

SPECIFICATION FOR APPROVAL

CUSTOMER: Linkcom (Neutral Module)

MODEL NO. : U05QR-6065

PART NO. : SBM-U05QR6065-U-01

MODEL NAME: 2.0W Rx module

REVISION: A2

DATE: 2025-05-07

APPROVED SIGNATURES

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Model No.	U05QR-6065	Model Name	2.0W Rx module
Part No.	SBM-U05QR6065-U-01	Size	$30^{\pm 0.5} * 26.5^{\pm 0.5} * 1.5^{\pm 0.25}$ mm

Product Specification

產品規格書

Product name/產品名稱：

2.0W Rx module

Model No/ 產品型號：

U05QR-6065

File number /文件編號：

Revision/版本號：

A2

Date/日期：

2025-5-7



APPROVED BY 批准	CHECKED BY 審核	DESIGNED BY 製作

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Reversion History/更新記錄

Revision	Date	Changes
A0	2024-01-24	New release
A1	2025-03-06	Updated the OCP specifications, added EMI note.
A2	2025-05-07	Added P/N、consumer application description、execution standards、packaging、module description and attentions.

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1. Scope/概述

U05QR-6065 is a WPC Qi 1.2.4 compatible wireless power receiving module. Conforms to the Qi 1.2.4 wireless charging, which has a conversion efficiency of up to 60% and can provide transmission capacity of up to DC5V/ 0.40A.

This product is only suitable for general consumer product application installation and is not suitable for any automotive or aviation product application.

U05QR-6065是WPC Qi 1.2.4相容的無線電源接收模組。符合Qi 1.2.4無線充電，其轉換效率高達60%，可提供高達DC5V/ 0.40A的傳輸能力。

本產品僅適用於一般消費性產品應用安裝，不適用任何車規航空產品應用。

2. Product Characteristic /產品特點

◆U05QR-6065 is a WPC Qi 1.2.4 compatible wireless power receiving module. Conforms to the full Qi 1.2.4 wireless charging platform, which has a conversion efficiency of up to 60% and can provide transmission capacity of up to DC5V/ 0.40A.

U05QR-6065 是WPC Qi 1.2.4 相容的無線電源接收模組。符合全Qi 1.2.4 無線充電平臺，其轉換效率高達60%，可提供高達DC5V/ 0.40A 的傳輸能力。

◆The intelligent identification system is adopted, and the transmitting and receiving unit adopts the UART(Universal Asynchronous Receive/Transmit) encrypted transmission control signal stipulated by the WPC, and the console will adjust the power accordingly according to the coding of the receiving unit. The module meets WPC Qi requirements.

採用智慧識別系統，發射和接收單元採用WPC 規定的UART(通用非同步接收/發射)加密傳輸控制信號，控制台將根據接收單元的編碼進行相應的功率調整。該模組滿足WPC Qi 要求。

3. Performance Parameter/性能參數

3.0	Compatible transmitter/兼容发射端	WPC Qi_1.1~1.2.4
3.1	Input voltage & current/輸入電壓電流	AC 6.5-15.5V
3.2	Working voltage & current/工作電壓電流	DC5V/0.4A
3.3	Wireless charging output power/ 無線充電輸出功率	2W
3.4	Power Transfer Efficiency/轉換效率	60% ±5%
3.5	2W Frequency/2W頻率	frequency conversion 110KHz-205KHz / 變頻110KHz-205KHz

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3.7	Ripple noise /紋波及噪音	$\leq 5\%$
3.8	Operating temperature /工作溫度	5-25°C
3.9	Relative humidity / 相對濕度	40%~60%
3.10	Audio noise/噪音	15cm distance less than 30dB
3.11	Check sum/軟件版本	0x3F253E

4. Safety Control/安全機制

4.1. Short Circuit Protection/短路保護

When the output end of U05QR-6065 is short-circuited to the ground, abnormal data.packets are sent to the transmitter, and the transmitter stops output to protect the receiving device from being damaged

當U05QR-6065 的輸出端對地短路時，發送異常數據包到發射器，發射器停止輸出，保護接收設備不被損壞。

4.2. Over Current Protection/過流保護

When the receiver load exceeds the rated value(110% - 130%), the overcurrent protection is triggered and the transmitter stops working. When removed the receiver, the transmitter will resume normal operation.

