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RELAY CONTROL CHART

CONTROL	CODE	DEVICE	FUNCTION	CONNECTOR

JUMPER TABLE		
JP#	ON	OFF
1		
2		
3		
4		
5		

\* SEE ASSEMBLY INSTRUCTIONS

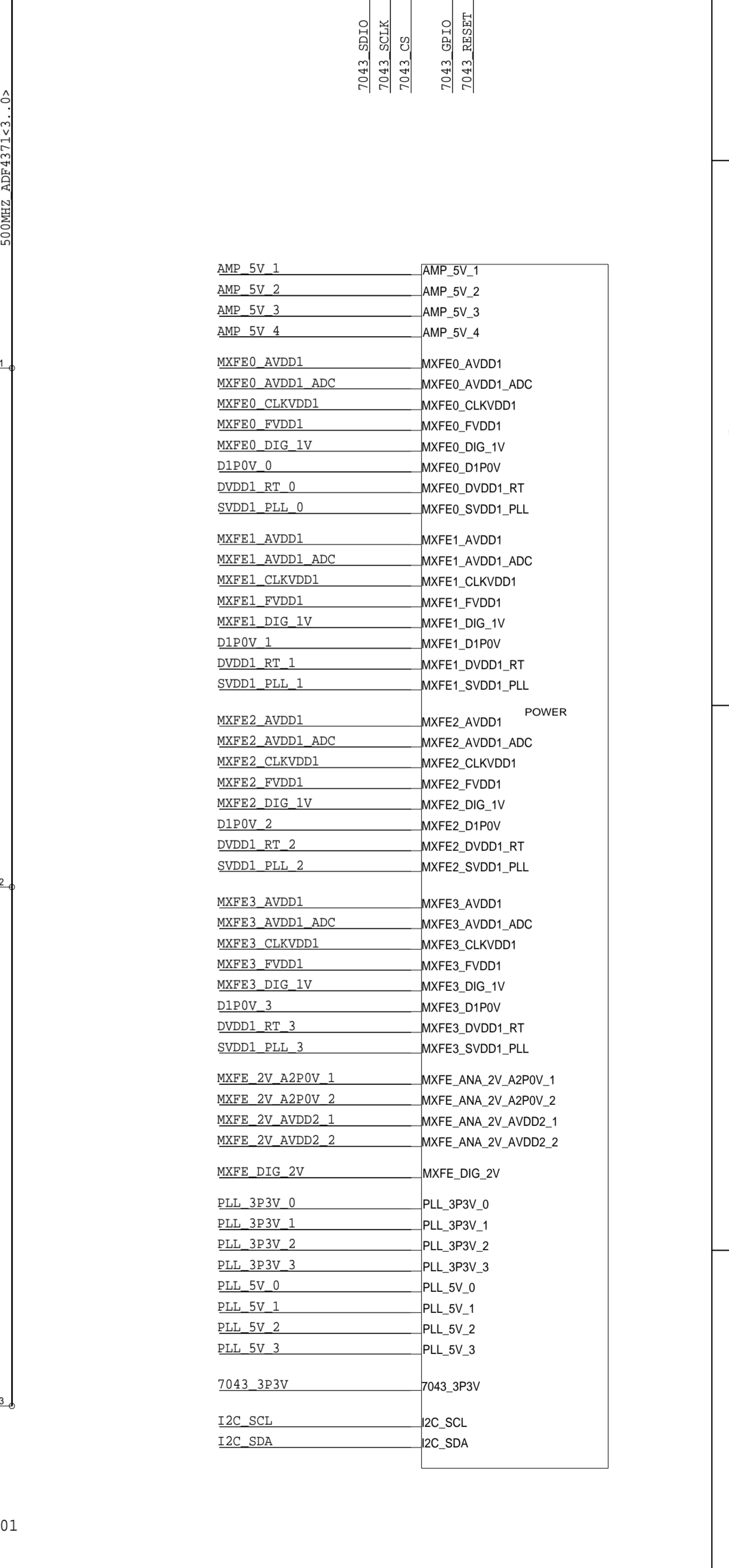
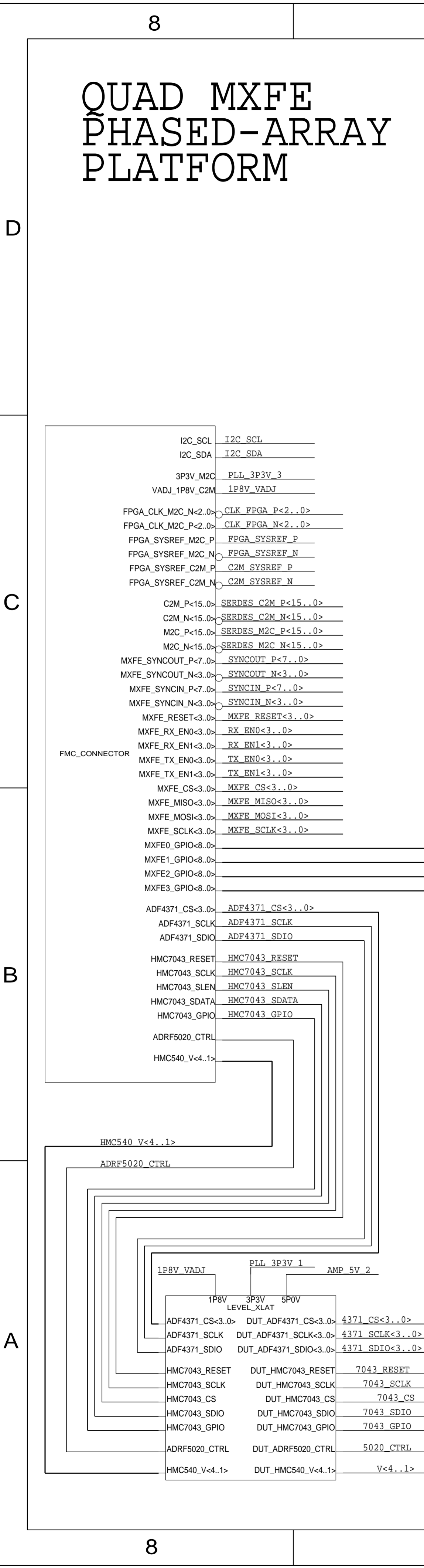
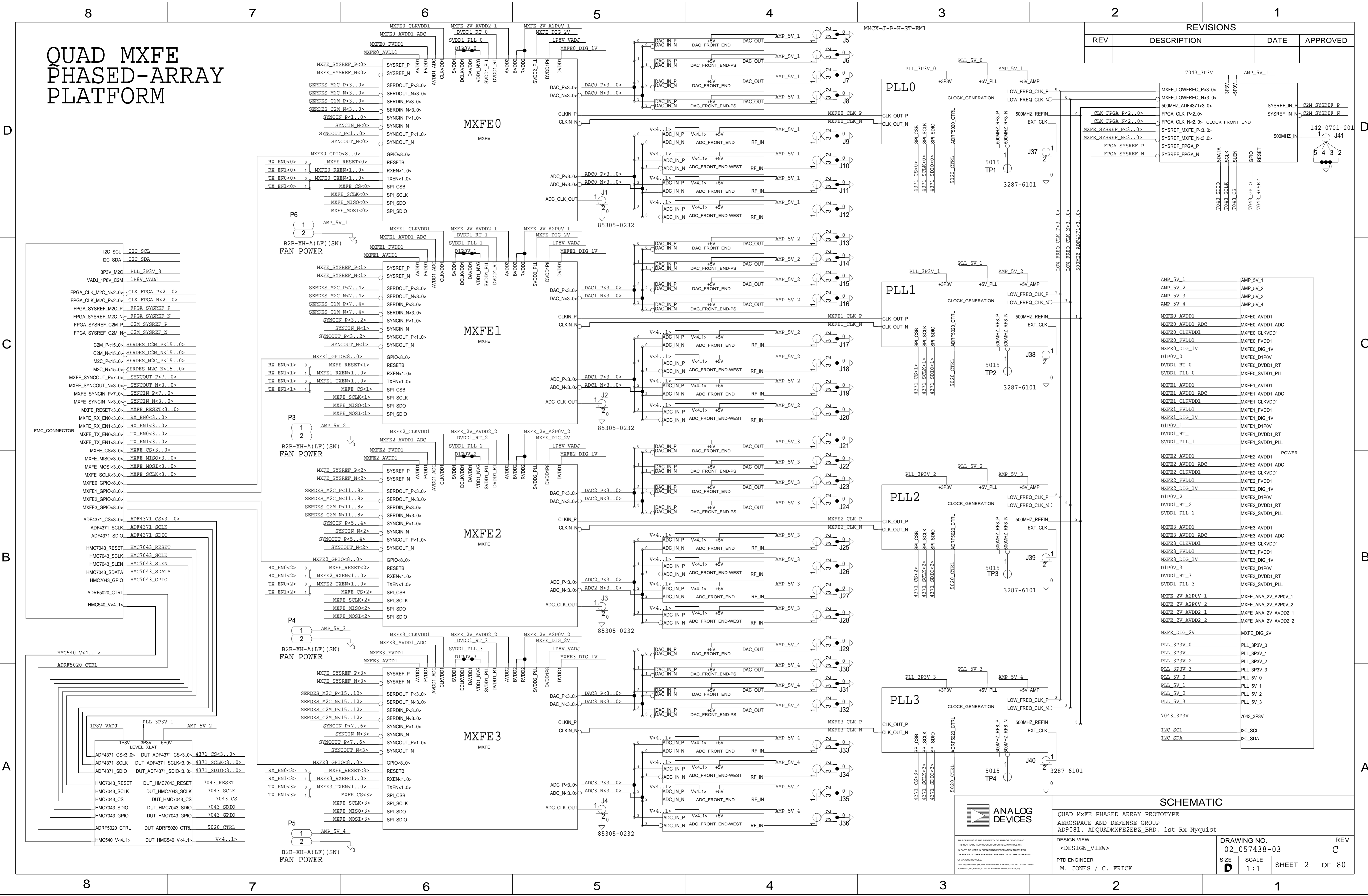
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	04APR19	J. BOWNE
B	RECESSED MMXX CONNECTORS, POWER SUPPLY ADDITIONS	18SEP19	J. BOWNE
C	REROUTED CLK CIRCUITS, ADDED FERRITES TO POWERS	27AUG20	J. BOWNE

P.O SPEC.	BK/BD SPEC.	SOCKET OEM	OEM PART#	HANDLER

TEMPLATE ENGINEER	DATE	<b>SCHEMATIC</b>						
HARDWARE SERVICES								
HARDWARE SYSTEMS		QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist <DRAWING_TITLE1> <DRAWING_TITLE2> <DRAWING_TITLE3> <DRAWING_TITLE4> <DRAWING_TITLE5>						
TEST ENGINEER								
COMPONENT ENGINEER								
TEST PROCESS								
HARDWARE RELEASE								
DESIGNER J. BOWNE		MASTER PROJECT TEMPLATE <DRAWING_TITLE6>	TESTER TEMPLATE	DRAWING NO. 02_057438-03	REV. C			
PTD ENGINEER M. JONES / C. FRICK		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES <b>TOLERANCES</b> DECIMALS     FRACTIONS     ANGLES X.XX +0.010     +1/32     +2 X.XXX +0.005			SIZE <b>D</b>	SCALE 1:1	CODE ID NO. CodeID	SHEET 1 OF 80

# QUAD MXFE PHASED-ARRAY PLATFORM

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



SCHEMATIC			
QUAD MXFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EB2_BRD, 1st Rx Nyquist			
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C	
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 2 OF 80

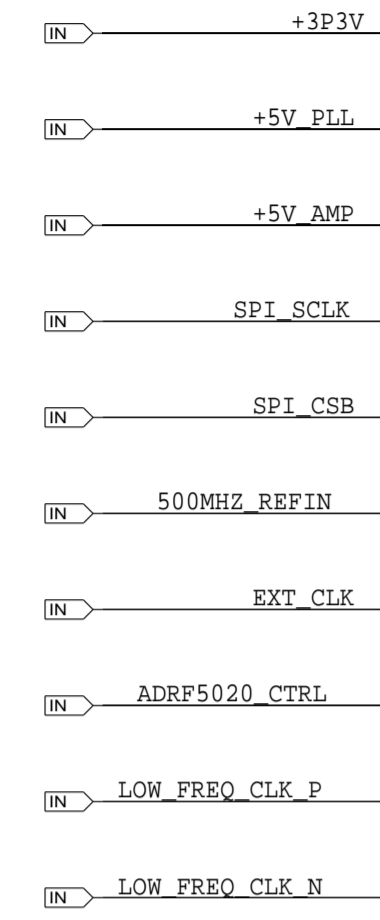


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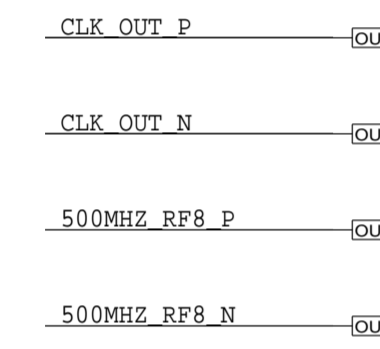
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

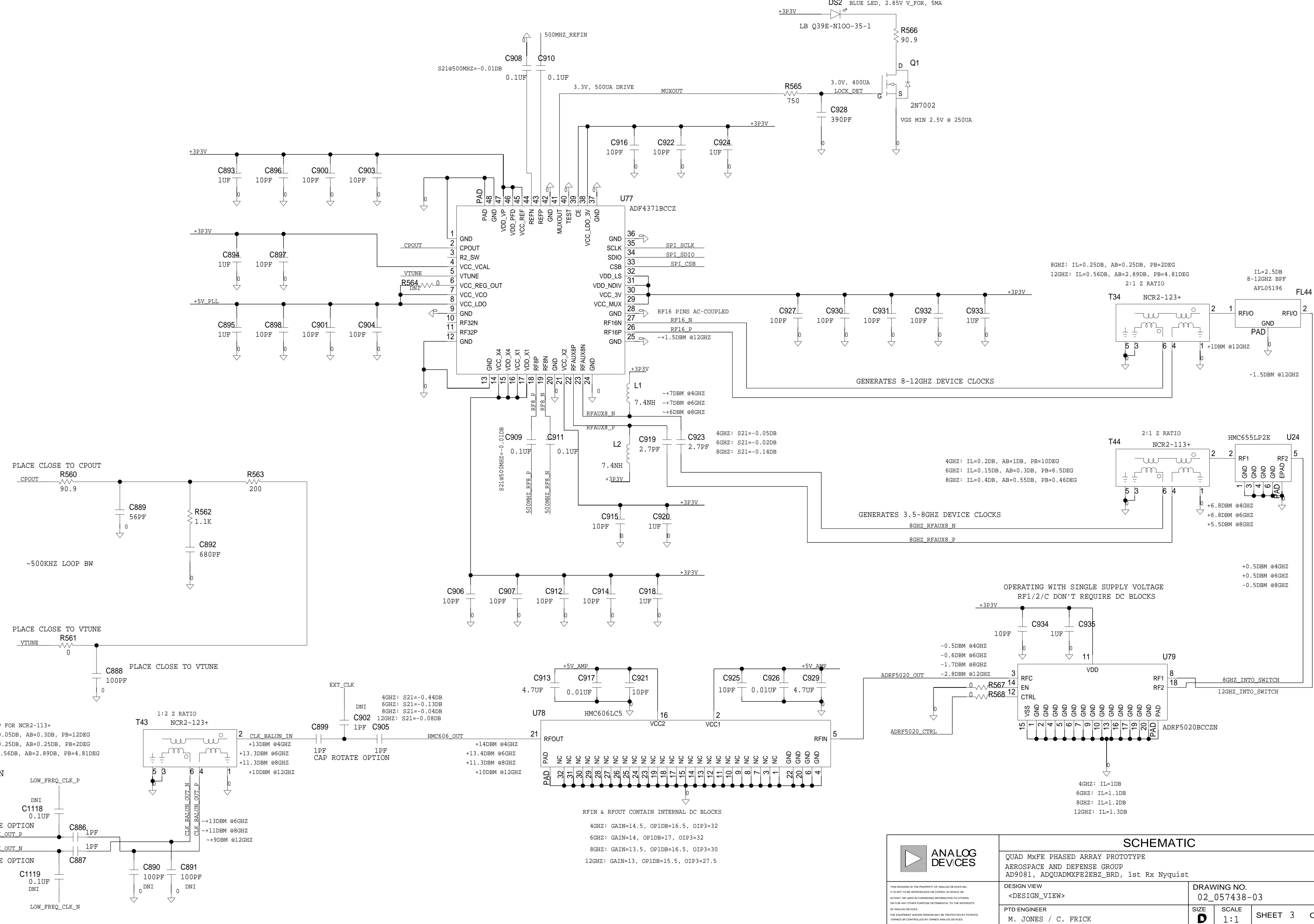
## INPUTS



## OUTPUTS



## I/O



LOW FREQUENCY DEVICE CLOCK OPTION FROM HMC7043

4GHZ: SWAP FOR NCR2-113+  
 6GHZ: IL=0.05DB, AB=0.3DB, PB=12DEG  
 8GHZ: IL=0.25DB, AB=0.25DB, PB=2DEG  
 12GHZ: IL=0.56DB, AB=2.89DB, PB=4.81DEG

4GHZ: S21=-0.44DB  
 6GHZ: S21=-0.13DB  
 8GHZ: S21=-0.04DB  
 12GHZ: S21=-0.08DB

4GHZ: IL=0.2DB, AB=1DB, PB=10DEG  
 6GHZ: IL=0.15DB, AB=0.3DB, PB=6.5DEG  
 8GHZ: IL=0.4DB, AB=0.55DB, PB=0.46DEG

8GHZ: IL=0.25DB, AB=0.25DB, PB=2DEG  
 12GHZ: IL=0.56DB, AB=2.89DB, PB=4.81DEG  
 2:1 Z RATIO

IL=2.5DB  
 8-12GHZ BPF  
 AFL05196

RFIN & RFOUT CONTAIN INTERNAL DC BLOCKS

4GHZ: GAIN=14.5, OP1DB=16.5, OIP3=32  
 6GHZ: GAIN=14, OP1DB=17, OIP3=32  
 8GHZ: GAIN=13.5, OP1DB=16.5, OIP3=30  
 12GHZ: GAIN=13, OP1DB=15.5, OIP3=27.5

SCHEMATIC			
QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist			
DESIGN VIEW	DRAWING NO.		REV
<DESIGN VIEW>	02_057438-03		C
PTD ENGINEER	SIZE	SCALE	SHEET 3 OF 80
M. JONES / C. FRICK	D	1:1	

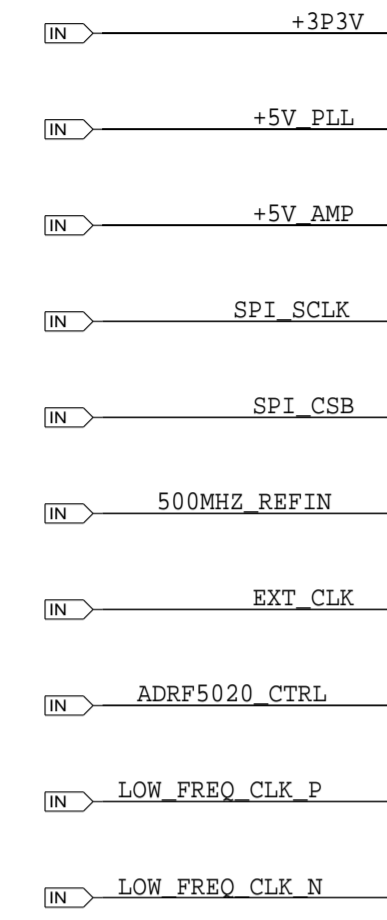
ANALOG DEVICES

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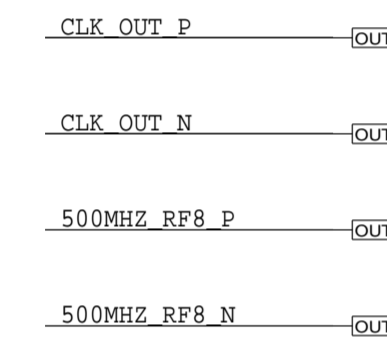
# CLOCK GENERATION

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

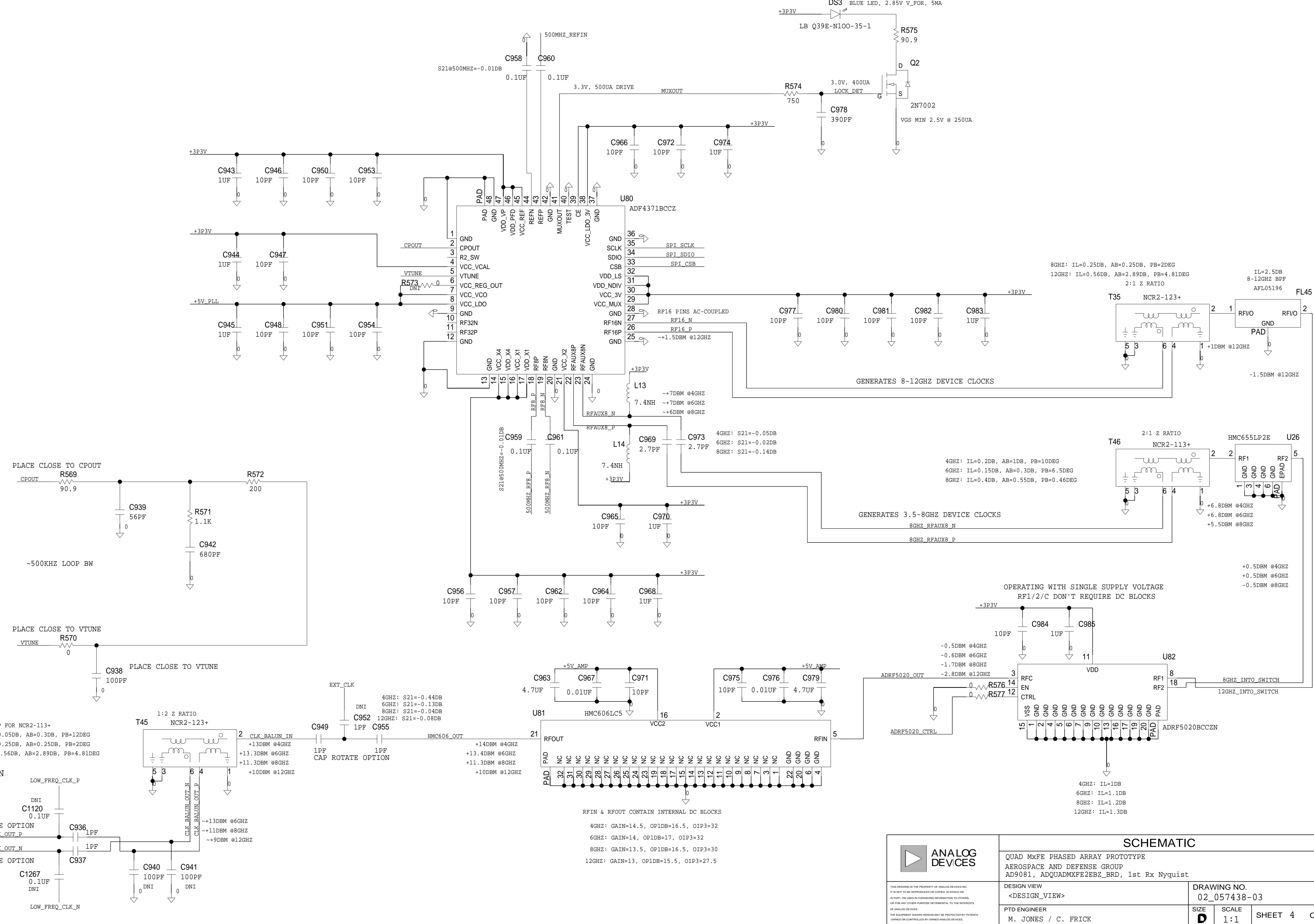
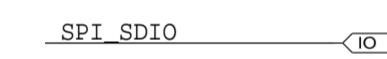
## INPUTS



## OUTPUTS



## I/O



LOW FREQUENCY DEVICE CLOCK OPTION FROM HMC7043

4GHZ: SWAP FOR NCR2-113+  
 6GHZ: IL=0.05DB, AB=0.3DB, PB=12DEG  
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4GHZ: S21=-0.44DB  
 6GHZ: S21=-0.13DB  
 8GHZ: S21=-0.04DB  
 12GHZ: S21=-0.08DB

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 6GHZ: IL=0.15DB, AB=0.3DB, PB=6.5DEG  
 8GHZ: IL=0.4DB, AB=0.55DB, PB=0.46DEG

8GHZ: IL=0.25DB, AB=0.25DB, PB=2DEG  
 12GHZ: IL=0.56DB, AB=2.89DB, PB=4.81DEG  
 2:1 Z RATIO

IL=2.5DB  
 8-12GHZ BPF  
 AFL05196

RFIN & RFOUT CONTAIN INTERNAL DC BLOCKS

4GHZ: GAIN=14.5, OP1DB=16.5, OIP3=32  
 6GHZ: GAIN=14, OP1DB=17, OIP3=32  
 8GHZ: GAIN=13.5, OP1DB=16.5, OIP3=30  
 12GHZ: GAIN=13, OP1DB=15.5, OIP3=27.5

OPERATING WITH SINGLE SUPPLY VOLTAGE  
 RF1/2/C DON'T REQUIRE DC BLOCKS

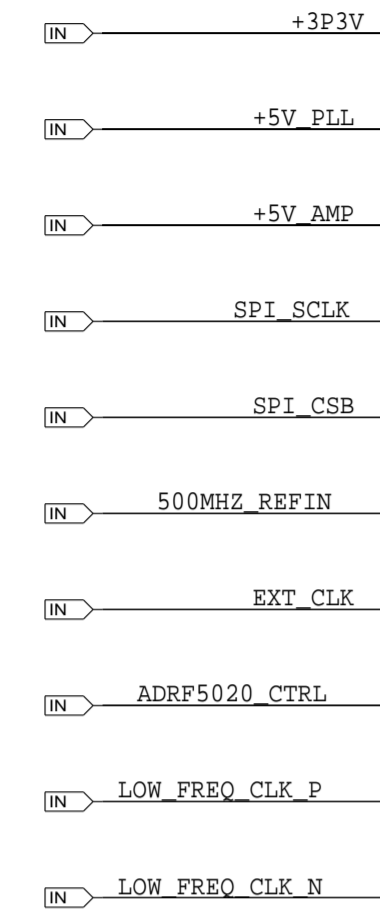
+0.5DBM @4GHZ  
 +0.5DBM @6GHZ  
 -0.5DBM @8GHZ

	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

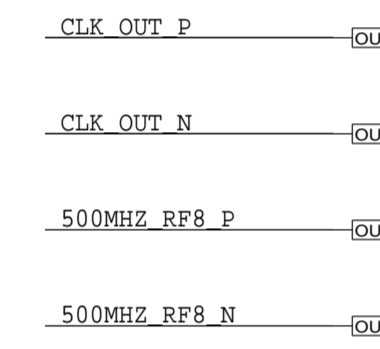
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

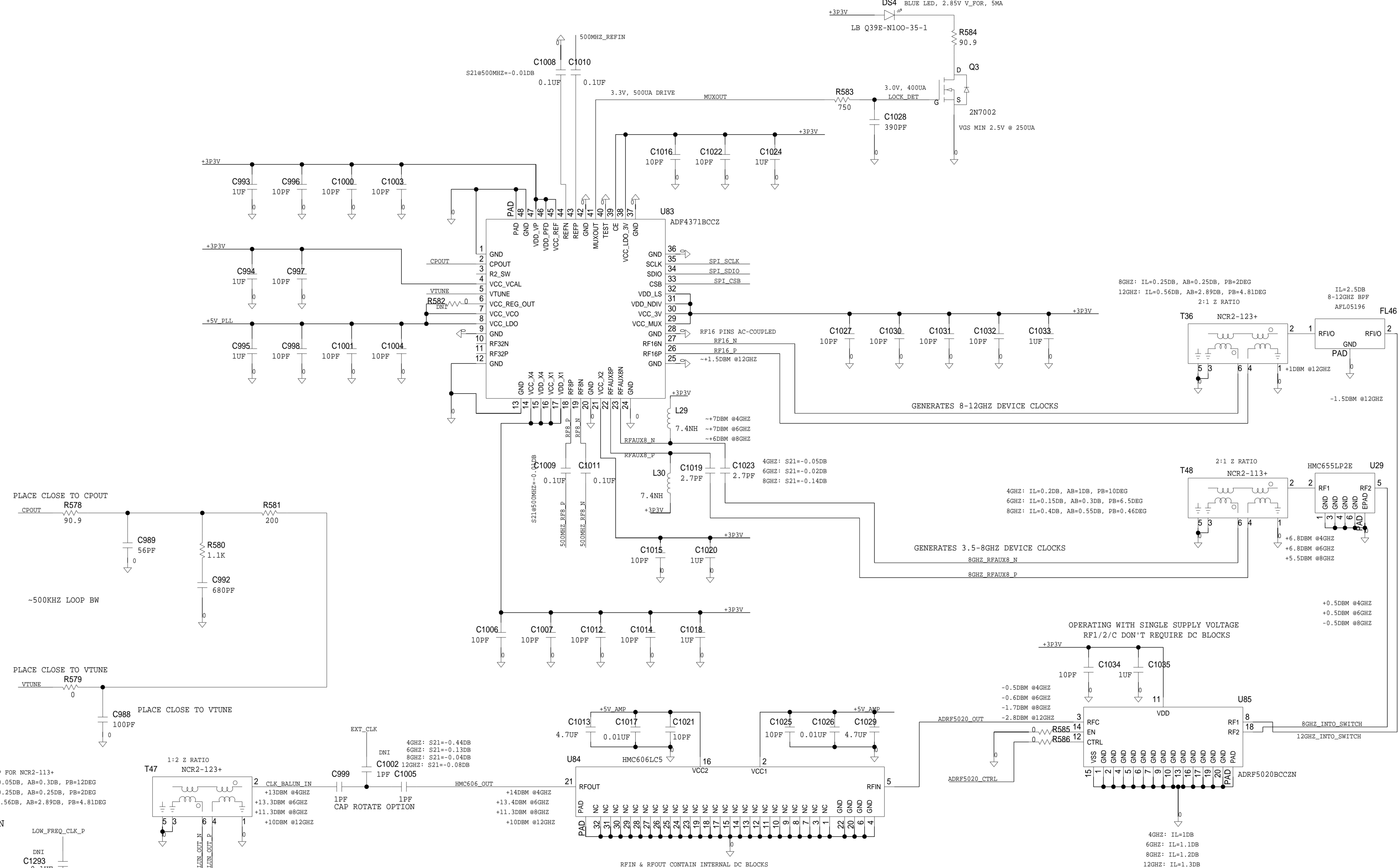
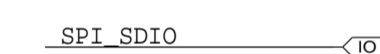
## INPUTS



## OUTPUTS



## I/O

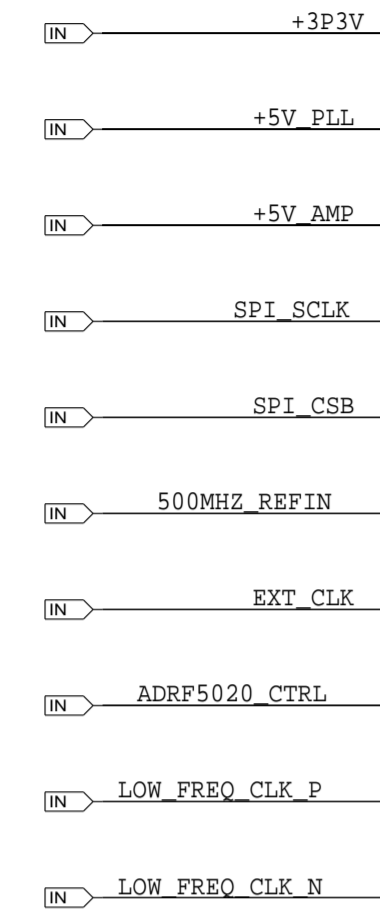


	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
DESIGN VIEW <DESIGN VIEW>	DRAWING NO. 02_057438-03	REV C	
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 5 OF 80

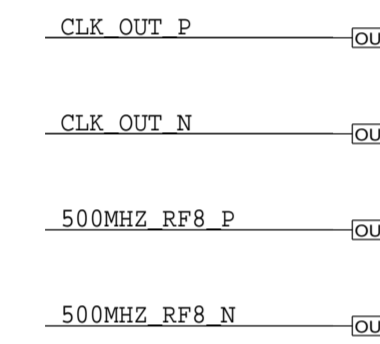
# CLOCK GENERATION

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

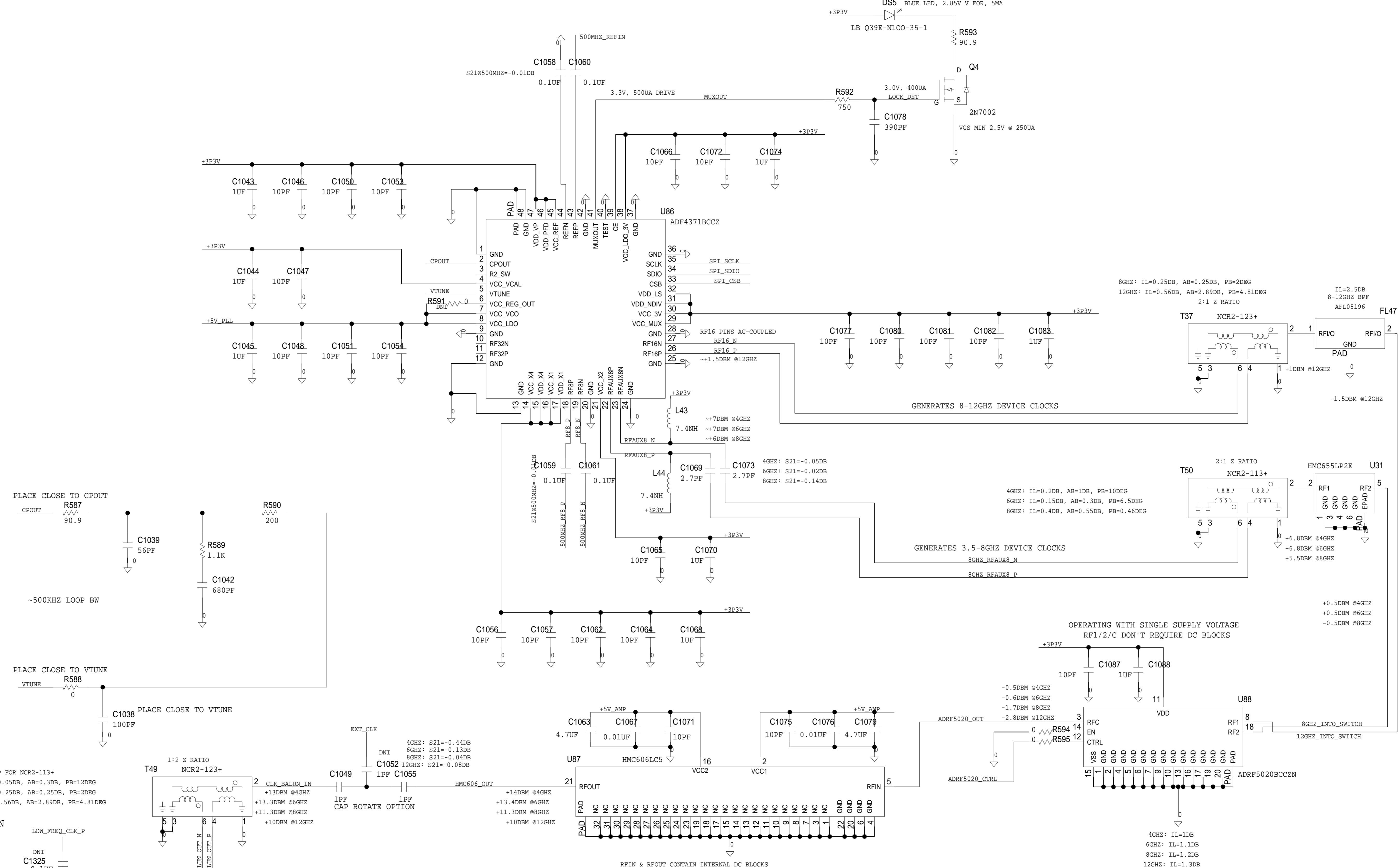
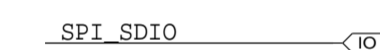
## INPUTS



## OUTPUTS



## I/O

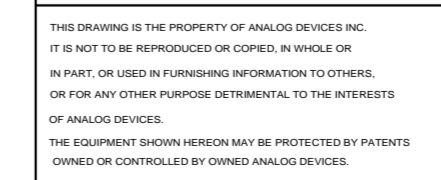


LOW FREQUENCY DEVICE CLOCK OPTION FROM HMC7043

RFIN & RFOUT CONTAIN INTERNAL DC BLOCKS

4GHZ: GAIN=14.5, OP1DB=16.5, OIP3=32  
 6GHZ: GAIN=14, OP1DB=17, OIP3=32  
 8GHZ: GAIN=13.5, OP1DB=16.5, OIP3=30  
 12GHZ: GAIN=13, OP1DB=15.5, OIP3=27.5

