

Acal BFi design-in OriginGPS module to help TobyRich gaming drones take flight



We work with all types of businesses integrating wireless modules into both existing product and new product developments.

Working with TobyRich, Acal BFi designed-in the Nano Hornet module from OriginGPS into the world's first smartphone controlled gaming drone line.

About the project

Using the Nano Hornet module enabled TobyRich to design a smaller, sleeker form factor for its innovative drones, while extending their range and enhancing directional capabilities, providing a new, more interactive experience for video gamers and drone enthusiasts across the globe.

The agile drones blend realistic flight manoeuvres with innovative, interactive game-play and are designed to resemble an airplane rather than a quadcopter to extend flight time and carry more payload than traditional drones without compromising on functionality or performance.

TobyRich's drones combine the immersive experience of video games with the exhilaration of real flight to unlock possibilities such as mid-air battles, races, stunts and other gaming scenarios, plus additional applications such as aerial photography and video. To meet users' exact interests, several different versions are in development, including the basic tobyrich. vegas model, tobyrich.tokyo which features a HD camera and tobyrich.guru, a 4G/LTE-enabled drone.

"Our passion for flying drives us as a company, so when designing our new line of drones, it was incredibly important for all of our electronics to be ultra-lightweight, to pack the most functionality for users into the smallest form factor," said Ulrich Ditschler, CEO and co-founder of TobyRich.



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"TobyRich's drones are an excellent example of the potential for location based services to provide new experiences for consumers," said Gal Jacobi, CEO of OriginGPS. "As with many other cutting-edge Internet of Things technologies, such as wearable devices, drones require fully featured components that have a small footprint and low power consumption. Yet, few drones currently on the market include embedded GPS or GNSS modules, although they are tremendously beneficial to help UAVs stay on course. TobyRich recognised the opportunity to bring drones into a new realm of gaming by adding improved location functionality and created a product with a slim and light form factor. We believe that TobyRich is poised to offer consumers breathtaking new experiences, which will spread the joy of flight to new audiences."

The Acal BFi - OriginGPS option

Using the Nano Hornet, the world's smallest GPS antenna module, a TobyRich drone knows exactly where it is in relation to a user's smart device, with unprecedented accuracy, allowing it to respond immediately and precisely to gesture controls or on-screen joysticks. The module's location capabilities ensure that a drone will automatically return to its point of origin or a pre-programmed destination if it strays too far from its corresponding smart device or flight path, which reduces user frustration, minimises human error and increases safety.

Measuring only 10 x 10 x 3.8mm, OriginGPS' Nano Hornet offers superior sensitivity and outstanding performance, achieving rapid Time To First Fix (TTFF) of less than one second, accuracy within as little as two metres, and tracking sensitivity at an industry leading -163dBm. The module powers TobyRich's flight management system by utilising OriginGPS' proprietary Noise Free Zone technology to increase sensitivity and minimise interference, whilst achieving a state of near continuous availability by consuming mere microwatts of battery power, ensuring maximal power is devoted to increasing drone flight times. Because OriginGPS' modules are complete, plug and play solutions, they significantly shorten time to market and dramatically reduce engineering risks.



The Nano Hornet (ORG1411) from OriginGPS

Positive outcomes for TobyRich

"We needed a plug and play solution that we could integrate into our designs quickly and easily. OriginGPS is far ahead of the curve and it was the only company that produced a GPS module that fit our board and met all of our needs. Because of OriginGPS, our technology is three times smaller than other solutions and we have been able to create a revolutionary gaming experience."

Ulrich Ditschler, CEO and co-founder of TobyRich

Acal BFi, providing leading-edge M2M and Wireless technologies and the in-house expertise to act as a technical partner, help customers to choose and integrate the right products for their application.



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