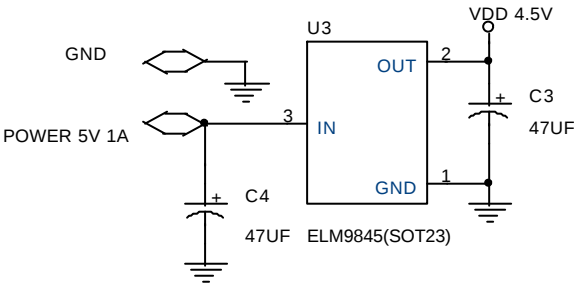
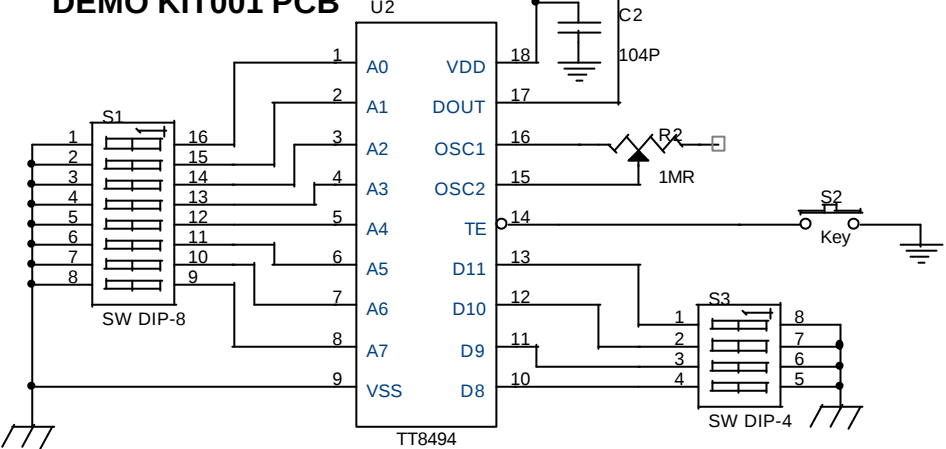


DEMO KIT001 PCB



Title WENSHING ELECTRO

Size A

Document Number KIT1

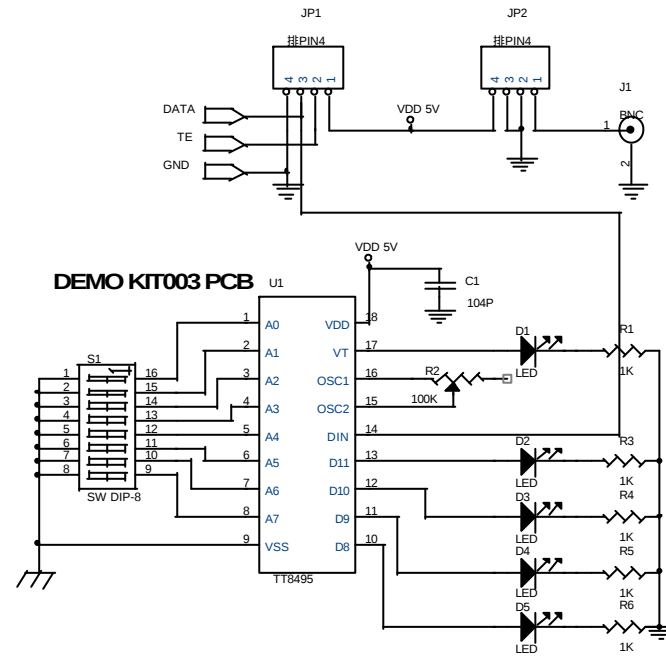
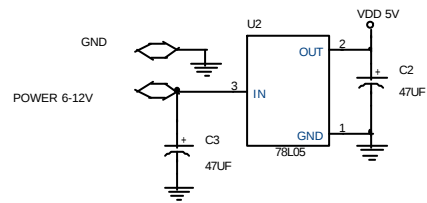
Rev <RevCode>

