DSP CARD SCHEMATIC - 2 GIMBAL

Pages: Functional Description

PAGE02: ANALOG INPUTS
PAGE03: ANALOG INPUTS
PAGE04: ANALOG INPUTS
PAGE05: ANALOG INPUTS
PAGE06: ANALOG INPUTS
PAGE07: ADC & MUX INTERFACE
PAGE08: DAC INTERFACE
PAGE09: GYRO A_PRCS
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PAGE11: ADSP PERIPHERAL
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PAGE13: CPLD
PAGE14: HEALTH STATUS
PAGE15: QUAD UART INTERFACE
PAGE16: RDC INTERFACE
PAGE17: LEVEL TRANSCEIVERS
PAGE18: POWER SUPPLY CIRCUIT
PAGE19: CONNECTOR

DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE	PROJECT TITLE : 2-GIMBAL				Dwg.Title:	DSP CARD SCHEMATICS
	Code : 367	Name	Signature	Date		
	Drawn by :	Priyanka			Sheet Name:	ANALOG INPUTS
Issue : 01	Checked by :	LNarasimhan				
Revision : Nil	Passed by :	Shridhar			SHEET No :	1 of 19
Sheet size : A3	Approved by DEEOPL QA :	Shantha			DWG.No. :	367001010103
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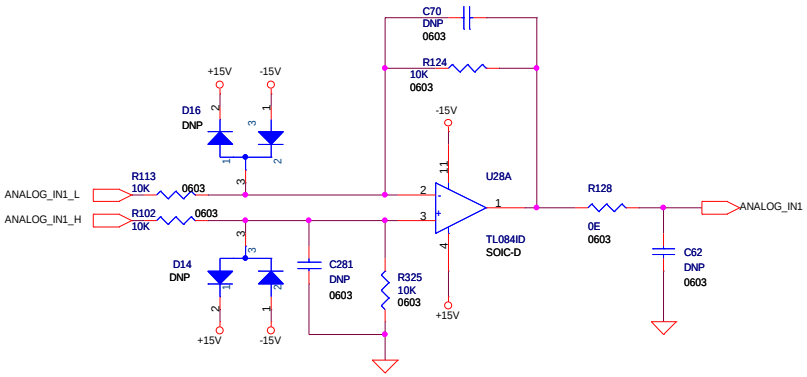

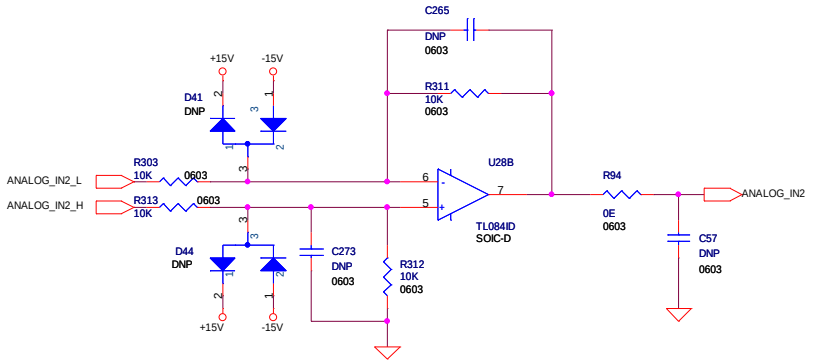

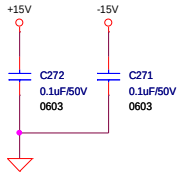

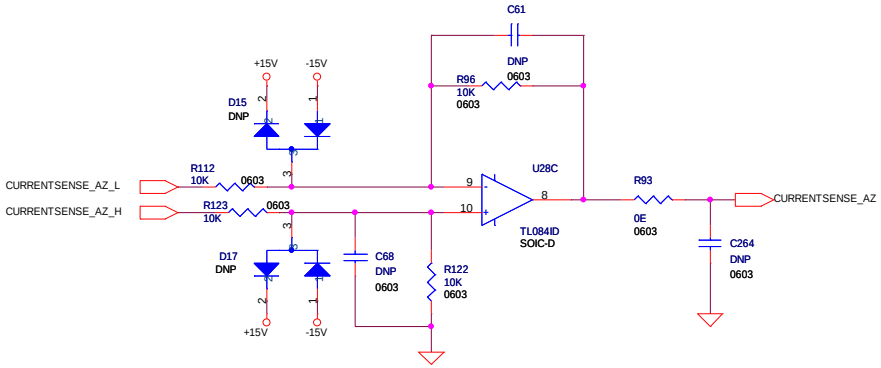

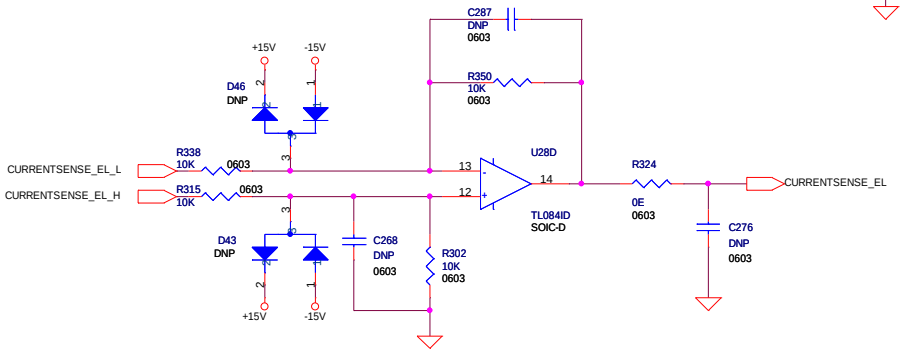

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	Revision : Nil	Passed by :	Shridhar			SHEET No : 2 of 19
	Sheet size : A3	Approved by DEEOPL QA :	Shantha			DWG.No. : 367001010103
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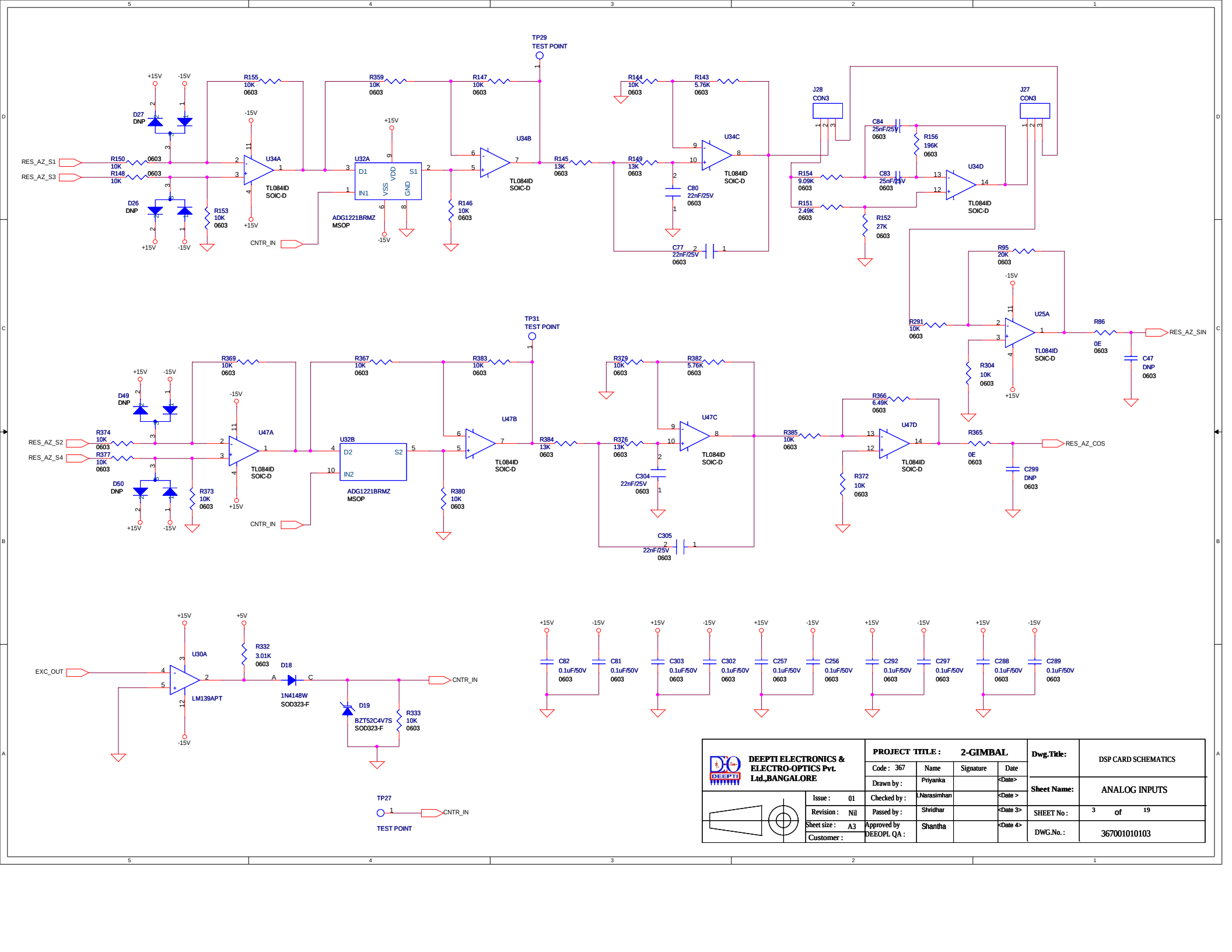
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TP31
TEST POINT
RES_AZ_S1
RES_AZ_S3
RES_AZ_S2
RES_AZ_S4
CNTR_IN
ADG1221BRMZ
MSOP
TL084IID
SOIC-D
LM139APT
1N4148W
SOD323-F
BZT52C4V7S
SOD323-F
J28
CON3
J27
CON3
RES_AZ_SIN
RES_AZ_COS
EXC_OUT
TP27
TEST POINT
DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE
PROJECT TITLE : 2-GIMBAL
Dwg.Title: DSP CARD SCHEMATICS
Sheet Name: ANALOG INPUTS
SHEET No : 3 of 19
DWG.No. : 367001010103
Code : 367
Drawn by : Priyanka
Checked by : LNarasimhan
Passed by : Shridhar
Approved by DEEOPL QA : Shantha
Issue : 01
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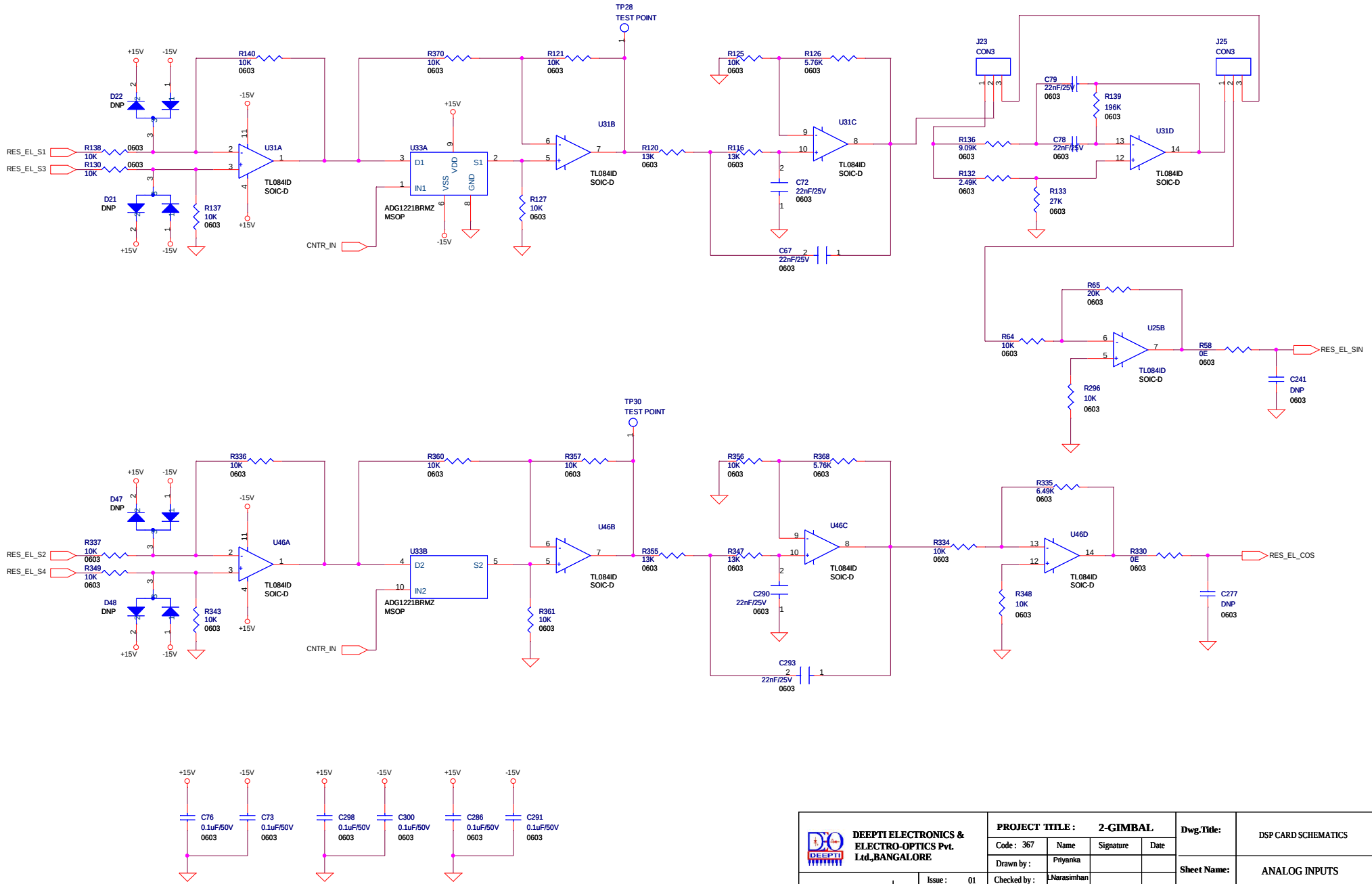

