

## Abstract of the Disclosure

### **Ultra Wideband Receiver Architecture Using High Order Gaussian Pulses and Method of Operation**

An ultra wideband (UWB) receiver system operable to process a high order Gaussian pulse includes an integrator group, a correlator circuit and a comparator circuit. The integrator group includes an input coupled to receive the high order Gaussian pulse and an output coupled to the correlator circuit, the integrator group having two or more successively coupled integration stages, each integration stage operable to integrate, over a predefined time period, the signal received thereby, the integrator group operable to output, in response, a lower order Gaussian pulse. The correlator circuit is coupled to receive the lower order Gaussian pulse, and is operable to output a correlated output signal corresponding to the correlation between the lower order Gaussian pulse and a predefined reference signal. The comparator circuit is coupled to receive the correlated output data, and is operable to compare the correlated output data to one or more predefined values for construct a data stream representing modulation data of the high order Gaussian pulse.

Fig. 3A