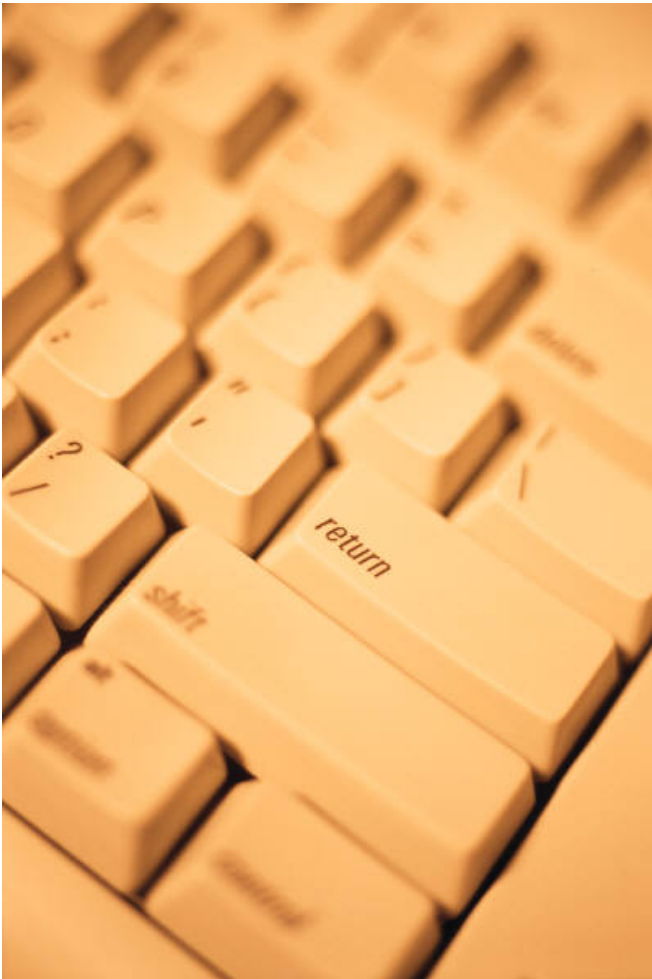


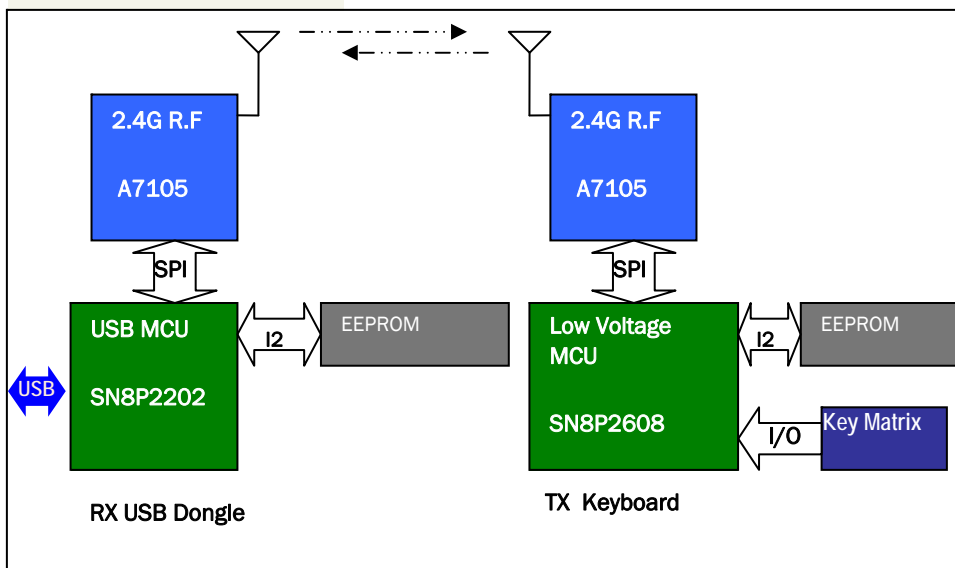
2.4GHz Wireless Keyboard solution



Description :

- Low Speed USB interface
- USB Specification Compliance
 - Conforms to USB specification V1.1
 - Conforms to USB HID specification V1.1
- Frequency: 2.4G Auto Frequency-hopping spread spectrum ,80ch , 2.400G~2.48G
- Noise reject: RSSI Channel Detect
- Working Voltage : TX 3V ,RX 5V。
- Working temperature : 0℃ ~ 70 ℃ 。
- USB transmit speed : 10Mbit/s
- R.F transmit distance: : 20 meters
- 104/107 keys with multi-media or other special application keyboard
- Support WINDOWS TM 95, 98, 2000, ME ,XP keys

