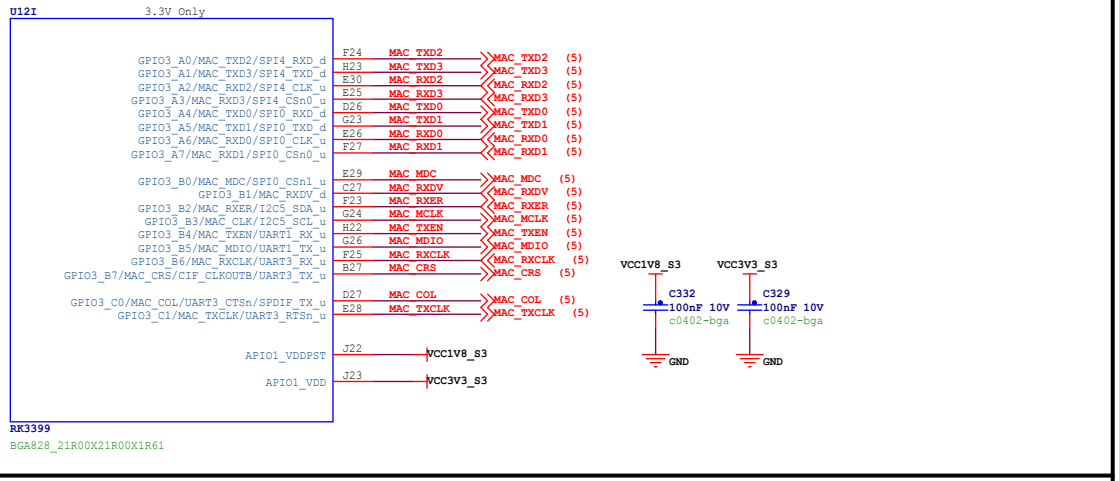
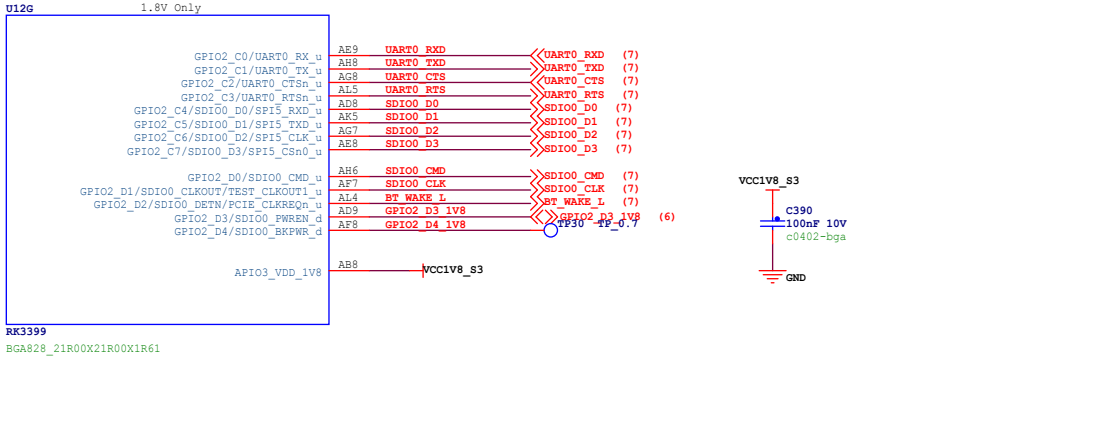
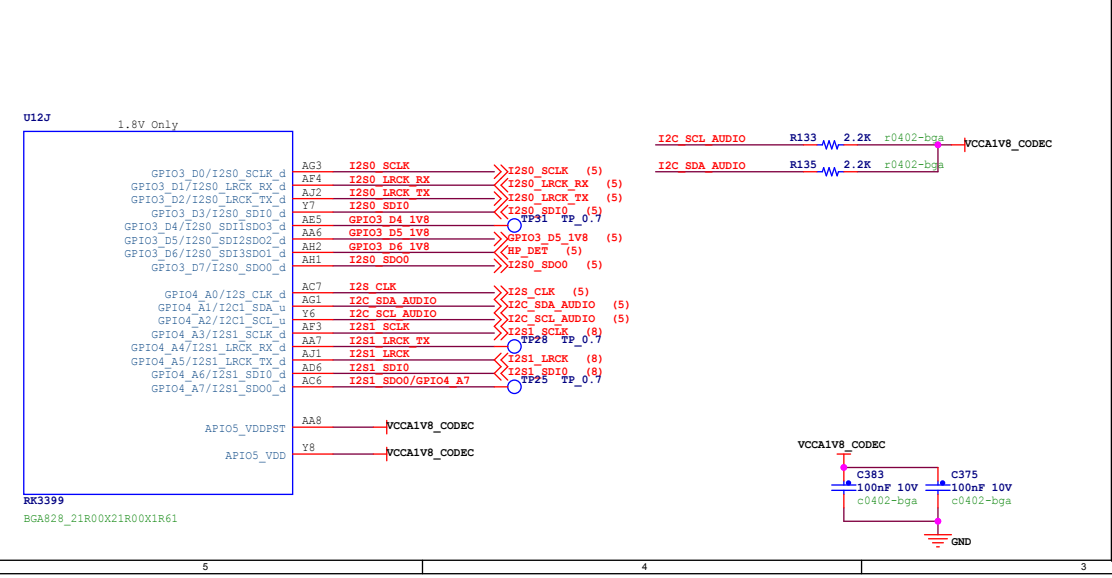
PAGE NO.	SCHEMATIC PAGE
1	COVER PAGE
2	RK3399 INTERFACE
3	RK3399 CTRL MIPI CSI DSI EDP
4	RK3399 PCIE USB SD EMMC ADC
5	RK3399 NET AUDIO
6	40 GPIO
7	BT WIFI KEY
8	HDMI MIPI POE MIC FLASH
9	USB 3.0 SSD
10	RK3399 DDR CTRL
11	RAM-LPDDR3-1
12	RAM-LPDDR3-2
13	RK3399 POWER
14	PMU-RK808-D

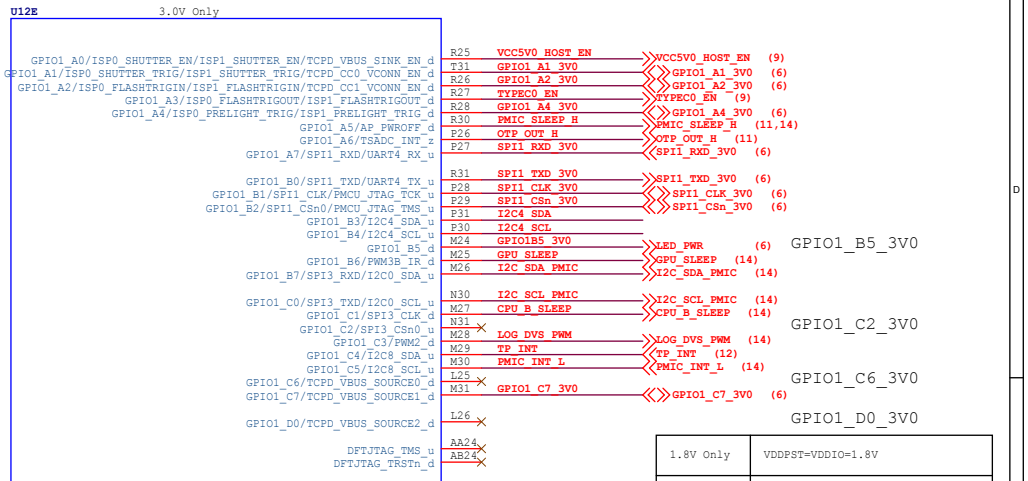
REV	Description	DATE	BY
Rev 1.0	Production release.	22/12/2022	Wanytech

Vivid Unit V1.3		Dun Cat B.V.(UUGear)	
Date:	Monday, January 22, 2024	Revision:	1.00
Sheet:	1 of 14	Size:	A3

