

Wireless M2M Router iR700B

Delivery Specification

Version 1.4

Systema America, Inc.

1. Scope

This specification document applies to the wireless M2M router (model name: iR700B series) delivered by IDY Co., Ltd. (Eye-Dee-Why).

2. Overview

This product is a 4G-WiFi wireless M2M router for business using 4G wireless communications modules such as LTE and WiMAX2+, as well as 3G and PHS wireless communication module.

By using mini PCI-Express card slot for the internal interface, it is possible to equip with every type of wireless WAN certified communications module, including 4G LTE, WiMAX2+, 3G HSPA, and PHS.

The list of available communications modules includes not only full and half-size mini PCI-Express cards, but through the use of a conversion adapter, M.2 (NGFF) standard modules can be installed as well.

Also, by equipping with RS232/RS485 interface compliant serial data D+/D- terminal, WiFi, and Ethernet, you can connect the router directly to existing equipment.

3. Constitution

This product will be configured as follows.

- 1) iR700B Main Body
- 2) Wireless WAN communication module (* 1)
 - a. This will be built into Main Body at our factory.
- 3) Antenna
 - a. Antenna for WiFi x 1
 - b. Wireless WAN antenna (* 2)
- 4) AC adapter
- 5) Rubber foot x 4

(*1) Wireless WAN communication module can accommodate selection of communication network in accordance with your application.

Router is compatible with both full and half-size cards.

The customer must provide the SIM card for the communications module.

Please contact us to request our recommendation of SIM cards.

(*2) Depending on communications card, 1 or 2 Wireless WAN antennae may be required.

The included antennae are certified as a set with the communications module. Please be sure to use with the included antennae.

4. Specification

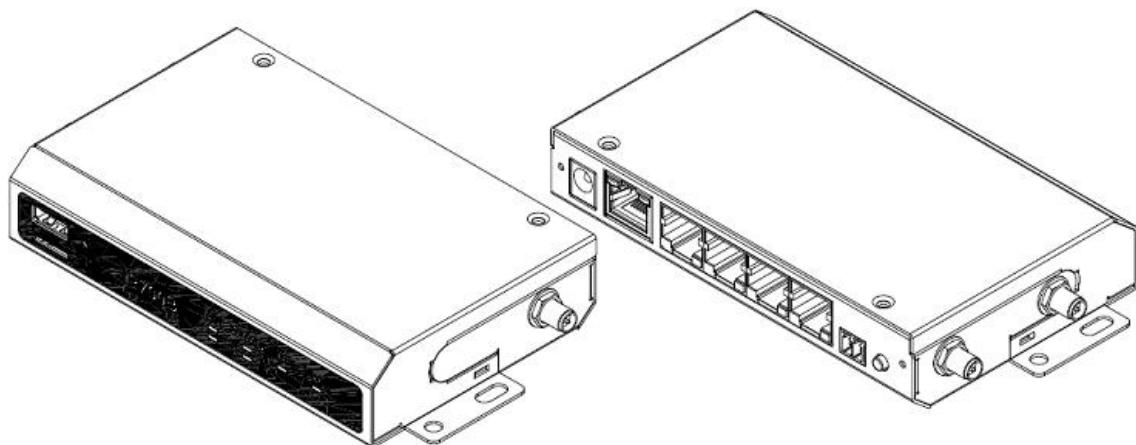
| Item | Specifications | | Remarks |
|--------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remarks | CPU:MIPI24KEc (580MHz) SPI FLASH:8MB DDR2 SDRAM:64MB | | RALINK MT7620A |
| LED display | WiFi LED upper x1 | green | wireless LAN status display |
| | WiFi LED low r x1 | blue / red | for extension (not used) |
| | WWAN LED upper x1 | green | wireless WAN status display |
| | WWAN LED low r x1 | blue / red | wireless WAN receiving electric field intensity display |
| | STAT LED x1 | orange | body status display |
| | PWR LED x1 | green | power indicator |
| | LAN/WANx1, LANx3 | green | wired LAN status display |
| Wireless WAN | LTE | ASKEY module Telit module | Each communication module is certified. Please refer to the attachment for a detailed specification of the communication module, such as support band. Model number is different for each module. |
| | 3G | ASKEY module u-blox AG module Telit module | |
| | PHS | ABIT Corporation module | |
| | WiMAX2+ | Shinsei Corporation module | |
| WiFi | IEEE802.11b/g/n(1T1R) | | construction design certification (TELEC) acquired |
| | SSIDx2 (standard) | | can be up to eight by the options |
| Security | No security encryption WPA WPA2 WPA/WPA2 SSID notification (enable / disable) MAC address filtering | | WPA encryption scheme TKIP、AES, authentication method: PSK WPA2 encryption scheme TKIP、AES, TKIP/AES, authentication method: PSK WPA/WPA2 encryption method TKIP、AES, TKIP/AES, authentication method: PSK |
| Router function | address translation Firewall function Dynamic DNS | | NAT,NAPT(IP masquerade) Port forwarding, virtual DMZ DDNS |
| WWAN monitoring function | LTE 3G PHS WiMAX2+ | | Monitoring method is different by each communication module. |