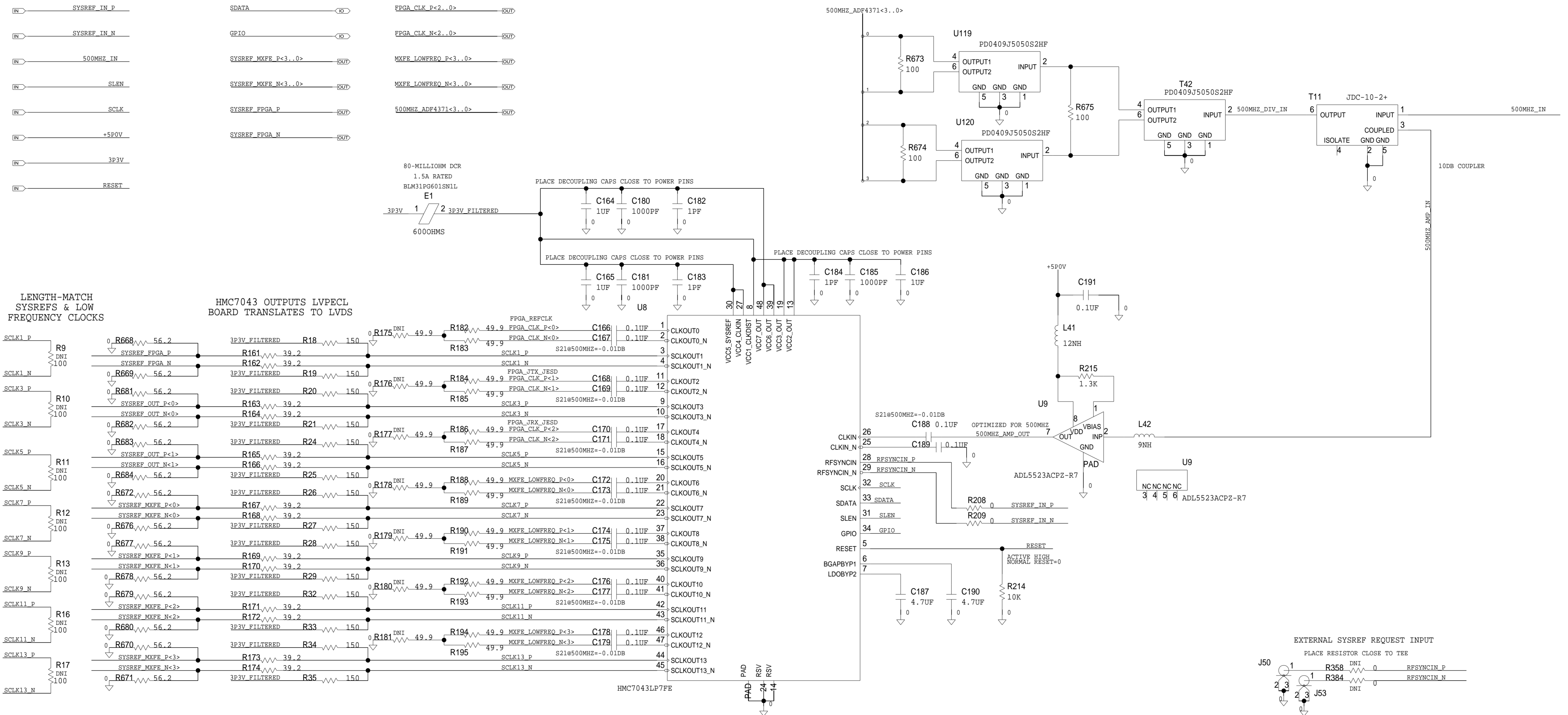
SCHEMATIC			
QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist			
DESIGN VIEW	DRAWING NO.		REV
<DESIGN VIEW>	02_057438-03		C
PTD ENGINEER	SIZE	SCALE	SHEET
M. JONES / C. FRICK	D	1:1	6 OF 80



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# CLOCK FRONT END

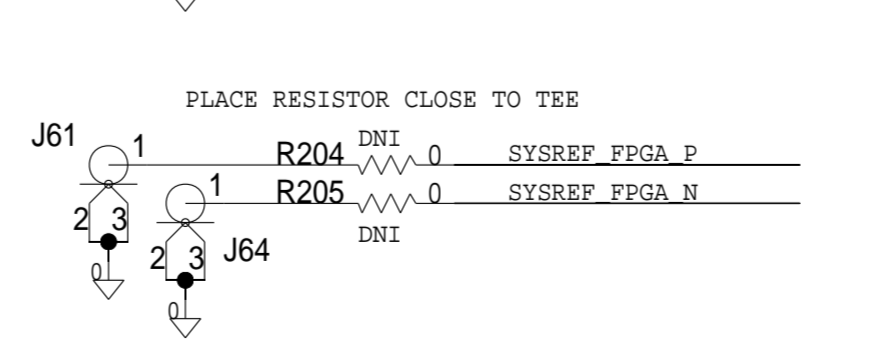
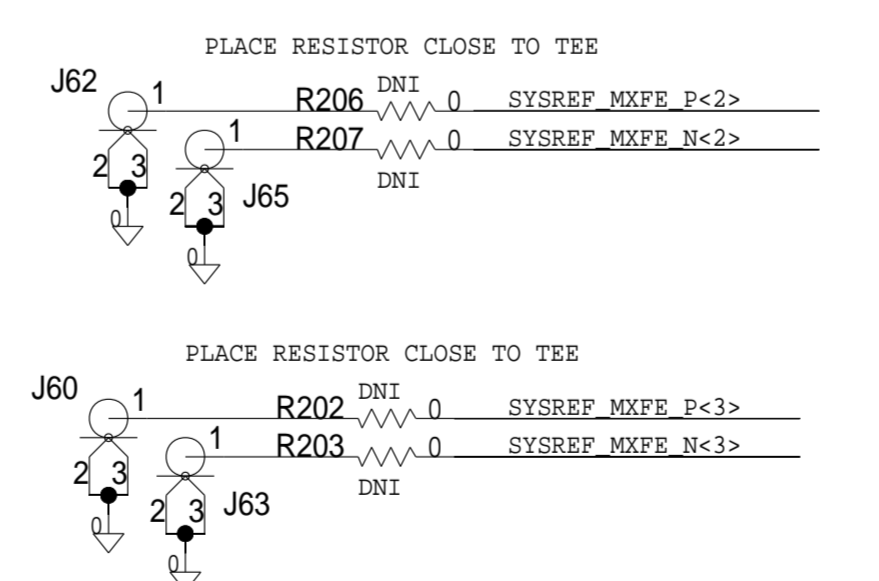
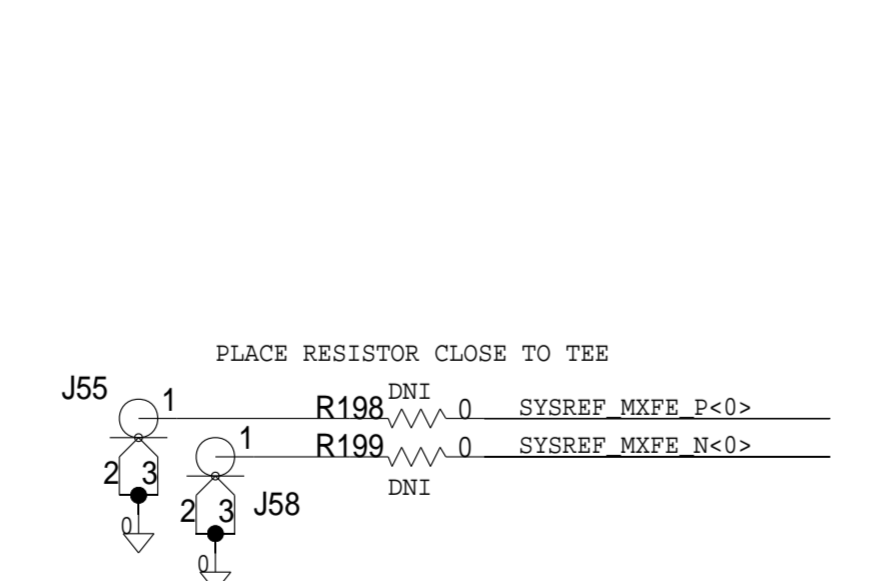
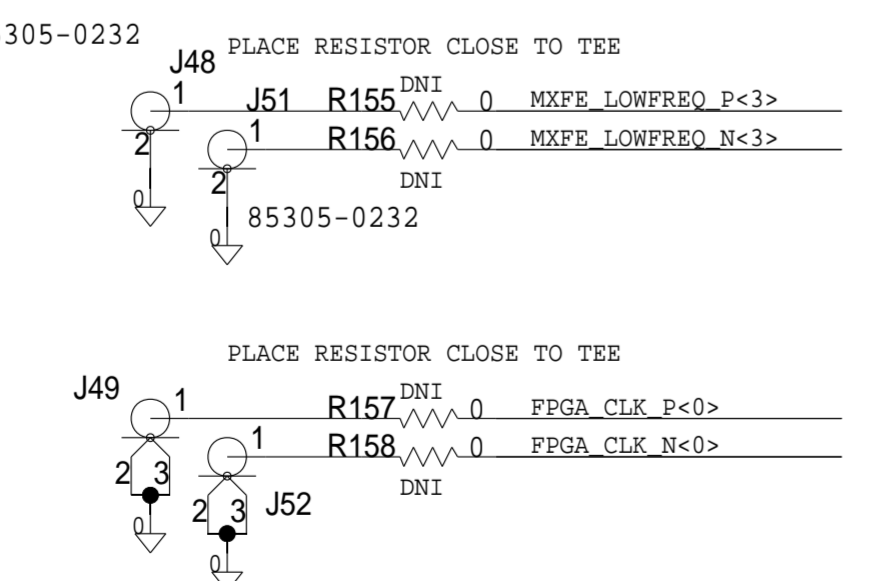
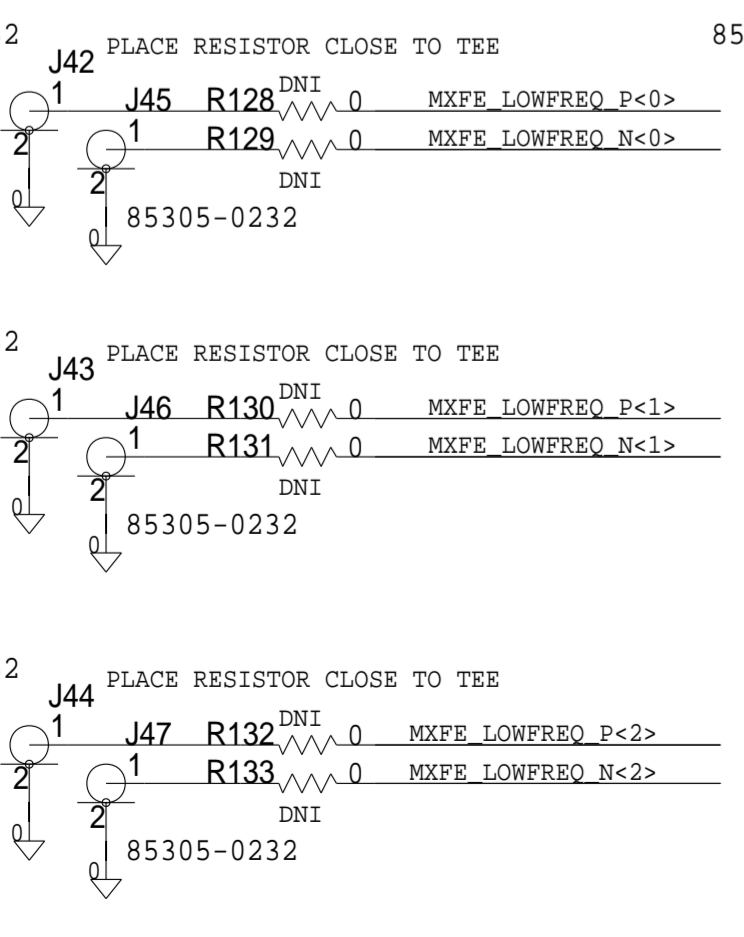
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



LENGTH-MATCH  
SYSREFS & LOW  
FREQUENCY CLOCKS

HMC7043 OUTPUTS LVPECL  
BOARD TRANSLATES TO LVDS

85305-0232 PLACE RESISTOR CLOSE TO TEE

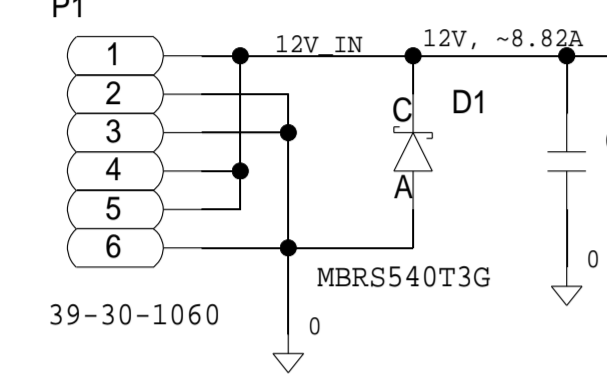


	<b>SCHMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C	
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 7 OF 80

# POWER

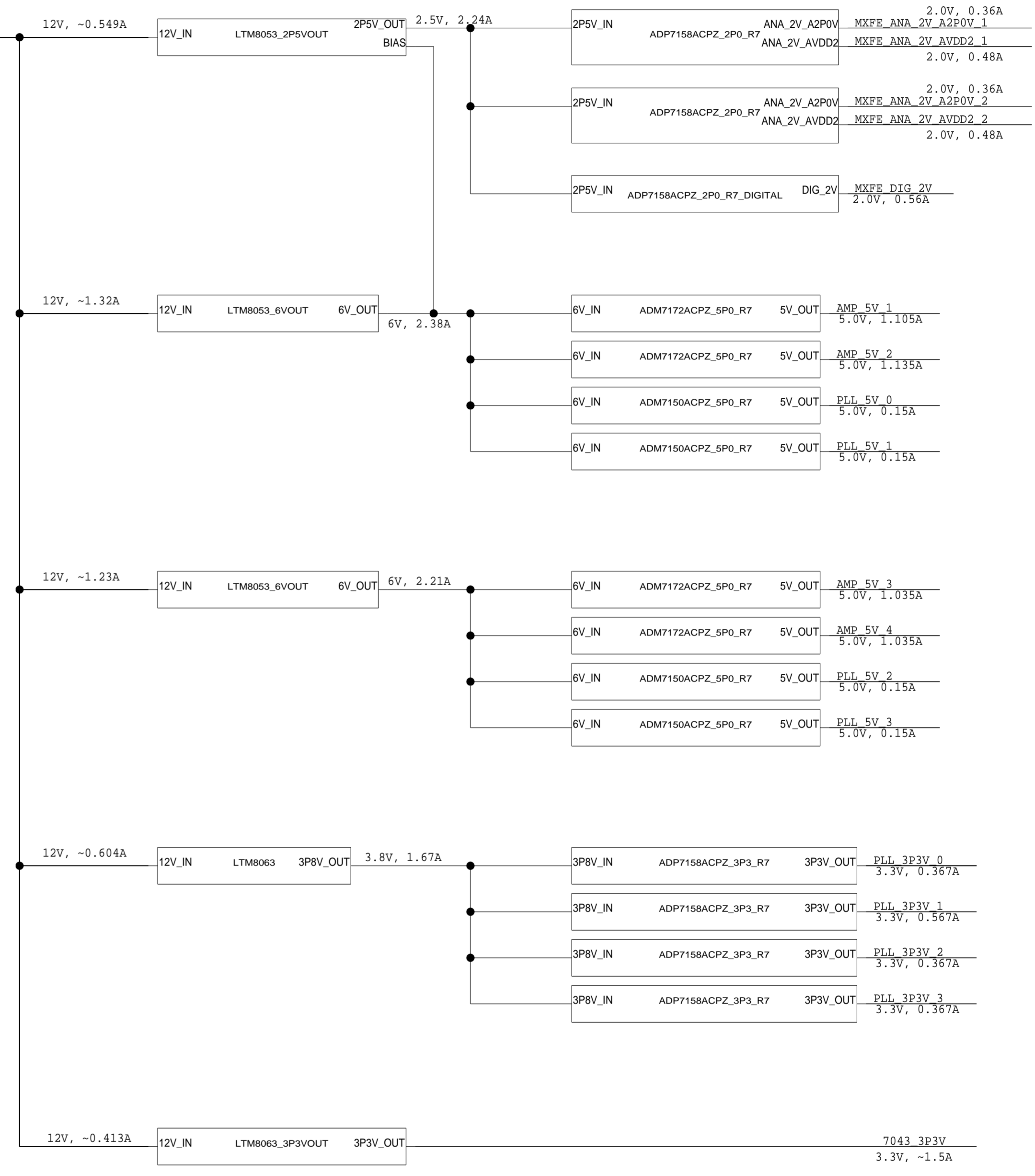
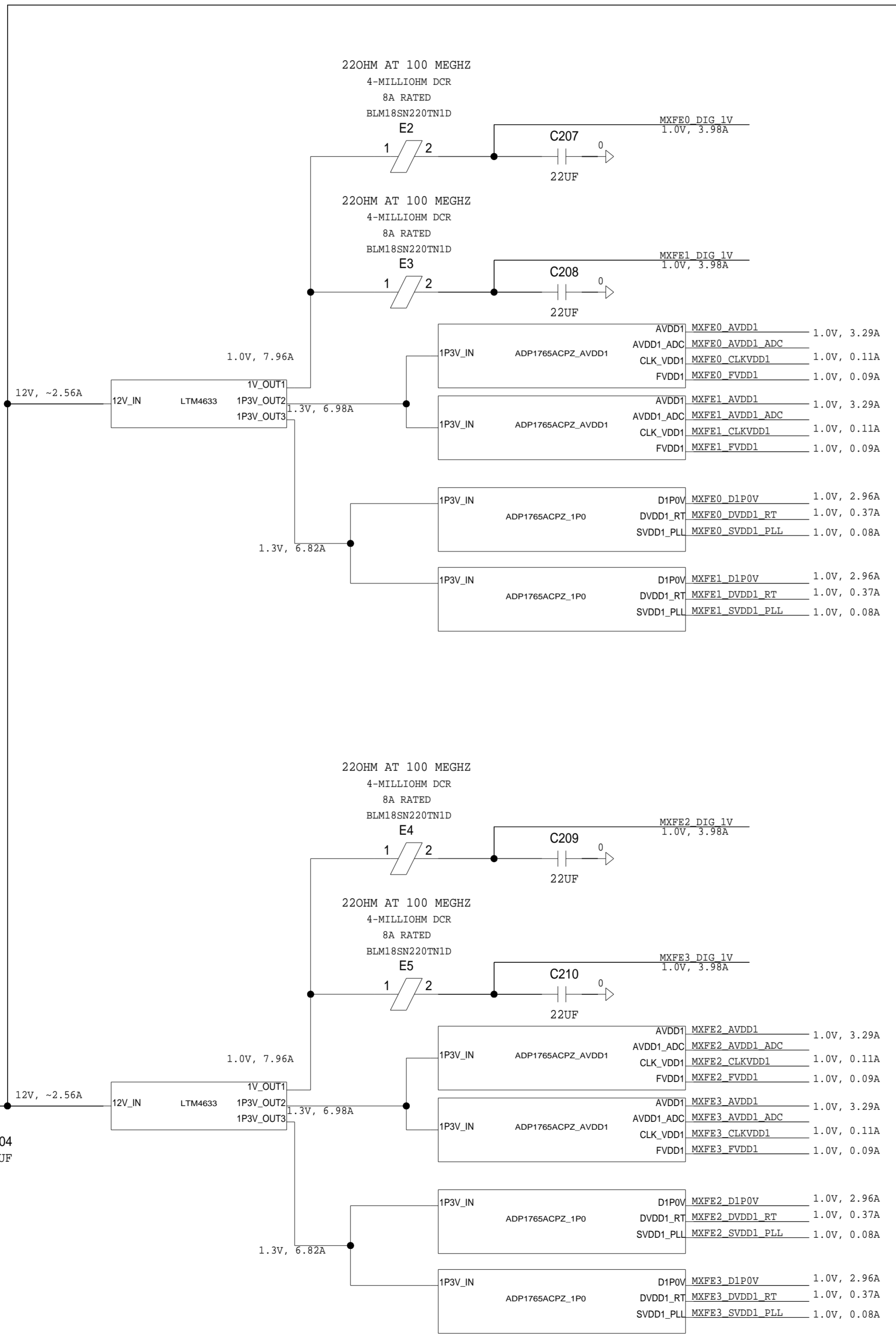
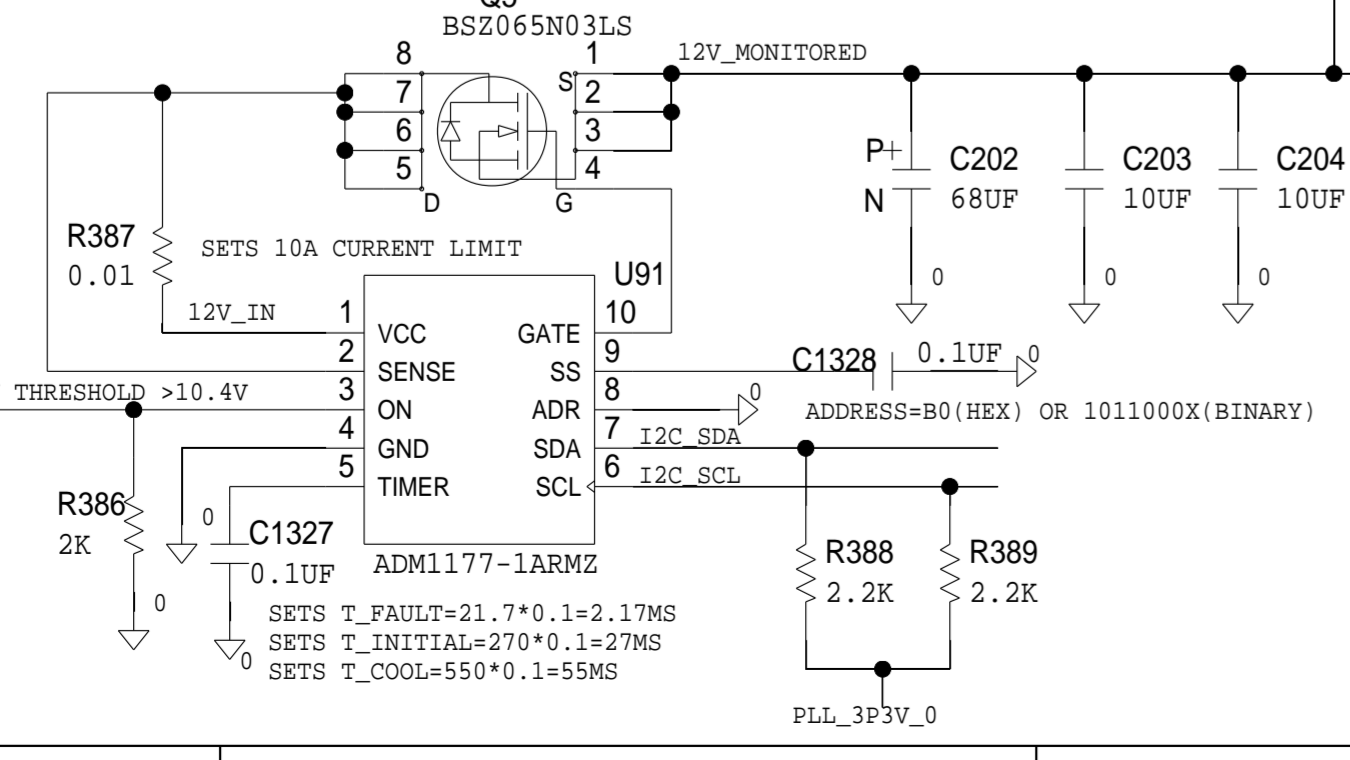
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

PAIRED WITH TE240A1251F01 POWER SUPPLY



Signal Name	Component	Value
MXFE0_DIG_1V	OUT	
MXFE1_DIG_1V	OUT	
MXFE0_D1P0V	OUT	
MXFE1_D1P0V	OUT	
MXFE2_DIG_1V	OUT	
MXFE3_DIG_1V	OUT	
MXFE2_D1P0V	OUT	
MXFE3_D1P0V	OUT	
MXFE_ANA_2V_A2P0V_1	OUT	
MXFE_ANA_2V_A2P0V_2	OUT	
MXFE_ANA_2V_AVDD2_1	OUT	
MXFE_ANA_2V_AVDD2_2	OUT	
MXFE_DIG_2V	OUT	
AMP_5V_1	OUT	
AMP_5V_2	OUT	
PLL_5V_0	OUT	
PLL_5V_1	OUT	
AMP_5V_3	OUT	
AMP_5V_4	OUT	
PLL_3P3V_0	OUT	
PLL_3P3V_1	OUT	
I2C_SCL	IN	
I2C_SDA	IO	
MXFE0_AVDD1	OUT	
MXFE0_AVDD1_ADC	OUT	
MXFE0_CLKVDD1	OUT	
MXFE0_FVDD1	OUT	
MXFE1_AVDD1	OUT	
MXFE1_AVDD1_ADC	OUT	
MXFE1_CLKVDD1	OUT	
MXFE1_FVDD1	OUT	
MXFE2_AVDD1	OUT	
MXFE2_AVDD1_ADC	OUT	
MXFE2_CLKVDD1	OUT	
MXFE2_FVDD1	OUT	
MXFE3_AVDD1	OUT	
MXFE3_AVDD1_ADC	OUT	
MXFE3_CLKVDD1	OUT	
MXFE3_FVDD1	OUT	
7043_3P3V	OUT	
PLL_5V_2	OUT	
PLL_5V_3	OUT	
PLL_3P3V_2	OUT	
PLL_3P3V_3	OUT	

## VOLTAGE / CURRENT MONITORING



	<b>SCHMATIC</b> QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

D  
C  
B  
A

D  
C  
B  
A



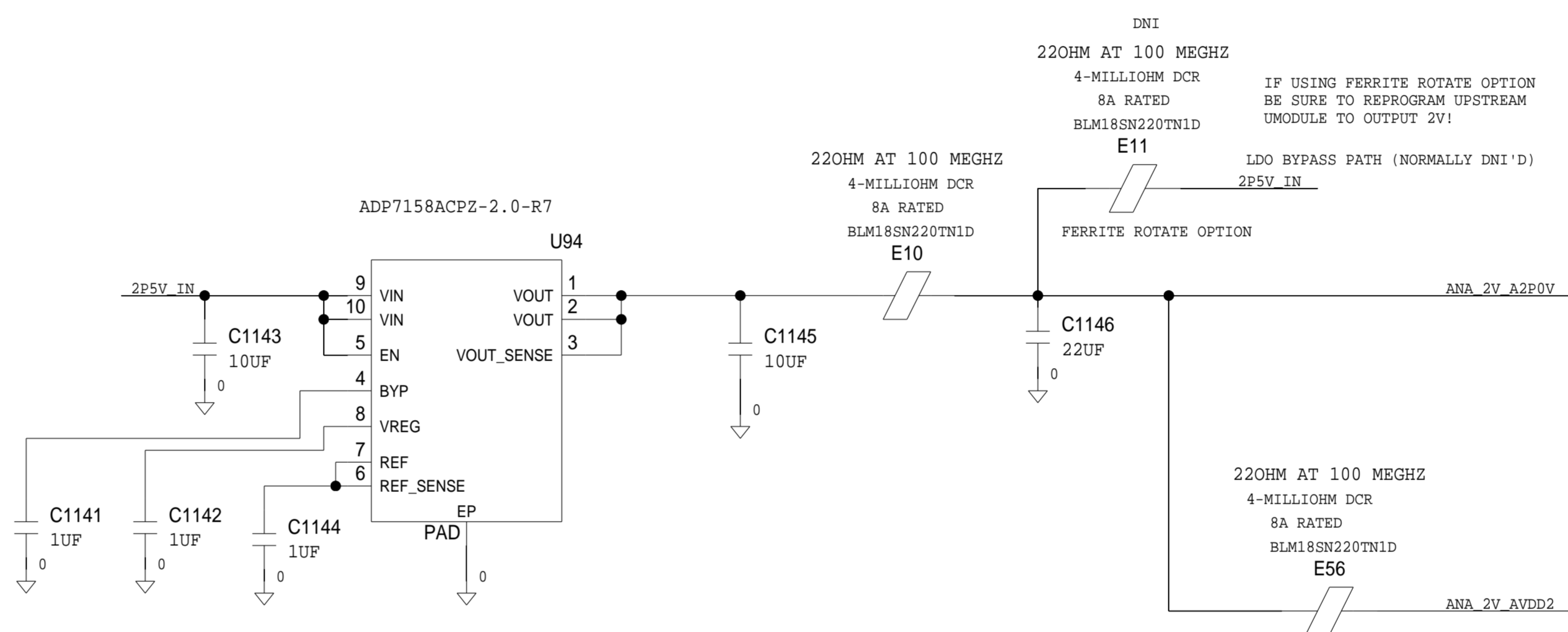
# ADP7158ACPZ-2.0-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

2P5V\_IN

ANA\_2V\_A2P0V

ANA\_2V\_AVDD2



	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

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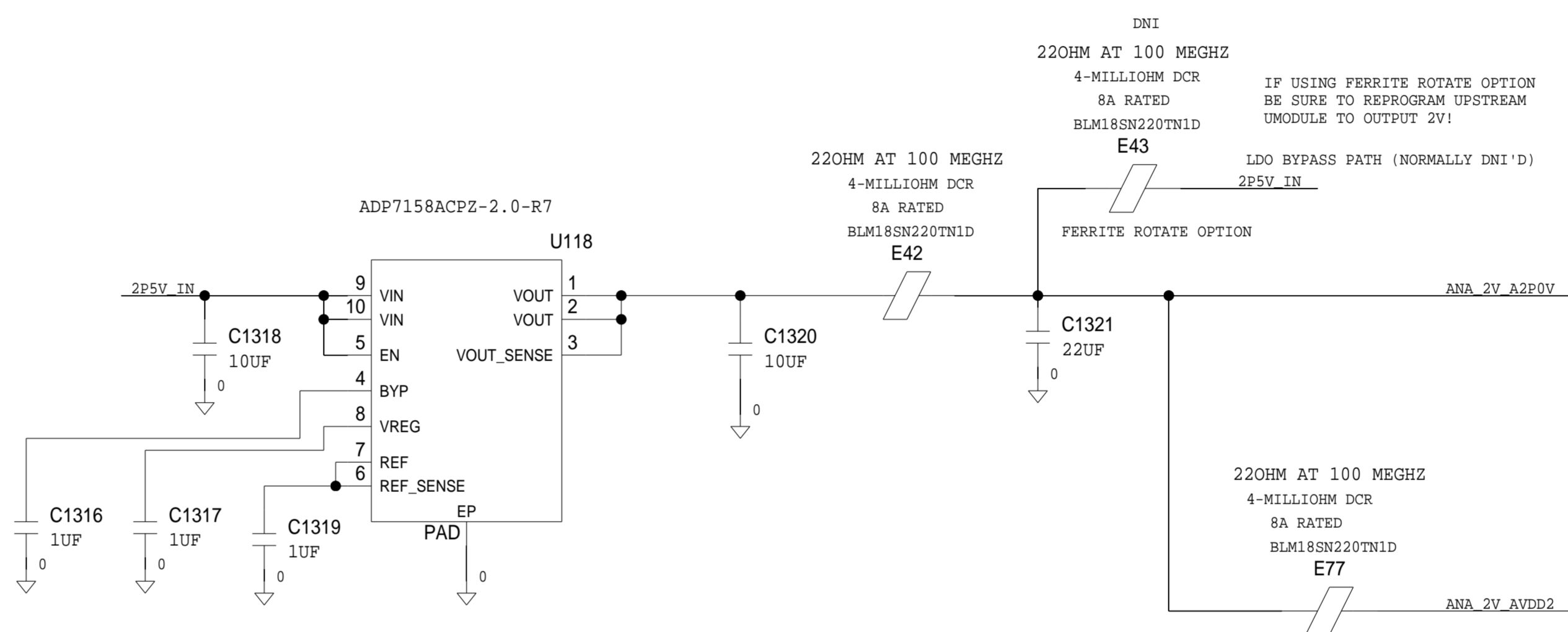
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

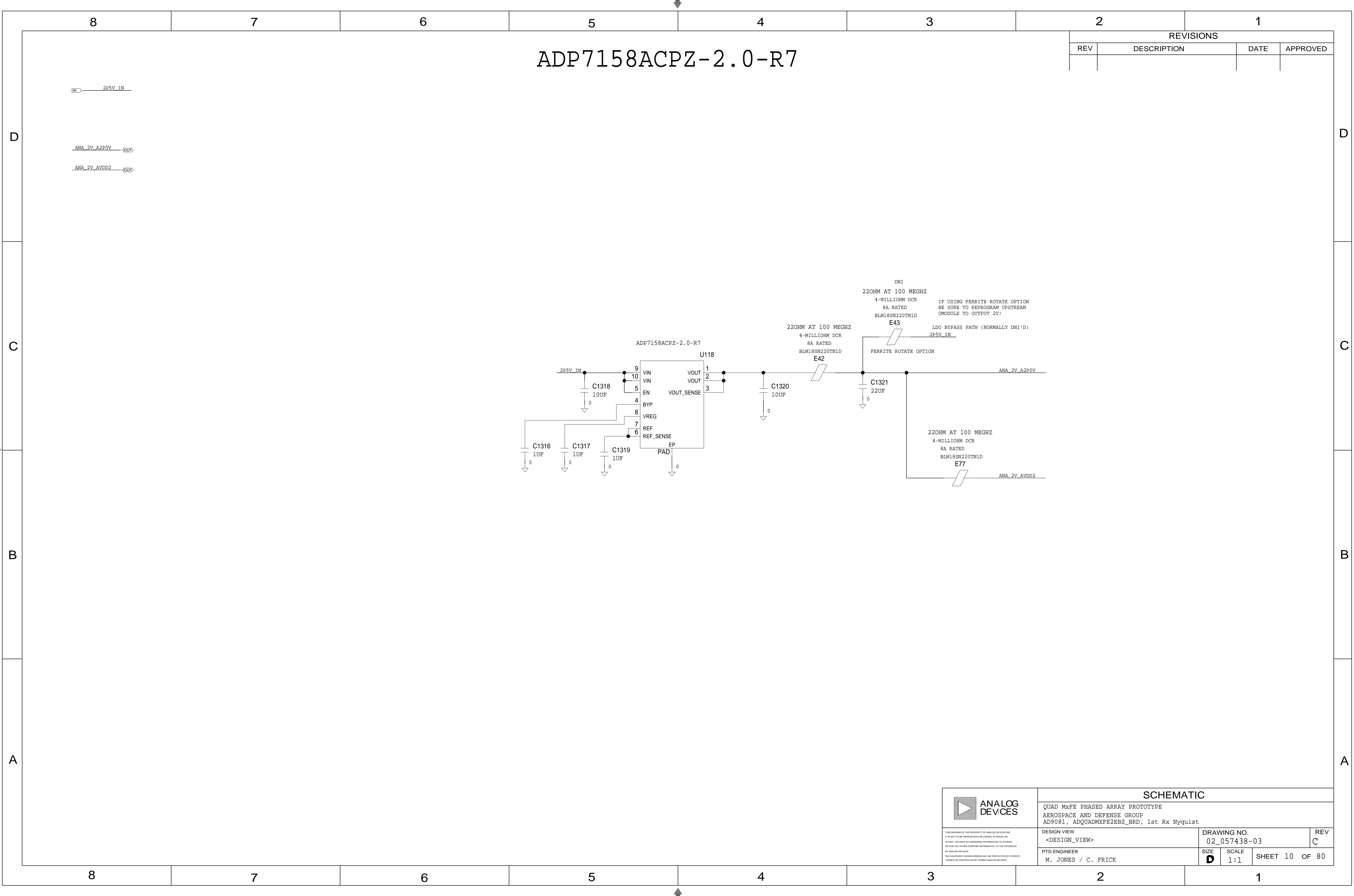
2P5V\_IN

ANA\_2V\_A2P0V

ANA\_2V\_AVDD2

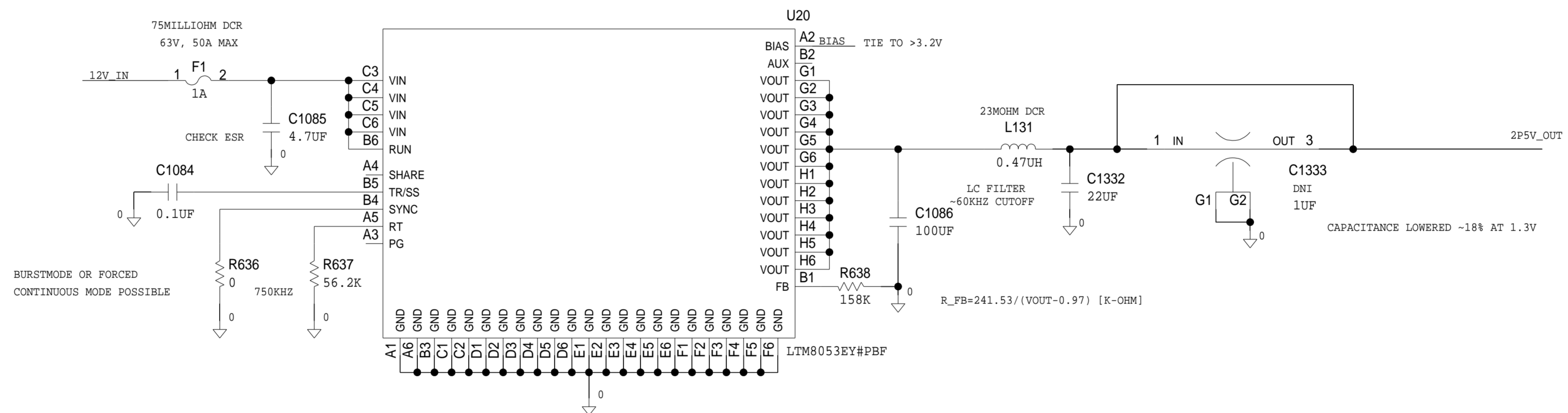
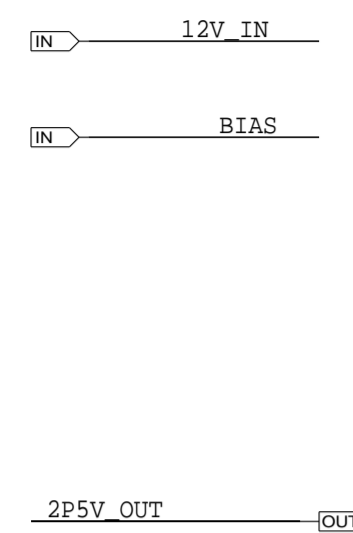


