User Manual

PRODUCT NAME : 1T2R Wi-Fi Module

MODEL NAME : TWFM-K304D

Table of Contents

1. Features

TWFM-K304D is the module for IEEE 802.11b/g/n wireless LAN.

TWFM-K304D is based on MTK MT7601U solution.

- IEEE 802.11 b/g/n single band WLAN infrastructure
- Size : 45mm x 20mm x 8.2 mm
- Auto-calibration
- 1T2R mode with 150Mbps PHY rate
- USB 2.0 interface
- Supports drivers for Windows 7, Vista, XP, 2000 and Linux
- Security : WFA, WPA, WPA2, WPS2.0, WAPI
- Application : DTV, DVR, HD DVD Player, Blue-ray Disk Player, STB

2. Module Photo

3. Block Diagram

4. Storage Conditions

Parameter	Min	Max	Unit
Storage Temperature	-20	+80	℃
Storage Humidity (@ 40℃)	-	90	%

Caution : The specifications above the Table define levels at which permanent damage to the device can occur. Function operation is not guaranteed under these conditions. Operating at absolute maximum conditions for extend periods can adversely affect the long-term reliability of the device.

- Other conditions
  1) Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained.
     Also, avoid exposure to moisture.
  2) Store the modules where the temperature
     and relative humidity do not exceed 5 to 40℃ and 20 to 60%.
  3) Assemble the modules within 6 months.
     Check the soldering ability in case of 6 months over.

5. Operating Conditions

Parameter	Min	Typ	Max	Unit
Operating Temperature	0	-	+55	℃
Operating Humidity (40℃)	-	-	85	%
Supply Voltage	4.75	5.0	5.25	Vdc

6. Software Programming

1) Windows OS

(1) Install a normal driver for winXP or win7.

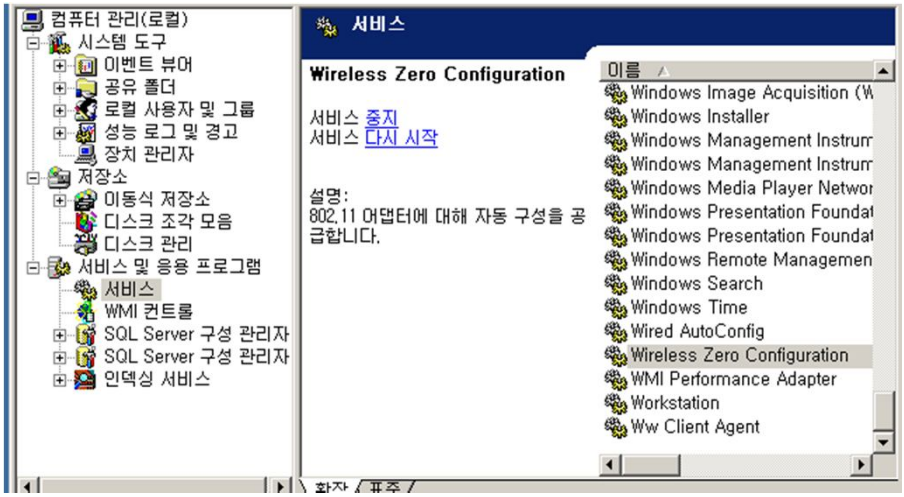
[Device Management] –[Network Adapter] – "802.11 USB Wireless.."
The device description maybe is different by version.

You can check whether it is proper or not by VID/PID.
VID_148F&PID_7601 <Fig.A.1>

< Fig. A.1 Device Information >

(2) RUN WZC (Wireless Zero Configuration)

