

# Home WiFi Customization

Residential Tier 1 Agents

Reference Guide

## Tier 1: Home WiFi Customization Reference Guide Revisions

**Note:** Most recent revision at the top

Revision Date	Effective Date	Author	Approval	What Changed
4/13/2015	4/13/2015	A. Garcia		Added new GUI
1/17/2015	1/17/2015	A. Garcia		Document Created

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## Goal

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To help limit the amount of calls you will have to transfer to an advanced technical group for basic customization of a wireless network and provide a better customer experience.

## Objectives

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Upon completion of this module, you will be able to:

- Explain the best encryption type to use depending on the customer's set up
- Explain Pre-Shared key restrictions
- Walk a customer through logging into their gateway
- Identify where to change a customer's SSID, KEY, and Channel on different gateway types

## Why Customize?

Customers want to have the ability to make their services custom tailored to their likes and needs. We still want to explain the benefits of using the default wireless log in information. If the customer insists on customizing their wireless information we can support them in doing this.

## What do I need to know about customizing?

There are a couple of things to keep in mind revolving around the types of encryptions (password types) that are available and other wireless settings.

- **Encryption** – Our newer gateways come set to WPA2-PSK set by default, although most devices are compatible with this you may still have to change it for the best type of connection.
  - **WPA-PSK** – Seems to work better with Apple products (ipods, ipads, iphones, etc.), and some Nintendo gaming systems.
  - **WPA2-PSK** – Seems to work better with Windows PCs, Android devices, and just about everything else.
  - **WPA/WPA2-PSK** – Works best when the customer has a mix of products.
    - **Note:** To accomplish this set up on some gateways you will manually have to enable both WPA-PSK, and WPA2-PSK.
  - **WEP 64-bit** – This is an older type of encryption; even though it is still an available option in our gateways it is not recommended.
    - It is not supported by Wireless N, meaning we would have to change the gateway to Wireless G/B. If this is done a customer's wireless speed would cap around 20Mbps.
- **Algorithm** – Sometimes labeled encryption as well.
  - Your options will be **TKIP**, **AES**, or both **TKIP/AES**. You will want to stick to the combo (**TKIP/AES**) as it will be universal.
- **Wireless SSID** – Name of the network.
  - This can be just about anything the customer wants; we would just want to recommend that it is not personally identifiable information (like any ones name, or address).
- **Pre-Shared Key** – Network password restrictions.
  - **WPA-PSK or WPA2-PSK** – Must be **at least 8 characters** long. Can be made up of letters (A–Z), numbers (0–9), and special characters (!@#\$.). Case sensitive.
  - **WEP 64-bit** – Must be **exactly 10 characters** long. Can be made up of letters (A – F), and numbers (0 – 9). Case sensitive.
- **Wireless Channel** – By default wireless channels are set to channels 1, 11, or auto. If there are interference issues because of other wireless networks, change it. You may have to go through multiple channels to find the best one.
  - Changing the wireless channel takes effect immediately after clicking apply, and typically will not drop the connection unless you chose a channel that happens to be more congested than the last.

## What do I need to get started?

The customer needs to be connected to their gateway in order to access their gateway's wireless settings. This can be accomplished wirelessly or with a direct connection (using an Ethernet cable).

**Note:** The customer does not need to be online to access their gateway settings.

## How do I get the customer in?

1. Once the customer is connected to their gateway (wired or wireless) the customer will first need to **open a browser** (webpage).
2. Once the webpage is open, have the customer click into the **address bar** (not a **search bar**), type in **192.168.0.1** (alternate address: 192.168.1.1), and press enter.



3. The customer should be taken to a log in page for their gateway. The customer will then have to **log in using the admin info** for their specific type of gateway.

**Examples Below:**

Gateway	Admin User Name	Admin Password
<a href="#">Arris TG862G/DG860A Gateways</a>	admin	password
<a href="#">Arris TG1672G/DG1670A Gateways</a>	admin	password
<a href="#">Netgear CDG24G</a>	admin	password
<a href="#">Motorola Gateways</a>	admin	motorola
<a href="#">SMC Residential Gateways</a>	cusadmin	password
<a href="#">Technicolor</a>	admin	password
<a href="#">Ubee Gateways</a>	user	user
<a href="#">Ubee DDW36C</a>	admin	Password printed on the manufacturer's label.

**Note:** If you click on the gateway types you will be redirected to the simulation for it (if available). Simulations are available through the [Equipment Library](#).

