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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	
燊利创 Senritron	客户 Customer

EV01S Rx

Subwoofer Module

承認書

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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)

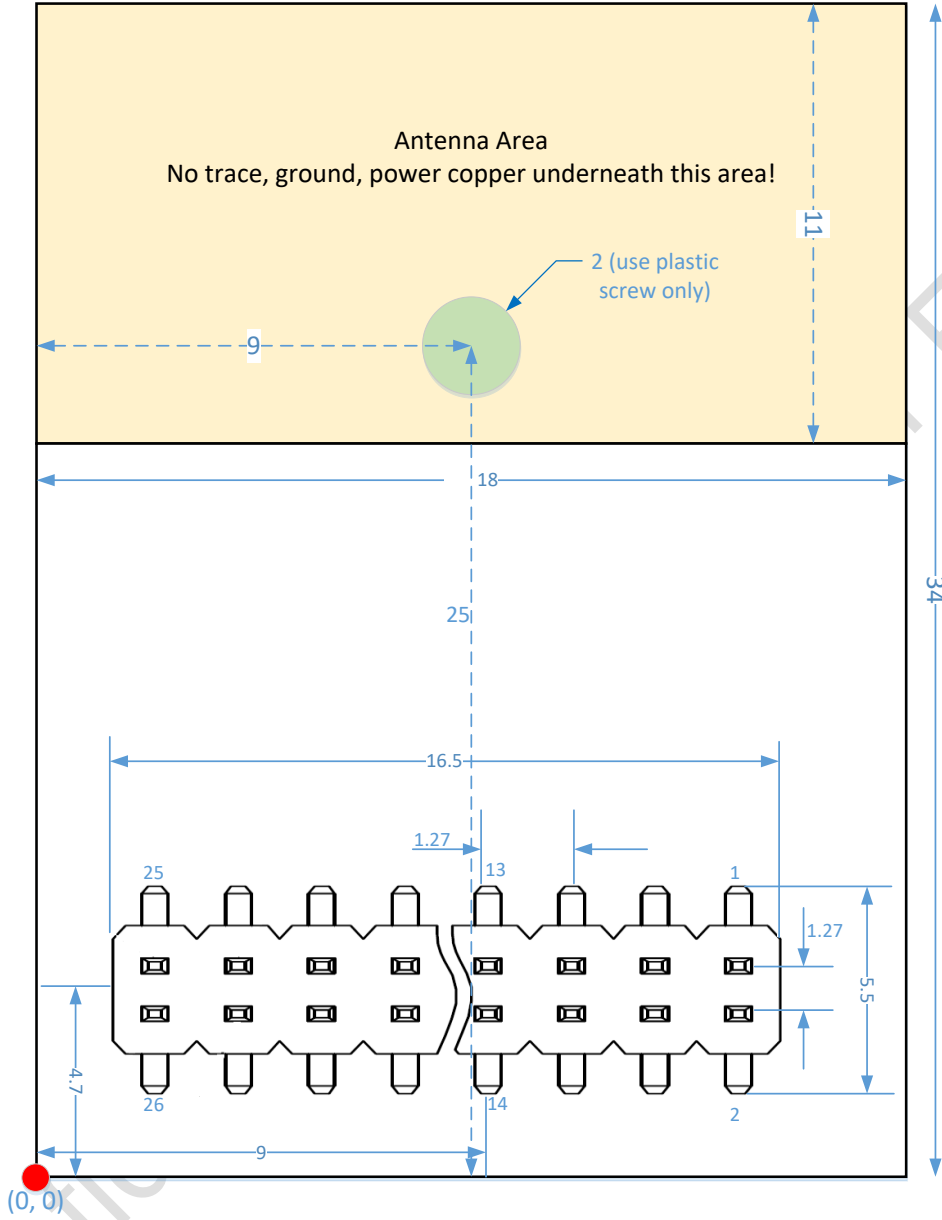
Item	Min	Typ	Max	Unit	Note
Transmitter current		47		mA	Output power 7dBm
Receiver current		45		mA	
sleep mode		2		mA	Crystal enable, timer or interrupt wake up system