Function Block



RX USB Dongle Chip solution

SONIX SN8P2202

USB Low Speed Microcontroller



Features

- Memory: 6K*16 Bits OTP ROM, 256*8 Bits RAM
- System Clock: Internal 6MHz RC, External 6MHz Crystal/Ceramic, Internal 16KHz RC
- System Clock: Internal 6MHz RC, External 6MHz Crystal/Ceramic, Internal 16KHz RC
- Max. 6MHz Execution Rate (1T Speed)
- USB 1.1 Low Speed, 4 Endpoints
- 2 Channel PS/2
- Timer: T0/TC0 Timer/Counter, 0.5s RTC
- Timer Capture: T1/T2 8-bit timer multi-edge trigger
- Operating Mode: Normal Mode, Slow Mode, Green Mode, Sleep Mode

Amicom A7105

Low power R.F 2.4GHz Transceiver



Features

- Frequency bands: 2400 – 2483MHz ISM band.
- FSK and GFSK Modulation
- Low current consumption: RX:16 mA
- Low current consumption: TX:19 mA (output power 0dBm)
- Programmable RF output power: up to 0 dBm.
- On chip regulator, supply voltage 1.9 ~ 3.6V.
- On chip low power RC oscillator.
- Low current (< 1uA) in sleep mode and need only one crystal while working together with MCU.
- High sensitivity (-100dBm@250Kbps, -96dBm@500Kbps,)
- Programmable data rate up to 500Kbps
- Support 4- wire(SPI) or 3- wire interface to access FIFO data, command and register setting
- Package handling hardware includes preamble, sync word, FEC, CRC data whitening and Manchester coding.
- Separate 64 – byte RX and TX FIFOs
- Support FIFO extension function and up to 256 bytes.
- Easy to use with an low cost MCU
- Fast settling time synthesizer for frequency hopping system.
- Digital RSSI output for clear channel indication
- Digital temperature output
- Build in 1 channel ADC for detect external analog element.
- Build in **WWS(wireless wakeup system)** for reduce power consumption of battery.
- Support Frequency compensation scheme to make use the low cost (low accuracy) crystal.

2.4GHz R.F module

MD7105-A06 DIP R.F 2.4G Module



Electrical specification

Item	Specification	Remark
Supply voltage	1.9V~3.6V	
Current consumption	1uA (typical) @Sleep mode 0.3mA (typical) @Idle mode 1.7mA (typical) @Stand-by mode 9mA (typical) @PLL Mode 16mA (typical) @Rx mode 20mA (typical) @Tx mode (Pout = 0dBm)	
Frequency	2400 – 2483 MHz	ISM band
Transmit output power	0 dBm @ room temperature	typical
Rx sensitivity	-105 dBm (typical) @ 10Kbps mode, Dev = 40 KHz -100 dBm (typical) @ 250Kbps mode, Dev = 93 KHz -96 dBm (typical) @ 500Kbps mode, Dev = 186 KHz	BER ≤ 1E-3
Modulation	FSK or GFSK	
Transmission distance	18 meter	BER ≤ 1E-3, with dipole antenna
Interface	5 pin 2mm header, 6 pin 2mm header	
Dimension	12.7mm(L) x 13mm(W) x 2mm(H)	
Operating temperature	-40 ~ 85 °C	

MD7105-A04 SMD R.F 2.4G Module



Electrical specification

Item	Specification	Remark
Supply voltage	1.9V~3.6V	
Current consumption	1uA (typical) @Sleep mode 0.3mA (typical) @Idle mode 1.7mA (typical) @Stand-by mode 9mA (typical) @PLL Mode 16mA (typical) @Rx mode 20mA (typical) @Tx mode (Pout = 0dBm)	
Frequency	2400 – 2483 MHz	ISM band
Transmit output power	0 dBm @ room temperature	typical
Rx sensitivity	-105 dBm (typical) @ 10Kbps mode, Dev = 40 KHz -98 dBm (typical) @ 250Kbps mode, Dev = 93 KHz -94 dBm (typical) @ 500Kbps mode, Dev = 186 KHz	BER ≤ 1E-3
Modulation	FSK or GFSK	
Transmission distance	18 meter	BER ≤ 1E-3
Interface	4X2 pin 2.45mm header	
Dimension	23.3mm(L) x 12.4mm(W) x 4.2mm(H)	
Operating temperature	-40 ~ 85 °C	

TX keyboardd Controller

SONIX SN8P2608

Keyboard Micro-controller



Features

- OTP ROM size: 8K * 16 bits. RAM size: 128 * 8 bits
- Two 8-bit Timers
 - T0 : Basic Timer Including RTC Function
 - TC0 : Auto-reload timer/Counter/PWM1/Buzzer output
- IT instruction structure
- Up to 40 I/o
- 2.4V~5.5V Working voltage
- SSOP48 pin package