4. Once logged in, the customer will have to navigate to their wireless settings and adjust **SSID, Key, and Channel** as desired. Examples of where the customer will want to go below (based on type of gateway):

## What will the customer see?

You will see the common gateways we currently use. The sections will be explained for the Arris, refer to this initial gateway for breakdowns of each customizable option.

### Arris:

#### TG862G/DG860A

Once inside an Arris gateway you will begin in the Basic Set up section. You can change your SSID, Key, and channel from here!



Once inside the Basic Setup section have the customer customize as desired.

#### Basic Setup

Host Name	ARRISGW	?
Enable Wireless	<input checked="" type="checkbox"/>	?
Wireless Network Name (SSID)	TWC-Test	?
Broadcast Network Name (SSID)	<input checked="" type="checkbox"/>	?
User Name	technician	?
Tx Power Level	High	?
Channel	Auto	?
Language	English	?
Security Mode	WPA/WPA2-PSK	?

This is where the customer can customize the **wireless network name**

This is where the customer can customize the **wireless channel** for interference issues.

This is where the customer can customize the **Encryption Type**


#### Security Settings(WPA/WPA2 PSK)

Encryption Algorithm	TKIP/AES	?
Pre-Shared Key	TWCTest1234	?

We want to set this to TKIP/AES

This is where the customer can customize the **wireless password**

#### WPS Settings

WPS Enable	<input checked="" type="checkbox"/>	?
Device PIN Code	77333834	?
Encryption Mode	PBC	?
Enrollee PIN Code		?
		
Start WPS Association		

Apply

Once the desired changes have been made click the apply button to implement the changes.  
**Note:** If changes are made while connected wirelessly, the customer will be disconnected immediately after pressing this button (unless the channel is the only thing being changed). They just have to find/connect to the new network.



## TG1672G/DG1670A

Once inside an Arris gateway you will begin in the Basic Set up section. You can change your SSIDs, and KEYs for both 2.4 GHz and 5 GHz.

**Note:** To change the channel or encryption go to the specific 2.4/5 GHz section.

Basic Setup	WAN Setup	LAN Setup	Wireless 2.4 GHz	Wireless 5 GHz	Firewall	MoCA	Utilities
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## System Basic Setup

While your system has many configuration options, the options on this Basic Setup page are those required by most users. Click the tabs to access the other configuration pages to set advanced options. Hover the mouse pointer over the question mark icon next to an option to view a description of that option. For changes to take effect, you must click the Apply button.

### Basic Setup

Language	English	?
Host Name	ARRISGW	?
Routing Enabled	<input checked="" type="checkbox"/>	?
<a href="#">More LAN Settings...</a>		


### Wireless 2.4 GHz

Enable Wireless	<input checked="" type="checkbox"/>	?
Wireless Network Name (SSID)	TG1672GF2	?
Pre-Shared Key	TG1672GD619F2	?
<a href="#">More Wireless Settings...</a>		

### Wireless 5 GHz

Enable Wireless	<input checked="" type="checkbox"/>	?
Wireless Network Name (SSID)	TG1672GF2-5G	?
Pre-Shared Key	TG1672GD619F2	?
<a href="#">More Wireless Settings...</a>		

### 2.4G/5G WPS Settings

WPS Enable	<input checked="" type="checkbox"/>	?
Device PIN Code	62865920	?
WPS Mode	PBC	?
Enrollee PIN Code		?
Start WPS Association		?

Apply

Basic Setup	WAN Setup	LAN Setup	Wireless 2.4 GHz	Wireless 5 GHz	Firewall	MoCA	Utilities
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## System Basic Setup

While your system has many configuration options, the options on this Basic Setup page are those required by most users. Click the tabs to access the other configuration pages to set advanced options. Hover the mouse pointer over the question mark icon next to an option to view a description of that option. For changes to take effect, you must click the Apply button.

### Wireless

SSID  ?

### Basic Setup

Enable Wireless ☒ ?

Wireless Network Name (SSID)  ?

Broadcast Network Name (SSID) ☒ ?

Tx Power Level  ?

Channel  ?

AP Isolation ☐ ?

Enable WMM ☒ ?

Security Mode  ?

Pre-Shared Key  ?

