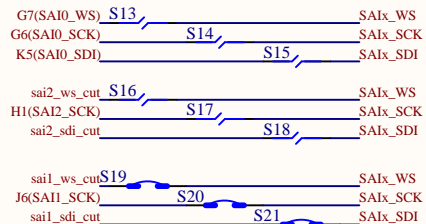
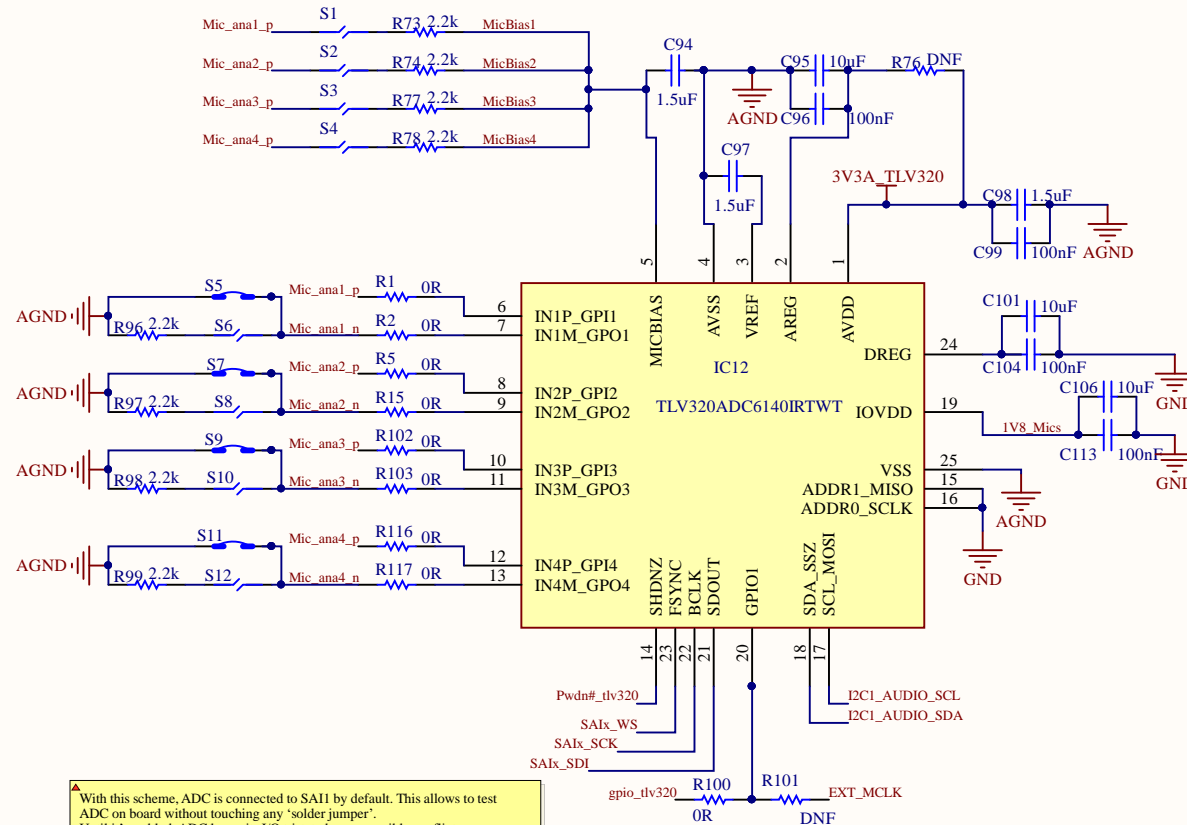
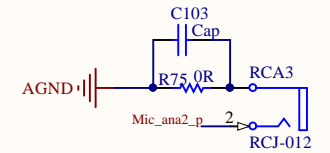
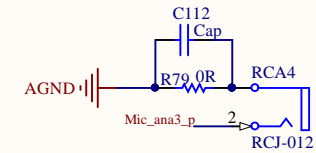


Optional RCA connectors to input single-ended analog line level (2 channels) - Assy option on back side

W1 to W12 are jumpers to cope with different type of mics (analog MEMS, analog ECM, PDM), single-ended or differential.

