Configure and validate radio channel and bandwidth

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Configuring Operating Channel from CLI

To configure operating channel, use the following CLI commands:

1. Configure the wireless device with radio interface number < 1 or 2 >

   ```
   Device# configure dot11Radio <interface>
   ```

2. Set the operating channel id and the valid range is from 1 to 256

   ```
   Device# configure dot11Radio <interface> channel <channel id>
   ```

3. To end the current configuration, use the following CLI command:

   ```
   Device (configure dot11Radio <interface> channel <channel id>)# end
   ```

   Example:

   ```
   Device# configure dot11Radio [1|2] channel <1 to 256>
   ```

Configure channel bandwidth from CLI

1. Configure the wireless device with radio interface number <1 or 2>.

   ```
   Device#configure dot11Radio <interface>
   ```

2. Set channel bandwidth in MHz.
   - Radio 1 supports 20, 40, and 80 MHz bandwidths.
   - Radio 2 supports 20, 40, 80, and 160 MHz bandwidths.

```
Device#configure dot11Radio [1|2] band-width [20|40|80|160]
```

3. Returns to privileged EXEC mode.

```
Device (configure dot11Radio [1|2] band-width [20|40|80|160])#end
```

Validating operating channel and bandwidth from CLI

To validate radio channel and bandwidth, use the following show command:

```
Device# show dot11Radio <interface> config
```

Example:

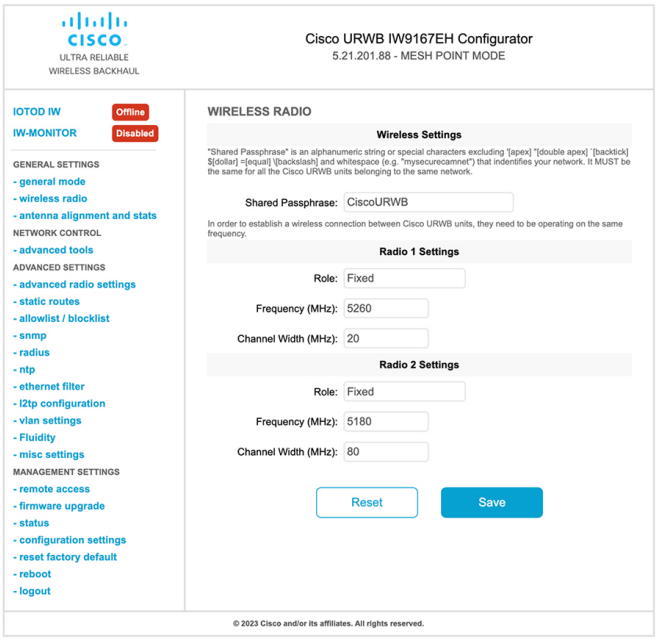
```
Device# show dot11Radio 1 config
Interface : enabled
Mode : fluidmax secondary
Frequency : 5180 MHz
Channel : 36
Channel width : 40 MHz
```

```
Device# show dot11Radio 2 config
Interface : enabled
Mode : fluidity
Frequency : 5785 MHz
Channel : 157
Channel width : 40 MHz
```

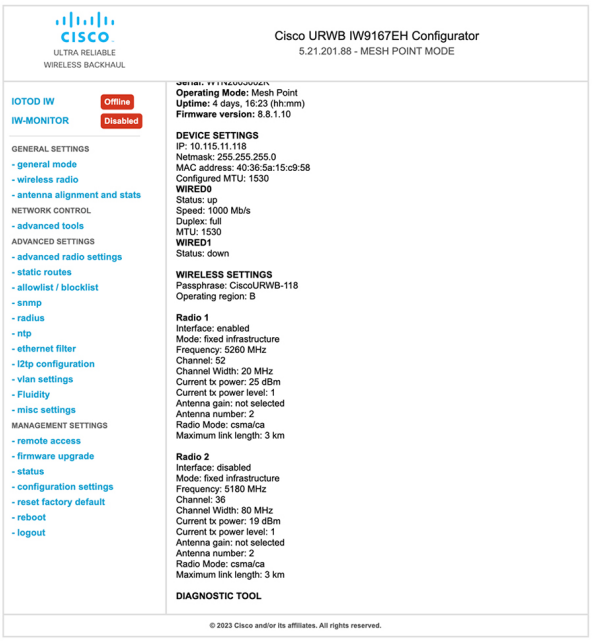
Configure radio channel and bandwidth from GUI

To configure Radio channel and bandwidth using GUI, set the operating channel ID, Radio mode as Fluidity or fixed infrastructure and set the Radio frequency range and bandwidth.

Following image shows the configuration of Radio channel and bandwidth:



Following image shows the status of Radio channel and bandwidth configuration and specific information of each wireless interface.



