



▶ **Marvell.** Moving Forward Faster

Marvell PXA1826 solution Overview



Typical Product Types

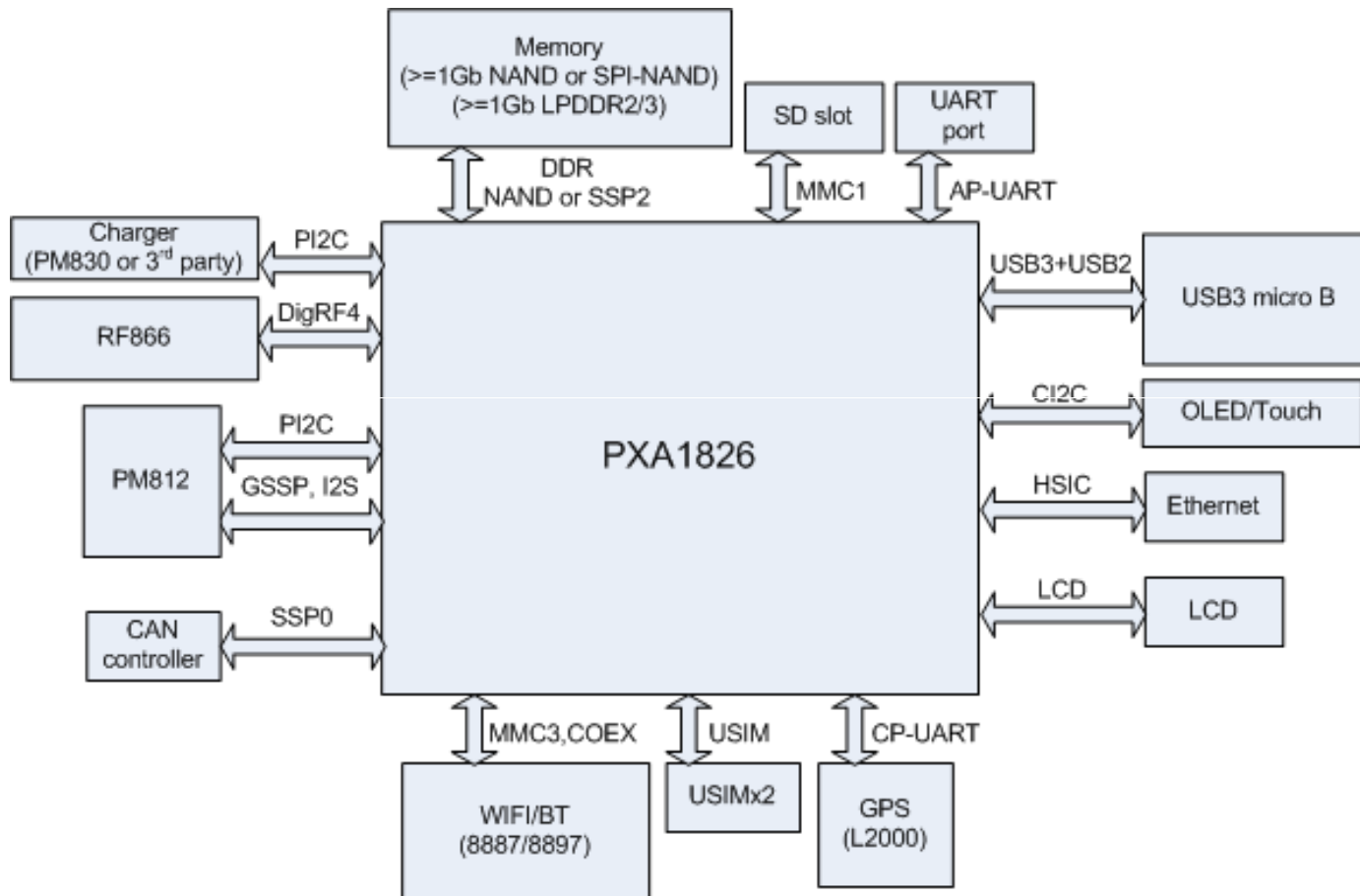
▶ Mobile router

- Personal Mobile Hotspot (MIFI), CPE
- Customers can select different WIFI (11ac/11n, 1x1 or 2x2, SDIO or PCIe) according to speed/cost, WIFI support AP+STA mode
- MBIM compliance
- Marvell proprietary fastpath enhancement
- Optional SPI-NAND/SPI-NOR for lowest RBOM
- Optional OLED or LCD
- Optional Ethernet
- Optional GPS
- Optional BT and Audio

