

MAD24-318

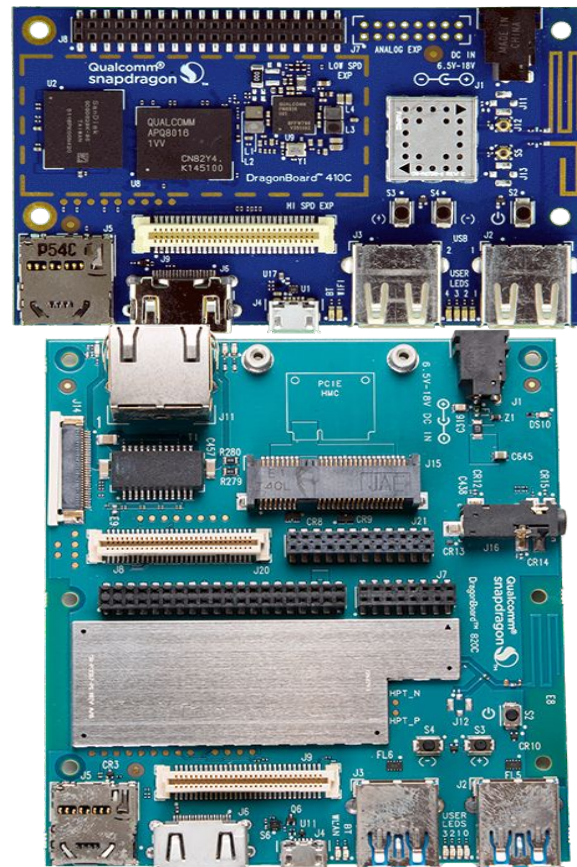
What's Qualcomm upto in IoT??

Vinod Koul, Sr Tech Lead, Linaro
Ameya Pandit, Principal Engineer, Qualcomm



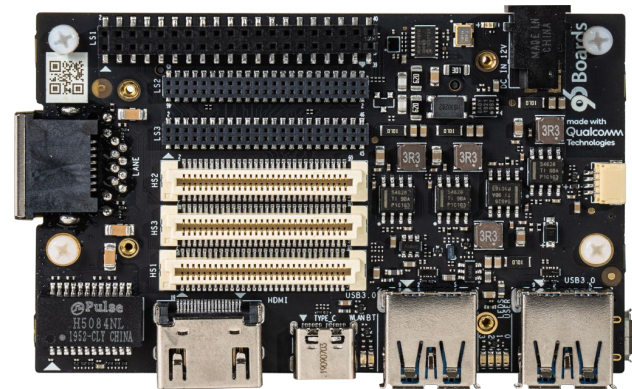
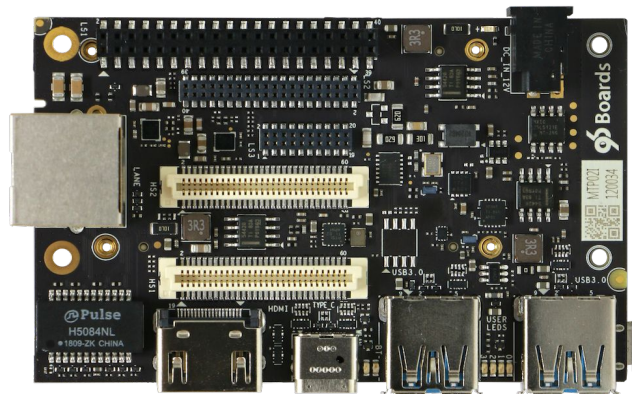
Dragon Boards

- DB410c
 - First Dragon Board
 - Features APQ8106 SoC
 - 64bit ARM SoC
 - Launched in 2014
 - Widely Popular
 - Complaint to 96Boards Spec
- DB820c
 - Second Dragon Board
 - Features MSM8996 SoC
 - Launched in 2015
 - Extended FF but complaint to 96Boards
 - Onboard ethernet
 - Audio Jack