當接收器負載>額定值的110% - 130%時，觸發過電流保護，發射端停止工作，當接收器被移除時，發射端將恢復正常工作。

4.3. Over-temperature Protection/過溫保護

4.3.1. Wireless charging over-temperature protection/無線充電過溫保護

The NTC temperature protection of the PCBA is $80 \pm 5^\circ\text{C}$. The transmitter stops working when the temperature exceeds the value. Resets the receiver or cools to $60 \pm 5^\circ\text{C}$, the transmitter returns to normal operation (optional replacement with external NTC)

PCBA貼片NTC溫度保護設定值為 $80 \pm 5^\circ\text{C}$ ，當溫度超過設定值，發射端停止工作，重新放置接收或者降溫至 $60 \pm 5^\circ\text{C}$ 時，發射器恢復正常工作。(可選擇更換成外接NTC)

5. Reliability Requirements/可靠性要求

5.1. Reliability Test/可靠性測試

Please refer to Link Com's reliability standard and reliability test Report.

請參考聯寶標準《可靠性測試規範》與《可靠性測試報告》

6. Environment Requirement/環境要求

6.1. Operating Temperature and Relative Humidity/操作溫度和相對濕度 5°C - 25°C / RH40~60%

6.2. Storage Temperature and Relative Humidity/儲存溫度和相對濕度 0°C - 35°C / RH20~80%

6.2.1. Avoid direct exposure to the storage environment, and do a good temperature and humidity control,

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room temperature should be controlled at 5°C-25°C, relative humidity RH40~ 60%. In order to maintain good functionality of the product, please observe the following storage conditions. 儲存環境應避免產品受陽光直接照射，並作好溫濕度管控，室溫宜控制在5°C-25°C / RH40~60%。為使產品維持良好之功能性,請確實遵守以下保存條件

6.2.2. Keep away from high humidity, salt spray or oil spray. 儲存需避開高濕，鹽霧或油霧之環境

6.2.3. When storing, the storage environment temperature should be avoided too drastic, and the humidity should be avoided too high or too low. High humidity and large temperature difference tend to cause water Vapor condensation phenomenon, too low humidity easily cause the high electrostatic strength. Therefore, humidity will cause the electron ionization, and eventually cause the product functional abnormalities.

儲存時應避免儲存環境溫度變化過於激烈，同時避免濕度過高或過低。濕度過高和溫差過大容易導致水 蒸氣凝結現象，濕度過低容易導致靜電強度過高。故濕度會造成電子遊離，最終導致產品功能性異常。

7. Execution Standards/執行標準

7.1. EMI Standards電磁相容標

NA

Note : The EMI test should include the actual testing of the enclosure and TX equipment..

備註：EMI 測試需包含外殼與 TX 設備實際測試.

8. Photo of Product/產品照片

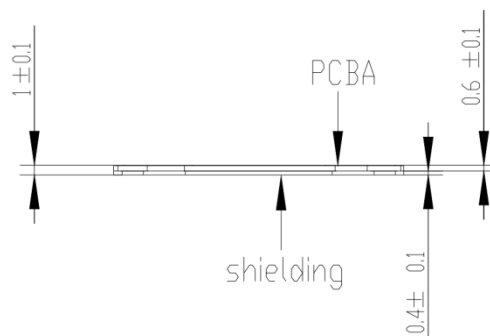


Module Front Side 模組前面



Module Back Side 模組後面

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9. Module/模組

9.1. Product design proposal/產品設計要求

According to the standardization of QI, Please note the following:

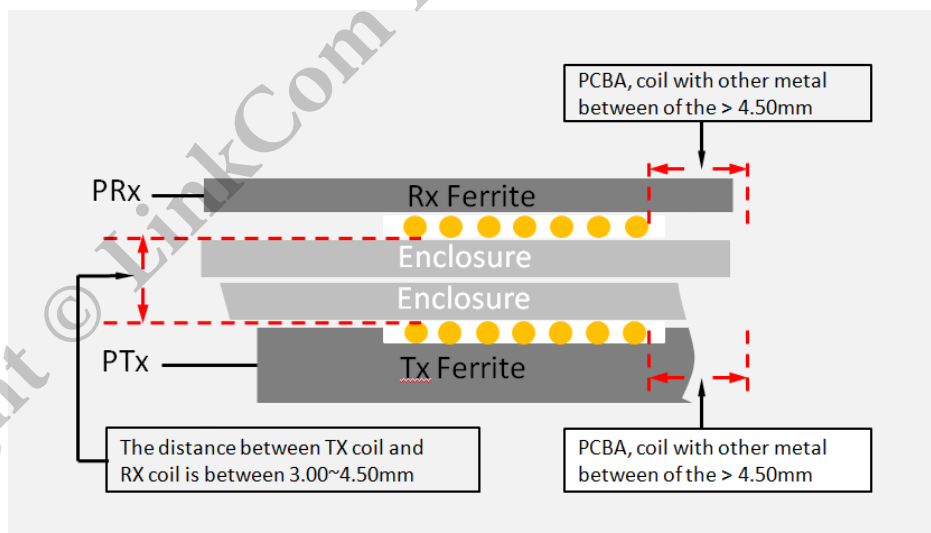
為了要符合QI的標準，以下幾點需注意：

1. The distance between Coil with PCBA and other metal components is Min: 4.50mm.

線圈，PCBA和其他金屬部件之間的最小距離：4.50mm.

2. The surface distance between Tx Coil and Rx Coil is 3.00 – 4.50mm.

輸出線圈和接收線圈之間的表面距離為3.00 – 4.50mm.



3. In order to pass the EMI test, it is recommended to use a DC 12V power supply plus a common mode inductor and then connect to the PCBA.

為了通過EMI測試，建議使用DC 12V(依照產品輸入電源規格做修改)電源外加共模電感後連接PCBA。

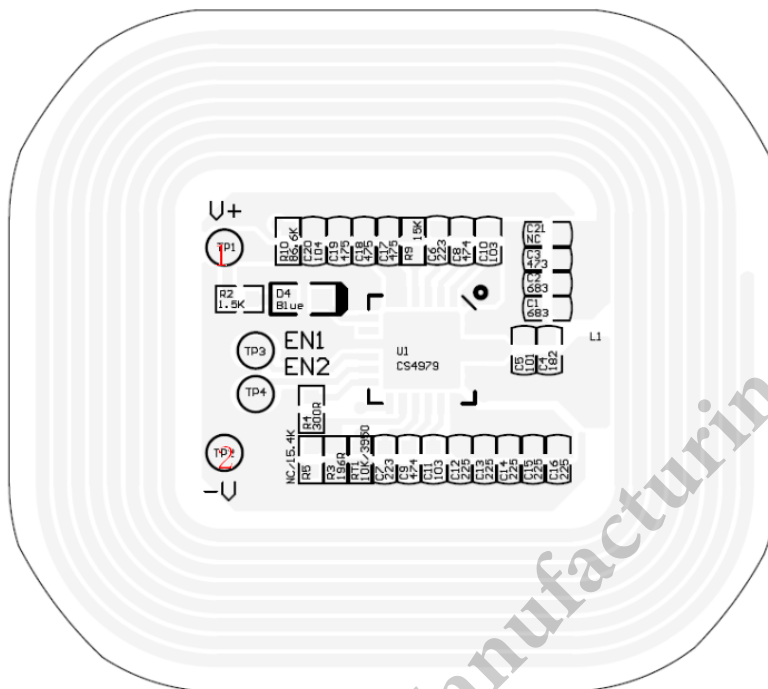
4. In order to achieve better temperature performance, it is recommended to add heat dissipation measures when designing, such as adding thermal conductive silicone pads to the PCBA to increase the heat dissipation area.