Digital interface

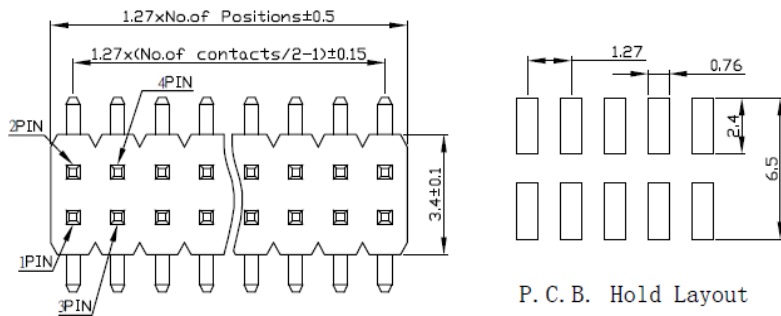
Item	Min	Typ	Max	Unit	Note
VIH	0.7VDD		VDD+0.2	V	Input High Threshold
VIL	VSS		0.3VDD	V	Input Low Threshold
VOH	VDD-0.3		VDD	V	Output High Threshold
VOL	0		0.3	V	Output Low Threshold

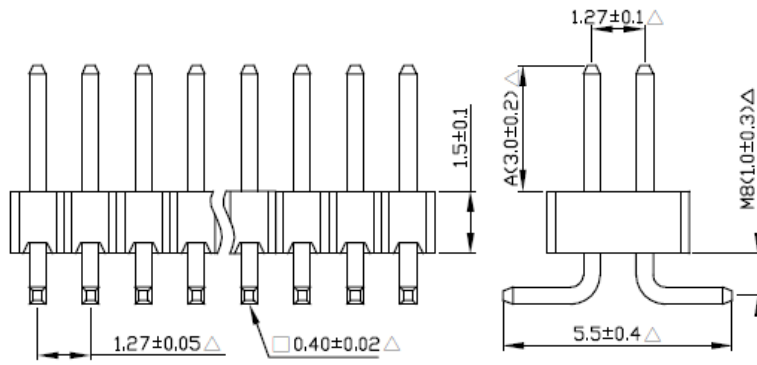
5. Mechanical Specification

