

SPECIFICATION FOR APPROVAL

CUSTOMER: Linkcom (Neutral Module)

MODEL NO. : U15QT-6082C1C1

PART NO. : ILMU15QT-6082C1C1-XX-1

MODEL NAME: 3 Coils Qi Wireless Charging TX Module

REVISION: A6

DATE: 2025-5-16

APPROVED SIGNATURES

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Model No.	U15QT-6082C1C1	Model Name	3 Coils Qi Wireless Charging TX Module
Part No.	ILMU15QT-6082C1C1-XX-1	Size	L107.4±0.5 * W53±1.5 * T8±0.5mm

Product Specification

產品規格書

Product name/產品名稱：**3 Coils Qi Wireless Charging TX Module**Model No/ 產品型號：**U15QT-6082C1C1**

File number /文件編號：

Revision/版本號：**A6**Date/日期：**2025-5-16**

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	2024-10-09	Initial release.
A1	2024-10-18	Revised Model No. is ILMU15QT-6082C1C1
A2	2024-11-20	1. Revised direct power supply DC5V/9V 2. Revised Checksum 0x7C244ABE 3. Revised 4.3.2 FOD complies with UL62368-1 Foreign Object FOD Inspection Standard 4. 4. Revised 4.4.1 Over-temperature Protection.
A3	2024-11-26	1.Revised direct power supply ,Input voltage ¤t DC9V 2.5A 2.Revised direct power supply , Working voltage current DC9V/2.3A 3. Moved PD input & working voltage and current to Product Characteristic.
A4	2025-1-13	Revised the total width from 52 ± 0.5mm to 53 ± 1.5mm.
A5	2025-2-25	Added EMI describe.
A6	2025-5-16	Revised P/N 、added consumer application description 、execution standards 、 packaging 、 module description and attentions

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1. Scope/概述

The U15QT-6082 is a Qi 1.2.4 compliant multi-function tri-coil fast charging wireless charging transmitter module with a transmission efficiency curve of up to 70% at the highest point, providing up to 15W of transmission power.

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

U15QT-6082 是一款兼容 Qi 1.2.4 認證的多功能三線圈快充無線充電發射模組，其傳輸效率曲線最高點可達70%，可提供高達15W的傳輸功率。

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

◆ DC5V/9V direct power supply;

DC5V/9V 電源直接供電;

◆ Support to PD protocol input with DC5V/2.0A 、DC9V/2.0A 、DC12V/2.0A;

支持PD協議輸入DC5V/2.0A 、DC9V/2.0A、DC12V/2.0A;

◆ QC2.0/QC3.0/AFC/PD2.0/PD3.0 power communication protocol

QC2.0/QC3.0/AFC/PD2.0/PD3.0 電源通信協議

3. Performance Parameter/性能參數

3.0	Direct power supply /電源直接供電	DC5V/DC9V
3.1	Input voltage & current / 輸入電壓電流	DC5V/2.0A 、DC9V/2.5A
3.2	Working voltage current / 工作電壓電流	DC5V/1.6A 、DC9V/2.3A
3.3	Power input protocol / 電源輸入協定	QC2.0/QC3.0/AFC/PD2.0/PD3.0
3.4	Wireless charging output power/無線充電輸出功率	5W/7.5W/10W/15W
3.5	Power Transfer Efficiency / 轉換效率	70% Max
3.6	Operating frequency / 工作頻率	Frequency conversion : 110KHz-148KHz 變頻 : 110KHz-148KHz
3.7	Operating temperature / 工作溫度	0-30°C
3.8	Relative humidity / 相對濕度	40%~60%
3.9	Audio noise/噪音	15cm distance less than 30dB

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3.10	Checksum / 校驗碼	0x7C244ABE
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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. Foreign Object Detect (FOD) (1 RMB coin as the standard.)

