

```
*****
7/28/2020 14:27:43 PM Target: AP1 (VC) Command: show ap debug radio-info 0
*****
```

```
Radio Info Script
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Script Output
-----
```

```
aruba_dbg_radio_info_0 Start time: Tue Jul 28 14:27:39 UTC 2020
```

```
wifi0-drop-list:
_anul_tx_skb(1185): 3/252097 0/251886
```

```
wifi0-anul-dump:
```

```
assert_list (both wifi0, wifi1 and wifi2):
```

```
VAP 'aruba000' will be used to display radio statistics.
```

```
===== iwpriv-commands =====
```

```
iwpriv aruba000 txrx_stats 258 - Rx rate and aggregation stats
```

```
=====
wlan: [12350:F:DP] Rx Rate Info:
```

```
wlan: [12350:F:DP] OFDM 48 Mbps = 0
wlan: [12350:F:DP] OFDM 24 Mbps = 42525
wlan: [12350:F:DP] OFDM 12 Mbps = 557
wlan: [12350:F:DP] OFDM 6 Mbps = 2709
wlan: [12350:F:DP] OFDM 54 Mbps = 0
wlan: [12350:F:DP] OFDM 36 Mbps = 0
wlan: [12350:F:DP] OFDM 18 Mbps = 0
wlan: [12350:F:DP] OFDM 9 Mbps = 0
wlan: [12350:F:DP] INVALID = 0
```

```
wlan: [12350:F:DP] CCK 11 Mbps Long = 0
wlan: [12350:F:DP] CCK 5.5 Mbps Long = 0
wlan: [12350:F:DP] CCK 2 Mbps Long = 0
wlan: [12350:F:DP] CCK 1 Mbps Long = 0
wlan: [12350:F:DP] CCK 11 Mbps Short = 0
wlan: [12350:F:DP] CCK 5.5 Mbps Short = 0
wlan: [12350:F:DP] CCK 2 Mbps Short = 0
wlan: [12350:F:DP] INVALID = 0
```

```
wlan: [12350:F:DP] HT MCS 0 (BPSK 1/2) = 0
wlan: [12350:F:DP] HT MCS 1 (QPSK 1/2) = 0
wlan: [12350:F:DP] HT MCS 2 (QPSK 3/4) = 0
wlan: [12350:F:DP] HT MCS 3 (16-QAM 1/2) = 0
wlan: [12350:F:DP] HT MCS 4 (16-QAM 3/4) = 0
wlan: [12350:F:DP] HT MCS 5 (64-QAM 2/3) = 0
wlan: [12350:F:DP] HT MCS 6 (64-QAM 3/4) = 0
wlan: [12350:F:DP] HT MCS 7 (64-QAM 5/6) = 0
wlan: [12350:F:DP] INVALID = 0
```

```
wlan: [12350:F:DP] VHT MCS 0 (BPSK 1/2) = 0
wlan: [12350:F:DP] VHT MCS 1 (QPSK 1/2) = 0
wlan: [12350:F:DP] VHT MCS 2 (QPSK 3/4) = 0
wlan: [12350:F:DP] VHT MCS 3 (16-QAM 1/2) = 0
wlan: [12350:F:DP] VHT MCS 4 (16-QAM 3/4) = 0
wlan: [12350:F:DP] VHT MCS 5 (64-QAM 2/3) = 0
wlan: [12350:F:DP] VHT MCS 6 (64-QAM 3/4) = 0
wlan: [12350:F:DP] VHT MCS 7 (64-QAM 5/6) = 0
wlan: [12350:F:DP] VHT MCS 8 (256-QAM 3/4) = 0
wlan: [12350:F:DP] VHT MCS 9 (256-QAM 5/6) = 0
wlan: [12350:F:DP] VHT MCS 10 (1024-QAM 3/4) = 0
wlan: [12350:F:DP] VHT MCS 11 (1024-QAM 5/6) = 0
wlan: [12350:F:DP] INVALID = 0
```

```
wlan: [12350:F:DP] HE MCS 0 (BPSK 1/2) = 17315
wlan: [12350:F:DP] HE MCS 1 (QPSK 1/2) = 46
wlan: [12350:F:DP] HE MCS 2 (QPSK 3/4) = 0
wlan: [12350:F:DP] HE MCS 3 (16-QAM 1/2) = 0
wlan: [12350:F:DP] HE MCS 4 (16-QAM 3/4) = 0
wlan: [12350:F:DP] HE MCS 5 (64-QAM 2/3) = 0
wlan: [12350:F:DP] HE MCS 6 (64-QAM 3/4) = 1
wlan: [12350:F:DP] HE MCS 7 (64-QAM 5/6) = 1
wlan: [12350:F:DP] HE MCS 8 (256-QAM 3/4) = 1
wlan: [12350:F:DP] HE MCS 9 (256-QAM 5/6) = 1
wlan: [12350:F:DP] HE MCS 10 (1024-QAM 3/4) = 30
wlan: [12350:F:DP] HE MCS 11 (1024-QAM 5/6) = 29603
wlan: [12350:F:DP] INVALID = 0
```

```
wlan: [12350:F:DP] NSS(1-8) = 45791 29637 0 0 0 0 0 0
wlan: [12350:F:DP] SGI = 0.8us 91975, 0.4us 0, 1.6us 745, 3.2us 69,
wlan: [12350:F:DP] BW Counts = 20MHZ 1328, 40MHZ 0, 80MHZ 91461, 160MHZ 0
wlan: [12350:F:DP] Reception Type = SU: 114543, MU_MIMO:0, MU_OFDMA:17490, MU_OFDMA_MIMO:0
```

```
wlan: [12350:F:DP] Aggregation:
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```
wlan: [12350:F:DP] Number of Msdu's Part of Ampdus = 34159
wlan: [12350:F:DP] Number of Msdu's With No Mpdu Level Aggregation : 58630
wlan: [12350:F:DP] Number of Msdu's Part of Amsdu: 8956
wlan: [12350:F:DP] Number of Msdu's With No Msdu Level Aggregation: 48200
```

```
iwpriv aruba000 txrx_stats 259 - Tx rate and aggregation stats
```

```

=====
wlan: [12359:F:DP] Tx Rate Info:

wlan: [12359:F:DP] OFDM 48 Mbps = 0
wlan: [12359:F:DP] OFDM 24 Mbps = 1607
wlan: [12359:F:DP] OFDM 12 Mbps = 0
wlan: [12359:F:DP] OFDM 6 Mbps = 0
wlan: [12359:F:DP] OFDM 54 Mbps = 0
wlan: [12359:F:DP] OFDM 36 Mbps = 0
wlan: [12359:F:DP] OFDM 18 Mbps = 0
wlan: [12359:F:DP] OFDM 9 Mbps = 0
wlan: [12359:F:DP] INVALID = 0

wlan: [12359:F:DP] CCK 11 Mbps Long = 0
wlan: [12359:F:DP] CCK 5.5 Mbps Long = 0
wlan: [12359:F:DP] CCK 2 Mbps Long = 0
wlan: [12359:F:DP] CCK 1 Mbps Long = 0
wlan: [12359:F:DP] CCK 11 Mbps Short = 0
wlan: [12359:F:DP] CCK 5.5 Mbps Short = 0
wlan: [12359:F:DP] CCK 2 Mbps Short = 0
wlan: [12359:F:DP] INVALID = 0

wlan: [12359:F:DP] HT MCS 0 (BPSK 1/2) = 0
wlan: [12359:F:DP] HT MCS 1 (QPSK 1/2) = 0
wlan: [12359:F:DP] HT MCS 2 (QPSK 3/4) = 0
wlan: [12359:F:DP] HT MCS 3 (16-QAM 1/2) = 0
wlan: [12359:F:DP] HT MCS 4 (16-QAM 3/4) = 0
wlan: [12359:F:DP] HT MCS 5 (64-QAM 2/3) = 0
wlan: [12359:F:DP] HT MCS 6 (64-QAM 3/4) = 0
wlan: [12359:F:DP] HT MCS 7 (64-QAM 5/6) = 0
wlan: [12359:F:DP] INVALID = 0

wlan: [12359:F:DP] VHT MCS 0 (BPSK 1/2) = 0
wlan: [12359:F:DP] VHT MCS 1 (QPSK 1/2) = 0
wlan: [12359:F:DP] VHT MCS 2 (QPSK 3/4) = 0
wlan: [12359:F:DP] VHT MCS 3 (16-QAM 1/2) = 0
wlan: [12359:F:DP] VHT MCS 4 (16-QAM 3/4) = 0
wlan: [12359:F:DP] VHT MCS 5 (64-QAM 2/3) = 0
wlan: [12359:F:DP] VHT MCS 6 (64-QAM 3/4) = 0
wlan: [12359:F:DP] VHT MCS 7 (64-QAM 5/6) = 0
wlan: [12359:F:DP] VHT MCS 8 (256-QAM 3/4) = 0
wlan: [12359:F:DP] VHT MCS 9 (256-QAM 5/6) = 0
wlan: [12359:F:DP] VHT MCS 10 (1024-QAM 3/4) = 0
wlan: [12359:F:DP] VHT MCS 11 (1024-QAM 5/6) = 0
wlan: [12359:F:DP] INVALID = 0
wlan: [12359:F:DP]

wlan: [12359:F:DP] HE MCS 0 (BPSK 1/2) = 0
wlan: [12359:F:DP] HE MCS 1 (QPSK 1/2) = 128
wlan: [12359:F:DP] HE MCS 2 (QPSK 3/4) = 716
wlan: [12359:F:DP] HE MCS 3 (16-QAM 1/2) = 10314
wlan: [12359:F:DP] HE MCS 4 (16-QAM 3/4) = 53130
wlan: [12359:F:DP] HE MCS 5 (64-QAM 2/3) = 48410
wlan: [12359:F:DP] HE MCS 6 (64-QAM 3/4) = 621879
wlan: [12359:F:DP] HE MCS 7 (64-QAM 5/6) = 978212
wlan: [12359:F:DP] HE MCS 8 (256-QAM 3/4) = 2227367
wlan: [12359:F:DP] HE MCS 9 (256-QAM 5/6) = 3469458
wlan: [12359:F:DP] HE MCS 10 (1024-QAM 3/4) = 20238601
wlan: [12359:F:DP] HE MCS 11 (1024-QAM 5/6) = 518359
wlan: [12359:F:DP] INVALID = 0
wlan: [12359:F:DP]

wlan: [12359:F:DP] SGI = 0.8us 28168181 0.4us 0 1.6us 0 3.2us 0
wlan: [12359:F:DP] BW Counts = 20MHZ 1615, 40MHZ 0, 80MHZ 28166566, 160MHZ 0
wlan: [12359:F:DP] OFDMA = 2412
wlan: [12359:F:DP] STBC = 0
wlan: [12359:F:DP] LDPC = 28166574
wlan: [12359:F:DP] Retries = 739451
wlan: [12359:F:DP] Last ack rssi = 48

wlan: [12359:F:DP] Aggregation:

wlan: [12359:F:DP] Number of Msdu's Part of Ampdus = 28166574
wlan: [12359:F:DP] Number of Msdu's With No Mpdus Level Aggregation : 1607
wlan: [12359:F:DP] Number of Msdu's Part of Amsdu = 28158783
wlan: [12359:F:DP] Number of Msdu's With No Msdu Level Aggregation = 9059658

iwpriv aruba000 txrx_stats 260 - PDEV TX stats

=====
wlan: [12368:F:DP] PDEV Tx Stats:

wlan: [12368:F:DP] Received From Stack:
wlan: [12368:F:DP] Packets = 37241456
wlan: [12368:F:DP] Bytes = 52117831623
wlan: [12368:F:DP] Processed:
wlan: [12368:F:DP] Packets = 37241757
wlan: [12368:F:DP] Bytes = 52117643547
wlan: [12368:F:DP] Total Completions:
wlan: [12368:F:DP] Packets = 28169765
wlan: [12368:F:DP] Bytes = 40337666187
wlan: [12368:F:DP] Successful Completions:
wlan: [12368:F:DP] Packets = 28176425
wlan: [12368:F:DP] Bytes = 39447813232
wlan: [12368:F:DP] Dropped:
wlan: [12368:F:DP] Total = 0
wlan: [12368:F:DP] Dma_map_error = 0
wlan: [12368:F:DP] Ring Full = 0
wlan: [12368:F:DP] Descriptor Not available = 0
wlan: [12368:F:DP] HW enqueue failed= 0
wlan: [12368:F:DP] Resources Full = 0

```

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wlan: [12368:F:DP] FW removed Pkts = 9050245
wlan: [12368:F:DP] FW removed bytes= 0
wlan: [12368:F:DP] FW removed transmitted = 246
wlan: [12368:F:DP] FW removed untransmitted = 0
wlan: [12368:F:DP] FW removed untransmitted fw_reason1 = 0
wlan: [12368:F:DP] FW removed untransmitted fw_reason2 = 0
wlan: [12368:F:DP] FW removed untransmitted fw_reason3 = 0
wlan: [12368:F:DP] Aged Out from msdu/mpdu queues = 0
wlan: [12368:F:DP] headroom insufficient = 0
wlan: [12368:F:DP] Multicast:
wlan: [12368:F:DP]   Packets: 1596
wlan: [12368:F:DP]   Bytes: 71063
wlan: [12368:F:DP] Scatter Gather:
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0
wlan: [12368:F:DP]   Dropped By Host = 0
wlan: [12368:F:DP]   Dropped By Target = 0
wlan: [12368:F:DP] TSO:
wlan: [12368:F:DP]   Number of Segments = 0
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0
wlan: [12368:F:DP]   Dropped By Host = 0
wlan: [12368:F:DP] Mcast Enhancement:
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0
wlan: [12368:F:DP]   Dropped: Map Errors = 0
wlan: [12368:F:DP]   Dropped: Self Mac = 0
wlan: [12368:F:DP]   Dropped: Send Fail = 0
wlan: [12368:F:DP]   Unicast sent = 0
wlan: [12368:F:DP] Raw:
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0
wlan: [12368:F:DP]   DMA map error = 0
wlan: [12368:F:DP] Reinject:
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0

```

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wlan: [12368:F:DP] Inspected:
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0
wlan: [12368:F:DP] Naws Multicast:
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0
wlan: [12368:F:DP] CCE Classified:
wlan: [12368:F:DP]   CCE Classified Packets: 1636
wlan: [12368:F:DP]   RAW CCE Classified Packets: 0
wlan: [12368:F:DP] Mesh stats:
wlan: [12368:F:DP]   frames to firmware: 0
wlan: [12368:F:DP]   completions from fw: 0
wlan: [12368:F:DP] PPDU stats counter
wlan: [12368:F:DP]   Tag[0] = 375129
wlan: [12368:F:DP]   Tag[1] = 429042
wlan: [12368:F:DP]   Tag[2] = 403105
wlan: [12368:F:DP]   Tag[3] = 354112
wlan: [12368:F:DP]   Tag[4] = 0
wlan: [12368:F:DP]   Tag[5] = 375129
wlan: [12368:F:DP]   Tag[6] = 382760
wlan: [12368:F:DP]   Tag[7] = 277697
wlan: [12368:F:DP]   Tag[8] = 0
wlan: [12368:F:DP]   Tag[9] = 293538
wlan: [12368:F:DP]   Tag[10] = 2
wlan: [12368:F:DP]   Tag[11] = 0
wlan: [12368:F:DP]   Tag[12] = 0
wlan: [12368:F:DP]   Tag[13] = 128287
wlan: [12368:F:DP] BA not received for delayed_ba: 15050
wlan: [12368:F:DP] tx_ppdu_proc: 0

```

```

wlan: [12368:F:DP] Wdi msgs received from fw[0]:0
wlan: [12368:F:DP] Wdi msgs received from fw[1]:0
wlan: [12368:F:DP] Wdi msgs received from fw[2]:0
wlan: [12368:F:DP] Wdi msgs received from fw[3]:0
wlan: [12368:F:DP] Wdi msgs received from fw[4]:0
wlan: [12368:F:DP] Wdi msgs received from fw[5]:0
wlan: [12368:F:DP] Wdi msgs received from fw[6]:0
wlan: [12368:F:DP] Wdi msgs received from fw[8]:0
wlan: [12368:F:DP] Wdi msgs received from fw[11]:0
wlan: [12368:F:DP] Wdi msgs received from fw[15]:0
wlan: [12368:F:DP] Wdi msgs received from fw[16]:0
wlan: [12368:F:DP] Wdi msgs received from fw[18]:0
wlan: [12368:F:DP] Wdi msgs received from fw[23]:0
wlan: [12368:F:DP] Wdi msgs received from fw[24]:0
wlan: [12368:F:DP] Wdi msgs received from fw[25]:0
wlan: [12368:F:DP] Wdi msgs received from fw[26]:0
wlan: [12368:F:DP] SOC Tx Stats:

```

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wlan: [12368:F:DP] Tx Descriptors In Use = 0
wlan: [12368:F:DP] Tx Invalid peer:
wlan: [12368:F:DP]   Packets = 0
wlan: [12368:F:DP]   Bytes = 0
wlan: [12368:F:DP] Packets dropped due to TCL ring full = 0 0 0
wlan: [12368:F:DP] Tx invalid completion release = 0
wlan: [12368:F:DP] Tx comp wbm internal error = 0

```

```
iwpriv aruba000 txrx_stats 261 - PDEV RX stats
```

```

=====
wlan: [12377:F:DP] PDEV Rx Stats:

wlan: [12377:F:DP] Received From HW (Per Rx Ring):
wlan: [12377:F:DP]   Packets = 48200 0 0 0
wlan: [12377:F:DP]   Bytes = 19693227 0 0 0
wlan: [12377:F:DP] Replenished:
wlan: [12377:F:DP]   Packets = 155277
wlan: [12377:F:DP]   Bytes = 318007296

```

```

wlan: [12377:F:DP] Buffers Added To Freelist = 0
wlan: [12377:F:DP] Low threshold intr = 0
wlan: [12377:F:DP] Dropped:
wlan: [12377:F:DP] msdu_not_done = 0
wlan: [12377:F:DP] wifi parse = 0
wlan: [12377:F:DP] mon_rx_drop = 13
wlan: [12377:F:DP] mon_radiotap_update_err = 0
wlan: [12377:F:DP] mec_drop = 0
wlan: [12377:F:DP] Bytes = 0
wlan: [12377:F:DP] Sent To Stack:
wlan: [12377:F:DP] Packets = 48200
wlan: [12377:F:DP] Bytes = 19693227
wlan: [12377:F:DP] vlan_tag_stp_cnt = 0
wlan: [12377:F:DP] Multicast/Broadcast:
wlan: [12377:F:DP] Packets = 1734
wlan: [12377:F:DP] Bytes = 84121
wlan: [12377:F:DP] Errors:
wlan: [12377:F:DP] Rxdma Ring Un-inititalized = 0
wlan: [12377:F:DP] Desc Alloc Failed: = 0
wlan: [12377:F:DP] IP checksum error = 0
wlan: [12377:F:DP] TCP/UDP checksum error = 0
wlan: [12377:F:DP] BAR Received Count: = 0
wlan: [12377:F:DP] No of AST Entries = 8
wlan: [12377:F:DP] SOC Rx Stats:

wlan: [12377:F:DP] Fragmented packets: 0
wlan: [12377:F:DP] Reo reinjected packets: 0
wlan: [12377:F:DP] Errors:

wlan: [12377:F:DP] Rx Decrypt Errors = 9
wlan: [12377:F:DP] Invalid RBM = 0
wlan: [12377:F:DP] Invalid Vdev = 0
wlan: [12377:F:DP] Invalid sa_idx or da_idx = 0
wlan: [12377:F:DP] Invalid Pdev = 0
wlan: [12377:F:DP] Invalid Peer = 0
wlan: [12377:F:DP] HAL Ring Access Fail = 0
wlan: [12377:F:DP] MSDU Done failures = 0
wlan: [12377:F:DP] RX frags: 0
wlan: [12377:F:DP] RX frag wait: 0
wlan: [12377:F:DP] RX frag err: 0
wlan: [12377:F:DP] RX DESC invalid magic: 0
wlan: [12377:F:DP] RX DUP DESC: 0
wlan: [12377:F:DP] RX REL DUP DESC: 0
wlan: [12377:F:DP] RXDMA ERR DUP DESC: 0
wlan: [12377:F:DP] RXDMA Error (0-31): 0 0 24 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
wlan: [12377:F:DP] REO Error(0-14): 7 0 0 0 0 0 0 2 0 0 0 0 0 0 0

```

iwpriv aruba000 txrx\_stats 262 - AST stats

