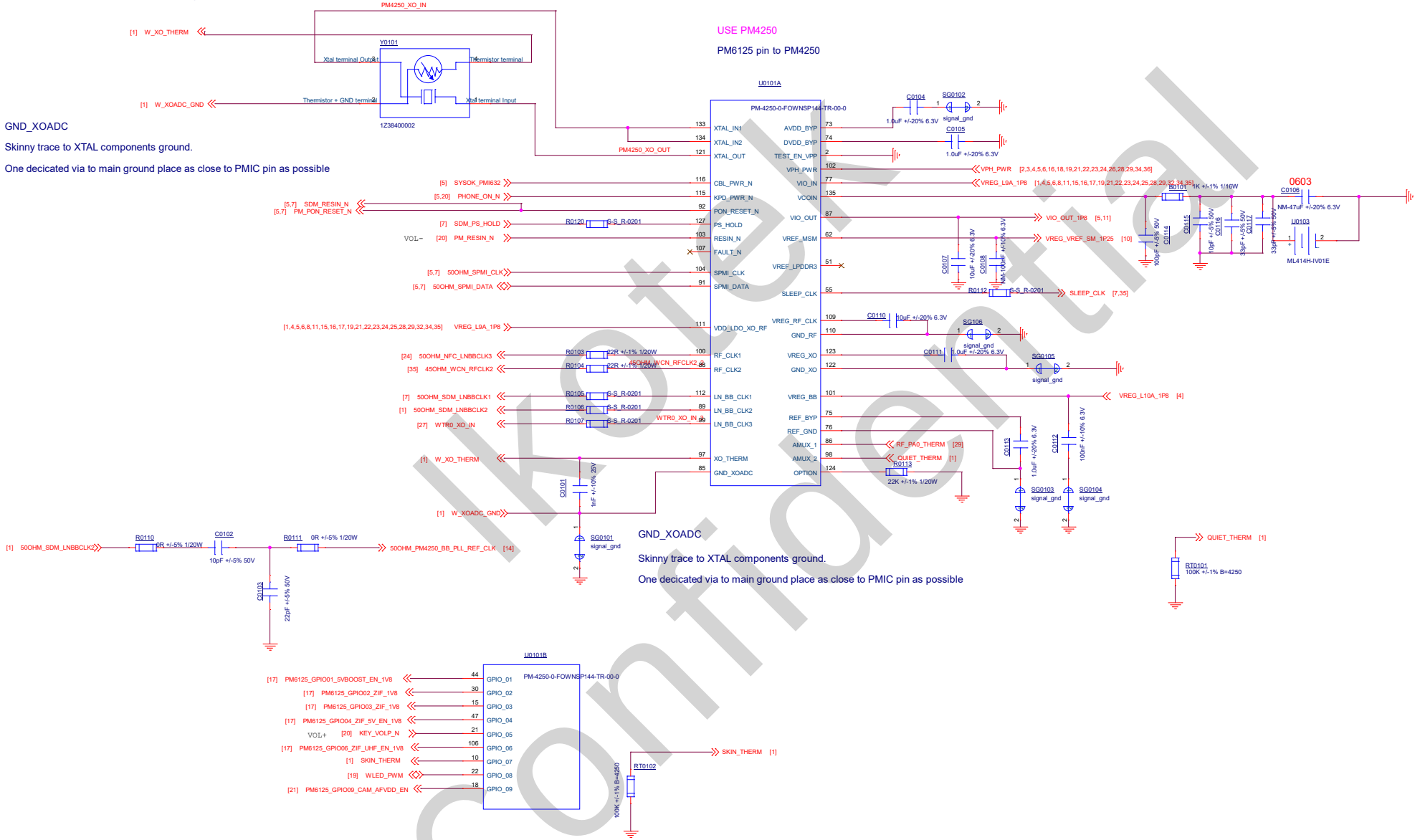
NOTE: No trace shall be present in at-least two immediate layers below XTAL.

Route XTAL IN/OUT trace with length between 3mm and 10mm



GND_XOADC

Skinny trace to XTAL components ground.

One decicated via to main ground place as close to PMIC pin as possible

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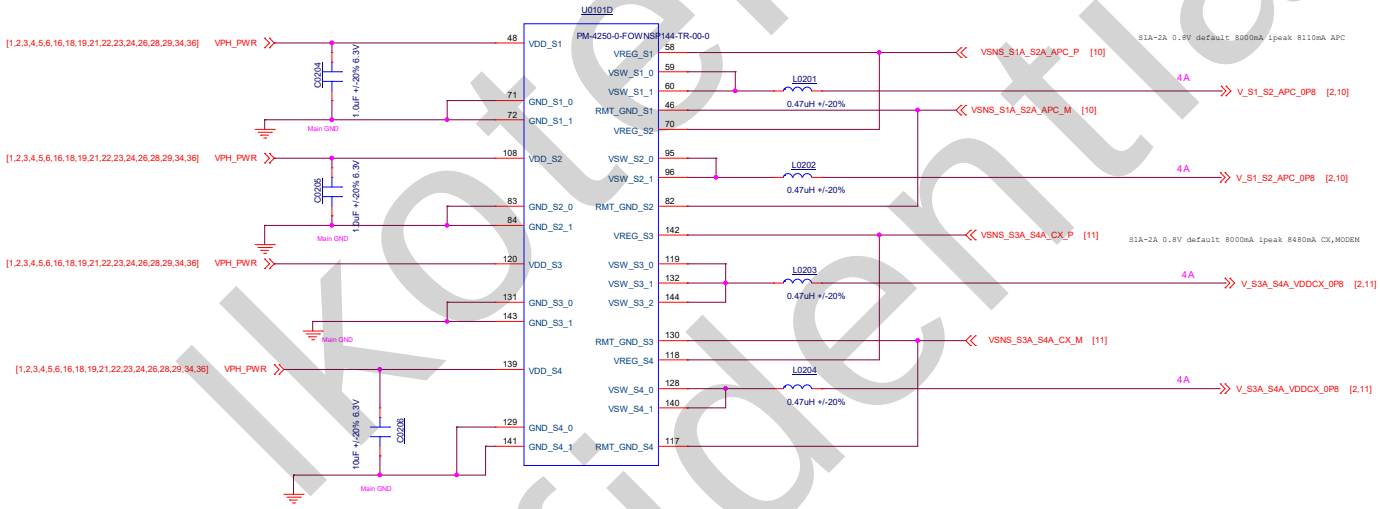

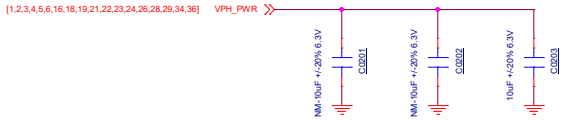

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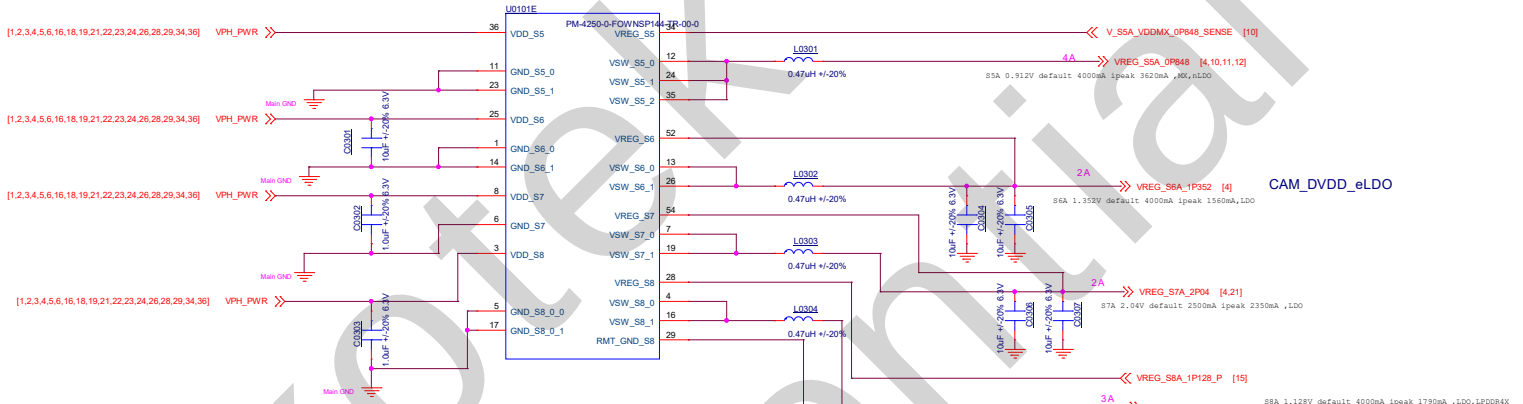

CAM_DVDD_eLDO

Note:Route both pins5 and 17 GND teminal of SMPS to Main GND

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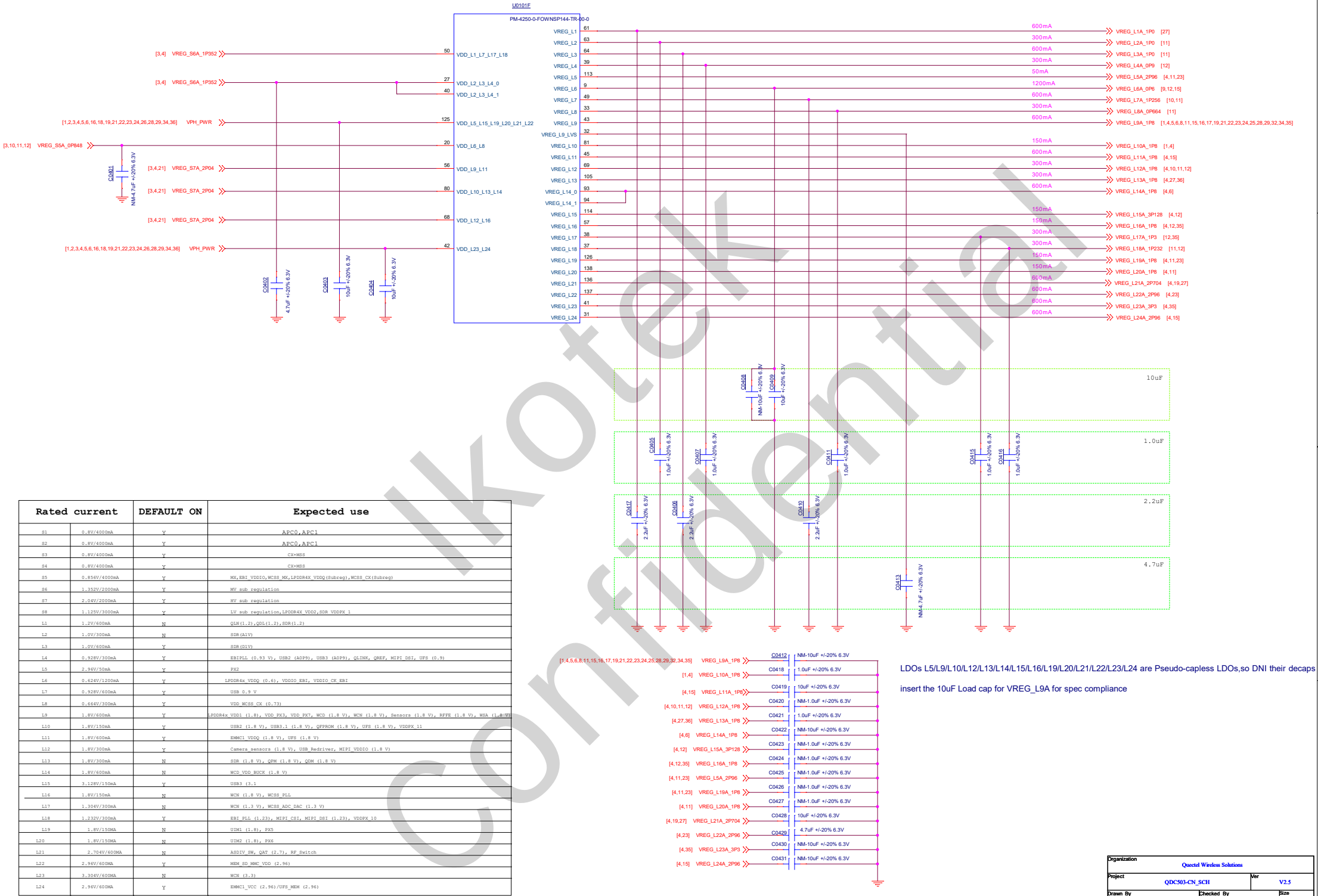

Rated current		DEFAULT ON	Expected use
S1	0.8V/4000mA	Y	APC0,APC1
S2	0.8V/4000mA	Y	APC0,APC1
S3	0.8V/4000mA	Y	CX+MSS
S4	0.8V/4000mA	Y	CX+MSS
S5	0.856V/4000mA	Y	MX,EBI_VDDIO,WCSS_MX,LPDDR4X_VDDQ(Subreg),WCSS_CX(Subreg)
S6	1.352V/2000mA	Y	MV sub regulation
S7	2.04V/2000mA	Y	HV sub regulation
S8	1.125V/3000mA	Y	LV sub regulation,LPDDR4X_VDD2,SDR_VDDPX_1
L1	1.2V/600mA	N	QLN(1.2),QDL(1.2),SDR(1.2)
L2	1.0V/300mA	N	SDR(A1V)
L3	1.0V/600mA	Y	SDR(D1V)
L4	0.928V/300mA	Y	EBIPLL (0.93 V), USB2 (AOP9), USB3 (AOP9), QLINK, QREF, MIPI_DSI, UFS (0.9)
L5	2.96V/50mA	Y	PX2
L6	0.624V/1200mA	Y	LPDDR4x VDDQ (0.6), VDDIO_EBI, VDDIO_CK_EBI
L7	0.928V/600mA	Y	USB 0.9 V
L8	0.664V/300mA	Y	VDD_WCSS_CX (0.73)
L9	1.8V/600mA	Y	LPDDR4x_VDD1 (1.8), VDD_PX3, VDD_PX7, WCD (1.8 V), WCN (1.8 V), Sensors (1.8 V), RFFE (1.8 V), WSA (1.8 V)
L10	1.8V/150mA	Y	USB2 (1.8 V), USB3.1 (1.8 V), QFPROM (1.8 V), UFS (1.8 V), VDDPX_11
L11	1.8V/600mA	Y	EMMC1_VDDQ (1.8 V), UFS (1.8 V)
L12	1.8V/300mA	Y	Camera_sensors (1.8 V), USB_Redriver, MIPI_VDDIO (1.8 V)
L13	1.8V/300mA	N	SDR (1.8 V), QPM (1.8 V), QDM (1.8 V)
L14	1.8V/600mA	N	WCD_VDD_BUCK (1.8 V)
L15	3.128V/150mA	Y	USB3 (3.1
L16	1.8V/150mA	N	WCN (1.8 V), WCSS_PLL
L17	1.304V/300mA	N	WCN (1.3 V), WCSS_ADC_DAC (1.3 V)
L18	1.232V/300mA	Y	EBI_PLL (1.23), MIPI_CSI, MIPI_DSI (1.23), VDDPX_10
L19	1.8V/150MA	N	UIM1 (1.8), PX5
L20	1.8V/150MA	N	UIM2 (1.8), PX6
L21	2.704V/600MA	N	ASDIV_SW, QAT (2.7), RF_Switch
L22	2.96V/600MA	Y	MEM_SD_MMC_VDD (2.96)
L23	3.304V/600MA	N	WCN (3.3)
L24	2.96V/600MA	Y	EMMC1_VCC (2.96)/UFS_MEM (2.96)

LDOs L5/L9/L10/L12/L13/L14/L15/L16/L19/L20/L21/L22/L23/L24 are Pseudo-capless LDOs,so DNI their decaps

insert the 10uF Load cap for VREG_L9A for spec compliance

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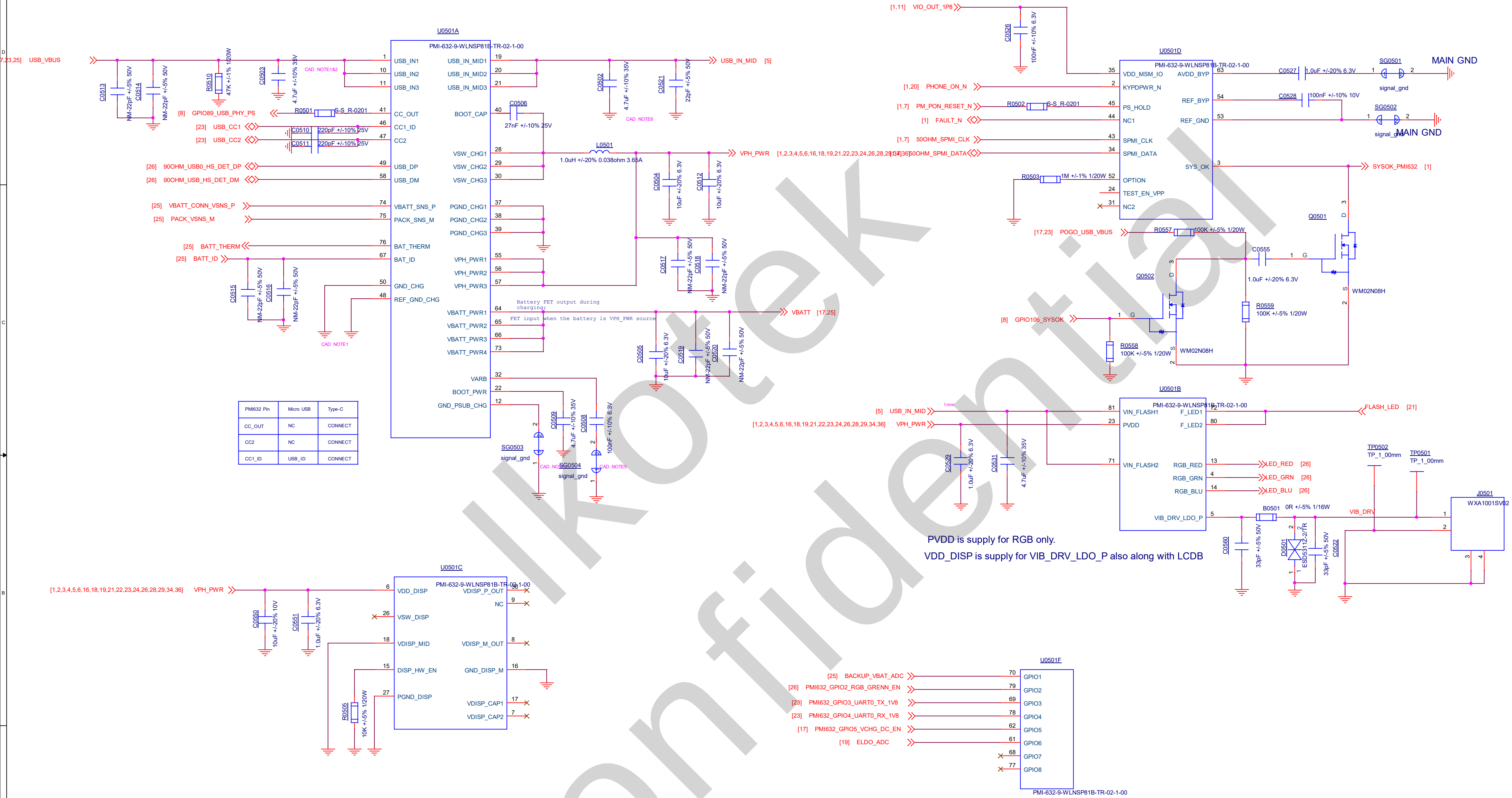
NOTE1: Dedicated via to main ground planeCAD
NOTE 2: Place Near to the IC PinCAD
NOTE 3: VBATT SNS M& VBATT SNS P route as kelvin senseVBATT_SNS_M should have a dedicated route to battery connector negative senseCAD
NOTE 4: TVS& OVP are to be placed near to USB connectorCAD
NOTE 5: Trace from VARB to the cap, and cap to main GND plane with a dedicated viaAvoid routing VARB trace directly under SW_CHG trace to avoid couplingCAD
NOTE 6: Place cap as close as possible to the USB_IN &USB_MID cap respectivelyConnect bottom of USBIN cap to bottom of USB_MID capDo NOT connect with any other ground