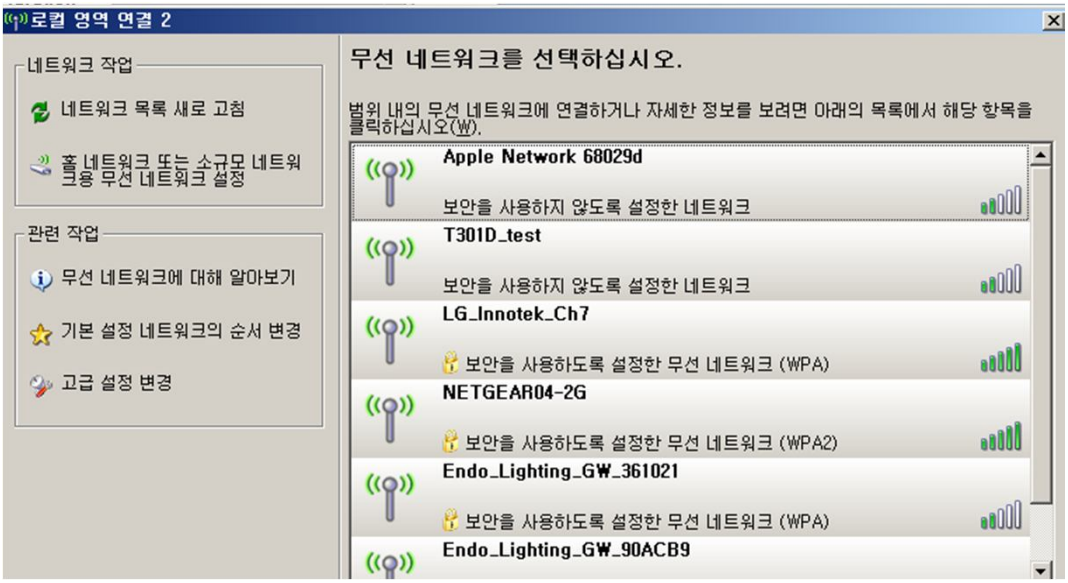
[Computer Management] – [Service and Application] – [Service]
The WZC service should be enabled <Fig.A.2>



< Fig. A.2 WZC >

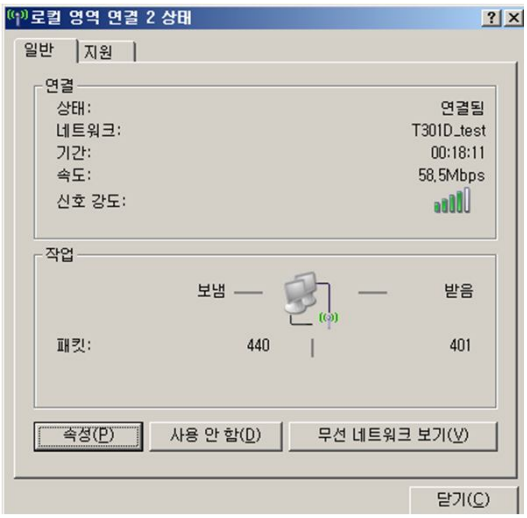
(3) Run "Local Connection"

1) If WZC is enabled, you can scan available AP list as <Fig.A.3> Please select AP by double-click.



< Fig. A.3 AP list >

2) You can check the connection status by property box.



< Fig. A.4 Connection Status >

2) Linux Device Driver

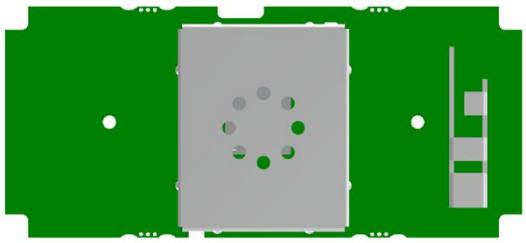
Before compiling the driver, you should change make file or makefile.inc to meet your target platform.

* Please refer to the release note in detail.

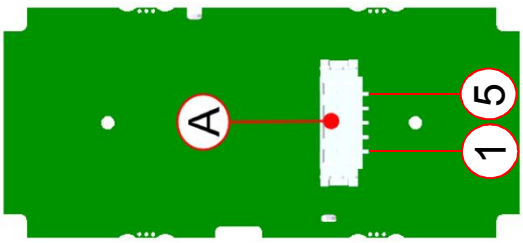
7. Pin Description

Pin No.	Pin Name	I/O	Pin Description
1	VDD	I	VDD 5.0V
2	USB_DN	I/O	USB Communication signal USB_DN
3	USB_DP	I/O	USB Communication signal USB_DP
4	GND	-	GND
5	N/C	-	-

< TOP View >



< Bottom View >



Note.