```

=====
wlan: [12386:F:DP] AST Stats:
wlan: [12386:F:DP] Entries Added = 8
wlan: [12386:F:DP] Entries Deleted = 0
wlan: [12386:F:DP] Entries Agedout = 0
wlan: [12386:F:DP] Entries MAP ERR = 0
wlan: [12386:F:DP] AST Table:
wlan: [0:F:DP] 1 mac_addr = bc:9f:e4:05:ac:d0 peer_mac_addr = bc:9f:e4:05:ac:d0 peer_id = 3 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 2 mac_addr = 6c:c7:ec:f6:f1:69 peer_mac_addr = 6c:c7:ec:f6:f1:69 peer_id = 4 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 3 mac_addr = 8c:b8:4a:94:87:5d peer_mac_addr = 8c:b8:4a:94:87:5d peer_id = 5 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 4 mac_addr = 9a:80:14:38:c1:f2 peer_mac_addr = 9a:80:14:38:c1:f2 peer_id = 6 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 5 mac_addr = 9a:37:90:b9:7f:21 peer_mac_addr = 9a:37:90:b9:7f:21 peer_id = 7 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 6 mac_addr = 0e:b9:2f:cb:78:0c peer_mac_addr = 0e:b9:2f:cb:78:0c peer_id = 8 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [12386:F:DP] Dumping Peer Table Stats:
wlan: [12386:F:DP] peer_mac_addr = bc:9f:e4:05:ac:d0 nawds_enabled = 0 bss_peer = 1 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [12386:F:DP] peer_mac_addr = 6c:c7:ec:f6:f1:69 nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [12386:F:DP] peer_mac_addr = 8c:b8:4a:94:87:5d nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [12386:F:DP] peer_mac_addr = 9a:80:14:38:c1:f2 nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [12386:F:DP] peer_mac_addr = 9a:37:90:b9:7f:21 nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [12386:F:DP] peer_mac_addr = 0e:b9:2f:cb:78:0c nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0

```

iwpriv aruba000 txrx\_stats 1 - Firmware radio-level TX stats

```

=====
wlan: [4:F:DP] HTT_TX_PDEV_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] hw_queued = 410026
wlan: [4:F:DP] hw_reaped = 410023
wlan: [4:F:DP] underrun = 61
wlan: [4:F:DP] hw_paused = 66367
wlan: [4:F:DP] hw_flush = 10505
wlan: [4:F:DP] hw_filt = 10306
wlan: [4:F:DP] tx_abort = 0
wlan: [4:F:DP] mpdu_requeued = 1261503
wlan: [4:F:DP] tx_xretry = 18765
wlan: [4:F:DP] data_rc = 40
wlan: [4:F:DP] mpdu_dropped_xretry = 4
wlan: [4:F:DP] illegal_rate_phy_err = 0
wlan: [4:F:DP] cont_xretry = 0
wlan: [4:F:DP] tx_timeout = 0
wlan: [4:F:DP] pdev_resets = 11
wlan: [4:F:DP] phy_underrun = 0
wlan: [4:F:DP] txop_ovf = 0
wlan: [4:F:DP] seq_posted = 148061
wlan: [4:F:DP] seq_failed_queueing = 36503
wlan: [4:F:DP] seq_completed = 112062
wlan: [4:F:DP] seq_restarted = 74
wlan: [4:F:DP] mu_seq_posted = 68340
wlan: [4:F:DP] seq_switch_hw_paused = 27
wlan: [4:F:DP] next_seq_posted_dsr = 3715
wlan: [4:F:DP] seq_posted_isr = 77873
wlan: [4:F:DP] seq_ctrl_cached = 93579
wlan: [4:F:DP] mpdu_count_tqm = 14101346
wlan: [4:F:DP] msdu_count_tqm = 28190349
wlan: [4:F:DP] mpdu_removed_tqm = 123

```

```

wlan: [4:F:DP] msdu_removed_tqm = 246
wlan: [4:F:DP] mpdus_sw_flush = 40
wlan: [4:F:DP] mpdus_hw_filter = 0
wlan: [4:F:DP] mpdus_truncated = 8921
wlan: [4:F:DP] mpdus_ack_failed = 739628
wlan: [4:F:DP] mpdus_expired = 0
wlan: [4:F:DP] mpdus_seq_hw_retry = 2
wlan: [4:F:DP] ack_tlv_proc = 276215
wlan: [4:F:DP] coex_abort_mpdus_cnt_valid = 266058
wlan: [4:F:DP] coex_abort_mpdus_cnt = 15371468

wlan: [4:F:DP] HTT_TX_PDEV_STATS_URRN_TLV_V:
wlan: [4:F:DP] urrn_stats = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SIFS_TLV_V:
wlan: [4:F:DP] sifs_status = 0:0, 1:263165, 2:30427, 3:17729, 4:200, 5:0, 6:8433, 7:38211, 8:0,

wlan: [4:F:DP] HTT_TX_PDEV_STATS_FLUSH_TLV_V:
wlan: [4:F:DP] flush_errs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:425, 6:78, 7:1395, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0, 20:0,
:8607, 39:0, 40:0, 41:0, 42:0, 43:0, 44:0, 45:0, 46:0, 47:0, 48:0, 49:0, 50:0, 51:0, 52:0, 53:0, 54:0, 55:0, 56:0, 57:0, 58:0, 59:0, 60:0, 61:0, 62:0,

iwpriv aruba000 txrx_stats 2 - Firmware radio-level RX stats

=====
wlan: [4:F:DP] HTT_RX_PDEV_FW_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] ppdu_recvd = 70421
wlan: [4:F:DP] mpdu_cnt_fcs_ok = 54749
wlan: [4:F:DP] mpdu_cnt_fcs_err = 830
wlan: [4:F:DP] tcp_msdu_cnt = 447
wlan: [4:F:DP] tcp_ack_msdu_cnt = 40895
wlan: [4:F:DP] udp_msdu_cnt = 4748
wlan: [4:F:DP] other_msdu_cnt = 23983
wlan: [4:F:DP] fw_ring_mpdu_ind = 590
wlan: [4:F:DP] fw_ring_mgmt_subtype = 0:5, 1:0, 2:0, 3:0, 4:436, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:5, 12:0, 13:122, 14:0, 15:0,
wlan: [4:F:DP] fw_ring_ctrl_subtype = 0:0, 1:0, 2:0, 3:0, 4:0, 5:22, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,
wlan: [4:F:DP] fw_ring_mcast_data_msdu = 0
wlan: [4:F:DP] fw_ring_bcast_data_msdu = 0
wlan: [4:F:DP] fw_ring_ucast_data_msdu = 0
wlan: [4:F:DP] fw_ring_null_data_msdu = 0
wlan: [4:F:DP] fw_ring_mpdu_drop = 22299
wlan: [4:F:DP] ofld_local_data_ind_cnt = 0
wlan: [4:F:DP] ofld_local_data_buf_recycle_cnt = 0
wlan: [4:F:DP] drx_local_data_ind_cnt = 0
wlan: [4:F:DP] drx_local_data_buf_recycle_cnt = 0
wlan: [4:F:DP] local_nondata_ind_cnt = 590
wlan: [4:F:DP] local_nondata_buf_recycle_cnt = 589
wlan: [4:F:DP] fw_status_buf_ring_refill_cnt = 70421
wlan: [4:F:DP] fw_status_buf_ring_empty_cnt = 0
wlan: [4:F:DP] fw_pkt_buf_ring_refill_cnt = 22925
wlan: [4:F:DP] fw_pkt_buf_ring_empty_cnt = 1
wlan: [4:F:DP] fw_link_buf_ring_refill_cnt = 22889
wlan: [4:F:DP] fw_link_buf_ring_empty_cnt = 0
wlan: [4:F:DP] host_pkt_buf_ring_refill_cnt = 52476
wlan: [4:F:DP] host_pkt_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_pkt_buf_ring_refill_cnt = 103046
wlan: [4:F:DP] mon_pkt_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_status_buf_ring_refill_cnt = 61130
wlan: [4:F:DP] mon_status_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_desc_buf_ring_refill_cnt = 89715
wlan: [4:F:DP] mon_desc_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_dest_ring_update_cnt = 989959295
wlan: [4:F:DP] mon_dest_ring_full_cnt = 0
wlan: [4:F:DP] rx_suspend_cnt = 272
wlan: [4:F:DP] rx_suspend_fail_cnt = 0
wlan: [4:F:DP] rx_resume_cnt = 272
wlan: [4:F:DP] rx_resume_fail_cnt = 0
wlan: [4:F:DP] rx_ring_switch_cnt = 0
wlan: [4:F:DP] rx_ring_restore_cnt = 0
wlan: [4:F:DP] rx_flush_cnt = 0

wlan: [4:F:DP] HTT_RX_PDEV_FW_RING_MPDU_ERR_TLV_V:
wlan: [4:F:DP] fw_ring_mpdu_err = 0:0, 1:803, 2:14, 3:0, 4:0, 5:21482, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_PDEV_FW_MPDU_DROP_TLV_V:
wlan: [4:F:DP] fw_mpdu_drop = 0:817, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_STATS_TLV:
wlan: [4:F:DP] fw_reo_ring_data_msdu = 0
wlan: [4:F:DP] fw_to_host_data_msdu_bcmc = 0
wlan: [4:F:DP] fw_to_host_data_msdu_uc = 0
wlan: [4:F:DP] ofld_remote_data_buf_recycle_cnt = 0
wlan: [4:F:DP] ofld_remote_free_buf_indication_cnt = 0
wlan: [4:F:DP] ofld_buf_to_host_data_msdu_uc = 0
wlan: [4:F:DP] reo_fw_ring_to_host_data_msdu_uc = 0
wlan: [4:F:DP] wbm_sw_ring_reap = 0
wlan: [4:F:DP] wbm_forward_to_host_cnt = 0
wlan: [4:F:DP] wbm_target_recycle_cnt = 0
wlan: [4:F:DP] target_refill_ring_recycle_cnt = 0
wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_EMPTY_TLV_V:
wlan: [4:F:DP] refill_ring_empty_cnt = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_NUM_REFILL_TLV_V:
wlan: [4:F:DP] refill_ring_num_refill = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_NUM_RXDMA_ERR_TLV_V
wlan: [4:F:DP] rxdma_err = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_NUM_REO_ERR_TLV_V
wlan: [4:F:DP] reo_err = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_PDEV_FW_STATS_PHY_ERR_TLV
wlan: [4:F:DP] mac_id_word: 0

```

```
wlan: [4:F:DP] total_phy_err_cnt: 0
wlan: [4:F:DP] phy_errs: 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0, 20:0, 21:0, 22:0, 23:0, 24:0, 25:0, 26:0, 27:0, 28:0, 29:0, 30:0, 31:0, 32:0, 33:0, 34:0, 35:0, 36:0, 37:0, 38:0, 39:0, 40:0, 41:0, 42:0,

wlan: [4:F:DP] HTT_RX_REO_RESOURCE_STATS_TLV
wlan: [4:F:DP] sample_id: 1
wlan: [4:F:DP] total_max: 53
wlan: [4:F:DP] total_avg: 0
wlan: [4:F:DP] total_sample: 344344
wlan: [4:F:DP] non_zeros_avg: 8
wlan: [4:F:DP] non_zeros_sample: 789
wlan: [4:F:DP] last_non_zeros_max: 22
wlan: [4:F:DP] last_non_zeros_min: 6
wlan: [4:F:DP] last_non_zeros_avg: 15
wlan: [4:F:DP] last_non_zeros_sample: 49

wlan: [4:F:DP] HTT_RX_REO_RESOURCE_STATS_TLV
wlan: [4:F:DP] sample_id: 3
wlan: [4:F:DP] total_max: 55
wlan: [4:F:DP] total_avg: 0
wlan: [4:F:DP] total_sample: 344344
wlan: [4:F:DP] non_zeros_avg: 6
wlan: [4:F:DP] non_zeros_sample: 789
wlan: [4:F:DP] last_non_zeros_max: 19
wlan: [4:F:DP] last_non_zeros_min: 5
wlan: [4:F:DP] last_non_zeros_avg: 12
wlan: [4:F:DP] last_non_zeros_sample: 49

wlan: [4:F:DP] HTT_RX_REO_RESOURCE_STATS_TLV
wlan: [4:F:DP] sample_id: 7
wlan: [4:F:DP] total_max: 1
wlan: [4:F:DP] total_avg: 0
wlan: [4:F:DP] total_sample: 344344
wlan: [4:F:DP] non_zeros_avg: 1
wlan: [4:F:DP] non_zeros_sample: 789
wlan: [4:F:DP] last_non_zeros_max: 1
wlan: [4:F:DP] last_non_zeros_min: 1
wlan: [4:F:DP] last_non_zeros_avg: 1
wlan: [4:F:DP] last_non_zeros_sample: 49

iwpriv aruba000 txrx_stats 3 - Firmware HW queue stats

=====
wlan: [4:F:DP] fes_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 768
wlan: [4:F:DP] xretry = 0
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 0
wlan: [4:F:DP] mpdu_queued_cnt = 0
wlan: [4:F:DP] mpdu_ack_fail_cnt = 0
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 1024
wlan: [4:F:DP] xretry = 0
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 0
wlan: [4:F:DP] mpdu_queued_cnt = 0
wlan: [4:F:DP] mpdu_ack_fail_cnt = 0
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
```

```

wlan: [4:F:DP] mac_id_hwq_id_word = 1280
wlan: [4:F:DP] xretry = 2
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 171
wlan: [4:F:DP] mpdu_queued_cnt = 171
wlan: [4:F:DP] mpdu_ack_fail_cnt = 2
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:169, 1:0, 2:0, 3:0, 4:2, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:169, 1:0, 2:2, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 1536
wlan: [4:F:DP] xretry = 14
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 237
wlan: [4:F:DP] mpdu_queued_cnt = 237
wlan: [4:F:DP] mpdu_ack_fail_cnt = 14
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:223, 1:0, 2:0, 3:0, 4:14, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:223, 1:0, 2:14, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 1792
wlan: [4:F:DP] xretry = 22
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 27
wlan: [4:F:DP] filt_cnt = 28
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 931
wlan: [4:F:DP] ack_tlv_proc = 77
wlan: [4:F:DP] sched_id_proc = 1181647
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 206
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 855
wlan: [4:F:DP] mpdu_queued_cnt = 963
wlan: [4:F:DP] mpdu_ack_fail_cnt = 705
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:902, 1:0, 2:0, 3:0, 4:22, 5:2, 6:0, 7:27, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:26, 2:0, 3:22, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:1008, 1:0, 2:22, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,

```

## Radio Info Script

## Script Output

```
iwpriv aruba000 txrx_stats 4 - Firmware TX scheduler stats
```

```

=====
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 7458
wlan: [4:F:DP] num_tid_unregister = 7440
wlan: [4:F:DP] num_qstats_queried = 135
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 921471721
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0

```

```

wlan: [4:F:DP] num_rt_sched_algo_trigger = 5
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 77
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:135, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:417, 1:0, 2:181, 3:527,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 922747509

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1024
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 867586564
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 867599091
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 0
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 1658
wlan: [4:F:DP] num_tid_unregister = 1627
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 234
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:237, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:237, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 922747514

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1280
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 922715673
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 922720974
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 0
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 6906
wlan: [4:F:DP] num_tid_unregister = 6866
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 6904
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:6865, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:6865, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 922747519

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1536
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 922721346
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 922723541
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 1310
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 0
wlan: [4:F:DP] num_tid_unregister = 2620
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 0
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:1349, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:

```



```

wlan: [4:F:DP] sched_cmd_reaped = 0:1349, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 922747532

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1792
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 0
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 0
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 0
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 0
wlan: [4:F:DP] num_tid_unregister = 0
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 0
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:0, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:0, 1:0, 2:0, 3:0,

iwpriv aruba000 txrx_stats 5 - Hardware stats

=====
wlan: [4:F:DP] HTT_HW_STATS_PDEV_ERRS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] tx_abort = 0
wlan: [4:F:DP] tx_abort_fail_count = 0
wlan: [4:F:DP] rx_abort = 272
wlan: [4:F:DP] rx_abort_fail_count = 0
wlan: [4:F:DP] rx_flush_cnt = 0
wlan: [4:F:DP] warm_reset = 0
wlan: [4:F:DP] cold_reset = 0
wlan: [4:F:DP] mac_cold_reset_restore_cal = 0
wlan: [4:F:DP] mac_cold_reset = 0
wlan: [4:F:DP] mac_warm_reset = 0
wlan: [4:F:DP] mac_only_reset = 0
wlan: [4:F:DP] phy_warm_reset = 0
wlan: [4:F:DP] phy_warm_reset_ucode_trig = 11
wlan: [4:F:DP] mac_warm_reset_restore_cal = 0
wlan: [4:F:DP] mac_sfm_reset = 0
wlan: [4:F:DP] phy_warm_reset_m3_ssr = 0
wlan: [4:F:DP] fw_rx_rings_reset = 0
wlan: [4:F:DP] tx_flush = 0
wlan: [4:F:DP] tx_glb_reset = 0
wlan: [4:F:DP] tx_txq_reset = 0
wlan: [4:F:DP] rx_timeout_reset = 0

wlan: [4:F:DP] reset_mode = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:11, 13:0, 14:0,
wlan: [4:F:DP]

wlan: [4:F:DP] PDEV_PHY_WARM_RESET_REASONS:
wlan: [4:F:DP] phy_m3 = 11
wlan: [4:F:DP] tx_hw_stuck = 0
wlan: [4:F:DP] num_cca_rx_frame_stuck = 0
wlan: [4:F:DP] wal_rx_recovery_rst_rx_busy = 0
wlan: [4:F:DP] wal_rx_recovery_rst_mac_hang = 0
wlan: [4:F:DP] mac_reset_converted_phy_reset = 0
wlan: [4:F:DP] tx_lifetime_expiry_cca_stuck = 0
wlan: [4:F:DP] tx_consecutive_flush9_war = 0
wlan: [4:F:DP] tx_hwsch_reset_war = 0
wlan: [4:F:DP] hwsch_wdog_or_cca_wdog_war = 0

wlan: [4:F:DP] WAL_RX_RECOVERY_STATS:
wlan: [4:F:DP] mac_hang_count = 0
wlan: [4:F:DP] known_sig_count = 0
wlan: [4:F:DP] no_rx_count = 0
wlan: [4:F:DP] no_rx_consecutive_count = 0
wlan: [4:F:DP] rx_busy_count = 0
wlan: [4:F:DP] phy_mac_hang_count = 0

wlan: [4:F:DP] HTT_HW_STATS_INTR_MISC_TLV:
wlan: [4:F:DP] hw_intr_name = 0:82, 1:69, 2:79, 3:50, 4:0, 5:0, 6:0, 7:0,
wlan: [4:F:DP] mask = 4096
wlan: [4:F:DP] count = 1

wlan: [4:F:DP] HTT_HW_STATS_INTR_MISC_TLV:
wlan: [4:F:DP] hw_intr_name = 0:84, 1:88, 2:80, 3:67, 4:85, 5:0, 6:0, 7:0,
wlan: [4:F:DP] mask = 16777344
wlan: [4:F:DP] count = 25

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=====
wlan: [4:F:DP] HTT_TX_TQM_CMN_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] max_cmdq_id = 0
wlan: [4:F:DP] list_mpdu_cnt_hist_intvl = 30
wlan: [4:F:DP] add_msdu = 0

```