## Motorola (Old GUI):

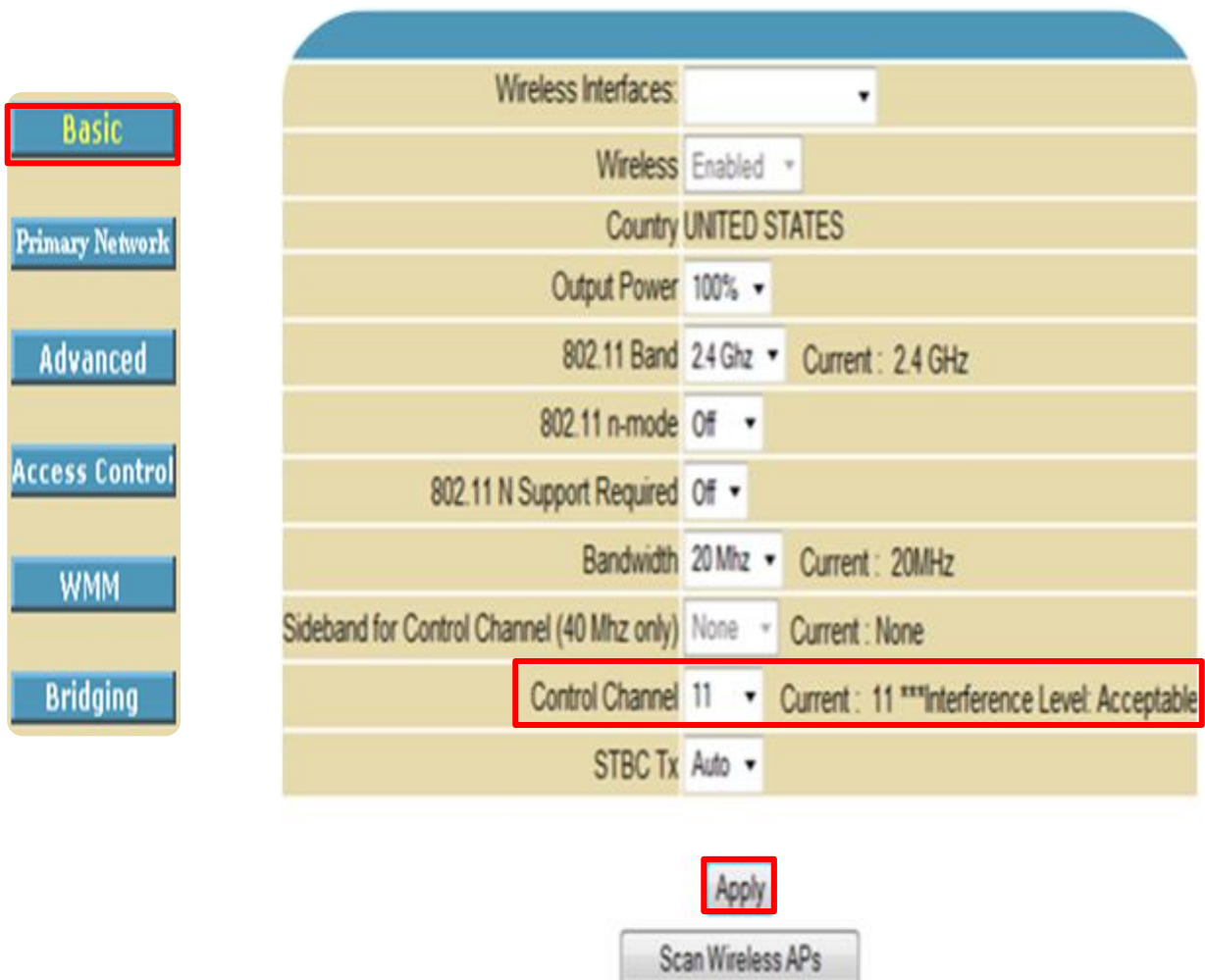
Once inside a Motorola you will have to click on the Wireless option on the Top Menu.



Motorolas will have 2 Menus on the left you will potentially use depending on whether you are trying to change the wireless channel or the SSID and Key.

Menu 1: **Basic** – This is where you can change the wireless channel.