| Item | Specifications | Remarks |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Front Interface | USB | USB2.0 Host(High-Speed USB compatible) |
| | Micro SD | SDHC/SDXC compatible |
| | Reset button | The body of the reset and initialized (factory) during use |
| Rear interface | DC 5V jack | Connect the AC adapter of the body attached |
| | RS232 / 485 (silver RJ-45) x 1 | Use the option of a dedicated conversion cable (RJ-45 to D-sub 9-pin conversion cable) It can be used as a RS232C or RS485 |
| | LAN / WAN combination, LAN dedicated port (Black RJ-45) x 4 | 4 ports can be used as LAN or 3 ports can be used as LAN and 1 port can be used as WAN. |
| | DIOx1 | By customizing the software of external devices data input, it can be used for the output of the control signal. |
| | Mode button | By customizing the software, it can be used as any of the function buttons. |
| Side interface | For wireless WAN antenna SMA connector (Receptacle / Normal-Type) | Depending on the number of antennas is 1 or 2. * Waterproof external antenna options are available. |
| | SMA connector for WiFi antenna (Receptacle / Reverse-Type) | 2.4GHz support of WiFi antenna |
| Bottom interface | SIM slot x 1 * It becomes the inside of the screwing cover | Micro SIM *Standard size SIM can be available as an option |
| DC 5V power input | Rated voltage DC 5V ± 5% (@ load current 0 ~ 3.0A) ripple voltage not more than 200mVp-p | More than DC5.5V voltage (overshoot, that surge, etc.) is not applied. |
| AC adapter | Input: AC100V-240V, 50 / 60Hz Output: DC5V 3A | PSE acquisition |
| Power consumption | Operation: 5W (max) | During use of Wireless WAN, WiFi, WAN, or LAN, It will differ by each communication module. |
| External dimensions | vertical 76x horizontal 121x high 25 (mm) | excluding protrusions |
| Mass | 275g | A communication module is not included. |
| Operating temperature range | 0 °C ~ 50 °C (body) | AC adapter is not included. |
| Storage temperature range | -20 °C ~ 70 °C | |
| Humidity range | 10% to 95% (with no condensation) | |

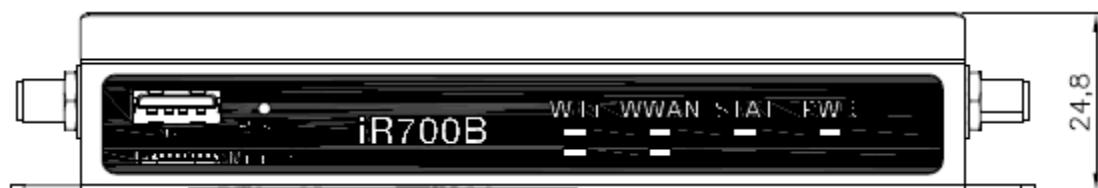
*Please contact us for information about customizing the software.

