This research provides an innovative solution to a critical problem in automotive radar technology. In this research, our main focus is to address the significant issue of self-interference in FMCW 77GHz radar systems, a problem often leading to receiver saturation and nonlinearity. To tackle this challenge, we've designed a specialized self-interference cancellation circuit tailored for shared W-band (77-81 GHz) antennas in automotive FMCW radar applications. Our approach encompasses various techniques in the antenna and RF domains to effectively reduce self-interference signals through segregating transmitted (TX) and received (RX) signals into common and differential modes.