

User Manual

WOXCON

WL-HDMI

Wireless HDMI Extender



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Version: WL-HDMI_2019V1.2

Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till September, 2019. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

FCC Statement

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. It has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



SAFETY PRECAUTIONS

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

Table of Contents

1. Product Introduction	1
1.1 Features	1
1.2 Package List	1
2. Specification	2
3. Panel Description	4
3.1 Transmitter (Tx)	4
3.2 Receiver (Rx)	4
4. System Connection	5
5. Default System Configuration	6
6. System Configuration	7
6.1 Preparation to connect to Web Server	7
6.2 Configuration Rx	12
6.3 Configuration Tx	15
7. Troubleshooting & Maintenance	16
8. Customer Service	17

1. Product Introduction

The WL-HDMI is a wireless HDMI extension solution kit, it transmits full HD video up to 130m with low latency of 60~100ms as well as low power consumption.

It can be used at home theater, conference center, auditorium etc.

1.1 Features

- Video resolution up to 1920x1080.
- Supports 44.1/48 KHz, 16/24 bit audio signal transmission.
- The transmission distance is up to 426ft/130m.
- HDCP compliant.
- Wide bandwidth: 12~25Mbps at 720P, 15~36Mbps at 1080P.
- Allows multiple point to point transmission established in the same area.
- Channel spectrum width: 20/40MHz.
- No more than 3W power consumption for Tx or Rx.

1.2 Package List

Components	QTY	Specification
Transmitter (Tx)	1	64.0mm(L) x 87.0mm(W) x 24.5mm(H)
Receiver (Rx)	1	64.0mm(L) x 87.0mm(W) x 24.5mm(H)
Power Adapter	2	5V DC 1A
User Manual	1	

Note: Please contact your distributor immediately if any damage or defect in the components is found.

2. Specification

Transmitter (Tx)	
Video Input	(1) HDMI
Video Input Connector	(1) Type-A female HDMI
Power Input	(1) DCJACK, (1) DC5V
Power Input Connector	(1) DC Jack, (1) Micro-USB
Receiver (Rx)	
Video Output	(1) HDMI
Video Output Connector	(1) Type-A female HDMI
Power Input	(1) DCJACK, (1) DC5V
Power Input Connector	(1) DC Jack, (1) Micro-USB
HDMI Output Resolution	Supports 1920x1080(Full-HD,1080p), 1680x1050(WSXGA), 1280x1024(SXGA), 1280x720(HD,720p), 1024x768(XGA), 800x600(SVGA) and 640x480(VGA) (Progressive only—1080p,720p,480p and etc; 60Hz/50Hz)
General	
Video Standard	H.264
Resolution Support	All, 640x480~1920x1080
Interline CCD Method	Progressive Scanning
HDCP	Available
Factory Reset	Available
Audio Support	44.1KHz, 48KHZ, 16/24bit
Ethernet	1:1, unicast
Bandwidth	Still: 6~8Mbps Video: 12~25Mbps at 720P, 15~36Mbps at 1080P
Ethernet Speed	10/100 (IEEE 802.11n)
Latency	720P, 1080P: 60~100ms
Network	LAN
User Configuration	Through Web-GUI, possible change IP

Wireless HDMI Extender

H/W Spec.	802.11n, 5GHz, 2T2R
Booting Time	38~40s
Speed of Change Resolution	8s
Transmission Distance	up to 426ft/130m at 1080P
External Power Supply	100V~240V AC, 50/60Hz or 5VDC 1A
Power Consumption	Tx: 5V 580mA=2.9W Rx: 5V 540mA=2.7W
Product Temperature	Rx: 37°C, Tx:49°C
Operation Temperature	-10°C ~ +55°C
Storage Temperature	-25°C ~ +70°C
Relative Humidity	10% ~ 90%
Dimension (W*H*D)	87.0mm(W) x 24.5mm(H) x 64.0mm(D)
Net Weight	Tx/Rx: 225g

3. Panel Description

3.1 Transmitter (Tx)

- ① **IN:** Type-A HDMI port to connect HDMI source device.
- ② **DCJACK:** DC jack for external AC power supply 110V ~ 220V,50/60HZ
- ③ **DC5V:** Micro-USB port for external 5V DC power supply
- ④ **Power LED:** The LED illuminates red when power is applied.
- ⑤ **LINK LED:** The LED blinks green when the transmitter is successfully connected to the receiver.



