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SENTRON ELECTRONICS CO., LTD
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承认书

SPECIFICATIONS FOR APPROVAL

品名(Product): 5.8G 模组

模组型号(Manufactured Part No.): EV01S RX

软件版本(Software Version): RX : V2B

客户物料编号: OT-056-000001-01

说明: 双方确认之产品, 封存样品随承认书装订附上.
附录为产品规格书, 有同等确认效力. 一式两份
双方签署盖章各保存一份.

承认印 Signature for Approval	
榮利创 Senritron	客 户 Customer

EV01S Rx

Subwoofer Module

承認書

Version: 1.0

Subject to change without further notice.

2017/04/11
Everestek Inc.

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1. Spec

Module	EV01S
FW	SUREV2B703135E56
Main Chip	ETK51
RF	5.8GHz
Modulation	FSK

2. Features

- ☐ Radio Frequency: 5.8GHz unlicensed bands
- ☐ Uncompressed Audio
- ☐ Short Audio Latency: < 13ms (analog to analog)
- ☐ Link Distance: up to 40 Meters
- ☐ Advanced RF Selection Algorithm
- ☐ Small RF Foot Print
- ☐ Best Coexistence with Wi-Fi/Bluetooth
- ☐ Highly Integrated SoC: RF/PA/CPU/Flash Embedded
- ☐ Wide-Band Antenna on Module
- ☐ Short RBOM List
- ☐ RF Modulation: FSK
- ☐ Digital I2S (master or slave) Audio Interface, 16/24bit , 32/44.1/48KHz Sampling Rate
- ☐ Low Power Consumption
- ☐ Supply Voltage: 2.7~3.6V
- ☐ Support I2C master/slave mode and SPI/UART
- ☐ Optional module version with MHF connector for external antenna
- ☐ Compliant with EMC Regulations (FCC/CE)

3. Application

- ☐ Wireless Soundbar/Subwoofer

4. Electrical Specifications

RF Specification

Item	Min	Typ	Max	Unit	Note
RF Carrier Frequency	5725	—	5820	MHz	For 5.8Ghz
-20dB bandwidth	—	2	—	MHz	
Output Power		7		dBm	
RF Sensitivity	—	-81		dBm	

Audio Specification(I2S to I2S)

Item	Min	Typ	Max	Unit	Note
SNR		142		dB	@1kHz
THD + N		-135		dB	@1kHz
Frequency response		6		KHz	Programmable, <=6KHz
Dynamic range		-140		dB	@1kHz

Operation Condition

Item	Min	Typ	Max	Unit	Note
VDD	2.7	3.3	3.6	V	Power Supply Voltage
Operating Temperature	-5	25	60	°C	Ambient temperature

Electrical Specification (MCU+RF)