REF. DES	Micro USB	Type-C
C0510	DNI	220pF
C0511	DNI	220pF



U0501A
PMI-632-9-WLNSP81B-TR-02-1-00
USB_VBUS
USB_IN1
USB_IN2
USB_IN3
CC_OUT
CC1_ID
CC2
USB_DP
USB_DM
VBATT_SNS_P
PACK_SNS_M
BAT_THERM
BAT_ID
GND_CHG
REF_GND_CHG
USB_IN_MID1
USB_IN_MID2
USB_IN_MID3
BOOT_CAP
VSW_CHG1
VSW_CHG2
VSW_CHG3
PGND_CHG1
PGND_CHG2
PGND_CHG3
VPH_PWR1
VPH_PWR2
VPH_PWR3
VBATT_PWR1
VBATT_PWR2
VBATT_PWR3
VBATT_PWR4
VARB
BOOT_PWR
GND_PSUB_CHG
USB_IN_MID
VPH_PWR
VBATT
L0501
1.0uH +/-20% 0.038ohm 3.65A
Battery FET output during charging;
FET input when the battery is VPH_PWR source
GPIO89_USB_PHY_PS
USB_CC1
USB_CC2
90OHM_USB0_HS_DET_DP
90OHM_USB_HS_DET_DM
VBATT_CONN_VSNS_P
PACK_VSNS_M
BATT_THERM
BATT_ID
U0501D
VIO_OUT_1P8
PHONE_ON_N
PM_PON_RESET_N
FAULT_N
50OHM_SPMI_CLK
50OHM_SPMI_DATA
VDD_MSM_IO
KYPDPWR_N
PS_HOLD
NC1
SPMI_CLK
SPMI_DATA
OPTION
TEST_EN_VPP
NC2
AVDD_BYP
REF_BYP
REF_GND
SYS_OK
SYSOK_PMI632
MAIN GND
signal_gnd
POGO_USB_VBUS
GPIO106_SYSOK
Q0501
Q0502
WM02N08H
U0501B
VIN_FLASH1
PVDD
VIN_FLASH2
F_LED1
F_LED2
RGB_RED
RGB_GRN
RGB_BLU
VIB_DRV_LDO_P
FLASH_LED
LED_RED
LED_GRN
LED_BLU
VIB_DRV
TP0502
TP0501
J0501
WXA1001SV02
D0501
ESD5311Z-2/TR
PVDD is supply for RGB only.
VDD_DISP is supply for VIB_DRV_LDO_P also along with LCDB
U0501C
VDD_DISP
VSW_DISP
VDISP_MID
DISP_HW_EN
PGND_DISP
VDISP_P_OUT
NC
VDISP_M_OUT
GND_DISP_M
VDISP_CAP1
VDISP_CAP2
U0501F
BACKUP_VBAT_ADC
PMI632_GPIO2_RGB_GRENN_EN
PMI632_GPIO3_UART0_TX_1V8
PMI632_GPIO4_UART0_RX_1V8
PMI632_GPIO5_VCHG_DC_EN
ELDO_ADC
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8

PMI632 Pin	Micro USB	Type-C
CC_OUT	NC	CONNECT
CC2	NC	CONNECT
CC1_ID	USB_ID	CONNECT

Layout Note:VDISP_CAPx

Place fly cap as close to the pin as possible.

Avoid routing VDISP_CAP1 trace under VDISP_M_OUT.

Layout Note:DISP_HW_EN

This signal is used for "Display Tap to Wake"

If unused in HW, this pin should be connected to GND

GPIO1_AMUX (MV)	FMB1 (Output mode) / TypeC_CONN_THERM_SNS / MSM/eMMC THERM
GPIO2 (MV)	SMB_EN / HRLED (SINK required Fixed 10mA)
GPIO3_AMUX (MV)	Skin_Therm_Sns / FLASH_THERM_SNS / VSYNC
GPIO4_AMUX (MV)	SMB_THERM_SNS / Flash_Strobe
GPIO5 (LV)	I2C_1RQ (Output) / FMB2 (Output) /Flash_Strobe
GPIO6 (LV)	WLED_PWM / CLK_IN_19M2
GPIO7_AMUX (LV)	SMB_VCHG_P / VSYNC
GPIO8_AMUX (LV)	FMB2 (Output) / SMB_VHG_M

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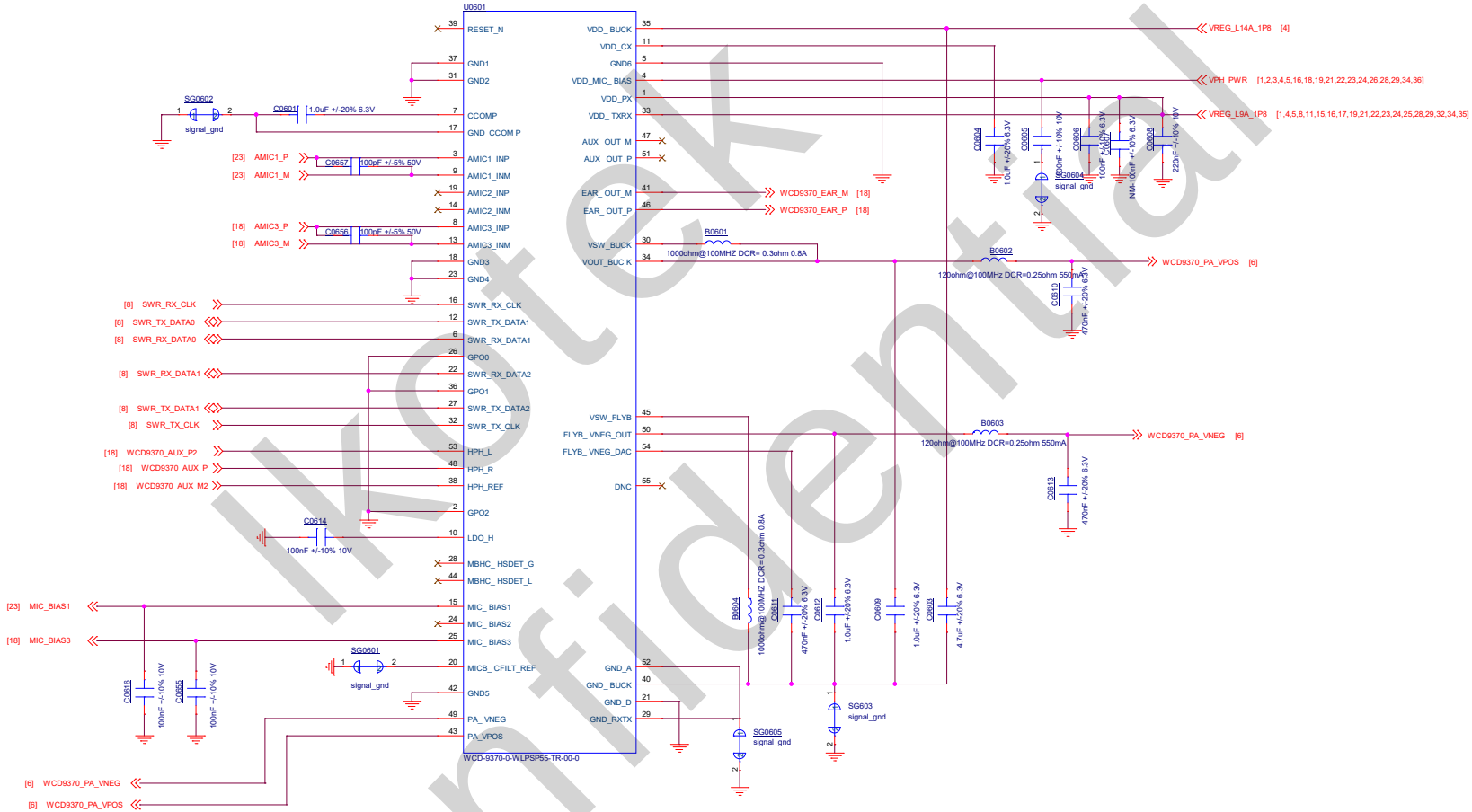

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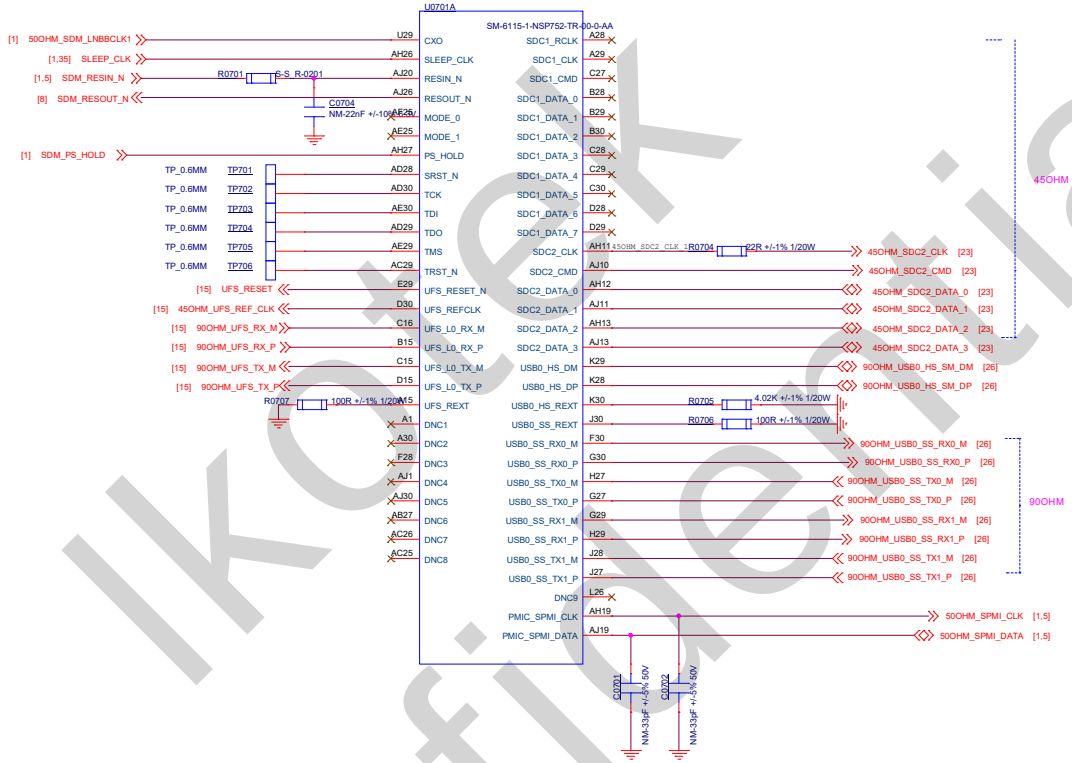

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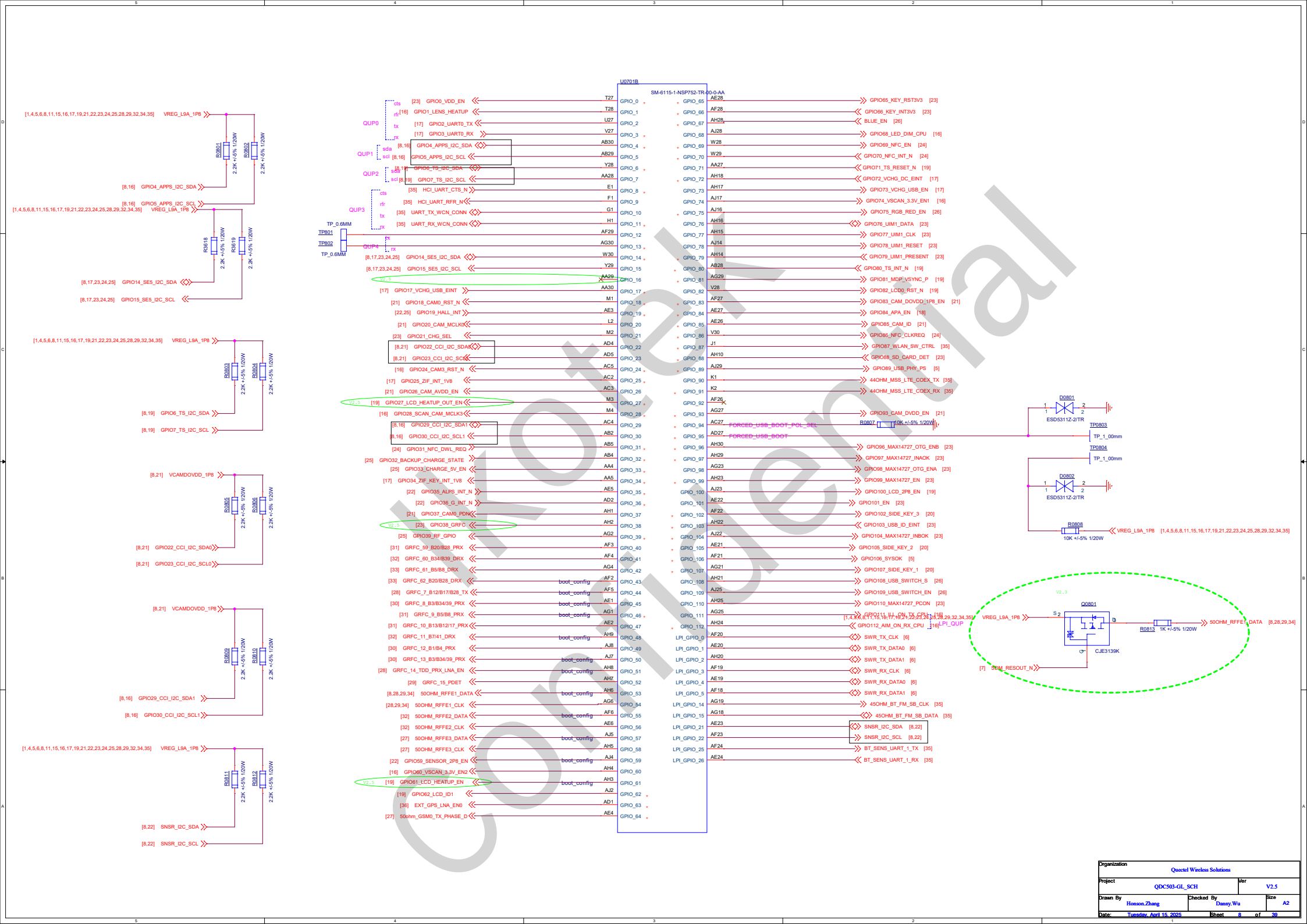

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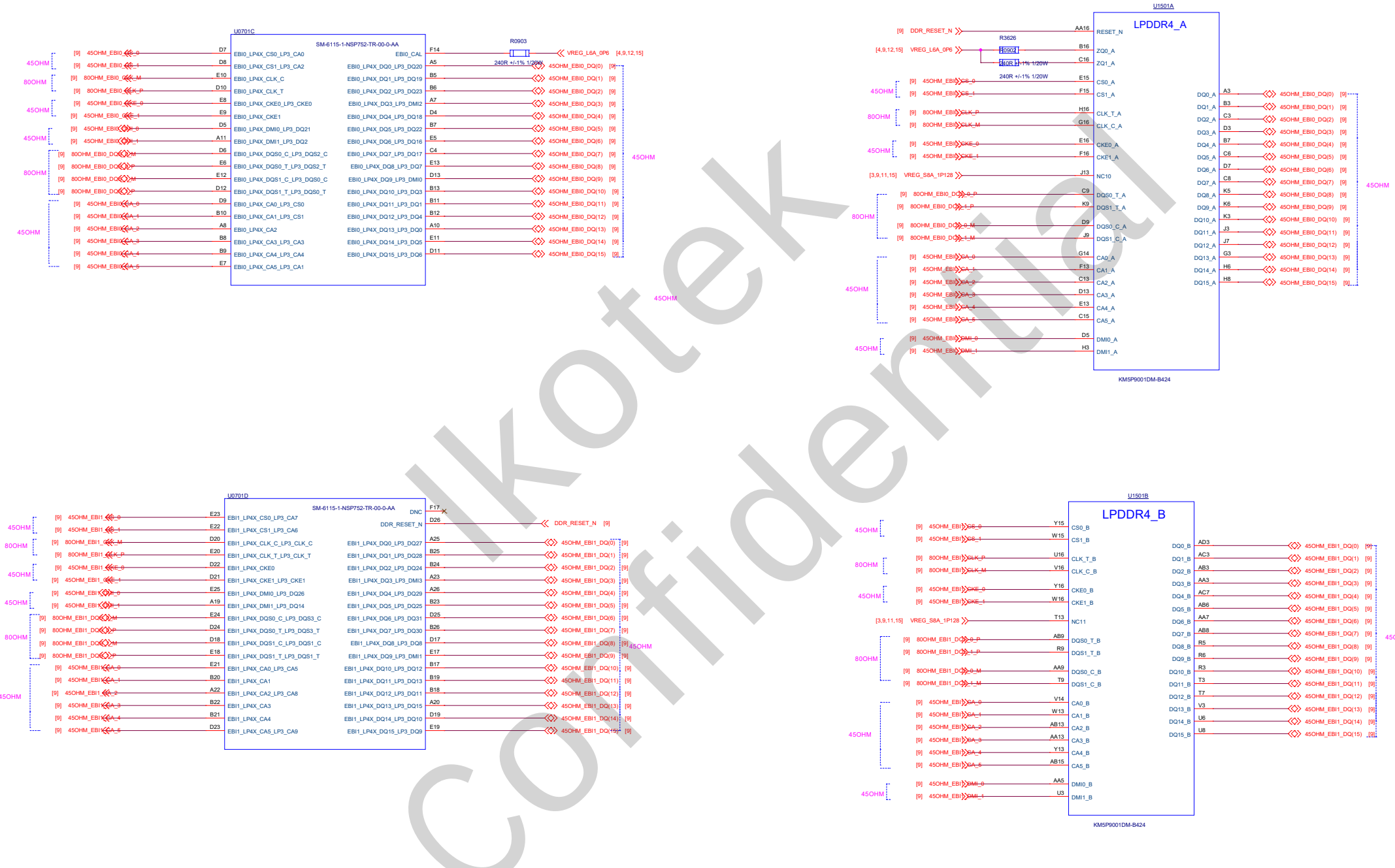

