# 9800 Wireless Controller에서 비인가 AP/클라이 언트 식별 및 찾기

## 목차

## 소개

이 문서에서는 9800 무선 컨트롤러를 사용하여 비인가 액세스 포인트 또는 비인가 클라이언트를 탐 지하고 찾는 방법에 대해 설명합니다.

# 사전 요구 사항

## 요구 사항

다음 주제에 대한 지식을 보유하고 있으면 유용합니다.

• 기본 사항.

## 사용되는 구성 요소

이 문서의 정보는 다음 소프트웨어 및 하드웨어 버전을 기반으로 합니다.

- Cisco Wireless 9800-L Controller IOS® XE 17.12.1
- Cisco Catalyst 9130AXI Series Access Point.

이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다. 이 문서에 사용된 모든 디바 이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다. 현재 네트워크가 작동 중인 경우 모든 명령의 잠재적인 영향을 미리 숙지하시기 바랍니다.

## 배경 정보

Cisco 비인가 액세스 포인트는 네트워크 관리자가 모르거나 승인하지 않고 네트워크에 설치된 무단

무선 액세스 포인트를 의미합니다. 이러한 비인가 액세스 포인트는 네트워크에 보안 위험을 초래할 수 있으며, 공격자는 이러한 액세스 포인트를 사용하여 무단 액세스를 얻거나, 민감한 정보를 가로 채거나, 기타 악의적인 활동을 실행할 수 있습니다. <u>Cisco WIPS(Wireless Intrusion Prevention</u> <u>System)</u>는 비인가 액세스 포인트를 식별하고 관리하도록 설계된 솔루션입니다.

비인가 스테이션 또는 비인가 장치라고도 하는 Cisco 비인가 클라이언트는 비인가 액세스 포인트에 연결된 비인가 및 악성 가능성이 있는 무선 클라이언트 장치를 의미합니다. 비인가 액세스 포인트 와 마찬가지로, 비인가 클라이언트는 공격자가 적절한 권한 부여 없이 네트워크에 연결할 수 있기 때문에 보안 위험이 있습니다. Cisco는 네트워크 보안을 유지하기 위해 비인가 클라이언트의 존재 를 탐지하고 완화하는 데 도움이 되는 툴과 솔루션을 제공합니다.

# 시나리오

시나리오 1: 비인가 액세스 포인트 탐지 및 찾기

다음 단계에서는 9800 무선 컨트롤러를 사용하여 사용자 네트워크에서 관리되지 않는 비인가 클라 이언트 또는 액세스 포인트를 탐지하는 방법을 보여줍니다.

1. 무선 컨트롤러를 사용하여 어떤 액세스 포인트가 비인가 디바이스를 감지했는지 확인합니다.

GUI 또는 CLI를 통해 비인가 액세스 포인트 또는 비인가 클라이언트를 볼 수 있습니다. GUI의 경우 Monitoring(모니터링) 탭, Wireless(무선)로 이동한 다음 Rogue(비인가)를 선택하면 필터를 사용하 여 비인가 디바이스를 찾을 수 있습니다. CLI의 경우 show wireless wps rogue ap summary(무선 wps 비인가 ap 요약) 명령을 사용하여 탐지된 모든 비인가 디바이스를 볼 수 있습니다. 또는 show wireless wps rogue ap detailed <mac-addr> 명령을 사용하여 특정 비인가 디바이스에 대한 세부 정 보를 볼 수 있습니다.

다음은 CLI에서 show wireless wps rogue ap summary 명령을 통해 비인가 디바이스 목록을 확인 한 결과입니다.

```
9800L#show wireless wps rogue ap summary
Rogue Location Discovery Protocol : Disabled
Validate rogue APs against AAA : Disabled
Rogue Security Level : Custom
Rogue on wire Auto-Contain : Disabled
Roque using our SSID Auto-Contain : Disabled
Valid client on roque AP Auto-Contain : Disabled
Roque AP timeout : 1200
Rogue init timer : 180
Total Number of Roque APs : 137
MAC Address Classification State #APs #Clients Last Heard Highest-RSSI-Det-AP RSSI Channel Ch.Width GHz
_____
0014.d1d6.a6b7 Unclassified Alert 1 0 01/31/2024 21:28:09 1416.9d7f.a220 -85 1 20 2.4
002a.10d3.4f0f Unclassified Alert 1 0 01/31/2024 21:17:39 1416.9d7f.a220 -54 36 80 5
002a.10d4.b2e0 Unclassified Alert 1 0 01/31/2024 21:17:39 1416.9d7f.a220 -60 36 40 5
0054.afca.4d3b Unclassified Alert 1 0 01/31/2024 21:26:29 1416.9d7f.a220 -86 1 20 2.4
00a6.ca8e.ba80 Unclassified Alert 1 2 01/31/2024 21:27:20 1416.9d7f.a220 -49 11 20 2.4
00a6.ca8e.ba8f Unclassified Alert 1 0 01/31/2024 21:27:50 1416.9d7f.a220 -62 140 80 5
00a6.ca8e.bacf Unclassified Alert 1 0 01/31/2024 21:27:50 1416.9d7f.a220 -53 140 40 5
00f6.630d.e5c0 Unclassified Alert 1 0 01/31/2024 21:28:09 1416.9d7f.a220 -48 1 20 2.4
```

00f6.630d.e5cf	Unclassified	Alert	1 0	01/31/2024	21:27:40	1416.9d7f.a220	-72	128 20 5
04f0.212d.20a8	Unclassified	Alert	1 0	01/31/2024	21:27:19	1416.9d7f.a220	-81	1 20 2.4
04f0.2148.7bda	Unclassified	Alert	1 0	01/31/2024	21:24:19	1416.9d7f.a220	-82	1 20 2.4
0c85.259e.3f30	Unclassified	Alert	1 0	01/31/2024	21:21:30	1416.9d7f.a220	-63	11 20 2.4
0c85.259e.3f32	Unclassified	Alert	1 0	01/31/2024	21:21:30	1416.9d7f.a220	-63	11 20 2.4
0c85.259e.3f3c	Unclassified	Alert	1 0	01/31/2024	21:27:30	1416.9d7f.a220	-83	64 20 5
0c85.259e.3f3d	Unclassified	Alert	1 0	01/31/2024	21:27:30	1416.9d7f.a220	-82	64 20 5
0c85.259e.3f3f	Unclassified	Alert	1 0	01/31/2024	21:27:30	1416.9d7f.a220	-82	64 20 5
12b3.d617.aac1	Unclassified	Alert	1 0	01/31/2024	21:28:09	1416.9d7f.a220	-72	1 20 2.4
204c.9e4b.00ef	Unclassified	Alert	1 0	01/31/2024	21:27:40	1416.9d7f.a220	-59	116 20 5
22ad.56a5.fa54	Unclassified	Alert	1 0	01/31/2024	21:28:09	1416.9d7f.a220	-85	1 20 2.4
4136.5afc.f8d5	Unclassified	Alert	1 0	01/31/2024	21:27:30	1416.9d7f.a220	-58	36 20 5
5009.59eb.7b93	Unclassified	Alert	1 0	01/31/2024	21:28:09	1416.9d7f.a220	-86	1 20 2.4
683b.78fa.3400	Unclassified	Alert	1 0	01/31/2024	21:28:00	1416.9d7f.a220	-69	6 20 2.4
683b.78fa.3401	Unclassified	Alert	1 0	01/31/2024	21:28:00	1416.9d7f.a220	-69	6 20 2.4
683b.78fa.3402	Unclassified	Alert	1 0	01/31/2024	21:28:00	1416.9d7f.a220	-72	6 20 2.4
683b.78fa.3403	Unclassified	Alert	1 0	01/31/2024	21:28:00	1416.9d7f.a220	-72	6 20 2.4

2. 9800 컨트롤러에 구성된 WLAN 중 하나를 필터링하여 동일한 WLAN을 브로드캐스트하는 비인 가 디바이스가 있는지 확인할 수 있습니다. 다음 그림은 C9130이 두 대역 모두에서 이 비인가를 탐 지한 결과를 보여줍니다.