```
wlan: [4:F:DP] q_empty = 22315
wlan: [4:F:DP] q_not_empty = 26521
wlan: [4:F:DP] drop_notification = 0
wlan: [4:F:DP] desc_threshold = 0

wlan: [4:F:DP] HTT_TX_TQM_ERROR_STATS_TLV:
wlan: [4:F:DP] q_empty_failure = 0
wlan: [4:F:DP] q_not_empty_failure = 0
wlan: [4:F:DP] add_msdu_failure = 0

wlan: [4:F:DP] HTT_TX_TQM_GEN_MPDU_STATS_TLV_V:
wlan: [4:F:DP] gen_mpdu_end_reason = 0:0, 1:0, 2:0, 3:0, 4:297169, 5:0, 6:0, 7:0, 8:0, 9:57336, 10:0, 11:0, 12:0, 13:19, 14:26, 15:167653,

wlan: [4:F:DP] HTT_TX_TQM_LIST_MPDU_STATS_TLV_V:
wlan: [4:F:DP] list_mpdu_end_reason = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:8, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_TX_TQM_LIST_MPDU_CNT_TLV_V:
wlan: [4:F:DP] list_mpdu_cnt_hist = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_TX_TQM_PDEV_STATS_TLV_V:
wlan: [4:F:DP] msdu_count = 28260427
wlan: [4:F:DP] mpdu_count = 14136385
wlan: [4:F:DP] remove_msdu = 246
wlan: [4:F:DP] remove_mpdu = 123
wlan: [4:F:DP] remove_msdu_ttl = 0
wlan: [4:F:DP] send_bar = 2
wlan: [4:F:DP] bar_sync = 0
wlan: [4:F:DP] notify_mpdu = 0
wlan: [4:F:DP] sync_cmd = 1364
wlan: [4:F:DP] write_cmd = 0
wlan: [4:F:DP] hwsch_trigger = 0
wlan: [4:F:DP] ack_tlv_proc = 276843
wlan: [4:F:DP] gen_mpdu_cmd = 522203
wlan: [4:F:DP] gen_list_cmd = 8
wlan: [4:F:DP] remove_mpdu_cmd = 656
wlan: [4:F:DP] remove_mpdu_tried_cmd = 19
wlan: [4:F:DP] mpdu_queue_stats_cmd = 0
wlan: [4:F:DP] mpdu_head_info_cmd = 11
wlan: [4:F:DP] msdu_flow_stats_cmd = 639601
wlan: [4:F:DP] remove_msdu_cmd = 0
wlan: [4:F:DP] remove_msdu_ttl_cmd = 1246
wlan: [4:F:DP] flush_cache_cmd = 0
wlan: [4:F:DP] update_mpduq_cmd = 6
wlan: [4:F:DP] enqueue = 90
wlan: [4:F:DP] enqueue_notify = 12
wlan: [4:F:DP] notify_mpdu_at_head = 42
wlan: [4:F:DP] notify_mpdu_state_valid = 12

iwpriv aruba000 txrx_stats 8 - Firmware TX classification (tx_de) stats

=====
wlan: [4:F:DP] HTT_TX_DE_CMN_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] tcl2fw_entry_count = 1686
wlan: [4:F:DP] not_to_fw = 0
wlan: [4:F:DP] invalid_pdev_vdev_peer = 0
wlan: [4:F:DP] tcl_res_invalid_addrx = 0
wlan: [4:F:DP] wbm2fw_entry_count = 0
wlan: [4:F:DP] invalid_pdev = 0

wlan: [4:F:DP] HTT_TX_DE_EAPOL_PACKETS_STATS_TLV:
wlan: [4:F:DP] m1_packets = 6
wlan: [4:F:DP] m2_packets = 0
wlan: [4:F:DP] m3_packets = 5
wlan: [4:F:DP] m4_packets = 0
wlan: [4:F:DP] g1_packets = 0
wlan: [4:F:DP] g2_packets = 0

wlan: [4:F:DP] HTT_TX_DE_CLASSIFY_STATS_TLV:
wlan: [4:F:DP] arp_packets = 1627
wlan: [4:F:DP] igmp_packets = 0
wlan: [4:F:DP] dhcp_packets = 0
wlan: [4:F:DP] host_inspected = 0
wlan: [4:F:DP] htt_included = 0
wlan: [4:F:DP] htt_valid_mcs = 0
wlan: [4:F:DP] htt_valid_nss = 0
wlan: [4:F:DP] htt_valid_preamble_type = 0
wlan: [4:F:DP] htt_valid_chainmask = 0
wlan: [4:F:DP] htt_valid_guard_interval = 0
wlan: [4:F:DP] htt_valid_retries = 0
wlan: [4:F:DP] htt_valid_bw_info = 0
wlan: [4:F:DP] htt_valid_power = 0
wlan: [4:F:DP] htt_valid_key_flags = 0
wlan: [4:F:DP] htt_valid_no_encryption = 0
wlan: [4:F:DP] fse_entry_count = 0
wlan: [4:F:DP] fse_priority_be = 0
wlan: [4:F:DP] fse_priority_high = 0
wlan: [4:F:DP] fse_priority_low = 0
wlan: [4:F:DP] fse_traffic_ptrn_be = 0
wlan: [4:F:DP] fse_traffic_ptrn_over_sub = 0
wlan: [4:F:DP] fse_traffic_ptrn_bursty = 0
wlan: [4:F:DP] fse_traffic_ptrn_interactive = 0
wlan: [4:F:DP] fse_traffic_ptrn_periodic = 0
wlan: [4:F:DP] fse_hwqueue_alloc = 0
wlan: [4:F:DP] fse_hwqueue_created = 0
wlan: [4:F:DP] fse_hwqueue_send_to_host = 0
wlan: [4:F:DP] mcast_entry = 48
wlan: [4:F:DP] bcast_entry = 1550

wlan: [4:F:DP] HTT_TX_DE_CLASSIFY_FAILED_STATS_TLV:
wlan: [4:F:DP] ap_bss_peer_not_found = 0
wlan: [4:F:DP] ap_bcast_mcast_no_peer = 0
wlan: [4:F:DP] sta_delete_in_progress = 0
```

```
wlan: [4:F:DP] ibss_no_bss_peer = 0
wlan: [4:F:DP] invalid_vdev_type = 0
wlan: [4:F:DP] invalid_ast_peer_entry = 0
wlan: [4:F:DP] peer_entry_invalid = 0
wlan: [4:F:DP] ethertype_not_ip = 0
wlan: [4:F:DP] eapol_lookup_failed = 0
wlan: [4:F:DP] qpeer_not_allow_data = 0
wlan: [4:F:DP] fse_tid_override = 0

wlan: [4:F:DP] HTT_TX_DE_CLASSIFY_STATUS_STATS_TLV:
wlan: [4:F:DP] eok = 0
wlan: [4:F:DP] classify_done = 1686
wlan: [4:F:DP] lookup_failed = 0
wlan: [4:F:DP] send_host_dhcp = 0
wlan: [4:F:DP] send_host_mcast = 0
wlan: [4:F:DP] send_host_unknown_dest = 0
wlan: [4:F:DP] send_host = 0
wlan: [4:F:DP] status_invalid = 0

wlan: [4:F:DP] HTT_TX_DE_ENQUEUE_PACKETS_STATS_TLV:
wlan: [4:F:DP] enqueued_pkts = 8958
wlan: [4:F:DP] to_tqm = 88
wlan: [4:F:DP] to_tqm_bypass = 8870

wlan: [4:F:DP] HTT_TX_DE_ENQUEUE_DISCARD_STATS_TLV:
wlan: [4:F:DP] discarded_pkts = 0
wlan: [4:F:DP] local_frames = 0
wlan: [4:F:DP] is_ext_msdu = 0

wlan: [4:F:DP] HTT_TX_DE_COMPL_STATS_TLV:
wlan: [4:F:DP] tcl_dummy_frame = 2
wlan: [4:F:DP] tqm_dummy_frame = 2
wlan: [4:F:DP] tqm_notify_frame = 11
wlan: [4:F:DP] fw2wbm_enq = 1598
wlan: [4:F:DP] tqm_bypass_frame = 1598
```

iwpriv aruba000 txrx\_stats 9 - Firmware TX rate stats

```
=====
wlan: [4:F:DP] HTT_TX_PDEV_RATE_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] tx_ldpc = 311165
wlan: [4:F:DP] rts_cnt = 46
wlan: [4:F:DP] rts_success = 42
wlan: [4:F:DP] ack_rssi = 60
wlan: [4:F:DP] tx_mcs = 0:0, 1:0, 2:34, 3:338, 4:1718, 5:3205, 6:10632, 7:17868, 8:33274, 9:42365, 10:185635, 11:16096,
wlan: [4:F:DP] tx_su_mcs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_mu_mcs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_nss = 1:12365, 2:298800, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0,
wlan: [4:F:DP] tx_bw = 0:3, 1:1, 2:311161, 3:0,
wlan: [4:F:DP] tx_stbc = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_pream = 0:8875, 1:0, 2:0, 3:0, 4:311168, 5:0, 6:0,
wlan: [4:F:DP] tx_gi[0] = 0:0, 1:0, 2:34, 3:338, 4:1718, 5:3205, 6:10632, 7:17868, 8:33274, 9:42365, 10:185635, 11:16096,
wlan: [4:F:DP] tx_gi[1] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_gi[2] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_gi[3] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_dcm = 0:0, 1:0, 2:0, 3:0, 4:0,
```

iwpriv aruba000 txrx\_stats 10 - Firmware RX rate stats

```
=====
wlan: [4:F:DP] ul_ofdma_data_rx_ppdu = 783
wlan: [4:F:DP] ul_ofdma data 0 user = 0
wlan: [4:F:DP] ul_ofdma data 1 user = 239
wlan: [4:F:DP] ul_ofdma data 2 user = 544
wlan: [4:F:DP] ul_ofdma data 3 user = 0
wlan: [4:F:DP] ul_ofdma data 4 user = 0
wlan: [4:F:DP] ul_ofdma data 5 user = 0
wlan: [4:F:DP] ul_ofdma data 6 user = 0
wlan: [4:F:DP] ul_ofdma data 7 user = 0
wlan: [4:F:DP] ul_ofdma data 8 user = 0
wlan: [4:F:DP] ul_ofdma data 9 user = 0
wlan: [4:F:DP] ul_ofdma data 10 user = 0
wlan: [4:F:DP] ul_ofdma data 11 user = 0
wlan: [4:F:DP] ul_ofdma data 12 user = 0
wlan: [4:F:DP] ul_ofdma data 13 user = 0
wlan: [4:F:DP] ul_ofdma data 14 user = 0
wlan: [4:F:DP] ul_ofdma data 15 user = 0
wlan: [4:F:DP] ul_ofdma data 16 user = 0
wlan: [4:F:DP] ul_ofdma data 17 user = 0
wlan: [4:F:DP] ul_ofdma data 18 user = 0
wlan: [4:F:DP] ul_ofdma data 19 user = 0
wlan: [4:F:DP] ul_ofdma data 20 user = 0
wlan: [4:F:DP] ul_ofdma data 21 user = 0
wlan: [4:F:DP] ul_ofdma data 22 user = 0
wlan: [4:F:DP] ul_ofdma data 23 user = 0
wlan: [4:F:DP] ul_ofdma data 24 user = 0
wlan: [4:F:DP] ul_ofdma data 25 user = 0
wlan: [4:F:DP] ul_ofdma data 26 user = 0
wlan: [4:F:DP] ul_ofdma data 27 user = 0
wlan: [4:F:DP] ul_ofdma data 28 user = 0
wlan: [4:F:DP] ul_ofdma data 29 user = 0
wlan: [4:F:DP] ul_ofdma data 30 user = 0
wlan: [4:F:DP] ul_ofdma data 31 user = 0
wlan: [4:F:DP] ul_ofdma data 32 user = 0
wlan: [4:F:DP] ul_ofdma data 33 user = 0
wlan: [4:F:DP] ul_ofdma data 34 user = 0
wlan: [4:F:DP] ul_ofdma data 35 user = 0
wlan: [4:F:DP] ul_ofdma data 36 user = 0
wlan: [4:F:DP] ul_ofdma_data_rx_ru_size= 0:783, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0,
wlan: [4:F:DP] ul_ofdma_nondata_rx_ru_size= 0:4067, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0,
wlan: [4:F:DP] HTT_RX_PDEV_RATE_STATS_TLV:
```

```
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] nsts = 0
wlan: [4:F:DP] rx_ldpc = 11060
wlan: [4:F:DP] rts_cnt = 0
wlan: [4:F:DP] rssi_mgmt = 47
wlan: [4:F:DP] rssi_data = 52
wlan: [4:F:DP] rssi_comb = 0
wlan: [4:F:DP] rx_mcs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:1, 7:1, 8:2, 9:6, 10:30, 11:11020,
wlan: [4:F:DP] rx_nss = 1:0, 2:11060, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0,
wlan: [4:F:DP] rx_dcm = 0:0, 1:0, 2:0, 3:0, 4:0,
wlan: [4:F:DP] rx_stbc = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] rx_bw = 0:3035, 1:0, 2:11060, 3:0,
wlan: [4:F:DP] rssi_chain[0] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[1] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[2] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[3] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[4] = 0:45, 1:48, 2:44, 3:37,
wlan: [4:F:DP] rssi_chain[5] = 0:45, 1:50, 2:49, 3:43,
wlan: [4:F:DP] rssi_chain[6] = 0:47, 1:46, 2:47, 3:44,
wlan: [4:F:DP] rssi_chain[7] = 0:46, 1:43, 2:48, 3:43,
wlan: [4:F:DP] rx_gi[0] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:1, 7:1, 8:1, 9:4, 10:20, 11:10258,
wlan: [4:F:DP] rx_gi[1] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] rx_gi[2] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:1, 9:2, 10:10, 11:762,
wlan: [4:F:DP] rx_gi[3] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] rx_pream = 0:3035, 1:0, 2:0, 3:0, 4:11060, 5:0, 6:0,
```

iwpriv aruba000 txrx\_stats 12 - Firmware self-generated frame stats

```
=====
wlan: [4:F:DP] HTT_TX_SELFGEN_CMN_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] su_bar = 2
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 29164
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] delayed_bar_1 = 31201
wlan: [4:F:DP] delayed_bar_2 = 0
wlan: [4:F:DP] delayed_bar_3 = 0
wlan: [4:F:DP] delayed_bar_4 = 0
wlan: [4:F:DP] delayed_bar_5 = 0
wlan: [4:F:DP] delayed_bar_6 = 0
wlan: [4:F:DP] delayed_bar_7 = 0

wlan: [4:F:DP] HTT_TX_SELFGEN_AC_STATS_TLV:
wlan: [4:F:DP] ac_su_ndpa = 0
wlan: [4:F:DP] ac_su_ndp = 0
wlan: [4:F:DP] ac_mu_mimo_ndpa = 0
wlan: [4:F:DP] ac_mu_mimo_ndp = 0
wlan: [4:F:DP] ac_mu_mimo_brpoll_1 = 0
wlan: [4:F:DP] ac_mu_mimo_brpoll_2 = 0
wlan: [4:F:DP] ac_mu_mimo_brpoll_3 = 0

wlan: [4:F:DP] HTT_TX_SELFGEN_AX_STATS_TLV:
wlan: [4:F:DP] ax_su_ndpa = 4704
wlan: [4:F:DP] ax_su_ndp = 4703
wlan: [4:F:DP] ax_mu_mimo_ndpa = 5328
wlan: [4:F:DP] ax_mu_mimo_ndp = 5328
wlan: [4:F:DP] ax_mu_mimo_brpoll_1 = 5319
wlan: [4:F:DP] ax_mu_mimo_brpoll_2 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_3 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_4 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_5 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_6 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_7 = 0
wlan: [4:F:DP] ax_basic_trigger = 3432
wlan: [4:F:DP] ax_bsr_trigger = 2533
wlan: [4:F:DP] ax_mu_bar_trigger = 220
wlan: [4:F:DP] ax_mu_rts_trigger = 0

wlan: [4:F:DP] HTT_TX_SELFGEN_AC_ERR_STATS_TLV:
wlan: [4:F:DP] ac_su_ndp_err = 0
wlan: [4:F:DP] ac_su_ndpa_err = 0
wlan: [4:F:DP] ac_mu_mimo_ndpa_err = 0
wlan: [4:F:DP] ac_mu_mimo_ndp_err = 0
wlan: [4:F:DP] ac_mu_mimo_brp1_err = 0
wlan: [4:F:DP] ac_mu_mimo_brp2_err = 0
wlan: [4:F:DP] ac_mu_mimo_brp3_err = 0
```

```
wlan: [4:F:DP] HTT_TX_SELFGEN_AX_ERR_STATS_TLV:
wlan: [4:F:DP] ax_su_ndp_err = 966
wlan: [4:F:DP] ax_su_ndpa_err = 4
wlan: [4:F:DP] ax_mu_mimo_ndpa_err = 0
wlan: [4:F:DP] ax_mu_mimo_ndp_err = 2
wlan: [4:F:DP] ax_mu_mimo_brp1_err = 7
wlan: [4:F:DP] ax_mu_mimo_brp2_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp3_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp4_err = 7
wlan: [4:F:DP] ax_mu_mimo_brp5_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp6_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp7_err = 0
wlan: [4:F:DP] ax_basic_trigger_err = 96
wlan: [4:F:DP] ax_bsr_trigger_err = 33
wlan: [4:F:DP] ax_mu_bar_trigger_err = 0
wlan: [4:F:DP] ax_mu_rts_trigger_err = 0
```

iwpriv aruba000 txrx\_stats 15 - Firmware HTT sring info

```
=====
wlan: [4:F:DP] num_avail_words_num_valid_words = 1835042
wlan: [4:F:DP] head_ptr_tail_ptr = 3407920
wlan: [4:F:DP] consumer_empty_producer_full = 0
wlan: [4:F:DP] prefetch_count_internal_tail_ptr = 1310752
```

```
wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1094930252, 4:1263558476, 5:84,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16777472
wlan: [4:F:DP] base_addr_lsb = 1497445664
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 128
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 2883666
wlan: [4:F:DP] head_ptr__tail_ptr = 5636126
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 7471132

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1330464082, 4:1348420948, 5:21579,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16777728
wlan: [4:F:DP] base_addr_lsb = 2971074560
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 8192
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 535429140
wlan: [4:F:DP] head_ptr__tail_ptr = 417601762
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 418906132

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1094930252, 4:1162108748, 5:17235,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16777984
wlan: [4:F:DP] base_addr_lsb = 1497446208
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 128
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 3014736
wlan: [4:F:DP] head_ptr__tail_ptr = 5636128
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 7471132

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1229868877, 4:1599229780, 5:1413567571, 6:21333,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16778240
wlan: [4:F:DP] base_addr_lsb = 2971058176
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 4096
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 266993684
wlan: [4:F:DP] head_ptr__tail_ptr = 224136538
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 225443860

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1229868877, 4:1599229780, 5:5524304,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16778496
wlan: [4:F:DP] base_addr_lsb = 3135766528
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 16384
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 1071513632
wlan: [4:F:DP] head_ptr__tail_ptr = 608838726
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 610795550

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1229868877, 4:1599229780, 5:1129530692, 6:0,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16778752
wlan: [4:F:DP] base_addr_lsb = 3135832064
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 16384
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 1072300052
wlan: [4:F:DP] head_ptr__tail_ptr = 1010318388
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 1011482642

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1599555167, 4:1414743364, 5:0,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 0
wlan: [4:F:DP] base_addr_lsb = 1507990112
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 1024
wlan: [4:F:DP] elem_size = 8
wlan: [4:F:DP] num_avail_words__num_valid_words = 1016
wlan: [4:F:DP] head_ptr__tail_ptr = 56099672
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 0

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1313819999, 4:1380930633, 5:1397048415, 6:84,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 256
```

```

wlan: [4:F:DP] base_addr_lsb = 3136028672
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 65528
wlan: [4:F:DP] elem_size = 8
wlan: [4:F:DP] num_avail_words__num_valid_words = 589800
wlan: [4:F:DP] head_ptr__tail_ptr = 4045467944
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 0

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1397704799, 4:1162108756, 5:21587,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id_ring_id_arena_ep = 512
wlan: [4:F:DP] base_addr_lsb = 3135897600
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 32768
wlan: [4:F:DP] elem_size = 8
wlan: [4:F:DP] num_avail_words__num_valid_words = 32760
wlan: [4:F:DP] head_ptr__tail_ptr = 0
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 0