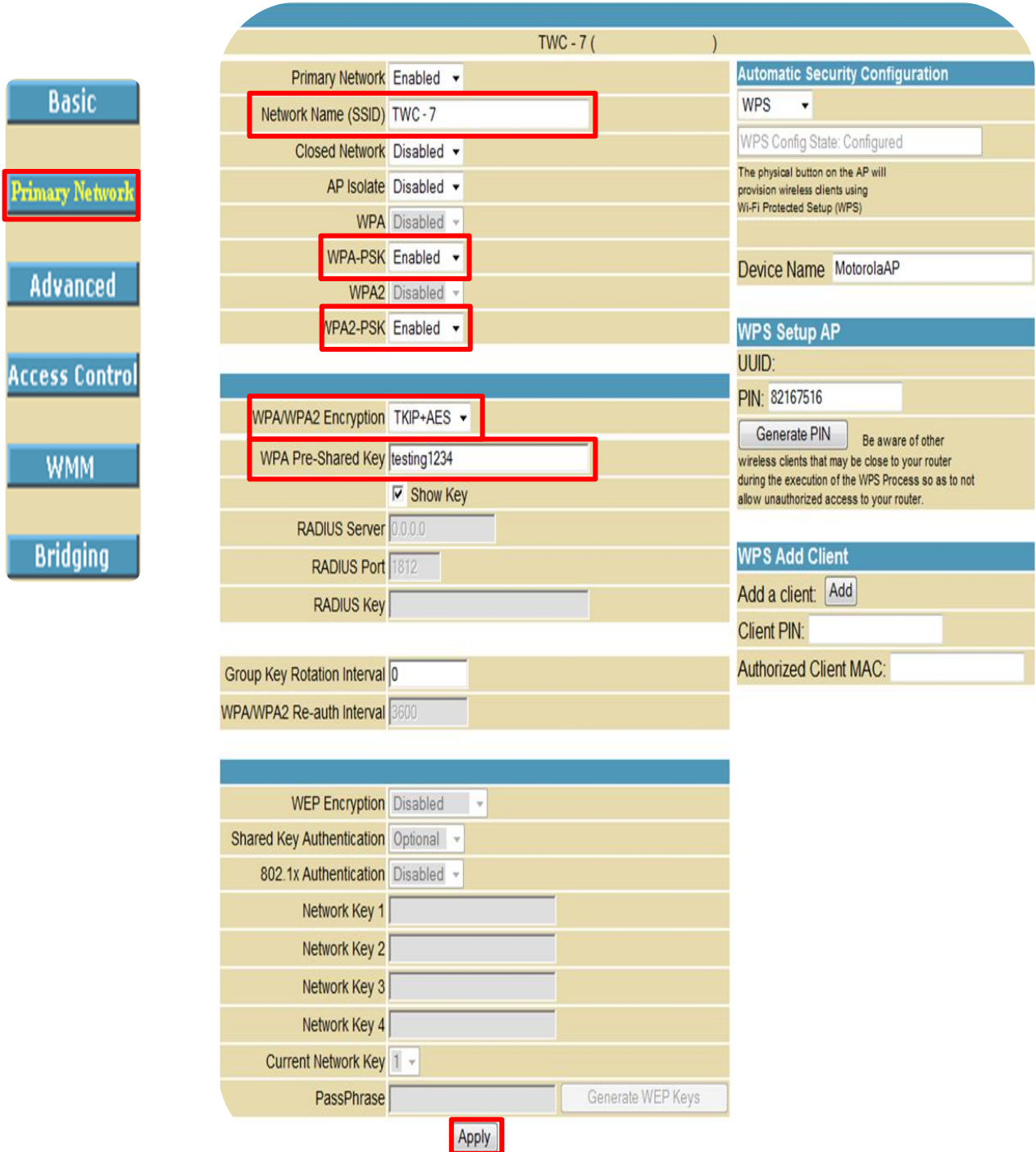
**Note:** If you only change the wireless channel it should take effect immediately after pressing apply and should not disconnect the customer (unless the interference is worse on the channel they change to).


 A screenshot of the Motorola GUI showing the 'Basic' wireless configuration page. On the left is a vertical sidebar with buttons: Basic (highlighted in red), Primary Network, Advanced, Access Control, WMM, and Bridging. The main area contains a list of wireless settings:
 

Wireless Interfaces:	<input type="text"/>	
Wireless	Enabled	
Country	UNITED STATES	
Output Power	100%	
802.11 Band	24 Ghz	Current : 2.4 GHz
802.11 n-mode	Off	
802.11 N Support Required	Off	
Bandwidth	20 Mhz	Current : 20MHz
Sideband for Control Channel (40 Mhz only)	None	Current : None
Control Channel	11	Current : 11 ***Interference Level: Acceptable
STBC Tx	Auto	

 At the bottom of the page, there is an 'Apply' button (highlighted in red) and a 'Scan Wireless APs' button.