¢	cisco	Cisco C 17.12.1	atalyst	980	0-L Wireles	s Controller	Welcome ros	alia 🖌 🎢	<b>% A</b> B	* @ 0	Search APs	and Clients Q		eedback	e <sup>x</sup> 🕩
Q	Search Menu It	ems	М	onito	ring • > Wirele	ess * > Rogues									
	Dashboard		U	nclas	Sified Frien	dly Malicious	Custom	Ignore List	Rogue Client	ts Adhoc R	ogues				
$\odot$	Monitoring		>		Delete										
Ľ	Configuration		>	Total	APs : 2 Heard SSID *Conta	ins" rogue 🗙 🦞									
ŝ	Administratio	n	>	_											
C	Licensing			0	MAC T Address	#Detecting T Radios	Number of T Clients	Status 🔻	Last Heard	Last Heard Y SSID	Highest RSSI Y Channel	Channel <b>T</b> Width	Band <b>Y</b>	PMF Required	Ŧ
×	Troubleshoo	ting		O	6c8d.7793.8340	1	0	Alert	01/31/2024 21:10:49	RogueTest	1	20	2.4 GHz	No	
				o	6c8d.7793.834f	1	0	Alert	01/31/2024 21:10:49	RogueTest	36	20	5 GHz	No	
				ψ.	< 1 → →	10 🔻							1 = 3	2 of 2 items	Ċ
	Walk Me Throug	h>													

GUI 비인가 목록

3. 비인가 디바이스를 탐지한 액세스 포인트를 나열합니다.

비인가 디바이스를 탐지한 AP를 볼 수 있습니다. 다음 그림에는 이 비인가를 탐지한 AP, 채널, RSSI 값 및 추가 정보가 나와 있습니다.

Cisco Cata	alyst 9800-L Wireles	s Controller Welcome	rosalia 🔺 🕈		* 19 (	3 C Search AP	s and Clients Q	Tee	dback 🖌
Q. Search Menu Items	Monitoring - > Wire	Rogue AP Detail							×
Bashboard	Unclassified Frie	MAC Address	6c8d.7793.8340			First time Reported On	01/31/20	24 19:26:49	
Monitoring >	× Delete	Is this radio on wired network? Class Type	V No Unclassified	•		Last time Reported On	01/31/20	24 21:10:49	
Configuration	Total APs : 2	Status	ALERT						
(Ô) Administration →	Last Heard SSID "Con	Initiate RLDP	0						
C Licensing	Address	Is Rogue an impersonator ?	No						
💥 Troubleshooting	6c8d.7793.834	APs that detected this Rogu	ue						
	6c8d.7793.834f	Base Radio MAC AP Name	SSID Cha	Cha Width Band	Cha from d DS	Security Radio Policy	Short F Preamble	RSSI SNR (dBm) (dB)	Containment Type
Walk Me Through 2		1416.9d7f.a2; C9130	RogueTest 1	20 2.4 GHz	Yes	dot11g, dot11ax - 2.4 Open GHz	Enabled -	-35 60	N/A
		Cancel						🔋 Update &	Apply to Device

GUI 비인가 AP 세부 정보

CLI에서 show wireless wps rogue ap detailed <mac-addr> 명령을 통해 이 정보를 볼 수 있습니다.

4. 가장 가까운 RSSI 값을 기준으로 비인가 디바이스에 가장 가까운 액세스 포인트를 찾습니다.

비인가 디바이스를 탐지한 액세스 포인트 수를 기준으로 무선 컨트롤러에 표시된 RSSI 값을 기준 으로 가장 가까운 AP를 찾아야 합니다. 다음 예에서는 비인가를 탐지한 AP가 하나뿐이지만 RSSI 값이 높으므로 비인가 디바이스가 내 AP와 매우 가깝습니다.

다음 명령은 show wireless wps rogue ap detailed <mac-addr> 명령을 출력하여 AP/WLC에서 이 비인가 디바이스를 수신한 채널 및 RSSI 값을 확인합니다.

9800L#show wireless wps rogue ap detailed 6c8d.7793.834f Rogue Event history Timestamp #Times Class/State Event Ctx RC ----- -----01/31/2024 22:45:39.814917 1154 Unc/Alert FSM\_GOTO Alert 0x0 01/31/2024 22:45:39.814761 1451 Unc/Alert EXPIRE\_TIMER\_START 1200s 0x0 01/31/2024 22:45:39.814745 1451 Unc/Alert RECV\_REPORT 1416.9d7f.a220/34 0x0 01/31/2024 22:45:29.810136 876 Unc/Alert NO\_OP\_UPDATE 0x0 01/31/2024 19:36:10.354621 1 Unc/Pend HONEYPOT\_DETECTED 0x0 01/31/2024 19:29:49.700934 1 Unc/Alert INIT\_TIMER\_DONE 0xab98004342001907 0x0 01/31/2024 19:26:49.696820 1 Unk/Init INIT\_TIMER\_START 180s 0x0 01/31/2024 19:26:49.696808 1 Unk/Init CREATE 0x0 Rogue BSSID : 6c8d.7793.834f Last heard Rogue SSID : RogueTest 802.11w PMF required : No Is Roque an impersonator : No Is Rogue on Wired Network : No

Classification : Unclassified Manually Contained : No State : Alert First Time Rogue was Reported : 01/31/2024 19:26:49 Last Time Rogue was Reported : 01/31/2024 22:45:39 Number of clients : 0 Reported By AP Name : C9130 MAC Address : 1416.9d7f.a220 Detecting slot ID : 1 Radio Type : dot11ax - 5 GHz SSID : RogueTest Channel : 36 (From DS) Channel Width : 20 MHz RSSI : -43 dBm SNR : 52 dB ShortPreamble : Disabled Security Policy : Open Last reported by this AP : 01/31/2024 22:45:39

5. 비인가 위치를 파악하기 위해 같은 채널에서 무선 촬영을 수집합니다.

이제 이 비인가 AP가 브로드캐스트하는 채널이 발견되며, RSSI 값에 따라 9130 액세스 포인트가 -35dBm에서 이 비인가를 수신했습니다. 이는 매우 가까운 것으로 간주되며, 이 비인가가 어느 영역 에 있는지 알려줍니다. 다음 단계는 무선 캡처를 수집하는 것입니다.

다음 그림에서는 채널 36의 무선 캡처를 보여줍니다. OTA에서 비인가 AP가 관리 액세스 포인트로 억제 인증 해제 공격을 수행하는 것을 볼 수 있습니다.

No.	Time	Source	Destination	Protocol Lengt	h	Info
7	2024-02-01 18:59:41.859345	Cisco 7f:a2:2f	Broadcast	802.11	. 66	Deauthentication, SN=0, FN=0, Flags=C
53	2024-02-01 18:59:42.369289	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
125	2024-02-01 18:59:43.204823	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
134	2024-02-01 18:59:43.313382	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
207	2024-02-01 18:59:44.071466	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
274	2024-02-01 18:59:44.581442	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
311	2024-02-01 18:59:45.036091	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
353	2024-02-01 18:59:45.548049	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
392	2024-02-01 18:59:46.004385	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
438	2024-02-01 18:59:46.485479	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
480	2024-02-01 18:59:46.994051	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
516	2024-02-01 18:59:47.450453	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
551	2024-02-01 18:59:47.884436	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
626	2024-02-01 18:59:48.395520	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
664	2024-02-01 18:59:48.841406	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
714	2024-02-01 18:59:49.364995	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
753	2024-02-01 18:59:49.803287	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
797	2024-02-01 18:59:50.331736	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
841	2024-02-01 18:59:50.810843	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
916	2024-02-01 18:59:51.647435	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
931	2024-02-01 18:59:51.820041	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
1081	2024-02-01 18:59:52.574685	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
1123	2024-02-01 18:59:53.096421	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
1172	2024-02-01 18:59:53.527709	Cisco_7f:a2:2f	Broadcast	802.11	66	Deauthentication, SN=0, FN=0, Flags=C
1213	2024-02-01 18:59:54.025465	Cisco 7f:a2:2f	Broadcast	802.11	66	Deauthentication. SN=0. FN=0. Flags=C
> Frame 7:	66 bytes on wire (528 bits), 66	bytes captured (528	bits)			
> Radiotap	Header v0, Length 36					
802.11 ra	dio information					
PHY ty	pe: 802.11a (OFDM) (5)					
Turbo	type: Non-turbo (0)					
Data r	ate: 6.0 Mb/s					
Channe	l: 36					
Freque	ncy: 5180MHz					
Signal	strength (dBm): -61 dBm					
Noise	level (dBm): -97 dBm					
Signal,	/noise ratio (dB): 36 dB					
TSF ti	mestamp: 2032467034					
> [Durat	ion: 64µs]					
> IEEE 802.	11 Deauthentication, Flags:	C				
> IEEE 802.	11 Wireless Management					

비인가 AP OTA 캡처

이전 그림의 정보를 사용하여 이 비인가 액세스 포인트가 얼마나 가까이 있는지 파악할 수 있습니 다. 적어도 이 비인가 액세스 포인트가 물리적으로 어디에 있는지 파악할 수 있습니다. 비인가 AP 무선 mac 주소를 통해 필터링할 수 있습니다. 비인가 AP 무선 MAC 주소가 현재 활성 상태인지 여 부를 확인할 수 있습니다. 비인가 패킷이 무선으로 전송되는지 확인할 수 있습니다.

