Supplementary Information for

Broadband diffuse terahertz wave scattering by flexible metasurface with randomized phase distribution

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This Supplementary Information includes：

Supplementary Figures S1-S7.

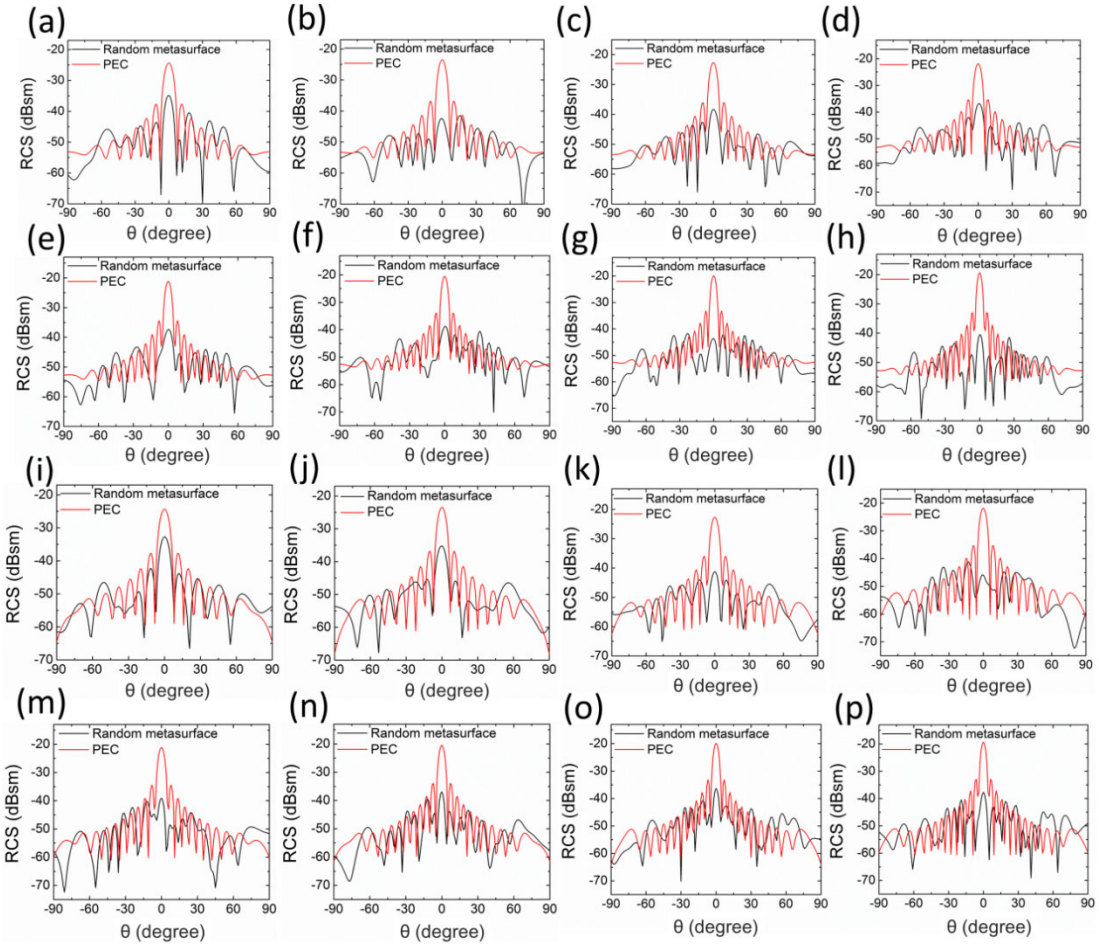

Fig. S1. Simulated two-dimensional RCS patterns for PEC plate and planar metasurface under normal incidence with y-polarization ((a) - (h)), or with x-polarization ((i) – (p)) at 0.9 THz, 1.0 THz, 1.1 THz, 1.2 THz, 1.3 THz, 1.4 THz, 1.5 THz, and 1.6 THz, respectively.