為了有更好的溫度表現，使用時建議增加散熱對策，如增加導熱矽膠墊於PCBA增加散熱面積。

9.2. PCBA Port Functional Illustration/PCBA功能說明

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PCBA Version : V1.0



PCBA圖

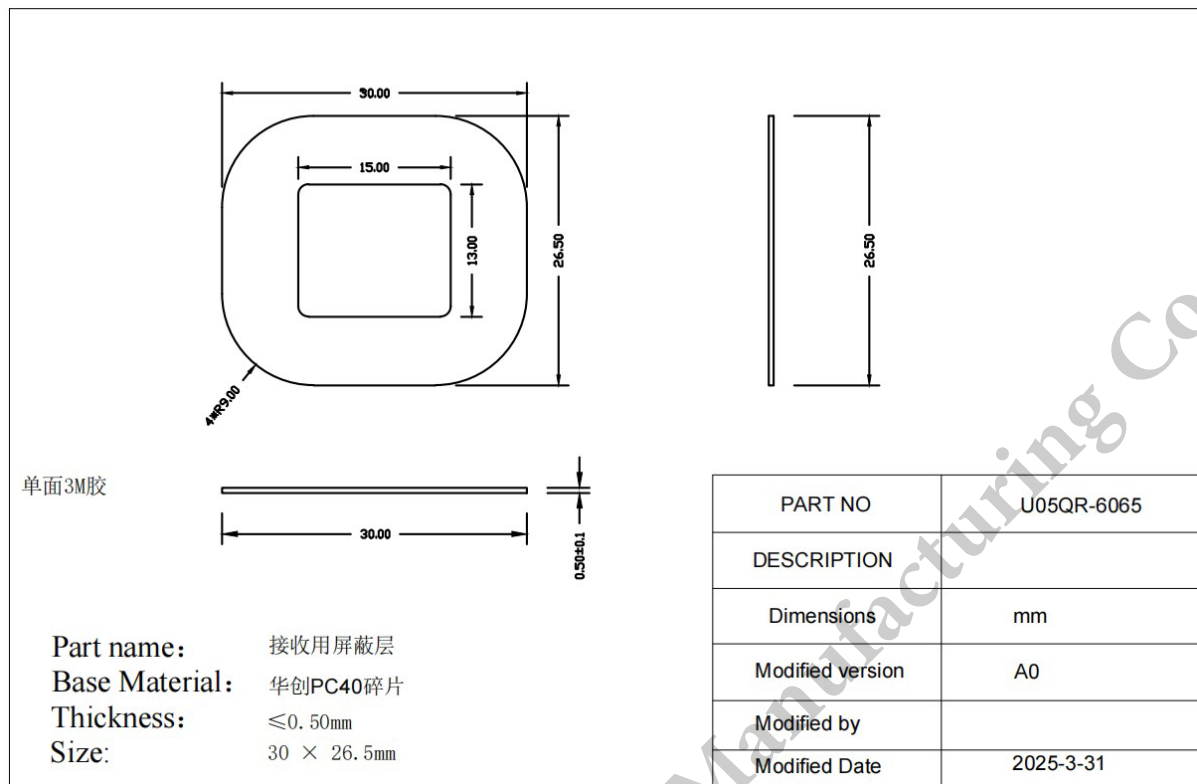
PCBA Size: $30(\pm 0.5) * 26.5(\pm 0.5) * 1.5(\pm 0.5)$ mm

Port	Pin1	Pin2
Function	VIN	GND

9.3. Shielding Spec : 隔磁片規範

Shielding : $30(\pm 0.5) * 26.5(\pm 0.5) * 1.5(\pm 0.25)$ mm

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10. Indicator light/指示燈

- ◆ Standby: Blue LED light always on/待機: 藍燈常亮
- ◆ Charging: Blue LED light always on/充電時: 藍燈常亮
- ◆ Abnormal: Blue LED light always off/異常: 藍燈熄滅
- ◆ FOD: Blue LED light always off/檢測到異物: 藍燈熄滅

11. Attentions/使用注意事項

- 11.1. Please use the correct rated AC Adapter, to ensure the normal function.
請使用配置的正确規格火牛，保證功能正常。
- 11.2. This product is only suitable for general consumer product application installation and is not suitable for any automotive or aviation product application.
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12. Weight/重量

- 1 piece: 1.5 ± 0.5 g
- 1 Carton/1箱: 160pcs; Net Weight/淨重: about 0.5kg; Gross Weight/毛重: about 2.45kg

13. Packaging/包裝

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☐ RX模组 (白盒) _ Carton Packing Method