1) Recommend a Module install sequence for prevent USB device failure
   - Supply 5.0V power
   - Connect to data signal (USB_DP, USB_DN)

2) Connector: 5Pin SMD Connector (A)

8. Certification Status

1) FCC approval

The satisfy FCC exterior labeling requirements, the following text must be placed on the exterior of the end product.
Contains Transmitter module FCC ID: BEJ9QK-TWFMK304D

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiating element of this device and the user. This device must not be co-located or operating in conjunction with any other antenna or transmitter.
This device is intended only for OEM integrators and following statements shall be included to host user manual: 1) The antenna must be installed such that 20cm is maintained between the antenna and users. 2) This module may not be co-located with any other transmitters or antennas. As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements with this module installed. In the event that these conditions cannot be met, then the FCC authorizations are no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product including this module and obtaining separate FCC authorizations.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technical for help.

This device complies with Part 15 of the FCC`s Rules. Operation is subject to the following two Conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesirable operation.

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

2) IC approval

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following
two conditions: (1) this device may not cause interference, and (2) this device must accept any interference,
including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). L'opération est soumise aux deux conditions suivantes: (1) cet appareil ne peut causer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences quipeuvent causer un mauvais fonctionnement de l'appareil.

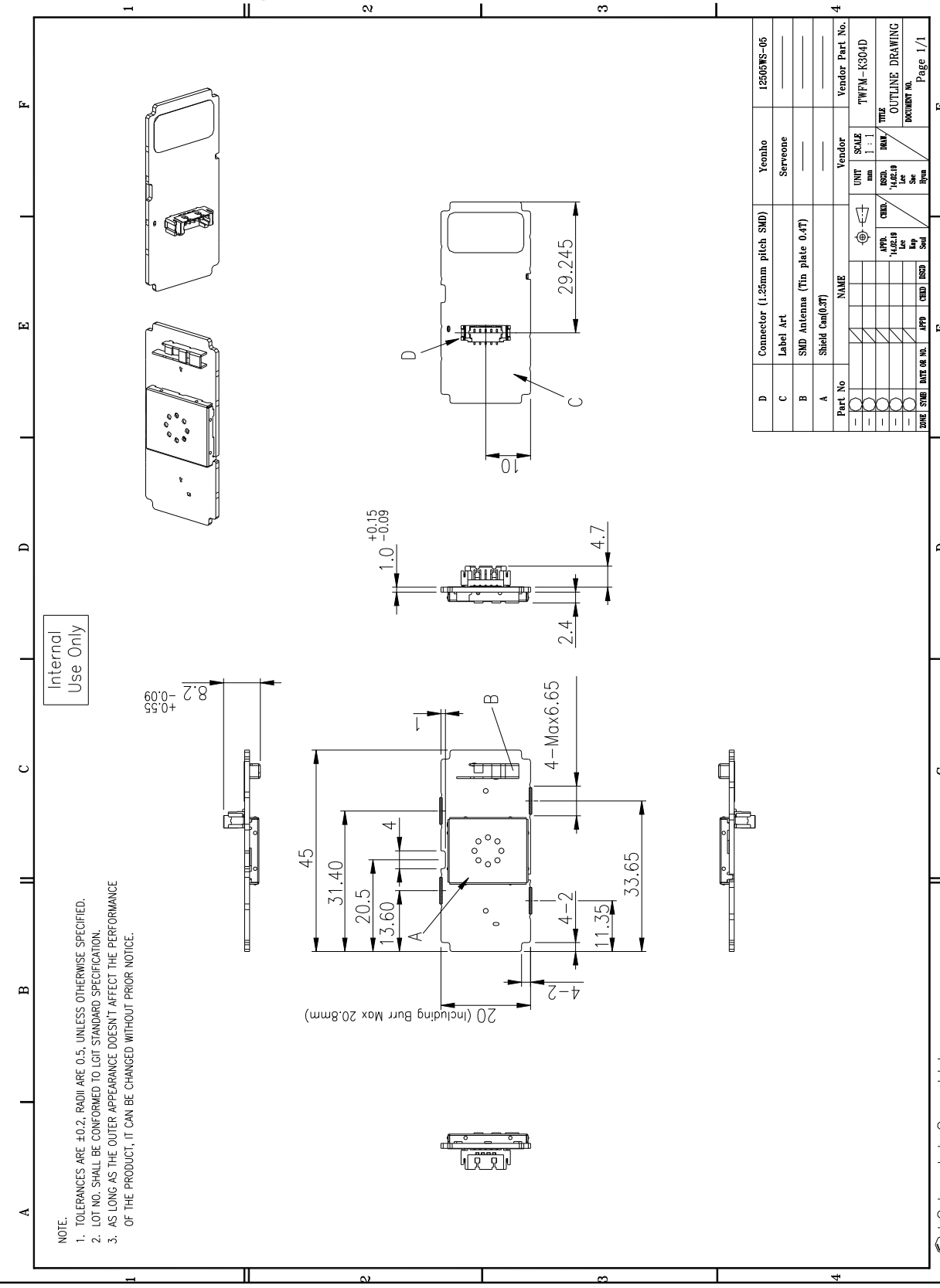
The host device must be labeled to display the Industry Canada certification number of the module.
Contains transmitter module IC: 2703H-TWFMK304D
Le dispositif d'accueil doivent être étiquetés pour afficher le numéro de certification d'Industrie Canada du module.
Contient module émetteur IC : 2703H-TWFMK304D