	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 10 OF 80



# LTM8053 2.5V OUTPUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



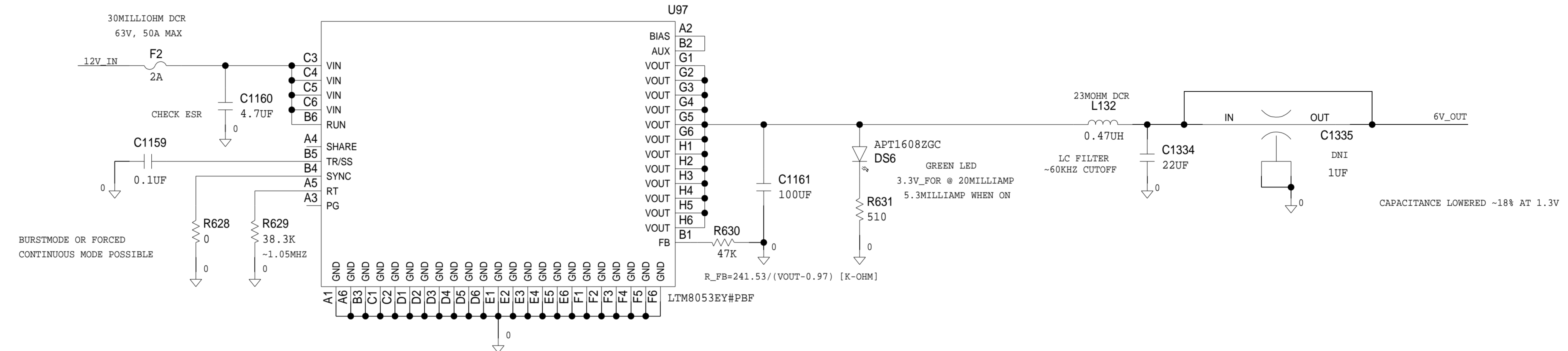
	<b>SCHEMATIC</b>		
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 11 OF 80	

# LTM8053 6V OUTPUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

12V\_IN IN

6V\_OUT OUT



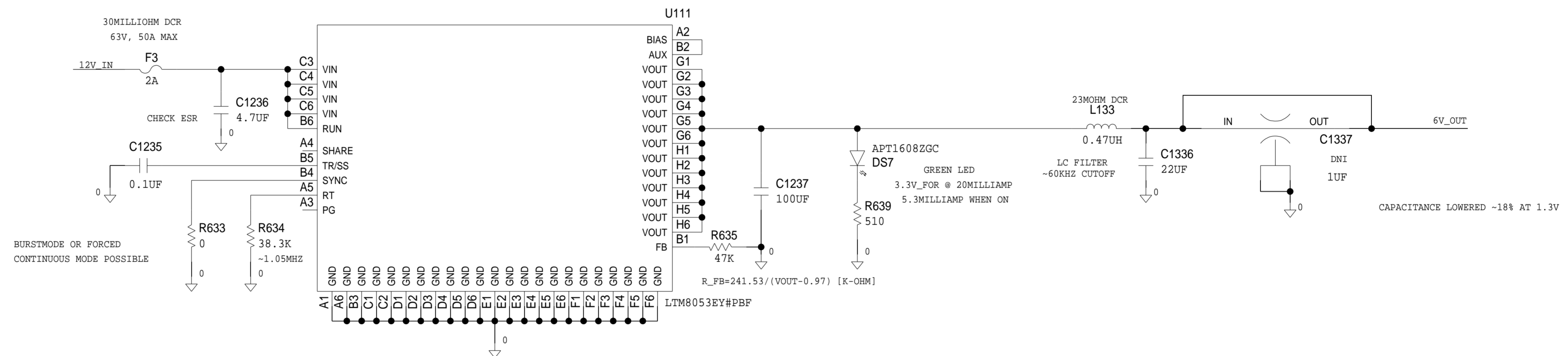
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	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 12 OF 80	

# LTM8053 6V OUTPUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

12V\_IN

6V\_OUT



BURSTMODE OR FORCED  
CONTINUOUS MODE POSSIBLE

CAPACITANCE LOWERED -18% AT 1.3V

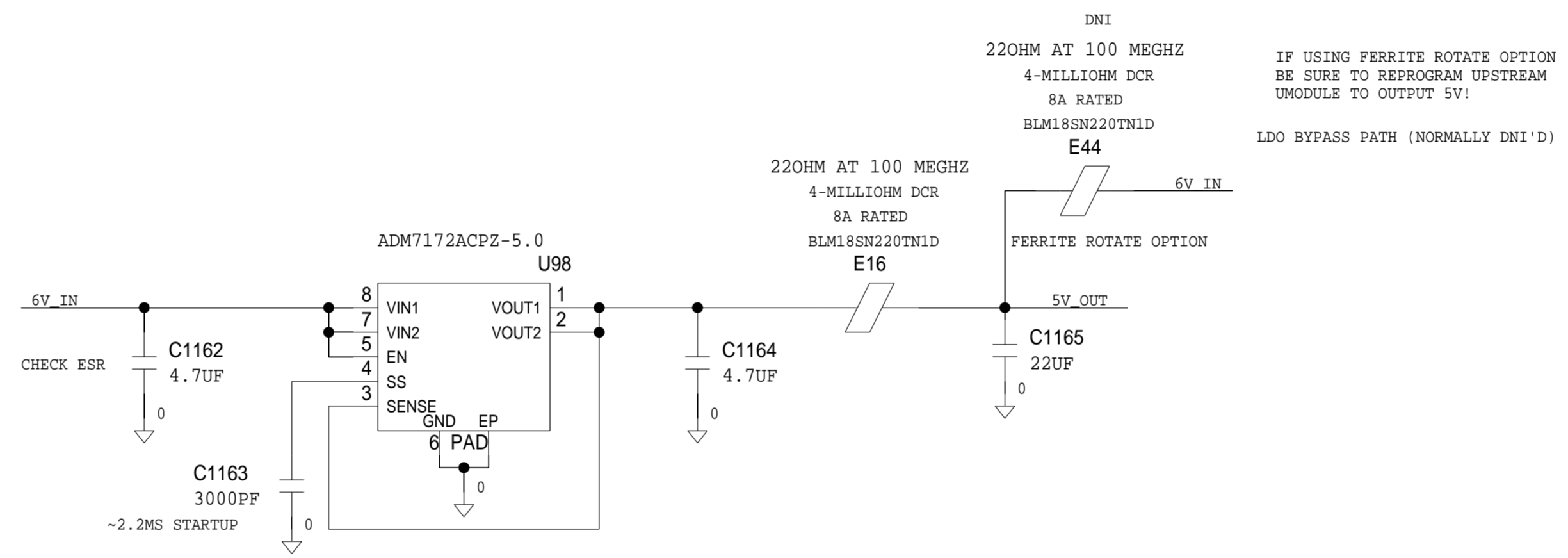
	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 13 OF 80	

# ADM7172ACPZ-5.0-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN IN

5V\_OUT OUT

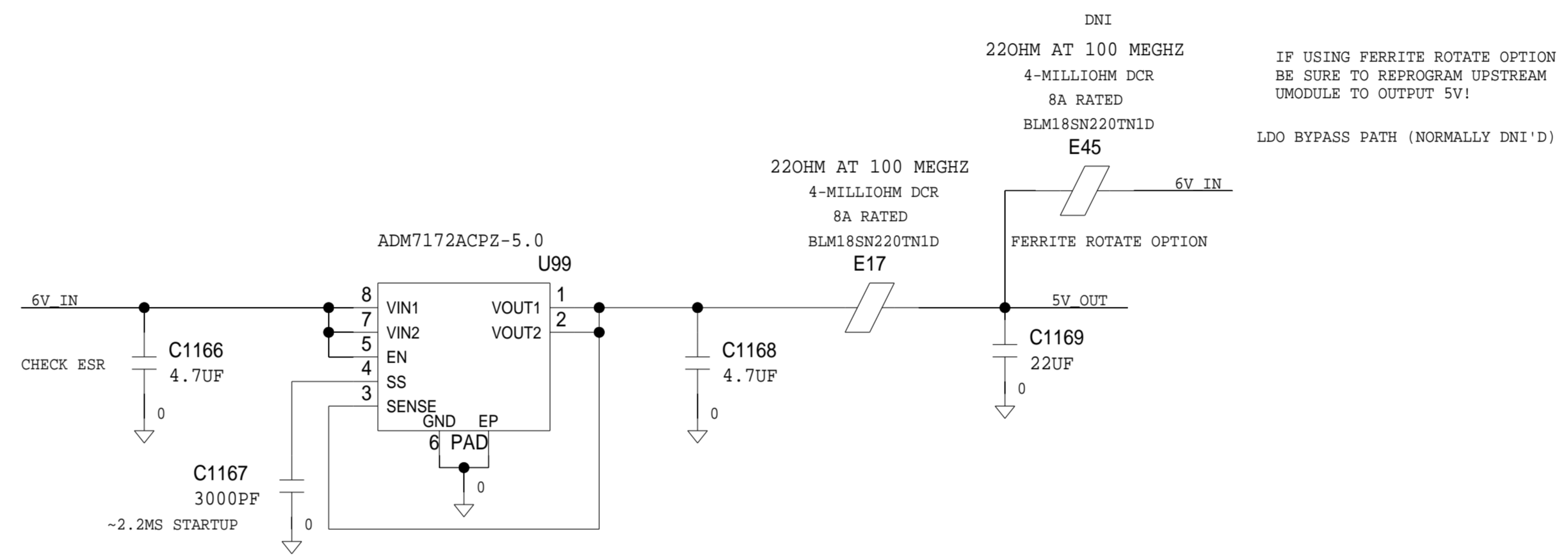


	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 14 OF 80	

# ADM7172ACPZ-5.0-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN  
5V\_OUT

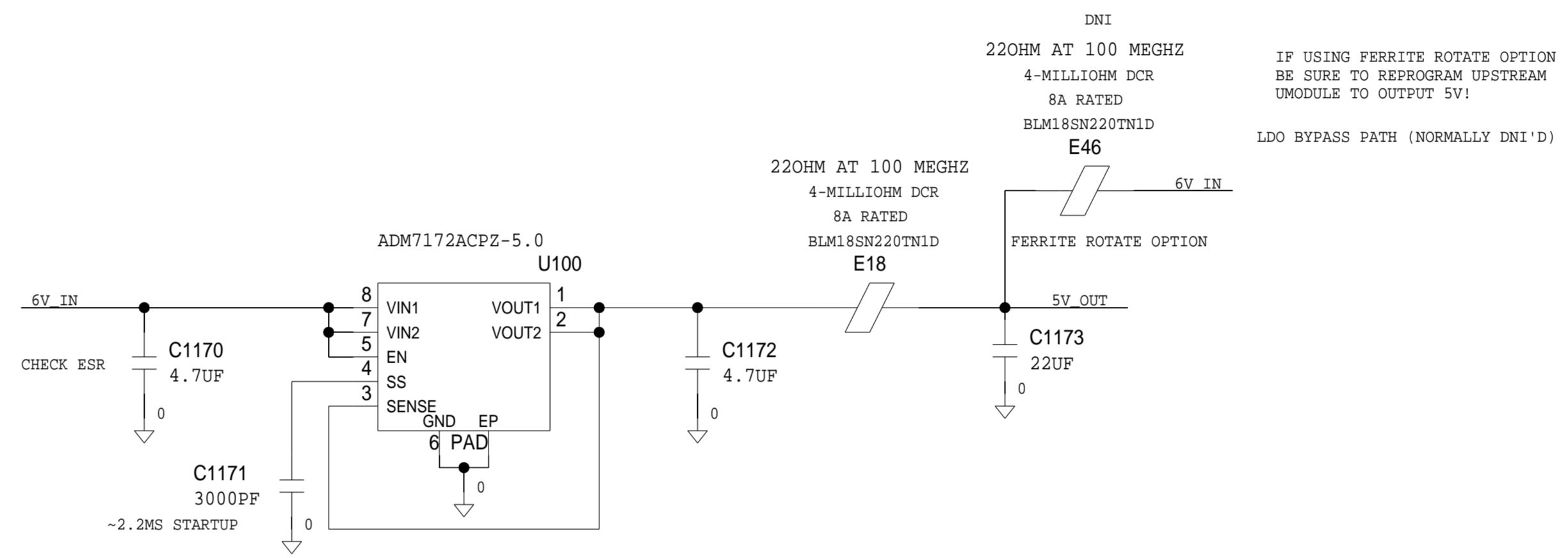


	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPEZEBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 15 OF 80	

# ADM7172ACPZ-5.0-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN  
5V\_OUT



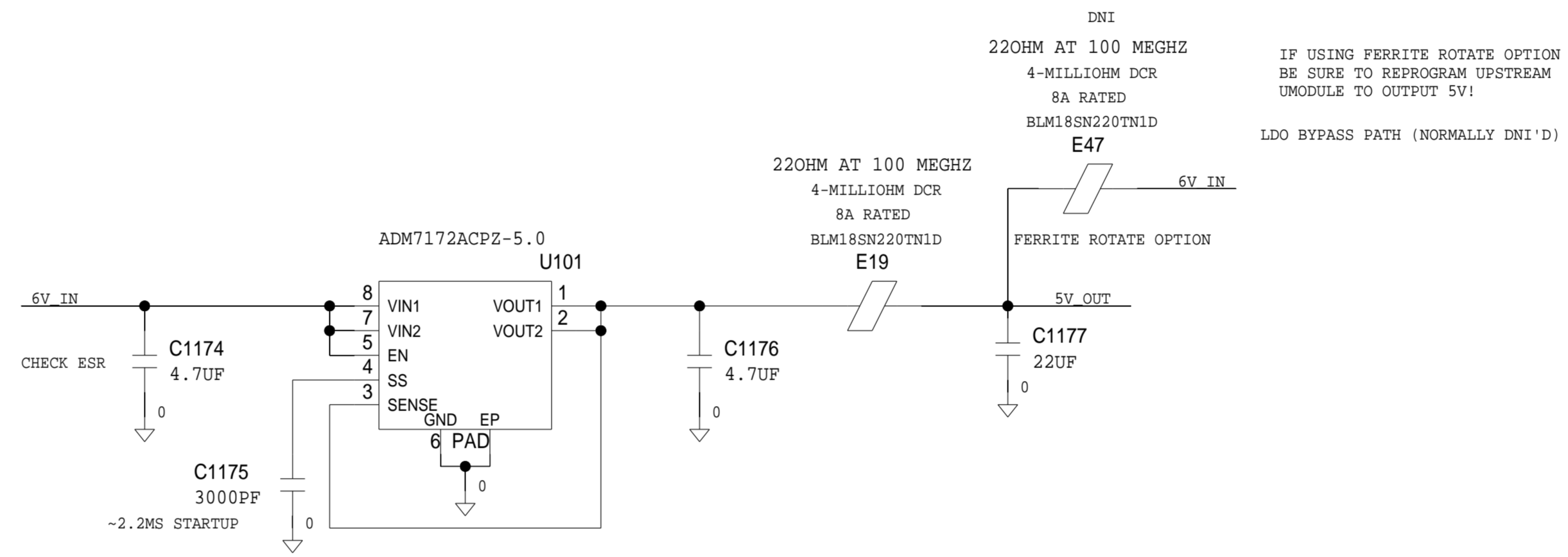
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 16 OF 80	



# ADM7172ACPZ-5.0-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN  
5V\_OUT



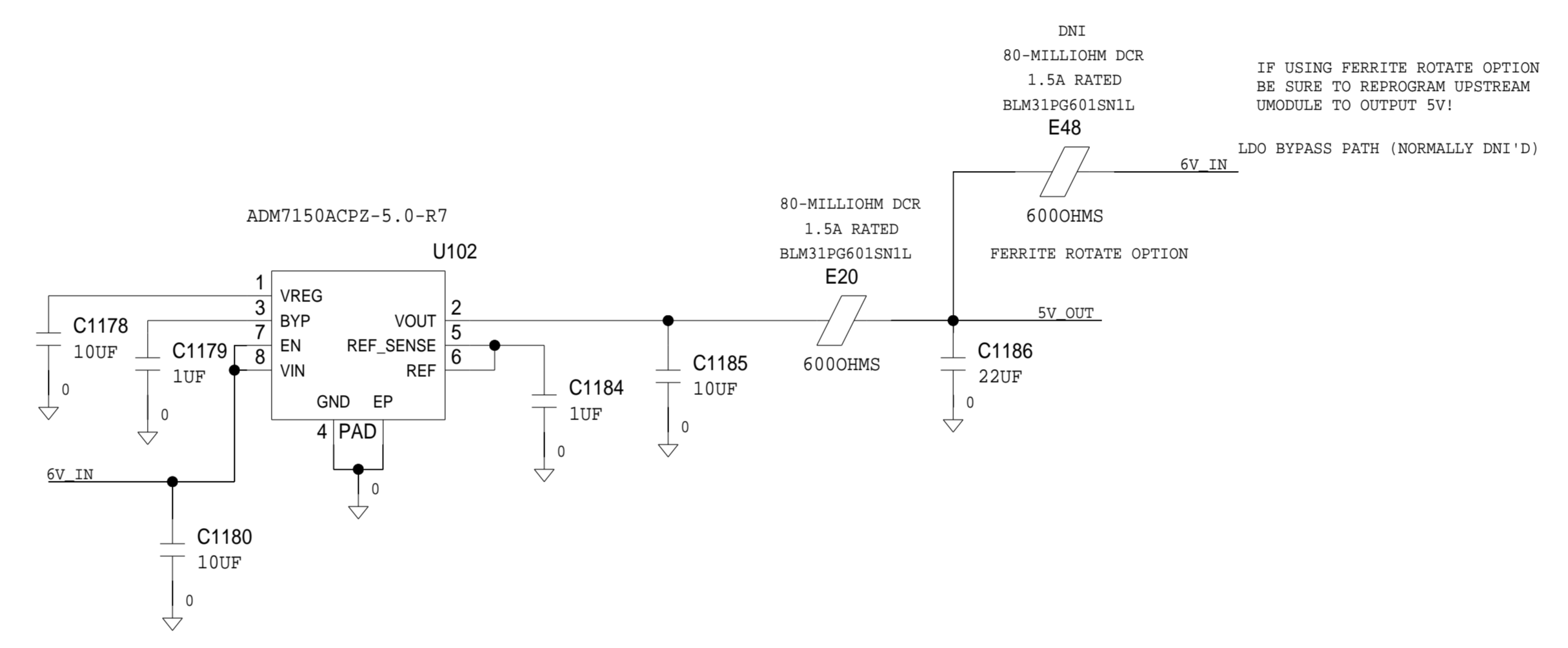
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 17 OF 80	

# ADM7150ACPZ-5.0-R7

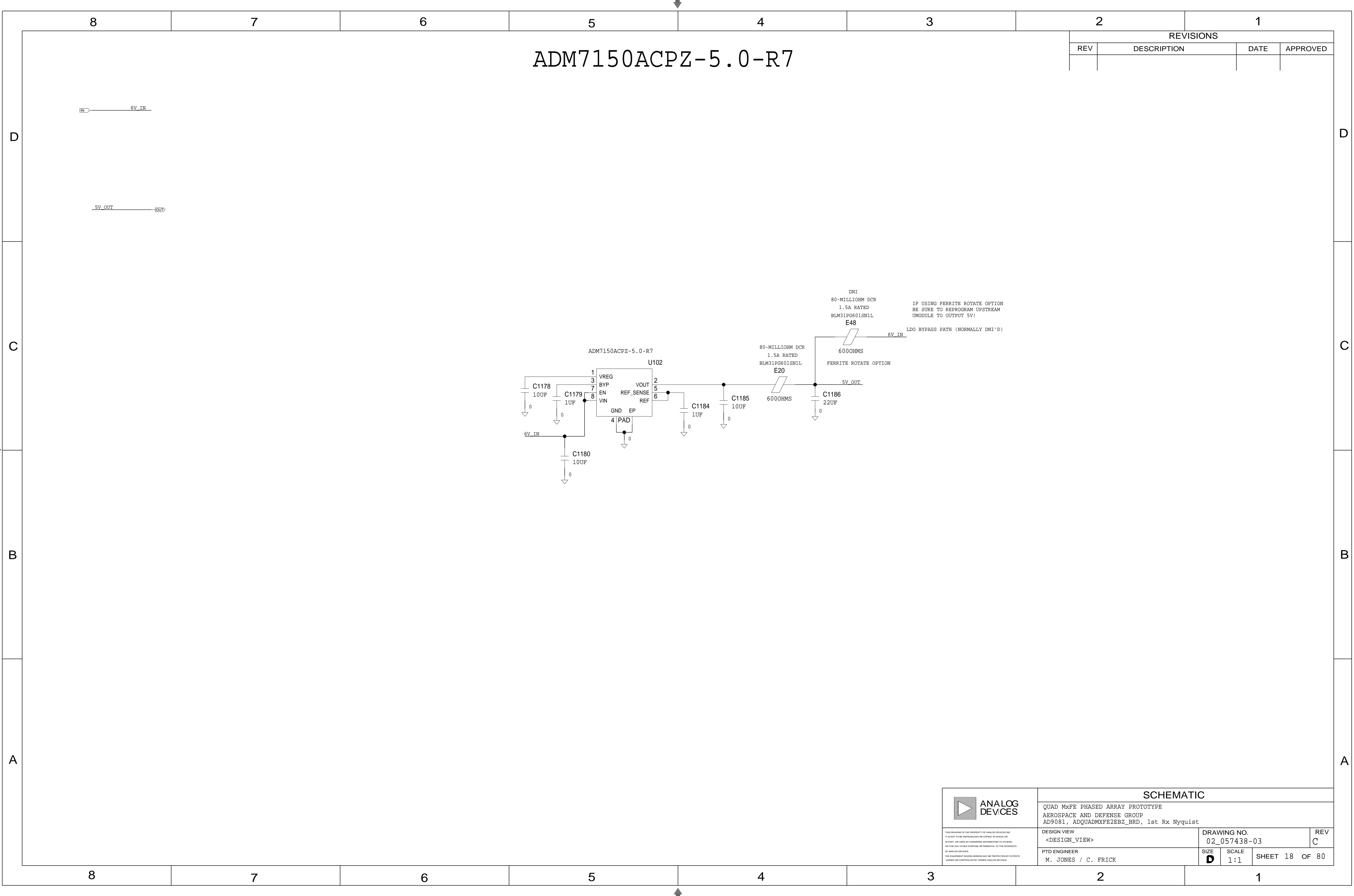
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN IN

5V\_OUT OUT



	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPEZEBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 18 OF 80

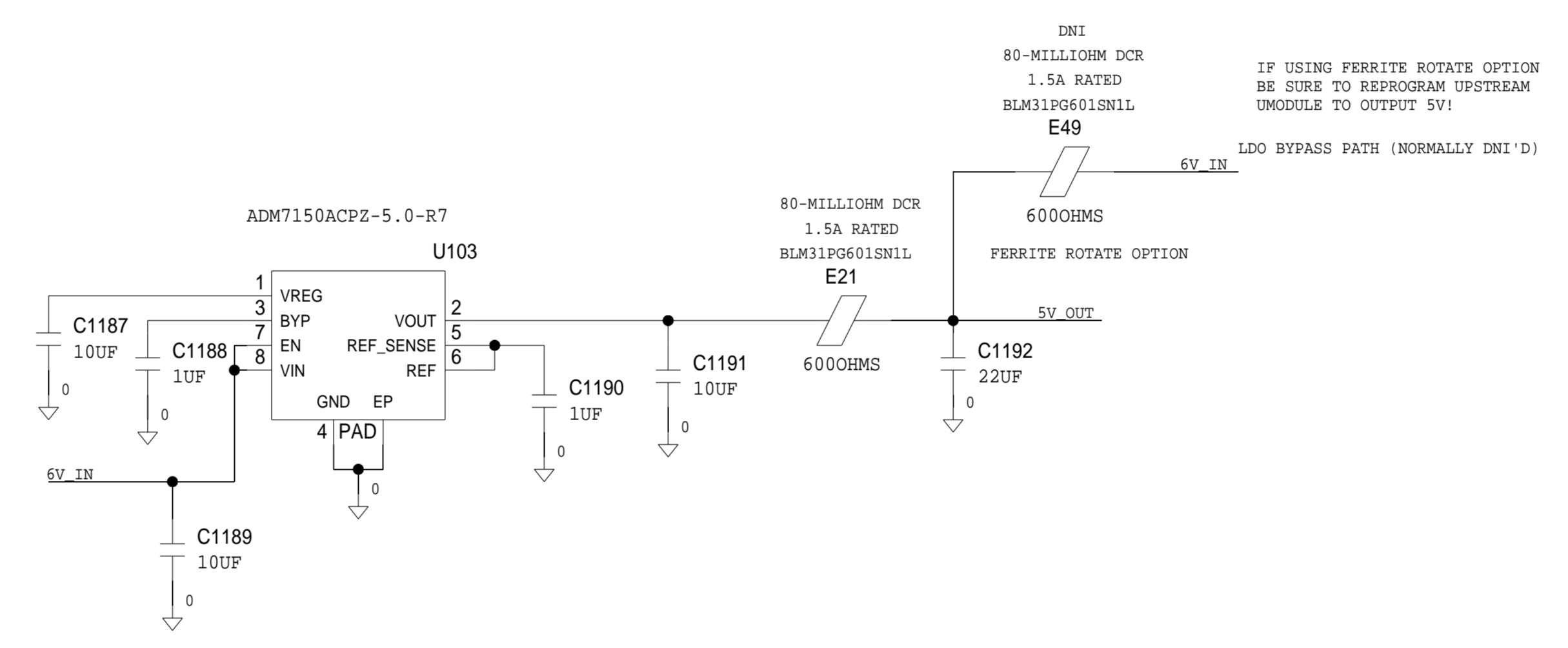


# ADM7150ACPZ-5.0-R7

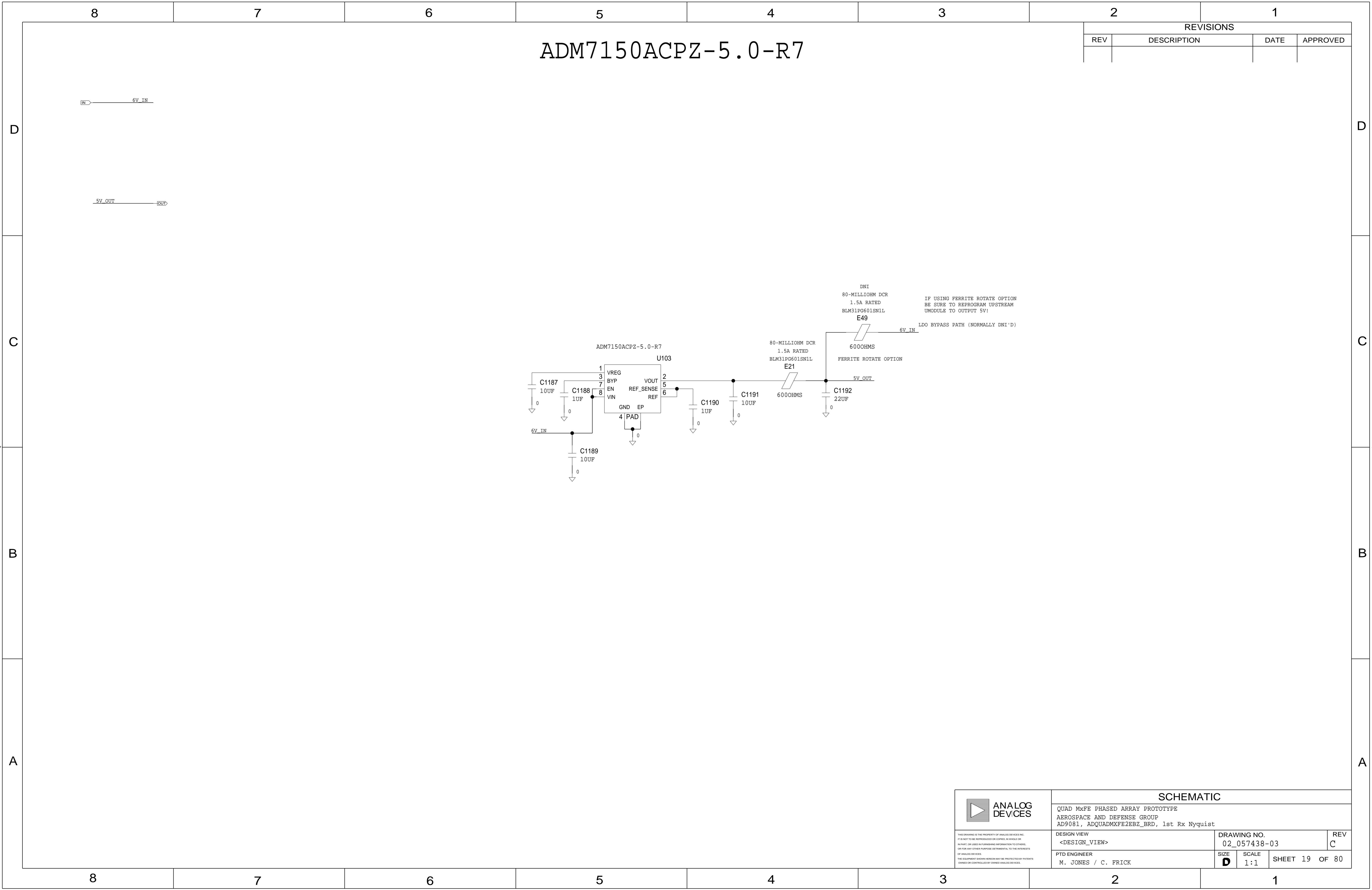
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN IN

5V\_OUT OUT



	<b>SCHEMATIC</b>		
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 19 OF 80

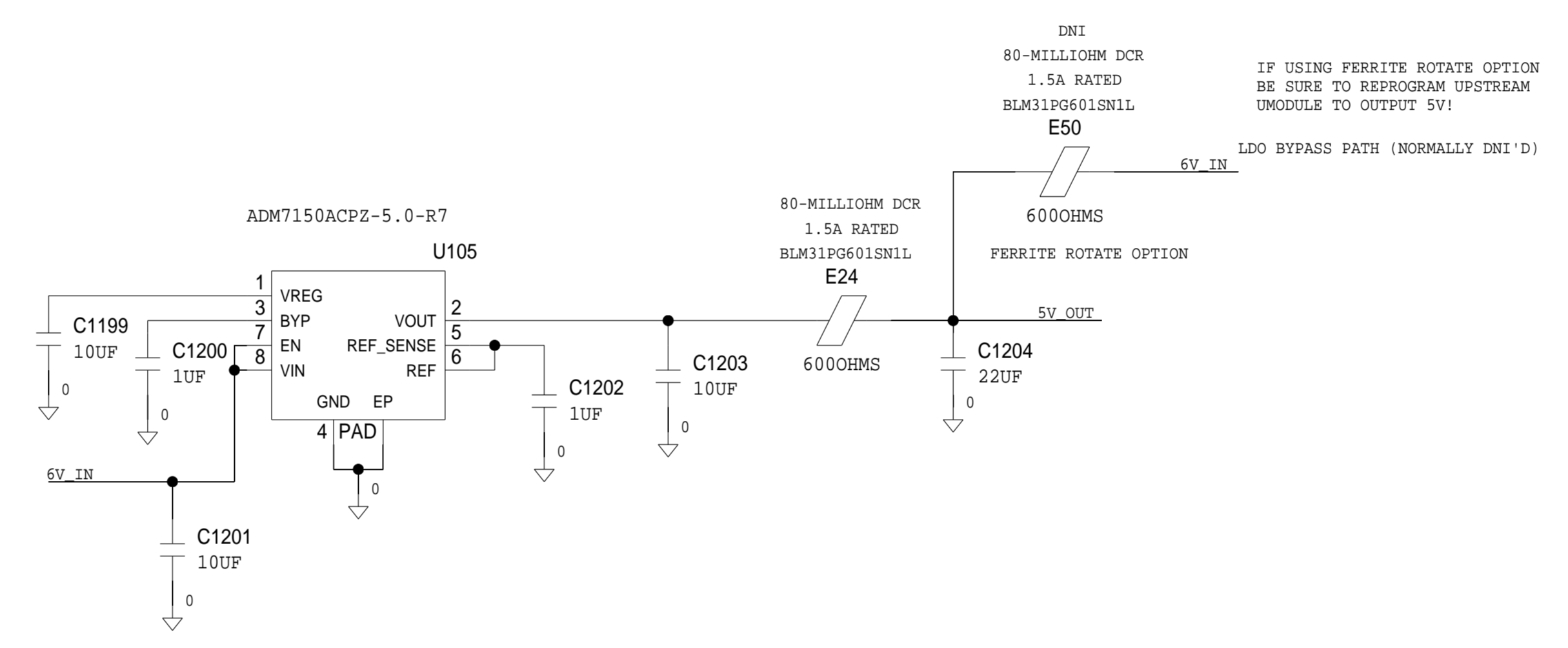


# ADM7150ACPZ-5.0-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN IN

5V\_OUT OUT



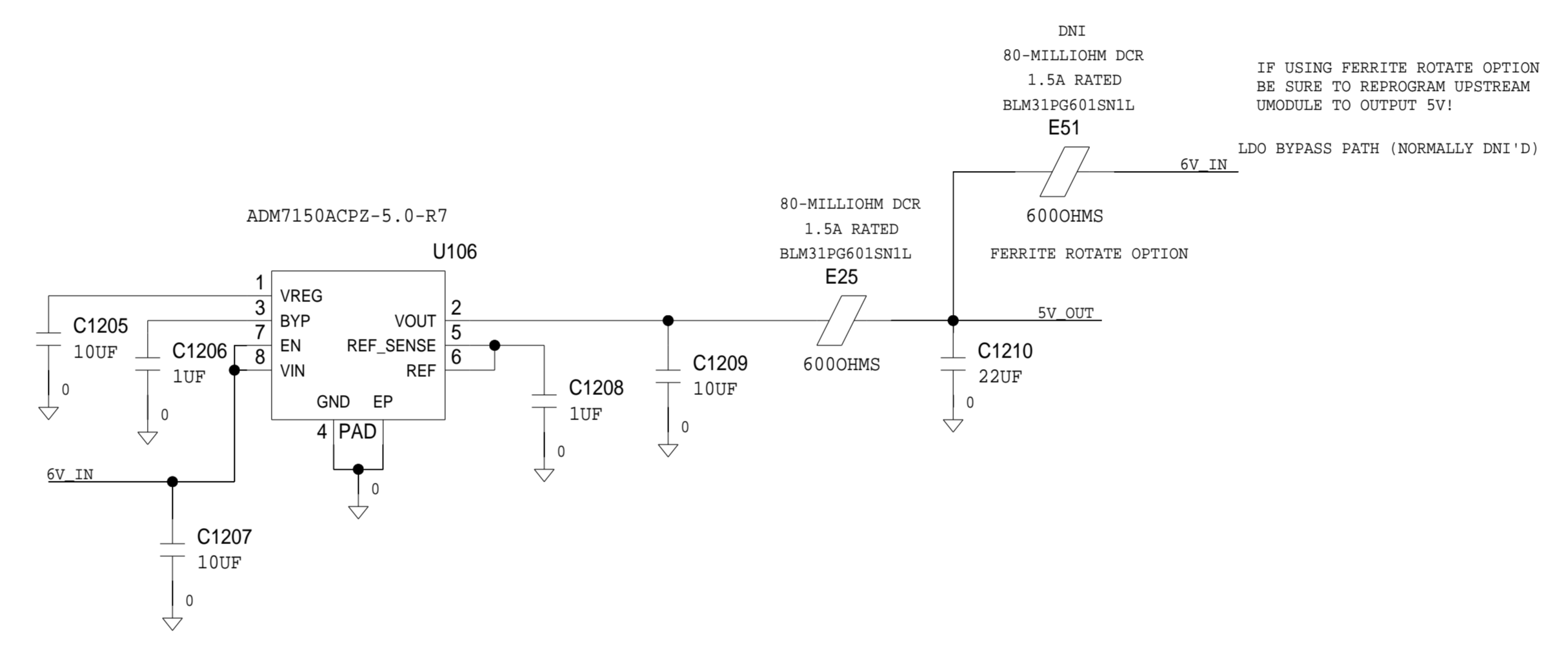
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 20 OF 80	

