ETH_LAN8720 #744

Closed
Abishek05 opened this issue on Oct 18, 2017 · 47 comments

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Comments

Abishek05 commented on Oct 18, 2017 • edited

Hardware:

Board: ESP32 Dev Module- Node MCU
Core Installation/update date: 18/Oct/2017?
IDE name: Arduino IDE
Flash Frequency: 80Mhz
Upload Speed: ?921600?

Description:

Im working with example code ETH_LAN8720, and i get the following error as mentioned below.
The circuit connections are as follows:-

GPIO	RMII Signal	ESP32 EMAC Function
0	REF_CLK	EMAC_TX_CLK
21	TX_EN	EMAC_TX_EN
19	TX0	EMAC_TXD0
22	TX1	EMAC_TXD1
25	RX0	EMAC_RXD0

26	RX1	EMAC_RXD1
27	CRS_DV	EMAC_RX_DRV

Default Example GPIO	**RMII Signal**
23	MDC
18	MDIO

Sketch:

```
//Change the code below by your sketch
/*
    This sketch shows the Ethernet event usage

*/

#include <ETH.h>

static bool eth_connected = false;

void WiFiEvent(WiFiEvent_t event)
{
  switch (event) {
    case SYSTEM_EVENT_ETH_START:
      Serial.println("ETH Started");
      //set eth hostname here
      ETH.setHostname("esp32-ethernet");
      break;
    case SYSTEM_EVENT_ETH_CONNECTED:
      Serial.println("ETH Connected");
      break;
    case SYSTEM_EVENT_ETH_GOT_IP:
      Serial.print("ETH MAC: ");
      Serial.print(ETH.macAddress());
      Serial.print(", IPv4: ");
      Serial.print(ETH.localIP());
      if (ETH.fullDuplex()) {
        Serial.print(", FULL_DUPLEX");
      }
      Serial.print(", ");
      Serial.print(ETH.linkSpeed());
      Serial.println("Mbps");
      eth_connected = true;
      break;
    case SYSTEM_EVENT_ETH_DISCONNECTED:
      Serial.println("ETH Disconnected");
      eth_connected = false;
      break;
```

```
    case SYSTEM_EVENT_ETH_STOP:
      Serial.println("ETH Stopped");
      eth_connected = false;
      break;
    default:
      break;
  }
}

void testClient(const char * host, uint16_t port)
{
  Serial.print("\nconnecting to ");
  Serial.println(host);

  WiFiClient client;
  if (!client.connect(host, port)) {
    Serial.println("connection failed");
    return;
  }
  client.printf("GET / HTTP/1.1\r\nHost: %s\r\n\r\n", host);
  while (client.connected() && !client.available());
  while (client.available()) {
    Serial.write(client.read());
  }

  Serial.println("closing connection\n");
  client.stop();
}

void setup()
{
  Serial.begin(115200);
  WiFi.onEvent(WiFiEvent);
  ETH.begin();
}


void loop()
{
  if (eth_connected) {
    testClient("google.com", 80);
  }
  delay(10000);
}
```

Debug Messages:

```
E (27295) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask
0xffff). Current value 0x0000
E (28295) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask
0xfff0). Current value 0x0000
E (29295) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask
0xffff). Current value 0x0000
E (30295) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask
0xfff0). Current value 0x0000
E (31295) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask
0xffff). Current value 0x0000
```

```
E (32295) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask
0xfff0). Current value 0x0000
E (33295) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask
0xffff). Current value 0x0000
E (34295) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask
0xfff0). Current value 0x0000
E (35295) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask
0xffff). Current value 0x0000
E (36295) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask
0xfff0). Current value 0x0000
E (37295) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask
0xffff). Current value 0x0000
E (38295) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask
0xfff0). Current value 0x0000
```

Contributor

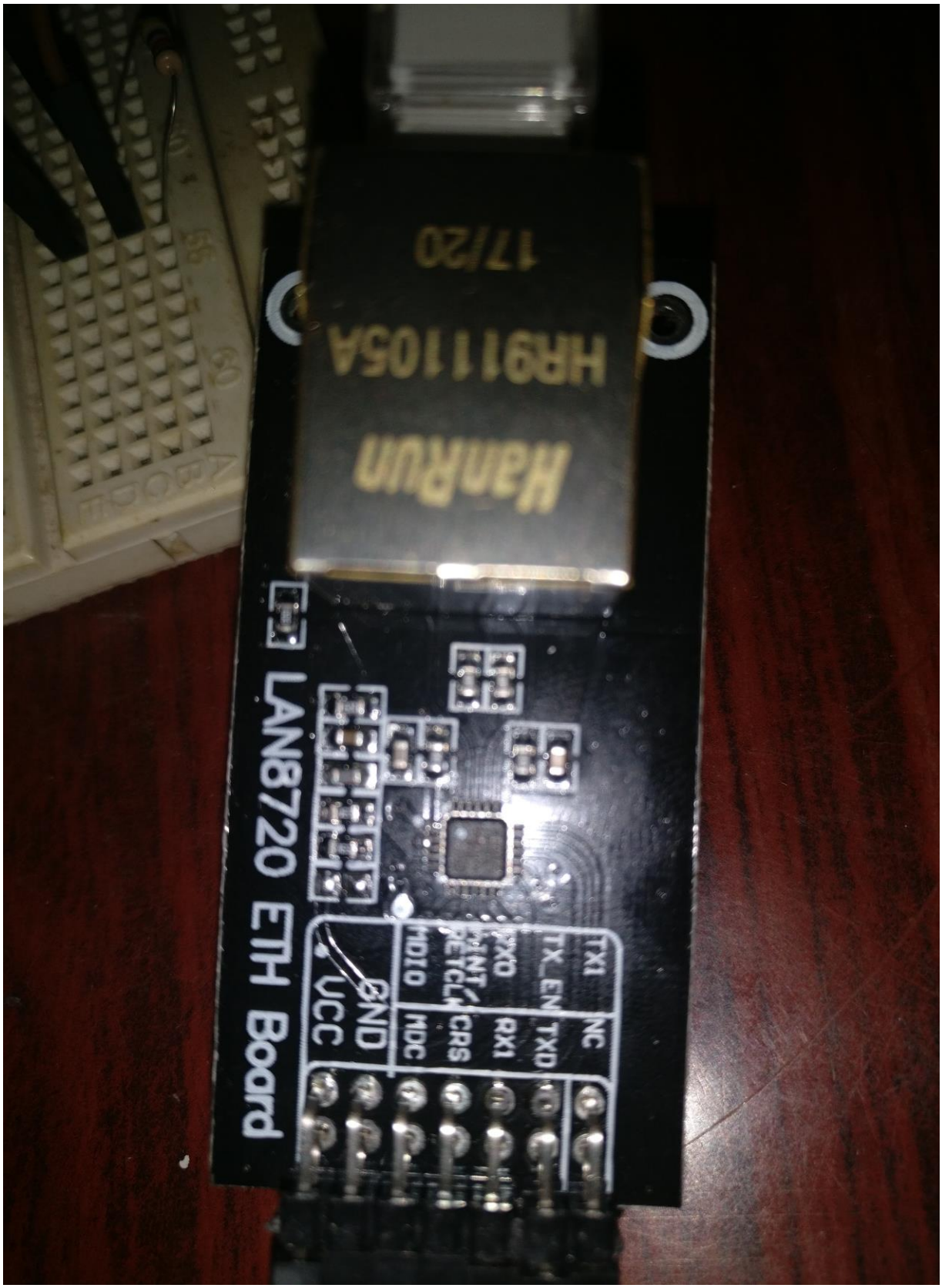
sauttefk commented on Oct 18, 2017

Looks as if there is a problem with the 50MHz reference clock.