3.2 Receiver (Rx)

- ① **OUT:** Type-A HDMI port to connect HDMI display device.
- ② **DCJACK:** DC jack for external AC power supply 110V ~ 220V,50/60HZ
- ③ **DC5V:** Micro-USB port for external 5V DC power supply
- ④ **Power LED:** The LED illuminates red when power is applied.
- ⑤ **LINK LED:** The LED blinks green when the receiver is successfully connected to the transmitter.

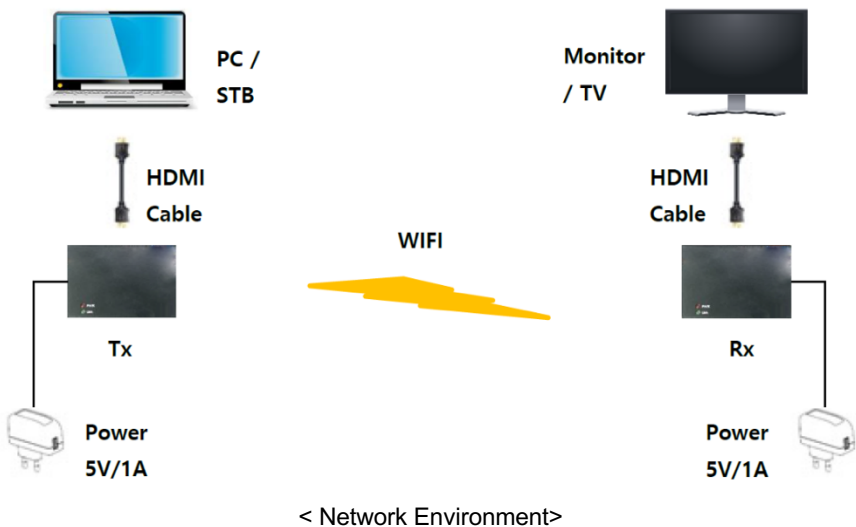


4. System Connection

Usage Precautions

- Make sure all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets, and power cords should be insulated and safe.
- All devices should be connected before power on.

The following diagram illustrates typical input and output connection that can be utilized with the extender:



The extender is connected by wireless LAN as < Network Environment >.

The main process of the connection between the Tx and Rx is as follows:

- 1) Please connect the Tx (Transmitter) to the HDMI output of video source such as PC, Set Top Box and etc.
- 2) Please connect the Rx (Receiver) to HDMI monitor or TV.
- 3) The Tx and the Rx are directly connected through the wireless network.
- 4) The red power LED of the device is on, if the power is set to the device.
- 5) The green link LED is blinking after the connection is established.

Wireless HDMI Extender

<Table 1 Hardware Ports>

Hardware Ports	Transmitter (Tx)	Receiver (Rx)	
HDMI connector	Input	Output	Video / Audio Data
WIFI (Antenna)	2T2R	2T2R	IEEE 802.11 abgn
Micro-B type USB (OTG USB)	Power Charge	Power Charge	Only for power charge, not for KBD/Mouse/Storage
DC Jack	5V 1A	5V 1A	Tx – 2.95W (typical) Rx – 2.40W (typical)

5. Default System Configuration

The extender has the default system configuration value by the Factory Reset.

<Table 2 Default Configuration Value>

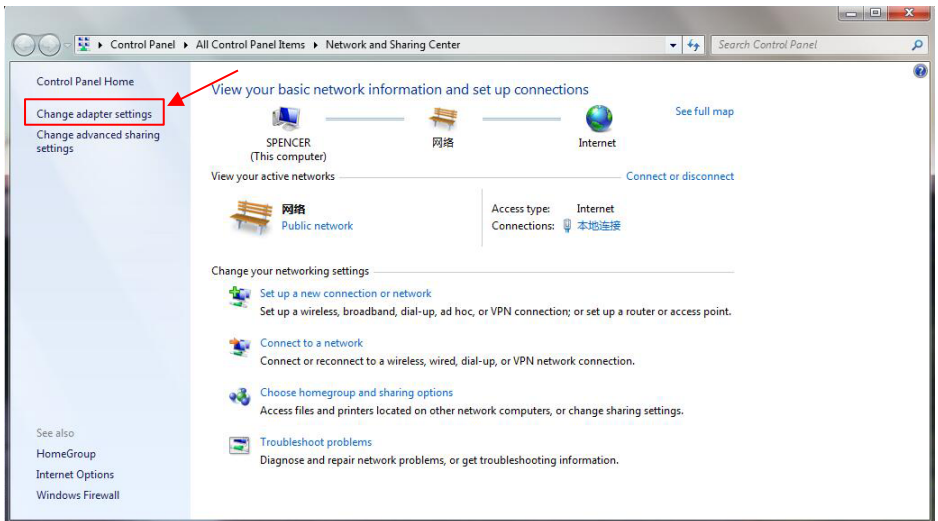
Contents	Transmitter (Tx)	Receiver (Rx)
QIM Mode	Tx	Rx
Start Mode	AP	Station(Client)
Local IP Address	20.20.20.1	Station(Client)
Local Net Mask	255.255.255.0	255.255.255.0
SSID	QDM-3000	QDM-3000
Radio Channel	44ch (5.22GHz)	44ch (5.22GHz)

