

# **WirelessHD Tx/RX Box**

## **User's Manual**

## FCC Statement

### 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.

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

### IMPORTANT NOTE:

#### FCC Radiation Exposure Statement:

This equipment complies with FCC 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.

## IC Statement

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

Cet appareil numérique de la classe B onforme á 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.

This device is not permitted for used on aircraft or satellites.

### 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.

## Index

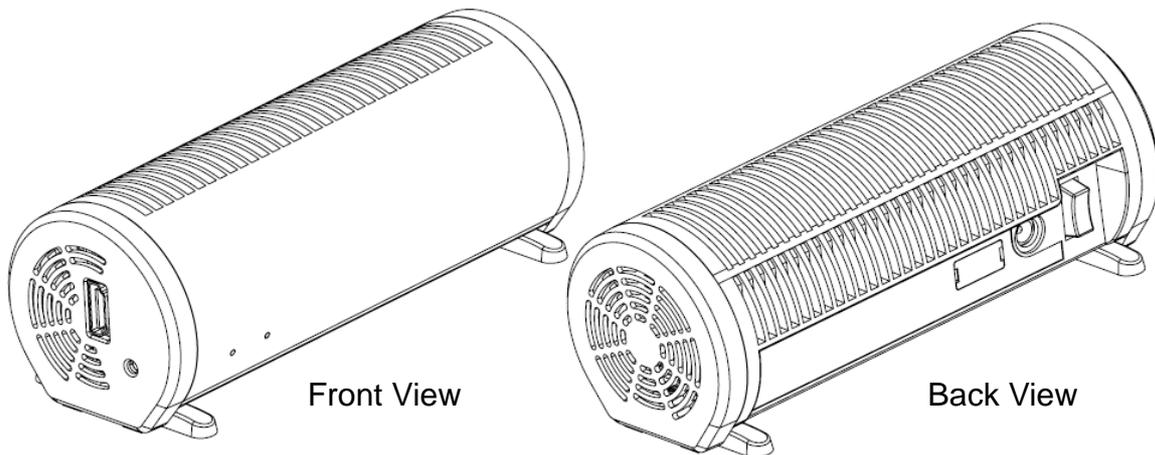
<b>1</b>	<b>Introduction .....</b>	<b>1</b>
<b>1.1</b>	<b>Product Layout .....</b>	<b>1</b>
<b>1.2</b>	<b>Features .....</b>	<b>1</b>
<b>1.3</b>	<b>Package Content .....</b>	<b>2</b>
<b>1.4</b>	<b>Specification Table .....</b>	<b>2</b>
<b>1.5</b>	<b>LED Indication.....</b>	<b>3</b>
<b>1.6</b>	<b>Connectors and end-user interfaces .....</b>	<b>4</b>
<b>2</b>	<b>Installation Steps .....</b>	<b>4</b>
<b>3</b>	<b>Important Notice.....</b>	<b>6</b>

## 1 Introduction

AW-WH036T and AW-WH036R is a whole set of WirelessHD products. They can stream uncompressed audio and video up Full HD (FHD) resolution. It works at 60GHz band which is available on an unlicensed basis in many regulatory domains with a typical range of 10 meter.

AW-WH036T and AW-WH036R replaces the HDMI cable and simplifies home theater system installation. The source devices, such as BD player or Set Top Box, don't need to be located near to the TV.

### 1.1 Product Layout



### 1.2 Features

- Standard: WirelessHD 1.0
- Frequency: 60GHz
- Data Rate: 4Gbps
- Distance: 10m (In Room)
- No Video Compression
- Latency: <1ms
- Video Resolution:
  - Up to 1920 X 1080 Progressive (1080P)
  - ~ 8 Channels Audio (32 ~ 192KHz)

- Array Antenna
- HDMI 1.3 Compatible
- DTCP (Digital Transmission Content Protection):AES-128 CTR mode
- HDCP 2.0 Support

### 1.3 Package Content

The package include the below package content:

- One set of AW-WH036T and AW-WH036R
- Power Adapter
- User’s Manual

### 1.4 Specification Table

<b>Model Name</b>	<b>AW-WH036T &amp; R</b>
<b>Product Description</b>	<b>HDMI (type-A ) wireless module</b>
<b>WirelessHD Standard</b>	<b>WirelessHD V1.0</b>
<b>HDMI Standard</b>	<b>HDMI 1.3a</b>
<b>Interface</b>	<b>HDMI (type-A )</b>
<b>Major Chipset</b>	<b>Tx:</b> <b>SB9210A HRTX RF Transceiver</b> <b>SB9220A HRTX Network Processor</b> <b>AT91SAM7S256 Microcontroller</b> <b>Rx:</b> <b>SB9221A HRRX Network Processor</b> <b>SB9211A HRRX RF Transceiver</b> <b>AT91SAM7S256 Microcontroller</b>
<b>Dimension</b>	<b>139.9 x 23.6 x 11.08 mm(exclude heat sinks)</b>
<b>Antenna</b>	<b>32 Antenna Array support Beam-forming</b>
<b>Operating Conditions</b>	
<b>Voltage</b>	<b>5V</b>
<b>Currency</b>	<b>2A</b>
<b>Operating Temperature</b>	<b>0~40℃</b>
<b>Connector</b>	<b>Micro USB Connector</b>
<b>Display</b>	
<b>Resolution</b>	<b>Support 480p/60Hz to 1080p/60Hz</b>
<b>Video Format</b>	<b>RGB: 4:4:4</b>