3) CE approval

Hereby, LG declares that this TWFM-K304D is compliance with the essential requirements and other relevant provisions of directive 1999/5/EC.

CE0197

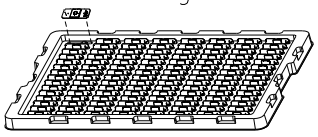
9. Outline Drawing



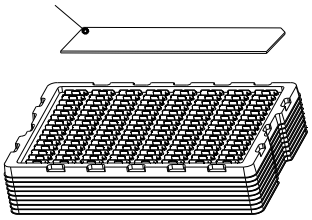
10. Packing Information

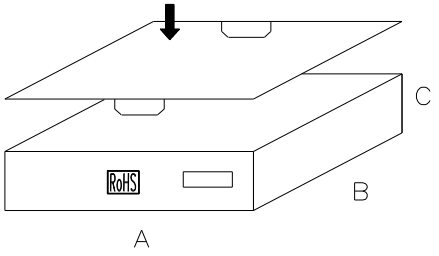
PACKING SPECIFICATION

- o 1 Tray Packing Q'ty : 120 EA
- o Tray Material : antistatic PET
- o 1 Tray Weight : 0.2kg
  (1 Module Weight : 0.0043kg)

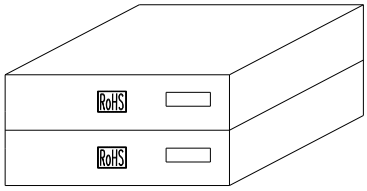


- o Tray Stacking Q'ty : 9

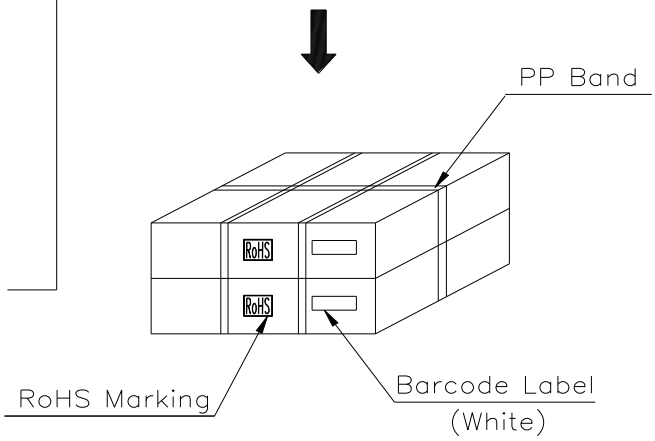




- o 1 Box Packing Q'ty : 1,080 EA
- o Size : A X B X C (512 X 375 X 121.5)
- o Box Material : Corrugated Fibreboards
- o 1 Box Packing Weight : Max 8 kg



- o Total Packing Q'TY : 2,160 EA
- o Total Packing Weight : Max 16kg



- o RoHS Marking :
  Label, Stamp, Printing
- o Marking Color :
  Gray or Red for Stamp, Label,
  Printing on the Board and etc.
  Black only for Printing on Label.

