

Multi-RSN Override in the Wild

What phones do with WPA3-Personal Compatibility Mode

October 2026

Jim Palmer

Keeper of the Sacred `rkscli`, Interpreter of Beacon Omens

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Compatibility Mode buys interoperability.

The price is which clients land on WPA2.

Jim’s Claude.ai agent who did all the work

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Two ways to offer more than one AKM

Transition Mode

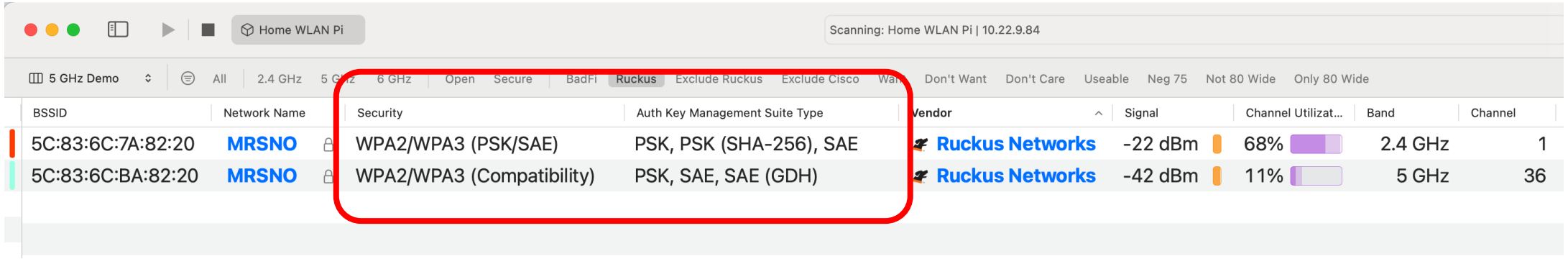
```
RSNE:
AKM 2, 6, 8
(PSK, PSK-SHA256, SAE)
```

One element, every AKM merged together. Every client reads the whole list and picks what it understands.

Compatibility Mode

```
RSNE: AKM 2 only (PSK)
+ RSNE Override: AKM 8 (SAE)
+ RSNE Override 2: AKM 24 (SAE-GDH)
```

Three separate elements. A client that doesn't recognize the override elements never sees them — not confusion, invisibility.



WPA3 Specification v3.5 § 14

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Three elements, one OUI

Type 41

RSNE Override

AKM 8 — SAE
CCMP-128
MFP Required

Type 42

RSNE Override 2

AKM 24 — SAE (GDH)
GCMP-256
EHT only

Type 43

RSNXE Override

SAE Hash-to-Element
Supported

Confirmed independently in WiFi Explorer and Wireshark, against the same captured beacon.

OUI 50-6F-9A (Wi-Fi Alliance) · WPA3 Spec v3.5 §14.4

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	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
1	0.000000	RuckusWirele_7a:82:20	Broadcast	Beacon		1	"MRSNO"	
2	0.000000	RuckusWirele_ba:82:20	Broadcast	Beacon		36	"MRSNO"	

```
rame 1: Packet, 347 bytes on wire (2776 bits), 347 bytes captured (2776 bits) on interface , id 0
adiotap Header v0, Length 16
02.11 radio information
EEE 802.11 Beacon frame, Flags: ........
EEE 802.11 Wireless Management
 Fixed parameters (12 bytes)
 Tagged parameters (295 bytes)
  > Tag: SSID parameter set: "MRSNO"
  > Tag: Supported Rates 1(B), 2(B), 5.5(B), 11(B), 6, 9, 12, 18, [Mbit/sec]
  > Tag: DS Parameter set: Current Channel: 1
  > Tag: ERP Information
  > Tag: Extended Supported Rates 24, 36, 48, 54, [Mbit/sec]
  > Tag: RSN Information
  > Tag: QBSS Load Element 802.11e CCA Version
  > Tag: HT Capabilities
  > Tag: HT Operation
  > Tag: Extended Capabilities (13 octets)
  > Tag: RSN eXtension (2 octets)
  > Ext Tag: HE Capabilities
  > Ext Tag: HE Operation
  > Ext Tag: Spatial Reuse Parameter Set
  > Ext Tag: MU EDCA Parameter Set
  > Ext Tag: EHT Capabilities (802.11be D3.0)
  > Ext Tag: EHT Operation (802.11be D3.0)
  > Tag: Vendor Specific: Ruckus Wireless: Unknown
  > Tag: Vendor Specific: Qualcomm Inc.
  > Tag: Vendor Specific: Microsoft Corp.: WMM/WME: Parameter Element
  > Tag: Vendor Specific: Qualcomm Inc.
```

