

## VIRTUAL ANTENNA™

Ignion products and solutions are covered by one or more of the following patents and patent applications

Title	Patent Applications & Patent Numbers
Distributed antenna system robust to human body loading effects	US9007275 B2; US10033114 B2; US10411364 B2
Wireless device including a multiband antenna system	US9130267 B2; US10476134 B2; US16/597531
Antennaless wireless device	US8203492 B2; US9130259 B2; US9276307 B2; US9761944 B2; US10734724 B2; US16/827048
Antennaless wireless device capable of operation in multiple frequency regions	CN102084542 B; EP09777590.2; US8237615 B2; US8736497 B2; US9350070 B2; US9960490 B2; US10249952 B2; US10763585 B2; US16/941075
Antennaless wireless device comprising one or more bodies	US9147929 B2
Antennaless wireless device capable of multiband MIMO operation	US8952855 B2; US9112284 B2; US9997841 B2
Compact radiating array for wireless handheld or portable devices	US9577325 B2
Concentrated wireless device providing operability in multiple frequency regions	CN104798251 B; EP13753587.8; US9379443 B2; US10833411 B2; US17/060979
Wireless handheld devices, radiation systems and manufacturing methods	CN104508905 B; EP13762997.8; US9331389 B2; US9865917 B2; US10749246 B2; US16/922633
Scattered virtual antenna technology for wireless devices	US10062973 B2
Slim booster bars for electronic devices	CN106575816B B; CN201910662688.2; EP15177826.3; US9960478 B2; US10236561 B2; US16/274013
Wireless device using an array of ground plane boosters for multiband operation	EP16162691.6; US10224631 B2; US10547109 B2
Coupled antenna system for multiband operation	US10199730 B2; US10777896 B2; US16/998798
Wireless device	US10122403 B2; US11018712 B2; US17/244486
Wireless device including optimized antenna system on metal frame	US10008762 B2
Multi-structure antenna for multiband operation	US10347983 B2; US10505272 B2
Wireless device with a defected ground plane structure	US10840591 B2
Wireless device including a metal frame antenna system based on multiple arms	US10879587 B2; US17/102960
Ground plane booster antenna technology for wearable devices	US10734713B2; US16/887689
Wireless device and antenna system with extended bandwidth	US10601110 B2; US16/733842
Modular multi-stage antenna system and component for wireless communications	CN201880045357.8; US16/731755; EP18736916.0
Devices with radiating systems proximate to conductive bodies	US16/862064
Compact antenna technology for wireless communications	PCT/EP2019/084680