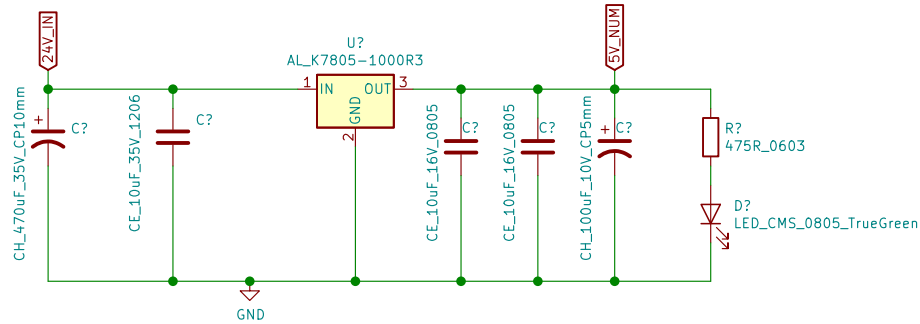
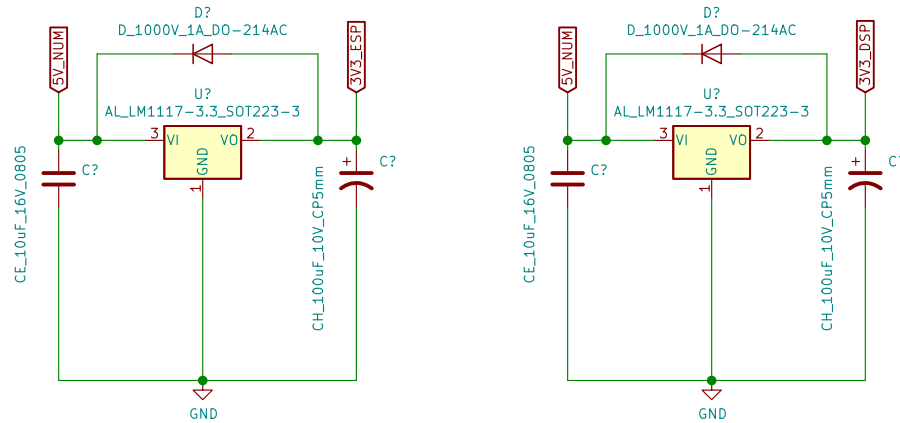