# ADM7150ACPZ-5.0-R7

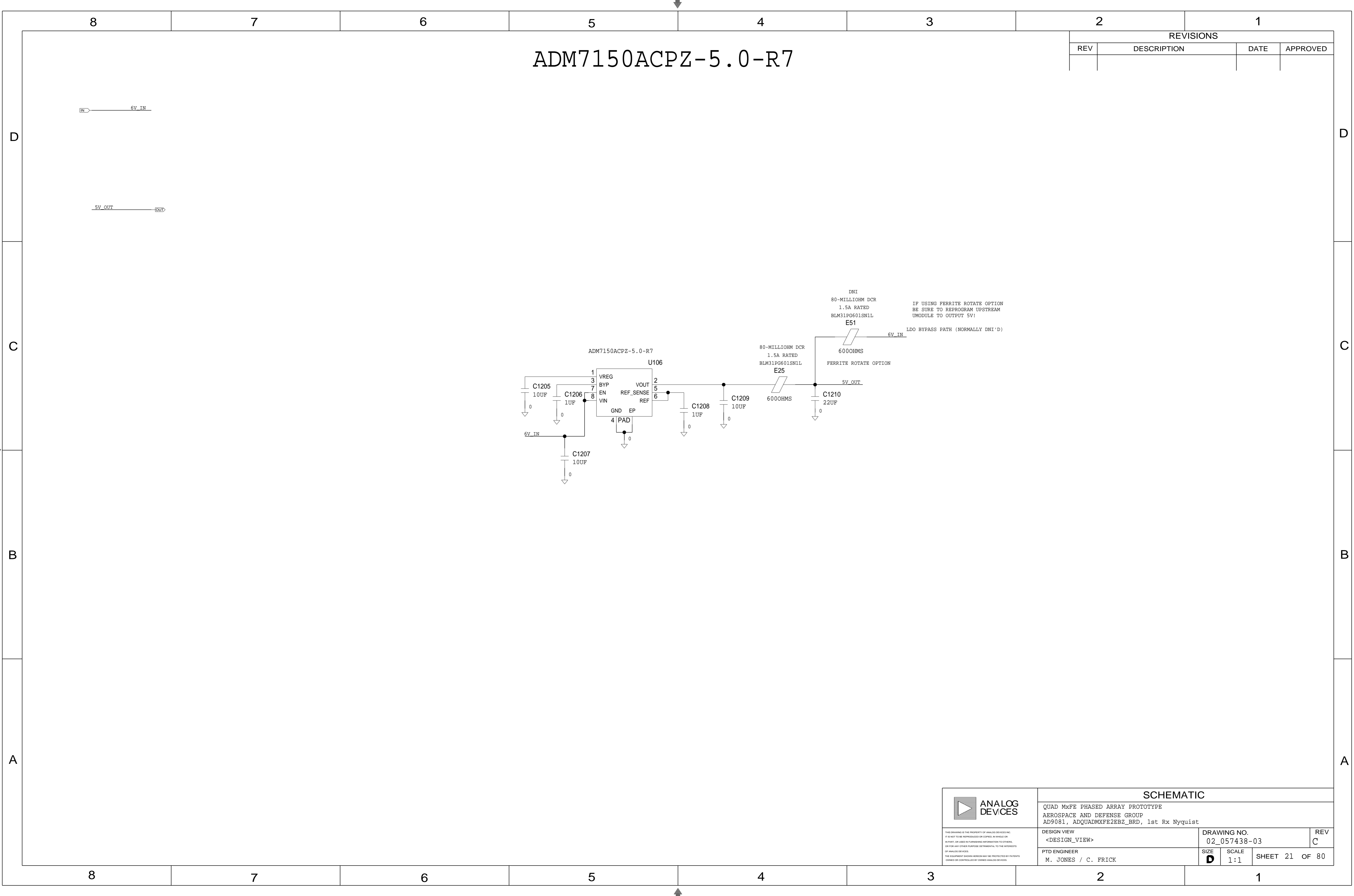
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

6V\_IN IN

5V\_OUT OUT



	<b>SCHEMATIC</b>		
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 21 OF 80



# ADP1765ACPZ-1.0

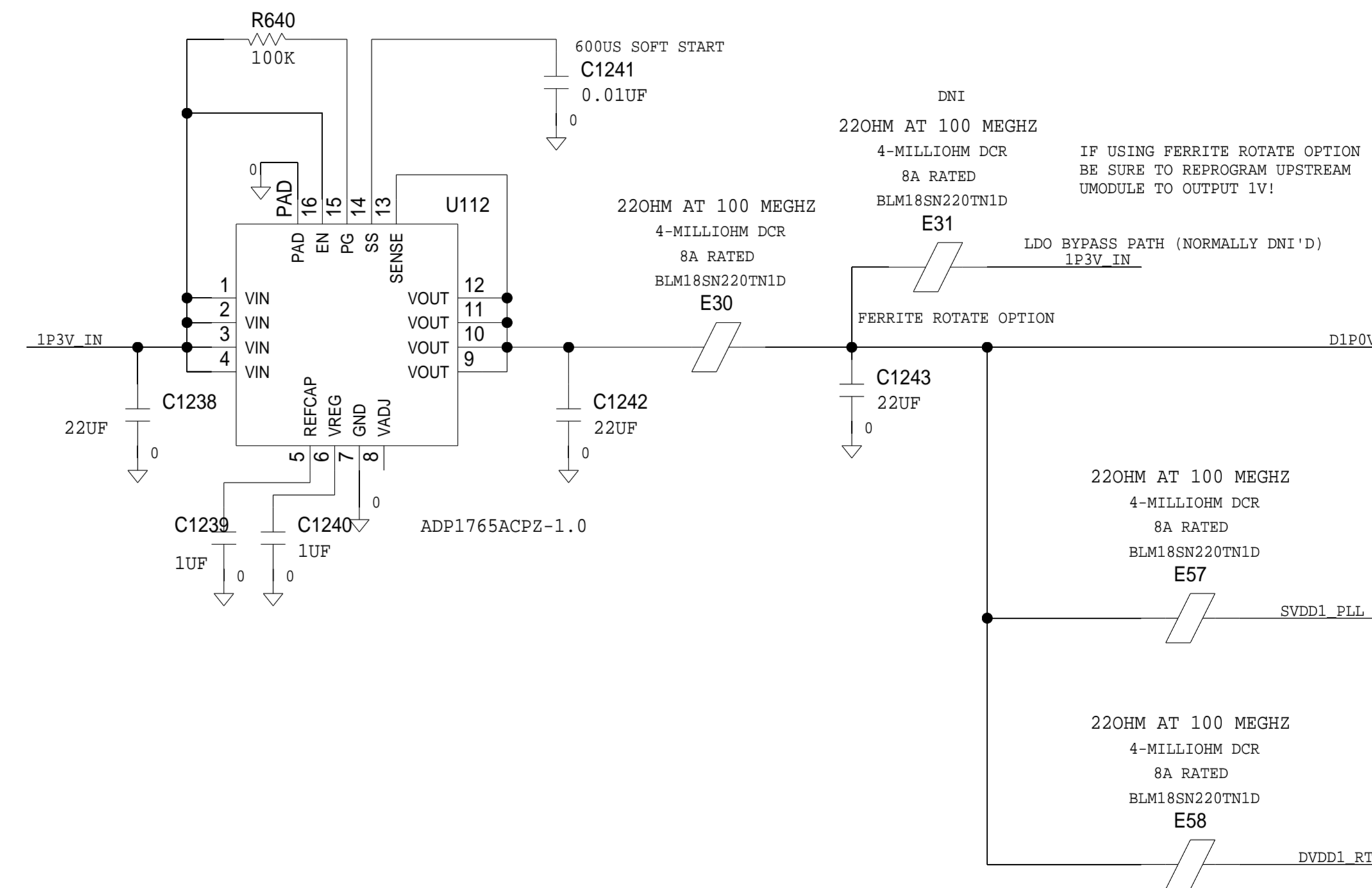
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

1P3V\_IN

D1P0V

SVDD1\_PLL

DVDD1\_RT



	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

# ADP1765ACPZ-1.0

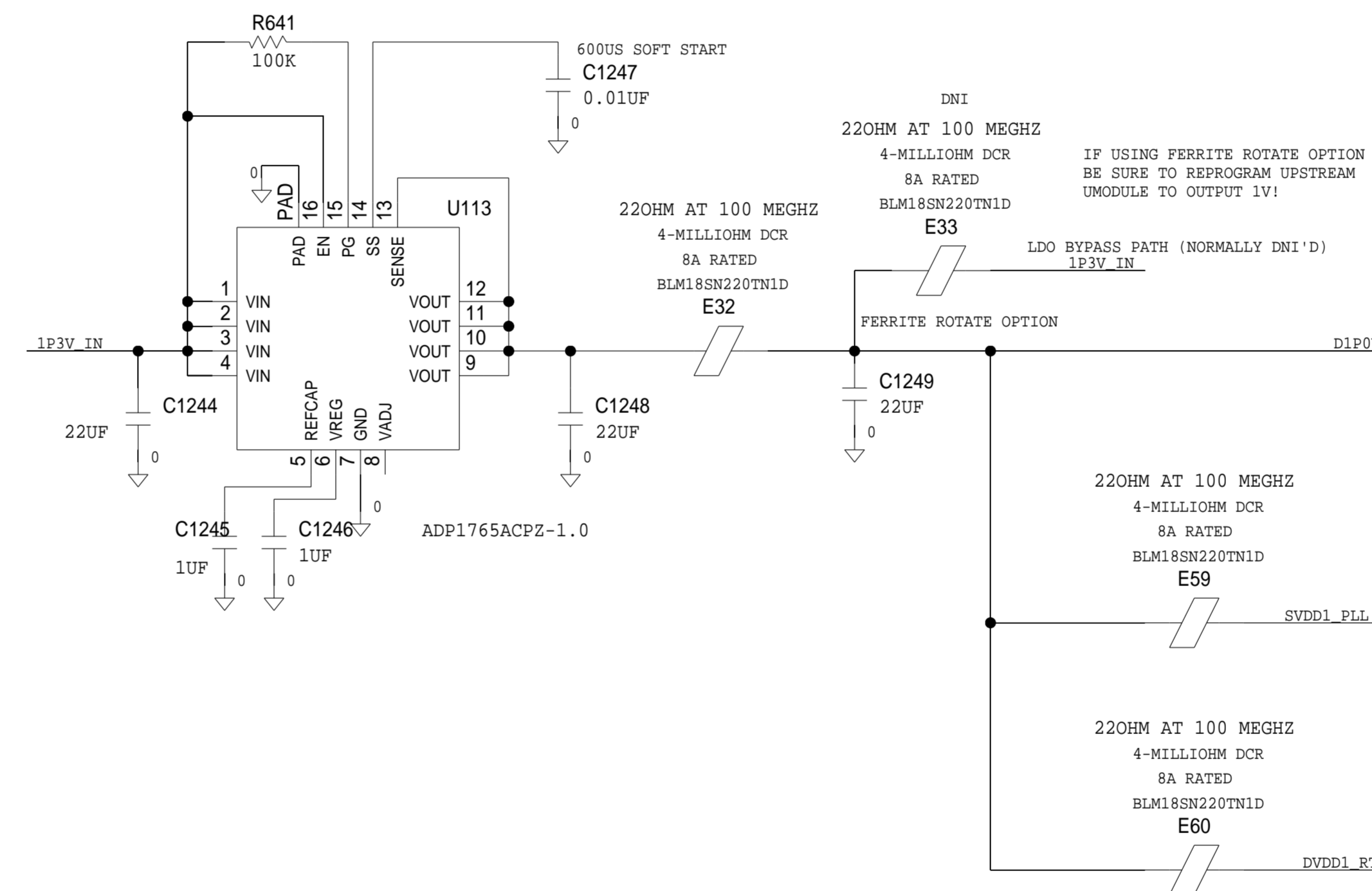
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

1P3V\_IN

D1P0V

SVDD1\_PLL

DVDD1\_RT



	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 23 OF 80	

# ADP1765ACPZ-1.0

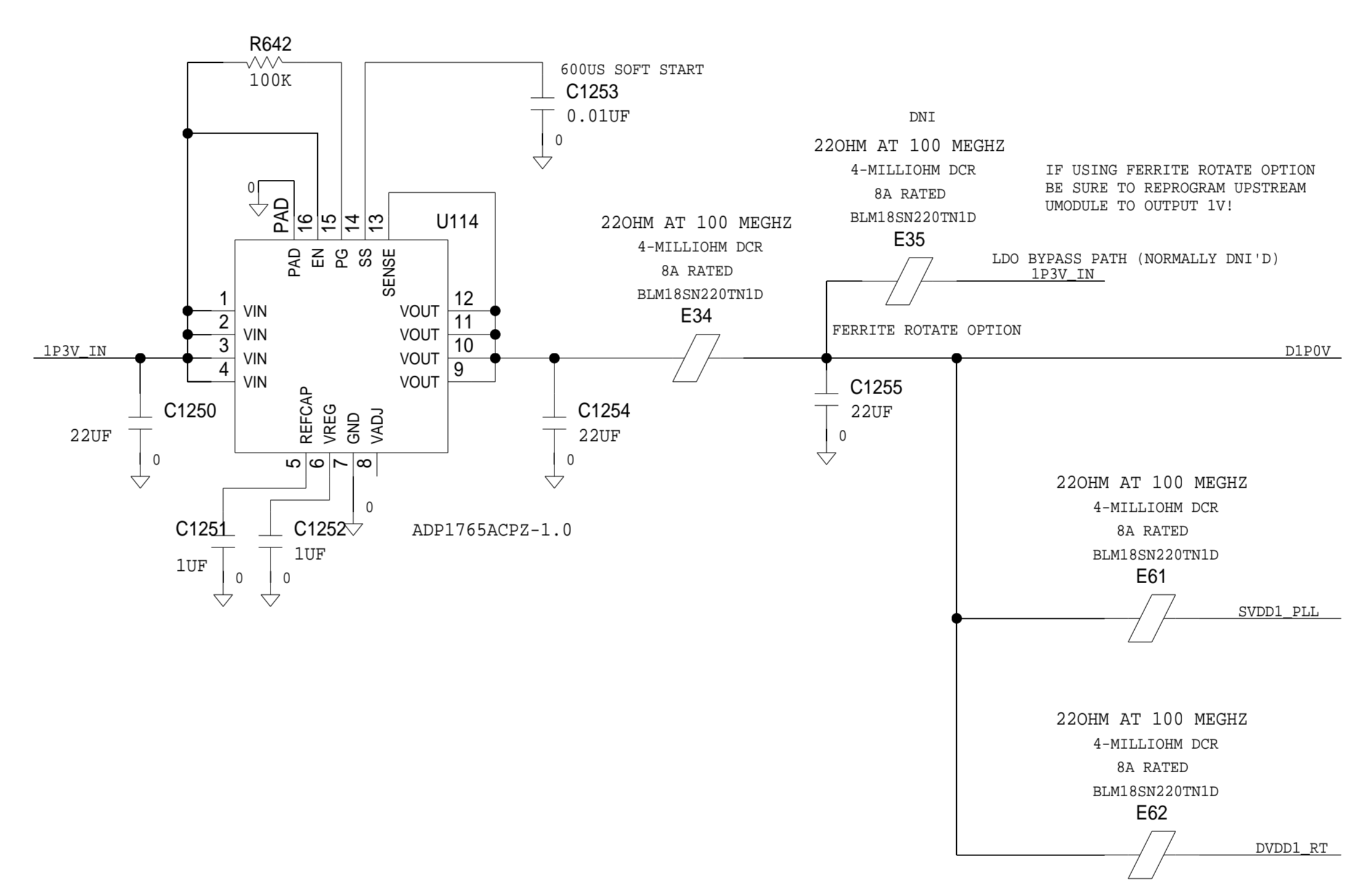
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

1P3V\_IN

D1P0V

SVDD1\_PLL

DVDD1\_RT



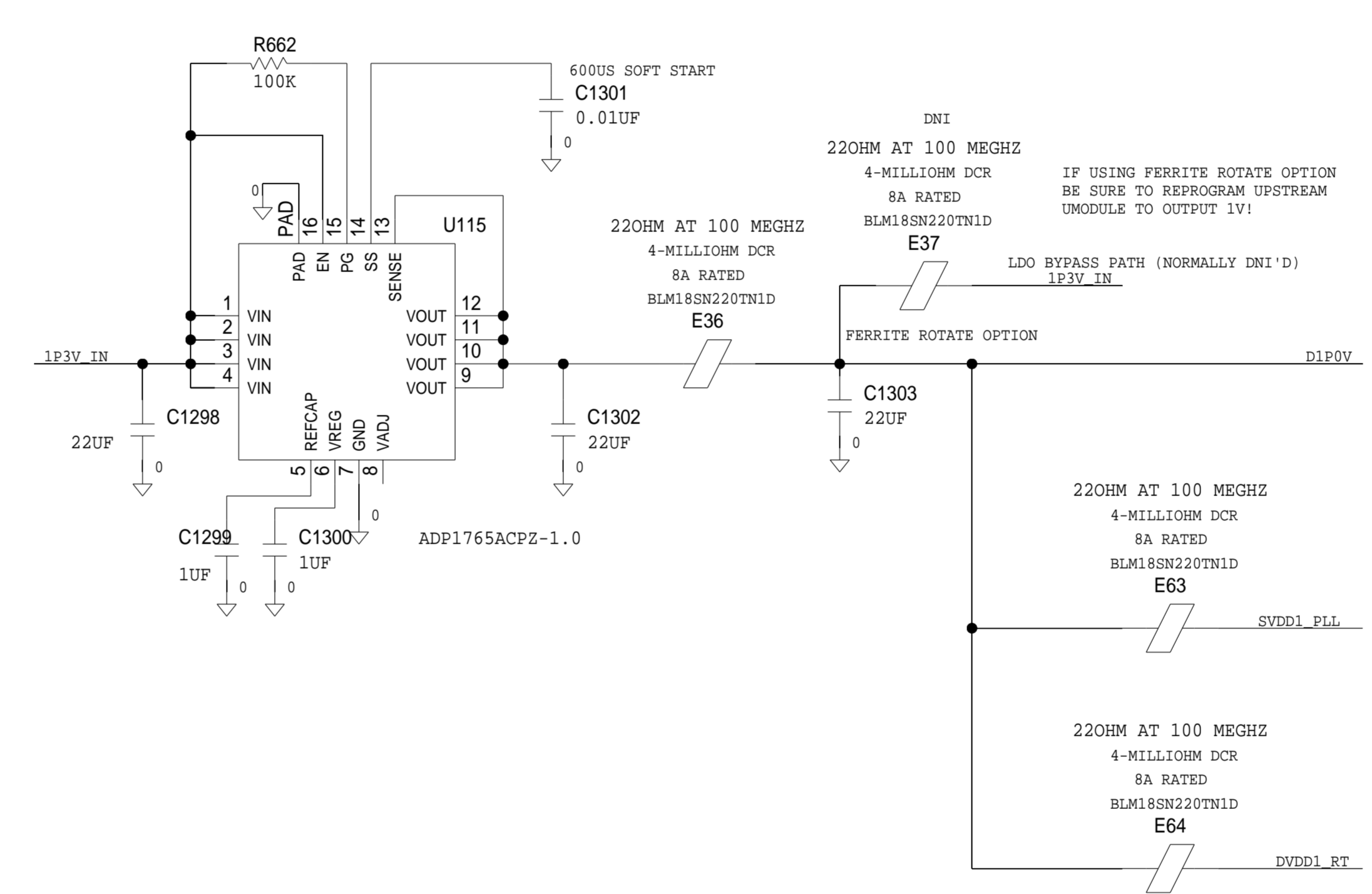
	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 24 OF 80	



# ADP1765ACPZ-1.0

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

1P3V\_IN (IN)  
 D1P0V (OUT)  
 SVDD1\_PLL (OUT)  
 DVDD1\_RT (OUT)



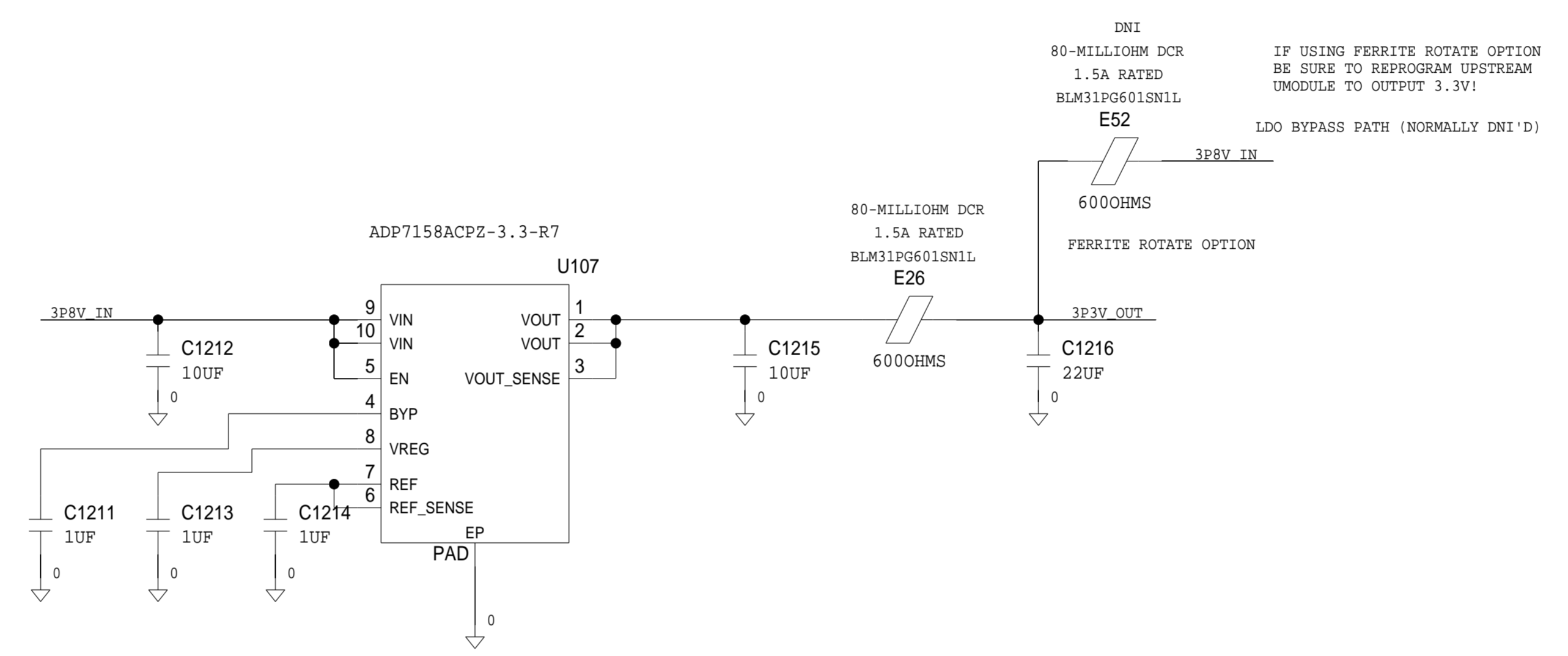
	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 25 OF 80

# ADP7158ACPZ-3.3-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

3P8V\_IN IN

3P3V\_OUT OUT



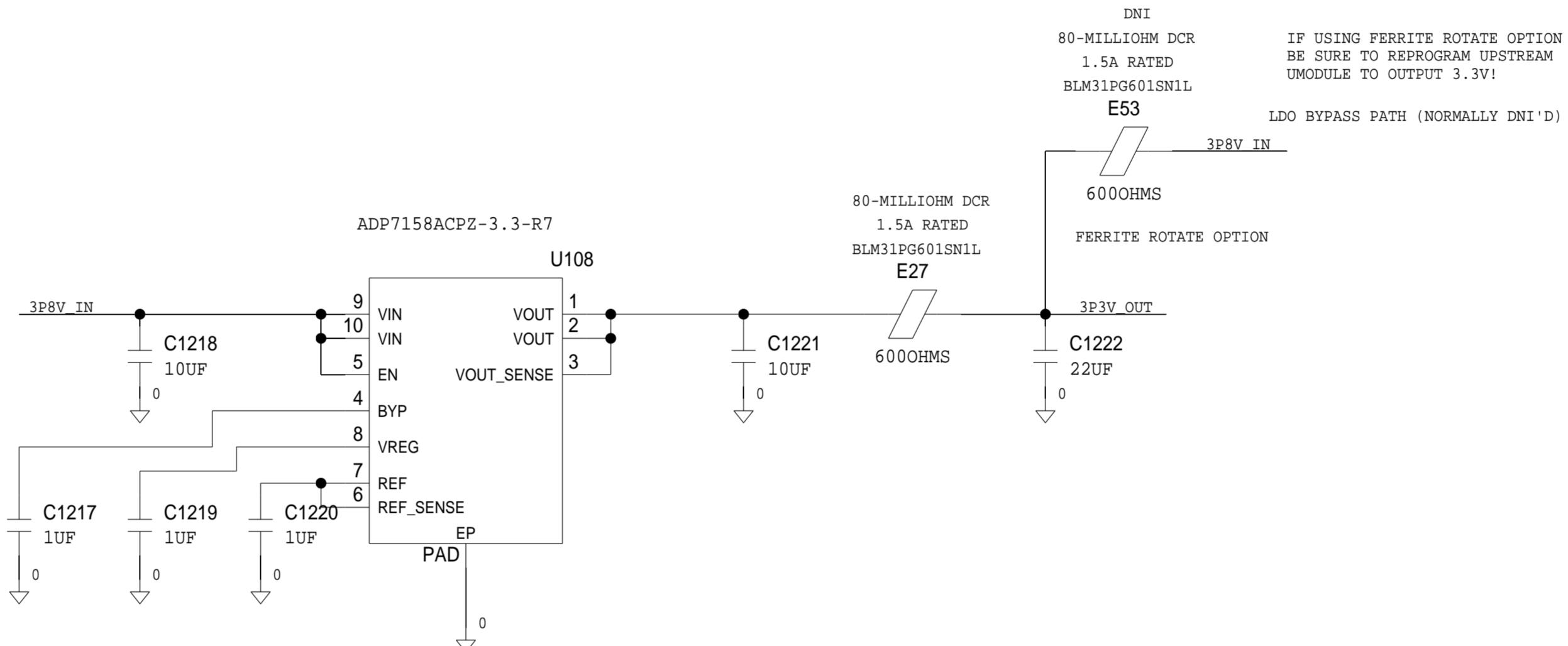
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	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 26 OF 80	

# ADP7158ACPZ-3.3-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

3P8V\_IN IN

3P3V\_OUT OUT



DNI  
80-MILLIOHM DCR  
1.5A RATED  
BLM31PG601SN1L  
E53  
IF USING FERRITE ROTATE OPTION  
BE SURE TO REPROGRAM UPSTREAM  
MODULE TO OUTPUT 3.3V!

LDO BYPASS PATH (NORMALLY DNI 'D')



<b>SCHEMATIC</b>			
QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist			
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C	
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 27 OF 80

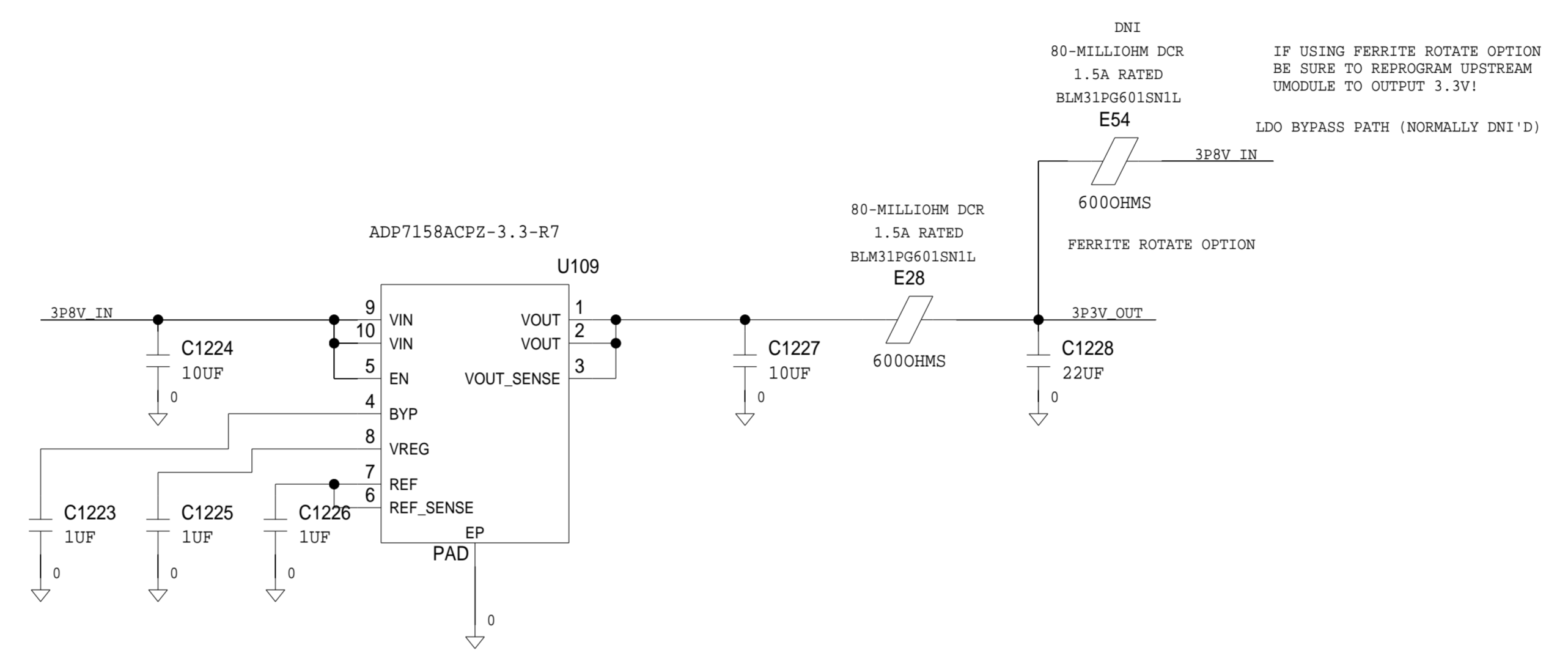
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OWNED OR CONTROLLED BY ANALOG DEVICES.

# ADP7158ACPZ-3.3-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

3P8V\_IN IN

3P3V\_OUT OUT



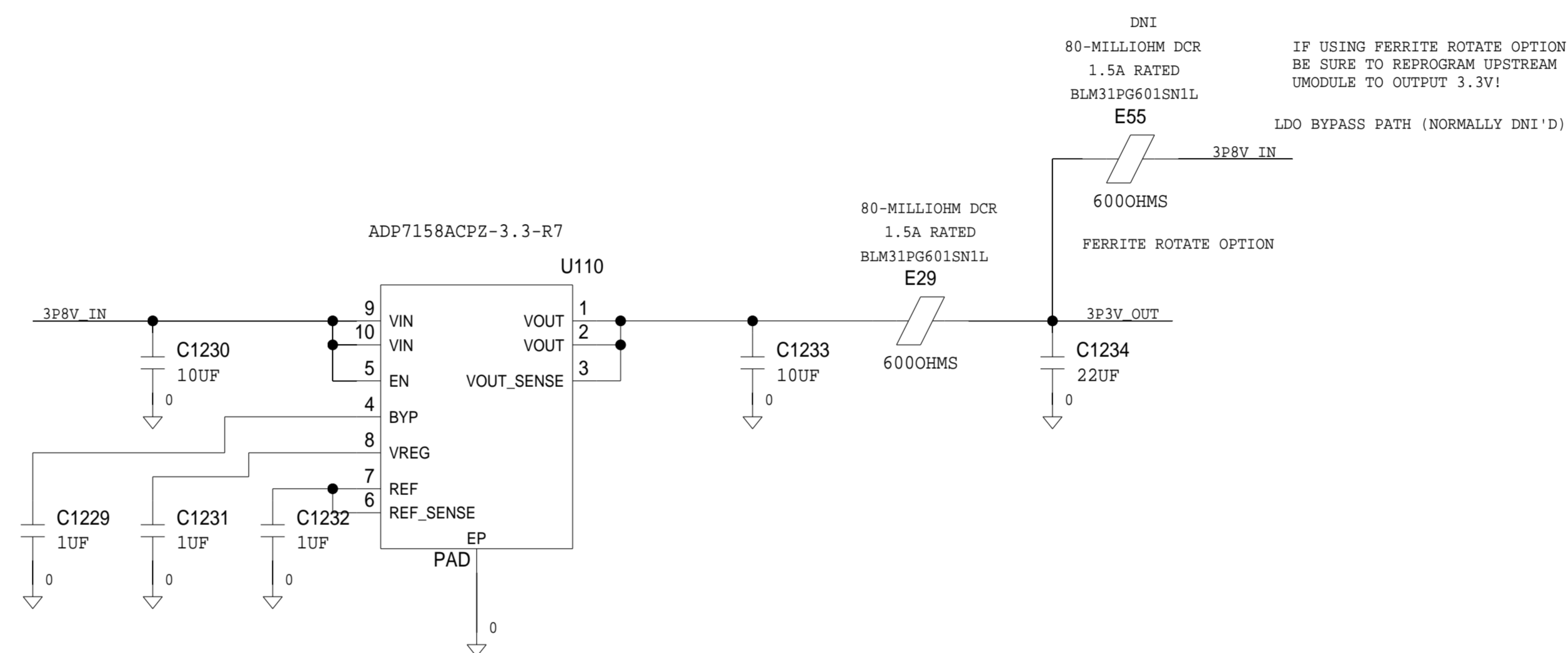
<p>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTERESTS OF ANALOG DEVICES. THE EQUIPMENT SHOWN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY ANALOG DEVICES.</p>	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 28 OF 80	

# ADP7158ACPZ-3.3-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

3P8V\_IN IN

3P3V\_OUT OUT



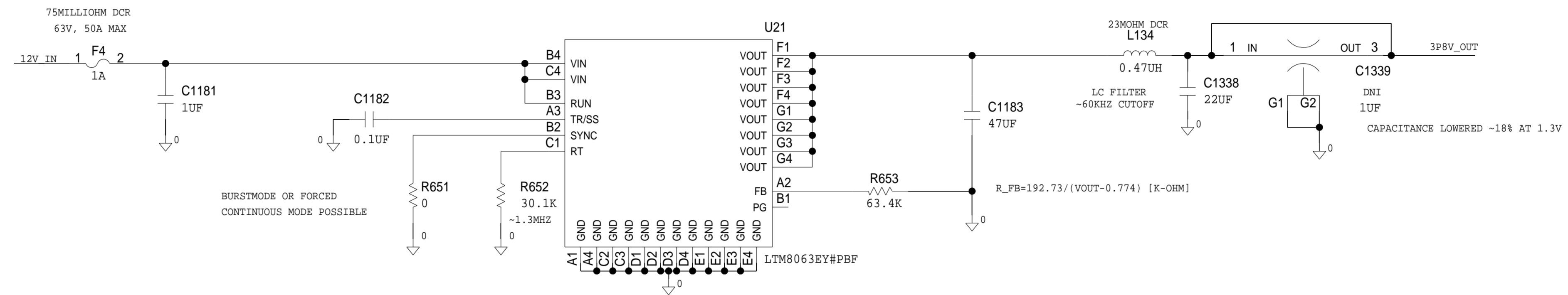
	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 29 OF 80	

