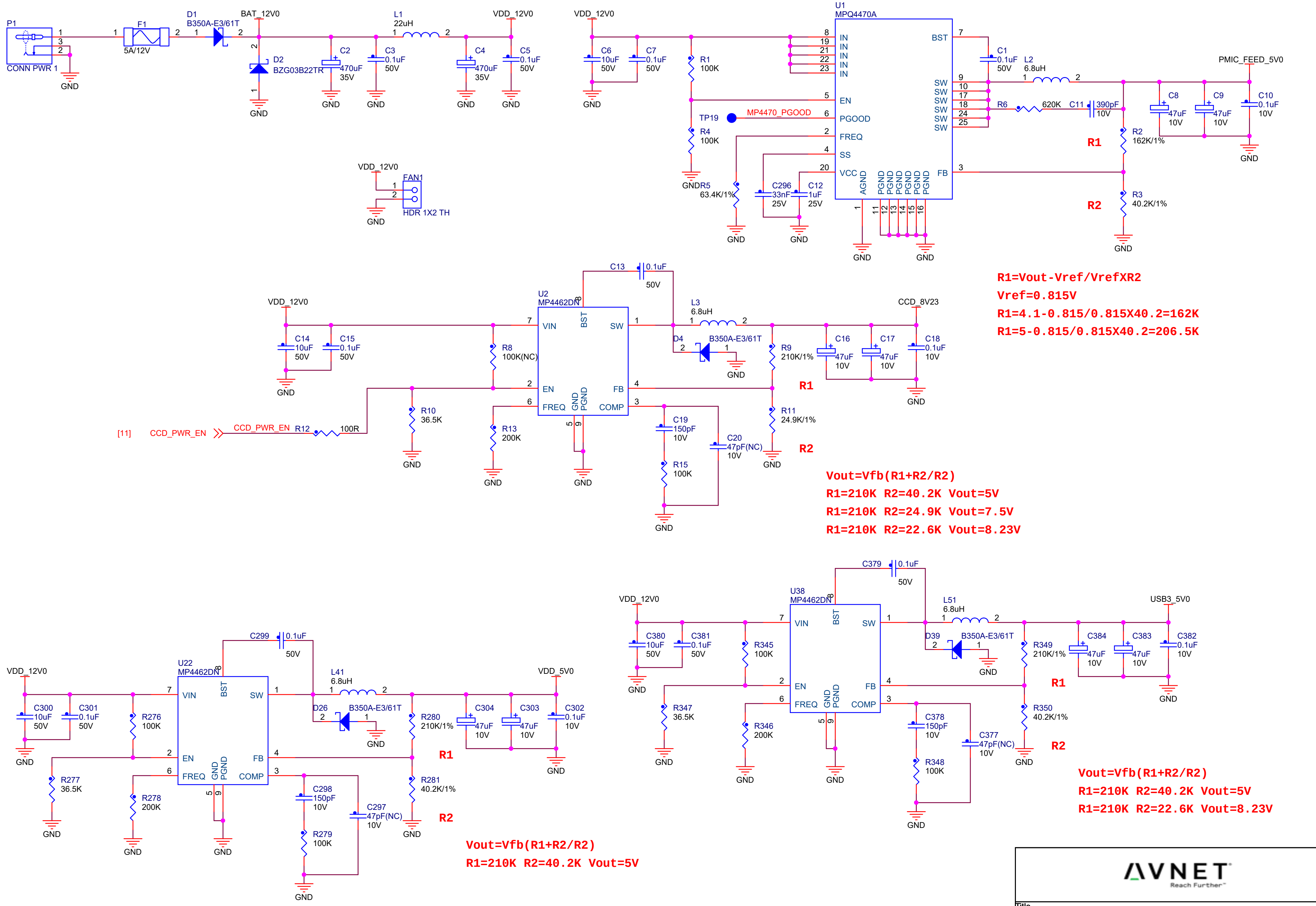
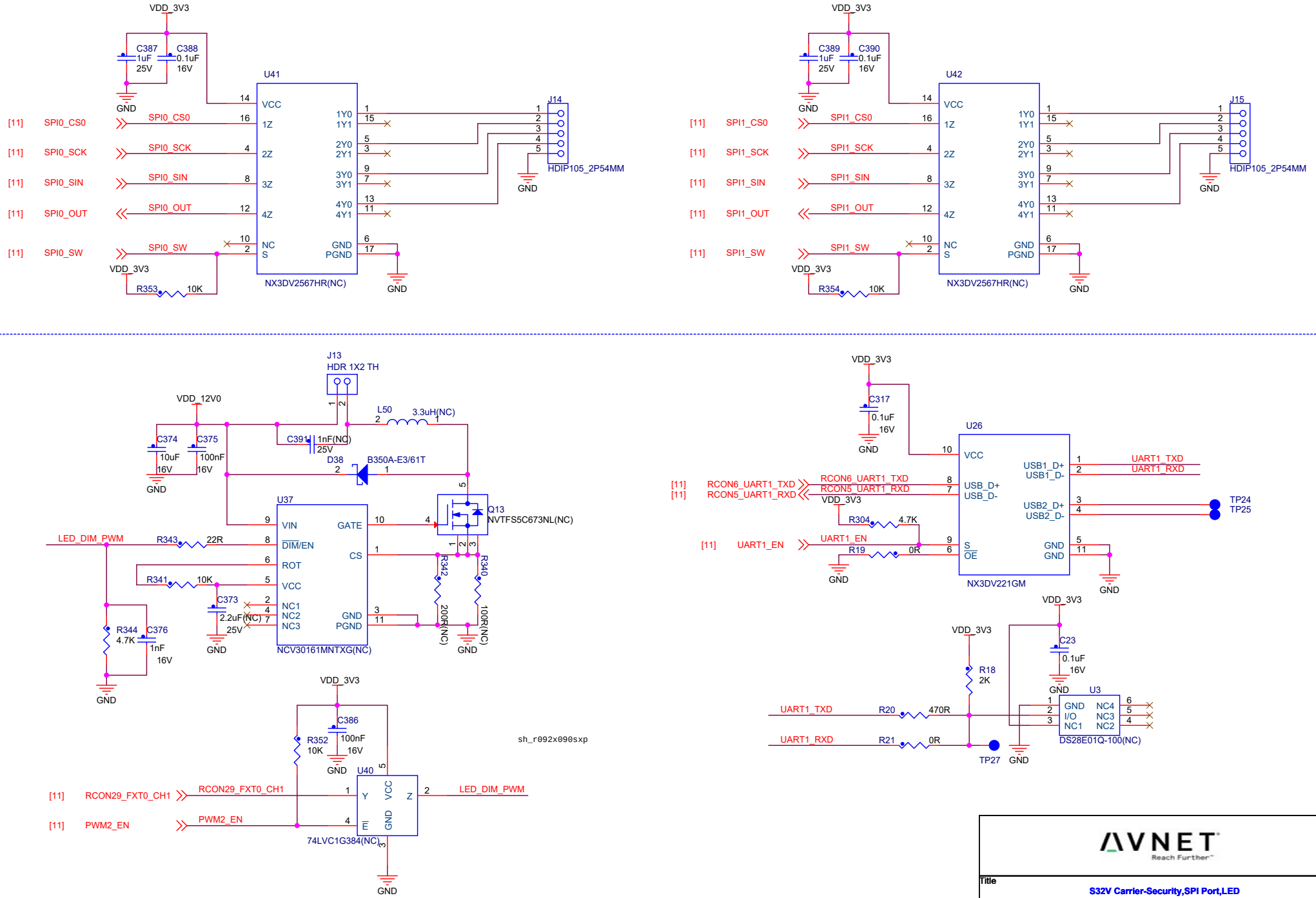