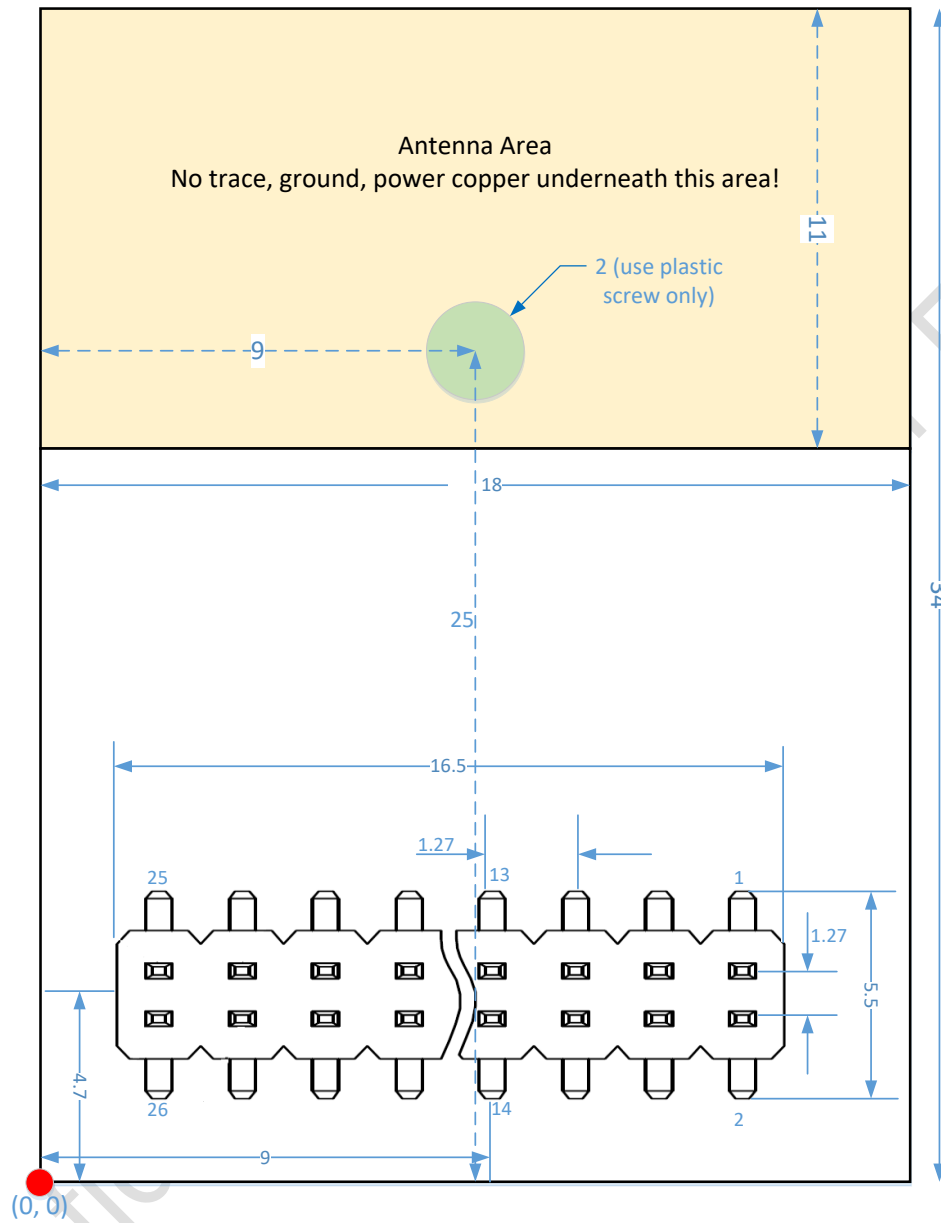
Item	Min	Typ	Max	Unit	Note
Transmitter current		47		mA	Output power 7dBm
Receiver current		45		mA	
sleep mode		2		mA	Crystal enable, timer or interrupt wake up system

Digital interface

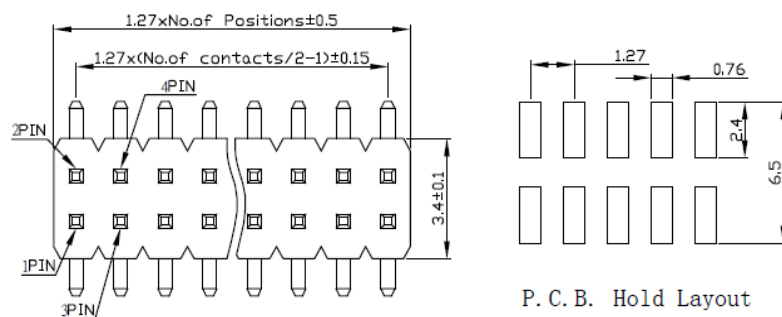
Item	Min	Typ	Max	Unit	Note
VIH	0.7VDD		VDD+0.2	V	Input High Threshold
VIL	VSS		0.3VDD	V	Input Low Threshold
VOH	VDD-0.3		VDD	V	Output High Threshold
VOL	0		0.3	V	Output Low Threshold

