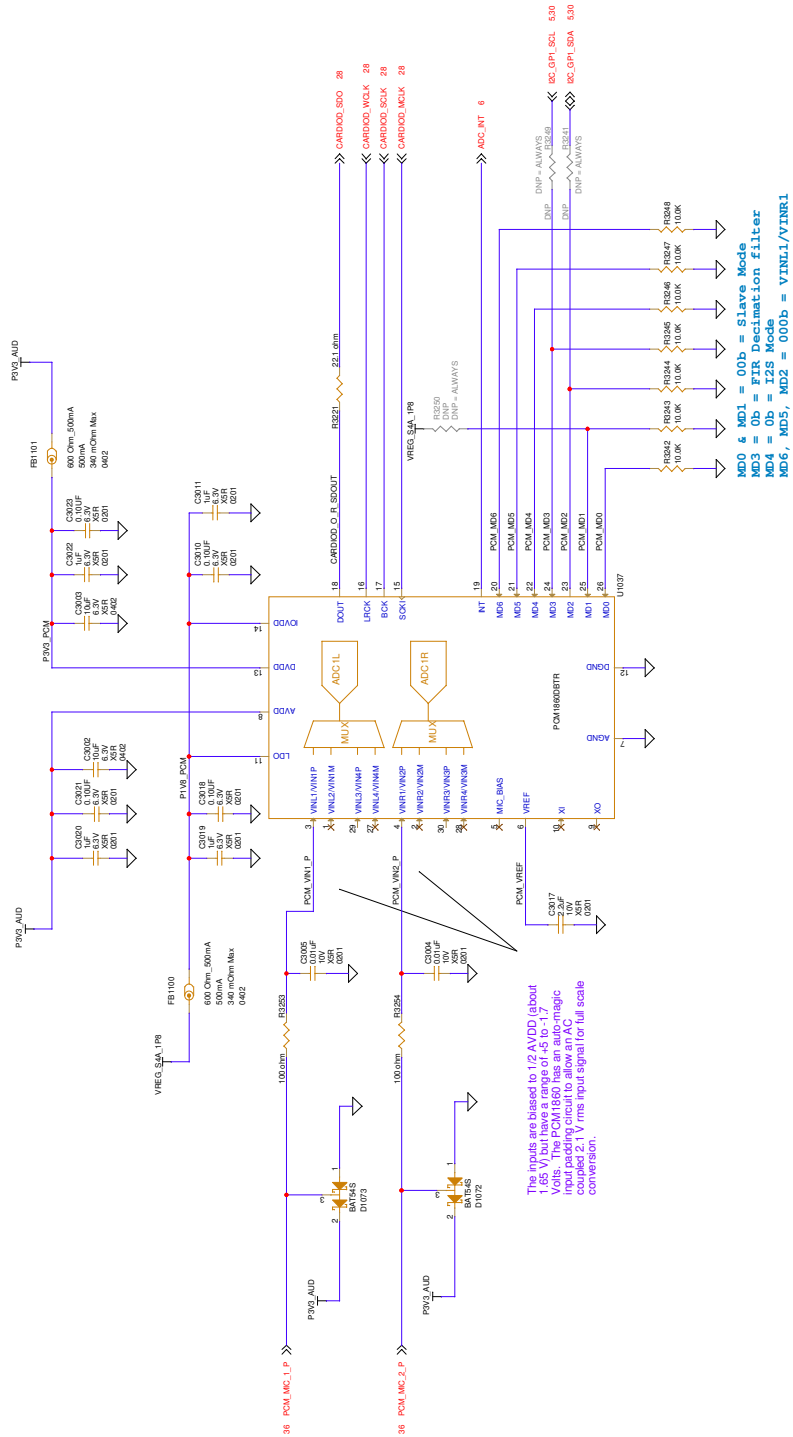


Electret Mic ADC



Design point is for maximum input of 0 dBV input (1 V rms). Full Scale input is 6.4 dBV for the PCM1860 but the pre-amp and clamping diodes limit the maximum to about 1.2 dBV before limiting is in effect

The inputs are biased to 1/2 AVDD (about 1.65 V) but have a range of +5 to -1.7 V. The PCM1860 has an analog input coupled to all ADC conversion.