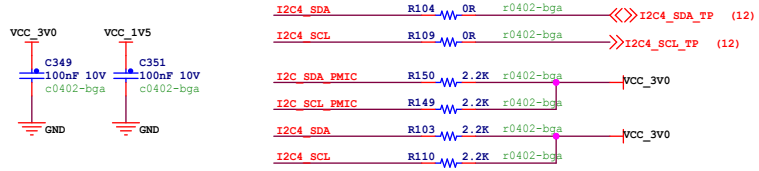


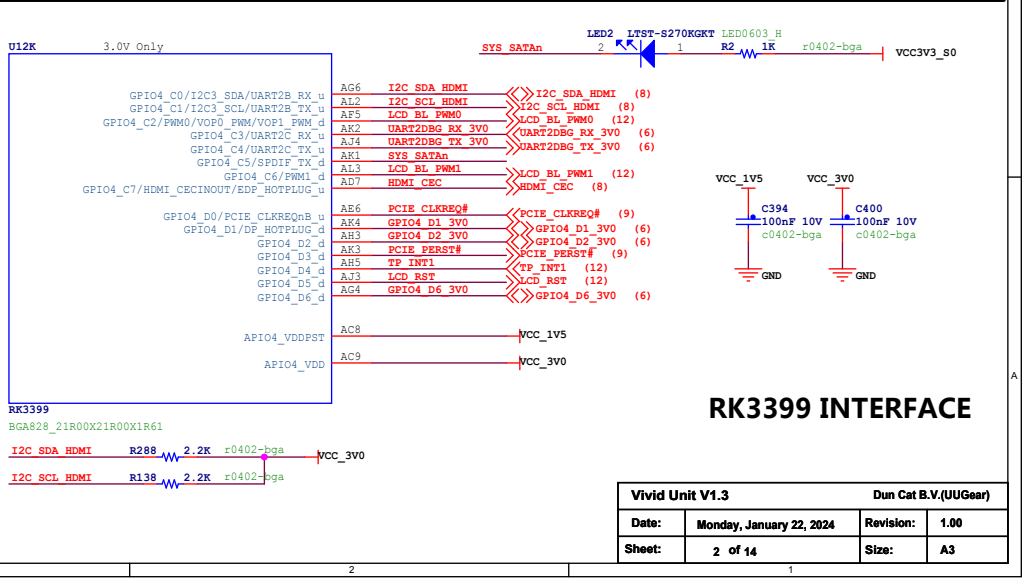






1.8V Only	VDDPST=VDDIO=1.8V
3.3V Only	VDDPST=1.8V,VDDIO=3.3V
other	3.0V mode:VDDPST=1.5V,VDDIO=3.0V 1.8V mode:VDDPST=1.8V,VDDIO=1.8V





RK3399 INTERFACE

Vivid Unit V1.3		Dun Cat B.V.(UUGear)	
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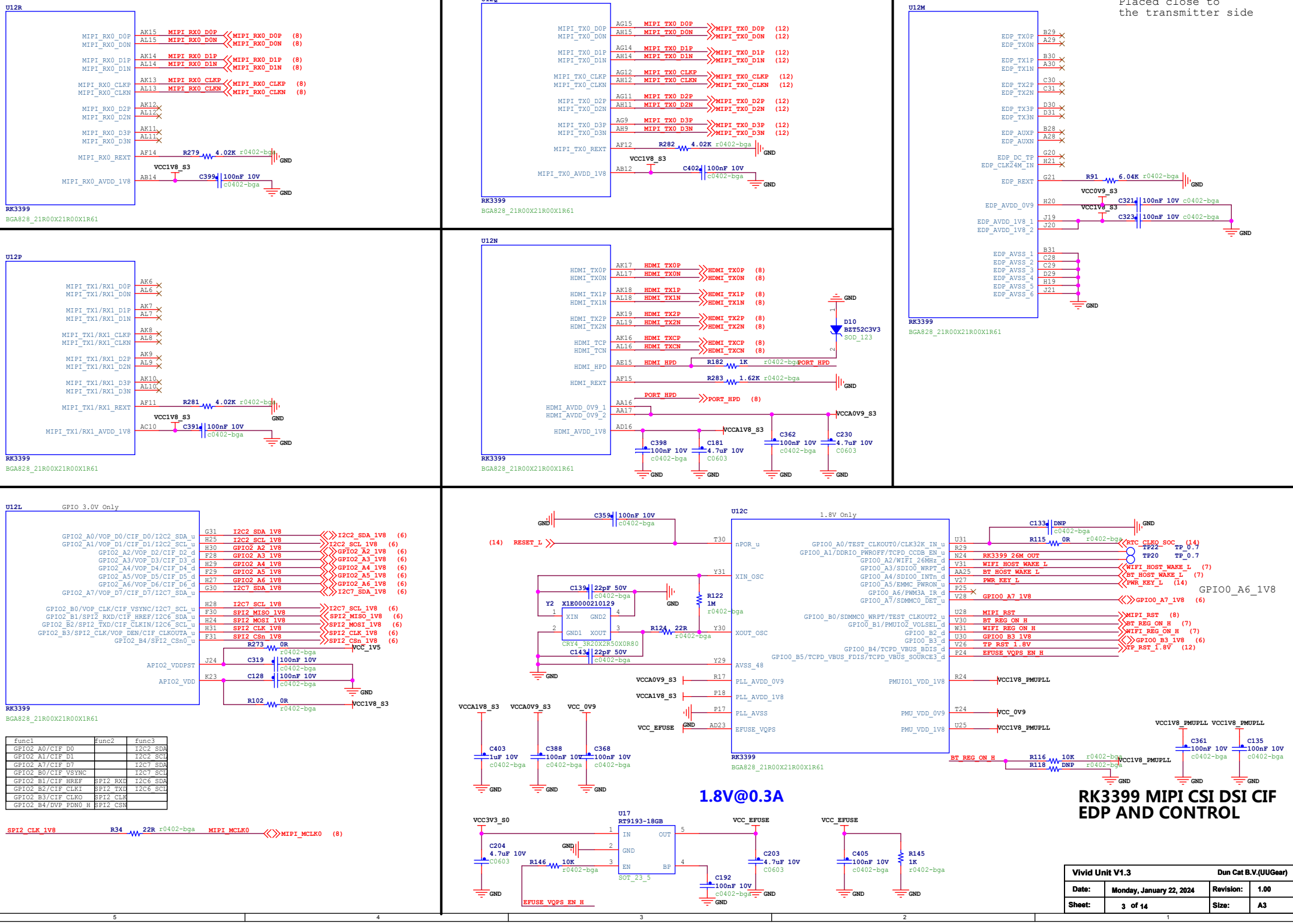
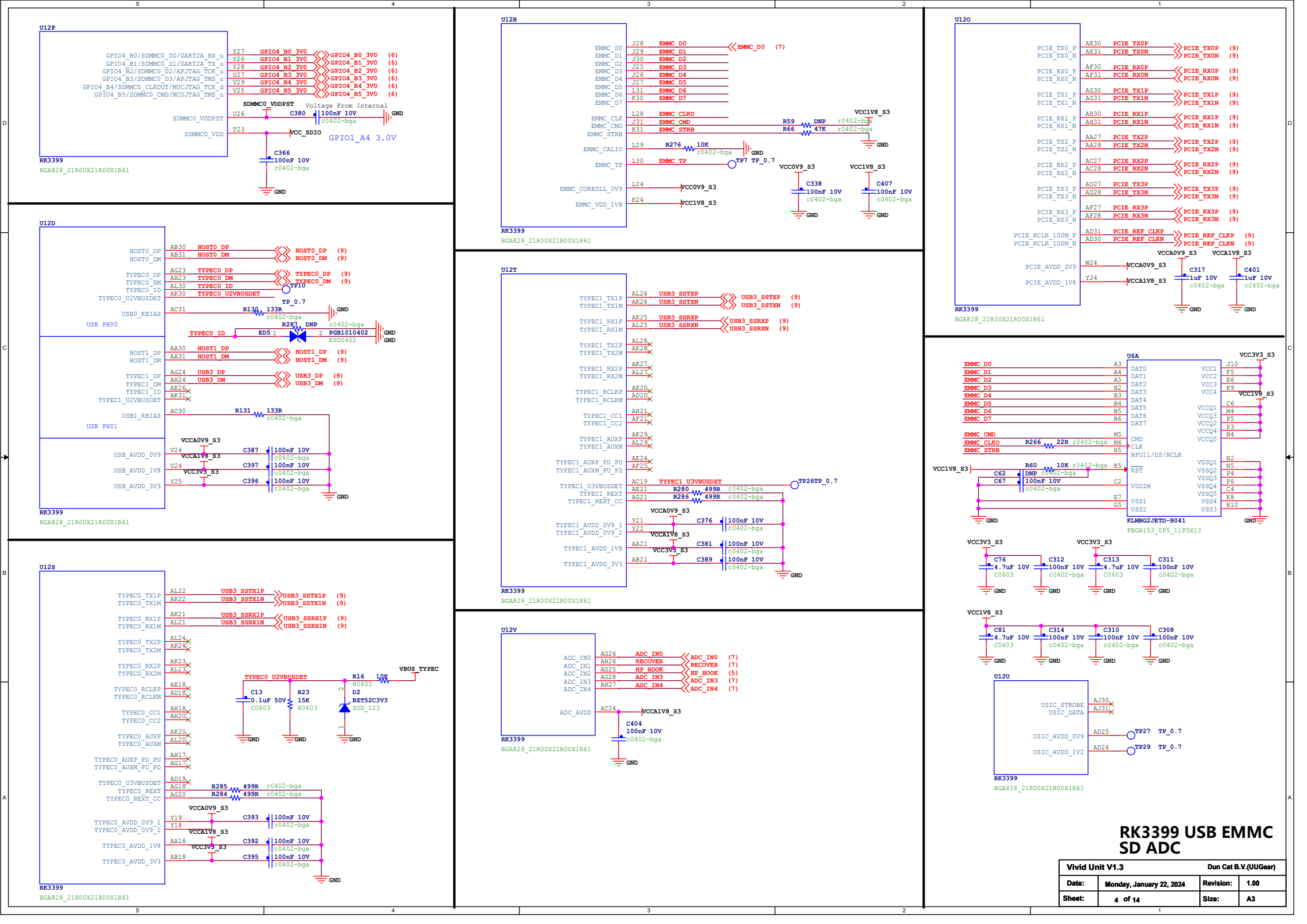


func1	func2	func3
GPIO2_A0/CIF_D0		I2C2_SDA
GPIO2_A1/CIF_D1		I2C2_SCL
GPIO2_A7/CIF_D7		I2C7_SDA
GPIO2_B0/CIF_VSYNC		I2C7_SCL
GPIO2_B1/CIF_HREF	SPI2_RXD	I2C6_SDA
GPIO2_B2/CIF_CLKI	SPI2_TXD	I2C6_SCL
GPIO2_B3/CIF_CLKO	SPI2_CLK	
GPIO2_B4/DVP_PDN0_H	SPI2_CSN	


