

Programming The Longfin PMS (Power Management System)

The following are instructions on how to Program/Edit the Longfin **REV_A** PWMIC using the PM Bus:

Please note that the Longfin PCB is populated as such to put the UCD in 'RESET' via a 10k pulldown res (R119)

Reset will need to be pulled high by populating a 1k resistor at R115 or provide external PU. Boards shipped from Rage likely have the resistor installed
See the lot traveler

Hardware , PWMIC : Texas Instruments UCD9090 (U14)

Software : TI Fusion Designer **7.1.1**

Interface(s) :

1. UCD9090 EVKIT *TI P/N* : **UCD90SEQ48EVM-560**

... or

2. USB > GPIO/pmbus Adapter *TI P/N* : **USB-TO-GPIO**

If new, the FW will need to be updated. Follow the TI instructions to update.

Configuration / Setup for using Evkit as Pmbus to Longfin

1. Remove IC from socket on EVB
2. Connect pmbus between EVB and Longfin using the connection table below.

EVKIT		Longfin(RevA)	
Pin	Name	Pin	Name
J20.7	PMBUS_CLK	J3.7	PMB_CLK
J20.8	PMBUS_DATA	J3.8	PMB_DATA
	GND		GND

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HW options supplied by TI for programming UCD9090 via PMbus

