



MEDIATEK

MT7986 GreenAP AN

2021/10/1

Felix

Version History

Version	Date	Author (Optional)	Description
0.1	2021-9-15	Felix Tsai	Initial draft
1.0	2021-10-1	Micheal Su	Official release

Outline

- ❑ Feature Description
- ❑ How to Configure – profile
- ❑ How to Configure – runtime command

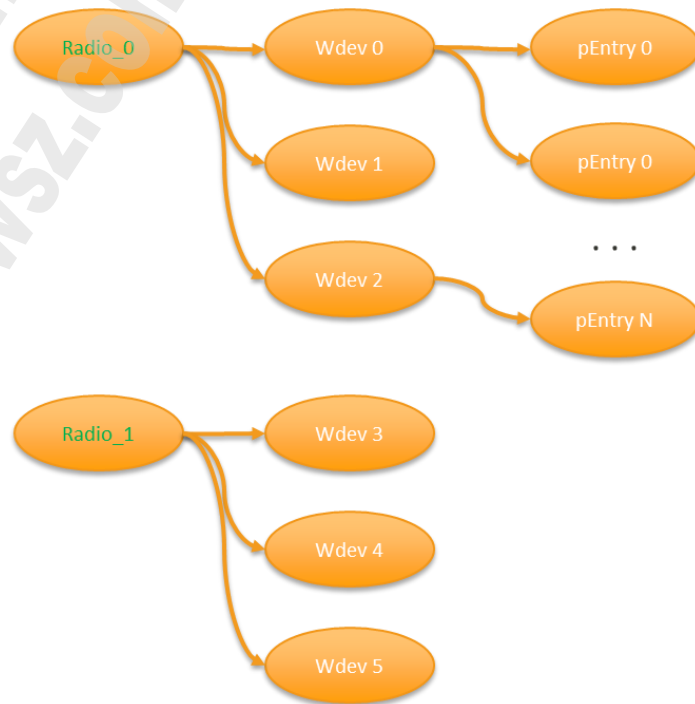
Feature Description

Requirement

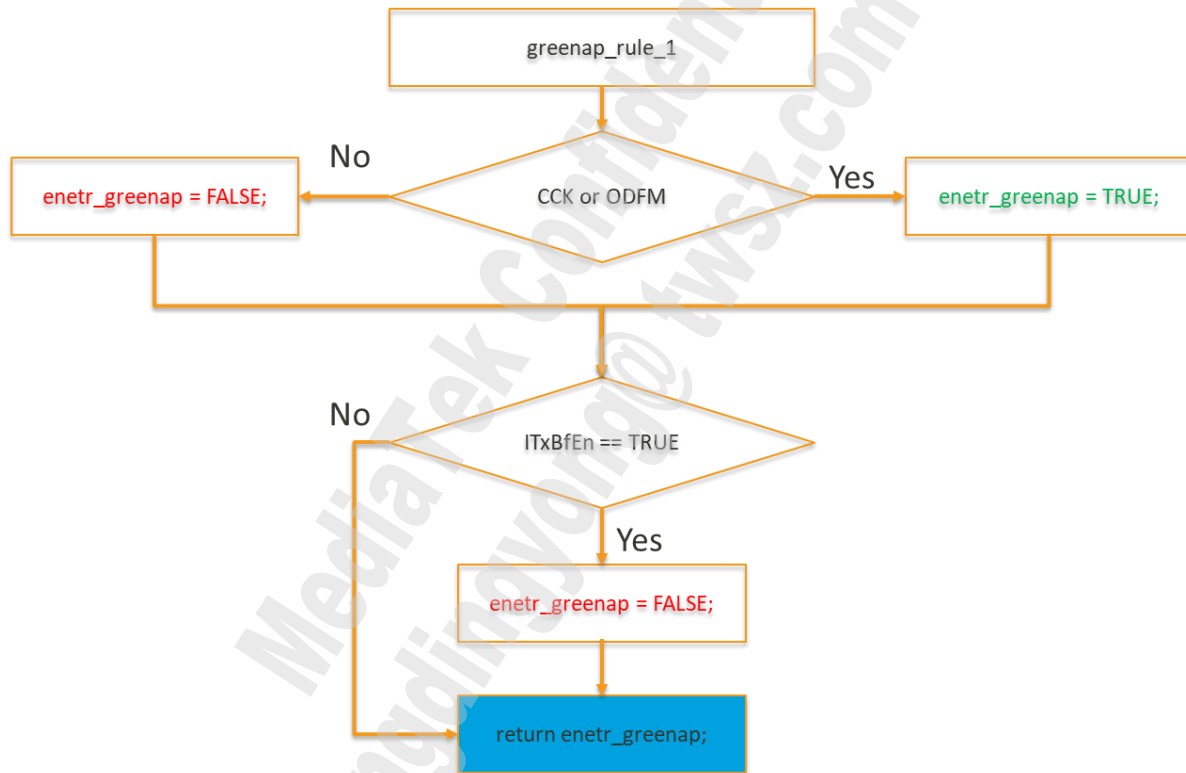
1. Only apply on pure AP mode.
2. Will disable GreenAP feature such as single band AP or DBDC AP+STA case.
3. Only keep one Tx/Rx path (GreenAP mode) and disable other paths when no STA connects to this AP.
4. Only keep one Tx/Rx path (GreenAP mode) and disable other paths when only 1SS STAs connects to this AP.
5. Performance such as t-put won't be degraded when enter/exit GreenAP mode.