Menu 2: **Primary Network** – This is where you can change the SSID (wireless name), Key, Encryption Type, and Algorithm.



**Basic**

**Primary Network**

**Advanced**

**Access Control**

**WMM**

**Bridging**

TWC - 7 ( )

Primary Network: Enabled

Network Name (SSID): TWC - 7

Closed Network: Disabled

AP Isolate: Disabled

WPA: Disabled

WPA-PSK: Enabled

WPA2: Disabled

WPA2-PSK: Enabled

WPA/WPA2 Encryption: TKIP+AES

WPA Pre-Shared Key: testing1234

☒ Show Key

RADIUS Server: 0.0.0.0

RADIUS Port: 1812

RADIUS Key:

Group Key Rotation Interval: 0

WPA/WPA2 Re-auth Interval: 3600

WEP Encryption: Disabled

Shared Key Authentication: Optional

802.1x Authentication: Disabled

Network Key 1:

Network Key 2:

Network Key 3:

Network Key 4:

Current Network Key: 1

PassPhrase:

Generate WEP Keys

**Automatic Security Configuration**

WPS:

WPS Config State: Configured

The physical button on the AP will provision wireless clients using Wi-Fi Protected Setup (WPS)

Device Name: MotorolaAP

**WPS Setup AP**

UUID:

PIN: 82167516

Generate PIN

Be aware of other wireless clients that may be close to your router during the execution of the WPS Process so as to not allow unauthorized access to your router.

**WPS Add Client**

Add a client: Add

Client PIN:

Authorized Client MAC:

Apply

## Motorola (New GUI):

Once inside a Motorola you will have to click on the Wireless option on the Top Menu.



Motorolas will have 2 menus from the drop down you will potentially use depending on whether you are trying to change the wireless channel or the SSID/Key.

Menu 1: **Basic** – This is where you can change the wireless channel.

**Note:** If you only change the wireless channel it should take effect immediately after pressing apply and should not disconnect the customer (unless the interference is worse on the channel they change to).

## Wireless - 802.11 Radio

Configure the SBG6580's Wi-Fi radio.

Wi-Fi Radio Settings	
Wireless Radio Enable	Enabled ▼
Output Power	100% ▼ <a href="#">▶ Help</a>
Band Selection	<input checked="" type="radio"/> 2.4 GHz <input type="radio"/> 5 GHz Current Band: 2.4 GHz
802.11 Mode	b/g/n mode ▼ <a href="#">▶ Help</a>
Bandwidth	20 Mhz ▼ Current Bandwidth: 20MHz <a href="#">▶ Help</a>
Channel	11 ▼ Current Channel: 11 ***Interference Level: Acceptable
<div style="border: 1px solid red; padding: 2px;">Apply</div>	
<div style="border: 1px solid gray; padding: 2px;">Scan Wireless APs</div>	

Menu 2: **Primary Network Settings** – This is where you can change the SSID (wireless name), Key, Encryption Type, and Algorithm.

## Wireless - Primary Network Settings

Configure your wireless network. You can use a wireless local area network (WLAN) to share Internet access, files, printers, game consoles, and other devices among all the devices in your home.

Wi-Fi Network		
20:10:7A:50:08:19		
Wireless Network	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	<a href="#">Help</a>
Network Name (SSID)	<input type="text" value="Tier 3 Test"/>	<a href="#">Help</a>
Network Name (SSID) Broadcast	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	<a href="#">Help</a>
Wireless Security	<input type="text" value="WPA2-PSK + WPA-PSK"/>	<a href="#">Help</a>
WPA-PSK+WPA2-PSK Security Settings		
Encryption	<input type="radio"/> TKIP <input type="radio"/> AES <input checked="" type="radio"/> AES+TKIP	<a href="#">Help</a>
Passphrase	<input type="text" value="testing1234"/>	<a href="#">Help</a>
Wi-Fi Protected Setup (WPS) Automatic Security Configuration		
WPS	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	<a href="#">Help</a>
WPS Add Client (Push Button Method)	Press the button on the SBG6580 to start WPS pairing. <a href="#">Help</a>	
WPS Add Client (Gateway PIN Method)	<input type="text" value="12345678"/> <input type="button" value="Generate PIN"/>	<a href="#">Help</a>
WPS Add Client (Client PIN Method)	<input type="text"/> <input type="button" value="Add"/>	<a href="#">Help</a>
<input checked="" type="button" value="Apply"/> <input type="button" value="Cancel"/>		

## Ubee:

Once inside a Ubee you will have to click on the Wireless option on the Top Menu.



