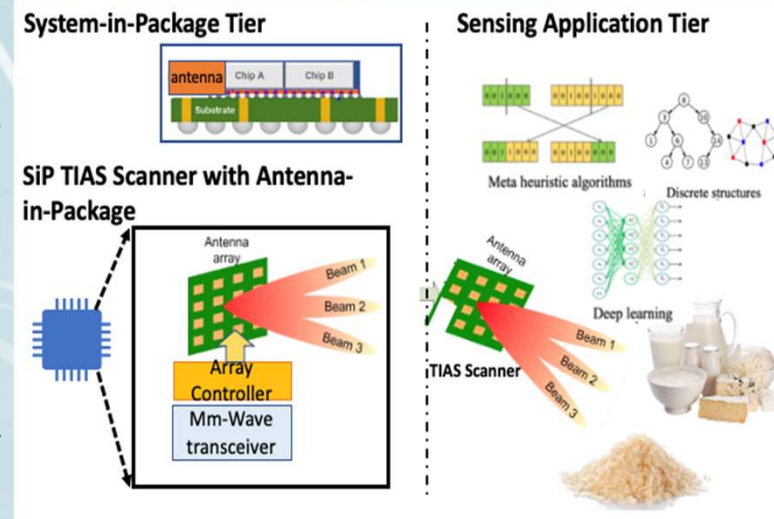


We propose a **portable** and cost-effective scanner for **real-time detection** of contaminants in staple foods and/or animal feeds using **non-invasive mm-Wave sensing** with on-chip antenna-array system. Once mm-Wave capability is proven for an effective detection of harmful substances, this project will go to the next phase of making a prototype utilizing 2.5D technology for small form factor and improved performance. The success of this project will open vast opportunities to build fast, cheap, compact and energy-efficient mm-Wave systems for food safety. Large social benefits coming from improved food safety and, therefore, public health can be achieved by the combination of advanced technologies in biotechnology, semiconductor technology, RF system, and sensing data analysis towards a traceability for e-society.



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