Date: Tuesday, April 23, 2002

Sheet 1 of 1

KIT2

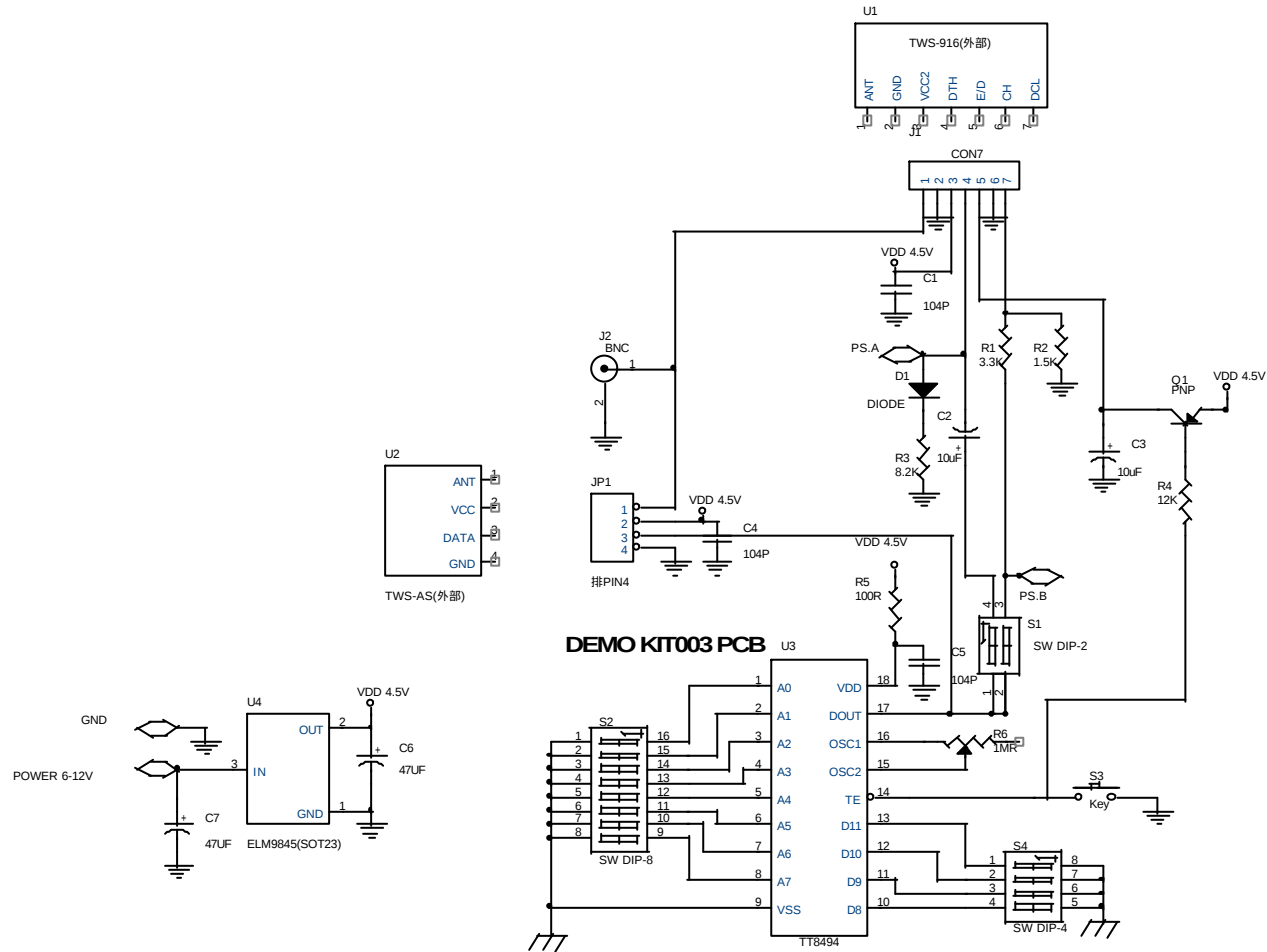
用於RWS測試PCB



Title			WENSHING	
Size	Document Number			Rev
B	KIT3			<Rev Code>
Date:	Tuesday, November 27, 2001	Sheet	1 of 1	

