Queries regarding BLE in ESP32-C3

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1. List of queries

1.1 Scan in Coded PHY Mode

Able to scan peripheral advertising in Legacy mode

AT+BLESCAN=1,5

+BLESCAN:"68:67:25:54:d3:26",-36,0201060303f0ab0409636263,,0
OK

But unable to scan peripheral advertising in Extended mode

Use case: For understanding use case for scan refer **section 2.1**

1.2 How to get RSSI for received Data?

Is there any AT command to get RSSI for received data.

Use case: To debug connection related issues

1.3 Configure Data rate in Coded PHY mode

At which Data rate ESP32-C3 AT command firmware will operate in Coded PHY mode?
How to configure S2(500kbps) and S8(125kbps), Is there any AT command to configure?

1.4 TX Power configuration for future devices.

We have a requirement to keep RF TX power to **6 dBm** to meet regulations for specific countries.
ESP32-C3 At firmware currently supports 6 dbm.
Will the BLE power configuration be the same even in future versions of ESP BLE Chips?

- **<ble_adv_power>**: RF TX Power of Bluetooth LE advertising. Range: [0,7].
  - 0: -27 dBm
  - 1: -24 dBm
  - 2: -21 dBm
  - 3: -18 dBm
  - 4: -15 dBm
  - 5: -12 dBm
  - 6: -9 dBm
  - 7: -6 dBm
  - 8: -3 dBm
  - 9: -0 dBm
  - 10: 3 dBm
  - 11: 6 dBm
  - 12: 9 dBm
  - 13: 12 dBm
  - 14: 15 dBm
  - 15: 18 dBm

2. Explanation of Use Case

2.1 Requirement of Scan

We have two types of Devices

1) Gateway (GW)
2) Node (Which contains a Unique ID defined by us)

As shown in the figure we could have multiple Entities of GW and Node groups.
Cloud will send info to GWs regarding respective nodes that need to be connected.

For GW (BLE Central) to connect with Nodes, GW requires a MAC address. To obtain MAC address Central device perform BLE Scan and filters Device IDs specified by Cloud and connects to those devices only