- Which LAN8720 board are you using?
- Is the power/clock enable pin (`GPIO17` by default) connected to the crystal oscillator?

Author

Abishek05 commented on Oct 18, 2017


HanRun
HR911105A
17/20
LAN8720 ETH Board
VCC
GND
MDIO
RXD
INT/RETCLK
CRS
MDC
TX1
TX_EN
RX1
TXD
NC

GPIO17 by default is not connected to crystal oscillator, but i have connected externally using jumper wire.

Contributor

sauttefk commented on Oct 18, 2017

this board has I²C address **1**

```
#define ETH_ADDR 1
```

Author

Abishek05 commented on Oct 18, 2017

I tried, still the same issue. Also tried #define ETH_PHY_ADDR 1 because i found this macro in Eth.h file.

Contributor

sauttefk commented on Oct 18, 2017

don't use too long wires. these are frequencies not very suitable for a breadbord.
if you have access to a oscilloscope check if you can see the 50MHz in `GPIO0`

pipi61 commented on Oct 18, 2017

Try
https://sautter.com/blog/ethernet-on-esp32-using-lan8720/
this work

Contributor

sauttefk commented on Oct 19, 2017

Well, I know that exactly this little prototype board is working ;-)
But now without the crystal... espressif/esp-idf#1127

Member

me-no-dev commented on Oct 19, 2017

so can I close this now?

Contributor

sauttefk commented on Oct 19, 2017 • edited

@me-no-dev : No, please ask @Abishek05 if his problem is solved. (I assume this is hardware related).
My post was unrelated, but the mentioned prototype board is mine and I just used it to make a PR to use the ESP32's APPL to generate the reference clock so there is no need for an external crystal oscillator and no more hassle with the clock on `GPIO0` and the bootloader / PHY-power-pin.
Hopefully this PR is merged real soon so I can make the neccessary changes here.

Member

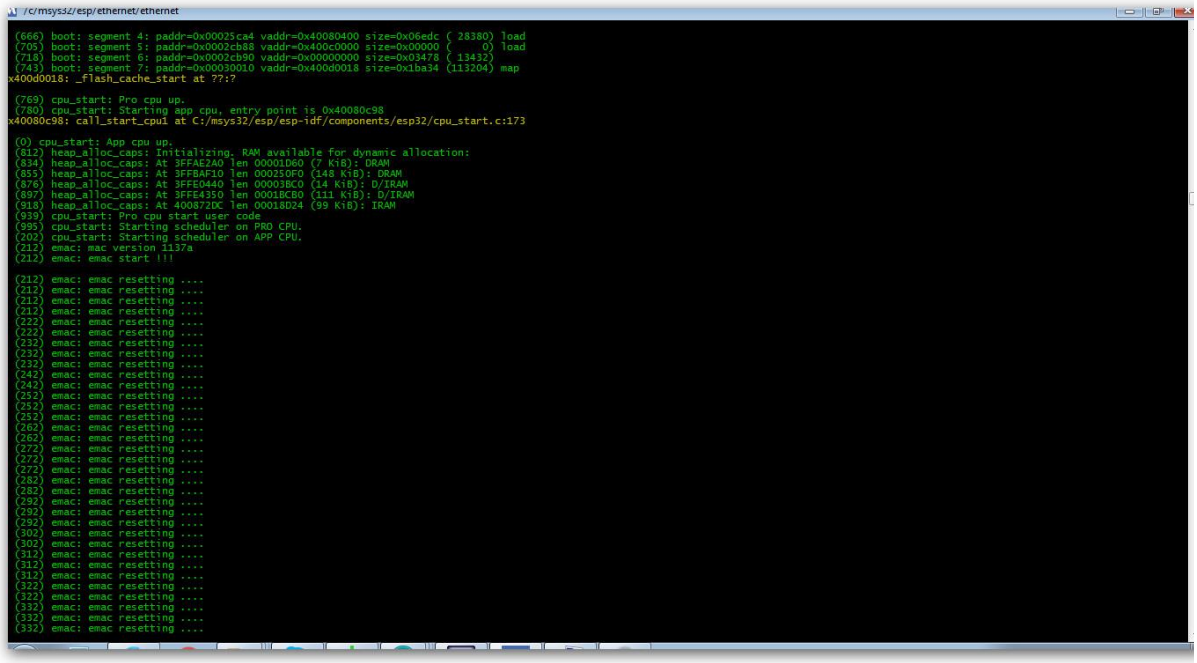
me-no-dev commented on Oct 19, 2017

Thanks @sauttefk :) I saw your PR and looking forward to that merge as well.
@Abishek05 any comments?

James-sjec commented on Oct 22, 2017

I'm using this same board and i don't get any debug messages after changing address to 1 in Arduino IDE. Also i tried using example code from https://github.com/espressif/esp-idf/tree/master/examples/ethernet and i get the error as shown below. Need help!

See the below jpg for eror



Contributor

sauttefk commented on Oct 23, 2017

@Abishek05 , @James-sjec
Please send pictures of your cabeling setup.
Please keep in mind that these are 50MHz signals that are not suited for a breadboard.

Author

Abishek05 commented on Oct 26, 2017

Thanks @sauttefk . It turned out to be hardware issue like you said. I got it working now.