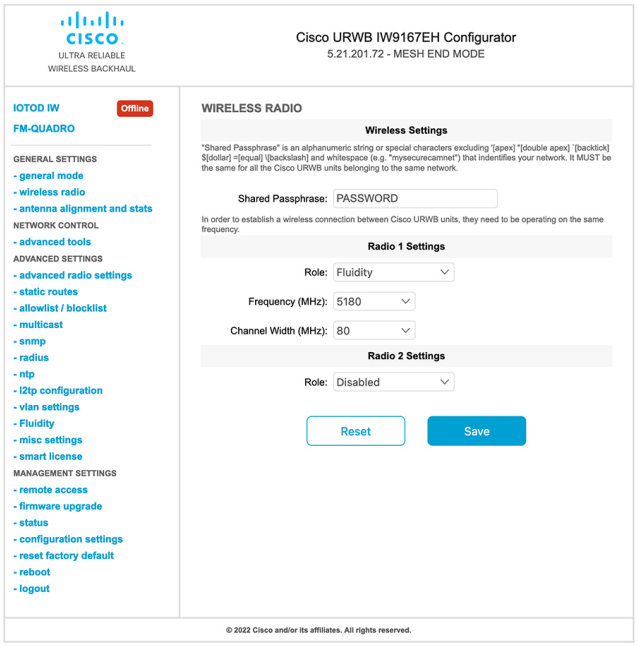
Configure Fluidity using GUI

To configure a Fluidity mode using GUI, follow these scenarios:

1. In the **GENERAL SETTINGS**, click **wireless radio**.

The **WIRELESS RADIO** window appears.

2. Choose Radio mode as **Fluidity** from the **Role** drop-down list.



Once you choose Radio role as **Fluidity**, go to **Fluidity** settings. To go to Fluidity, follow these steps:

1. In the **ADVACED SETTINGS**, click **Fluidity**.

   The **FLUIDITY** window appears.

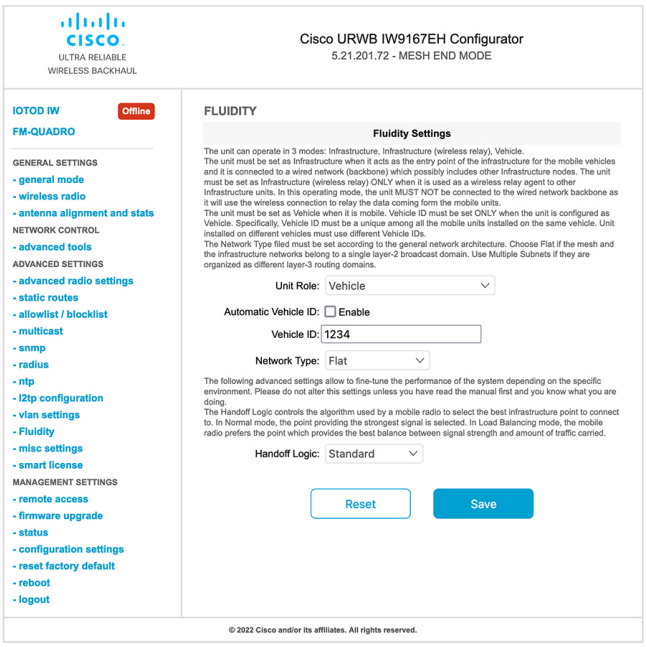
2. In the **Fluidity Settings**, choose **Unit Role** from the drop-down list. Make device role as any one of following mode:

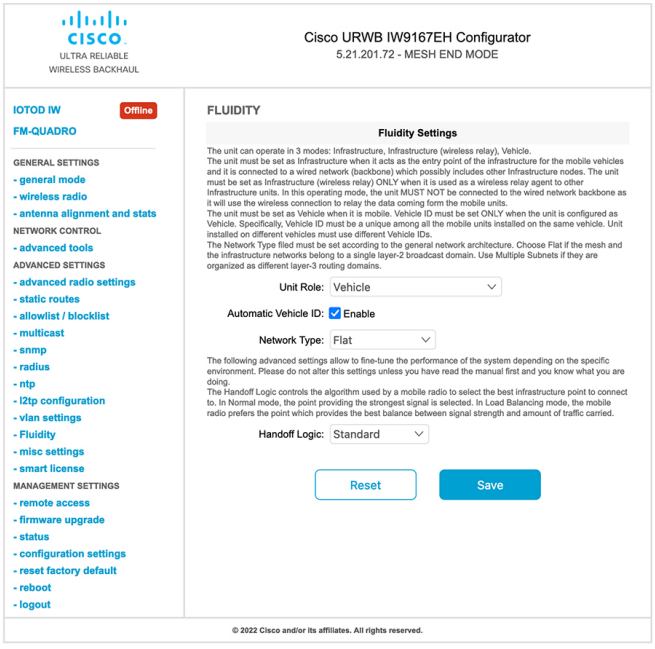
   - Infrastructure
   - Infrastructure (wireless relay)
   - Vehicle

Note

- Vehicle ID must be unique among all the mobile devices installed on the same vehicle.
- If the device installed on different vehicles must use different Vehicles IDs'.

