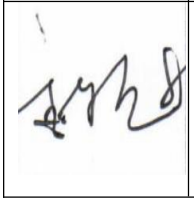
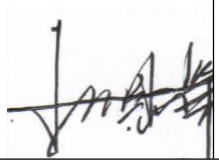
Specification

Model	WTM-H005

Version 06 2021.06.16

Customer Approval

Approved	Checked by Sales Dept.	Standard Checked	Checked by Technical Dept.	Prepared
				赖泽森 2021/06/16

Revision History

Date	Page	Rev.	Description	Prepared	Checked	Approved
2019.6		00	Trial Version			
2019.7		01				
2019.11		02				
2020.4.3		03	Added WTM-H005-006			
2020.6.18		04	Update QI state			
2020.12.9		05	Added LED Indicator Color Display of WTM-H005-004 Customized Version			
2021.06.16		06	Added WTM-H005-007			

Content

1. Caution

1.1. Product Name: For Wireless Charging PCBA,model is :WTM-H005
1.2. Storage: avoid storing the Pad in high temperature, heavy wet and dusty place.
1.3. Handling: avoid extra force to cause the distortion of the Wireless Charging PCBA when handling.
1.4. Storage and operating environment of mechanism should not contain corrosive liquid and gases (e.g. H2S,SO2, NO2, Cl2, etc.) and materials can emit harmful gases (e.g. silicic, cyanic, formalin, phenol group, sulfide, phosphide, etc.). Other materials can emit gases should be used carefully. The liquid and gases may harm the parts of the Wireless Charging PCBA.

2. Scope

2.1. This specification applies to Wireless Charging PCBA. . .
2.2. Any query over the specification should be expressed by R&D dept. of YULIN TECH CO.,LTD.
2.3. Components or manufacturing process may be subject to change within the specification for improvement.
2.4. Always use the loaders within conditions given in the specification.
2.5. Make sure that a finished product containing the loader is in compliance with the rules and regulations for spurious radiation.

