SPECIFICATION FOR APPROVAL

CUSTOMER:	**Linkcom (Neutral Module)**
MODEL NO. :	**U10QT-6087A**
PART NO. :	**SBM-U10QT6087A-U-01**
MODEL NAME:	**10W Wireless Charging Transmitter Module**
REVISION:	A2
DATE:	2025-5-10

APPROVED SIGNATURES		

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Model No.	U10QT-6087A	Model Name	10W Wireless Charging Transmitter Module
Part No.	SBM-U10QT6087A-U-01	Size	PCBA Size : $L85^{\pm 0.5}$*$W45^{\pm 0.5}$*$T3.4^{\pm 0.25}$ mm Coil Size : Ø $50^{\pm 1.0}$*$T2.3^{\pm 0.5}$ mm

Product Specification

產品規格書

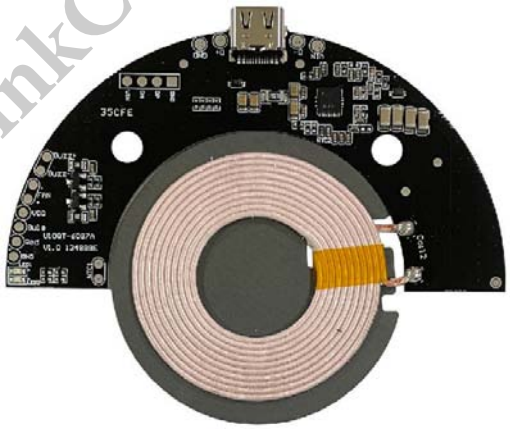
Product name/產品名稱: **10W Wireless Charging Transmitter Module**

Model No/ 產品型號： **U10QT-6087A**

File number /文件編號:

Revision/版本號： **A2**

Date/日期： **2025-5-10**



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APPROVED BY 批准	CHECKED BY 審核	DESIGNED BY 製作

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Catalog/目錄

Reversion History/更新記錄 4
1. Scope/概述 5
2. Product Characteristic /產品特點 5
3. Performance Parameter/性能參數 5
4. Safety Control/安全機制 6
5. Reliability Requirements/可靠性要求 7
6. Environment Requirement/環境要求 7
7. Execution Standards/執行標準 7
8. Photo of Product/產品照片 8
9. Module/模組 9
10. Indicator light/指示燈 11
11. Attentions/使用注意事項 11
12. Weight/重量 11
13. Packaging/包裝 12
14. Statement/聲明 13

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Reversion History/更新記錄

Revision	Date	Changes
A0	2023-12-21	New release
A1	2025-3-10	Added audio noise、EMI description.
A2	2025-5-10	Revised P/N、added consumer application description、execution standards、packaging、module description and attentions

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1. Scope/概述

The U10QT-6087A is a multi-functional fast charging wireless charging transmitter module that complies with the WPC Qi 1.3 protocol. It delivers up to 10W of transmission power with a transmission efficiency curve of up to 70% ± 5% at the highest point. It can provide fast wireless charging for Samsung® and iPhone® cell phones.

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

U10QT-6087A 是一款符合WPC Qi 1.3协议的多功能快充無線充電發射模組，其傳輸效率曲線最高點可達70%±5%，可提供高達10W的傳輸功率。它能為三星®和iPhone®手機提供快速無線充電。

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

- ◆ QC2.0/PD2.0 power communication protocol
  QC2.0 /PD2.0 電源通信協議；
- ◆ Compatible with Qi 1.3 and capable of fast charging Samsung® and iPhone® phones.
  兼容 Qi 1.3 並能為三星® 和 iPhone® 手機快速充電。

3. Performance Parameter/性能參數

3,0	Power input protocol/電源輸入協定	QC2.0/ PD2.0
3.1	Input voltage &current/輸入電壓電流	5V/2A、9V/2.2A
3.2	Working voltage & current/工作電壓電流	5V/1.65A、9V/1.5A
3.3	Wireless charging output power/ 無線充電輸出功率	5W/7.5W/10W
3.4	Power Transfer Efficiency/轉換效率	70% ±5%
3.5	5W/10W Frequency/5W/10W頻率	frequency conversion 110KHz-205KHz / 變頻110KHz-205KHz
3.6	Apple 7.5W frequency/蘋果7.5W頻率	Constant frequency 127.7KHz / 定頻127.7KHz
3.7	Ripple noise /紋波及噪音	≦5%
3.8	Operating temperature /工作溫度	5-25℃
3.9	Relative humidity / 相對濕度	40%～60%

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3.10	Audio noise/噪音	15cm distance less than 30dB
3.11	Check sum/軟件版本	0x5C9E62D1

4. Safety Control/安全機制

4.1. Short Circuit Protection/短路保護

In the case of short-circuit at the receiver output, the transmitter stop output. When removed the receiver or short circuit, the transmitter will resume normal operation.