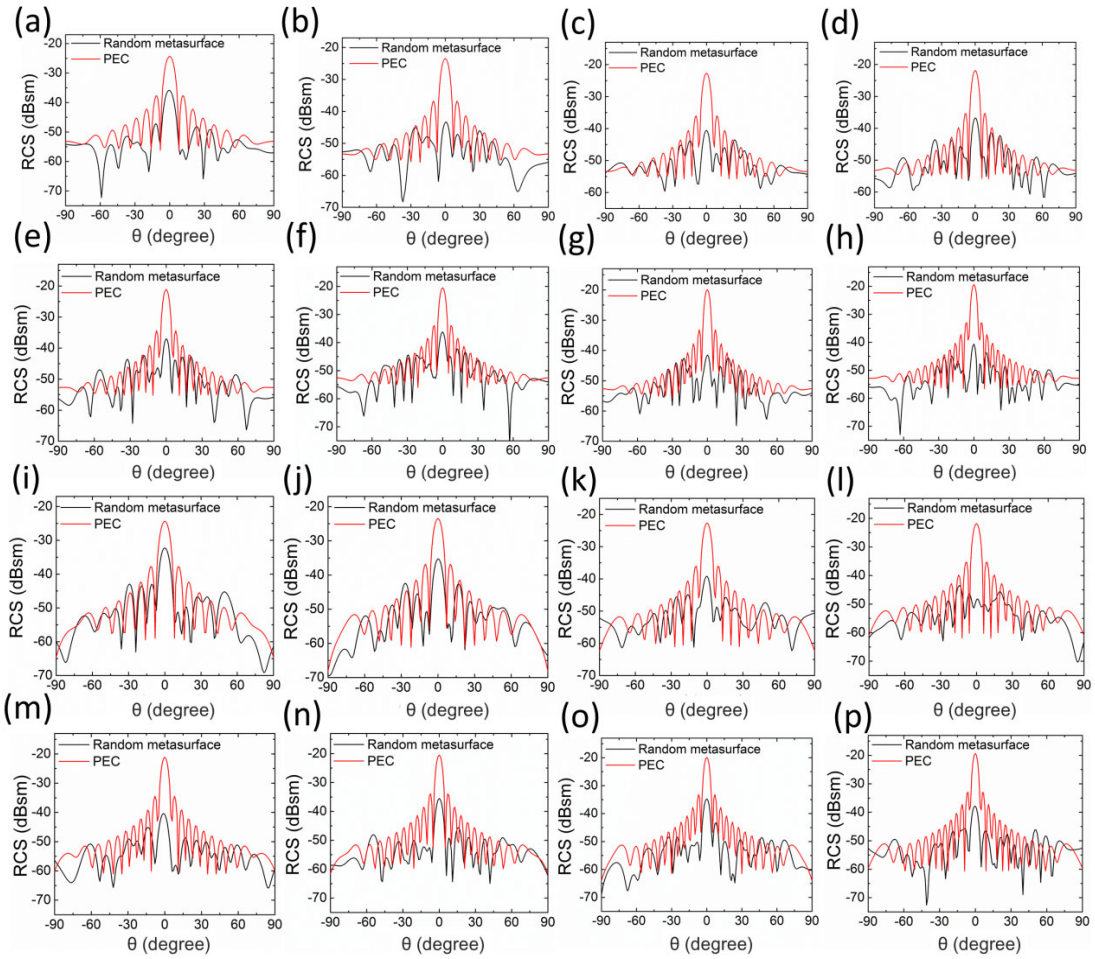

Fig. S2. Simulated two-dimensional RCS patterns for PEC plate and planar metasurface under normal incidence with y-polarization ((a) - (h)), or with x-polarization ((i) – (p)) at 0.9 THz, 1.0 THz, 1.1 THz, 1.2 THz, 1.3 THz, 1.4 THz, 1.5 THz, and 1.6 THz, respectively.

