

## Supplementary Information

# Laser filament bottom-up growth sintering for multi-planar diffraction-limit printing and its application to ultra-transparent wearable thermo-electronics

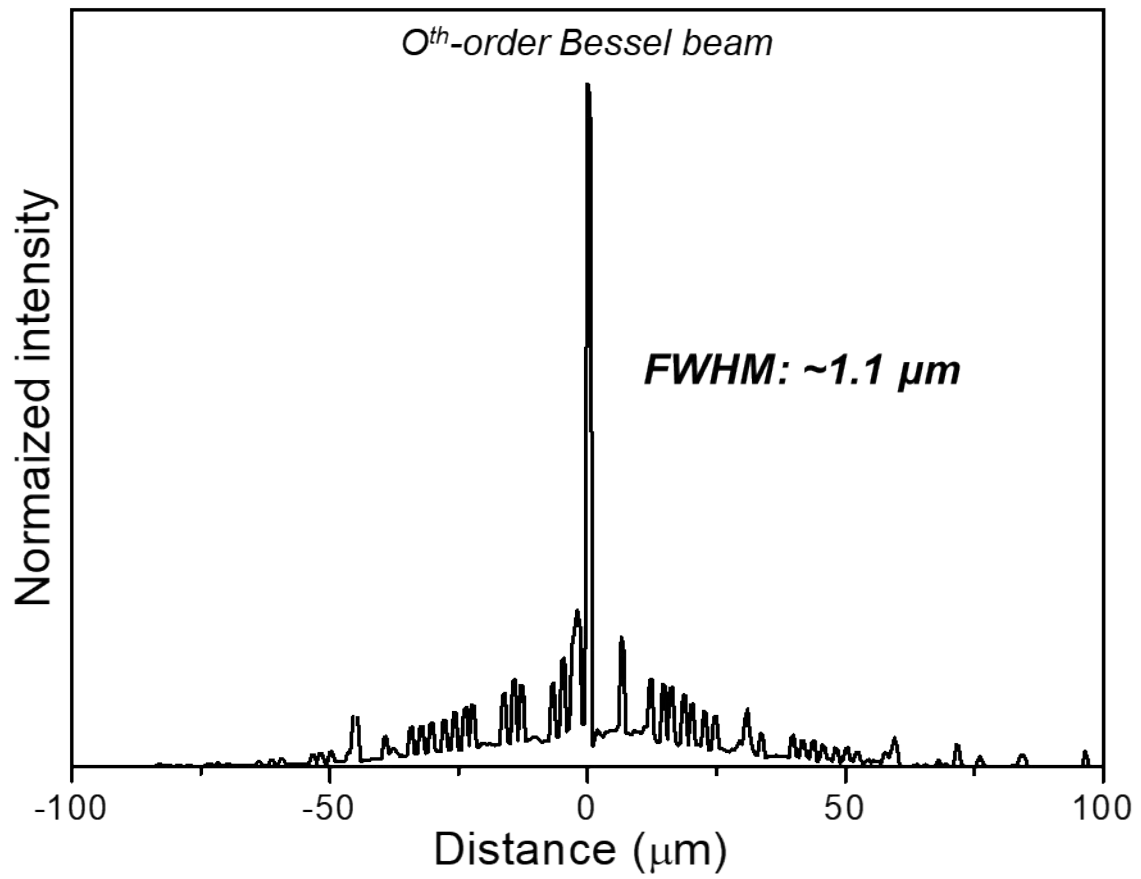
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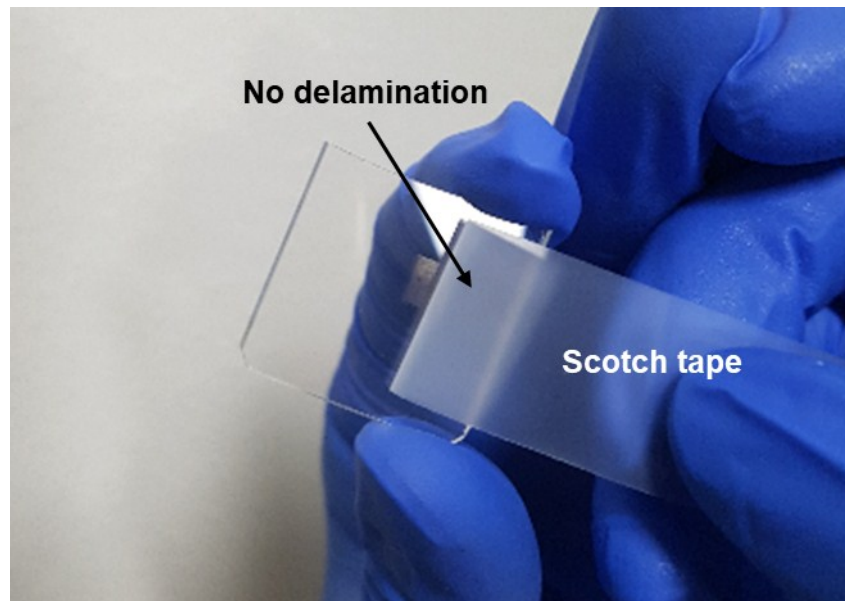
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## Characterization of Bessel beam



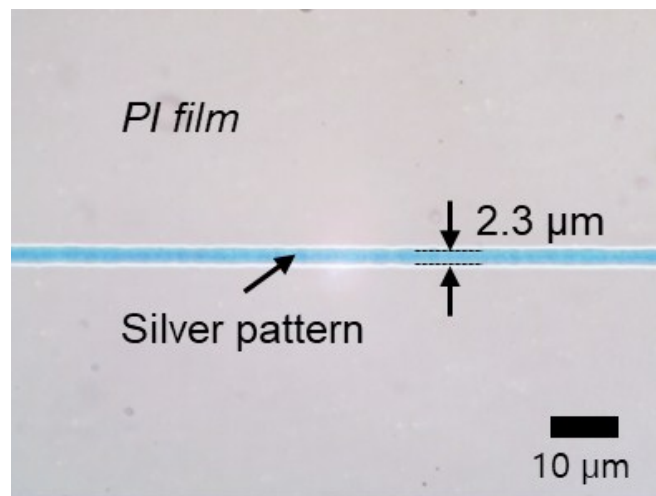
**Figure S1** Spatial intensity profile of Bessel beam using knife-edge method.

## Durability of pattern fabricated by laser filament growth sintering



**Figure S2** Peeling-off test of specimen fabricated in a laser power of 75 mW using scotch tape.

## Laser filament growth sintering on plastic film



**Figure S3** Microscopy of fabricated pattern by laser filament growth sintering on polyimide film.