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Issue : 01	Passed by :	Shridhar			SHEET No :	4 of 19
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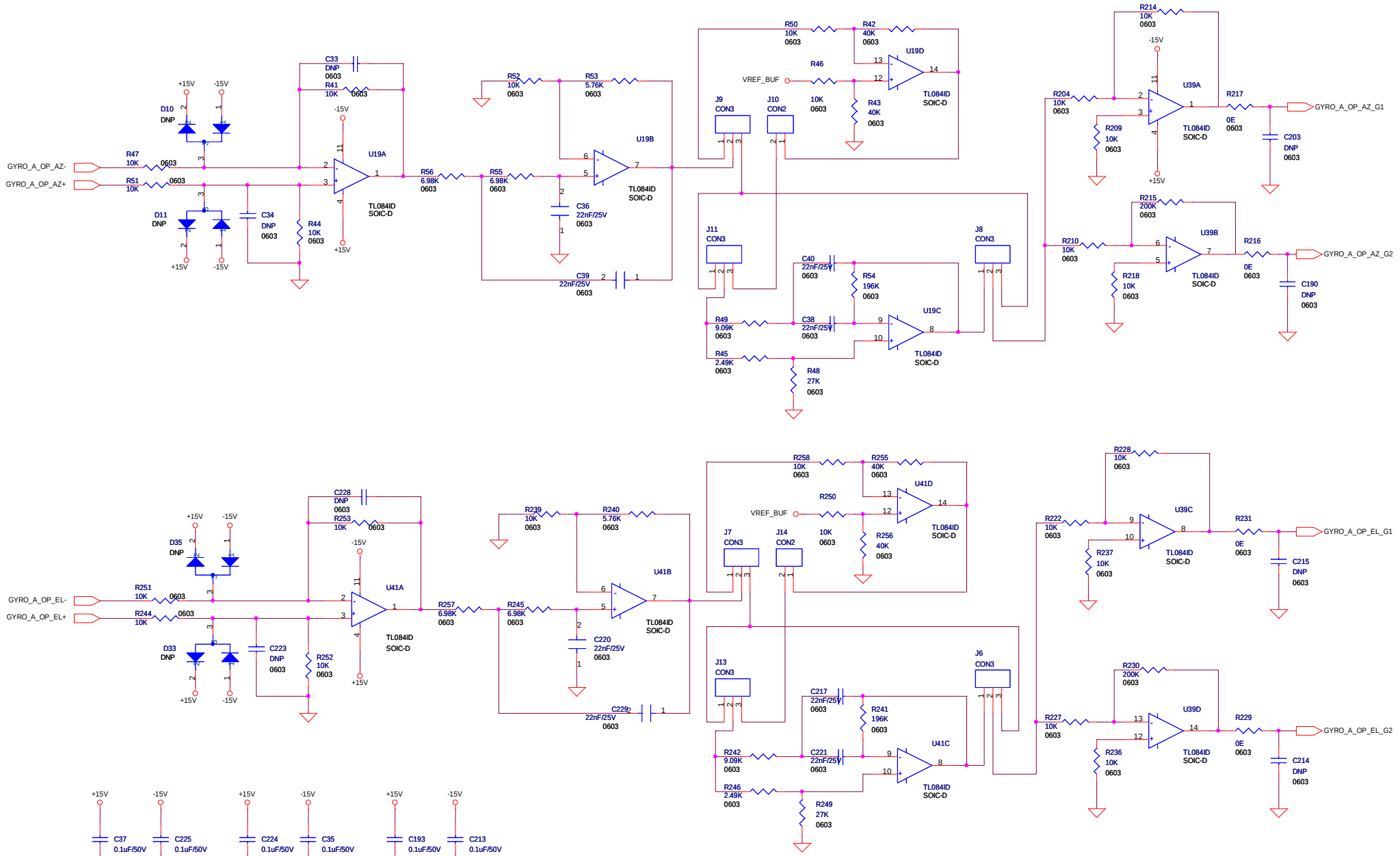