在接收端輸出短路的情況下，發射端停止輸出。當移除接收或者短路解除時，發射端將恢復正常工作。

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. Overvoltage Protection/过压保护

The product would stop working when the input voltage exceeds the rated value (13V). The Product would be restarted working when the voltage returns to the set value range.

P/S: The input voltage shall not exceed 13.5V in case damage the product.

输入端超过设定过压电压值13V时，发射端停止工作。电压恢复设定值范围时重新启动工作。

注意：输入电压不可以超过13.5V，以防损坏本产品。

4.4. Foreign Object Detect（FOD）(1 RMB coin as the standard.)/

异物檢測（以一元**RMB**硬幣為標準）

4.4.1. When placing the coin onto the center of the product under no-load condition, the transmitter detected foreign object and reports an error, then stops working. Removes the foreign object to resume normal operation.

空載時放置產品中心，發射端檢測到異物並報錯，停止工作，移除異物可恢復正常工作。

4.4.2. When placing the load and coin together onto the center of the product, an error is reported within 10s (time varies with different mobile phone models) and the output is closed. Removes the foreign object to resume normal operation.

負載和硬幣一起放置產品中心時，10秒（不同手機型號時間不同）之內報錯並關閉輸出，移除異物可恢復正常工作。

4.5. Over-temperature Protection/過溫保護

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

The NTC temperature protection of the PCBA is 65± 5℃(5W/7.5W/10W). The transmitter stops

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working when the temperature exceeds the value. Resets the receiver or cools to 50±5℃, the transmitter returns to normal operation (optional replacement with external NTC)
PCBA貼片NTC溫度保護設定值為65± 5℃(5W/7.5W/10W), 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50±5℃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℃-25℃ / RH40~60%

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

6.2.1. Avoid direct exposure to the storage environment, and do a good temperature and humidity control, room temperature should be controlled at 5℃-25℃, 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℃-25℃ / 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 RX equipment.
備註：EMI 測試需包含外殼與 RX 設備實際測試.

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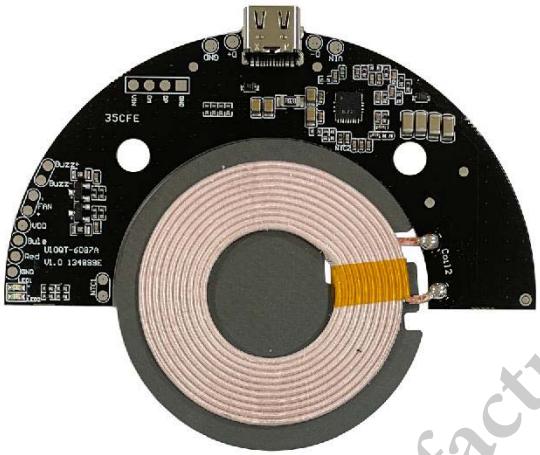
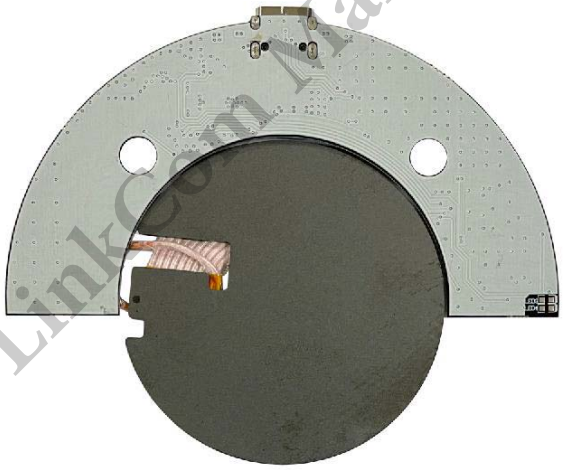
8. Photo of Product/產品照片

