This research integrates carbon nanotube (CNT) technology into portable DRX systems for quasi-three-dimensional bedside imaging, addressing limitations such as structural overlap and suboptimal patient positioning in current mobile x-ray methods[1]. Using Solidworks modeling, we pave the way for seamless CNT integration, surpassing traditional mobile x-ray capabilities. Tomosynthesis captures multiple low-dose x-ray projections for superior diagnostic accuracy. CNT incorporation enhances resolution and sensitivity, improving bedside diagnostics. We consider system size, weight, and compatibility for optimal performance and patient accessibility.