P1
CONN PWR 1
F1
5A/12V
D1
B350A-E3/61T
BAT_12V0
D2
BZG03B22TR
C2
470uF
35V
C3
0.1uF
50V
L1
22uH
C4
470uF
35V
C5
0.1uF
50V
VDD_12V0
GND
C6
10uF
50V
C7
0.1uF
50V
R1
100K
R4
100K
TP19
MP4470_PGOOD
R5
63.4K/1%
C296
33nF
25V
C12
1uF
25V
U1
MPQ4470A
IN
EN
PGOOD
FREQ
SS
VCC
AGND
PGND
BST
SW
FB
C1
0.1uF
50V
L2
6.8uH
R6
620K
C11
390pF
10V
PMIC_FEED_5V0
C8
47uF
10V
C9
47uF
10V
C10
0.1uF
10V
R2
162K/1%
R3
40.2K/1%
R1
R2
FAN1
HDR 1X2 TH
R1=Vout-Vref/VrefXR2
Vref=0.815V
R1=4.1-0.815/0.815X40.2=162K
R1=5-0.815/0.815X40.2=206.5K
U2
MP4462DN
C13
0.1uF
50V
L3
6.8uH
D4
B350A-E3/61T
CCD_8V23
C14
10uF
50V
C15
0.1uF
50V
R8
100K(NC)
R9
210K/1%
C16
47uF
10V
C17
47uF
10V
C18
0.1uF
10V
R10
36.5K
R13
200K
R11
24.9K/1%
C19
150pF
10V
C20
47pF(NC)
10V
R15
100K
[11]
CCD_PWR_EN
R12
100R
Vout=Vfb(R1+R2/R2)
R1=210K R2=40.2K Vout=5V
R1=210K R2=24.9K Vout=7.5V
R1=210K R2=22.6K Vout=8.23V
U22
MP4462DN
C299
0.1uF
50V
L41
6.8uH
D26
B350A-E3/61T
VDD_5V0
C300
10uF
50V
C301
0.1uF
50V
R276
100K
R280
210K/1%
C304
47uF
10V
C303
47uF
10V
C302
0.1uF
10V
R277
36.5K
R278
200K
R281
40.2K/1%
C298
150pF
10V
C297
47pF(NC)
10V
R279
100K
Vout=Vfb(R1+R2/R2)
R1=210K R2=40.2K Vout=5V
U38
MP4462DN
C379
0.1uF
50V
L51
6.8uH
D39
B350A-E3/61T
USB3_5V0
C380
10uF
50V
C381
0.1uF
50V
R345
100K
R349
210K/1%
C384
47uF
10V
C383
47uF
10V
C382
0.1uF
10V
R347
36.5K
R346
200K
R350
40.2K/1%
C378
150pF
10V
C377
47pF(NC)
10V
R348
100K
Vout=Vfb(R1+R2/R2)
R1=210K R2=40.2K Vout=5V
R1=210K R2=22.6K Vout=8.23V

AVNET Reach Further™

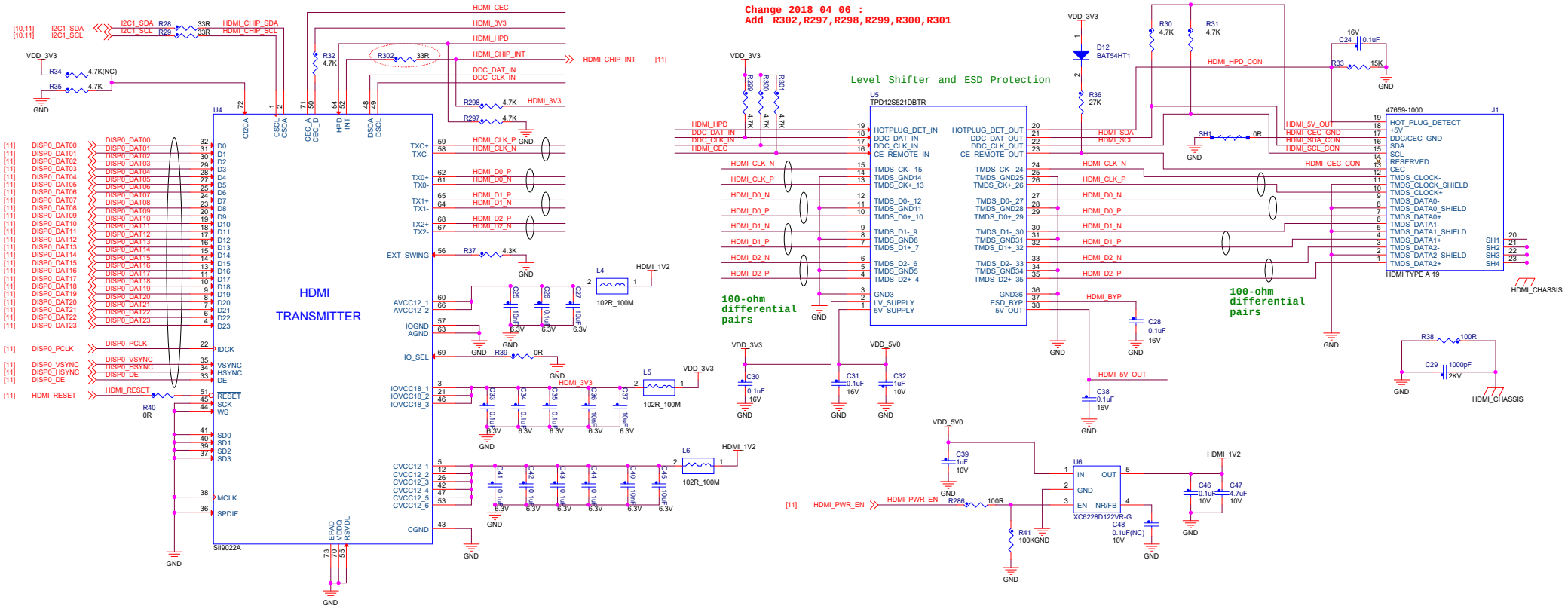
Title	S32V Carrier-System main Power	
Size: Custom	Document Number: S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6	Rev: 0.6
Date: Friday, March 22, 2019	Sheet 1 of 11	



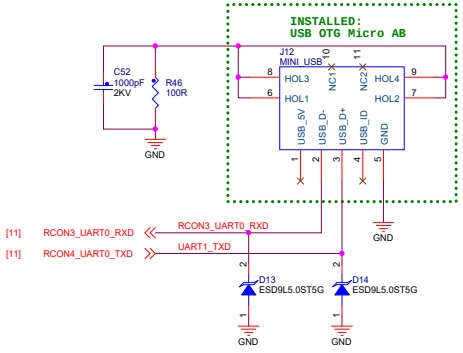
AVNET
Reach Further™

Title	S32V Carrier-Security,SPI Port,LED	
Size: Custom	Document Number: S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6	Rev: 0.6
Date: Friday, March 22, 2019	Sheet 2 of 11	