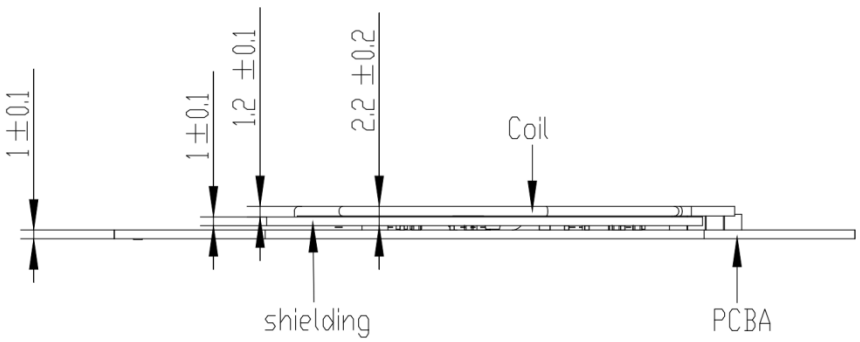
Size : $L85^{\pm 0.5}$*$W45^{\pm 0.5}$*$T3.4^{\pm 0.25}$ mm



Module Front Side 模組前面



Module Back Side 模組後面



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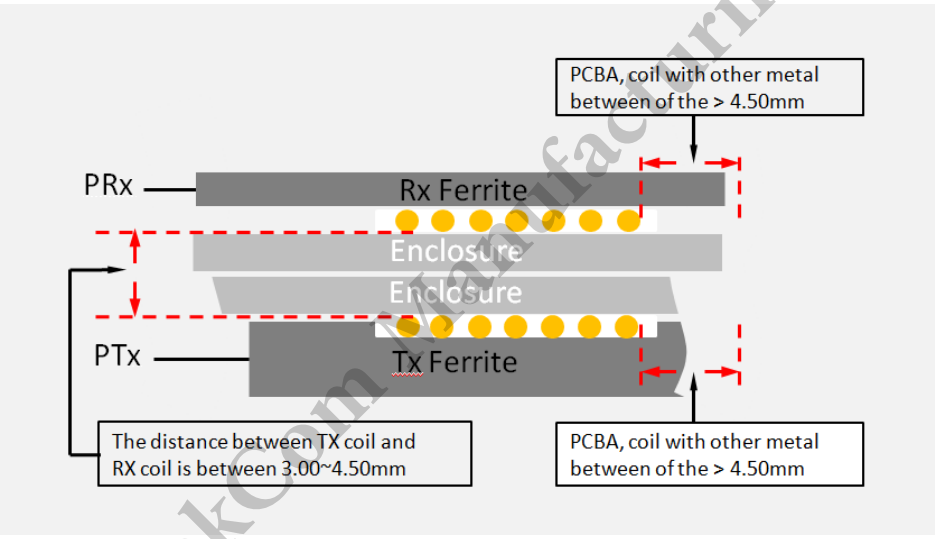
9. Module/模組

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 power supply with a common-mode inductor before connecting to the PCBA.
   為了通過EMI測試，建議使用DC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。

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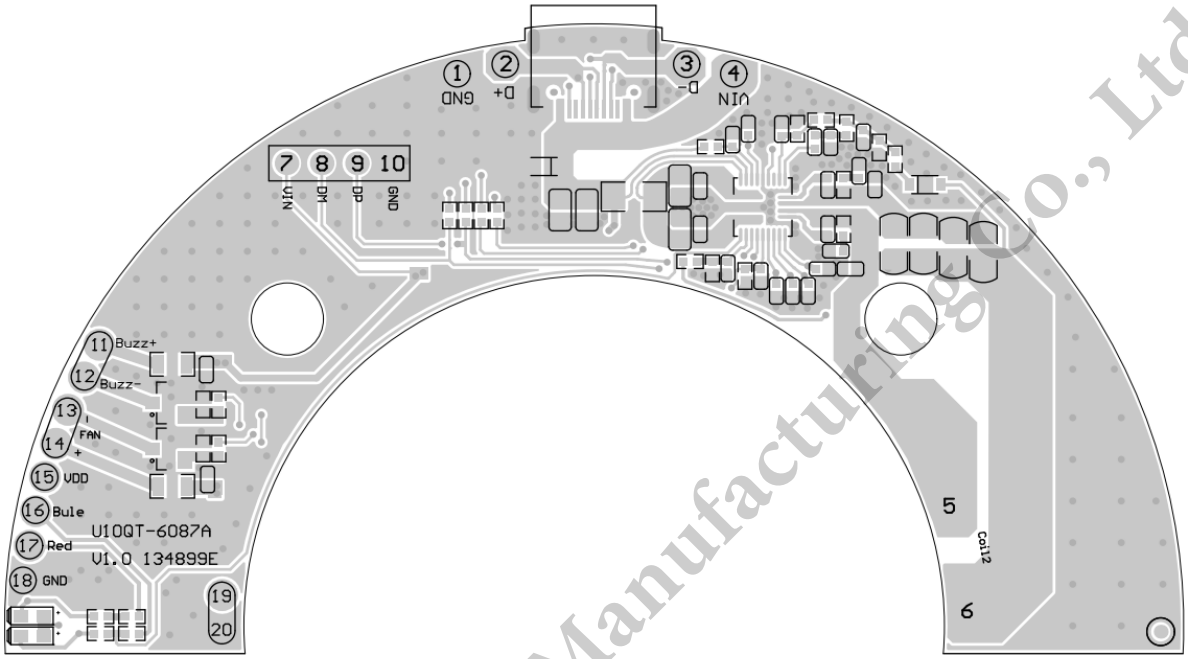
9.2. PCBA Port Functional Illustration/PCBA功能說明

