

Network Computing

Hardware Platforms for Network Computing

NCS2-MINIPCIE02 User Manual

Version: 1.0

Date of Release: 2018-11-09

Icon Descriptions

The icons are used in the manual to serve as an indication of interest topics or important messages. Below is a description of these icons:



Note: This check mark indicates that there is a note of interest and is something that you should pay special attention to while using the product.



Warning: This exclamation point indicates that there is a caution or warning and it is something that could damage your property or product.

Online Resources

The listed websites are links to the on-line product information and technical support.

Resources	URL
Lanner	http://www.lannerinc.com
Product Resource	http://www.lannerinc.com/download-center
RMA	http://eRMA.lannerinc.com

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Revision History

Version	Date	Descriptions
1.0	2018/11/09	1 st official release

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CHAPTER 1: PRODUCT OVERVIEW

NCS2-MINIPCE02 is an expansion card support Wi-Fi or LTE module. This module can be used on Lanner standard system that support NCS2 NIC module.

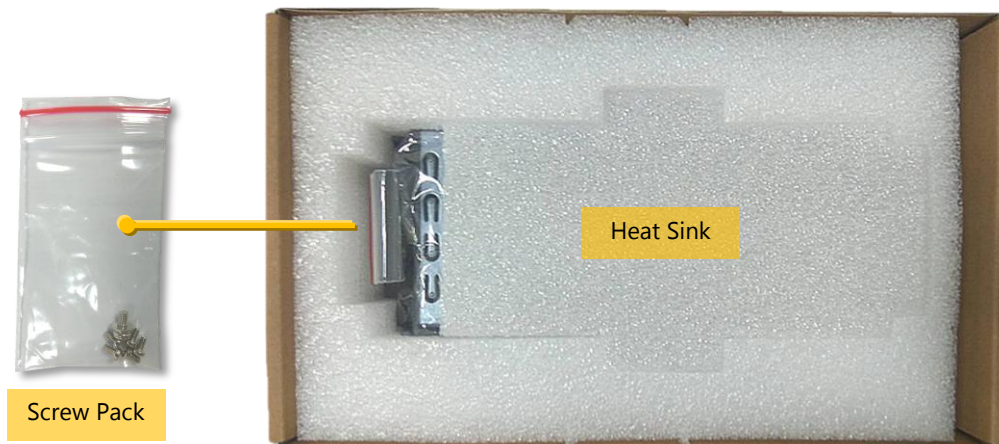
Ordering Information

Item	Description
NCS2-MINIPCE02A	1x Gen2 PCIe8 Golden finger (2x PCIe4 signal), 2x Mini-PCIe sockets (1x PCIE + 1x USB 3.0 signal), 1x M.2 Socket (1x USB 3.0 signal), 3x NANO SIM Card Socket (1x for MiniPCIe socket + 2x for M.2 socket, USB 3.0 signal)
NCS2-MINIPCE02B	1x Gen2 PCIe8 Golden finger (4x PCIe2 signal), 2x Mini-PCIe sockets for PCIE signal, 1x M.2 Socket (1x USB 3.0 signal), 3x NANO SIM Card Socket (1x for MiniPCIe socket + 2x for M.2 socket, USB 3.0 signal)

Package Content

Your package contains the following items:

- ▶ 1x NCS2-MINIPCE02 expansion card
- ▶ 1x Screw Pack
- ▶ Antennas (by customer request)