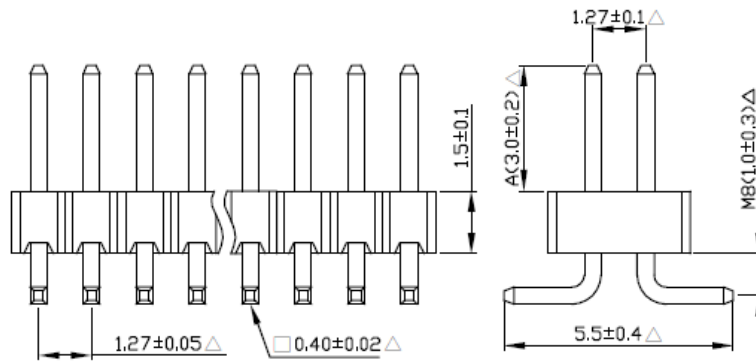
5. Mechanical Specification

- Dimension : 34 mm x 18 mm
- PCB 4 Layers
- Mechanical Drawing:
Bottom view

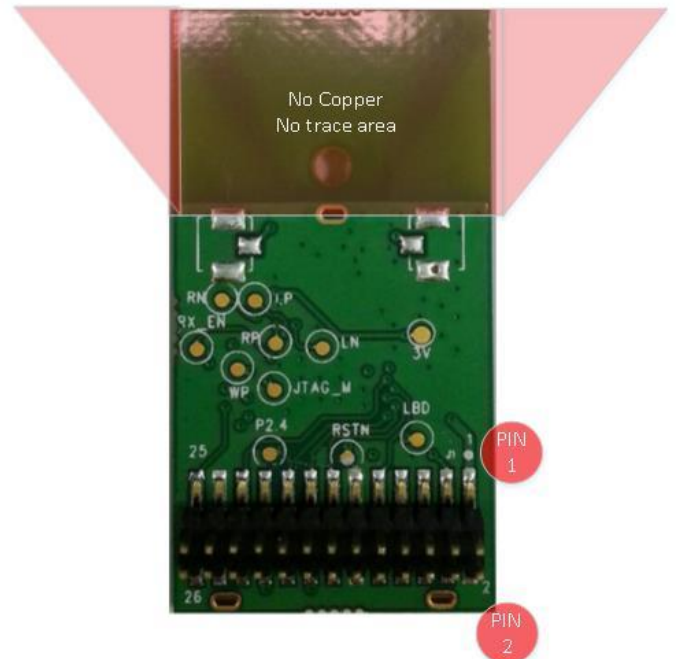
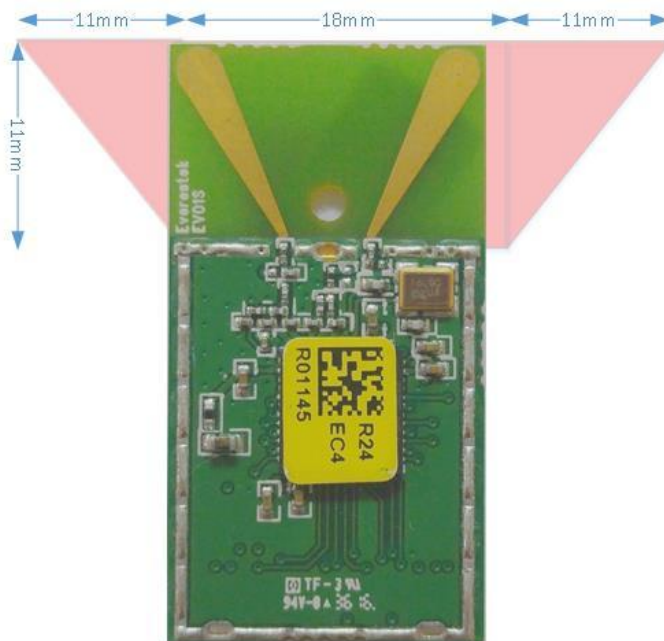