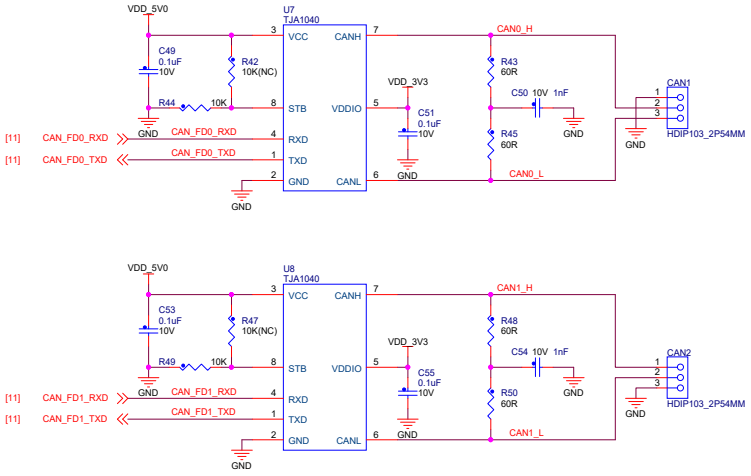
RGB to HDMI



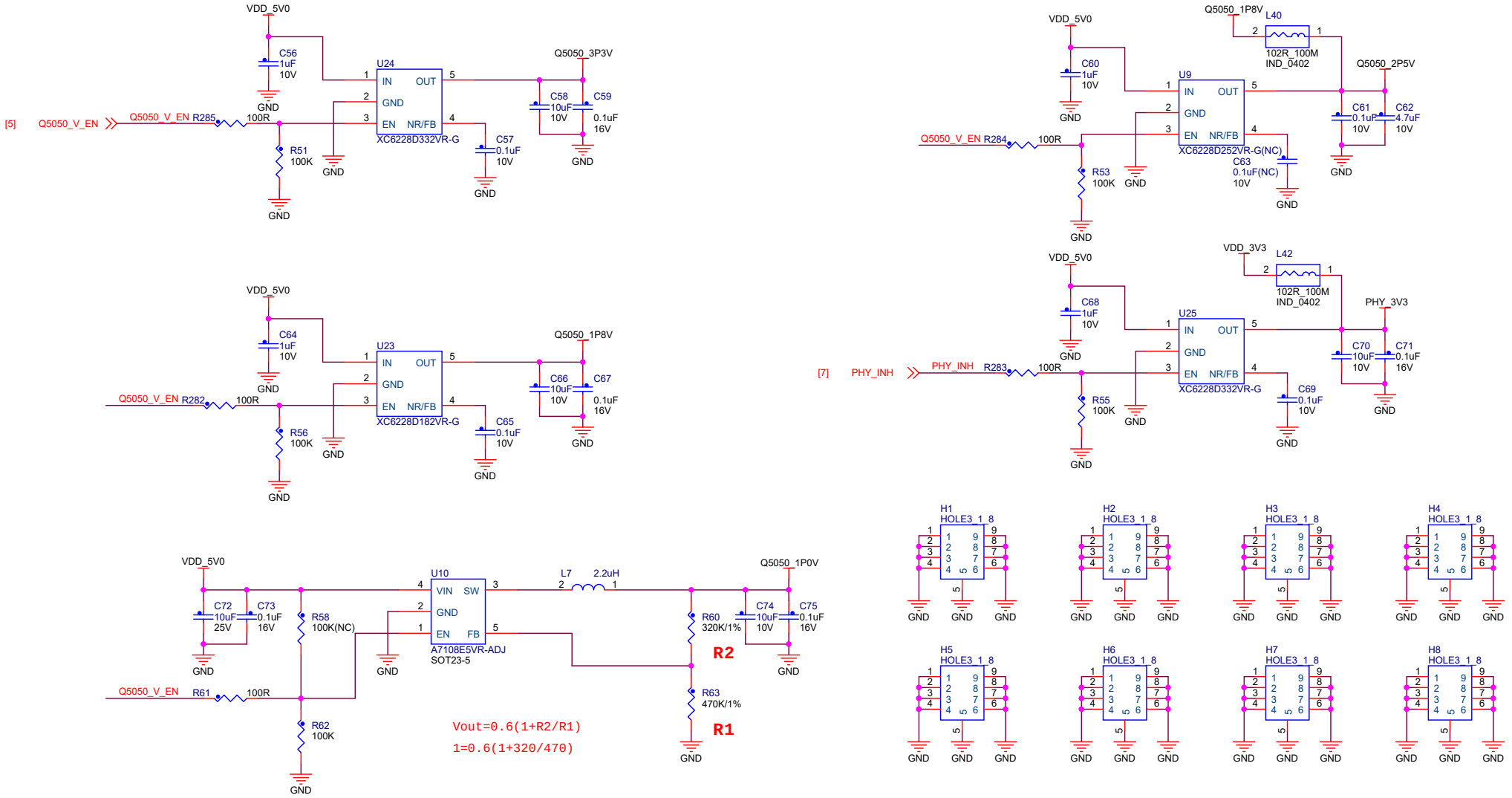
DEBUG UART



CAN Connector

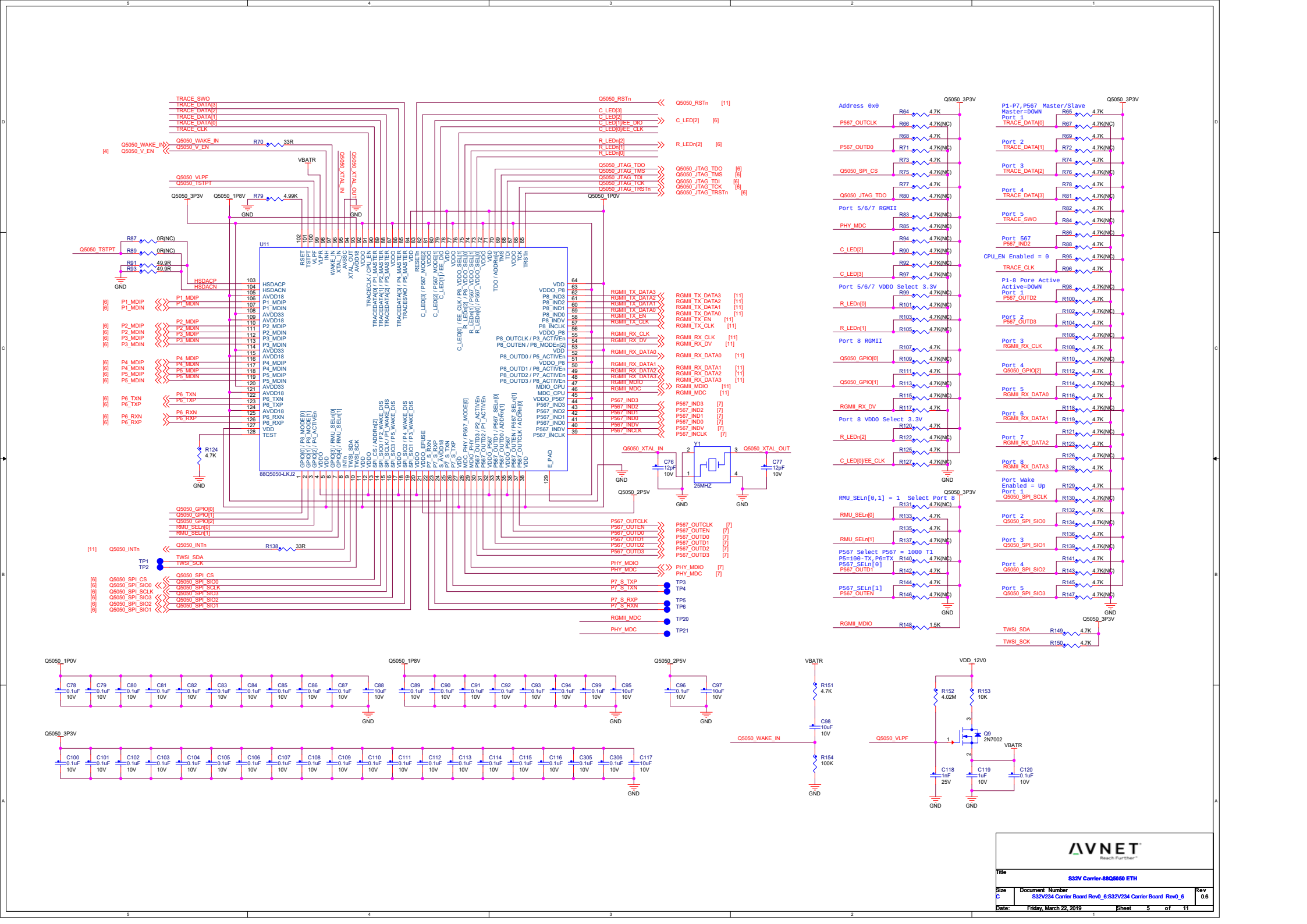


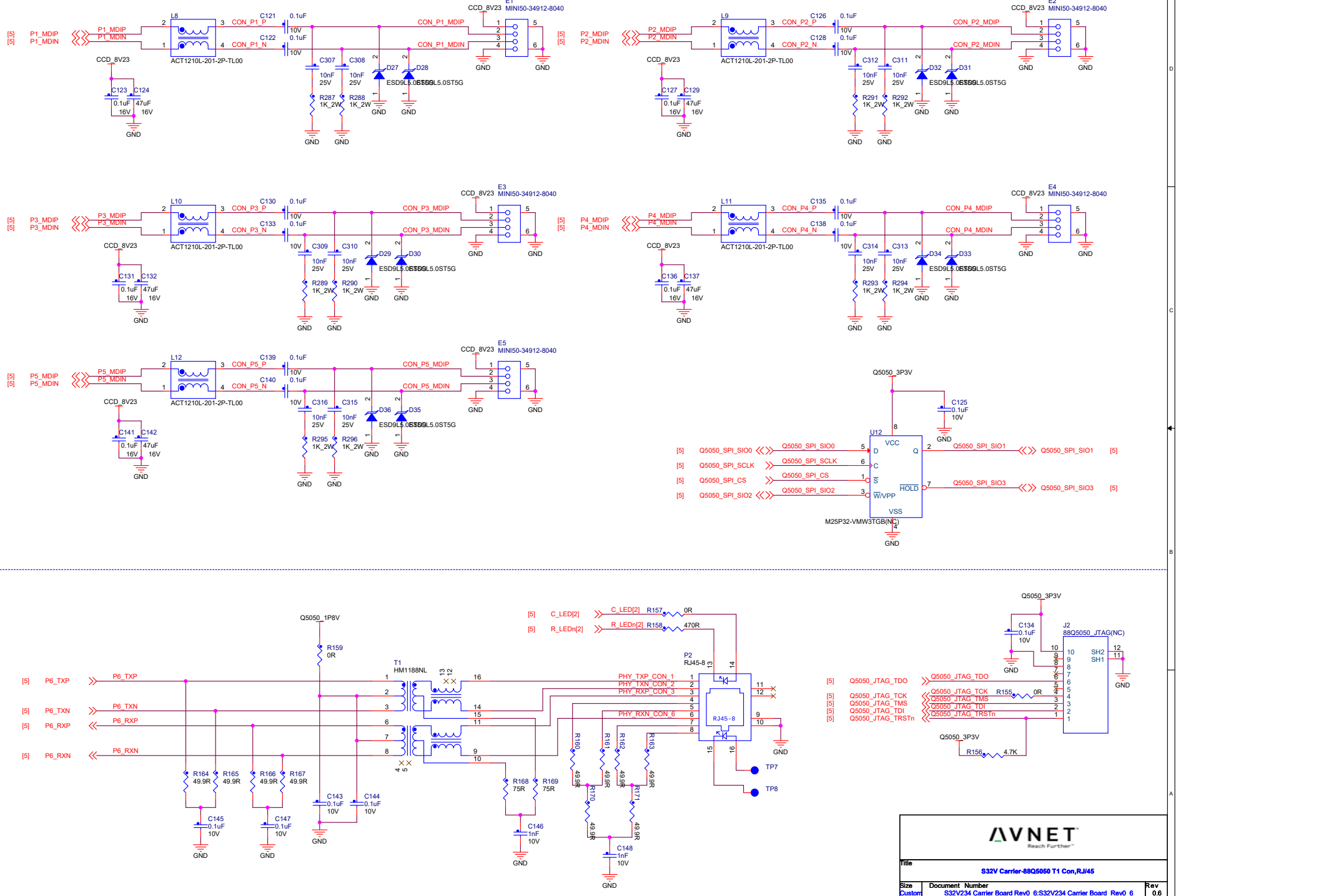
Title	S32V Carrier-HDMI out,Uart0,CAN		
Size: Custom	Document Number: S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6		Rev: 0.6