#### 시나리오 2: 인증 취소 플러드를 전송하는 비인가 클라이언트 탐지 및 찾기

다음 단계에서는 9800 무선 컨트롤러를 사용하여 사용자 네트워크에서 관리하지 않는 비인가 액세 스 포인트에 연결된 비인가 클라이언트 또는 인증 취소 공격을 수행하는 비인가 클라이언트를 찾는 방법을 보여 줍니다.

1. 무선 컨트롤러를 사용하여 비인가 클라이언트를 찾습니다.

무선 컨트롤러 GUI에서 Monitoring(모니터링) 탭 Wireless(무선)로 이동한 다음 Rogue Clients(비인 가 클라이언트)를 선택합니다. 또는 CLI에서 show wireless wps rogue client summary(무선 wps 비 인가 클라이언트 요약 표시) 명령을 사용하여 컨트롤러에서 탐지된 비인가 클라이언트를 나열할 수 있습니다.

	sco Cataly	st 9800	-L Wireless Controller	Wel	come rosalia	<b>* A B *</b>		Search APs and Clients (	Q Feedback	« <sup>»</sup> 🕩
Q. Search Menu Items		Monitorin	g • > Wireless • > Rogues							
🚃 Dashboard		Unclassifi	elete	Cus	stom Ignore List	Rogue Clients	Д	dhoc Rogues		
	>									
Configuration	>	Number	of Clients: 48							
() Administration	>	0	MAC Address	Ŧ	#Detecting Radios		Ŧ	Last Seen On	Status	Ŧ
			0021.6a9b.b944		1			02/15/2024 17:21:34	Alert	
C Licensing			0cb8.1575.8a5c		1			02/15/2024 17:08:14	Alert	
			1a59.5f0f.cae0		1			02/15/2024 17:20:44	Alert	
No roubleshooting			341b.2d61.cd83		1			02/15/2024 17:03:54	Alert	
			62b8.db39.c532		1			02/15/2024 17:08:14	Alert	
			70f3.5a7c.8f70		1			02/15/2024 17:18:54	Alert	
			70f3.5a7c.9150		1			02/15/2024 17:16:34	Alert	
Walk Me Through >			70f3.5a7c.9710		1			02/15/2024 17:21:54	Alert	
			70f3.5a7c.bed0		1			02/15/2024 17:21:04	Alert	
			70f3.5a7c.cbd0		2			02/15/2024 17:17:24	Alert	
		- ur - u	1 2 2 4 5 5	N	10				1 - 10 of 49 itoms	c.

비인가 클라이언트 목록 GUI

#### 다음 출력에서는 CLI 결과를 보여줍니다.

9800L#show wireless wps rogue client summary

Validate rogue clients against AAA : Disabled Validate rogue clients against MSE : Disabled

Number of rogue clients detected : 49

MAC Address State # APs Last Heard

\_\_\_\_\_

0021.6a9b.b944 Alert 1 02/15/2024 17:22:44 0cb8.1575.8a5c Alert 1 02/15/2024 17:08:14 1a59.5f0f.cae0 Alert 1 02/15/2024 17:20:44 341b.2d61.cd83 Alert 1 02/15/2024 17:03:54 62b8.db39.c532 Alert 1 02/15/2024 17:08:14 70f3.5a7c.8f70 Alert 1 02/15/2024 17:18:54 70f3.5a7c.9150 Alert 1 02/15/2024 17:23:04 70f3.5a7c.9710 Alert 1 02/15/2024 17:22:34 70f3.5a7c.bed0 Alert 1 02/15/2024 17:22:54

```
70f3.5a7c.cbd0 Alert 2 02/15/2024 17:17:24
70f3.5a7c.d030 Alert 1 02/15/2024 17:20:44
70f3.5a7c.d050 Alert 1 02/15/2024 17:20:44
70f3.5a7c.d0b0 Alert 1 02/15/2024 17:16:54
70f3.5a7c.d110 Alert 2 02/15/2024 17:18:24
70f3.5a7c.d210 Alert 1 02/15/2024 17:20:24
70f3.5a7c.d2f0 Alert 2 02/15/2024 17:23:04
70f3.5a7c.f850 Alert 1 02/15/2024 17:19:04
70f3.5a7f.8971 Alert 1 02/15/2024 17:16:44
...
```

2. 다음 출력 예에서는 채널 132의 관리 AP 9130에 의해 탐지된 mac 주소 0021.6a9b.b944의 비인 가 클라이언트에 대한 세부 정보를 보여 줍니다. 다음 출력에서는 자세한 정보를 보여 줍니다.

9800L#show wireless wps rogue client detailed 0021.6a9b.b944

Rogue Client Event history

Timestamp #Times State Event Ctx RC

02/15/2024 17:22:44.551882 5 Alert FSM\_GOTO Alert 0x0 02/15/2024 17:22:44.551864 5 Alert EXPIRE\_TIMER\_START 1200s 0x0 02/15/2024 17:22:44.551836 5 Alert RECV\_REPORT 0x0 02/15/2024 17:15:14.543779 1 Init CREATE 0x0

Rogue BSSID : 6c8d.7793.834f SSID : Testing-Rogue Gateway : 6c8d.7793.834f Rogue Radio Type : dot11ax - 5 GHz State : Alert First Time Rogue was Reported : 02/15/2024 17:15:14 Last Time Rogue was Reported : 02/15/2024 17:22:44

Reported by AP : C9130 MAC Address : 1416.9d7f.a220 Detecting slot ID : 1 RSSI : -83 dBm SNR : 12 dB Channel : 132 Last reported by this AP : 02/15/2024 17:22:44

3. 동일한 채널에서 OTA(over-the-air) 캡처를 수집한 후 인증되지 않은 플러드가 있음을 확인할 수 있습니다. 여기서 비인가 클라이언트는 관리되는 액세스 포인트 BSSID 중 하나를 사용하여 클라이 언트 연결을 끊습니다.