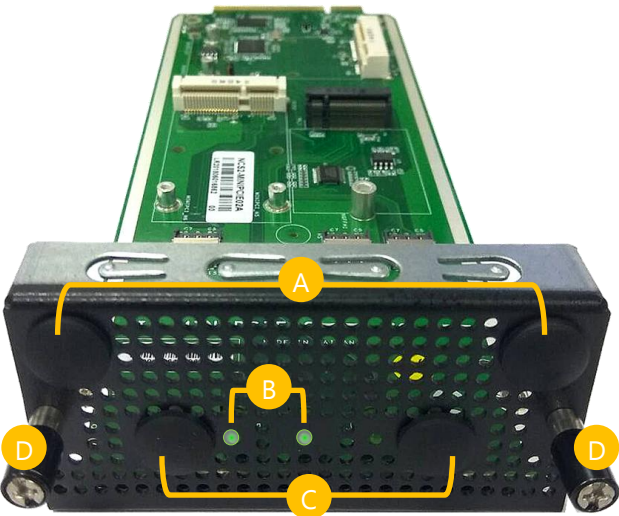



Specifications

Form Factor		IO-MINIPCE02A
Network Interfaces	Chipsets	1x Renesas Bridge (PCIE Gen2 to USB3.0 Bridge) 1x I2C switch (Reserved) 1x MUX switch
	Ethernet Ports	N/A
Interface	To Main Board	1x Gen2 PCIEx8 golden finger (2x PCIE*4 signal) (SKU A) 1x Gen2 PCIEx8 golden finger (4x PCIE*2 signal) (SKU B by project) 2x Mini-PCIE full size sockets
	To IO	3x NANO SIM card socket 1x M.2 socket
Environment	Operating/Storage Temperature	0 to 40°C / -40 to 70°C
	Relative Humidity	5% to 90%, non-condensing
Compliant	EU RoHS 2.0	Yes
	China RoHS	Required
Certifications	PTCRB	Yes
	CE	Class A by project
	FCC	Class A by project
	UL	Required by project
Dimension	(WxDxH)	194 x 75mm
	Weight	0.2 kg

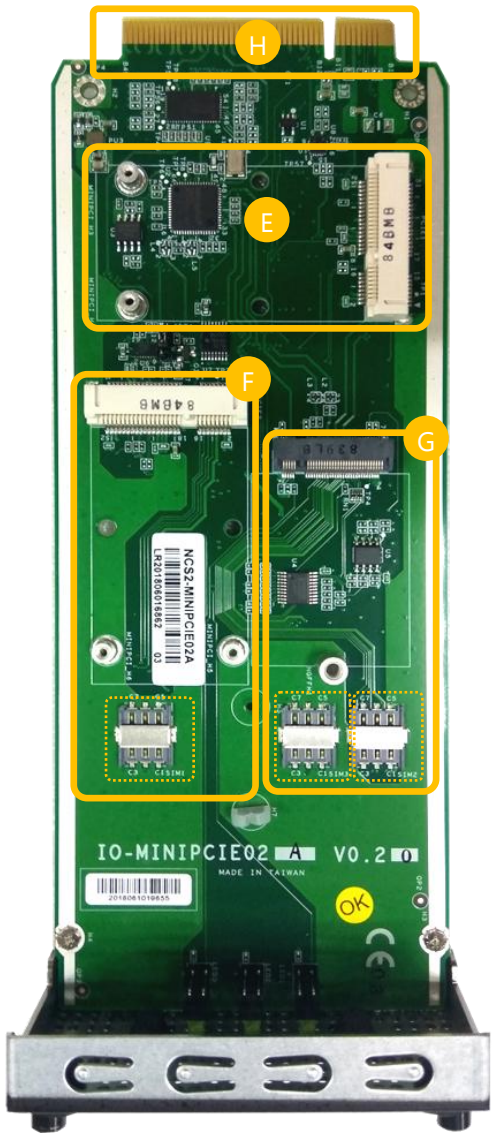
Physical Overview

Front View



No.	Description	
A	LTE Antenna Jack	The SMA sockets for LTE Antenna
B	Wi-Fi / LTE Connectivity Status LED	<div>The behavior of the individual LED indicator will vary by the module used.</div> <div> LTE (M.2 Interface) LTE (Mini-PCIe Interface)</div>
C	Wi-Fi Antenna Jack	The SMA sockets for Wi-Fi Antenna
D	Lock Screws	To secure the expansion slot door