MD0 & MD1 = 00b = Slave Mode
MD3 = 0b = FIR Decimation filter
MD4 = 0b = 128 Mode
MD6, MD5, MD2 = 000b = VINL1/VINR1

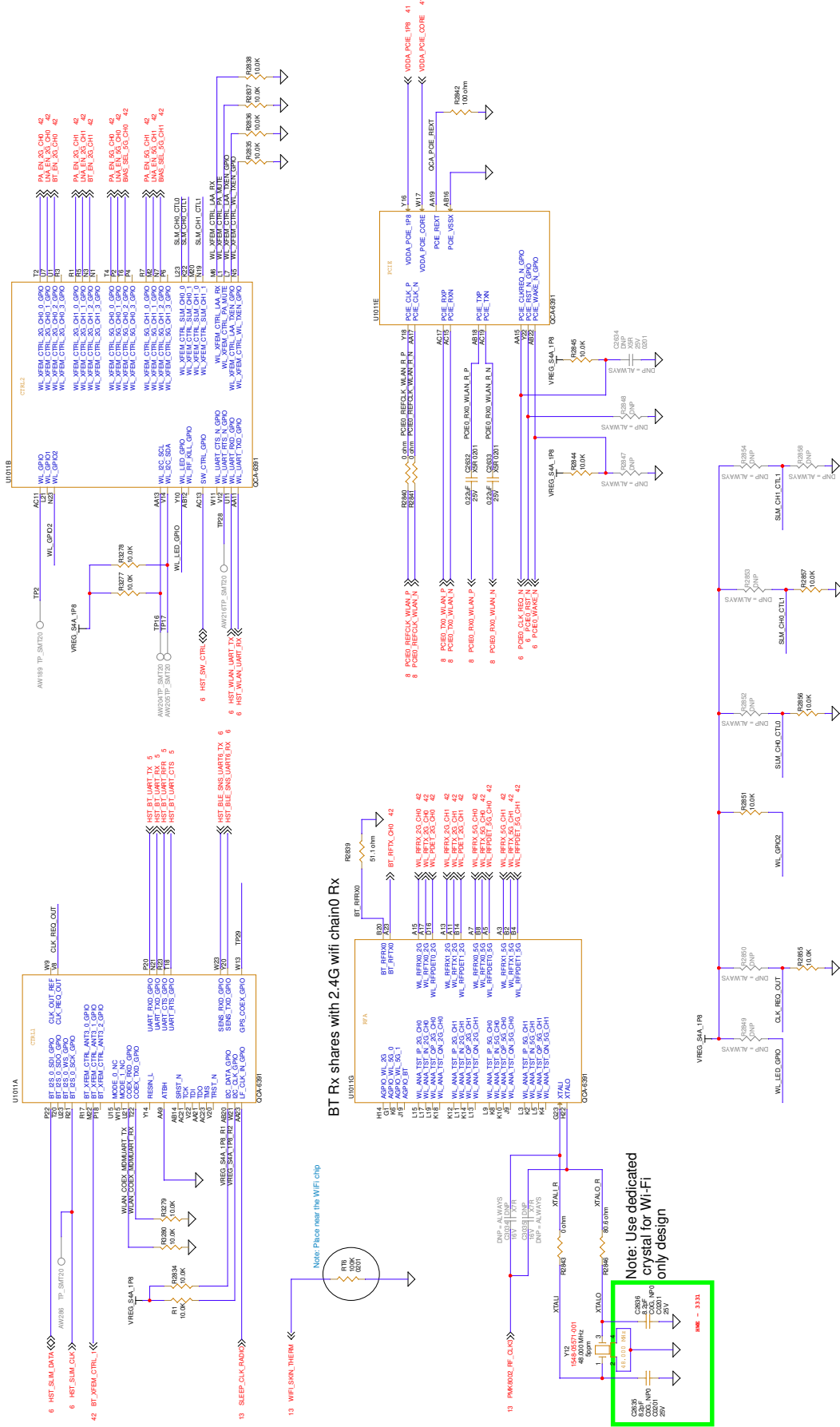


Important Layout Note: Left/Right Speaker designation is AS VIEWED BY THE AUDIENCE facing the front of the unit.

Place these caps close to PVCC pins of power amplifier.

