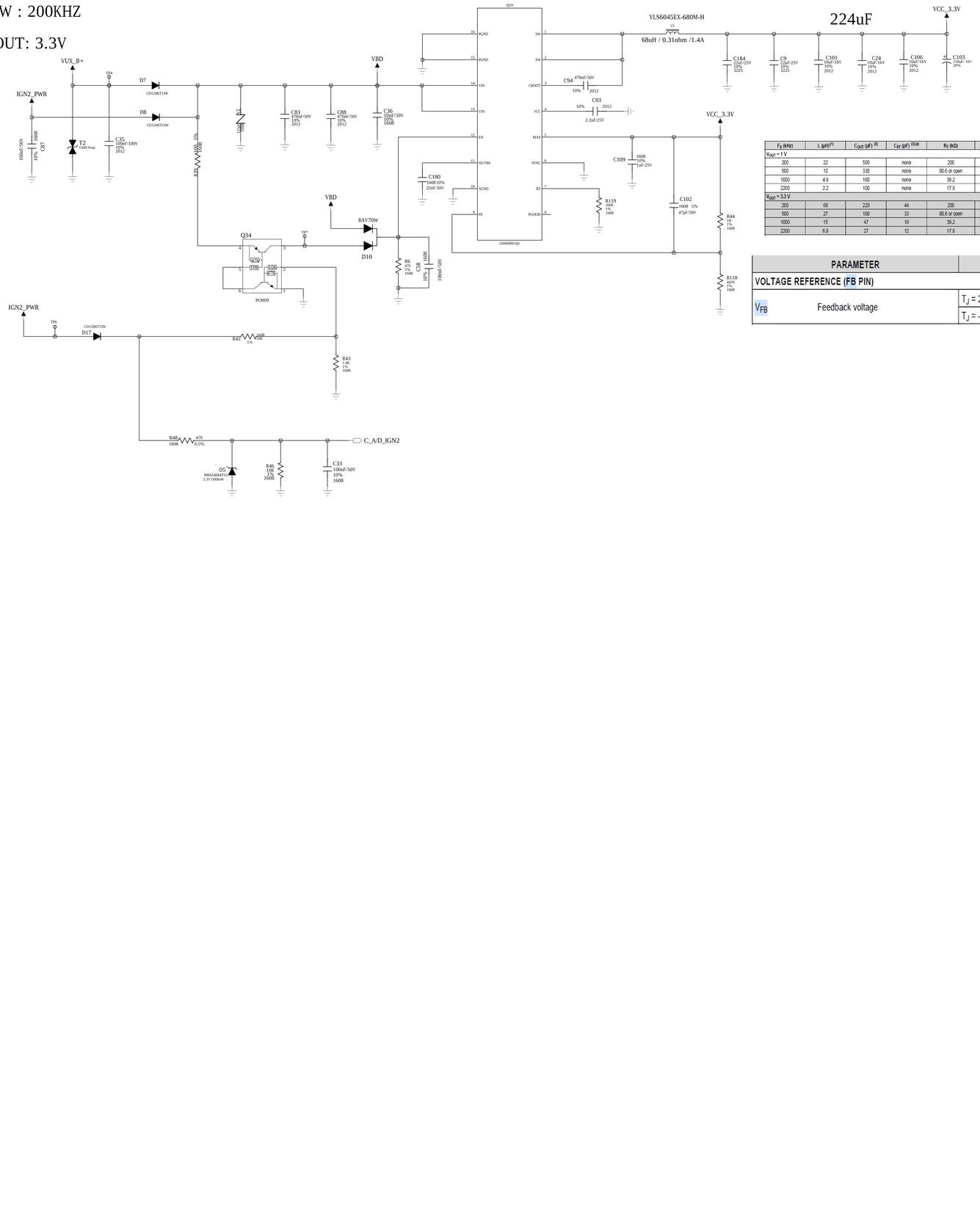
VIN 8~ 16V

FSW : 200KHZ

VOUT: 3.3V



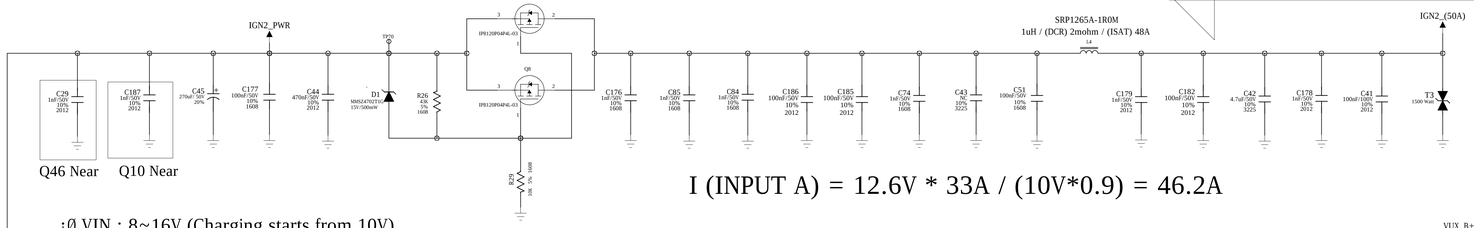
F_S (kHz)	L (µH)[1]	C_{OUT} (µF) [2]	C_{FF} (pF) [3][4]	R_T (kΩ)	R_{FBB} (kΩ) [3][4]
V_{OUT} = 1 V					
200	22	500	none	200	100
500	10	330	none	80.6 or open	100
1000	4.8	180	none	39.2	100
2200	2.2	100	none	17.8	100
V_{OUT} = 3.3 V					
200	68	220	44	200	442
500	27	100	33	80.6 or open	442
1000	15	47	10	39.2	442
2200	6.8	27	12	17.8	442

PARAMETER		TEST CONDITIONS	MIN	TYP	MAX	UNIT
VOLTAGE REFERENCE (FB PIN)						
V_{FB}	Feedback voltage	T_J = 25°C	1.009	1.016	1.023	V
		T_J = –40°C to 125°C	0.999	1.016	1.039	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

DRAWN: JH CHO	DATED: 18.02.28	COMPANY:			
		TITLE: BMS			