異物檢測（以一元RMB硬幣為標準）

4.3.1. 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。

4.3.2. 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。

4.4. Over-temperature Protection/過溫保護

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

The temperature protection setting for PCBA patch NTC is >80 degrees, with a power limit of 6W (15W); 85 °C ± 5 °C (15W), 75 °C ± 5 °C (5W/7.5W/10W), when the temperature exceeds the set value, the transmitting end stops working; When the receiver is repositioned or cooled to 55 °C, the transmitter resumes normal operation (Optional to replace with an external NTC).

PCBA 貼片NTC 溫度保護設定值為 >80 度限功率 6W(15W); 85°C±5°C(15W), 75°C±5°C (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55°C時，發射器恢復正常工作。(可選擇更換成外接NTC).

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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0℃-30℃ / RH40~60%

6.2. Storage Temperature and Relative Humidity/儲存溫度和相對濕度-20℃-40℃ / 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

EN55032

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

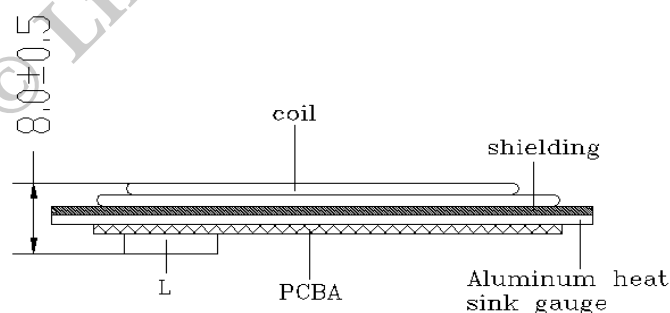
Size : L107.4±0.5 *W53±1.5*T8±0.5mm



Module Front Side 模組前面



Module Back Side 模組後面



9. Module/模組

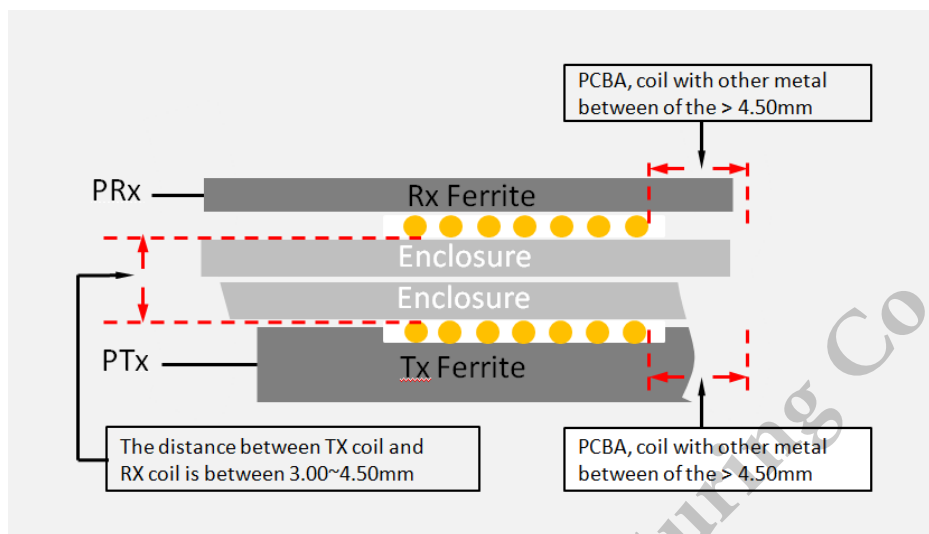
9.1. Product design proposal/產品設計要求

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.