	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
1	0.000000	RuckusWirele_7a:82:20	Broadcast	Beacon		1	"MRSNO"	
2	0.000000	RuckusWirele_ba:82:20	Broadcast	Beacon		36	"MRSNO"	

```
EE 802.11 Beacon frame, Flags: ........
EE 802.11 Wireless Management
Fixed parameters (12 bytes)
Tagged parameters (416 bytes)
> Tag: SSID parameter set: "MRSNO"
> Tag: Supported Rates 6(B), 9, 12(B), 18, 24(B), 36, 48, 54, [Mbit/sec]
> Tag: DS Parameter set: Current Channel: 36
> Tag: Country Information: Country Code US, Environment Global operating classes
> Tag: Power Constraint: 0
> Tag: TPC Report Transmit Power: 14 dBm
> Tag: RSN Information
> Tag: QBSS Load Element 802.11e CCA Version
> Tag: HT Capabilities
> Tag: HT Operation
> Tag: Extended Capabilities (13 octets)
> Tag: VHT Capabilities
> Tag: VHT Operation
> Tag: Tx Power Envelope
> Tag: RSN eXtension (2 octets)
> Ext Tag: HE Capabilities
> Ext Tag: HE Operation
> Ext Tag: Spatial Reuse Parameter Set
> Ext Tag: MU EDCA Parameter Set
> Ext Tag: EHT Capabilities (802.11be D3.0)
> Ext Tag: EHT Operation (802.11be D3.0)
> Tag: Vendor Specific: Ruckus Wireless: Unknown
> Tag: Vendor Specific: Qualcomm Inc.
> Tag: Vendor Specific: Microsoft Corp.: WMM/WME: Parameter Element
> Tag: Vendor Specific: Qualcomm Inc.
> Tag: Vendor Specific: Wi-Fi Alliance: RSN Element Override
> Tag: Vendor Specific: Wi-Fi Alliance: RSN Element Override 2
> Tag: Vendor Specific: Wi-Fi Alliance: RSN Extension Element Override
```

One AP, one SSID, four devices, four results

wlan8 · MRSNO · 5 GHz, ch 36 · RSN Override enabled, Mixed mode · pre-production standalone build

Device	Radio	OS	AKM	Role
Samsung Galaxy A6	Wi-Fi 5	Android 10	2 = PSK*	Non-WPA3 floor
Apple iPhone 14	Wi-Fi 6	iOS 27.0.1	8 = SAE	Mid-tier cap
Google Pixel 8	Wi-Fi 7	Android 17	24 = SAE-GDH	Top tier
Apple iPhone 17 Pro	Wi-Fi 7	iOS 26.6.2	2 = PSK*	The surprise

*Stay tuned

Every result that follows is read directly from a captured frame, not inferred.

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One AP, one SSID, four devices, six results

wlan8 · MRSNO · 5 GHz, ch 36 · RSN Override enabled, Mixed mode · pre-production standalone build

Device	Radio	OS	AKM	Role
Samsung Galaxy A6	Wi-Fi 5	Android 10	2 = PSK	Non-WPA3 floor
Apple iPhone 14	Wi-Fi 6	iOS 27.0.1	8 = SAE	Mid-tier cap
Google Pixel 8	Wi-Fi 7	Android 17	24 = SAE-GDH	Top tier
Apple iPhone 17 Pro	Wi-Fi 7	iOS 26.6.2	2 = PSK	The surprise
Samsung Galaxy A6	Wi-Fi 5	Android 10	6 = PSK-SHA256	RSN Override Disabled
Apple iPhone 17 Pro	Wi-Fi 7	iOS 26.6.2	24 = SAE-GDH	RSN Override Disabled

Every result that follows is read directly from a captured frame, not inferred.

