Supplementary materials for:

Inverse-Designed Broadband All-Dielectric Electromagnetic Metadevices

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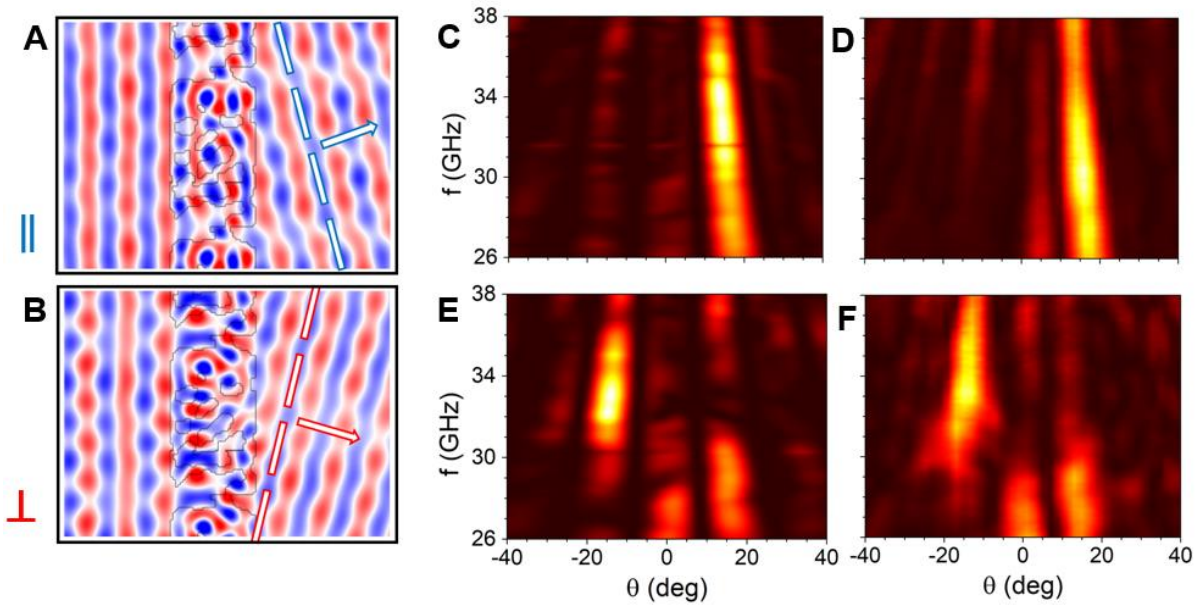

Figure S1. 15° polarization splitter. Simulated H_z (A) and E_z (B) fields in the 15° polarization splitter with a perpendicularly incoming plane wave for parallel (A) and perpendicular (B) polarizations and at a frequency of 33GHz. Simulated (C, E) and experimental (D, F) far-field intensity color maps as a function of the output angle between -40° and 40° and as a function of the frequency between 26GHz and 38GHz for both parallel (C, D) and perpendicular (E, F) polarizations.