Date: Friday, March 22, 2019	Sheet 3 of 11		



AVNET
Reach Further

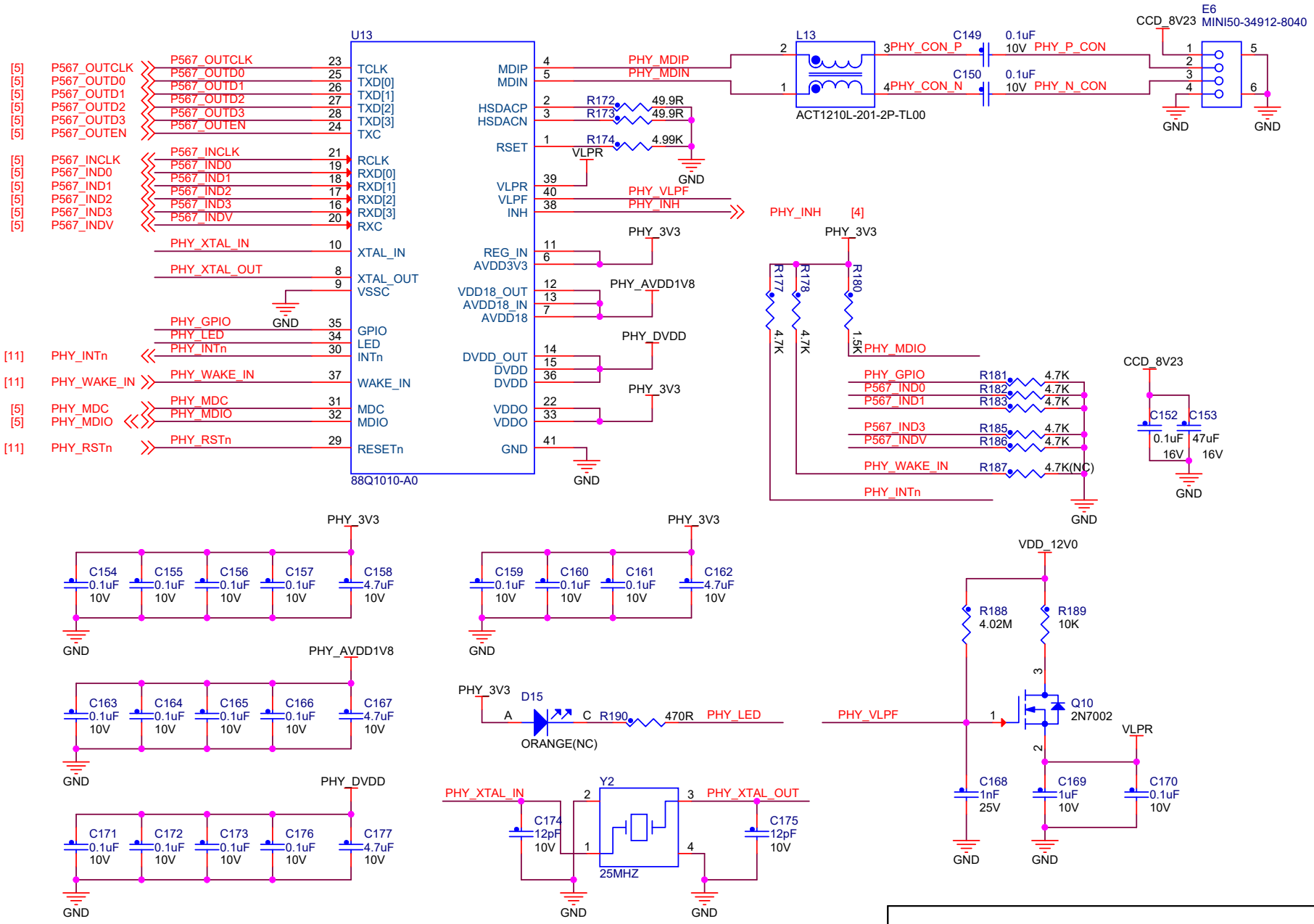
Title	S32V Carrier-88Q5050 Power Supply	
Size: Custom	Document Number: S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6	Rev: 0.6
Date: Friday, March 22, 2019	Sheet 4 of 11	