3. Features

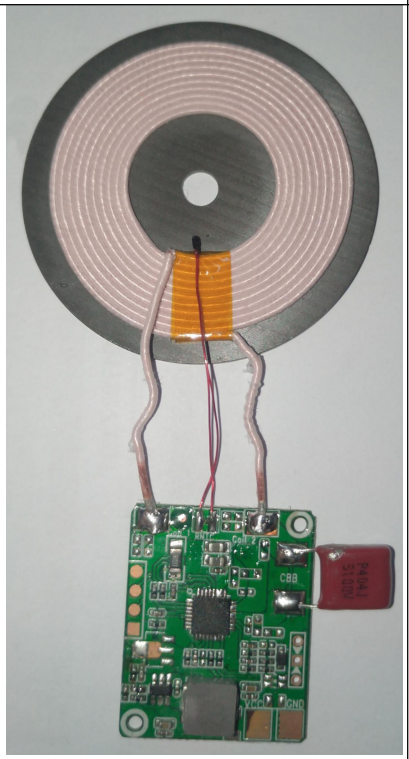
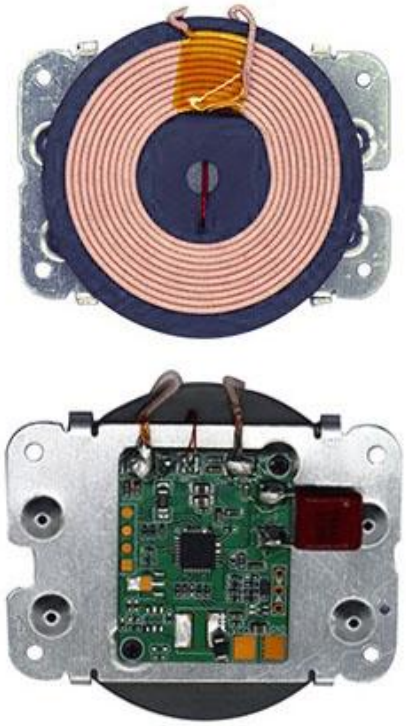
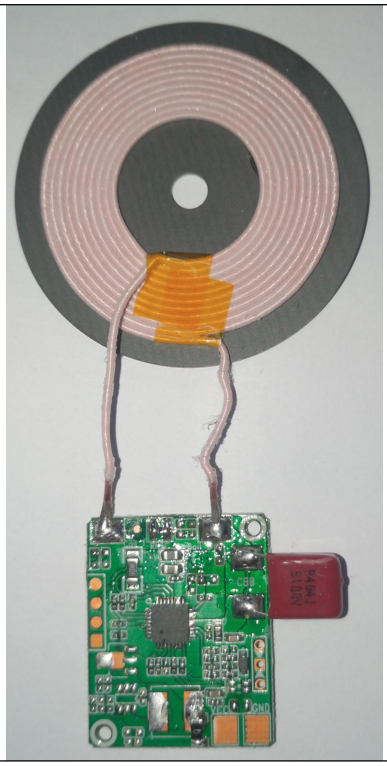
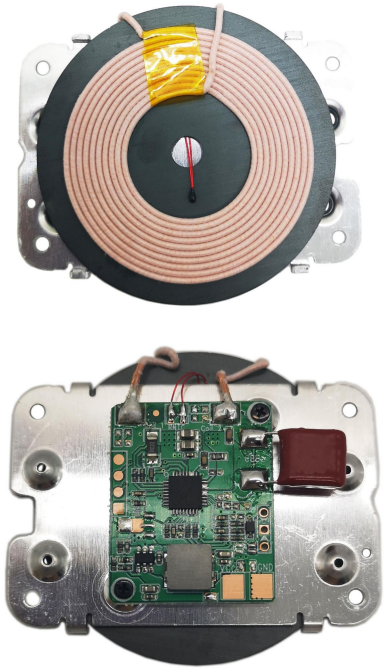
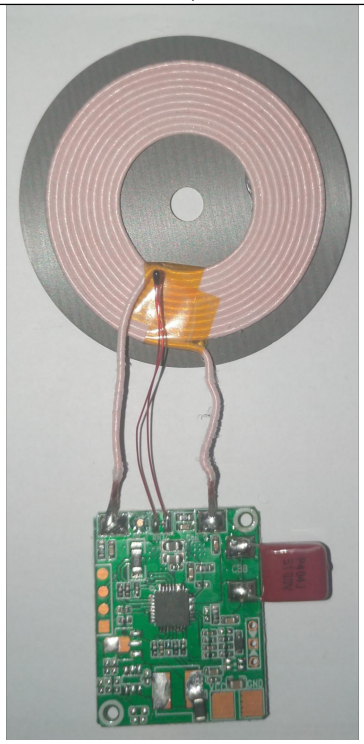
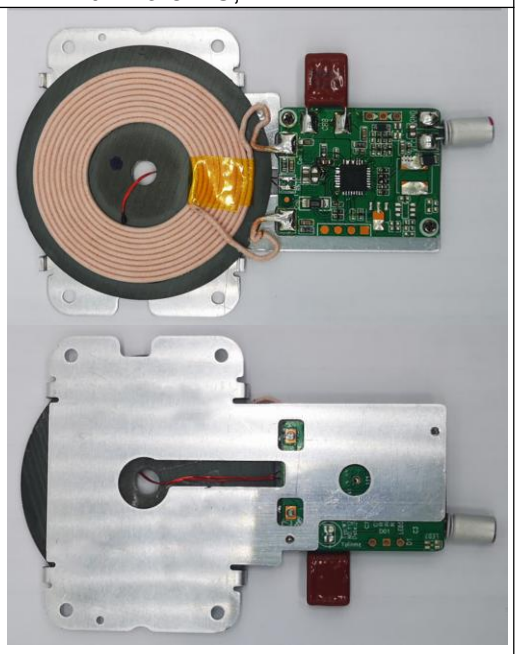
3.1. PCBA Outline dimensions: 31.0(mm) X 24.9(mm); Coil Outline dimensions:Ø50.0 X H 3.5(mm);
3.2. Operation conditions: Applied to commonly operation conditions.
(1) Operation Temperature Range ：0℃～50℃.
(2) Storage Temperature Range：-10℃～60℃.
3.3. List of Patch main electric parts

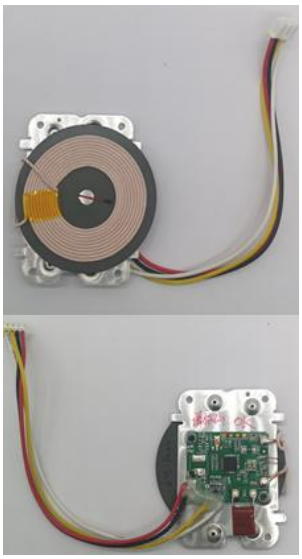
Items	Specification
Coil	A11
Main IC	Main IC YULIN

4. Condition of Performance Evaluation

4.1. Environment of Evaluation:
Temperature: 25±2℃
Humidity: 60±5％（RH）
We can adopt the following temperature & humidity range, if it occurs no doubt about the Judgment:
Temperature: +15℃ ~ +30℃
Humidity: 45% ~ 75%RH
4.2. Test circuit and equipment
Test equipment: standard circuit and equipment