KIT3

用於TWS-916 TWS-AS測試PCB



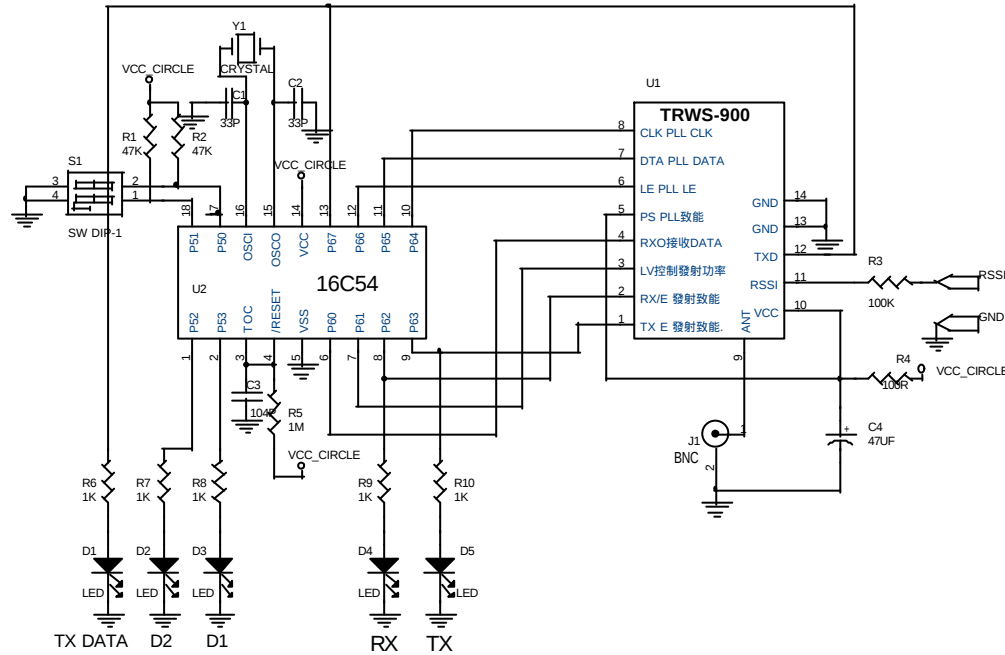
PS

- A. Frequency deviation $\pm 4.5\text{KHz}$
1BPS-10KBPS
- B. Frequency deviation $\pm 75\text{KHz}$
20KBPS-200KBPS

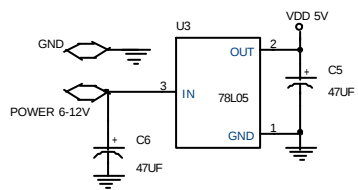
Title		
WENSHING		
Size	Document Number	Rev
B	KIT3	<Rev Code>
Date:	Tuesday, November 27, 2001	Sheet 1 of 1

