

Terahertz-Band Polariton Induction Emitter

FEASIBILITY & ARCHITECTURE

PROBLEM

A proposed frequency-conversion mechanism crossed acoustic, polaritonic, structural, and near-field regimes, making simple plausibility arguments insufficient.

WORK

The feasibility review traces the coupling chain, tests momentum and impedance constraints, separates feasible from non-feasible configurations, and identifies decisive validation experiments.

OUTCOME

The review narrows the concept to configurations where high-k coupling and nonlinear mode conversion are physically accessible, with explicit failure conditions and next tests.

REPRESENTATIVE CONTENT

- Assesses near-field/contact coupling separately from free-space coupling.
- Tracks structural thresholds, impedance collapse, nonlinear conversion, and loss mechanisms.
- Produces configuration-level feasibility calls instead of a single yes/no verdict for the whole concept.