	YCbCr: 4:4:4
<b>Audio</b>	
Channel	2~8
Sample Rate	32-192kHz
<b>RF Specifications</b>	
Frequency Range	57~66GHz
Modulation	HRP: OFDM with QPSK , 16-QAM LRP: OFDM with BPSK
Occupied Bandwidth	HRP:1.76Ghz LRP: 92Mhz
Output Power	HRP: TBD LRP: TBD
Receive Sensitivity	HRP: TBD LRP: TBD
Data Rates	HRP: Up to 3.807 Gb/s LRP: Omni-directional mode Up to 10.168 Mb/s
Operating Range	Indoor: 10 m (The transmission speed may vary according to the environment)
Security	DTCP: AES-128 CTR mode HDCP 2.0
<b>Operation &amp; Storage Environment</b>	
Temperature	Operating temperature: 0 ~ 45°C Storage temperature: -10 ~ 60°C
Humidity	Operating Humidity: 20 ~ 80 %RH Storage Humidity: 10 ~ 90 %RH
Air pressure	Operating Altitude: ~7500ft (2286m) (760hpa) Storage Altitude: ~20000ft (6096m) (468hpa)

### 1.5 LED Indication

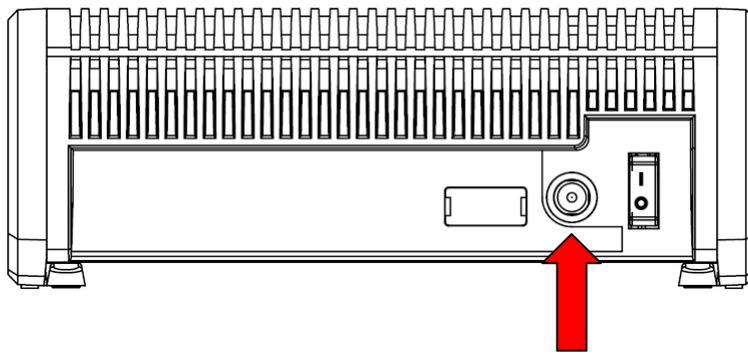
LED indicator	Color	Status	Condition
 Power	Green	On Off	Power On Power off
Link	Orange	ON OFF	Connected Not connected

### 1.6 Connectors and end-user interfaces

Item	Function
10-pin connector	For upgrading firmware usage
DC Jack	For power supply
HDMI Type A connector	For HDMI input or output
Main Power Switch	Switch between power on and power off
Push Button	For setup application

## 2 Installation Steps

1. Remove the WirelessHD products and accessories from package
2. Connect the power adapter to the WirelessHD product and power outlet.



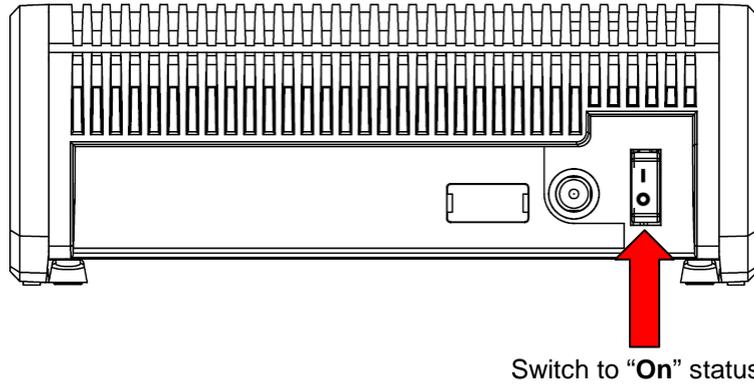
Connect to power outlet via power adaptor

3. Connect HDMI connector on AW-WH036T to media source such as BD Player and connect HDMI connector on AW-WH036R to flat panel display such as LCD TV by HDMI cable.



AW-WH036T's HDMI connector to media source and AW-WH036R's HDMI connector to flat panel display by HDMI cables

4. Turn on power switch to be "on" status.



5. Make sure that “” in front side of WirelessHD product is “On”
6. After 10 ~ 30 seconds auto-connection, the **orange** LED will be “On”. it means that the products begin working.

### 3 Important Notice

- The Power adapter must be 5A / 2A.
- The WirelessHD products are only for indoor use, the transmitting distance is suggested to be less than 10 meters and no blocks between TX and RX.
- Always check the LED lights for troubleshooting.