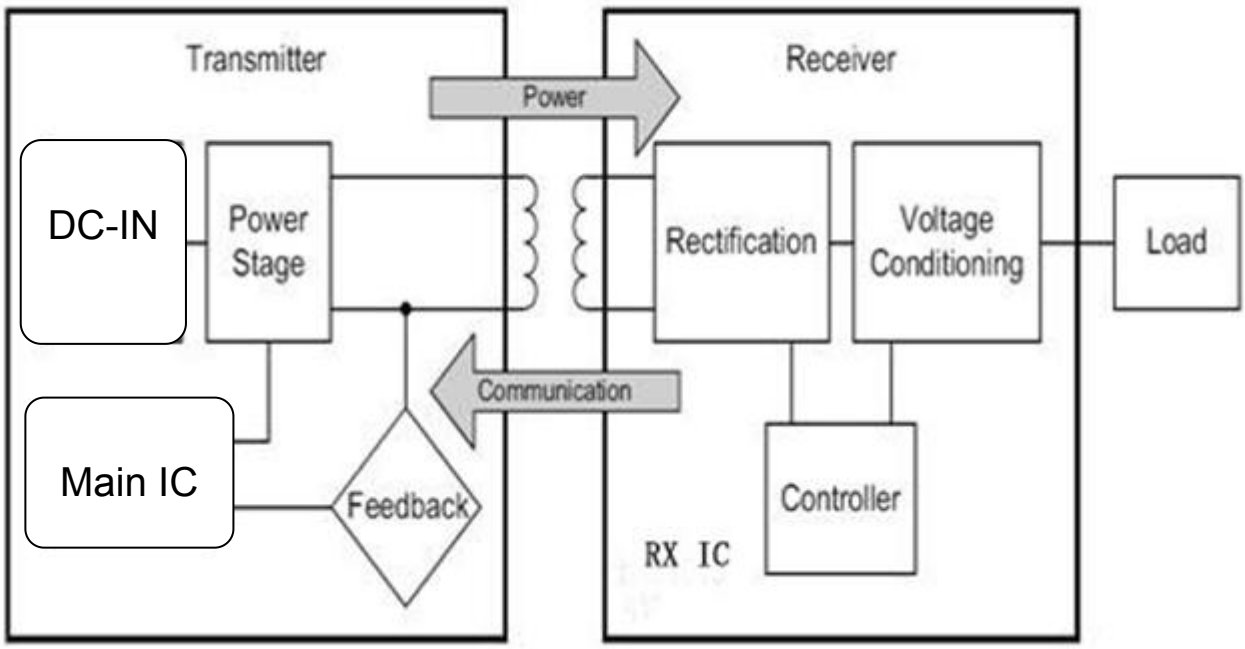
5. Series of the Product

WTM-H005-001 Input:12V; with NTC with one red&blue LED;	WTM-H005-002 Input:5.3V; with NTC with one red&blue LED;	WTM-H005-003 Input:5.3V; without NTC with one blue LED;
		
WTM-H005-004 Input:12V; with NTC without LED;	WTM-H005-005 Input:5.3V; with NTC without LED; with more RC;	WTM-H005-006 Input:5.3V; with NTC without LED; with more RC;
		

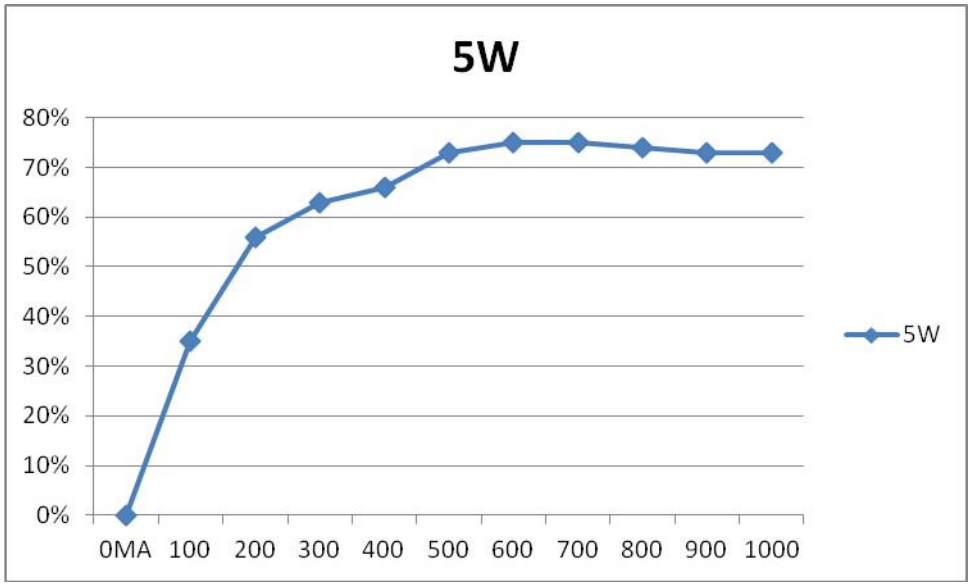
WTM-H005-007 Input:5.3V; with NTC with one red&green LED;		
		