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Rubber, Meet “The Road”

The floor, working as designed

No.	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
1	0.000000	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	Probe Request	6.0	36	"MRSNO"	
2	0.000048		SamsungElect_b1:cb…	Ack	6.0	36		
3	0.002306	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	Probe Response	6.0	36	"MRSNO"	
4	0.006527	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	Authentication	6.0	36		
5	0.006581		SamsungElect_b1:cb…	Ack	6.0	36		
6	0.011280	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	Authentication	6.0	36		
7	0.012480	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	Association Request	6.0	36	"MRSNO"	
8	0.012529		SamsungElect_b1:cb…	Ack	6.0	36		
9	0.018113	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	Association Response	6.0	36		
10	0.019630	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	EAPOL	6.0	36		
11	0.039650	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	EAPOL	12.0	36		
12	0.039671		SamsungElect_b1:cb…	Ack	12.0	36		
13	0.041854	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	EAPOL	6.0	36		
14	0.045282	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	EAPOL	12.0	36		

```
Tag: RSN Information
    Tag Number: RSN Information (48)
    Tag length: 26
    RSN Version: 1
  > Group Cipher Suite: 00:0f:ac (Ieee 802.11) AES (CCM)
    Pairwise Cipher Suite Count: 1
  > Pairwise Cipher Suite List 00:0f:ac (Ieee 802.11) AES (CCM)
    Auth Key Management (AKM) Suite Count: 1
  v Auth Key Management (AKM) List 00:0f:ac (Ieee 802.11) PSK
    v Auth Key Management (AKM) Suite: 00:0f:ac (Ieee 802.11) PSK
        Auth Key Management (AKM) OUI: 00:0f:ac (Ieee 802.11)
        Auth Key Management (AKM) type: PSK (2)
  > RSN Capabilities: 0x24ac
    PMKID Count: 0
    PMKID List
  > Group Management Cipher Suite: 00:0f:ac (Ieee 802.11) BIP (128)
> Tag: Extended Capabilities (8 octets)
> Tag: VHT Capabilities
> Tag: Operating Mode Notification
> Tag: Vendor Specific: Microsoft Corp.: WMM/WME: Information Element
```

Samsung Galaxy A6

Android 10 · pre-WPA3 hardware

AKM 2 PSK

Never saw the override elements — only the base RSNE, which is all this device can read.

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wlan8-5ghz-client-a6-association-eapol.pcapng

Override-aware — capped by its own radio

No.	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
3	0.032818	RuckusWirele_ba:82:20	22:af:45:32:77:33	Probe Response	6.0	36	"MRSNO"	
4	0.126123	22:af:45:32:77:33	RuckusWirele_ba:82…	Authentication	6.0	36		
5	0.126177		22:af:45:32:77:33	Ack	6.0	36		
6	0.129471	RuckusWirele_ba:82:20	22:af:45:32:77:33	Authentication	6.0	36		
7	0.158814	22:af:45:32:77:33	RuckusWirele_ba:82…	Authentication	6.0	36		
8	0.158863		22:af:45:32:77:33	Ack	6.0	36		
9	0.160580	RuckusWirele_ba:82:20	22:af:45:32:77:33	Authentication	6.0	36		
10	0.163526	22:af:45:32:77:33	RuckusWirele_ba:82…	Association Request	6.0	36	"MRSNO"	
11	0.163574		22:af:45:32:77:33	Ack	6.0	36		
12	0.171060	RuckusWirele_ba:82:20	22:af:45:32:77:33	Association Response	6.0	36		
13	0.173249	RuckusWirele_ba:82:20	22:af:45:32:77:33	EAPOL	6.0	36		
14	0.176373	22:af:45:32:77:33	RuckusWirele_ba:82…	EAPOL	6.0	36		
15	0.176429		22:af:45:32:77:33	Ack	6.0	36		
16	0.178947	RuckusWirele_ba:82:20	22:af:45:32:77:33	EAPOL	6.0	36		
17	0.180302	22:af:45:32:77:33	RuckusWirele_ba:82…	EAPOL	6.0	36		

```
▾ Tag: RSN Information
    Tag Number: RSN Information (48)
    Tag length: 38
    RSN Version: 1
  › Group Cipher Suite: 00:0f:ac (Ieee 802.11) AES (CCM)
    Pairwise Cipher Suite Count: 1
  › Pairwise Cipher Suite List 00:0f:ac (Ieee 802.11) AES (CCM)
    Auth Key Management (AKM) Suite Count: 1
  ▾ Auth Key Management (AKM) List 00:0f:ac (Ieee 802.11) SAE (SHA256)
    ▾ Auth Key Management (AKM) Suite: 00:0f:ac (Ieee 802.11) SAE (SHA256)
        Auth Key Management (AKM) OUI: 00:0f:ac (Ieee 802.11)
        Auth Key Management (AKM) type: SAE (SHA256) (8)
  › RSN Capabilities: 0x00cc
    PMKID Count: 1
  › PMKID List
› Tag: HT Capabilities
› Tag: Extended Capabilities (3 octets)
› Tag: VHT Capabilities
› Ext Tag: HE Capabilities
```