PART NO.	NAME	MATERIAL	SPEC.	FINISH	A4 SIZE
			UNIT mm	SCALE	TWFM-K304D Packing Spec.
ZONE / SYMB / DATE OR NO. / APPD / CHKD / DSGD		APPD. '14.03.12 Lee Kap Soul / CHKD.	DSGD. '14.03.12 Lee Sae Hyun / DRAW.	TITLE: EXP. Packing Specification	DOCUMENT NO. PAGE 1/3

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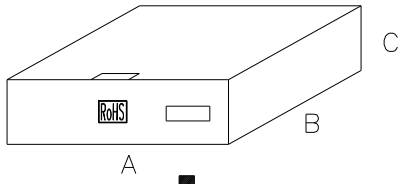
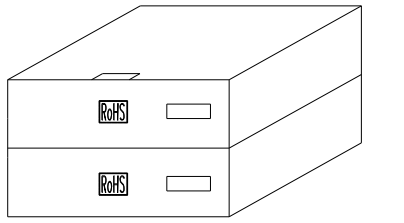
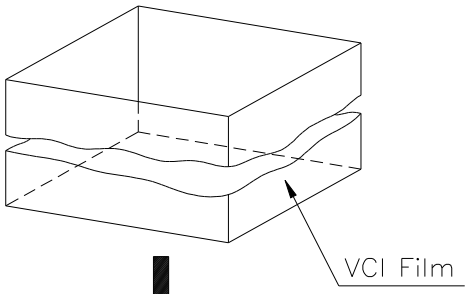
CARTON BOX PACKING SPECIFICATION

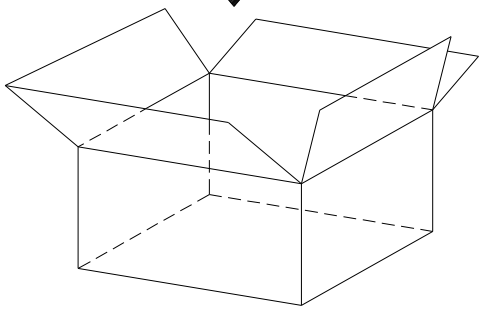


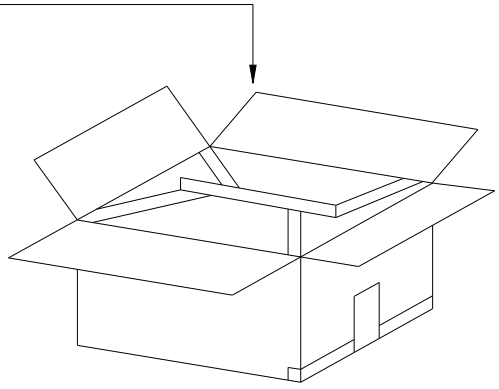
- o 1 Box Packing Q'ty : 1,080EA
- o Size : A X B X C
  (512 X 375 X 121.5)
- o 1 Box Packing Weight : Max 8kg

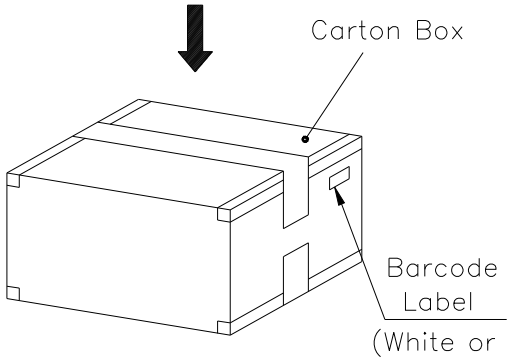


- o Box Material : Corrugated Fibreboards
- o Total Packing Q'TY : 2,160EA
- o Size : 517 x 380 x 248
- o Total Packing Weight : Max 18kg









———	———	———	———	———	A4
PART NO.	NAME	MATERIAL	SPEC.	FINISH	SIZE

ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD		UNIT	SCALE	TWFM-K304D Packing Spec. (Carton Box)
						APPD. '14.03.12 Lee Kap Soul / CHKD.	DSGD. '14.03.12 Lee Sae Hyun / DRAW.	mm	TITLE EXP. Packing Specification
									DOCUMENT NO. PAGE 2/3