No.	Time	Source	Destination	Protocol	Channel	Length	Info
1	2024-02-15 18:08:58.151158872	Cisco_7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=926, FN=0, Flags=
2	2024-02-15 18:08:58.153341440	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11		38	Deauthentication, SN=927, FN=0, Flags=
3	2024-02-15 18:08:58.156716171	Cisco_7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=928, FN=0, Flags=
- 4	2024-02-15 18:08:58.158936988	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11		38	Deauthentication, SN=929, FN=0, Flags=
5	2024-02-15 18:08:58.162302257	Cisco_7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=930, FN=0, Flags=
6	2024-02-15 18:08:58.164428517	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11		38	Deauthentication, SN=931, FN=0, Flags=
7	2024-02-15 18:08:58.170320005	Cisco_7f:a2:2f	Broadcast	802.11	132	395	Beacon frame, SN=2688, FN=0, Flags=
8	2024-02-15 18:08:58.170436441	Cisco_7f:a2:2e	Broadcast	802.11	132	419	Beacon frame, SN=2370, FN=0, Flags=
9	2024-02-15 18:08:58.170600933	Cisco_7f:a2:2d	Broadcast	802.11	132	399	Beacon frame, SN=1490, FN=0, Flags=
10	2024-02-15 18:08:58.172152791	Cisco_7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=932, FN=0, Flags=
11	2024-02-15 18:08:58.174367800	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11		38	Deauthentication, SN=933, FN=0, Flags=
12	2024-02-15 18:08:58.178237914	Cisco 7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=934, FN=0, Flags=
13	2024-02-15 18:08:58,180354359	c6:39:31:4b:11:81	Cisco 7f:a2:2f	802.11		38	Deauthentication, SN=935, FN=0, Flags=
14	2024-02-15 18:08:58.183625075	Cisco 7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=936, FN=0, Flags=
15	2024-02-15 18:08:58,185859940	c6:39:31:4b:11:81	Cisco 7f:a2:2f	802.11		38	Deauthentication, SN=937, FN=0, Flags=
16	2024-02-15 18:08:58.189084965	Cisco 7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=938, FN=0, Flags=
17	2024-02-15 18:08:58,190701480	Cisco 8b:6d:8f	Broadcast	802.11	132	402	Beacon frame, SN=419, FN=0, Flags=C
18	2024-02-15 18:08:58.191352052	c6:39:31:4b:11:81	Cisco 7f:a2:2f	802.11		38	Deauthentication, SN=939, FN=0, Flags=
19	2024-02-15 18:08:58.194345140	Cisco_93:83:4f	Broadcast	802.11	132	440	Beacon frame, SN=775, FN=0, Flags=
20	2024-02-15 18:08:58,195527907	Cisco 7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=940, FN=0, Flags=
21	2024-02-15 18:08:58.197648649	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11		38	Deauthentication, SN=941, FN=0, Flags=
22	2024-02-15 18:08:58,200965406	Cisco 7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=942, FN=0, Flags=
23	2024-02-15 18:08:58,203145497	c6:39:31:4b:11:81	Cisco 7f:a2:2f	802.11		38	Deauthentication, SN=943, FN=0, Flags=
24	2024-02-15 18:08:58.206359424	Cisco 7f:a2:2f	c6:39:31:4b:11:81	802.11		38	Deauthentication, SN=944, FN=0, Flags=C
> Frame	7: 395 bytes on wire (3160 bits),	395 bytes captured (3160 bits)	on interface wlan0, id 0				
> Radio1	tap Header v0, Length 18						
~ 802.11	l radio information						
PHY	type: 802.11a (OFDM) (5)						
Tur	bo type: Non-turbo (0)						
Dat	a rate: 24.0 Mb/s						
Cha	nnel: 132						
Ere	quency: 5660MHz						
Sig	nal strength (dBm): -64 dBm						
> [Du	ration: 148µs]						

OTA 인증 취소

패킷의 RSSI 값이 높습니다. 즉, 비인가 클라이언트가 관리되는 액세스 포인트에 물리적으로 가까 이 있습니다.

4. 네트워크에서 비인가 클라이언트를 제거한 후 다음 그림은 깨끗한 네트워크와 정상적인 환경을 무선으로 보여줍니다.

