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## Introduction

This document describes Radio Reset Codes for the Access Point (AP). The Radio Reset Code can be seen from the AP CLI with these commands: **show controller dot11radio 0** or **show controller dot11radio 1**.

At the end of the output, you see the Radio Reset Code which helps you to identify the reason for the radio reset.

Here is an example:

```
AP#show controllers dot11Radio 0 | i reset
Driver TX blocks: in use 0, high 0, at reset 0, fail 0 drop 0
Last radio reset code: 37
Radio resets - total:8 retries:0 failed:0
```

```
AP#show controllers dot11Radio 1 | i reset
Driver TX blocks: in use 0, high 0, at reset 0, fail 0 drop 0
```

Last radio reset code: 37

Radio resets - total:8 retries:0 failed:0

## Detailed Radio Reset History

In order to see the radio reset history, enter these privileged exec mode commands on the AP:

```
ap#show trace dot11_rst display time format local
```

```
ap#show trace dot11_rst
```

You can then compare the radio reset history with the general AP log (**show ap log** command) in order to determine what went on around the time of the resets and how long the radios were unavailable.

## Table of Radio Reset Codes

Reset Code	Reset Code	Radio Reset Reason
#		
1	RADIO_FC_FLASH	The radio has failed to respond to the "dot11 flash" command. Not applicable for 802.11n radios.
2	RADIO_FC_RESET	The radio has failed to respond to a request to reset the interface.
3	RADIO_FC_START	The radio failed to start.
4	RADIO_FC_CLIENT_FREE	The radio or radio driver was unable to completely remove a client no longer serviced by the radio.
5	RADIO_FC_TX_STATE	A completed packet transmission resulted in an unexpected status from the hardware. This failure automatically results in a radio code written to the flash filesystem.
6	RADIO_FC_TX_STOPPED	One or more packets have been submitted to the radio to be transmitted but have not been reported as completed for 60 seconds.
7	RADIO_FC_TX_STUCK	--not used--
8	RADIO_FC_TX_RING_ADDR	A packet that has completed transmission is reported with an invalid internal memory address. Not applicable to 802.11n radios.
9	RADIO_FC_TX_ACTIVE_Q	A transmit packet is attempted to be removed from an empty queue.
10	RADIO_FC_TX_INPROG	The driver attempts to free a packet that the radio still has in progress.
11	RADIO_FC_TX_REF_CNT	Memory for a completed transmission is attempted to be released.
12	RADIO_FC_TX_AMSDU_STATE	The status of a transmitted Aggregation MAC Service Data Unit (AMSDU) packet is indeterminate.
13	RADIO_FC_BA_LOST	An 802.11n Block Ack packet is assembled for a client that does not exist.
14	RADIO_FC_CMD_TIMEOUT	A command from the AP to the radio has taken 12 seconds without response.
15	RADIO_FC_CMD_FAILED	The radio reported that a command from the AP has failed to execute.
16	RADIO_FC_CMD_BUSY	A command from the AP to the radio does not appear to complete. Not applicable to 802.11n radios. A PCMCIA timeout occurred when accessing a radio register. Does not apply to 802.11n radios.
17	RADIO_FC_BAP_ERR	A PCMCIA timeout occurred when accessing a radio register. Does not apply to 802.11n radios. A PCMCIA timeout occurred when accessing a radio register. Does not apply to 802.11n radios. A PCMCIA timeout occurred when accessing a radio register. Does not apply to 802.11n radios.
18	RADIO_FC_LOAD_TIMEOUT	The AP timed out when it attempted to load the radio's firmware.
19	RADIO_FC_LOAD_FAIL	The copy of radio firmware from the AP to the radio completed, but was not accepted by the radio.
20	RADIO_FC_RX_PTR	A received packet points to an invalid area of memory.
21	RADIO_FC_BUS_RESET	An unexpected radio reset occurred in a four-radio system.