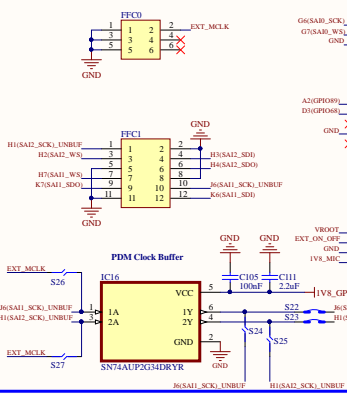
Note: ADC inputs #1 to #3 are AC-coupled while input #4 is DC-coupled



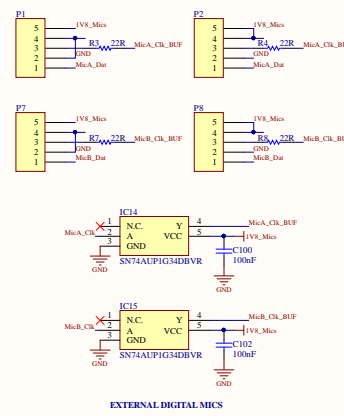
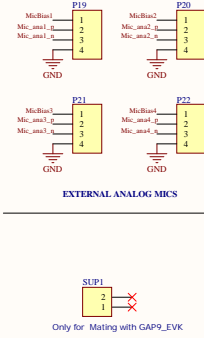
With this scheme, ADC is connected to SA11 by default. This allows to test ADC on board without touching any "solder jumper".
Until it's enabled, ADC keeps its I/O tristated so no possible conflict.
Once enabled, and considering how other solder jumpers configure the board by default:
- Sai1_ws is *input* to PDMamp(R) -- no conflict
- Sai1_sck is *input* to DAC, but driven by non-tristate on-board buffer
- OK as long as ADC is used in *slave* mode (normal case)
- Sai1_sdi is *input* to D/A(R) in PDM mode and to PDMamp(R) --no conflict
- Sai1_sdo is not used by ADC --no conflict.
When ADC is in use on SA11, then SA12 can be used by GAP9 to communicate :
- with D/A(L) only + Mic.A, which use SA12 exclusively --D/A(R) should be kept off and Mic.B cannot be used
- Or, *if cutting SB traces to dig. Mics*, with D/A (L+R) over I2S/TDM (so PCM) and no dig. mic.
After initial testing of ADC, unless the intended use case requires to have ADC on SA11, it is recommended to cut SB traces linking ADC to SA11 for better signal integrity.

Title		
ANALOG LINE-IN + MIC		
Size	Number	Revision
A4		
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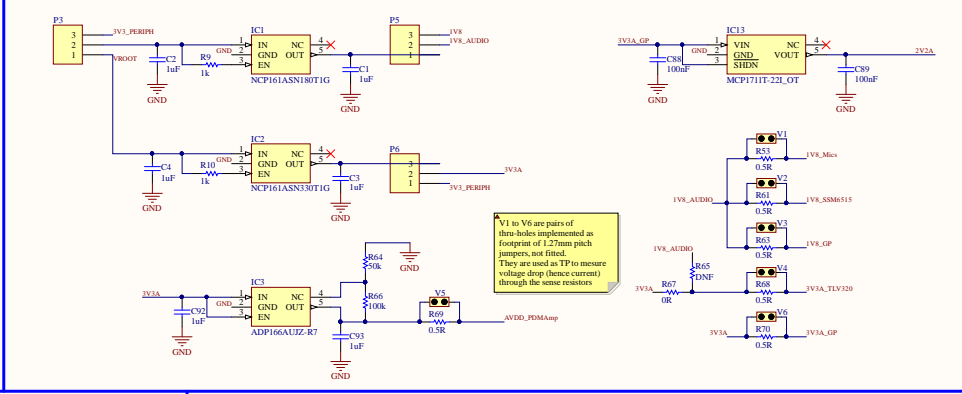
GAP9_EVK HEADERS+FFC