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1329943135, 4:1397048415, 5:84,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1296193375, 4:1397048415, 5:84,

```

# Radio Info Script

## Script Output

```
iwpriv aruba000 txrx_stats 16 - Firmware SFM client info
```

```

=====
wlan: [4:F:DP] client_id = 0
wlan: [4:F:DP] buf_min = 74
wlan: [4:F:DP] buf_max = 112
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 74
wlan: [4:F:DP] buf_avail = 74
wlan: [4:F:DP] num_users = 39

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,
0, 38:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597068366, 3:1129338962, 4:12629,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 1
wlan: [4:F:DP] buf_min = 16
wlan: [4:F:DP] buf_max = 16
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 16
wlan: [4:F:DP] buf_avail = 16
wlan: [4:F:DP] num_users = 1

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597133902, 3:1129338964, 4:12373,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 2
wlan: [4:F:DP] buf_min = 64
wlan: [4:F:DP] buf_max = 647
wlan: [4:F:DP] buf_busy = 139
wlan: [4:F:DP] buf_alloc = 157
wlan: [4:F:DP] buf_avail = 18
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:201, 1:4179, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 1
,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597199438, 3:1129338964, 4:12629,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 3
wlan: [4:F:DP] buf_min = 8
wlan: [4:F:DP] buf_max = 30
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 8
wlan: [4:F:DP] buf_avail = 8
wlan: [4:F:DP] num_users = 3

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597264974, 3:1129535304, 4:72,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 4
wlan: [4:F:DP] buf_min = 392
wlan: [4:F:DP] buf_max = 402

```

```
wlan: [4:F:DP] buf_busy = 11
wlan: [4:F:DP] buf_alloc = 393
wlan: [4:F:DP] buf_avail = 382
wlan: [4:F:DP] num_users = 22

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:313, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:26, 17:0, 18:0, 19:0

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597330510, 3:4670544,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 5
wlan: [4:F:DP] buf_min = 10
wlan: [4:F:DP] buf_max = 37
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 10
wlan: [4:F:DP] buf_avail = 10
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597396046, 3:1296324692, 4:65,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 6
wlan: [4:F:DP] buf_min = 50
wlan: [4:F:DP] buf_max = 111
wlan: [4:F:DP] buf_busy = 3
wlan: [4:F:DP] buf_alloc = 53
wlan: [4:F:DP] buf_avail = 50
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:85, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597461582, 3:1296324690, 4:12353,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 7
wlan: [4:F:DP] buf_min = 8
wlan: [4:F:DP] buf_max = 50
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 8
wlan: [4:F:DP] buf_avail = 8
wlan: [4:F:DP] num_users = 1

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597527118, 3:1280268370, 4:69,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 8
wlan: [4:F:DP] buf_min = 294
wlan: [4:F:DP] buf_max = 304
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 294
wlan: [4:F:DP] buf_avail = 294
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597592654, 3:1296324690, 4:12609,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 9
wlan: [4:F:DP] buf_min = 8
wlan: [4:F:DP] buf_max = 50
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 8
wlan: [4:F:DP] buf_avail = 8
wlan: [4:F:DP] num_users = 1

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0,

iwpriv aruba000 txrx_stats 17 - Firmware TX MU-MIMO scheduler stats

=====
wlan: [4:F:DP] ac_mu_mimo_ampdu_underrun_usr_3 = 0

wlan: [4:F:DP] HTT_TX_PDEV_MU_MIMO_AX_MPDU_STATS:

wlan: [4:F:DP] ax_mu_mimo_mpdu_queued_usr_0 = 2330598
wlan: [4:F:DP] ax_mu_mimo_mpdu_tried_usr_0 = 2255734
wlan: [4:F:DP] ax_mu_mimo_mpdu_failed_usr_0 = 862901
wlan: [4:F:DP] ax_mu_mimo_mpdu_requeued_usr_0 = 0
wlan: [4:F:DP] ax_mu_mimo_err_no_ba_usr_0 = 15056
wlan: [4:F:DP] ax_mu_mimo_mpdu_underrun_usr_0 = 0
wlan: [4:F:DP] ax_mu_mimo_ampdu_underrun_usr_0 = 0

wlan: [4:F:DP] ax_mu_mimo_mpdu_queued_usr_1 = 1803459
wlan: [4:F:DP] ax_mu_mimo_mpdu_tried_usr_1 = 1740275
wlan: [4:F:DP] ax_mu_mimo_mpdu_failed_usr_1 = 162741
wlan: [4:F:DP] ax_mu_mimo_mpdu_requeued_usr_1 = 0
wlan: [4:F:DP] ax_mu_mimo_err_no_ba_usr_1 = 109
```

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```
wlan: [4:F:DP] ax_mu_ofdma_mpdus_requeued_usr_6 = 0
wlan: [4:F:DP] ax_mu_ofdma_err_no_ba_usr_6 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_underrun_usr_6 = 0
wlan: [4:F:DP] ax_mu_ofdma_ampdu_underrun_usr_6 = 0

wlan: [4:F:DP] ax_mu_ofdma_mpdus_queued_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_tried_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_failed_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_requeued_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_err_no_ba_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_underrun_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_ampdu_underrun_usr_7 = 0
```

VAP 'aruba000' will be used to display Noise Floor statistics.

===== iwpriv-commands =====

iwpriv aruba000 nf\_stats 0 - Noise Floor Factory Cal Data

=====

Number of Cal Channel:4 Chain:4

Channel: 48 Frequency:5240

Chain0 dBm:-105 dBm: -95 Offset:10

Chain1 dBm:-105 dBm: -95 Offset:10

Chain2 dBm:-105 dBm: -95 Offset:10

Chain3 dBm:-105 dBm: -95 Offset:10

Channel:112 Frequency:5560

Chain0 dBm:-105 dBm: -95 Offset:10

Chain1 dBm:-105 dBm: -95 Offset:10

Chain2 dBm:-105 dBm: -95 Offset:10

Chain3 dBm:-105 dBm: -95 Offset:10

Channel:128 Frequency:5640

Chain0 dBm:-105 dBm: -95 Offset:10

Chain1 dBm:-105 dBm: -95 Offset:10

Chain2 dBm:-105 dBm: -95 Offset:10

Chain3 dBm:-105 dBm: -95 Offset:10

Channel:157 Frequency:5785

Chain0 dBm:-105 dBm: -95 Offset:10

Chain1 dBm:-105 dBm: -95 Offset:10

Chain2 dBm:-105 dBm: -95 Offset:10

Chain3 dBm:-105 dBm: -95 Offset:10

iwpriv aruba000 nf\_stats 1 - Noise Floor Table

=====

Default Noise Floor (+ Offset) and Current Noise Floor

Chan	20MHz	40MHz	80MHz	160MHz	Current NF
36:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-95 dBr
40:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
44:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
48:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
52:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
56:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
60:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
64:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
100:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
104:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
108:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
112:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
116:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
120:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
124:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
128:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
132:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	0 dBr
136:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	0 dBr
140:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	0 dBr
144:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	0 dBr
149:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	0 dBr
153:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
157:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
161:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-92 dBr
165:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	-96 dBr
169:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	0 dBr
173:	-95 (+ 6)	-93 (+ 7)	-91 (+ 9)	-89 (+11)	0 dBr

iwpriv aruba000 nf\_stats 2 - Home Channel Noise Floor History

=====

Noise Floor History at Home Channel: 52

Number of Chains: 4

0: -107 -106 -107 -110 (-107 dBr) 0813

1: -107 -106 -108 -110 (-107 dBr) 0843

2: -107 -106 -107 -110 (-107 dBr) 0873

3: -107 -106 -107 -108 (-107 dBr) 0753

4: -107 -106 -107 -108 (-107 dBr) 0783

Current NF: -107 dBr -92 dBm

Cal Status: 0x00000000

Current Override: 0, Max Override: 0, MA: -107 dBr

iwpriv aruba000 nf\_stats 3 - Scan Channel Noise Floor History

=====

Noise Floor History at Scan Channels

36: -105 -105 -105 -105 -105 -105 (-105 dBr)

0000 0000 0000 0000 0000 0000 [0x00000000]

40: -107 -105 -105 -105 -105 -105 (-105 dBr)

0192 0000 0000 0000 0000 0000 [0x00000000]

44: -107 -105 -105 -105 -105 -105 (-105 dBr)

0202 0000 0000 0000 0000 0000 [0x00000000]

48: -107 -105 -105 -105 -105 -105 (-105 dBr)

0208 0000 0000 0000 0000 0000 [0x00000000]

52: -105 -105 -105 -105 -105 -105 (-105 dBr)

0000 0000 0000 0000 0000 0000 [0x00000000]

```

56: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0230 0000 0000 0000 0000 0000 0000 [0x00000000]
60: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0252 0000 0000 0000 0000 0000 0000 [0x00000000]
64: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0285 0000 0000 0000 0000 0000 0000 [0x00000000]
100: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0294 0000 0000 0000 0000 0000 0000 [0x00000000]
104: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0305 0000 0000 0000 0000 0000 0000 [0x00000000]
108: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0315 0000 0000 0000 0000 0000 0000 [0x00000000]
112: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0341 0000 0000 0000 0000 0000 0000 [0x00000000]
116: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0349 0000 0000 0000 0000 0000 0000 [0x00000000]
120: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0356 0000 0000 0000 0000 0000 0000 [0x00000000]
124: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0367 0000 0000 0000 0000 0000 0000 [0x00000000]
128: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0378 0000 0000 0000 0000 0000 0000 [0x00000000]
132: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
136: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
140: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
144: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
149: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
153: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0528 0000 0000 0000 0000 0000 0000 [0x00000000]
157: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0538 0000 0000 0000 0000 0000 0000 [0x00000000]
161: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0547 0000 0000 0000 0000 0000 0000 [0x00000000]
165: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0562 0000 0000 0000 0000 0000 0000 [0x00000000]
169: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
173: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
aruba_dbg_radio_info_0 Finished time: Tue Jul 28 14:27:41 UTC 2020
aruba_dbg_radio_info_0: Read 18103 bytes in 1792 lines. Truncated:FALSE

```

```

*****
7/28/2020 14:27:32 PM Target: AP1 (VC) Command: show ap debug radio-stats 0
*****

```

# RADIO Stats

```

-----
Parameter                               Value
-----
-----
Total Radio Resets                      11
Resets Beacon Fail                      0
BB Check Positives                     0
Resets BeacQ Stuck                     0
Resets Fatal Intr                      0
Resets RX Overrun                      0
Resets RF Gain                         0
Resets MTU Change                      0
Resets TX Timeouts                     0
Resets RX Timeouts                     0
POE-Related Resets                     0
External Reset                         0
PCI Fatal Intr Reset                   0
Chainmask Reset                       0
TX stat Reset                          0
TX Power Changes                       2
Channel Changes                        2
Failed Channel Changes                 0
Radio Band Changes                     0
Current Noise Floor                     92
Dummy NF pkts on home channel          757
Dummy NF pkts on scan channel          18
Avail TX Buffers                       0
11g Protection                         0
Last TX Antenna                        0
Last RX Antenna                        0
Scan Requests                          66
Scan Rejects                           47
Load aware Scan Rejects                 43
PS aware Scan Rejects                   0
EAP Scan Rejects                       0
Voice aware Scan Rejects                2
Video aware Scan Rejects                1
UAPSD Scan Rejects                     0
Post radar related scan Rejects         0
CABQ traffic Scan Rejects               0
Radio Reset Scan Rejects                0
Queue Drain Scan Rejects                0
Scan Success                           19
EIRP                                   17.0
MAX EIRP                               23.0
Dummy012                               0
Dummy013                               0
Dummy014                               0
Dummy015                               0
Dummy016                               0
Dummy017                               0
Dummy018                               0
Dummy019                               0

```

```

Dummy020      0
Dummy021      0
Dummy022      0
-----
Tx Time perct @ beacon intvl 78 78 78 78 78 78 78 78 88 88 88 88 88 88 88 88 88 88 65 65 65 65 65 65 65 65
Tx Frames Rcvd      389
Tx Bcast Frames Rcvd      0
Tx Frames Dropped      43107
Tx Frames Dropped Rate 1s      0
Tx Bcast Frames Dropped      0
Tx Frames Transmitted      27631842
Tx Bytes Rcvd      93784
Tx Bytes Transmitted      39566614983
Tx Time Frames Rcvd      0
Tx Time Frames Dropped      0
Tx Time Frames Transmitted      0
Tx PS Unicast      0
Tx DTIM Broadcast      0
Tx Success With Retry      0
Tx Multiple Retries      729741
Tx Mgmt Frames      7055
Tx Mgmt Frames(PPS)      0
Tx Beacons Transmitted      6657
Tx Beacons Transmitted(PPS)      0
Tx Probe Responses      237
Tx Probe Responses(PPS)      0
Tx Auth Frames      0
Tx Assoc Resp Frames      0
Tx Data Transmitted Retried      0
Tx Data Transmitted      2644778
Tx Data Frames      2644778
Tx Broadcast Data Frames In      0
Tx Data Bytes Transmitted      38692752238
Tx Data Bytes      3754613256
Tx Time Data Transmitted      0
Tx Time BC/MC Data      0
Tx Time Data dropped      0
Tx Time Data      39330399
Tx Time Data (Ideal)      31831576
Client Health Samples      39564
Tx Broadcast Data Frames Sent      1531
Tx Broadcast Data Frames Sent(PPS)      0
Tx Multicast Data Frames      1579
Tx Multicast Data Frames(PPS)      0
Tx Workqueue Frames      0
Tx Bypass Frames      0
Tx DMO Multicast      43
Tx DMO Invalid      0
Tx DMO Converted      33
Tx DMO Replicated      0
Tx DMO Dropped      90
Tx DMO No Client      0
Tx DMO No BSSID      0
Tx Unicast Data Frames      36476216
Tx RTS Success      41
Tx RTS Failed      4
Tx CTS Frames      0
Tx CTS Frames(PPS)      0
Tx Powersave Queue Timeouts      0
Tx Dropped After Retry      4
Tx Dropped No Buffer      0
Tx Missed ACKs      0
Tx Failed Beacons      8
Tx Multi-Beacon Fail      0
Tx Long Preamble      0
Tx Short Preamble      0
Tx Beacon Interrupts      6666
Tx Interrupts      0
Tx FIFO Underrun      0
Tx Allocated Desc      0
Tx Freed Desc      0
Tx EAPOL Frames      11
Tx STBC Frames      0
Tx LDPC Frames      27630252
Tx OFDMA Frames      2412
Tx AGGR Good      27630252
Tx AGGR Unaggr      1590
Tx Data Frames 12 Mbps (Mon)      0
Tx Data Frames 24 Mbps (Mon)      562
Tx Data Frames 36 Mbps (Mon)      0
Tx Data Frames 54 Mbps (Mon)      0
Tx Data Frames 72 Mbps (Mon)      0
Tx Data Frames 108 Mbps (Mon)      0
Tx Data Frames 300 Mbps (Mon)      638
Tx Data Frames 450 Mbps (Mon)      6346
Tx Data Frames 1300 Mbps (Mon)      2637232
Tx Data Frames 1300 Mbps+ (Mon)      0
Tx Data Bytes 12 Mbps (Mon)      0
Tx Data Bytes 24 Mbps (Mon)      2079
Tx Data Bytes 36 Mbps (Mon)      0
Tx Data Bytes 54 Mbps (Mon)      0
Tx Data Bytes 72 Mbps (Mon)      0
Tx Data Bytes 108 Mbps (Mon)      0
Tx Data Bytes 300 Mbps (Mon)      912908
Tx Data Bytes 450 Mbps (Mon)      9111876
Tx Data Bytes 1300 Mbps (Mon)      3744586393
Tx Data Bytes 1300 Mbps+ (Mon)      0
Tx WMM [BE]      27630188
Tx WMM [VO]      75
Tx WMM [BE] Dropped      246
Tx UAPSD OverflowDrop      0
Tx Timeouts      0
Lost Carrier Events      0
Tx HT40 Hang Detected      0

```

```

Tx HT40 Hang Stuck                0
Tx HT40 Hang Possible             0
Tx HT40 Dfs IMM WAR               0
Tx HT40 Dfs HT20 WAR              0
Tx MAC/BB Hang Stuck              0
Tx Mgmt Bytes                     93784
Tx Beacons Bytes                  2452720
Tx AMSDU pkt count                0
Tx EAPOL Frames Rcvd              0
Tx EAPOL Frames Dropped           0
Tx Data Frames MCS 1 :            1718
Tx Data Frames MCS 2 :            716
Tx Data Frames MCS 3 :            10314
Tx Data Frames MCS 4 :            47410
Tx Data Frames MCS 5 :            43124
Tx Data Frames MCS 6 :            476713
Tx Data Frames MCS 7 :            880912
Tx Data Frames MCS 8 :            1997183
Tx Data Frames MCS 9 :            3433964
Tx Data Frames MCS 10 :           20228329
Tx Data Frames MCS 11 :           511459
Tx Data Frames Legacy :           1590
Tx Data Frames MCS :              27630252
Tx Data Frames NSS1 :             857912
Tx Data Frames NSS2 :             26773930
Tx Data Frames GI(0.8) :          27631842
Tx Data Frames BW 20 :            1598
Tx Data Frames BW 80 :            27630244
-----
Rx Last SNR                       60
Rx Last SNR CTL4                  61
Rx Last SNR CTL5                  65
Rx Last SNR CTL6                  64
Rx Last SNR CTL7                  67
Rx Last SNR EXT4                  44
Rx Last SNR EXT5                  47
Rx Last SNR EXT6                  40
Rx Last SNR EXT7                  48
Rx Last ACK SNR                   48
Rx Frames Received                79655
Rx Good Frames                    0
Rx Bad Frames                     0
Rx Total Data Frames Recvd        24655
Rx Total Mgmt Frames Recvd        1734
Rx Total Control Frames Recvd     6197
Rx Total Bytes Recvd              24124387
Rx Total Data Bytes Recvd         18746034
Rx Total RTS Frames Recvd         6103
Rx Total CTS Frames Recvd         59
Rx Total ACK Frames               251
Rx Total Beacons Received         6
Rx Total Probe Requests           334
Rx Total Probe Responses          0
Rx Retry Frames                   25
Channel Busy 1s                   82
Channel Busy 4s                   74
Channel Busy 64s                  76
Ch Busy perct @ beacon intvl      82 82 82 82 82 82 82 82 82 82 92 92 92 92 92 92 92 92 67 67 67 67 67 67 67 67 67
Rx Time perct @ beacon intvl      2 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 2 2 2 2 2 2 2 2 2
Rx Discarded Events                0
Rx ARM Scan Frames                0
Rx Data Frames Retried            11
Rx Data Frames                    48161
Rx Data Frames(PPS)               0
Rx Data Bytes                     19682773
Rx Time Data                      0
Rx Duplicate Frames                0
Rx Broadcast Data Frames          1528
Rx Multicast Data Frames          1717
Rx Unicast Data Frames            46444
Rx Null Data Frames               3222
Rx Mgmt Frames                    1740
Rx Mgmt Frames(PPS)               0
Rx Auth Frames                    0
Rx Assoc Req Frames               0
Rx Control Frames                 43269
Rx Control Frames(PPS)            0
Rx Frames To Me                   56767
Rx Bytes To Me                    24119530
Rx Time To Me                     0
Rx Broadcast Frames               0
Rx Probe Requests                 334
Rx Probe Requests(PPS)            0
Rx RTS Frames                     6102
Rx RTS Frames(PPS)                0
Rx CTS Frames                     0
Rx CTS Frames(PPS)                0
Rx PS Poll Frames                 0
Rx CRC Errors                     0
Rx PLCP Errors                    0
Rx Frames Dropped                 1
Rx PHY Events                     0
Rx RADAR Events                   0
RX Interrupts                     0
RX Overrun                        0
Rx Undecryptable                  0
Rx STBC Frames                    0
Rx LDPC Frames                    0
RX SU Frames                      113912
RX MU MIMO Frames                 0
RX MU OFDMA Frames                17422
RX MU OFDMA MIMO Frames           0
Rx Data Frames 12 Mbps (Mon)      0
Rx Data Frames 54 Mbps (Mon)      7585