6. System Configuration

6.1 Preparation to connect to Web Server

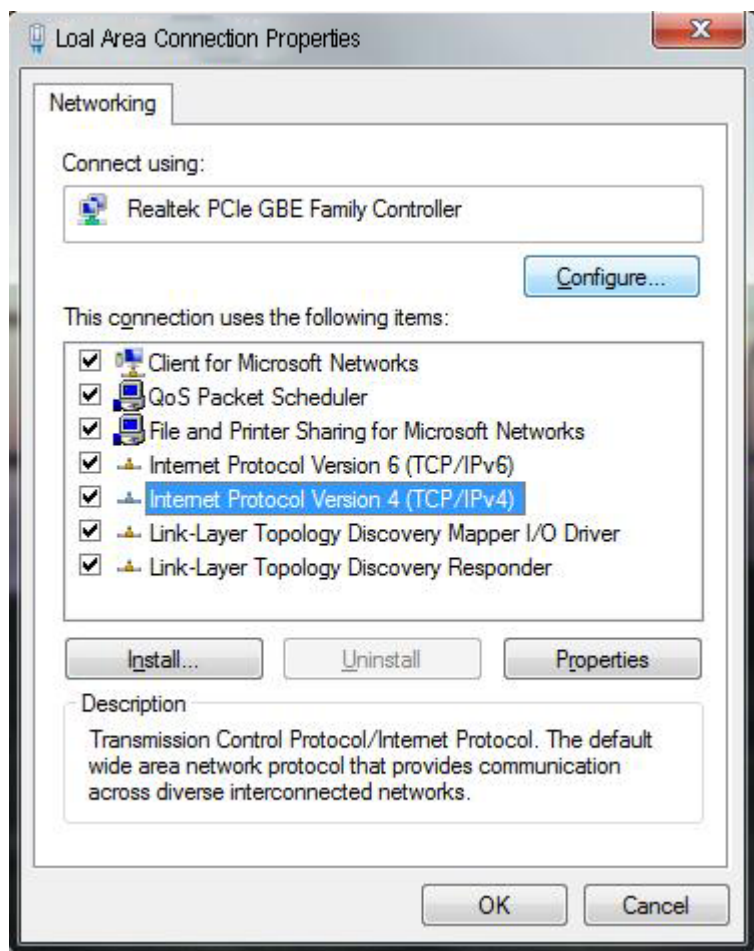
Step 1. In order to configure the Tx and Rx, use a PC with wireless LAN function.

Please use PC static IP to connect the web server. Go to "Control Panel -> All Control Panel Items -> Network and Sharing Center -> Change adapter settings" (Microsoft Windows version) to set the Static IP of the PC.