# LTM8063

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

12V\_IN IN

3P8V\_OUT OUT

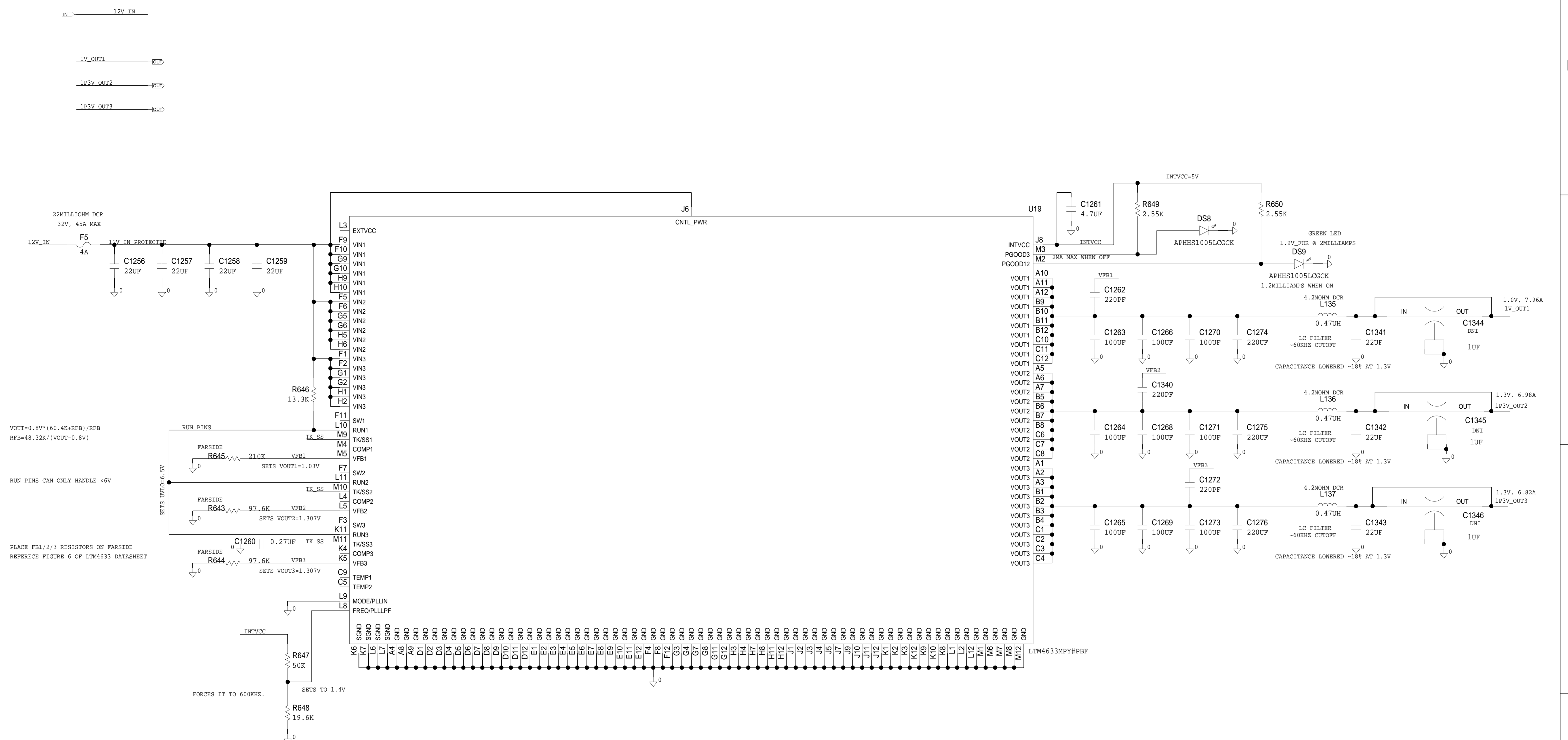


BURSTMODE OR FORCED  
CONTINUOUS MODE POSSIBLE

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	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 30 OF 80	

# LTM4633

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



$V_{OUT} = 0.8V * (60.4K + R_{FB}) / R_{FB}$   
 $R_{FB} = 48.32K / (V_{OUT} - 0.8V)$

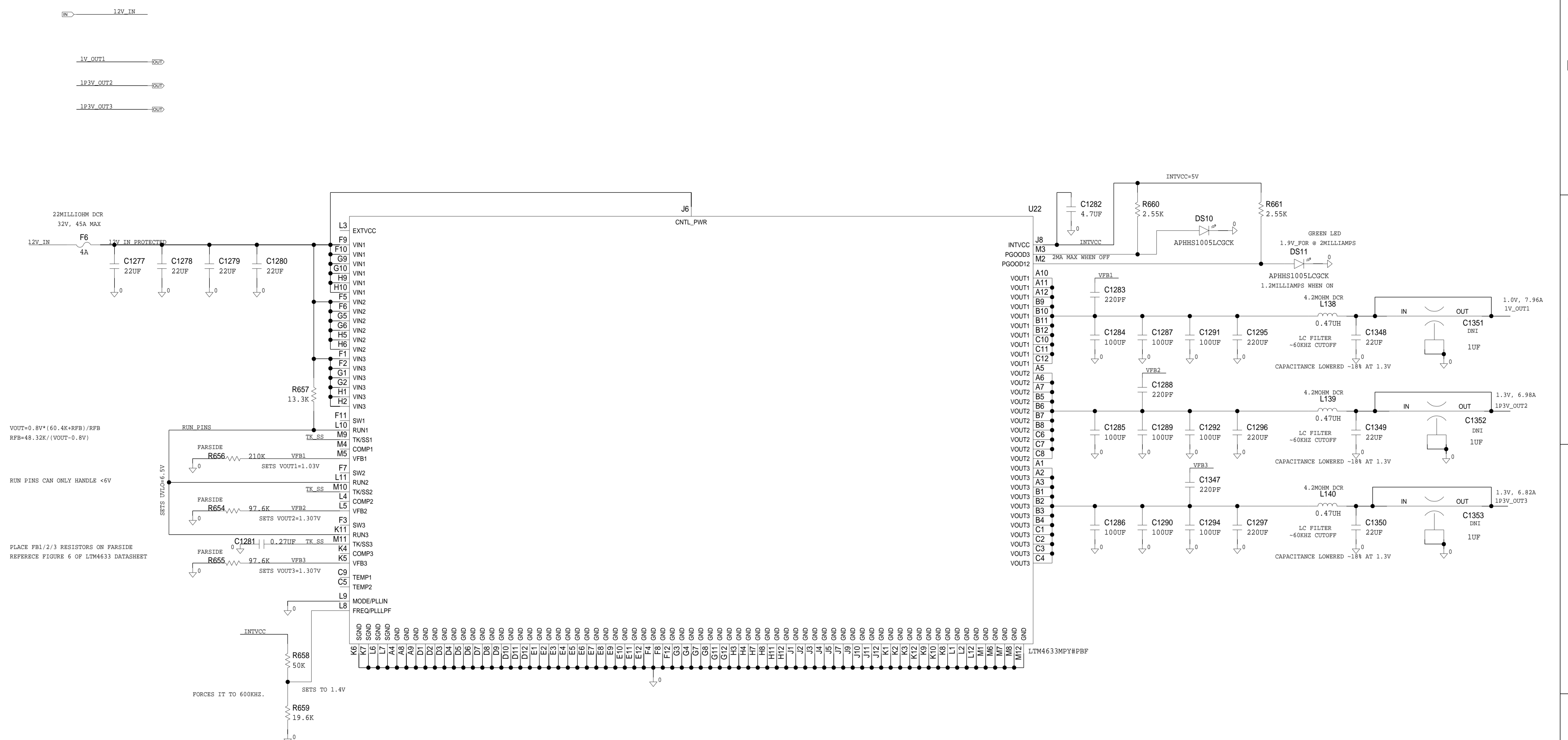
RUN PINS CAN ONLY HANDLE <6V

PLACE FB1/2/3 RESISTORS ON FAR SIDE  
REFERECE FIGURE 6 OF LTM4633 DATASHEET

	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 31 OF 80

# LTM4633

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



$V_{OUT} = 0.8V * (60.4K + R_{FB}) / R_{FB}$   
 $R_{FB} = 48.32K / (V_{OUT} - 0.8V)$

RUN PINS CAN ONLY HANDLE <6V

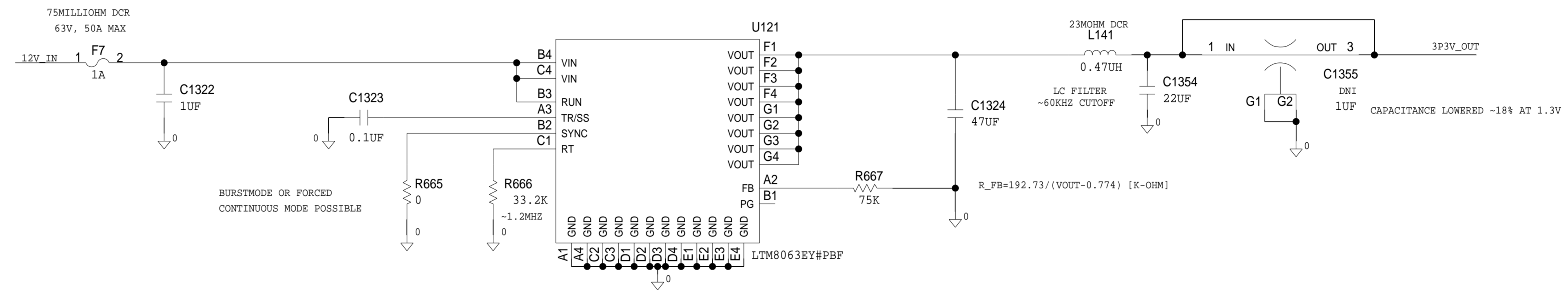
PLACE FB1/2/3 RESISTORS ON FAR SIDE  
REFERECE FIGURE 6 OF LTM4633 DATASHEET

	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 32 OF 80



# LTM8063 3.3V OUTPUT

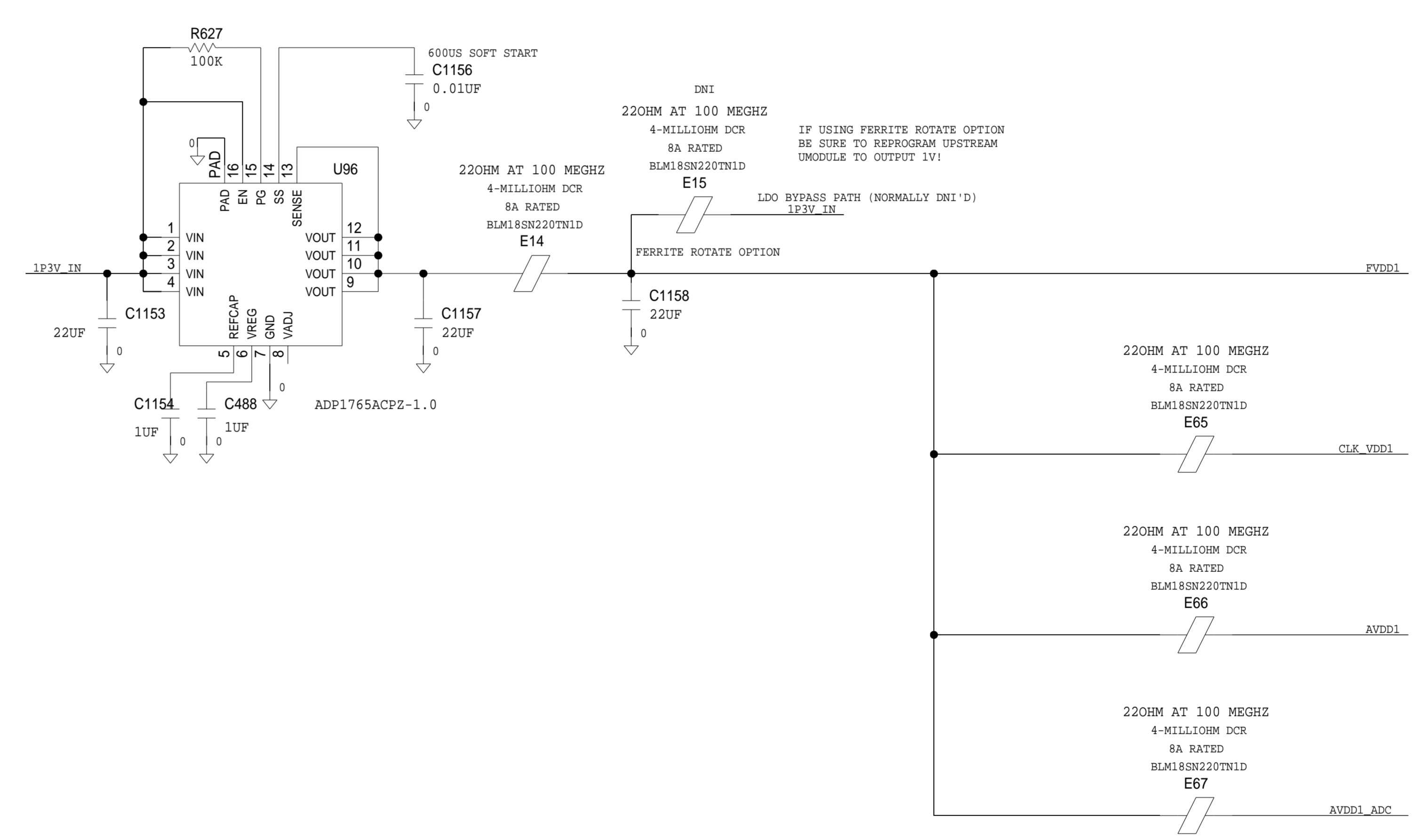
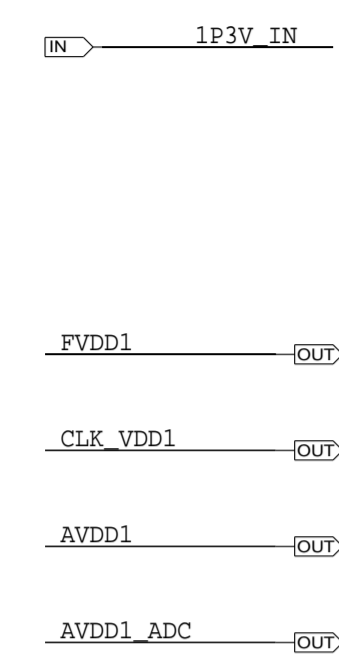
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



	<b>SCHEMATIC</b>		
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 33 OF 80	

# ADP1765ACPZ-1.0

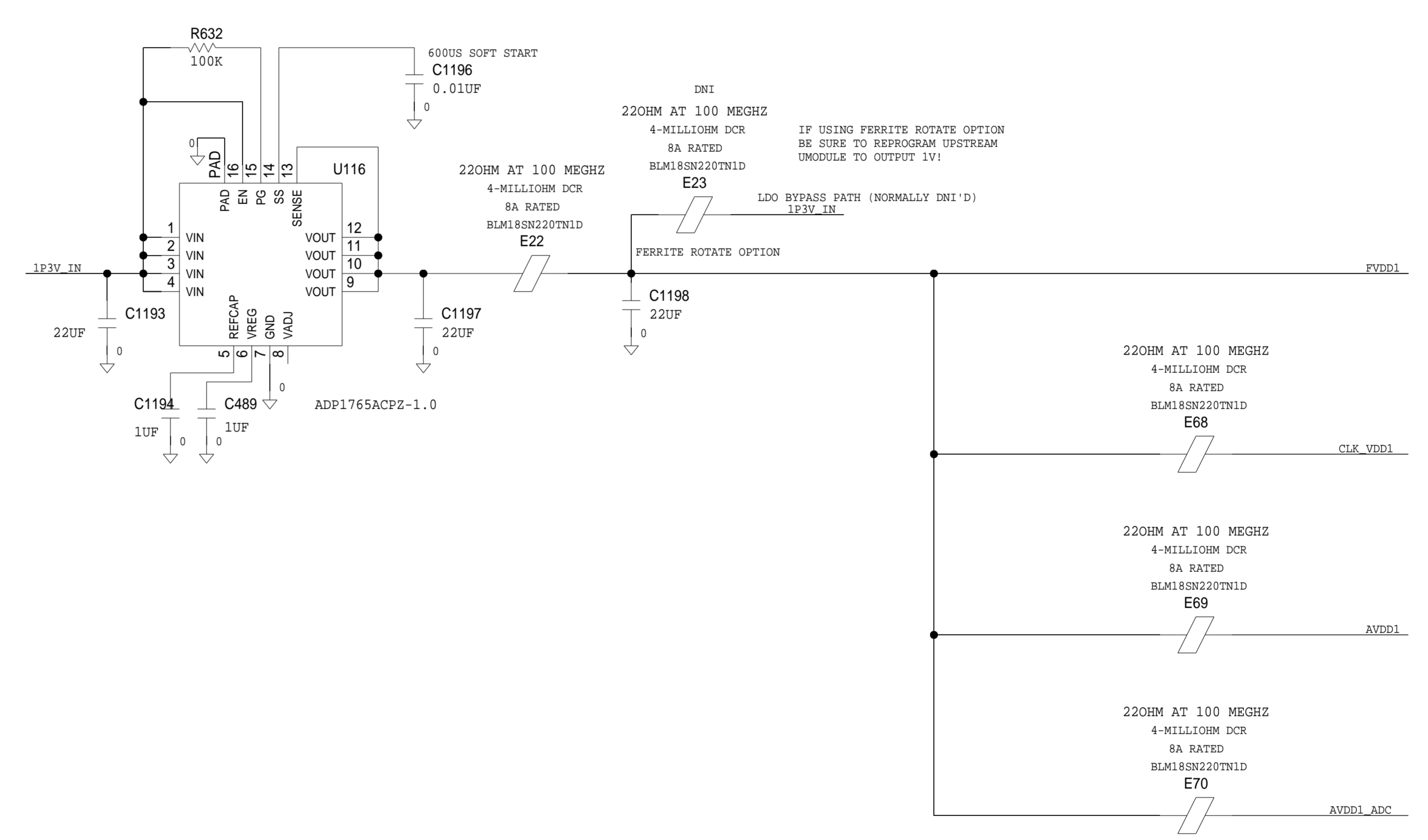
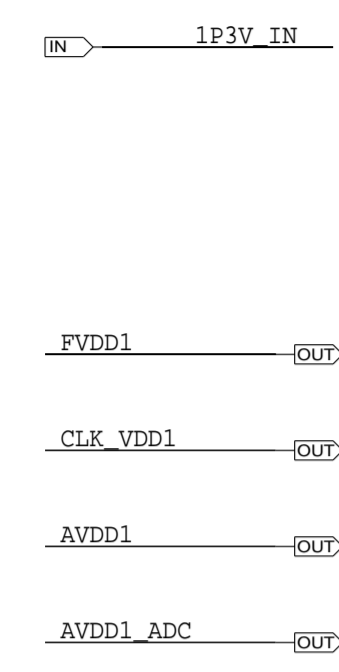
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 34 OF 80

# ADP1765ACPZ-1.0

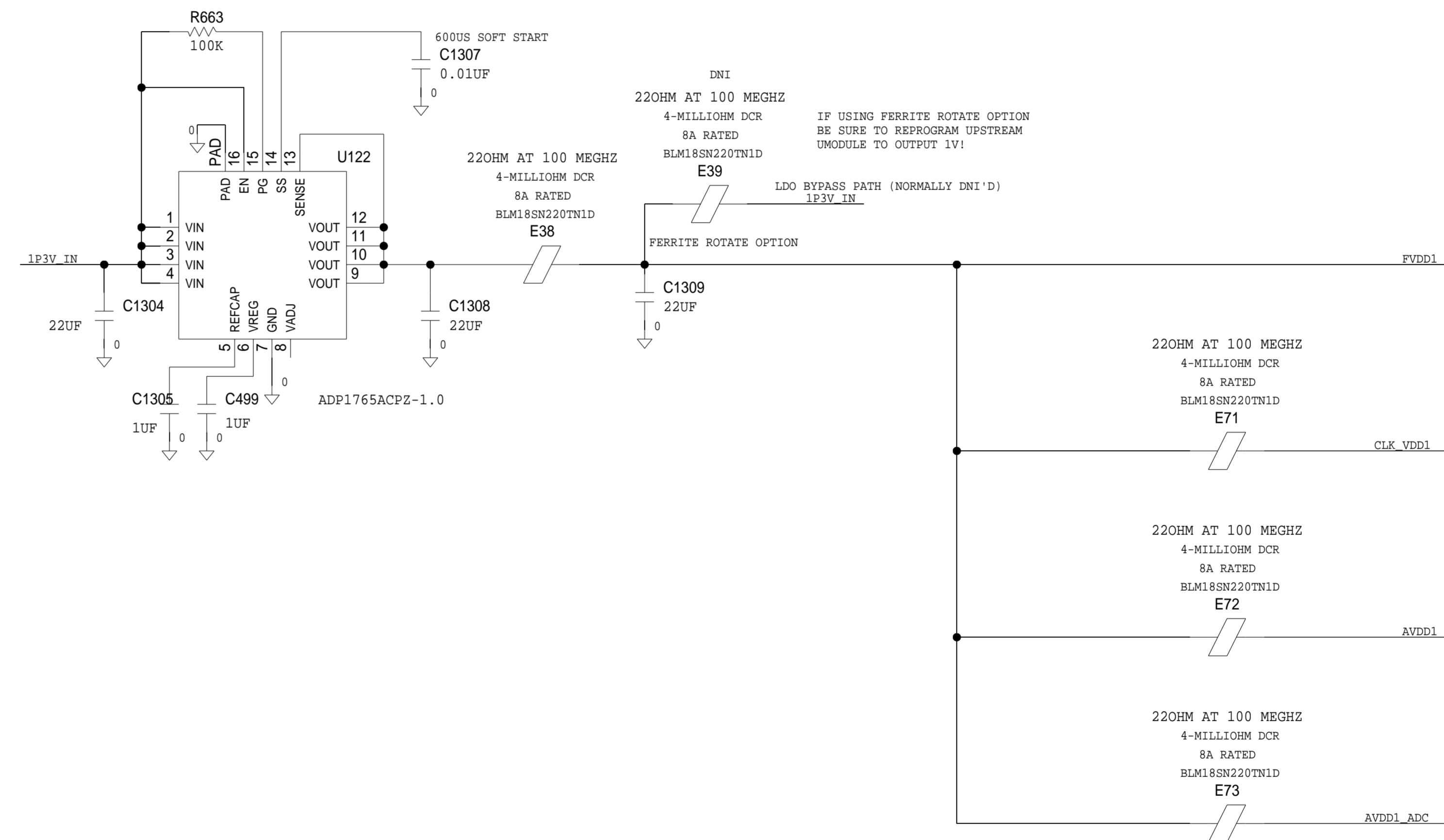
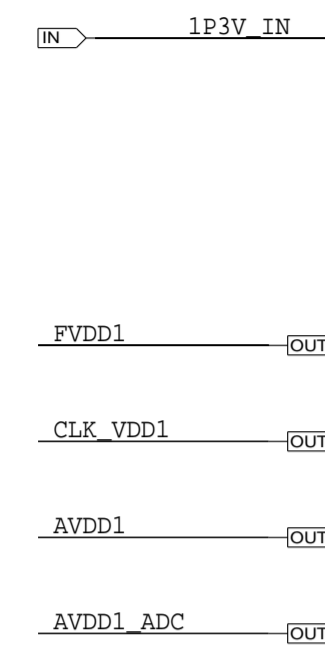
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



	<b>SCHEMATIC</b>		
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	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 35 OF 80	

# ADP1765ACPZ-1.0

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

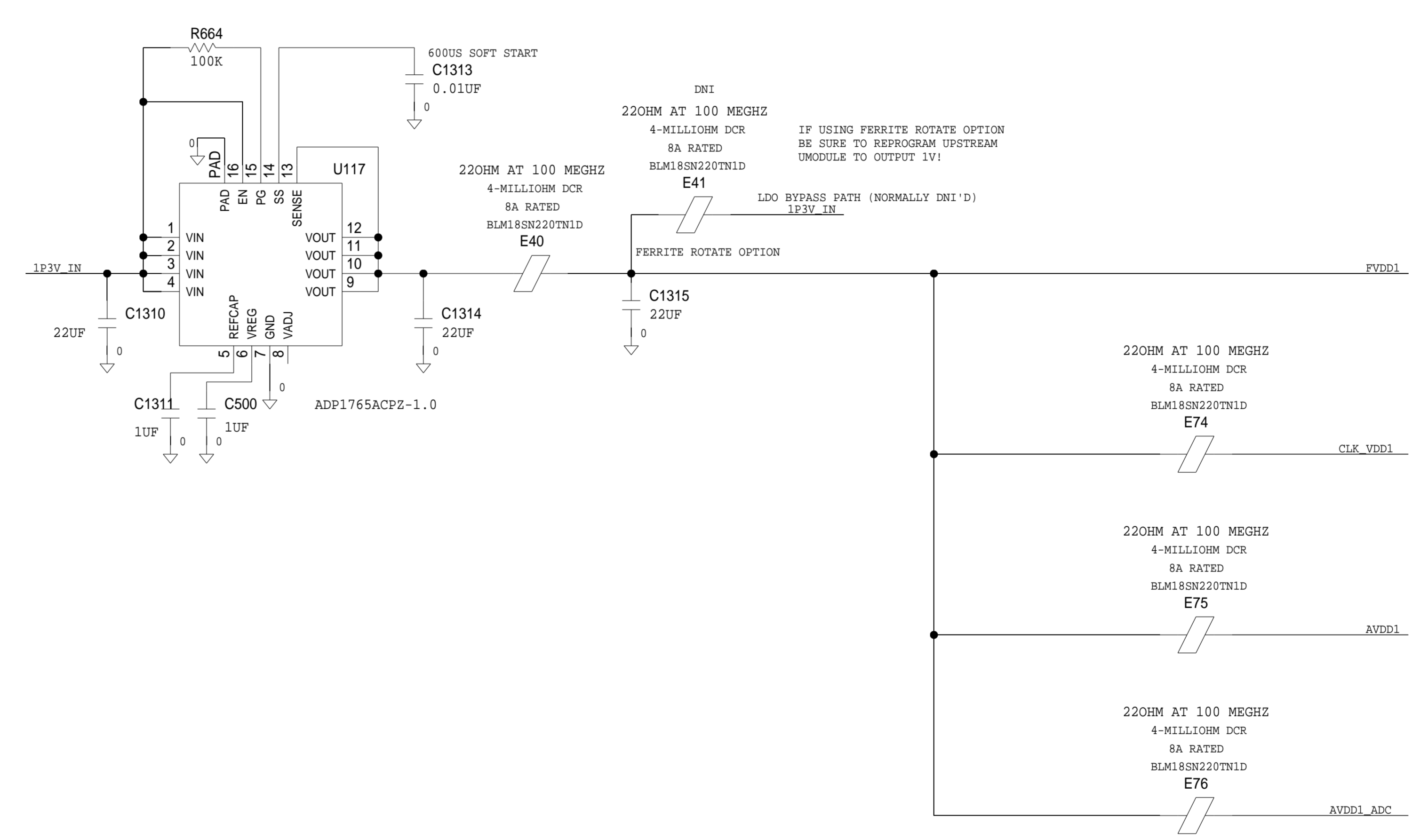


	<b>SCHEMATIC</b>		
	QUAD MxMx PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 36 OF 80	

# ADP1765ACPZ-1.0

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

1P3V\_IN  
 FVDD1  
 CLK\_VDD1  
 AVDD1  
 AVDD1\_ADC



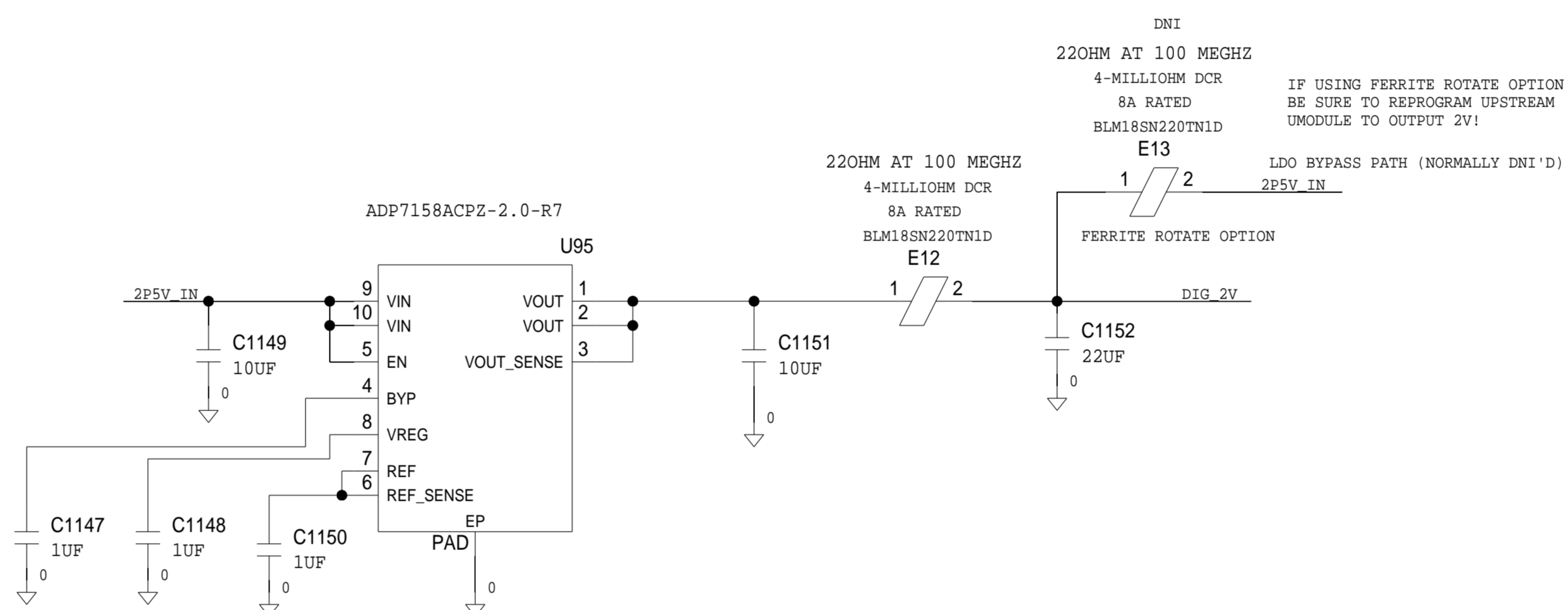
	<b>SCHEMATIC</b>		
	QUAD MxMx FE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

# ADP7158ACPZ-2.0-R7

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

2P5V\_IN

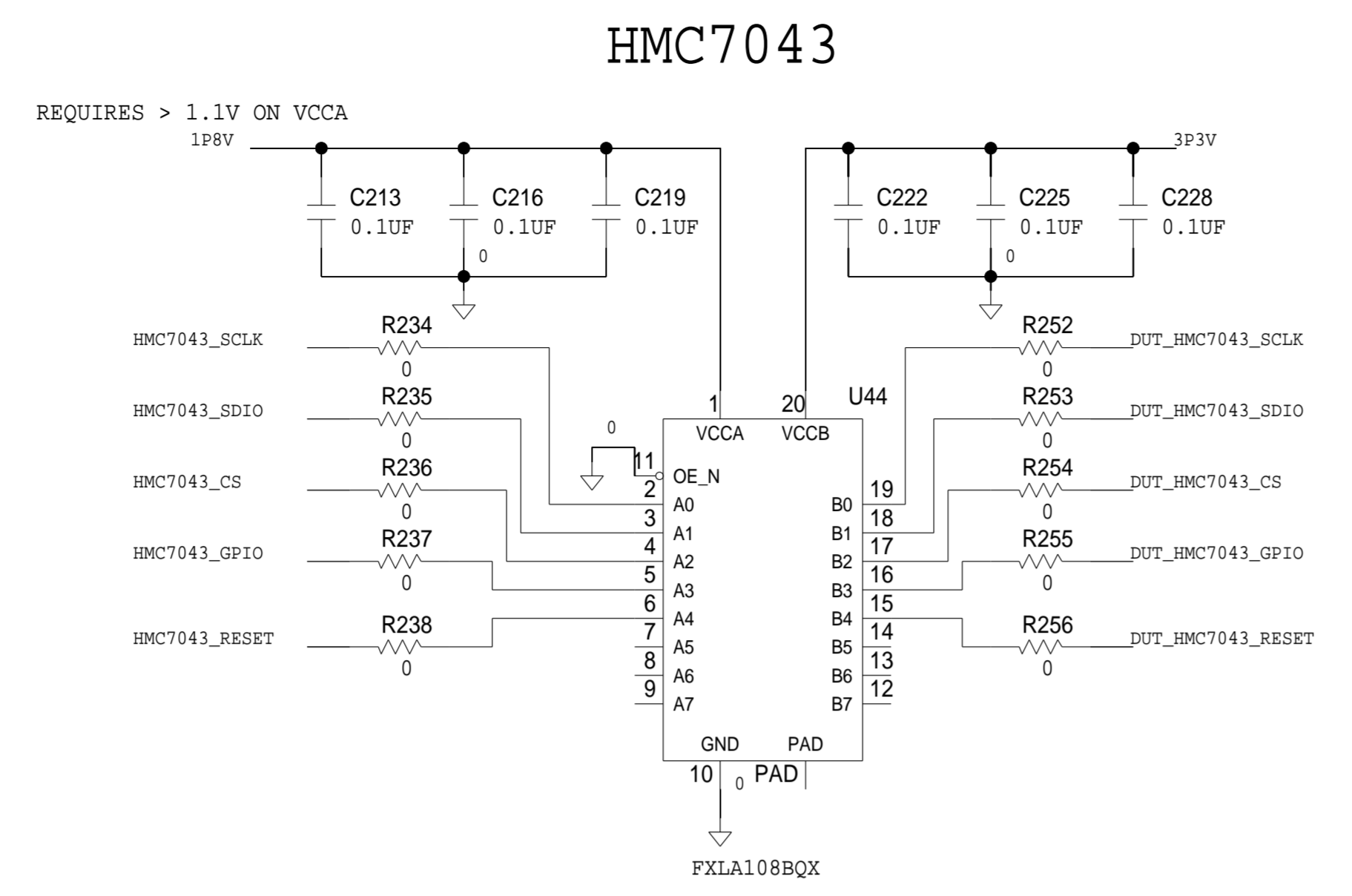
DIG\_2V



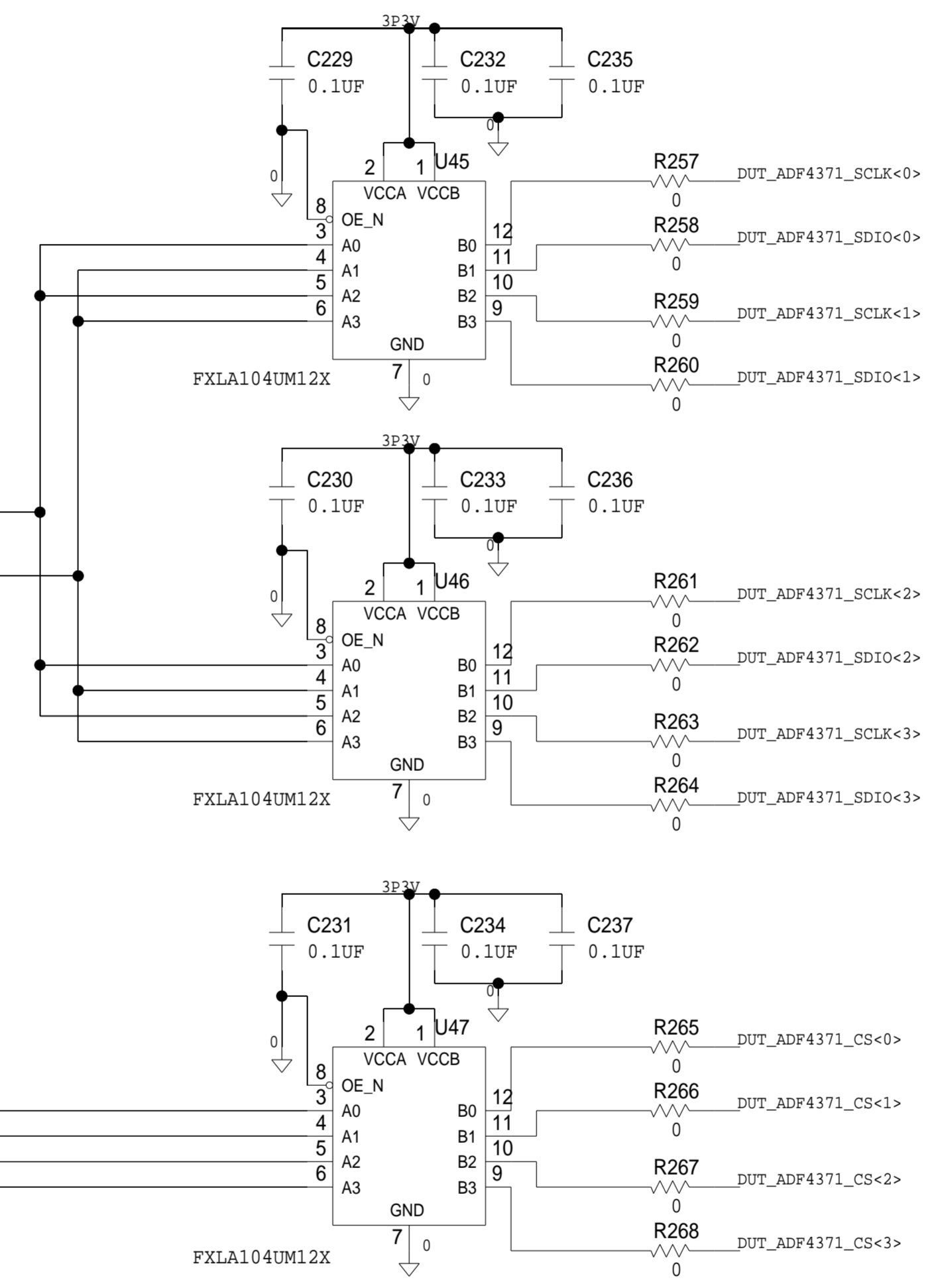
	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 38 OF 80	