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Issue : 01	Passed by :	Shridhar		<Date 3>	SHEET No : 5 of 19
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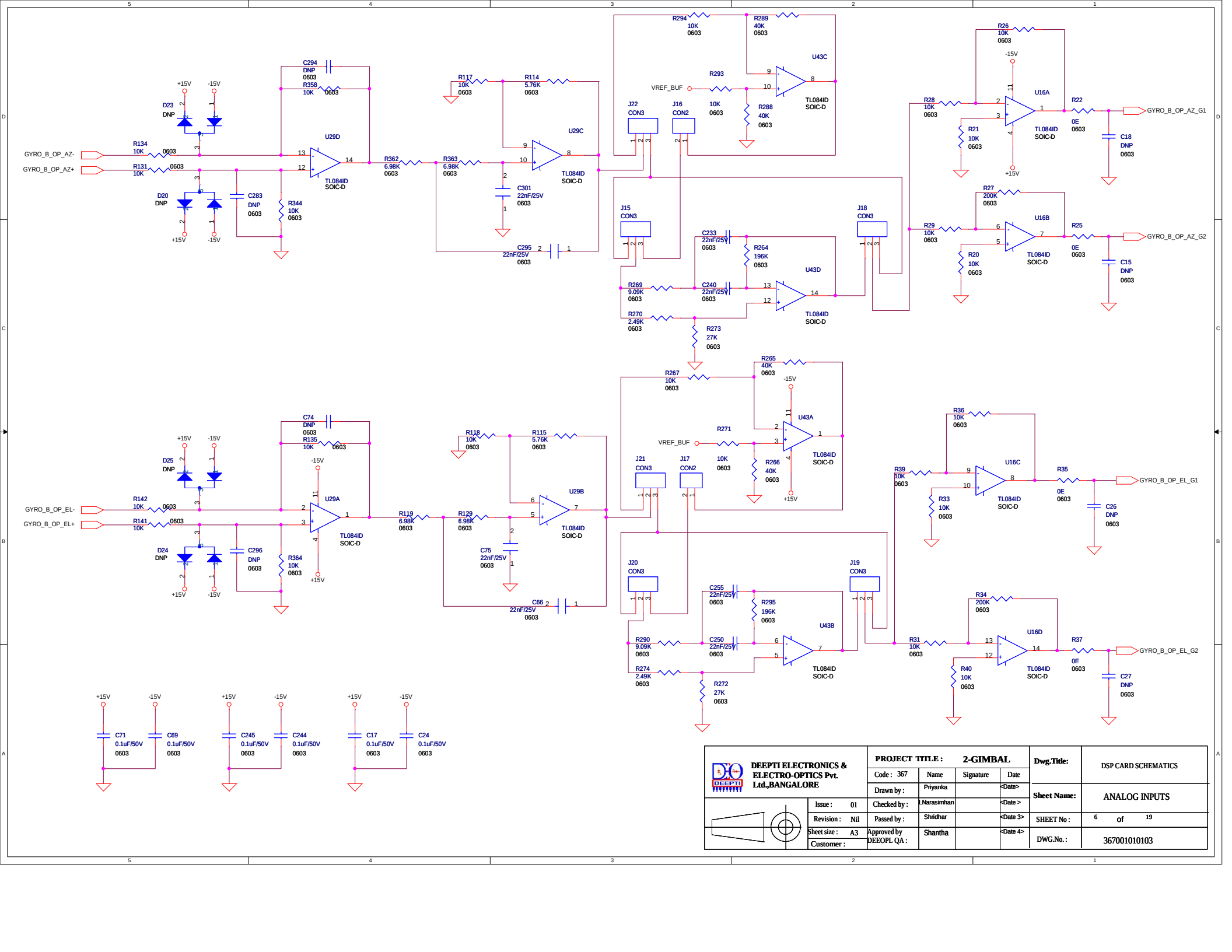
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GYRO_B_OP_EL-
GYRO_B_OP_EL+
VREF_BUF
+15V
-15V
TL084ID
SOIC-D
GYRO_B_OP_AZ_G1
GYRO_B_OP_AZ_G2
GYRO_B_OP_EL_G1
GYRO_B_OP_EL_G2
DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE
PROJECT TITLE : 2-GIMBAL
Dwg.Title: DSP CARD SCHEMATICS
Code : 367
Drawn by : Priyanka
Checked by : LNarasimhan
Passed by : Shridhar
Approved by DEEOPL QA : Shantha
Issue : 01
Revision : Nil
Sheet size : A3
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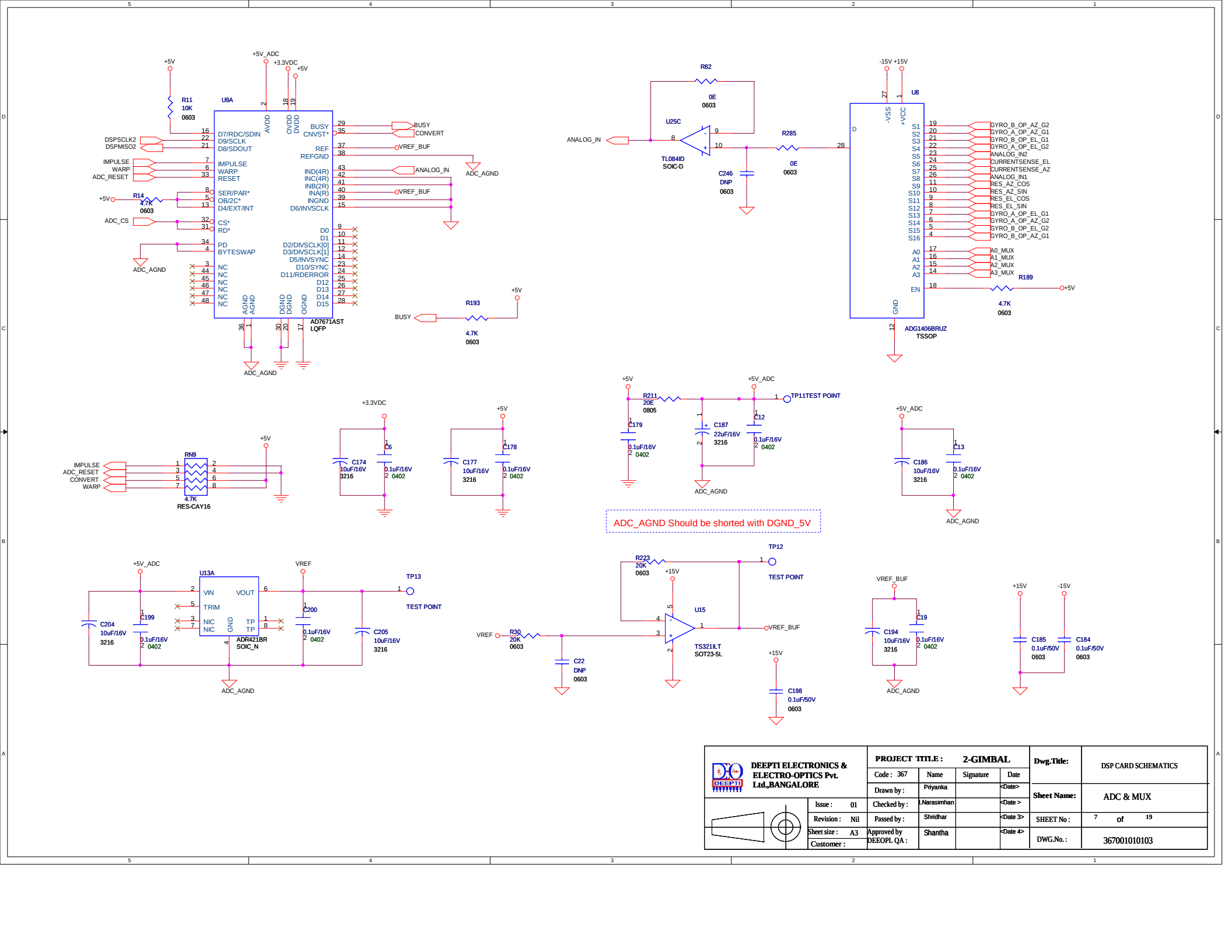
Sheet Name: ANALOG INPUTS
SHEET No : 6 of 19
DWG.No. : 367001010103



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Issue : 01	Passed by :	Shridhar		<Date 3>	SHEET No : 7 of 19
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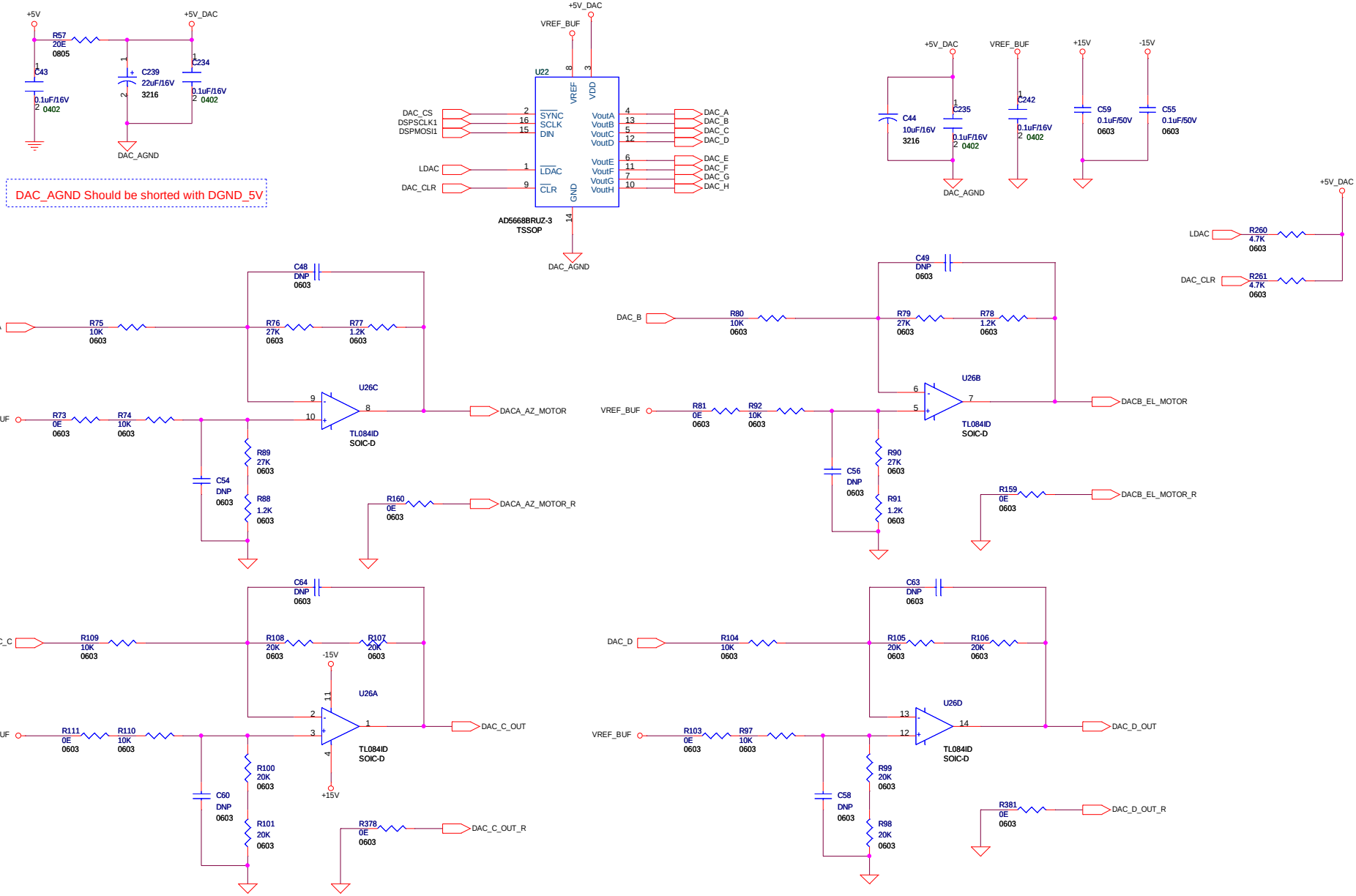

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Issue : 01	Passed by :	Shridhar		<Date 3>	SHEET No :	8 of 19
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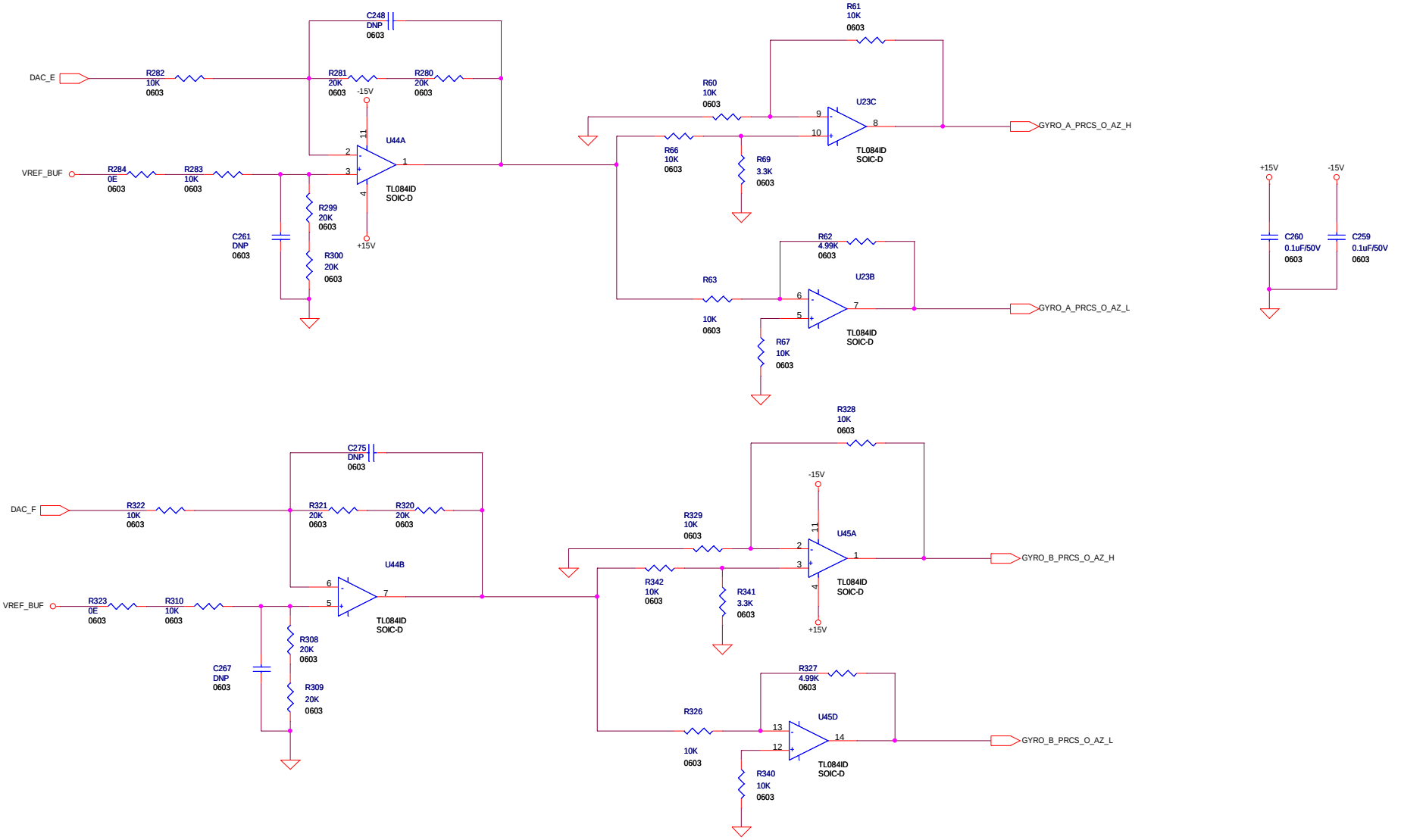