GreenAP on/off control condition

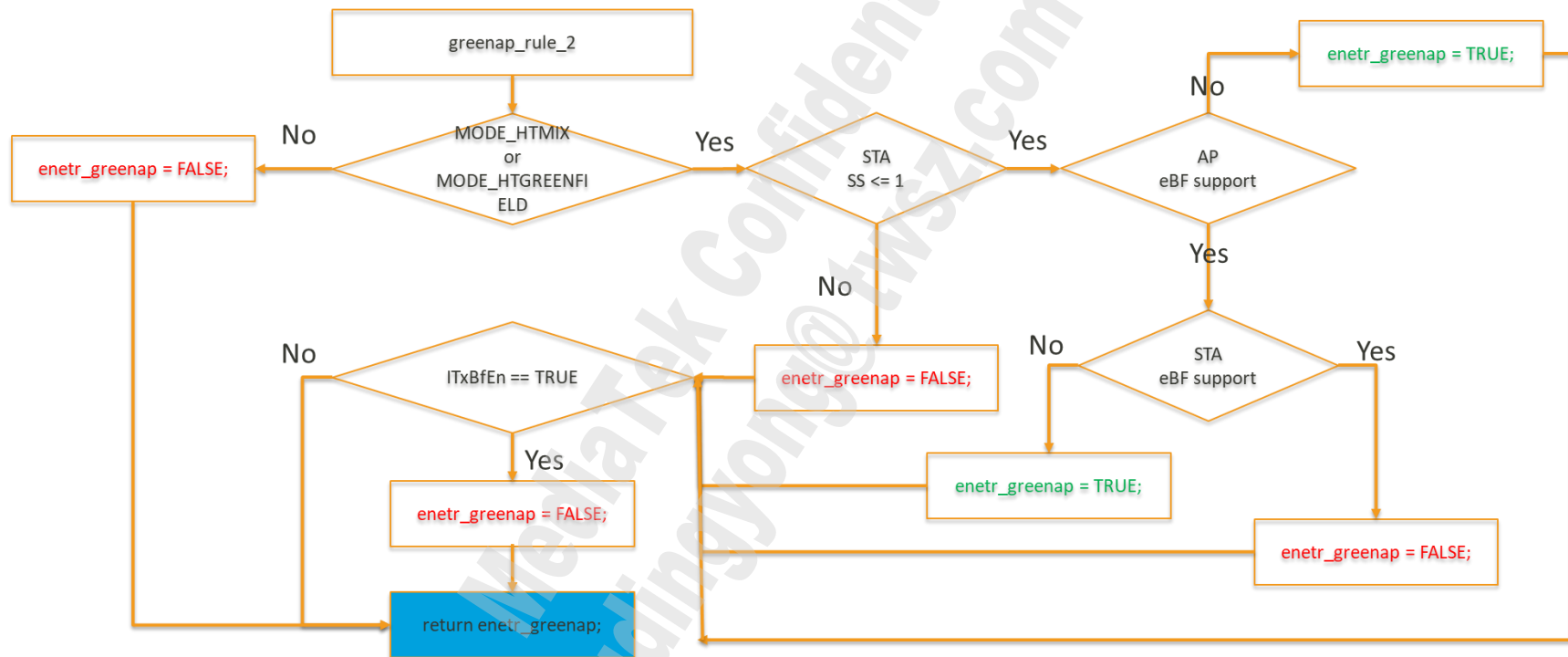
- Check at capability change
- Check at IF up/down
 - On AP or AP+AP support GreenAP
- Check at linkup/down:
 - No one connect to AP → GreenAP on
 - All connected STAs (pEntries) are B/G/1x1 HT && !Bfee → GreenAP on