No.         Time         Source         Destination         Protocol         Channel         Longth         Info           1756         2024-02-15         1813:1550-488218         GG39:31:40:1181         GG39:31:40:	Apply a	display filter < 98/>				+ DATA	PROBES ASS	OC AUTH RTS/C	S ACKs	NO BEACONS	BEACONS	< 4Mb/s
196         2024-02-13         187.159.48920         cd:39.311.4b.11.81         Clsco_f122.27         802.11         112         165         Acknowledgeent, Flags           1978         2024-02-13         187.159.489218         Clsco_f122.27         cd:39.311.4b.11.81         802.11         112         165         Acknowledgeent, Flags         C           1978         2024-02-13         187.159.489228         cd:39.311.4b.11.81         Clsco_f71.22.27         802.11         122         246         Acknowledgeent, Flags         C           1768         2024-02-13         187.159.488223         cd:39.311.4b.11.81         Broadcast         802.11         122         246         Acknowledgeent, Flags         C           1763         2024-02-13         187.159.498424         Clsco_f71.32.27         1141.11.81         Broadcast         802.11         122         246         Acknowledgeent, Flags         C           1765         2024-02-13         187.159.498402         Clsco_f71.32.27         141.11.91.91.7.89.9.11.91.2         802.11         122         48         Acknowledgeent, Flags           1766         2024-02-13         187.1359.498902         Clsco_f71.32.27         141.11.91.11.91         132         482.11         122         Acknowle	No.	Time	Source	Destination	Protocol	Channel	Length	Info				
175       2024-02-15       18:11:93-48223       Cisco_7f:a2:27       Gi33:11:41:11:11       132       43       Acknowledgeent, Flags=C         179       2024-02-15       18:11:93-48220       Cisco_7f:a2:27       60:33:11:41:11:132       48       Acknowledgeent, Flags=C         170       2024-02-15       18:11:93-48220       Cisco_7f:a2:27       60:33:11:41:11:132       48       Acknowledgeent, Flags=C         170       2024-02-15       18:11:93-48220       Cisco_7f:a2:27       60:33:11:41:11:132       48       Acknowledgeent, Flags=C         170       2024-02-15       18:11:93-48220       Cisco_7f:a2:27       60:33:11:41:11:11       122       78       882.11       132       248       Acknowledgeent, Flags=C         1702       2024-02-15       18:11:93-48342       Cisco_7f:a2:27       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:181       60:39:31:40:11:182       33       Acknowledg	1756	2024-02-15 18:13:59.488209							n, SN=1117	2, FN=0, F		• •
178         2024-02-15         18:11:19:0-488221         Cisco_7f:a2:2f         63:31:49:11:181         132         185         Authentication, SH-0, FH-0, Flagss	1757											
1759       2024-02-15       1313:59.488220       Cisco_7fra2;2f       1832       Acknowledgement, Flags=C         1760       2024-02-15       183:59.488226       c6:39:31:4b:11:81       Cisco_7fra2;2f       802.11       132       48       Acknowledgement, Flags=C         1762       2024-02-15       18:13:59.489246       c6:39:31:4b:11:81       67:39:31:4b:11:81       802.11       132       48       Acknowledgement, Flags=C         1762       2024-02-15       18:13:59.499446       Cisco_7fra2;2f       c6:39:31:4b:11:81       802.11       132       48       Acknowledgement, Flags=C         1765       2024-02-15       18:13:59.499446       Cisco_7fra2;2f       60:39:31:4b:11:81       Cisco_7fra2;2f       60:21:11       132       48       Acknowledgement, Flags=C         1766       2024-02-15       18:13:59.499602       Cisco_7fra2;2f       14:15:94:79       802.11       132       48       Acknowledgement, Flags=C         1767       2024-02-15       18:13:59.498042       Cisco_7fra2;2f       14:16:94:7       802.11       132       138       Acknowledgement, Flags=C         1767       2024-02-15       18:13:59.498042       Cisco_7fra2;2f       14:16:94:7.892.11       132       138       Acknowledgement, Flags=C	1758											
1760         2024-82-15         18:13:59.488223         0:39:31:4b:11:81         Cisco_Tria2:217         882.11         132         24e         Association Request, SH=113., FH=B, FLags-           1761         2024-82-15         18:13:59.498024         Cisco_Tria2:217         Cis39:33:4b:11:81         Broadcast         XID         132         76         Basic Format; Type 1 LLC (Class I LLC); Wir           1763         2024-82-15         18:13:59.4991943         Cisco_Tria2:217         (di:10:4917.8)         Basic Format; Type 1 LLC (Class I LLC); Wir           1765         2024-82-15         18:13:59.4991943         Cisco_Tria2:217         (di:10:4917.8)         Basic Format; Type 1 LLC (Class I LLC); Wir           1766         2024-82-15         18:13:59.499090         cisco_Tria2:217         (di:10:4917.8)         Basic Format; Type 1 LLC (Class I LLC); Wir           1767         2024-82-15         18:13:59.499090         cisco_Tria2:217         682.11         132         74         Acknowledgeent, FlagsC           1767         2024-82-15         18:13:59.499091         cisco_Tria2:217         682.11         132         118         Triager EHT Basic, FlagsC           1776         2024-82-15         18:13:59.499091         cisco_Tria2:217         682.11         132         118         Acknowledgeent, FlagsC	1759	2024-02-15 18:13:59.488220		Cisco_7f:a2:2f (14:16:9d:7								
1761       2024-402-15       1813:59.498044       C6:39:31:4b:11:81       Broadcast       XD       132       74       Basic Format; Type 1 LiC (lass IL)       LiC (las)       LiC (lass IL)       LiC (lass	1760	2024-02-15 18:13:59.488223	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11	132	240	Association F	equest, S	N=1113, FN	=0, Flags	
1762       2024-02-15       18:13:59,499084       C6:39:31:40:11:81       Broadcast       XID       132       70       Basic Format; Type 1 LLC (Class I LLC); Min         1763       2024-02-15       18:13:59,499043       Cisco_fria2:27       Cisco_fria2:27       Cisco_fria2:27       Cisco_fria2:27       Cisco_fria2:27       Basic Format; Type 1 LLC (Class I LLC); Min         1765       2024-02-15       18:13:59,49509       Cisco_fria2:27       Basic Format; Type 1 LLC (Class I LLC); Min         1766       2024-02-15       18:13:59,49509       Cisco_fria2:27       (14:16:9d:7f:a)       Basic Format; Type 1 LLC (Class I LLC); Min         1767       2024-02-15       18:13:59,49509       Cisco_fria2:27       (14:16:9d:7f:a)       Basic Format; Type 1 LLC (Class I LLC); Min         1767       2024-02-15       18:13:59,49509       Cisco_fria2:27       (14:16:9d:7f:a)       Basic Format; Type 1 LLC (Class I LLC); Min         1779       2024-02-15       18:13:59,49509       Cisco_fria2:27       (14:16:9d:7f:a)       Bozic Tira2;	1761	2024-02-15 18:13:59.488226										
1763       2024-92-15       18:13:59, 491940       Cisco_7f:a2:27       6C:39:31:4b:11:81       802.11       132       245       Association Response, SN=1, FN=0, FlagsC         1765       2024-92-15       18:13:59, 493452       Cisco_7f:a2:27       802.11       132       374       Beacon frame, SN=18, FN=0, FlagsC         1766       2024-92-15       18:13:59, 495049       c6:39:31:4b:11:81       Cisco_7f:a2:27       802.11       132       92       QOS Null function (No data), SN=1114, FN=0, FlagsC         1767       2024-92-15       18:13:59, 495041       Cisco_7f:a2:27       802.11       132       18       Acknowledgement, FlagsC         1768       2024-92-15       18:13:59, 498041       Cisco_7f:a2:27       802.11       132       18       Trigger EHT Basic, FlagsC         1779       2024-92-15       18:13:59, 500190       Cisco_7f:a2:27       802.11       132       13       Acknowledgement, FlagsC         1771       2024-92-15       18:13:59, 500190       Cisco_7f:a2:27       802.11       132       33       Acknowledgement, FlagsC         1772       2024-92-15       18:13:59, 500200       Cisco_7f:a2:27       802.11       132       33       Acknowledgement, FlagsC         1772       2024-92-15 <td>1762</td> <td>2024-02-15 18:13:59.490044</td> <td>c6:39:31:4b:11:81</td> <td>Broadcast</td> <td>XID</td> <td>132</td> <td>70</td> <td>Basic Format;</td> <td>Type 1 LI</td> <td>LC (Class )</td> <td>I LLC); W</td> <td>/in</td>	1762	2024-02-15 18:13:59.490044	c6:39:31:4b:11:81	Broadcast	XID	132	70	Basic Format;	Type 1 LI	LC (Class )	I LLC); W	/in
1764       2024-02-15       18:13:59.491943       Cisco_ff:32:2f       (14:16:947.2)       802.11       132       48       Acknowledgement, Flags=C         1765       2024-02-15       18:13:59.495099       c6:39:31:4b:11:81       Cisco_ff:32:2f       802.11       132       92       005       Null function (No data), SN=1114, FN=0;         1766       2024-02-15       18:13:59.495099       c6:39:31:4b:11:81	1763	2024-02-15 18:13:59.491940	Cisco_7f:a2:2f	c6:39:31:4b:11:81	802.11	132	245	Association F	esponse, S	SN=1, FN=0	, Flags=.	••