EDGE HEADERS

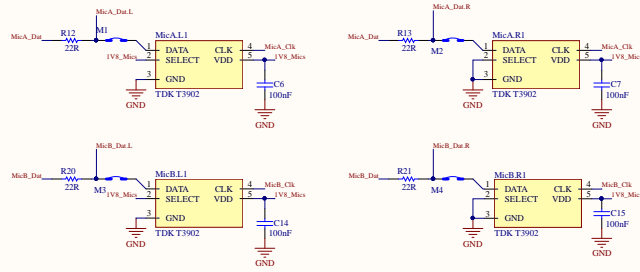


POWER MANAGEMENT



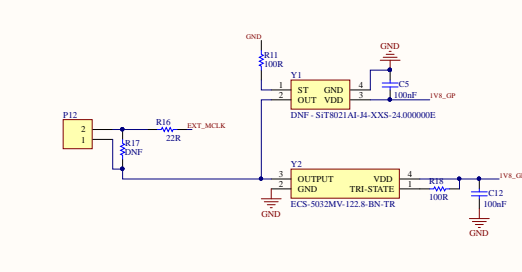
ON-BOARD PDM MICS

DNF / Remove / disconnect (remove 22R below) if using external PDM mic son SAI1 headers (P1, P2, P7, P8 above)

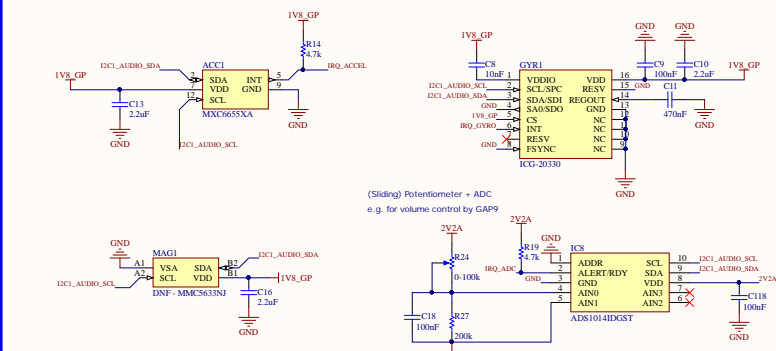


OPTIONAL CLOCK GEN.