```

```

Rx Data Frames 108 Mbps (Mon) 0
Rx Data Frames 300 Mbps (Mon) 0
Rx Data Frames 450 Mbps (Mon) 0
Rx Data Frames 1300 Mbps (Mon) 29506
Rx Data Frames 1300 Mbps+ (Mon) 0
Rx Data Bytes 12 Mbps (Mon) 0
Rx Data Bytes 54 Mbps (Mon) 2782841
Rx Data Bytes 108 Mbps (Mon) 0
Rx Data Bytes 300 Mbps (Mon) 0
Rx Data Bytes 450 Mbps (Mon) 0
Rx Data Bytes 1300 Mbps (Mon) 15963193
Rx Data Bytes 1300 Mbps+ (Mon) 0
Rx Data Frames MCS 0 : 17247
Rx Data Frames MCS 1 : 42443
Rx Data Frames MCS 2 : 388
Rx Data Frames MCS 3 : 2417
Rx Data Frames MCS 6 : 1
Rx Data Frames MCS 7 : 1
Rx Data Frames MCS 8 : 1
Rx Data Frames MCS 9 : 1
Rx Data Frames MCS 10 : 30
Rx Data Frames MCS 11 : 29600
Rx WMM [BE] 33877
Rx WMM [VI] 16
Rx WMM [VO] 97
Rx Data Frames NSS1 : 45202
Rx Data Frames NSS2 : 29634
Rx Data Frames GI(0.8) : 91315
Rx Data Frames GI(1.6) : 745
Rx Data Frames GI(3.2) : 69
Rx Data Frames BW 20 : 1328
Rx Data Frames BW 80 : 90801
RX bad length 0
Rx Null Src MAC 1
-----
SLB: Probe Requests Sent 0
SLB: Probe Responses Sent 0
SLB: Probe Requests Received 0
SLB: Probe Response Received 0
SLB: Probe Requests Ignored 0
SLB: Auth Requests Refused 0
SLB: Assoc Requests Refused 0
Throttle drops 0
Stop all but Mgmt 0
CCA percentage of our bss 0
CCA percentage of other bss 0
CCA percentage of interference 0
Hotspot2 Action Frame From STM 0
Hotspot2 Action TX Prepare 0
Hotspot2 Action Skip Crypto 0
Hotspot2 Action Process Action 0
Hotspot2 Action TXOP ok 0
Hotspot2 Action DMA ok 0
Hotspot2 Action Frame Drop 1 0
Hotspot2 Action Frame Drop 2 0
Hotspot2 Action Frame Drop 3 0
Hotspot2 Action Frame Drop 4 0
Hotspot2 Action Frame Drop 5 0
Hotspot2 Action Frame Drop 6 0
Hotspot2 Action Frame Drop 7 0
Hotspot2 Action Frame Drop 8 0
Deauth pending assoc failed 0
Not authenticated assoc failed 0
AUTH from driver assoc failed 0
AUTH from apstm assoc failed 0
SU-NDPA frames transmitted 4675
SU-NDP frames transmitted 4674
SU-NDPA frames Tx failed 3
SU-NDP frames Tx failed 946
MU-NDPA frames transmitted 4203
MU-NDP frames transmitted 4203
MU-NDPA frames Tx failed 0
MU-NDP frames Tx failed 1
MU Sequences posted 0
Client swap with pkt drop 0
Client swap pkt drop frames 0
Basic trigger frames 3287
BSR trigger frames 2442
MU-BAR trigger frames 220
MU-RTS trigger frames 0
Basic trigger frames Tx failed 95
BSR trigger frames Tx failed 33
MU-BAR trigger frames Tx failed 0
MU-RTS trigger frames Tx failed 0
Resets Seq Mismatch 0

```

## ANUL RADIO Stats

```

-----
Parameter Value
-----
ANUL Assoc Rejects 0
ANUL Auth Rejects 0
ANUL Dos STA Rejects 0
ANUL Auth Throttle Rejects 0
ANUL Max STA Rejects 0
ANUL Stale STA Ageouts 0
ANUL Assoc-Disallowed Rejects 0
ANUL Imminent VAP Down Rejects 0

```

```

*****
7/28/2020 14:27:22 PM Target: AP1 (VC) Command: show ap debug radio-info 0
*****

```

## Radio Info Script

## Script Output

aruba\_dbg\_radio\_info\_0 Start time: Tue Jul 28 14:27:18 UTC 2020

wifi0-drop-list:

\_anul\_tx\_skb(1185): 22/252093 0/251886

wifi0-anul-dump:

assert\_list (both wifi0, wifi1 and wifi2):

VAP 'aruba000' will be used to display radio statistics.

===== iwpriv-commands =====

iwpriv aruba000 txrx\_stats 258 - Rx rate and aggregation stats

=====

wlan: [11511:F:DP] Rx Rate Info:

wlan: [11511:F:DP] OFDM 48 Mbps = 0  
wlan: [11511:F:DP] OFDM 24 Mbps = 42397  
wlan: [11511:F:DP] OFDM 12 Mbps = 388  
wlan: [11511:F:DP] OFDM 6 Mbps = 2417  
wlan: [11511:F:DP] OFDM 54 Mbps = 0  
wlan: [11511:F:DP] OFDM 36 Mbps = 0  
wlan: [11511:F:DP] OFDM 18 Mbps = 0  
wlan: [11511:F:DP] OFDM 9 Mbps = 0  
wlan: [11511:F:DP] INVALID = 0  
wlan: [11511:F:DP]

wlan: [11511:F:DP] CCK 11 Mbps Long = 0  
wlan: [11511:F:DP] CCK 5.5 Mbps Long = 0  
wlan: [11511:F:DP] CCK 2 Mbps Long = 0  
wlan: [11511:F:DP] CCK 1 Mbps Long = 0  
wlan: [11511:F:DP] CCK 11 Mbps Short = 0  
wlan: [11511:F:DP] CCK 5.5 Mbps Short = 0  
wlan: [11511:F:DP] CCK 2 Mbps Short = 0  
wlan: [11511:F:DP] INVALID = 0  
wlan: [11511:F:DP]

wlan: [11511:F:DP] HT MCS 0 (BPSK 1/2) = 0  
wlan: [11511:F:DP] HT MCS 1 (QPSK 1/2) = 0  
wlan: [11511:F:DP] HT MCS 2 (QPSK 3/4) = 0  
wlan: [11511:F:DP] HT MCS 3 (16-QAM 1/2) = 0  
wlan: [11511:F:DP] HT MCS 4 (16-QAM 3/4) = 0  
wlan: [11511:F:DP] HT MCS 5 (64-QAM 2/3) = 0  
wlan: [11511:F:DP] HT MCS 6 (64-QAM 3/4) = 0  
wlan: [11511:F:DP] HT MCS 7 (64-QAM 5/6) = 0  
wlan: [11511:F:DP] INVALID = 0  
wlan: [11511:F:DP]

wlan: [11511:F:DP] VHT MCS 0 (BPSK 1/2) = 0  
wlan: [11511:F:DP] VHT MCS 1 (QPSK 1/2) = 0  
wlan: [11511:F:DP] VHT MCS 2 (QPSK 3/4) = 0  
wlan: [11511:F:DP] VHT MCS 3 (16-QAM 1/2) = 0  
wlan: [11511:F:DP] VHT MCS 4 (16-QAM 3/4) = 0  
wlan: [11511:F:DP] VHT MCS 5 (64-QAM 2/3) = 0  
wlan: [11511:F:DP] VHT MCS 6 (64-QAM 3/4) = 0  
wlan: [11511:F:DP] VHT MCS 7 (64-QAM 5/6) = 0  
wlan: [11511:F:DP] VHT MCS 8 (256-QAM 3/4) = 0  
wlan: [11511:F:DP] VHT MCS 9 (256-QAM 5/6) = 0  
wlan: [11511:F:DP] VHT MCS 10 (1024-QAM 3/4) = 0  
wlan: [11511:F:DP] VHT MCS 11 (1024-QAM 5/6) = 0  
wlan: [11511:F:DP] INVALID = 0  
wlan: [11511:F:DP]

wlan: [11511:F:DP] HE MCS 0 (BPSK 1/2) = 17247  
wlan: [11511:F:DP] HE MCS 1 (QPSK 1/2) = 46  
wlan: [11511:F:DP] HE MCS 2 (QPSK 3/4) = 0  
wlan: [11511:F:DP] HE MCS 3 (16-QAM 1/2) = 0  
wlan: [11511:F:DP] HE MCS 4 (16-QAM 3/4) = 0  
wlan: [11511:F:DP] HE MCS 5 (64-QAM 2/3) = 0  
wlan: [11511:F:DP] HE MCS 6 (64-QAM 3/4) = 1  
wlan: [11511:F:DP] HE MCS 7 (64-QAM 5/6) = 1  
wlan: [11511:F:DP] HE MCS 8 (256-QAM 3/4) = 1  
wlan: [11511:F:DP] HE MCS 9 (256-QAM 5/6) = 1  
wlan: [11511:F:DP] HE MCS 10 (1024-QAM 3/4) = 30  
wlan: [11511:F:DP] HE MCS 11 (1024-QAM 5/6) = 29600  
wlan: [11511:F:DP] INVALID = 0  
wlan: [11511:F:DP]

wlan: [11511:F:DP] NSS(1-8) = 45202 29634 0 0 0 0 0 0  
wlan: [11511:F:DP] SGI = 0.8us 91315, 0.4us 0, 1.6us 745, 3.2us 69,  
wlan: [11511:F:DP] BW Counts = 20MHZ 1328, 40MHZ 0, 80MHZ 90801, 160MHZ 0  
wlan: [11511:F:DP] Reception Type = SU: 113854, MU\_MIMO:0, MU\_OFDMA:17422, MU\_OFDMA\_MIMO:0

wlan: [11511:F:DP] Aggregation:

wlan: [11511:F:DP] Number of Msdu's Part of Ampdus = 34159  
wlan: [11511:F:DP] Number of Msdu's With No Mpd Level Aggregation : 57970  
wlan: [11511:F:DP] Number of Msdu's Part of Amsdu: 8956  
wlan: [11511:F:DP] Number of Msdu's With No Msdu Level Aggregation: 48103

iwpriv aruba000 txrx\_stats 259 - Tx rate and aggregation stats

=====

wlan: [11522:F:DP] Tx Rate Info:

wlan: [11522:F:DP] OFDM 48 Mbps = 0  
wlan: [11522:F:DP] OFDM 24 Mbps = 1564

```

wlan: [11522:F:DP] OFDM 12 Mbps = 0
wlan: [11522:F:DP] OFDM 6 Mbps = 0
wlan: [11522:F:DP] OFDM 54 Mbps = 0
wlan: [11522:F:DP] OFDM 36 Mbps = 0
wlan: [11522:F:DP] OFDM 18 Mbps = 0
wlan: [11522:F:DP] OFDM 9 Mbps = 0
wlan: [11522:F:DP] INVALID = 0
wlan: [11522:F:DP]

wlan: [11522:F:DP] CCK 11 Mbps Long = 0
wlan: [11522:F:DP] CCK 5.5 Mbps Long = 0
wlan: [11522:F:DP] CCK 2 Mbps Long = 0
wlan: [11522:F:DP] CCK 1 Mbps Long = 0
wlan: [11522:F:DP] CCK 11 Mbps Short = 0
wlan: [11522:F:DP] CCK 5.5 Mbps Short = 0
wlan: [11522:F:DP] CCK 2 Mbps Short = 0
wlan: [11522:F:DP] INVALID = 0
wlan: [11522:F:DP]

wlan: [11522:F:DP] HT MCS 0 (BPSK 1/2) = 0
wlan: [11522:F:DP] HT MCS 1 (QPSK 1/2) = 0
wlan: [11522:F:DP] HT MCS 2 (QPSK 3/4) = 0
wlan: [11522:F:DP] HT MCS 3 (16-QAM 1/2) = 0
wlan: [11522:F:DP] HT MCS 4 (16-QAM 3/4) = 0
wlan: [11522:F:DP] HT MCS 5 (64-QAM 2/3) = 0
wlan: [11522:F:DP] HT MCS 6 (64-QAM 3/4) = 0
wlan: [11522:F:DP] HT MCS 7 (64-QAM 5/6) = 0
wlan: [11522:F:DP] INVALID = 0
wlan: [11522:F:DP]

wlan: [11522:F:DP] VHT MCS 0 (BPSK 1/2) = 0
wlan: [11522:F:DP] VHT MCS 1 (QPSK 1/2) = 0
wlan: [11522:F:DP] VHT MCS 2 (QPSK 3/4) = 0
wlan: [11522:F:DP] VHT MCS 3 (16-QAM 1/2) = 0
wlan: [11522:F:DP] VHT MCS 4 (16-QAM 3/4) = 0
wlan: [11522:F:DP] VHT MCS 5 (64-QAM 2/3) = 0
wlan: [11522:F:DP] VHT MCS 6 (64-QAM 3/4) = 0
wlan: [11522:F:DP] VHT MCS 7 (64-QAM 5/6) = 0
wlan: [11522:F:DP] VHT MCS 8 (256-QAM 3/4) = 0
wlan: [11522:F:DP] VHT MCS 9 (256-QAM 5/6) = 0
wlan: [11522:F:DP] VHT MCS 10 (1024-QAM 3/4) = 0
wlan: [11522:F:DP] VHT MCS 11 (1024-QAM 5/6) = 0
wlan: [11522:F:DP] INVALID = 0
wlan: [11522:F:DP]

wlan: [11522:F:DP] HE MCS 0 (BPSK 1/2) = 0
wlan: [11522:F:DP] HE MCS 1 (QPSK 1/2) = 128
wlan: [11522:F:DP] HE MCS 2 (QPSK 3/4) = 716
wlan: [11522:F:DP] HE MCS 3 (16-QAM 1/2) = 10314
wlan: [11522:F:DP] HE MCS 4 (16-QAM 3/4) = 45498
wlan: [11522:F:DP] HE MCS 5 (64-QAM 2/3) = 42392
wlan: [11522:F:DP] HE MCS 6 (64-QAM 3/4) = 395323
wlan: [11522:F:DP] HE MCS 7 (64-QAM 5/6) = 820742
wlan: [11522:F:DP] HE MCS 8 (256-QAM 3/4) = 1816811
wlan: [11522:F:DP] HE MCS 9 (256-QAM 5/6) = 3358252
wlan: [11522:F:DP] HE MCS 10 (1024-QAM 3/4) = 20210289
wlan: [11522:F:DP] HE MCS 11 (1024-QAM 5/6) = 510745
wlan: [11522:F:DP] INVALID = 0
wlan: [11522:F:DP]

wlan: [11522:F:DP] SGI = 0.8us 27212774 0.4us 0 1.6us 0 3.2us 0
wlan: [11522:F:DP] BW Counts = 20MHZ 1572, 40MHZ 0, 80MHZ 27211202, 160MHZ 0
wlan: [11522:F:DP] OFDMA = 2412
wlan: [11522:F:DP] STBC = 0
wlan: [11522:F:DP] LDPC = 27211210
wlan: [11522:F:DP] Retries = 665453
wlan: [11522:F:DP] Last ack rssi = 48

wlan: [11522:F:DP] Aggregation:

wlan: [11522:F:DP] Number of Msdu's Part of Ampdus = 27211210
wlan: [11522:F:DP] Number of Msdu's With No Mpdu Level Aggregation : 1564
wlan: [11522:F:DP] Number of Msdu's Part of Amsdu = 27206033
wlan: [11522:F:DP] Number of Msdu's With No Msdu Level Aggregation = 8210652

iwpriv aruba000 txrx_stats 260 - PDEV TX stats

=====
wlan: [11531:F:DP] PDEV Tx Stats:

wlan: [11531:F:DP] Received From Stack:
wlan: [11531:F:DP] Packets = 35439889
wlan: [11531:F:DP] Bytes = 49594514832
wlan: [11531:F:DP] Processed:
wlan: [11531:F:DP] Packets = 35440161
wlan: [11531:F:DP] Bytes = 49594325088
wlan: [11531:F:DP] Total Completions:
wlan: [11531:F:DP] Packets = 27213444
wlan: [11531:F:DP] Bytes = 38966766129
wlan: [11531:F:DP] Successful Completions:
wlan: [11531:F:DP] Packets = 27219496
wlan: [11531:F:DP] Bytes = 38106600600
wlan: [11531:F:DP] Dropped:
wlan: [11531:F:DP] Total = 0
wlan: [11531:F:DP] Dma_map_error = 0
wlan: [11531:F:DP] Ring Full = 0
wlan: [11531:F:DP] Descriptor Not available = 0
wlan: [11531:F:DP] HW enqueue failed= 0
wlan: [11531:F:DP] Resources Full = 0
wlan: [11531:F:DP] FW removed Pkts = 8205350
wlan: [11531:F:DP] FW removed bytes= 0
wlan: [11531:F:DP] FW removed transmitted = 246
wlan: [11531:F:DP] FW removed untransmitted = 0
wlan: [11531:F:DP] FW removed untransmitted fw_reason1 = 0

```

```

wlan: [11531:F:DP] FW removed untransmitted fw_reason2 = 0
wlan: [11531:F:DP] FW removed untransmitted fw_reason3 = 0
wlan: [11531:F:DP] Aged Out from msdu/mpdu queues = 0
wlan: [11531:F:DP] headroom insufficient = 0
wlan: [11531:F:DP] Multicast:
wlan: [11531:F:DP]   Packets: 1553
wlan: [11531:F:DP]   Bytes: 69180
wlan: [11531:F:DP] Scatter Gather:
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0
wlan: [11531:F:DP]   Dropped By Host = 0
wlan: [11531:F:DP]   Dropped By Target = 0
wlan: [11531:F:DP] TSO:
wlan: [11531:F:DP]   Number of Segments = 0
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0
wlan: [11531:F:DP]   Dropped By Host = 0
wlan: [11531:F:DP] Mcast Enhancement:
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0
wlan: [11531:F:DP]   Dropped: Map Errors = 0
wlan: [11531:F:DP]   Dropped: Self Mac = 0
wlan: [11531:F:DP]   Dropped: Send Fail = 0
wlan: [11531:F:DP]   Unicast sent = 0
wlan: [11531:F:DP] Raw:
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0
wlan: [11531:F:DP]   DMA map error = 0
wlan: [11531:F:DP] Rejected:
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0

```

```

wlan: [11531:F:DP] Inspected:
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0
wlan: [11531:F:DP] Nwds Multicast:
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0
wlan: [11531:F:DP] CCE Classified:
wlan: [11531:F:DP]   CCE Classified Packets: 1590
wlan: [11531:F:DP]   RAW CCE Classified Packets: 0
wlan: [11531:F:DP] Mesh stats:
wlan: [11531:F:DP]   frames to firmware: 0
wlan: [11531:F:DP]   completions from fw: 0
wlan: [11531:F:DP] PPDU stats counter
wlan: [11531:F:DP]   Tag[0] = 357459
wlan: [11531:F:DP]   Tag[1] = 404411
wlan: [11531:F:DP]   Tag[2] = 379761
wlan: [11531:F:DP]   Tag[3] = 337115
wlan: [11531:F:DP]   Tag[4] = 0
wlan: [11531:F:DP]   Tag[5] = 357459
wlan: [11531:F:DP]   Tag[6] = 364442
wlan: [11531:F:DP]   Tag[7] = 268408
wlan: [11531:F:DP]   Tag[8] = 0
wlan: [11531:F:DP]   Tag[9] = 283981
wlan: [11531:F:DP]   Tag[10] = 2
wlan: [11531:F:DP]   Tag[11] = 0
wlan: [11531:F:DP]   Tag[12] = 0
wlan: [11531:F:DP]   Tag[13] = 113647
wlan: [11531:F:DP] BA not received for delayed_ba: 13376
wlan: [11531:F:DP] tx_ppdu_proc: 0