	1	2	3	4	5	6																								
A	<div>Sheet: PDSP-I4-08-PSU</div> <div>File: PDSP-I4-08-PSU.sch</div>	<div>Sheet: PDSP-I4-08-PREAMP-IN</div> <div>File: PDSP-I4-08-PREAMP-IN.sch</div>	<div>Sheet: PDSP-I4-08-PREAMP-OUT</div> <div>File: PDSP-I4-08-PREAMP-OUT.sch</div>																											
B	<div>Sheet: PDSP-I4-08-ESP32</div> <div>File: PDSP-I4-08-ESP32.sch</div>	<div>Sheet: PDSP-I4-08-DSP</div> <div>File: PDSP-I4-08-DSP.sch</div>	<div>Sheet: PDSP-I4-08-CONNECTOR_UI_CONFIG</div> <div>File: PDSP-I4-08-CONNECTOR_UI_CONFIG.sch</div>																											
C																														
D						<div></div> <table><tr><td colspan="2">Feuille: /</td><td colspan="2">Auteur: Pierre Dandine</td></tr><tr><td colspan="2">Fichier: PDSP-I4-08.sch</td><td colspan="2">Approbation:</td></tr><tr><td colspan="4">Projet: PDSP-I4-08</td></tr><tr><td colspan="2">Création: 2021-08</td><td colspan="2">Modifié: 2021-09-29</td></tr><tr><td colspan="2">KiCad E.D.A. kicad (5.1.10)-1</td><td colspan="2">Version: Pour revue</td></tr><tr><td colspan="2"></td><td colspan="2">Page: 1/7</td></tr></table>	Feuille: /		Auteur: Pierre Dandine		Fichier: PDSP-I4-08.sch		Approbation:		Projet: PDSP-I4-08				Création: 2021-08		Modifié: 2021-09-29		KiCad E.D.A. kicad (5.1.10)-1		Version: Pour revue				Page: 1/7	
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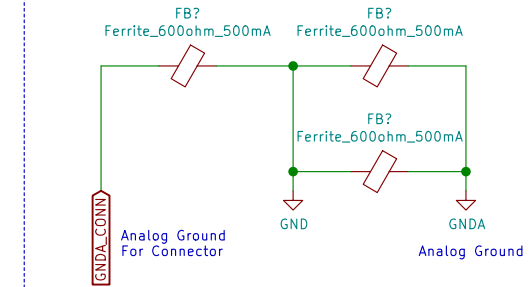
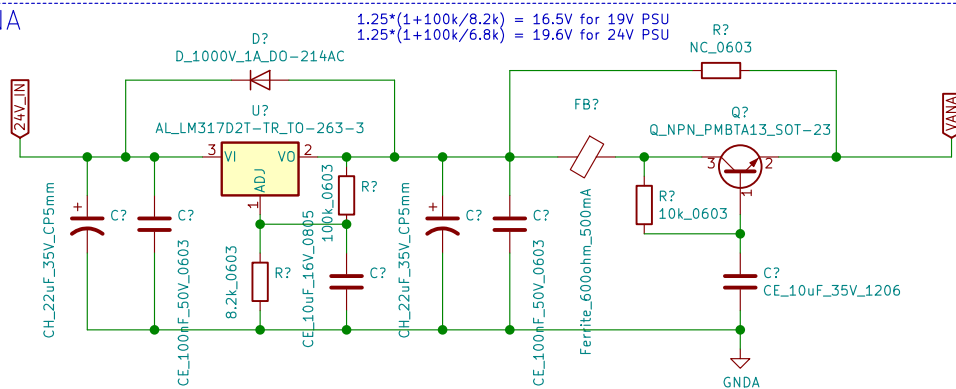
From 24V num to 5V num