TRACE_SWO
TRACE_DATA[3]
TRACE_DATA[2]
TRACE_DATA[1]
TRACE_DATA[0]
TRACE_CLK
Q5050_WAKE_IN
Q5050_V_EN
R70 33R
VBATR
Q5050_VLPF
Q5050_TSTPT
Q5050_3P3V
Q5050_1P8V
R79 4.99K
Q5050_1P0V
R87 0R(NC)
R89 0R(NC)
R91 49.9R
R93 49.9R
U11
88Q5050-LKJ2
HSDACP
HSDACN
P1_MDIP
P1_MDIN
P2_MDIP
P2_MDIN
P3_MDIP
P3_MDIN
P4_MDIP
P4_MDIN
P5_MDIP
P5_MDIN
P6_TXN
P6_TXP
P6_RXN
P6_RXP
R124 4.7K
Q5050_XTAL_IN
Q5050_XTAL_OUT
C76 12pF 10V
C77 12pF 10V
Y1
25MHZ
Q5050_2P5V
Q5050_GPIO[0]
Q5050_GPIO[1]
Q5050_GPIO[2]
RMU_SELn[0]
RMU_SELn[1]
Q5050_INTn
R138 33R
TWSI_SDA
TWSI_SCK
TP1
TP2
Q5050_SPI_CS
Q5050_SPI_SIO0
Q5050_SPI_SCLK
Q5050_SPI_SIO3
Q5050_SPI_SIO2
Q5050_SPI_SIO1
Q5050_RSTn
C_LED[3]
C_LED[2]
C_LED[1]/EE_DIO
C_LED[0]/EE_CLK
R_LEDn[2]
R_LEDn[1]
R_LEDn[0]
Q5050_JTAG_TDO
Q5050_JTAG_TMS
Q5050_JTAG_TDI
Q5050_JTAG_TCK
Q5050_JTAG_TRSTn
RGMII_TX_DATA3
RGMII_TX_DATA2
RGMII_TX_DATA1
RGMII_TX_DATA0
RGMII_TX_EN
RGMII_TX_CLK
RGMII_RX_CLK
RGMII_RX_DV
RGMII_RX_DATA0
RGMII_RX_DATA1
RGMII_RX_DATA2
RGMII_RX_DATA3
RGMII_MDIO
RGMII_MDC
P567_IND3
P567_IND2
P567_IND1
P567_IND0
P567_INDV
P567_INCLK
P567_OUTCLK
P567_OUTEN
P567_OUTD0
P567_OUTD1
P567_OUTD2
P567_OUTD3
PHY_MDIO
PHY_MDC
P7_S_TXP
P7_S_TXN
P7_S_RXP
P7_S_RXN
TP3
TP4
TP5
TP6
TP20
TP21
Address 0x0
P567_OUTCLK
P567_OUTD0
Q5050_SPI_CS
Q5050_JTAG_TDO
Port 5/6/7 RGMII
PHY_MDC
C_LED[2]
C_LED[3]
Port 5/6/7 VDDO Select 3.3V
R_LEDn[0]
R_LEDn[1]
Port 8 RGMII
Q5050_GPIO[0]
Q5050_GPIO[1]
RGMII_RX_DV
Port 8 VDDO Select 3.3V
R_LEDn[2]
C_LED[0]/EE_CLK
RMU_SELn[0,1] = 1 Select Port 8
RMU_SELn[0]
RMU_SELn[1]
P567 Select P567 = 1000 T1
P5=100-TX,P6=TX
P567_SELn[0]
P567_OUTD1
P567_SELn[1]
P567_OUTEN
RGMII_MDIO
R148 1.5K
P1-P7,P567 Master/Slave
Master=DOWN
Port 1
TRACE_DATA[0]
Port 2
TRACE_DATA[1]
Port 3
TRACE_DATA[2]
Port 4
TRACE_DATA[3]
Port 5
TRACE_SWO
Port 567
P567_IND2
CPU_EN Enabled = 0
TRACE_CLK
P1-8 Pore Active
Active=DOWN
Port 1
P567_OUTD2
Port 2
P567_OUTD3
Port 3
RGMII_RX_CLK
Port 4
Q5050_GPIO[2]
Port 5
RGMII_RX_DATA0
Port 6
RGMII_RX_DATA1
Port 7
RGMII_RX_DATA2
Port 8
RGMII_RX_DATA3
Port Wake
Enabled = Up
Port 1
Q5050_SPI_SCLK
Port 2
Q5050_SPI_SIO0
Port 3
Q5050_SPI_SIO1
Port 4
Q5050_SPI_SIO2
Port 5
Q5050_SPI_SIO3
TWSI_SDA
TWSI_SCK
R149 4.7K
R150 4.7K
Q5050_1P0V
C78 0.1uF 10V
C79 0.1uF 10V
C80 0.1uF 10V
C81 0.1uF 10V
C82 0.1uF 10V
C83 0.1uF 10V
C84 0.1uF 10V
C85 0.1uF 10V
C86 0.1uF 10V
C87 0.1uF 10V
C88 10uF 10V
Q5050_1P8V
C89 0.1uF 10V
C90 0.1uF 10V
C91 0.1uF 10V
C92 0.1uF 10V
C93 0.1uF 10V
C94 0.1uF 10V
C99 0.1uF 10V
C95 10uF 10V
Q5050_2P5V
C96 0.1uF 10V
C97 10uF 10V
Q5050_3P3V
C100 0.1uF 10V
C101 0.1uF 10V
C102 0.1uF 10V
C103 0.1uF 10V
C104 0.1uF 10V
C105 0.1uF 10V
C106 0.1uF 10V
C107 0.1uF 10V
C108 0.1uF 10V
C109 0.1uF 10V
C110 0.1uF 10V
C111 0.1uF 10V
C112 0.1uF 10V
C113 0.1uF 10V
C114 0.1uF 10V
C115 0.1uF 10V
C116 0.1uF 10V
C305 0.1uF 10V
C306 0.1uF 10V
C117 10uF 10V
VBATR
R151 4.7K
C98 10uF 10V
R154 100K
Q5050_WAKE_IN
VDD_12V0
R152 4.02M
R153 10K
Q9 2N7002
Q5050_VLPF
C118 1nF 25V
C119 1uF 10V
C120 0.1uF 10V
AVNET
Reach Further
Title
S32V Carrier-88Q5050 ETH
Size C
Document Number S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6
Rev 0.6
Date: Friday, March 22, 2019
Sheet 5 of 11