- Connector Drawing:

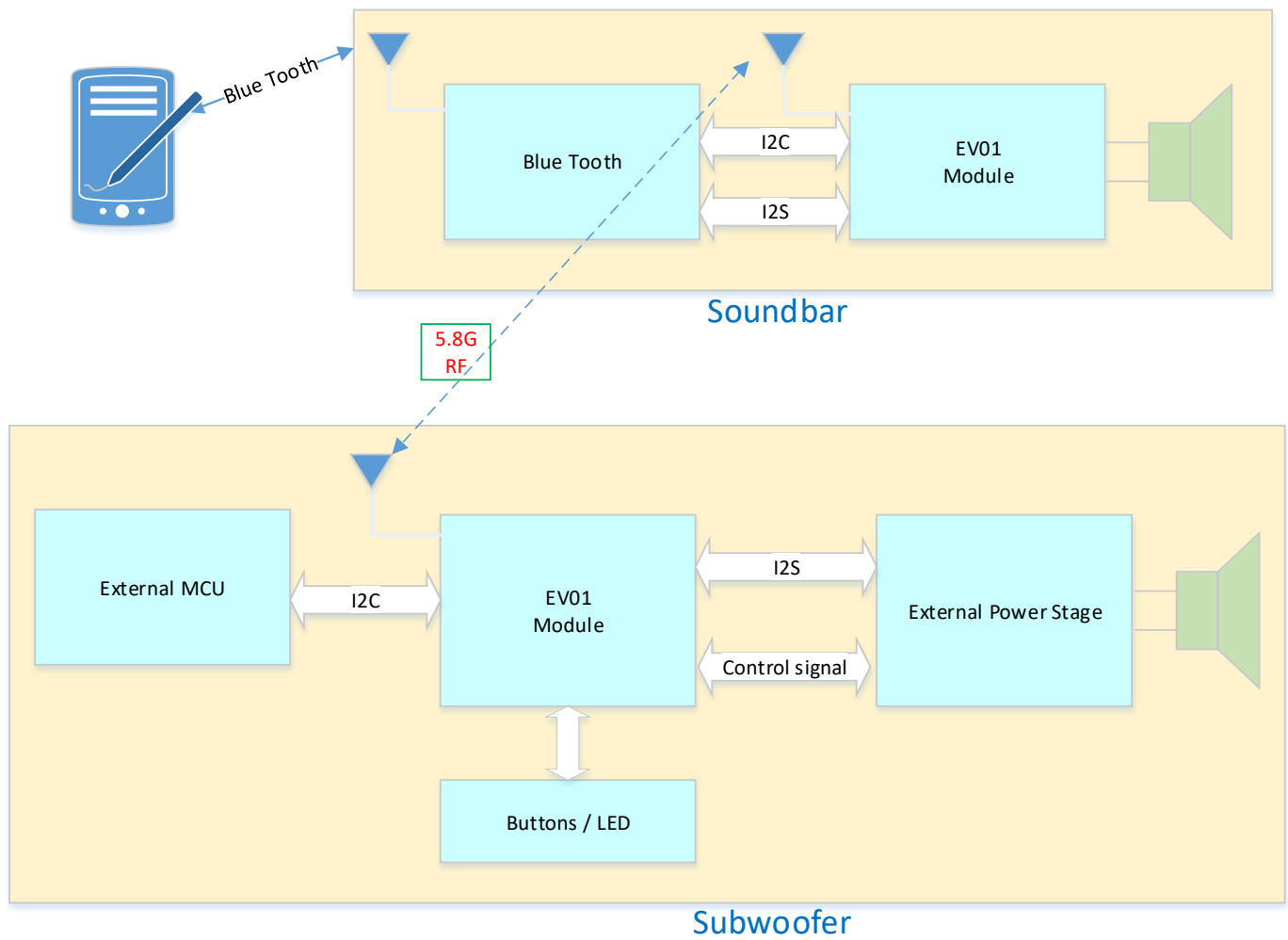




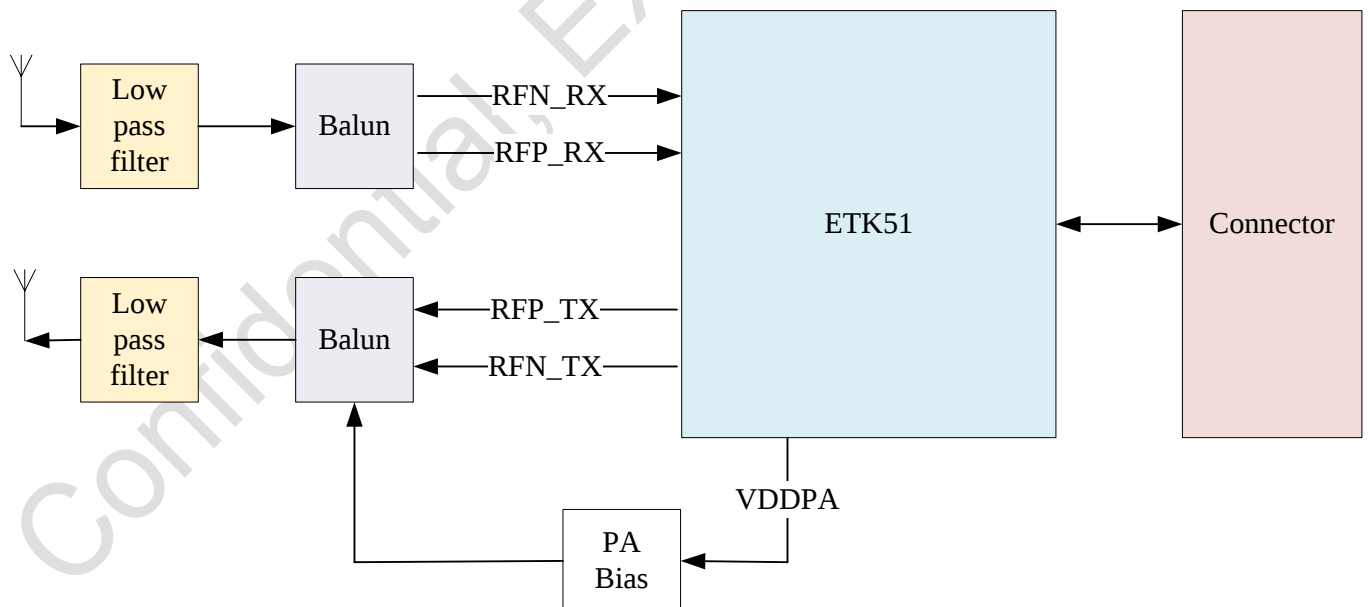
The no copper area is showed below in pink color. The main board layout should no copper, no trace underneath this area.