**Filters designed for
4 ohm speaker.
Fc ~ 50 kHz.**

RF CONTROL

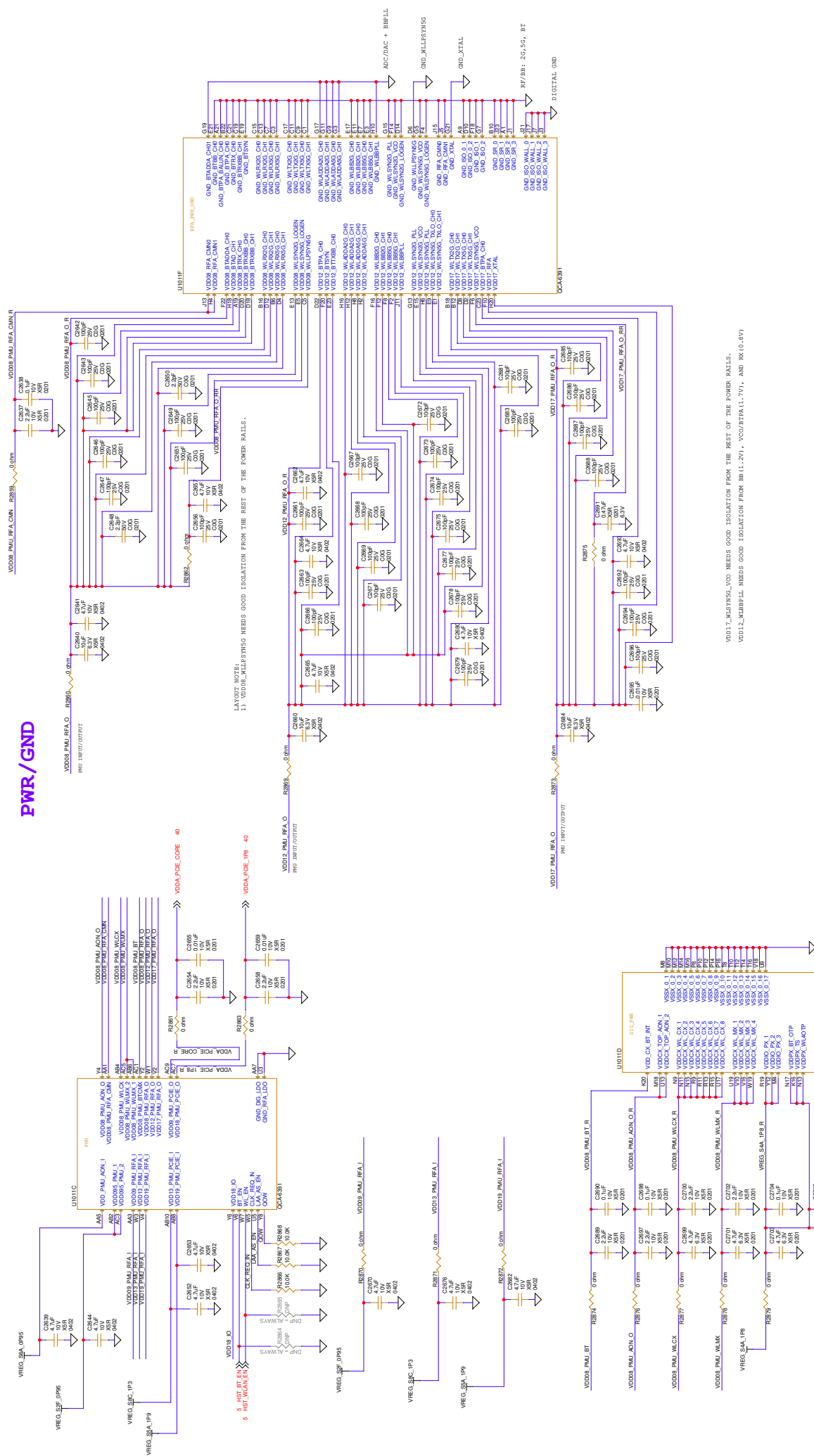


Note: Use dedicated crystal for Wi-Fi only design

WL_GP102	SLM_CH0_CTL0	SLM_CH0_CTL1	SLM_CH1_CTL1	48MHZ	CRYSTAL PLATFORM
1	NC	0	NC	48MHZ	
NC	NC	NC	NC		

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Oban50 MLB Oban50 MLB OC48391 Radio		Size DWG NO Rev 26 3622-87388-207
Wednesday, July 19, 2023		Sheet 40 of 50

PWR/GND



LAYOUT NOTE:
1) VDD06_MLSPIN55 NEEDS GOOD ISOLATION FROM THE REST OF THE POWER RAILS.

VDD17_MLSPIN55_VCO NEEDS GOOD ISOLATION FROM THE REST OF THE POWER RAILS.
VDD12_MLSPIN55_VCO NEEDS GOOD ISOLATION FROM BB(1.2V), VCO(ETRAIL.7V), AND RX(1.8V).