CHECKED: JH CHO	DATED: 12.06.18	CODE: <Code>	SIZE: E	DRAWING NO: REVISION	REV: 2.00
QUALITY CONTROL: <QC By>	DATED: <QC Date>				
RELEASED: <Released By>	DATED: <Release Date>	SCALE: <Scale>		SHEET: 1 OF 3	

ID (FET) = Square ((175-75) / (4.4mohm * 40)) =23.8A (23.8*2 = 47.6A)



Q46 Near Q10 Near

I (INPUT A) = 12.6V * 33A / (10V*0.9) = 46.2A

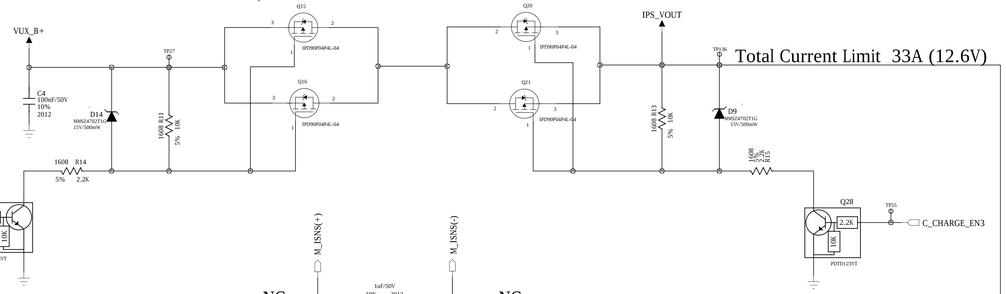
VIN

VOUT_CHARGE

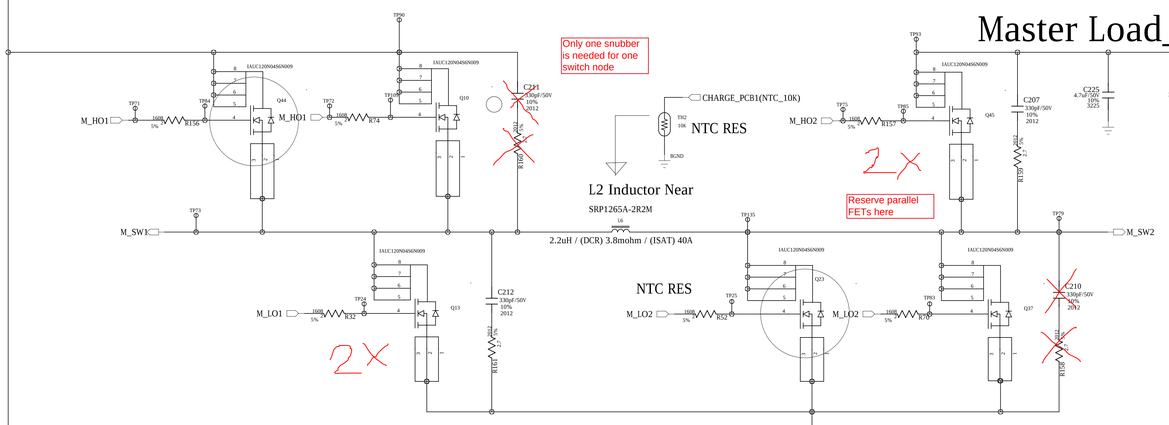
- ¡Ø VIN : 8~16V (Charging starts from 10V)
- ¡Ø FSW : 300KHZ (Master / Slave)
- ¡Ø 2Phase Max Charging Current Limit 33A : 16.5A Per 1Phase
- ¡Ø Charging Voltage : 12.6V
- ¡Ø LM5176 2EA Applications : Master 1EA / Slave 1EA
- ¡Ø CC (Constant Current) Variable Control
- ¡Ø NC : (NOT Connect)