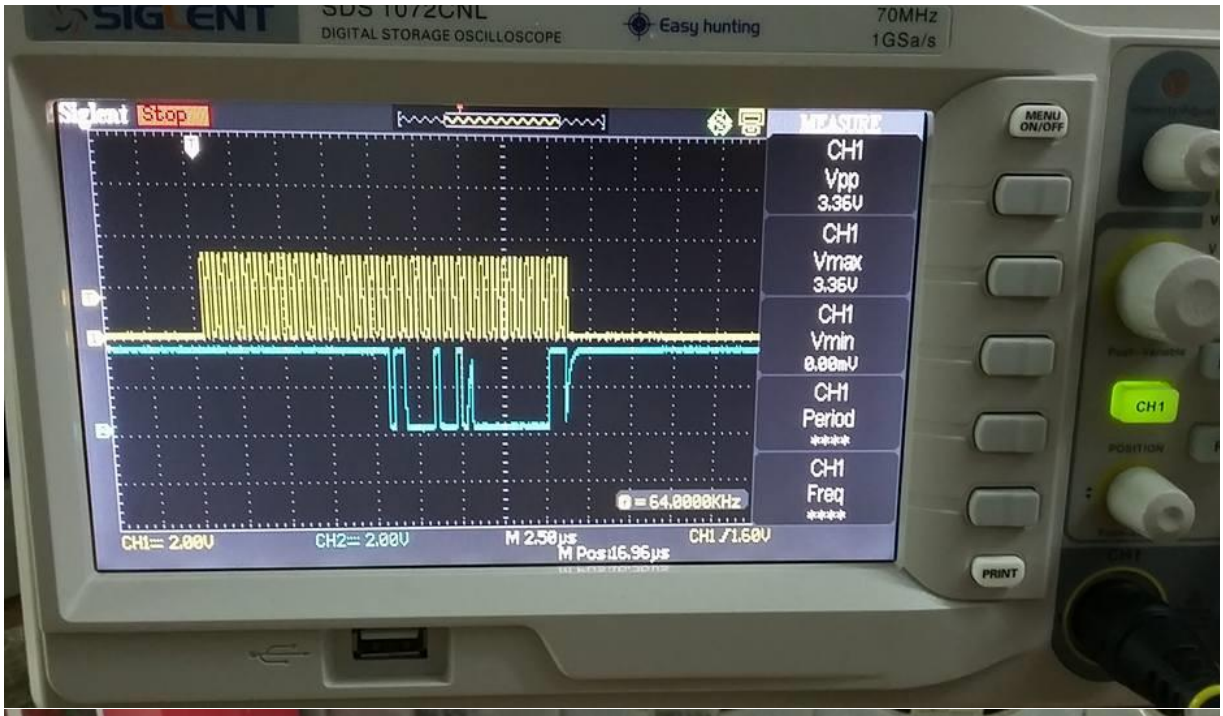
 Abishek05 closed this as completed on Oct 26, 2017

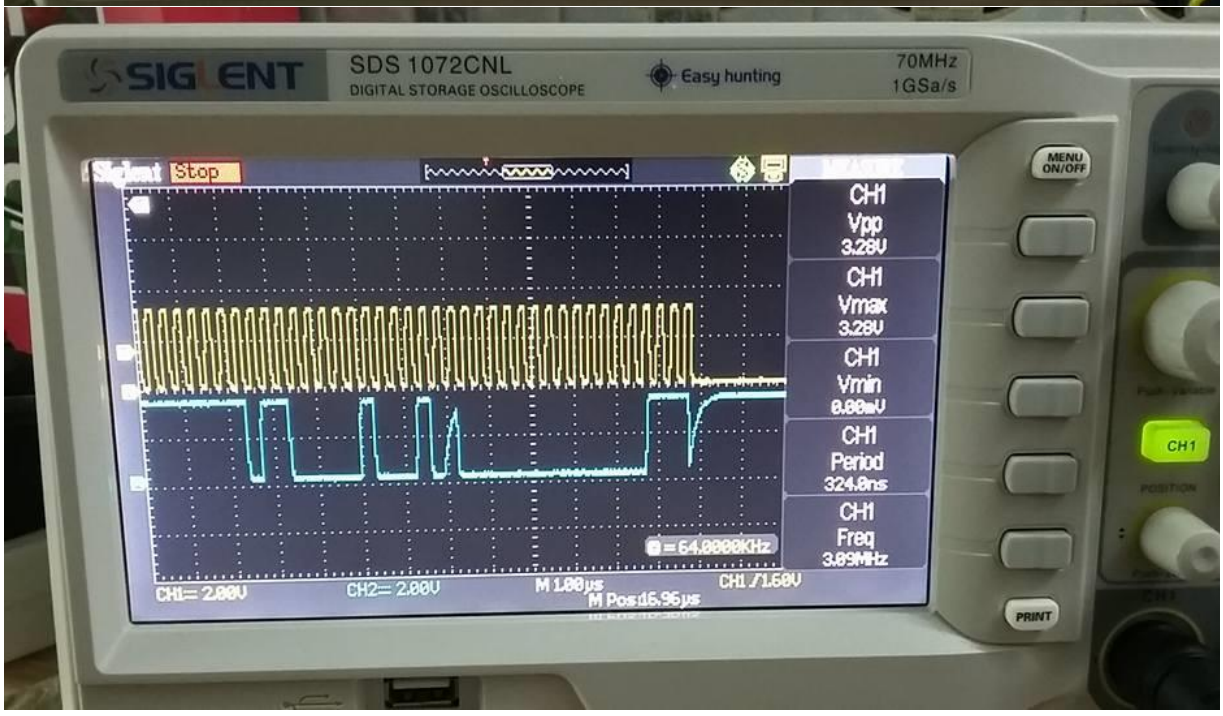
bhcuong2008 commented on Feb 6, 2018

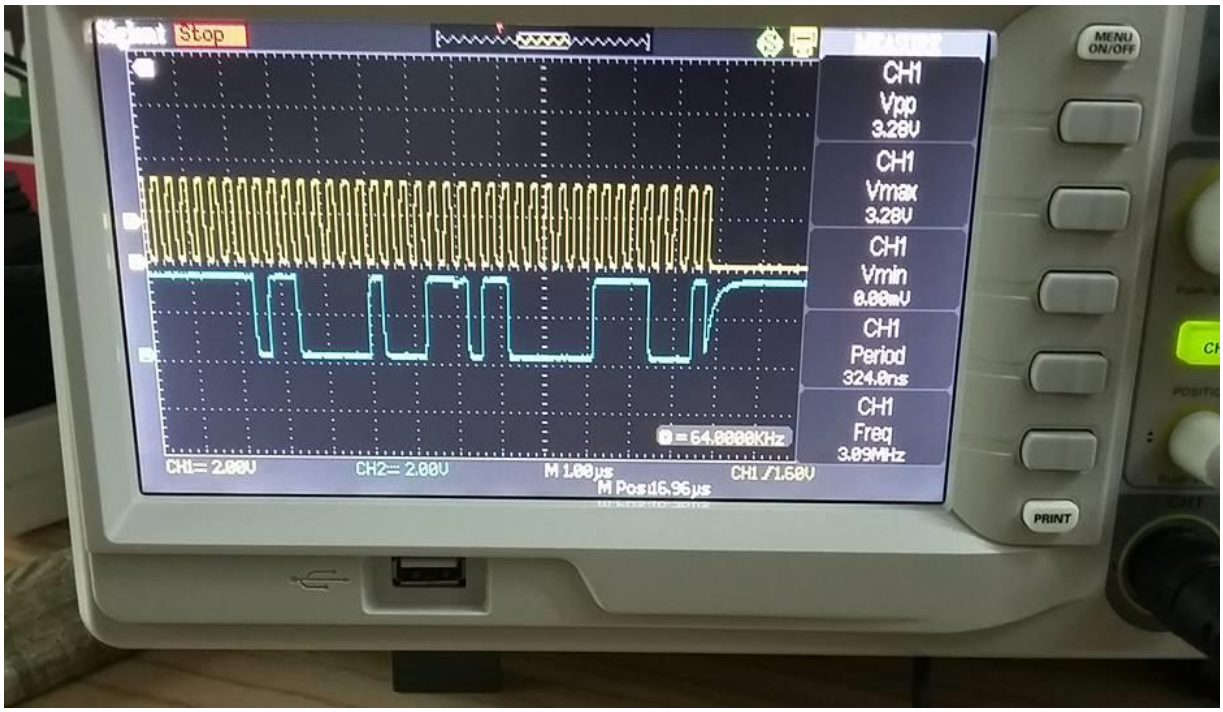
Hi,

I've made a custom LAN with LAN8720A. EMAC running with input 50MHz from PHY. And I also get the same error:
E (800480) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask 0xffff). Current value 0x0000
E (801480) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask 0xfff0). Current value 0x0000

There are clocks on MDC, and MDIO as the attached files. PHY with address 1. There are 2 different pulse kinds. I dont know how to debug next. I think PHY not respond to SMI interface. MDC has clock of 3.06MHz.