1765       2024-02-15       18:13:59,493452       Cisco_ff:32:cb       Bradcast       802.11       132       374       Beacon frame, SN-187, RN-0, Flags(C)         1766       2024-02-15       18:13:59,49809       c6:39:31:4b:11:81       Cisco_ff:32:2f       802.11       132       92       QoS Null function (No data), SN=114, RN-0, Cisco_ff:32:2f         1769       2024-02-15       18:13:59,498002       Cisco_ff:32:2f       (14:16:9d:7f:aC)       802.11       132       118       Trigger EHT Basic, FlagsC         1769       2024-02-15       18:13:59,498002       Cisco_ff:32:2f       802.11       132       118       Acknowledgement, FlagsC         1779       2024-02-15       18:13:59,50016       0.0.0       214.0.1       1192       313       Acknowledgement, FlagsC         1771       2024-02-15       18:13:59,50000       Cisco_ff:32:2f       14:16:917.80       802.11       132       379       Beacon frame, SN=3235, RN=0, FlagsC         1774       2024-02-15       18:13:59,50050       Cisco_ff:32:2f       Broadcast       802.11       132       437       Beacon frame, SN=3235, RN=0, FlagsC         1774       2024-02-15       18:13:59,50050       Cisco_ff:32:2f       Broadcast       802.11       132       437	1764	2024-02-15 18:13:59.491943										
1766       2024-02-15       18:13:59.495009       c6:39:31:4b:11:81       c1sco_ff:a2:2f       802.11       132       92       005 Null function (No data), SN=1114, FN=0, c6:39:33.4b:11:81         1767       2024-02-15       18:13:59.498012       cisco_ff:a2:2f       6:39:33:4b:11:81       c6:39:33:4b:11:81       <	1765	2024-02-15 18:13:59.493452	Cisco_ff:3c:cb	Broadcast	802.11	132	374	Beacon frame,	SN=187, F	FN=0, Flag:	s=	.c
1767       2024-02-15       18:13:59.499:013       c6:39:31:4b:11:81       (c6:39:31:4b:11:81       132       48       Acknowledgement, Flags=C         1768       2024-02-15       18:13:59.498001       c6:39:31:4b:11:81       c6:39:31:4b:11:81       132       118       Trigger EHT Basic, Flags=C         1776       2024-02-15       18:13:59.498011       c6:39:31:4b:11:81       c6:39:31:4b:11:81       132       118       Trigger EHT Basic, Flags=C         1777       2024-02-15       18:13:59.500196       0.0.0       22:40.0.1       1004 Pv3       132       132       Membership Query, general         1777       2024-02-15       18:13:59.50020       Cisco_7ria2:27       14:16:9d:7.1002.11       132       379       Beacon frame, SN=3235, FN=0, Flags=C         1777       2024-02-15       18:13:59.50052       Cisco_7ria2:27       Broadcast       802.11       132       93       Trigger EHT Buffer Starts Report Poll (BSRF         1776       2024-02-15       18:13:59.5036759       Cisco_7ria2:27       Broadcast       802.11       132       437       Beacon frame, SN=126, FN=0, Flags=         1777       2024-02-15       18:13:59.550245       Cisco_7ria2:27       Broadcast       802.11       132       438       Beacon frame, SN=126, FN=0, Flags= <td>1766</td> <td>2024-02-15 18:13:59.495009</td> <td>c6:39:31:4b:11:81</td> <td>Cisco_7f:a2:2f</td> <td>802.11</td> <td>132</td> <td>92</td> <td>QoS Null fund</td> <td>tion (No o</td> <td>data), SN=1</td> <td>1114, FN=</td> <td>0,</td>	1766	2024-02-15 18:13:59.495009	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11	132	92	QoS Null fund	tion (No o	data), SN=1	1114, FN=	0,
1768       2024-02-15       18:13:59.498001       Cisco_7f:a2:2f       (14:16:9d:7f:a.       C6:39:31:4b:11:81       (C6:39:31.4b:11:81       (C6:39:31.4b:11:81       (C6:39:31:4b:11:81       (C6:39:3	1767	2024-02-15 18:13:59.495013		c6:39:31:4b:11:81 (c6:39:3				Acknowledgeme	nt, Flags			
1769       2024-02-15       18:13:59.498011       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       313       Action No Ack, SN=8, FN=8,	1768	2024-02-15 18:13:59.498002	Cisco_7f:a2:2f (14:16:9d:7f:a	c6:39:31:4b:11:81 (c6:39:3	802.11	132	118	Trigger EHT E	asic, Flag	gs=	.c	
1770       2024-02-15       18:13:59.50019       0.0.0       224.0.0.1       132       132       132       Hembership Query, general         1771       2024-02-15       18:13:59.500200       Cisco_7f:a2:2f       14:16:94:7.       802.11       132       48       Acknowledgement, Flags=C         1772       2024-02-15       18:13:59.506500       Cisco_7f:a2:2f       14:16:94:7f:a.       66:39:31.4b:11:81       (c6:39:3.       802.11       132       93       Trigger EHT Buffer Status Report Poll (BSRP         1774       2024-02-15       18:13:59.536759       Cisco_7f:a2:2f       Broadcast       802.11       132       43       Beacon frame, SN=1266, RH=0, Flags=         1775       2024-02-15       18:13:59.536759       Cisco_7f:a2:2d       Broadcast       802.11       132       41       Beacon frame, SN=1266, RH=0, Flags=         1776       2024-02-15       18:13:59.550255       Cisco_7f:a2:2d       Broadcast       802.11       132       48       Acknowledgement, Flags=       Cisco_7f:a2:2f	1769	2024-02-15 18:13:59.498011	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11	132	313	Action No Ack	, SN=8, FM	N=0, Flags	=	.c
1771       2024-02-15       18:13:59.50020       Cisco_7f:a2:2f       (14:16:9d:7082.11       132       48       Acknowledgement, Flags=C         1772       2024-02-15       18:13:59.50060       Cisco_8:ba:8f       Broadcast       802.11       132       39       Trigger EHT Buffer Status Report Poll (BSRP         1773       2024-02-15       18:13:59.50652       Cisco_7f:a2:2f       (14:16:9d:7f:a.       C6:39:31:4b:11:81       (c6:39:3.3:4b:11:81       39       Trigger EHT Buffer Status Report Poll (BSRP         1774       2024-02-15       18:13:59.536759       Cisco_7f:a2:2f       Broadcast       802.11       132       43       Beacon frame, SN=126, FN=0, Flags=         1776       2024-02-15       18:13:59.536772       Cisco_7f:a2:2d       Broadcast       802.11       132       43       Beacon frame, SN=327, FN=0, Flags=         1777       2024-02-15       18:13:59.550245       c6:39:31:4b:11:81       c6:39:31:4b:11:81       802.11       132       44       Acknowledgement, Flags=C         1777       2024-02-15       18:13:59.550245       c6:39:31:4b:11:81       c6:39:31:4b:11:81       802.11       132       48       Acknowledgement, Flags=C         1778       2024-02-15       18:13:59.550245       c6:39:31:4b:11:81       c6:39:31:4b:11:81	1770	2024-02-15 18:13:59.500196	0.0.0	224.0.0.1	IGMPv3	132	132	Membership Qu	ery, gener	ral		
1772       2024-02-15       18:13:59.586660       Cisco_8:ba:8f       Broadcast       802.11       132       379       Beacon frame, SN=3235, FN=0, Flags=         1773       2024-02-15       18:13:59.520652       Cisco_7f:a2:2f       14:16:9d:7f:a       c6:39:31:4b:11:81       (c6:39:3.a)       802.11       132       93       Trigger EHT Buffer Status RN=0, Flags=         1773       2024-02-15       18:13:59.536759       Cisco_7f:a2:2f       Broadcast       802.11       132       413       Beacon frame, SN=126, FN=0, Flags=         1775       2024-02-15       18:13:59.536759       Cisco_7f:a2:2d       Broadcast       802.11       132       437       Beacon frame, SN=126, FN=0, Flags=         1777       2024-02-15       18:13:59.550235       Cisco_7f:a2:2d       Broadcast       802.11       132       437       Beacon frame, SN=126, FN=0, Flags=         1777       2024-02-15       18:13:59.550235       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C         1778       2024-02-15       18:13:59.550249       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       78       Action, SN=116, FN=0, Flags=C         1781       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81 <t< td=""><td>1771</td><td>2024-02-15 18:13:59.500200</td><td></td><td>Cisco_7f:a2:2f (14:16:9d:7</td><td>802.11</td><td>132</td><td>48</td><td>Acknowledgeme</td><td>nt, Flags</td><td>=C</td><td></td><td></td></t<>	1771	2024-02-15 18:13:59.500200		Cisco_7f:a2:2f (14:16:9d:7	802.11	132	48	Acknowledgeme	nt, Flags	=C		
1773       2024-02-15       18:13:59.520852       Cisco_7f:a2:2f       (14:16:9d:7f:a.       c6:39:31:4b:11:81       (c6:39:3.       802.11       132       93       Trigger EHT Buffer Status Report Poll (BSRP         1774       2024-02-15       18:13:59.536759       Cisco_7f:a2:2f       Broadcast       802.11       132       413       Beacon frame, SN=1266, RH=0, Flags=         1775       2024-02-15       18:13:59.536769       Cisco_7f:a2:2d       Broadcast       802.11       132       413       Beacon frame, SN=1266, RH=0, Flags=         1776       2024-02-15       18:13:59.536725       Cisco_7f:a2:2d       Broadcast       802.11       132       417       Beacon frame, SN=327, RN=0, Flags=         1777       2024-02-15       18:13:59.550235       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Actionol todent, Flags=C         1778       2024-02-15       18:13:59.550251       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       78       Actionol, SN=1116, RN=0, Flags=C         1781       2024-02-15       18:13:59.550251       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Actionol kodenent, Flags=C       S02       1172       2024-02-15       18:13:59.550251       <	1772	2024-02-15 18:13:59.505060	Cisco_8e:ba:8f	Broadcast	802.11	132	379	Beacon frame,	SN=3235,	FN=0, Flag	gs=	
