



## 1 部件說明

• 成品圖



• 內部結構圖



- 1 BC68F2130
- 2 LED
- 3 CR2032 Battery

## 2 系列產品說明與注意事項

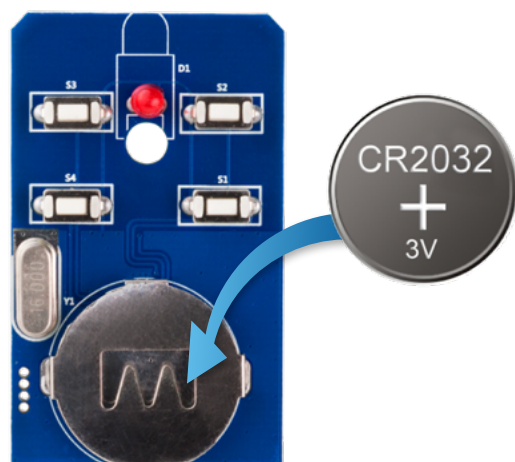
- 採自訂發射訊號協定，需搭配RF無線接收模組配套使用，請另行購買，詳情請參考附錄一：產品系統圖
- 主控MCU BC68F2130為 2K Rom MCU，如需更具價格競爭力的產品，可參考另一款4鍵433MHz RF遙控器(BCR-68F2123-X01)，使用主控 MCU BC68F2123(內建 1Kk Rom)，適合開發功能較單純的機種

## 3 功能簡述

1. 本產品工作頻率為433.92MHz
2. 按鍵 de-bounce time 40ms
3. 每次按壓確認後，發射兩次以上封包
4. LED燈隨發送訊號亮起，可判斷產品有無運行
5. 使用PCB天線，不須另外加裝
6. 可分別與數個的同類型接收模組對碼，按鍵時可同時控制多個接收器
7. 本模組主控 BC68F2130 內部已寫入程式，使用者無須再自行撰寫
8. RF傳輸封包內容請參考附錄二：HT OOK demo board package format