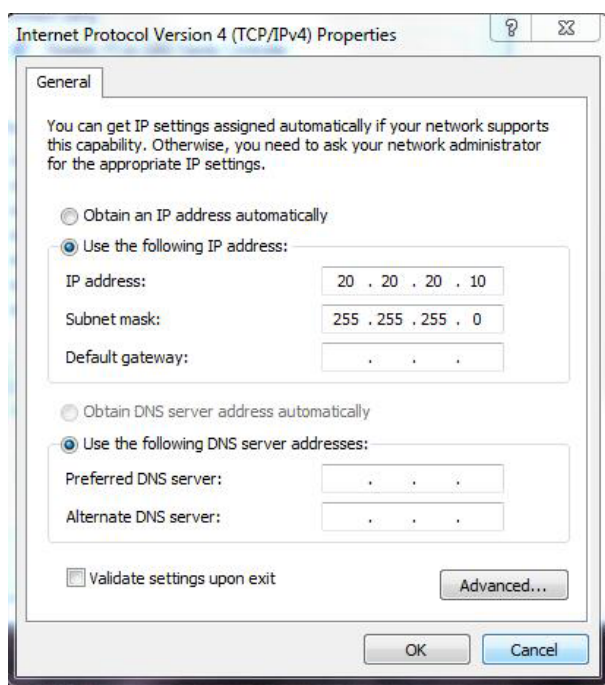
Wireless HDMI Extender

And then, click the properties of the Wireless Network in the “Network Connection” page. Open “Internet Protocol Version 4 (TCP/IPv4)” on the tap of the Networking, and then click the “Properties”.



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Set the IP address and Subnet mask as the following figure.

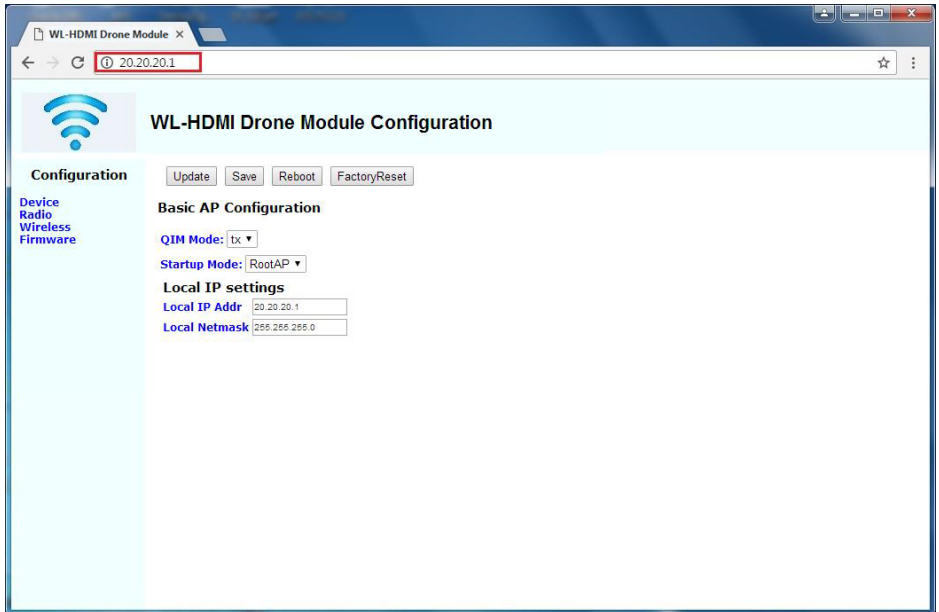


Please check if the wireless network is connected to Tx SSID, "QDM-3000".



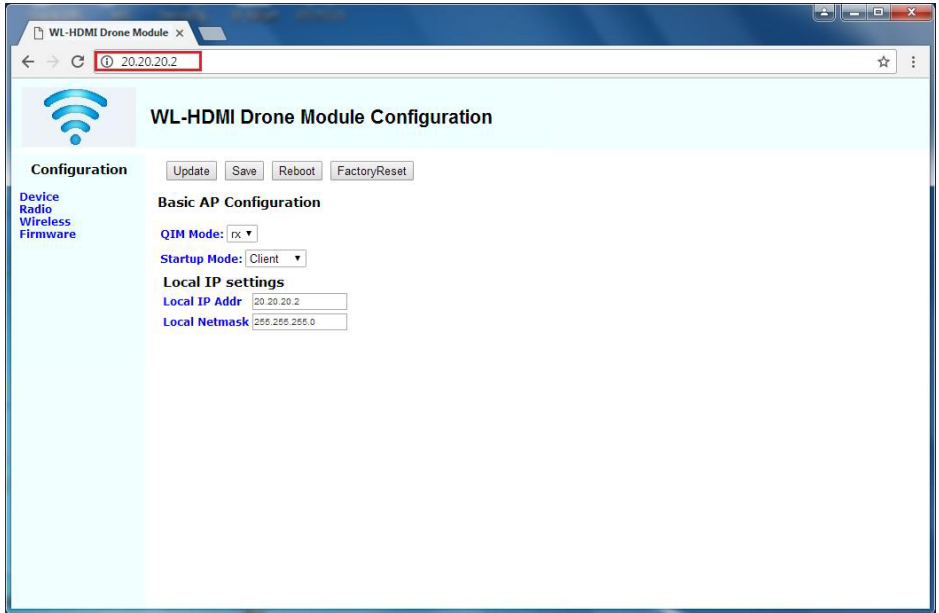
Wireless HDMI Extender

After the network setting of the PC, please power on the Tx and Rx. After pairing the both of the devices, please type "20.20.20.1" in the web browser to configure the web servers to configure Tx.