Important node: Please refer to the layout guidelines in the datasheet, and also our EVM layout and signal routing.

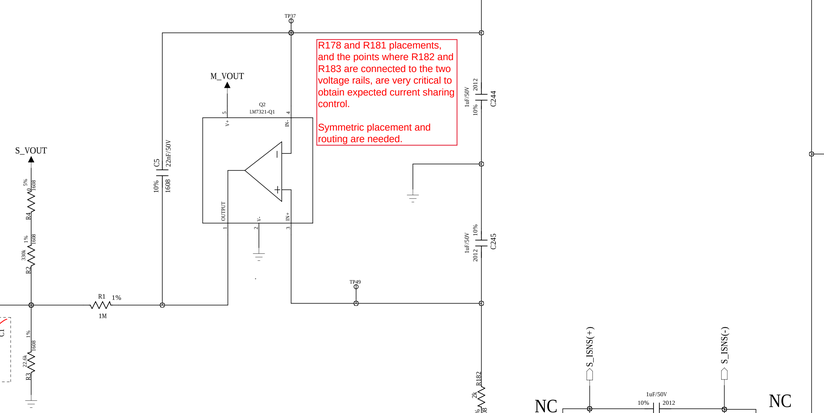
1. Pay special attention to the gate driver and the return paths. The pair of traces should be closely side by side,
2. Current sense traces should be routed closely side by side.
3 .Power circuit AC current loops should be compact and do not enclose large spatial area by the ac current loop.
4. Separating the AGND and PGND, and use single point connection for each IC at the location of IC underpad. All control signals should refer to AGND. Please create an AGND polygon for each IC, and only connect it to PGND through the IC underpad. Refer to the EVM layout for details.
5. VCC should the beside the IC across VCC and PGND pins
6. BOOT capacitor should be beside the IC across BOOT and SW pins.
7. Since the resistor R162 and R175 shared by both the buck and boost legs, the buck and boost leg should be placed symmetrically to connect to these current sense resistors.



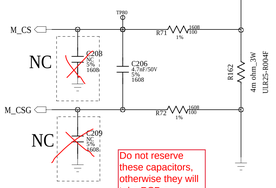
Master Control_ 12.6V / 16.5A



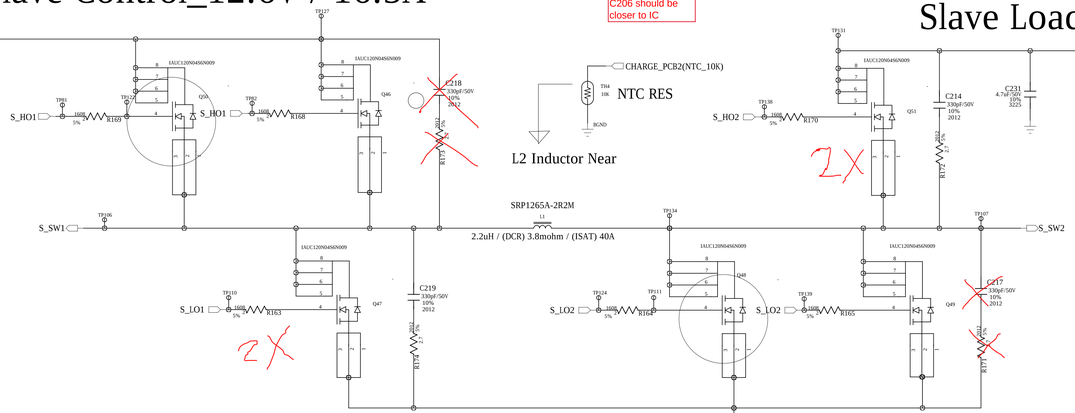
Master Load_ 12.6V / 16.5A



OPTION



Slave Control_12.6V / 16.5A



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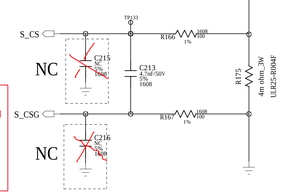