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

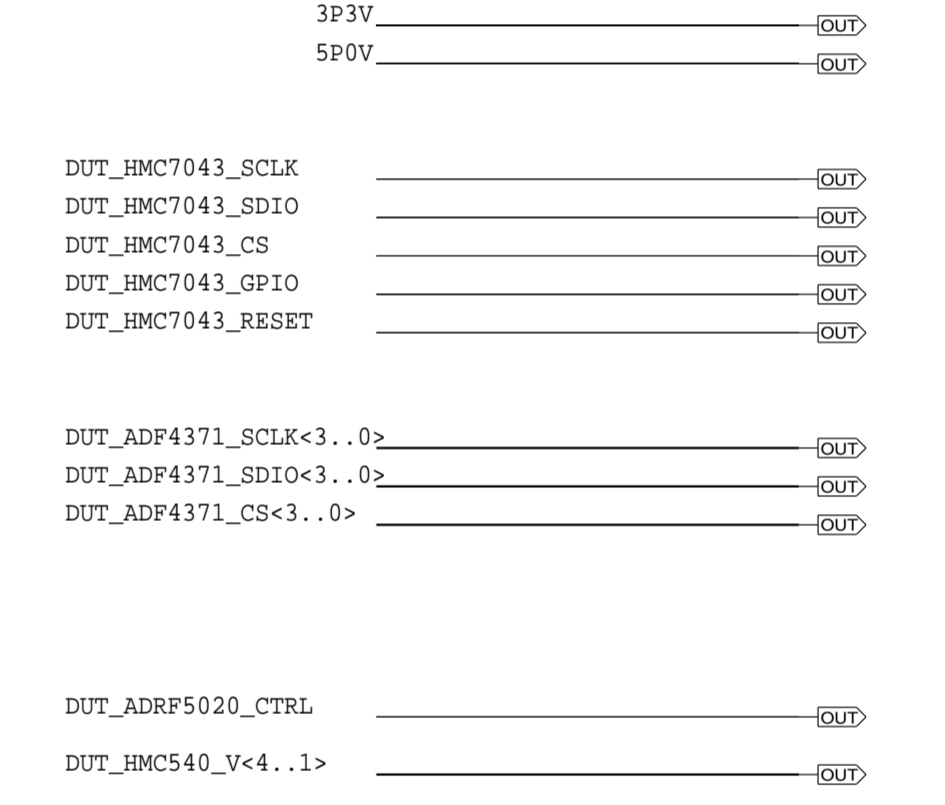
# LEVEL TRANSLATION



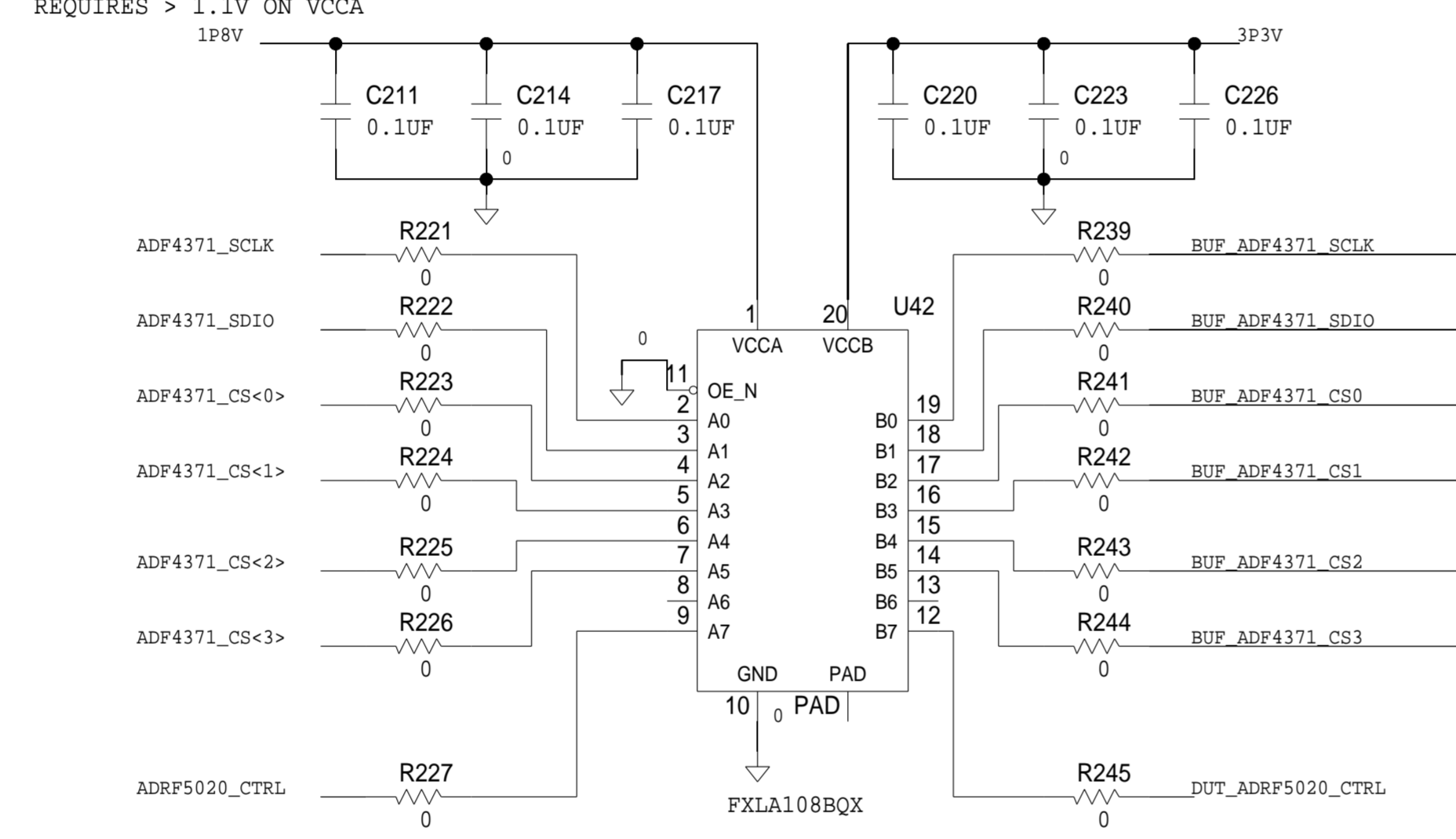
### ADF4371 SPI BUFFERING



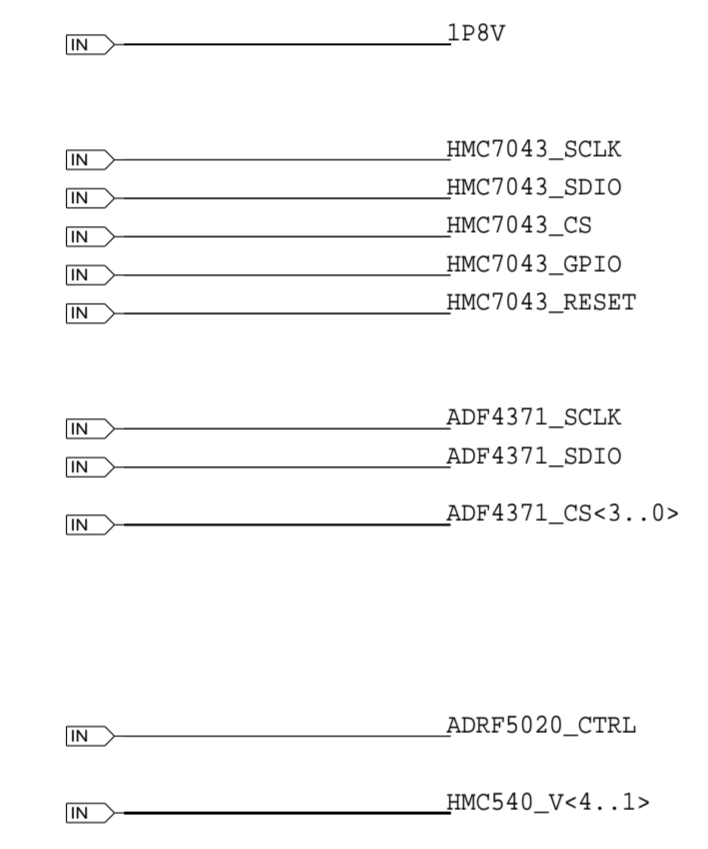
### OUT PORTS



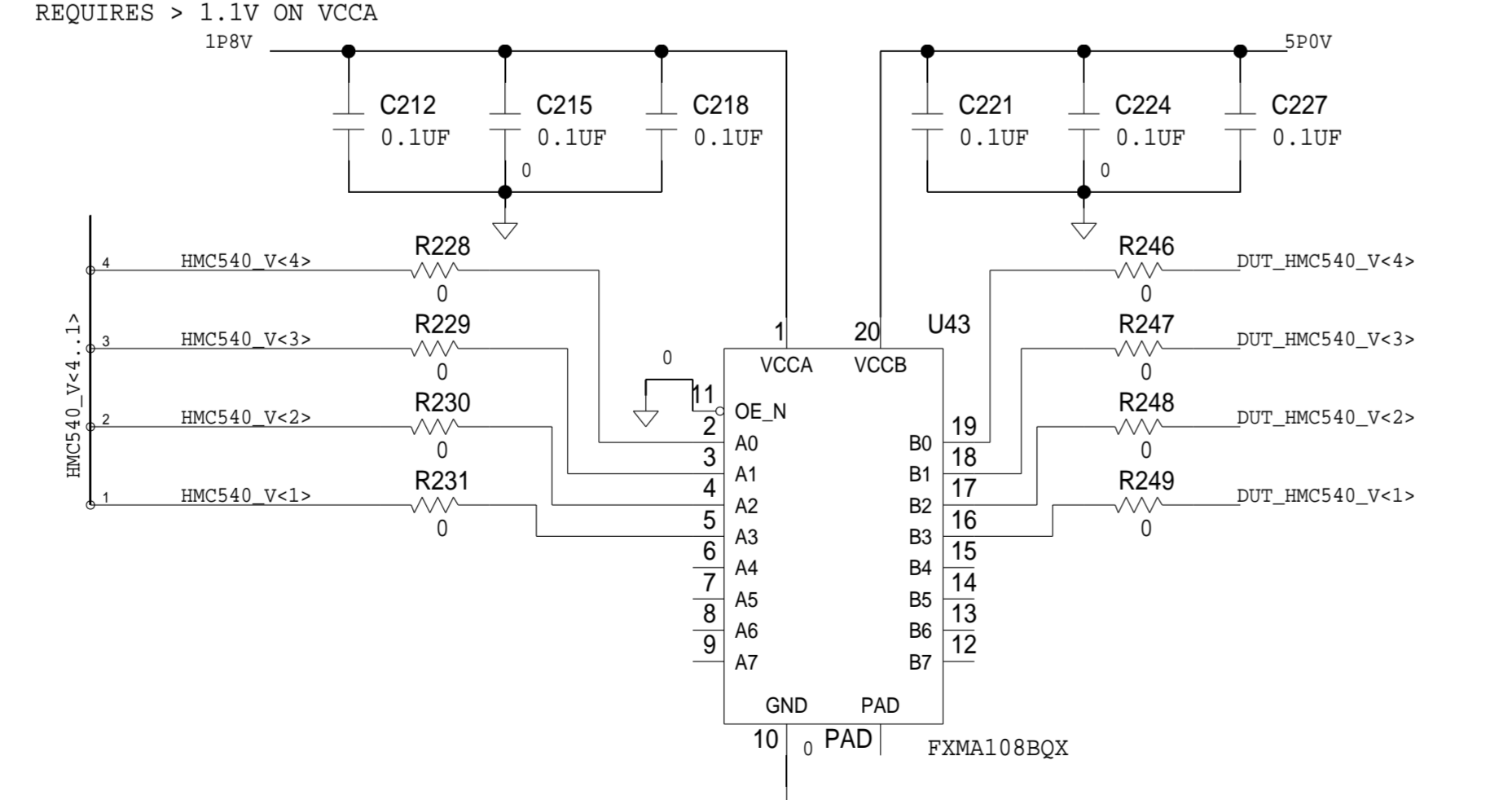
### ADRF5020 & ADF4371 PLLS



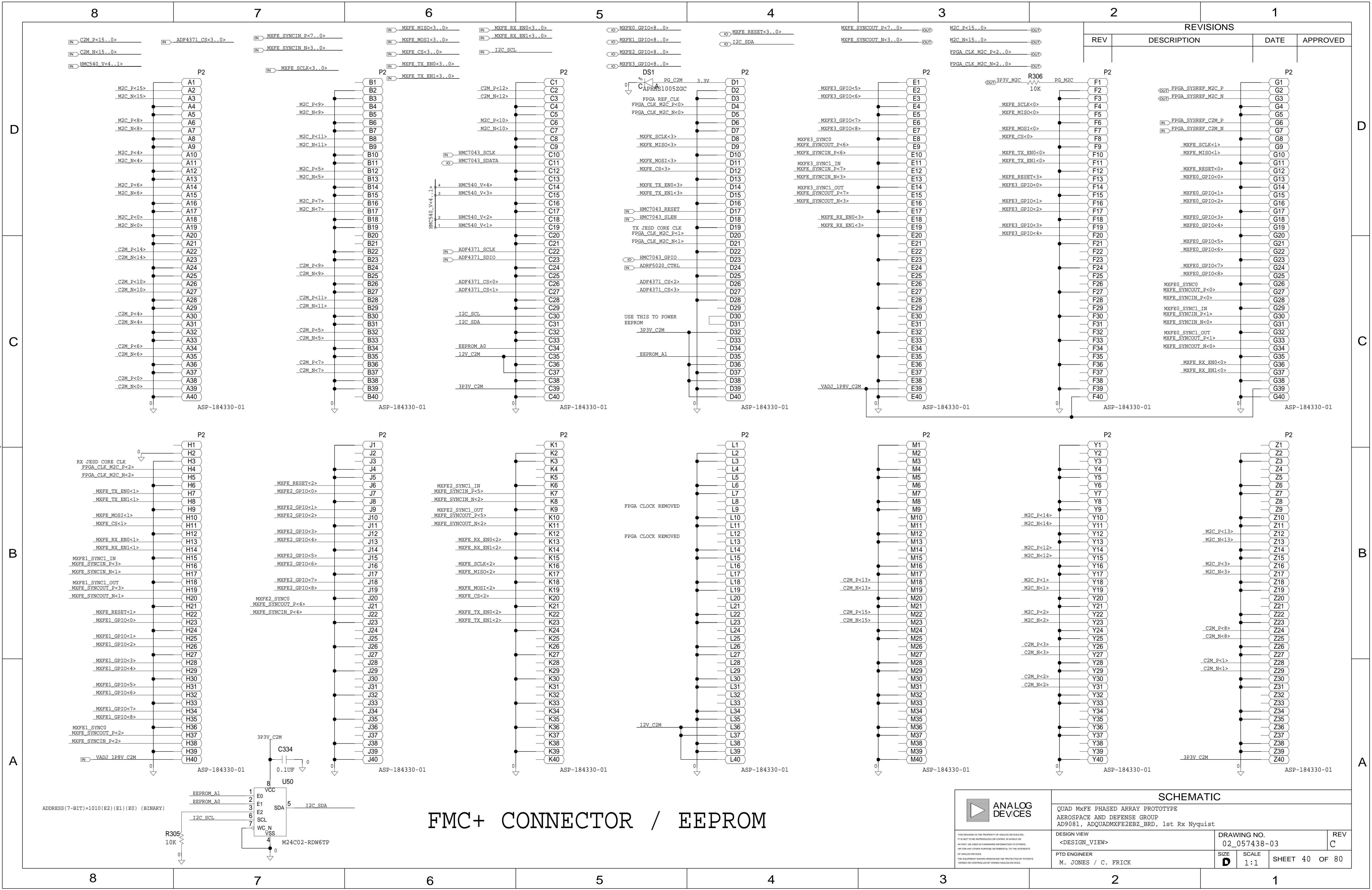
### IN PORTS



### HMC540 DSA



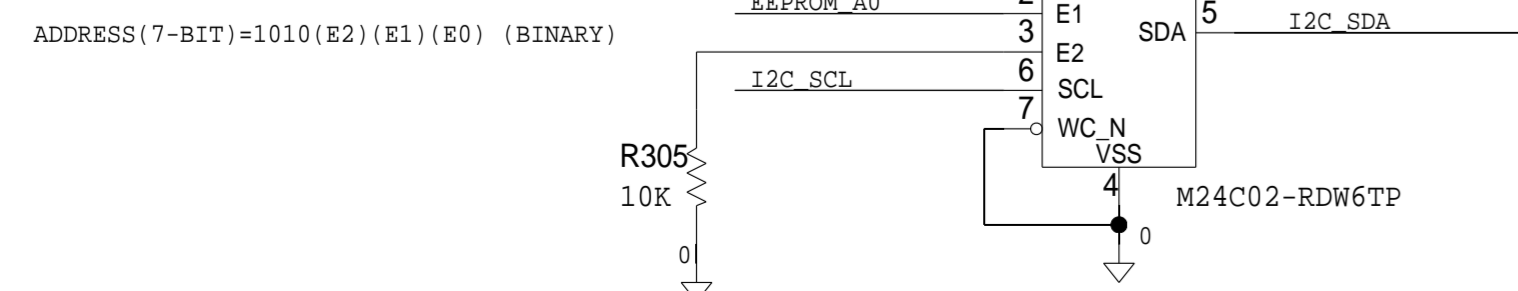
ANALOG DEVICES		SCHEMATIC		
QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist				
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C		
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 39 OF 80	



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

# FMC+ CONNECTOR / EEPROM

	<b>SCHEMATIC</b>		
	QUAD MXFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMXFE2EBZ_BRD, 1st Rx Nyquist		
DESIGN VIEW	DRAWING NO.	REV	
<DESIGN VIEW>	02_057438-03	C	
PTD ENGINEER	SIZE	SCALE	SHEET 40 OF 80
M. JONES / C. FRICK	D	1:1	



ADDRESS(7-BIT)=1010(E2)(E1)(E0) (BINARY)

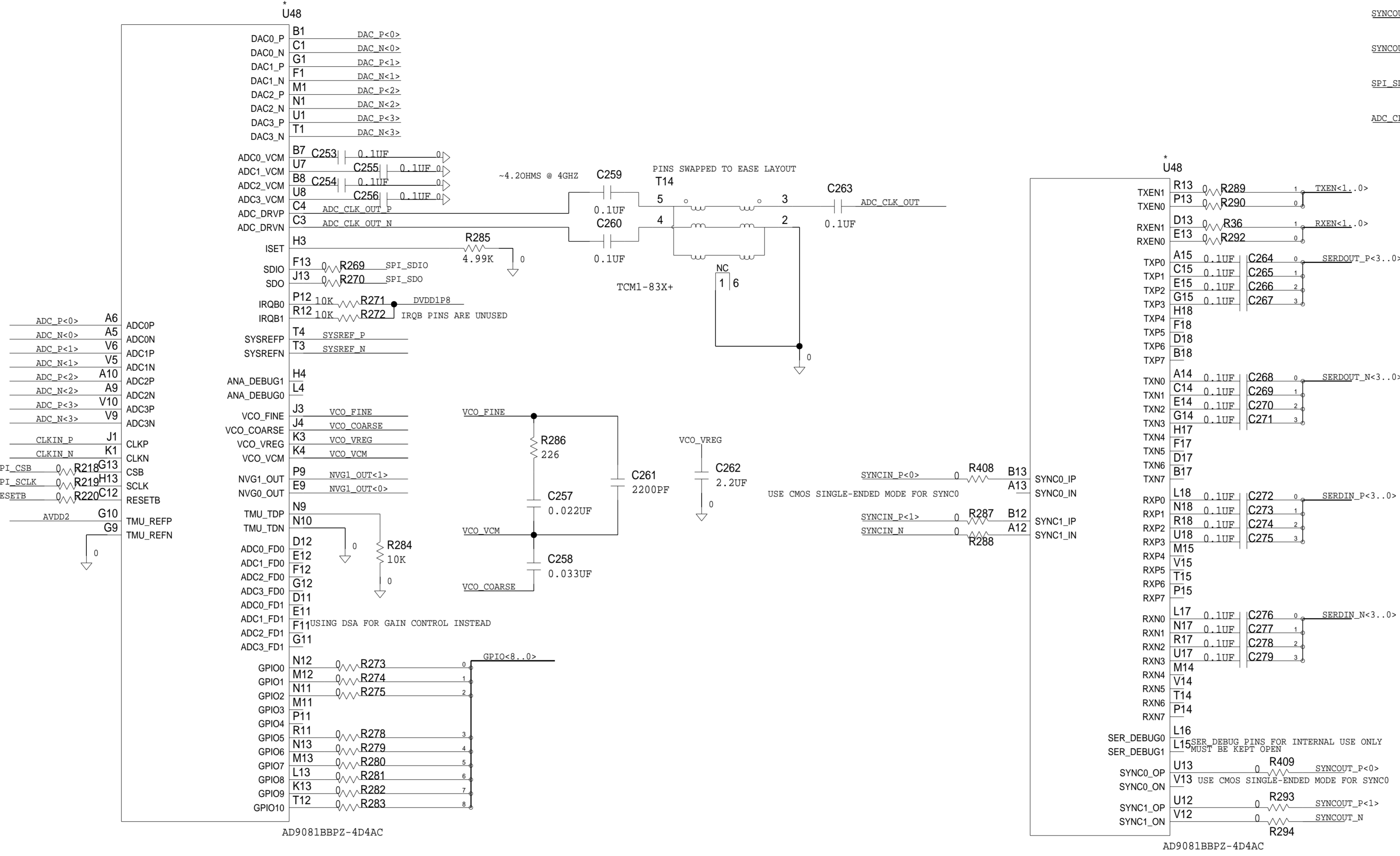


# MXFE INPUT / OUTPUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

- (IN) ADC\_P<3..0>
- (IN) ADC\_N<3..0>
- (IN) SERDIN\_P<3..0>
- (IN) SERDIN\_N<3..0>
- (IN) SYNCIN\_P<1..0>
- (IN) SYNCIN\_N
- (IN) RXEN<1..0>
- (IN) TXEN<1..0>
- (IN) SYSREF\_P
- (IN) SYSREF\_N
- (IN) RESETB
- (IN) CLKIN\_P
- (IN) CLKIN\_N
- (IN) SPI\_CS
- (IN) SPI\_SCLK
- (IN) GPIO<8..0>

- (OUT) DAC\_P<3..0>
- (OUT) DAC\_N<3..0>
- (OUT) SERDOU<P<3..0>
- (OUT) SERDOU<N<3..0>
- (OUT) SYNCOUT\_P<1..0>
- (OUT) SYNCOUT\_N
- (OUT) SPI\_SDO
- (OUT) ADC\_CLK\_OUT



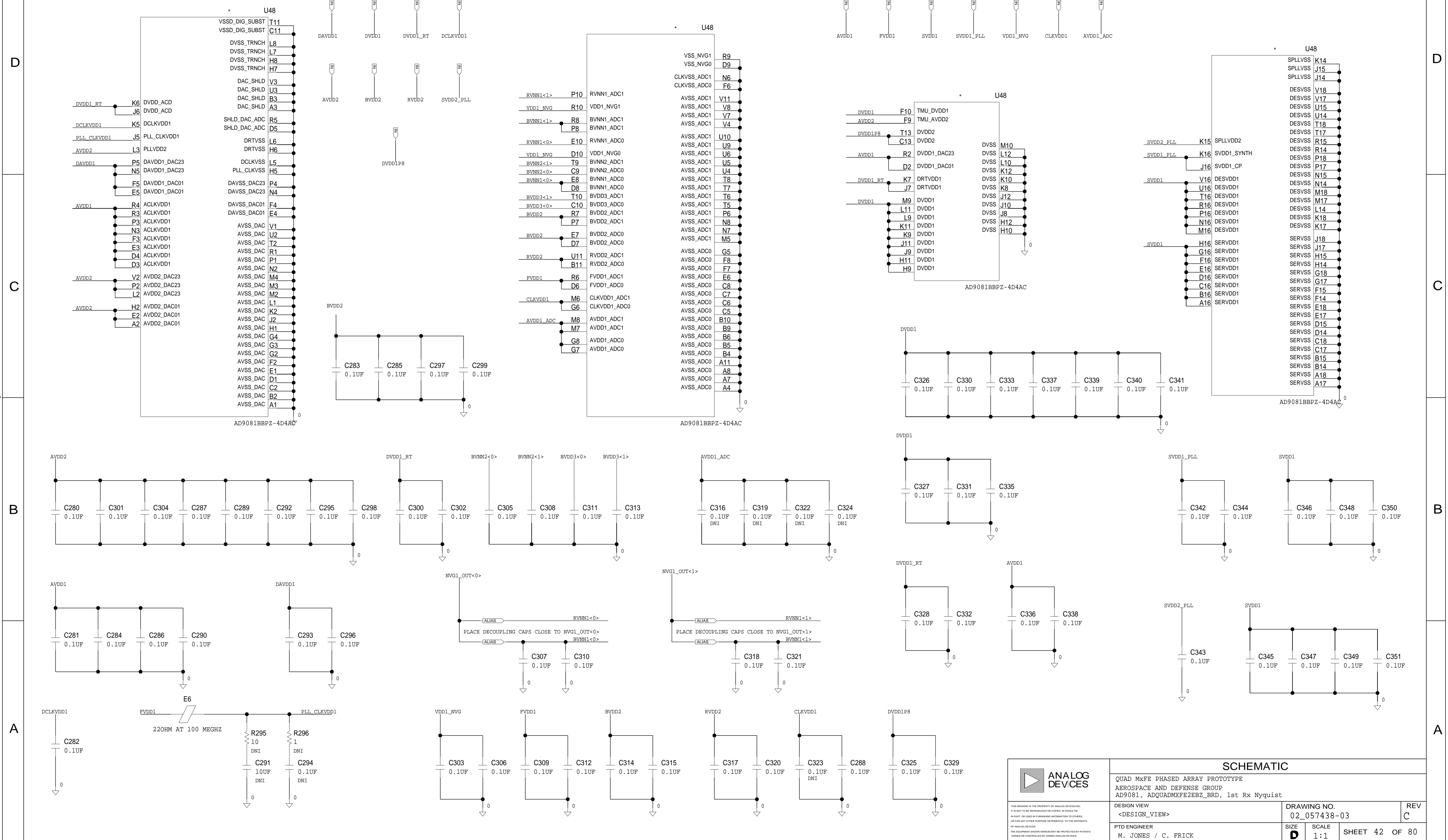
- ADC\_P<0> A6 ADC0P
- ADC\_N<0> A5 ADC0N
- ADC\_P<1> V6 ADC1P
- ADC\_N<1> V5 ADC1N
- ADC\_P<2> A10 ADC2P
- ADC\_N<2> A9 ADC2N
- ADC\_P<3> V10 ADC3P
- ADC\_N<3> V9 ADC3N
- CLKIN\_P J1 CLKP
- CLKIN\_N K1 CLKN
- SPI\_CS R218 G13 CSB
- SPI\_SCLK R219 H13 SCLK
- RESETB R220 C12 RESETB
- AVDD2 G10 TMU\_REFP
- TMU\_REFN G9 TMU\_REFN

- TXEN1 R13
- TXEN0 P13
- RXEN1 D13
- RXEN0 E13
- TXP0 A15
- TXP1 C15
- TXP2 E15
- TXP3 G15
- TXP4 H18
- TXP5 D18
- TXP6 B18
- TXP7 B18
- TXN0 A14
- TXN1 C14
- TXN2 E14
- TXN3 G14
- TXN4 H17
- TXN5 D17
- TXN6 B17
- TXN7 B17
- RXP0 L18
- RXP1 N18
- RXP2 R18
- RXP3 U18
- RXP4 M15
- RXP5 V15
- RXP6 T15
- RXP7 P15
- RXN0 L17
- RXN1 N17
- RXN2 R17
- RXN3 U17
- RXN4 M14
- RXN5 V14
- RXN6 T14
- RXN7 P14
- SER\_DEBUG0 L16
- SER\_DEBUG1 L16
- SYNC0\_OP U13
- SYNC0\_ON V13
- SYNC1\_OP U12
- SYNC1\_ON V12

	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
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PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 41 OF 80

# MXFE SUPPLIES

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



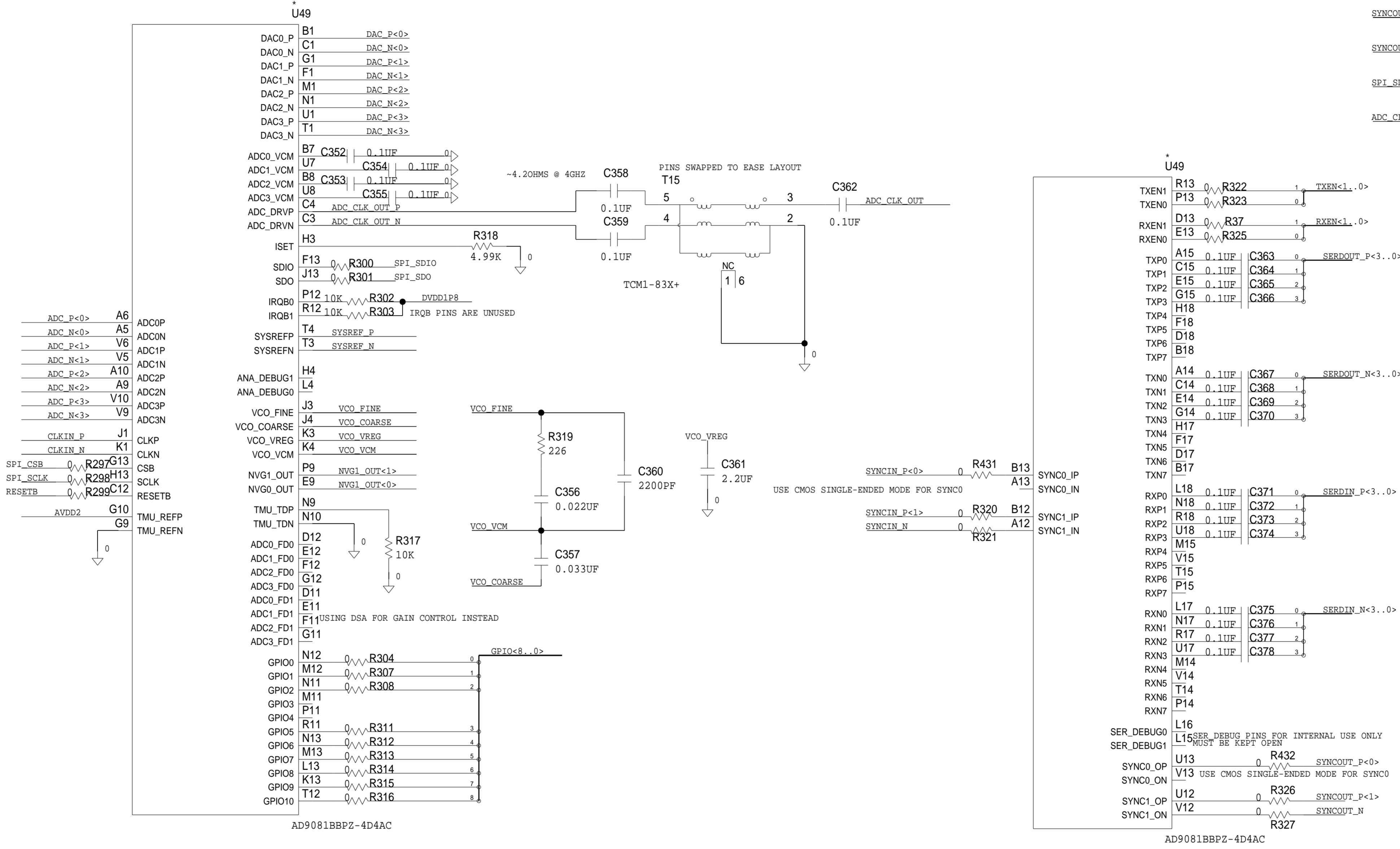
<p>ANALOG DEVICES</p> <p><small>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN ANY MANNER THAT IS DETRIMENTAL TO THE INTERESTS OF ANALOG DEVICES. THE EQUIPMENT SHOWN HEREIN MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY ANALOG DEVICES.</small></p>	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 42 OF 80

# MXFE INPUT / OUTPUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

- (IN) ADC\_P<3..0>
- (IN) ADC\_N<3..0>
- (IN) SERDIN\_P<3..0>
- (IN) SERDIN\_N<3..0>
- (IN) SYNCIN\_P<1..0>
- (IN) SYNCIN\_N
- (IN) RXEN<1..0>
- (IN) TXEN<1..0>
- (IN) SYSREF\_P
- (IN) SYSREF\_N
- (IN) RESETB
- (IN) CLKIN\_P
- (IN) CLKIN\_N
- (IN) SPI\_CS
- (IN) SPI\_SCLK
- (IN) GPIO<8..0>

- (OUT) DAC\_P<3..0>
- (OUT) DAC\_N<3..0>
- (OUT) SERDOU<P<3..0>
- (OUT) SERDOU<N<3..0>
- (OUT) SYNCOUT\_P<1..0>
- (OUT) SYNCOUT\_N
- (OUT) SPI\_SDO
- (OUT) ADC\_CLK\_OUT



	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 43 OF 80

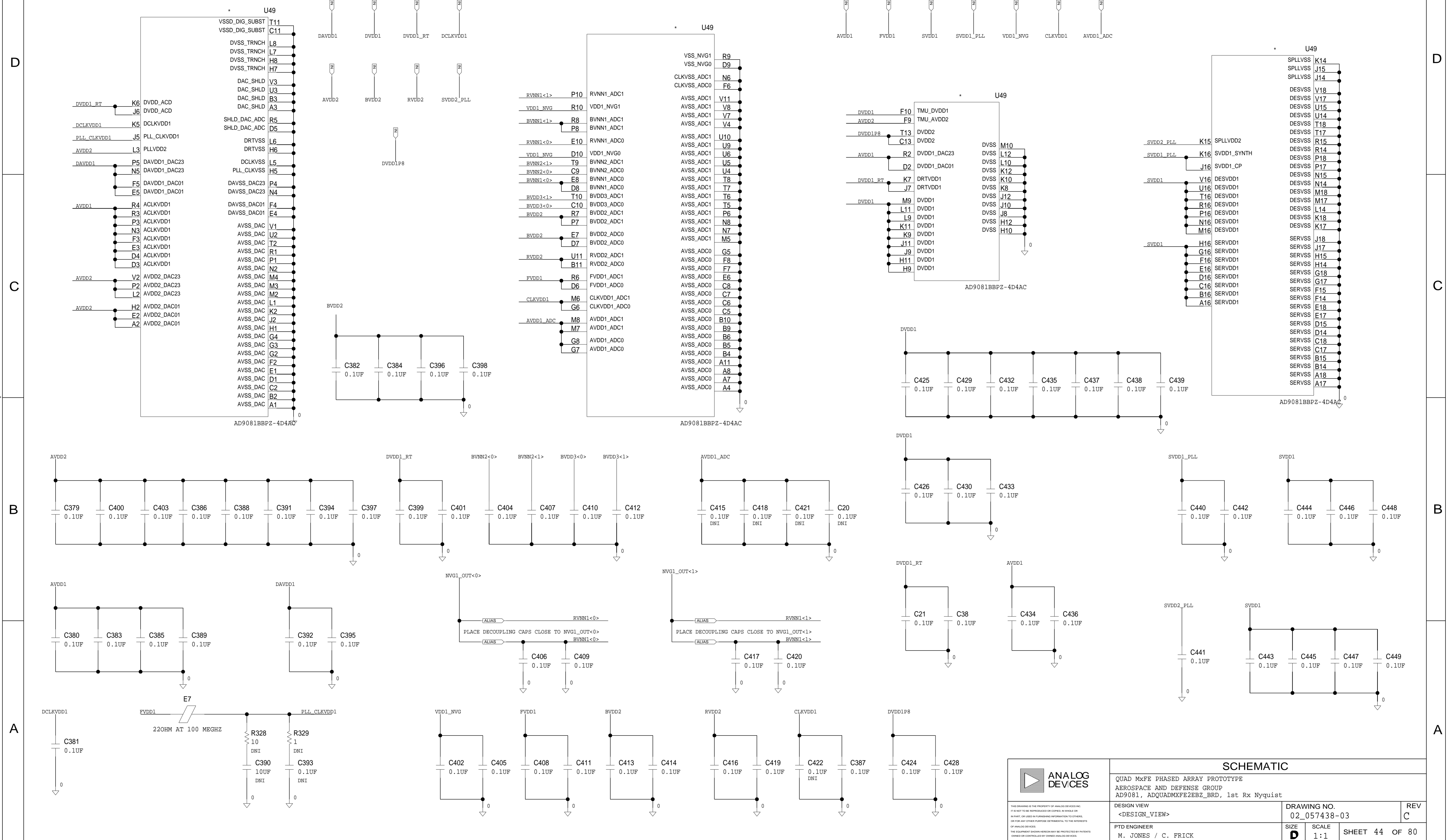
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# MXFE SUPPLIES