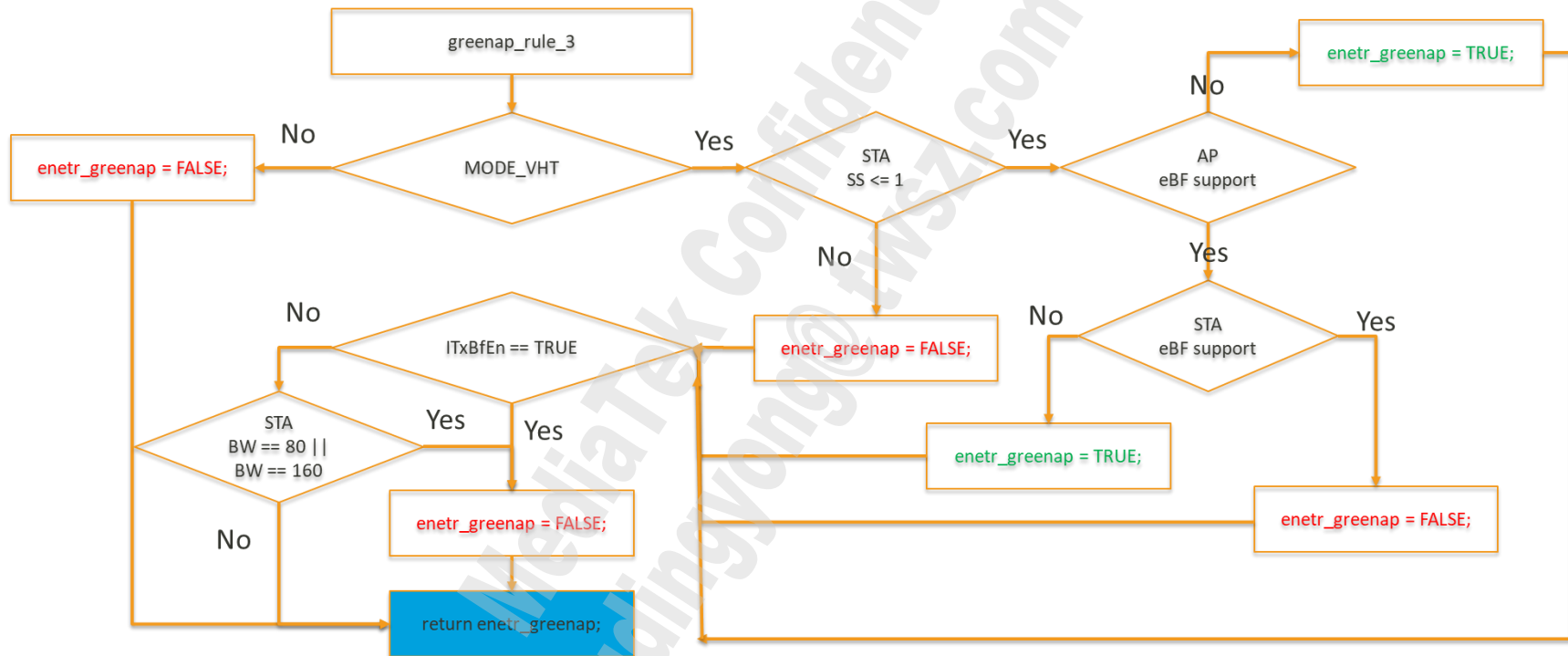
GreenAP check rule 1 (B/G)