iPhone 14

iOS 27.0.1 · Wi-Fi 6, Dual band

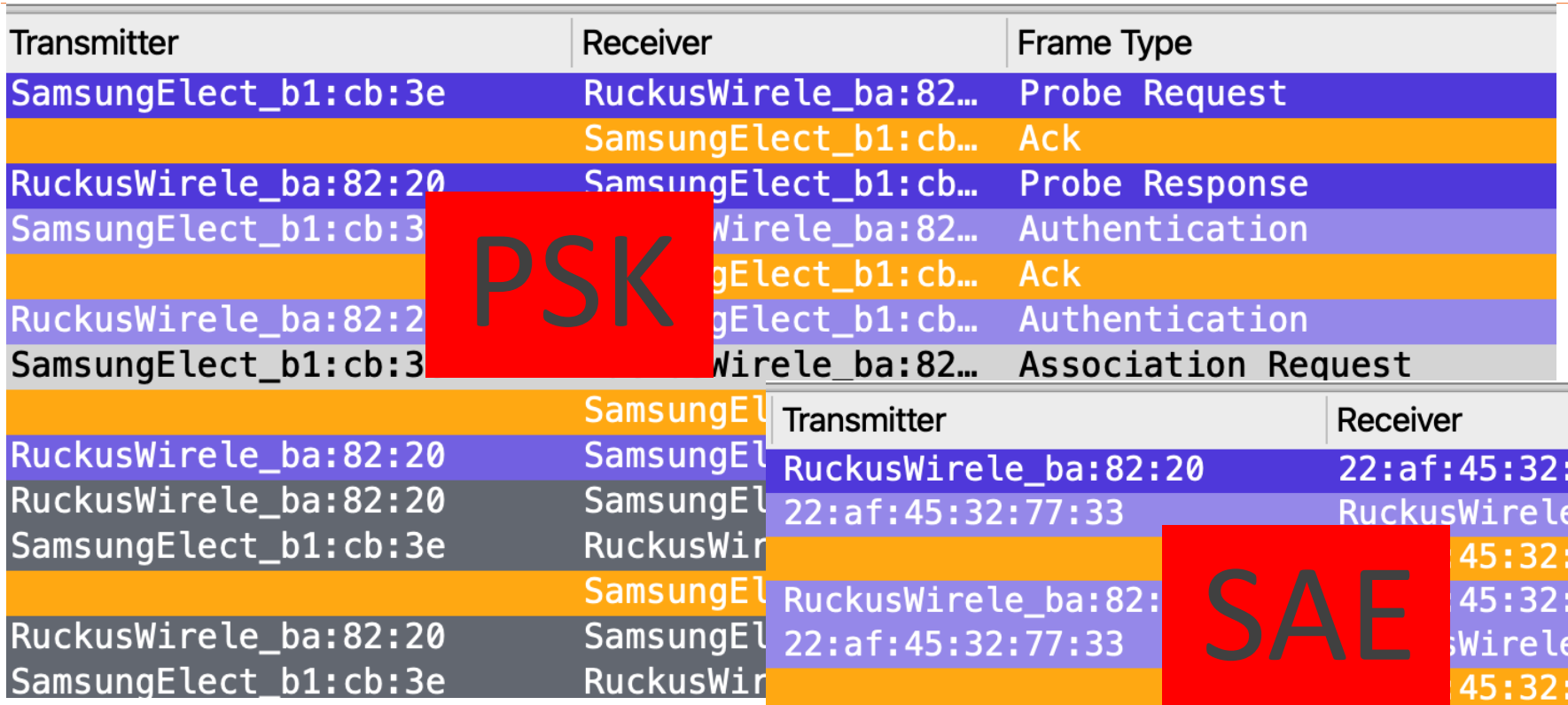
AKM 8 SAE

The Probe Response offered AKM 24 too. This phone selected the highest tier its Wi-Fi 6 radio can actually use — AKM 24 is EHT-only.