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Please type “20.20.20.2” in the web browser to configure the web servers to configure Rx.

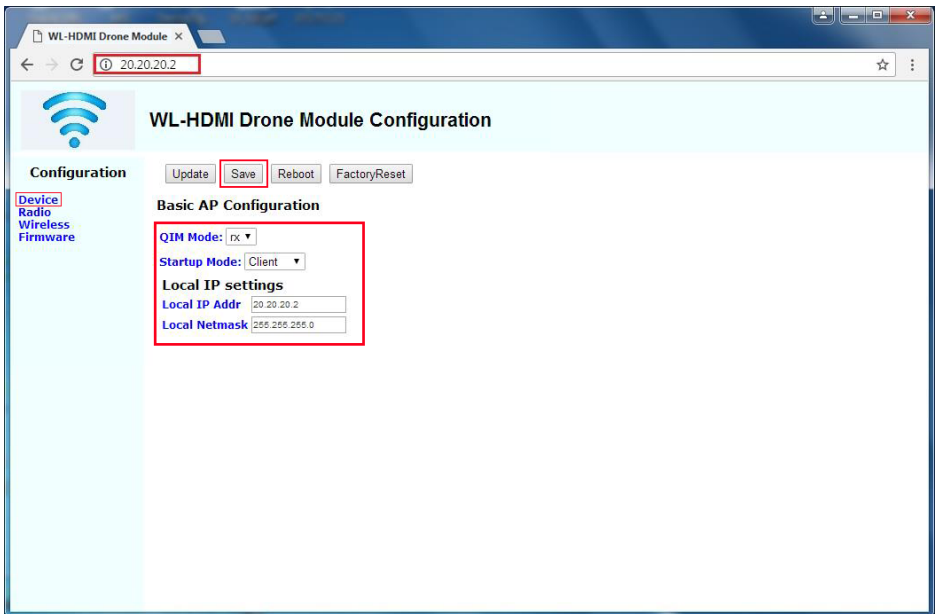


※ **Attention:** The basic connection of the web server is through the RootAP. To connect the client web server with a browser, the RootAP should be alive and paired with the client. They show that Startup Mode are RootAP and Client. If you change the SSID in the RootAP, the PC has to connect to the SSID's AP that has changed, not the QDM-3000's AP.

6.2 Configuration Rx

- 1) The Tx and Rx should be connected properly. On the “20.20.20.2” page, please select the “Device tap” on the left, and configure as below:
 - A. QIM Mode : rx
 - B. Startup Mode : Client
 - C. Local IP Addr : 20.20.20.2 (for example)
 - D. Local Netmask : 255.255.255.0

Click the “Save” button after all configuration.



Wireless HDMI Extender

- 2) Please select "Wireless" tap on the left to configure SSID name. To be aware of both of the Tx and Rx should connect to the same SSID.

WL-HDMI Drone Module Configuration

Configuration:

Device
Radio
Wireless
Firmware

Wireless Configuration

ESSID String:

Security Settings

☒ **Open** No Security Applied

☐ **WEP** Simple WEP Security (64 or 128 bit hardware key)

MODE: ☐ Open ☐ Shared ☒ Auto

Key 1: Primary Key

Key 2: Primary Key

Key 3: Primary Key

Key 4: Primary Key

☐ **WPA** Enhanced Security for Personal/Enterprise

MODE: ☐ 802.1x ☒ WPA ☐ WPA 2 ☐ Auto

CYIPHER: ☐ TKIP ☒ CCMP ☐ Auto

WPA Rekey Int: WPA Haster Rekey:

WEP Rekey Int: (802.1x mode Only)

☒ **Personal Shared Key**

PSK KEY:

Wireless HDMI Extender

- 3) Please click the "Save" button after the configuration of the wireless part. Subsequently, click the "Reboot" button to restart the Tx and Rx, and they will be automatically paired and connected automatically.