Slave Load_ 12.6V / 16.5A

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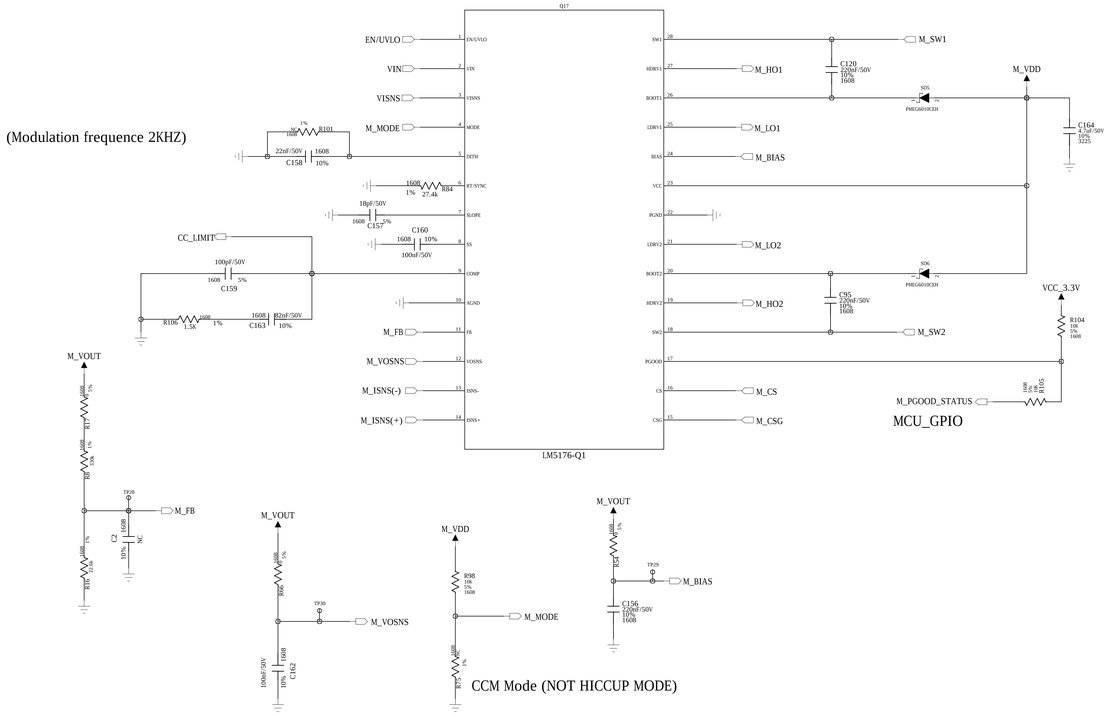
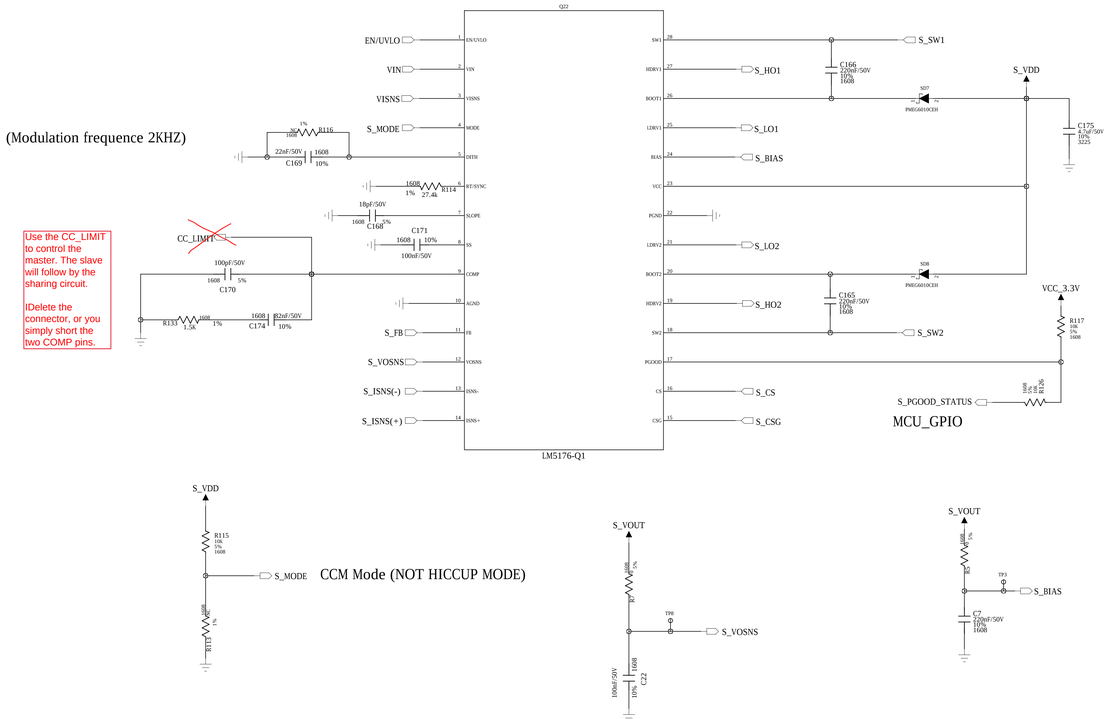
RELEASED: <Released By>	DATED: <Release Date>	SCALE: <Scale>		SHEET: 2 OF 3	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