## 4 裝入電池

將CR2032電池裝上，無操作時MCU進入省電模式



## 5 檢視對應訊號

當按下任一按鍵，即發射對應RF信號，同時信號發送指示LED燈將亮起



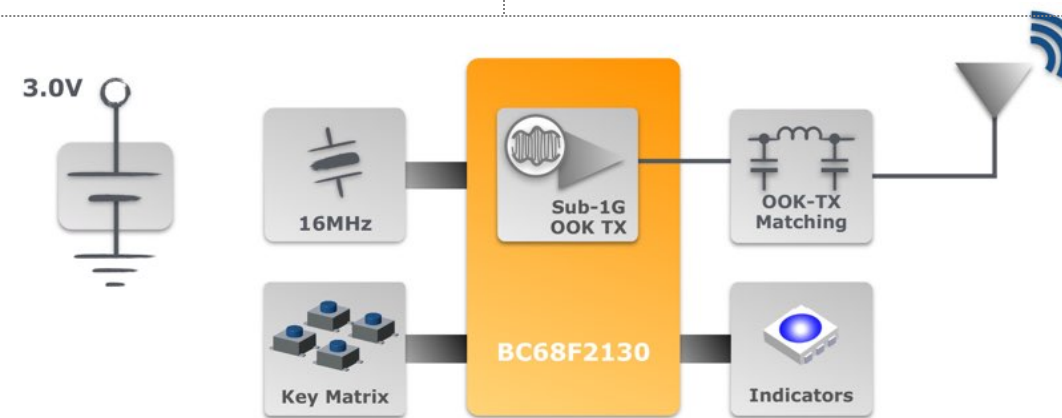
注意:按鍵按壓請至少達40ms，以免系統無法識別

## 6 省電模式

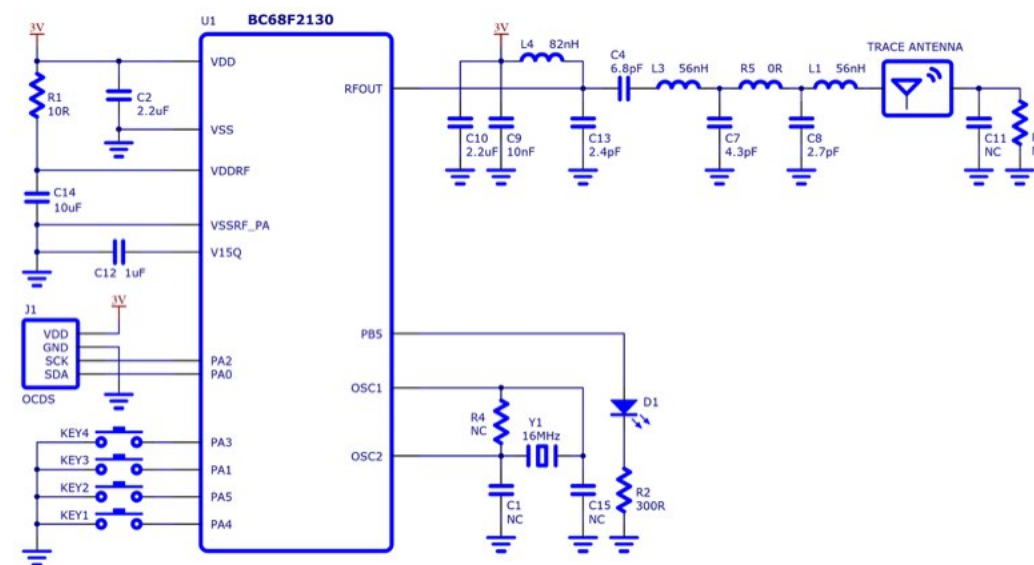
鬆開按鍵後，訊號發送停止，LED燈熄滅，自動進入省電模式



## 7 方塊圖

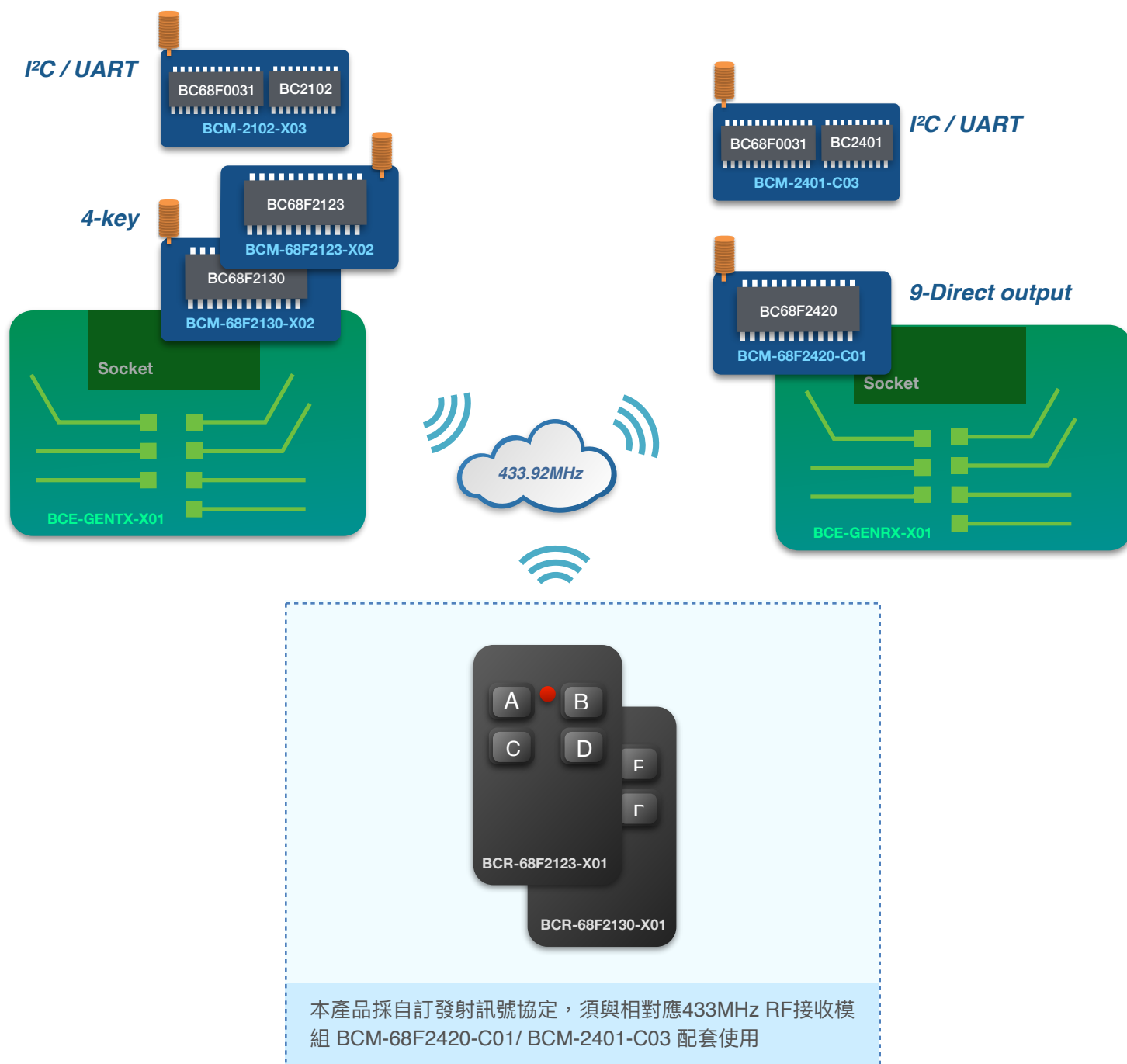


## 8 電路圖





# 11 附錄一：產品系統圖



Hyper link

BC68F0031

BC68F2123

BC68F2130

BC68F2420

BC2401

BC2102

# 12 附錄二：HT OOK demo board package format

The "code word" is a group of code bits used in OOK wireless communication. This document describes the code word format used in HT OOK demo boards. A code word consists of leading code, start code, address, data, CRC and end code. Each fields are composed with several symbols. The symbol rate is set as 5Kbps. Each symbol ( $\lambda$ ) in table below is 200us.

## A. Leading Code + Start code

Leading code: Repeating 1 $\lambda$  high and 1 $\lambda$  low for 8 times. Start code: 4 $\lambda$  high + 2 $\lambda$  low



## B. Address, data & CRC

Each bit is composed with 4 symbols. The format for bit "0" and "1" are shown below:

Bit "0" → 1 $\lambda$  high + 3 $\lambda$  low

Bit "1" : 3 $\lambda$  high + 1 $\lambda$  low



For TX demo boards / remote controllers, their addresses are pre-programmed in the MCU program ROM. Users do not need to specify the address.

For RX demo boards, they have to be paired with a TX first before being used. The pairing process allows the RX recognize the TX and memorize TX's address in its non-volatile memory.

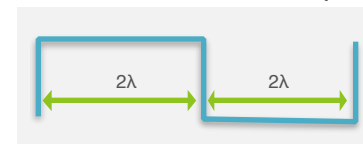
$$CRC = X^8 + X^5 + X^4 + 1$$

Below shows the data when K1~K4 is pressed down

	D7	D6	D5	D4	D3	D2	D1	D0
K1	0	0	0	0	0	0	0	1
K2	0	0	0	0	0	0	1	0
K3	0	0	0	0	0	1	0	0
K4	0	0	0	0	1	0	0	0

## C. End code: 2 $\lambda$ high + 2 $\lambda$ low

End code is used to separate the sequent two code words.



The code word format is like:

	Leading	Start	Address	Data	CRC	END
length	16 $\lambda$	6 $\lambda$	4 $\lambda$ /bit*24bit	4 $\lambda$ /bit*8bit	4 $\lambda$ /bit x 8bit	4 $\lambda$

The total length for a code word is 200us x (16+6+96+32+32+4) = 37.2ms