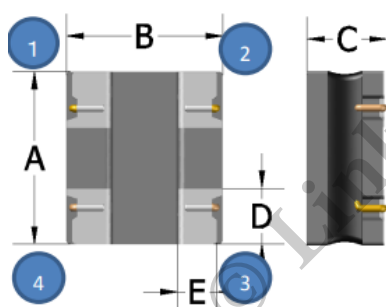
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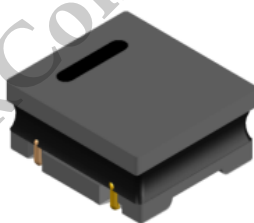
3. In order to pass the EMI test, it is recommended to use a DC power supply plus a common mode inductor and then connect to the PCBA. The recommended specifications of common mode inductors are as follows, which can be adjusted according to actual conditions:

為了通過EMI測試，建議使用DC (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。共模電感建議規格如下，可依實際狀況做調整：

PACKING DIMENSIONS (mm)



Marking



5045	Dimensions
A	5.0 ± 0.3
B	4.5 ± 0.3
C	2.5 Max.
D	1.6 ± 0.3
E	1.4 ± 0.3

Electrical Characteristics

P/N	Z(Ω) Common Mode	DCR (Ω)	IDC (A)	Rated Voltage	Insulation Resistance	Withstand Voltage
	Impedance at 100MHz	±40%	Max.	Vdc (V)Typ.	IR (MΩ) Min.	Vdc (V)Typ.
PCN5045A-102	1000 Typ.	0.024	3.0	50	10	125

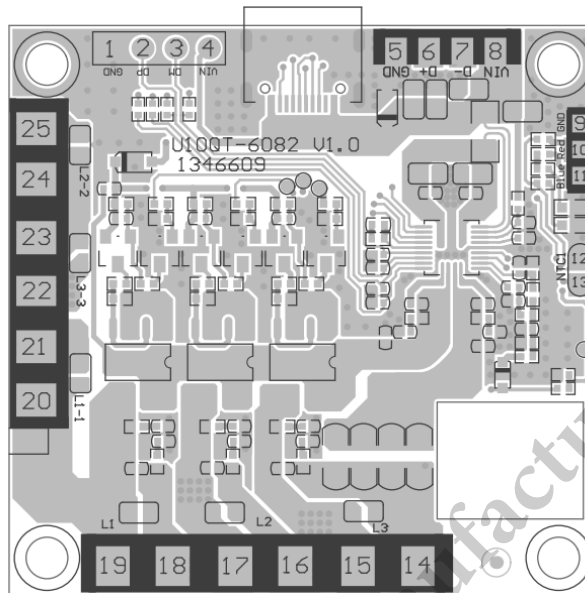
4. In order to achieve better temperature performance, it is recommended to add heat dissipation measures when designing, such as adding thermal conductive silicone pads to the PCBA to increase the heat dissipation area.

