

某局点EDUP网卡搜索不到5G无线信号问题处理

wlan射频

SSID

尹灵康

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某局点将设备有WX3510E更换为WX3510H后，全部网卡出现搜不到5G信号的现象，AC设备版本为5208P03，网卡为11ac网卡EDUP。升级网卡驱动后可以解决问题，但由于现场有几百台终端，工作量较大，客户不愿意逐台升级，要求我们解决这个问题。

协调客户将网卡寄来公司分析，实验室复现出了网卡搜不到无线信号的现象，网卡无论是Auto模式还是强制11ac模式，均搜不到5G信号。该现象与AC设备型号、AP设备型号无关，与所用版本强相关，当版本为5208P03、5215P01时，均搜不到无线信号；当版本为5217P01时，可以搜索到无线信号。经研发定位，该问题主要是报文格式不兼容所致。在老版本中（5208P03），设备发送的Probe Response报文中的Extended Capability字段长度为9。

Packet	Source	Destination	BSSID	Flags	Absolute Time	Protocol	Channel	Signal	Data ...	Size
393	D4:61:FE:5C:79:90	Ethernet Broadcast	D4:61:FE:5C:79:90	*P	16:53:24.842638	802.11 Beacon	48	100%	6.0 245	
394	9C:06:1B:31:28:F0	Ethernet Broadcast	9C:06:1B:31:28:F0	*P	16:53:24.849553	802.11 Beacon	48	100%	6.0 244	
395	E8:B2:AC:C8:46:60	48:7A:DA:17:BA:11	48:7A:DA:17:BA:11		16:53:24.852662	802.11 Null Data	48	34%	130.0 24	
396	E8:4E:06:47:3E:18	Ethernet Broadcast	Ethernet Broadcast	*	16:53:24.895718	802.11 Probe Req	48	100%	6.0 68	
397	E8:4E:06:47:3E:18	Ethernet Broadcast	Ethernet Broadcast	*	16:53:24.895853	802.11 Probe Req	48	100%	6.0 68	
398	9C:06:1B:31:28:F0	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	*P	16:53:24.897476	802.11 Probe Rsp	48	100%	6.0 340	
399	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	9C:06:1B:31:28:F0	#	16:53:24.897483	802.11 Ack	48	100%	6.0 14	
400	D4:61:FE:5C:79:90	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	*P	16:53:24.898070	802.11 Probe Rsp	48	100%	6.0 341	
401	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	D4:61:FE:5C:79:90	#	16:53:24.898076	802.11 Ack	48	100%	6.0 14	
402	9C:06:1B:31:28:F0	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	*P	16:53:24.898657	802.11 Probe Rsp	48	100%	6.0 340	
403	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	9C:06:1B:31:28:F0	#	16:53:24.898664	802.11 Ack	48	100%	6.0 14	
404	D4:61:FE:5C:79:90	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	*P	16:53:24.899263	802.11 Probe Rsp	48	100%	6.0 341	
405	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	D4:61:FE:5C:79:90	#	16:53:24.899269	802.11 Ack	48	100%	6.0 14	
406	D4:61:FE:5C:79:90	Ethernet Broadcast	D4:61:FE:5C:79:90	*P	16:53:24.945831	802.11 Beacon	48	100%	6.0 245	
407	9C:06:1B:31:28:F0	Ethernet Broadcast	9C:06:1B:31:28:F0	*P	16:53:24.951912	802.11 Beacon	48	100%	6.0 244	
408	E8:B2:AC:C8:46:60	48:7A:DA:17:BA:11	48:7A:DA:17:BA:11		16:53:24.954846	802.11 Null Data	48	34%	130.0 24	
409	E8:B2:AC:C8:46:60	48:7A:DA:17:BA:11	48:7A:DA:17:BA:11	+	16:53:24.955875	802.11 Null Data	48	34%	130.0 24	
410	D4:61:FE:5C:79:90	Ethernet Broadcast	D4:61:FE:5C:79:90	*P	16:53:25.0047369	802.11 Beacon	48	100%	6.0 245	
411	9C:06:1B:31:28:F0	Ethernet Broadcast	9C:06:1B:31:28:F0	*P	16:53:25.054299	802.11 Beacon	48	100%	6.0 244	
412	E8:B2:AC:C8:46:60	48:7A:DA:17:BA:11	48:7A:DA:17:BA:11		16:53:25.057220	802.11 Null Data	48	36%	130.0 24	
413	30:84:9E:73:8D:5E			#	16:53:25.069035	802.11 Ack	48	38%	130.0 10	
414	74:1F:4A:D9:D8:51	30:84:9E:73:8D:5E		#	16:53:25.069192	802.11 BA	48	42%	130.0 16	