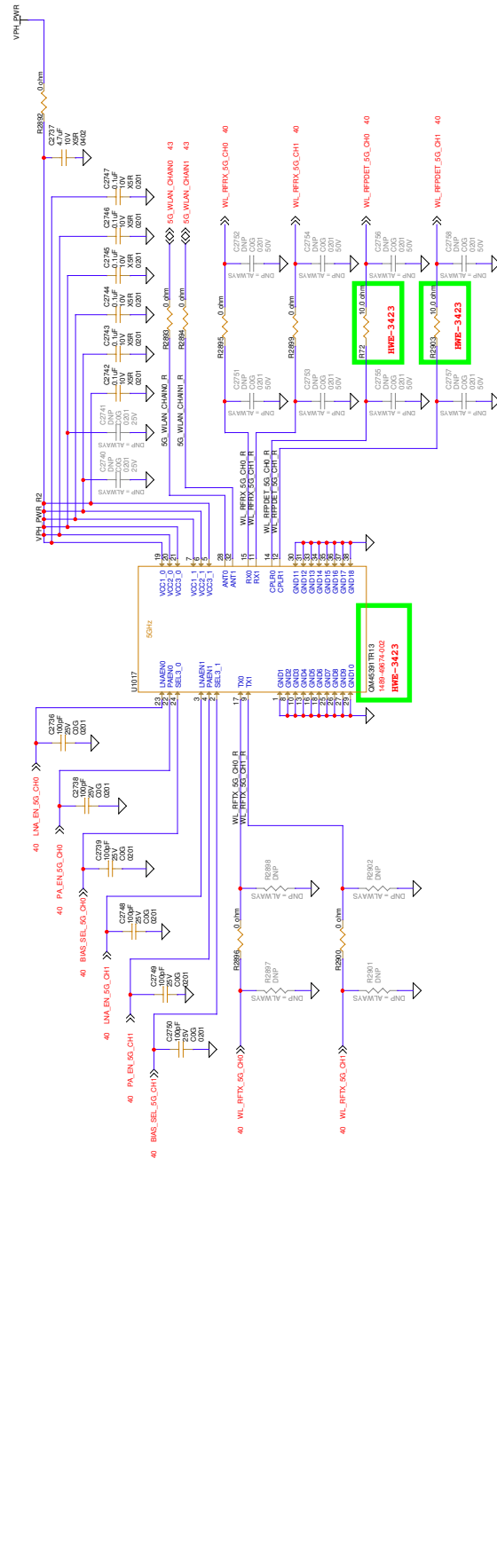
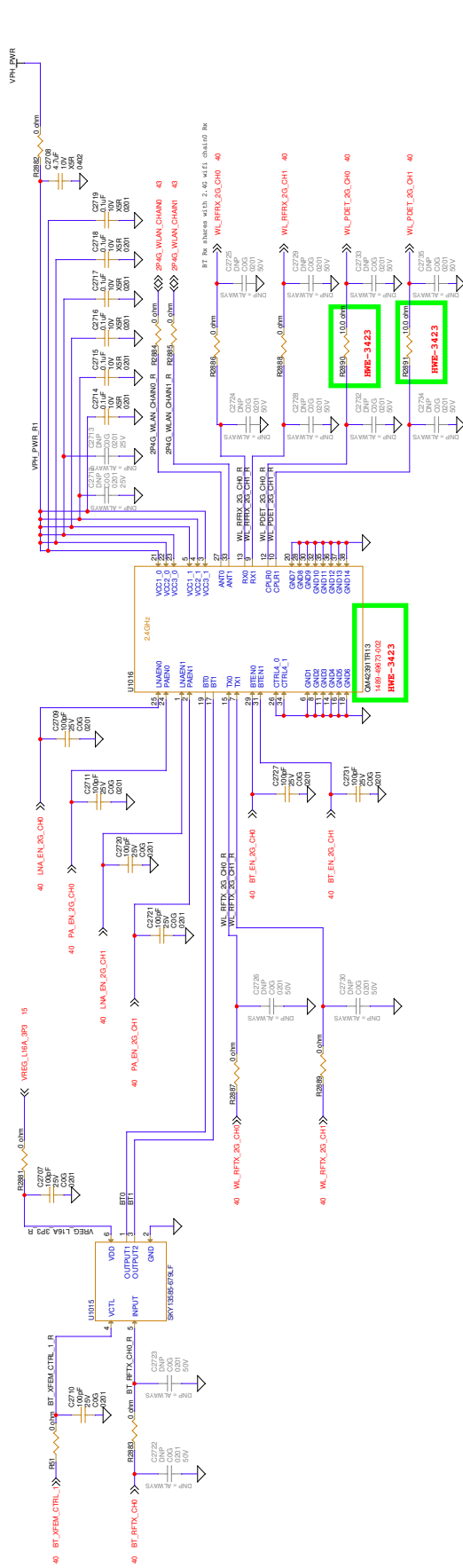
Polycom
Polycom Inc.
7700 W. Pecos Lane
San Jose, CA 95131
Phone: 408.739.2000
Fax: 408.739.2001