USB Dongle



Features

- USB 1.1 Low Speed, Sonix SN8P2202
- EEPROM 24C02
- R.F 2.4G AMICCOM A7105

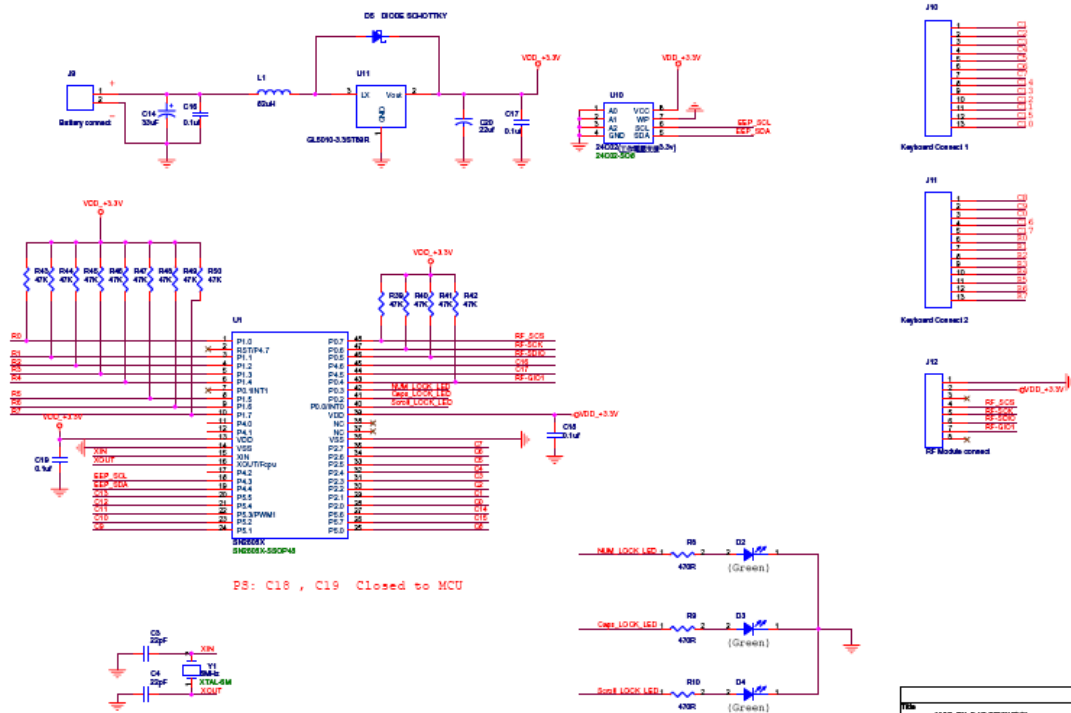
2.4GHz Wireless Keyboard solution

KEY Matrix

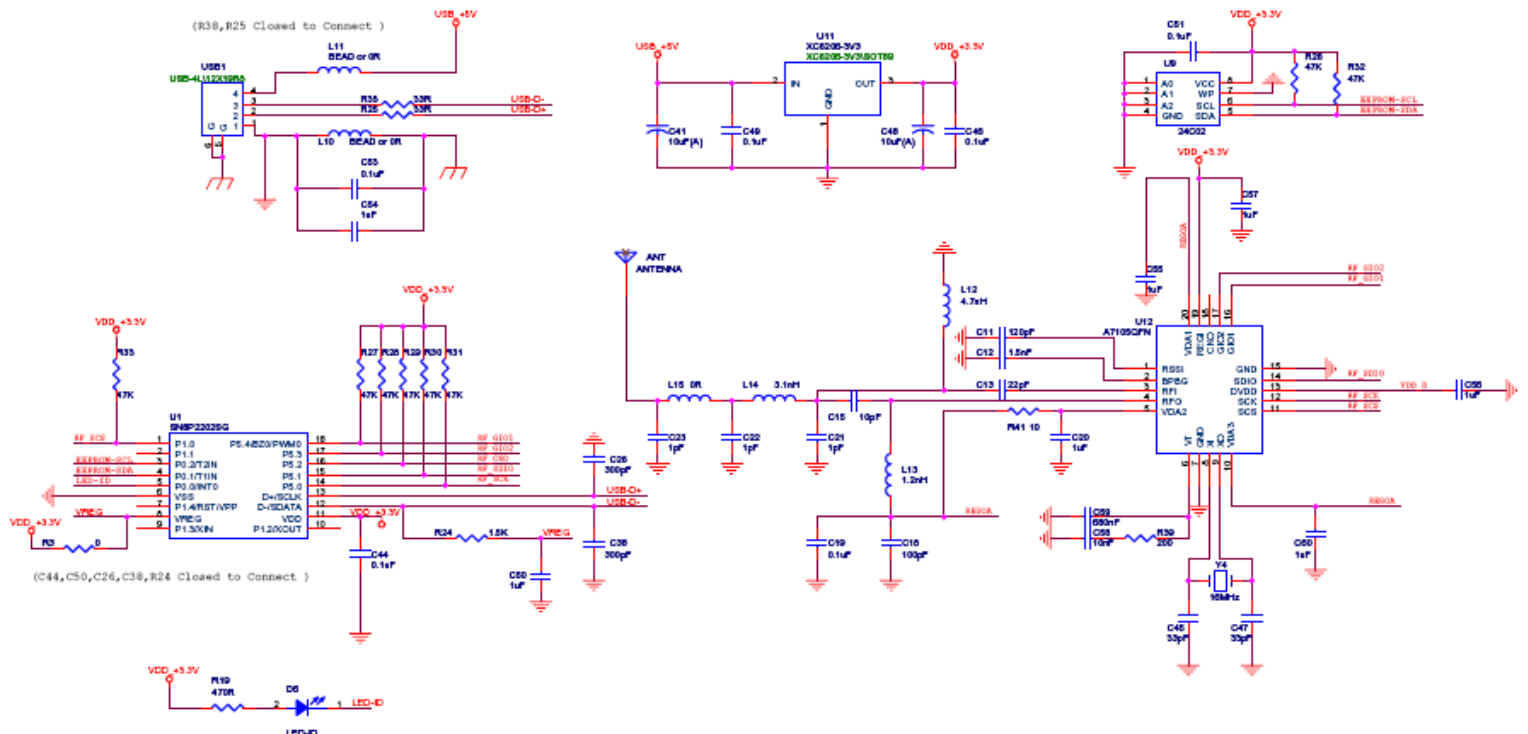
	R0	R1	R2	R3	R4	R5	R6	R7
C0	PAUSE	POWER	€	SLEEP	CTRL-R	WAKE UP	CTRL-L	F5
C1	Q	TAB	A	ESC	Z	N-CHG	` (~)	1 (!)
C2	W	CAP	S	K45	X	CHG	F1	2 (@)
C3	E	F3	D	F4	C	ROMA	F2	3 (#)
C4	R	T	F	G	V	B	5 (%)	4 (\$)
C5	U	Y	J	H	M	N	6 (^)	7 (&)
C6	I] (})	K	F6	, (<)	K56	+ ' (=)	8 (*)
C7	O	F7	L	¥	. (>)	APP	F8	9 ('')
C8	P	[(())	; (:)	' (")	K42	/ (?)	_ (-)	0 ('')
C9	SCROLL		Fn	ALT-L	M/Mode	ALT-R		PRINT
C10	K14	BACK	\ ()	F11	ENTER	F12	F9	F10
C11	7 (K)	4 (K)	1 (K)	SPACE	NUM	↓	DEL	Power
C12	8 (K)	5 (K)	2 (K)	0 (K)	/ (K)	→	INS	Sleep
C13	9 (K)	6 (K)	3 (K)	. (K)	* (K)	- (K)	PAGE UP	PAGE DOWN
C14	+ (K)	K107	ENTER (K)	↑	Play/Pause	←	HOME	END
C15	Wake Up	SHIFT-L	SHIFT-R	Volume-	Volume+	NextTrack	PrevTrack	Media