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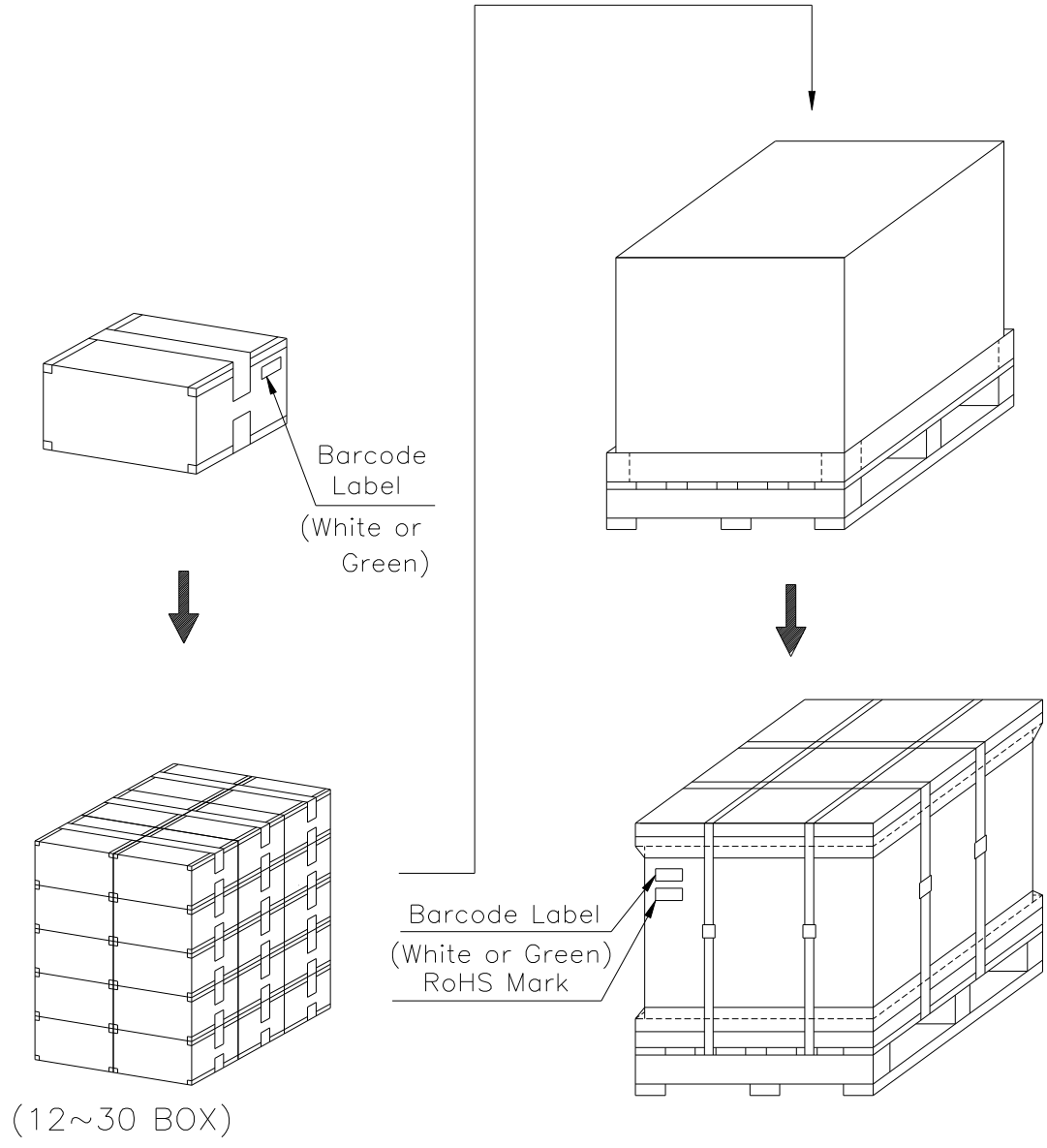
PALLET PACKING SPECIFICATION



PART NO.	NAME	MATERIAL	SPEC.	FINISH	A4 SIZE

ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

APPD.	CHKD.	DSGD.	DRAW.
'14.03.12 Lee Kap Soul		'14.03.12 Lee Sae Hyun	

UNIT: mm | SCALE

TWFM-K304D Packing Spec. (Pallet)

TITLE: EXP. Packing Specification

DOCUMENT NO. PAGE 3/3

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