Top View

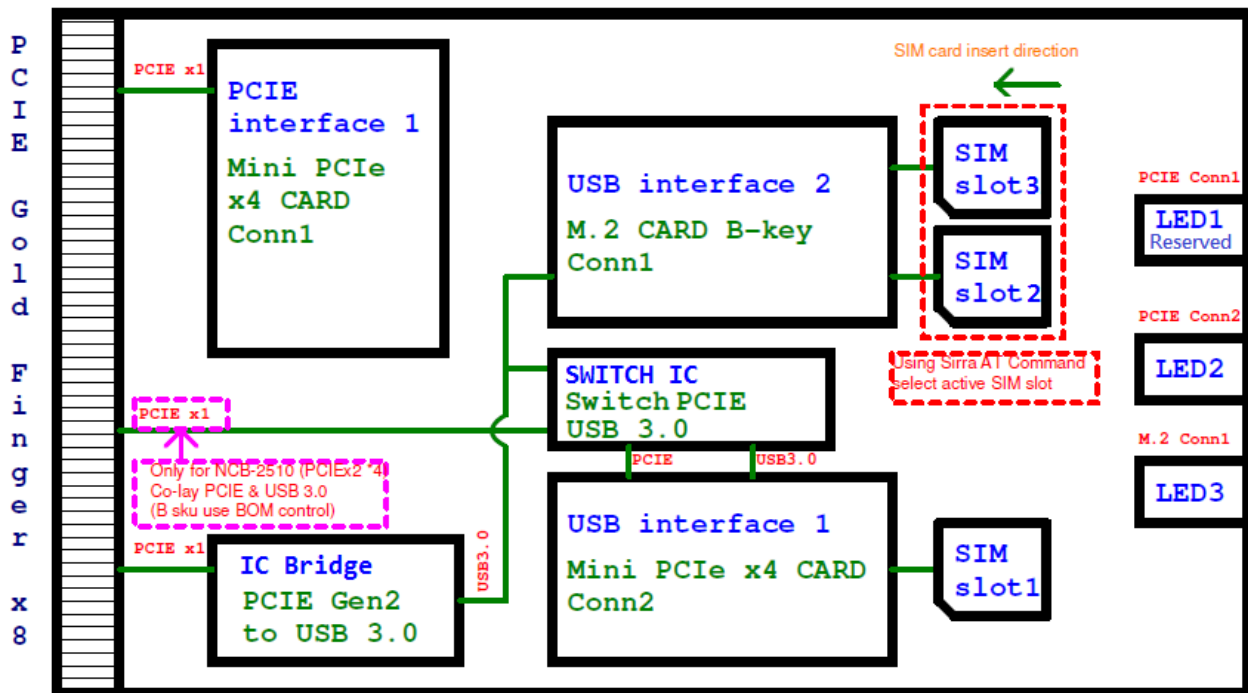


No.	Description	
E	Wi-Fi Module Slot	To accommodate a mini-PCIe Wi-Fi module card
F	LTE Module Slot with SIM card Holder	To accommodate a mini-PCIe LTE module card and a Nano SIM card
G	LTE Module Slot with SIM card Holder	To accommodate a M.2 LTE module card and 2x Nano SIM cards
H	Gen2 PCIe8 Golden Finger	

CHAPTER 2: BOARD INFORMATION

Block Diagram

The block diagram indicates how data flows among components on the board. Please refer to the following figure for your motherboard's layout design.



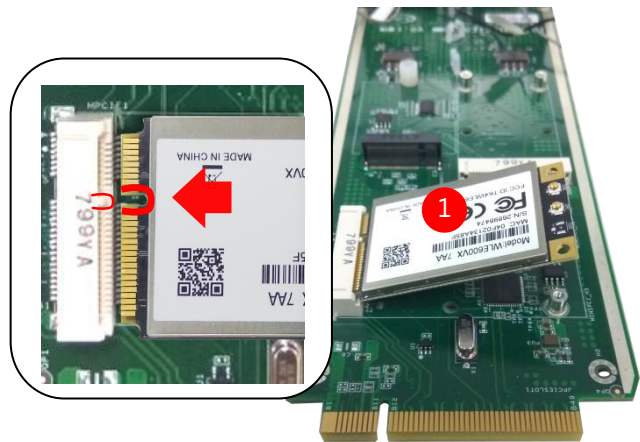
CHAPTER 3: HARDWARE SETUP

To access some components and perform certain service procedures, you must perform the following procedures first:

- (1) To reduce the risk of personal injury, electric shock, or damage to the equipment, please remove all power sources
- (2) Please wear ESD protected gloves before conducting the following steps.

Installing the Wi-Fi Module

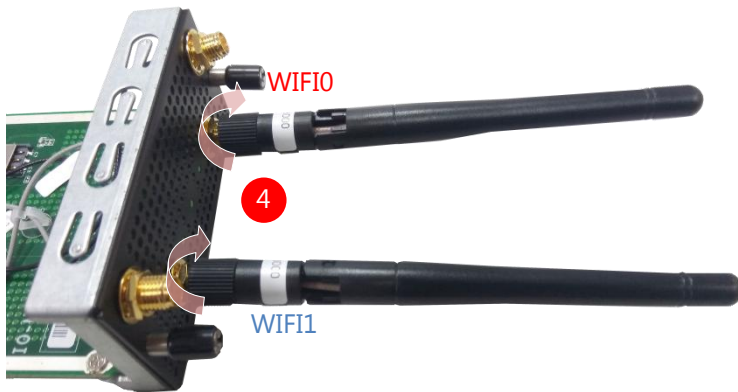
1. Locate the Mini-PCIe slot for WI-Fi module, and align the notch of the module with the socket key in the slot. Insert the module at 30 degrees into the socket until it is fully seated in the connector.