1774       2024-02-15       18:13:59.536759       Cisco_7f:a2:2f       Broadcast       802.11       132       413       Beacon frame, SN=1226, FN=0, Flags=         1775       2024-02-15       18:13:59.536779       Cisco_7f:a2:2e       Broadcast       802.11       132       437       Beacon frame, SN=1226, FN=0, Flags=         1776       2024-02-15       18:13:59.536772       Cisco_7f:a2:2d       Broadcast       802.11       132       437       Beacon frame, SN=327, FN=0, Flags=         1777       2024-02-15       18:13:59.550245       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       64       Null function (No data), SN=1115, FN=0, Flags=C         1778       2024-02-15       18:13:59.550249       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C         1780       2024-02-15       18:13:59.550253       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C         1781       2024-02-15       18:13:59.550253       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C         1782       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       Cisco_7f:a2:2f	1773	2024-02-15 18:13:59.520052	Cisco_7f:a2:2f (14:16:9d:7f:a	c6:39:31:4b:11:81 (c6:39:3	802.11	132	93	Trigger EHT E	uffer Staf	tus Report	Poll (BS	RP
1775       2024-02-15       18:13:59.536769       Cisco_7f:a2:2e       Broadcast       802.11       132       437       Beacon frame, SN=1208, FH=0, Flags=C         1776       2024-02-15       18:13:59.536772       Cisco_7f:a2:2d       Broadcast       802.11       132       417       Beacon frame, SN=1208, FH=0, Flags=C         1777       2024-02-15       18:13:59.550235       Cisco_7f:a2:2d       Broadcast       802.11       132       417       Beacon frame, SN=1207, FN=0, Flags=C         1778       2024-02-15       18:13:59.550235       C6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C         1778       2024-02-15       18:13:59.550250       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       78       Action, SN=110, FN=0, Flags=C         1781       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       98       Action, SN=1117, FN=0, Flags=C         1782       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       C6:39:31:4b:11:81       802.11       132       98       Action, SN=3117, FN=0, Flags=C         1782       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       C6:39:31:4b:11:81	1774	2024-02-15 18:13:59.536759	Cisco_7f:a2:2f	Broadcast	802.11	132	413	Beacon frame,	SN=1526,	FN=0, Flag	gs=	
1776       2024-02-15       18:13:59.536772       Cisco_7f:a2:2d       Broadcast       802.11       132       417       Beacon frame, SN=327, FN=0, FLags=(         1777       2024-02-15       18:13:59.550235       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       64       Null function (Nata), SN=1115, FN=0, FLags=(         1778       2024-02-15       18:13:59.550235       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       64       Null function (Nata), SN=1115, FN=0, FLags=(         1779       2024-02-15       18:13:59.550251       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       78       Action, SN=1116, FN=0, FLags=(         1780       2024-02-15       18:13:59.550251       c6:39:31:4b:11:81       Cisco_7f:a2:2f       602.11       132       98       Action, SN=1117, FN=0, FLags=(         1781       2024-02-15       18:13:59.550811       Cisco_7f:a2:2f       602.11       132       98       Action, SN=117, FN=0, FLags=         1782       2024-02-15       18:13:59.550811       Cisco_7f:a2:2f       602.11       132       98       Action, SN=2, FN=0, FLags=         1783       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       (41:16:9d:7f:a2:2f       802.11       1	1775	2024-02-15 18:13:59.536769	Cisco_7f:a2:2e	Broadcast	802.11	132	437	Beacon frame,	SN=1208,	FN=0, Fla	gs=	
1777       2024-02-15       18:13:59.550235       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       64       Null function (No data), SN=1115, FN=0, Flag         1778       2024-02-15       18:13:59.550249       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C, SI         1778       2024-02-15       18:13:59.550249       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C, SI         1780       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Acknowledgement, Flags=C         1781       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       98       Action, SN=110, FN=0, Flags=C         1782       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       (c6:39:3:3.802.11       132       98       Action, SN=2, FN=0, Flags=C         1782       2024-02-15       18:13:59.550811       Cisco_7f:a2:2f       c6:39:31:4b:11:81       602.11       132       157       Action, SN=2, FN=0, Flags=C         1784       2024-02-15       18:13:59.550814       Cisco_8b:6d:8f       Broadcast       802.11 <t< td=""><td>1776</td><td>2024-02-15 18:13:59.536772</td><td>Cisco_7f:a2:2d</td><td>Broadcast</td><td>802.11</td><td>132</td><td>417</td><td>Beacon frame,</td><td>SN=327, F</td><td>FN=0, Flag</td><td>s=</td><td>.c</td></t<>	1776	2024-02-15 18:13:59.536772	Cisco_7f:a2:2d	Broadcast	802.11	132	417	Beacon frame,	SN=327, F	FN=0, Flag	s=	.c
1778       2024-02-15       18:13:59.550245       c6:39:31:4b:11:81       (c6:39:32.4)       802.11       132       48       Acknowledgement, Flags=C         1779       2024-02-15       18:13:59.550249       c6:39:31:4b:11:81       C1:so_7f:a2:2f       802.11       132       78       Action, SN=1116, FN=0, Flags=C         1780       2024-02-15       18:13:59.550251       c6:39:31:4b:11:81       C1:so_7f:a2:2f       802.11       132       98       Action, SN=1116, FN=0, Flags=C         1781       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       C1:so_7f:a2:2f       802.11       132       98       Action, SN=1117, FN=0, Flags=C         1782       2024-02-15       18:13:59.550811       Cisco_7f:a2:2f       c6:39:31:4b:11:81       c6:39:31:4b:11:81       602.11       132       98       Action, SN=1117, FN=0, Flags=C         1783       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       c6:39:31:4b:11:81       c6:39:31:4b:11:81       602.11       132       48       Acknowledgement, Flags=C         1784       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       c1:s0:16:39:31:4b:11:81       c6:39:31:4b:11:81       248       Acknowledgement, Flags=C         1786       2024-02-15       18:13:59.550814       Cis	1777	2024-02-15 18:13:59.550235	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11	132	64	Null function	(No data)	), SN=1115	, FN=0, F	la
1779       2024-02-15       18:13:59.550249       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       78       Action, Sk=1116, Fk=9, Fkags=,C, SSI         1780       2024-02-15       18:13:59.550251       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Action, Sk=1116, Fk=9, Fkags=,C         1781       2024-02-15       18:13:59.550253       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Action, Sk=1117, Fk=9, Fkags=C         1782       2024-02-15       18:13:59.550851       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       48       Action, Sk=2, Fkags=C         1783       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       c6:39:31:4b:11:81       682.11       132       48       Action, Sk=2, Fkags=C         1784       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       c14:16:9d:7f:a2:2f       14:16:9d:7f:a2:2f       18:13:59.550814       Cisco_7f:a2:2f       14:16:9d:7f:a2:2f       14:16:9d:7f:	1778	2024-02-15 18:13:59.550245		c6:39:31:4b:11:81 (c6:39:3	802.11	132	48	Acknowledgeme	nt, Flags	=C		
1780       2024-02-15       18:13:59.550251       c6:39:31:4b:11:81       (c6:39:3.2       802.11       132       48       Acknowledgement, Flags=C         1781       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       (c6:39:3.2       802.11       132       98       Action, SN=1117, NH=0, Flags=C         1782       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       (c6:39:3.2       802.11       132       98       Action, SN=1117, NH=0, Flags=C         1783       2024-02-15       18:13:59.550811       Cisco_7f:a2:2f       c6:39:31:4b:11:81       802.11       132       157       Action, SN=2, FN=0, Flags=C         1784       2024-02-15       18:13:59.550811       Cisco_8b:6d:8f       Broadcast       802.11       132       48       Acknowledgement, Flags=C         1785       2024-02-15       18:13:59.560108       Cisco_7f:a2:2f       c1:39:31:4b:11:81       (c6:39:3.3       802.11       132       48       Acknowledgement, Flags=C         1786       2024-02-15       18:13:59.560108       Cisco_7f:a2:2f       (14:16:9d:7f:a.       66:39:31:4b:11:81       132       93       Trigger EHT Buffer State Report Poll (BSRF         1787       2024-02-15       18:13:59.560118       Cisco_93:83:4f       Broadcast	1779	2024-02-15 18:13:59.550249	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11	132	78	Action, SN=11	16, FN=0,	Flags=	C, S	SI
