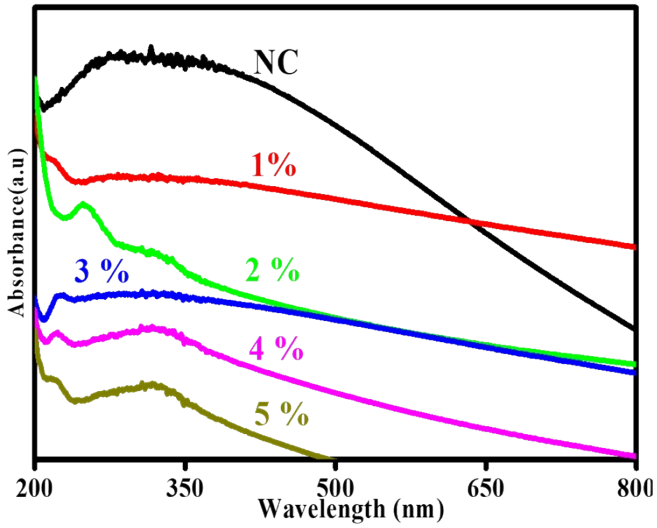

Figure S1: UV-visible spectra recorded for aqua dispersed NC and 1-5% FNC in a wavelength regime of 200-800 nm.

Table S1: Variations in elemental composition recorded using EDS for NC and 1–5% FNC composites.

Sample type	C at%	O at%	Ni at%
NC	99.02	00.98	-
1	80.11	27.22	00.67
2	42.68	49.58	05.74
3	47.43	38.17	14.40
4	54.84	26.80	20.36
5	35.30	40.04	24.66

[1] Corresponding author: Prashant S. Alegaonkar (e-mail: prashant.alegaonkar@cup.edu.in)

Table S2: Relationship between $S_{ij}\,(in\ dB)$ (in terms of shielding effectiveness) and power transmission in (PT) %.

$S_{ij}\,(in\ dB)$	**PT (%)**	$S_{ij}\,(in\ dB)$	**PT (%)**
0	100.00	12	06.25
1	81.00	13	05.00
2	62.80	14	04.00
3	50.00	15	03.13
4	40.00	16	02.50
5	31.60	17	02.00
6	25.00	18	01.56
7	20.00	19	01.20
8	16.00	20	01.00
9	12.50	25	00.32
10	10.00	30	00.10
11	07.90	-	-