6. Application



7. Block Diagram

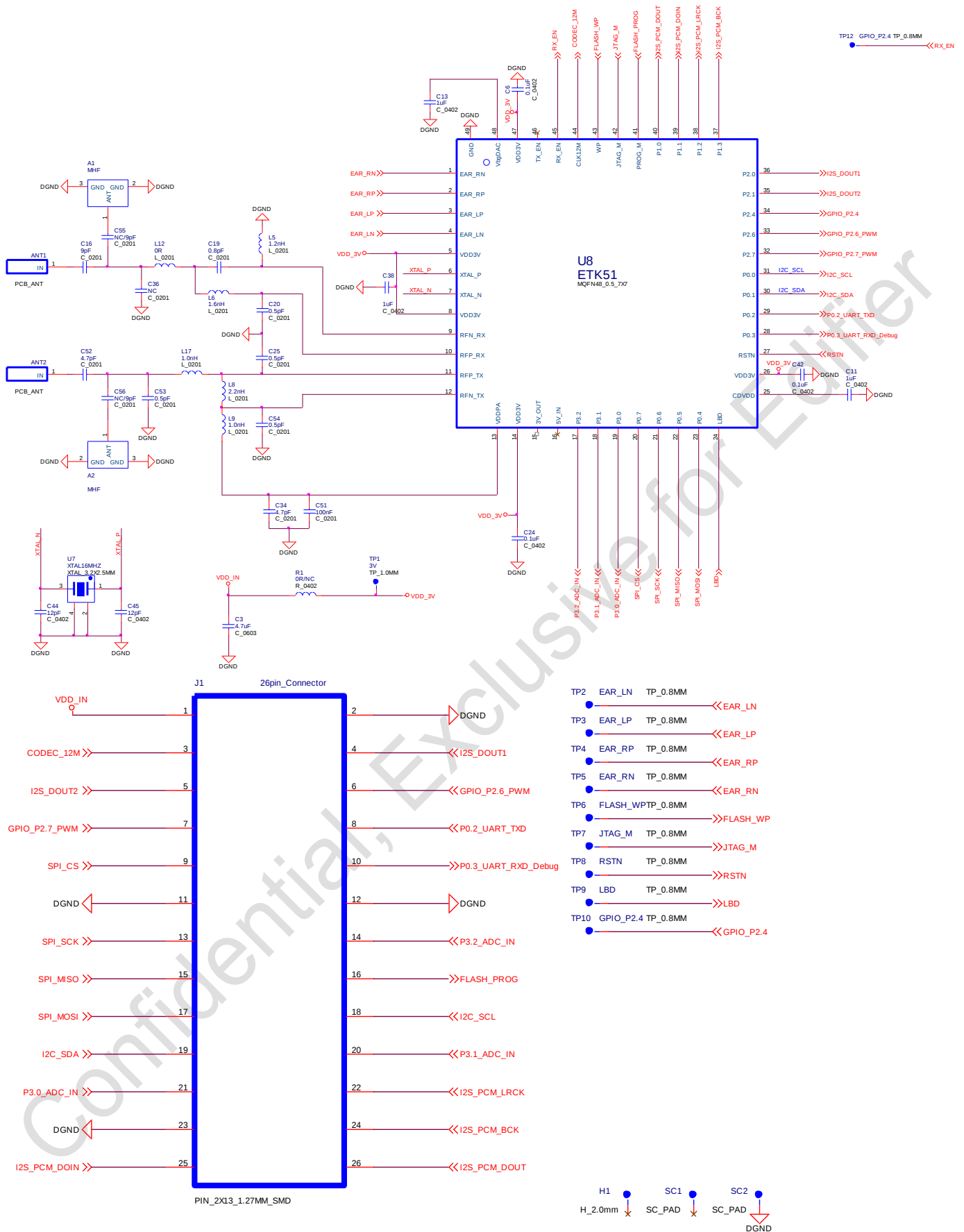


8. Module Pin Definition

Pin	Name	I/O	Function Definition
1	VDD	P	VDD (2.7V~3.6V)
2	DGND	P	System ground
3	CODEC_12M	O	For audio codec system clock(12.288MHz or 11.2896MHz)
4	P2.0	I/O	GPIO
5	P2.1	I/O	GPIO
6	P2.6_PWM	I/O	GPIO or PWM
7	P2.7_PWM	I/O	GPIO or PWM
8	P0.2_UART_TXD	I/O	GPIO or UART TXD
9	P0.7_SPI_CS	I/O, C	GPIO and SPI chip select for programming internal flash mode, or Arm Debug port
10	P0.3_UART_RXD_Debug	I/O	General I/O or UART RXD, ARM debug port
11	DGND	P	System ground
12	DGND	P	System ground
13	P0.6_SPI_SCK	I/O	General I/O and SPI SCK for SPI in programming internal flash mode, or Arm Debug port
14	P3.2_ADC_IN	I/O, A	GPIO or ADC input
15	P0.5_SPI_MISO	I/O, C	General I/O and SPI MISO for SPI in programming internal flash mode, or Arm Debug port
16	FLASH_PROG	C	Program mode select, active high, default pull low For programming internal flash memory Please leave this pin float for normal operation.
17	P0.4_SPI_MOSI	I/O, C	General I/O and SPI MOSI for SPI in programming internal flash mode, or Arm Debug port
18	P0.0_I2C_SCL	I/O	General I/O, I2C clock
19	P0.1_I2C_SDA	I/O	General I/O, I2C data