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

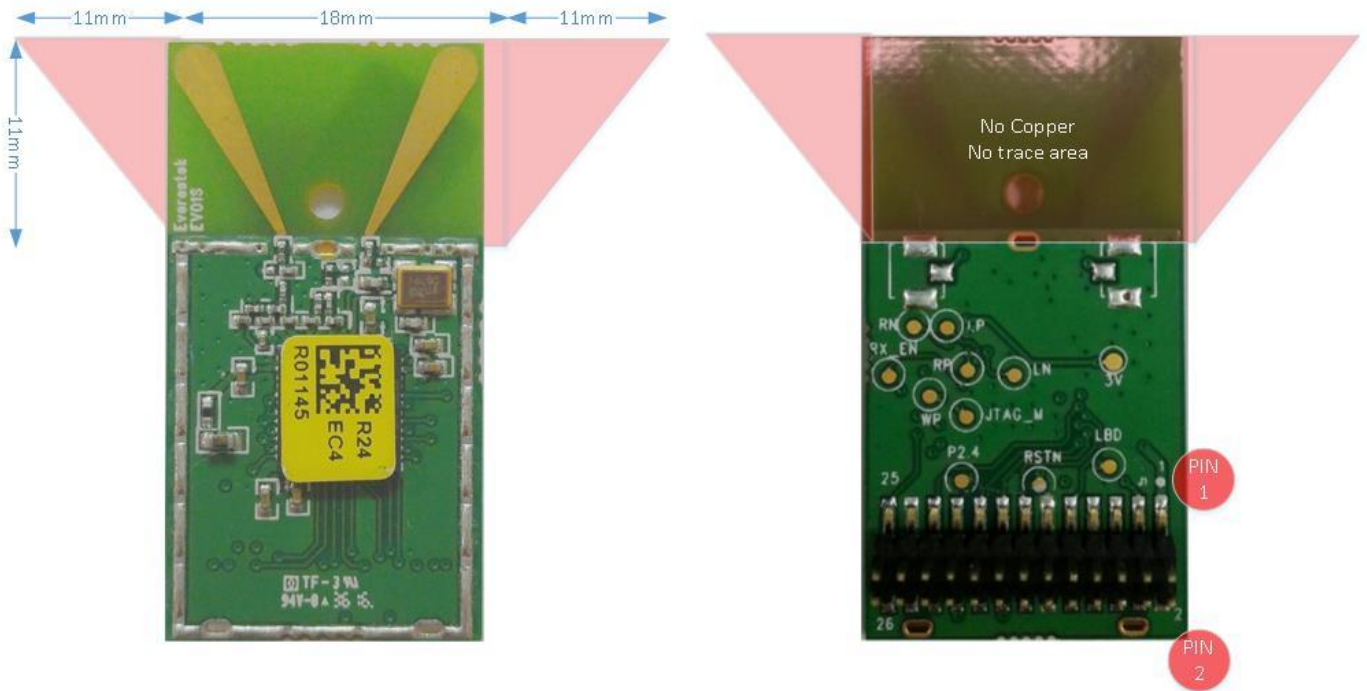


■ Connector Drawing:



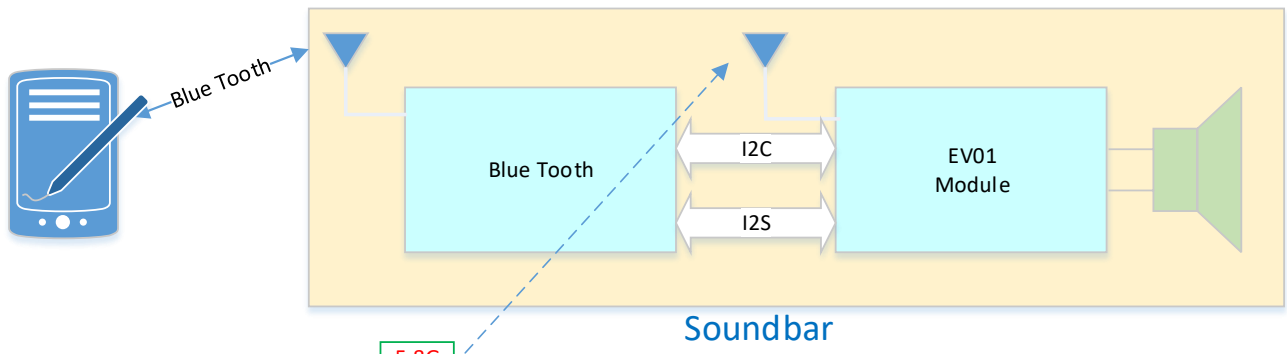


The no copper area is showed below in pink color. The main board layout should no copper, no trace underneath this area.