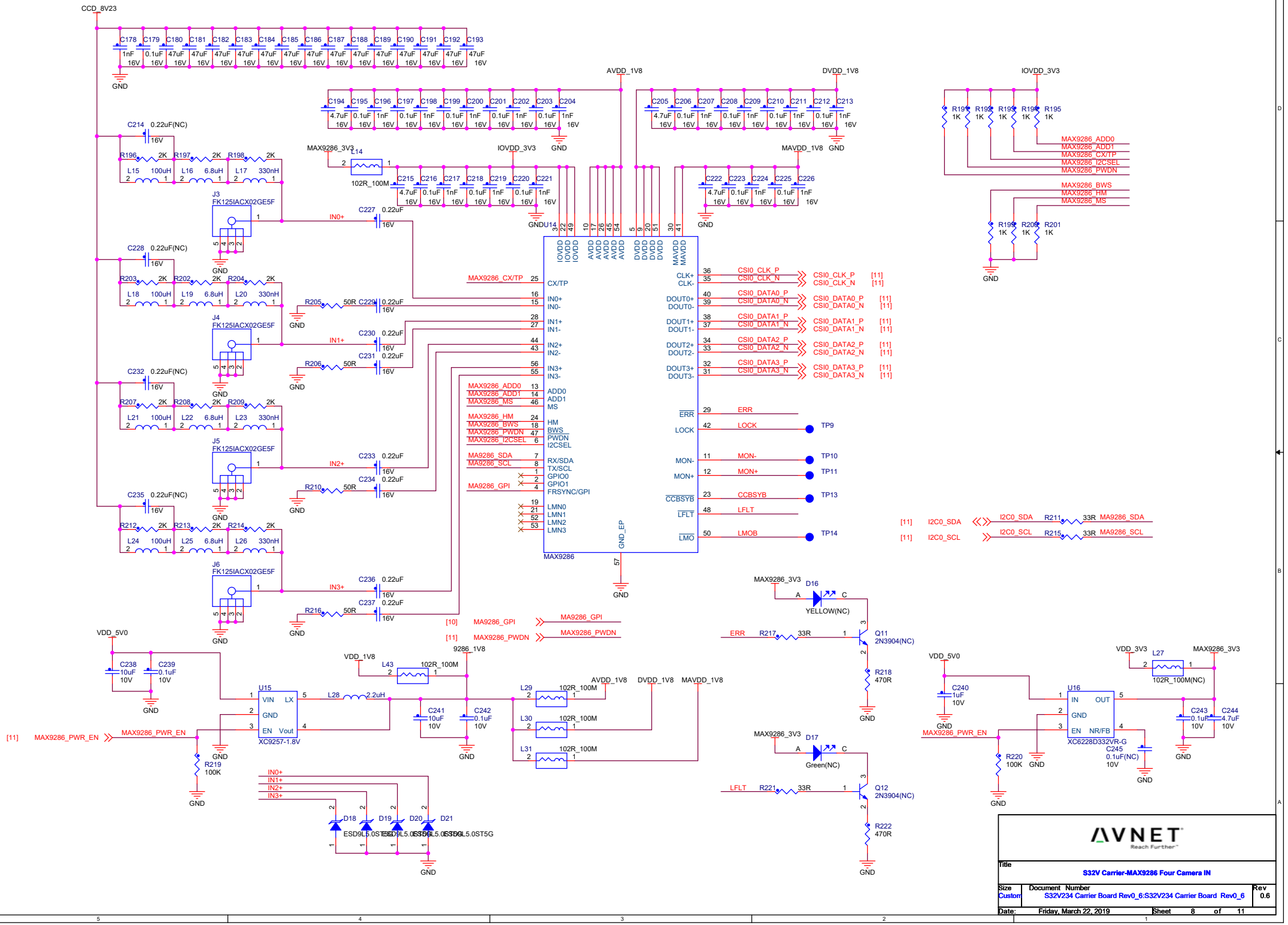
AVNET
Reach Further

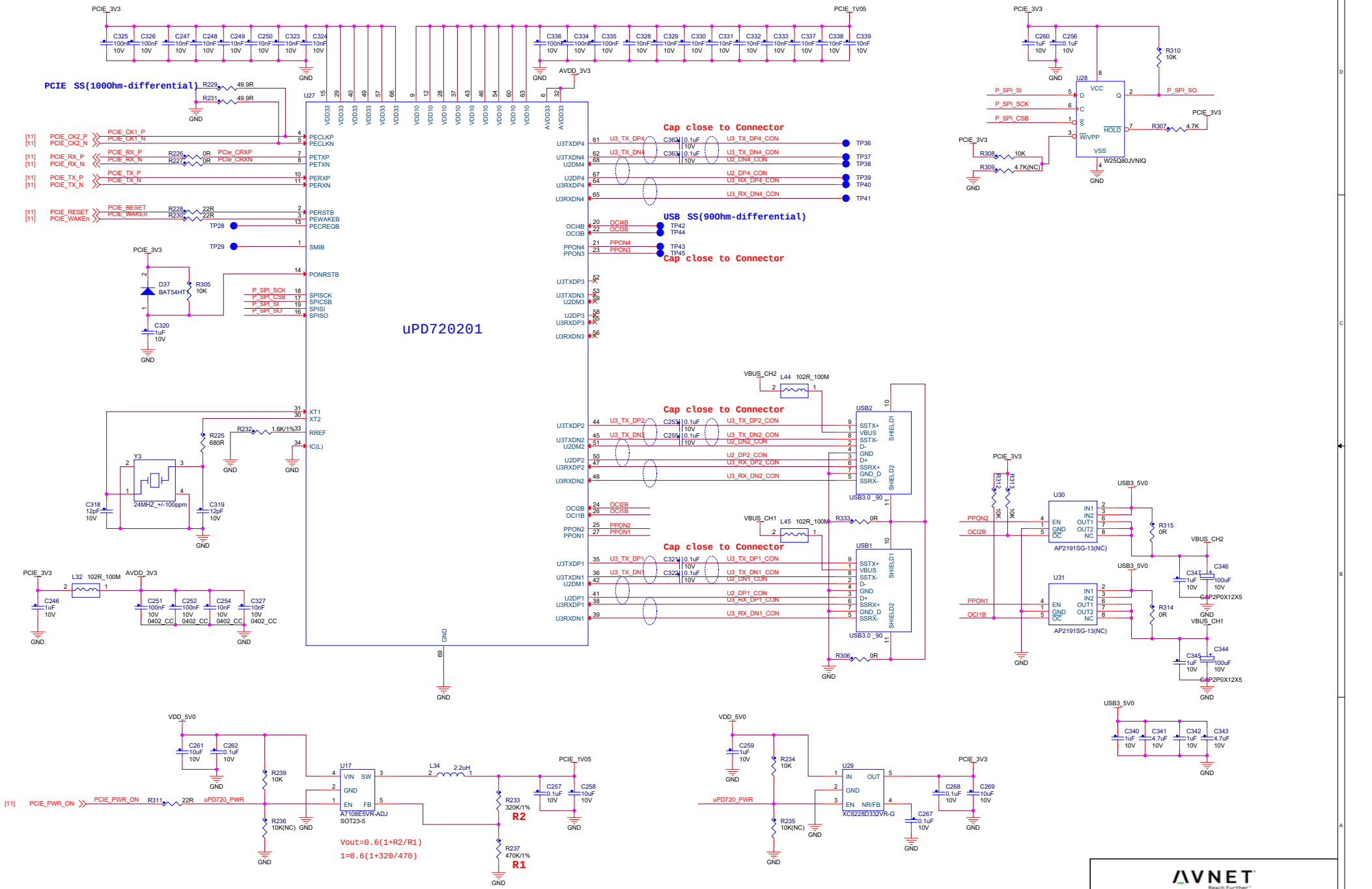
Title	S32V Carrier-88Q5050 T1 Con,RJ45	
Size: Custom	Document Number: S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6	Rev: 0.6
Date: Friday, March 22, 2019	Sheet 6 of 11	

