

Configuring and Validating High Efficiency (802.11 ax)

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Configuring and Validating High Efficiency

When High Efficiency (HE) is enabled, it is backward compatible with 802.11ac. To enable or disable 802.11ax HE, the following list is supported:

- URWB HE supports 20,40, and 80 MHz bandwidth for slot 1
- URWB HE supports 20,40,80, and 160 MHz bandwidth for slot 2
- URWB HE default setting is disabled
- HE negotiation is only supported between the devices with HE enabled

To enable HE mode, use the following CLI command:

```
Device# configure dot11Radio [1|2] high-efficiency enable
```

To configure maxmcs as 11, use the following CLI command:

```
Device# configure dot11Radio [1|2] mcs maxmcs 11 <mcs index in integer or string>
```

Note The default maxmcs is Nine.

To disable HE mode, use the following CLI command:

```
Device# configure dot11Radio [1|2] high-efficiency disable
default maxmcs is 9.
```

To validate HE mode, use the following show command:

```
Device# show dot11Radio 1 config
Maximum tx mcs : 9
High-Efficiency : Enabled
Maximum tx nss : 2
RTS Protection : disabled
guard-interval : 800ns
```

```
Device# show dot11Radio 2 config
Maximum tx mcs : 9
High-Efficiency : Enabled
Maximum tx nss : 2
RTS Protection : disabled
guard-interval : 800ns
```

```
Device# show eng-stats
```

WLAN1 Rx:

```
FC:58:9A:16F8:52 rate 1201 MCS 11/2 HE80/G1(800ns) ssn 48 rssi-48 received
```

WLAN1 Tx:

```
FC:58:9A:16F8:52 rate 1201 MCS 11/2 HE80/G1(800ns) sent 195612 failed 0
```

WLAN2 Rx:

```
FC:58:9A:16F8:13 rate 1201 MCS 11/2 HE80/G1(800ns) ssn 50 rssi-46 received
```

WLAN2 Tx:

```
FC:58:9A:16F8:13 rate 864 MCS 11/2 HE80/G1(800ns) sent 390797 failed 1
```

Configuring Global Gateway using GUI

Global gateway mode automatically enforces the MPLS Layer 3. In this mode, Radio-off and Radio status cannot be changed.

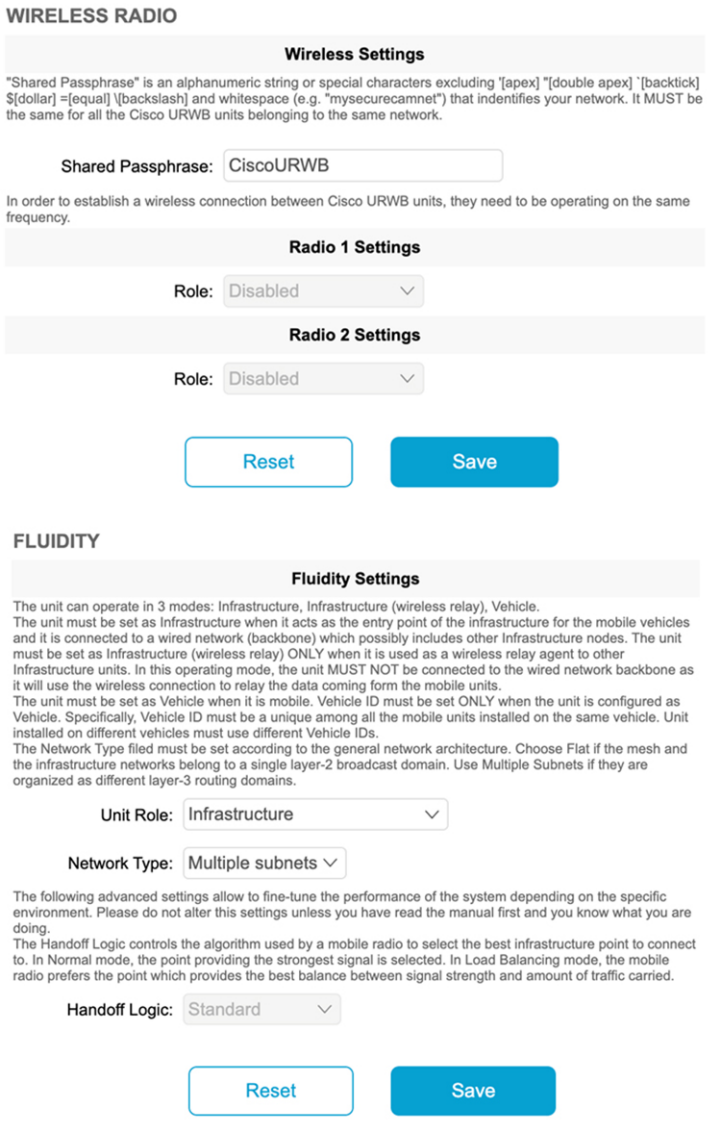
1. In the **GENERAL SETTINGS**, click **general mode**.