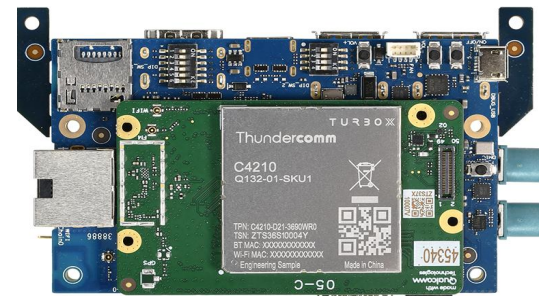
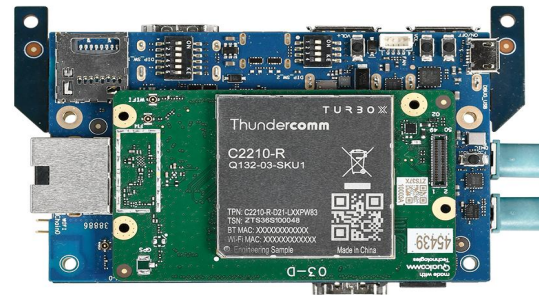
Robotic Boards

- DB845c/RB3
 - First Robotics Board
 - Move away from Dragon Board
 - Features SDA845c SoC
 - Launched in 2019
 - Type C support
- RB5
 - Second Robotics Board
 - Features Modern QRB5165 Robotics SoC
 - Launched in 2020
 - Similar to RB3 with modern SoC



Robotic Boards....

- RB1
 - Low End Robotics Board
 - Launched in 2023
 - Features QCM2290 SoC
- RB2
 - Mid Tier Robotics Board
 - Launched in 2023
 - Same carrier board as RB1
 - Features QCM4290 SoC



Robotic Boards....

- RB3Gen2
 - Latest RB Board
 - Launched in 2024
 - Mid Tier SoC
 - Features QCS6490 SoC



Mezzanine Boards

- **Vision Mezzanine**

Supports up to 6 high definition resolution(720p) camera modules using MAXIM Integrated' s MAX9286

- **Secure96 mezzanine board**

Based on the Infineon SLB9670 for security development

- **STM32 Sensor mezzanine board**

- Embedded sensors for movement, pressure and sound with STM32F446 MCU

- **LinkerSprite mezzanine card starter kit**

Eight connectors supporting Analog, UART, I2C and GPIO, and two ADCs for fun projects

- **96Boards UART Serial Adapter**

USB to UART interface

Mezzanine Boards...

- **Sensors mezzanine**

I/O Expansion board for IoT/Sensor applications, with SoC and Arduino-compatible Grove module interfaces, and Arduino-compatible shield connectors.

- **Audio Mezzanine**

Grove interfaced expansion board with MIC and Jack

- **D3 Camera Mezzanine**

Two MIPI CSI-2 cameras with OV5640 Image Sensors

- **MIPI Adapter Mezzanine**

Adapter mezzanine for image sensors integration

- **Ethernet Mezzanine**

The PoE + Ethernet support

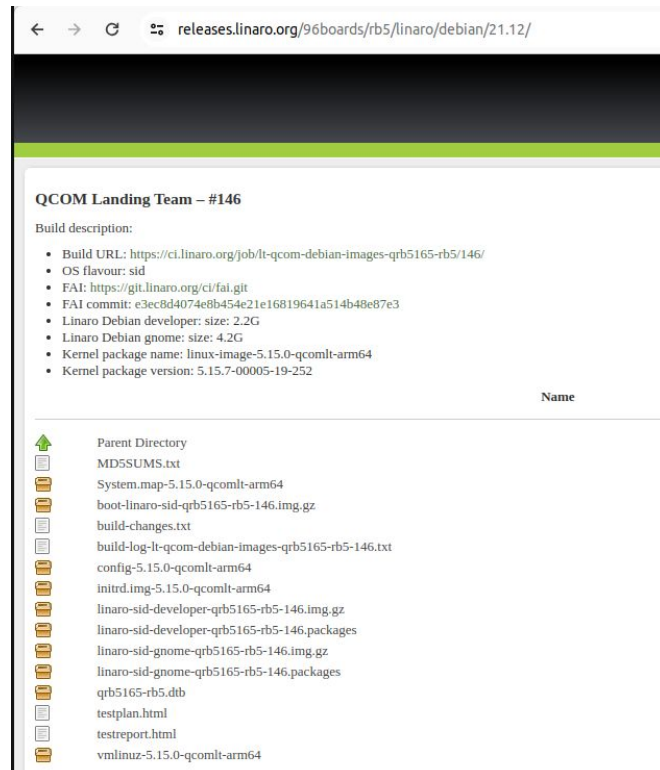
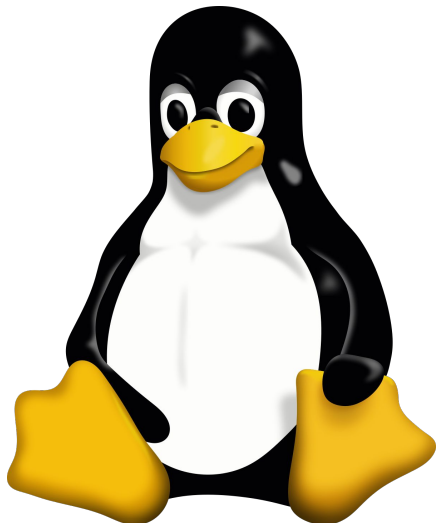
- **Shiratech LTE Mezzanine**