U12F
RK3399
BGA828_21R00X21R00X1R61
SDMMC0_VDDPST Voltage From Internal
GPIO1_A4 3.0V
U12H
RK3399
BGA828_21R00X21R00X1R61
U12O
RK3399
BGA828_21R00X21R00X1R61
U12D
USB PHY0
USB PHY1
RK3399
BGA828_21R00X21R00X1R61
U12T
RK3399
BGA828_21R00X21R00X1R61
U6A
KLMBG2JETD-B041
FBGA153_0P5_11P5X13
U12S
RK3399
BGA828_21R00X21R00X1R61
U12V
RK3399
BGA828_21R00X21R00X1R61
U12U
RK3399
BGA828_21R00X21R00X1R61
RK3399 USB EMMC SD ADC
Vivid Unit V1.3
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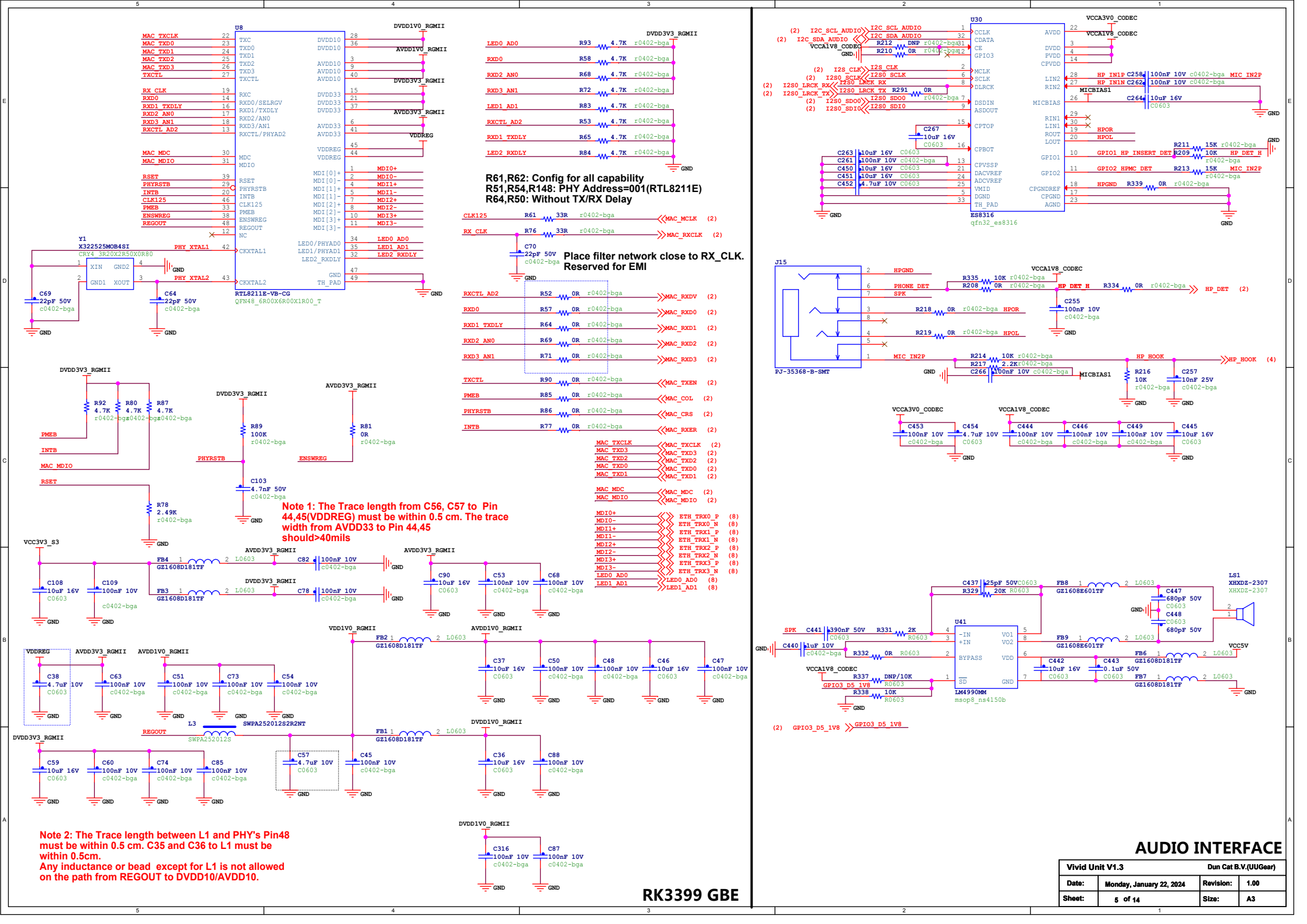
U8
RTL8211E-VB-CG
QFN48_6R00X6R00X1R00_T
Y1
X322525MOB4SI
CRY4_3R2OX2R5OX0R8O
R61,R62: Config for all capability
R51,R54,R148: PHY Address=001(RTL8211E)
R64,R50: Without TX/RX Delay
Place filter network close to RX_CLK.
Reserved for EMI
Note 1: The Trace length from C56, C57 to Pin 44,45(VDDREG) must be within 0.5 cm. The trace width from AVDD33 to Pin 44,45 should>40mils
Note 2: The Trace length between L1 and PHY's Pin48 must be within 0.5 cm. C35 and C36 to L1 must be within 0.5cm.