SIGLENT
SDS 1072CNL
DIGITAL STORAGE OSCILLOSCOPE
Easy hunting
70MHz
1GSa/s
Stop
MEASURE
CH1
Vpp
3.36V
CH1
Vmax
3.36V
CH1
Vmin
0.00mV
CH1
Period
****
CH1
Freq
****
= 64.0000KHz
CH1= 2.00V
CH2= 2.00V
M 2.50µs
M Pos:16.96µs
CH1 /1.60V
MENU ON/OFF
CH1
POSITION
PRINT


SIGLENT
SDS 1072CNL
DIGITAL STORAGE OSCILLOSCOPE
Easy hunting
70MHz
1GSa/s
Stop
CH1
Vpp
3.28V
CH1
Vmax
3.28V
CH1
Vmin
0.00mV
CH1
Period
324.0ns
CH1
Freq
3.09MHz
= 64.0000KHz
CH1= 2.00V
CH2= 2.00V
M 1.00µs
M Pos:16.96µs
CH1 /1.60V
MENU ON/OFF
CH1
POSITION
PRINT



Pls help me some hints to debug next. Thank u very much.
Cuong.

bhcuong2008 commented on Feb 6, 2018

With image 2, based on SMI read timing, PHY return data for register 0x2 is 0x0007. But esp32 reports error log "Timed out waiting for PHY register 0x2 to have value 0x0007 (mask 0xffff). Current value 0x0000"

Actually data is 0x0007 but I dont know the reason why this error.

bhcuong2008 commented on Feb 6, 2018

I think that it may be MDC clock is high! This makes SMI interface sampling wrong data!

How to reduce to 2.5MHz?

Contributor

sauttefk commented on Feb 6, 2018

Do you have a pullup resistor between 1kΩ and 1.5kΩ on the SMI-MDIO signal?
The signal rises very slowly when no device is driving MDIO.

bhcuong2008 commented on Feb 6, 2018 • edited

In document, page 254, bits MIICSRCLK in reg EMACMIIADDR_REG
https://www.espressif.com/sites/default/files/documentation/esp32_technical_reference_manual_en.pdf

There are only 2 values for settings MDC clock: APB / 42 for clock 80MHz APB or APB/26 for clock 40MHz. But in my case, APB/26 for 80Mhz, so I get ~ 3.07MHz clock on MDC. This violates SMI timing max is 2.5MHz.

So how to debug next?

Yes, I have MDIO 1.5K pull-up.

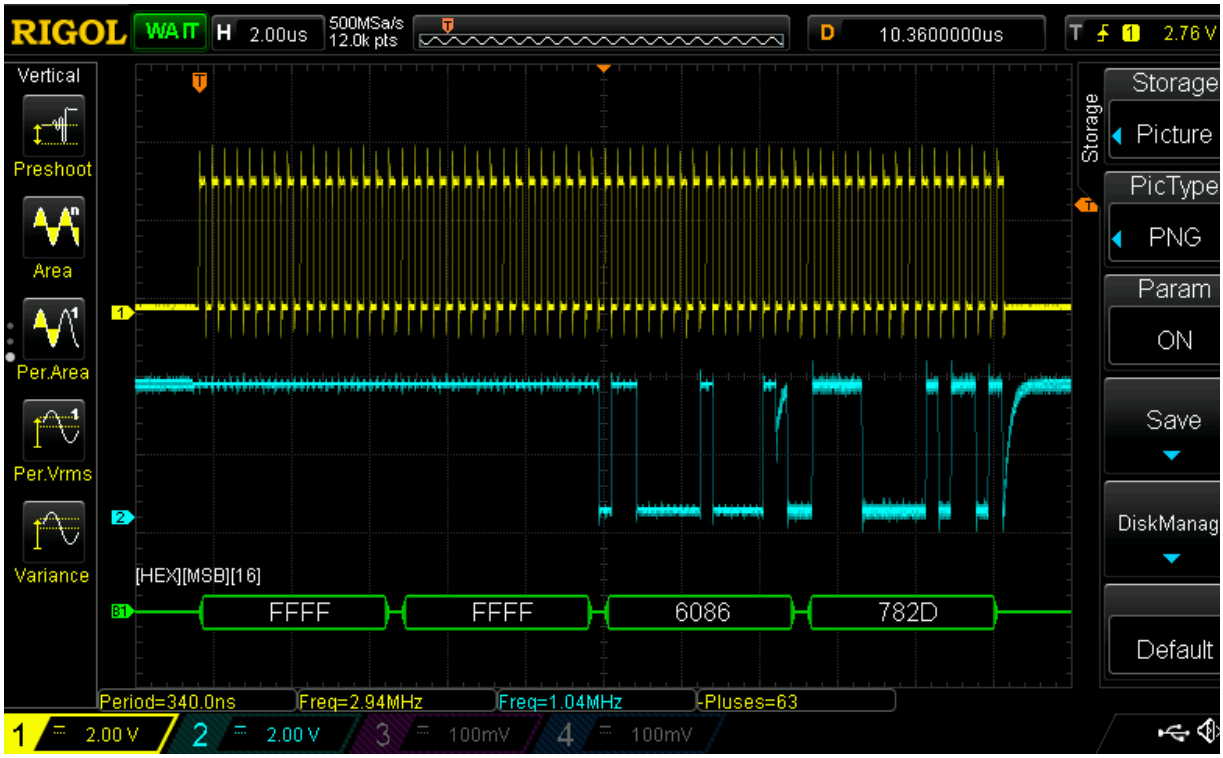
P/s: I'm using module ESP-WROOM-32 revision 1.