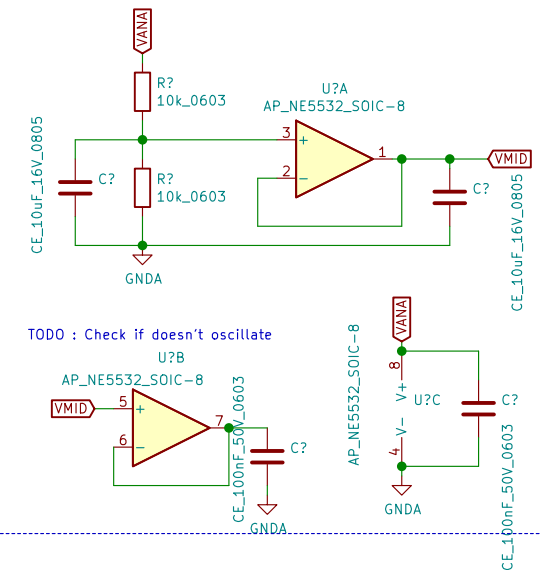
From 5V Num to 3.3V DSP & ESP32

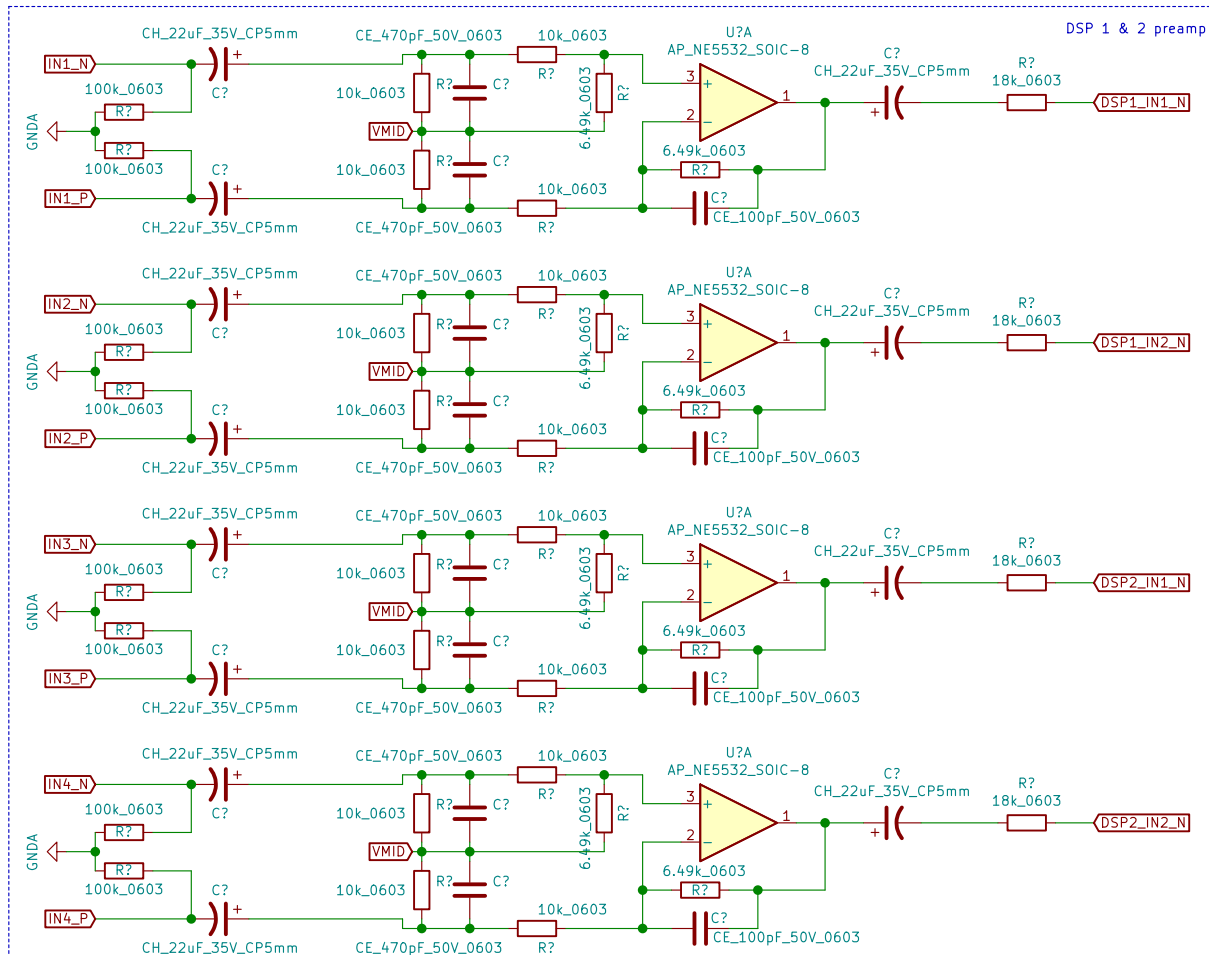


VANA

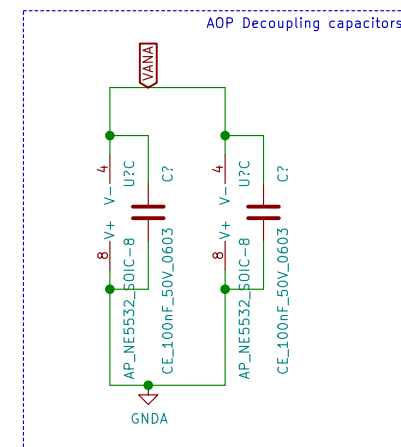