C16	Mail	WIN-L	WWWForwar	WWWStop	WWWBack	WWWRefresh	Mute	WWWSearch
C17	K150 (KC-L)	WWWFavorite	WIN-R	MyComputer	Stop	Calculator	Web/Home	K151 (KC-R)

2.4GHz Wireless Keyboard solution

TX Remote schermatic



RX USB Dongle schermatic



CONTACT

Avant-Com Inc 瑋忠科技企業（股）公司
6F-1, No.128, Xin-Hu 2nd Rd., Nei-Hu District, Taipei 11494, Taiwan,
臺北市內湖區新湖二路128號6樓-1

Tel : (02) 8792-5853-300 Fax : (02) 8791-7653

E-Mail : david_liao@avantcom.com.tw

Website: WWW.AVANTCOM.COM.TW



深圳奇翰电子有限公司

深圳市福田区彩田路3069号星河世纪大厦A座1815号（彩田路与深南路交汇处）

TEL:+86-0755-82793556、82793559—8088

Mobile: +86-136-3261-0607

FAX:+86-0755-82793553

Mail: recal_cao@avantcom.com.cn

寧波奇特國際有限公司

浙江省寧波保稅區(西區)創業一路19號

Tel:0574-86869818 Fax:0574-86869820

Mail:Ming_Hsu@nb-gt.com

瑋忠科技企業股份有限公司 廈門辦事處

廈門市湖濱南路813號現代城B座1105

Tel:0592-5075169 Fax:0592-5061917

Mail:helen_shi@avantcom.com.tw