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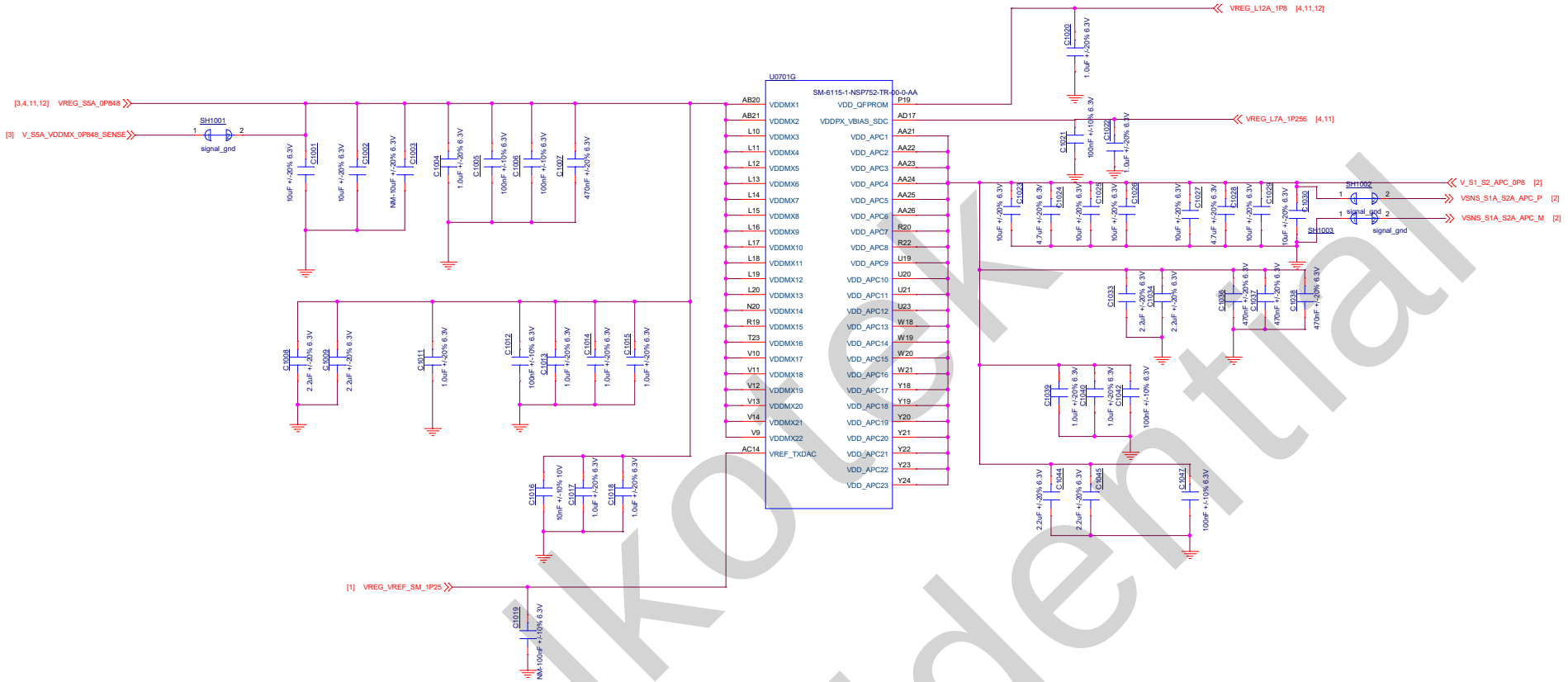

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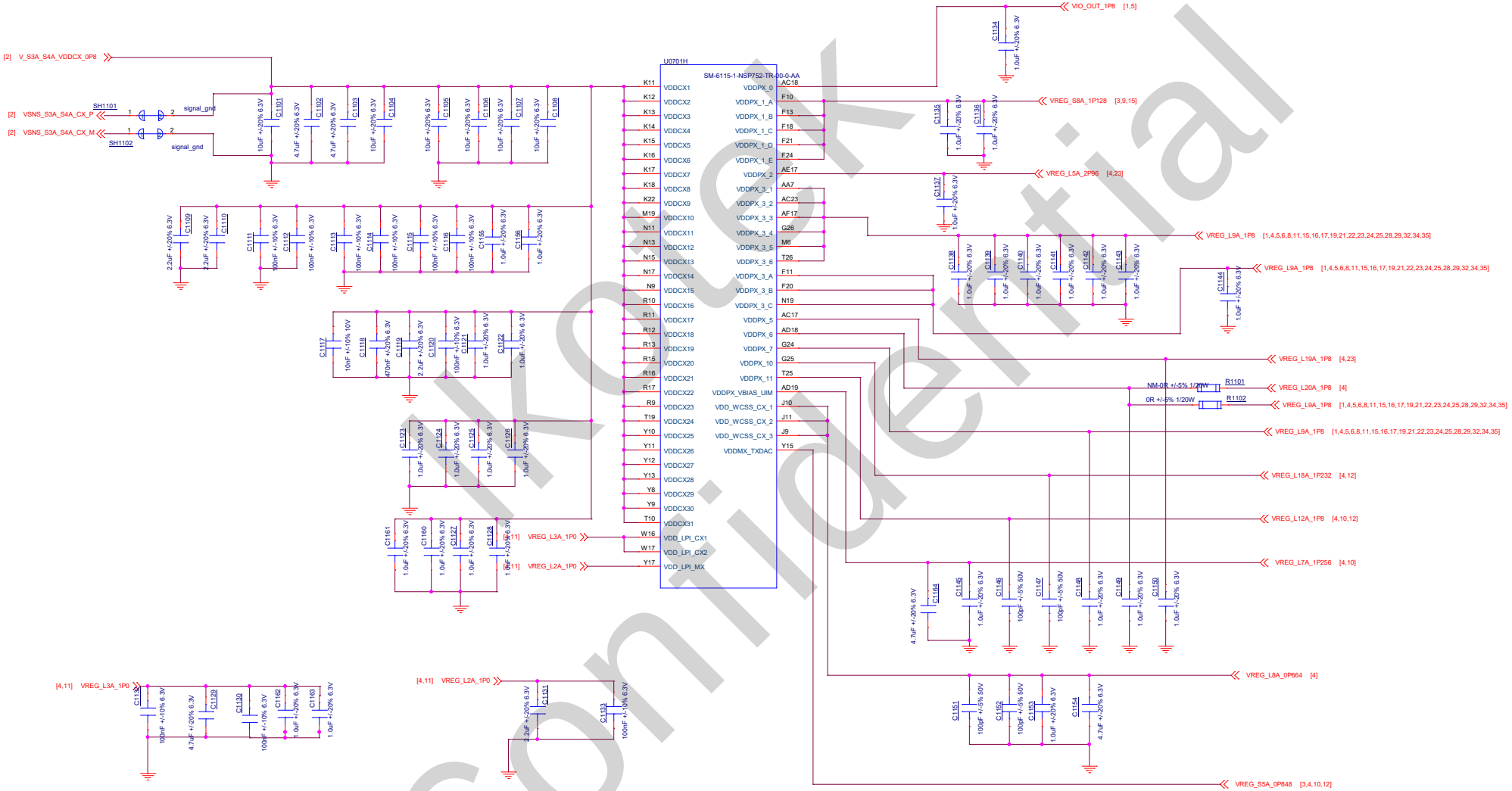

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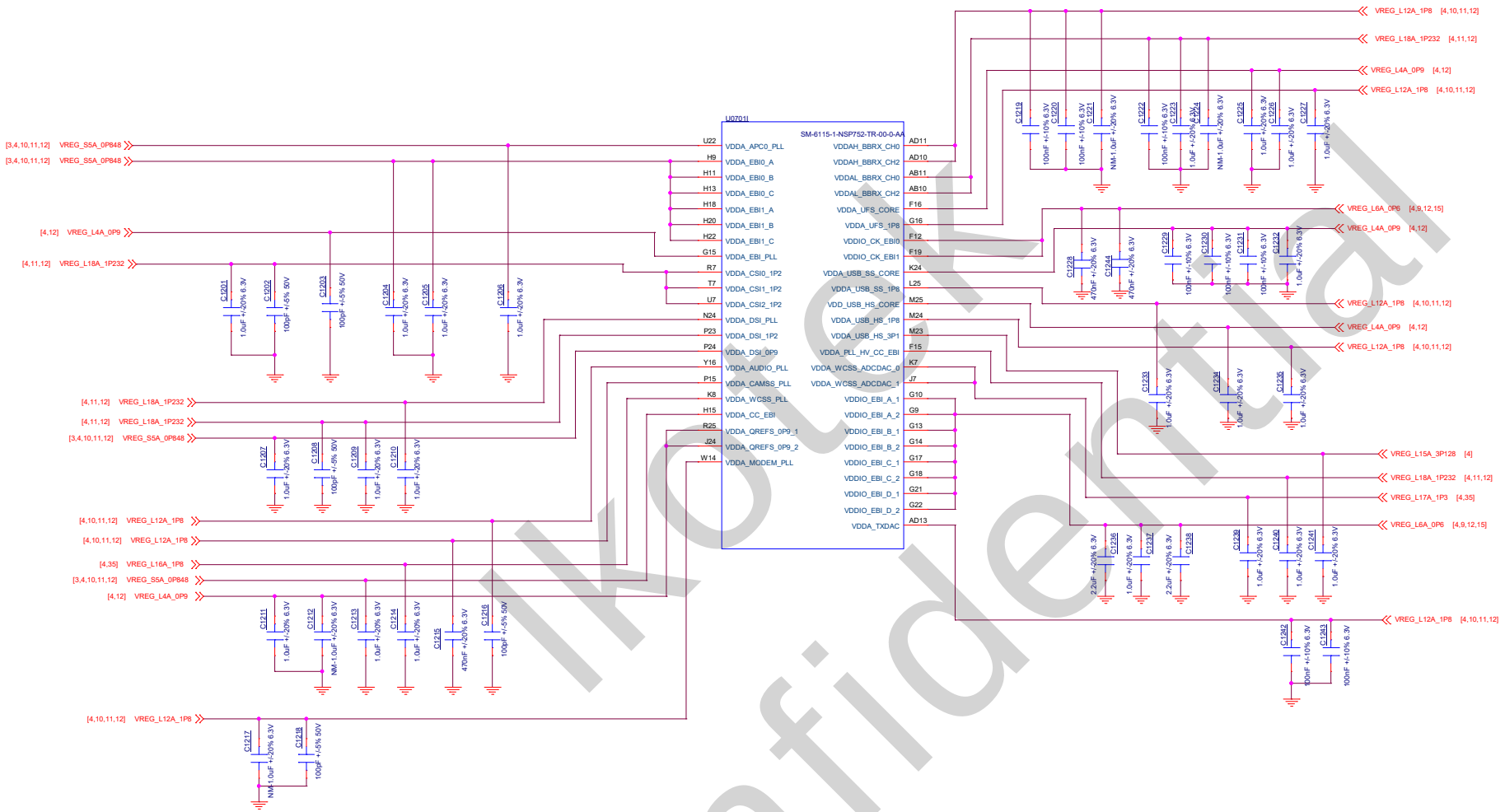

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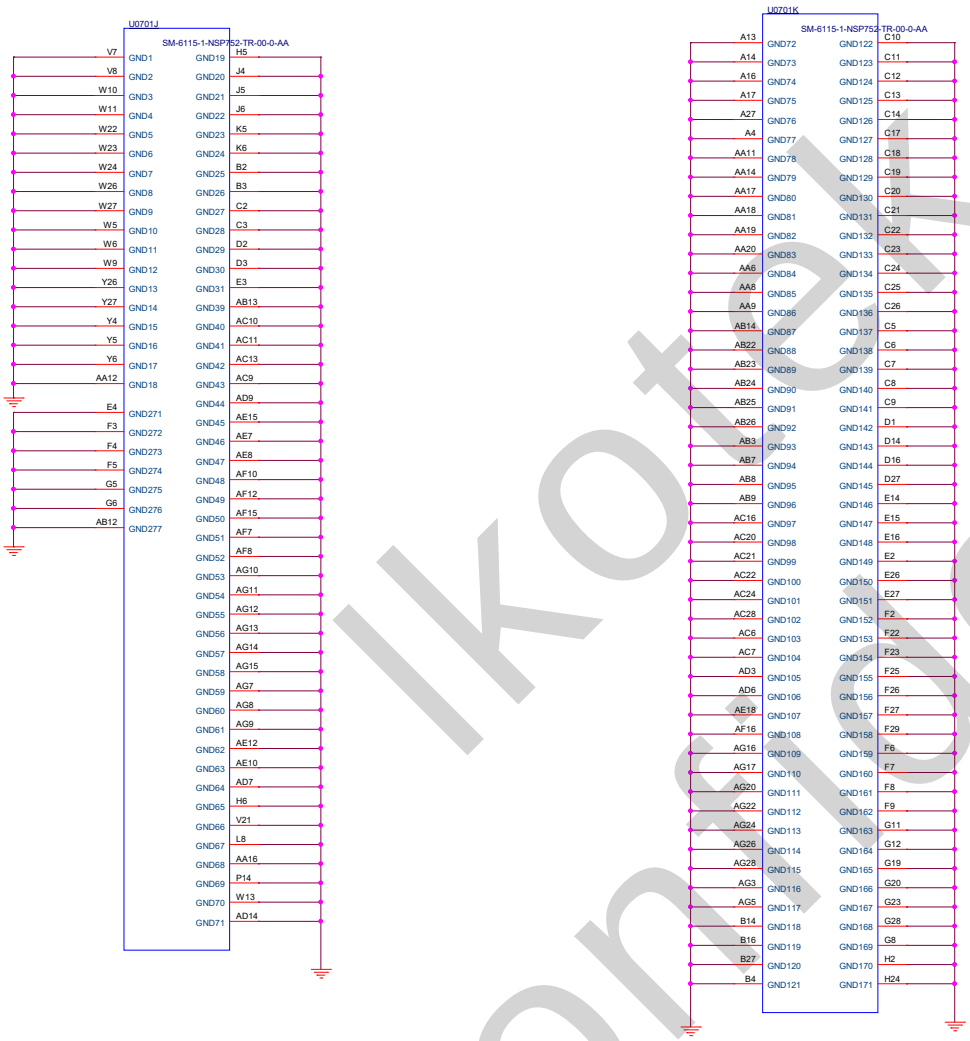

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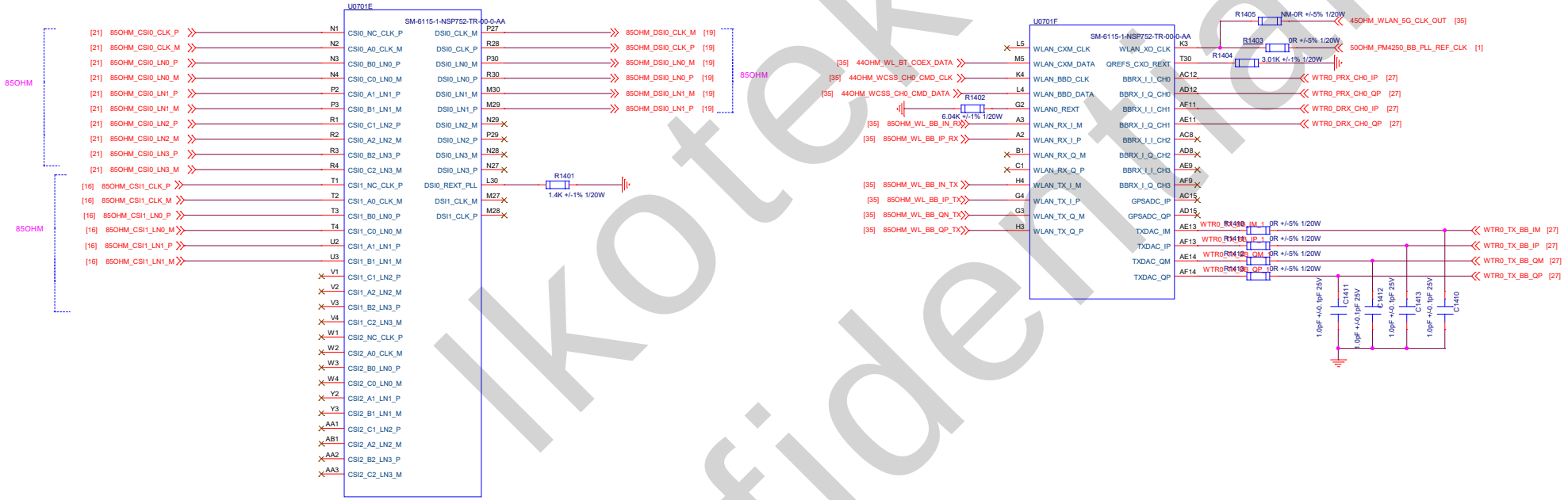

