Electronic Supporting Information

Highly Efficient Electromagnetic Interference Shielding of Graphite Nanoplatelet / PEDOT:PSS Composite with Enhanced Thermal Conductivity

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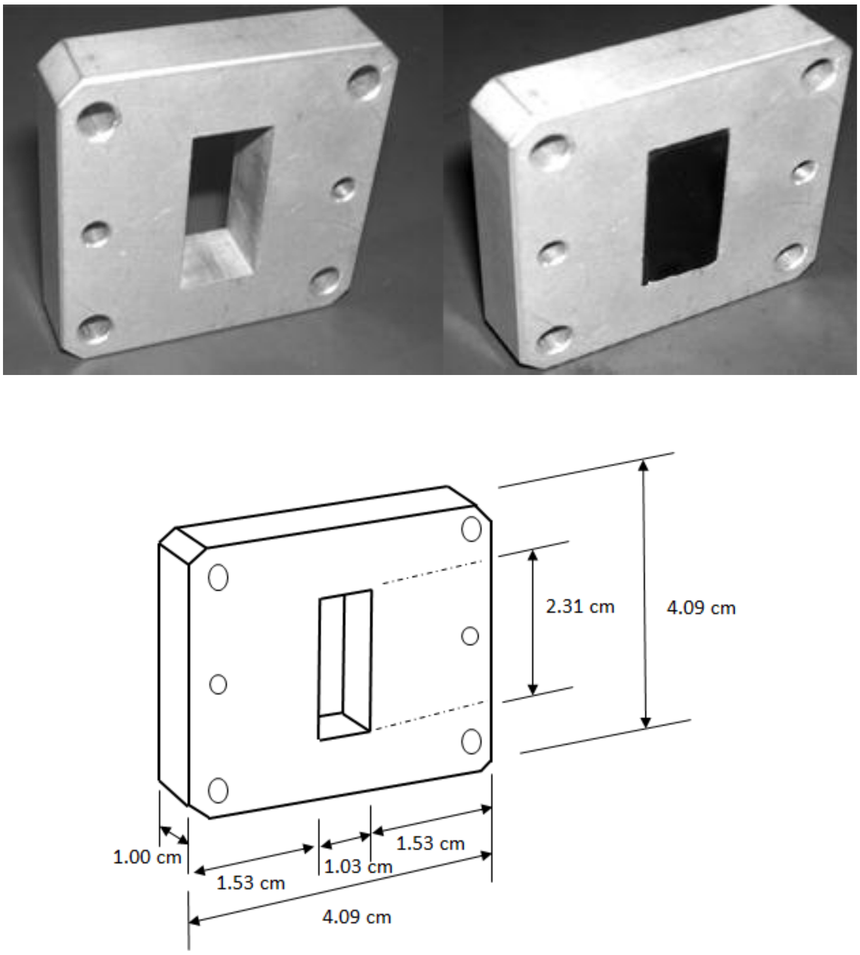

Fig. S1 The X-band sample holder (without and with the sample) used with the rectangular waveguides for obtaining the scattering parameters and the corresponding schematic diagram. Flange dimensions: 4.09 cm (length) x 4.09 cm (breadth) x 1.00 cm (thickness). Sample cross-section (equal to the wave guide cross-section): 1.03 cm x 2.31 cm. Though this flange can be used with samples of thickness up to 1.00 cm, in all our experiments sample thickness was kept fixed at 0.08 cm.

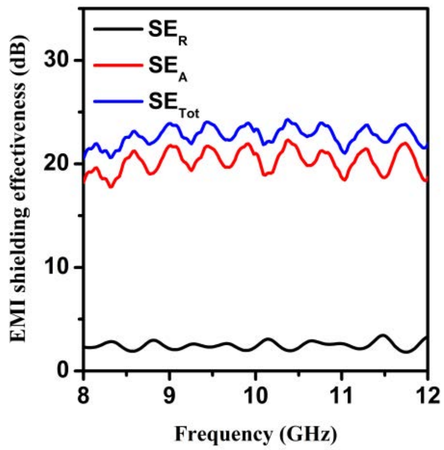

Fig. S2 The comparison of EMI SE (SE_{Tot}), loss due to absorption (SE_A) and reflection (SE_R) for the reference pristine PEDOT:PSS sample.

Estimation of the density among the various parts of the samples

To estimate the density variation among the different parts of the sample, first the density of the samples that were used for EMI measurements were estimated. Then each sample was cut into four parts and the density of each part was found out. The results for four such samples are given below.

Table S1. Density of various parts of the samples

Sample No.	GNP content (wt% / vol%)	Density of Part 1 (g/ cm^3)	Density of Part 2 (g/ cm^3)	Density of Part 3 (g/ cm^3)	Density of Part 4 (g/ cm^3)
1	0 / 0	1.011 ±0.03	1.012 ±0.02	1.011 ±0.03	1.011 ±0.01
2	1.0/ 0.52	1.020 ±0.05	1.023 ±0.04	1.028 ±0.05	1.020 ±0.03
3	10.0/ 4.9	1.030 ±0.05	1.037 ±0.03	1.031 ±0.05	1.028 ±0.04
4	25.0/ 12.9	1.041 ±0.03	1.046 ±0.02	1.037 ±0.03	1.040 ±0.02