6. Hardware & Stability

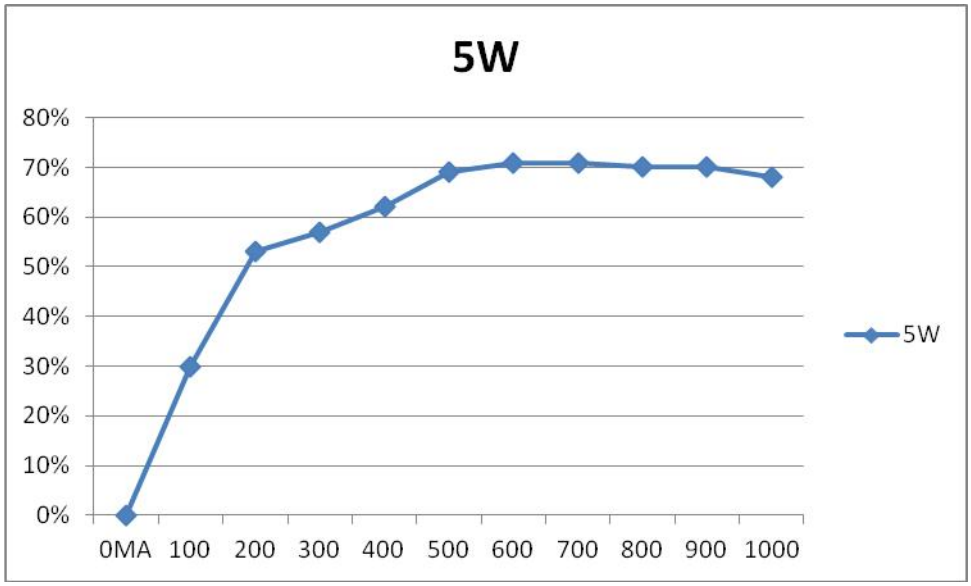
6.1. Functional Diagram



6.2. Efficiency versus Output Power



5V seriesEfficiency:75%(MAX)



12V series Efficiency:71%(MAX)

6.3. Standby Current

Test	Average Current	Standby LED
Normal Power Mode	5V/15mA ± 2mA	RED
	12V/10mA ± 2mA	

6.4. Operating Current

RX Current(MAX)	TX Current(MIN)	Charging LED
SAMSUNG S7: 5W	5V/1140mA ± 10mA	BLUE ON
	12V/510mA ± 10mA	
iPhone 8: 5W	5V/1050mA ± 10mA	
	12V/560mA ± 10mA	

7. Approvals and Certifications

	QI	FCC (US)	CE (KU)	CCC (CN)
WTM-H005-001	TBD	TBD	TBD	TBD
WTM-H005-002	PASS	TBD	TBD	TBD
WTM-H005-003	TBD	TBD	TBD	TBD
WTM-H005-004	PASS	PASS (client)	TBD	TBD
WTM-H005-005	PASS (client)	PASS (client)	TBD	TBD
WTM-H005-006	TBD	TBD	TBD	TBD
WTM-H005-007	TBD	TBD	TBD	TBD

8. Product Specification

Size : PCBA Outline dimensions: 31.0(mm) X 24.9(mm);Coil Outline dimensions: Ø50.0X H3.5(mm).

8.1. Power Supply Input/Output

• Power Input :

5W mode: 5.3±0.2V / 1800mA (max)
12.2±0.2V / 1000mA (max)

• Power Output : 5±0.3V / 1000mA (max)

8.2. Charging Distance

• Chargeable Distance : 3mm～8mm
• Highest Efficiency Distance : 3mm

8.3. Over Temperature Protect

• Over Temperature Protect: 80℃

8.4. Over Voltage Protect

•Over Voltage Protect (5V series): 6.3V

8.5. Under Voltage Protect

• Under Voltage Protect (5V series): 4.1V

8.6. Operating frequency

• operating frequency：110K～205KHz

8.7. LED Indicator Color Display (optional)

WTM-H005-001:

- •RED On : Standby Power On Lighting
- •BLUE On: Charging Start & Charging
- •RED &BLUE Blinking : Error
- •RED &BLUE Off : Charging Completed

WTM-H005-003:

- •BLUE Breathing : Standby Power On Lighting
- •BLUE On: Charging Start & Charging
- •BLUE Blinking : Error
- •BLUE Off : Charging Completed

WTM-H005-002& 004& 005&006:

- •RED On : Standby Power On Lighting
- •BLUE On: Charging Start & Charging
- •RED &BLUE Blinking : Error
- •RED &BLUE On : Charging Completed

WTM-H005-004（Customized Version）:

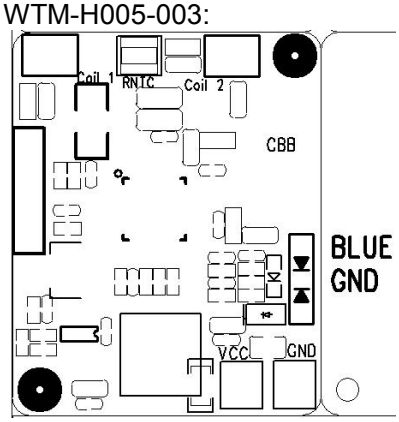
- • RED &BLUE Off : Standby
- •BLUE On: Charging Start & Charging
- •RED &BLUE Blinking : Error
- •RED On : Charging Completed

WTM-H005-007（Customized Version）:

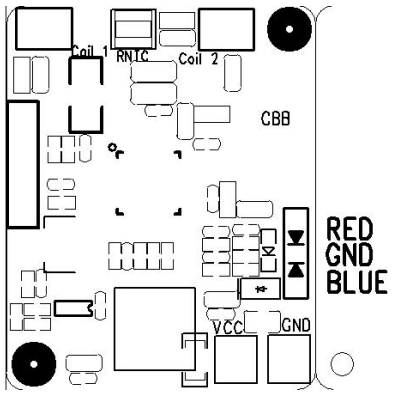
- • RED &GREEN Off : Standby
- •GREEN On: Charging Start & Charging
- •RED &GREEN Blinking : Error
- •RED On : Charging Completed

8.8. LED Port Definition

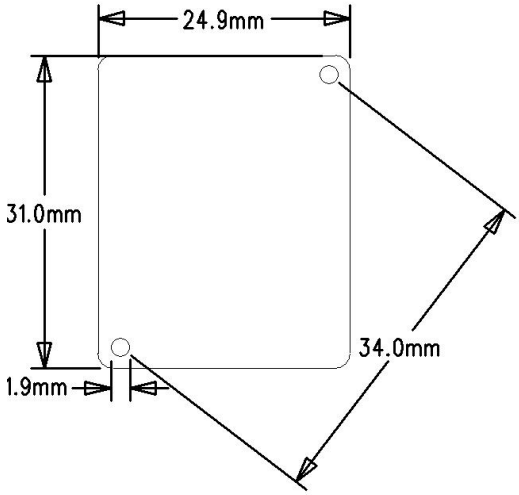
WTM-H005-003:



Other:

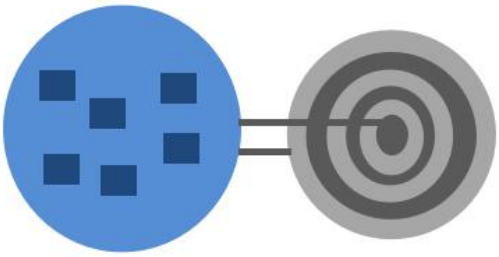


8.9. Installation dimension



9. Module installation recommendation

9.1.1. Unfolding install



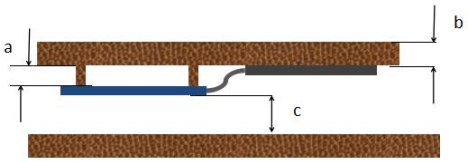
9.1.2 Unfolding install suggestion:

① The distance from coil to the product's upper shell (thickness of shell) b:2～3mm

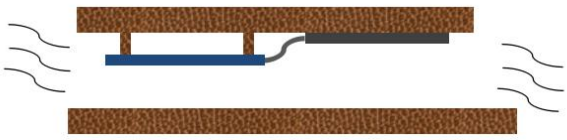
② Distance from PCBA to the lower surface of the product's upper shell a≧3mm