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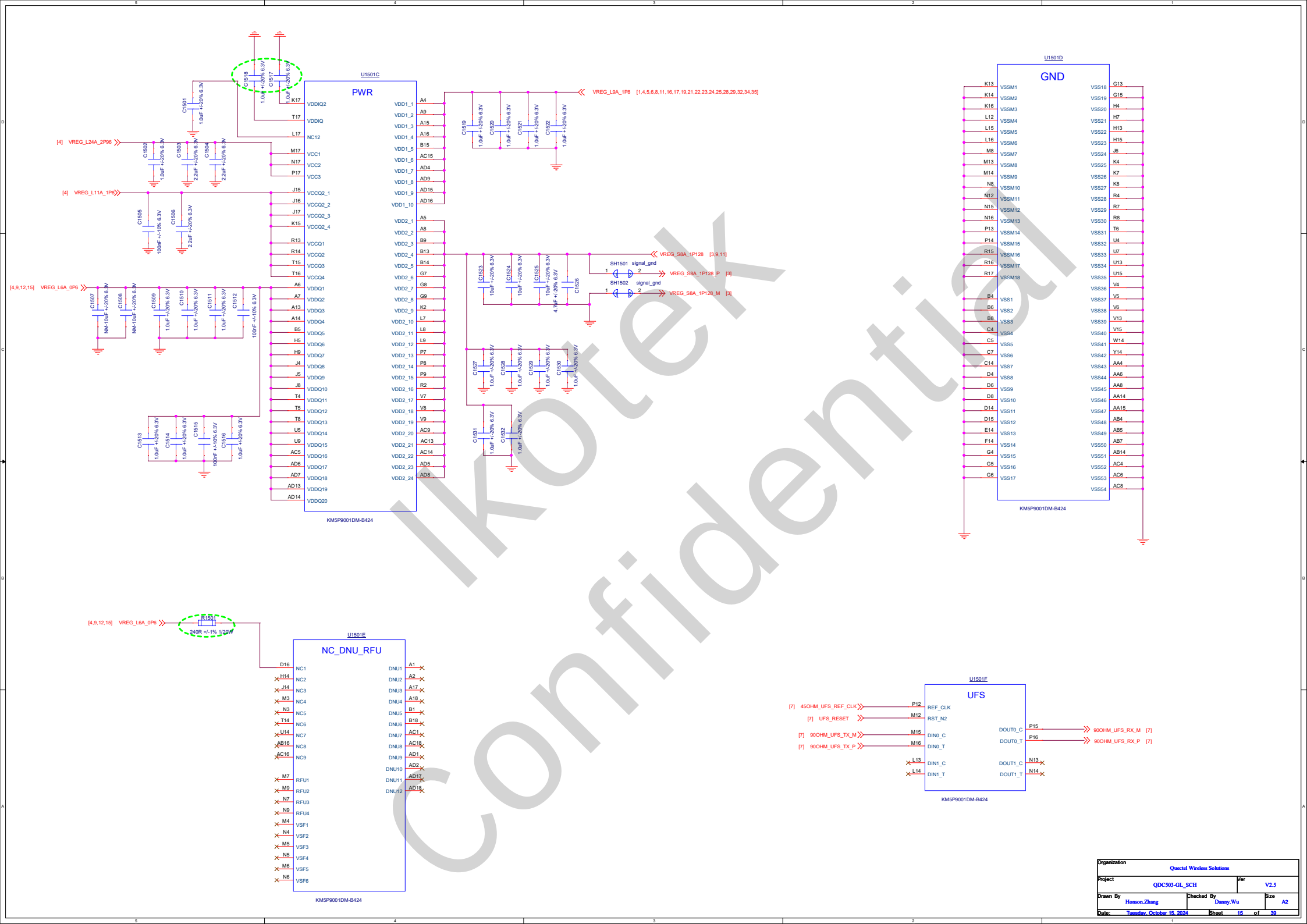

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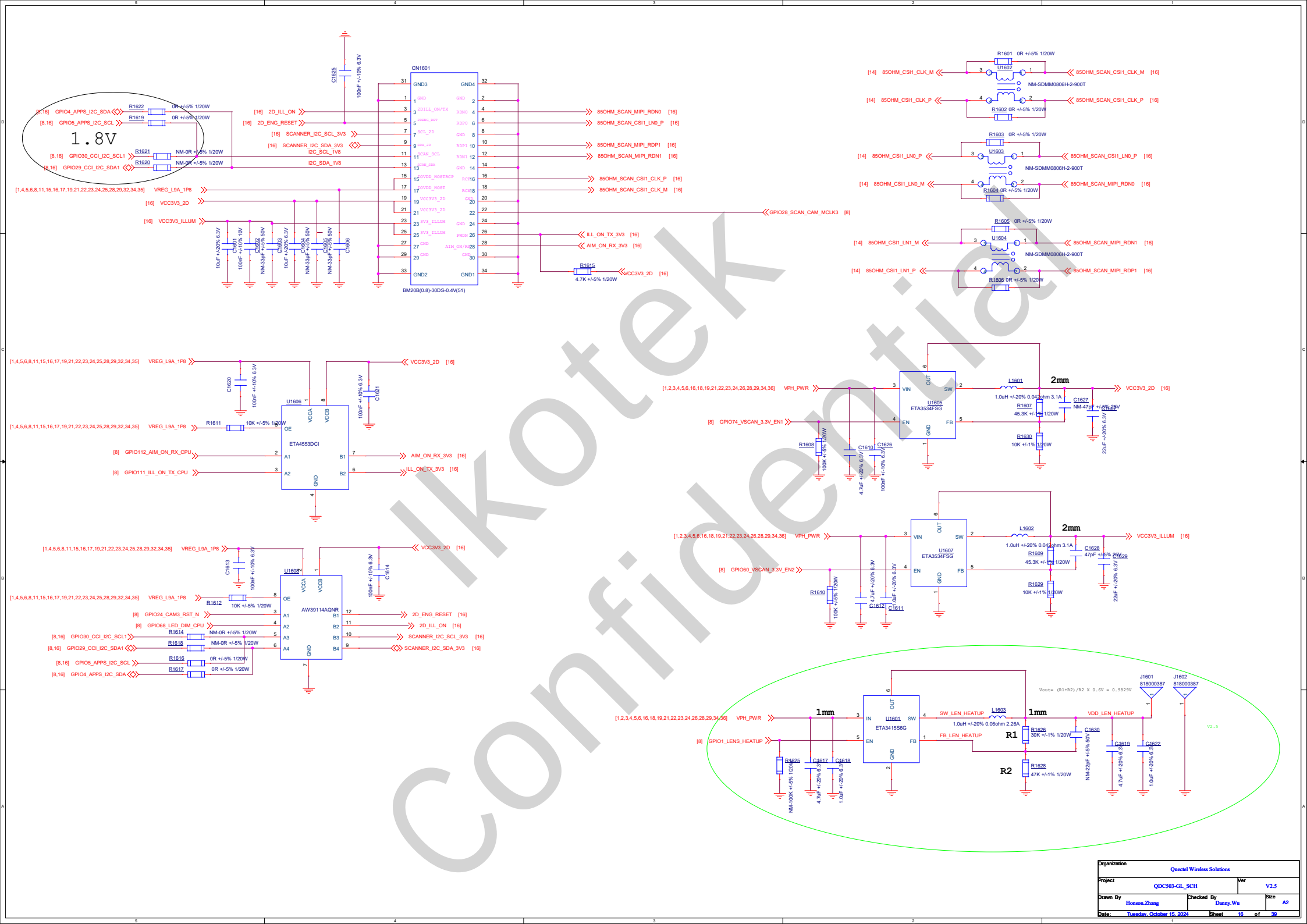
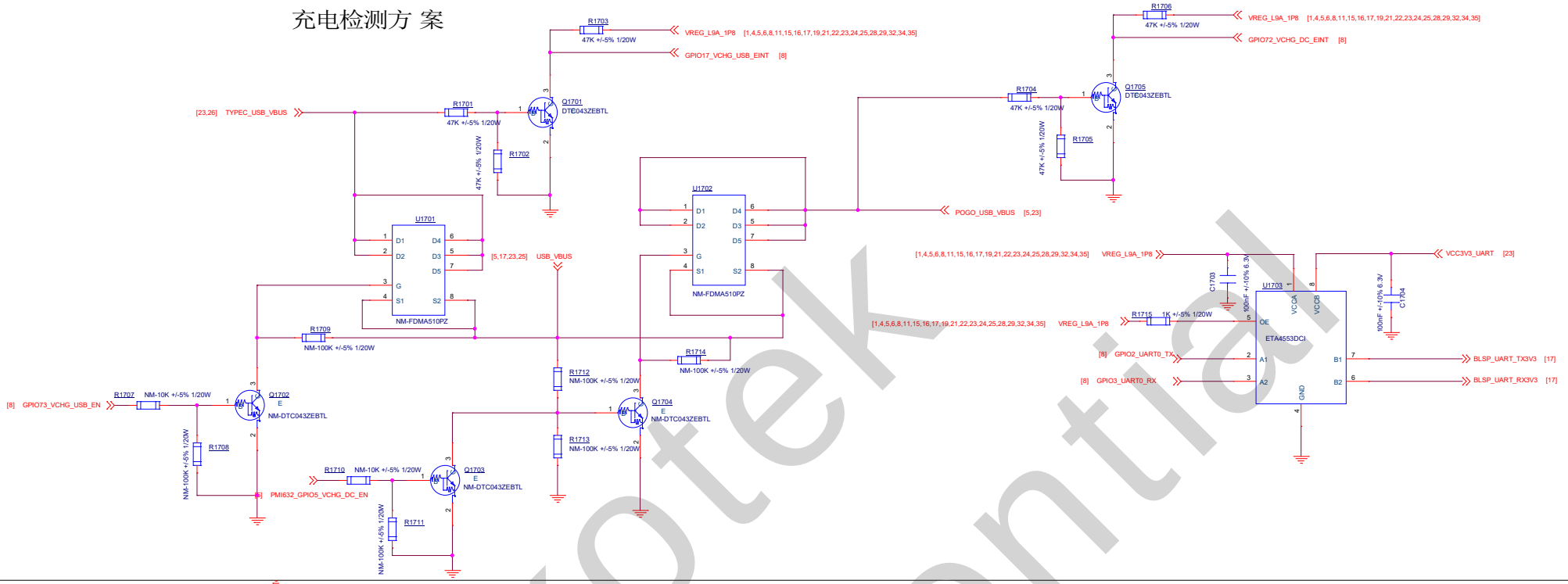
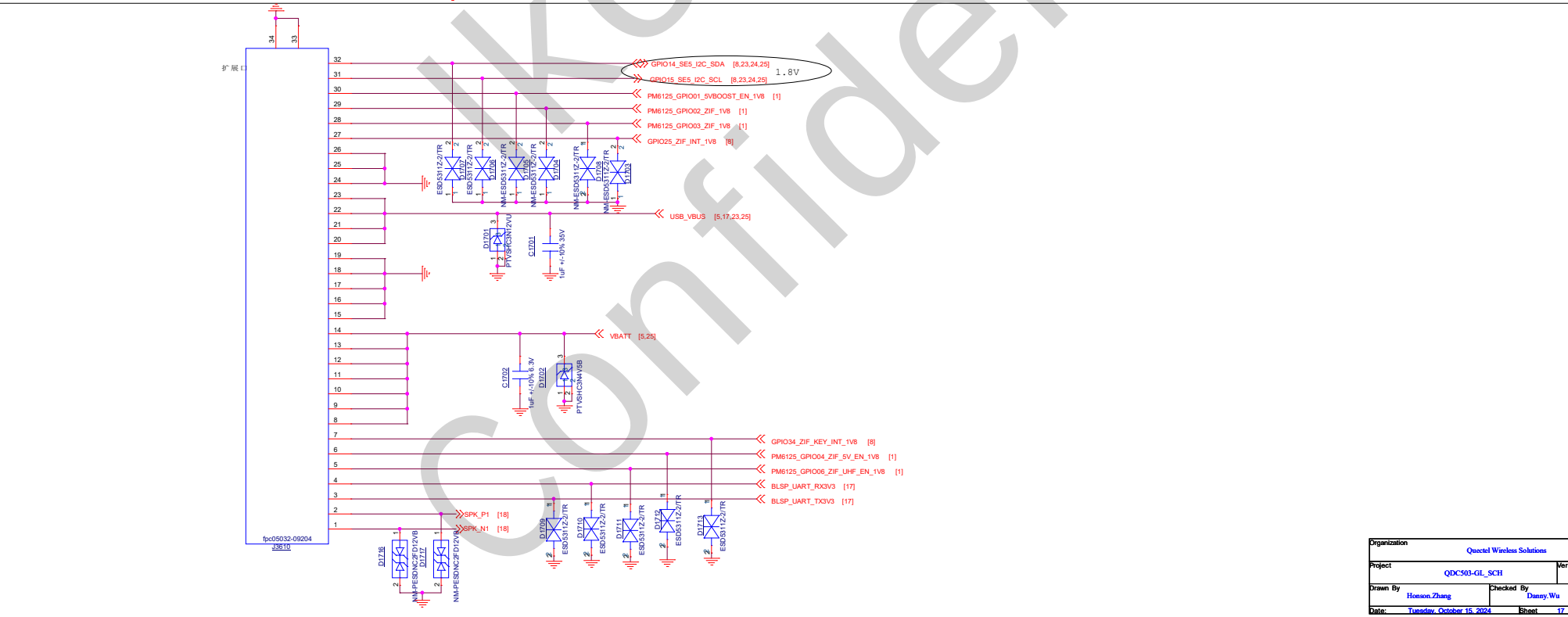


充电检测方 案





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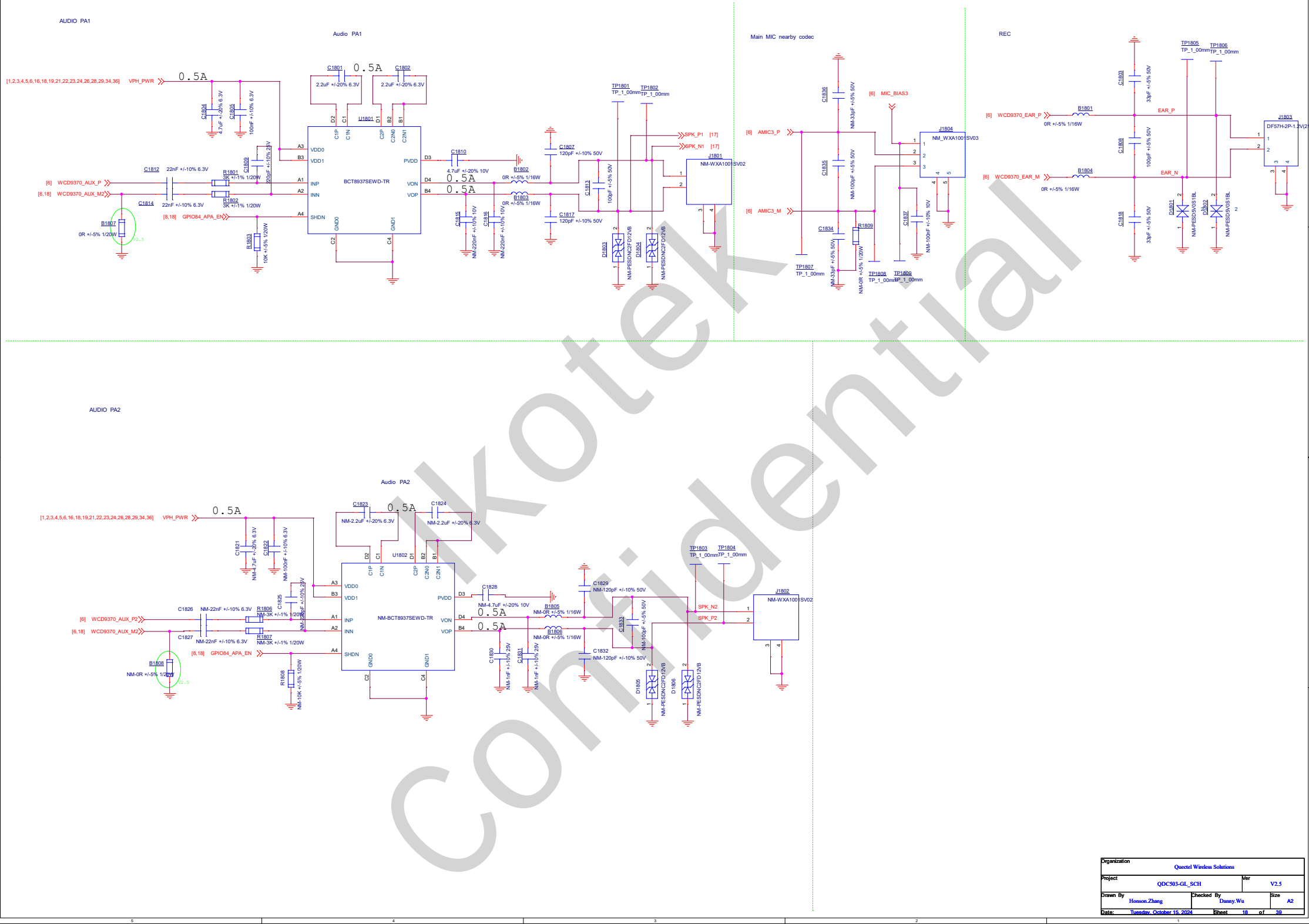

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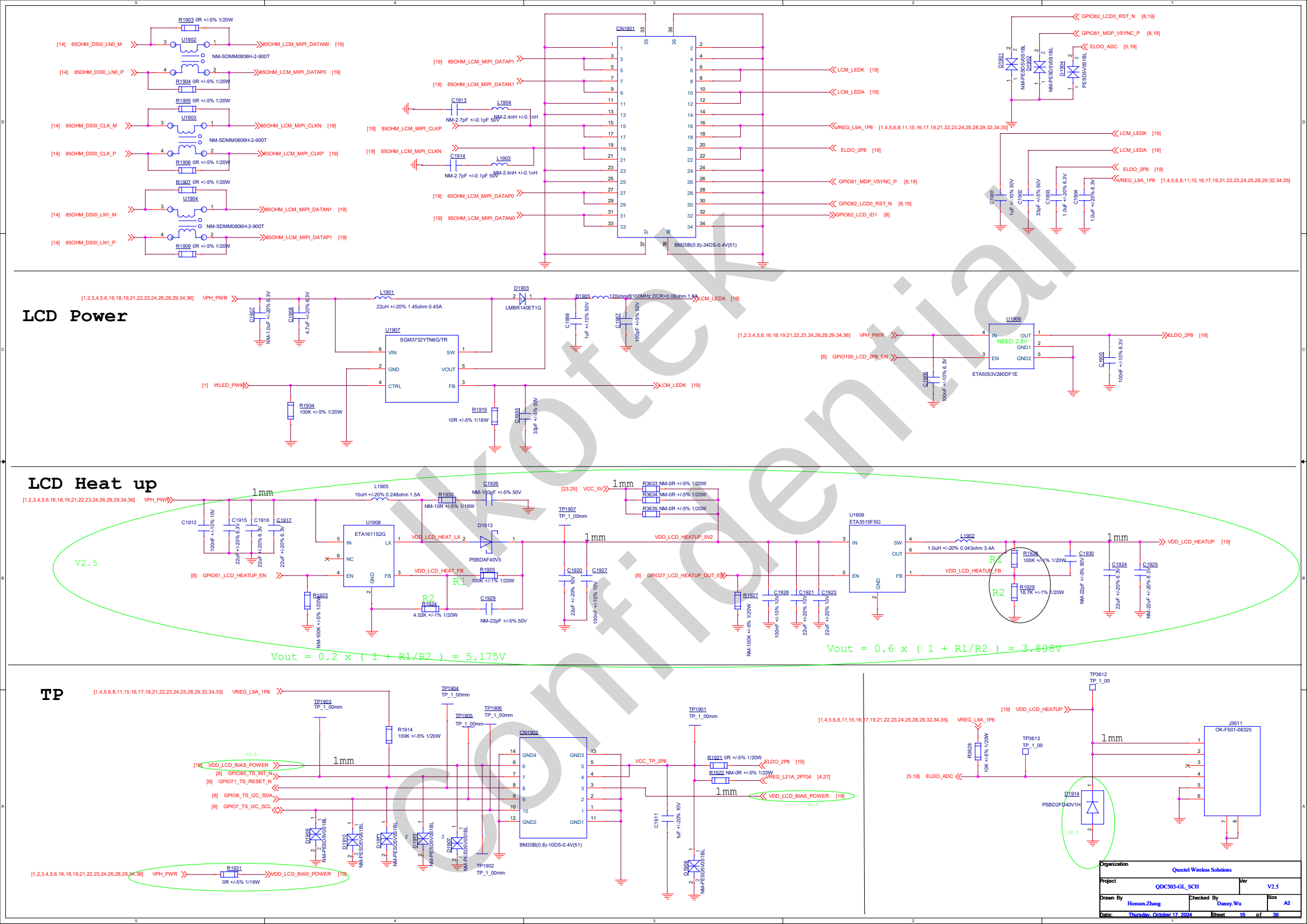