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 : V1.1



PCBA圖

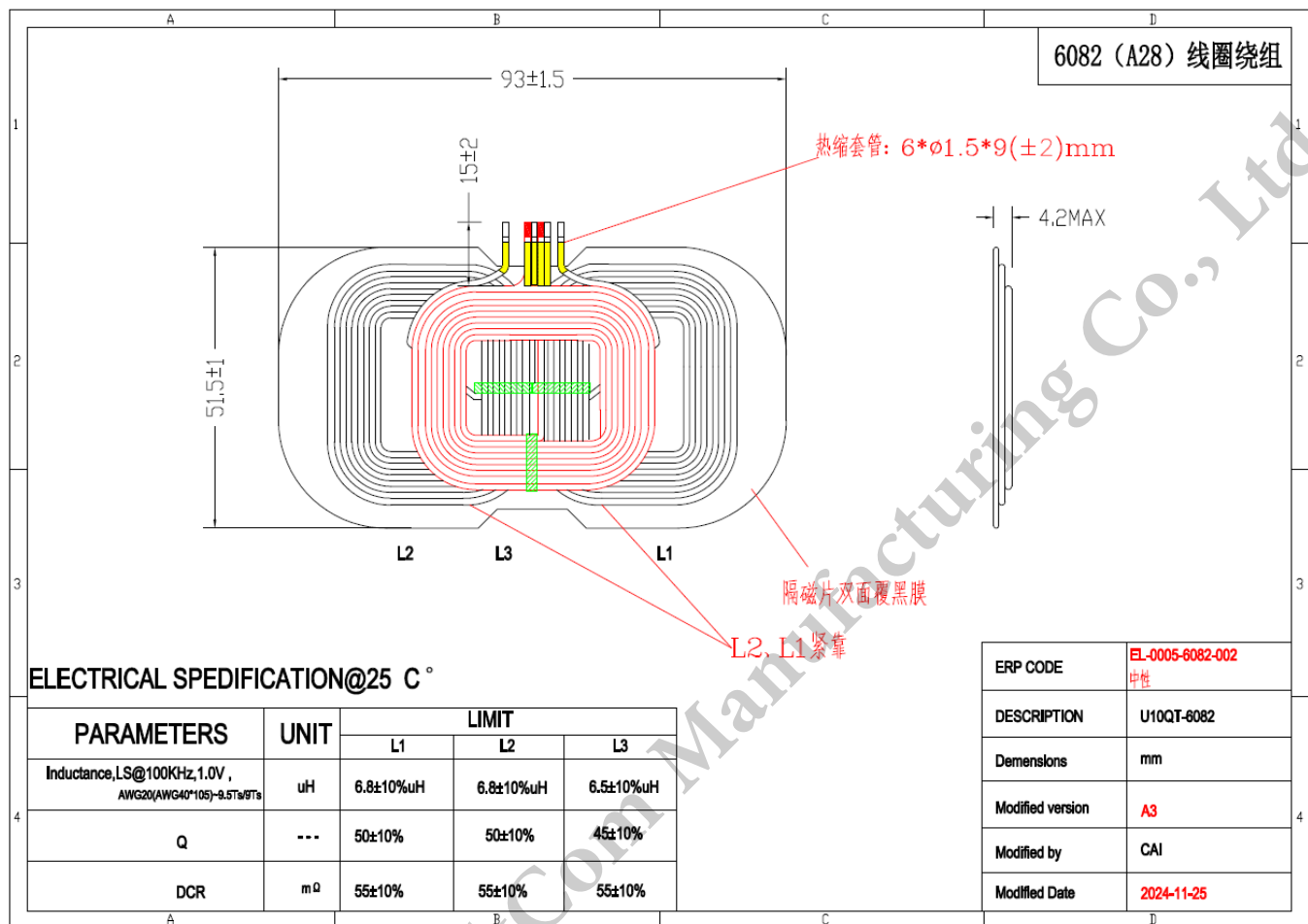
PCBA Size: 44(±0.5)*45(±0.5)*3.8 (±0.2)mm

Port	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7
Function	Burn_GND	Burn_DM	Burn_DP	Burn_VIN	GND	USB/D+	USB/D-
Port	Pin8	Pin9	Pin10	Pin11	Pin12	Pin13	Pin14
Function	VIN	LED_GND	LED_Red	LED_Blue	NTC1-	NTC1+	CoilL3_1
Port	Pin15	Pin16	Pin17	Pin18	Pin19	Pin20	Pin21
Function	CoilL3_2	CoilL2_1	CoilL2_2	CoilL1_1	CoilL1_2	CoilL1-1_1	CoilL1-1_2
Port	Pin22	Pin23	Pin24	Pin25	Pin26	Pin27	Pin28
Function	CoilL3-3_1	CoilL3-3_2	CoilL2-2_1	CoilL2-2_2	CC		