Contributor

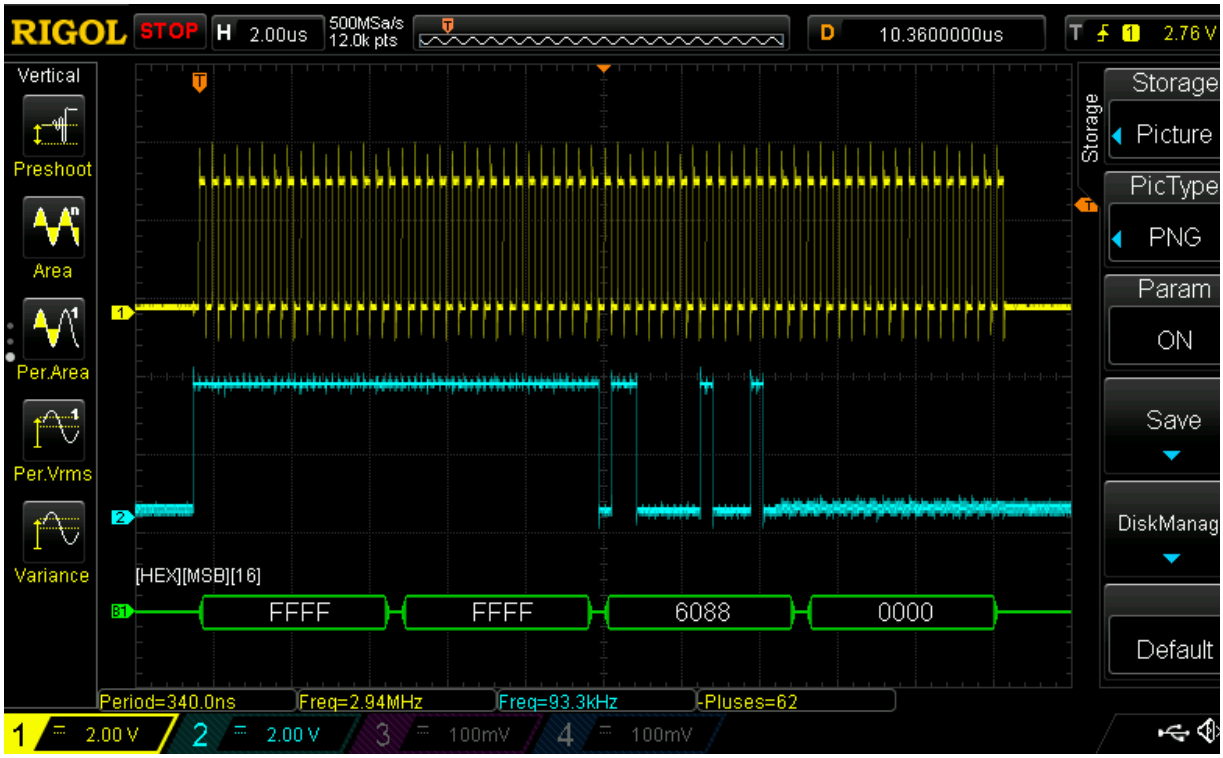
sauttefk commented on Feb 7, 2018

@bhcuong2008 : I did a few measurements on my working demo setup, so you can compare them with your defective setup.

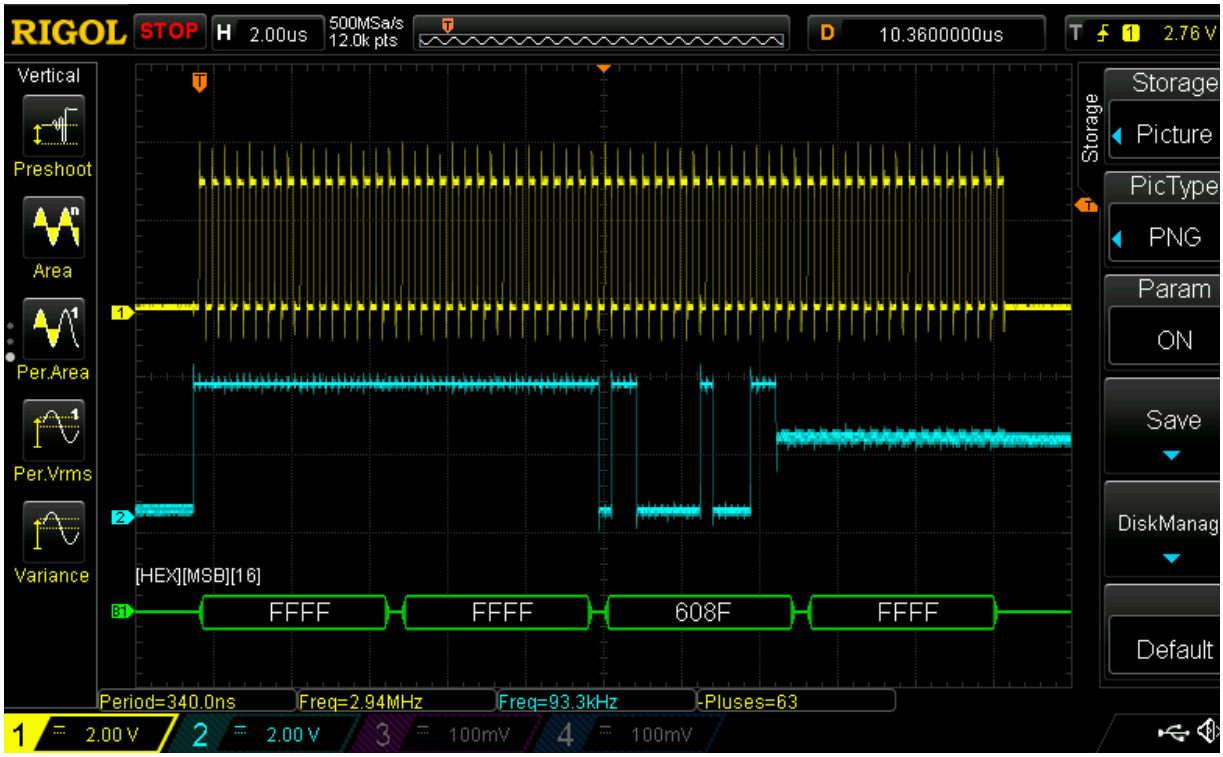
Correct SMI Frame with LAN8720 if a Ethernet link is established



SMI Frame **without** LAN8720



Alternate SMI Frame **without** LAN8720



bhcuong2008 commented on Feb 7, 2018 • edited

Thank sauttefk.

I see my 3rd image similar to ur 1st image, just same same. Is Ur MDC clock 2.94MHz? With my 3rd image, the data is 0xc0f according to read pattern of SMI.

bhcuong2008 commented on Feb 7, 2018

I can change MDC clock in function esp_eth_smi_write, esp_eth_smi_read

Change
REG_WRITE(EMAC_GMACGMIIADDR_REG, 0x1 | ((reg_num & 0x1f) << 6) | ((phy_num & 0x1f) << 11) | (0x3 << 2));

to REG_WRITE(EMAC_GMACGMIIADDR_REG, 0x1 | ((reg_num & 0x1f) << 6) | ((phy_num & 0x1f) << 11) | (0x0 << 2));

Now, MDC clock about 1.9MHz. But new lib is somewhat different with current arduino-esp libs. So error log shows very fast.