LTE CAT-M1/NB1 Mezzanine

Quectel EC25 LTE

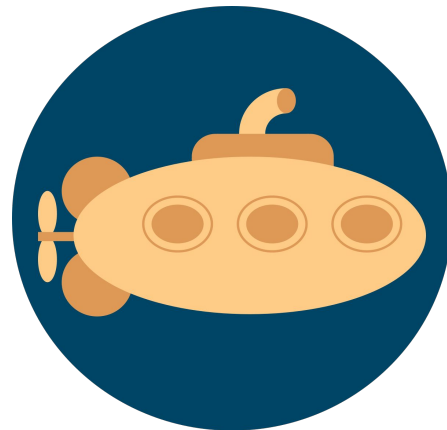
Linux Support

- Downstream Android/Yocto support from Qualcomm
- Linaro upstreams kernel support
- Linaro reference images for boards
- Started with DB410c and 96boards releases



Uboot Support

- Community enabling of initial support
- Linaro support available
- Multiple SoC supported
- rb3, rb5, rb1, rb2, sm8550, sm8650 etc..
- Common DeviceTree from Upstream
- Enables Unified Boot



Unified Boot on Qualcomm RBx development boards



Vinod Koul | Thursday, July 6, 2023 | 4 mins read

Android Linux Kernel Open Source Qualcomm

SystemReady IR

- Uboot is upstream
- BONUS
 - We are SystemReady Complaint
 - Work ongoing on SystemReady IR Certification
 - Fedora rawhide images boot from USB!
- Caleb gave a talk earlier today
 - MAD24-306 Qualcomm and SystemReady IR, an overview of Qualcomm support in U-Boot



Future

- More Robotics Boards....
- More UBoot Support
- Move to UEFI
 - RB3Gen2 Supports UEFI only
 - No ABL
 - SystemD Boot



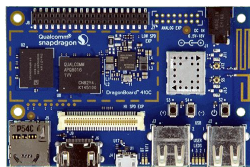


Linaro Connect
MADRID 2024 | MAY 12-17 2024

Thank you



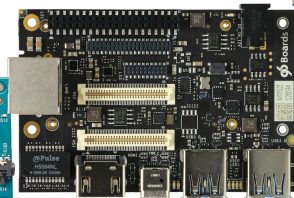
Qualcomm IoT Boards



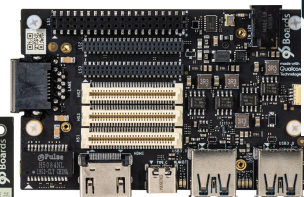
DB410c
2015
First 64 bit



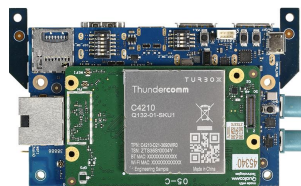
DB820c
2018



RB3
2019
Robotics Boards



RB5
2020
8250 Premier chip



RB1 & RB2
2023
Low & Mid Tier



RB3 Gen2
2024
Mid Tier