①
②
③ Distance from PCBA to the upper surface
①
②

of the product's lower shell c≧3mm

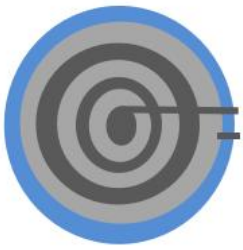


9.1.3 Make good ventilation



9.1.4 Away from heat source

9.2.1. Folding install

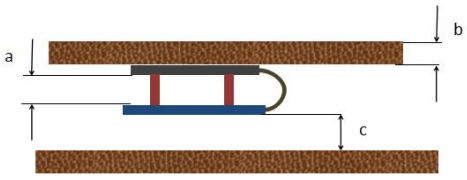


9.2.2 Folding install suggestion:

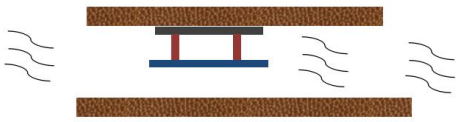
①The distance from coil to the product's upper shell (thickness of shell) b:2～3mm

②Distance from PCBA to coil a≧4mm

③Distance from PCBA to the upper surface of the product's lower shell c≧3mm



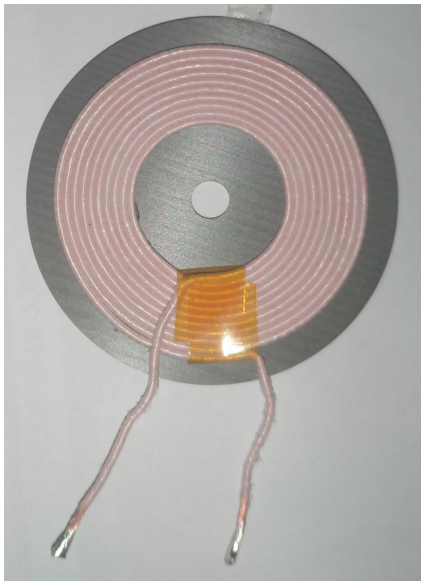
9.2.3 Make good ventilation



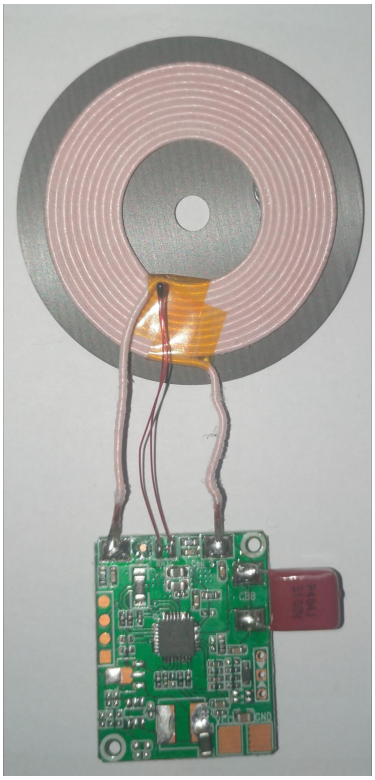
9.2.4 Away from heat source

10. PCBA & Tx Coil

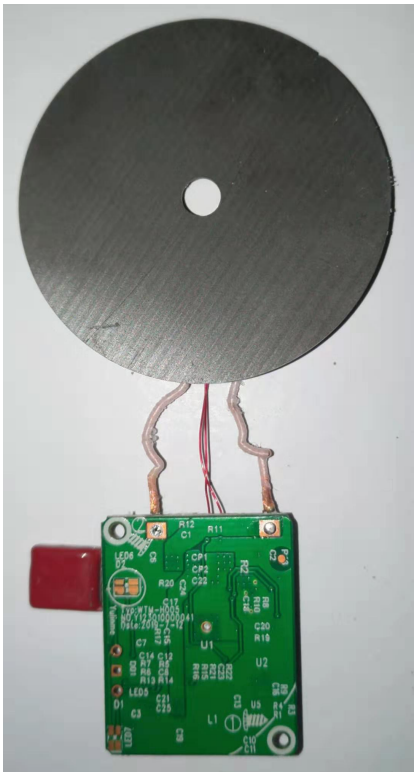
Part	Material / Sepc. / Color
Tx Coil	A11, Magnet
PCBA	FR4 2-Layer, Size : 31.0(mm) X 24.9(mm)