2. Push down on the module and secure it with screws that come with its package.
3. Snap the Wi-Fi antenna cable onto the U.FL connector for **WIFI0**, and the other one onto the U.FL connector for **WIFI1**.

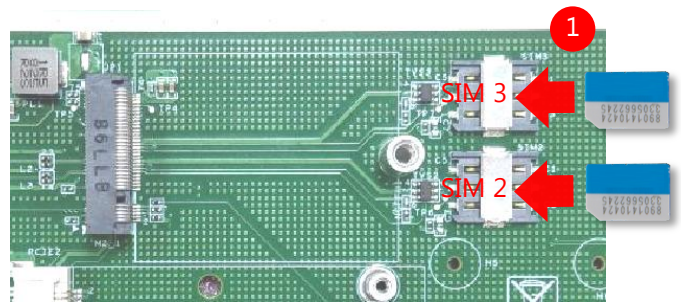
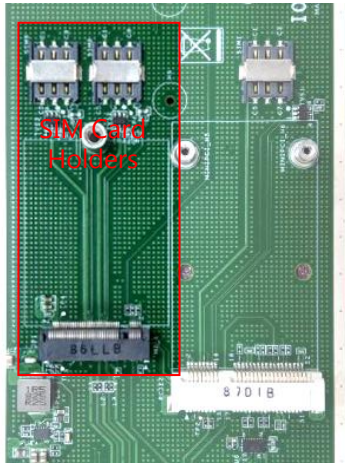


4. Attach the Wi-Fi antennas onto the front panel. Make sure the connector for **WIFI0** and the connector for **WIFI1** are connected to the front panel as shown in the picture.



Installing the M.2 Interface LTE Module

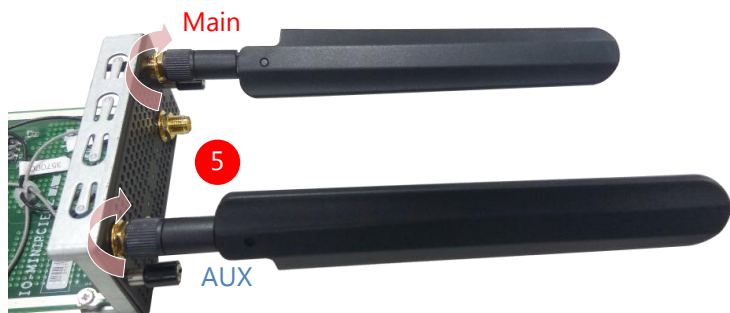
1. Locate the M.2 slot for LTE module and insert the nano-SIM cards into the card holder above it.



2. Locate the M.2 slot. Align the notch of the module with the socket key in the slot. Insert the module at 30 degrees into the socket until it is fully seated in the connector.
3. Push down on the module and secure it with the screw that comes with the package.
4. Snap one LTE antenna cable onto the U.FL connector for **Main**, and the other one onto the U.FL connector for **AUX**.



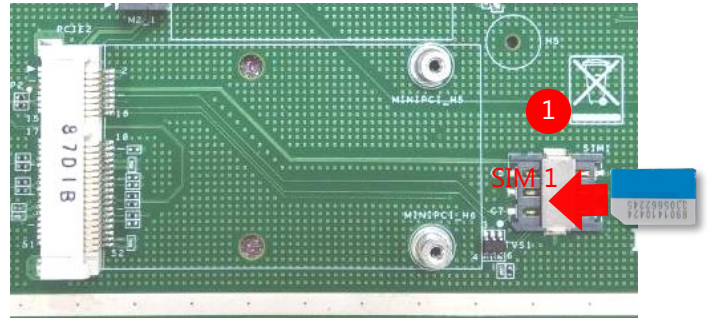
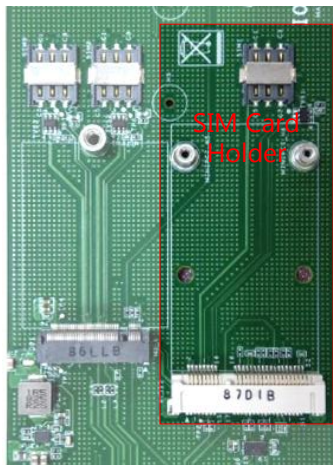
5. Attach the LTE antennas onto the front panel. Make sure the connector for **Main** and the connector for **Aux** are connected to the front panel as shown in the picture.