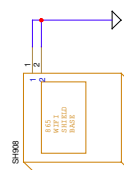
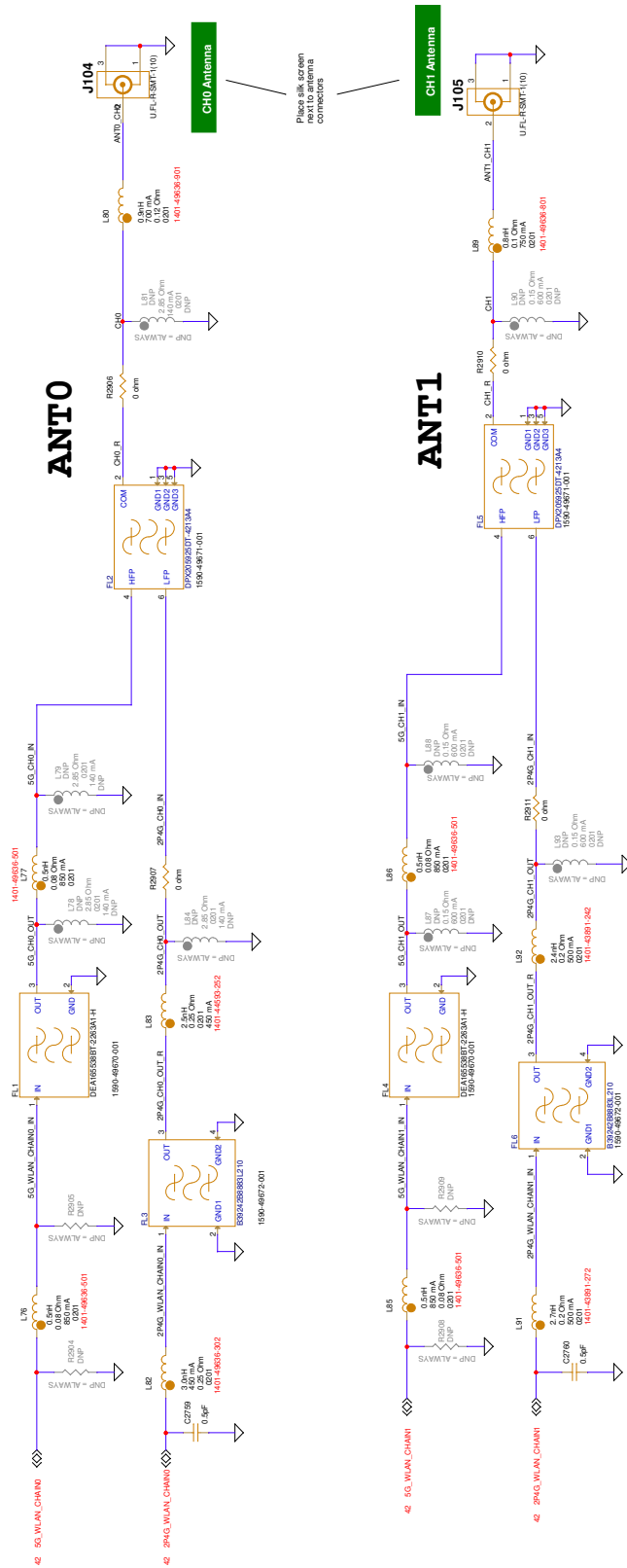
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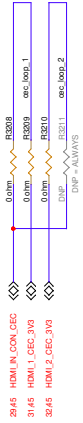
Rev	3622-87388-207	28
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Rev	3622-87388-207	28
Rev	41	50

Oban50 MLB
QCA6391 Power

Monday, February 28, 2024

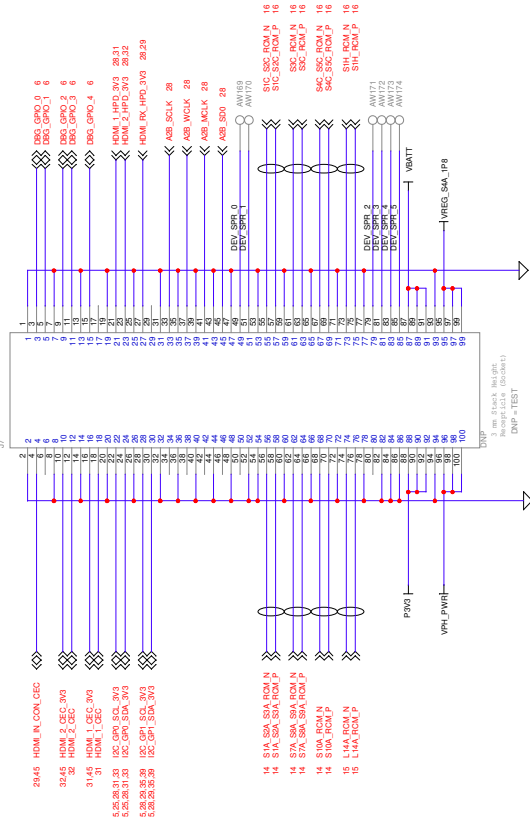






Interconnect the HDMI CEC interfaces as needed

This connector is too tall for the OBAN50 chassis – Only install on select engineering systems when needed



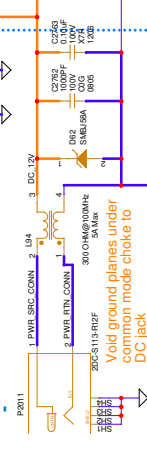
IO levels are SoC 1.8V based at the connector
Power conversion and signal level conversion done on adapter board

Four stuffing options for the Input voltage structure.

