

**Overview:** Customer is using Murata Type WT (WL 1831) + i.MX 6UL processor.

**Problem Statement:** Wi-Fi connection issue with 2 devices out of 2500 devices deployed on field. Skyline 410 is configured as soft access point to allow clients to connect to its network. Clients could not connect to the Wi-Fi network in 2 devices out of 2500. Wi-Fi access point is discoverable from other clients but unable to join the network.

**Steps followed:**

1. Verified `/etc/hostapd.conf` file configuration issues and tried restarting the `hostapd` service.
2. Restarted Wlanap1 interface using `ifconfig` command.
3. Following errors were found on the `dmesg` logs during `hostapd` service restart (`hostapd /etc/hostapd.conf &`)

```
wlcore: down
ieee80211 phy0: Hardware restart was requested
wlcore: PHY firmware version: Rev 8.2.0.0.242
wlcore: firmware booted (Rev 8.9.0.0.79)
```

```
wlcore: ERROR ELP wakeup timeout!
```

```
wlcore: Hardware recovery in progress. FW ver: Rev 8.9.0.0.79
wlanap1: failed to set key (2, ff:ff:ff:ff:ff) to hardware (-110)
```

4. Compared the power up sequence of both the working and non-working boards. Probed lines are in the same order
  - a. VBAT (Yellow)
  - b. VIO (Green)
  - c. Slow Clock (Blue)
  - d. WL\_EN (Magenta)

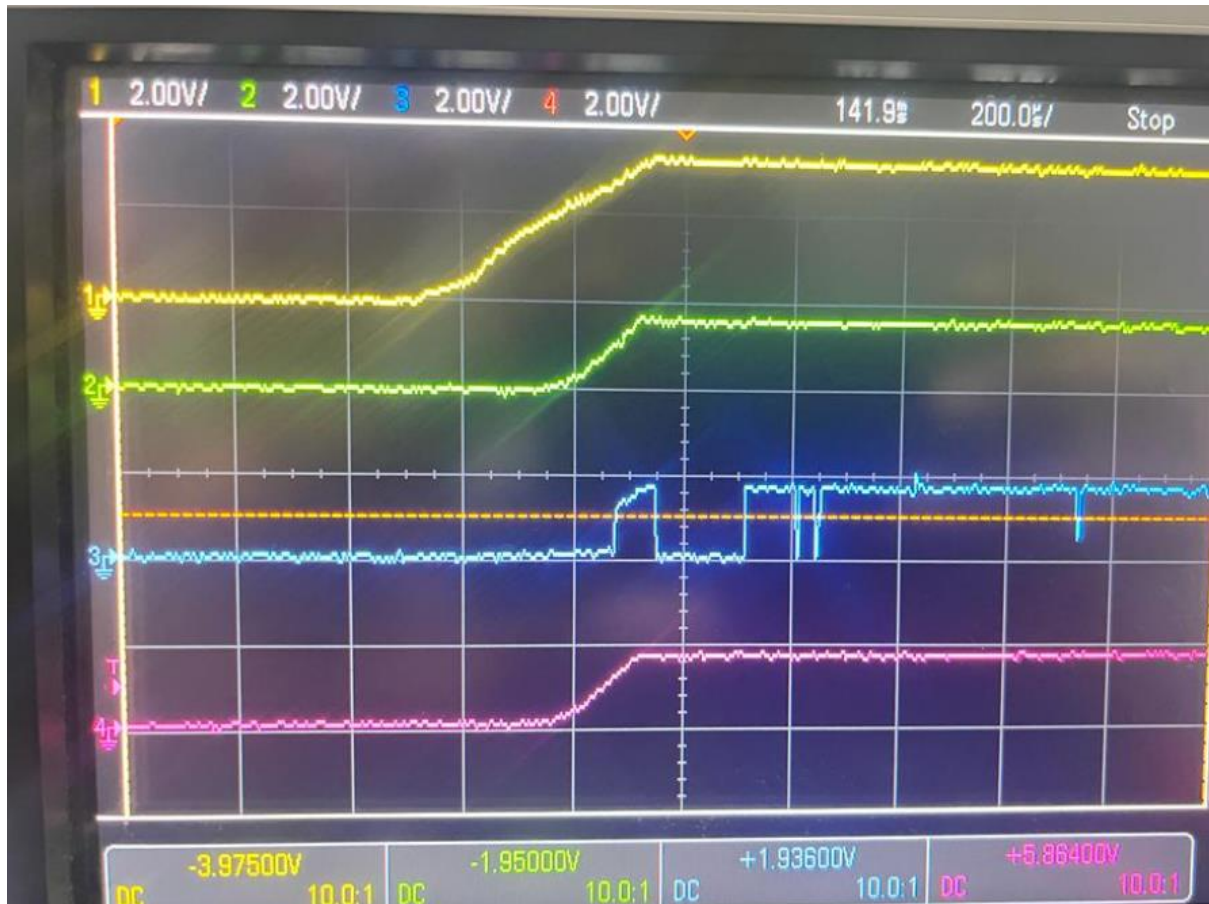
**Non-Working Board:**



### Observation

- WL\_EN is up before slow clock stabilization
- Measured slow\_clock frequency ~ 32.77 kHz

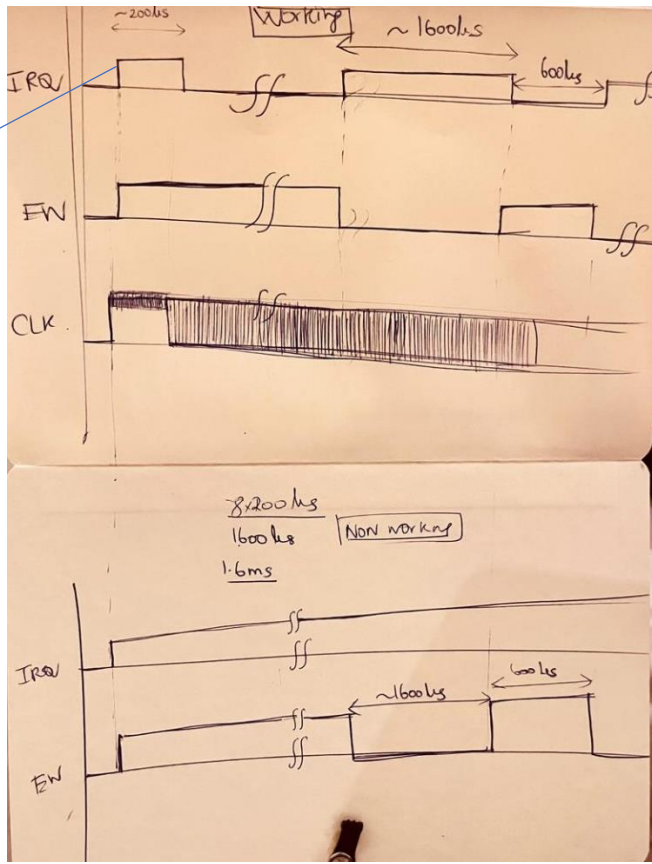
### Working Board:



### Observation

- WL\_EN is up before slow-clock stabilization
- Measured slow clock frequency ~ 32.8 kHz

## WLAN IRQ Waveform Comparison



Power-On

Working board Waveform

Non-working board Waveform

### Inference:

- In the non-working board WLAN\_IRQ line is always held high and never comes down. Which indicates the module initialization and fw download is not complete.
- In both working and non-working board WL\_EN is made high before clock stabilization