5. External view

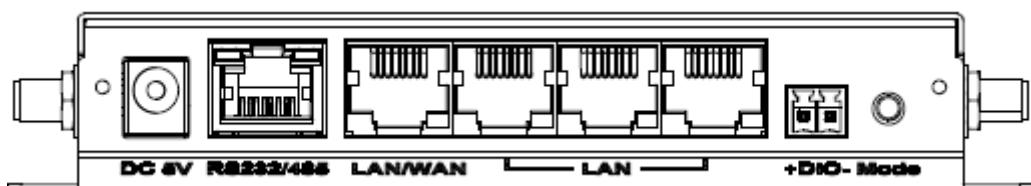
- Overall Appearance -



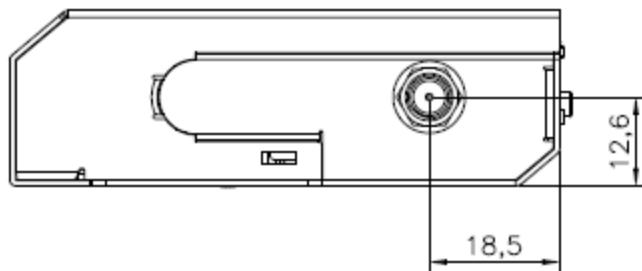
- Front View -



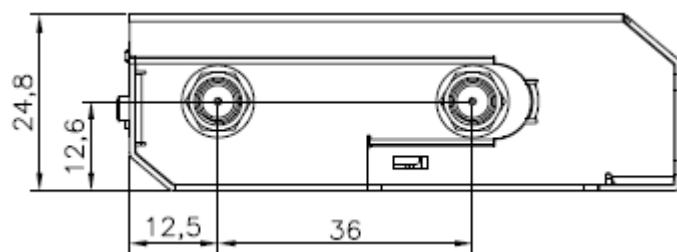
- Rear View -



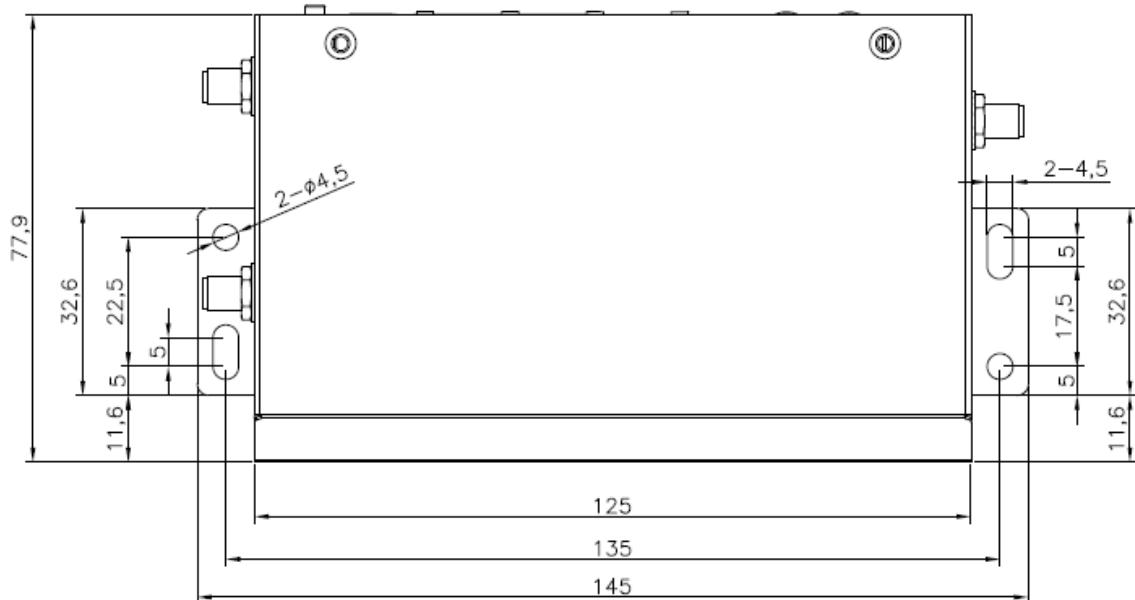
- Right View -



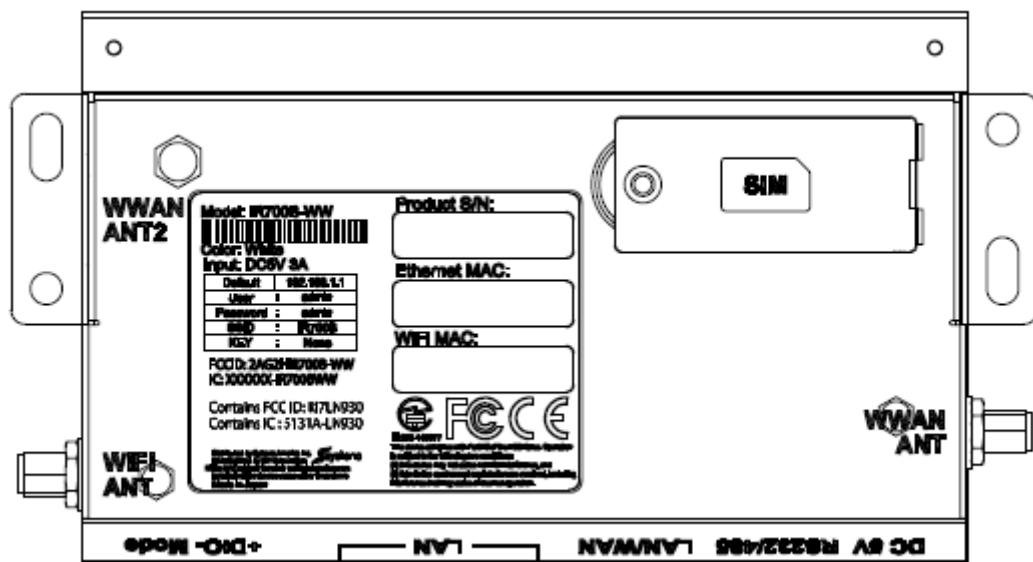
- Left View -



- Top View -



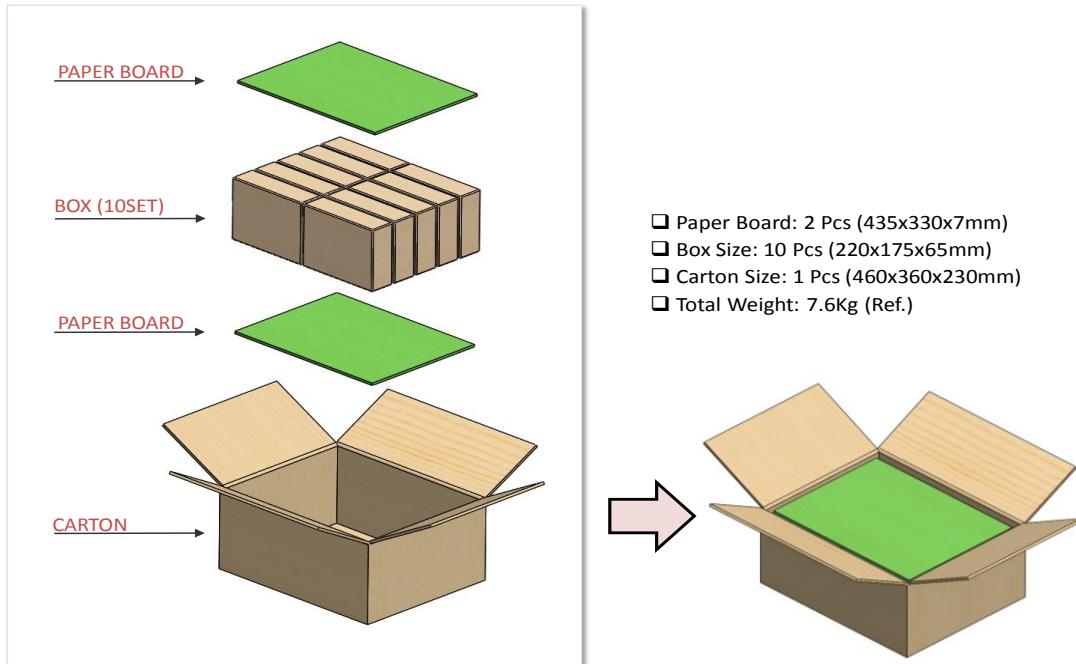
- Bottom View -



6. Packaging Specification

6-1. Carton Composition

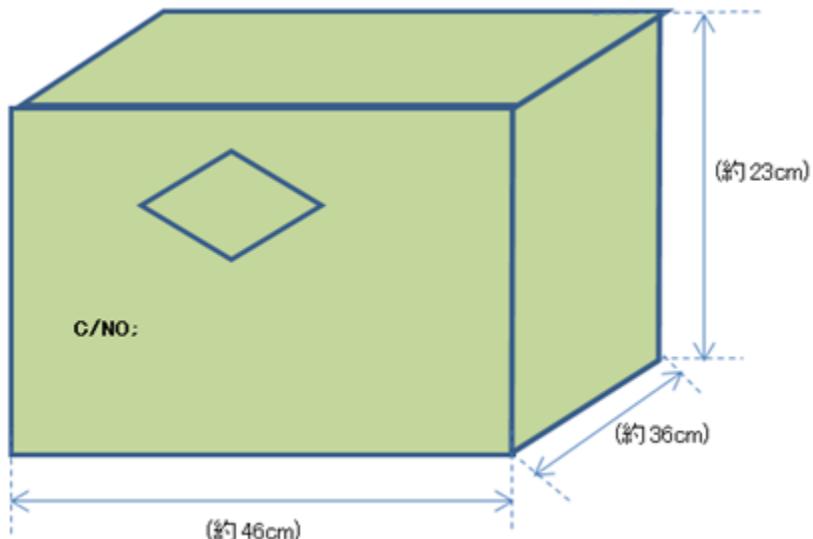
Packaging Specification Overview



6-2. SHIPPING MARK

Our company's standard SHIPPING MARK is stamped on the outer carton.

If you have a specific request [for markings], please inform us when placing your order.



| Side | Items | Marking | Note |