WL-HDMI Drone Module Configuration

Configuration

Update Save **Reboot**

Wireless Configuration

ESSID String COM-3000

Security Settings

☒ Open No Security Applied

☐ WEP Simple WEP Security (64 or 128 bit hardware key)

MODE: ☐ Open ☐ Shared ☐ Auto

Key 1 Primary Key

Key 2 Primary Key

Key 3 Primary Key

Key 4 Primary Key

☐ WPA Enhanced Security for Personal/Enterprise

MODE: ☐ 802.1x ☐ WPA ☐ WPA 2 ☐ Auto

CYPHER: ☐ TKIP ☐ CCMP ☐ Auto

WPA Rekey Int: WPA Haster Rekey:

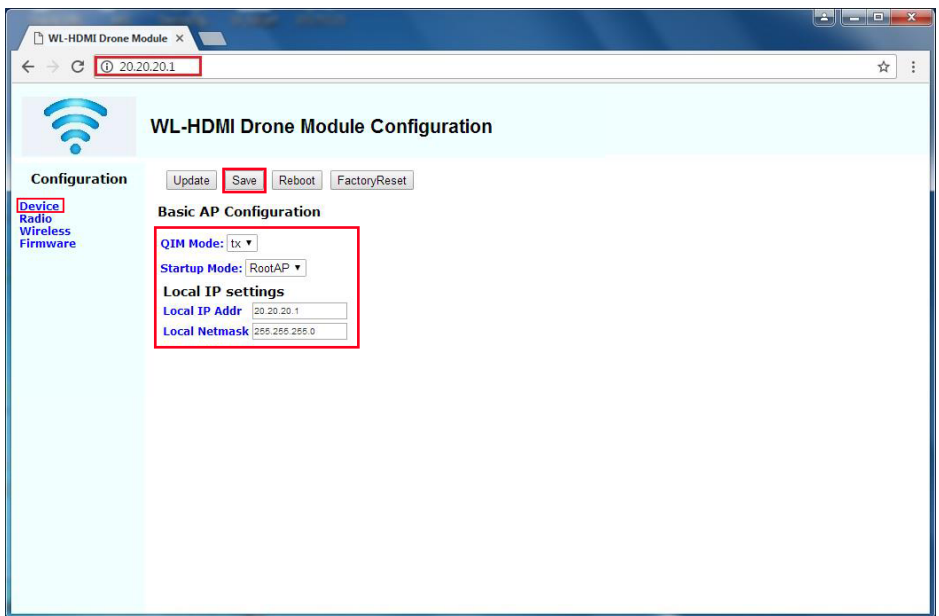
WEP Rekey Int: (802.1x mode Only)

☒ Personal Shared Key

PSK KEY

6.3 Configuration Tx

- 1) The Tx and Rx should be connected properly. On the “20.20.20.1” page, please select the “Device tap” on the left, and configure as below:
 - A. QIM Mode : tx
 - B. Startup Mode : RootAP
 - C. Local IP Addr : 20.20.20.1 (for example)
 - D. Local Netmask : 255.255.255.0



- 2) To configure SSID, select “Wireless” tap, and then set a SSID, for example, “QDM-3000”. The Tx and Rx are connected through this SSID network. The pair of the devices should be the same SSID network. After the configuration, click the “Save” button and click the “Reboot” button to restart the extender as the settings of Rx.

7. Troubleshooting & Maintenance

Problems	Potential Causes	Solutions
Color losing or no video signal output on the HDMI display.	The cables may be not connected correctly or maybe is broken.	Check the cables are properly connected and in the working condition.
No HDMI signal output in the device while local HDMI input is in normal working status.		
Output image with white noise.		
POWER indicator doesn't work or no respond to any operation.	Loose or failed power cord connection.	Double check the power cord connection.

Note: *If your problem still remaining after following the above troubleshooting steps, please contact your local dealer or distributor for further assistance.*

8. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. These terms and conditions may be changed without prior notice.

1) Warranty

The limited warranty period of the product is fixed three years.

2) Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

3) Warranty Exclusion

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
 - ✓ Normal wear and tear.
 - ✓ Use of supplies or parts not meeting our specifications.
 - ✓ No certificate or invoice as the proof of warranty.
 - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
 - ✓ Damage caused by force majeure.
 - ✓ Servicing not authorized by distributor.
 - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

4) Documentation

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defect has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

Remarks: Please contact your local distributor for further assistance or solutions.