KIT4

TRS-890 DEMO PCB



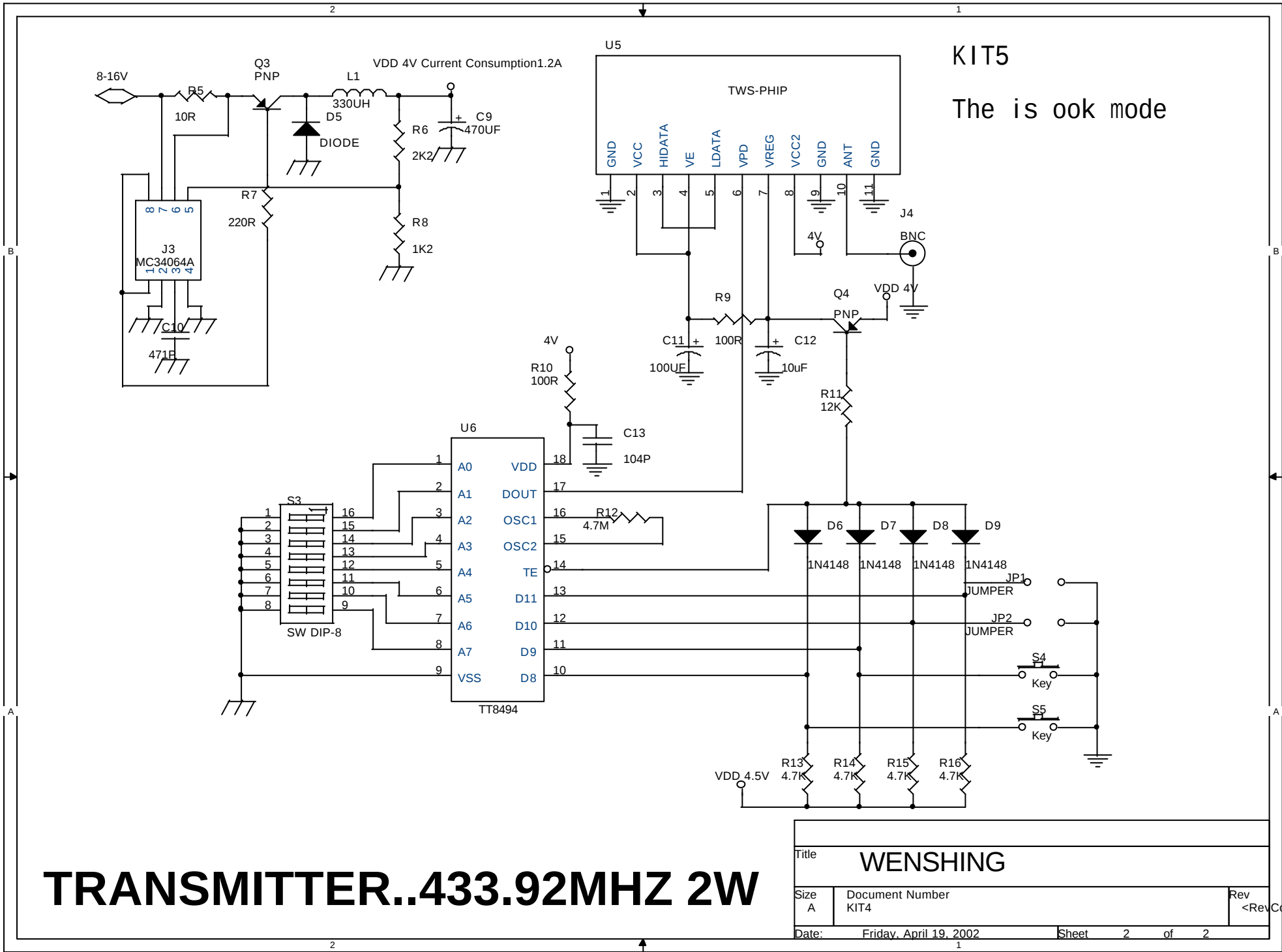
MODE	SW DIP1		descriptions
	1	2	
1	ON	ON	Transmitter test mode data is HI:LO 1:1 cycle
2	ON	OFF	Transmitter test mode data is HI:LO 1:4 cycle
3	ON	OFF	The transceiver test(receive)mode must for other kit mode4
4	OFF	OFF	The transceiver(transmitter) test mode must for other kit mode3



PS
Frequency deviation $\pm 75\text{KHz}$
20KBPS-100KBPS

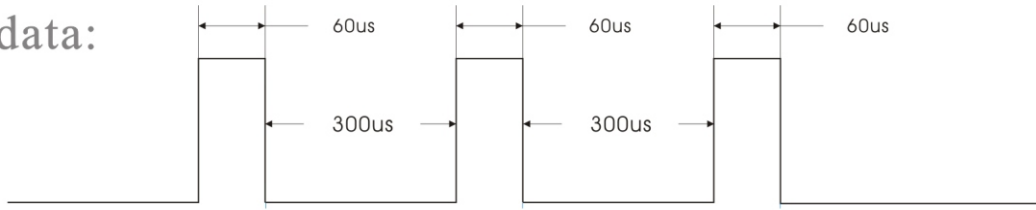
本線路圖受著作權保護,非經書面授權,不得翻閱,複印,抄襲,公開場合傳閱,否則受公訴,民事責任及公司法

Title		
WENSHING		
Size	Document Number	Rev
B	KIT4	04
Date:	Friday, April 19, 2002	Sheet 1 of 1