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	Revision : Nil	Passed by :	Shridhar		<Date 3>	SHEET No : 9 of 19
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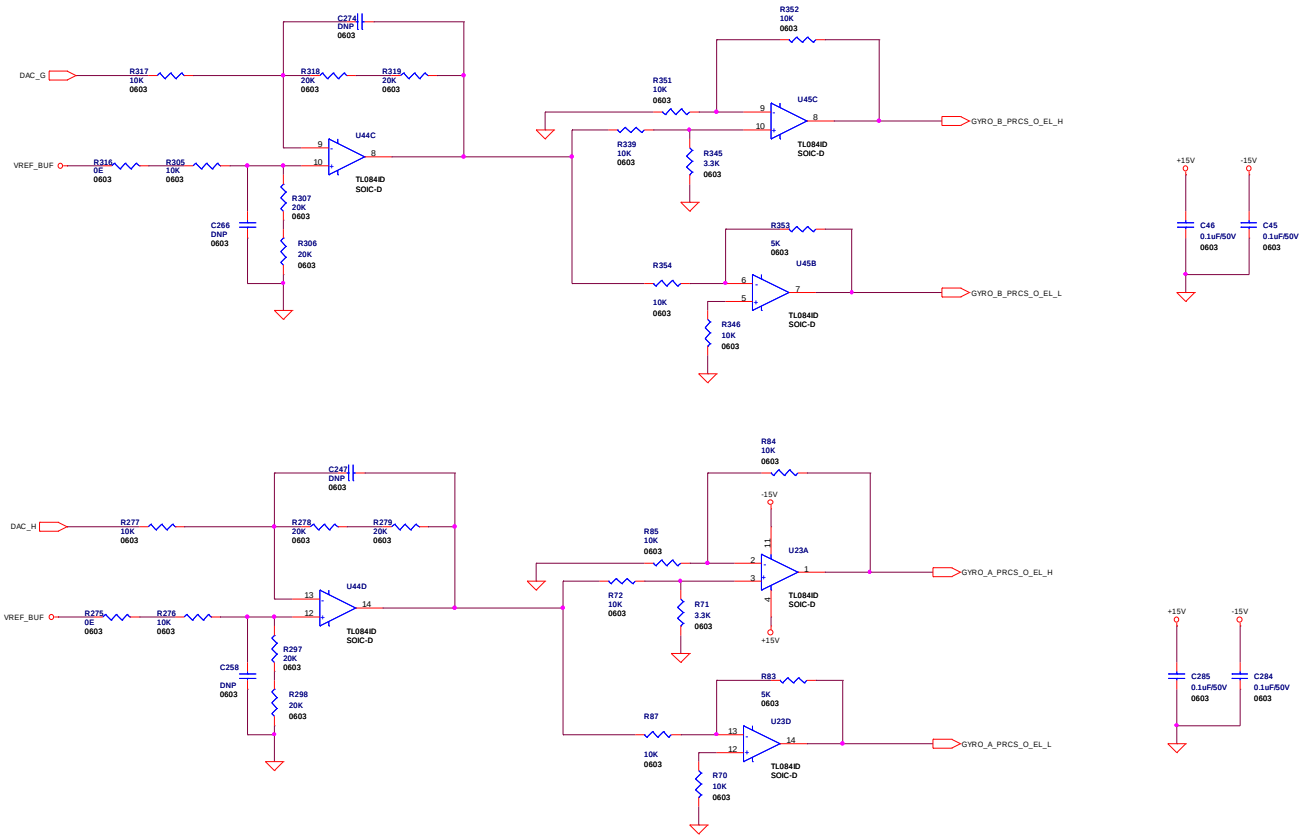