Tx Coil



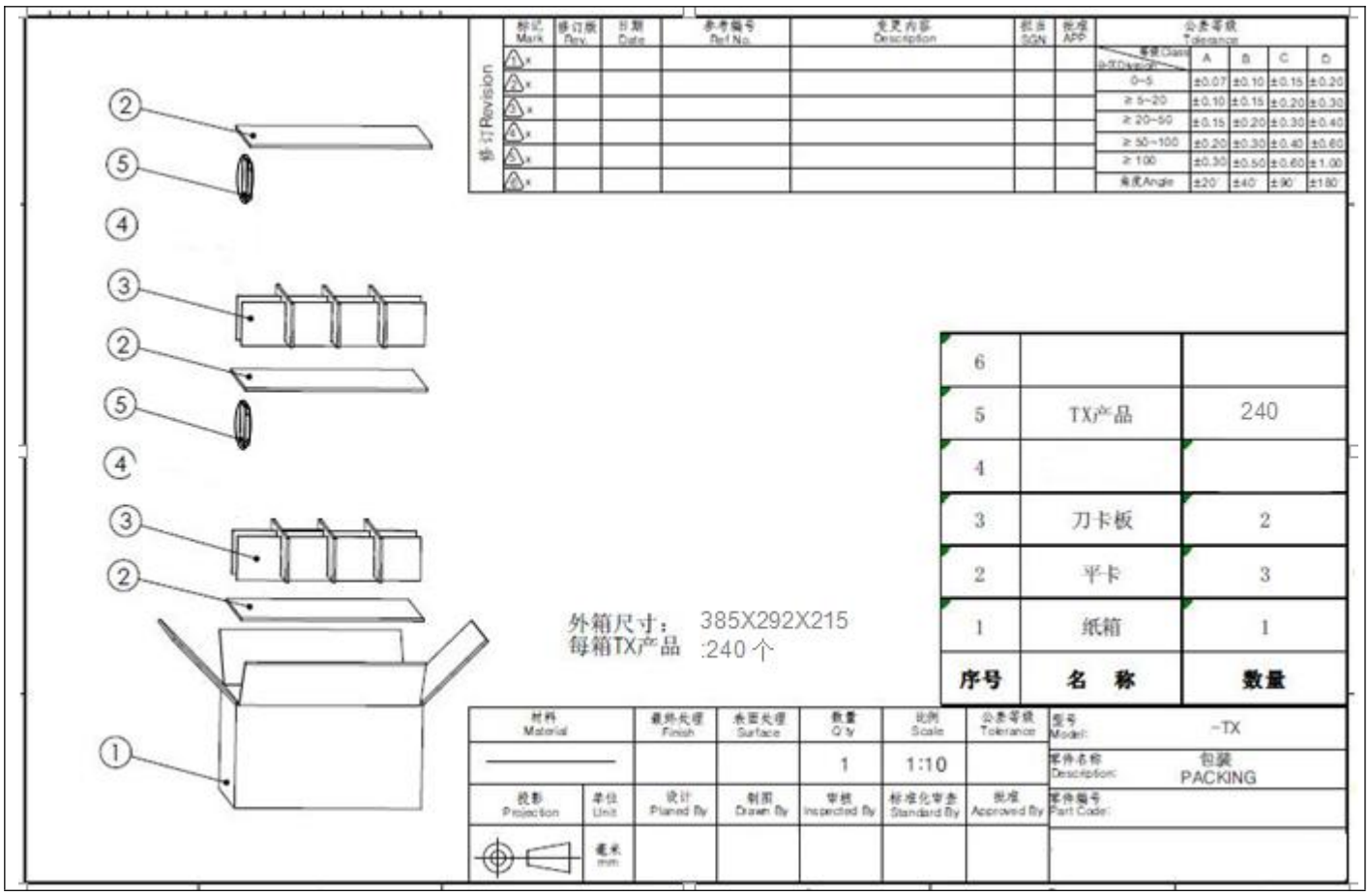
PCBA Top



PCBA Bottom

11. Package & Label

11.1. Gift Box

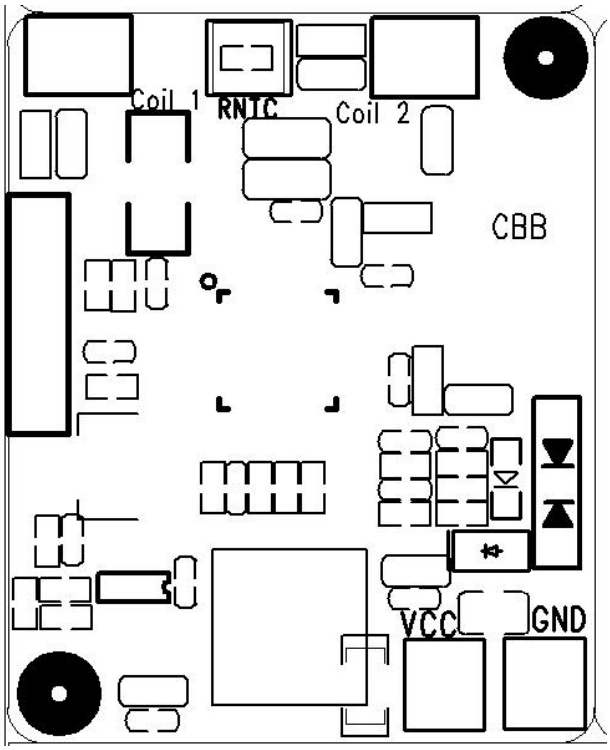


12. Reliability Test

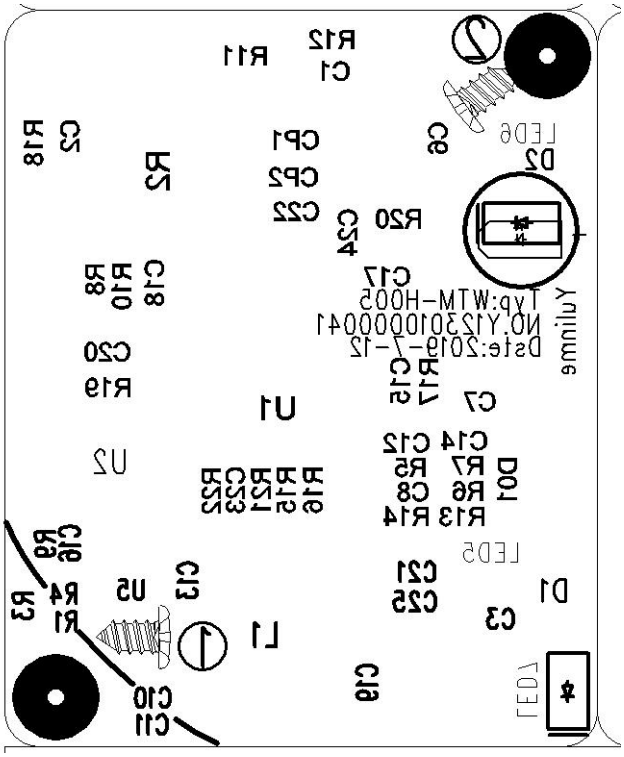
区分 Distinguish between	测试项目 Test project	测试方法及 条件 Test methods and conditions	判定基准 Denchmark of determine	Determination
电气性能测试 Electrical performance test	功能检查 Functional check	※测试感应时间 Test induction time.	感应时间小于 0.5S Induction time ≤0.5s.	PASS
		※测试 TX 空载时输入功率 Test TX no-load input power.	输入功率小于 150mW Input power is less than 150 mW.	PASS
	表面温度测试 Surface temperature test	※ 常温 在 25℃下进行测试。 Test under 25 ℃. ※ 充电 1 小时后测试。 test after Charging for 1 hour. ※ 测试充电器表面温度。 Test charger surface temperature.	最高表面温度低于 50℃. The highest surface temperature is lower than 50 ℃.	PASS
	交互匹配测试 Interactive matching test	抽取 5 台 TX 和挑选 5 台不同的 RX 交叉搭配测试记录. Extract 5pcs TX and choosing five different of RX cross matching test.	不同的 TX 和 RX 搭配工作稳定 Different TX and RX match work stability.	PASS
	高温高湿测试 High temperature and humidity test	※充电器高温+50℃、90％RH 的条件下保存 24H，常温放置 24H 后，开机进行测试。 ※ ※After 24 hours kept at +50℃, 90%RH, and then recover to room temperaturefor 24 hours.	※功能、性能、外观、结构无异常. After tested the function、performance、appearance of the chargers have no any abnormal.	PASS