20	P3.1_ADC_IN	I/O, A	GPIO or ADC input
21	P3.0_ADC_IN	I/O, A	GPIO or ADC input
22	I2S_PCM_LRCK	I/O	I2S LRCK(input for I2S slave, output for I2S master)
23	DGND	P	Power ground
24	I2S_PCM_BCK	I/O	I2S BCK(input for I2S slave, output for I2S master)
25	I2S_PCM_DIN	I/O	I2S Data in(from audio codec, or from ADC I2S DATA out)
26	I2S_PCM_DOUT	I/O	I2S Data out(to audio codec, or to DAC I2S DATA in)

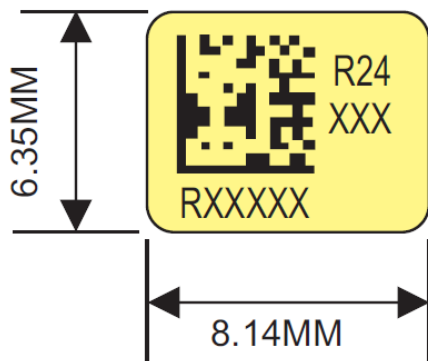
Note: P:Power, I/O:GPIO, S:System use only, A:DAC/ADC, C:control

9. Reference Schematics



3	C CHIP	0201	4.7pF±0.25pF_25V	2	C34,C52	
4	C CHIP	0201	9pF±0.25pF_25V	1	C16	
5	C CHIP	0201	100nF±10%_6.3V	1	C51	
6	C CHIP	0402	100nF±10%_6.3V	3	C6,C24,C42	
7	C CHIP	0402	1uF-20%~+80%_6.3V	3	C11,C13,C38	
8	C CHIP	0402	12pF±5%_50V	2	C44,C45	
9	C CHIP	0603	4.7uF-20%~+80%_6.3V	1	C3	
10	L CHIP	0201	1nH±0.3nH	2	L9,L17	
11	L CHIP	0201	1.2nH±0.3nH	1	L5	
12	L CHIP	0201	1.6nH±0.3nH	1	L6	
13	L CHIP	0201	2.2nH±0.3nH	1	L8	
14	R CHIP	0201	0R±5%	1	L12	
15	R CHIP	0402	0R±5%_ 1/16W	1	R1	
16	26pin_Connector		PIN_2X13_1.27MM_SMD	1	J1	
17	XTAL		XTAL16MHZ	1	U7	
18	ETK51		MQFN48_0.5_7X7	1	U8	
	C CHIP	0201	9pF±0.25pF_25V	2	C55,C56	NC
	C CHIP	0201	NC 0201	1	C36	NC
	MHF		MHF_3.1X3_SMD	2	A1,A2	NC