Contributor

sauttefk commented on Feb 7, 2018

I think your signal looks OK.

https://en.wikipedia.org/wiki/Management_Data_Input/Output

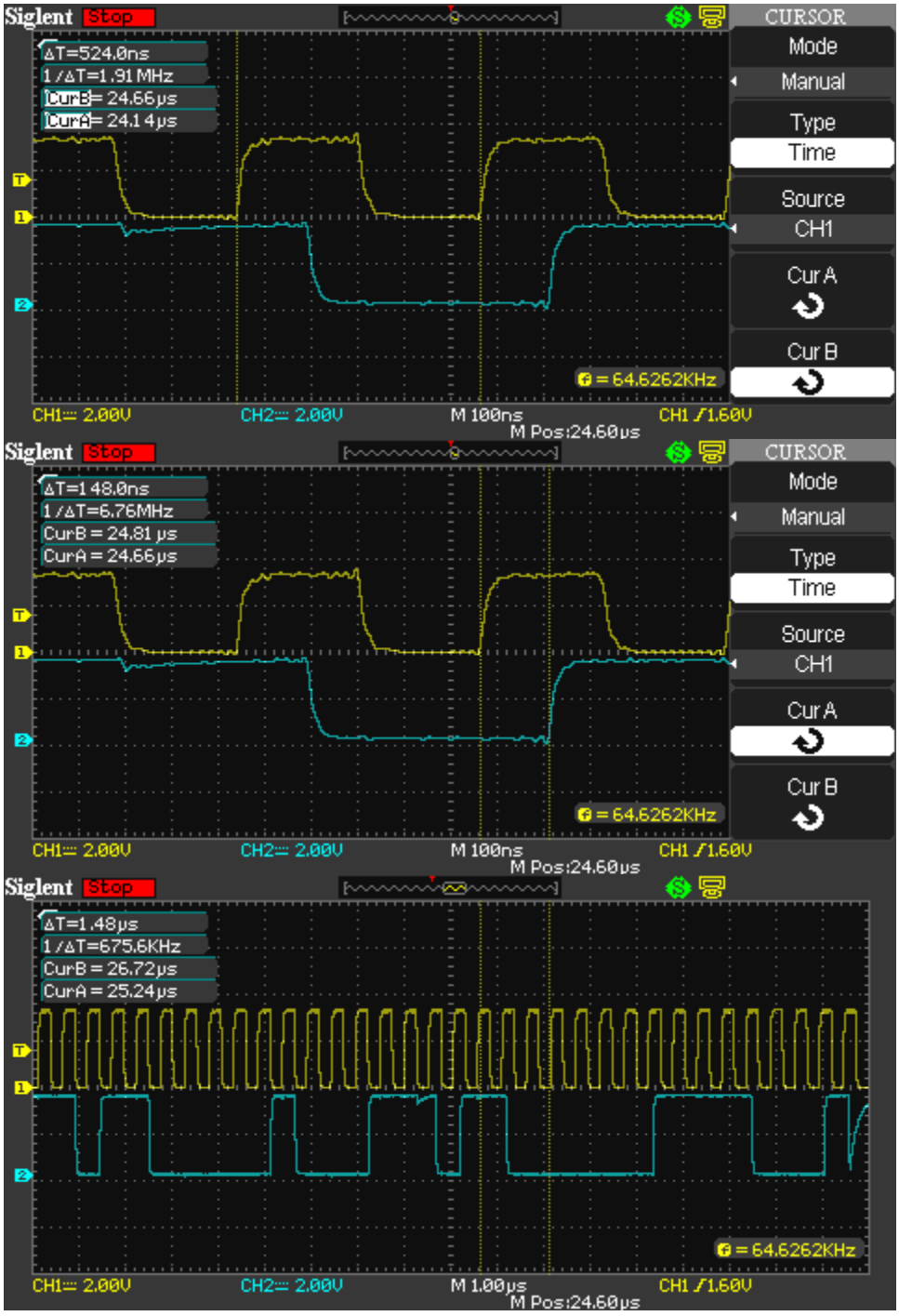
state	name	description
Z	tristate MDIO	floating MDIO signal (pullup)
PRE_32	32-bits of '1'	preamble
ST	2-bits of '01'	start bits
OP	2-bits of Opcode	e.g. read or write
PA5	5-bits of PHY address	32 possible PHYs
RA5	5-bits of register address	32 possible registers
TA	2-bits of turn-around	floating MDIO signal (pullup)
D16	16-bits of data	sent by either SME or PHY, depending on OP
Z	tristate MDIO	floating MDIO signal (pullup)

bhcuong2008 commented on Feb 7, 2018 • edited

This is waveform of reg 0x3 data returned by PHY 8720A. The 1st image is MDC clock ~ 1.9MHz (after I re-compile ethernet lib, then move to arduino-esp ethernet lib).

The 2nd image is response from PHY after read command from EMAC. time is 148ns, it's ok according to SMI specs (0-300ns).

The 3rd image is full read frame and data returned from PHY. The data returned is 0xc0f1 (data at falling-edge of MDC). applying mask 0xfff0, the data esp expected is 0xc0f0. It's completely matched. But why esp still reports errors!



bhcuong2008 commented on Feb 7, 2018

One note is that I set MDC pin 32, MDIO pin 33.

Contributor

sauttefk commented on Feb 7, 2018

Could there be a problem with the IOMUX, so that the internal SMI-module is able to write the MDIO-pin but is unable to read it?

bhcuong2008 commented on Feb 7, 2018

Exactly there is problem on pin 32, 33 as this

https://esp32.com/viewtopic.php?f=12&t=1408&p=6508#p6458

I'm trying to make it work, but still not.

Contributor

sauttefk commented on Feb 7, 2018 • edited

My changes should have fixed your problem: espressif/esp-idf@157371e
Are you sure you are using a recent (v3.1-dev / v3.0-rc1) idf library?
Or is anything changing the IOMUX **after** it was initialised by the ethernet library.

bhcuong2008 commented on Feb 7, 2018

I see no difference vs my esp-idf in func phy_rmii_smi_configure_pins(uint8_t mdc_gpio, uint8_t mdio_gpio):

```
gpio_matrix_out(mdc_gpio, EMAC_MDC_O_IDX, 0, 0);
PIN_FUNC_SELECT(GPIO_PIN_MUX_REG[mdc_gpio], PIN_FUNC_GPIO);
gpio_matrix_out(mdio_gpio, EMAC_MDO_O_IDX, 0, 0);
gpio_matrix_in(mdio_gpio, EMAC_MDI_I_IDX, 0);
PIN_FUNC_SELECT(GPIO_PIN_MUX_REG[mdio_gpio], PIN_FUNC_GPIO);
```

I use ethernet example of arduino-esp32:
https://github.com/espressif/arduino-esp32/tree/master/libraries/WiFi/examples/ETH_LAN8720

The code is just a little. I dont know whether arduino lib has made any changes to IOMUX.