```

```

wlan: [11531:F:DP] Wdi msgs received from fw[0]:0
wlan: [11531:F:DP] Wdi msgs received from fw[1]:0
wlan: [11531:F:DP] Wdi msgs received from fw[2]:0
wlan: [11531:F:DP] Wdi msgs received from fw[3]:0
wlan: [11531:F:DP] Wdi msgs received from fw[4]:0
wlan: [11531:F:DP] Wdi msgs received from fw[5]:0
wlan: [11531:F:DP] Wdi msgs received from fw[6]:0
wlan: [11531:F:DP] Wdi msgs received from fw[8]:0
wlan: [11531:F:DP] Wdi msgs received from fw[11]:0
wlan: [11531:F:DP] Wdi msgs received from fw[15]:0
wlan: [11531:F:DP] Wdi msgs received from fw[16]:0
wlan: [11531:F:DP] Wdi msgs received from fw[18]:0
wlan: [11531:F:DP] Wdi msgs received from fw[23]:0
wlan: [11531:F:DP] Wdi msgs received from fw[24]:0
wlan: [11531:F:DP] Wdi msgs received from fw[25]:0
wlan: [11531:F:DP] Wdi msgs received from fw[26]:0
wlan: [11531:F:DP] SOC Tx Stats:

```

```

wlan: [11531:F:DP] Tx Descriptors In Use = 0
wlan: [11531:F:DP] Tx Invalid peer:
wlan: [11531:F:DP]   Packets = 0
wlan: [11531:F:DP]   Bytes = 0
wlan: [11531:F:DP] Packets dropped due to TCL ring full = 0 0 0
wlan: [11531:F:DP] Tx invalid completion release = 0
wlan: [11531:F:DP] Tx comp wbm internal error = 0

```

```
iwpriv aruba000 txrx_stats 261 - PDEV RX stats
```

```

=====
wlan: [11540:F:DP] PDEV Rx Stats:

wlan: [11540:F:DP] Received From HW (Per Rx Ring):
wlan: [11540:F:DP]   Packets = 48103 0 0 0
wlan: [11540:F:DP]   Bytes = 19664935 0 0 0
wlan: [11540:F:DP] Replenished:
wlan: [11540:F:DP]   Packets = 154455
wlan: [11540:F:DP]   Bytes = 316323840
wlan: [11540:F:DP]   Buffers Added To Freelist = 0
wlan: [11540:F:DP]   Low threshold intr = 0
wlan: [11540:F:DP] Dropped:
wlan: [11540:F:DP]   msdu_not_done = 0
wlan: [11540:F:DP]   wifi parse = 0

```



```

wlan: [11540:F:DP] mon_rx_drop = 12
wlan: [11540:F:DP] mon_radiotap_update_err = 0
wlan: [11540:F:DP] mec_drop = 0
wlan: [11540:F:DP] Bytes = 0
wlan: [11540:F:DP] Sent To Stack:
wlan: [11540:F:DP] Packets = 48103
wlan: [11540:F:DP] Bytes = 19664935
wlan: [11540:F:DP] vlan_tag_stp_cnt = 0
wlan: [11540:F:DP] Multicast/Broadcast:
wlan: [11540:F:DP] Packets = 1691
wlan: [11540:F:DP] Bytes = 82238
wlan: [11540:F:DP] Errors:
wlan: [11540:F:DP] Rxdma Ring Un-initialized = 0
wlan: [11540:F:DP] Desc Alloc Failed: = 0
wlan: [11540:F:DP] IP checksum error = 0
wlan: [11540:F:DP] TCP/UDP checksum error = 0
wlan: [11540:F:DP] BAR Received Count: = 0
wlan: [11540:F:DP] No of AST Entries = 8
wlan: [11540:F:DP] SOC Rx Stats:

wlan: [11540:F:DP] Fragmented packets: 0
wlan: [11540:F:DP] Reo reinjected packets: 0
wlan: [11540:F:DP] Errors:

```

```

wlan: [11540:F:DP] Rx Decrypt Errors = 9
wlan: [11540:F:DP] Invalid RBM = 0
wlan: [11540:F:DP] Invalid Vdev = 0
wlan: [11540:F:DP] Invalid sa_idx or da_idx = 0
wlan: [11540:F:DP] Invalid Pdev = 0
wlan: [11540:F:DP] Invalid Peer = 0
wlan: [11540:F:DP] HAL Ring Access Fail = 0
wlan: [11540:F:DP] MSDU Done failures = 0
wlan: [11540:F:DP] RX frags: 0
wlan: [11540:F:DP] RX frag wait: 0
wlan: [11540:F:DP] RX frag err: 0
wlan: [11540:F:DP] RX DESC invalid magic: 0
wlan: [11540:F:DP] RX DUP DESC: 0
wlan: [11540:F:DP] RX REL DUP DESC: 0
wlan: [11540:F:DP] RXDMA ERR DUP DESC: 0
wlan: [11540:F:DP] RXDMA Error (0-31): 0 0 24 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
wlan: [11540:F:DP] REO Error(0-14): 7 0 0 0 0 0 0 2 0 0 0 0 0 0 0

```

iwpriv aruba000 txrx\_stats 262 - AST stats

```

=====
wlan: [11549:F:DP] AST Stats:
wlan: [11549:F:DP] Entries Added = 8
wlan: [11549:F:DP] Entries Deleted = 0
wlan: [11549:F:DP] Entries Agedout = 0
wlan: [11549:F:DP] Entries MAP ERR = 0
wlan: [11549:F:DP] AST Table:
wlan: [0:F:DP] 1 mac_addr = bc:9f:e4:05:ac:d0 peer_mac_addr = bc:9f:e4:05:ac:d0 peer_id = 3 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 2 mac_addr = 6c:c7:ec:f6:f1:69 peer_mac_addr = 6c:c7:ec:f6:f1:69 peer_id = 4 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 3 mac_addr = 8c:b8:4a:94:87:5d peer_mac_addr = 8c:b8:4a:94:87:5d peer_id = 5 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 4 mac_addr = 9a:80:14:38:c1:f2 peer_mac_addr = 9a:80:14:38:c1:f2 peer_id = 6 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 5 mac_addr = 9a:37:90:b9:7f:21 peer_mac_addr = 9a:37:90:b9:7f:21 peer_id = 7 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [0:F:DP] 6 mac_addr = 0e:b9:2f:cb:78:0c peer_mac_addr = 0e:b9:2f:cb:78:0c peer_id = 8 type = STATIC next_hop = 0 is_active = 1 is_bss = 0
wlan: [11549:F:DP] Dumping Peer Table Stats:
wlan: [11549:F:DP] peer_mac_addr = bc:9f:e4:05:ac:d0 nawds_enabled = 0 bss_peer = 1 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [11549:F:DP] peer_mac_addr = 6c:c7:ec:f6:f1:69 nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [11549:F:DP] peer_mac_addr = 8c:b8:4a:94:87:5d nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [11549:F:DP] peer_mac_addr = 9a:80:14:38:c1:f2 nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [11549:F:DP] peer_mac_addr = 9a:37:90:b9:7f:21 nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0
wlan: [11549:F:DP] peer_mac_addr = 0e:b9:2f:cb:78:0c nawds_enabled = 0 bss_peer = 0 wapi = 0 wds_enabled = 0 tx_cap_enabled = 0 rx_cap_enabled = 0

```

iwpriv aruba000 txrx\_stats 1 - Firmware radio-level TX stats

```

=====
wlan: [4:F:DP] HTT_TX_PDEV_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] hw_queued = 388908
wlan: [4:F:DP] hw_reaped = 388905
wlan: [4:F:DP] underrun = 61
wlan: [4:F:DP] hw_paused = 60371
wlan: [4:F:DP] hw_flush = 10465
wlan: [4:F:DP] hw_filt = 10273
wlan: [4:F:DP] tx_abort = 0
wlan: [4:F:DP] mpdu_requeued = 1153761
wlan: [4:F:DP] tx_xretry = 17114
wlan: [4:F:DP] data_rc = 38
wlan: [4:F:DP] mpdu_dropped_xretry = 4
wlan: [4:F:DP] illegal_rate_phy_err = 0
wlan: [4:F:DP] cont_xretry = 0
wlan: [4:F:DP] tx_timeout = 0
wlan: [4:F:DP] pdev_resets = 11
wlan: [4:F:DP] phy_underrun = 0
wlan: [4:F:DP] txop_ovf = 0
wlan: [4:F:DP] seq_posted = 137657
wlan: [4:F:DP] seq_failed_queueing = 32439
wlan: [4:F:DP] seq_completed = 105722
wlan: [4:F:DP] seq_restarted = 56
wlan: [4:F:DP] mu_seq_posted = 58311
wlan: [4:F:DP] seq_switch_hw_paused = 27
wlan: [4:F:DP] next_seq_posted_dsr = 3630
wlan: [4:F:DP] seq_posted_isr = 76084
wlan: [4:F:DP] seq_ctrl_cached = 87640
wlan: [4:F:DP] mpdu_count_tqm = 13616688
wlan: [4:F:DP] msdu_count_tqm = 27221041
wlan: [4:F:DP] mpdu_removed_tqm = 123
wlan: [4:F:DP] msdu_removed_tqm = 246
wlan: [4:F:DP] mpdus_sw_flush = 40
wlan: [4:F:DP] mpdus_hw_filter = 0
wlan: [4:F:DP] mpdus_truncated = 8265
wlan: [4:F:DP] mpdus_ack_failed = 667803

```

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wlan: [4:F:DP] mpdus_expired = 0
wlan: [4:F:DP] mpdus_seq_hw_retry = 2
wlan: [4:F:DP] ack_tlv_proc = 266986
wlan: [4:F:DP] coex_abort_mpdu_cnt_valid = 259681
wlan: [4:F:DP] coex_abort_mpdu_cnt = 14778838

wlan: [4:F:DP] HTT_TX_PDEV_STATS_URRN_TLV_V:
wlan: [4:F:DP] urrn_stats = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SIFS_TLV_V:
wlan: [4:F:DP] sifs_status = 0:0, 1:251724, 2:30224, 3:16056, 4:200, 5:0, 6:8398, 7:33925, 8:0,

wlan: [4:F:DP] HTT_TX_PDEV_STATS_FLUSH_TLV_V:
wlan: [4:F:DP] flush_errs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:409, 6:75, 7:1384, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0, 20:0,
:8597, 39:0, 40:0, 41:0, 42:0, 43:0, 44:0, 45:0, 46:0, 47:0, 48:0, 49:0, 50:0, 51:0, 52:0, 53:0, 54:0, 55:0, 56:0, 57:0, 58:0, 59:0, 60:0, 61:0, 62:0,

iwpriv aruba000 txrx_stats 2 - Firmware radio-level RX stats

=====
wlan: [4:F:DP] HTT_RX_PDEV_FW_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] ppdu_recvd = 68982
wlan: [4:F:DP] mpdu_cnt_fcs_ok = 54346
wlan: [4:F:DP] mpdu_cnt_fcs_err = 825
wlan: [4:F:DP] tcp_msdu_cnt = 446
wlan: [4:F:DP] tcp_ack_msdu_cnt = 40887
wlan: [4:F:DP] udp_msdu_cnt = 4746
wlan: [4:F:DP] other_msdu_cnt = 23591
wlan: [4:F:DP] fw_ring_mpdu_ind = 584
wlan: [4:F:DP] fw_ring_mgmt_subtype = 0:5, 1:0, 2:0, 3:0, 4:436, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:5, 12:0, 13:116, 14:0, 15:0,
wlan: [4:F:DP] fw_ring_ctrl_subtype = 0:0, 1:0, 2:0, 3:0, 4:0, 5:22, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,
wlan: [4:F:DP] fw_ring_mcast_data_msdu = 0
wlan: [4:F:DP] fw_ring_bcast_data_msdu = 0
wlan: [4:F:DP] fw_ring_ucast_data_msdu = 0
wlan: [4:F:DP] fw_ring_null_data_msdu = 0
wlan: [4:F:DP] fw_ring_mpdu_drop = 21995
wlan: [4:F:DP] ofld_local_data_ind_cnt = 0
wlan: [4:F:DP] ofld_local_data_buf_recycle_cnt = 0
wlan: [4:F:DP] drx_local_data_ind_cnt = 0
wlan: [4:F:DP] drx_local_data_buf_recycle_cnt = 0
wlan: [4:F:DP] local_nondata_ind_cnt = 584
wlan: [4:F:DP] local_nondata_buf_recycle_cnt = 583
wlan: [4:F:DP] fw_status_buf_ring_refill_cnt = 68982
wlan: [4:F:DP] fw_status_buf_ring_empty_cnt = 0
wlan: [4:F:DP] fw_pkt_buf_ring_refill_cnt = 22615
wlan: [4:F:DP] fw_pkt_buf_ring_empty_cnt = 1
wlan: [4:F:DP] fw_link_buf_ring_refill_cnt = 22579
wlan: [4:F:DP] fw_link_buf_ring_empty_cnt = 0
wlan: [4:F:DP] host_pkt_buf_ring_refill_cnt = 52378
wlan: [4:F:DP] host_pkt_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_pkt_buf_ring_refill_cnt = 102322
wlan: [4:F:DP] mon_pkt_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_status_buf_ring_refill_cnt = 60502
wlan: [4:F:DP] mon_status_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_desc_buf_ring_refill_cnt = 89055
wlan: [4:F:DP] mon_desc_buf_ring_empty_cnt = 2
wlan: [4:F:DP] mon_dest_ring_update_cnt = 970436389
wlan: [4:F:DP] mon_dest_ring_full_cnt = 0
wlan: [4:F:DP] rx_suspend_cnt = 267
wlan: [4:F:DP] rx_suspend_fail_cnt = 0
wlan: [4:F:DP] rx_resume_cnt = 267
wlan: [4:F:DP] rx_resume_fail_cnt = 0
wlan: [4:F:DP] rx_ring_switch_cnt = 0
wlan: [4:F:DP] rx_ring_restore_cnt = 0
wlan: [4:F:DP] rx_flush_cnt = 0

wlan: [4:F:DP] HTT_RX_PDEV_FW_RING_MPDU_ERR_TLV_V:
wlan: [4:F:DP] fw_ring_mpdu_err = 0:0, 1:798, 2:14, 3:0, 4:0, 5:21183, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_PDEV_FW_MPDU_DROP_TLV_V:
wlan: [4:F:DP] fw_mpdu_drop = 0:812, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_STATS_TLV:
wlan: [4:F:DP] fw_reo_ring_data_msdu = 0
wlan: [4:F:DP] fw_to_host_data_msdu_bcmc = 0
wlan: [4:F:DP] fw_to_host_data_msdu_uc = 0
wlan: [4:F:DP] ofld_remote_data_buf_recycle_cnt = 0
wlan: [4:F:DP] ofld_remote_free_buf_indication_cnt = 0
wlan: [4:F:DP] ofld_buf_to_host_data_msdu_uc = 0
wlan: [4:F:DP] reo_fw_ring_to_host_data_msdu_uc = 0
wlan: [4:F:DP] wbm_sw_ring_reap = 0
wlan: [4:F:DP] wbm_forward_to_host_cnt = 0
wlan: [4:F:DP] wbm_target_recycle_cnt = 0
wlan: [4:F:DP] target_refill_ring_recycle_cnt = 0
wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_EMPTY_TLV_V:
wlan: [4:F:DP] refill_ring_empty_cnt = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_NUM_REFILL_TLV_V:
wlan: [4:F:DP] refill_ring_num_refill = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_NUM_RXDMA_ERR_TLV_V
wlan: [4:F:DP] rxdma_err = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_SOC_FW_REFILL_RING_NUM_REO_ERR_TLV_V
wlan: [4:F:DP] reo_err = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_RX_PDEV_FW_STATS_PHY_ERR_TLV
wlan: [4:F:DP] mac_id_word: 0
wlan: [4:F:DP] total_phy_err_cnt: 0
wlan: [4:F:DP] phy_errs: 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0, 20:0, 21:0, 22:0, 41:0, 42:0,

wlan: [4:F:DP] HTT_RX_REO_RESOURCE_STATS_TLV

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wlan: [4:F:DP] sample_id: 1
wlan: [4:F:DP] total_max: 53
wlan: [4:F:DP] total_avg: 0
wlan: [4:F:DP] total_sample: 334096
wlan: [4:F:DP] non_zeros_avg: 8
wlan: [4:F:DP] non_zeros_sample: 789
wlan: [4:F:DP] last_non_zeros_max: 22
wlan: [4:F:DP] last_non_zeros_min: 6
wlan: [4:F:DP] last_non_zeros_avg: 15
wlan: [4:F:DP] last_non_zeros_sample: 49

wlan: [4:F:DP] HTT_RX_REO_RESOURCE_STATS_TLV
wlan: [4:F:DP] sample_id: 3
wlan: [4:F:DP] total_max: 55
wlan: [4:F:DP] total_avg: 0
wlan: [4:F:DP] total_sample: 334096
wlan: [4:F:DP] non_zeros_avg: 6
wlan: [4:F:DP] non_zeros_sample: 789
wlan: [4:F:DP] last_non_zeros_max: 19
wlan: [4:F:DP] last_non_zeros_min: 5
wlan: [4:F:DP] last_non_zeros_avg: 12
wlan: [4:F:DP] last_non_zeros_sample: 49

wlan: [4:F:DP] HTT_RX_REO_RESOURCE_STATS_TLV
wlan: [4:F:DP] sample_id: 7
wlan: [4:F:DP] total_max: 1
wlan: [4:F:DP] total_avg: 0
wlan: [4:F:DP] total_sample: 334096
wlan: [4:F:DP] non_zeros_avg: 1
wlan: [4:F:DP] non_zeros_sample: 789
wlan: [4:F:DP] last_non_zeros_max: 1
wlan: [4:F:DP] last_non_zeros_min: 1
wlan: [4:F:DP] last_non_zeros_avg: 1
wlan: [4:F:DP] last_non_zeros_sample: 49

iwpriv aruba000 txrx_stats 3 - Firmware HW queue stats

=====
wlan: [4:F:DP] fes_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 768
wlan: [4:F:DP] xretry = 0
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 0
wlan: [4:F:DP] mpdu_queued_cnt = 0
wlan: [4:F:DP] mpdu_ack_fail_cnt = 0
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 1024
wlan: [4:F:DP] xretry = 0
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 0
wlan: [4:F:DP] mpdu_queued_cnt = 0
wlan: [4:F:DP] mpdu_ack_fail_cnt = 0
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 1280
wlan: [4:F:DP] xretry = 2
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0

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wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 163
wlan: [4:F:DP] mpdu_queued_cnt = 163
wlan: [4:F:DP] mpdu_ack_fail_cnt = 2
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:161, 1:0, 2:0, 3:0, 4:2, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:161, 1:0, 2:2, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 1536
wlan: [4:F:DP] xretry = 14
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 0
wlan: [4:F:DP] filt_cnt = 0
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 0
wlan: [4:F:DP] ack_tlv_proc = 0
wlan: [4:F:DP] sched_id_proc = 0
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 0
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 237
wlan: [4:F:DP] mpdu_queued_cnt = 237
wlan: [4:F:DP] mpdu_ack_fail_cnt = 14
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:223, 1:0, 2:0, 3:0, 4:14, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:0, 2:0, 3:0, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:223, 1:0, 2:14, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,
wlan: [4:F:DP] HTT_TX_HWQ_STATS_CMN_TLV:
wlan: [4:F:DP] mac_id_hwq_id_word = 1792
wlan: [4:F:DP] xretry = 22
wlan: [4:F:DP] underrun_cnt = 0
wlan: [4:F:DP] flush_cnt = 27
wlan: [4:F:DP] filt_cnt = 28
wlan: [4:F:DP] null_mpdu_bmap = 0
wlan: [4:F:DP] user_ack_failure = 904
wlan: [4:F:DP] ack_tlv_proc = 73
wlan: [4:F:DP] sched_id_proc = 1181611
wlan: [4:F:DP] null_mpdu_tx_count = 0
wlan: [4:F:DP] mpdu_bmap_not_recvd = 202
wlan: [4:F:DP] num_bar = 0
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 0
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] mpdu_tried_cnt = 828
wlan: [4:F:DP] mpdu_queued_cnt = 936
wlan: [4:F:DP] mpdu_ack_fail_cnt = 686
wlan: [4:F:DP] mpdu_filt_cnt = 0
wlan: [4:F:DP] false_mpdu_ack_count = 0

wlan: [4:F:DP] HTT_TX_HWQ_CMD_RESULT_STATS_TLV_V:
wlan: [4:F:DP] cmd_result = 0:871, 1:0, 2:0, 3:0, 4:22, 5:2, 6:0, 7:27, 8:0, 9:0, 10:0, 11:0, 12:0,
wlan: [4:F:DP] HTT_TX_HWQ_CMD_STALL_STATS_TLV_V:
wlan: [4:F:DP] cmd_stall_status = 0:0, 1:26, 2:0, 3:22, 4:0,

wlan: [4:F:DP] HTT_TX_HWQ_FES_RESULT_STATS_TLV_V:
wlan: [4:F:DP] fes_result = 0:977, 1:0, 2:22, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0,

```

## Radio Info Script

## Script Output