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

D  
C  
B  
A

D  
C  
B  
A



SCHEMATIC			
QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist			
DESIGN VIEW <DESIGN VIEW>	DRAWING NO. 02_057438-03	REV C	
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 44 OF 80

ANALOG DEVICES

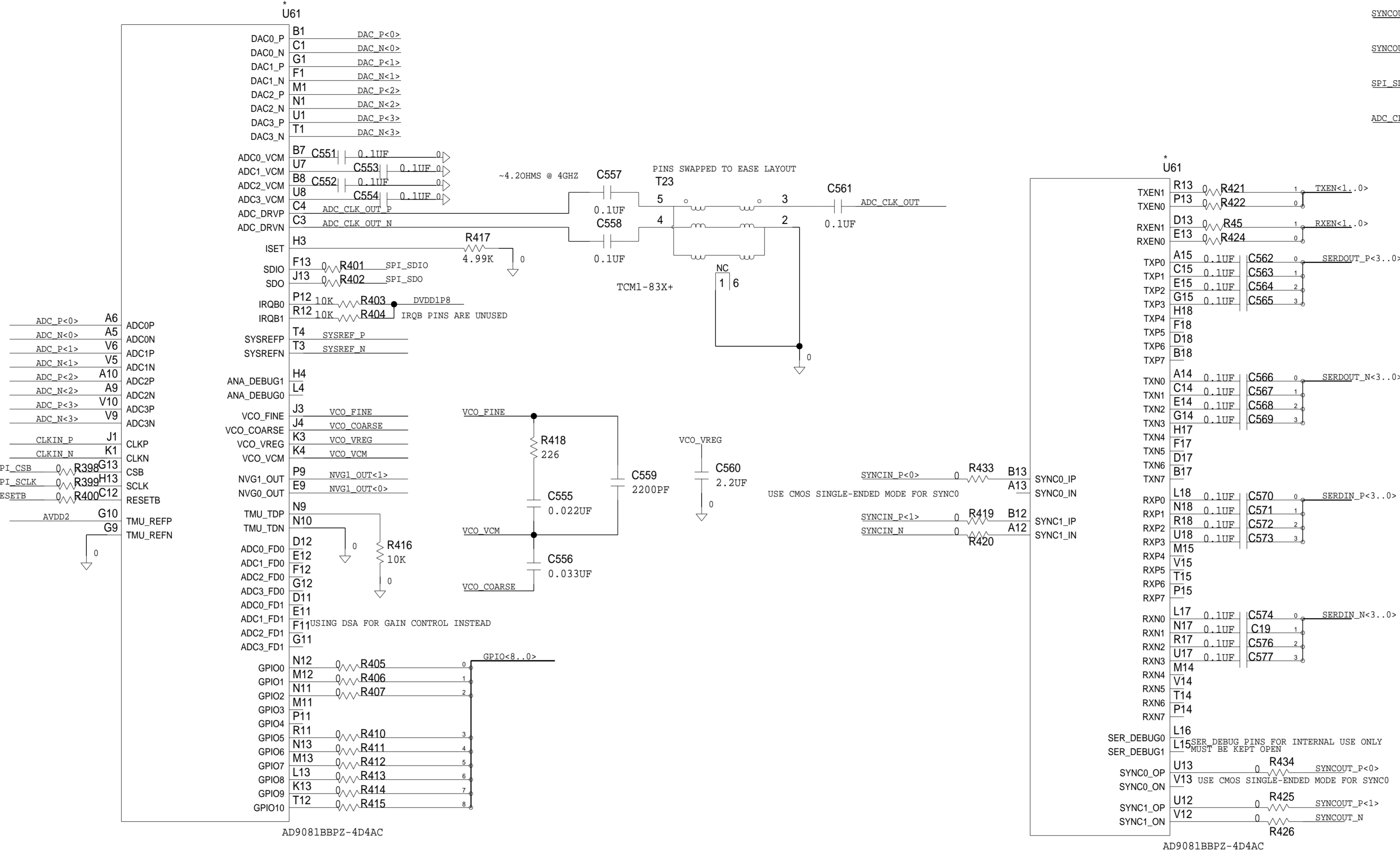
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# MXFE INPUT / OUTPUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

- (IN) ADC\_P<3..0>
- (IN) ADC\_N<3..0>
- (IN) SERDIN\_P<3..0>
- (IN) SERDIN\_N<3..0>
- (IN) SYNCIN\_P<1..0>
- (IN) SYNCIN\_N
- (IN) RXEN<1..0>
- (IN) TXEN<1..0>
- (IN) SYSREF\_P
- (IN) SYSREF\_N
- (IN) RESETB
- (IN) CLKIN\_P
- (IN) CLKIN\_N
- (IN) SPI\_CS
- (IN) SPI\_SCLK
- (IN) GPIO<8..0>

- (OUT) DAC\_P<3..0>
- (OUT) DAC\_N<3..0>
- (OUT) SERDOU<P<3..0>
- (OUT) SERDOU<N<3..0>
- (OUT) SYNCOUT\_P<1..0>
- (OUT) SYNCOUT\_N
- (OUT) SPI\_SDO
- (OUT) ADC\_CLK\_OUT



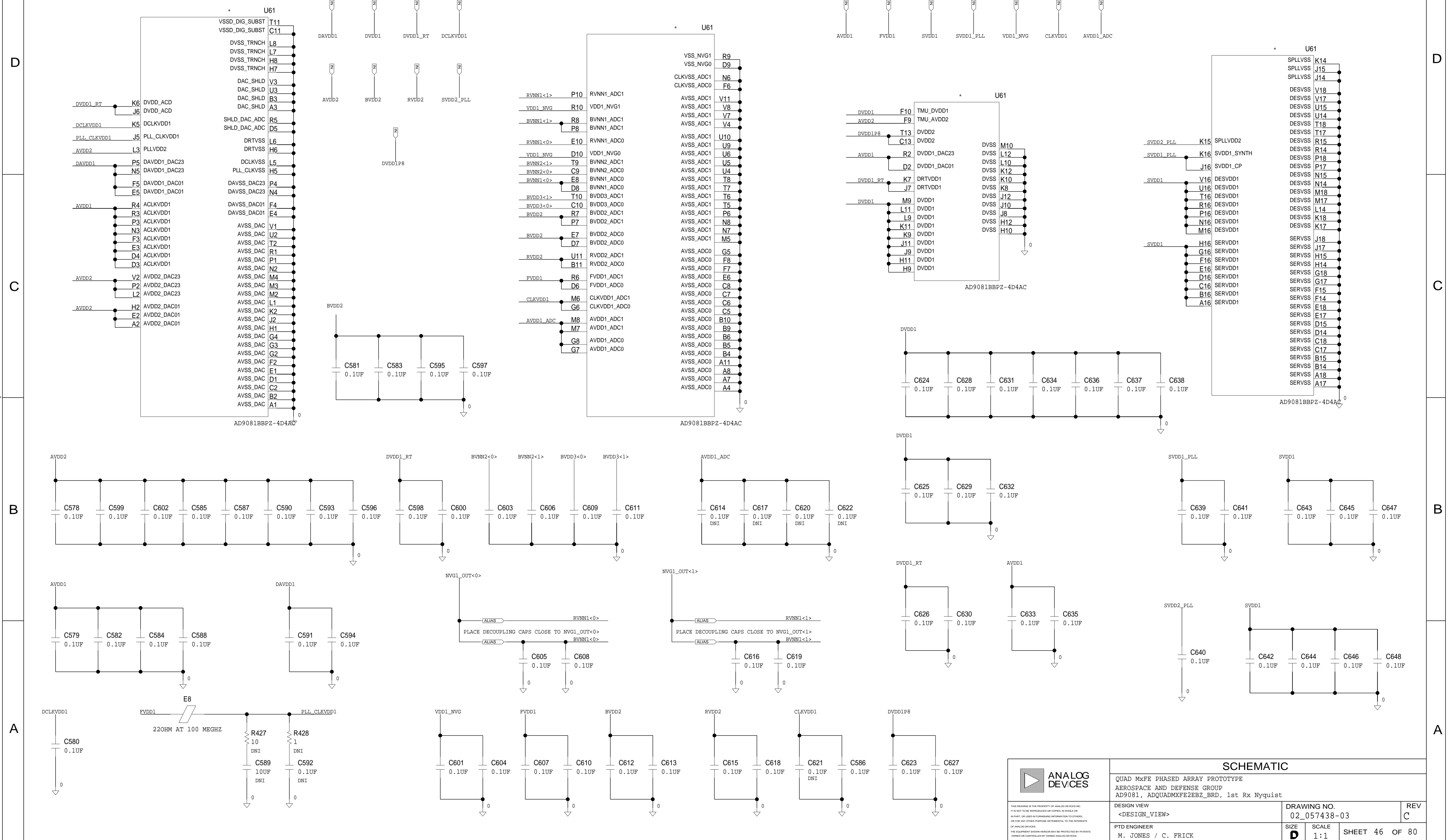
ADC_P<0>	A6	ADCOP
ADC_N<0>	A5	ADCON
ADC_P<1>	V6	ADC1P
ADC_N<1>	V5	ADC1N
ADC_P<2>	A10	ADC2P
ADC_N<2>	A9	ADC2N
ADC_P<3>	V10	ADC3P
ADC_N<3>	V9	ADC3N
CLKIN_P	J1	CLKP
CLKIN_N	K1	CLKN
SPI_CS	R398	G13
SPI_SCLK	R399	H13
RESETB	R400	C12
AVDD2	G10	
	G9	

TXEN1	R13	R421	1	TXEN<1..0>
TXEN0	P13	R422	0	
RXEN1	D13	R45	1	RXEN<1..0>
RXEN0	E13	R424	0	
TXP0	A15	C562	0	SERDOU<P<3..0>
TXP1	C15	C563	1	
TXP2	E15	C564	2	
TXP3	G15	C565	3	
TXP4	H18			
TXP5	F18			
TXP6	D18			
TXP7	B18			
TXN0	A14	C566	0	SERDOU<N<3..0>
TXN1	C14	C567	1	
TXN2	E14	C568	2	
TXN3	G14	C569	3	
TXN4	H17			
TXN5	F17			
TXN6	D17			
TXN7	B17			
RXP0	L18	C570	0	SERDIN<P<3..0>
RXP1	N18	C571	1	
RXP2	R18	C572	2	
RXP3	U18	C573	3	
RXP4	M15			
RXP5	V15			
RXP6	T15			
RXP7	P15			
RXN0	L17	C574	0	SERDIN<N<3..0>
RXN1	N17	C19	1	
RXN2	R17	C576	2	
RXN3	U17	C577	3	
RXN4	M14			
RXN5	V14			
RXN6	T14			
RXN7	P14			
SER_DEBUG0	L16			
SER_DEBUG1	L15			
SYNC0_OP	U13	R434		SYNCOUT_P<0>
SYNC0_ON	V13			
SYNC1_OP	U12	R425		SYNCOUT_P<1>
SYNC1_ON	V12			

	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 45 OF 80

# MXFE SUPPLIES

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 46 OF 80

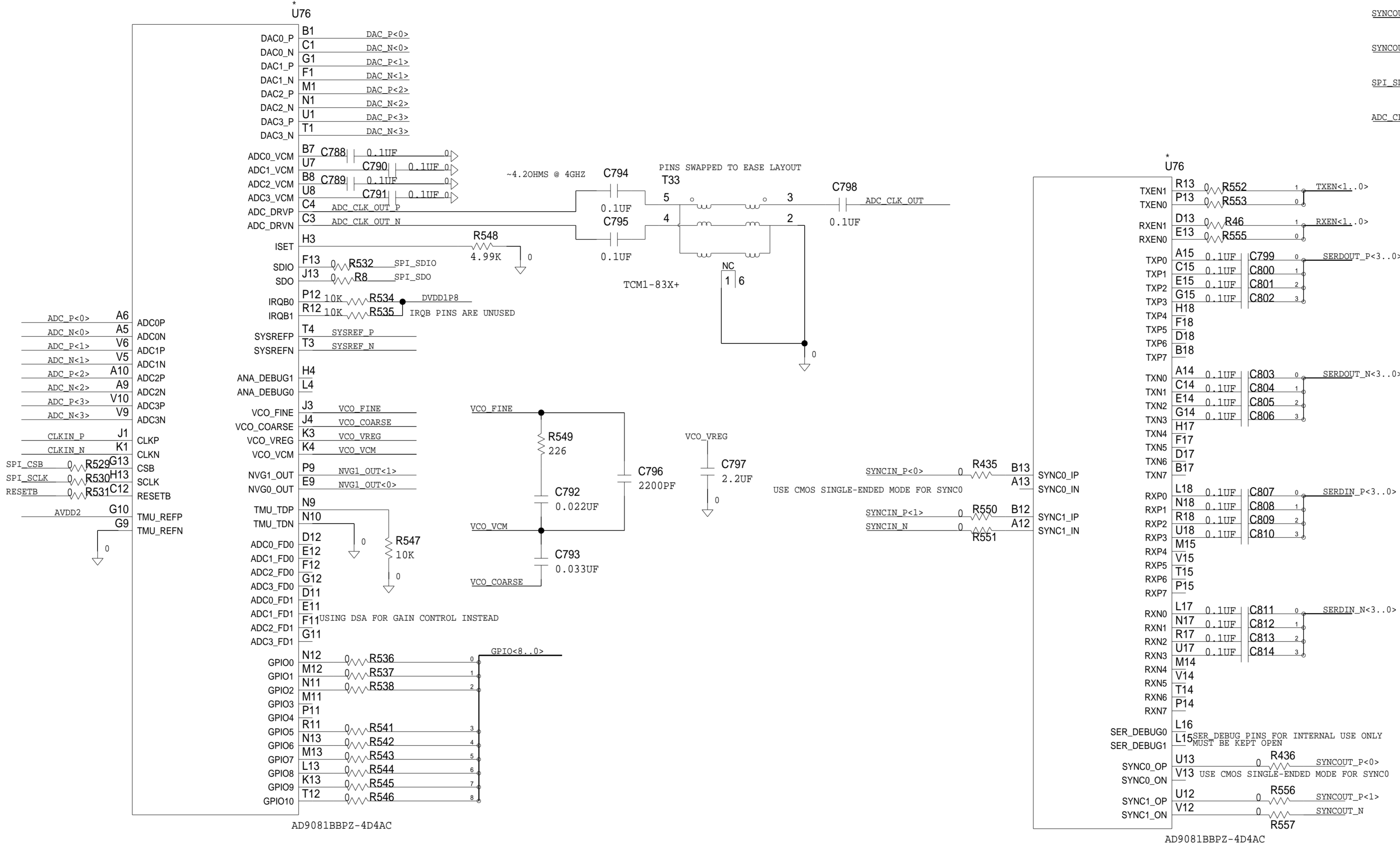
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# MXFE INPUT / OUTPUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

- (IN) ADC\_P<3..0>
- (IN) ADC\_N<3..0>
- (IN) SERDIN\_P<3..0>
- (IN) SERDIN\_N<3..0>
- (IN) SYNCIN\_P<1..0>
- (IN) SYNCIN\_N
- (IN) RXEN<1..0>
- (IN) TXEN<1..0>
- (IN) SYSREF\_P
- (IN) SYSREF\_N
- (IN) RESETB
- (IN) CLKIN\_P
- (IN) CLKIN\_N
- (IN) SPI\_CS
- (IN) SPI\_SCLK
- (IN) GPIO<8..0>

- DAC\_P<3..0> (OUT)
- DAC\_N<3..0> (OUT)
- SERDOU<P<3..0> (OUT)
- SERDOU<N<3..0> (OUT)
- SYNCOUT\_P<1..0> (OUT)
- SYNCOUT\_N (OUT)
- SPI\_SDO (OUT)
- ADC\_CLK\_OUT (OUT)



D

D

C

C

B

B

A

A

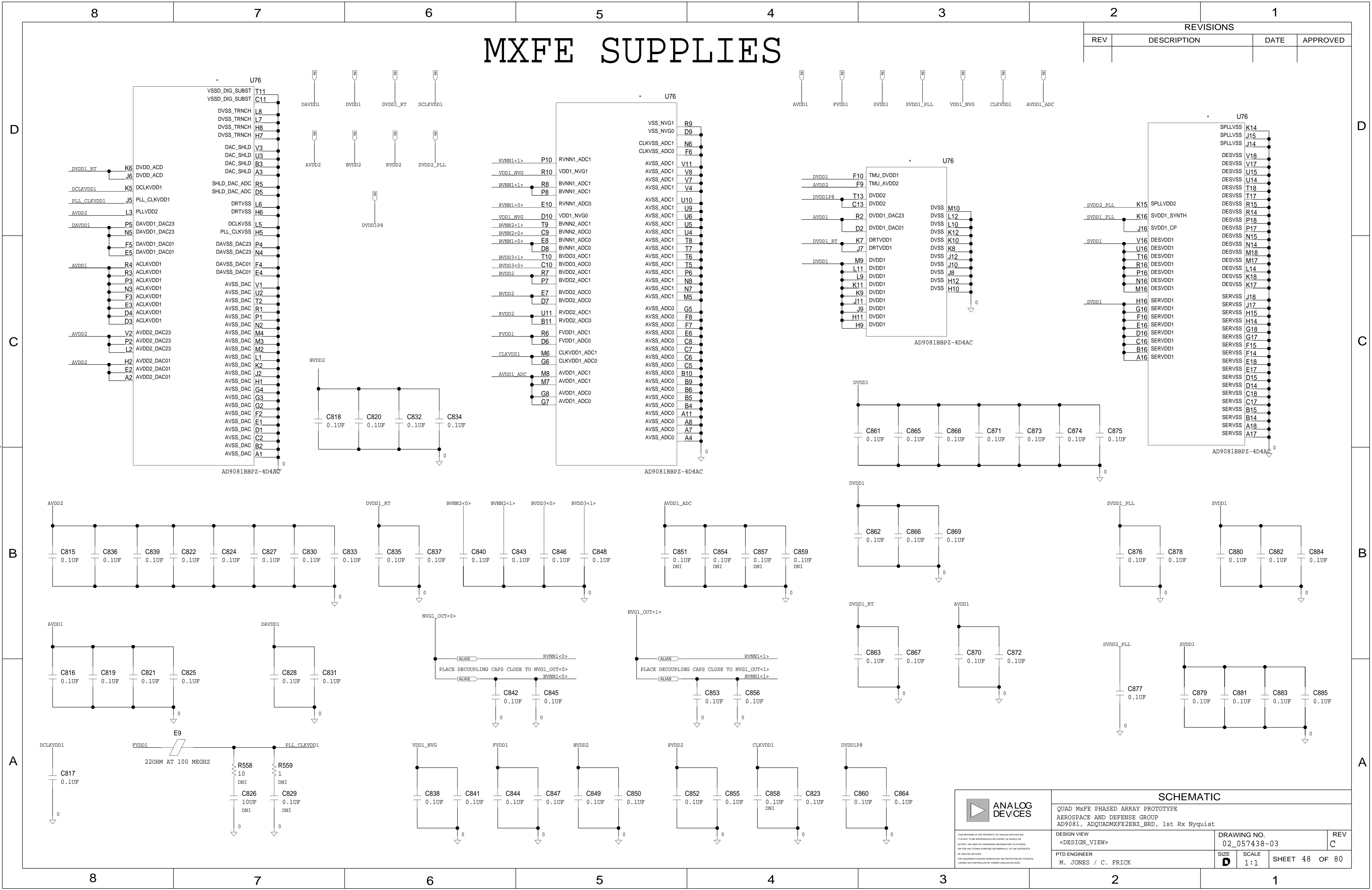
	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
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PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 47 OF 80

# MXFE SUPPLIES

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

D  
C  
B  
A

D  
C  
B  
A



	<b>SCHEMATIC</b>		
	QUAD MxFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 48 OF 80

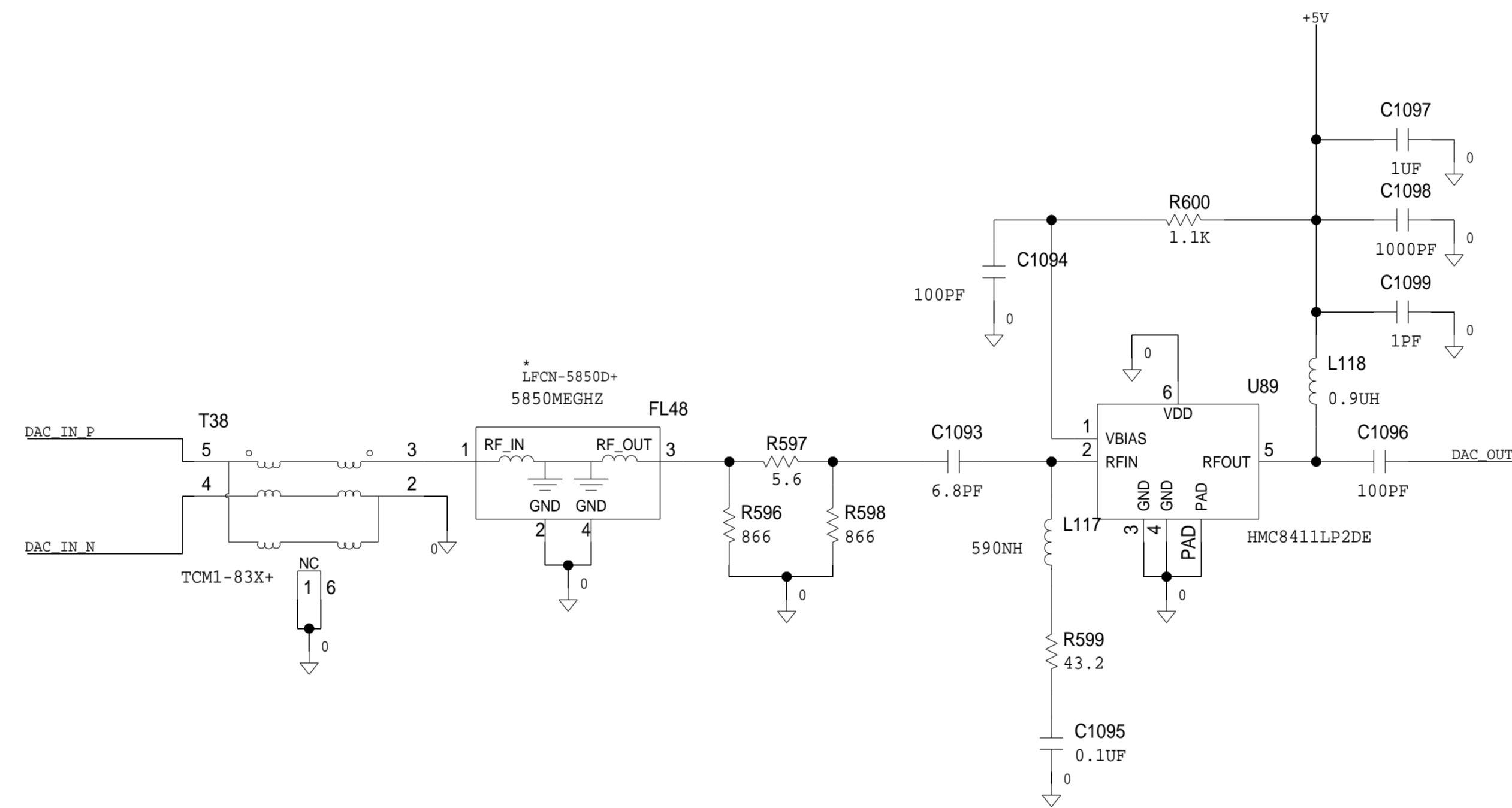
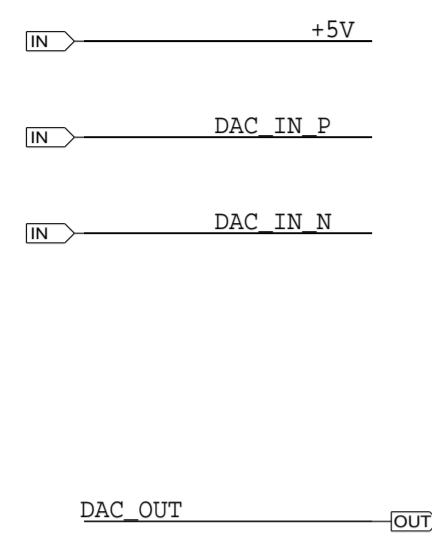
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# DAC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



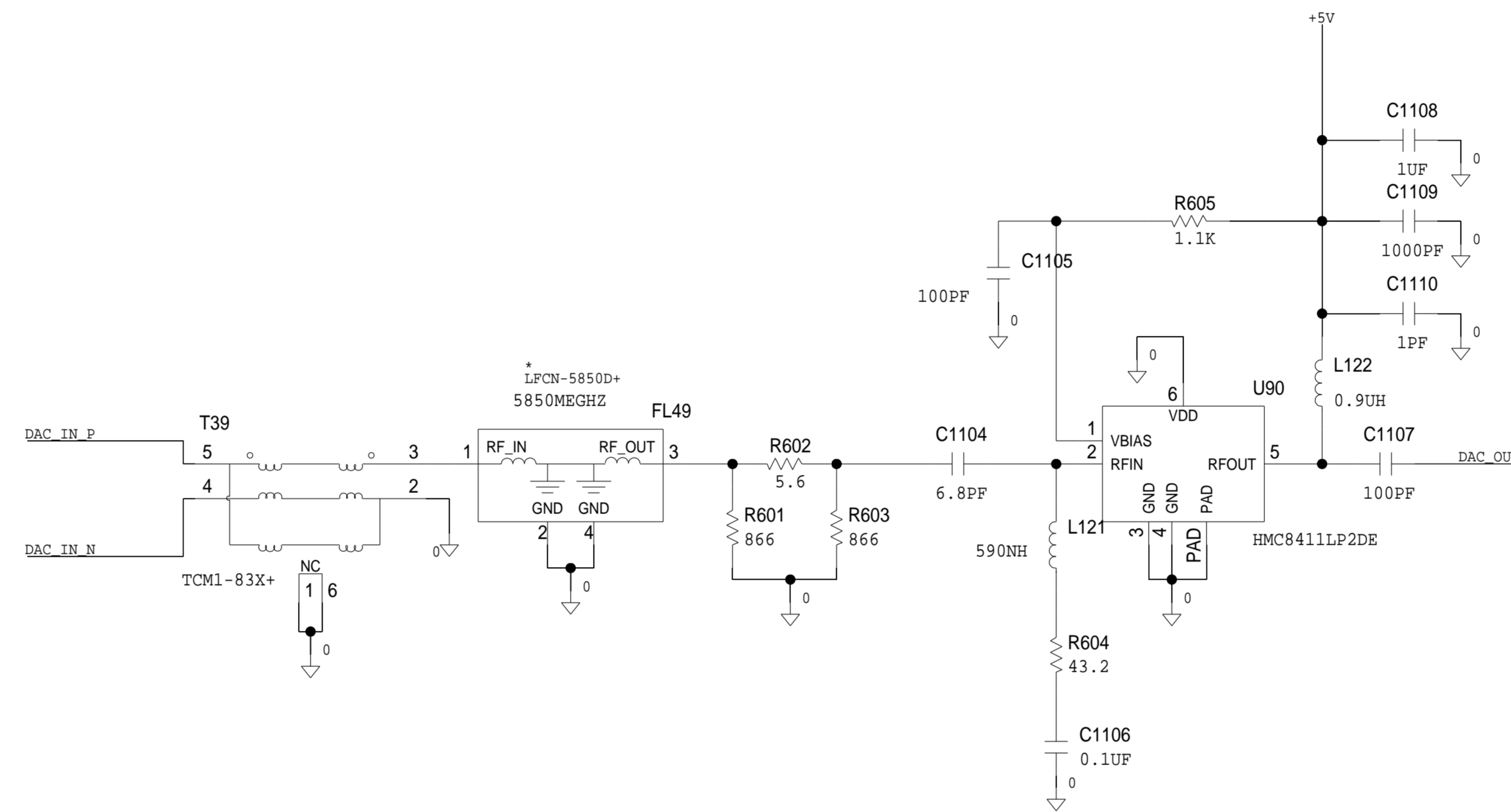
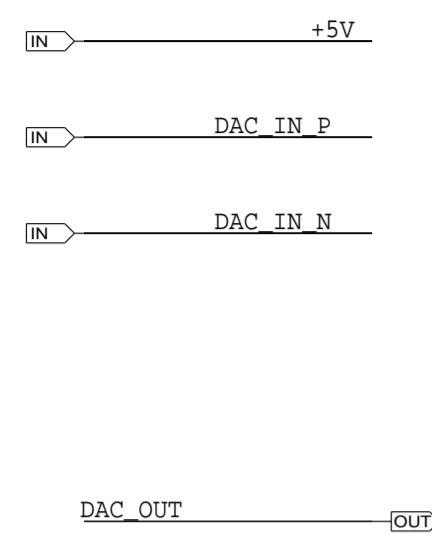
	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

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# DAC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

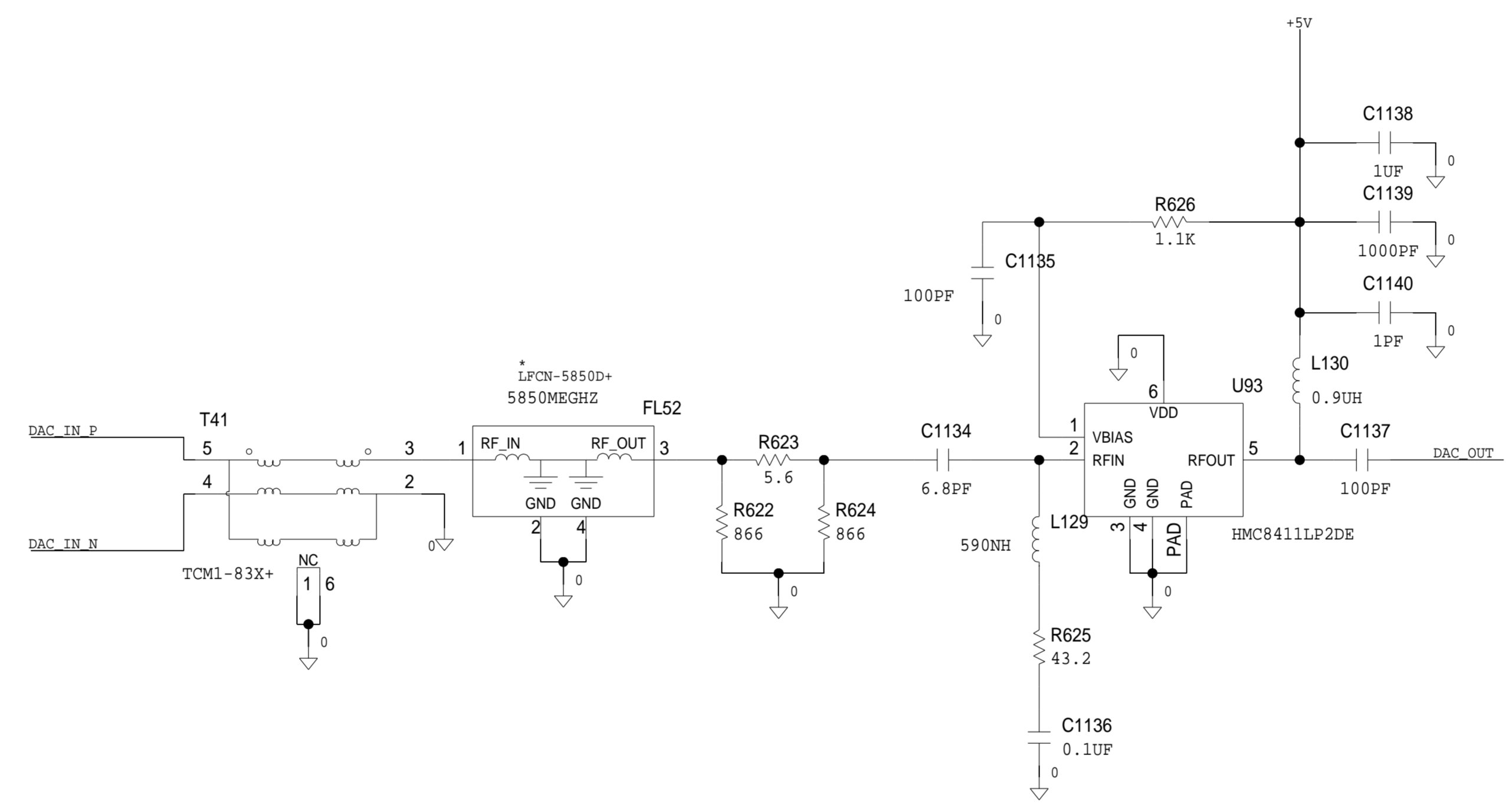
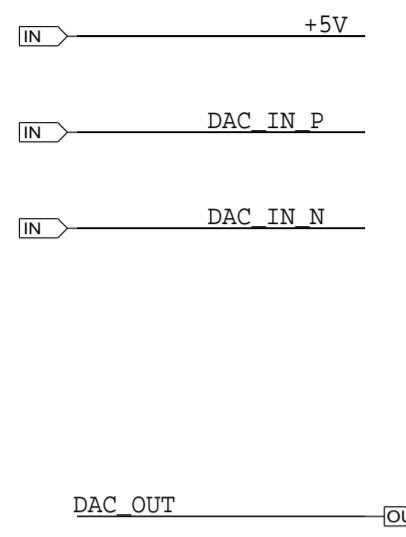
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SHEET 50 OF 80

# DAC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ

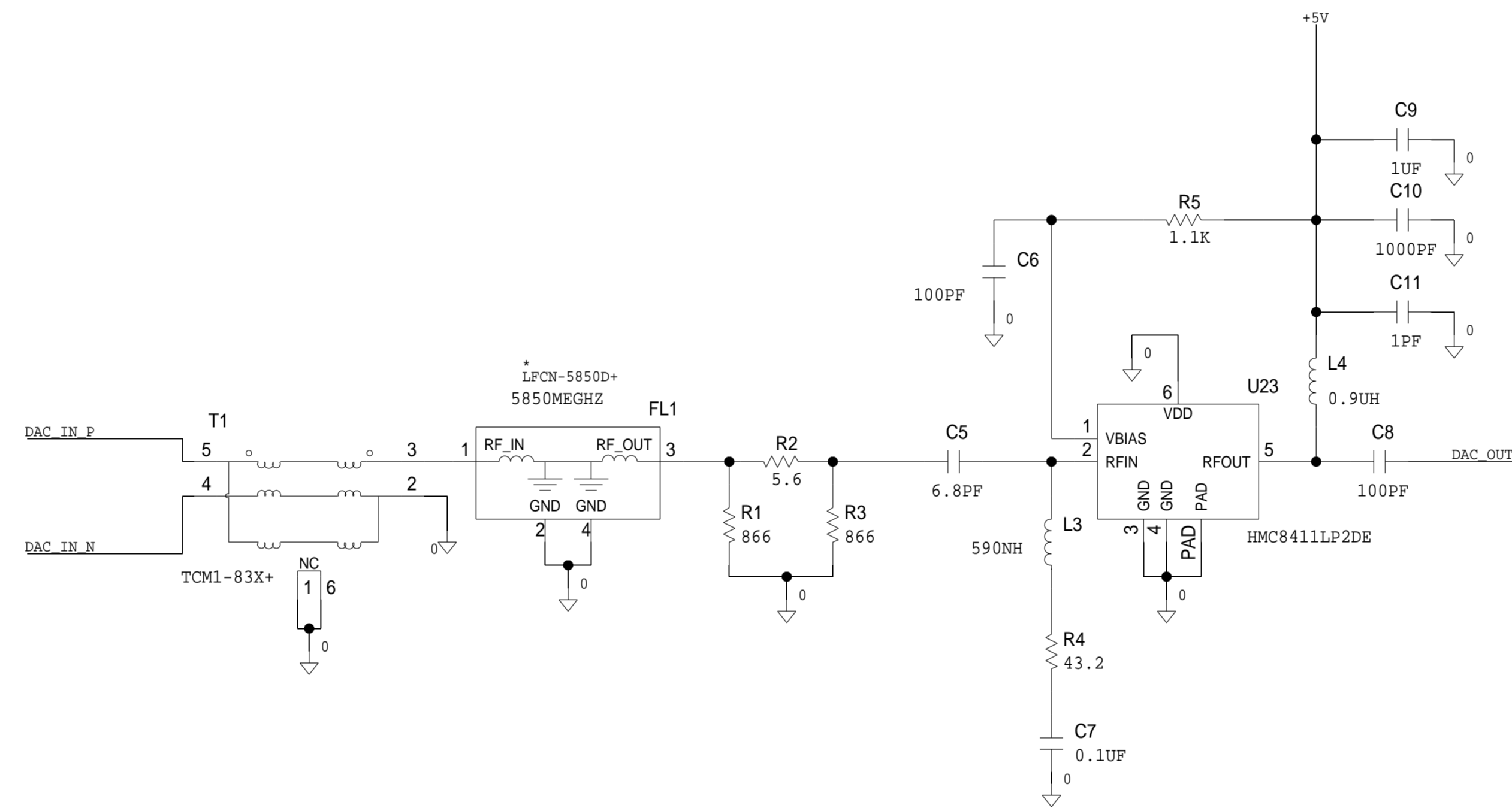
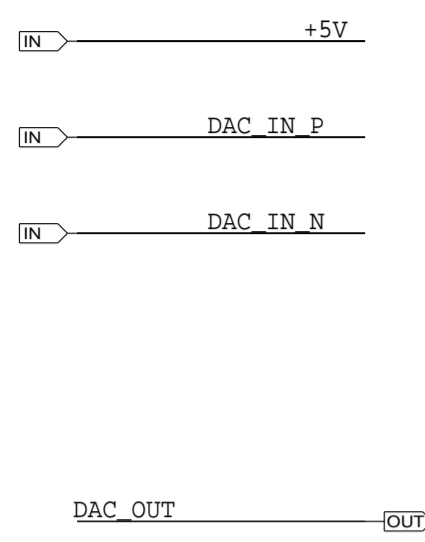