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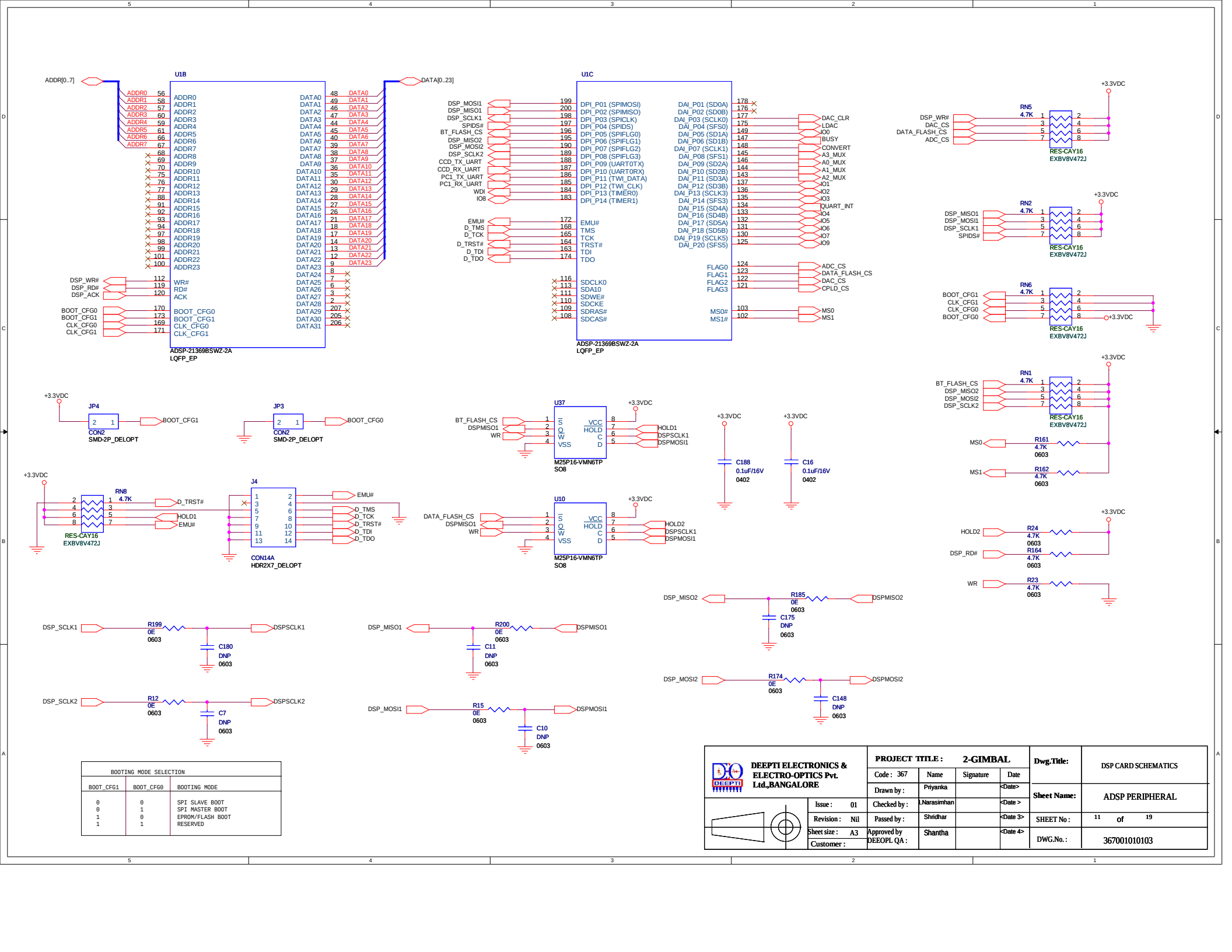
U1B
ADDR[0..7]
DATA[0..23]
ADDR0 ADDR1 ADDR2 ADDR3 ADDR4 ADDR5 ADDR6 ADDR7
ADDR8 ADDR9 ADDR10 ADDR11 ADDR12 ADDR13 ADDR14 ADDR15 ADDR16 ADDR17 ADDR18 ADDR19 ADDR20 ADDR21 ADDR22 ADDR23
DATA0 DATA1 DATA2 DATA3 DATA4 DATA5 DATA6 DATA7 DATA8 DATA9 DATA10 DATA11 DATA12 DATA13 DATA14 DATA15 DATA16 DATA17 DATA18 DATA19 DATA20 DATA21 DATA22 DATA23
DATA24 DATA25 DATA26 DATA27 DATA28 DATA29 DATA30 DATA31
DSP_WR# DSP_RD# DSP_ACK
WR# RD# ACK
BOOT_CFG0 BOOT_CFG1 CLK_CFG0 CLK_CFG1
ADSP-21369BSWZ-2A
LQFP_EP
U1C
DSP_MOSI1 DSP_MISO1 DSP_SCLK1 SPIDS# BT_FLASH_CS DSP_MISO2 DSP_MOSI2 DSP_SCLK2 CCD_TX_UART CCD_RX_UART PC1_TX_UART PC1_RX_UART WDI IO8
DPI_P01 (SPIMOSI) DPI_P02 (SPIMISO) DPI_P03 (SPICLK) DPI_P04 (SPIDS) DPI_P05 (SPIFLG0) DPI_P06 (SPIFLG1) DPI_P07 (SPIFLG2) DPI_P08 (SPIFLG3) DPI_P09 (UART0TX) DPI_P10 (UART0RX) DPI_P11 (TWI_DATA) DPI_P12 (TWI_CLK) DPI_P13 (TIMER0) DPI_P14 (TIMER1)
DAI_P01 (SD0A) DAI_P02 (SD0B) DAI_P03 (SCLK0) DAI_P04 (SFS0) DAI_P05 (SD1A) DAI_P06 (SD1B) DAI_P07 (SCLK1) DAI_P08 (SFS1) DAI_P09 (SD2A) DAI_P10 (SD2B) DAI_P11 (SD3A) DAI_P12 (SD3B) DAI_P13 (SCLK3) DAI_P14 (SFS3) DAI_P15 (SD4A) DAI_P16 (SD4B) DAI_P17 (SD5A) DAI_P18 (SD5B) DAI_P19 (SCLK5) DAI_P20 (SFS5)
DAC_CLR LDAC IO0 BUSY CONVERT A3_MUX A0_MUX A1_MUX A2_MUX IO1 IO2 IO3 QUART_INT IO4 IO5 IO6 IO7 IO9
EMU# D_TMS D_TCK D_TRST# D_TDI D_TDO
EMU# TMS TCK TRST# TDI TDO
SDCLK0 SDA10 SDWE# SDCKE SDRAS# SDCAS#
FLAG0 FLAG1 FLAG2 FLAG3
ADC_CS DATA_FLASH_CS DAC_CS CPLD_CS
MS0# MS1#
MS0 MS1
ADSP-21369BSWZ-2A
LQFP_EP
+3.3VDC
RN5 4.7K
DSP_WR# DAC_CS DATA_FLASH_CS ADC_CS
RES-CAY16 EXBV8V472J
RN2 4.7K
DSP_MISO1 DSP_MOSI1 DSP_SCLK1 SPIDS#
RES-CAY16 EXBV8V472J
RN6 4.7K
BOOT_CFG1 CLK_CFG1 CLK_CFG0 BOOT_CFG0
RES-CAY16 EXBV8V472J
RN1 4.7K
BT_FLASH_CS DSP_MISO2 DSP_MOSI2 DSP_SCLK2
RES-CAY16 EXBV8V472J
JP4
CON2
SMD-2P_DELOPT
BOOT_CFG1
JP3
CON2
SMD-2P_DELOPT
BOOT_CFG0
U37
BT_FLASH_CS DSPMISO1 WR
HOLD1 DSPSCLK1 DSPMOSI1
M25P16-VMN6TP
SO8
C188 0.1uF/16V 0402
C16 0.1uF/16V 0402
MS0 MS1
R161 4.7K 0603
R162 4.7K 0603
RN8 4.7K
D_TRST# HOLD1 EMU#
RES-CAY16 EXBV8V472J
J4
CON14A
HDR2X7_DELOPT
EMU# D_TMS D_TCK D_TRST# D_TDI D_TDO
U10
DATA_FLASH_CS DSPMISO1 WR
HOLD2 DSPSCLK1 DSPMOSI1
M25P16-VMN6TP
SO8
HOLD2 DSP_RD# WR
R24 4.7K 0603
R164 4.7K 0603
R23 4.7K 0603
DSP_MISO2
R185 0E 0603
C175 DNP 0603
DSPMISO2
DSP_SCLK1
R199 0E 0603
C180 DNP 0603
DSPSCLK1
DSP_MISO1
R200 0E 0603
C11 DNP 0603
DSPMISO1
DSP_MOSI2
R174 0E 0603
C148 DNP 0603
DSPMOSI2
DSP_SCLK2
R12 0E 0603
C7 DNP 0603
DSPSCLK2
DSP_MOSI1
R15 0E 0603
C10 DNP 0603
DSPMOSI1
BOOTING MODE SELECTION
BOOT_CFG1 BOOT_CFG0 BOOTING MODE
0 0 SPI SLAVE BOOT
0 1 SPI MASTER BOOT
1 0 EPROM/FLASH BOOT
1 1 RESERVED
DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE
PROJECT TITLE : 2-GIMBAL
Code : 367
Drawn by : Priyanka
Checked by : LNarasimhan
Passed by : Shridhar
Approved by DEEOPL QA : Shantha
Name Signature Date
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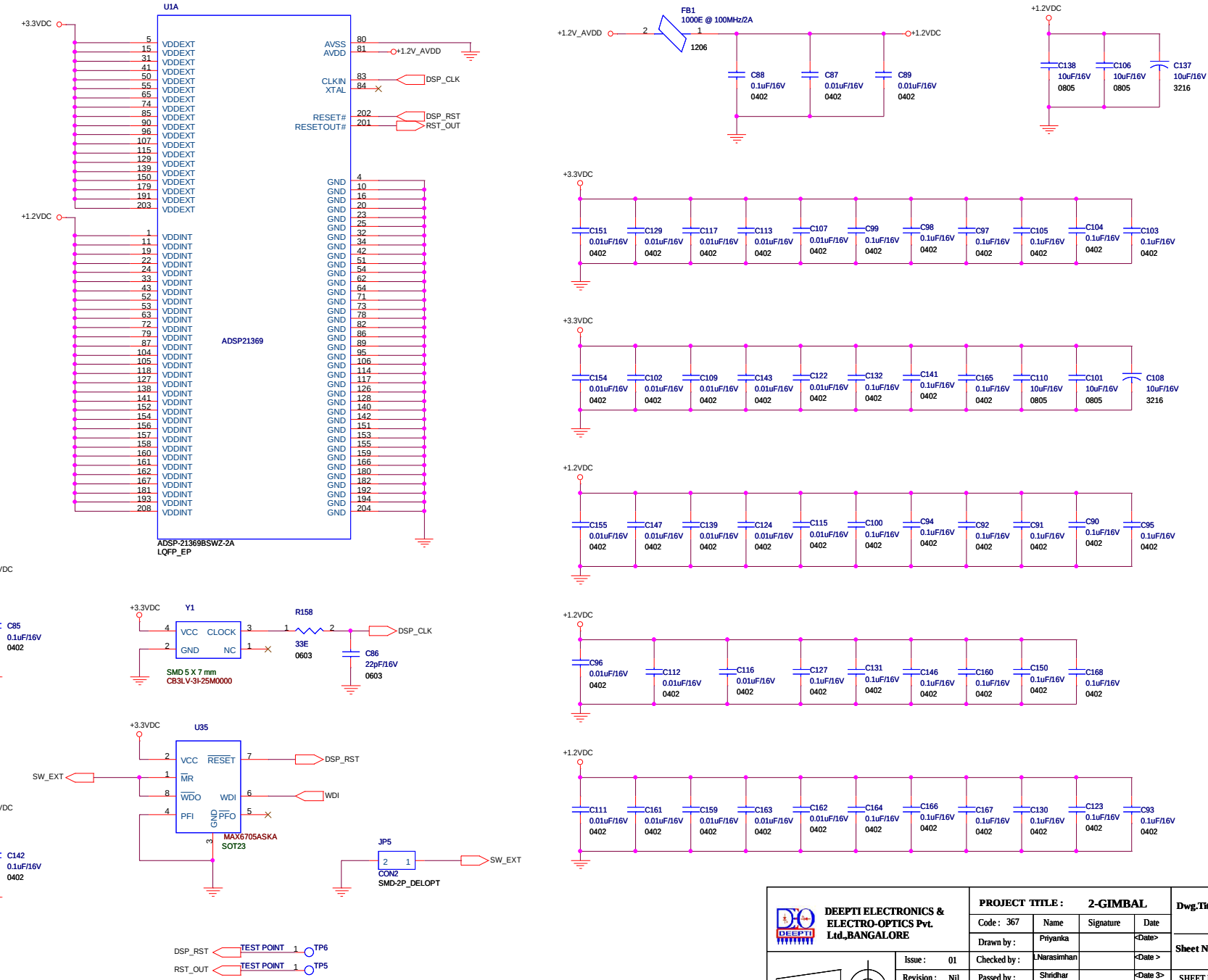
Dwg.Title: DSP CARD SCHEMATICS
Sheet Name: ADSP PERIPHERAL
SHEET No : 11 of 19
DWG.No. : 367001010103