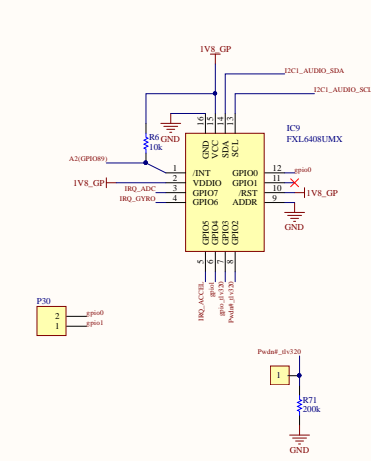
May use up to 24.576MHz



MOTION SENSORS AND UI

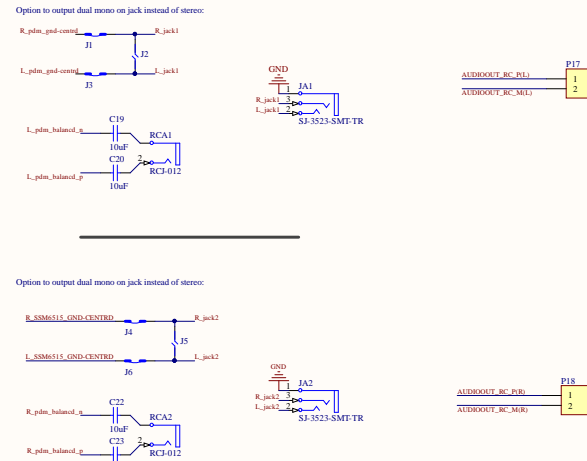


GPIO EXPANDER

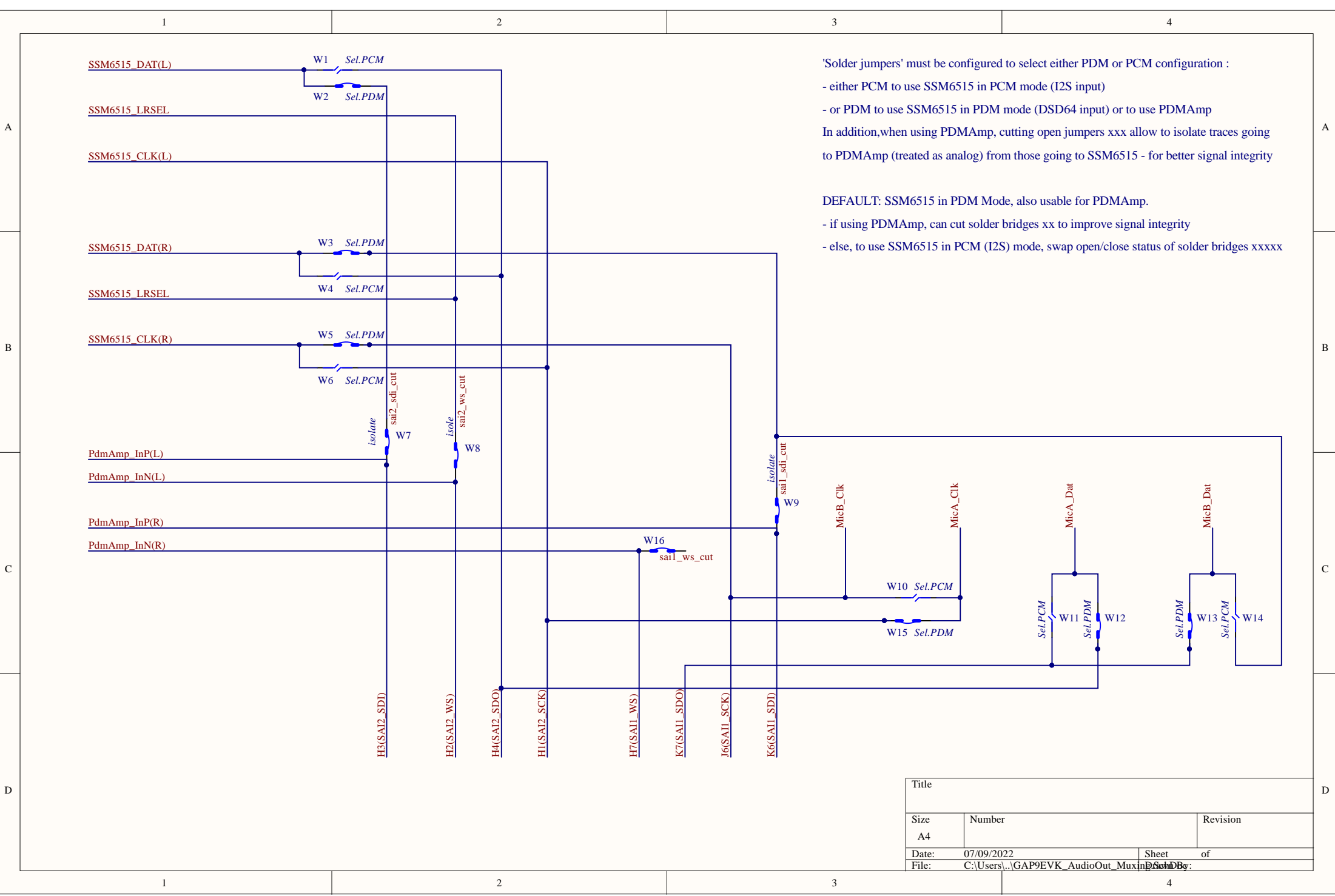


AUDIO OUTPUTS

- One 3.5mm stereo jack for each of the 2 possible audio out paths (AK43332/Minimal Latency PDMAMP)
- 2 RCA outputs for L+R balanced (diff'l) outputs from Minimal Latency PDMAMP



Title		
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'Solder jumpers' must be configured to select either PDM or PCM configuration :

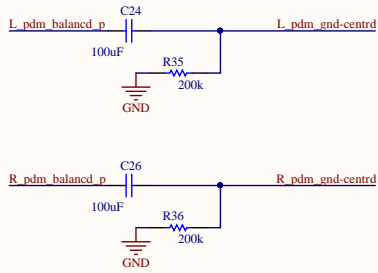
- either PCM to use SSM6515 in PCM mode (I2S input)
- or PDM to use SSM6515 in PDM mode (DSD64 input) or to use PDMamp

In addition,when using PDMamp, cutting open jumpers xxx allow to isolate traces going to PDMamp (treated as analog) from those going to SSM6515 - for better signal integrity