Element ID: 127 Extended Capabilities [253]

Length: 9 [254]

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Reserved: 0x00 [263]

VHT Capabilities element ID=191 VHT Capabilities element Len=12

新版本中（5217P01），设备发送的报文的Extended Capability字段长度为8。

Packet	Source	Destination	BSSID	Flags	Absolute Time	Protocol	Channel	Signal	Data ...	Size
393	D4:61:FE:5C:79:90	Ethernet Broadcast	D4:61:FE:5C:79:90	*P	16:53:24.842638	802.11 Beacon	48	100%	6.0 245	
394	9C:06:1B:31:28:F0	Ethernet Broadcast	9C:06:1B:31:28:F0	*P	16:53:24.849553	802.11 Beacon	48	100%	6.0 244	
395	E8:B2:AC:C8:46:60	48:7A:DA:17:BA:11	48:7A:DA:17:BA:11		16:53:24.852662	802.11 Null Data	48	34%	130.0 24	
396	E8:4E:06:47:3E:18	Ethernet Broadcast	Ethernet Broadcast	*	16:53:24.895718	802.11 Probe Req	48	100%	6.0 68	
397	E8:4E:06:47:3E:18	Ethernet Broadcast	Ethernet Broadcast	*	16:53:24.895853	802.11 Probe Req	48	100%	6.0 68	
398	9C:06:1B:31:28:F0	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	*P	16:53:24.897476	802.11 Probe Rsp	48	100%	6.0 340	
399	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	9C:06:1B:31:28:F0	#	16:53:24.897483	802.11 Ack	48	100%	6.0 14	
400	D4:61:FE:5C:79:90	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	*P	16:53:24.898070	802.11 Probe Rsp	48	100%	6.0 341	
401	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	D4:61:FE:5C:79:90	#	16:53:24.898076	802.11 Ack	48	100%	6.0 14	
402	9C:06:1B:31:28:F0	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	*P	16:53:24.898657	802.11 Probe Rsp	48	100%	6.0 340	
403	E8:4E:06:47:3E:18	9C:06:1B:31:28:F0	9C:06:1B:31:28:F0	#	16:53:24.898664	802.11 Ack	48	100%	6.0 14	
404	D4:61:FE:5C:79:90	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	*P	16:53:24.899263	802.11 Probe Rsp	48	100%	6.0 341	
405	E8:4E:06:47:3E:18	D4:61:FE:5C:79:90	D4:61:FE:5C:79:90	#	16:53:24.899269	802.11 Ack	48	100%	6.0 14	
406	D4:61:FE:5C:79:90	Ethernet Broadcast	D4:61:FE:5C:79:90	*P	16:53:24.945831	802.11 Beacon	48	100%	6.0 245	

HT Info: ID=61 HT Info: Len=22 Primary Channel=48

Extended Capabilities

Element ID: 127 Extended Capabilities [253]

Length: 8 [254]

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

Extended Capabilities=00000000

VHT Capabilities element ID=191 VHT Capabilities element Len=12

Extended Capability字段长度的长度值无论是8还是9，均符合协议规定，但个别终端网卡可能不支持该字段长度为9的报文，因此无法识别报文，导致搜不到无线信号的现象出现。为了兼容这些网卡，B64D016SP16以后的版本中，将此值均修改为8，即官网正式发布的版本中，5217P01之后的版本，不会再出现由上述原因引起的搜索不到无线信号的问题。

升级到5217P01版本，解决问题。

在问题处理中，如果遇到大部分终端搜索不到无线信号的问题，多是由于设备版本与终端的兼容性，或者设备对AP射频相关进程的管理出现问题。出现该类问题，建议先升级到官网最新版本，在进行后续观察。