Any inductance or bead except for L1 is not allowed on the path from REGOUT to DVDD10/AVDD10.
RK3399 GBE
U30
ES8316
qfn32_es8316
J15
PJ-35368-B-SMT
U41
LM4990MM
msop8_ns4150b
LS1
XHXDZ-2307
AUDIO INTERFACE
Vivid Unit V1.3
Dun Cat B.V.(UUGear)
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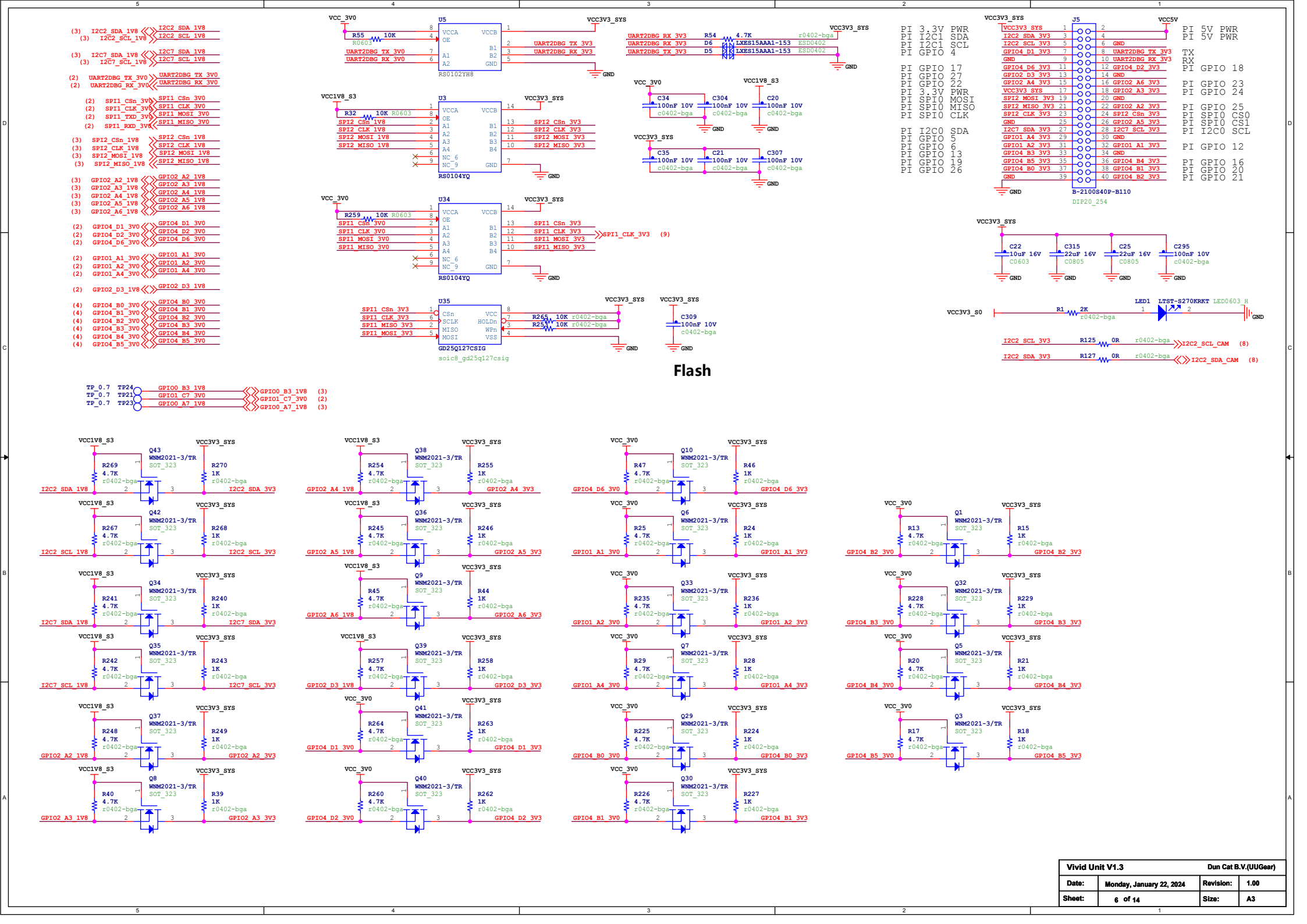
Flash
U5
RS0102YH8
U3
RS0104YQ
U34
RS0104YQ
U35
GD25Q127CSIG
soic8_gd25q127csig
J5
B-2100S40P-B110
DIP20_254
PI 3.3V PWR
PI I2C1 SDA
PI I2C1 SCL
PI GPIO 4
PI GPIO 17
PI GPIO 27
PI GPIO 22
PI 3.3V PWR
PI SPI0 MOSI
PI SPI0 MISO
PI SPI0 CLK
PI I2C0 SDA
PI GPIO 5
PI GPIO 6
PI GPIO 13
PI GPIO 19
PI GPIO 26
PI 5V PWR
PI 5V PWR
TX
RX
PI GPIO 18
PI GPIO 23
PI GPIO 24
PI GPIO 25
PI SPI0 CS0
PI SPI0 CS1
PI I2C0 SCL
PI GPIO 12
PI GPIO 16
PI GPIO 20
PI GPIO 21
Vivid Unit V1.3
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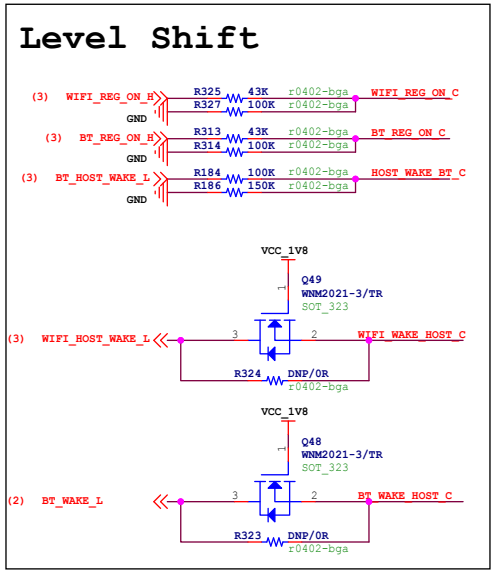
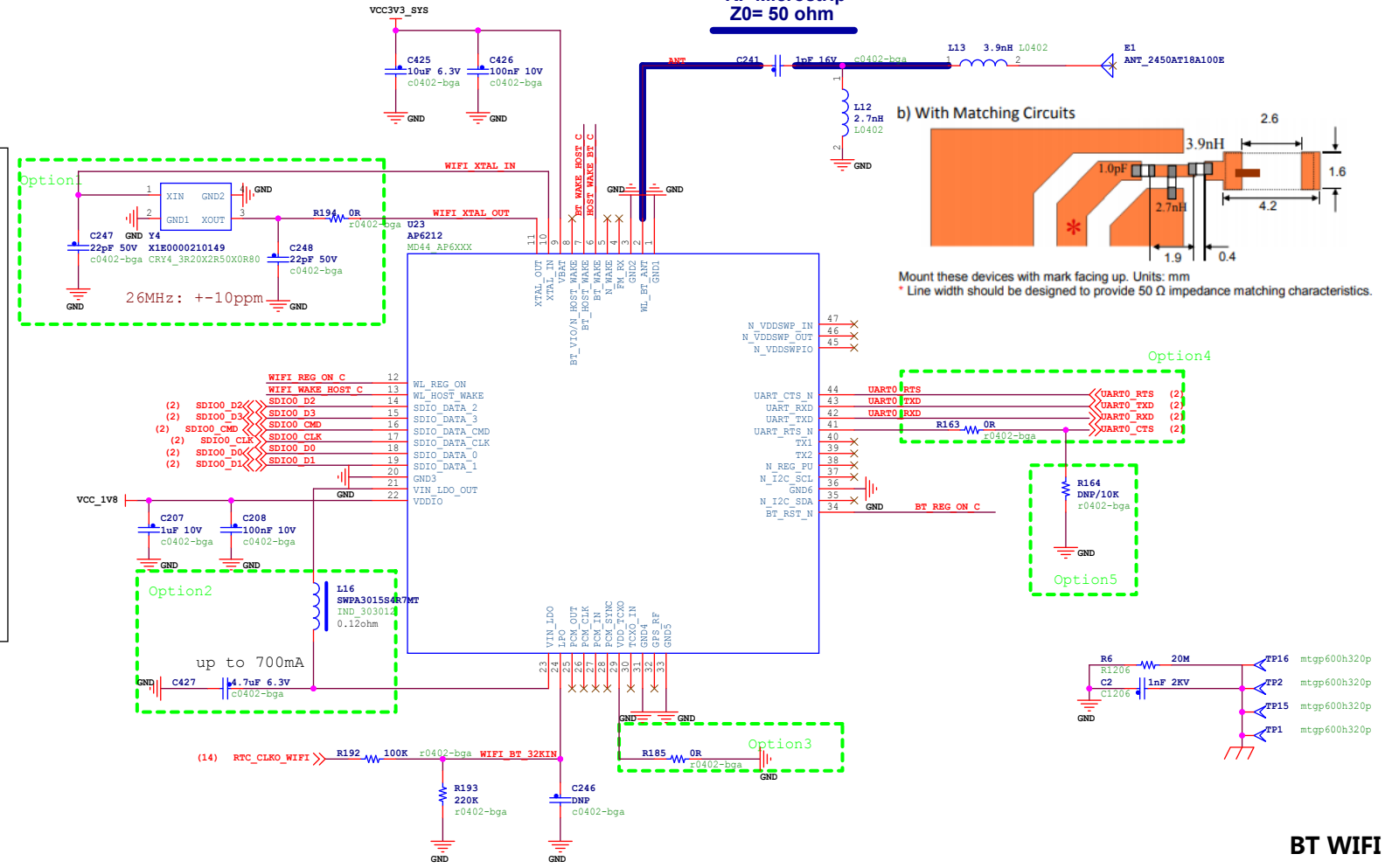
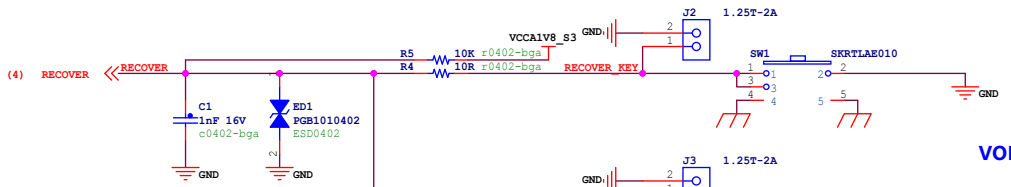
WIFI/BT Module