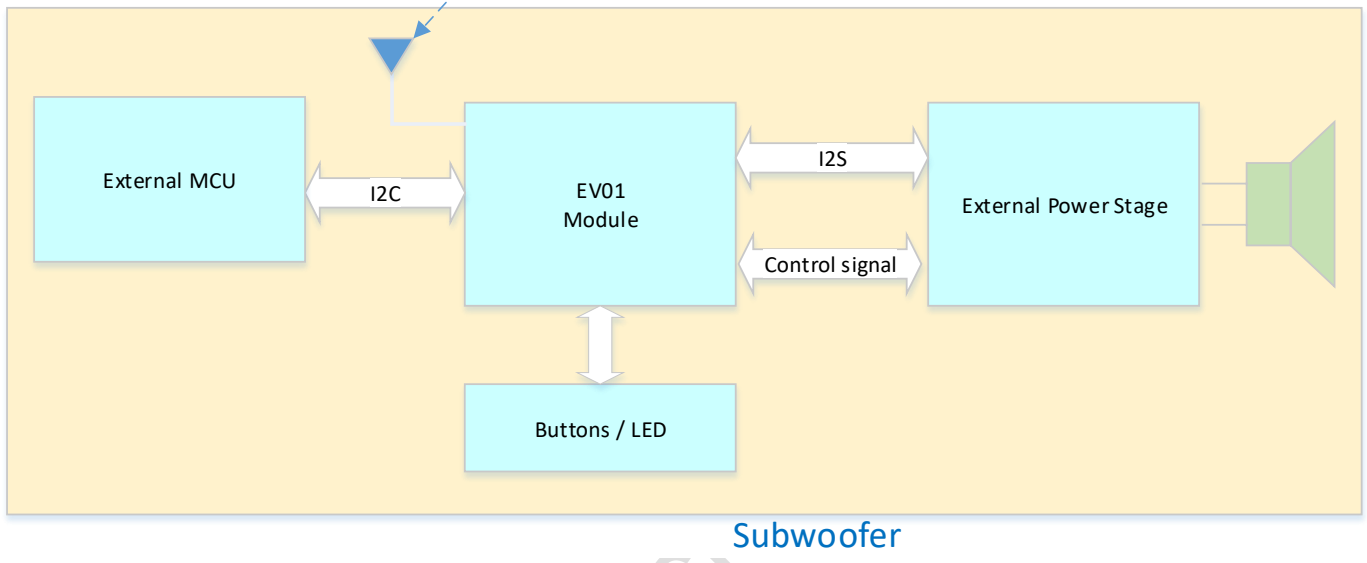


6. Application

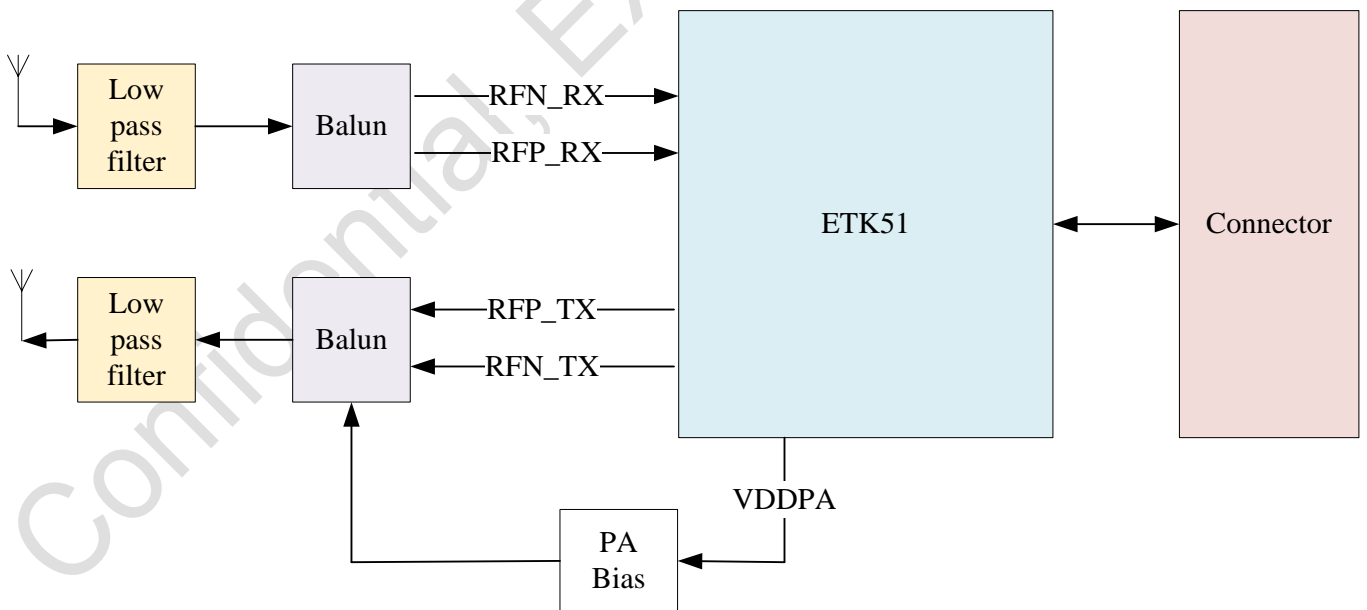
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5.8G
RF