- (1) TI based 60V OVP Protection
- (2) LTC based 60V OVP Protection
- (3) Discrete shunt regulator OVP Protection
- (4) OVP-EFUSE bypass with Resistor

DC Power Input

+ 12 V Nom
5A Max

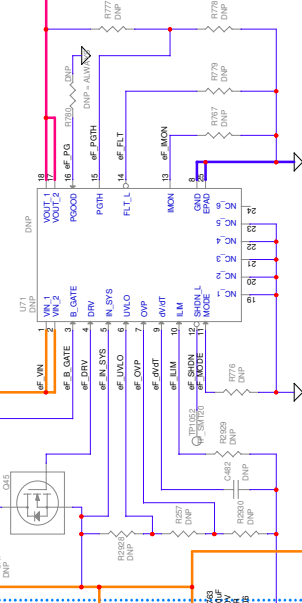


Void ground planes under common mode choke to DC Jack

This FET is for reverse polarity protection

60V OVP protection

Current Limit = 6A (Max as (54V-12V)/31mohm is >> 6A)
UVLO (turn-on) = 6.97V
OVP(turn-off) = 15.22V



OVP Option 4 - no protection

100-4946-001
CSD1853Q3

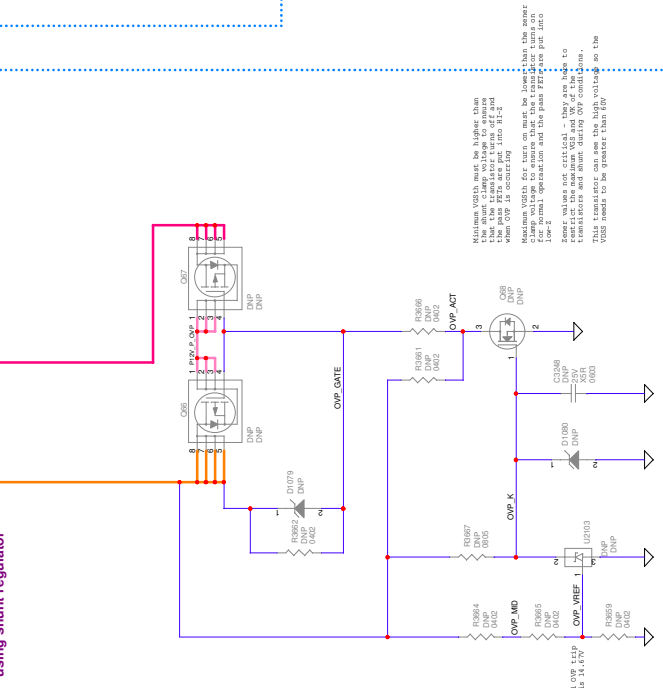
100-4946-001
CSD1853Q3

OVP Option 2 - LTC

100-4946-001
CSD1853Q3

100-4946-001
CSD1853Q3

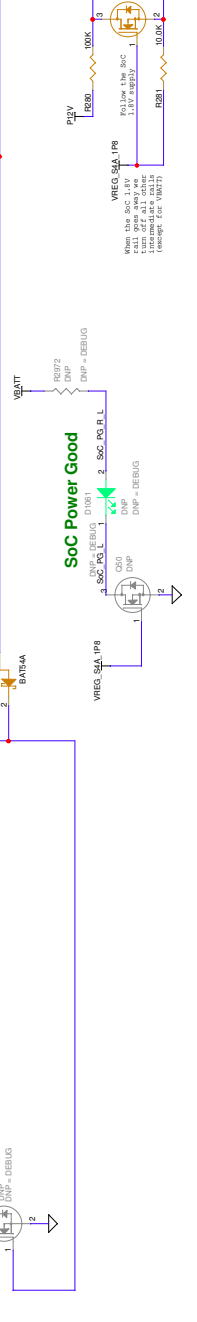
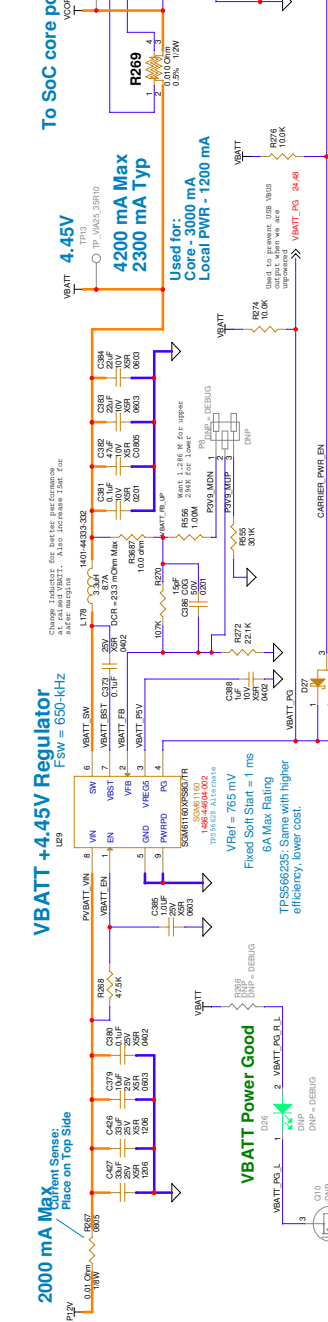
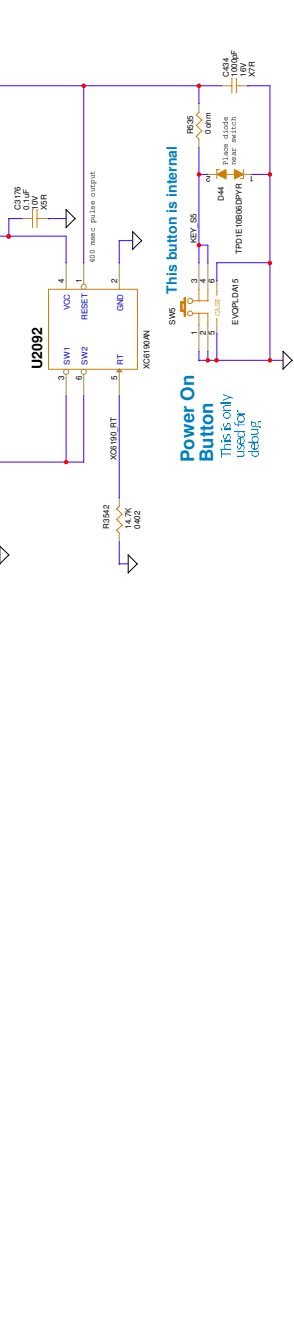
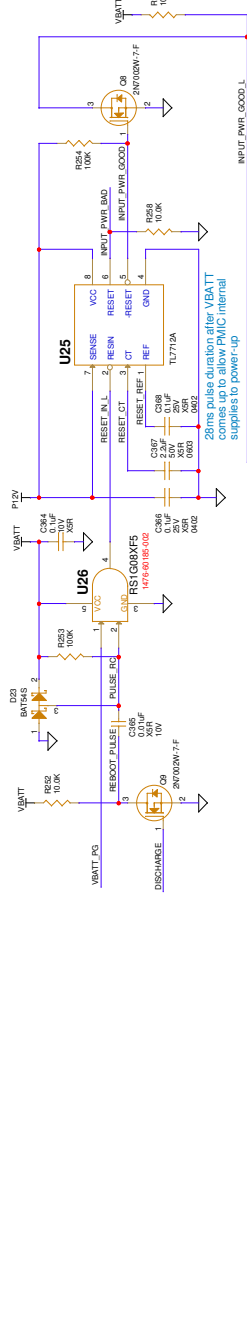
OVP Option 3 - Discrete using shunt regulator



The Main purpose of this circuitry is for Over Voltage Protection. Current limiting is a byproduct of some implementations but is not critical for the function.

This protects the product from damage when an incorrect power supply is inadvertently used by a customer. It serves no other purpose

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Polycom 7700 W. Foothill Lane Brea, CA 92610	Rev 3622-87388-207 26
DC Input and OVP Oban50 MLB	DWG NO 46
Sunday, September 08, 2024	50



Current Sense:
Place on Top Side

+5.0V Regulator

U43

Current Sense:
Place on Top Side

2850 mA Max
700 mA Typ

Used for USB YBUS outputs and LED Bar

+3.3V Regulator

U30

Current Sense:
Place on Top Side

760 mA Max
400 mA Typ

Used for:
LAN7430 - 340 mA
CPLD - 25 mA
Parade HDMI Redriver - 100 mA
LT9611 - 80 mA
USB Hub - 100 mA
USB Hub - 100 mA
Debut Mic - 25 mA