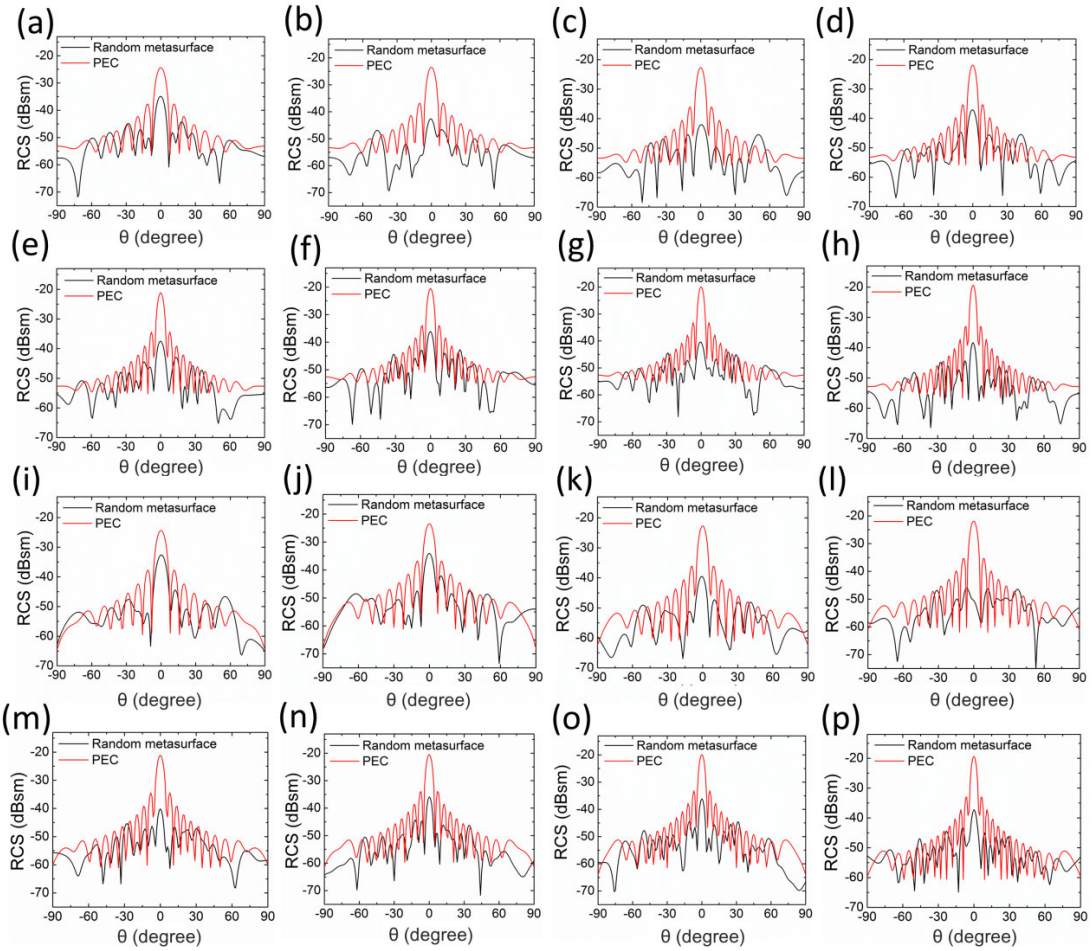

Fig. S3. Simulated two-dimensional RCS patterns for PEC plate and planar metasurface under normal incidence with y-polarization ((a) - (h)), or with x-polarization ((i) – (p)) at 0.9 THz, 1.0 THz, 1.1 THz, 1.2 THz, 1.3 THz, 1.4 THz, 1.5 THz, and 1.6 THz, respectively.