Ubees will have 2 Menus on the left you will potentially use depending on whether you are trying to change the wireless channel or the SSID and Key.

Menu 1: **Radio** – This is where you can change the wireless channel.

Note: If you only change the wireless channel it should take effect immediately after pressing apply and should not disconnect the customer (unless the interference is worse on the channel they change to).

Radio

Primary Network

Advanced

Access Control

WMM

Bridging

Radio

HOME > Wireless > Radio

Wireless Interfaces: DDW365C9  
Wireless Enabled  
Country Q1  
Output Power 100%  
802.11 Band 2.4 Ghz Current : 2.4 GHz  
802.11 n-mode Auto  
802.11 N Support Required Off  
Bandwidth 20 Mhz Current : 20MHz  
Sideband for Control Channel (40 Mhz only) None  
Control Channel Auto Current : 6 \*\*\*Interference Level: Acceptable  
Regulatory Mode Off  
TPC Mitigation (db) 0 (Off)  
OBSS Coexistence 1 (Enabled)  
STBC Tx Auto  

Apply

Restore Wireless Defaults

Scan Wireless APs



Menu 2: **Primary Network** – This is where you can change the SSID (wireless name), Key, Encryption Type, and Algorithm.

Radio  
**Primary Network**  
Advanced  
Access Control  
WMM  
Bridging

DDW365C9 (3C:77:E6:55:0A:A2)  
Primary Network Disabled  
Network Name (SSID) DDW365C9  
Closed Network Disabled  
AP Isolate Disabled  
WPA Disabled  
WPA-PSK Disabled  
WPA2 Disabled  
WPA2-PSK Enabled  
WPA/WPA2 Encryption AES  
WPA Pre-Shared Key DDW3659D86C9  
Key ☒ Show Key  
RADIUS Server 0.0.0.0  
RADIUS Port 1812  
RADIUS Key  
Group Key Rotation Interval 0  
WPA/WPA2 Re-auth Interval 3600  
WEP Encryption Disabled  
Shared Key Authentication Optional  
802.1x Authentication Disabled  
Network Key 1  
Network Key 2  
Network Key 3  
Network Key 4  
Current Network Key 1  
PassPhrase  
Generate WEP Keys  
Apply

### Automatic Security Configuration

WPS  
WPS Config State: Configured  
The physical button on the AP will provision wireless clients using Wi-Fi Protected Setup (WPS)  
Device Name UbeeAP  

### WPS Setup AP

UUID: 377e4b48b5ebda3dbfd935576c363ae3  
PIN: 45251955 Generate AP PIN  

### WPS Add Client

Add a client: Add  
Client PIN:  
Authorized Client MAC:



## Technicolor:

Once inside a Technicolor go to Connection from the side menu, then select Wi-Fi. Select the network you wish to edit the SSID, Encryption, and Key for and click the Edit button to the right of it. If you want to change the channel then scroll down to the Basic Settings for that connection.

- ▼ Gateway
- At a Glance
- Email Notification
- ▼ Connection
- Status
- WAN Network
- Local IP Network
- Wi-Fi**
- MoCA

### Private WiFi Network

Name	Frequency Band	MAC Address	Security Mode	
Testing	2.4 GHz	CC:03:FA:91:46:27	WEP 128	<a href="#">Edit</a>
Testing - 5G	5 GHz	CC:03:FA:91:46:28	WPA2-PSK (AES)	<a href="#">Edit</a>

### Private WiFi Network Configuration (2.4 GHz)

Wireless Network: Enabled Disabled

Network Name for 2.4 GHz(SSID):

Security Mode: WPAWPA2-PSK (TKIP/AES) (recommended)

Network Password:

WPA2 requires a 8-63 ASCII character.

Broadcast Network Name (SSID): ☒ Enabled

Enable WMM: ☒

[Save Settings](#) [Restore Default Settings](#)

### 2.4GHz WiFi Basic Setting

Mode: 802.11 b/g/n

Transmit Power: 100%

Channel Selection: ☐ Automatic ☒ Manual

Channel: 6

Channel Bandwidth: ☐ 20 ☒ 20/40

[Save Basic Settings](#)