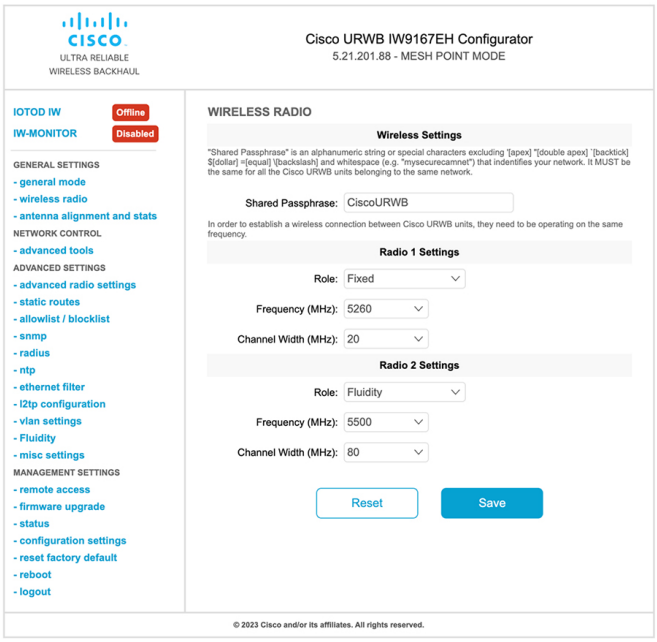
3. Check the **Automatic Vehicle ID** check box to automatically set Vehicle ID for mobile units.

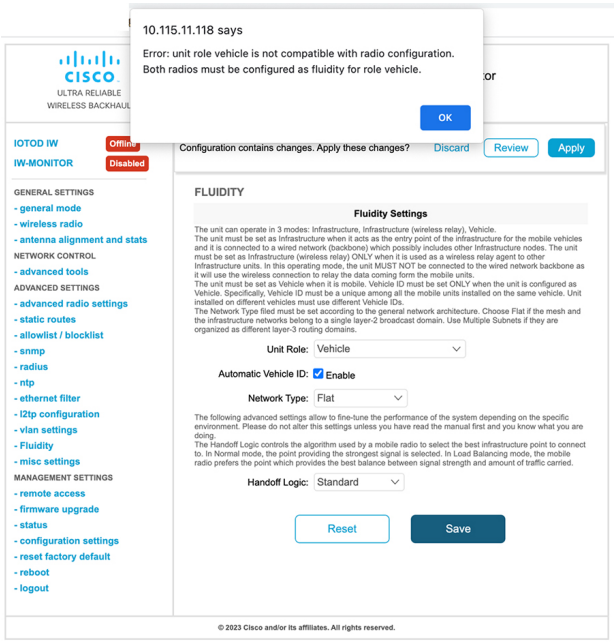




Following Fluidity configuration shows wireless interface device role configured as infrastructure mode:

The following image shows, both radios must be configured as Fluidity for role Vehicle. if one wireless interface is configured in fixed mode and the other one is configured in Fluidity mode then unit role Vehicle cannot be selected.





Configure fluidity using CLI

To enable Fluidity, use the following CLI commands:

Note At least one radio interface should be in Fluidity mode.

```
Device# configure dot11Radio <interface> mode fluidity
```

Example to enable Fluidity for radio 1:

```
configure dot11Radio 1 mode fluidity
```

If the desired Fluidity role is Vehicle both radios should be in Fluidity mode:

```
configure dot11Radio 1 mode fluidity
configure dot11Radio 2 mode fluidity
```

Configuring fluidity role using CLI

To configure Fluidity role (infra or client), use the following CLI commands:

1. Configure the Fluidity role (infrastructure or mobile).

   ```
   Device# configure fluidity id
   ```

2. Configure Fluidity id mode.

   ```
   Device# configure fluidity id {mode}
   Mode is one of the following values
   vehicle-auto - vehicle mode with automatic vehicle ID selection
   vehicle ID - (alphanumeric) vehicle mode with manual ID.
   infrastructure - infrastructure mode
   wireless-relay - wireless infrastructure with no ethernet connection to the backhaul
   ```

3. To end this configuration, use the following CLI command:

   ```
   Device (configure fluidity id {mode}) # end
   ```

   ```
   Device# wr
   ```

   Example:

   ```
   Device# configure fluidity id [vehicle-auto | infrastructure | vehicle-id |
   wireless-relay]
   ```