## **Supplementary Pages**

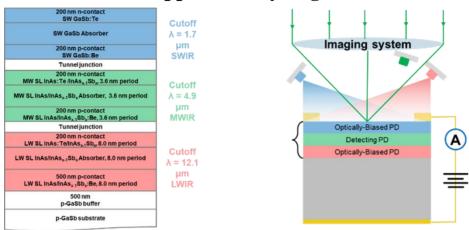


Figure 1: (Left) Triple-band PD layer structure, and (right) its operating principle under optical addressing.

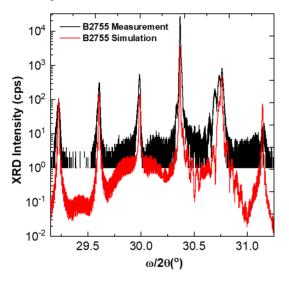


Figure 2:  $\omega/2\theta$  XRD scan of a strain-balanced MWIR T2SL device structure on a GaSb substrate.

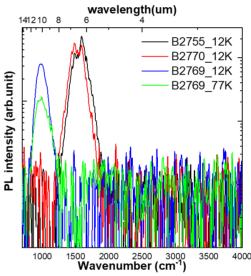
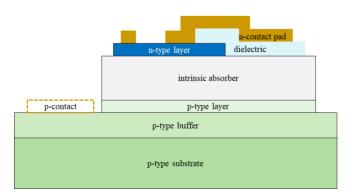


Figure 3: PL spectra of MWIR and LWIR T2SL measured by FTIR showed peaks at 6 10 µm for MWIR and LWIR, respectively.



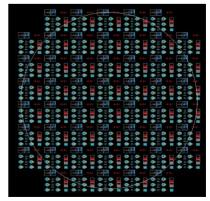


Fig. 4. (left) Cross-section of the PD device design, and device layout (up to 4-inch wafers) with aperture sizes 200, 100, 50 µm and metal contact pads.