PCBA Version：V1.0



PCBA圖

PCBA Size: 45*85*3.4mm(±0.2)mm

Port	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7
Function	GND	D+	D-	VIN	Coil	Coil	VCC+5V
Port	Pin8	Pin9	Pin10	Pin11	Pin12	Pin13	Pin14
Function	DM	DP	GND	Buzz+	Buzz-	FAN-	FAN+
Port	Pin15	Pin16	Pin17	Pin18	Pin19	Pin20	
Function	LED_VDD	LED_Blue	LED_Red	LED_GND	NTC+	NTC-	

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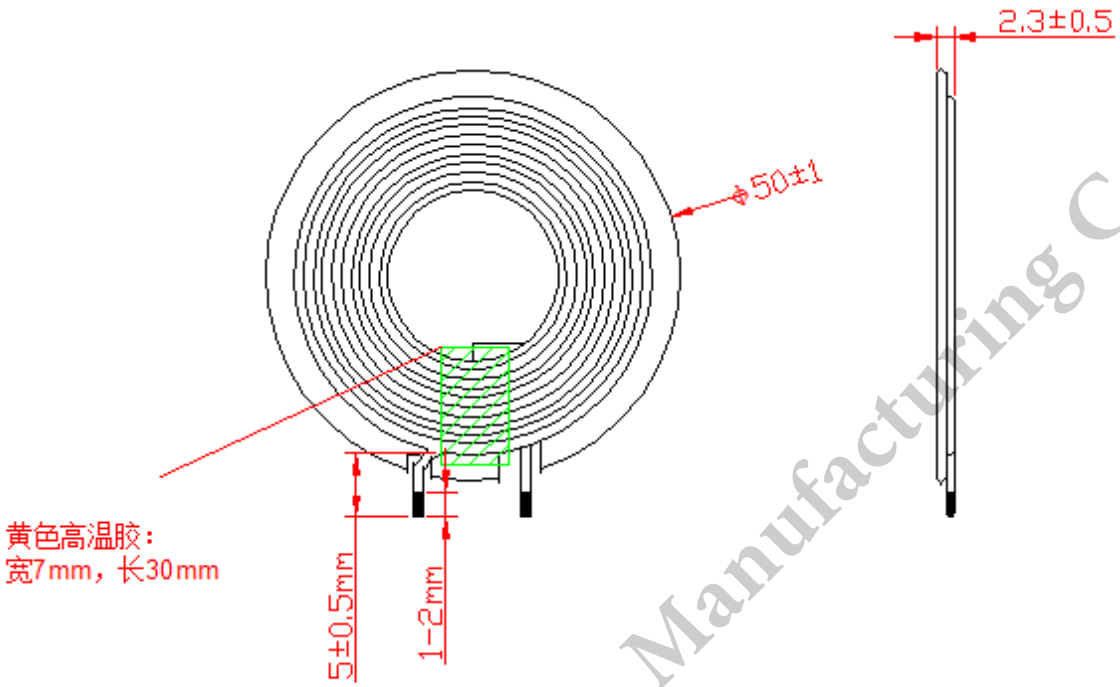
9.3. Tx_Coil Spec：TX線圈規範

Coil + Shielding : Ø $50^{\pm1.0}$*$T2.3^{\pm0.5}$ mm



10. Indicator light/指示燈

- Power on: Blue + Red LED on for 0.5S /通電: 藍+紅色LED 亮0.5S
- Standby: No light /待機：無燈
- Charging: Blue light always on /充電時: 藍燈常亮
- Charging complete: blue light off /充電完成：藍燈熄滅
- Abnormal: Red light always on /異常: 紅燈長亮
- FOD: Red light flashing /檢測到異物: 紅燈閃爍