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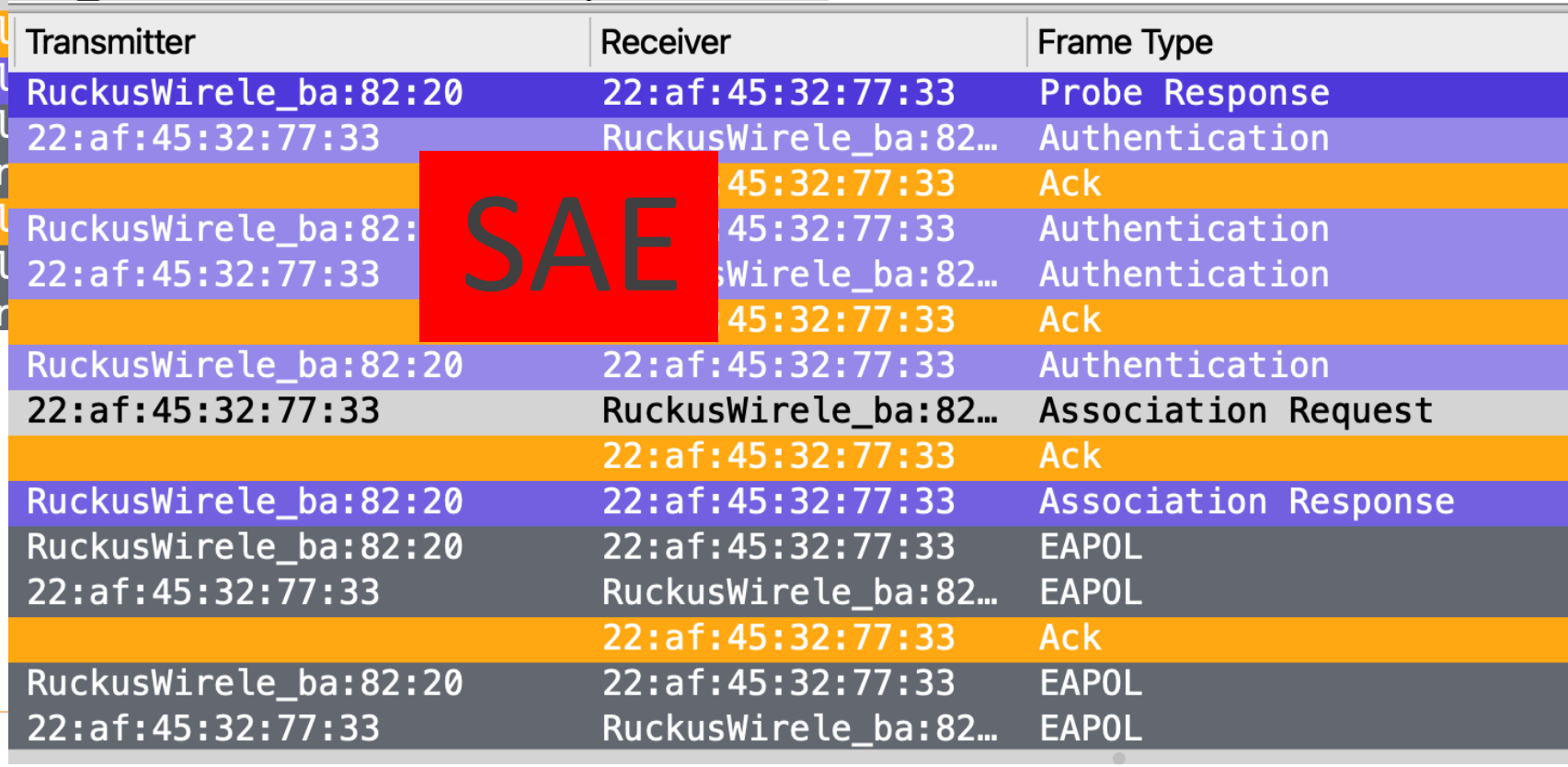
wlan8-5ghz-iphone14-ios27.0.1-sae.pcapng