▶ Modem module

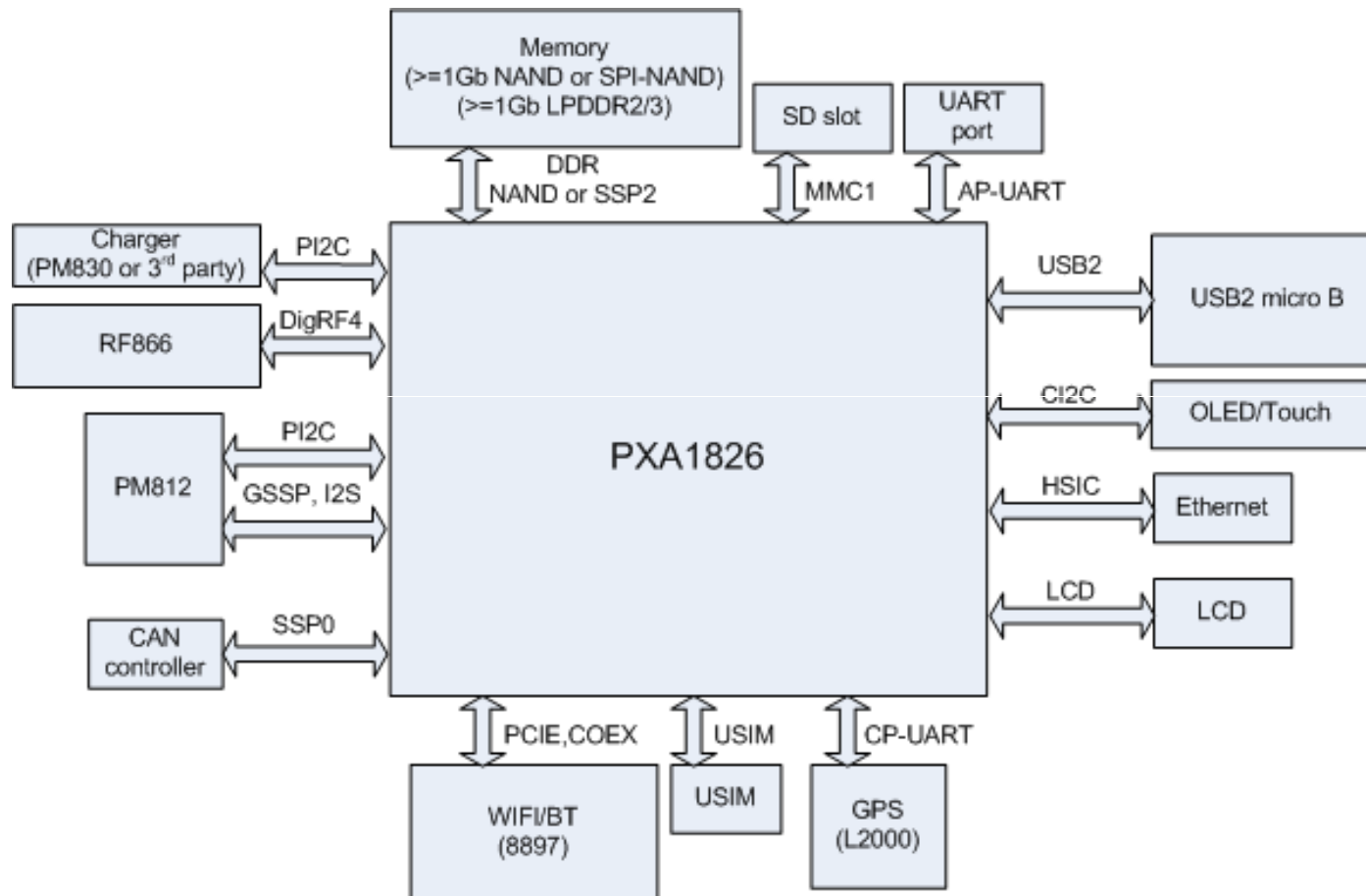
- Dongle and modules for M2M, automotive module, high end CPE (as module)
- Comprehensive AT command set
- PPP
- Could be “hostless mode” or “pipe mode”