1781       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       98       Action, Sk=1117, FN=0, Flags=C         1782       2024-02-15       18:13:59.550255       c6:39:31:4b:11:81       Cisco_7f:a2:2f       802.11       132       98       Action, Sk=1117, FN=0, Flags=C         1783       2024-02-15       18:13:59.550811       Cisco_7f:a2:2f       c6:39:31:4b:11:81       602.11       132       48       Acknowledgement, Flags=C         1784       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       (14:16:9d:7_0       802.11       132       48       Acknowledgement, Flags=C         1785       2024-02-15       18:13:59.550818       Cisco_8b:6d:8f       Broadcast       802.11       132       48       Acknowledgement, Flags=C         1786       2024-02-15       18:13:59.560108       Cisco_7f:a2:2f       (14:16:9d:7f:a.       c6:39:31:4b:11:81       c6:39:31:4b:11:81       c6:39:31:4b:11:81       93       Triger ENT Buffer Status       Report Poll (ISSR         1787       2024-02-15       18:13:59.560108       Cisco_93:83:4f       Broadcast       802.11       132       458       Beacon frame, SN=3713, FN=0, Flags=         1788       2024-02-15       18:13:59.56040       Cisc	1780	2024-02-15 18:13:59.550251		c6:39:31:4b:11:81 (c6:39:3	802.11	132	48	Acknowledgeme	nt, Flags	=C		
1782         2024-02-15         18:13:59.550255         c6:39:31:4b:11:81         66:39:3         802.11         132         48         Acknowledgement, FlagsC           1783         2024-02-15         18:13:59.550811         Cisco_7f:a2:2f         c6:39:31:4b:11:81         802.11         132         157         Action, SH=2, FN=0, FlagsC           1784         2024-02-15         18:13:59.550814         Cisco_7f:a2:2f         (14:16:9d:7_a         802.11         132         48         Acknowledgement, FlagsC           1784         2024-02-15         18:13:59.550814         Cisco_7f:a2:2f         (14:16:9d:7_a         802.11         132         48         Acknowledgement, FlagsC           1785         2024-02-15         18:13:59.560108         Cisco_7f:a2:2f         (14:16:9d:7f:a.         C6:39:31:4b:11:81         (c6:39:3         802.11         132         49         Beacon frame, SN=3713, FN=0, Flags           1786         2024-02-15         18:13:59.560112         Cisco_93:83:4f         Broadcast         802.11         132         458         Beacon frame, SN=3713, FN=0, Flags           1788         2024-02-15         18:13:59.569640         Cisco_8:ba:cf         Broadcast         802.11         132         438         Beacon frame, SN=3713, FN=0, Flags	1781	2024-02-15 18:13:59.550253	c6:39:31:4b:11:81	Cisco_7f:a2:2f	802.11	132	98	Action, SN=11	17, FN=0,	Flags=	c	
1783       2024-02-15       18:13:59.550811       Cisco_7f:a2:2f       c6:39:31:4b:11:81       802.11       132       157       Action, SN=2, FN=0, Flags=C         1784       2024-02-15       18:13:59.550814       Cisco_7f:a2:2f       (4:16:9d:7_a 802.11       132       48       Action, SN=2, FN=0, Flags=C         1785       2024-02-15       18:13:59.55047       Cisco_8b:6d:8f       Broadcast       802.11       132       420       Beacon frame, SN=333, FN=0, Flags=         1786       2024-02-15       18:13:59.560108       Cisco_7f:a2:2f       (14:16:9d:7f:a       c6:39:31:4b:11:81       (c6:39:3       802.11       132       93       Trigger EHT Buffer Status Report Poll (BSRF         1787       2024-02-15       18:13:59.560102       Cisco_8:a3:4f       Broadcast       802.11       132       458       Beacon frame, SN=33713, FN=0, Flags=         1788       2024-02-15       18:13:59.56040       Cisco_8:a3:cf       Broadcast       802.11       132       438       Beacon frame, SN=3473, FN=0, Flags=         1789       2024-02-15       18:13:59.582515       Cisco_ff:a:cce       Broadcast       802.11       132       438       Beacon frame, SN=3473, FN=0, Flags=	1782	2024-02-15 18:13:59.550255		c6:39:31:4b:11:81 (c6:39:3	802.11	132	48	Acknowledgeme	nt, Flags	=C		
1784         2024-02-15         18:13:59.550814         Cisco_7f:a2:2f         14:16:9d:7_         802.11         132         48         Acknowledgement, FlagsC           1785         2024-02-15         18:13:59.550487         Cisco_816d:8f         Broadcast         802.11         132         48         Acknowledgement, FlagsC           1786         2024-02-15         18:13:59.560108         Cisco_7f:a2:2f         (14:16:9d:7f:a.         66:39:31:4b:11:81         166:39:3.         802.11         132         48         Beacon frame, SN=3353, FN=0, FlagsC           1787         2024-02-15         18:13:59.560108         Cisco_93:83:4f         Broadcast         802.11         132         458         Beacon frame, SN=3713, FN=0, Flags           1788         2024-02-15         18:13:59.569640         Cisco_8:ba:cf         Broadcast         802.11         132         350         Beacon frame, SN=3473, FN=0, Flags           1789         2024-02-15         18:13:59.5589640         Cisco_8:ba:cf         Broadcast         802.11         132         350         Beacon frame, SN=3473, FN=0, Flags           1789         2024-02-15         18:13:59.558215         Cisco_8:ba:cf         Broadcast         802.11         132         438         Beacon frame, SN=3473, FN=0, Flags </td <td>1783</td> <td>2024-02-15 18:13:59.550811</td> <td>Cisco_7f:a2:2f</td> <td>c6:39:31:4b:11:81</td> <td>802.11</td> <td>132</td> <td>157</td> <td>Action, SN=2,</td> <td>FN=0, Fla</td> <td>ags=</td> <td>c</td> <td></td>	1783	2024-02-15 18:13:59.550811	Cisco_7f:a2:2f	c6:39:31:4b:11:81	802.11	132	157	Action, SN=2,	FN=0, Fla	ags=	c	
1785         2024-02-15         18:13:59.559487         Cisco_8b:6d:8f         Broadcast         802.11         132         420         Beacon frame, SN=3353, FN=0, Flags=           1786         2024-02-15         18:13:59.560108         Cisco_7f:a2:2f         (14:16:9d:7f:a         c6:39:31:4b:11:81         (c6:39:3         802.11         132         93         Trigger EHT Buffer Status Report Poll (BSRF           1787         2024-02-15         18:13:59.560112         Cisco_93:83:4f         Broadcast         802.11         132         93         Trigger EHT Buffer Status Report Poll (BSRF           1788         2024-02-15         18:13:59.560102         Cisco_93:83:4f         Broadcast         802.11         132         458         Beacon frame, SN=3713, FN=0, Flags=           1788         2024-02-15         18:13:59.560540         Cisco_8:ba:cf         Broadcast         802.11         132         350         Beacon frame, SN=3473, FN=0, Flags=           1789         2024-02-15         18:13:59.560515         Cisco_ff:3c:ce         Broadcast         802.11         132         438         Beacon frame, SN=3473, FN=0, Flags=	1784	2024-02-15 18:13:59.550814		Cisco_7f:a2:2f (14:16:9d:7	802.11	132	48	Acknowledgeme	nt, Flags	=C		
1786         2024-02-15         18:13:59.560108         Cisco_7f:a2:2f         (14:16:9d:7f:a         c6:39:31:4b:11:81         (c6:39:3         802.11         132         93         Trigger EHT Buffer Status Report Poll (BSRF           1787         2024-02-15         18:13:59.560112         Cisco_93:83:4f         Broadcast         802.11         132         458         Beacon frame, SN=3713, FN=0, Flags=           1788         2024-02-15         18:13:59.56040         Cisco_8e:ba:cf         Broadcast         802.11         132         350         Beacon frame, SN=3473, FN=0, Flags=           1789         2024-02-15         18:13:59.562515         Cisco_8e:ba:cf         Broadcast         802.11         132         438         Beacon frame, SN=3473, FN=0, Flags=           1789         2024-02-15         18:13:59.562515         Cisco_ff:3c:ce         Broadcast         802.11         132         438         Beacon frame, SN=349, FN=0, Flags=	1785	2024-02-15 18:13:59.559487	Cisco_8b:6d:8f	Broadcast	802.11	132	420	Beacon frame,	SN=3353,	FN=0, Fla	gs=	
1787         2024-02-15         18:13:59.560112         Cisco_93:83:4f         Broadcast         802.11         132         458         Beacon frame, SN=3713, FN=0, Flags=           1788         2024-02-15         18:13:59.569640         Cisco_82:ba:cf         Broadcast         602.11         132         350         Beacon frame, SN=3473, FN=0, Flags=           1789         2024-02-15         18:13:59.559640         Cisco_82:ba:cf         Broadcast         602.11         132         350         Beacon frame, SN=3473, FN=0, Flags=           1789         2024-02-15         18:13:59.5582515         Cisco_ff:32:ce         Broadcast         602.11         132         438         Beacon frame, SN=189, Flags=	1786	2024-02-15 18:13:59.560108	Cisco_7f:a2:2f (14:16:9d:7f:a	c6:39:31:4b:11:81 (c6:39:3	802.11	132	93	Trigger EHT E	uffer Star	tus Report	Poll (BS	RF
1788         2024-02-15         18:13:59.569640         Cisco_8e:ba:cf         Broadcast         802.11         132         350         Beacon frame, SN=3473, FN=0, Flags=           1789         2024-02-15         18:13:59.582515         Cisco_ff:3c:ce         Broadcast         802.11         132         438         Beacon frame, SN=189, FN=0, Flags=	1787	2024-02-15 18:13:59.560112	Cisco_93:83:4f	Broadcast	802.11	132	458	Beacon frame,	SN=3713,	FN=0, Fla	gs=	
1789 2024-02-15 18:13:59.582515 Cisco_ff:3c:ce Broadcast 802.11 132 438 Beacon frame, SN=189, FN=0, Flags=	1788	2024-02-15 18:13:59.569640	Cisco_8e:ba:cf	Broadcast	802.11	132	350	Beacon frame,	SN=3473,	FN=0, Fla	gs=	
	1789	2024-02-15 18:13:59.582515	Cisco_ff:3c:ce	Broadcast	802.11	132	438	Beacon frame,	SN=189, 1	FN=0, Flag	s=	

건강한 OTA

# 관련 정보

- <u>비인가 디바이스 관리</u>
- 비인가 액세스 포인트 분류
- 802.11 무선 스니핑 분석 및 문제 해결
- <u>Cisco 기술 지원 및 다운로드</u>

이 번역에 관하여

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