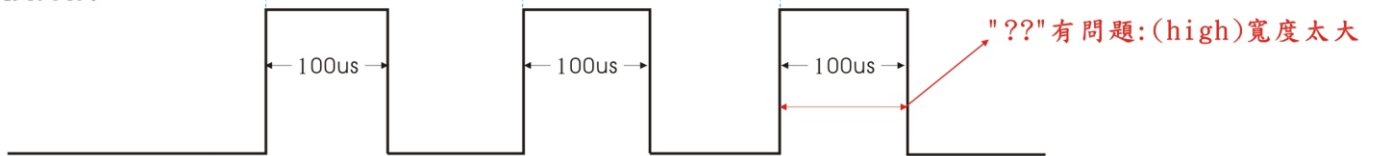


RWS-371-6 問題解答

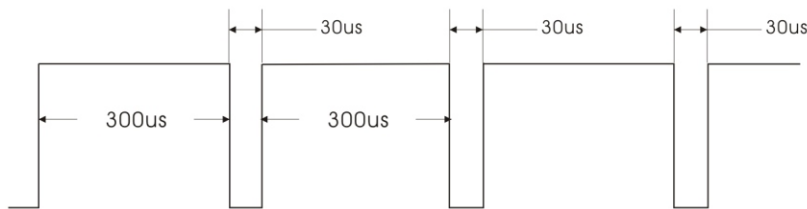
① Tx data:



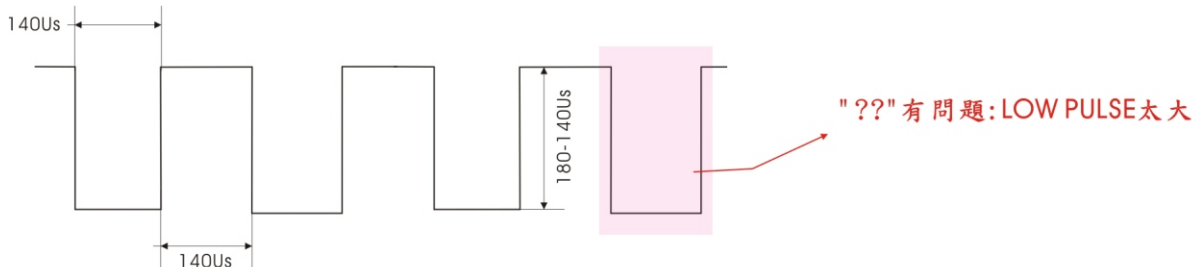
Rx data:



② Tx data:



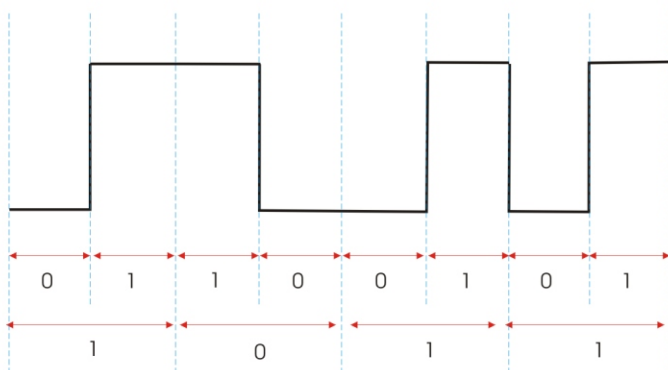
Rx data:



如果在購買我公司產品後，在測試當中遇到(如左圖)問題

因其本身為ask模組..所以使用上,不可用一般數據編碼方式處理...因ask會因電場不同而使asm rx data 上資料,相位偏移量相對大. 所以編碼需用曼策施特編碼方式. 或可參考合泰IC 12e...便可解決問題