Contributor

sauttefk commented on Feb 7, 2018

Did you define all pins and stuff according to your setup?

```
#define ETH_CLK_MODE    ETH_CLOCK_GPIO0_IN
#define ETH_POWER_PIN   ????
#define ETH_TYPE        ETH_PHY_LAN8720
#define ETH_ADDR        0 or 1 ?
#define ETH_MDC_PIN     32
#define ETH_MDIO_PIN    33
```

bhcuong2008 commented on Feb 7, 2018

Hi Sauttefk,

It's just worked! I modify the code as:
gpio_set_direction(mdio_gpio, GPIO_MODE_INPUT);

```
gpio_matrix_out(mdc_gpio, EMAC_MDC_O_IDX, 0, 0);
PIN_FUNC_SELECT(GPIO_PIN_MUX_REG[mdc_gpio], PIN_FUNC_GPIO);
gpio_matrix_out(mdio_gpio, EMAC_MDO_O_IDX, 0, 0);
gpio_matrix_in(mdio_gpio, EMAC_MDI_I_IDX, 0);
PIN_FUNC_SELECT(GPIO_PIN_MUX_REG[mdio_gpio], PIN_FUNC_GPIO);
```

Note, gpio_set_direction must before gpio_matrix_in(mdio_gpio, EMAC_MDI_I_IDX, 0);

If let it after, it does not work.

Contributor

sauttefk commented on Feb 7, 2018

Great ! This would have been my next suggestion, while I was digging through the docs.

Would you please also try this?
`gpio_set_direction(mdio_gpio, GPIO_MODE_INPUT_OUTPUT)`
Or this?
`gpio_set_direction(mdio_gpio, GPIO_MODE_INPUT_OUTPUT_OD)`

Contributor

sauttefk commented on Feb 7, 2018 • edited

So I think, we should create a pull request...
You or me?

bhcuong2008 commented on Feb 7, 2018

You should do it :) I feel very happy for my 1st design with LAN.

bhcuong2008 commented on Feb 7, 2018

There are some updates that I face this issue.

1. The 1st is errata in english document as above (vs Chinese version) (page 254, bits MIICSRCLK in reg EMACMIIADDR_REG)

2. MDC clock should be less than 2.5MHz, not 3.09MHz.

3. IO for MDIO/MDC.

Thank u very much for ur guide.

bhcuong2008 commented on Feb 7, 2018

I already tried this:
gpio_set_direction(mdio_gpio, GPIO_MODE_INPUT_OUTPUT_OD)

right after:
gpio_matrix_in(mdio_gpio, EMAC_MDI_I_IDX, 0);

But not success. At that time, MDIO pin always zero. Not output data to PHY.

danielcampillo commented on Feb 8, 2018

Hi, in the example shown above, I changed
config.phy_addr = CONFIG_PHY_ADDRESS;
to
config.phy_addr = 0;

It has something to do with a I2c address which has the value of 1.

It works now

Saludos desde Envigado/Colombia

👍1

Contributor

sauttefk commented on Feb 8, 2018

@danielcampillo : you can change PHY-address in the setup using `make menuconfig --->`
Example Configuration ---> PHY Address (0-31)
This is not I²C but SMI (Serial Management Interface)

Contributor

sauttefk commented on Feb 8, 2018

I modified phy_common.c so that it configures the SMI pins correctly

```
void phy_rmii_smi_configure_pins(uint8_t mdc_gpio, uint8_t mdio_gpio)
{
    // setup SMI MDC pin
    gpio_set_direction(mdc_gpio, GPIO_MODE_OUTPUT);
    gpio_matrix_out(mdc_gpio, EMAC_MDC_O_IDX, 0, 0);
    PIN_FUNC_SELECT(GPIO_PIN_MUX_REG[mdc_gpio], PIN_FUNC_GPIO);
    // setup SMI MDIO pin
    gpio_set_direction(mdio_gpio, GPIO_MODE_INPUT_OUTPUT);
    gpio_matrix_out(mdio_gpio, EMAC_MDO_O_IDX, 0, 0);
    gpio_matrix_in(mdio_gpio, EMAC_MDI_I_IDX, 0);
    PIN_FUNC_SELECT(GPIO_PIN_MUX_REG[mdio_gpio], PIN_FUNC_GPIO);
}
```

Pull request follows soon...

 sauttefk mentioned this issue on Feb 8, 2018
Set direction of SMI pins MDC and MDIO correctly. espressif/esp-idf#1594
Closed

bhcuong2008 commented on Feb 8, 2018 •

edited

Hi sauttefk,

Do we need to check whether it is normal pin or special pin (32-33). Because only pin 32-33 has this issue. Also, it should be GPIO_MODE_INPUT_OUTPUT_OD (if used instead of GPIO_MODE_INPUT) to avoid conflict.

I give some test cases that I did as reference later.

1. If let

gpio_set_direction(mdio_gpio, GPIO_MODE_INPUT);

after

gpio_matrix_out(mdio_gpio, EMAC_MDO_O_IDX, 0, 0);
gpio_matrix_in(mdio_gpio, EMAC_MDI_I_IDX, 0);

Then pin MDIO becomes input forever, not output data to PHY. Value returned always 0xffff

2. If let

gpio_set_direction(mdio_gpio, GPIO_MODE_INPUT_OUTPUT_OD);

after

gpio_matrix_out(mdio_gpio, EMAC_MDO_O_IDX, 0, 0);
gpio_matrix_in(mdio_gpio, EMAC_MDI_I_IDX, 0);

Then MDIO becomes ouput low forever, not output data to PHY. Value always 0x0000

Contributor

sauttefk commented on Feb 8, 2018

Do we need to check whether it is normal pin or special pin (32-33). Because only pin 32-33 has this issue.

No, we should initialise any given GPIO correctly and should not rely on the bootloader or hardware init values.

Also, it should be GPIO_MODE_INPUT_OUTPUT_OD (if used instead of GPIO_MODE_INPUT) to avoid conflict.

No, defenitely not. During the output phaseof the master, the pin has to be in a push/pull configuration (I've checked this on the scope - using OpenDrain gives you much to slow slew rates when to signal return to high)

I give some test cases that I did as reference later.

Yes that were also my findings. I had similar issues when I was creating my APLL patch for the EMAC-CLK

bhcuong2008 commented on Feb 8, 2018

About GPIO_MODE_INPUT_OUTPUT_OD, we should confirm to specs. And let users choose suitable rise time, help EMI better. If high rise time, it means that more EMI problems.

About conflict, I means that in some cases (dont know in advance), ESP drives it high, and PHY drives it low. There will be high current flows through this path. And one of them will be damaged. And maybe ESP MDIO pin may be damaged 1st due to low sink/source current, 6mA.

So pls be serious about this.