TI EvKit : UCD90SEQ48EVM-560



TI USB-TO-GPIO

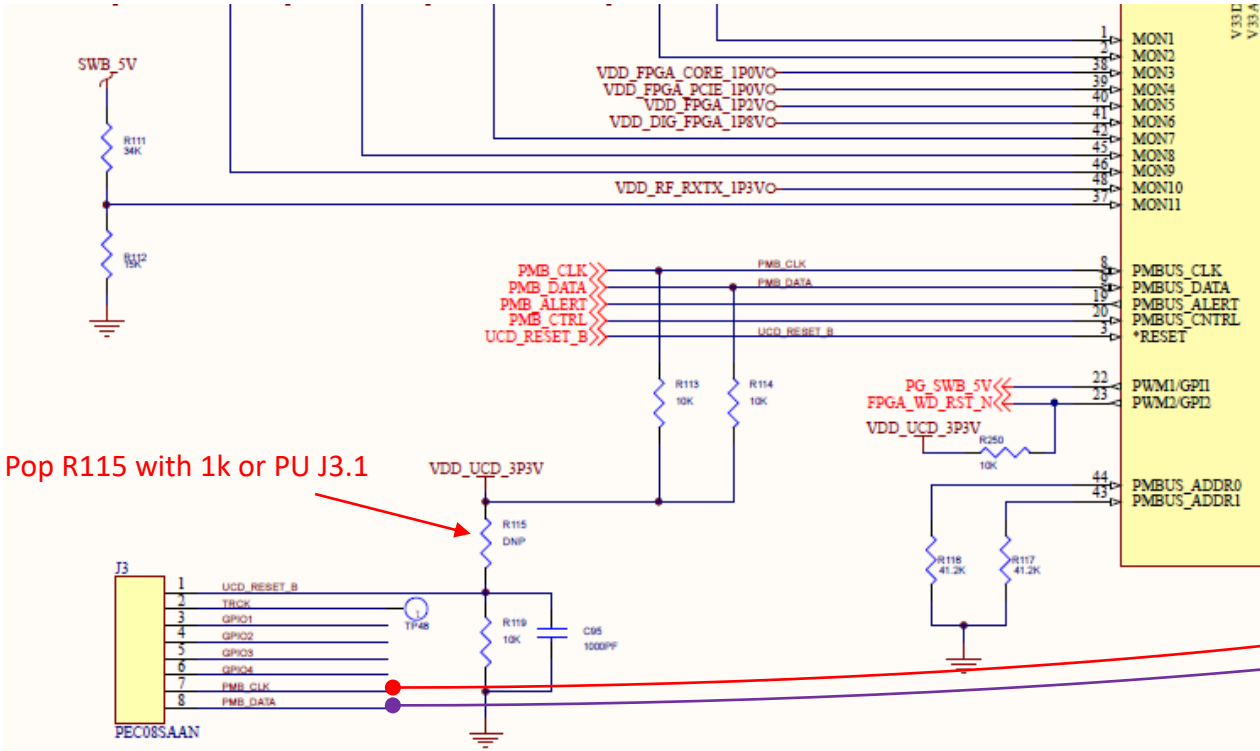


10-Pin Ribbon Cable

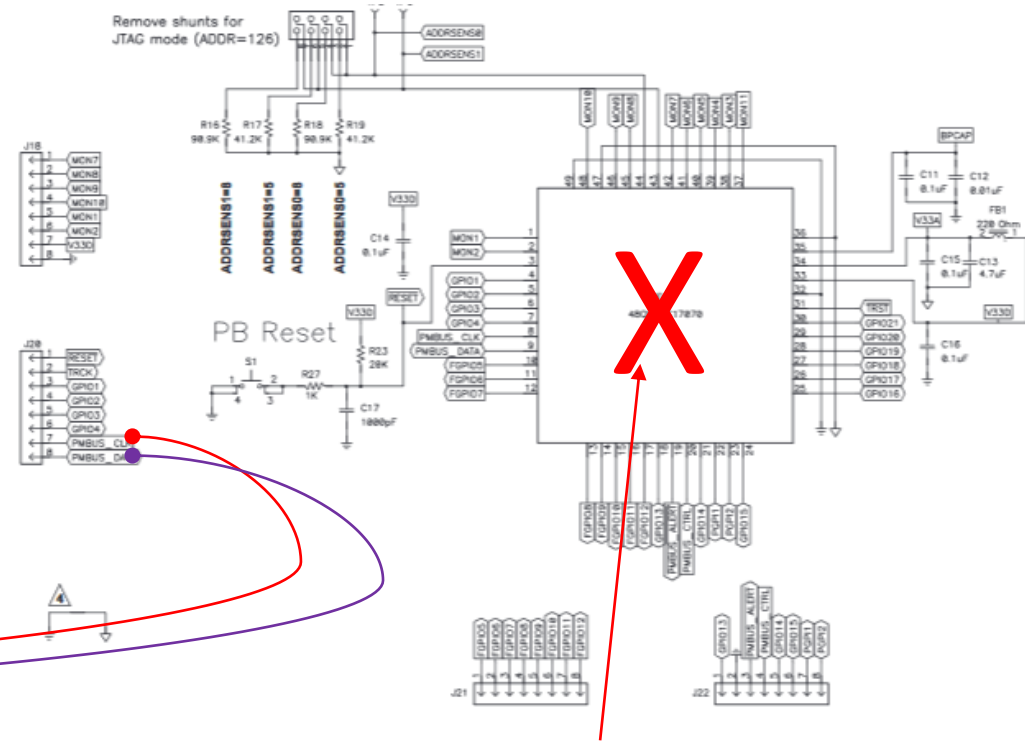
Programming The Longfin PMS (Power Management System)

Longfin Schematic SCH_NIT8MM_RAGE_CAR_REV00A_P8_20191113.pdf

TI EVKIT Schematic



Pop R115 with 1k or PU J3.1



Remove from socket

Connect available GND from board to board

Connection Diagram : Longfin REVA to TI UCD9090 EvKit

Programming The Longfin PMS (Power Management System)