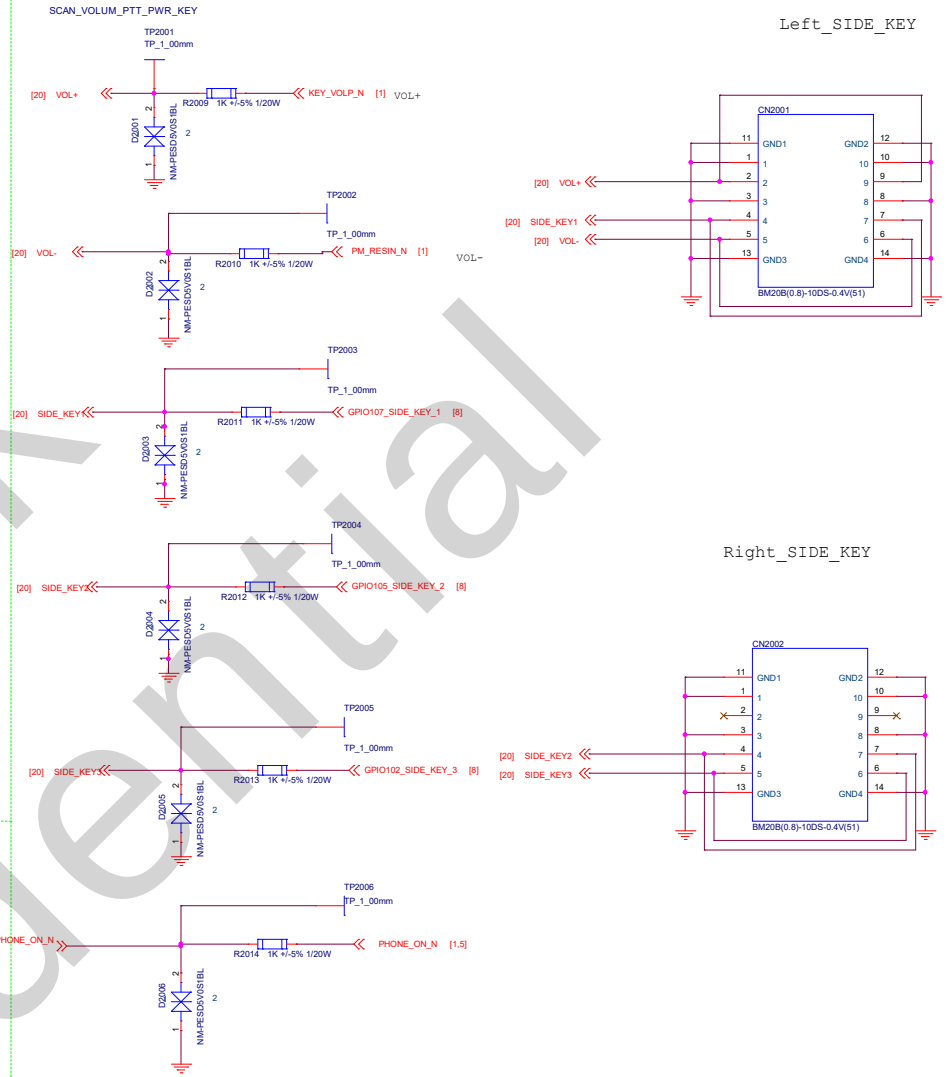

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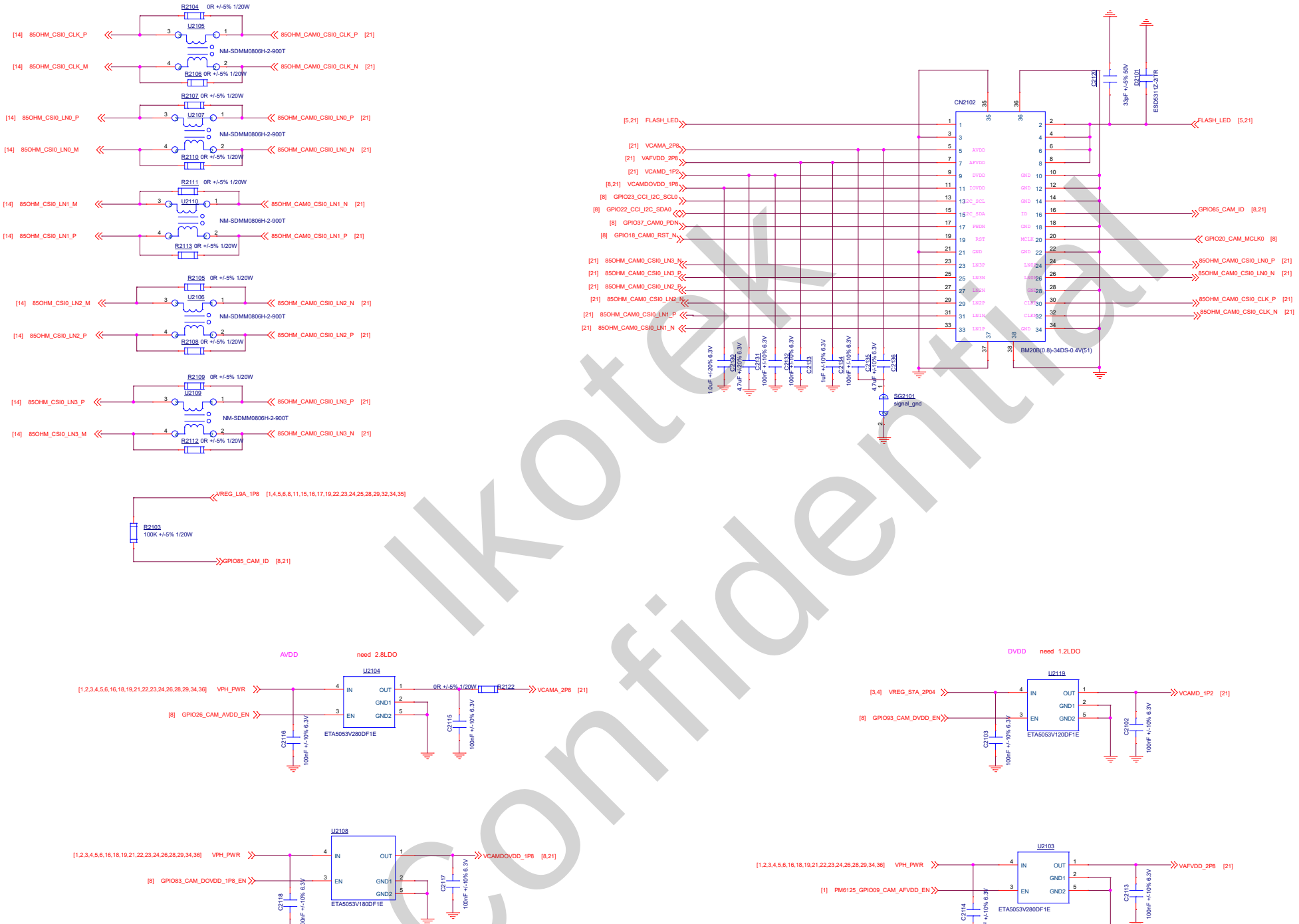

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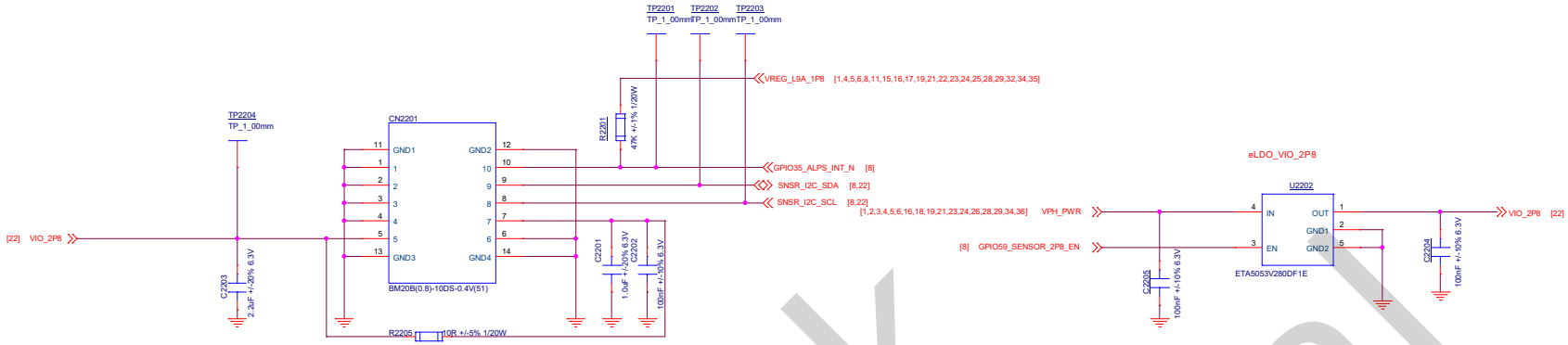
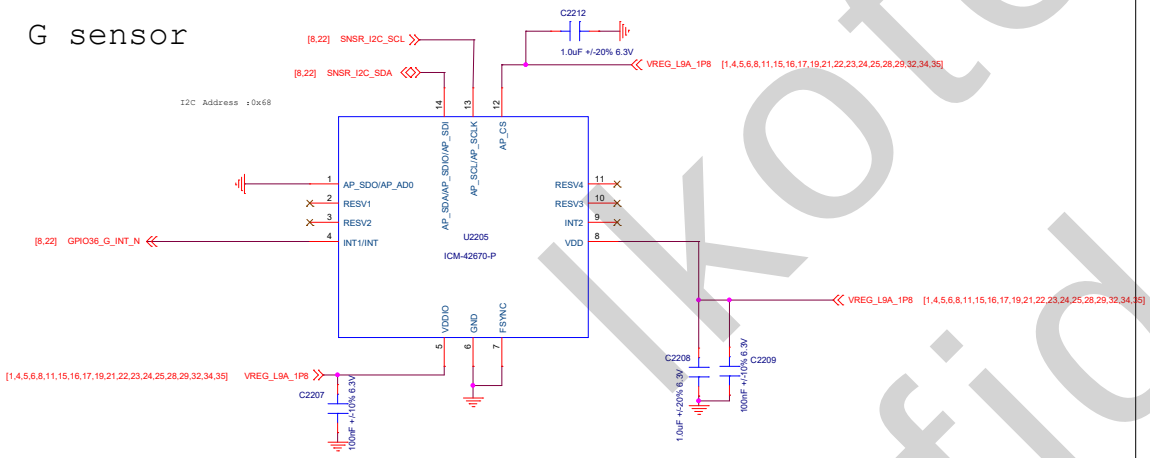
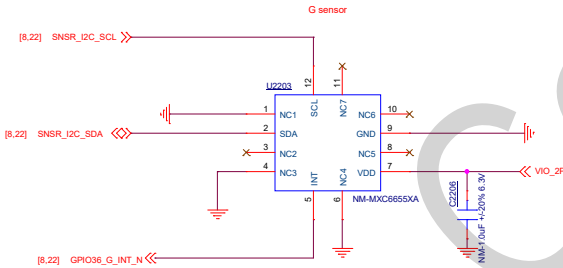
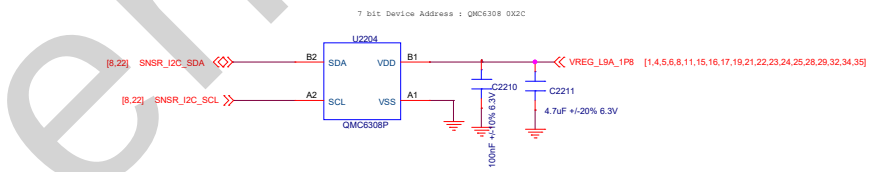
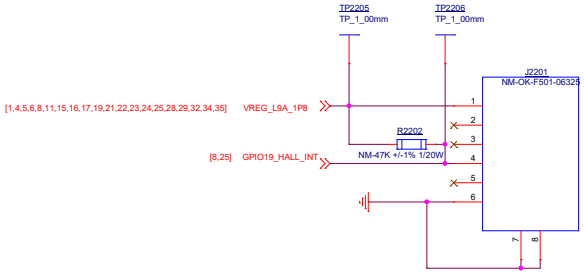


G sensor









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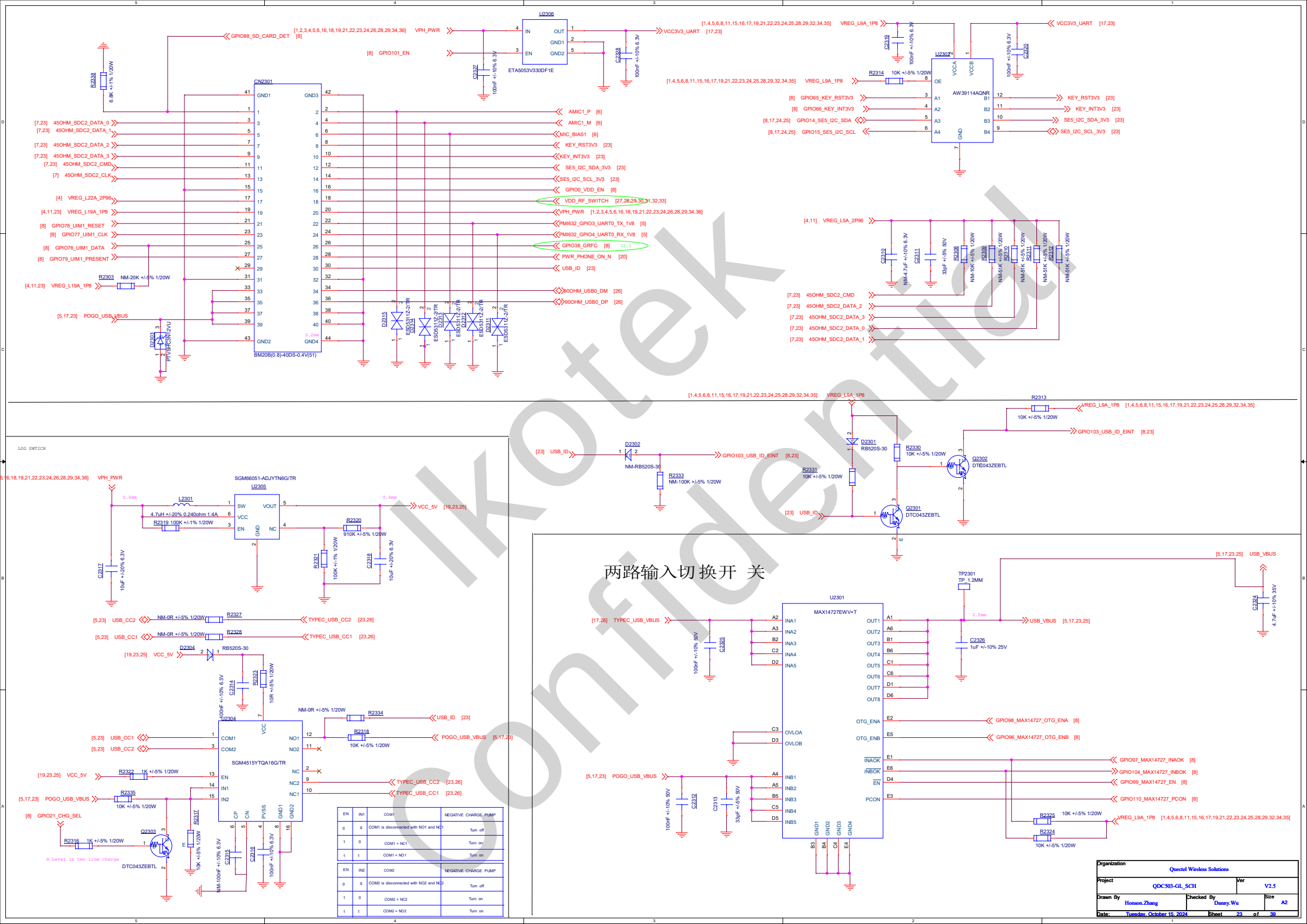