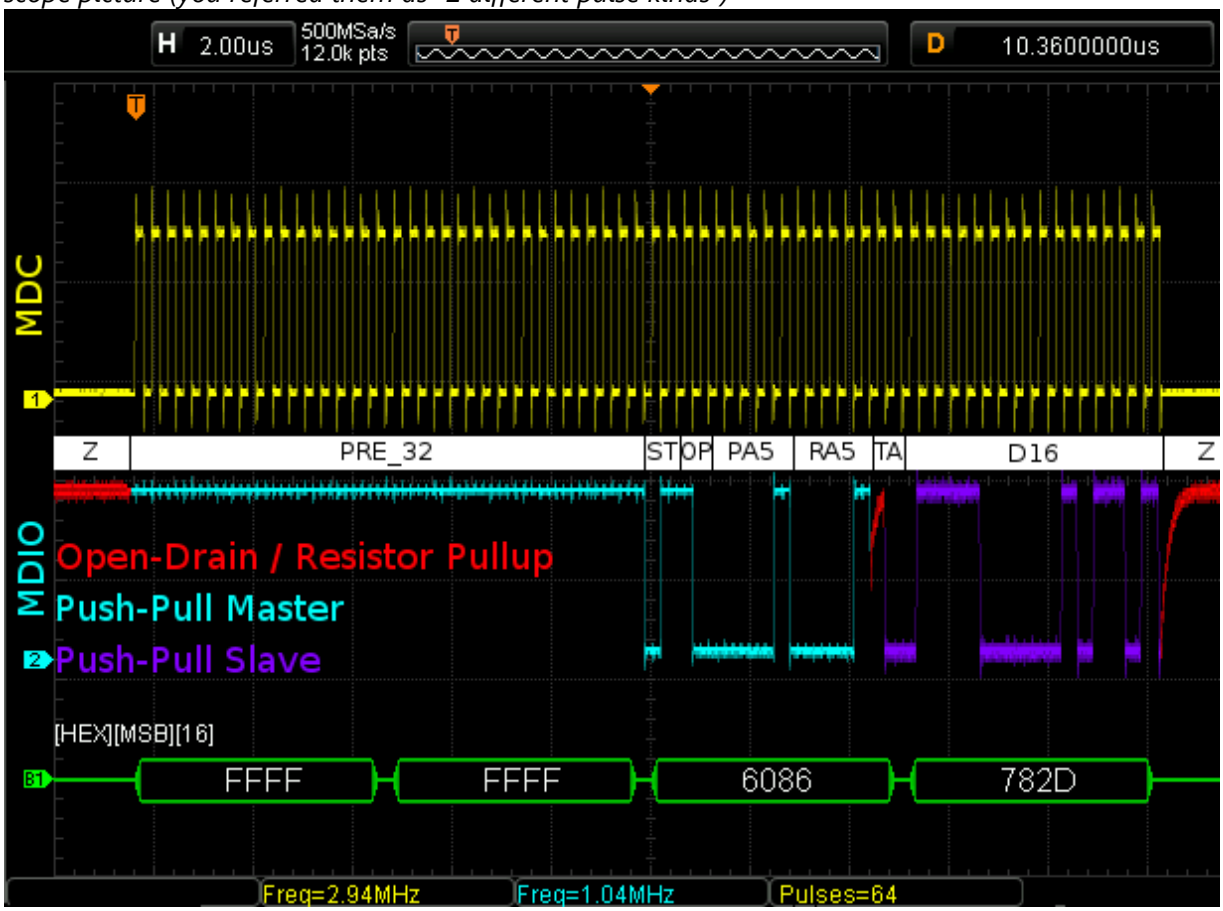
Contributor

sauttefk commented on Feb 8, 2018

About GPIO_MODE_INPUT_OUTPUT_OD, we should confirm to specs.

We do! The MDIO state machine does its job correctly when set to `GPIO_MODE_INPUT_OUTPUT` (and **not** when set to `GPIO_MODE_INPUT_OUTPUT_OD`).
MDIO is floating before a transfer, is driven high during the preamble, push-pulled in the command and write phase, and floating from the beginning of the TA (turnaround)-phase during a read.

You can see those different rising edges (push/pull [cyan&purple] and open-drain [red]) on this scope picture (you referred them as "2 different pulse kinds")



bhcuong2008 commented on Feb 8, 2018

I understood that inside ESP32 will handle when input, output. I mean specs is SMI specs. MDIO is bi-directional, and multi-drop (multi-PHY), like I2C. Everything is not perfect 100%. This practice will help protect our circuit in long-term.

With my setup, 1.5K pull-up as my above images, rise time is about less than 50ns. This is ok. If u try to reach 1ns rise time, circuit still functions properly. But may lead to EMI issues. Why we want to do so?

So It depends on u to choose suitable approachs.

Contributor

sauttefk commented on Feb 8, 2018

I think you don't have to worry about EMI on MDIO when there is MDC with 3MHz push/pulled by the master.
Also the negative edge still has the same fast slew rate.

bhcuong2008 commented on Feb 8, 2018

To falling-edge, it still has about < 50ns, in my images. You can scope ur waveform larger.

EMI related mainly to rise/falling time, not by frequency.

zekageri commented on Sep 3, 2018

Hello guys!
I have a problem with esp-Wroom-32 with ETH_Lan8720 board. I'am using an arduino example code from here :

https://github.com/espressif/arduino-esp32/blob/master/libraries/WiFi/examples/ETH_LAN8720/ETH_LAN8720.ino

I did the wireing like this:

GPIO17 - PHY_POWER : NC - Osc. Enable - 4k7 Pulldown
GPIO22 - EMAC_TXD1 : TX1
GPIO19 - EMAC_TXD0 : TX0
GPIO21 - EMAC_TX_EN : TX_EN
GPIO26 - EMAC_RXD1 : RX1
GPIO25 - EMAC_RXD0 : RX0
GPIO27 - EMAC_RX_DV : CRS
GPIO00 - EMAC_TX_CLK : nINT/REFCLK (50MHz) - 4k7 Pullup
GPIO23 - SMI_MDC : MDC
GPIO18 - SMI_MDIO : MDIO
GND : GND
3V3 : VCC

from the site :
https://sautter.com/blog/ethernet-on-esp32-using-lan8720/

I soldered the NC PIN on the lan8720 board to the enable pin of the oscillator. I added pull down resistor to nc pin and pull up to gpio00.

LAN 8720 board : https://fr.aliexpress.com/item/Smart-Electronics-LAN8720-module-network-module-Ethernet-transceiver-RMII-interface-development-board-for-arduino/32825173408.html?spm=a2g0s.9042311.0.0.40696c370I7nRH

ESP32: https://fr.aliexpress.com/item/ESP-WROOM-32-WiFi-Bluetooth-4-2-dual-core-CPU-MCU-low-power-Bluetooth-240MHZ-ESP32/32829367382.html?spm=a2g0s.9042311.0.0.15636c37H4la82

I get the following errors:

```
rst:0x1 (POWERON_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)
configsip: 0, SPIWP:0xee
clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
mode:DIO, clock div:1
load:0x3fff0018,len:4
load:0x3fff001c,len:952
load:0x40078000,len:6084
load:0x40080000,len:7936
entry 0x40080310
E (2256) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask 0xffff). Current value 0x0000
E (3256) emac: Timed out waiting for PHY register 0x3 to have value 0xc0f0 (mask 0xfff0). Current value 0x0000
E (4256) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask 0xffff). Current value 0x0000
```

I dont know what to do , can anyone help me?

X-WL commented on Nov 17, 2018

Hello guys!
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E (4256) emac: Timed out waiting for PHY register 0x2 to have value 0x0007 (mask 0xffff). Current value 0x0000
```

I dont know what to do , can anyone help me?

Hi I use MH-ET Live board. I have the same problem. What is the solution? I am using the latest version of the library in the PlatformIO.