

Answers for questions(1-2-3) from discussion

Thursday, December 15, 2022 5:30 PM

Q1. Check if linkup in current scenario

```
mahesh@mahesh:~$ nmcli d
DEVICE          TYPE      STATE      CONNECTION
enp0s3          ethernet  connected  Wired connection 2
enx28ee520f97f4 ethernet  connected  Wired connection 1
lo              loopback  unmanaged  --
mahesh@mahesh:~$ nmcli d
DEVICE          TYPE      STATE      CONNECTION
enp0s3          ethernet  connected  Wired connection 2
enx28ee520f97f4 ethernet  unavailable --
lo              loopback  unmanaged  --
mahesh@mahesh:~$
```

This is where AM437x-EVM is connected
Connected
Removed

```
mahesh@mahesh:~$ nmcli monitor
enx28ee520f97f4: unavailable
enx28ee520f97f4: disconnected
enx28ee520f97f4: connecting (prepare)
enx28ee520f97f4: using connection 'Wired connection 1'
enx28ee520f97f4: connecting (configuring)
enx28ee520f97f4: connecting (checking IP connectivity)
enx28ee520f97f4: connected
S
```

Status when I manually connect and disconnect wire

```
mahesh@mahesh:~$ ip a show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
   inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
   link/ether 08:00:27:8b:f2:d3 brd ff:ff:ff:ff:ff:ff
   inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic enp0s3
       valid_lft 86002sec preferred_lft 86002sec
   inet6 fe80::39bf:2ace:7c73:8c2/64 scope link
       valid_lft forever preferred_lft forever
4: enx28ee520f97f4: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc pfifo_fast state DOWN group default qlen 1000
   link/ether 28:ee:52:0f:97:f4 brd ff:ff:ff:ff:ff:ff
mahesh@mahesh:~$ ip a show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
   inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
   link/ether 08:00:27:8b:f2:d3 brd ff:ff:ff:ff:ff:ff
   inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic enp0s3
       valid_lft 86046sec preferred_lft 86046sec
   inet6 fe80::39bf:2ace:7c73:8c2/64 scope link
       valid_lft forever preferred_lft forever
4: enx28ee520f97f4: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
   link/ether 28:ee:52:0f:97:f4 brd ff:ff:ff:ff:ff:ff
   inet 192.168.2.1/24 brd 192.168.2.255 scope global enx28ee520f97f4
       valid_lft forever preferred_lft forever
   inet6 fe80::921a:2dde:b598:69c/64 scope link
       valid_lft forever preferred_lft forever
mahesh@mahesh:~$
```

Not connected

When I connect wire

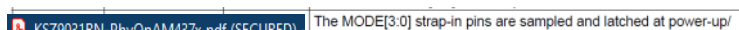
Q2. Check if board pings when it boots up on linux

```
siva-test@sivatest-OptiPlex-3020:~$ ping 169.254.1.25
PING 169.254.1.25 (169.254.1.25) 56(84) bytes of data:
64 bytes from 169.254.1.25: icmp_seq=1 ttl=64 time=0.426 ms
64 bytes from 169.254.1.25: icmp_seq=2 ttl=64 time=0.514 ms
64 bytes from 169.254.1.25: icmp_seq=3 ttl=64 time=0.379 ms
64 bytes from 169.254.1.25: icmp_seq=4 ttl=64 time=0.474 ms
64 bytes from 169.254.1.25: icmp_seq=5 ttl=64 time=0.439 ms
64 bytes from 169.254.1.25: icmp_seq=6 ttl=64 time=0.470 ms
64 bytes from 169.254.1.25: icmp_seq=7 ttl=64 time=0.476 ms
64 bytes from 169.254.1.25: icmp_seq=8 ttl=64 time=0.475 ms
```

TEST DONE TO ACERTAIN IF PHY WORKS
WE WERE ABLE TO PING FROM PC TO TARGET BY SETTING STATIC IP ON NTARGET

```
root@am437x-lrd:~#
root@am437x-lrd:~#
root@am437x-lrd:~# dhclient eth0
root@am437x-lrd:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500 metric 1
   inet 169.254.1.25 netmask 255.255.255.0 broadcast 169.254.1.255
   inet6 fe80::6a9e:1911:feb8:3c28 prefixlen 64 scopeid 0x20<link>
   ether 68:9e:19:b8:3c:28 txqueuelen 1000 (Ethernet)
   RX packets 17 bytes 2297 (2.2 KiB)
   RX errors 0 dropped 0 overruns 0 frame 0
   TX packets 84 bytes 15148 (14.7 KiB)
   TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

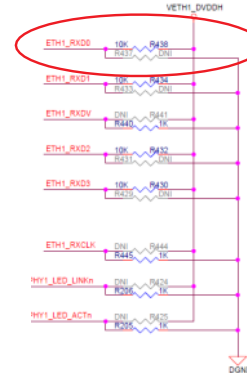
Q3. Check data sheet and see what it means when we pull down ETH1_RXD0



Q3. Check data sheet and see what it means when we pull down ETH1_RXD0

KSZ9031RN-PhyOnAM437x.pdf (SECURED)			The MODE[3:0] strap-in pins are sampled and latched at power-up/reset and are defined as follows:
	MODE[3:0]	Mode	
	0000	Reserved - not used	
	0001	Reserved - not used	
	0010	Reserved - not used	
	0011	Reserved - not used	
	0100	NAND tree mode	
	0101	Reserved - not used	
	0110	Reserved - not used	
	0111	Chip power-down mode	
27	MODE3		I/O
28	MODE2		I/O
31	MODE1		I/O
32	MODE0		I/O
	1000	Reserved - not used	
	1001	Reserved - not used	
	1010	Reserved - not used	
	1011	Reserved - not used	
	1100	RGMII mode - Advertise 1000BASE-T full-duplex only	
	1101	RGMII mode - Advertise 1000BASE-T full- and half-duplex only	
	1110	RGMII mode - Advertise all capabilities (10/100/1000 speed half-/full-duplex), except 1000BASE-T half-duplex	
	1111	RGMII mode - Advertise all capabilities (10/100/1000 speed half-/full-duplex)	

27-RXD3	28-RXD2	31-RXD1	32-RXD0
MODE3	MODE2	MODE1	MODE0
1	1	1	0



R437 persist and R438 is removed