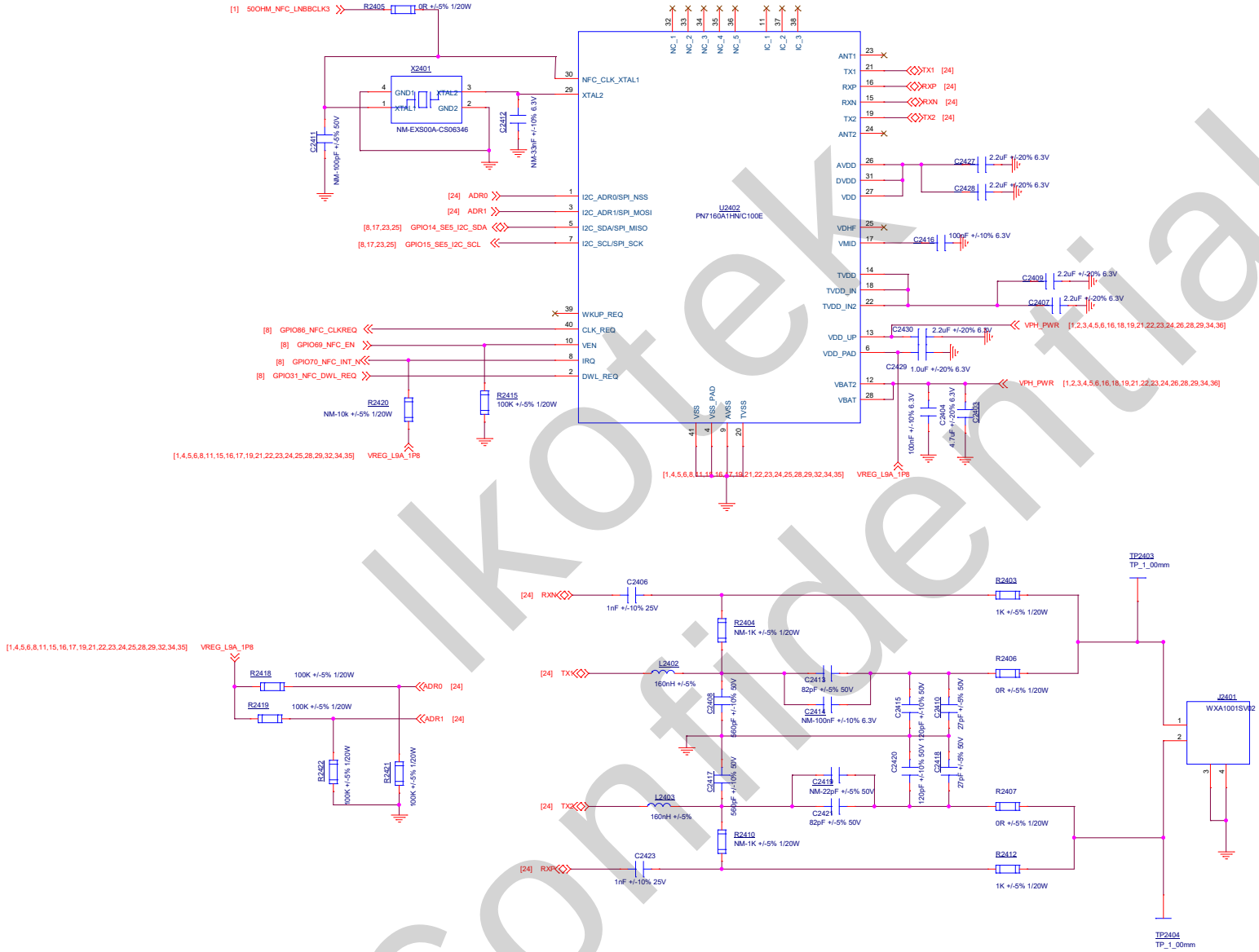

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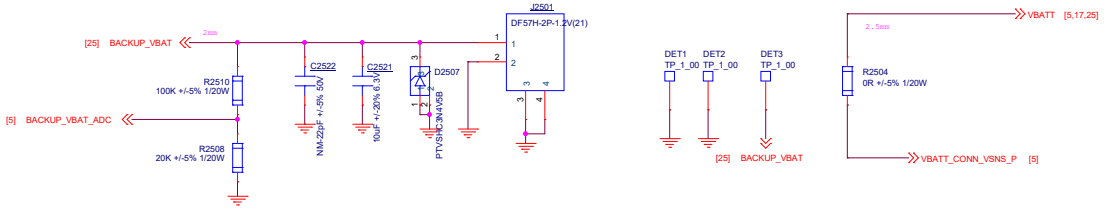
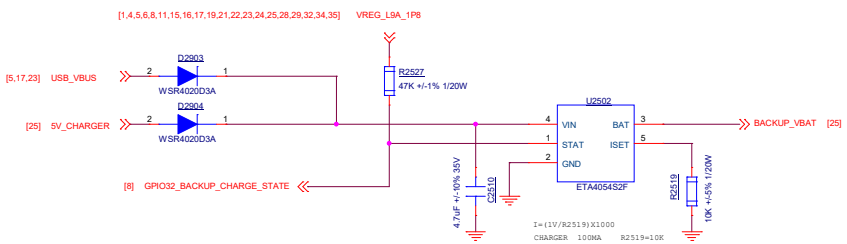
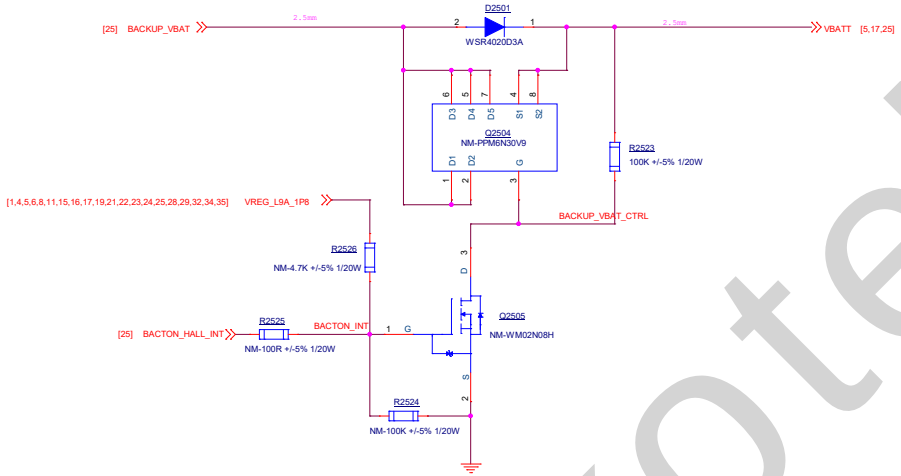
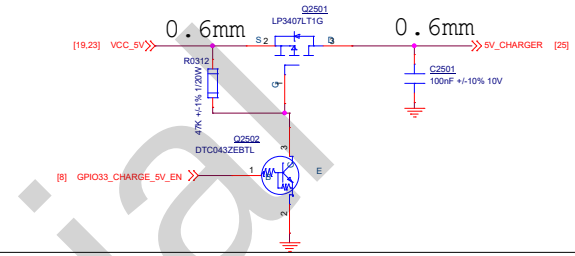
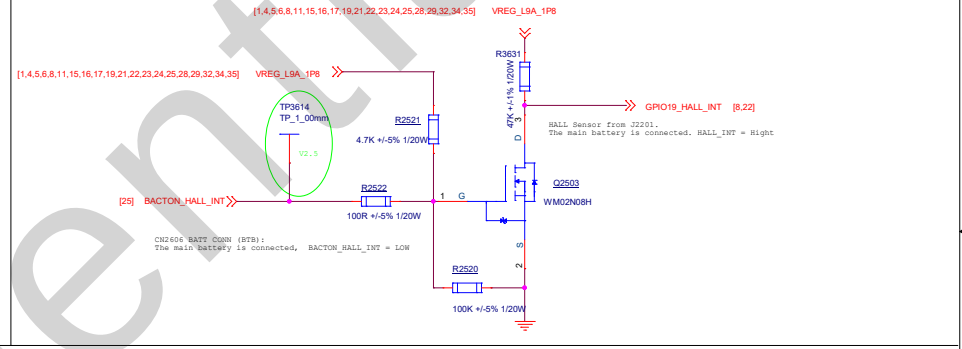




Battery Switching

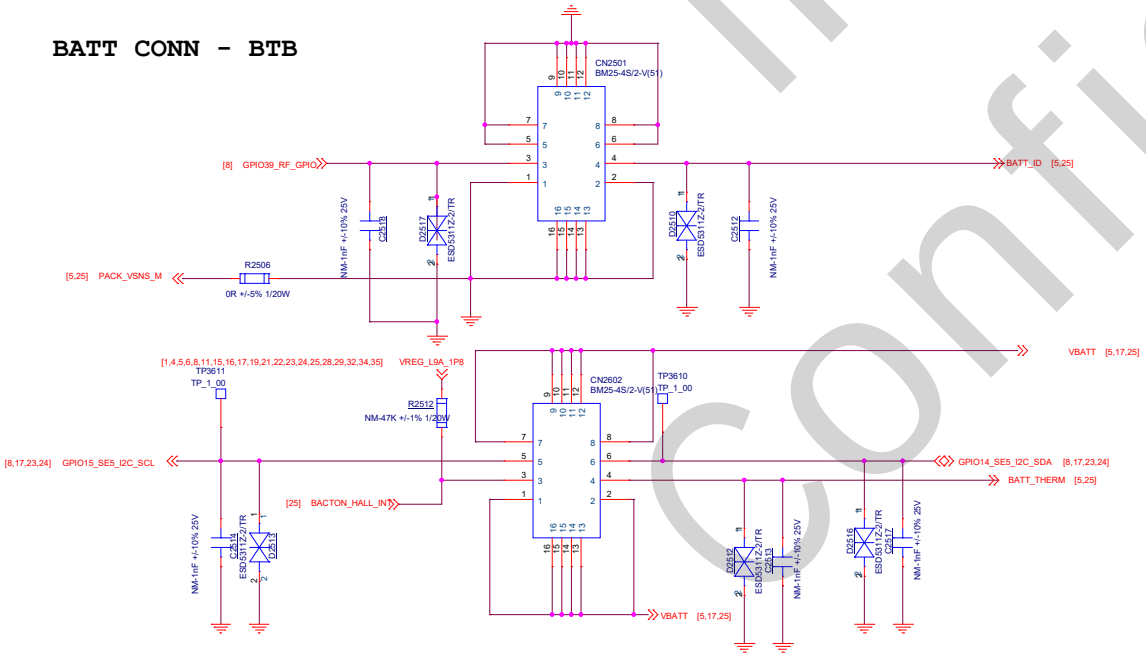




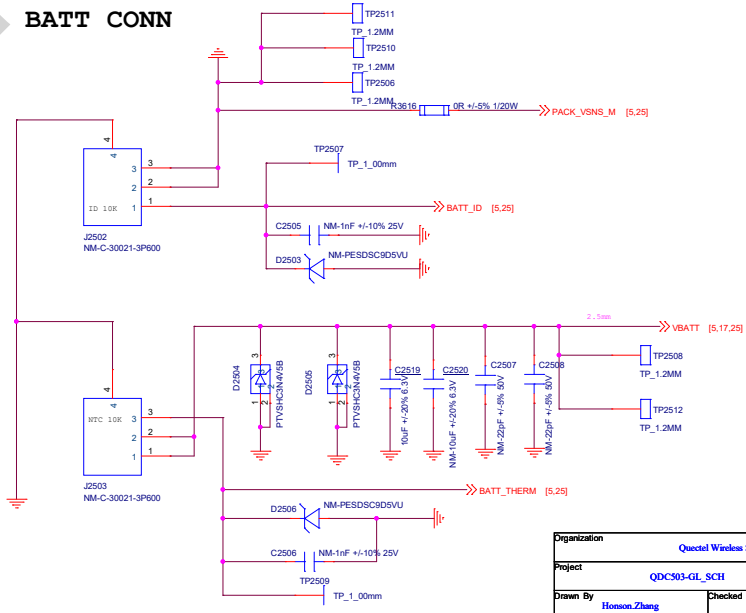


Option 2

BATT CONN - BTB



BATT CONN



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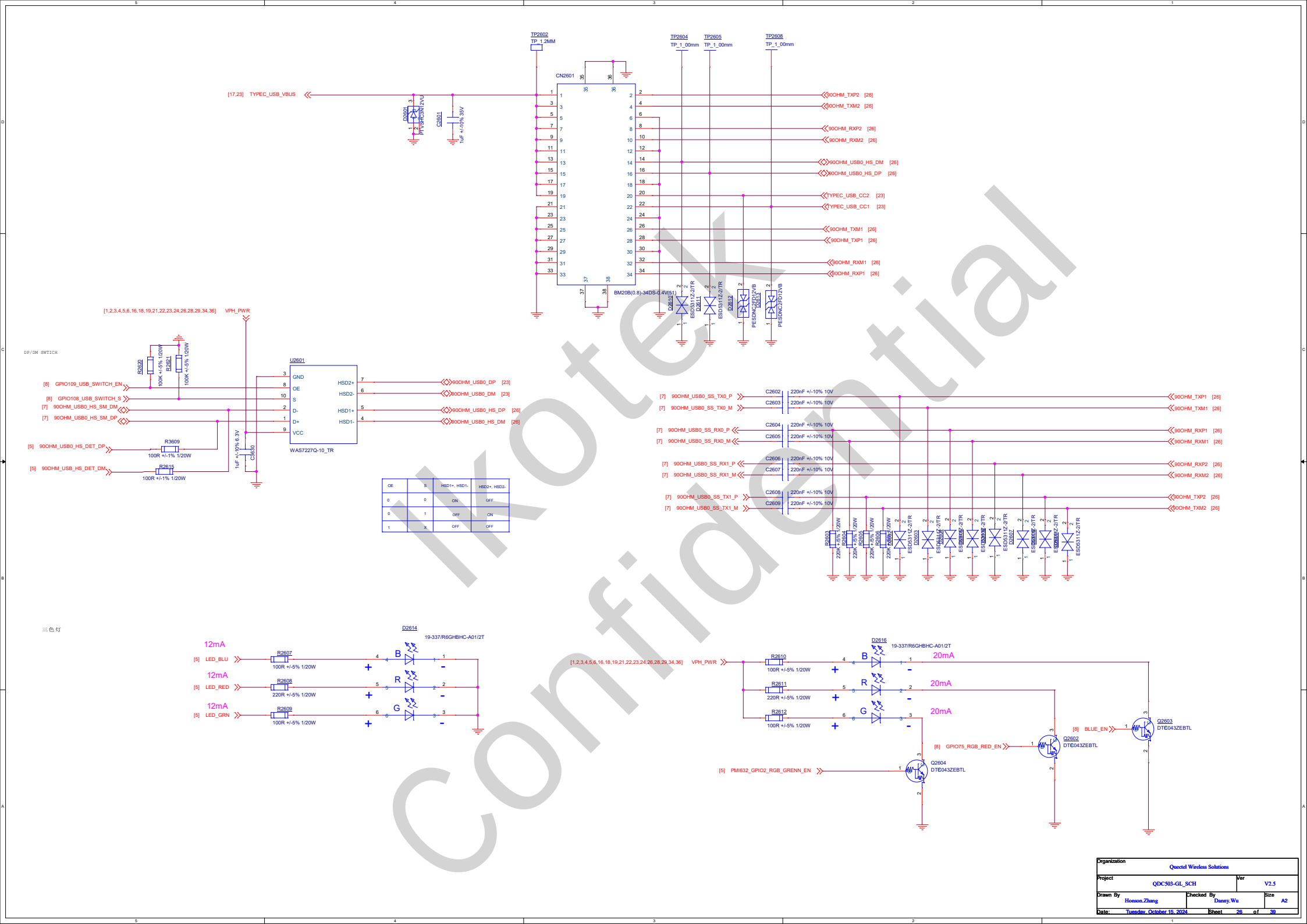

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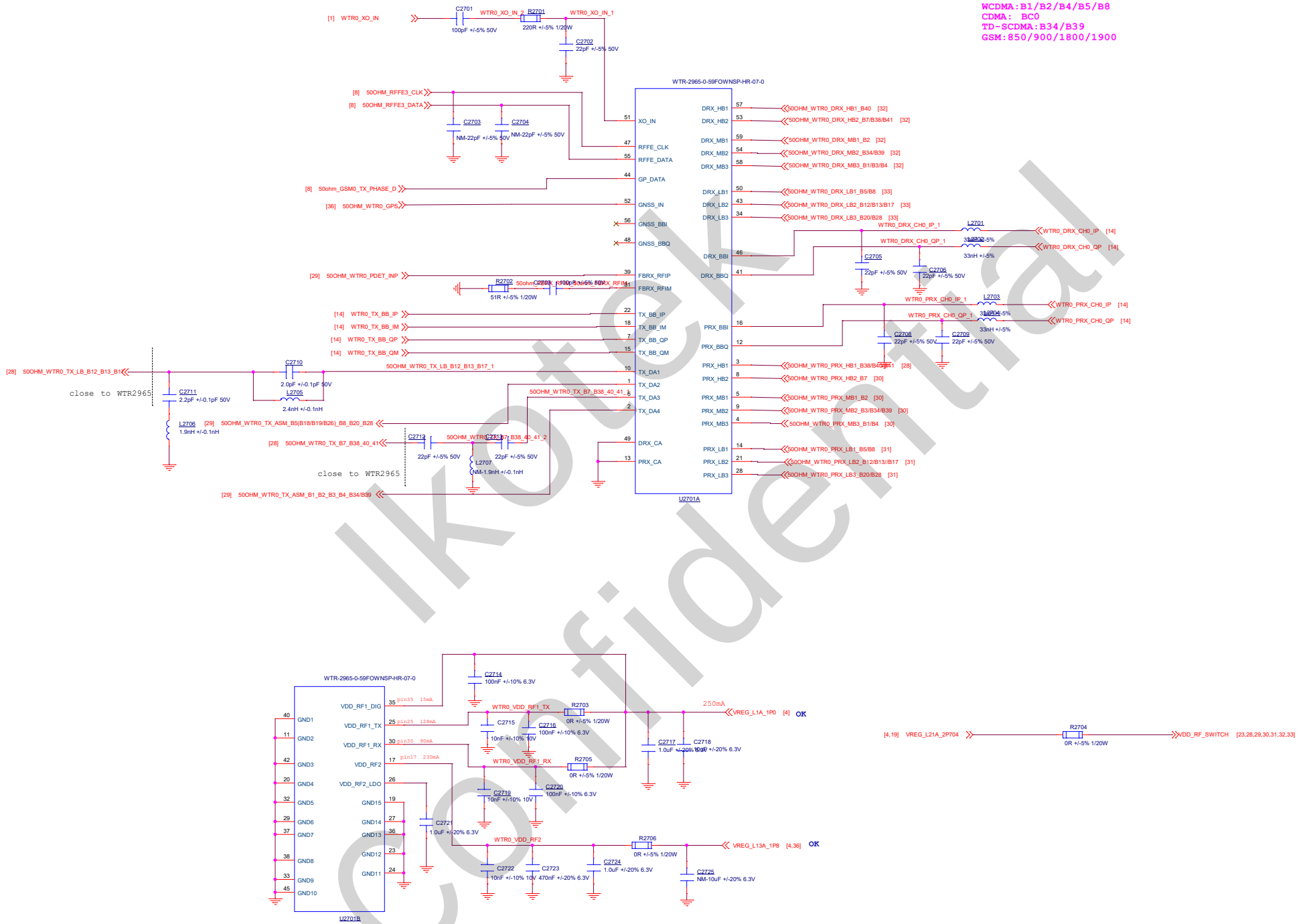
FDD-LTE:B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B18/B19/B20/B26/B28
TDD-LTE:B34/B38/B39/B40/B41
WCDMA:B1/B2/B4/B5/B8
CDMA: BC0
TD-SCDMA:B34/B39
GSM:850/900/1800/1900



[4,19] VREG_L21A_2P704
R2704 0R +/-5% 1/20W
VDD_RF_SWITCH [23,28,29,30,31,32,33]