Hardware Block Diagrams - typical #1



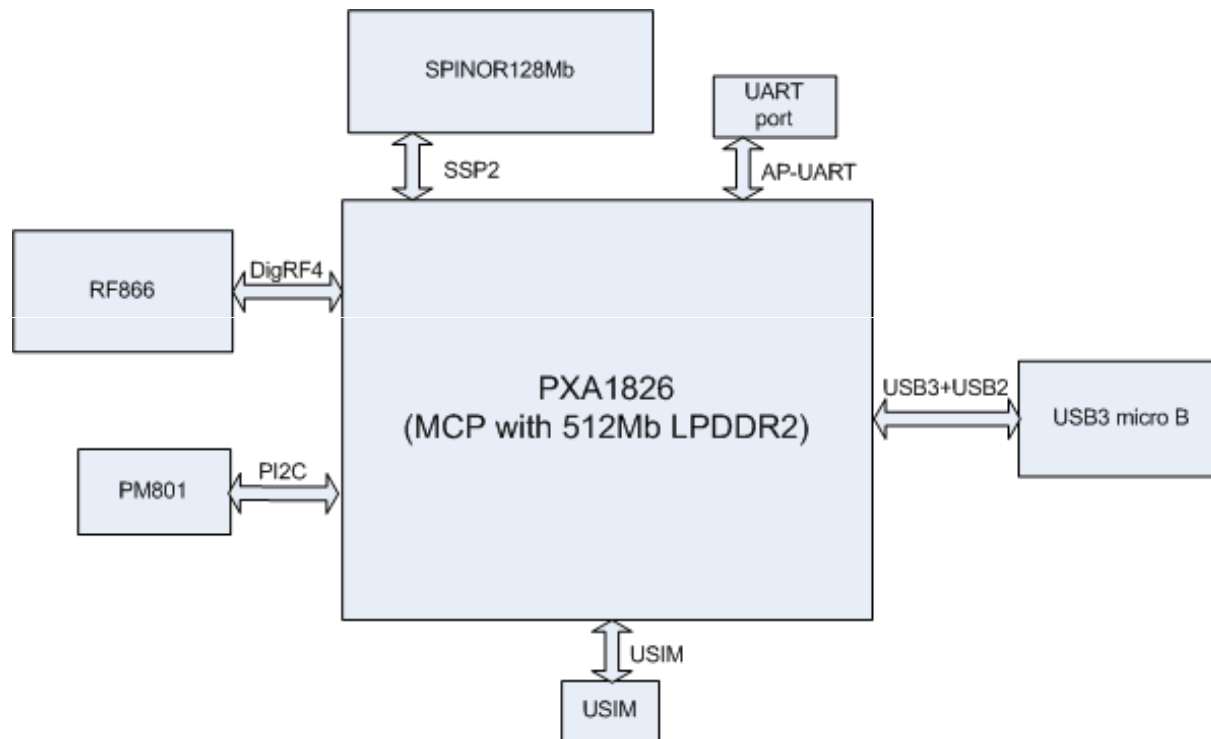
- ▶ WIFI is using SDIO, <300Mbps
- ▶ Support USB3
- ▶ Recommend 1Gb LPDDR2 + 1Gb NAND

Hardware Block Diagrams – typical #2



- ▶ WIFI is using PCIe with 8897, up to 450Mbps
- ▶ No USB3
- ▶ Recommend 1Gb LPDDR2 + 1Gb NAND

Hardware Block Diagrams – typical #3 (dongle/module)



- ▶ Using stacking LPDDR2 in package
- ▶ Support SPI-NOR flash as low as 16MB
- ▶ Lowest RBOM solution for modules