Configuration / Setup for using USB-GPIO as Pmbus to Longfin

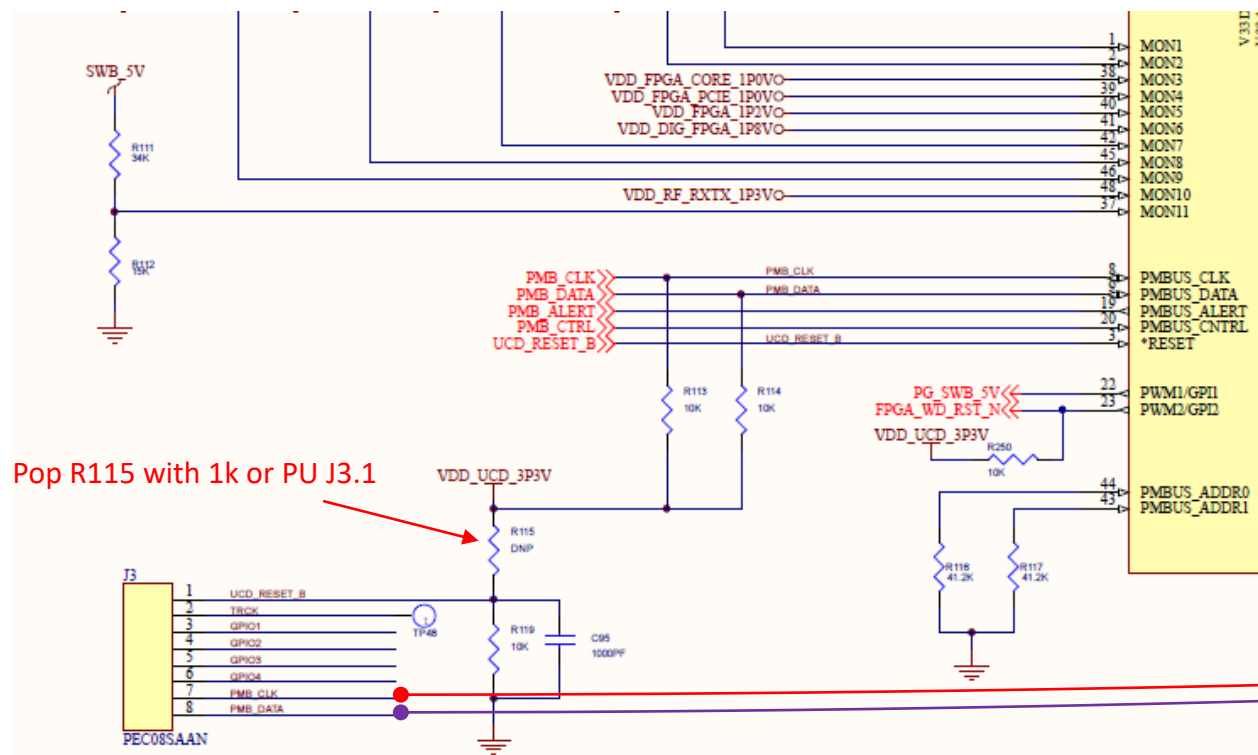
1. Remove IC from socket on EVB
2. Connect pmbus between EVB and Longfin using the connection table below.

USB-TO-GPIO		Longfin(RevA)	
Pin	Name	Pin	Name
J2.9	PMBC/SMBC/SCL/GPIO1	J3.7	PMB_CLK
J2.10	PMBD/SMBD/SDA/GPIO0	J3.8	PMB_DATA
	GND		GND

Programming The Longfin PMS (Power Management System)