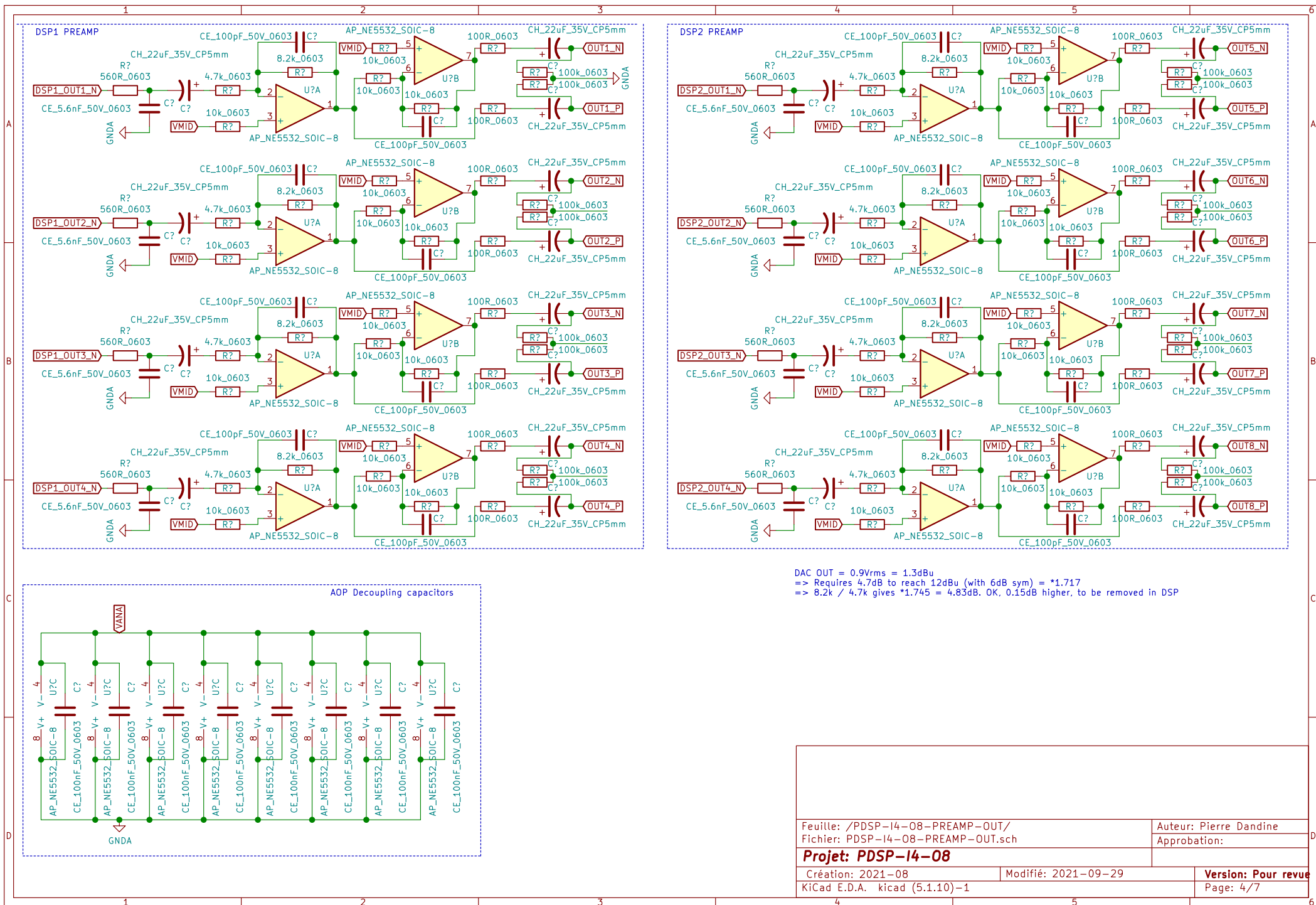
VMID Ana Generator



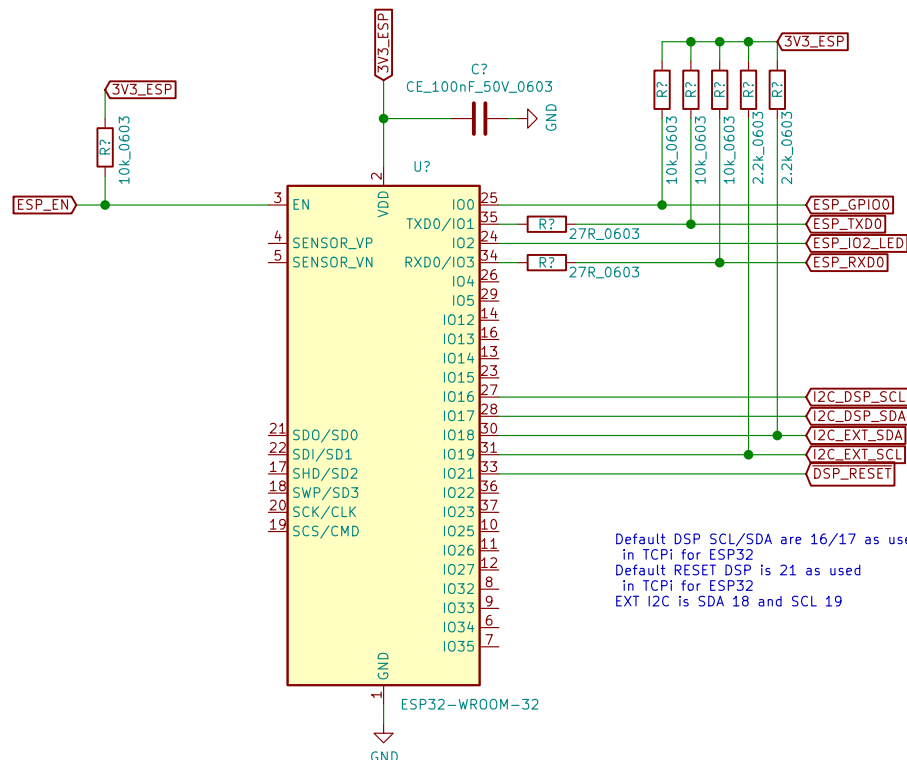
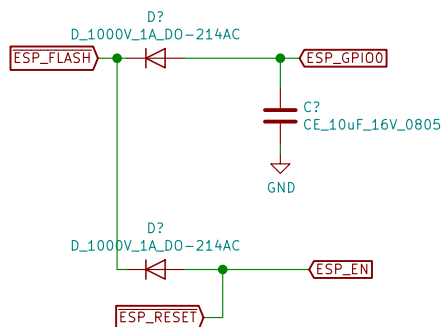


2VRMS IN with 18k ($(18+2)/100\mu A = 2V_{rms}$)
Need 3.08V input for 2V, so $\times 1.54$
 $\Rightarrow 10k/6.49k = 1.54$, perfect