Software

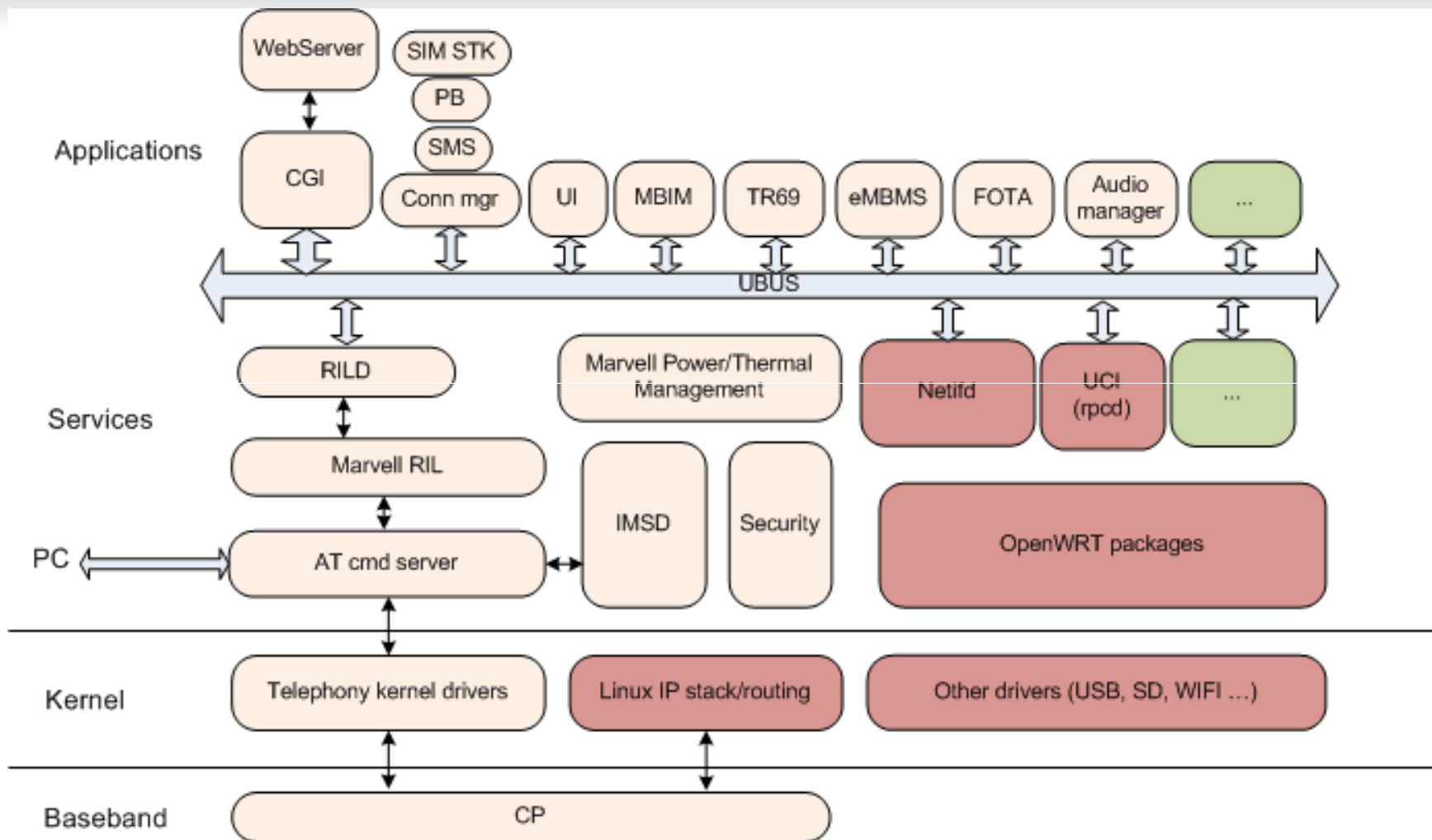
▶ OpenWRT

- OpenWRT is becoming “android” of gateway
- OpenWRT is very scalable and flexible
 - Support very different HW configurations from lowest to highest
 - Very well designed package methodology allows to easy customizations and managements
 - Rich community resources for easy developing
 - Support independent APP developments, allow IPK installation and management
 - Strong community supports around the world, thousands of APPs are available right now
 - Widely adopted by “smart gateway” vendors.