   The **GENERAL MODE** window appears.

2. Click **gateway** from **Mode**.

Following images shows the GUI configuration of global gateway mode:


ULTRA RELIABLE
WIRELESS BACKHAUL
Cisco URWB IW9167EH Configurator
5.21.201.72 - MESH END MODE
IOTOD IW
Offline
FM-QUADRO
GENERAL SETTINGS
- general mode
- wireless radio
- antenna alignment and stats
NETWORK CONTROL
- advanced tools
ADVANCED SETTINGS
- advanced radio settings
- static routes
- allowlist / blocklist
- multicast
- snmp
- radius
- ntp
- l2tp configuration
- vlan settings
- Fluidity
- misc settings
- smart license
MANAGEMENT SETTINGS
- remote access
- firmware upgrade
- status
- configuration settings
- reset factory default
- reboot
- logout
GENERAL MODE
General Mode
Global Gateway mode automatically enforces MPLS layer 3 and radio-off. Radio status cannot be changed in Global Gateway mode.
Mode:
mesh point
mesh end
gateway
Radio-off:
Fluidity
LAN Parameters
Local IP:
10.115.11.117
Local Netmask:
255.255.255.0
Default Gateway:
10.115.11.1
Local Dns 1:
8.8.8.8
Local Dns 2:
Reset
Save
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WIRELESS RADIO
Wireless Settings
"Shared Passphrase" is an alphanumeric string or special characters excluding '[apex] "[double apex] `[backtick] $[dollar] =[equal] \[backslash] and whitespace (e.g. "mysecurecamnet") that indentifies your network. It MUST be the same for all the Cisco URWB units belonging to the same network.
Shared Passphrase:
CiscoURWB
In order to establish a wireless connection between Cisco URWB units, they need to be operating on the same frequency.
Radio 1 Settings
Role:
Disabled
Radio 2 Settings
Role:
Disabled
Reset
Save
FLUIDITY
Fluidity Settings
The unit can operate in 3 modes: Infrastructure, Infrastructure (wireless relay), Vehicle.
The unit must be set as Infrastructure when it acts as the entry point of the infrastructure for the mobile vehicles and it is connected to a wired network (backbone) which possibly includes other Infrastructure nodes. The unit must be set as Infrastructure (wireless relay) ONLY when it is used as a wireless relay agent to other Infrastructure units. In this operating mode, the unit MUST NOT be connected to the wired network backbone as it will use the wireless connection to relay the data coming form the mobile units.
The unit must be set as Vehicle when it is mobile. Vehicle ID must be set ONLY when the unit is configured as Vehicle. Specifically, Vehicle ID must be a unique among all the mobile units installed on the same vehicle. Unit installed on different vehicles must use different Vehicle IDs.
The Network Type filed must be set according to the general network architecture. Choose Flat if the mesh and the infrastructure networks belong to a single layer-2 broadcast domain. Use Multiple Subnets if they are organized as different layer-3 routing domains.
Unit Role:
Infrastructure
Network Type:
Multiple subnets
The following advanced settings allow to fine-tune the performance of the system depending on the specific environment. Please do not alter this settings unless you have read the manual first and you know what you are doing.
The Handoff Logic controls the algorithm used by a mobile radio to select the best infrastructure point to connect to. In Normal mode, the point providing the strongest signal is selected. In Load Balancing mode, the mobile radio prefers the point which provides the best balance between signal strength and amount of traffic carried.
Handoff Logic:
Standard
Reset
Save