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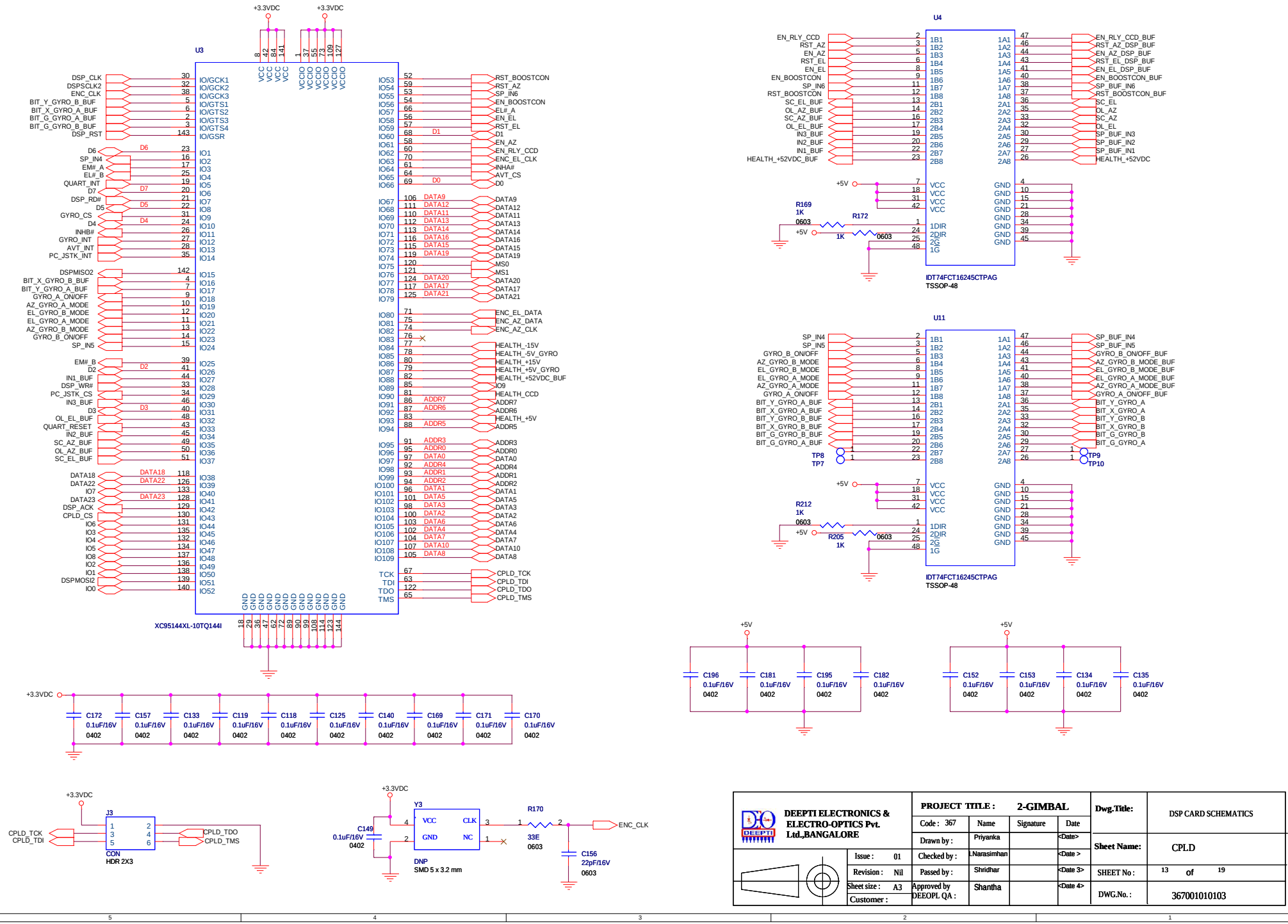
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U4
IDT74FCT16245CTPAG
TSSOP-48
U11
IDT74FCT16245CTPAG
TSSOP-48
J3
CON
HDR 2X3
Y3
DNP
SMD 5 x 3.2 mm
DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE
PROJECT TITLE : 2-GIMBAL
Dwg.Title: DSP CARD SCHEMATICS
Code : 367
Drawn by : Priyanka
Checked by : LNarasimhan
Passed by : Shridhar
Approved by DEEOPL QA : Shantha
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SHEET No : 13 of 19
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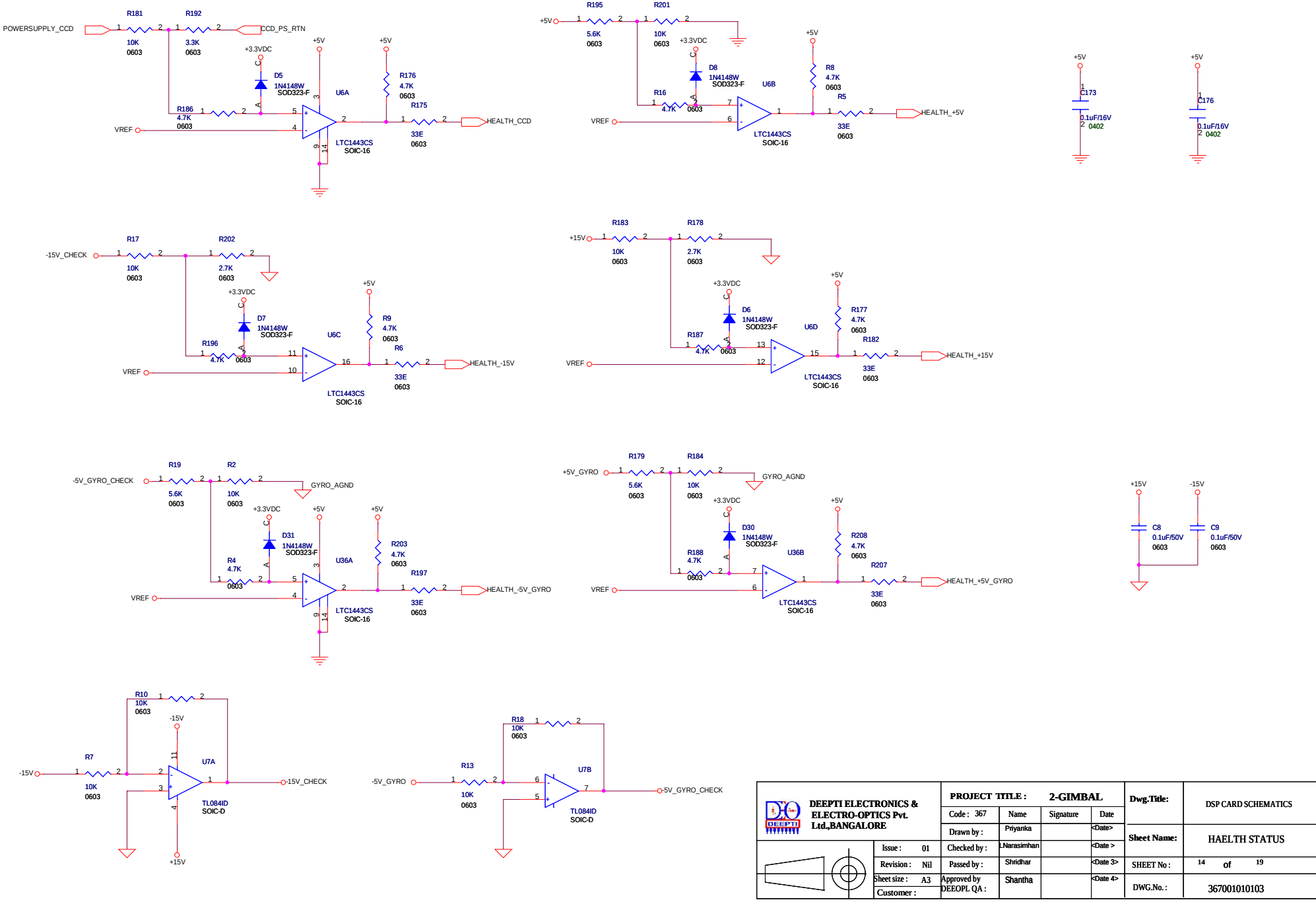

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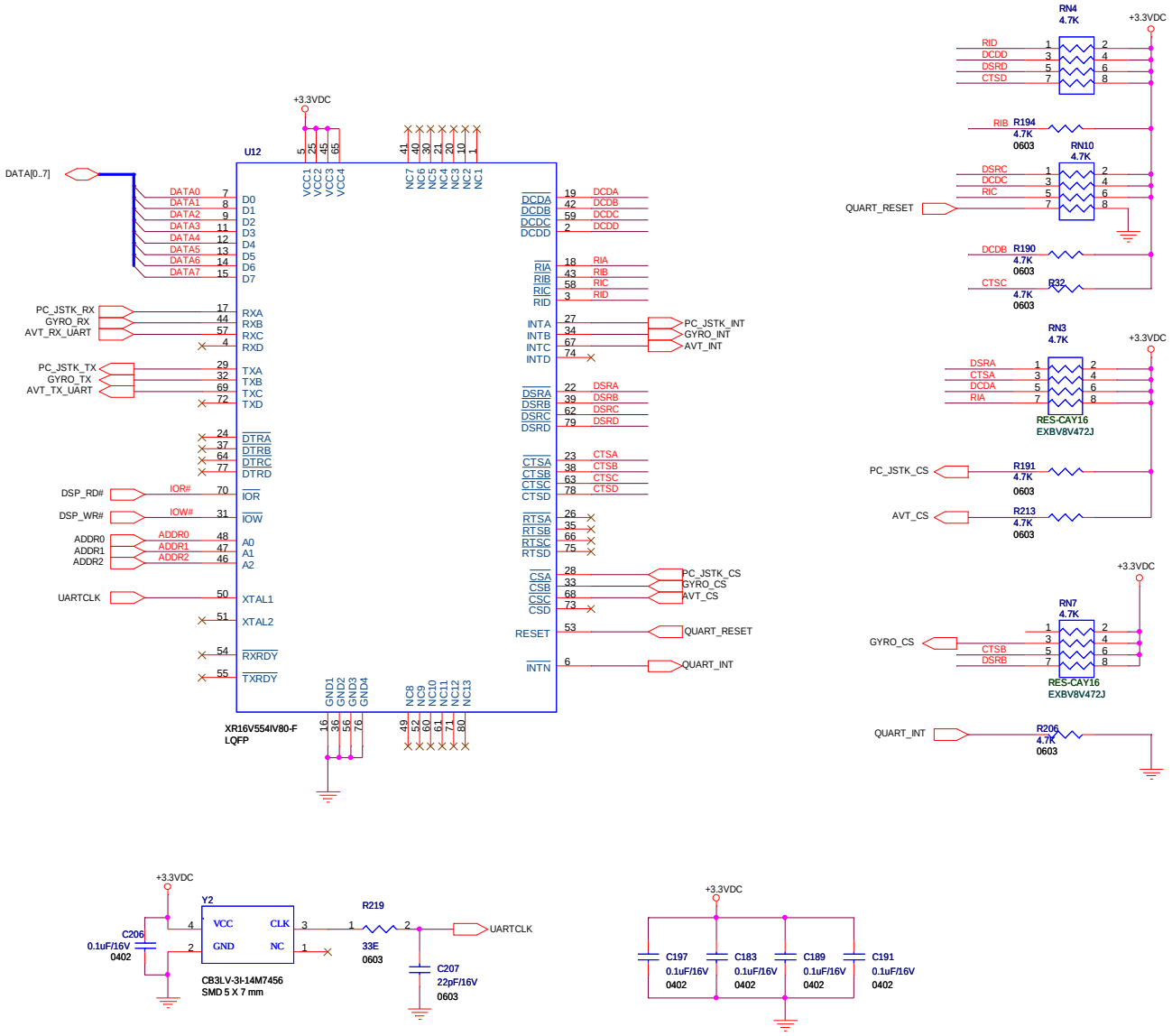