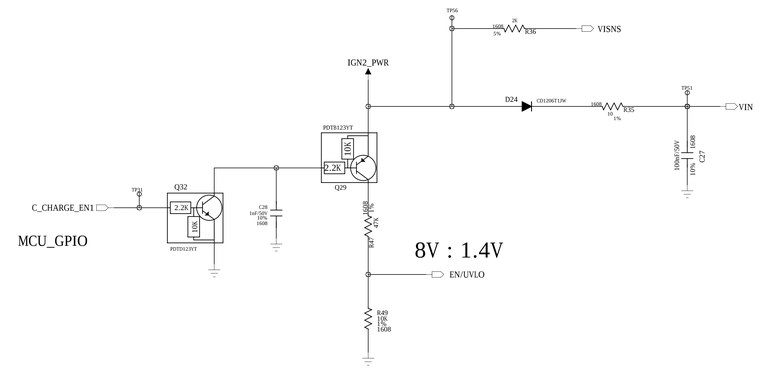
MASTER #1 LM5176



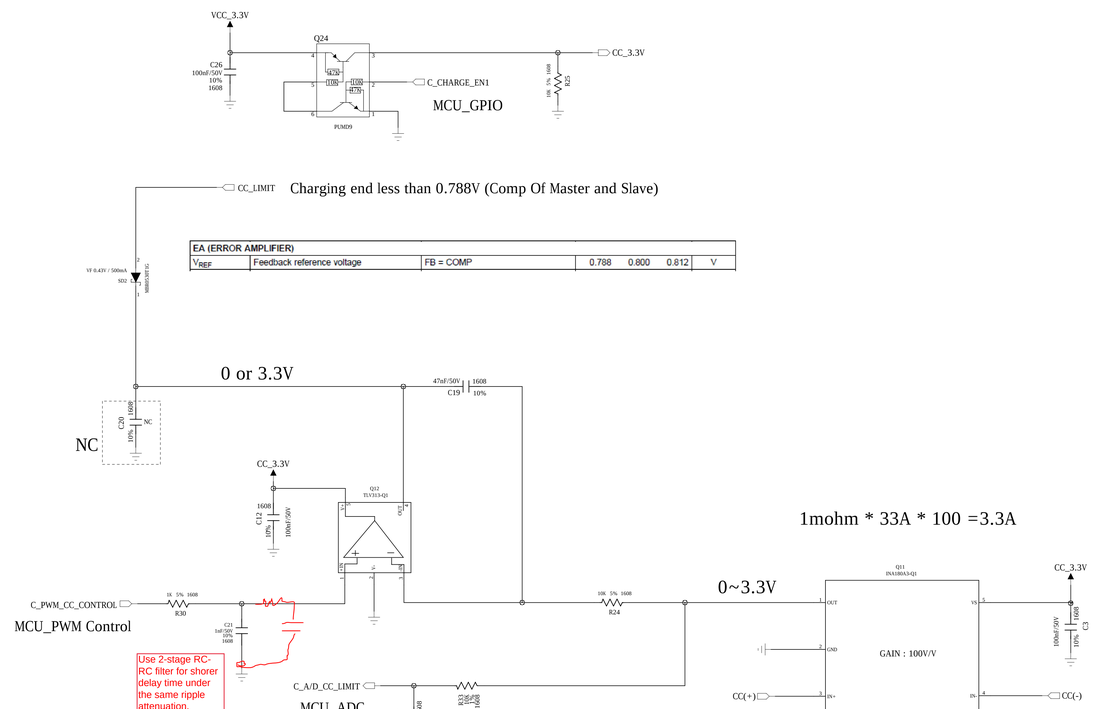
SLAVE #2 LM5176



Power Supply of Master and Slave



CC (Constant Current) Variable Control



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