9.3. Tx_Coil Spec : TX線圈規範

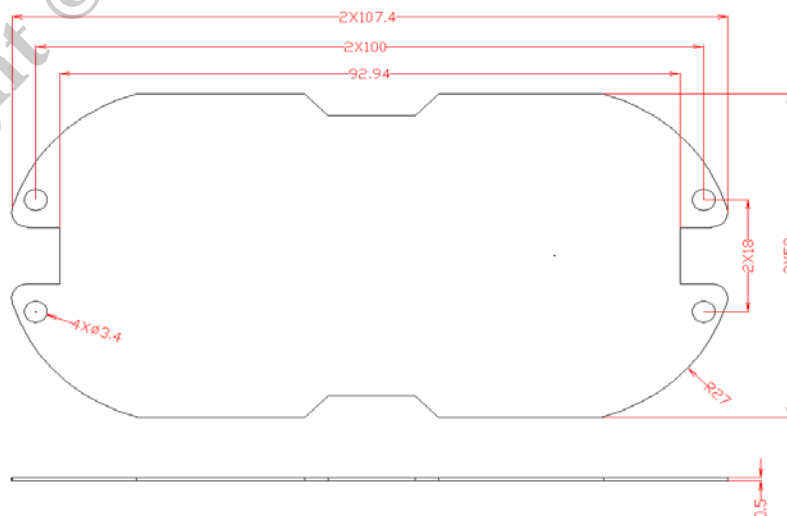
Coil + Shielding : 94±0.5 * 52±0.5 * 4.0±0.5mm

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9.4. Aluminum heat sink gauge Spec/铝散热片规格

107.4(±0.5)*52(±0.5)*0.5(±0.1)mm



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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.
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: 52±2 g

1 Carton/1箱: 100pcs; Net Weight/淨重: about 5.1kg; Gross Weight/毛重: about 7.1kg

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13. Packaging/包裝

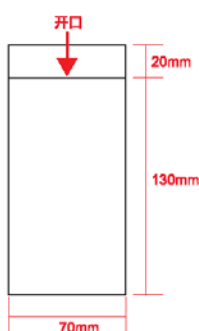
中尺寸模組 (白盒) _ Carton Packing Method

2025.04.10

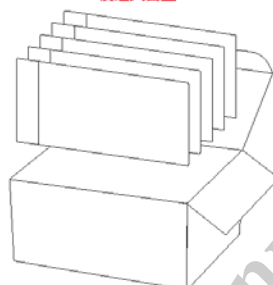
outer carton : 100 pcs 材質: K=K (4 boxes)	size : W 350 × D 315 × H 210 mm NW : kg GW : kg
inner carton : 25 pcs 材質: A3A (boxes)	size : W 330 × D 145 × H 93 mm NW : kg GW : kg
天地蓋 (材質: A3A): 320 x 135mm(2PCS/箱)	

PRODUCT

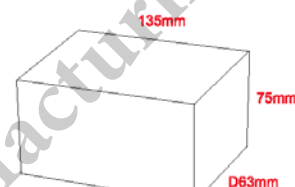
汽泡袋
紅色緩衝防靜電汽泡袋



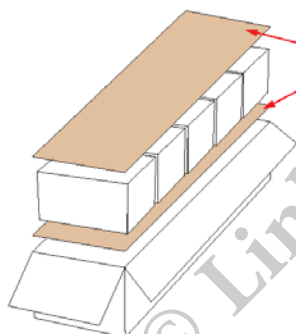
5PCS
模組入白盒



weight:



INNER

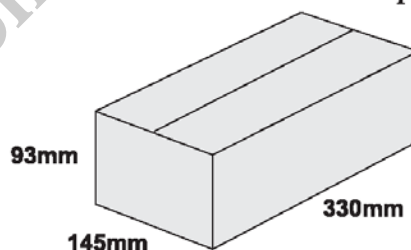


320 x 135mm(2PCS/箱)

shipping mark: 4 faces

line:

pcs: 25

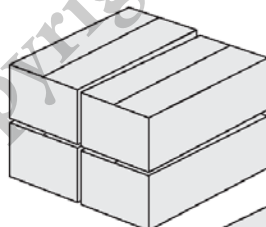


OUTER

shipping mark: 4 faces

line:

pcs: 100



210mm

315mm

350mm

Inner Material: A3A

Outer Material: K=K

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.