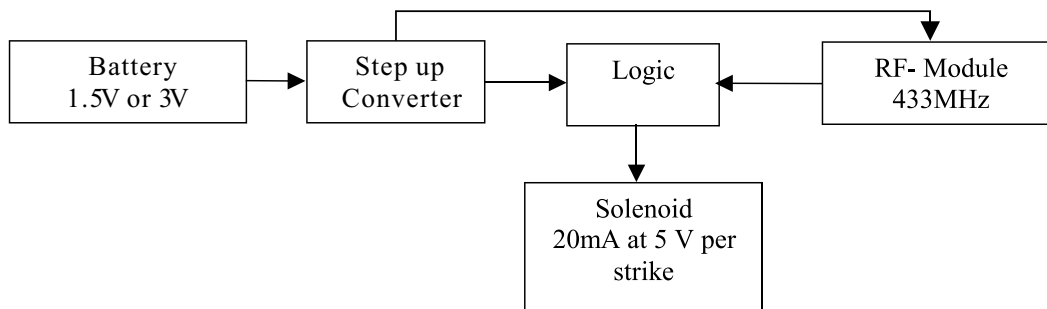
曼策施特編碼:(數位信號)



Application

A gate has to be controlled with a remote control. Both the transmitter and the receiver are run with a Battery of 1.5V around 1400mAh. maybe I will need two of them. The operator can sit in a car behind a window and it should be remote controlled in a range of 10 to 20 meters.

Power Control Protocol like Figure 1.1



Calculations

The receiver has to check like ever 1 second if a signal is present. This means every second it has to come up from sleep or power down mode. This calculation is to see how long a battery would last with just doing the checking. Let say 3 msec to wake up and every 1 seconds a check with a battery of 1400mAh. To not miss a Package it has to check every 8msec for 3 times. The check would take .5 msec. Life expectance Let say 3msec to wakeup and every 1 seconds a check with a battery of 1400mAh. To not miss a Package it has to check every 8msec for 3 times. The check would take .5 msec. Life expectance of the battery would be in years. Protocol of the checking routine which is controlled with PIN 4 and 5 VCC

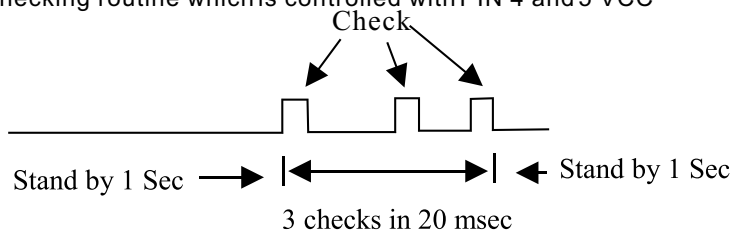


Figure 1.1 Power supply PIN 4 and PIN 5

1400mAh 1 sec

Time = ----- ~ 3 Years

4.5mA 3.5mSec 3 times 24 hours 360 days

(same again time = 1400mAh / 4.5mA * 1sec / 3.5msec / 3 / 24 hours / 360 days ~ 10 Years)

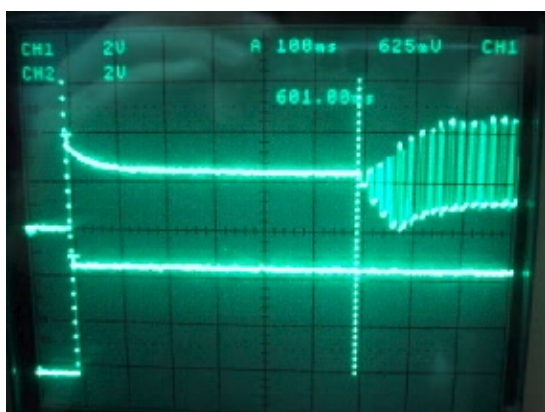
☐ I am designing the system for a life expectance of 5 years.

☐ Second in this calculation is just the checking and not the actual comparing and executing the solenoid.

Consequence:

☐ I would be on the limit but ok with two batteries of this type. But half the battery would be used in five years just with the checking.

Actual Test:



CH1:
2V/DIV 100ms/DIV
this signal is the
Linear Output PIN 3

CH2:
2V/DIV 100ms/DIV
this signal is the VCC
PIN 4 & PIN 5

Figure 2: Measurements of the Receiver

In Figure 2 you can see that it takes for the receiver 600msec to start receiving data. If this is the case I am not able to run the receiver with a battery.