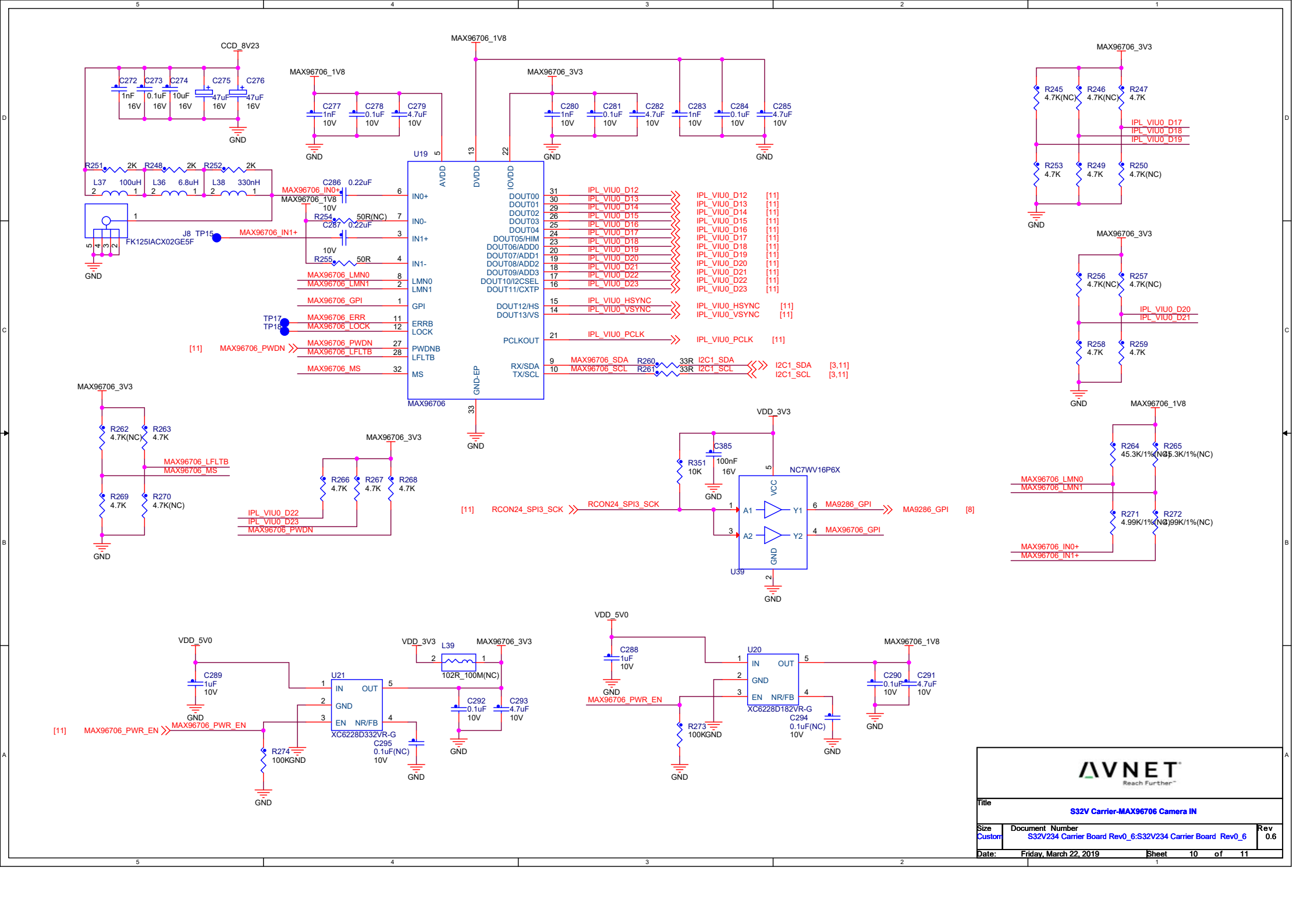


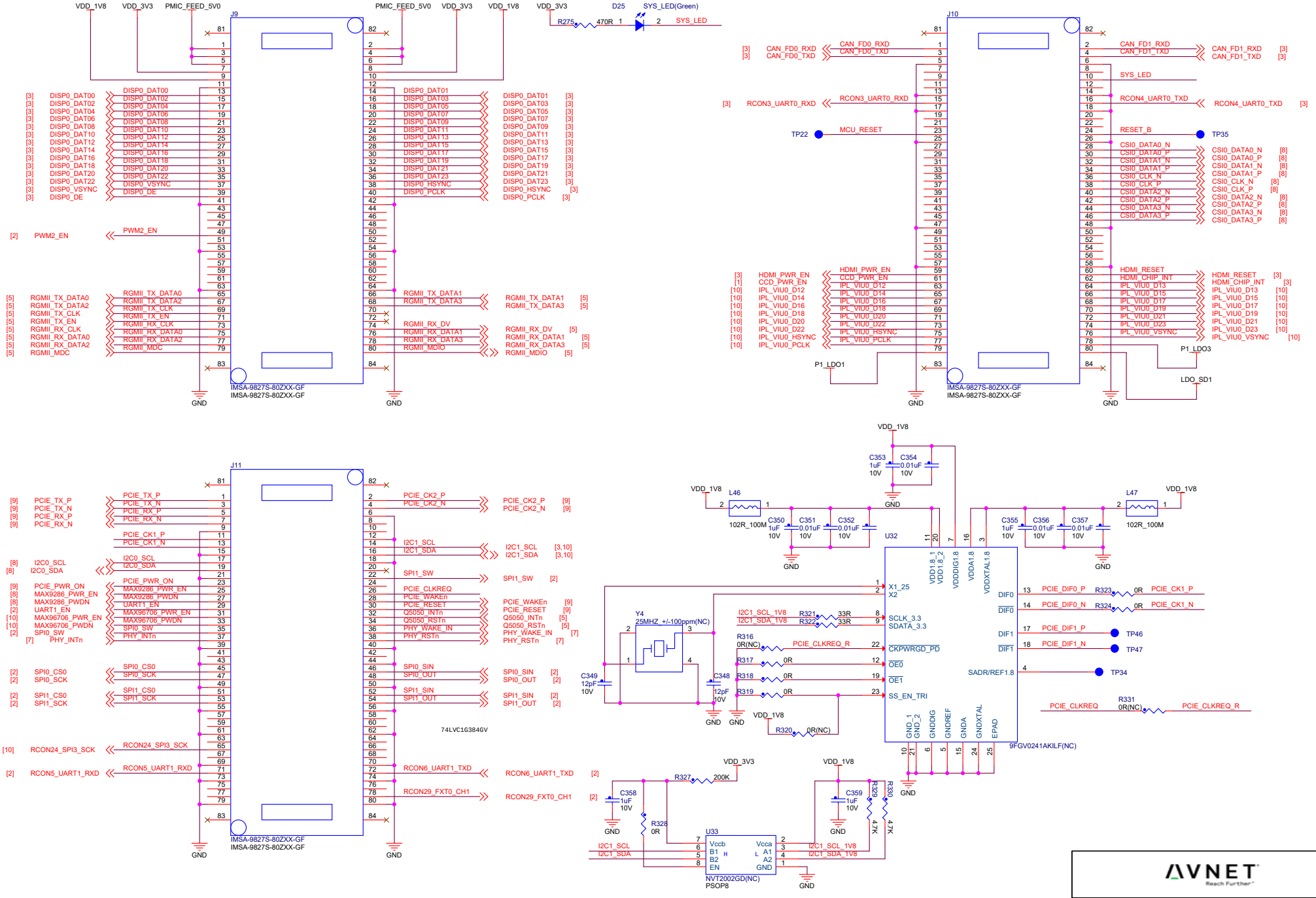
AVNET
Reach Further

Title	S32V Carrier-88Q1010 T1 100M Base-T1	
Size: Custom	Document Number: S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6	Rev: 0.6
Date: Friday, March 22, 2019	Sheet 7 of 11	


CCD_8V23
AVDD_1V8
DVDD_1V8
IOVDD_3V3
MAVDD_1V8
MAX9286_3V3
9286_1V8
VDD_5V0
VDD_1V8
VDD_3V3
GND
MAX9286
MAX9286_CX/TP
MAX9286_ADD0
MAX9286_ADD1
MAX9286_MS
MAX9286_HM
MAX9286_BWS
MAX9286_PWDN
MAX9286_I2CSEL
MA9286_SDA
MA9286_SCL
MA9286_GPI
MAX9286_PWR_EN
CSI0_CLK_P
CSI0_CLK_N
CSI0_DATA0_P
CSI0_DATA0_N
CSI0_DATA1_P
CSI0_DATA1_N
CSI0_DATA2_P
CSI0_DATA2_N
CSI0_DATA3_P
CSI0_DATA3_N
I2C0_SDA
I2C0_SCL
ERR
LOCK
MON-
MON+
CCBSYB
LFLT
LMO
TP9
TP10
TP11
TP13
TP14
IN0+
IN1+
IN2+
IN3+
J3
J4
J5
J6
FK125IACX02GE5F
U15
XC9257-1.8V
U16
XC6228D332VR-G
D16
D17
YELLOW(NC)
Green(NC)
Q11
Q12
2N3904(NC)
D18
D19
D20
D21
ESD9L5.0ST5G
Title
S32V Carrier-MAX9286 Four Camera IN
Size
Custom
Document Number
S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6
Rev
0.6
Date:
Friday, March 22, 2019
Sheet
8
of
11


PCIE SS(100Ohm-differential)
uPD720201
Cap close to Connector
USB SS(90Ohm-differential)
Cap close to Connector
Cap close to Connector
Vout=0.6(1+R2/R1)
1=0.6(1+320/470)
R2
R1
AVNET
Reach Further
S32V Carrier-PCIE Port to USB3.0
Size Custom
Document Number S32V234 Carrier Board Rev0_6;S32V234 Carrier Board Rev0_6
Rev 0.6
Date: Friday, March 22, 2019
Sheet 9 of 11