7. Block Diagram

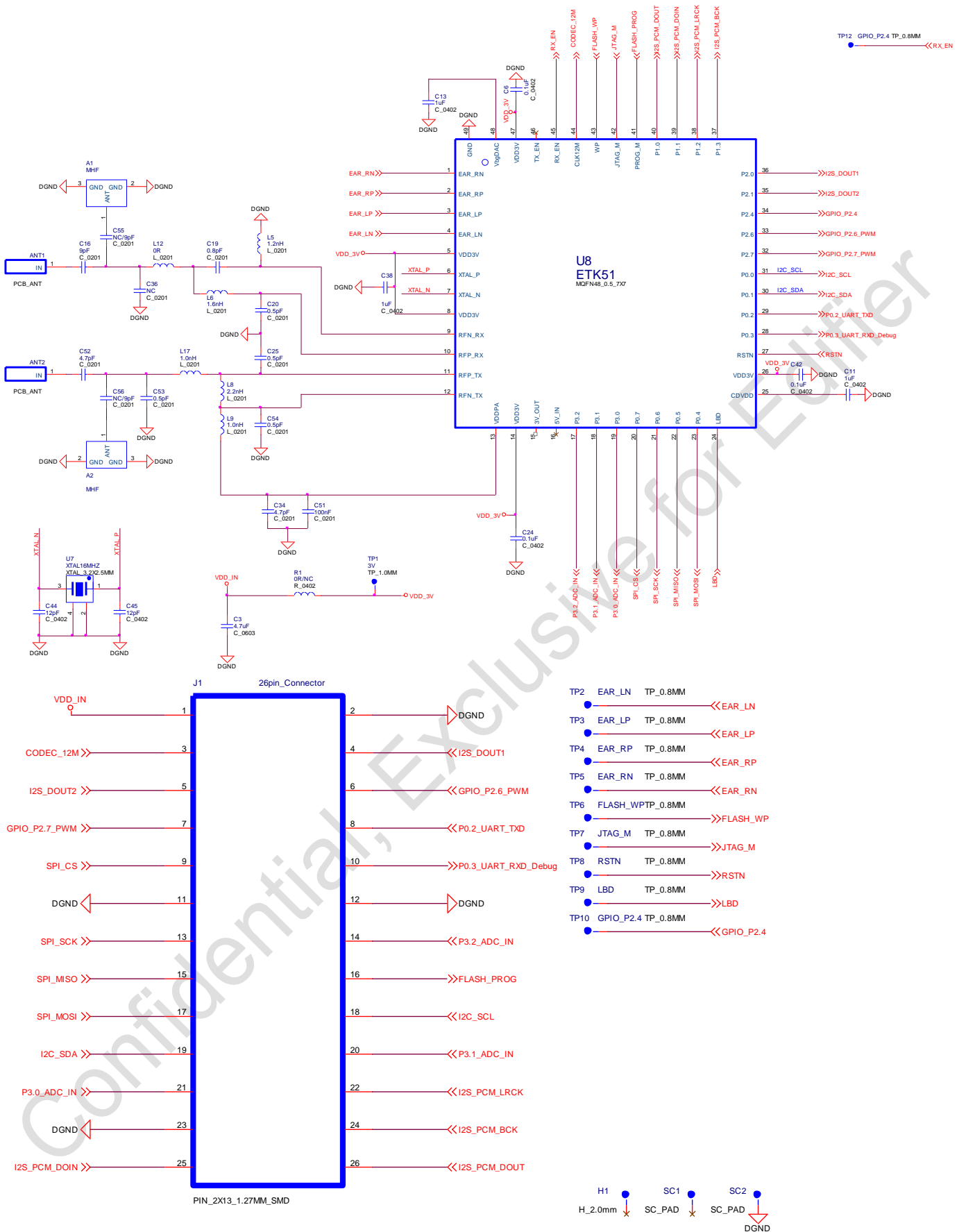


8. Module Pin Definition

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

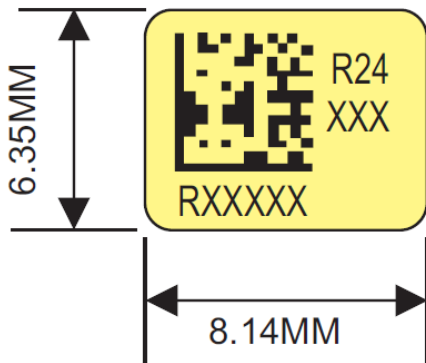


BOM:

Items	Type	Package	Spec	Quantity	Part ref	Remark
1	C CHIP	0201	0.5pF±0.1pF_25V	4	C20,C25,C53,C54	
2	C CHIP	0201	0.8pF±0.1pF_25V	1	C19	

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

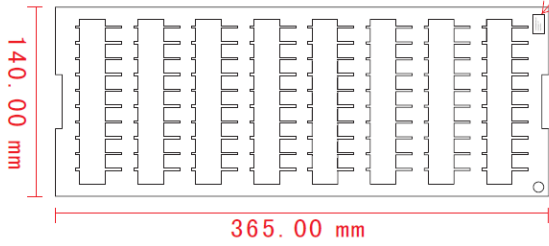


The 1st Line: Module Model Number

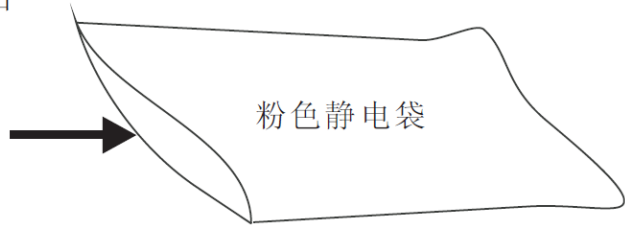
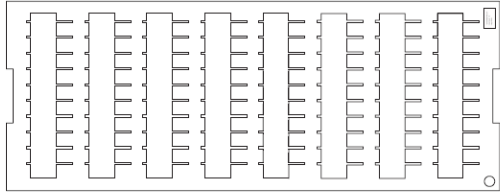
The 2nd Line: F/W Version

The 3rd Line: Serial Number

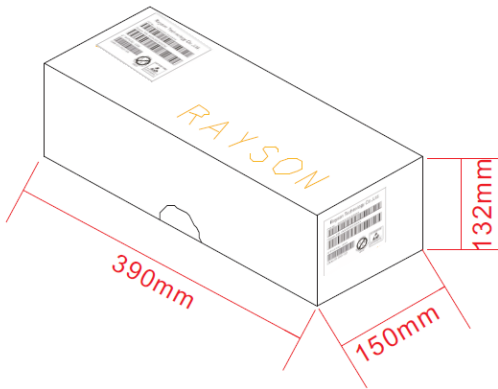
1. EV01S托盤一盤可裝80PCS, 貼上30*14mm貼紙。
托盤尺寸是365*140*25mm



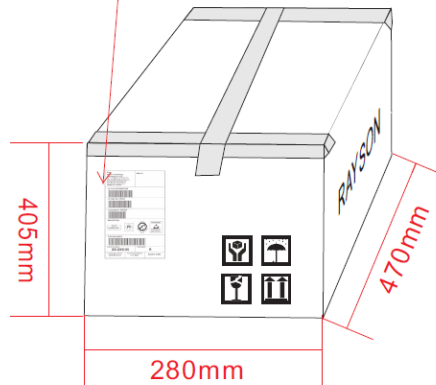
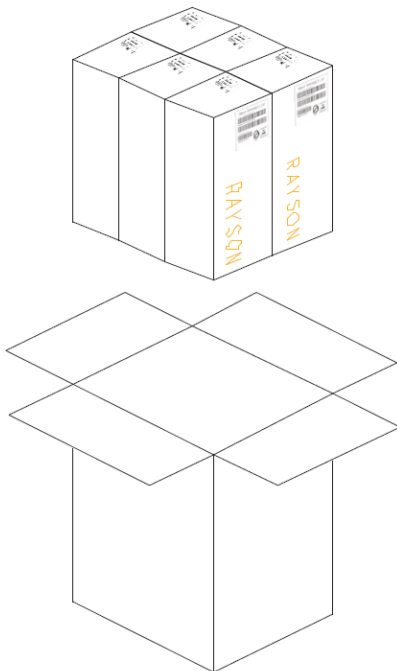
2. 一盤產品裝入粉色防静电袋, 封口



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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