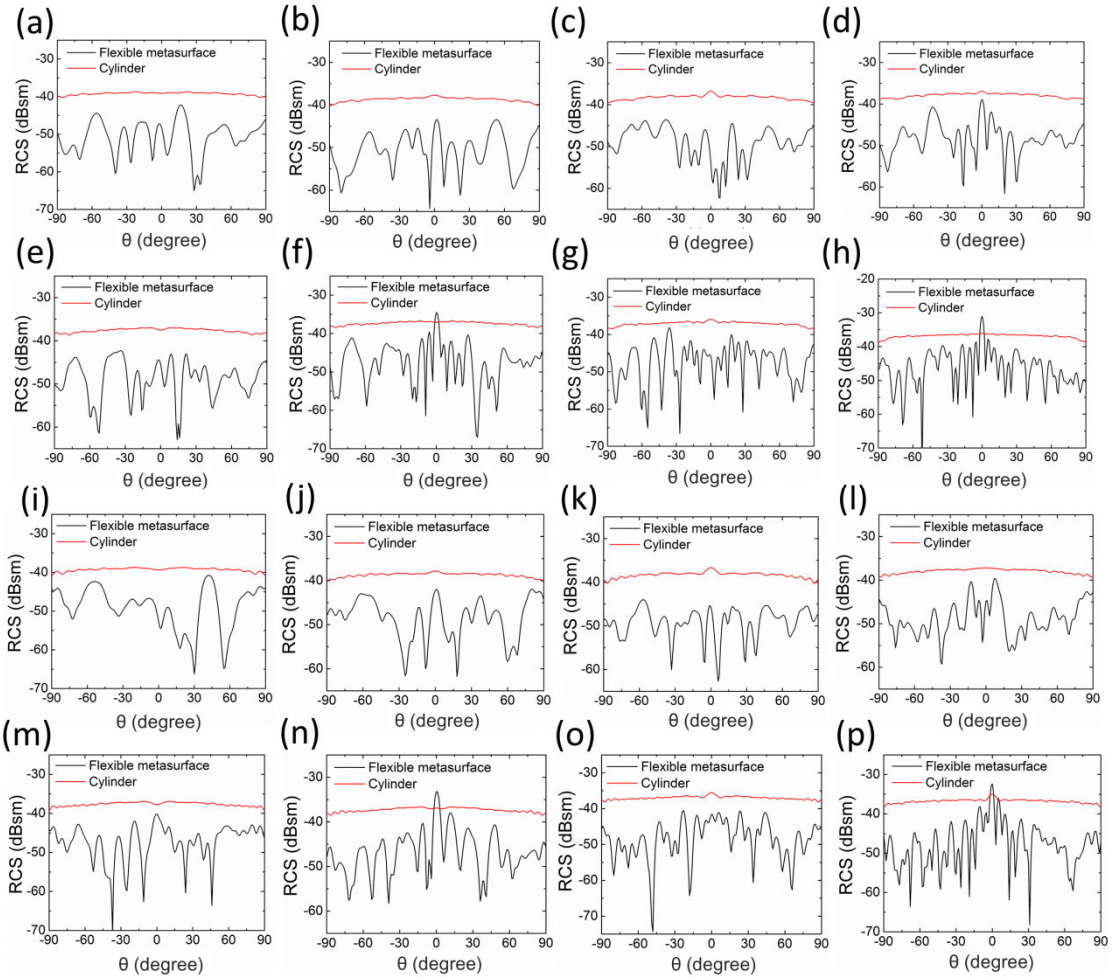

Fig. S4. Simulated two-dimensional RCS patterns at xoz-plane for PEC cylinder with and without flexible metasurface wrapping under normal incidence of y-polarization ((a) –(h)), or x-polarization ((i) – (p)) at 0.9 THz, 1.0 THz, 1.1 THz, 1.2 THz, 1.3 THz, 1.4 THz, 1.5 THz, and 1.6 THz, respectively.