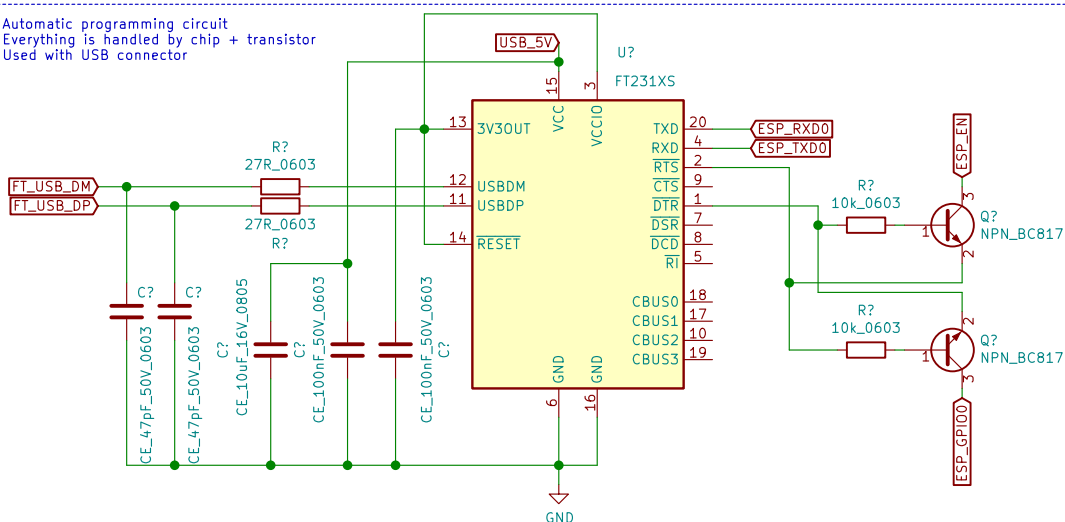


Manual Programming circuit
 - When set ESP_FLASH to 0, then release,
 it will release EN before GPIO0 so the
 ESP will boot in programming mode
 - When set ESP_RESET to 0, then release,
 it will release EN only so GPIO0 is 1
 and the ESP will boot normally
 Used with UART connector



Default DSP SCL/SDA are 16/17 as used
 in TCPi for ESP32
 Default RESET DSP is 21 as used
 in TCPi for ESP32
 EXT I2C is SDA 18 and SCL 19

Automatic programming circuit
 Everything is handled by chip + transistor
 Used with USB connector



Feuille: /PDSP-I4-08-ESP32/
 Fichier: PDSP-I4-08-ESP32.sch

Auteur: Pierre Dandine

Approbation:

Projet: PDSP-I4-08

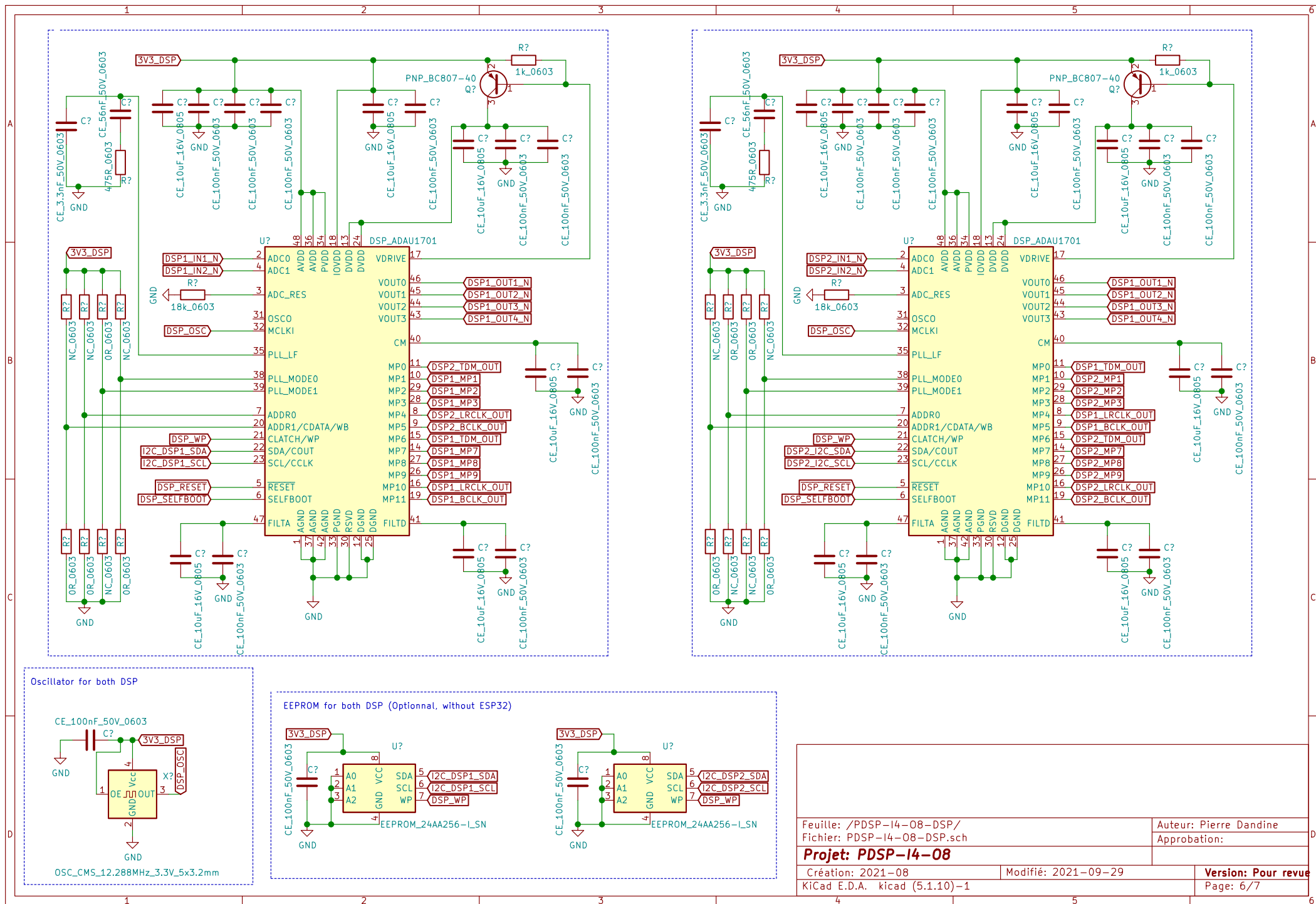
Création: 2021-08

Modifié: 2021-09-29

Version: Pour revue

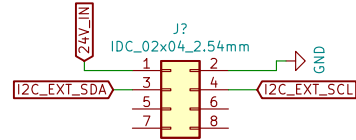
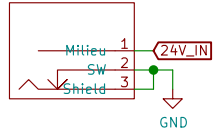
KiCad E.D.A. kicad (5.1.10)-1

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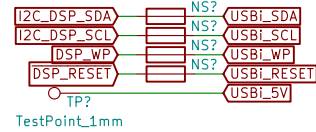


PSU IN
Can be removed for direct wier soldering:

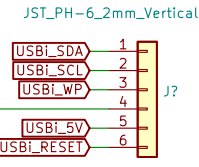
J?
Embase_DC_5.5x2.1-2.5mm_TR_CD



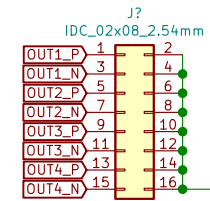
Extension connector for front I/O
For now, just another i2c and 24V
4 extra pins for future use
Ext board requires own PSU, but 24V reduce current on wire and the load on 5V DC-DC (can be high because LEDs and display)



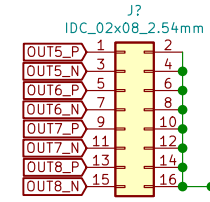
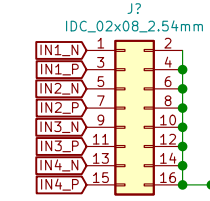
USBi connection using clone WONDOM DB-DP11219 pinout



AUDIO EXT CONN



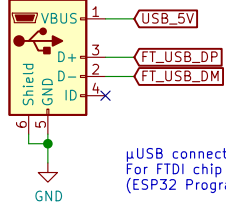
IN polarity
is inverted to
have same XLR
interface board
in mirror



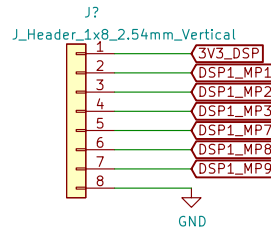
GNDA_CONN

Specific GND to avoid noise

J?
USB_B_Micro_Vertical_LTR_614105150721

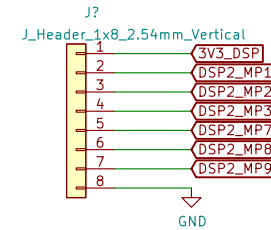
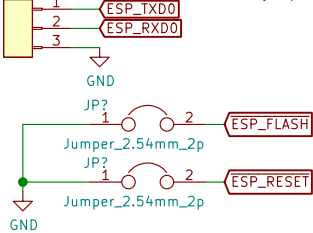


μUSB connector
For FTDI chip
(ESP32 Programming)

