

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.

- Cisco URWB HE supports 20/40/80 MHz bandwidth for slot 1.
- Cisco URWB HE supports 20/40/80/160 MHz bandwidth for slot 2.
- Cisco URWB, HE defaults setting is disabled.
- HE negotiation is only supported between devices with HE enabled.

To enable High Efficiency mode, use the following CLI commands.

```
Device# configure dot11Radio [1|2] high-efficiency enable Device# configure dot11Radio [1|2] mcs maxmcs <mcs index in integer or string>
```



Note

Need to configure maxmcs as 11 by CLI "configure dot11Radio 1/2 mcs maxmcs 11" since default maxmcs is 9.

To disable High Efficiency mode, use the following CLI commands:

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

To validate High Efficiency 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 from GUI

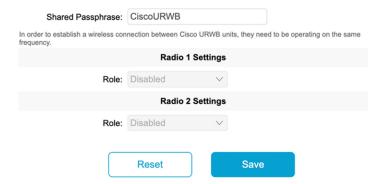
Global gateway mode automatically enforces MPLS (Multi-Protocol Label Switching) layer 3 and radio-off and radio status cannot be changed in global gateway mode. The below images show the GUI configuration of global gateway mode.



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.



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.



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

environment. Please up not alled this sealings should be also 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.