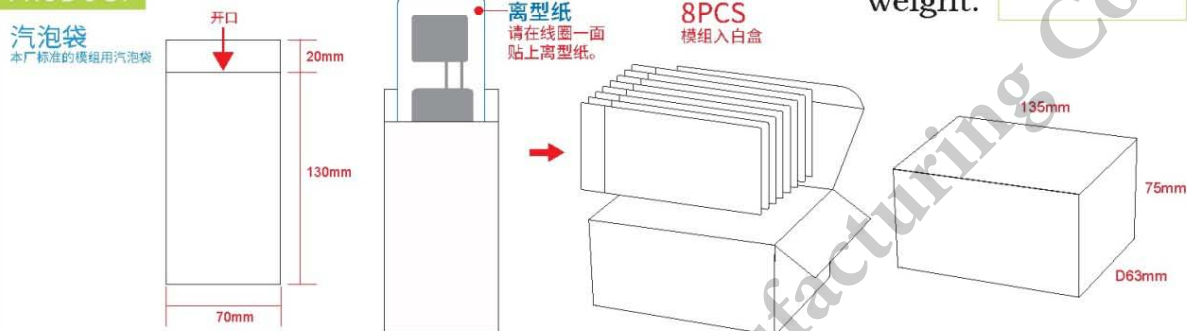
2025.05.06

outer carton : 160 pcs
材质: A=A (4 boxes) | size : W 350 × D 315 × H 210 mm
NW : kg GW : kg

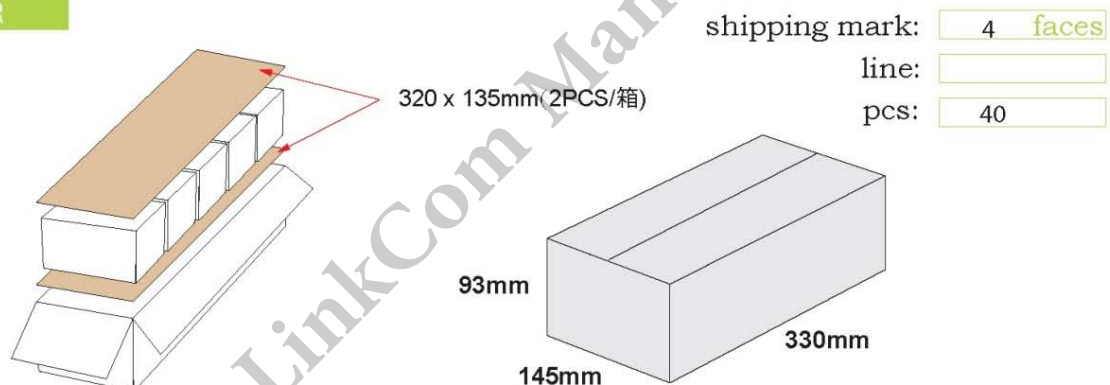
inner carton : 40 pcs
材质: A3A (boxes) | size : W 330 × D 145 × H 93 mm
NW : kg GW : kg

天地盖 (材质: A3A): 320 x 135mm(2PCS/箱)

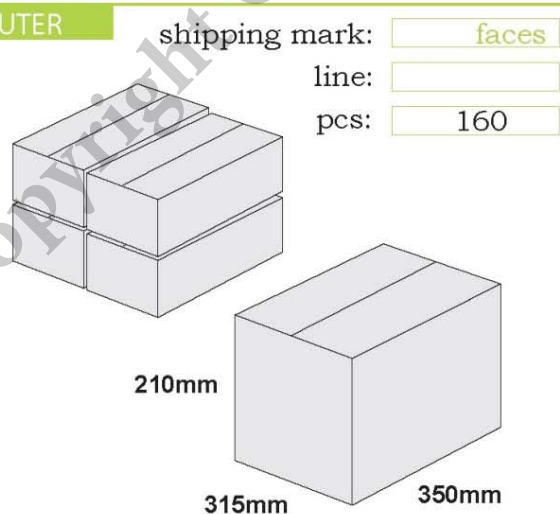
PRODUCT



INNER



OUTER

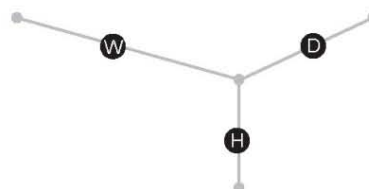


■ Inner Material: A3A

■ Outer Material: A=A

■ Designer: Bruce

■ Coordinate:



Please make sure to get our approval of following issues before you start mass production of the cartons:

- printing of the shipping mark (ink color, printing date etc.)
- weight and size of the carton
- fitting between product & Inner carton, Inner carton & outer carton

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14. Statement/聲明

All rights reserved by LinkCom Manufacturing Co., Ltd. for all of this specification for approval. About warranty, please refer to LinkCom company warranty policy.