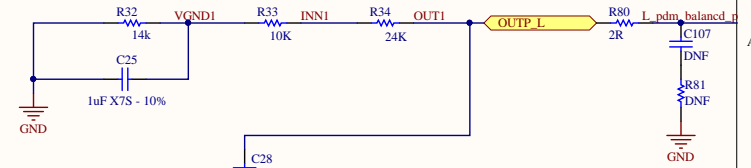
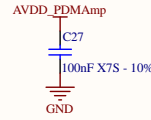
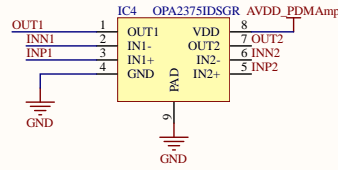
DEFAULT: SSM6515 in PDM Mode, also usable for PDMamp.

- if using PDMamp, can cut solder bridges xx to improve signal integrity
- else, to use SSM6515 in PCM (I2S) mode, swap open/close status of solder bridges xxxxx

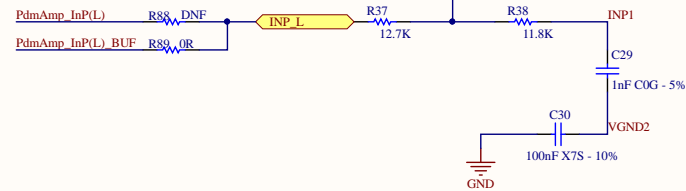
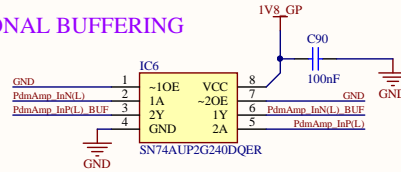
Diff to Single - GND-Ref'd conversion



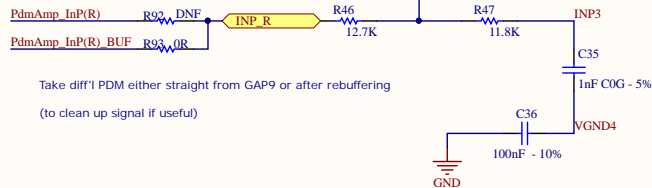
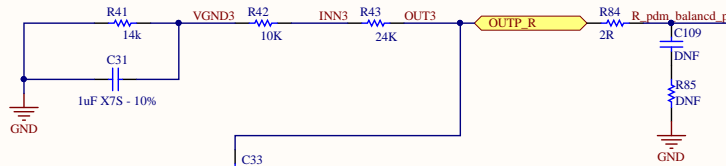
DIFFERENTIAL INPUT LEFT



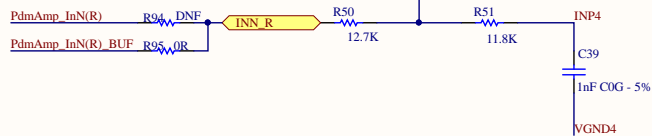
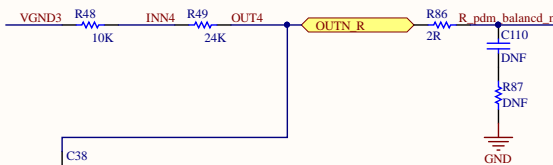
OPTIONAL BUFFERING



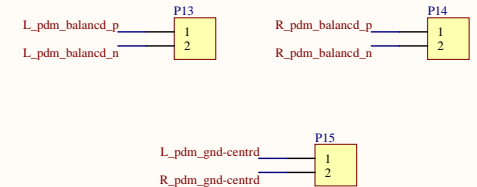
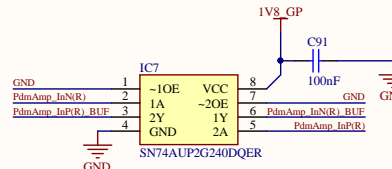
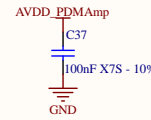
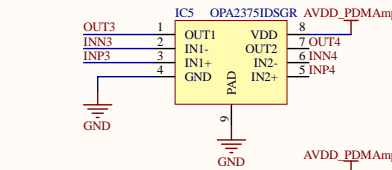
DIFFERENTIAL INPUT RIGHT



