



US 20240215163A1

(19) **United States**(12) **Patent Application Publication**  
**OZKAN et al.**(10) **Pub. No.: US 2024/0215163 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **SUBSTRATE GLASS CORE PATTERNING  
FOR CTV IMPROVEMENT AND LAYER  
COUNT REDUCTION****Publication Classification**

(51) **Int. Cl.**  
*H05K 1/11* (2006.01)  
*H05K 1/03* (2006.01)  
*H05K 1/18* (2006.01)

(52) **U.S. Cl.**  
CPC ..... *H05K 1/112* (2013.01); *H05K 1/0306*  
(2013.01); *H05K 1/183* (2013.01); *H01L*  
*23/49838* (2013.01)

(71) Applicant: **Intel Corporation**, Santa Clara, CA  
(US)(72) Inventors: **Onur OZKAN**, Scottsdale, AZ (US);  
**Jacob VEHONSKY**, Gilbert, AZ (US);  
**Vinith BEJUGAM**, Chandler, AZ (US);  
**Nicholas S. HAEHN**, Scottsdale, AZ  
(US); **Andrea NICOLAS FLORES**,  
Chandler, AZ (US); **Mao-Feng**  
**TSENG**, Tempe, AZ (US)(21) Appl. No.: **18/089,489**(22) Filed: **Dec. 27, 2022****ABSTRACT**

(57) Embodiments disclosed herein include a package core. In an embodiment, the package core comprises a substrate with a first surface and a second surface opposite from the first surface. In an embodiment, the substrate comprise glass. In an embodiment, a via is provided through the substrate, where the via is electrically conductive. In an embodiment, a recess is formed into the first surface of the substrate, and a trace is embedded in the recess. In an embodiment, the trace is electrically conductive.