Longfin Schematic

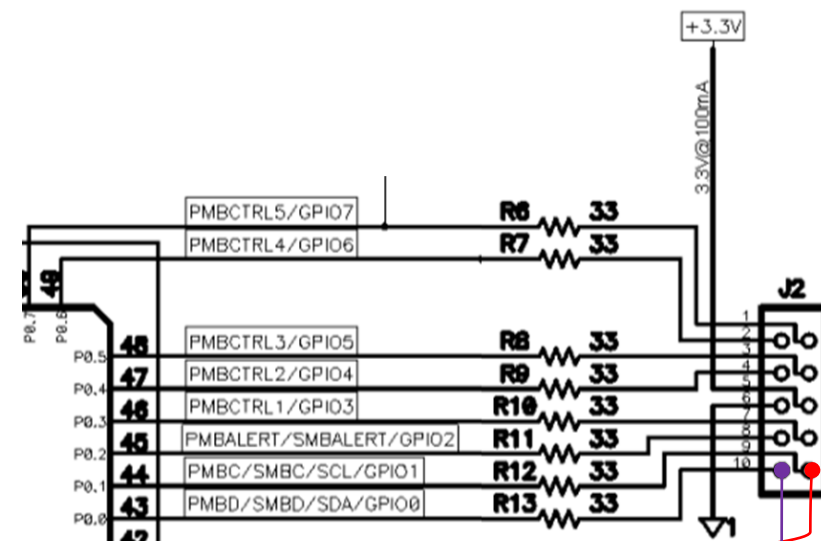
TI USB-TO-GPIO Schematic



Pop R115 with 1k or PU J3.1

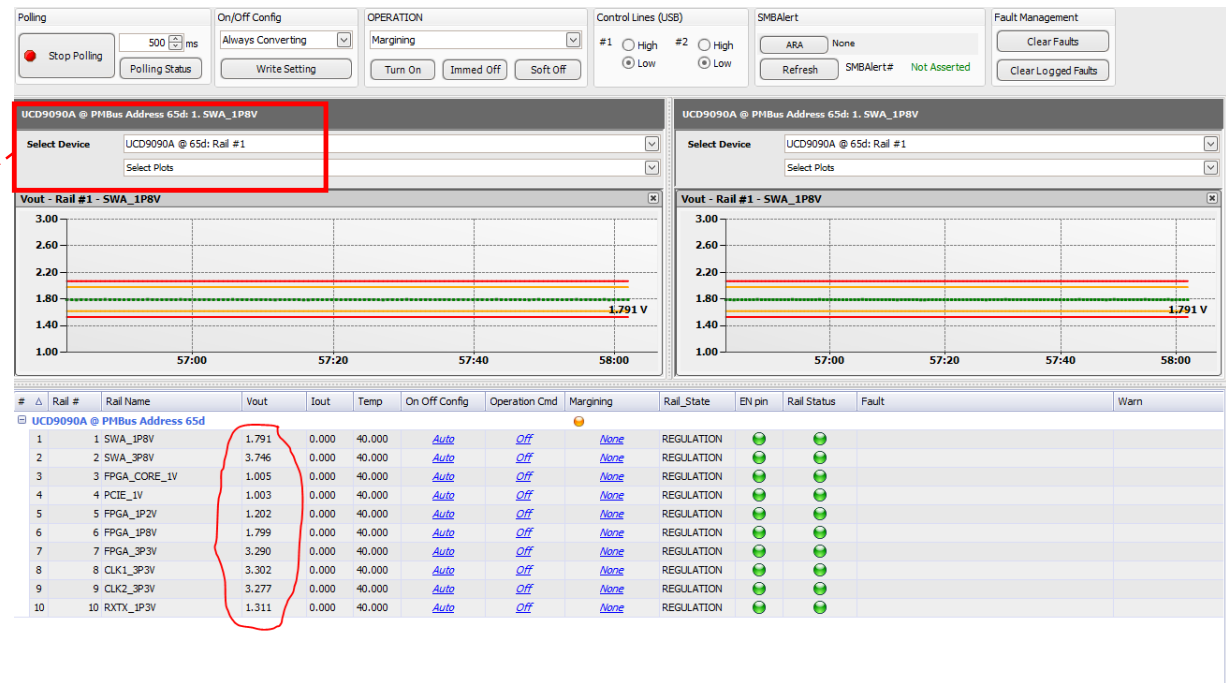
Connect available GND from board to board

Connection Diagram : Longfin REVA to TI **USB-TO-GPIO**



Programming The Longfin PMS (Power Management System)

- Once the Hardware is connected, launch the Fusion Power Designer
 - The USB should automatically scan for devices at addresses
- Address 65D should be detected and the SW will load the devices current config onto the SW
- Use the TI Fusion designer tool to modify and burn image into the UCD9090



Fusion Power Designer ' Monitor ' screen