Current Sense:
Place on Top Side

+1.2V Regulator

Current Sense:
Place on Top Side

750 mA Max
400 mA Typ

Used for:
LT9611 - 350 mA
LT9611 - 200 mA * 2

Current Sense:
Place on Top Side

+1.2V USB Hub Regulator

Current Sense:
Place on Top Side

850 mA Max
400 mA Typ

Used for:
USB Hub - 850 mA

Current Sense:
Place on Top Side

+1.1V Regulator

Current Sense:
Place on Top Side

400 mA Max
200 mA Typ

Used for:
HDMI Redriver - 400 mA

Current Sense:
Place on Top Side

U46

Current Sense:
Place on Top Side

400 mA Max
200 mA Typ

Used for:
HDMI Redriver - 400 mA

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Obano50 MLB
Local Power

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Sunday, September 08, 2024

REVISION HISTORY

Rev.	003-28	Date	02/17/2022	Update BOM and schematic - ECO 22-0577
31,32				Update Y11 and Y4 to 1548-44171-002 version for multiple sources
5,26,30				Update PCA9306 to Poly PN 1488-43858-002
22,24,34,35				Update TPD2EUSB30DRTR to Poly PN 1506-58401-002
Rev.	003-29	Date	03/08/2022	Update BOM and schematic - ECO 22-0824
33				Revert USB HUB back to original part per Microchip request.
34				Change the Rlim resistor for the SGM VBUS power switch to properly limit the current similar to what the TI design provided
36				Change the gain of the Electret Mic preamp from 0dbV to 6dbV to match the full scale input of the PCM1860 ADC. Feedback gain resistor goes to 31.8K. Low pass filter cap goes to 110 pF.
Rev.	003-30	Date	04/01/2022	Update BOM and schematic - ECO 22-1184
33				Update Y14 to 1548-44170-001 version for multiple sources
26				HWE-3000 - Depopulate R3475 0 ohm resistor from the XTAL_OUT pin of the Lan controller
26,6				HWE-3003 - Connect the LAN7430 PCIe_CLK_REQ_L signal to the SoC by adding a wire from R601 pin 2 to R3530 pin 1.
Rev.	003-31	Date	04/08/2022	Update BOM and schematic - ECO 22-1338
46				HWE-3016 - Change the inrush control capacitor C3174 to 2200 pF to keep the Elfuse circuit from faulting at startup.
Rev.	003-32	Date	04/12/2022	Update BOM and schematic - ECO 22-1404
29				HWE-3015 - Fix the I2C data clock swap to the HDMI driver. Depop R3372 and R3373. Wire from Pin 1 R3372 to Pin 2 R3373. Wire from Pin 1 R3373 to Pin 2 R3372.
29				HWE-3024 - Enable the Parade Redriver to function. Populate R3354 with 0 ohm resistor (PN 1493-58010-000). Depopulate R3353 with 4.99K resistor (PN 1441-37116-499). Depopulate R3360 and R3366
33				HWE-3025 - The in strap for the USB HUB was incorrect. The ports need to be removed and the battery charging function needs to be disabled. Depopulate R3384. Change R3453 from 10 ohms to 200 KOhms (PN 1443-37183-200). Populate R3486 with 200KOhms (PN 1443-37183-200)
Rev.	004-25	Date	04/18/2022	Update BOM and schematic - ECO 22-1405
33,47				Embed and implement all changes found on spin 3
6,26				Change P3V3_HUB output enable to the P1V2_USB power good signal to insure a good high voltage for turn on.
46				Connect the ENETO_SYSTEM_RESET_L signal to the SoC GPIO pin 91
46				HWE-3016 - Increase the value of C3174 to 22nF to better control the inrush current levels..
46				Change R765 from an 0805 0.01 ohm resistor to a 2512 0.001 ohm resistor for current handling
29,31,32				Update indicated ferrite power beads from 0402 to 0603 for lower DCR
23				Add option to use MICBIAS4 instead of MICBIAS2 for unused inputs
46				Change to using 3.3 uH inductor for 4.45V VBATT circuit. Leave 2.2 uH original as an option. Overlay footprints on pcb.
46				Add pcb measurement points with Kelvin style connection for measuring VBATT current through R765.
47				Update pcb footprint for SOT563 based TVSGMicro power converters. U45, U46, U2093
Rev.	004-26	Date	05/16/2022	Update BOM and schematic - ECO 22-1837
47				HWE - 3035. Voltage input to the P3V3 switching regulator was below specification. Change to using P12V. Depopulate R282. Add wire from J19 pin 1 to R282 pin 2 (P12V to P3V3_IN). Replace C389 and C390 with caps rated for the new voltage.
Rev.	005-25	Date	06/22/2022	Update Board and Schematic - ECO 22-2345
48				Update design to bury ECO wires from spin 4 and to allow for different/new component use for supply chain issues. Details below
23,36				HWE - 3035. Voltage input to the P3V3 switching regulator was below specification. Change to using P12V. Populate the sense resistor that was depopulated on ECO 22-1837 as that was done just for ease of rework
48				HWE - 3062. Add load resistors to P1V8_AUD and P3V3_AUD supplies to minimize self noise. Load resistor adds a minimum of 5 mA current draw to the regulator backwards - swap the up and down resistors.
33				Add HUB_RST_N signal to SPL_PROM programming header in case it is needed.
46				Add in the discrete OVP and discrete OVP bypass circuit
48				Change U30 and U43 to 1486-44356-004 to allow for additional sources.

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REVISED BY: J. Smith
DATE: 01/08/19
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San Jose, CA 95133

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Size

DWG NO

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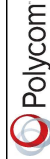
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Monday, April 03, 2023

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REVISION HISTORY

Rev.	006-25 106-25	Date	08/31/2022	Description	Update Layout and Schematic - ECO 22-3365
Rev.	006-27 106-27	Date	11/29/2022	Description	Update BOM and schematic - ECO 22-4455
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Rev.	006-26 106-26	Date	09/06/2022	Description	Update BOM and schematic - ECO 22-3507
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