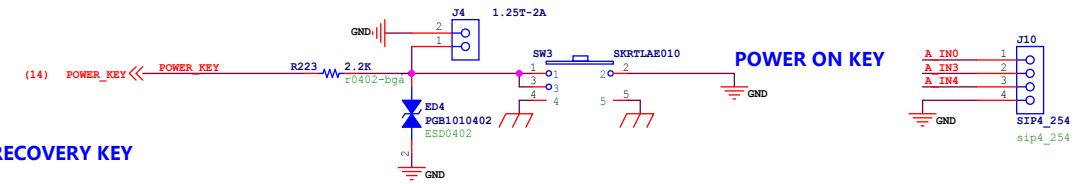
Level Shift

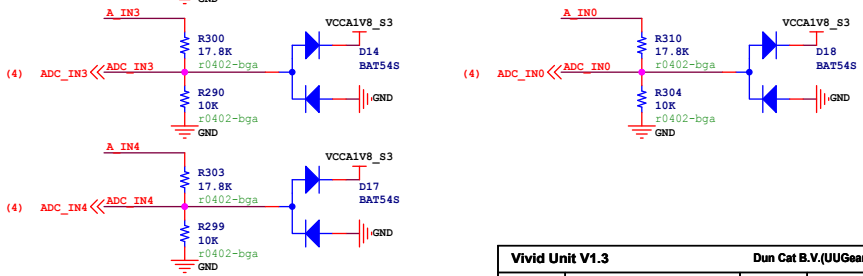




BT WIFI







Vivid Unit V1.3		Dun Cat B.V.(UUGear)	
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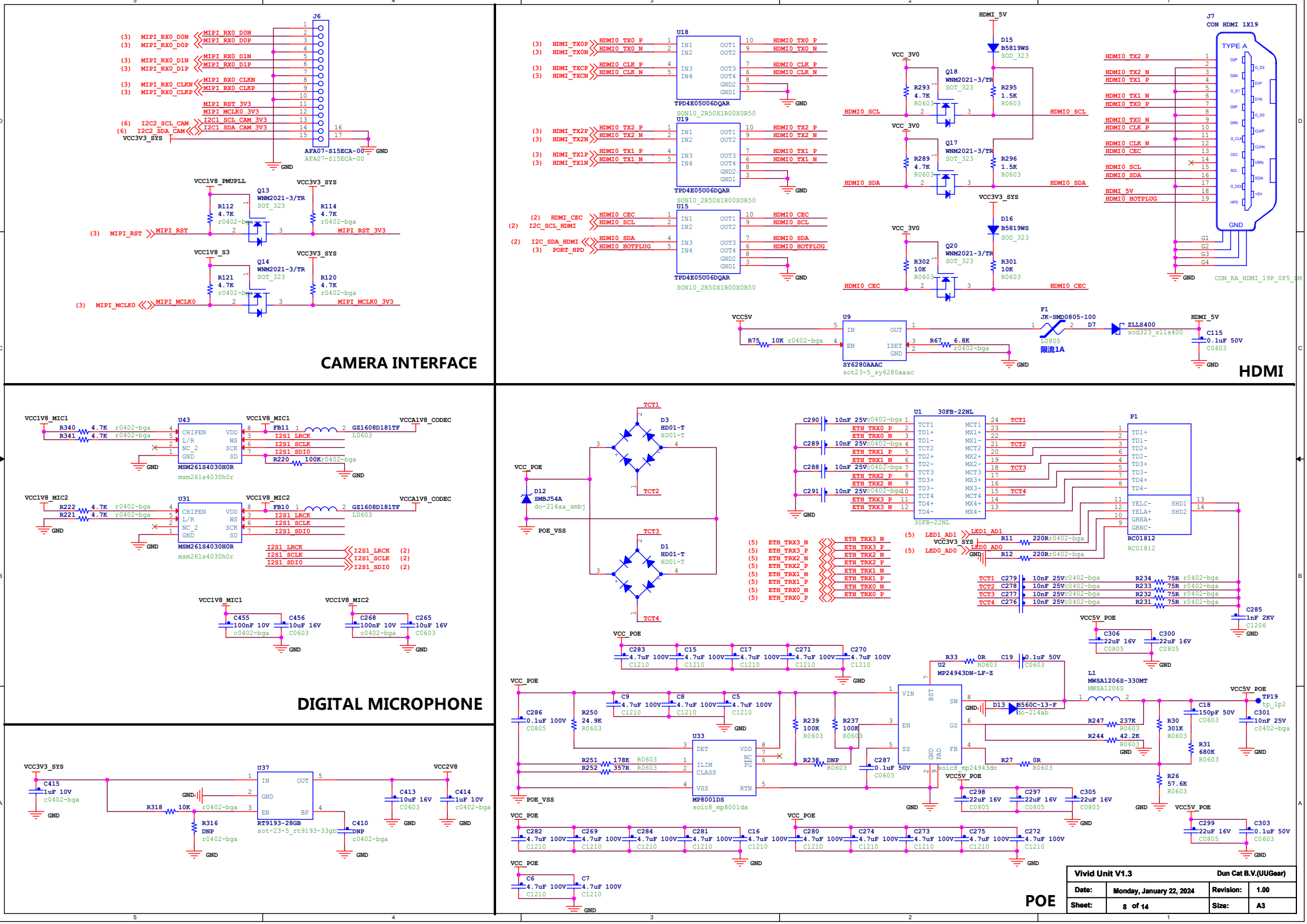
CAMERA INTERFACE
HDMI
DIGITAL MICROPHONE
POE
Vivid Unit V1.3
Dun Cat B.V.(UUGear)
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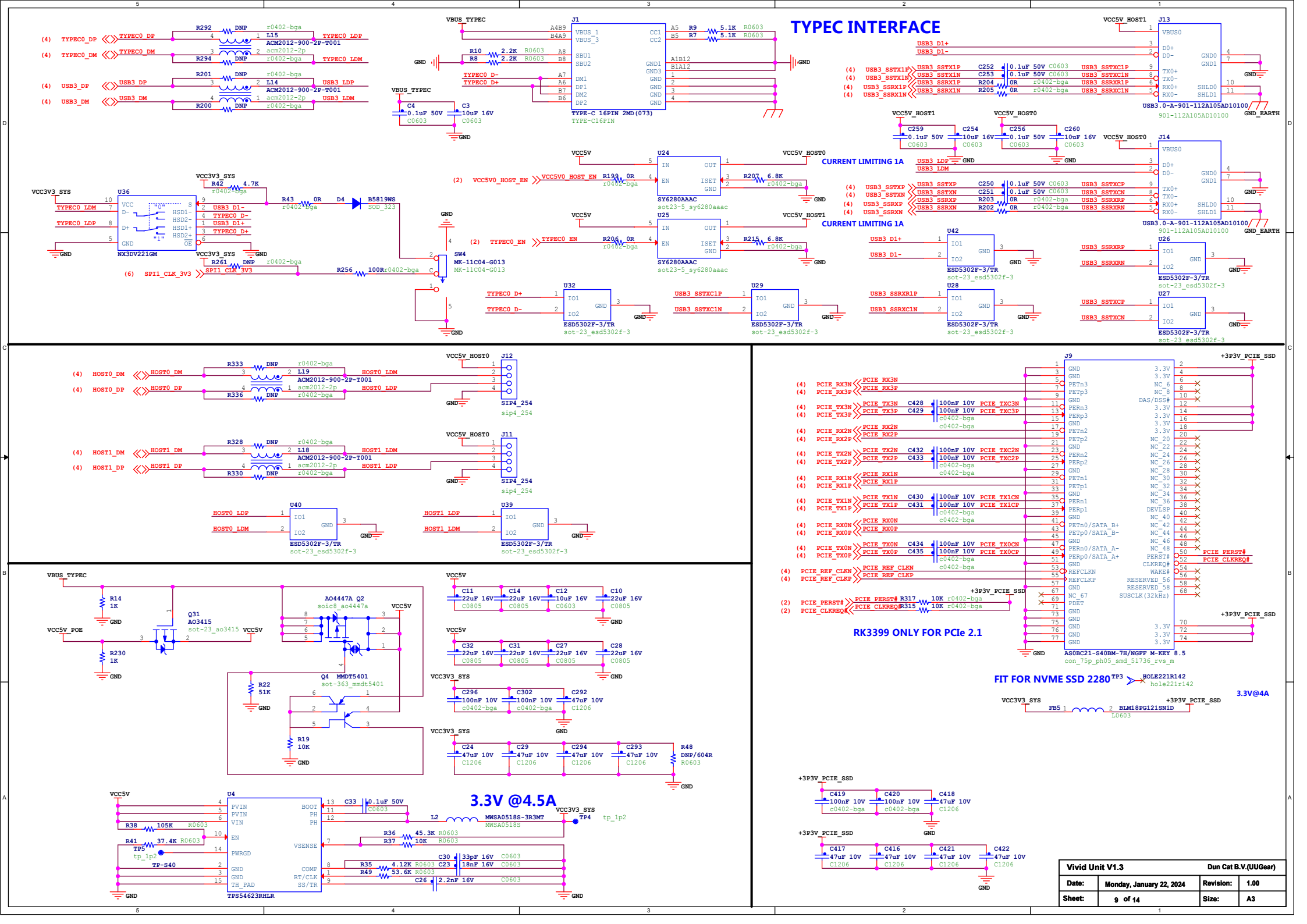