```
iwpriv aruba000 txrx_stats 4 - Firmware TX scheduler stats
```

```

=====
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 7256
wlan: [4:F:DP] num_tid_unregister = 7238
wlan: [4:F:DP] num_qstats_queried = 131
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 899307306
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 5
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 73
wlan: [4:F:DP] notify_sched = 0

```

```
wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
```

```
wlan: [4:F:DP] sched_cmd_posted = 0:131, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:413, 1:0, 2:181, 3:508,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 901884970

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1024
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 867586564
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 867599091
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 0
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 1616
wlan: [4:F:DP] num_tid_unregister = 1585
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 234
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:237, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:237, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 901884975

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1280
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 901825830
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 901831457
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 0
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 6702
wlan: [4:F:DP] num_tid_unregister = 6662
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 6700
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:6661, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:6661, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 901884980

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1536
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 901217409
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 901219315
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 1268
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 0
wlan: [4:F:DP] num_tid_unregister = 2536
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 0
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:1307, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:1307, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_STATS_TX_SCHED_CMN_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] current_timestamp = 901884995
```

```

wlan: [4:F:DP] HTT_TX_PDEV_STATS_SCHED_PER_TXQ_TLV:
wlan: [4:F:DP] mac_id_txq_id_word = 1792
wlan: [4:F:DP] sched_policy = 1
wlan: [4:F:DP] last_sched_cmd_posted_timestamp = 0
wlan: [4:F:DP] last_sched_cmd_compl_timestamp = 0
wlan: [4:F:DP] sched_2_tac_lwm_count = 0
wlan: [4:F:DP] sched_2_tac_ring_full = 0
wlan: [4:F:DP] sched_cmd_post_failure = 0
wlan: [4:F:DP] num_active_tids = 0
wlan: [4:F:DP] num_ps_schedules = 0
wlan: [4:F:DP] sched_cmds_pending = 0
wlan: [4:F:DP] num_tid_register = 0
wlan: [4:F:DP] num_tid_unregister = 0
wlan: [4:F:DP] num_qstats_queried = 0
wlan: [4:F:DP] qstats_update_pending = 0
wlan: [4:F:DP] last_qstats_query_timestamp = 0
wlan: [4:F:DP] num_tqm_cmdq_full = 0
wlan: [4:F:DP] num_de_sched_algo_trigger = 0
wlan: [4:F:DP] num_rt_sched_algo_trigger = 0
wlan: [4:F:DP] num_tqm_sched_algo_trigger = 0
wlan: [4:F:DP] notify_sched = 0

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_POSTED_TLV_V:
wlan: [4:F:DP] sched_cmd_posted = 0:0, 1:0, 2:0, 3:0,

wlan: [4:F:DP] HTT_SCHED_TXQ_CMD_REAPED_TLV_V:
wlan: [4:F:DP] sched_cmd_reaped = 0:0, 1:0, 2:0, 3:0,

iwpriv aruba000 txrx_stats 5 - Hardware stats

=====
wlan: [4:F:DP] HTT_HW_STATS_PDEV_ERRS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] tx_abort = 0
wlan: [4:F:DP] tx_abort_fail_count = 0
wlan: [4:F:DP] rx_abort = 267
wlan: [4:F:DP] rx_abort_fail_count = 0
wlan: [4:F:DP] rx_flush_cnt = 0
wlan: [4:F:DP] warm_reset = 0
wlan: [4:F:DP] cold_reset = 0
wlan: [4:F:DP] mac_cold_reset_restore_cal = 0
wlan: [4:F:DP] mac_cold_reset = 0
wlan: [4:F:DP] mac_warm_reset = 0
wlan: [4:F:DP] mac_only_reset = 0
wlan: [4:F:DP] phy_warm_reset = 0
wlan: [4:F:DP] phy_warm_reset_ucode_trig = 11
wlan: [4:F:DP] mac_warm_reset_restore_cal = 0
wlan: [4:F:DP] mac_sfm_reset = 0
wlan: [4:F:DP] phy_warm_reset_m3_ssr = 0
wlan: [4:F:DP] fw_rx_rings_reset = 0
wlan: [4:F:DP] tx_flush = 0
wlan: [4:F:DP] tx_glb_reset = 0
wlan: [4:F:DP] tx_txq_reset = 0
wlan: [4:F:DP] rx_timeout_reset = 0

wlan: [4:F:DP] reset_mode = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:11, 13:0, 14:0,
wlan: [4:F:DP]

wlan: [4:F:DP] PDEV_PHY_WARM_RESET_REASONS:
wlan: [4:F:DP] phy_m3 = 11
wlan: [4:F:DP] tx_hw_stuck = 0
wlan: [4:F:DP] num_cca_rx_frame_stuck = 0
wlan: [4:F:DP] wal_rx_recovery_rst_rx_busy = 0
wlan: [4:F:DP] wal_rx_recovery_rst_mac_hang = 0
wlan: [4:F:DP] mac_reset_converted_phy_reset = 0
wlan: [4:F:DP] tx_lifetime_expiry_cca_stuck = 0
wlan: [4:F:DP] tx_consecutive_flush9_war = 0
wlan: [4:F:DP] tx_hwsch_reset_war = 0
wlan: [4:F:DP] hwsch_wdog_or_cca_wdog_war = 0

wlan: [4:F:DP] WAL_RX_RECOVERY_STATS:
wlan: [4:F:DP] mac_hang_count = 0
wlan: [4:F:DP] known_sig_count = 0
wlan: [4:F:DP] no_rx_count = 0
wlan: [4:F:DP] no_rx_consecutive_count = 0
wlan: [4:F:DP] rx_busy_count = 0
wlan: [4:F:DP] phy_mac_hang_count = 0

wlan: [4:F:DP] HTT_HW_STATS_INTR_MISC_TLV:
wlan: [4:F:DP] hw_intr_name = 0:82, 1:69, 2:79, 3:50, 4:0, 5:0, 6:0, 7:0,
wlan: [4:F:DP] mask = 4096
wlan: [4:F:DP] count = 1

wlan: [4:F:DP] HTT_HW_STATS_INTR_MISC_TLV:
wlan: [4:F:DP] hw_intr_name = 0:84, 1:88, 2:80, 3:67, 4:85, 5:0, 6:0, 7:0,
wlan: [4:F:DP] mask = 16777344
wlan: [4:F:DP] count = 25

```

```
iwpriv aruba000 txrx_stats 6 - Firmware TQM stats
```

```

=====
wlan: [4:F:DP] HTT_TX_TQM_CMN_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] max_cmdq_id = 0
wlan: [4:F:DP] list_mpd_cnt_hist_intvl = 30
wlan: [4:F:DP] add_msdu = 0
wlan: [4:F:DP] q_empty = 22306
wlan: [4:F:DP] q_not_empty = 26512
wlan: [4:F:DP] drop_notification = 0
wlan: [4:F:DP] desc_threshold = 0

```

```
wlan: [4:F:DP] HTT_TX_TQM_ERROR_STATS_TLV:
wlan: [4:F:DP] q_empty_failure = 0
wlan: [4:F:DP] q_not_empty_failure = 0
wlan: [4:F:DP] add_msdu_failure = 0

wlan: [4:F:DP] HTT_TX_TQM_GEN_MPDU_STATS_TLV_V:
wlan: [4:F:DP] gen_mpdu_end_reason = 0:0, 1:0, 2:0, 3:0, 4:278252, 5:0, 6:0, 7:0, 8:0, 9:57273, 10:0, 11:0, 12:0, 13:19, 14:26, 15:161158,

wlan: [4:F:DP] HTT_TX_TQM_LIST_MPDU_STATS_TLV_V:
wlan: [4:F:DP] list_mpdu_end_reason = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:8, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_TX_TQM_LIST_MPDU_CNT_TLV_V:
wlan: [4:F:DP] list_mpdu_cnt_hist = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0,

wlan: [4:F:DP] HTT_TX_TQM_PDEV_STATS_TLV_V:
wlan: [4:F:DP] msdu_count = 27231989
wlan: [4:F:DP] mpdu_count = 13622162
wlan: [4:F:DP] remove_msdu = 246
wlan: [4:F:DP] remove_mpdu = 123
wlan: [4:F:DP] remove_msdu_ttl = 0
wlan: [4:F:DP] send_bar = 2
wlan: [4:F:DP] bar_sync = 0
wlan: [4:F:DP] notify_mpdu = 0
wlan: [4:F:DP] sync_cmd = 1333
wlan: [4:F:DP] write_cmd = 0
wlan: [4:F:DP] hwsch_trigger = 0
wlan: [4:F:DP] ack_tlv_proc = 267134
wlan: [4:F:DP] gen_mpdu_cmd = 496728
wlan: [4:F:DP] gen_list_cmd = 8
wlan: [4:F:DP] remove_mpdu_cmd = 614
wlan: [4:F:DP] remove_mpdu_tried_cmd = 19
wlan: [4:F:DP] mpdu_queue_stats_cmd = 0
wlan: [4:F:DP] mpdu_head_info_cmd = 11
wlan: [4:F:DP] msdu_flow_stats_cmd = 576552
wlan: [4:F:DP] remove_msdu_cmd = 0
wlan: [4:F:DP] remove_msdu_ttl_cmd = 1162
wlan: [4:F:DP] flush_cache_cmd = 0
wlan: [4:F:DP] update_mpduq_cmd = 6
wlan: [4:F:DP] enqueue = 86
wlan: [4:F:DP] enqueue_notify = 12
wlan: [4:F:DP] notify_mpdu_at_head = 42
wlan: [4:F:DP] notify_mpdu_state_valid = 12
```

iwpriv aruba000 txrx\_stats 8 - Firmware TX classification (tx\_de) stats

```
=====
wlan: [4:F:DP] HTT_TX_DE_CMN_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] tcl2fw_entry_count = 1638
wlan: [4:F:DP] not_to_fw = 0
wlan: [4:F:DP] invalid_pdev_vdev_peer = 0
wlan: [4:F:DP] tcl_res_invalid_addrx = 0
wlan: [4:F:DP] wbm2fw_entry_count = 0
wlan: [4:F:DP] invalid_pdev = 0

wlan: [4:F:DP] HTT_TX_DE_EAPOL_PACKETS_STATS_TLV:
wlan: [4:F:DP] m1_packets = 6
wlan: [4:F:DP] m2_packets = 0
wlan: [4:F:DP] m3_packets = 5
wlan: [4:F:DP] m4_packets = 0
wlan: [4:F:DP] g1_packets = 0
wlan: [4:F:DP] g2_packets = 0

wlan: [4:F:DP] HTT_TX_DE_CLASSIFY_STATS_TLV:
wlan: [4:F:DP] arp_packets = 1580
wlan: [4:F:DP] igmp_packets = 0
wlan: [4:F:DP] dhcp_packets = 0
wlan: [4:F:DP] host_inspected = 0
wlan: [4:F:DP] htt_included = 0
wlan: [4:F:DP] htt_valid_mcs = 0
wlan: [4:F:DP] htt_valid_nss = 0
wlan: [4:F:DP] htt_valid_preamble_type = 0
wlan: [4:F:DP] htt_valid_chainmask = 0
wlan: [4:F:DP] htt_valid_guard_interval = 0
wlan: [4:F:DP] htt_valid_retries = 0
wlan: [4:F:DP] htt_valid_bw_info = 0
wlan: [4:F:DP] htt_valid_power = 0
wlan: [4:F:DP] htt_valid_key_flags = 0
wlan: [4:F:DP] htt_valid_no_encryption = 0
wlan: [4:F:DP] fse_entry_count = 0
wlan: [4:F:DP] fse_priority_be = 0
wlan: [4:F:DP] fse_priority_high = 0
wlan: [4:F:DP] fse_priority_low = 0
wlan: [4:F:DP] fse_traffic_ptrn_be = 0
wlan: [4:F:DP] fse_traffic_ptrn_over_sub = 0
wlan: [4:F:DP] fse_traffic_ptrn_bursty = 0
wlan: [4:F:DP] fse_traffic_ptrn_interactive = 0
wlan: [4:F:DP] fse_traffic_ptrn_periodic = 0
wlan: [4:F:DP] fse_hardware_alloc = 0
wlan: [4:F:DP] fse_hardware_created = 0
wlan: [4:F:DP] fse_hardware_send_to_host = 0
wlan: [4:F:DP] mcast_entry = 47
wlan: [4:F:DP] bcast_entry = 1507

wlan: [4:F:DP] HTT_TX_DE_CLASSIFY_FAILED_STATS_TLV:
wlan: [4:F:DP] ap_bss_peer_not_found = 0
wlan: [4:F:DP] ap_bcast_mcast_no_peer = 0
wlan: [4:F:DP] sta_delete_in_progress = 0
wlan: [4:F:DP] ibss_no_bss_peer = 0
wlan: [4:F:DP] invalid_vdev_type = 0
wlan: [4:F:DP] invalid_ast_peer_entry = 0
wlan: [4:F:DP] peer_entry_invalid = 0
wlan: [4:F:DP] ethernet_not_ip = 0
```

```
wlan: [4:F:DP] eapol_lookup_failed = 0
wlan: [4:F:DP] qpeer_not_allow_data = 0
wlan: [4:F:DP] fse_tid_override = 0

wlan: [4:F:DP] HTT_TX_DE_CLASSIFY_STATUS_STATS_TLV:
wlan: [4:F:DP] eok = 0
wlan: [4:F:DP] classify_done = 1638
wlan: [4:F:DP] lookup_failed = 0
wlan: [4:F:DP] send_host_dhcp = 0
wlan: [4:F:DP] send_host_mcast = 0
wlan: [4:F:DP] send_host_unknown_dest = 0
wlan: [4:F:DP] send_host = 0
wlan: [4:F:DP] status_invalid = 0

wlan: [4:F:DP] HTT_TX_DE_ENQUEUE_PACKETS_STATS_TLV:
wlan: [4:F:DP] enqueued_pkts = 8698
wlan: [4:F:DP] to_tqm = 84
wlan: [4:F:DP] to_tqm_bypass = 8614

wlan: [4:F:DP] HTT_TX_DE_ENQUEUE_DISCARD_STATS_TLV:
wlan: [4:F:DP] discarded_pkts = 0
wlan: [4:F:DP] local_frames = 0
wlan: [4:F:DP] is_ext_msdu = 0

wlan: [4:F:DP] HTT_TX_DE_COMPL_STATS_TLV:
wlan: [4:F:DP] tcl_dummy_frame = 2
wlan: [4:F:DP] tqm_dummy_frame = 2
wlan: [4:F:DP] tqm_notify_frame = 11
wlan: [4:F:DP] fw2wbm_enq = 1554
wlan: [4:F:DP] tqm_bypass_frame = 1554
```

iwpriv aruba000 txrx\_stats 9 - Firmware TX rate stats

```
=====
wlan: [4:F:DP] HTT_TX_PDEV_RATE_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] tx_ldpc = 298367
wlan: [4:F:DP] rts_cnt = 45
wlan: [4:F:DP] rts_success = 41
wlan: [4:F:DP] ack_rssi = 59
wlan: [4:F:DP] tx_mcs = 0:0, 1:0, 2:34, 3:338, 4:1583, 5:2952, 6:8055, 7:15131, 8:28263, 9:40832, 10:185212, 11:15967,
wlan: [4:F:DP] tx_su_mcs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_mu_mcs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_nss = 1:11608, 2:286759, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0,
wlan: [4:F:DP] tx_bw = 0:3, 1:1, 2:298363, 3:0,
wlan: [4:F:DP] tx_stbc = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_pream = 0:8619, 1:0, 2:0, 3:0, 4:298370, 5:0, 6:0,
wlan: [4:F:DP] tx_gi[0] = 0:0, 1:0, 2:34, 3:338, 4:1583, 5:2952, 6:8055, 7:15131, 8:28263, 9:40832, 10:185212, 11:15967,
wlan: [4:F:DP] tx_gi[1] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_gi[2] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_gi[3] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] tx_dcm = 0:0, 1:0, 2:0, 3:0, 4:0,
```

iwpriv aruba000 txrx\_stats 10 - Firmware RX rate stats

```
=====
wlan: [4:F:DP] ul_ofdma_data_rx_ppdu = 783
wlan: [4:F:DP] ul_ofdma_data 0 user = 0
wlan: [4:F:DP] ul_ofdma_data 1 user = 239
wlan: [4:F:DP] ul_ofdma_data 2 user = 544
wlan: [4:F:DP] ul_ofdma_data 3 user = 0
wlan: [4:F:DP] ul_ofdma_data 4 user = 0
wlan: [4:F:DP] ul_ofdma_data 5 user = 0
wlan: [4:F:DP] ul_ofdma_data 6 user = 0
wlan: [4:F:DP] ul_ofdma_data 7 user = 0
wlan: [4:F:DP] ul_ofdma_data 8 user = 0
wlan: [4:F:DP] ul_ofdma_data 9 user = 0
wlan: [4:F:DP] ul_ofdma_data 10 user = 0
wlan: [4:F:DP] ul_ofdma_data 11 user = 0
wlan: [4:F:DP] ul_ofdma_data 12 user = 0
wlan: [4:F:DP] ul_ofdma_data 13 user = 0
wlan: [4:F:DP] ul_ofdma_data 14 user = 0
wlan: [4:F:DP] ul_ofdma_data 15 user = 0
wlan: [4:F:DP] ul_ofdma_data 16 user = 0
wlan: [4:F:DP] ul_ofdma_data 17 user = 0
wlan: [4:F:DP] ul_ofdma_data 18 user = 0
wlan: [4:F:DP] ul_ofdma_data 19 user = 0
wlan: [4:F:DP] ul_ofdma_data 20 user = 0
wlan: [4:F:DP] ul_ofdma_data 21 user = 0
wlan: [4:F:DP] ul_ofdma_data 22 user = 0
wlan: [4:F:DP] ul_ofdma_data 23 user = 0
wlan: [4:F:DP] ul_ofdma_data 24 user = 0
wlan: [4:F:DP] ul_ofdma_data 25 user = 0
wlan: [4:F:DP] ul_ofdma_data 26 user = 0
wlan: [4:F:DP] ul_ofdma_data 27 user = 0
wlan: [4:F:DP] ul_ofdma_data 28 user = 0
wlan: [4:F:DP] ul_ofdma_data 29 user = 0
wlan: [4:F:DP] ul_ofdma_data 30 user = 0
wlan: [4:F:DP] ul_ofdma_data 31 user = 0
wlan: [4:F:DP] ul_ofdma_data 32 user = 0
wlan: [4:F:DP] ul_ofdma_data 33 user = 0
wlan: [4:F:DP] ul_ofdma_data 34 user = 0
wlan: [4:F:DP] ul_ofdma_data 35 user = 0
wlan: [4:F:DP] ul_ofdma_data 36 user = 0
wlan: [4:F:DP] ul_ofdma_data_rx_ru_size= 0:783, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0,
wlan: [4:F:DP] ul_ofdma_nondata_rx_ru_size= 0:3999, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0,
wlan: [4:F:DP] HTT_RX_PDEV_RATE_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] nsts = 0
wlan: [4:F:DP] rx_ldpc = 10981
wlan: [4:F:DP] rts_cnt = 0
wlan: [4:F:DP] rssi_mgmt = 47
```