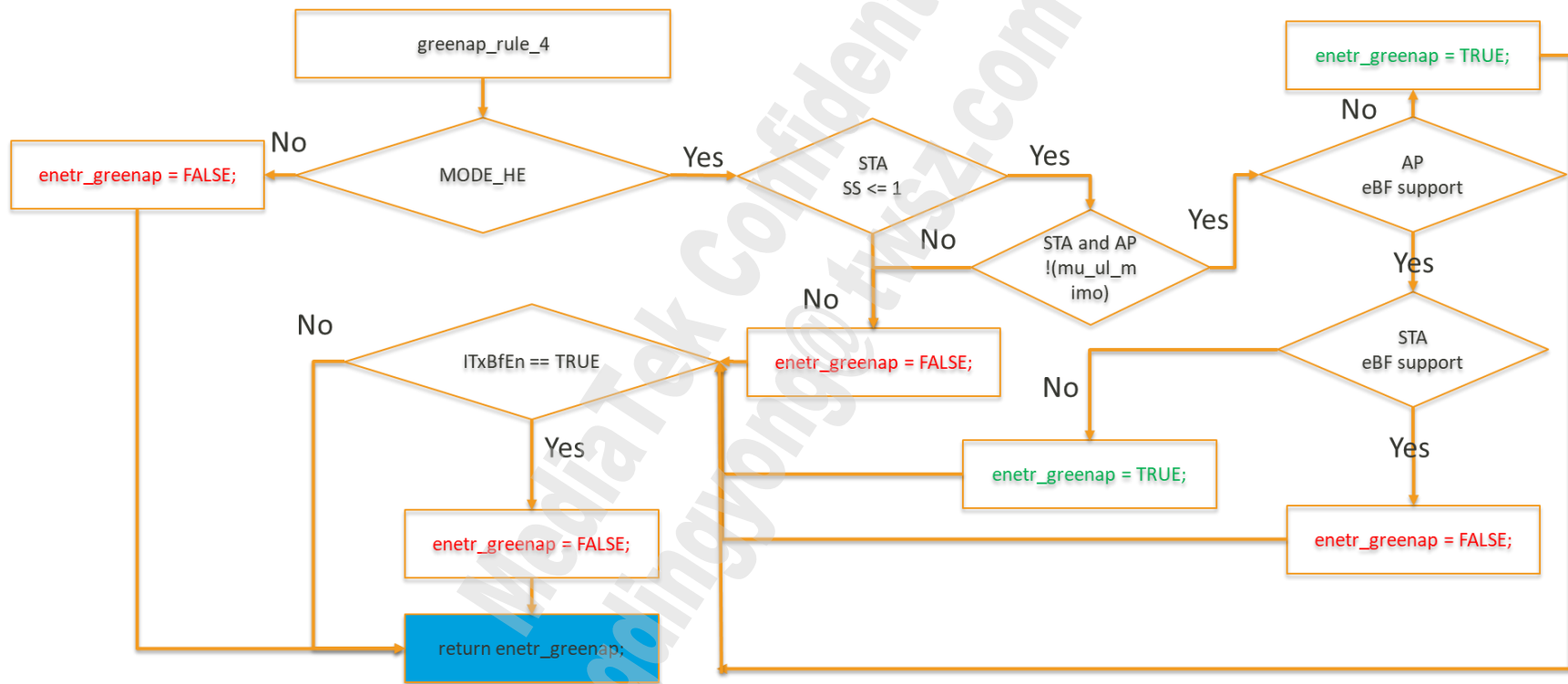
GreenAP check rule 2 (HT)



GreenAP check rule 3 (VHT)



GreenAP check rule 4 (HE)



STA Link up and Link down GreenAP control

Link up

APPeerAssocReqAction



ap_cmm_peer_assoc_req_action



greenap_check_peer_connection_at_link_up_down

Link down

MacTableDeleteEntry



How to Configure – profile

Profile Settings

- **Enable GreenAP capability**
 - **GreenAP=1**
- **Disable GreenAP capability**
 - **GreenAP=0**

How to Configure – runtime command

GreenAP commands

- How to enable **GreenAP** capability
 - Enable: `iwpriv ra0 set GreenAP=1`
 - Disable: `iwpriv ra0 set GreenAP=0`
- How to show GreenAP information
 - `iwpriv ra0 set Debug=3`
 - `iwpriv ra0 show greenapinfo`

```
root@LEDE:/# iwpriv ra0 show greenapinfo
[ 138.497830] RTMPAPPrivIoctlShow(): Before check, this_char=greenapinfo
[ 138.504383] RTMPAPPrivIoctlShow(): after check, this_char=greenapinfo, value=
[ 138.511600] band(0), wdev[0], type(0x1), up(1)
[ 138.516172] band(1), wdev[1], type(0x1), up(1)
[ 138.520706] band(0), wdev[2], type(0x2), up(0)
[ 138.525267] band(1), wdev[3], type(0x2), up(0)
[ 138.529805] ap_mode_if_up(1), non_ap_mode_if_up(0) --> greenap_allow(1)
[ 138.536445] GREENAP::greenap_cap(0), greenap_allow(1), dbdc_mode(1)
[ 138.542807] GREENAP::band_idx(0), greenap_active(0)
[ 138.547820] GREENAP::band_idx(1), greenap_active(0)
```

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