|---------------|------------------------|---------------|----------------------------------------------------------------------------------------|
| Shipping Mark | Carton No. | C/NO: n-mm | <n>th item in master carton <mm>. (Printed on carton, or written on label.) |
| | Country of Manufacture | MADE IN XXXXX | Country of Manufacture is sometimes changed. (Printed on carton, or written on label.) |
| Care Mark | Product Name | MODEL: iR700B | (Printed on carton, or written on label.) |
| | Quantity | QTY : 10 PCS | |
| | Total Weight | G.W. : | (10pcs/7.6kg) |
| | Carton Dimensions | MEAS: | 46 X 23 X 36 cm |

7. Label Specification

Below is the explanation of the product label on the bottom surface of the main body.

Model: iR700B-WW



Color: White

Input: DC5V 3A

| | |
|----------|-------------|
| Default | 192.168.1.1 |
| User | : admin |
| Password | : admin |
| SSID | : iR700B |
| KEY | : None |

FCCID: 2AG2HIR700B-WW

IC: 21068-IR700BWW

Contains FCC ID: RI7LN930

Contains IC : 5131A-LN930

Distributed by Systema America Inc.
Manufactured by IDY Corporation 
※The MAC address for when multiple interfaces are
installed will be the sequent number from above
Made in Japan

Product S/N:

Ethernet MAC:

WiFi MAC:



208-140077

This device complies with Part 15 of the FCC Rules. Operation
is subject to the following two conditions:

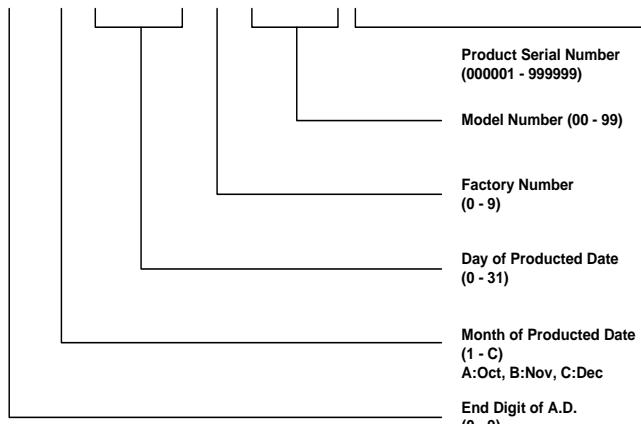
- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including
interference that may cause undesired operation.



7-1.S/N: Serial Number

Serial Numbers are assigned according to the code below.