TYPEC INTERFACE
CURRENT LIMITING 1A
CURRENT LIMITING 1A
RK3399 ONLY FOR PCIe 2.1
FIT FOR NVME SSD 2280
3.3V @4.5A
Vivid Unit V1.3
Dun Cat B.V.(UUGear)
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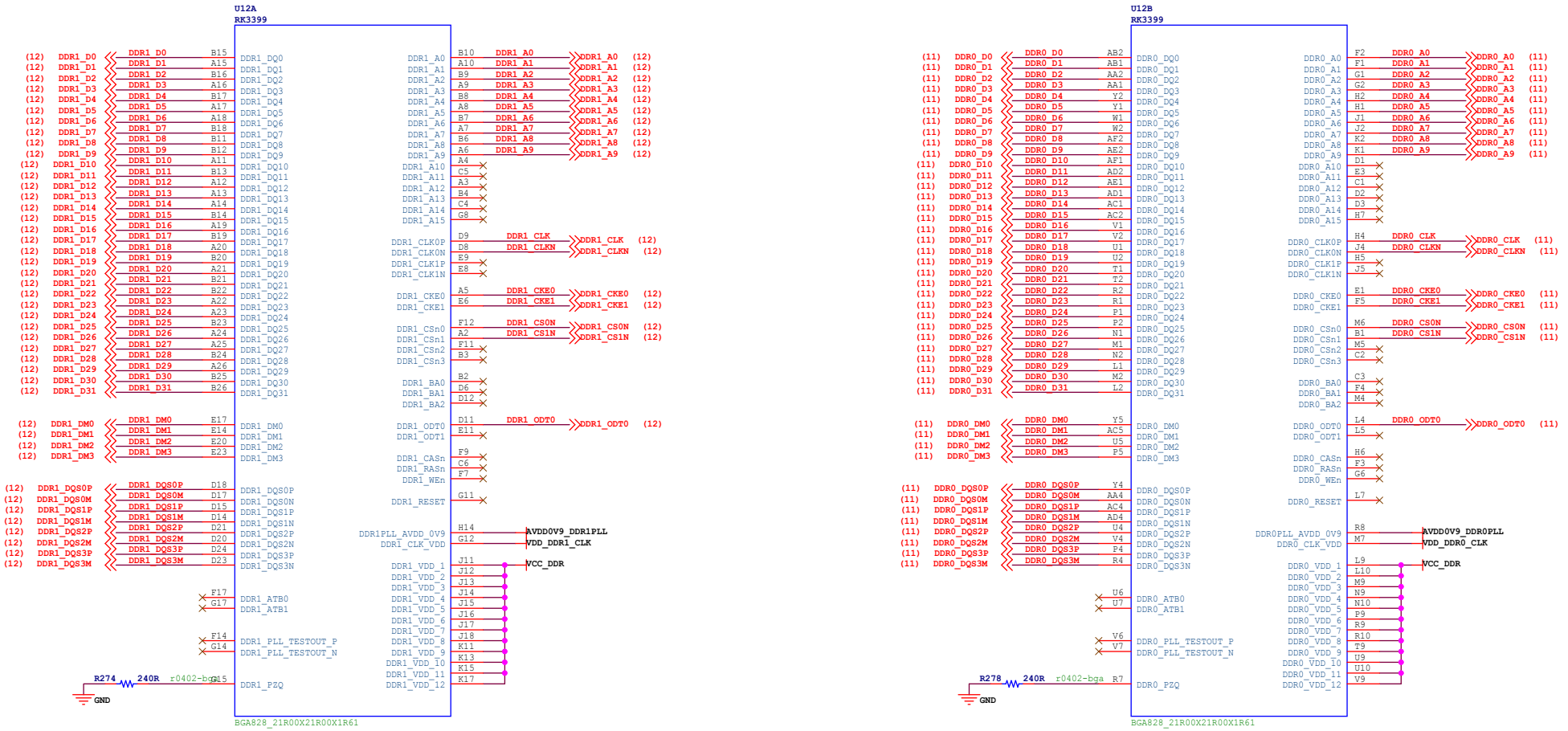
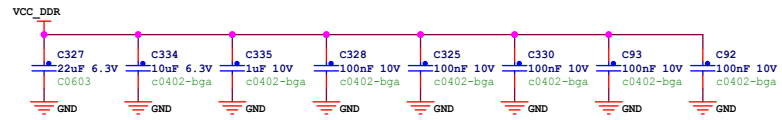
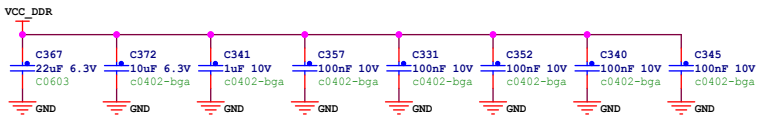
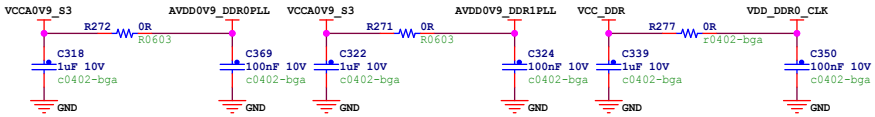
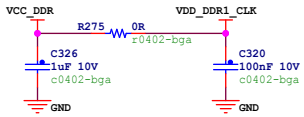