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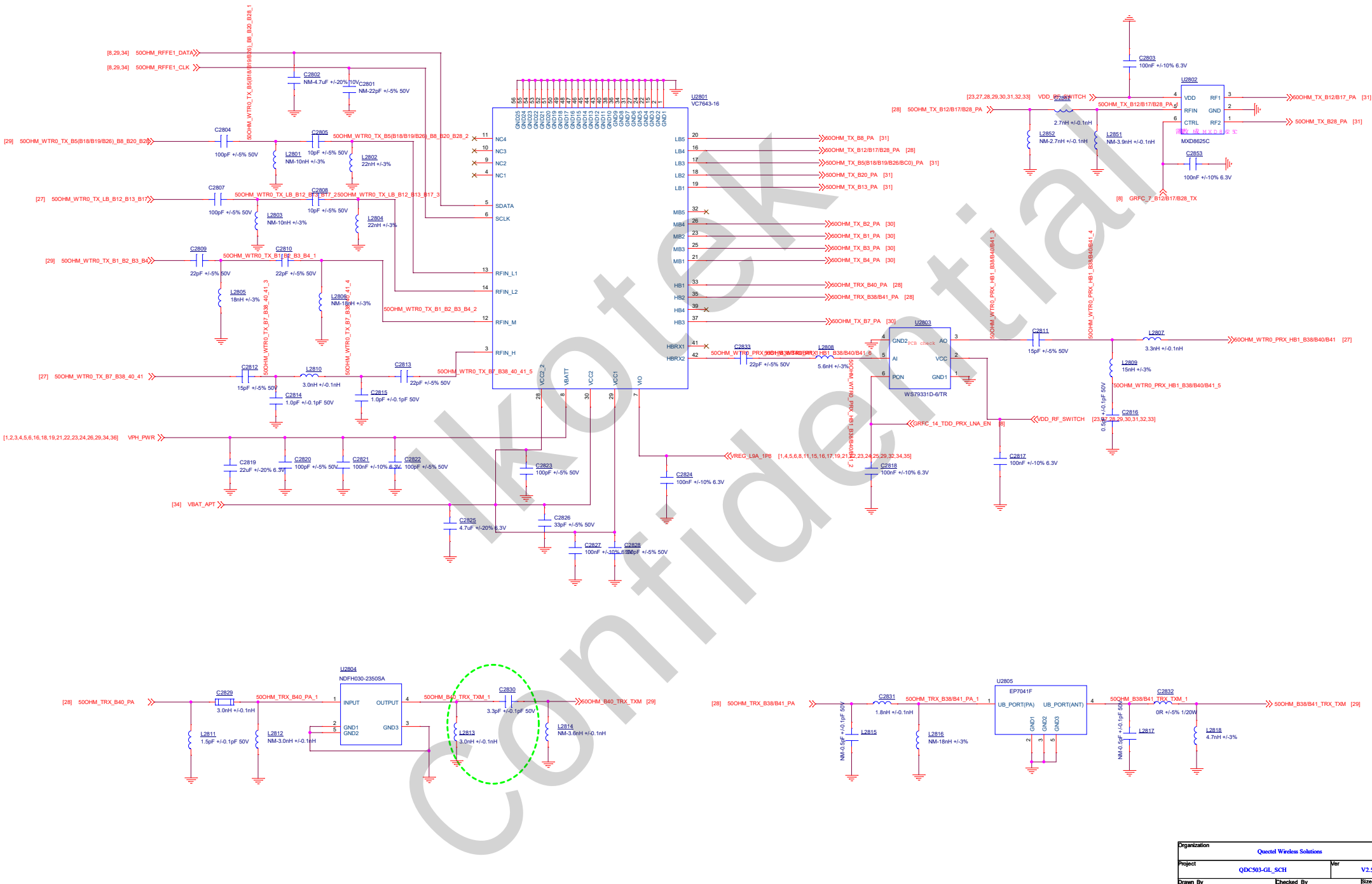

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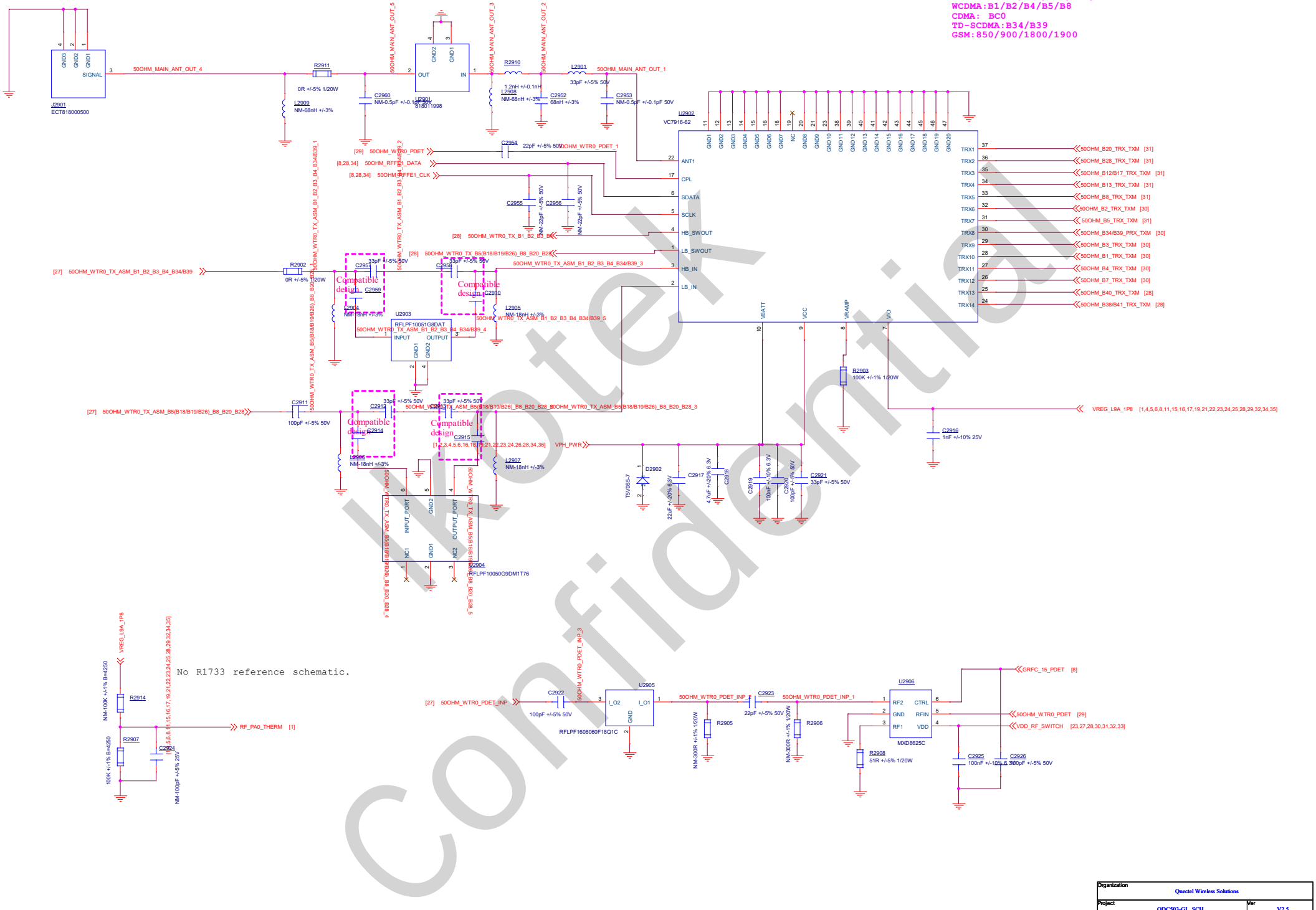
FDD-LTE:B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B18/B19/B20/B26/B28
TDD-LTE:B34/B38/B39/B40/B41
WCDMA:B1/B2/B4/B5/B8
CDMA: BC0
TD-SCDMA:B34/B39
GSM:850/900/1800/1900



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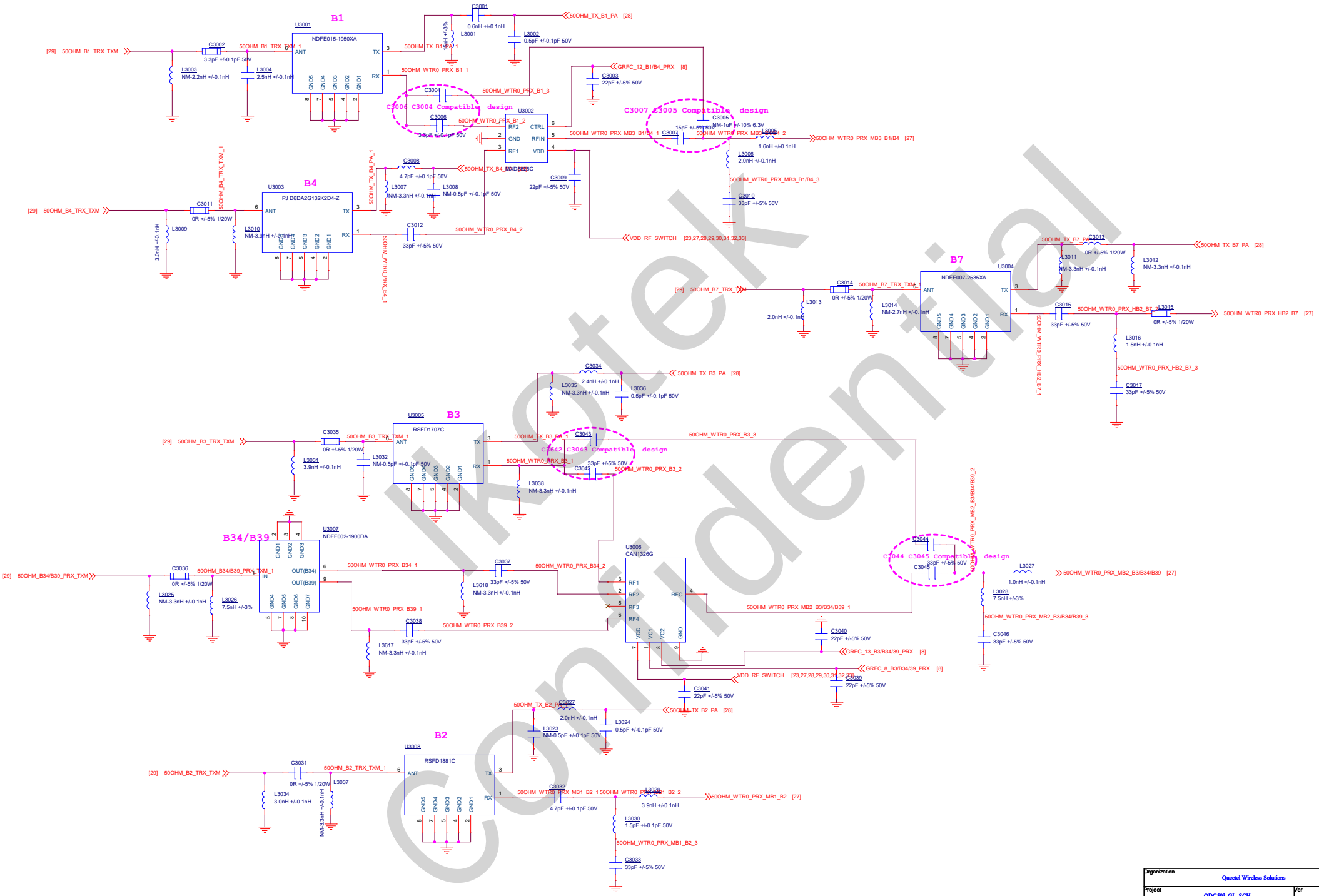

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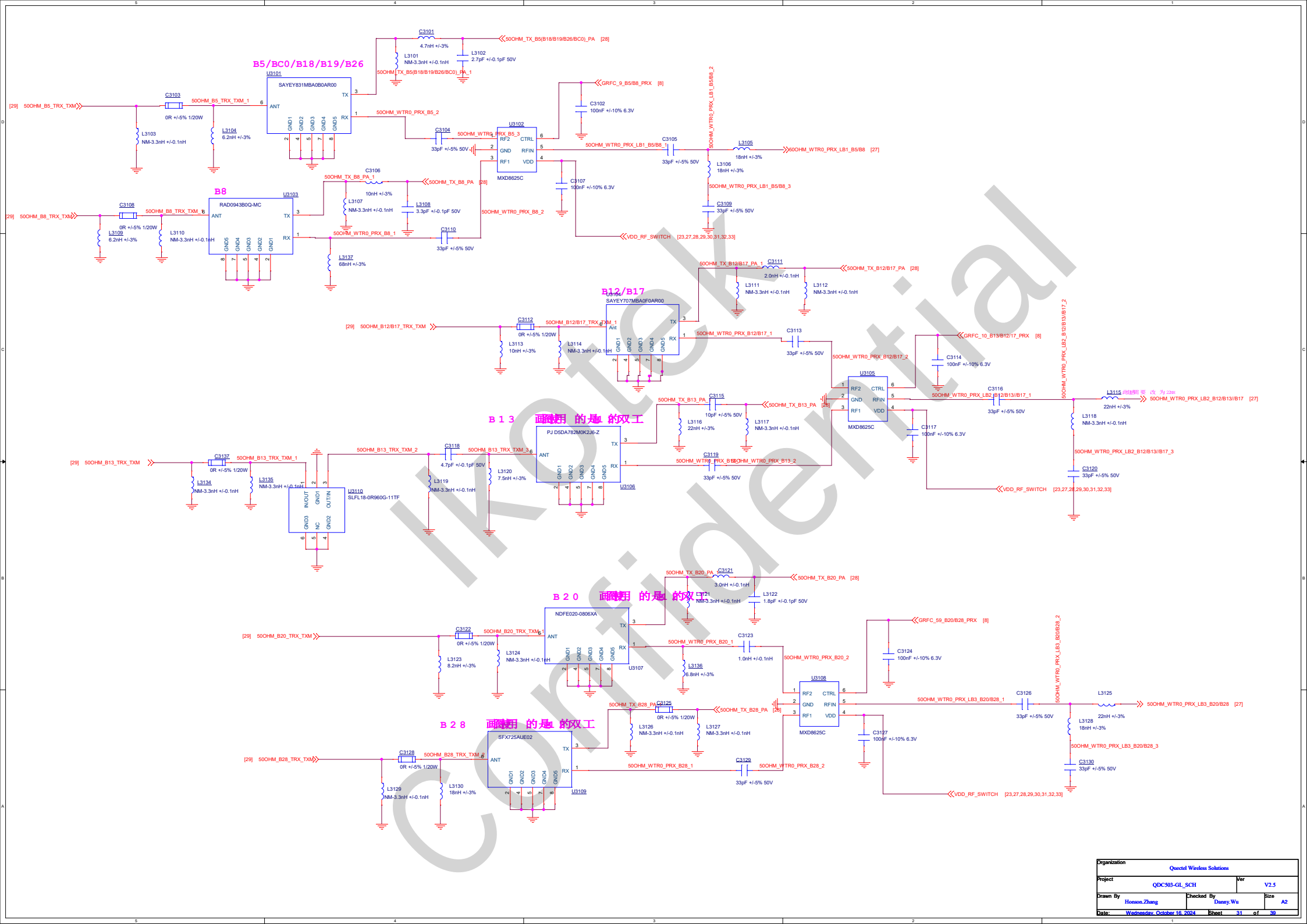