```
wlan: [4:F:DP] rssi_data = 52
wlan: [4:F:DP] rssi_comb = 0
wlan: [4:F:DP] rx_mcs = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:1, 7:1, 8:2, 9:6, 10:30, 11:10941,
wlan: [4:F:DP] rx_nss = 1:0, 2:10981, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0,
wlan: [4:F:DP] rx_dcm = 0:0, 1:0, 2:0, 3:0, 4:0,
wlan: [4:F:DP] rx_stbc = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] rx_bw = 0:3008, 1:0, 2:10981, 3:0,
wlan: [4:F:DP] rssi_chain[0] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[1] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[2] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[3] = 0:128, 1:128, 2:128, 3:128,
wlan: [4:F:DP] rssi_chain[4] = 0:59, 1:60, 2:60, 3:59,
wlan: [4:F:DP] rssi_chain[5] = 0:59, 1:62, 2:63, 3:60,
wlan: [4:F:DP] rssi_chain[6] = 0:56, 1:59, 2:58, 3:56,
wlan: [4:F:DP] rssi_chain[7] = 0:55, 1:48, 2:53, 3:50,
wlan: [4:F:DP] rx_gi[0] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:1, 7:1, 8:1, 9:4, 10:20, 11:10199,
wlan: [4:F:DP] rx_gi[1] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] rx_gi[2] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:1, 9:2, 10:10, 11:742,
wlan: [4:F:DP] rx_gi[3] = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0,
wlan: [4:F:DP] rx_pream = 0:3008, 1:0, 2:0, 3:0, 4:10981, 5:0, 6:0,
```

iwpriv aruba000 txrx\_stats 12 - Firmware self-generated frame stats

```
=====
wlan: [4:F:DP] HTT_TX_SELFGEN_CMN_STATS_TLV:
wlan: [4:F:DP] mac_id_word = 0
wlan: [4:F:DP] su_bar = 2
wlan: [4:F:DP] rts = 0
wlan: [4:F:DP] cts2self = 24472
wlan: [4:F:DP] qos_null = 0
wlan: [4:F:DP] delayed_bar_1 = 26276
wlan: [4:F:DP] delayed_bar_2 = 0
wlan: [4:F:DP] delayed_bar_3 = 0
wlan: [4:F:DP] delayed_bar_4 = 0
wlan: [4:F:DP] delayed_bar_5 = 0
wlan: [4:F:DP] delayed_bar_6 = 0
wlan: [4:F:DP] delayed_bar_7 = 0

wlan: [4:F:DP] HTT_TX_SELFGEN_AC_STATS_TLV:
wlan: [4:F:DP] ac_su_ndpa = 0
wlan: [4:F:DP] ac_su_ndp = 0
wlan: [4:F:DP] ac_mu_mimo_ndpa = 0
wlan: [4:F:DP] ac_mu_mimo_ndp = 0
wlan: [4:F:DP] ac_mu_mimo_brpoll_1 = 0
wlan: [4:F:DP] ac_mu_mimo_brpoll_2 = 0
wlan: [4:F:DP] ac_mu_mimo_brpoll_3 = 0

wlan: [4:F:DP] HTT_TX_SELFGEN_AX_STATS_TLV:
wlan: [4:F:DP] ax_su_ndpa = 4687
wlan: [4:F:DP] ax_su_ndp = 4686
wlan: [4:F:DP] ax_mu_mimo_ndpa = 4720
wlan: [4:F:DP] ax_mu_mimo_ndp = 4720
wlan: [4:F:DP] ax_mu_mimo_brpoll_1 = 4712
wlan: [4:F:DP] ax_mu_mimo_brpoll_2 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_3 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_4 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_5 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_6 = 0
wlan: [4:F:DP] ax_mu_mimo_brpoll_7 = 0
wlan: [4:F:DP] ax_basic_trigger = 3339
wlan: [4:F:DP] ax_bsr_trigger = 2488
wlan: [4:F:DP] ax_mu_bar_trigger = 220
wlan: [4:F:DP] ax_mu_rts_trigger = 0

wlan: [4:F:DP] HTT_TX_SELFGEN_AC_ERR_STATS_TLV:
wlan: [4:F:DP] ac_su_ndp_err = 0
wlan: [4:F:DP] ac_su_ndpa_err = 0
wlan: [4:F:DP] ac_mu_mimo_ndpa_err = 0
wlan: [4:F:DP] ac_mu_mimo_ndp_err = 0
wlan: [4:F:DP] ac_mu_mimo_brp1_err = 0
wlan: [4:F:DP] ac_mu_mimo_brp2_err = 0
wlan: [4:F:DP] ac_mu_mimo_brp3_err = 0
```

```
wlan: [4:F:DP] HTT_TX_SELFGEN_AX_ERR_STATS_TLV:
wlan: [4:F:DP] ax_su_ndp_err = 953
wlan: [4:F:DP] ax_su_ndpa_err = 3
wlan: [4:F:DP] ax_mu_mimo_ndpa_err = 0
wlan: [4:F:DP] ax_mu_mimo_ndp_err = 1
wlan: [4:F:DP] ax_mu_mimo_brp1_err = 7
wlan: [4:F:DP] ax_mu_mimo_brp2_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp3_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp4_err = 7
wlan: [4:F:DP] ax_mu_mimo_brp5_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp6_err = 0
wlan: [4:F:DP] ax_mu_mimo_brp7_err = 0
wlan: [4:F:DP] ax_basic_trigger_err = 95
wlan: [4:F:DP] ax_bsr_trigger_err = 33
wlan: [4:F:DP] ax_mu_bar_trigger_err = 0
wlan: [4:F:DP] ax_mu_rts_trigger_err = 0
```

iwpriv aruba000 txrx\_stats 15 - Firmware HTT string info

```
=====
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 2752532
wlan: [4:F:DP] head_ptr__tail_ptr = 3276846
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 262162

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1094930252, 4:1263558476, 5:84,
```

```
wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16777472
wlan: [4:F:DP] base_addr_lsb = 1497445664
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 128
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 3145806
wlan: [4:F:DP] head_ptr__tail_ptr = 6946866
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 131096

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1330464082, 4:1348420948, 5:21579,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16777728
wlan: [4:F:DP] base_addr_lsb = 2971074560
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 8192
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 535560210
wlan: [4:F:DP] head_ptr__tail_ptr = 404101140
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 405274642

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1094930252, 4:1162108748, 5:17235,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16777984
wlan: [4:F:DP] base_addr_lsb = 1497446208
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 128
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 3276876
wlan: [4:F:DP] head_ptr__tail_ptr = 6946868
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 131096

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1229868877, 4:1599229780, 5:1413567571, 6:21333,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16778240
wlan: [4:F:DP] base_addr_lsb = 2971058176
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 4096
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 266469404
wlan: [4:F:DP] head_ptr__tail_ptr = 141822066
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 143654940

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1229868877, 4:1599229780, 5:5524304,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16778496
wlan: [4:F:DP] base_addr_lsb = 3135766528
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 16384
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 1072037912
wlan: [4:F:DP] head_ptr__tail_ptr = 513941150
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 515375126

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1398757458, 1:1381974866, 2:1598508617, 3:1229868877, 4:1599229780, 5:1129530692, 6:0,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 16778752
wlan: [4:F:DP] base_addr_lsb = 3135832064
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 16384
wlan: [4:F:DP] elem_size = 2
wlan: [4:F:DP] num_avail_words__num_valid_words = 1071775772
wlan: [4:F:DP] head_ptr__tail_ptr = 923809548
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 925499418

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1599555167, 4:1414743364, 5:0,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 0
wlan: [4:F:DP] base_addr_lsb = 1507990112
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 1024
wlan: [4:F:DP] elem_size = 8
wlan: [4:F:DP] num_avail_words__num_valid_words = 1016
wlan: [4:F:DP] head_ptr__tail_ptr = 27787688
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 0

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1313819999, 4:1380930633, 5:1397048415, 6:84,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id__ring_id__arena_ep = 256
wlan: [4:F:DP] base_addr_lsb = 3136028672
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 65528
wlan: [4:F:DP] elem_size = 8
```

```
wlan: [4:F:DP] num_avail_words__num_valid_words = 589800
wlan: [4:F:DP] head_ptr__tail_ptr = 3699432584
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 0

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1397704799, 4:1162108756, 5:21587,

wlan: [4:F:DP] HTT_SRING_STATS_TLV:
wlan: [4:F:DP] mac_id_ring_id_arena_ep = 512
wlan: [4:F:DP] base_addr_lsb = 3135897600
wlan: [4:F:DP] base_addr_msb = 0
wlan: [4:F:DP] ring_size = 32768
wlan: [4:F:DP] elem_size = 8
wlan: [4:F:DP] num_avail_words__num_valid_words = 32760
wlan: [4:F:DP] head_ptr__tail_ptr = 0
wlan: [4:F:DP] consumer_empty__producer_full = 0
wlan: [4:F:DP] prefetch_count__internal_tail_ptr = 0

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1329943135, 4:1397048415, 5:84,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1147099218, 1:1599361861, 2:1196312914, 3:1296193375, 4:1397048415, 5:84,
```

## Radio Info Script

## Script Output

```
iwpriv aruba000 txrx_stats 16 - Firmware SFM client info

=====
wlan: [4:F:DP] client_id = 0
wlan: [4:F:DP] buf_min = 74
wlan: [4:F:DP] buf_max = 112
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 74
wlan: [4:F:DP] buf_avail = 74
wlan: [4:F:DP] num_users = 39

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,
0, 38:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597068366, 3:1129338962, 4:12629,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 1
wlan: [4:F:DP] buf_min = 16
wlan: [4:F:DP] buf_max = 16
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 16
wlan: [4:F:DP] buf_avail = 16
wlan: [4:F:DP] num_users = 1

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597133902, 3:1129338964, 4:12373,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 2
wlan: [4:F:DP] buf_min = 64
wlan: [4:F:DP] buf_max = 647
wlan: [4:F:DP] buf_busy = 129
wlan: [4:F:DP] buf_alloc = 143
wlan: [4:F:DP] buf_avail = 14
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:2287, 1:1729, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0,
0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597199438, 3:1129338964, 4:12629,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 3
wlan: [4:F:DP] buf_min = 8
wlan: [4:F:DP] buf_max = 30
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 8
wlan: [4:F:DP] buf_avail = 8
wlan: [4:F:DP] num_users = 3

wlan: [4:F:DP] HTT_SFM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597264974, 3:1129535304, 4:72,

wlan: [4:F:DP] HTT_SFM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 4
wlan: [4:F:DP] buf_min = 392
wlan: [4:F:DP] buf_max = 402
wlan: [4:F:DP] buf_busy = 12
wlan: [4:F:DP] buf_alloc = 394
wlan: [4:F:DP] buf_avail = 382
wlan: [4:F:DP] num_users = 22
```

```
wlan: [4:F:DP] HTT_SFMM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:313, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:25, 17:0, 18:0, 19

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597330510, 3:4670544,

wlan: [4:F:DP] HTT_SFMM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 5
wlan: [4:F:DP] buf_min = 10
wlan: [4:F:DP] buf_max = 37
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 10
wlan: [4:F:DP] buf_avail = 10
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFMM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597396046, 3:1296324692, 4:65,

wlan: [4:F:DP] HTT_SFMM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 6
wlan: [4:F:DP] buf_min = 50
wlan: [4:F:DP] buf_max = 111
wlan: [4:F:DP] buf_busy = 16
wlan: [4:F:DP] buf_alloc = 66
wlan: [4:F:DP] buf_avail = 50
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFMM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:215, 1:240, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597461582, 3:1296324690, 4:12353,

wlan: [4:F:DP] HTT_SFMM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 7
wlan: [4:F:DP] buf_min = 8
wlan: [4:F:DP] buf_max = 50
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 8
wlan: [4:F:DP] buf_avail = 8
wlan: [4:F:DP] num_users = 1

wlan: [4:F:DP] HTT_SFMM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597527118, 3:1280268370, 4:69,

wlan: [4:F:DP] HTT_SFMM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 8
wlan: [4:F:DP] buf_min = 294
wlan: [4:F:DP] buf_max = 304
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 294
wlan: [4:F:DP] buf_avail = 294
wlan: [4:F:DP] num_users = 37

wlan: [4:F:DP] HTT_SFMM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0, 7:0, 8:0, 9:0, 10:0, 11:0, 12:0, 13:0, 14:0, 15:0, 16:0, 17:0, 18:0, 19:0,

wlan: [4:F:DP] HTT_STATS_STRING_TLV:
wlan: [4:F:DP] data = 0:1598899795, 1:1162431555, 2:1597592654, 3:1296324690, 4:12609,

wlan: [4:F:DP] HTT_SFMM_CLIENT_TLV:
wlan: [4:F:DP] client_id = 9
wlan: [4:F:DP] buf_min = 8
wlan: [4:F:DP] buf_max = 50
wlan: [4:F:DP] buf_busy = 0
wlan: [4:F:DP] buf_alloc = 8
wlan: [4:F:DP] buf_avail = 8
wlan: [4:F:DP] num_users = 1

wlan: [4:F:DP] HTT_SFMM_CLIENT_USER_TLV_V:
wlan: [4:F:DP] dwords_used_by_user_n = 0:0,

iwpriv aruba000 txrx_stats 17 - Firmware TX MU-MIMO scheduler stats

=====
wlan: [4:F:DP] ac_mu_mimo_ampdu_underrun_usr_3 = 0

wlan: [4:F:DP] HTT_TX_PDEV_MU_MIMO_AX_MPDUS_STATS:

wlan: [4:F:DP] ax_mu_mimo_mpdus_queued_usr_0 = 1995598
wlan: [4:F:DP] ax_mu_mimo_mpdus_tried_usr_0 = 1932140
wlan: [4:F:DP] ax_mu_mimo_mpdus_failed_usr_0 = 776741
wlan: [4:F:DP] ax_mu_mimo_mpdus_requeued_usr_0 = 0
wlan: [4:F:DP] ax_mu_mimo_err_no_ba_usr_0 = 13546
wlan: [4:F:DP] ax_mu_mimo_mpdus_underrun_usr_0 = 0
wlan: [4:F:DP] ax_mu_mimo_ampdu_underrun_usr_0 = 0

wlan: [4:F:DP] ax_mu_mimo_mpdus_queued_usr_1 = 1517306
wlan: [4:F:DP] ax_mu_mimo_mpdus_tried_usr_1 = 1462954
wlan: [4:F:DP] ax_mu_mimo_mpdus_failed_usr_1 = 147449
wlan: [4:F:DP] ax_mu_mimo_mpdus_requeued_usr_1 = 0
wlan: [4:F:DP] ax_mu_mimo_err_no_ba_usr_1 = 91
wlan: [4:F:DP] ax_mu_mimo_mpdus_underrun_usr_1 = 1
wlan: [4:F:DP] ax_mu_mimo_ampdu_underrun_usr_1 = 0
```

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```
wlan: [4:F:DP] ax_mu_ofdma_ampdu_underrun_usr_6 = 0

wlan: [4:F:DP] ax_mu_ofdma_mpdus_queued_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_tried_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_failed_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_mpdus_requeued_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_err_no_ba_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_ampdu_underrun_usr_7 = 0
wlan: [4:F:DP] ax_mu_ofdma_ampdu_underrun_usr_7 = 0
```

VAP 'aruba000' will be used to display Noise Floor statistics.

===== iwpriv-commands =====

iwpriv aruba000 nf\_stats 0 - Noise Floor Factory Cal Data

=====

```
Number of Cal Channel:4 Chain:4
Channel: 48 Frequency:5240
  Chain0 dBr:-105 dBm: -95 Offset:10
  Chain1 dBr:-105 dBm: -95 Offset:10
  Chain2 dBr:-105 dBm: -95 Offset:10
  Chain3 dBr:-105 dBm: -95 Offset:10
Channel:112 Frequency:5560
  Chain0 dBr:-105 dBm: -95 Offset:10
  Chain1 dBr:-105 dBm: -95 Offset:10
  Chain2 dBr:-105 dBm: -95 Offset:10
  Chain3 dBr:-105 dBm: -95 Offset:10
Channel:128 Frequency:5640
  Chain0 dBr:-105 dBm: -95 Offset:10
  Chain1 dBr:-105 dBm: -95 Offset:10
  Chain2 dBr:-105 dBm: -95 Offset:10
  Chain3 dBr:-105 dBm: -95 Offset:10
Channel:157 Frequency:5785
  Chain0 dBr:-105 dBm: -95 Offset:10
  Chain1 dBr:-105 dBm: -95 Offset:10
  Chain2 dBr:-105 dBm: -95 Offset:10
  Chain3 dBr:-105 dBm: -95 Offset:10
```

iwpriv aruba000 nf\_stats 1 - Noise Floor Table

=====

```
Default Noise Floor (+ Offset) and Current Noise Floor
Chan  20MHz      40MHz      80MHz      160MHz      Current NF
36:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -95 dBr
40:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
44:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
48:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
52:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
56:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
60:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
64:   -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
100:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
104:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
108:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
112:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
116:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
120:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
124:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
128:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
132:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   0 dBr
136:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   0 dBr
140:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   0 dBr
144:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   0 dBr
149:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   0 dBr
153:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
157:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
161:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -92 dBr
165:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   -96 dBr
169:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   0 dBr
173:  -95 (+ 6)   -93 (+ 7)   -91 (+ 9)   -89 (+11)   0 dBr
```

iwpriv aruba000 nf\_stats 2 - Home Channel Noise Floor History

=====

```
Noise Floor History at Home Channel: 52
Number of Chains: 4
0: -107 -106 -107 -110 (-107 dBr) 0813
1: -107 -106 -108 -110 (-107 dBr) 0843
2: -107 -106 -107 -110 (-107 dBr) 0723
3: -107 -106 -107 -108 (-107 dBr) 0753
4: -107 -106 -107 -108 (-107 dBr) 0783
Current NF: -107 dBr -92 dBm
Cal Status: 0x00000000
Current Override: 0, Max Override: 0, MA: -107 dBr
```

iwpriv aruba000 nf\_stats 3 - Scan Channel Noise Floor History

=====

```
Noise Floor History at Scan Channels
36: -105 -105 -105 -105 -105 -105 (-105 dBr)
    0000 0000 0000 0000 0000 0000 [0x00000000]
40: -107 -105 -105 -105 -105 -105 (-105 dBr)
    0192 0000 0000 0000 0000 0000 [0x00000000]
44: -107 -105 -105 -105 -105 -105 (-105 dBr)
    0202 0000 0000 0000 0000 0000 [0x00000000]
48: -107 -105 -105 -105 -105 -105 (-105 dBr)
    0208 0000 0000 0000 0000 0000 [0x00000000]
52: -105 -105 -105 -105 -105 -105 (-105 dBr)
    0000 0000 0000 0000 0000 0000 [0x00000000]
56: -107 -105 -105 -105 -105 -105 (-105 dBr)
    0230 0000 0000 0000 0000 0000 [0x00000000]
60: -107 -105 -105 -105 -105 -105 (-105 dBr)
```

```
0252 0000 0000 0000 0000 0000 0000 [0x00000000]
64: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0285 0000 0000 0000 0000 0000 0000 [0x00000000]
100: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0294 0000 0000 0000 0000 0000 0000 [0x00000000]
104: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0305 0000 0000 0000 0000 0000 0000 [0x00000000]
108: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0315 0000 0000 0000 0000 0000 0000 [0x00000000]
112: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0341 0000 0000 0000 0000 0000 0000 [0x00000000]
116: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0349 0000 0000 0000 0000 0000 0000 [0x00000000]
120: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0356 0000 0000 0000 0000 0000 0000 [0x00000000]
124: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0367 0000 0000 0000 0000 0000 0000 [0x00000000]
128: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0378 0000 0000 0000 0000 0000 0000 [0x00000000]
132: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
136: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
140: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
144: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
149: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
153: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0528 0000 0000 0000 0000 0000 0000 [0x00000000]
157: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0538 0000 0000 0000 0000 0000 0000 [0x00000000]
161: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0547 0000 0000 0000 0000 0000 0000 [0x00000000]
165: -107 -105 -105 -105 -105 -105 -105 (-105 dBr)
0562 0000 0000 0000 0000 0000 0000 [0x00000000]
169: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
173: -105 -105 -105 -105 -105 -105 -105 (-105 dBr)
0000 0000 0000 0000 0000 0000 0000 [0x00000000]
aruba_dbg_radio_info_0 Finished time: Tue Jul 28 14:27:20 UTC 2020
aruba_dbg_radio_info_0: Read 18107 bytes in 1794 lines. Truncated:FALSE
```