DDR FILTER









RK3399 DDR

Vivid Unit V1.3		Dun Cat B.V.(UUGear)	
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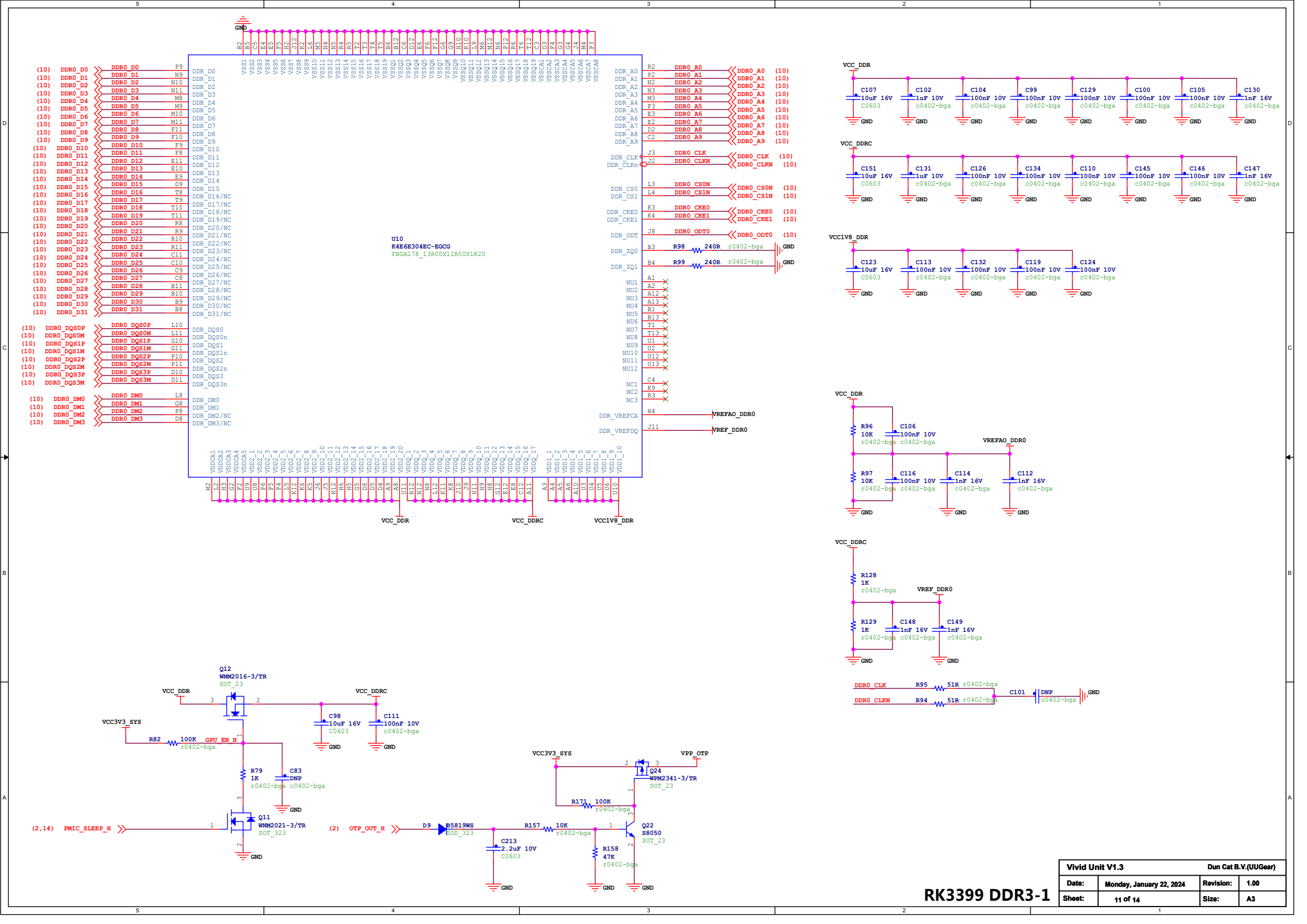
U10
K4E6E304EC-EGCG
FBGA178_13R00X11R50X1R20
DDR_D0
DDR_D1
DDR_D2
DDR_D3
DDR_D4
DDR_D5
DDR_D6
DDR_D7
DDR_D8
DDR_D9
DDR_D10
DDR_D11
DDR_D12
DDR_D13
DDR_D14
DDR_D15
DDR_D16/NC
DDR_D17/NC
DDR_D18/NC
DDR_D19/NC
DDR_D20/NC
DDR_D21/NC
DDR_D22/NC
DDR_D23/NC
DDR_D24/NC
DDR_D25/NC
DDR_D26/NC
DDR_D27/NC
DDR_D28/NC
DDR_D29/NC
DDR_D30/NC
DDR_D31/NC
DDR_DQS0
DDR_DQS0n
DDR_DQS1
DDR_DQS1n
DDR_DQS2
DDR_DQS2n
DDR_DQS3
DDR_DQS3n
DDR_DM0
DDR_DM1
DDR_DM2/NC
DDR_DM3/NC
DDR_A0
DDR_A1
DDR_A2
DDR_A3
DDR_A4
DDR_A5
DDR_A6
DDR_A7
DDR_A8
DDR_A9
DDR_CLK
DDR_CLKn
DDR_CS0
DDR_CS1
DDR_CKE0
DDR_CKE1
DDR_ODT
DDR_ZQ0
DDR_ZQ1
DDR_VREFCA
DDR_VREFDQ
VREFAO_DDR0
VREF_DDR0
VCC_DDR
VCC_DDRC
VCC1V8_DDR
GND
Q12
WNM2016-3/TR
SOT_23
Q11
WNM2021-3/TR
SOT_323
Q24
WPM2341-3/TR
SOT_23
Q22
S8050
SOT_23
D9
B5819WS
SOD_323
VCC3V3_SYS
VPP_OTP
GPU_EN_H
PMIC_SLEEP_H
OTP_OUT_H
R82 100K r0402-bga
R79 1K r0402-bga
C83 DNP c0402-bga
C98 10uF 16V C0603
C111 100nF 10V c0402-bga
R171 100K r0402-bga
R157 10K r0402-bga
R158 47K r0402-bga
C213 2.2uF 10V C0603
C107 10uF 16V C0603
C102 1uF 10V c0402-bga
C104 100nF 10V c0402-bga
C99 100nF 10V c0402-bga
C129 100nF 10V c0402-bga
C100 100nF 10V c0402-bga
C105 100nF 10V c0402-bga
C130 1nF 16V c0402-bga
C151 10uF 16V C0603
C131 1uF 10V c0402-bga
C126 100nF 10V c0402-bga
C134 100nF 10V c0402-bga
C110 100nF 10V c0402-bga
C145 100nF 10V c0402-bga
C146 100nF 10V c0402-bga
C147 1nF 16V c0402-bga
C123 10uF 16V C0603
C113 100nF 10V c0402-bga
C132 100nF 10V c0402-bga
C119 100nF 10V c0402-bga
C124 100nF 10V c0402-bga
R96 10K r0402-bga
C106 100nF 10V c0402-bga
R97 10K r0402-bga
C116 100nF 10V c0402-bga
C114 1nF 16V c0402-bga
C112 1nF 16V c0402-bga
R128 1K r0402-bga
R129 1K r0402-bga
C148 1nF 16V c0402-bga
C149 1nF 16V c0402-bga
R98 240R r0402-bga
R99 240R r0402-bga
R95 51R r0402-bga
R94 51R r0402-bga
C101 DNP c0402-bga
RK3399 DDR3-1
Vivid Unit V1.3
Dun Cat B.V.(UUGear)
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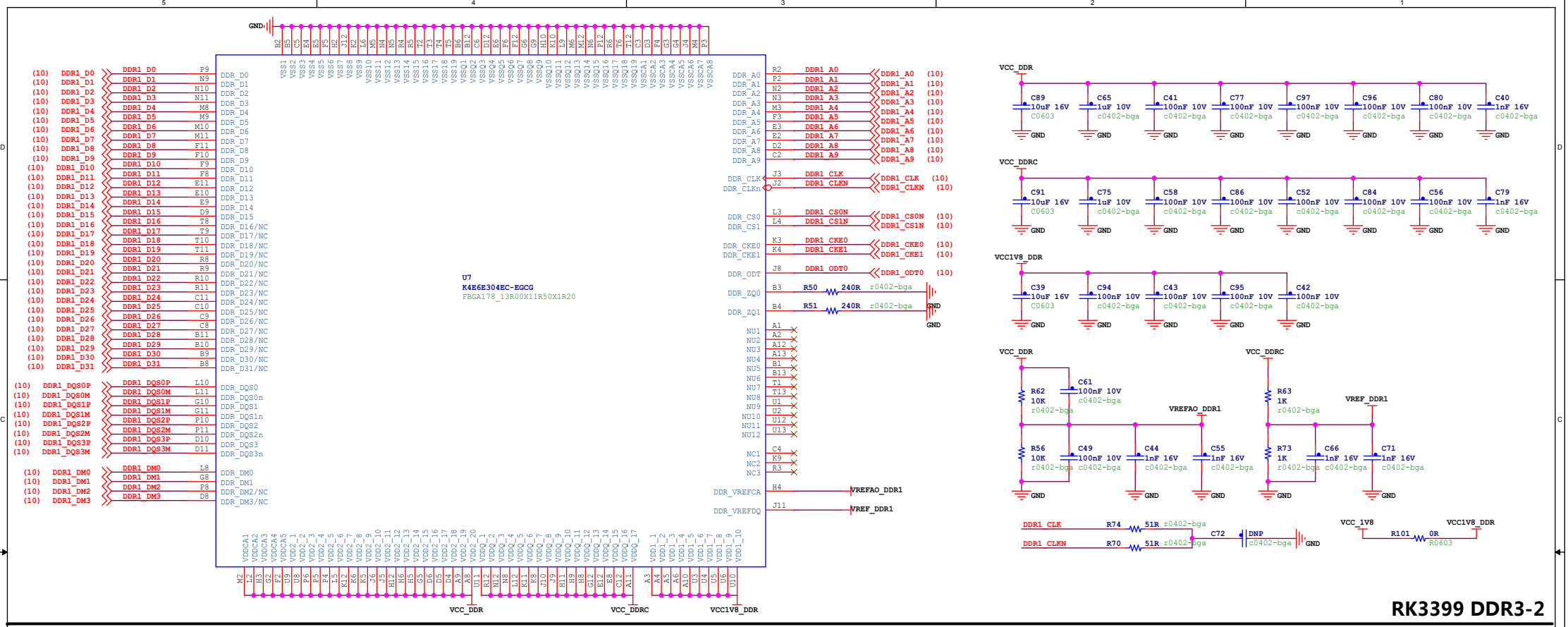
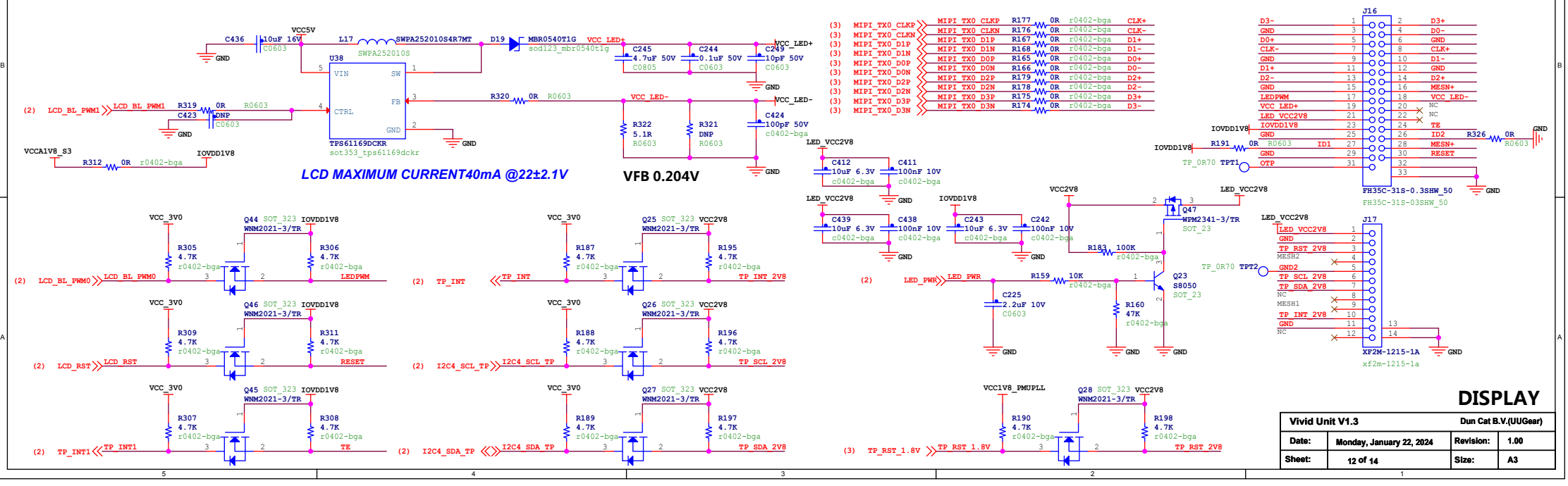