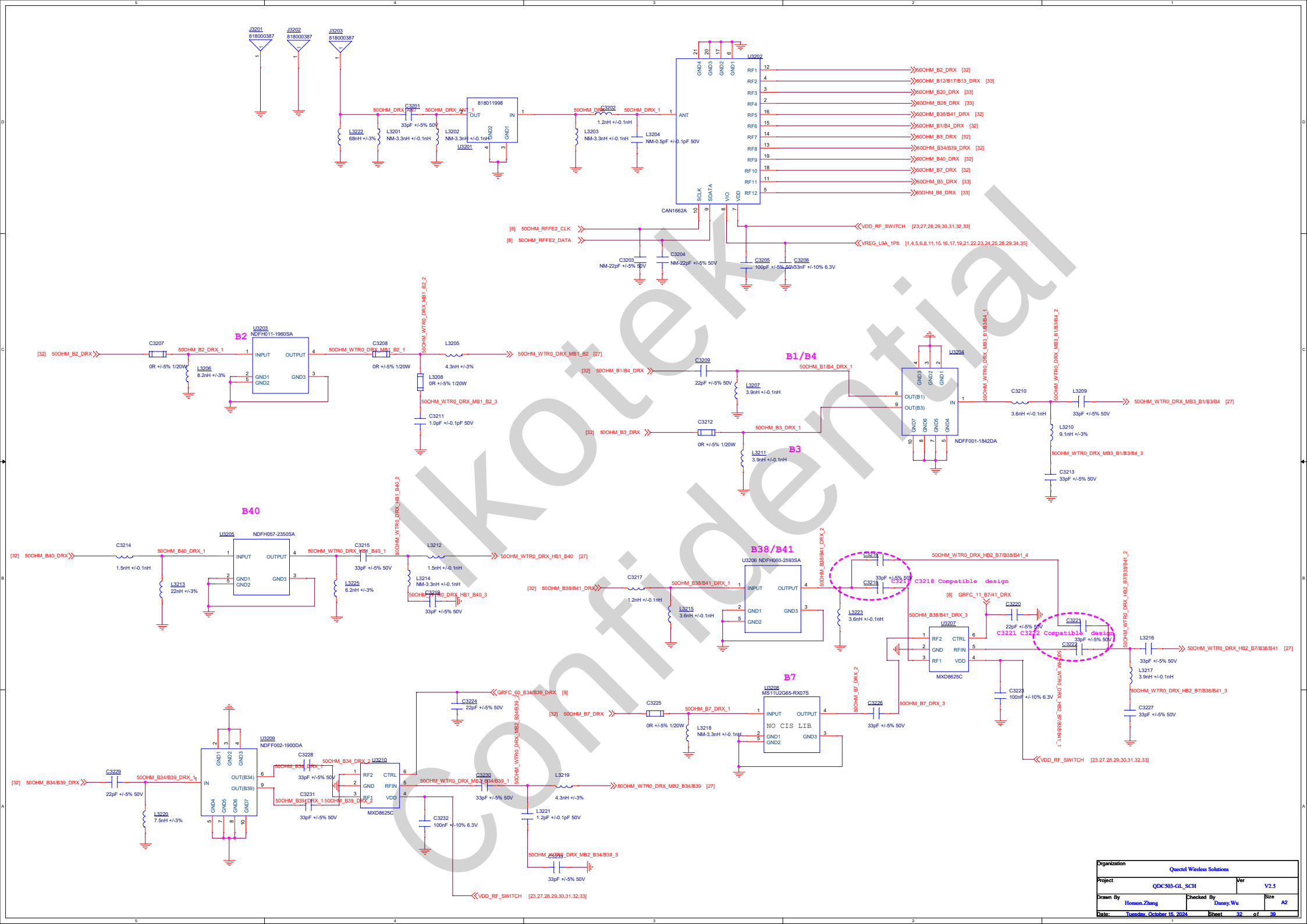

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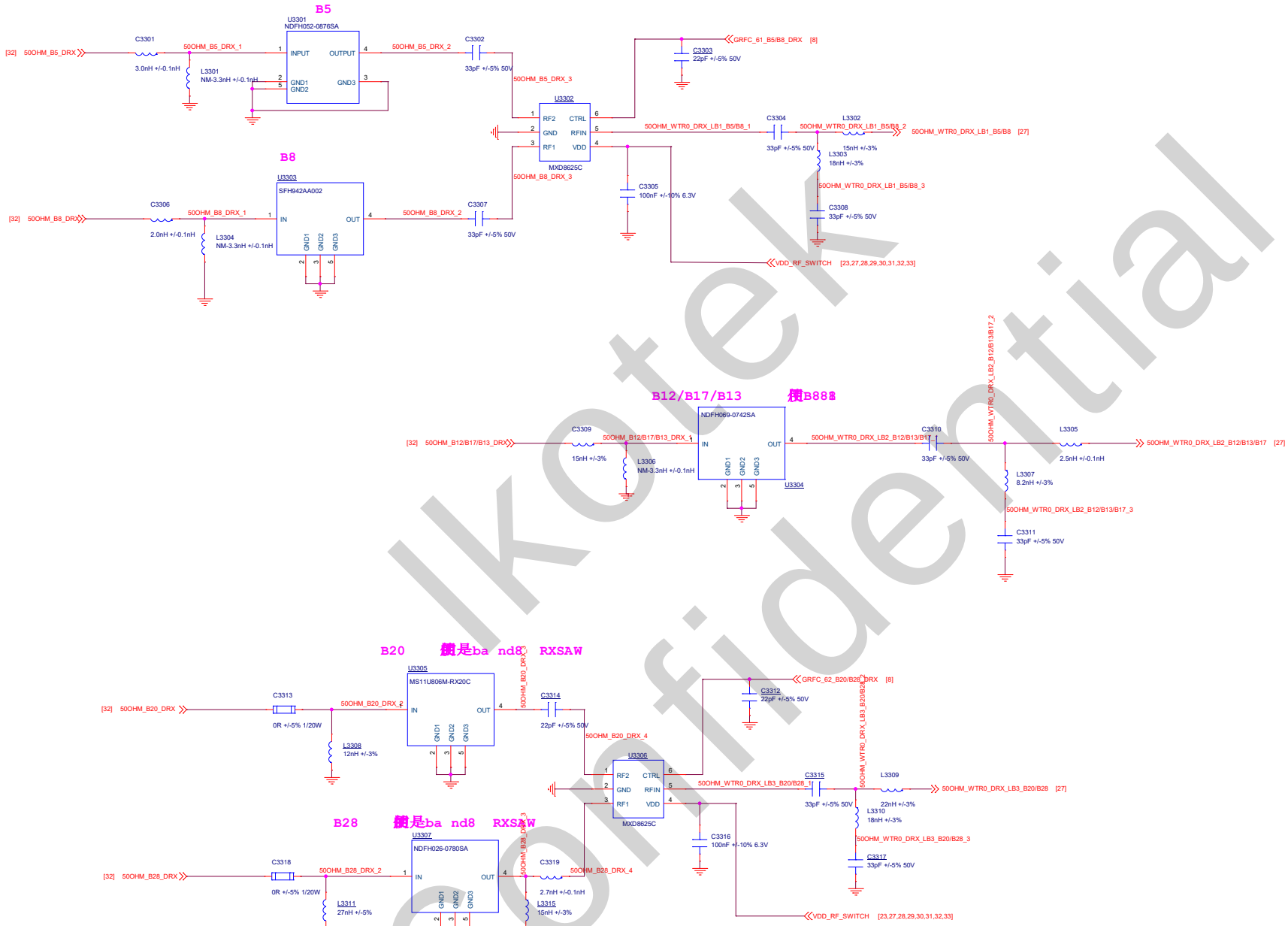

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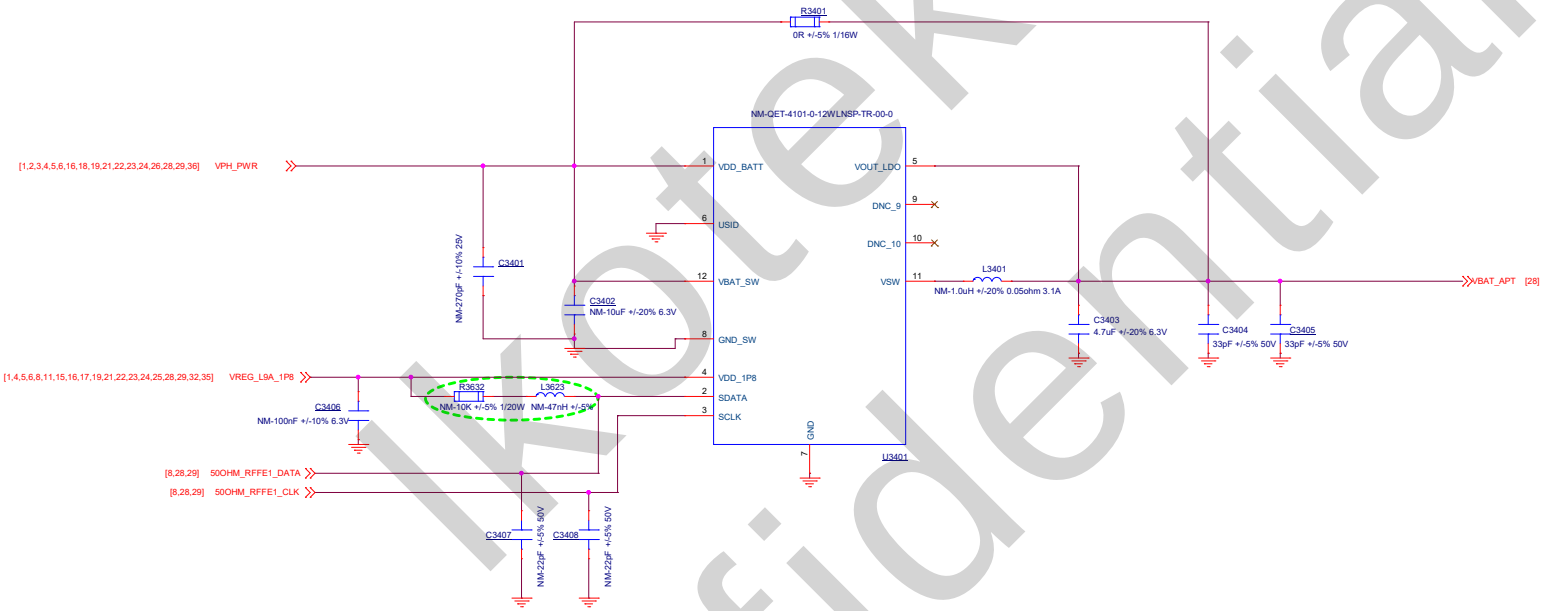

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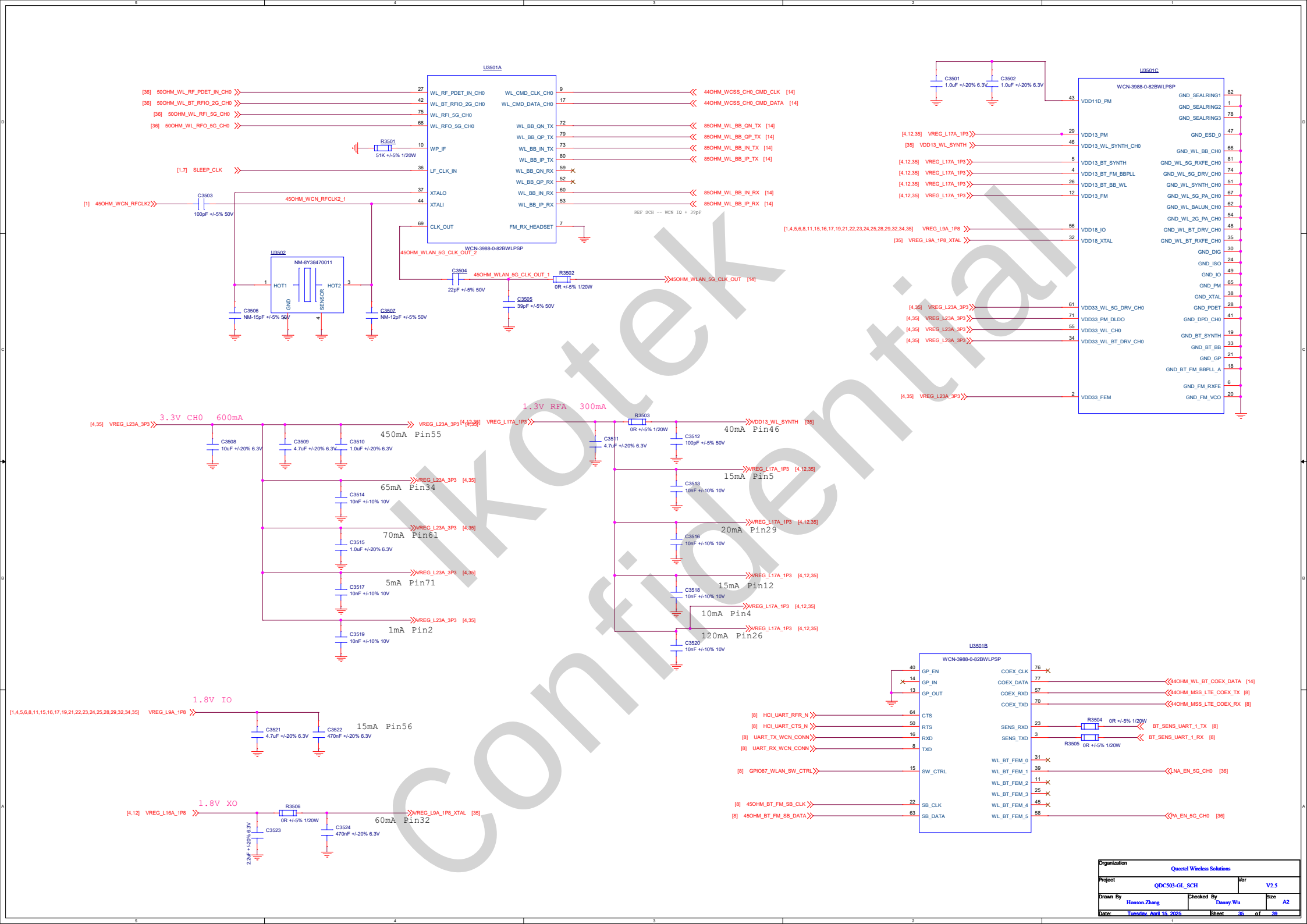

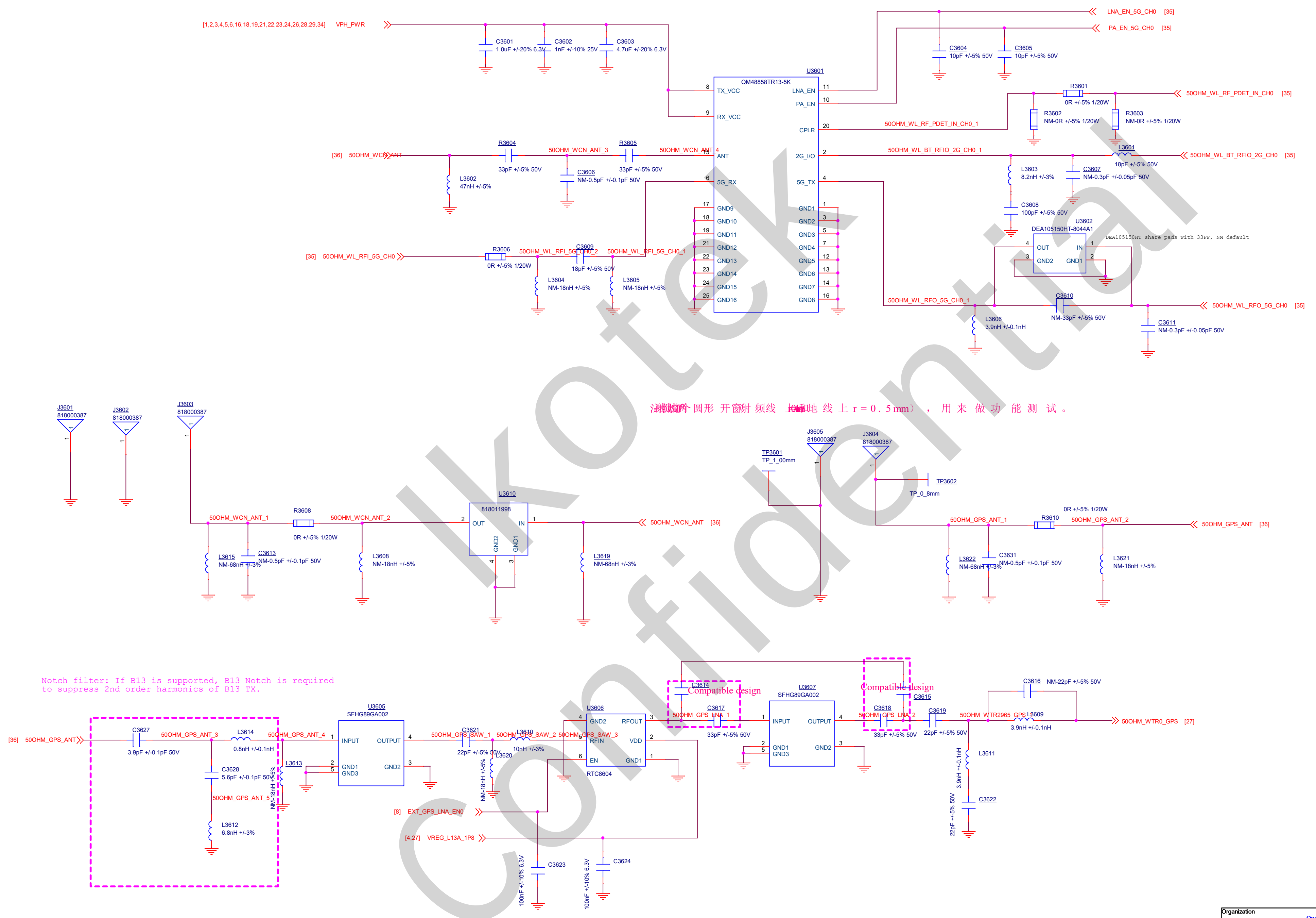

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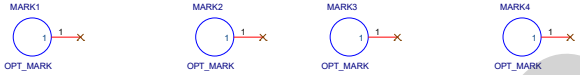
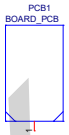
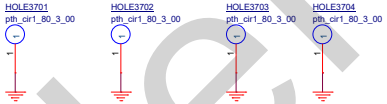
MARK



lable

PCB





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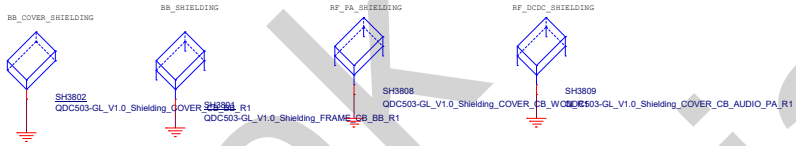
TOP



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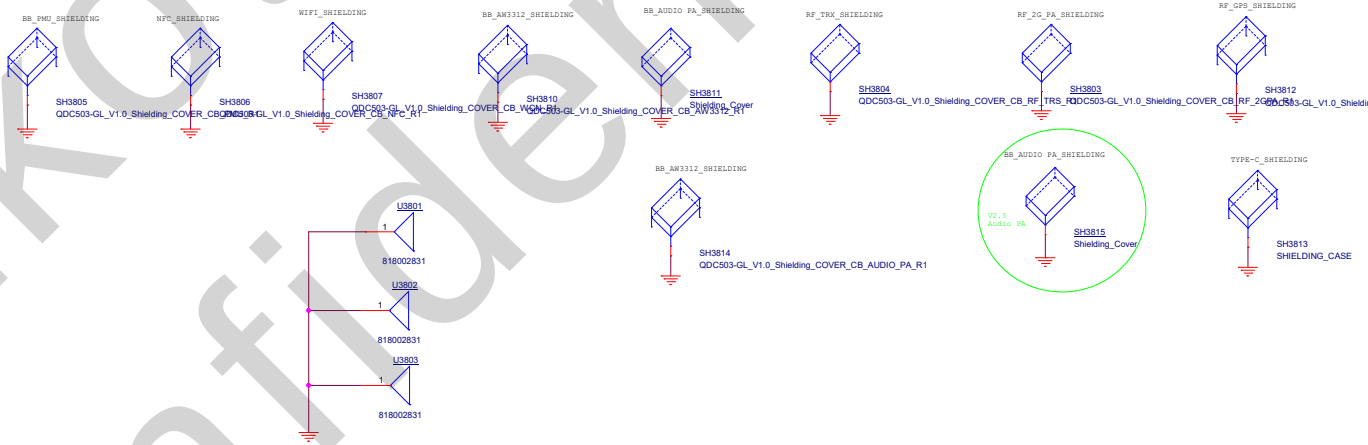

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2020-08-06

1.ADD R2326 R2324 R2325 Q2604

2020-08-11

1.ADD R2327 R2328

2020-08-12

1.TP0803,TP0804 change to 1mm testpoint

2.ADD TP2510,TP2511 TP1801-1809 TP0501-0502 TP2403-2404

2020-08-13

1.ADD C1625 R1615

2.DEL C1155 C1156

QDC503 V1.2 FROM QDC503_GL_SCH_V1.1_20200922

2020-12-04

1.ADD R2334 R2336 Q2304------NC

2.ADD R2335 R2337 R2338 Q2303

3.U0501.3 FROM U0101.10(PM6125_GPIO07_SENSOR_2P8_EN) TO U0701.AJ4(GPIO59_SENSOR_2P8_EN)

4.ADD R1809 0201 0R

5.ADD R1614/R1618------NC

6.ADD R1616/R1617------0R

7.Delete Q2601 R2613 R2614 C1166

8.ADD C1244 0201 470NF

9.ADD L3038 0201 3.3NH-------NC

10.ADD L3136 0201 3.3NH-------NC

11.ADD L3137 0201 68NH

12.ADD L3315 0201 15NH

13.ADD L3223 0201 3.6NH

14.ADD L3225 0201 6.2NH

15.ADD R0557-R0559 Q0501 Q0502 C0555

16.ADD R1620/R1621------NC

17.ADD R1619/R1622------0R

18.R2504.1 change to A_VBAT

19.ADD TP2608 FOR CC1

20. ADD RT0102 100K NTC,U0101.10 ADD CONNECT SKIN_THERM

21.U2501 change to max14741

22.ADD U1908 R1936-1937 C1910 C1912

23.add Q2501 DTC043ZEBTL

24.R2516 change to 47K

25.del D2501/D2502

26.ADD U2502 R2518 R2519 C2510 C2509 R2511

27.Exchange SM6115 GPIO_39 and GPIO_68

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