PSK vs SAE – A Quick Tell



1. Probe
2. Authentication (**4 Frames**)
3. Association
4. 4-Way Handshake

1. Probe
2. Authentication (**2 Frames**)
3. Association
4. 4-Way Handshake



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The Top Tier, reached

No.	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
9	0.071992	RuckusWirele_ba:82:20	Google_54:4a:ca	Probe Response	6.0	36	"MRSNO"	
10	0.177611	Google_54:4a:ca	RuckusWirele_ba:82…	Authentication	6.0	36		
11	0.177662		Google_54:4a:ca	Ack	6.0	36		
12	0.181573	RuckusWirele_ba:82:20	Google_54:4a:ca	Authentication	6.0	36		
13	0.265568	Google_54:4a:ca	RuckusWirele_ba:82…	Authentication	6.0	36		
14	0.265742		Google_54:4a:ca	Ack	6.0	36		
15	0.267068	RuckusWirele_ba:82:20	Google_54:4a:ca	Authentication	6.0	36		
16	0.340004	Google_54:4a:ca	RuckusWirele_ba:82…	Association Request	6.0	36	"MRSNO"	
17	0.340051		Google_54:4a:ca	Ack	6.0	36		
18	0.352618	RuckusWirele_ba:82:20	Google_54:4a:ca	Association Response	6.0	36		
19	0.354844	RuckusWirele_ba:82:20	Google_54:4a:ca	EAPOL	6.0	36		
20	0.356793	Google_54:4a:ca	RuckusWirele_ba:82…	EAPOL	6.0	36		
21	0.356836		Google_54:4a:ca	Ack	6.0	36		
22	0.359334	RuckusWirele_ba:82:20	Google_54:4a:ca	EAPOL	6.0	36		
23	0.360759	Google_54:4a:ca	RuckusWirele_ba:82…	EAPOL	6.0	36		

```
▾ Tag: RSN Information
    Tag Number: RSN Information (48)
    Tag length: 38
    RSN Version: 1
  › Group Cipher Suite: 00:0f:ac (Ieee 802.11) AES (CCM)
    Pairwise Cipher Suite Count: 1
  › Pairwise Cipher Suite List 00:0f:ac (Ieee 802.11) GCMP (256)
    Auth Key Management (AKM) Suite Count: 1
  ▾ Auth Key Management (AKM) List 00:0f:ac (Ieee 802.11) SAE (GROUP-DEPEND)
    ▾ Auth Key Management (AKM) Suite: 00:0f:ac (Ieee 802.11) SAE (GROUP-DEPEND)
        Auth Key Management (AKM) OUI: 00:0f:ac (Ieee 802.11)
        Auth Key Management (AKM) type: SAE (GROUP-DEPEND) (24)
  › RSN Capabilities: 0x00cc
    PMKID Count: 1
  › PMKID List
› Tag: Supported Operating Classes
› Tag: HT Capabilities
› Tag: Extended Capabilities (10 octets)
› Tag: VHT Capabilities
```

Google Pixel 8

Android 17 (Oct 5 2026, patch) · Wi-Fi 7, Tri-band hardware

AKM 24 SAE-GDH · GCMP-256

Wi-Fi 7 hardware, current OS, full recognition of the override stack — the only device in the room that reaches the top tier.

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wlan8-5ghz-pixel8-android17-sae-gdh-clean.pcapng

iPhone 17 Pro — one phone, two results

RSN OVERRIDE: ON

AKM 2 — PSK

Base RSNE only. 1 auth frame. Downgraded to WPA2 — on a newish iPhone model.

Compatibility Mode

```
RSNE: AKM 2 only (PSK)
+ RSNE Override: AKM 8 (SAE)
+ RSNE Override 2: AKM 24 (SAE-GDH)
```

Three separate elements. A client that doesn't recognize the override elements never sees them — not confusion, invisibility.

Same MAC, same AP, same SSID. Nothing else changed.