CCD_8V23
C272 1nF 16V
C273 0.1uF 16V
C274 10uF 16V
C275 47uF 16V
C276 47uF 16V
GND
MAX96706_1V8
C277 1nF 10V
C278 0.1uF 10V
C279 4.7uF 10V
MAX96706_3V3
C280 1nF 10V
C281 0.1uF 10V
C282 4.7uF 10V
C283 1nF 10V
C284 0.1uF 10V
C285 4.7uF 10V
R251 2K
R248 2K
R252 2K
L37 100uH
L36 6.8uH
L38 330nH
J8 TP15
FK125IACX02GE5F
C286 0.22uF
C287 0.22uF
R254 50R(NC)
R255 50R
MAX96706_IN0+
MAX96706_IN1+
MAX96706_1V8
10V
U19
MAX96706
AVDD
DVDD
IOVDD
GND-EP
IN0+
IN0-
IN1+
IN1-
LMN0
LMN1
GPI
ERRB
LOCK
PWDNB
LFLTB
MS
MAX96706_LMN0
MAX96706_LMN1
MAX96706_GPI
MAX96706_ERR
MAX96706_LOCK
MAX96706_PWDN
MAX96706_LFLTB
MAX96706_MS
TP17
TP18
[11] MAX96706_PWDN
DOUT00 IPL_VIU0_D12
DOUT01 IPL_VIU0_D13
DOUT02 IPL_VIU0_D14
DOUT03 IPL_VIU0_D15
DOUT04 IPL_VIU0_D16
DOUT05/HIM IPL_VIU0_D17
DOUT06/ADD0 IPL_VIU0_D18
DOUT07/ADD1 IPL_VIU0_D19
DOUT08/ADD2 IPL_VIU0_D20
DOUT09/ADD3 IPL_VIU0_D21
DOUT10/I2CSEL IPL_VIU0_D22
DOUT11/CXTP IPL_VIU0_D23
DOUT12/HS IPL_VIU0_HSYNC
DOUT13/VS IPL_VIU0_VSYNC
PCLKOUT IPL_VIU0_PCLK
RX/SDA MAX96706_SDA
TX/SCL MAX96706_SCL
R260 33R I2C1_SDA
R261 33R I2C1_SCL
I2C1_SDA [3,11]
I2C1_SCL [3,11]
MAX96706_3V3
R245 4.7K(NC)
R246 4.7K(NC)
R247 4.7K
R253 4.7K
R249 4.7K
R250 4.7K(NC)
IPL_VIU0_D17
IPL_VIU0_D18
IPL_VIU0_D19
R256 4.7K(NC)
R257 4.7K(NC)
R258 4.7K
R259 4.7K
IPL_VIU0_D20
IPL_VIU0_D21
R262 4.7K(NC)
R263 4.7K
R269 4.7K
R270 4.7K(NC)
MAX96706_LFLTB
MAX96706_MS
R266 4.7K
R267 4.7K
R268 4.7K
IPL_VIU0_D22
IPL_VIU0_D23
MAX96706_PWDN
VDD_3V3
C385 100nF 16V
R351 10K
NC7WV16P6X
U39
VCC
GND
A1
A2
Y1
Y2
[11] RCON24_SPI3_SCK
RCON24_SPI3_SCK
MA9286_GPI
MA9286_GPI [8]
MAX96706_GPI
MAX96706_1V8
R264 45.3K/1%(NC)
R265 45.3K/1%(NC)
R271 4.99K/1%(NC)
R272 4.99K/1%(NC)
MAX96706_LMN0
MAX96706_LMN1
MAX96706_IN0+
MAX96706_IN1+
VDD_5V0
C289 1uF 10V
U21
IN
OUT
GND
EN
NR/FB
XC6228D332VR-G
L39
102R_100M(NC)
C292 0.1uF 10V
C293 4.7uF 10V
C295 0.1uF(NC) 10V
[11] MAX96706_PWR_EN
MAX96706_PWR_EN
R274 100KGND
C288 1uF 10V
U20
XC6228D182VR-G
C294 0.1uF(NC) 10V
R273 100KGND
C290 0.1uF 10V
C291 4.7uF 10V
AVNET
Reach Further
Title
S32V Carrier-MAX96706 Camera IN
Size
Custom
Document Number
S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6
Rev
0.6
Date:
Friday, March 22, 2019
Sheet 10 of 11


J9
IMSA-9827S-80ZXX-GF
J10
IMSA-9827S-80ZXX-GF
J11
IMSA-9827S-80ZXX-GF
D25
SYS_LED(Green)
R275
470R
SYS_LED
DISP0_DAT00
DISP0_DAT01
DISP0_DAT02
DISP0_DAT03
DISP0_DAT04
DISP0_DAT05
DISP0_DAT06
DISP0_DAT07
DISP0_DAT08
DISP0_DAT09
DISP0_DAT10
DISP0_DAT11
DISP0_DAT12
DISP0_DAT13
DISP0_DAT14
DISP0_DAT15
DISP0_DAT16
DISP0_DAT17
DISP0_DAT18
DISP0_DAT19
DISP0_DAT20
DISP0_DAT21
DISP0_DAT22
DISP0_DAT23
DISP0_VSYNC
DISP0_HSYNC
DISP0_DE
DISP0_PCLK
PWM2_EN
RGMII_TX_DATA0
RGMII_TX_DATA1
RGMII_TX_DATA2
RGMII_TX_DATA3
RGMII_TX_CLK
RGMII_TX_EN
RGMII_RX_CLK
RGMII_RX_DV
RGMII_RX_DATA0
RGMII_RX_DATA1
RGMII_RX_DATA2
RGMII_RX_DATA3
RGMII_MDC
RGMII_MDIO
CAN_FD0_RXD
CAN_FD0_TXD
CAN_FD1_RXD
CAN_FD1_TXD
RCON3_UART0_RXD
RCON4_UART0_TXD
MCU_RESET
RESET_B
TP22
TP35
CSI0_DATA0_N
CSI0_DATA0_P
CSI0_DATA1_N
CSI0_DATA1_P
CSI0_CLK_N
CSI0_CLK_P
CSI0_DATA2_N
CSI0_DATA2_P
CSI0_DATA3_N
CSI0_DATA3_P
HDMI_PWR_EN
CCD_PWR_EN
HDMI_RESET
HDMI_CHIP_INT
IPL_VIU0_D12
IPL_VIU0_D13
IPL_VIU0_D14
IPL_VIU0_D15
IPL_VIU0_D16
IPL_VIU0_D17
IPL_VIU0_D18
IPL_VIU0_D19
IPL_VIU0_D20
IPL_VIU0_D21
IPL_VIU0_D22
IPL_VIU0_D23
IPL_VIU0_HSYNC
IPL_VIU0_VSYNC
IPL_VIU0_PCLK
P1_LDO1
P1_LDO3
LDO_SD1
PCIE_TX_P
PCIE_TX_N
PCIE_RX_P
PCIE_RX_N
PCIE_CK1_P
PCIE_CK1_N
PCIE_CK2_P
PCIE_CK2_N
I2C0_SCL
I2C0_SDA
I2C1_SCL
I2C1_SDA
PCIE_PWR_ON
MAX9286_PWR_EN
MAX9286_PWDN
UART1_EN
MAX96706_PWR_EN
MAX96706_PWDN
SPI0_SW
PHY_INTn
SPI1_SW
PCIE_CLKREQ
PCIE_WAKEn
PCIE_RESET
Q5050_INTn
Q5050_RSTn
PHY_WAKE_IN
PHY_RSTn
SPI0_CS0
SPI0_SCK
SPI0_SIN
SPI0_OUT
SPI1_CS0
SPI1_SCK
SPI1_SIN
SPI1_OUT
74LVC1G384GV
RCON24_SPI3_SCK
RCON5_UART1_RXD
RCON6_UART1_TXD
RCON29_FXT0_CH1
VDD_1V8
VDD_3V3
PMIC_FEED_5V0
GND
L46
L47
102R_100M
C350
C351
C352
C353
C354
C355
C356
C357
1uF
0.01uF
10V
U32
9FGV0241AKILF(NC)
Y4
25MHZ +/-100ppm(NC)
C348
12pF
C349
R316
R317
R318
R319
R320
R321
R322
R323
R324
R331
0R
0R(NC)
33R
I2C1_SCL_1V8
I2C1_SDA_1V8
PCIE_CLKREQ_R
SCLK_3.3
SDATA_3.3
CKPWRGD_PD
OE0
OE1
SS_EN_TRI
SADR/REF1.8
DIF0
DIF1
TP46
TP47
TP34
R327
R328
R329
R330
200K
4.7K
C358
C359
U33
NVT2002GD(NC)
PSOP8
Vccb
Vcca
B1
B2
EN
A1
A2
GND
AVNET
Reach Further
Title
S32V Carrier-Core Board header
Size
Custom
Document Number
S32V234 Carrier Board Rev0_6:S32V234 Carrier Board Rev0_6
Rev
0.6
Date:
Friday, March 22, 2019
Sheet
11
of
11