Question:

☐ Is there a stand by voltage where this 3 msec apply and also during that time the power consumption is in well below 1mA.

The two proposal you gave me I am not totally clear on.

☐ Lower the RF Current. This is a design change on your part right?

☐ Change the OPAMP to CMOS is also a design change on your side. I am already using CMOS.

System:

I am using a RWS 371 6433MHz receiver module with on of your transmitters.

常見問題錦集

<問題二>

問：

林先生、Amy, 你們好.

已經收到你們的電郵.

我們的產品是不用encoder/decoder的, 在發射端部份有Microcontroller定時發出信號至TWS-AS3 - 連續56個脈充(pulse) 每個pulse如圖示:左面的是0, 右面的是1.在接收端部份, 會在接收信號前250ms提供電源給接收器RWS-371-6, 其輸出會送至接收端的Microcontroller, 軟件會當pulse的High比Low長時, 定義為0; 相反則為1. 當全部56個pulse都接收到後, 便閉上電源.上列的發射端信號的OOK編碼方法(On/off keying)不可以更改, 因為要和我們其他產品兼容. 請問在如此編碼情況下, 如何改善端的信號接收.



答：

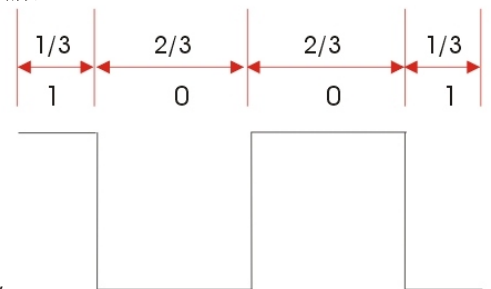
關於給給之編碼方式為T最早之方式.後被合泰採用..一般如此編碼都無問題.所以請查

1.是否DATA OUT 到 MCU 壓降太多.MCU無法 RECEIVER...如確實..請多一級BUFF...

但需正相.不然反相解不出

2.相對.碼部份說明.可能E貴司MUC寫收碼方式規格定太嚴..一般是取1/2 CODE

頻率當CLK TIME...1當大於1/2時視為0小於TIME 便為 1...如右圖。



問：

林先生、Amy,

為什麼你認為我們MUC寫收碼方式規格定太嚴呢?你建議用Time和hi或 lo時間比較,

和我們比較hi和lo時間長短, 本質上好像分別不大. 而且我們有些產品發射的信號pulse time

(hi加 lo)時間是不同的, 所以要用比較hi和lo時間的方法, 接收端才可兼容我們不同的發射產品.

答：

因過去我們很多客戶將收碼TIME 訂固定..使之收碼過程會挑..HI LO.你們應為 1/3 HI 2/3 LO..為1.....2/3 HI 1/3 Lo為

0...這過程需取中間值.直接判別便可...但之前MAIL無回答...OR實在不行請給予成品.我方測試..

問：

林先生、Amy, 你們好.

如果要提供成品是比較困難, 但我會要德國同事提供RWS-371-6的Data Out 波型(waveform)給

你們參考.我們不同的發射產品, 使用的Time是有不同的, 所以接收端使用的Time也不可以固定,

但利用比較 Hi /Lo便可以為不同Time的信號解碼.但請解答為什麼比較 Hi /Lo時間, RWS-371-6

輸出的信號便會有問題, 不能成功解碼? 如果RWS-371-6的Data Out 和TWS-AS3的Signal In信

號是一樣, 那麼用那種方法也應成功解碼.

答：

yes,...我說比較 hi....lo time 肯定沒問題....一般為何解不出..是軟體問題假設 1 code hi..加lo....time 為

100 clock....hi 為33...lo為67...軟體工程師不注意會寫成.判別hi為....28-36有hi電位便為hi判

<問題二>

問：

林先生、Amy, 你們好.

為何我無法看到 3 msec delay我要如何將我原來的主版 run 1.5V 1000mAh battery

答：

我們RF因客戶眾多要求..BPS..所以我們最低可以送100BPS..所以在POWER UP TIME會比較久..如需縮短很容易..

只需給予 發收樣品一套..我們改變兩電容便可.