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	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
1	0.000000	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	Probe Request	6.0	36	"MRSNO"	
2	0.000042		fa:e8:44:c1:b6:51	Ack	6.0	36		
3	0.001900	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	Probe Response	6.0	36	"MRSNO"	
4	0.008888	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	Authentication	6.0	36		
5	0.009016		fa:e8:44:c1:b6:51	Ack	6.0	36		
6	0.014076	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	Association Request	6.0	36	"MRSNO"	
7	0.014116		fa:e8:44:c1:b6:51	Ack	6.0	36		
8	0.023915	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	Association Response	6.0	36		
9	0.025814	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	EAPOL	6.0	36		
10	0.043484	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	EAPOL	24.0	36		
11	0.043736		fa:e8:44:c1:b6:51	Ack	24.0	36		
12	0.048350	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	EAPOL	6.0	36		
13	0.053060	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	EAPOL	24.0	36		

```
> Tag: Supported Channels
v Tag: RSN Information
    Tag Number: RSN Information (48)
    Tag length: 26
    RSN Version: 1
  > Group Cipher Suite: 00:0f:ac (Ieee 802.11) AES (CCM)
    Pairwise Cipher Suite Count: 1
  > Pairwise Cipher Suite List 00:0f:ac (Ieee 802.11) AES (CCM)
    Auth Key Management (AKM) Suite Count: 1
  v Auth Key Management (AKM) List 00:0f:ac (Ieee 802.11) PSK
    v Auth Key Management (AKM) Suite: 00:0f:ac (Ieee 802.11) PSK
        Auth Key Management (AKM) OUI: 00:0f:ac (Ieee 802.11)
        Auth Key Management (AKM) type: PSK (2)
  > RSN Capabilities: 0x008c
    PMKID Count: 0
    PMKID List
  > Group Management Cipher Suite: 00:0f:ac (Ieee 802.11) BIP (128)
> Tag: Supported Operating Classes
> Tag: HT Capabilities
> Tag: Extended Capabilities (13 octets)
> Tag: VHT Capabilities
```

iPhone 17 Pro – RSNO Enabled

iOS 26.6.2 · Wi-Fi 7 Tri-band hardware

AKM 2 PSK

Never saw the override elements — only the base RSNE, which is all this device can read.

wlan8-5ghz-iphone17pro-override-off-sae.pcapng

	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
1	0.000000	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	Probe Request	6.0	36	"MRSNO"	
2	0.000053		fa:e8:44:c1:b6:51	Ack	6.0	36		
3	0.002112	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	Probe Response	6.0	36	"MRSNO"	
4	0.064426	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	Authentication	6.0	36		
5	0.064480		fa:e8:44:c1:b6:51	Ack	6.0	36		
6	0.068615	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	Authentication	6.0	36		
7	0.140350	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	Authentication	6.0	36		
8	0.140391		fa:e8:44:c1:b6:51	Ack	6.0	36		
9	0.165722	fa:e8:44:c1:b6:51	RuckusWirele_ba:82…	Association Request (Retry)	6.0	36	"MRSNO"	
10	0.165769		fa:e8:44:c1:b6:51	Ack	6.0	36		
11	0.169916	RuckusWirele_ba:82:20	Google_54:4a:ca	QoS Data		36		
12	0.177496	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	Association Response	6.0	36		
13	0.179645	RuckusWirele_ba:82:20	fa:e8:44:c1:b6:51	EAPOL	6.0	36		

```
Tag: RSN Information
    Tag Number: RSN Information (48)
    Tag length: 42
    RSN Version: 1
  > Group Cipher Suite: 00:0f:ac (Ieee 802.11) AES (CCM)
    Pairwise Cipher Suite Count: 1
  > Pairwise Cipher Suite List 00:0f:ac (Ieee 802.11) AES (CCM)
    Auth Key Management (AKM) Suite Count: 1
  v Auth Key Management (AKM) List 00:0f:ac (Ieee 802.11) SAE (SHA256)
    v Auth Key Management (AKM) Suite: 00:0f:ac (Ieee 802.11) SAE (SHA256)
        Auth Key Management (AKM) OUI: 00:0f:ac (Ieee 802.11)
        Auth Key Management (AKM) type: SAE (SHA256) (8)
  > RSN Capabilities: 0x00cc
    PMKID Count: 1
  > PMKID List
  > Group Management Cipher Suite: 00:0f:ac (Ieee 802.11) BIP (128)
> Tag: Supported Operating Classes
> Tag: HT Capabilities
> Tag: Extended Capabilities (13 octets)
> Tag: VHT Capabilities
> Tag: RSN eXtension (1 octet)
```

iPhone 17 Pro – RSNO Disabled

iOS 26.6.2 · Wi-Fi 7 Tri-band hardware

AKM 8 SAE

AKM 8 is the top end of the Transition Mode offered on the SSID, not of the device.