RK3399 DDR3-2



DISPLAY

Vivid Unit V1.3		Dun Cat B.V.(UUGear)	
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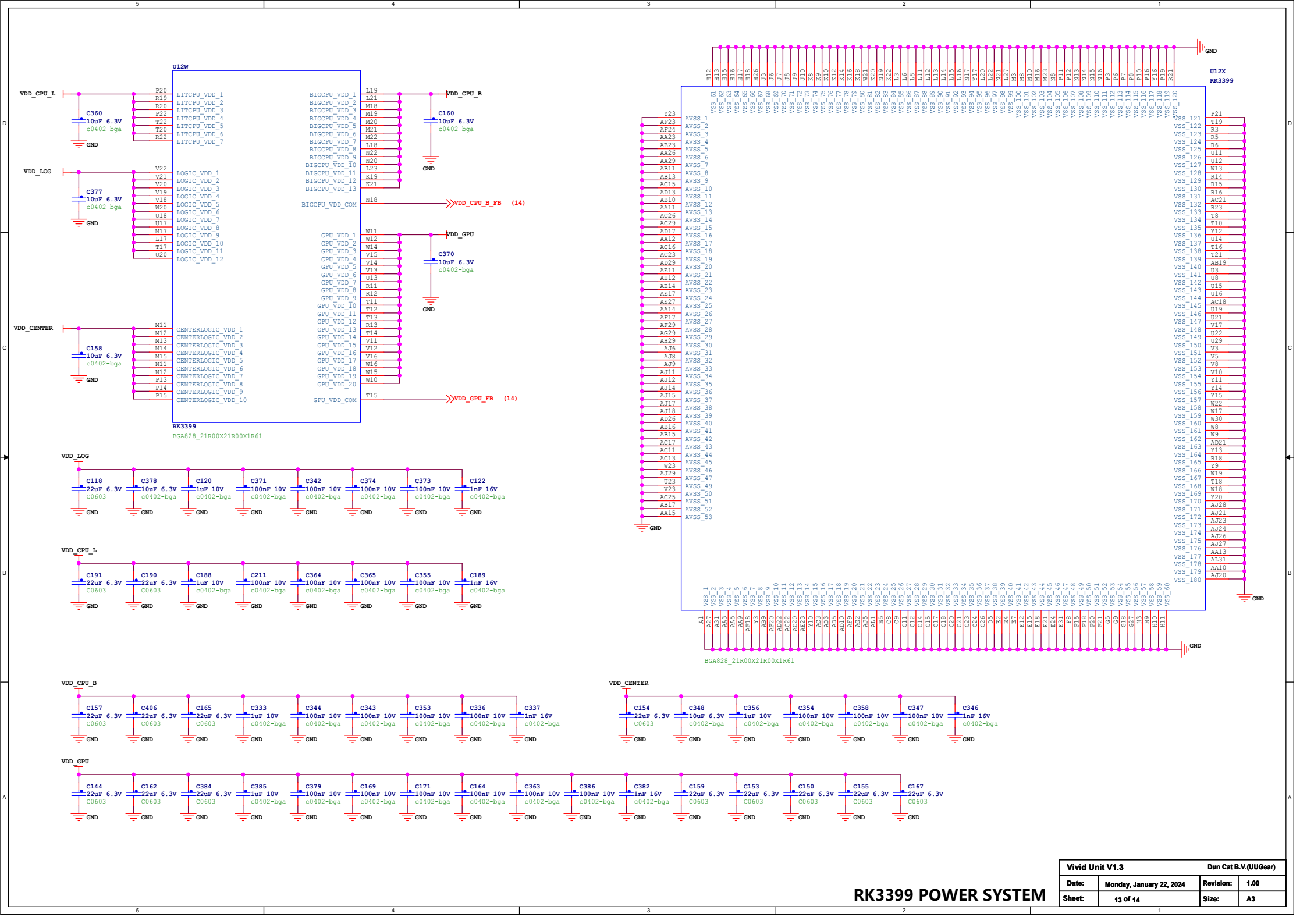

RK3399 POWER SYSTEM

Vivid Unit V1.3		Dun Cat B.V.(UUGear)	
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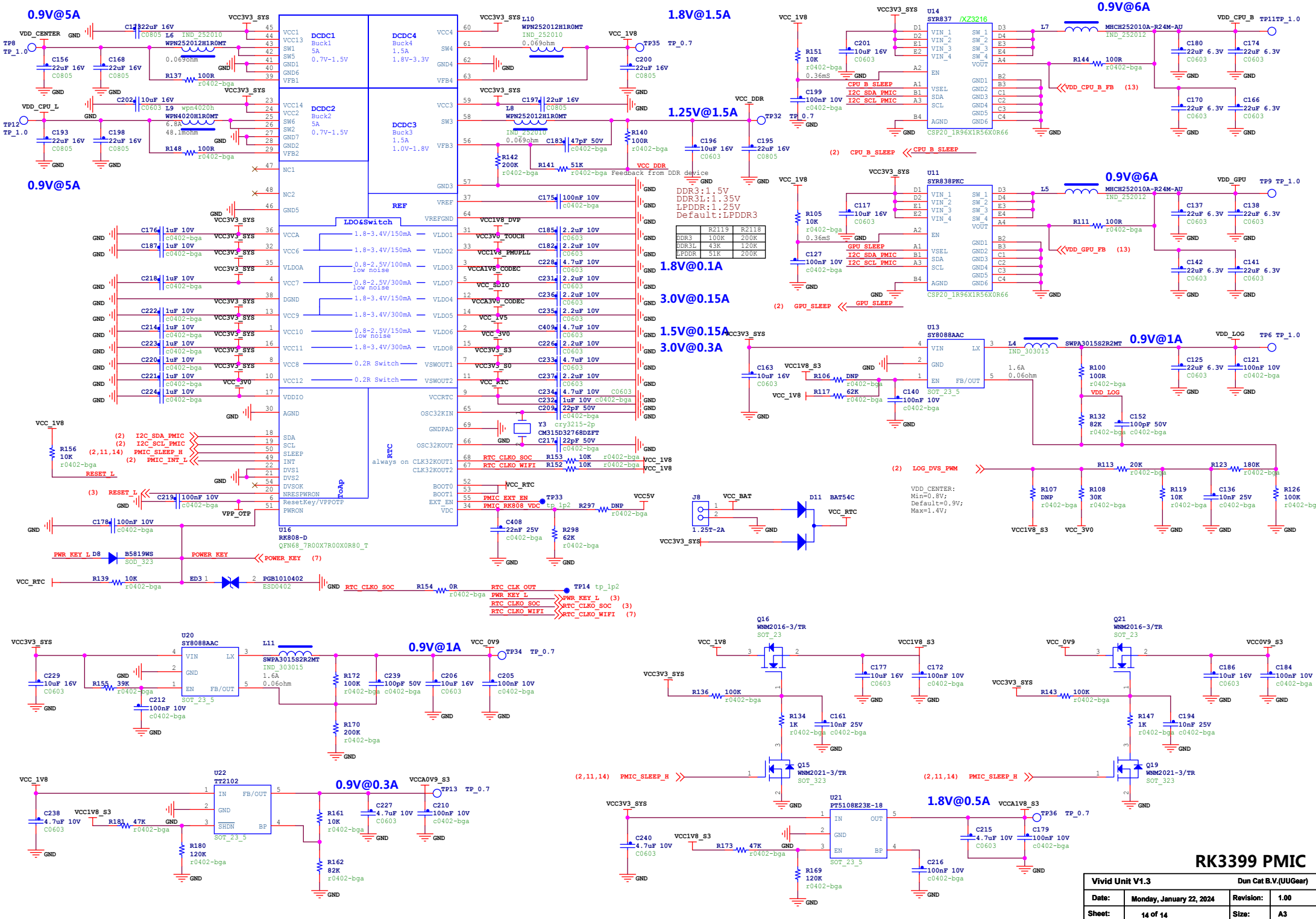
0.9V@5A
1.8V@1.5A
0.9V@6A
1.25V@1.5A
0.9V@5A
1.8V@0.1A
3.0V@0.15A
1.5V@0.15A
3.0V@0.3A
0.9V@1A
0.9V@1A
0.9V@0.3A
1.8V@0.5A
DDR3:1.5V
DDR3L:1.35V
LPDDR:1.25V
Default:LPDDR3
RK3399 PMIC
Vivid Unit V1.3
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1.00
A3