	高低温冲击测试 High and low temperature impact test	※ 充电器按高低温-10℃（2H）--+60℃（1H）---10℃（2H）条件 6 次循环，恢复至常温常湿状态，放置 2H 后进行测试 ※Under the condition of -10℃(2H)←→+60℃(1H) , with 6cycles test, then recover to room temperature for 2 hours.		PASS
	高温保存测试 High temperature storage test	※充电器在高温+60℃条件下保存 48H，然后在常温常湿下放置 2H 后测试。 ※After 48 hours kept at +60℃, and then recover to room temperature for 2 hours.		PASS

环境测试 Environmental test	低温保存测试 Low temperature storage test	※充电器在低温-10℃条件下保存 48H，然后在常温常湿下放置 2H 后测试 ※After 48 hours kept at -10℃, and then recover to room temperature for 2 hours.		PASS
	高温运行测试 High temperature operation test	※ 充电器在高温＋50℃条件下保存 5min，开机进行 2H 充电测试 ※After 5min kept at 50℃, and then playing in +50℃ for 2H continuously.		PASS
	低温运行测试 Low temperature operation test	※充电器在低温 0℃条件下保存 5min，开机进行 2H 充电测试. ※After 5min kept at 0℃, and then playing in 0℃ for 2H continuously.		PASS

13. PCB Top Silk and Bottom Silk



Top silk



Bottom silk

Thank You.

To receive sales literature and technical assistance,
contact YULIN TECH CO., LTD.

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