22	RADIO_FC_GET_CODE	The AP was unable to find or load an appropriate radio firmware load into the radio. This could occur if the firmware image is missing or corrupted.
23	RADIO_FC_TX_JAMMED	The radio hardware transmitter-watchdog detected a stuck packet. A reset of only the hardware transmitter was unsuccessful. Client packets cannot be transmitted. Client packet stuck in radio for more than 60 seconds.
24	RADIO_FC_CLIENT_STUCK	Client packets cannot be transmitted. Client packet stuck in radio for more than 60 seconds.
25	RADIO_FC_SPECTRUM	Spectrum Firmware, from Clean Air module, requires a radio reset.
26	RADIO_FC_RX_RING_ADDR	There is a problem in the Radio packet receive buffer. Bad RX Ring Address.
27	RADIO_FC_NDP_STUCK	--not used--
28	RADIO_RC_RF_MON	The radio goes into or out of monitor mode, due to the CLI enable/disable Radio Frequency (RF) monitor/store mode.
29	RADIO_RC_RF_MON_PROM	The radio goes into or out of promiscuous monitor mode, due to the CLI enable/disable RF monitor promiscuous mode.
30	RADIO_RC_TRACE	Radio debug tracing is turned on or off, due to start or stop all Debug Tracing.
31	RADIO_RC_PCI_RESET	Hardware radio reset. PCI bus reset.
32	RADIO_RC_ANT_ALIGN	Start radio in special mode for directional antenna alignment.
33	RADIO_RC_DFS_NON_ROOT	Dynamic Frequency Selection reset for non-root radio.
34	RADIO_RC_DFS_NO_CHAN	Dynamic Frequency Selection reset due to no channels available.
35	RADIO_RC_DFS	Dynamic Frequency Selection channel change.
36	RADIO_RC_DFS_CHAN_WAIT	Dynamic Frequency Selection reset waiting for available channels.
37	RADIO_RC_IDB_RESET	Radio interface reset.
38	RADIO_RC_IOS_RELOAD	Radio reset prior to Cisco IOS software reload.
39	RADIO_RC_IOS_IP_ADR_CHG	Radio reset due to Cisco IOS IP address change.
40	RADIO_RC_REFLASH	Radio reset prior to reflashing the radio.
41	RADIO_RC_CCK_TX	CCK transmit on dual antennas enable or disable.
42	RADIO_RC_WME	Enable or disable World Mode IE.
43	RADIO_RC_FCC_TST_STOP	Stop FCC compliance testing mode.
44	RADIO_RC_FCC_TST	Start FCC compliance testing mode.
45	RADIO_RC_CAR_BUSY_TST	Carrier busy test via the CLI.
46	RADIO_RC_DRIVER_CHK	Reset if radio becomes disabled.
47	RADIO_RC_COMP_MODE	FCC test mode interface reset.
48	RADIO_RC_CONFIG	Radio reset due to configuration change.
49	RADIO_RC_MESH_BACKHAUL	Clear mesh backhaul.
50	RADIO_RC_MESH_LISTEN	Set as mesh listener. Radio reset due to enable/disable listening on broadcast on 802.11b (for mesh APs).
51	RADIO_RC_RST_TX_COMP	Reset on transmit completion.
52	RADIO_RC_DFER_MCAST	Reset on completion of deferred multicast packets.
53	RADIO_RC_IDB_ENABLE	Radio interface has been enabled.
54	RADIO_RC_IDB_SHUTDOWN	Radio interface has been shutdown.
55	RADIO_RC_DOT11_GO_DN	Cisco IOS software interface goes down.
56	RADIO_RC_ETHER_GO_DN	Cisco IOS ethernet link goes down.
57	RADIO_RC_IF_GO_UP	Cisco IOS software interface comes up.
58	RADIO_RC_UPLINK_CLNT_DN	Uplink client goes away.
59	RADIO_RC_UPLINK_CLNT_UP	Uplink client comes up.
60	RADIO_RC_SET_CONFIG	Radio configuration change.
61	RADIO_RC_UPD_PHON_SUP	Symbol phone extension support has been enabled or disabled.
62	RADIO_RC_SET_CHANNEL	Radio channel set. Reset while setting channel from Control and Provisioning of Wireless Access Points (CAPWAP).
63	RADIO_RC_HANDLE_UA	Universal Access (Mesh) is disabled.
64	RADIO_RC_RLDP_START	Rogue Location Discovery Protocol start.
65	RADIO_RC_RLDP_STOP	Rogue Location Discovery Protocol stop.
66	RADIO_RC_DFS_DEBUG	Dynamic Frequency Selection debug mode. Reset due to test Dynamic Frequency Selection (DFS) command.
67	RADIO_RC_HOSTNAME_CHG	Hostname change after association.
68	RADIO_RC_CMD_ROUTINE	Radio interface reset from command routines. Reset while configuring station_role/beamforming/Space-Time Block Coding (STBC)

		CLI commands
69	RADIO_RC_EXIT_LOW_PWR	Radio exits inline Cisco Discovery Protocol (CDP) low power mode holddown.
70	RADIO_FC_FREQ_CMD_TO	Frequent command timeouts occur on the radio. Radio commands are more than threshold [10 timeouts].
71	RADIO_RC_NO_REPORT	Indicates that while the radio state should be updated on controller reset should be reported.
72	RADIO_RC_INIT	--not used--
73	RADIO_FC_TX_DONE	Bad Tx done (or) bad off channel done.
74	RADIO_FC_RX_INPROG_PTR	Bad receive in progress pointer when you receive a packet from
75	RADIO_RC_PROM_SERV	Reset while setting promiscuous mode serving channel.
76	RADIO_FC_BAD_TXE_PTR	Bad Tx pointer.
77	RADIO_FC_RX_RING_INDEX	Bad Rx ring index.
78	RADIO_FC_TX_STUCK_462	--not used--
79	RADIO_FC_IFACE_BUS_DOWN	Radio interface bus down.
80	RADIO_FC_TX_CMPL_PAK	Wrong freeing of Tx completed packet.
81	RADIO_RC_RST_OFFC_COMP	Offchannel in prog is completed [zero] while radio waits to be started
82	RADIO_FC_PAK_POISON	--not used--
83	RADIO_FC_EU_STUCK_738	Encryption engine stuck specific to 8864 radio chipset.
84	RADIO_FC_BEACON_STUCK	Beacons not transmitted for last 10 minutes.
85	RADIO_FC_BAD_DTX_IN_Q	Bad packet in transmit queue.
86	RADIO_FC_INFINITE_LOOP	Debug code reset [Cisco bug ID <a href="#">CSCu163678</a> ]- infinite loop detected Tx requeue client.
87	RADIO_FC_PREFETCH	DMA engine locked [War for Cisco bug ID <a href="#">CSCui54586</a> / BZ868]
88	RADIO_RC_DEAUTH_COMPL	Deauth client completed.

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