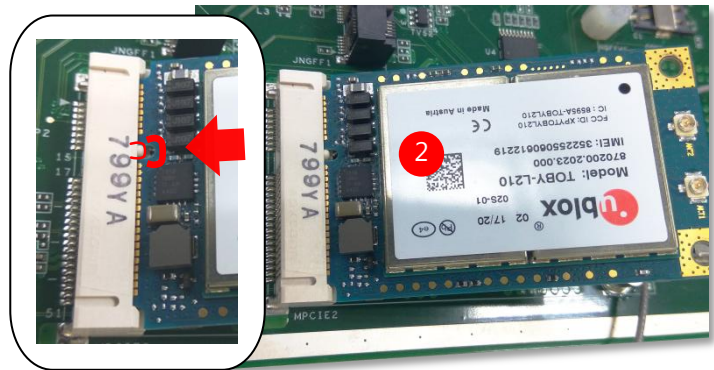
Note: For use of the M.2 Card, the accompanied SIM card should be inserted into SIM2 slot or SIM 3 slot. Do not insert the SIM card into SIM1 slot for M.2 card, since SIM1 slot is dedicated for Mini PCIe Slot 1. The SIM card inserted in SIM1 slot will not function for M.2 Card.

Installing the Mini-PCIe Interface LTE Module

1. Locate the mini-PCIe slot for LTE module and insert the nano-SIM card into the card holder above it.



2. Locate the mini-PCIe slot. Align the notch of the module with the socket key in the slot. Insert the module at 30 degrees into the socket until it is fully seated in the connector.



3. Push down on the module and secure it with the screws that come with the package.



4. Snap one LTE antenna cable onto the U.FL connector for **Main**, and the other one onto the U.FL connector for **AUX**.



5. Attach the LTE antennas onto the front panel. Make sure the connector for **Main** and the connector for **Aux** are connected to the front panel as shown in the picture.

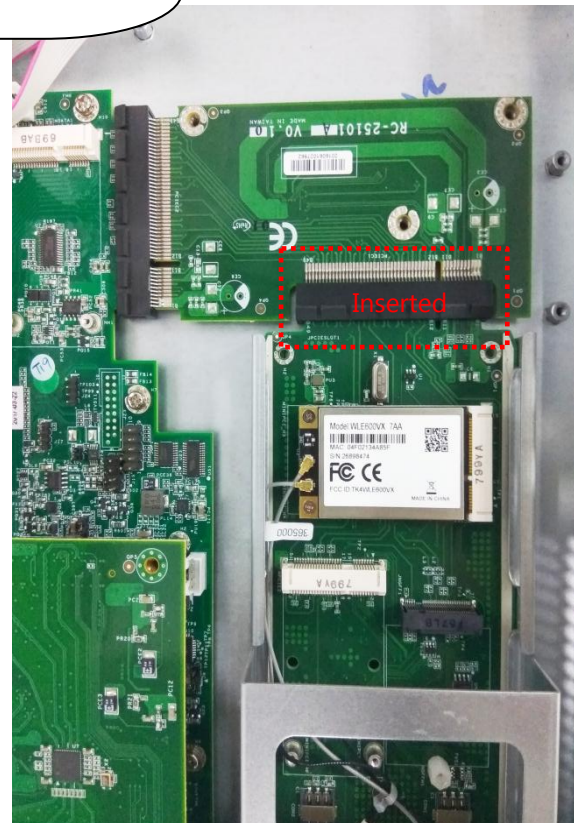
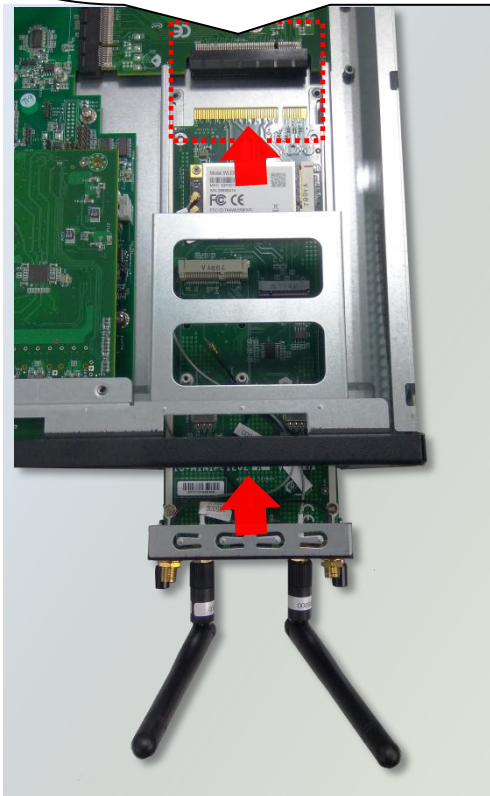
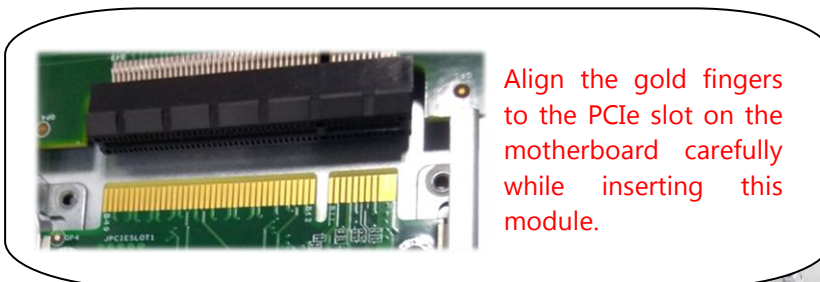