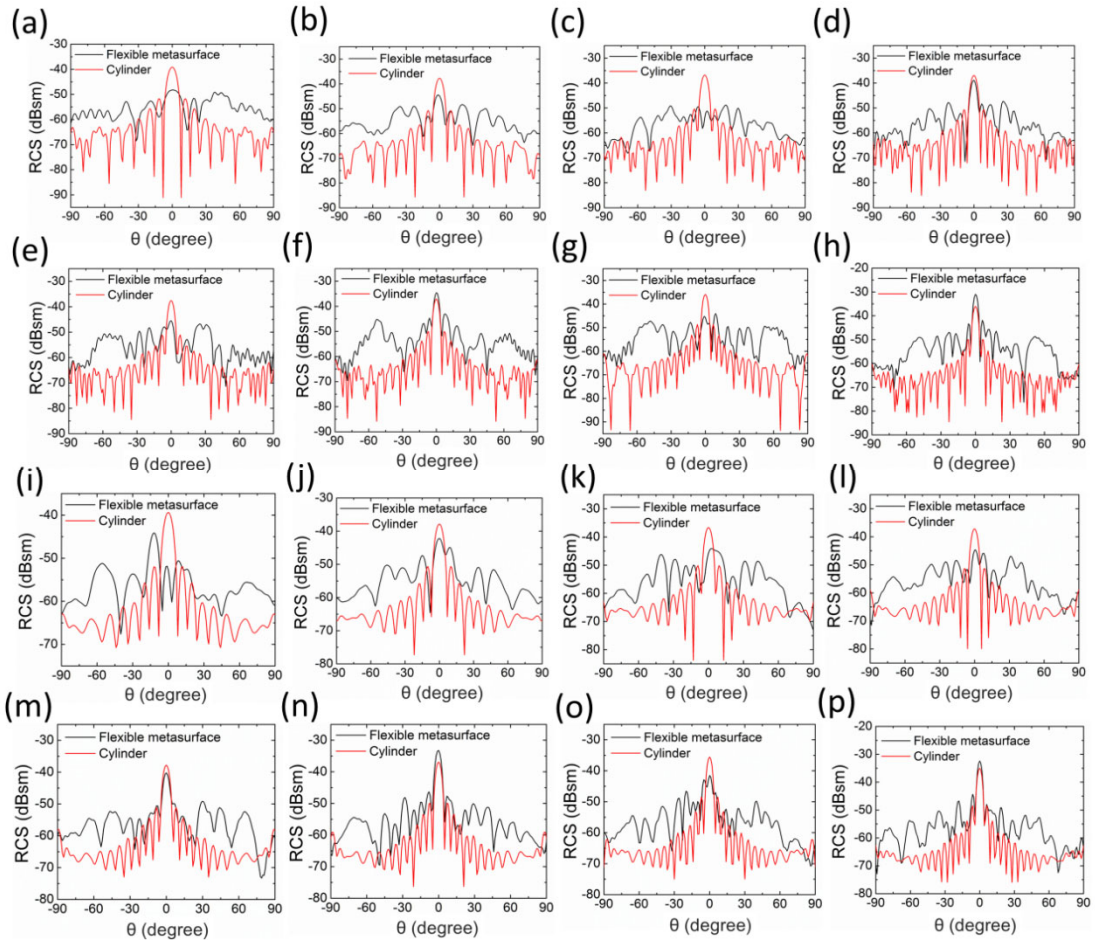

Fig. S5. Simulated two-dimensional RCS patterns at yoz-plane for PEC cylinder with and without flexible metasurface wrapping under normal incidence of y-polarization ((a) –(h)), or x-polarization ((i) – (p)) at 0.9 THz, 1.0 THz, 1.1 THz, 1.2 THz, 1.3 THz, 1.4 THz, 1.5 THz, and 1.6 THz, respectively.

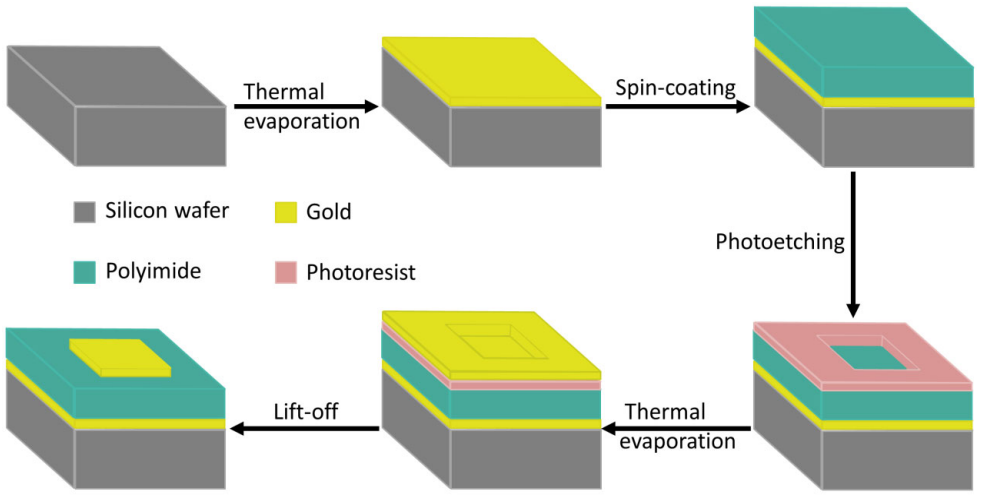

Fig. S6. The fabrication process of the metasurface sample.

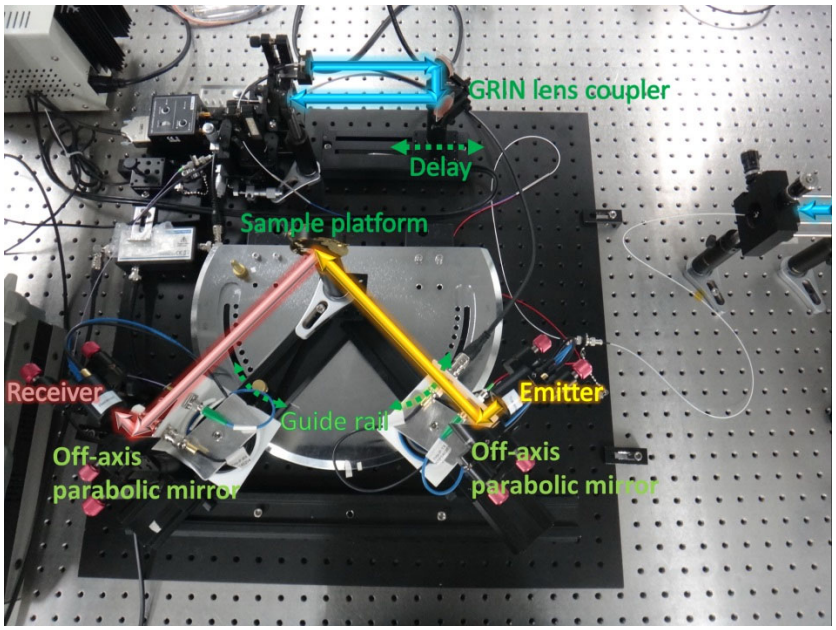

Fig. S7. The photograph of the variable-angle TDS system to measure the scattering properties of the metasurface sample.