11. Attentions/使用注意事項

11.1. Please use the correct rated AC Adapter, to ensure the normal function.
請使用配置的正確規格火牛，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.
本產品僅適用於一般消費性產品應用安裝，不適用於任何汽車或航空產品應用。

12. Weight/重量

1 piece: 18±2 g

1 Carton/1箱: 160pcs; Net Weight/淨重: about 2.9kg; Gross Weight/毛重: about 5.4kg

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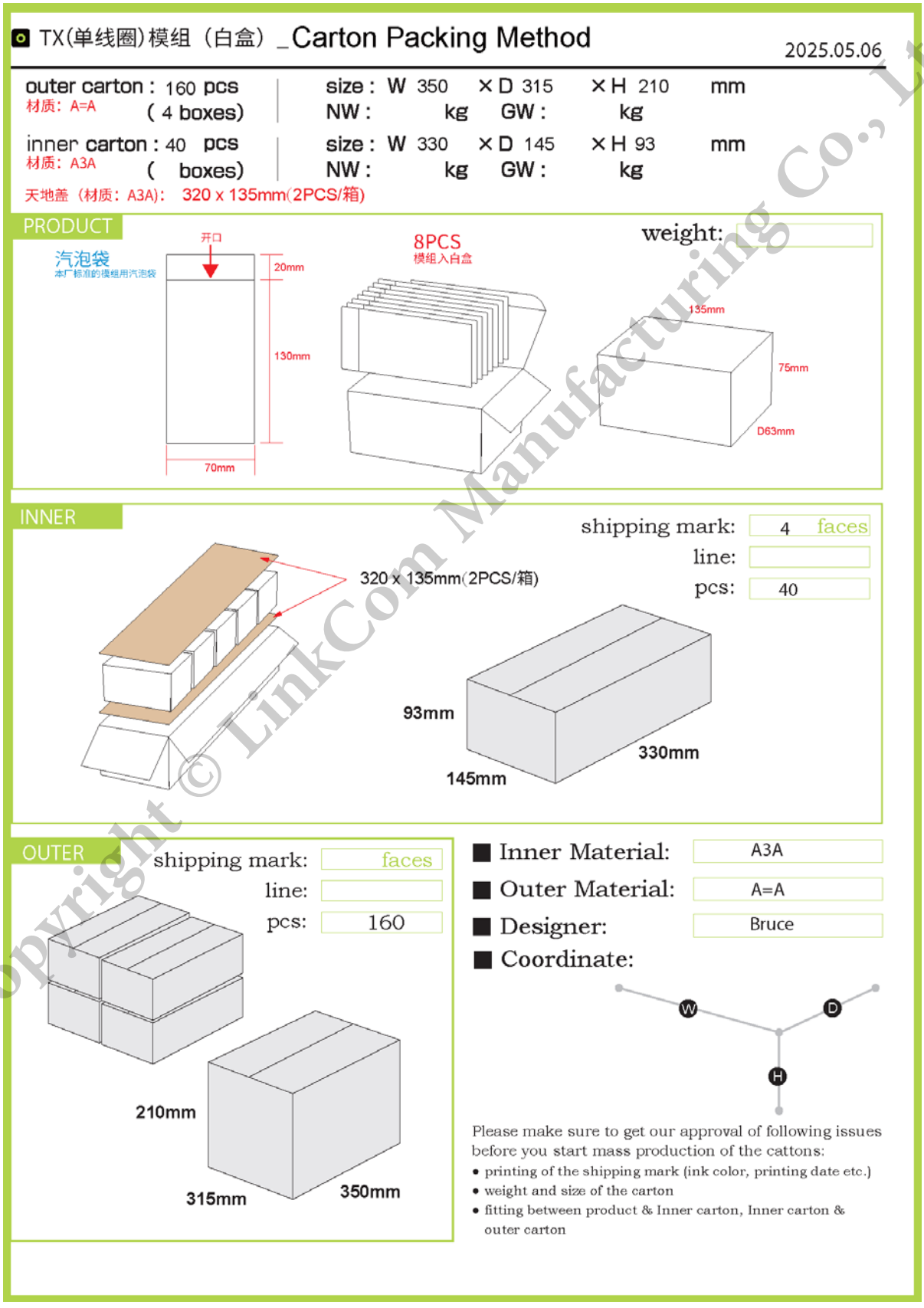
13. Packaging/包装



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14. Statement/聲明

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