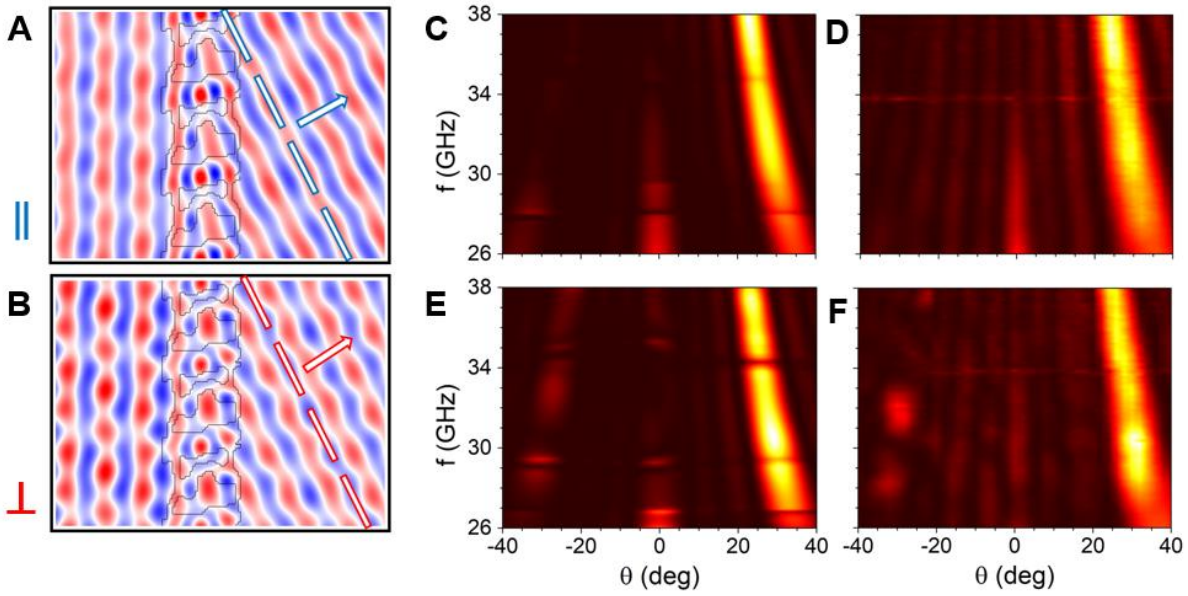

Figure S2. 30° bend. Simulated H_z (A) and E_z (B) fields in the 30° bending device with a perpendicularly incoming plane wave for parallel (A) and perpendicular (B) polarizations and at a frequency of 33GHz. Simulated (C, E) and experimental (D, F) far-field intensity color maps as a function of the output angle between -40° and 40° and as a function of the frequency between 26GHz and 38GHz for both parallel (C, D) and perpendicular (E, F) polarizations.

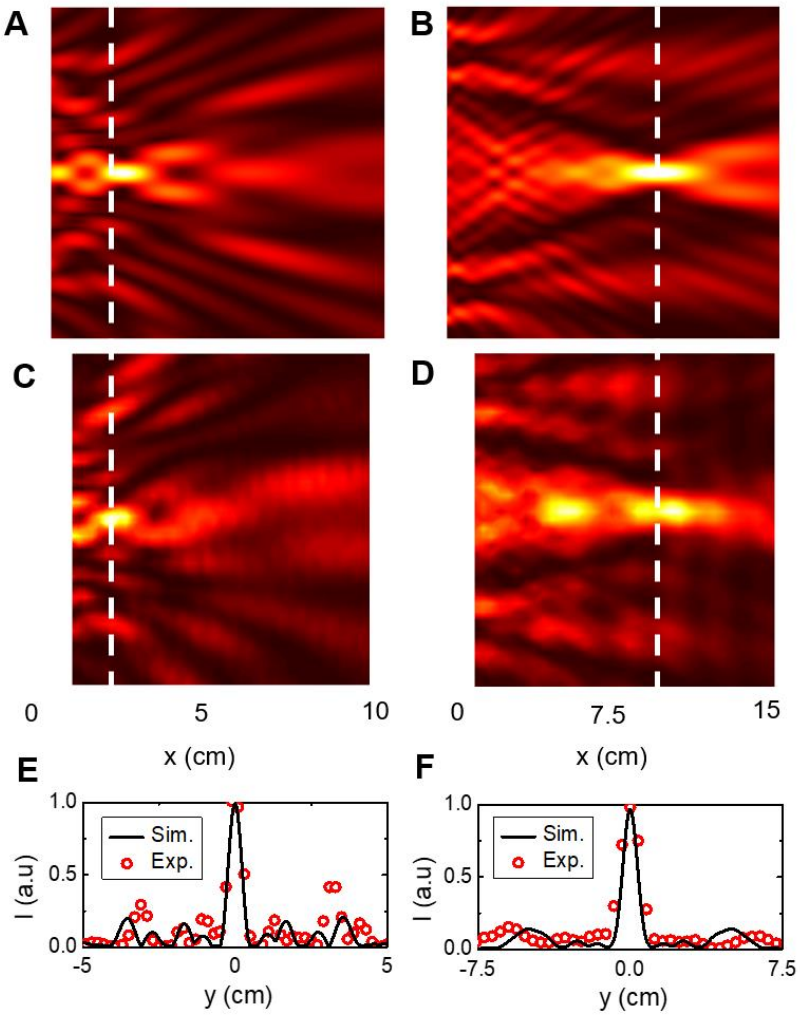

Figure S3. Inverse-designed metalenses at 30GHz. Simulated (A, B) and experimental (C, D) electromagnetic intensity color maps along the x-y plane at the output of the devices at a frequency of 30 GHz for the first (A, C) and second (B, D) lenses. (E) and (F): Cross-section of the simulated (black line) and measured (red circles) power along the white dashed lines on the color maps for both lenses.