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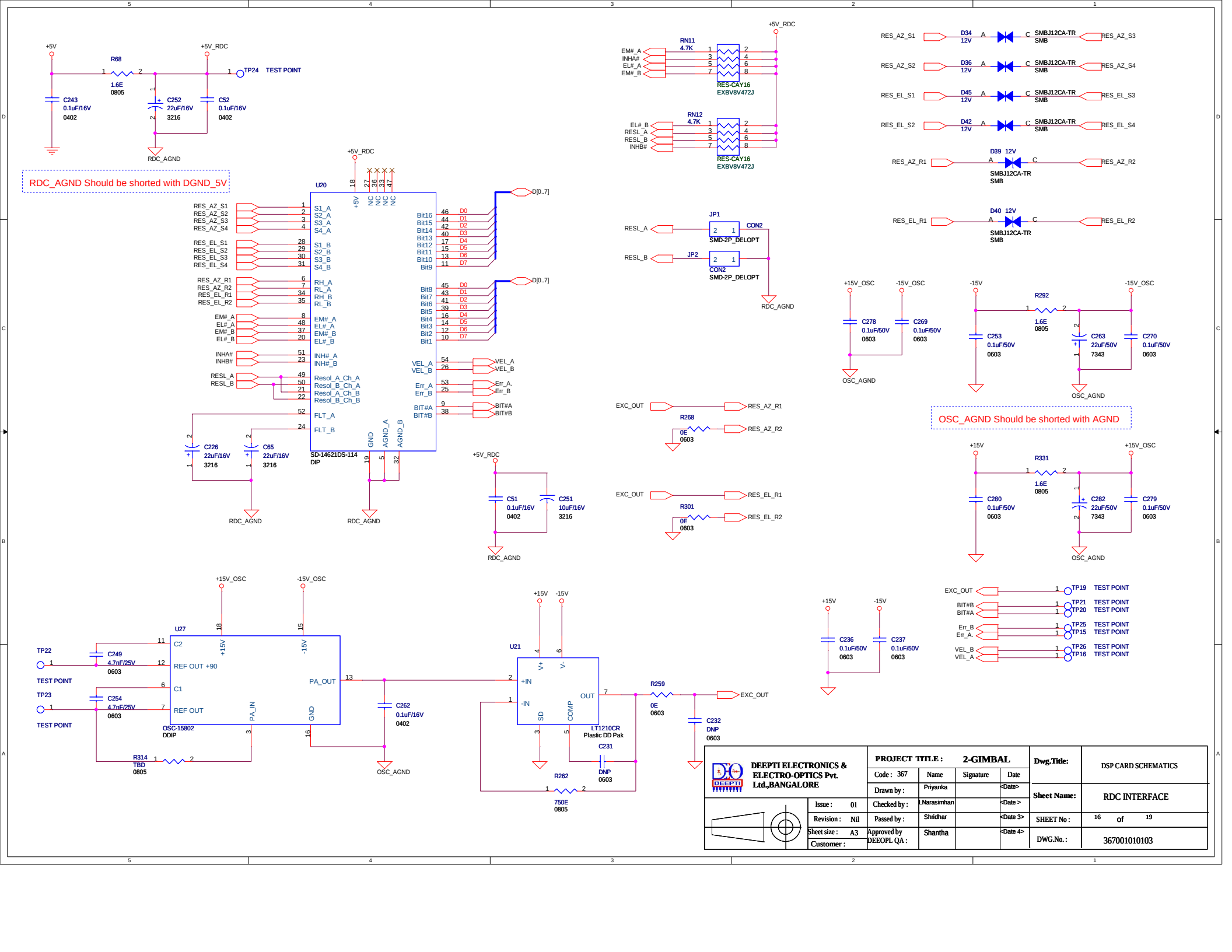
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R68
1.6E
0805
+5V_RDC
TP24 TEST POINT
C243
0.1uF/16V
0402
C252
22uF/16V
3216
C52
0.1uF/16V
0402
RDC_AGND
RDC_AGND Should be shorted with DGND_5V
U20
SD-14621DS-114
DIP
RES_AZ_S1
RES_AZ_S2
RES_AZ_S3
RES_AZ_S4
RES_EL_S1
RES_EL_S2
RES_EL_S3
RES_EL_S4
RES_AZ_R1
RES_AZ_R2
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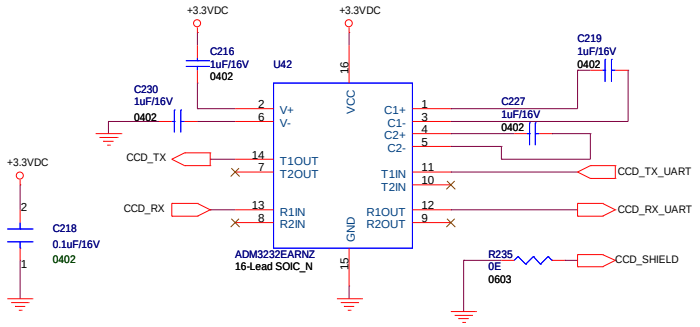
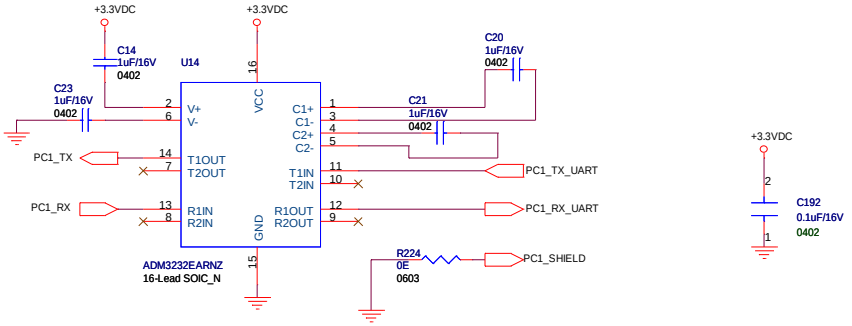
EL#_A
EM#_B
EL#_B
INHA#
INHB#
RESL_A
RESL_B
D[0..7]
VEL_A
VEL_B
Err_A.
Err_B
BIT#A
BIT#B
FLT_A
FLT_B
C226
22uF/16V
3216
C65
22uF/16V
3216
C51
0.1uF/16V
0402
C251
10uF/16V
3216
RN11
4.7K
RN12
4.7K
RES-CAY16
EXBV8V472J
JP1
JP2
CON2
SMD-2P_DELOPT
D34 12V
D36 12V
D45 12V
D42 12V
D39 12V
D40 12V
SMBJ12CA-TR
SMB
C278
0.1uF/50V
0603
C269
0.1uF/50V
0603
C253
0.1uF/50V
0603
R292
1.6E
0805
C263
22uF/50V
7343
C270
0.1uF/50V
0603
OSC_AGND
OSC_AGND Should be shorted with AGND
R268
0E
0603
R301
0E
0603
C280
0.1uF/50V
0603
R331
1.6E
0805
C282
22uF/50V
7343
C279
0.1uF/50V
0603
U27
OSC-15802
DDIP
C249
4.7nF/25V
0603
C254
4.7nF/25V
0603
C262
0.1uF/16V
0402
R314
TBD
0805
U21
LT1210CR
Plastic DD Pak
C231
DNP
0603
R262
750E
0805
R259
0E
0603
C232
DNP
0603
C236
0.1uF/50V
0603
C237
0.1uF/50V
0603
TP19 TEST POINT
TP21 TEST POINT
TP20 TEST POINT
TP25 TEST POINT
TP15 TEST POINT
TP26 TEST POINT
TP16 TEST POINT
DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE
PROJECT TITLE : 2-GIMBAL
Code : 367
Drawn by : Priyanka
Checked by : LNarasimhan
Passed by : Shridhar
Approved by DEEOPL QA : Shantha
Issue : 01
Revision : Nil
Sheet size : A3
Customer :
Dwg.Title: DSP CARD SCHEMATICS
Sheet Name: RDC INTERFACE
SHEET No : 16 of 19
DWG.No. : 367001010103

