Supplemental Document

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Efficient magnetic-coupling excitation of LSSPs on high-Q multilayer planar-circular-grating resonators: supplement

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The simulated S_{11} spectra are shown in Fig. S1. The simulations were carried out with tetrahedral meshes and open boundary conditions. The losses of the copper and the dielectric substrate were considered. Compared with the sophisticated structure of the grating, the meshes are slightly rough, although the number of meshes has reached the upper limit of computer performance. However, the simulation results can almost match the experimental results. The calculation of Q-factors is based on the measured S_{11} spectra, and the simulated S_{11} spectra are presented here as supplements.

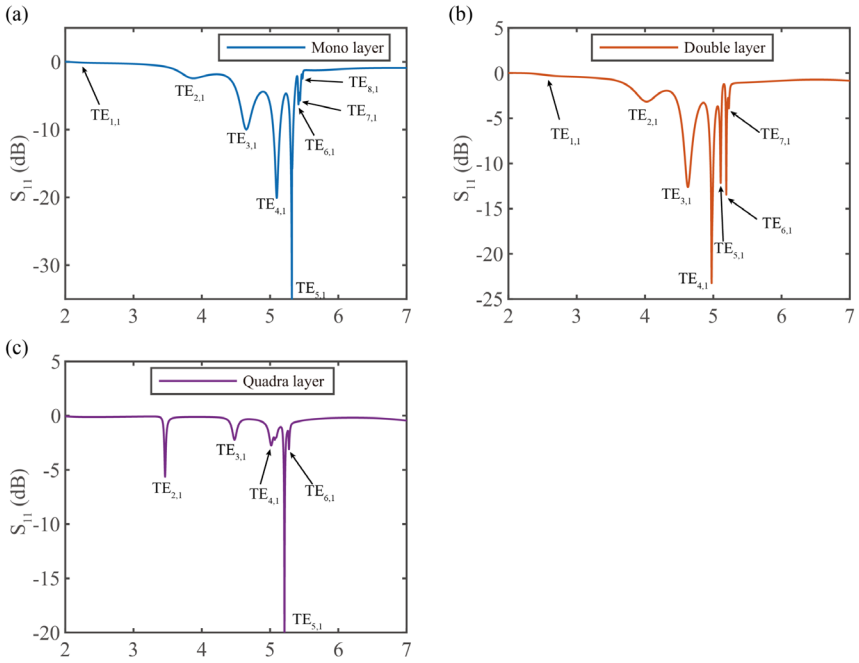

Fig. S1. Simulated S_{11} spectra of (a) mono-layer under $N = 60$ and $a/d = 0.4$ (b) double-layer under $N = 60$, $a/d = 0.4$, and $d_1 = 2$ mm (c) quadra-layer structure under $N = 60$, $a/d = 0.4$, and $d_1 = d_2 = 2$ mm