10. Sticker and Package

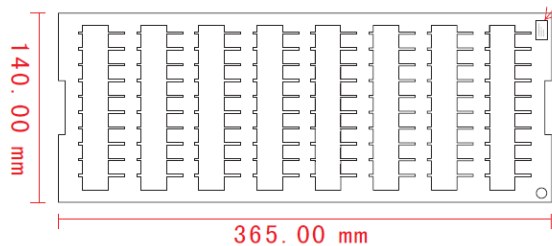


The 1st Line: Module Model Number

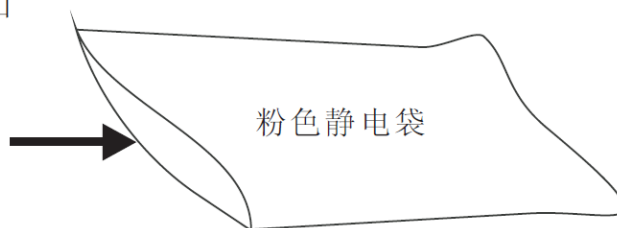
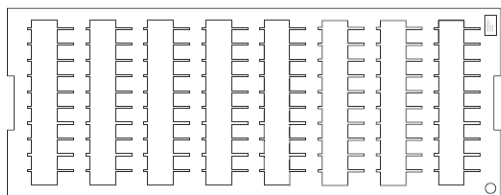
The 2nd Line: F/W Version

The 3rd Line: Serial Number

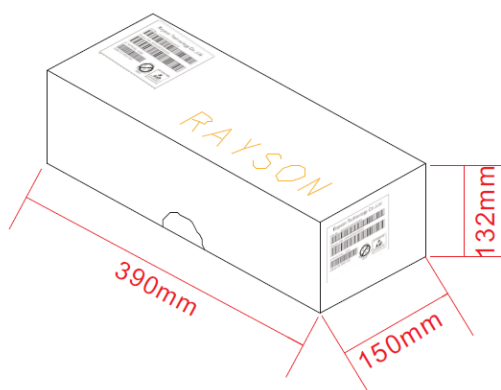
1. EV01S托盤一盤可裝80PCS, 貼上30*14mm貼紙。
托盤尺寸是365*140*25mm



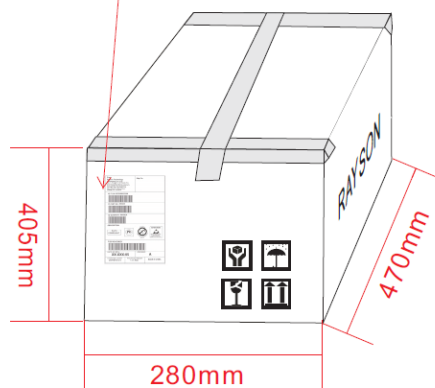
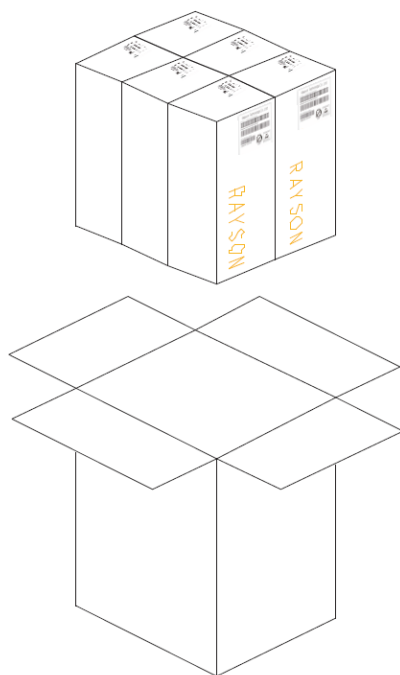
2. 一盤產品裝入粉色防静电袋, 封口



3. 4托盤入/內盒 80*4/320pcs盒, 內盒貼兩張75*65mm內盒貼紙



4. 六內盒入外箱, 320*6/1920PCS/箱, 2pcs外箱標貼(100*165mm)貼外箱側唛



11. Revision History

Date	Revision	Descriptions
2017/04/10	1.0	Initial Version

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