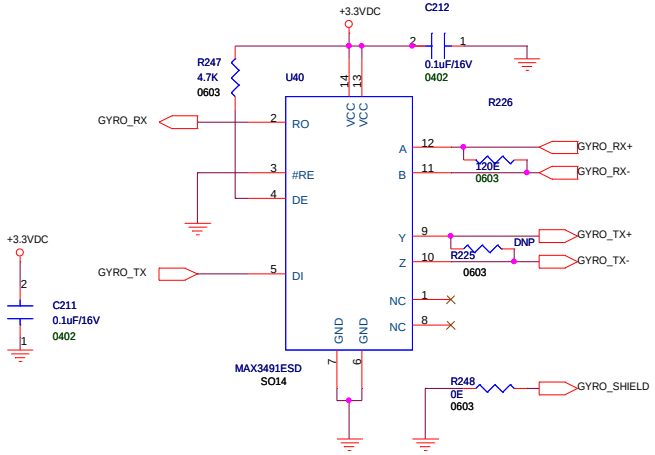
CCD SERIAL INTERFACE WITH RS422



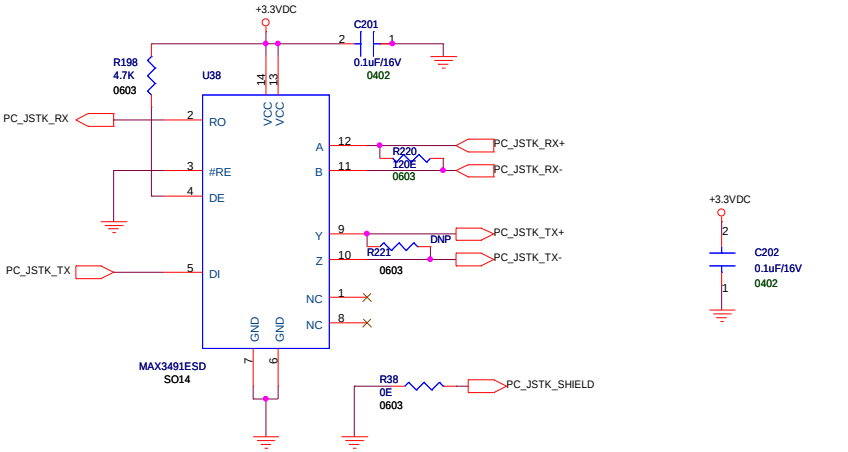
AVT SERIAL INTERFACE WITH RS232



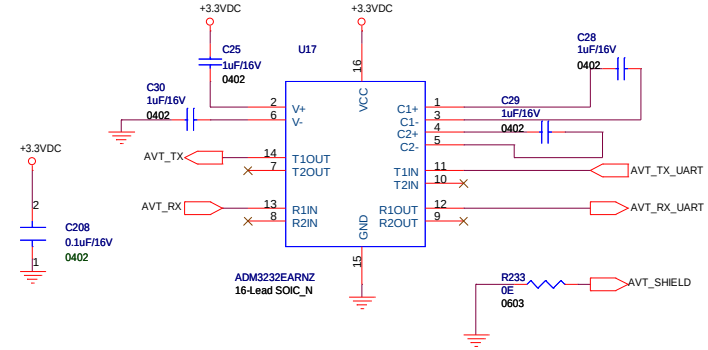
GYRO SERIAL INTERFACE WITH RS422



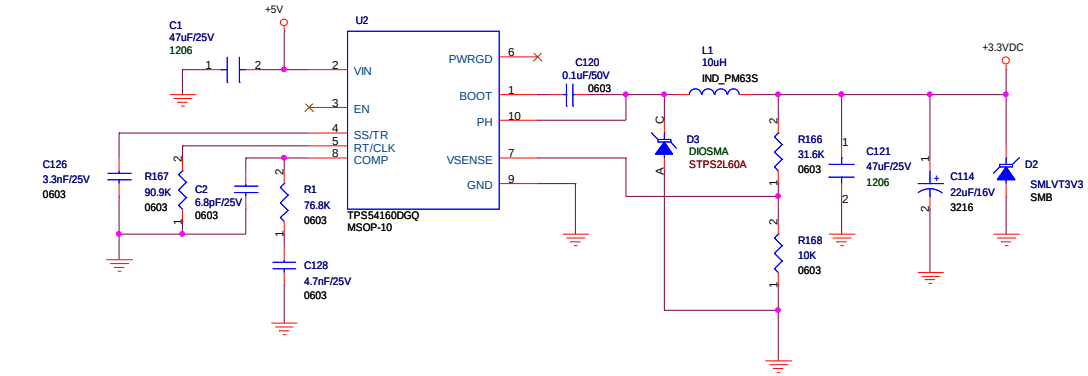
PC JSTK SERIAL INTERFACE WITH RS422



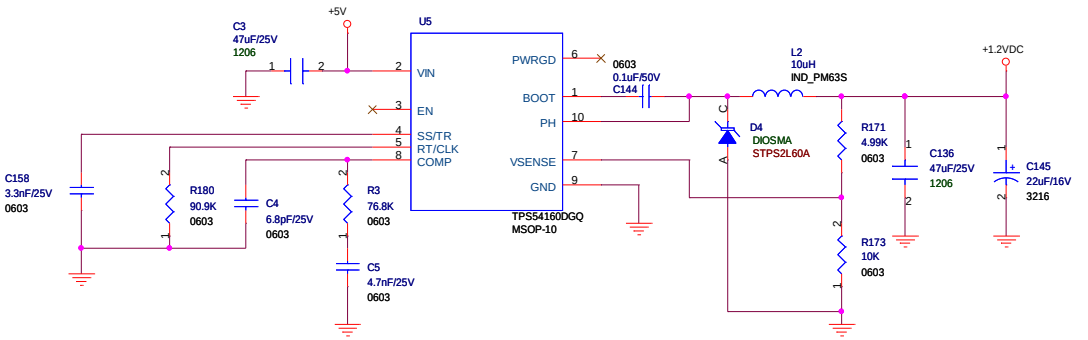
DEBUG SERIAL INTERFACE WITH RS232



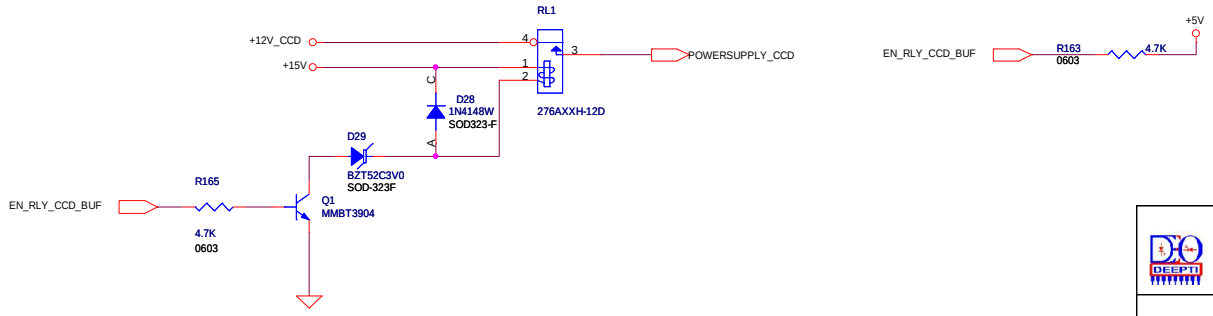
DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE	PROJECT TITLE : 2-GIMBAL				Dwg.Title:	DSP CARD SCHEMATICS
	Code : 367	Name	Signature	Date		
	Drawn by :	Priyanka		<Date>	Sheet Name:	LEVEL TRANSCEIVER
	Checked by :	LNarasimhan		<Date >		
Issue : 01	Passed by :	Shridhar		<Date 3>	SHEET No :	17 of 19
Revision : Nil	Approved by DEEOPL QA :	Shantha		<Date 4>		
Sheet size : A3					DWG.No. :	367001010103
Customer :						

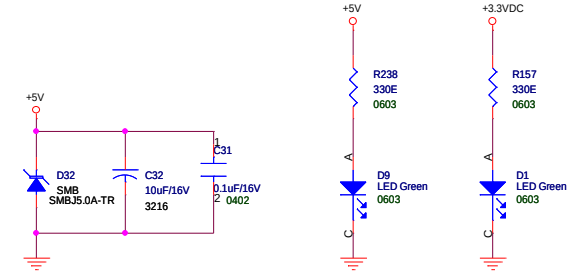


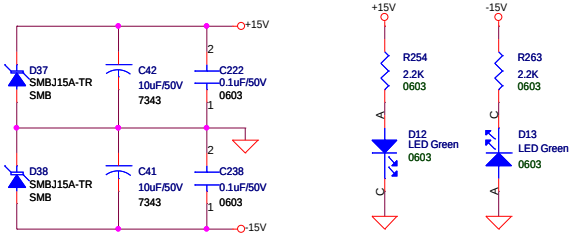
DGND Should be shorted with DGND_5V

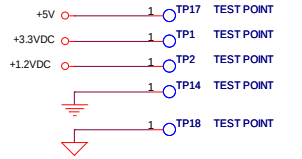


DGND Should be shorted with DGND_5V





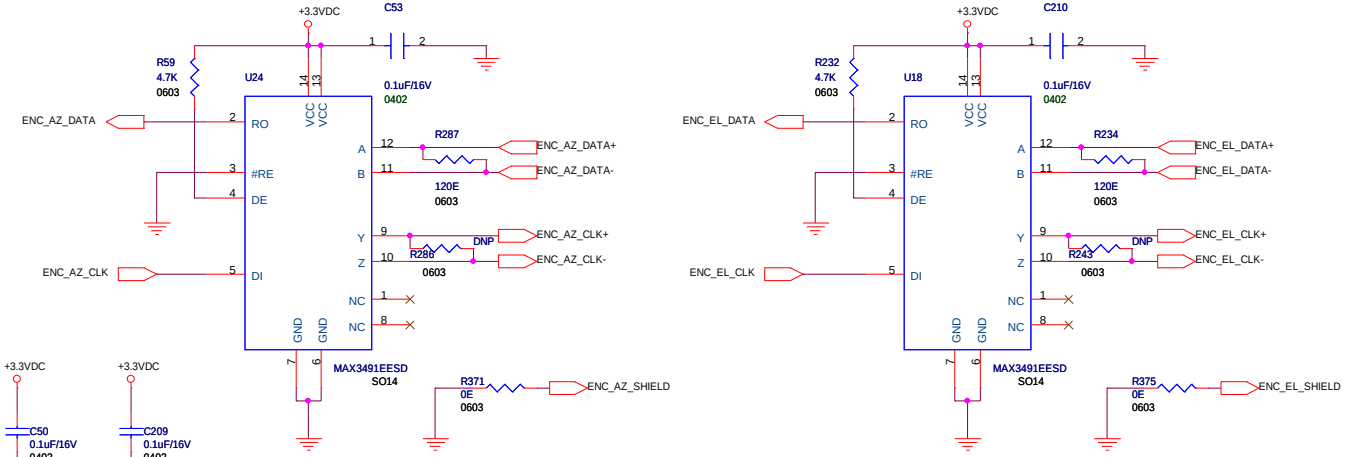


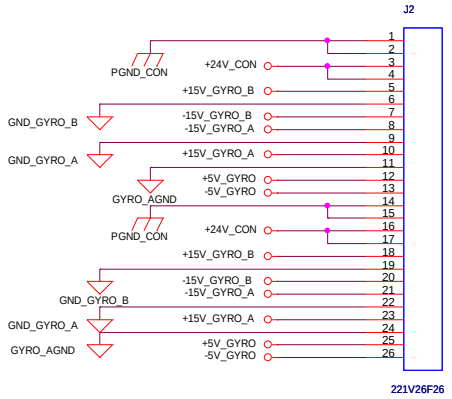


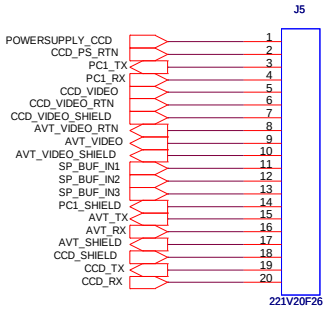
AGND Should be shorted with DGND_5V

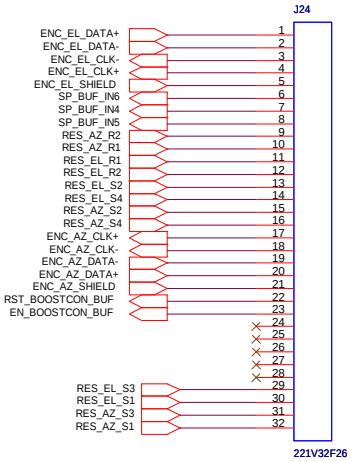
DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE	PROJECT TITLE : 2-GIMBAL				Dwg.Title:	DSP CARD SCHEMATICS
	Code : 367	Name	Signature	Date		
	Drawn by :	Priyanka		<Date>	Sheet Name:	POWER SUPPLY
Issue : 01	Checked by :	LNarasimhan		<Date >		
Revision : Nil	Passed by :	Shridhar		<Date 3>	SHEET No :	18 of 19
Sheet size : A3	Approved by DEEOPL QA :	Shantha		<Date 4>	DWG.No. :	367001010103
Customer :						

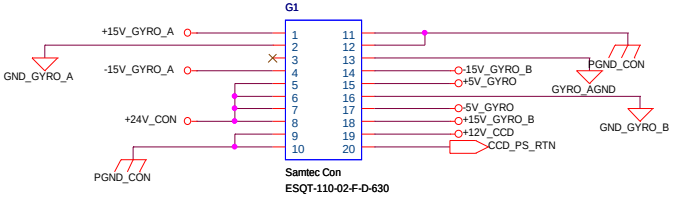
ENCODER INTERFACE WITH RS422

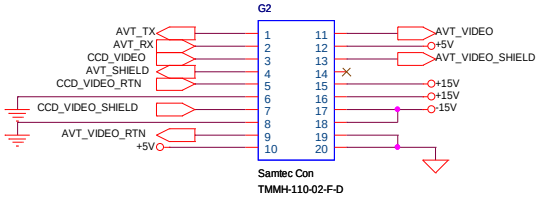


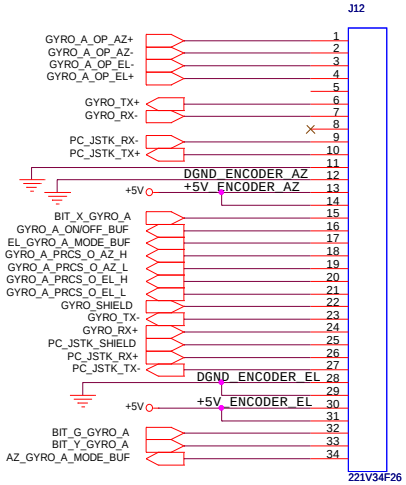


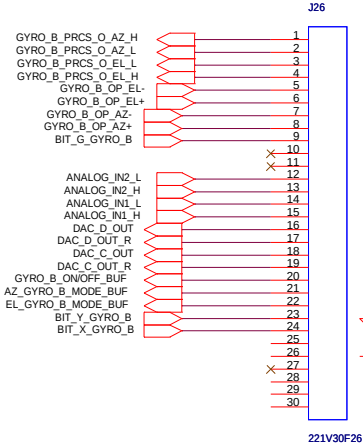


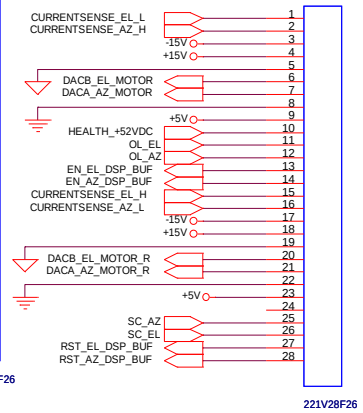












DEEPTI ELECTRONICS & ELECTRO-OPTICS Pvt. Ltd.,BANGALORE		PROJECT TITLE : 2-GIMBAL				Dwg.Title: DSP CARD SCHEMATICS
		Code : 367	Name	Signature	Date	
		Drawn by :	Priyanka		<Date>	Sheet Name: CONNECTORS
	Issue : 01	Checked by :	LNarasimhan		<Date >	
	Revision : Nil	Passed by :	Shridhar		<Date 3>	SHEET No : 19 of 19
	Sheet size : A3	Approved by DEEOPL QA :	Shantha		<Date 4>	DWG.No. : 367001010103
	Customer :					