0 B 2 5 0 0 0 0 0 0 0 1



(*1) Model Number:11 (11 is for iR700B standard model. For customized models, a different number is allocated.)

(*2) Factory ID: Fixed as 0.

7-2.Ethernet MAC:MAC address

Device is shipped with IDY MAC(1C:06:56:xx:xx:xx).

If you need a specific MAC address, please provide it when placing your order.

7-3.WiFi MAC:MAC address

Device is shipped with IDY MAC(1C:06:56:xx:xx:xx).

If you need a specific MAC address, please provide it when placing your order.

7-3.WiFi Manufacture Design Certification Number

For this product, it is "208-140077".

7-4.Manufacture Design Certification Number for Wireless WAN Communications Module

For type with Wireless WAN Communications Module: Displayed on communications module inside main body

For type without Wireless WAN Communications Module: No Manufacture Design Certification Number.

8. Shipping Inspection

Test Environment: Temperature 15~30°C, Humidity 50~80% RH

Power setting: Voltage 5V±5%, Current limit depends on Communications module (*)

Product condition: SIM card, WiFi/WWAN Antenna equipped

8-1. Inspection Items

| Category | Item | Inspection Detail | Judgment Criteria |
|-----------------------|----------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrical Inspection | Power-up | Initial Power-up | After feeding power, device able to power up. |
| | LED Display | WiFi LED Upper | Green: Blinks 20 seconds after feeding power |
| | | WiFi LED Lower | Blue: Illuminated up to 15 seconds after feeding power. Red: |
| | | WWAN LED Upper | Green: Illuminated 20 seconds after feeding power. |
| | | WWAN LED Lower | Blue: Illuminated up to 15 seconds after feeding power. Red: |
| | | STAT LED | Orange: Illuminated 15 to 60 seconds after feeding power. |
| | | PWR LED | Green: Illuminated while feeding power. |
| | WiFi | LAN/WAN, LAN x 3 | Green: Illuminated by LAN cable connection with PC. |
| | | Wifi Connection | Able to connect to PC via Wifi |
| | WWAN | SIM Card | Able to read SIM phone number. |
| | | Communication Module | Main Body-Communications between Comm. Modules: Able to read IMEI Coaxial connection: No anomalies when checking RSSI values on Live Network |
| | USB | USB Memory Access | Able to Write/Read to connected USB drive |
| | Micro SD | Micro SD Card Access | Able to Write/Read to inserted Micro SD |
| | AC Adapter | | Power Transmission Able to connect to iR700B main body & operate. |
| | FW Version | | Read via Inspection Tool Has correct Firmware |
| | MAC Address (WLAN/LAN/WAN) | | Read via Inspection Tool Correct value/No duplication |
| | IMEI Check | | While checking Comm. Module Correct value |

| | | | |
|---------------------|-----------|----------------|---------------------------------------|
| External Appearance | Shape | Dents, Welds | Per our external appearance standards |
| | Scratches | Length, Depth | Per our external appearance standards |
| | Printing | Stains, Fading | Per our external appearance standards |

*Current consumption limit value differs based on Communications module.

Example: ASKEY Computer Corporation LTE module : 1000mA Shinsei Corporation WMAX/WIMAX2+ module: 1500mA

Exhibit.1

iR700B-WW Product Composition Chart

| | Included Items | Model No. | Qty | Notes |
|---|------------------------------|---------------|-----|---------------------------------|
| 1 | iR700B Main Body | iR700B-WW | 1 | |
| 2 | LTE Antenna | W50-S-V3-I | 2 | |
| 3 | WiFi Antenna | AN2400-5510RS | 1 | |
| 4 | AC Adapter | SWI18-5-N | 1 | DOE Level 6, 5V 3A |
| 5 | LTE Communications Module | Telit LN930 | 1 | Built into the iR700B Main Body |

Exhibit.2

Federal Communication Commission Interference Statement

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 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 technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC 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 undesired operation.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Exhibit.3

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B conforme à la norme NMB-003 du Canada.

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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

- **Contact Us**

Systema America, Inc.

1660 S. Amphlett Blvd., Suite 114

TEL: +1 (650) 346-6531