wlan8-5ghz-iphone17pro-override-{on,off}.pcapng

The Floor; Revisited

No.	Time	Transmitter	Receiver	Frame Type	Data Rate	Channe	SSID	AP Name
7	0.181486	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	Probe Request	6.0	36	"MRSNO"	
8	0.181539		SamsungElect_b1:cb…	Ack	6.0	36		
9	0.183245	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	Probe Response	6.0	36	"MRSNO"	
10	0.187532	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	Authentication	6.0	36		
11	0.187581		SamsungElect_b1:cb…	Ack	6.0	36		
12	0.191470	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	Authentication	6.0	36		
13	0.193393	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	Association Request	6.0	36	"MRSNO"	
14	0.193443		SamsungElect_b1:cb…	Ack	6.0	36		
15	0.197621	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	Association Response	6.0	36		
16	0.199306	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	EAPOL	6.0	36		
17	0.215887	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	EAPOL	12.0	36		
18	0.215943		SamsungElect_b1:cb…	Ack	12.0	36		
19	0.217858	RuckusWirele_ba:82:20	SamsungElect_b1:cb…	EAPOL	6.0	36		
20	0.223879	SamsungElect_b1:cb:3e	RuckusWirele_ba:82…	EAPOL	12.0	36		

```
> Tag: HT Capabilities
v Tag: RSN Information
    Tag Number: RSN Information (48)
    Tag length: 26
    RSN Version: 1
  > Group Cipher Suite: 00:0f:ac (Ieee 802.11) AES (CCM)
    Pairwise Cipher Suite Count: 1
  > Pairwise Cipher Suite List 00:0f:ac (Ieee 802.11) AES (CCM)
    Auth Key Management (AKM) Suite Count: 1
  v Auth Key Management (AKM) List 00:0f:ac (Ieee 802.11) PSK (SHA256)
    v Auth Key Management (AKM) Suite: 00:0f:ac (Ieee 802.11) PSK (SHA256)
        Auth Key Management (AKM) OUI: 00:0f:ac (Ieee 802.11)
        Auth Key Management (AKM) type: PSK (SHA256) (6)
  > RSN Capabilities: 0x24ac
    PMKID Count: 0
    PMKID List
  > Group Management Cipher Suite: 00:0f:ac (Ieee 802.11) BIP (128)
> Tag: Extended Capabilities (8 octets)
> Tag: VHT Capabilities
> Tag: Operating Mode Notification
```

Galaxy A6

Android 10 · pre-WPA3 hardware

AKM 6 PSK-SHA256

Override off, the device peaked at AKM 6, PSK-SHA256. This is the device top end.

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wlan8-5ghz-client-a6-association-eapol.pcapng

Three Devices, Four Ceilings, Four Reasons

Device	AKM Reached	What Capped It	Type of Limit
Samsung Galaxy A6	6 = PSK-SHA256	The device itself – no SAE support, override On or Off	**Hardware**
iPhone 17 Pro (Override off)	8 = SAE	Transition mode structurally caps here – AKM 24 only exists in override elements	**Protocol**
iPhone 17 Pro (Override on)	2 = PSK	iOS 26.6.2 doesn't recognize the override elements – **iOS 27 DOES!**	**Software**
Pixel 8	24 = SAE-GDH	Nothing – hardware, protocol, and software all working together	**None**

Compatibility Mode doesn't lower the ceiling – it reveals which clients *CAN'T REACH IT*.

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Same as it ever was:
Test before you deploy,
Or the field will test it for you.

Also Jim’s Claude.ai agent who did all the work

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Sources

WPA3 Specification v3.5 — Wi-Fi Alliance. §2.3 (Transition Mode, 6 GHz prohibition), §14 (RSN overriding mechanism), §14.4 (element formats) https://www.wi-fi.org/system/files/WPA3%20Specification%20v3.5.pdf

WPA3 and Wi-Fi Enhanced Open Deployment and Implementation Guide v1.0 — Wi-Fi Alliance https://wi-fi.org/system/files/WPA3%20and%20Wi-Fi%20Enhanced%20Open%20Deployment%20Guide_v1.0.pdf

WiFi Explorer Pro 3 — Adrian Granados / Intuitibits — live Compatibility Mode detection https://www.intuitibits.com/products/wifiexplorerpro3/

Wireshark — native decode of RSNE Override, RSNE Override 2, RSNXE Override https://www.wireshark.org/

Wi-Fi Alliance Product Finder — RSN Override certified device list https://www.wi-fi.org/product-finder

PCAPs — Full pcaps available on request – ping me

All device results in this talk: captured directly, last week, on a pre-production RUCKUS build.

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