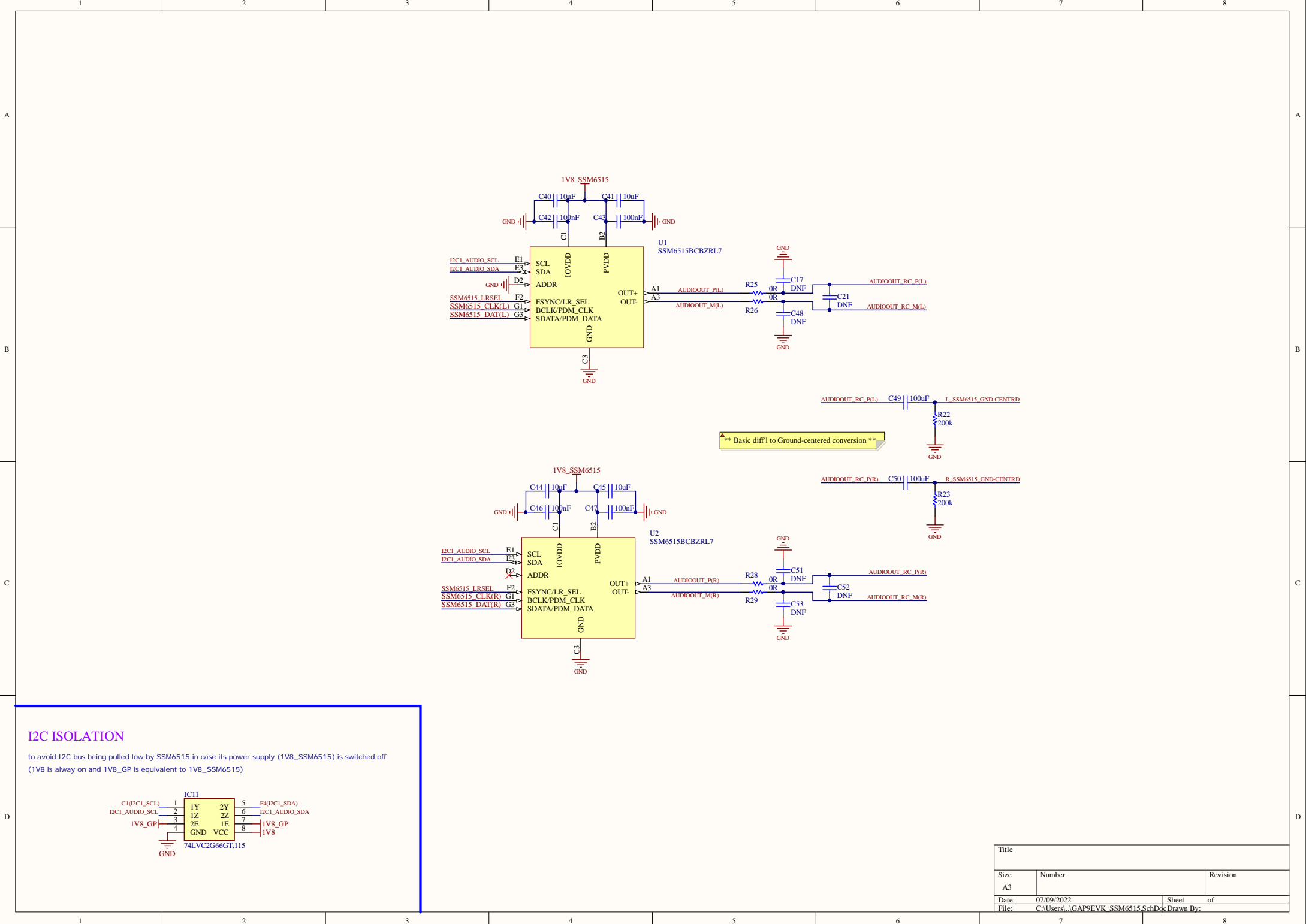
Take diff'l PDM either straight from GAP9 or after rebuffering
(to clean up signal if useful)



OPTIONAL INPUT BUFFERING



Title		
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Title		
Size A3	Number	Revision
Date: 07/09/2022	Sheet of	
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