# Application of Super Regenerative Receiver Module

Super Regenerative Receiver Module： A wireless device widely in telemetry, small range wireless network, wireless meter reading, contactless smart RF card, access control system, wireless fire protection system, vehicle monitoring, home anti-theft alarm system, smoke senor and many other fields related to RF wireless controlling.

## Home smart control


## Vehicle monitoring

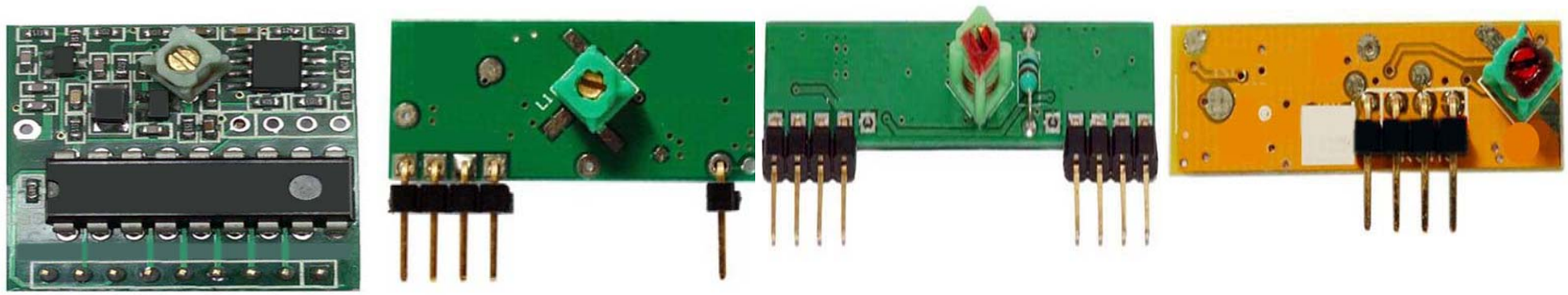
当您进入车辆感应范围时　自动开锁，解除防盗　当您离开车辆感应范围时

自动上锁，设定防盗，自动升窗　当警情发生时，声光防盗

# Conventional Approach with Coil Inductor (for Super Regenerative Receiver Module)

## Disadvantages with coil inductor

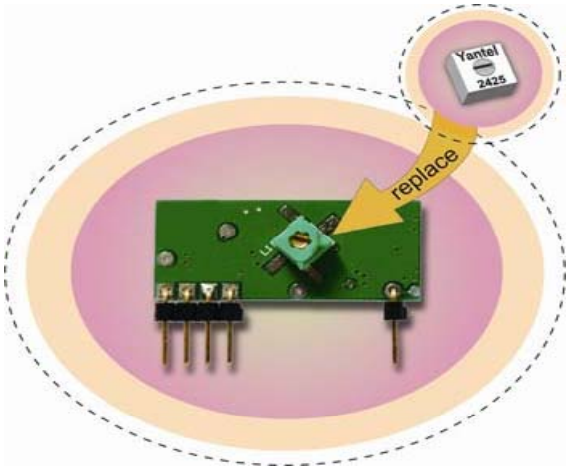
1. Coil inductor is very sensitive to the change of temperature and humidity, which makes the Super Regenerative Receiver Module **unstable** over ambient environmental change.
2. Such sensitivity also causes inconsistence in the receiving distance.
3. The ferrite core of coil inductor is prone to make interference with other devices.

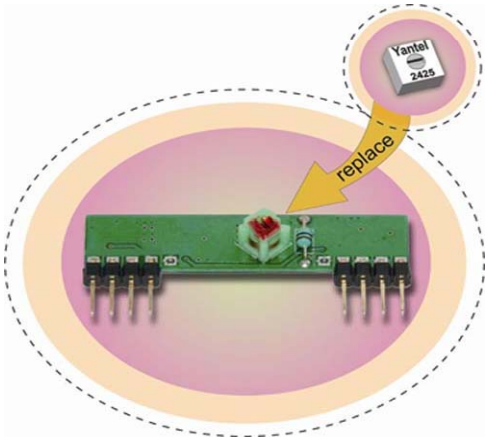


# New Approach with Yantel RF Tunable Inductor
# ( for Super Regenerative Receiver Module)

## Advantages of Yantel RF Tunable Inductor

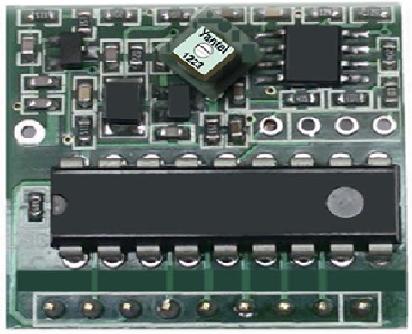
1. Hermetic microstrip circuit, with high reliability and stability over temperature and humidity changes.
2. Advanced multi-layer processing, bringing high consistence in receiving distance for Super Regenerative Receiver Module.
3. Non-magnetic core, no interference with other devices.
4. High temperature resistance, operating reliably from -40℃~125℃ or in other harsh environment.
5. Excellent RF performance from 30MHz up to 6GHz.
6. Extreme cost effectiveness to meet the budget of Super Regenerative Receiver Module.

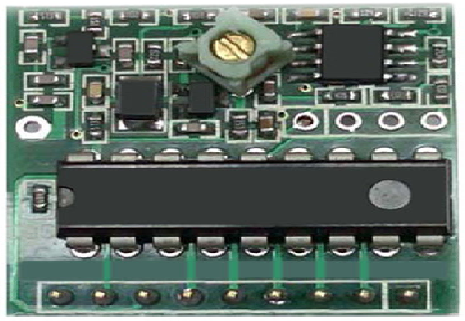



# Yantel RF Tunable Inductor VS Coil inductor

| Comparison | Length of Receiving Distance | Consistence in Receiving Distance | Anti-interference |
|---|---|---|---|
| Yantel RF Tunable Inductor | Compared with coil inductor, Yantel RF tunable inductor has extended receiving distance with extra 20-30 meters. | Approach with Yantel RF tunable inductor has high receiving sensitivity (consistence in receiving distance).<br><br>The preciseness can be limited to ±0.5 meter. For example, for a 85-meter module with Yantel inductor, the effective receiving distance will be between 84.50 to 5.50 meters. | Yantel RF tunable inductor is built with Non-magnetic core, causing no interference with other devices. |
| Coil inductor | / | Approach with coil inductor has a ±15 meter variation in its receiving distance. For example, for a 85-meter module with coil inductor, the effective receiving distance will be between 70 to 100 meters. | The ferrite core of coil inductor is prone to make interference with other devices. |





# Super Regenerative Receiver Module
# VS
# Superheterodyne receiving module

## Advantages with Super Regenerative Receiver Module

1. Simple structure for the circuit, easy realization of amplification, detection with even a single transistor.
2. High sensitivity
3. Compact in size and low cost

## Disadvantages with Super Regenerative Receiver Module

1. Low sensitivity and instability over the full band, mainly used in fixed frequency receiver.
2. Poor capability in anti-interference
3. Prone to cause frequency shift
4. Blocking occurs when in short range receiving.

(With Yantel tunable inductor, the disadvantages can be eliminated.