

eDM-SBC-iMX6-PPC WiFi-additionals

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Revision History

Revision	Date	Author(s)	Description
r-001	2020-05-06	Albert,Elmar	Initial version
r-002	2020-05-06	Albert,Elmar	Added BlueTooth config

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1 Introduction

This document describes how to add new/additional wifi modules to the [DMO Linux BSP](#).

2 SparkLAN WPEQ-261ACN(BT)

As mentioned in the [datasheet](#), the SparkLAN WPEQ-261ACN(BT) WiFi module uses a Qualcomm Atheros QCA6174A-5 device .

According to [this driver page](#), the ath10k linux driver is used to support this module.

2.1 Enable the driver in DMO Linux BSP

- To enable the driver in DMO Linux BSP, first clone the latest linux kernel from [GitHub](#)
- Create a new build directory and move there
- set the arm cross-toolchain
- prepare build directory using dmo-imx6-ppc_defconfig, e.g.:
make -C /path/to/source O=\$PWD dmo-imx6-ppc_defconfig
- in menuconfig additionally set the following configs for wifi:

```
1 CONFIG_ATH_COMMON=y
2 CONFIG_ATH10K=y
3 CONFIG_ATH10K_PCI=y
```

- in menuconfig additionally set the following configs for bluetooth:

```
1 CONFIG_BT_HCIUART_QCA=y
```

- build the kernel
- copy the kernel and device tree to the boot partition of the target boot device
- boot the target

2.2 Testing the new WiFi/BT-Module

```
$ lspci -v

...

01:00.0 Network controller: Qualcomm Atheros QCA6174 802.11ac Wireless Network A
Subsystem: Device 1dac:0261
Flags: bus master, fast devsel, latency 0, IRQ 302
Memory at 01000000 (64-bit, non-prefetchable) [size=2M]
Capabilities: [40] Power Management version 3
Capabilities: [50] MSI: Enable+ Count=1/8 Maskable+ 64bit-
Capabilities: [70] Express Endpoint, MSI 00
Capabilities: [100] Advanced Error Reporting
Capabilities: [148] Virtual Channel
Capabilities: [168] Device Serial Number 00-00-00-00-00-00-00-00
Capabilities: [178] Latency Tolerance Reporting
Capabilities: [180] L1 PM Substates
Kernel driver in use: ath10k_pci

$ ifconfig -a

...

wlp1s0    Link encap:Ethernet  HWaddr 00:0e:8e:8d:c9:69
          BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)
```

- For testing WiFi connections, use the [Linux command line](#) tools.
- For testing the bluetooth functionality, please follow [these](#) instructions.



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