Installing the Expansion Card

1. Remove the original expansion slot door from the system.
2. Remove the top cover to reveal the motherboard (optional).



3. Insert your expansion card. (The system shown in the image below is for reference only)



4. Once the expansion card is firmly seated, rotate clockwise and tighten the two lock-screws to secure the card, and then recover the system's top cover.



APPENDIX: TERMS AND CONDITIONS

Warranty Policy

1. All products are under warranty against defects in materials and workmanship for a period of one year from the date of purchase.
2. The buyer will bear the return freight charges for goods returned for repair within the warranty period; whereas the manufacturer will bear the after service freight charges for goods returned to the user.
3. The buyer will pay for the repair (for replaced components plus service time) and transportation charges (both ways) for items after the expiration of the warranty period.
4. If the RMA Service Request Form does not meet the stated requirement as listed on "RMA Service," RMA goods will be returned at customer's expense.
5. The following conditions are excluded from this warranty:
 - ▶ Improper or inadequate maintenance by the customer
 - ▶ Unauthorized modification, misuse, or reversed engineering of the product
 - ▶ Operation outside of the environmental specifications for the product.

RMA Service

Requesting an RMA#

1. To obtain an RMA number, simply fill out and fax the "RMA Request Form " to your supplier.
2. The customer is required to fill out the problem code as listed. If your problem is not among the codes listed, please write the symptom description in the remarks box.
3. Ship the defective unit(s) on freight prepaid terms. Use the original packing materials when possible.
4. Mark the RMA# clearly on the box.



Note: Customer is responsible for shipping damage(s) resulting from inadequate/loose packing of the defective unit(s). All RMA# are valid for 30 days only; RMA goods received after the effective RMA# period will be rejected.

RMA Service Request Form

When requesting RMA service, please fill out the following form. Without this form enclosed, your RMA cannot be processed.

RMA No:		Reasons to Return: <input type="checkbox"/> Repair(Please include failure details)	
		<input type="checkbox"/> Testing Purpose	
Company:		Contact Person:	
Phone No.		Purchased Date:	
Fax No.:		Applied Date:	
Return Shipping Address: _____			
Shipping by: <input type="checkbox"/> Air Freight <input type="checkbox"/> Sea <input type="checkbox"/> Express _____			
<input type="checkbox"/> Others: _____			

Item	Model Name	Serial Number	Configuration

Item	Problem Code	Failure Status

***Problem Code:**

01: D.O.A.	07: BIOS Problem	13: SCSI	19: DIO
02: Second Time R.M.A.	08: Keyboard Controller Fail	14: LPT Port	20: Buzzer
03: CMOS Data Lost	09: Cache RMA Problem	15: PS2	21: Shut Down
04: FDC Fail	10: Memory Socket Bad	16: LAN	22: Panel Fail
05: HDC Fail	11: Hang Up Software	17: COM Port	23: CRT Fail
06: Bad Slot	12: Out Look Damage	18: Watchdog Timer	24: Others (Pls specify)

Request Party

Confirmed By Supplier

Authorized Signature / Date

Authorized Signature / Date