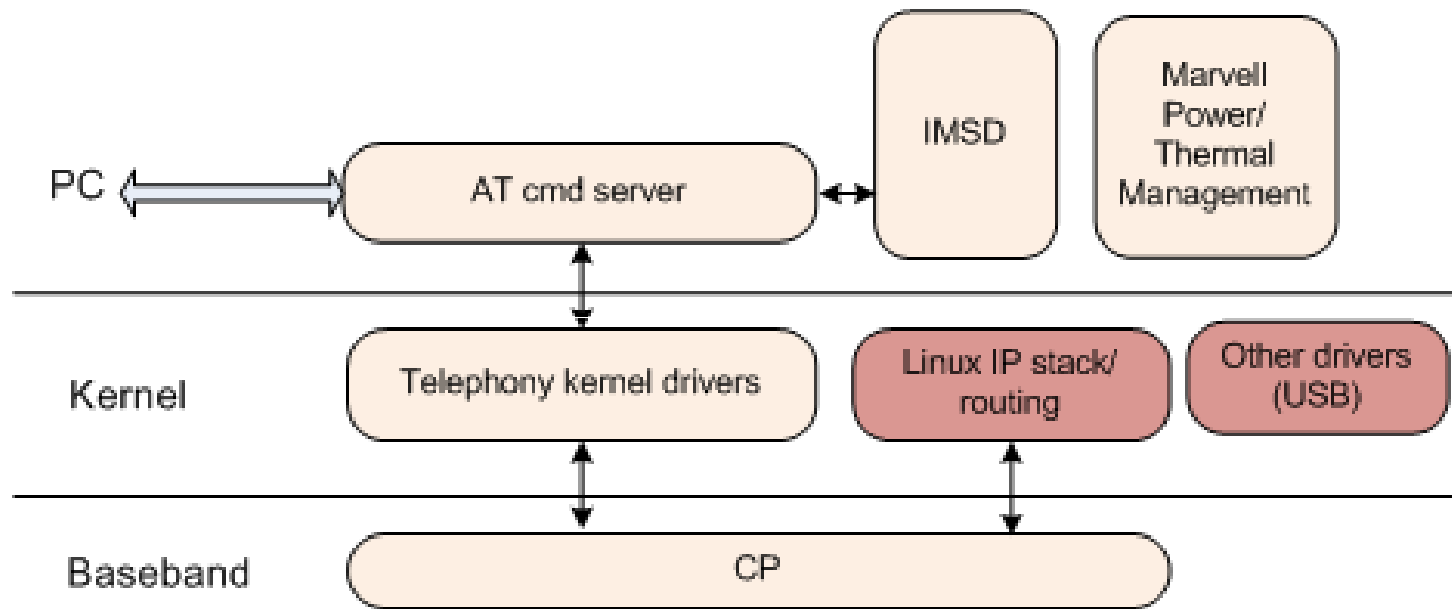
▶ Marvell Packages

- Marvell telephony (including CP subsystem images)
- Marvell services – RIL, connection manager, MBIM, SMS, PB, SIM STK, FOTA, etc.
- Marvell enhancements – IMS, eMBMS, Security

Software Block Diagram – Typical MIFI



Software Block Diagram – Dongle/Module



- ▶ Support “hostless mode” and “pipe mode”
- ▶ Support PPP

Release 1

▶ High Level Feature list

- openwrt BB + kernel 3.10 + Full feature USB2/USB3 + SD
- WIFI enabled 8887 and 8897 with partial optimizations
- Full feature telephony + SuLog
- Ramdump
- Marvell services: RIL + CM + SMS + PB + SIM
- Basic routing features
- MBIM
- WebUI
- FOTA
- HAWK

Release 2

▶ High Level Feature list

- Throughput reach CAT7 (300/100)
- Power and thermal management enabled and optimized
- IMS (Reg/SMS/VoLTE) + Audio manager
- eMBMS
- GPS
- SIM STK (including OTA SIM, BIP to support eUICC)
- UI+LCD/OLED
- Touch panel
- Charger/Fuel Gauge
- Advanced routing features
- Enhanced AT commands
- Production mode
- Ethernet
- TR69

Release 3

▶ High Level Feature list

- Security (trusted boot, secured MRD and secured storage)
- LWM2M
- Virtual SIM/Soft SIM
- PCIe (for 2x2 AC WIFI)
- BT (profiles TBD)
- JAVA ME