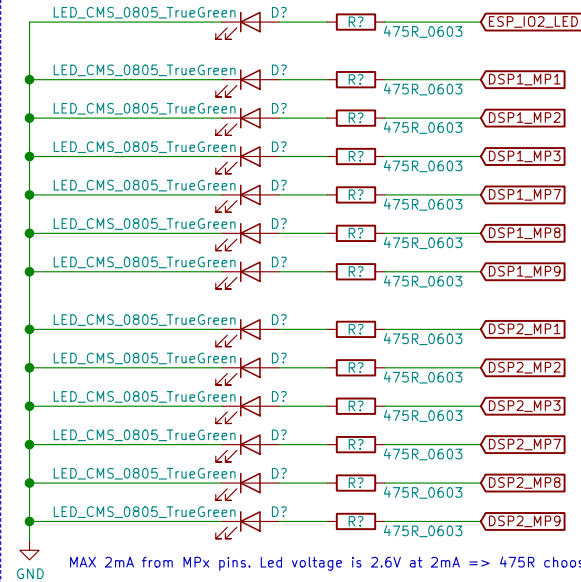


J?
J_Header_1x3_2.54mm_Vertical

Header for UART
ESP32 programming
When no FTDI chip
Use 2x jumper to flash



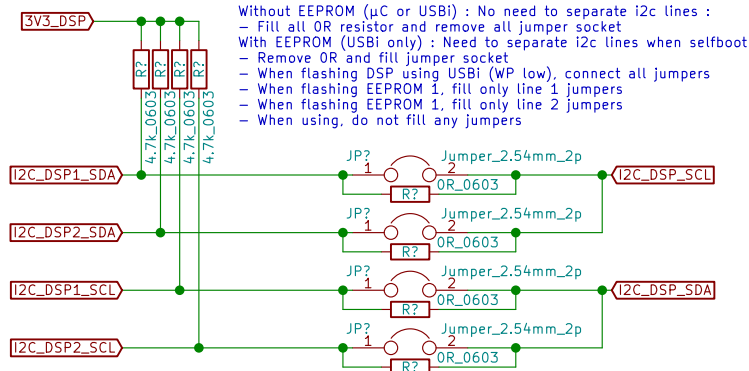
Header for MP pins (Optional)
To be used if required external LED, IO, POT etc...
(Remove internal LED then)



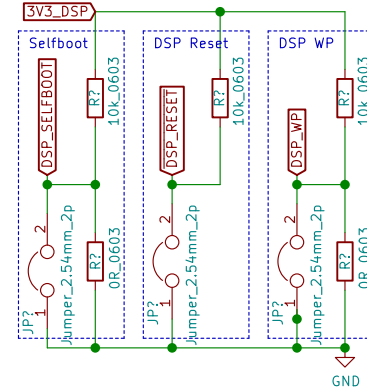
LEDs (Optional)

MAX 2mA from MPx pins. Led voltage is 2.6V at 2mA => 475R choosen

Pull-Up supposed to be 2.2k, but sometimes 2 in //, sometimes not



Without EEPROM (μC or USBi) : No need to separate i2c lines :
- Fill all OR resistor and remove all jumper socket
With EEPROM (USBi only) : Need to separate i2c lines when selfboot
- Remove OR and fill jumper socket
- When flashing DSP using USBi (WP low), connect all jumpers
- When flashing EEPROM 1, fill only line 1 jumpers
- When flashing EEPROM 1, fill only line 2 jumpers
- When using, do not fill any jumpers



If selfboot with EEPROM :
- On WP, connect 10k pull-up, and jumper down (used to flash DSP & EEPROM)
- On SELFBOOT, connect 10k pull-up (no jumper required)
If μC control :
- Connect OR down on WP and SELFBOOT (no jumper required)
Note :
- WP of both DSP are connected together to have only one jumper
- On RESET, connect jumper down and 10k pull-up to be able to reset both DSP

Feuille: /PDSP-I4-08-CONNECTOR_UI_CONFIG/
Fichier: PDSP-I4-08-CONNECTOR_UI_CONFIG.sch

Auteur: Pierre Dandine
Approbation:

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Création: 2021-08

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Version: Pour revue

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