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	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

# DAC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

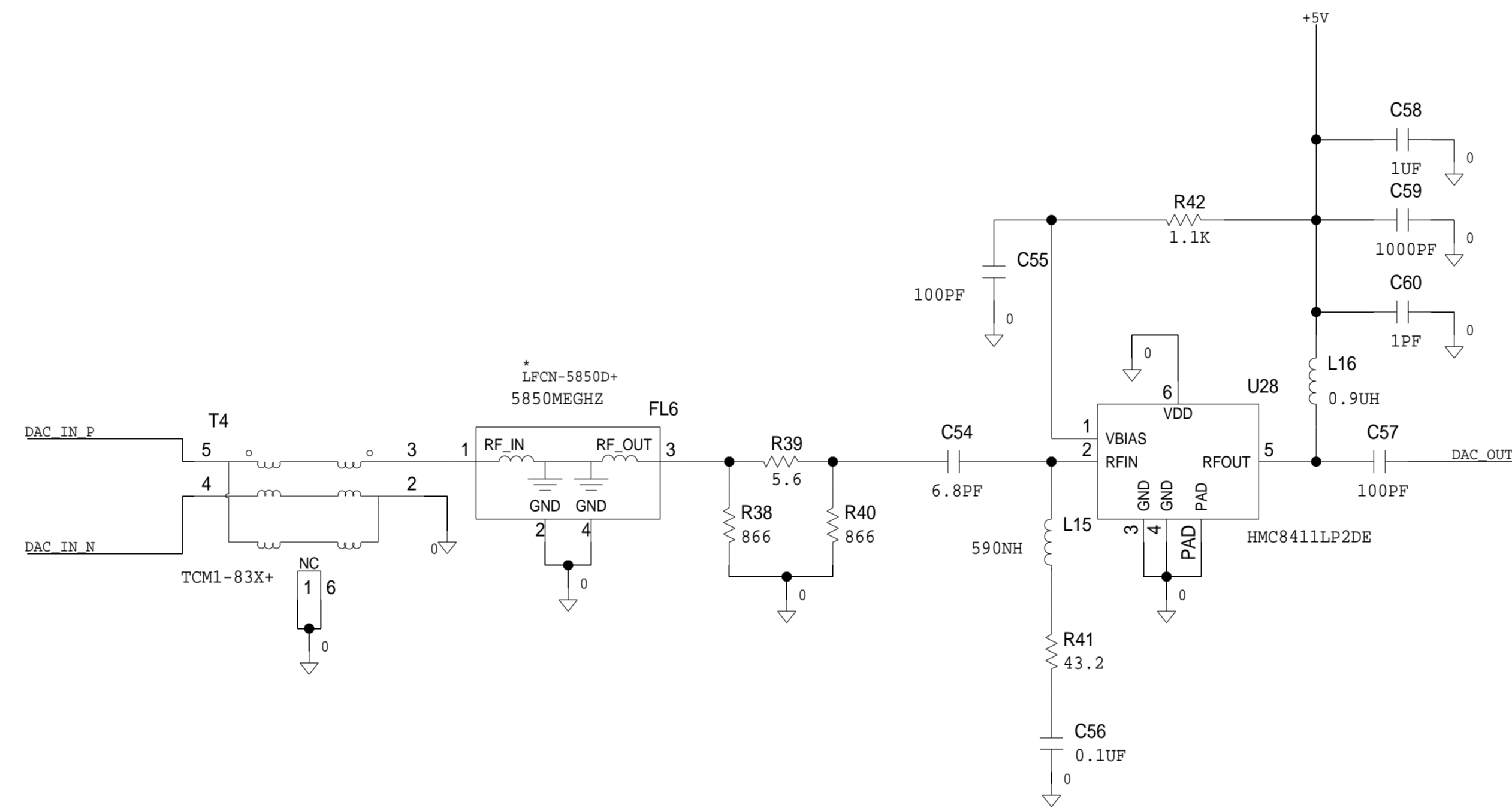
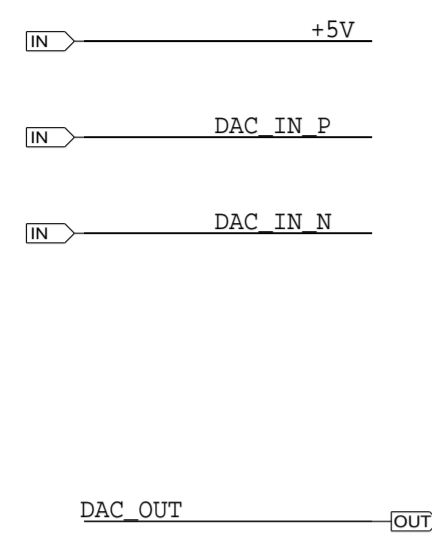
ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 52 OF 80

# DAC FRONT END

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ

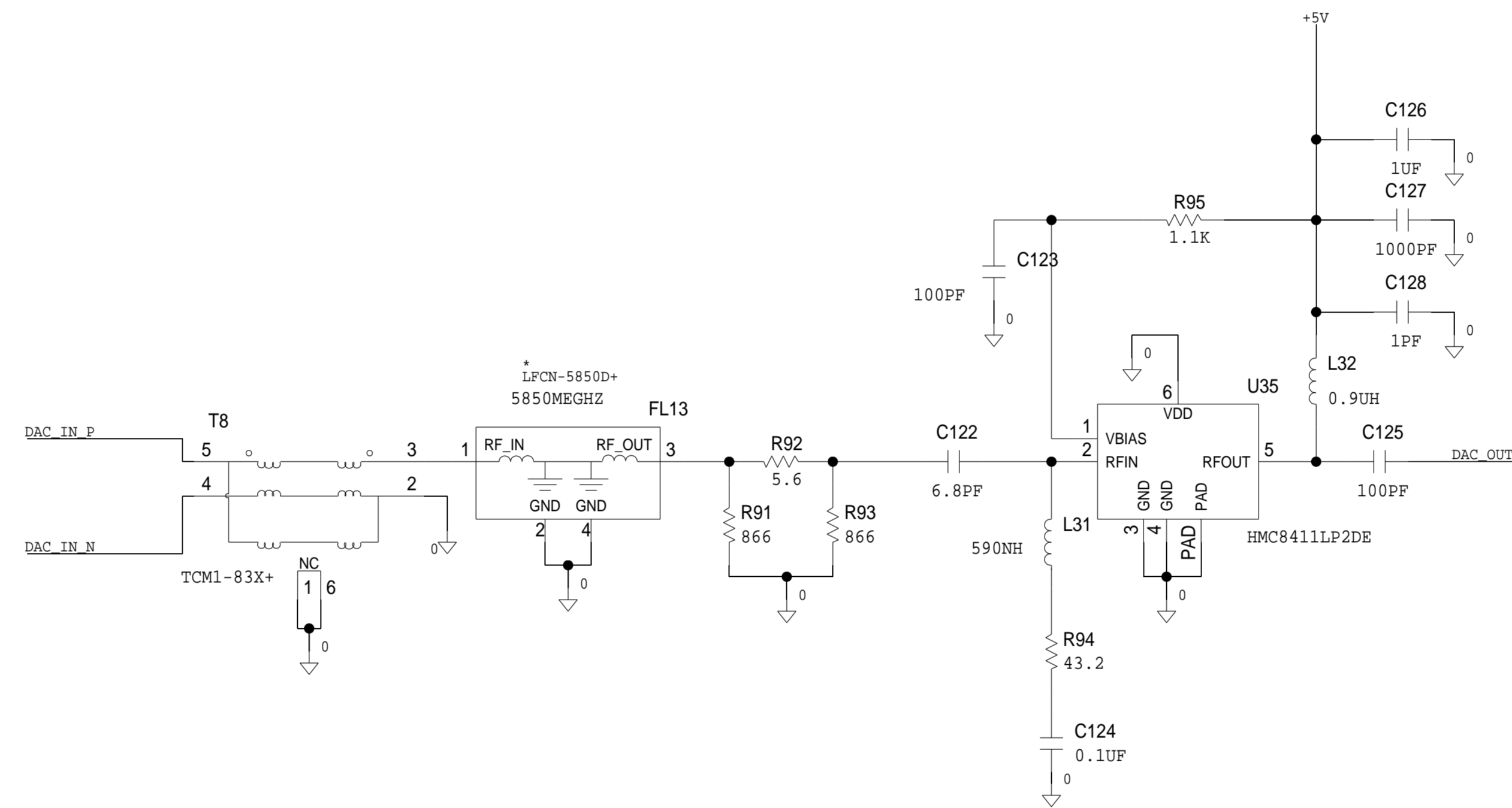
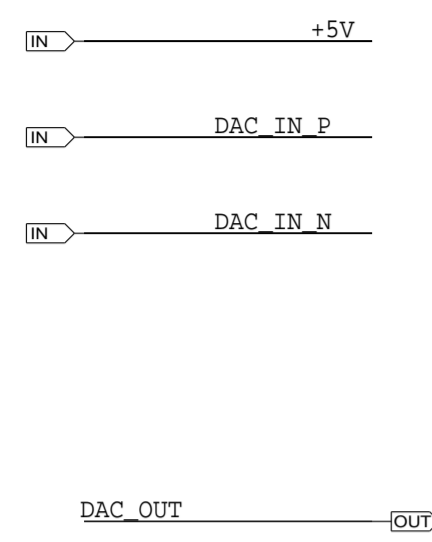


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

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	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 53 OF 80

# DAC FRONT END

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



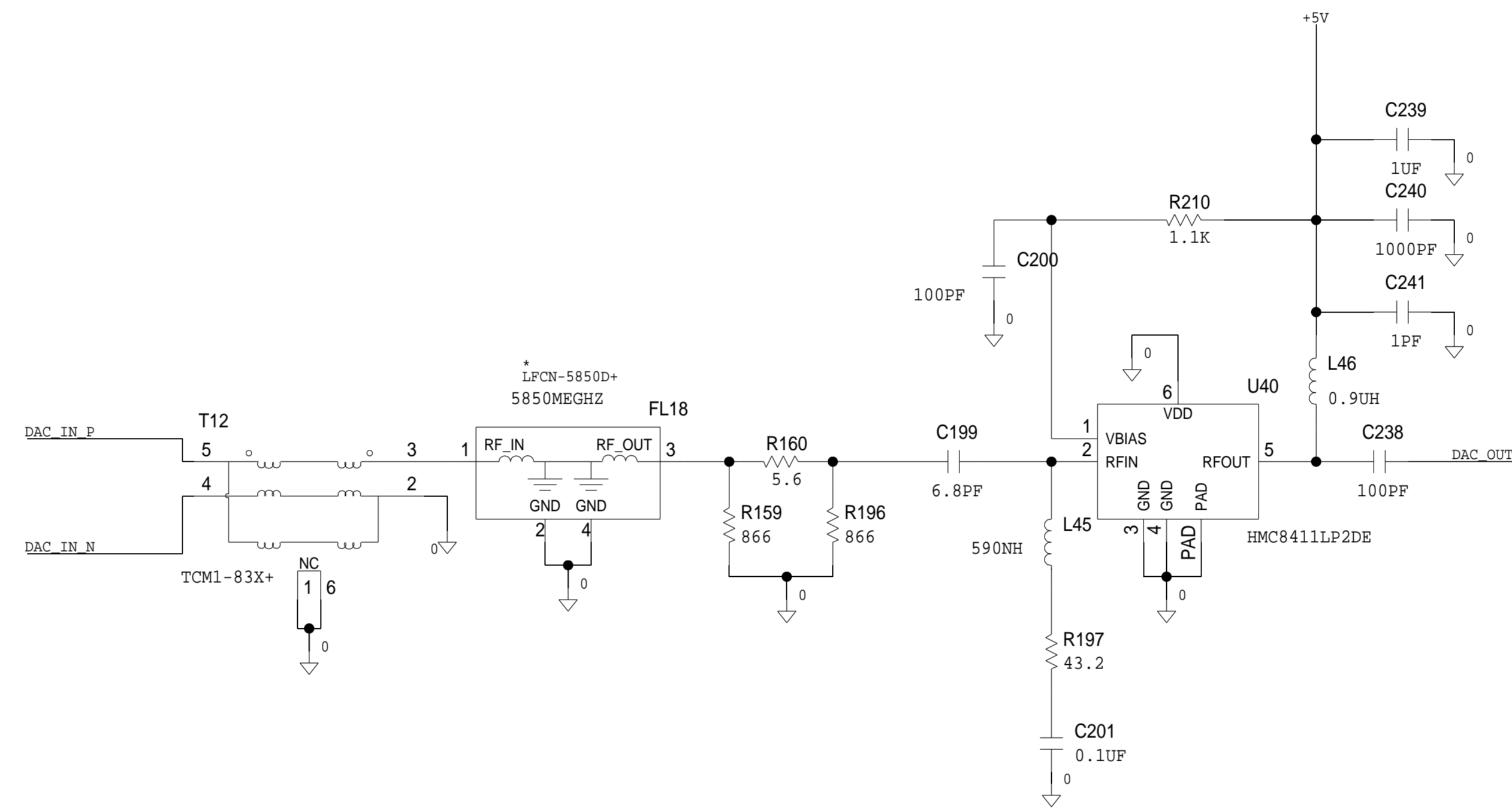
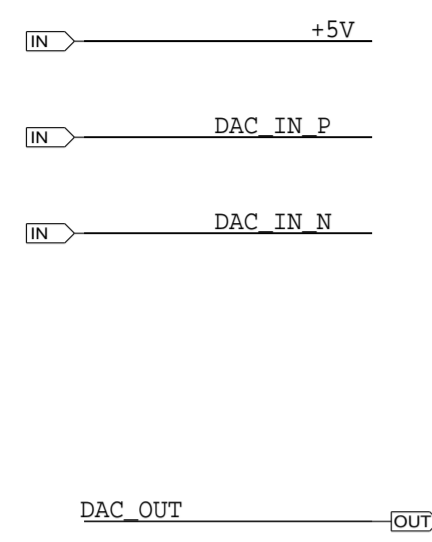
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

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	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 54 OF 80

# DAC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ

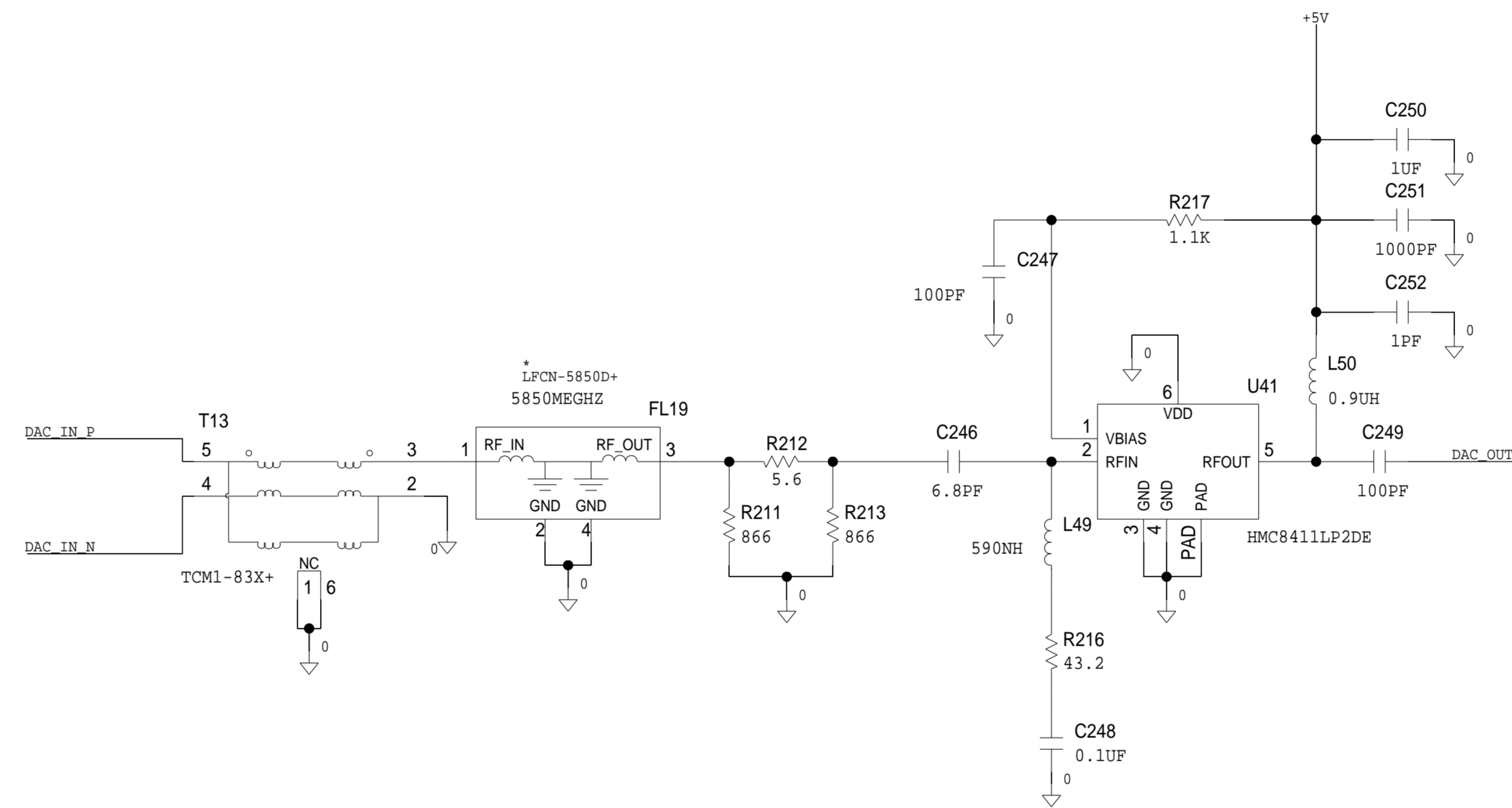
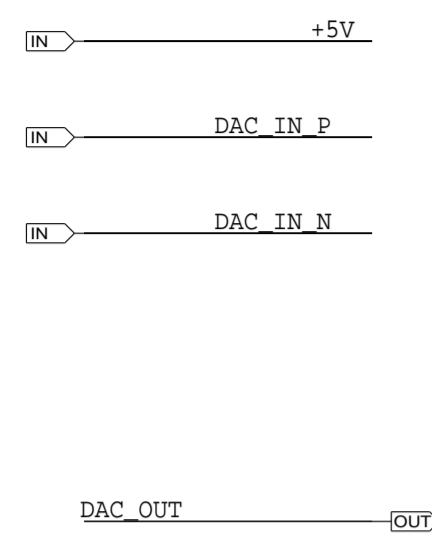


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	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

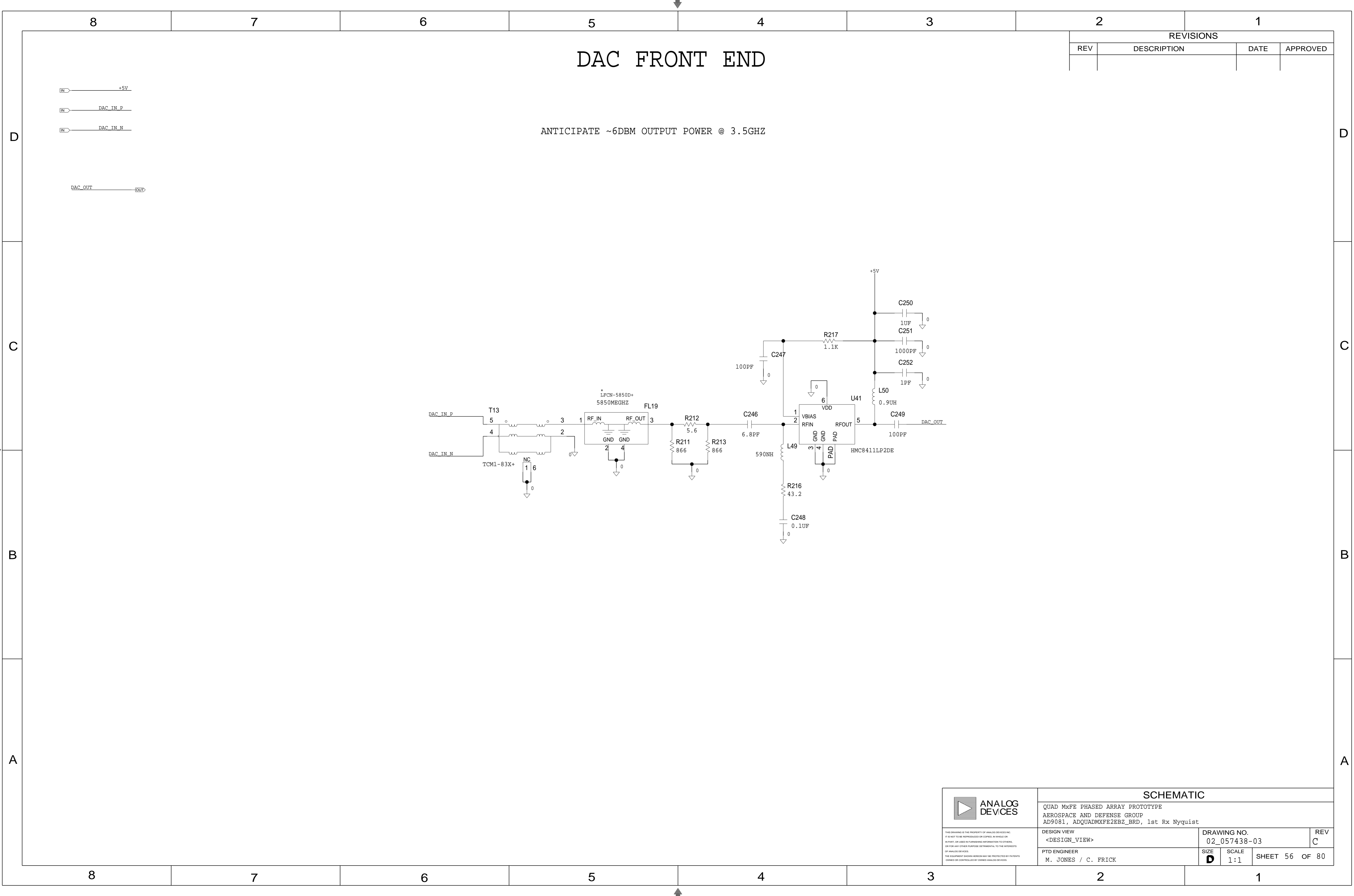
# DAC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



	<b>SCHEMATIC</b>		
	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1 SHEET 56 OF 80

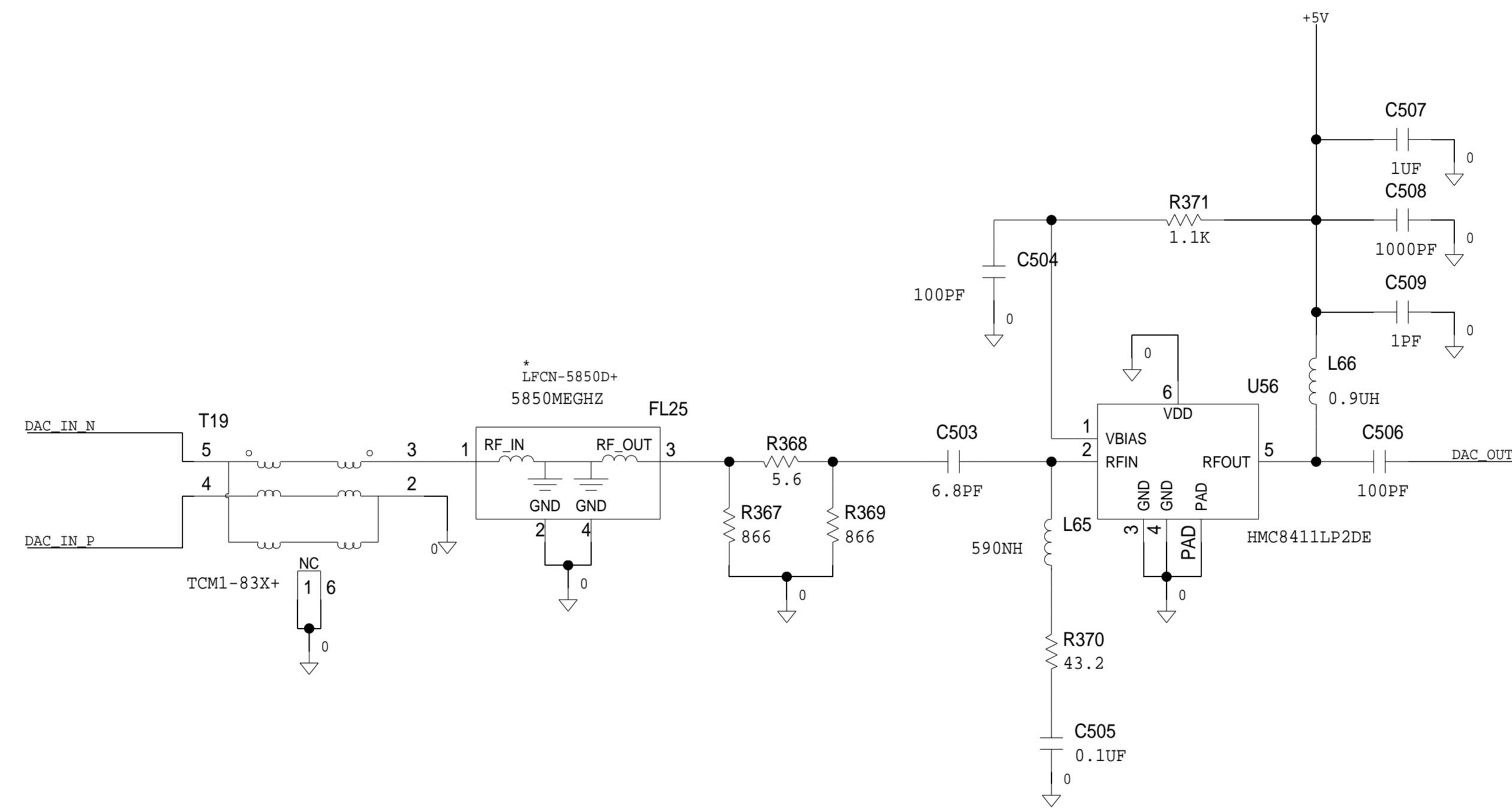
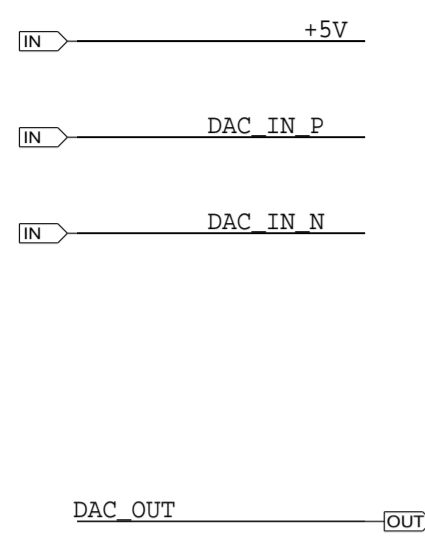




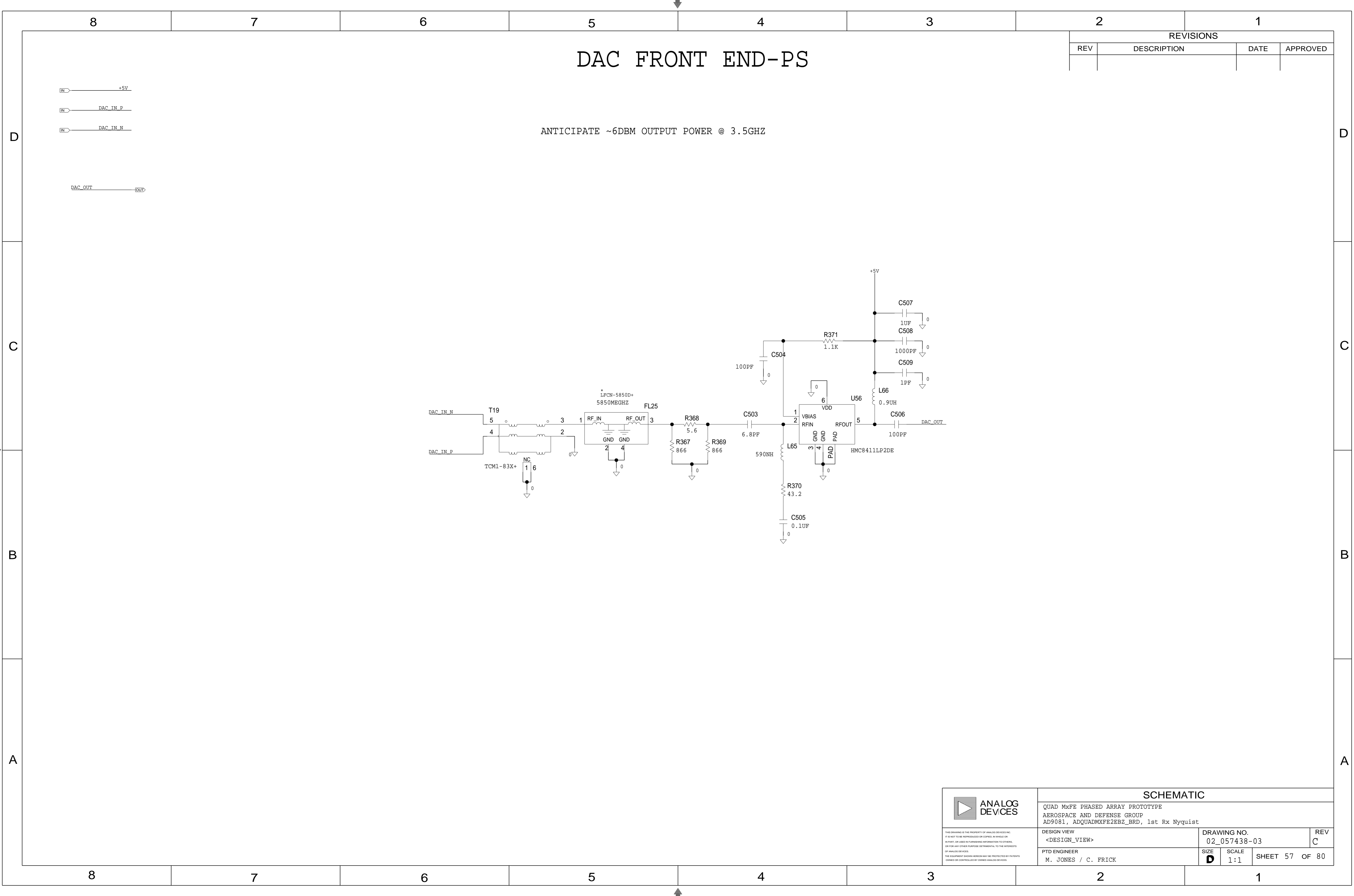
# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



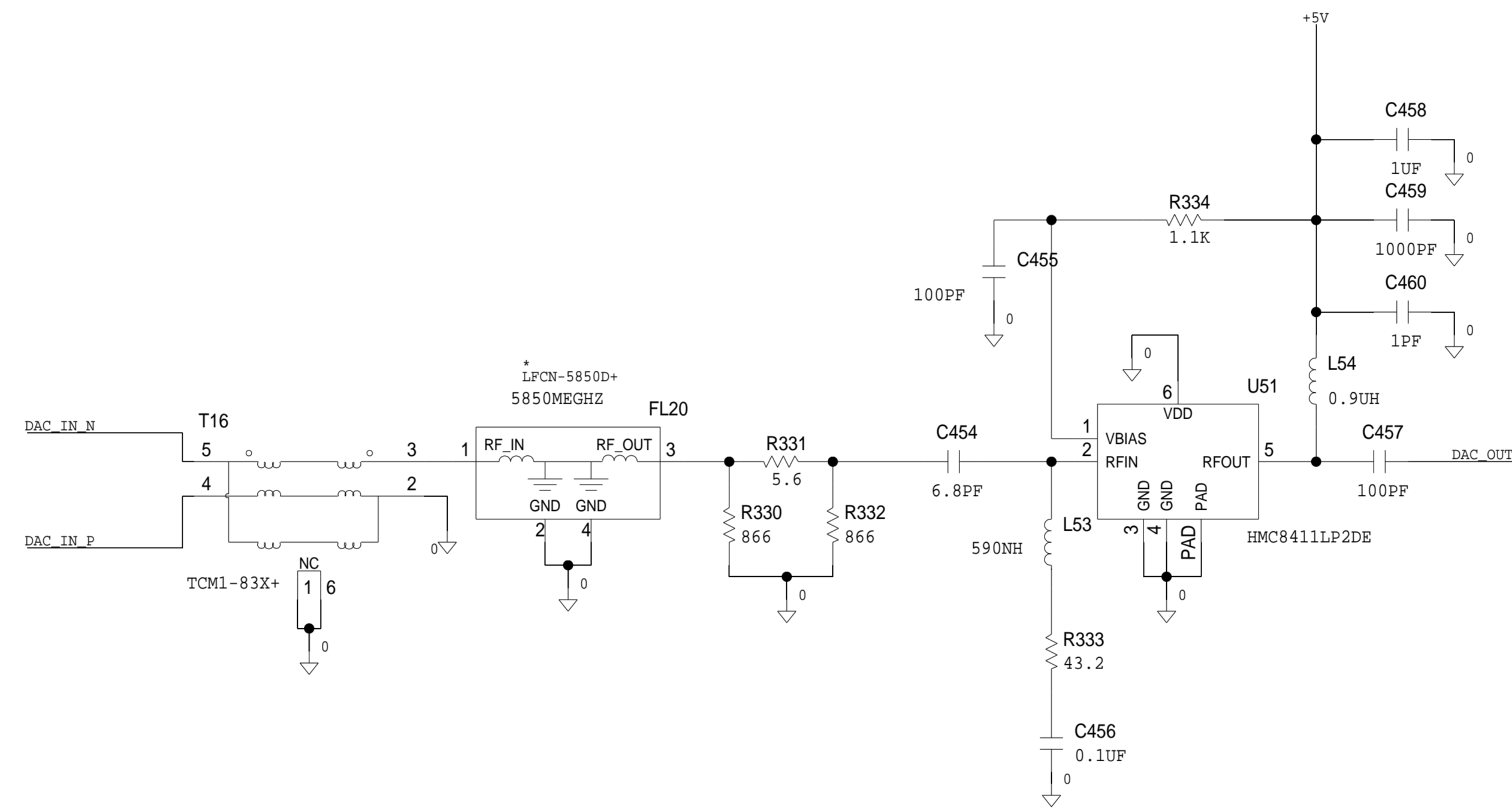
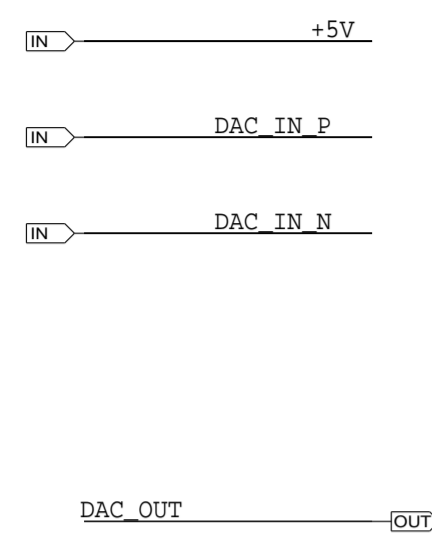
	<b>SCHEMATIC</b>		
	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1 SHEET 57 OF 80



# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ

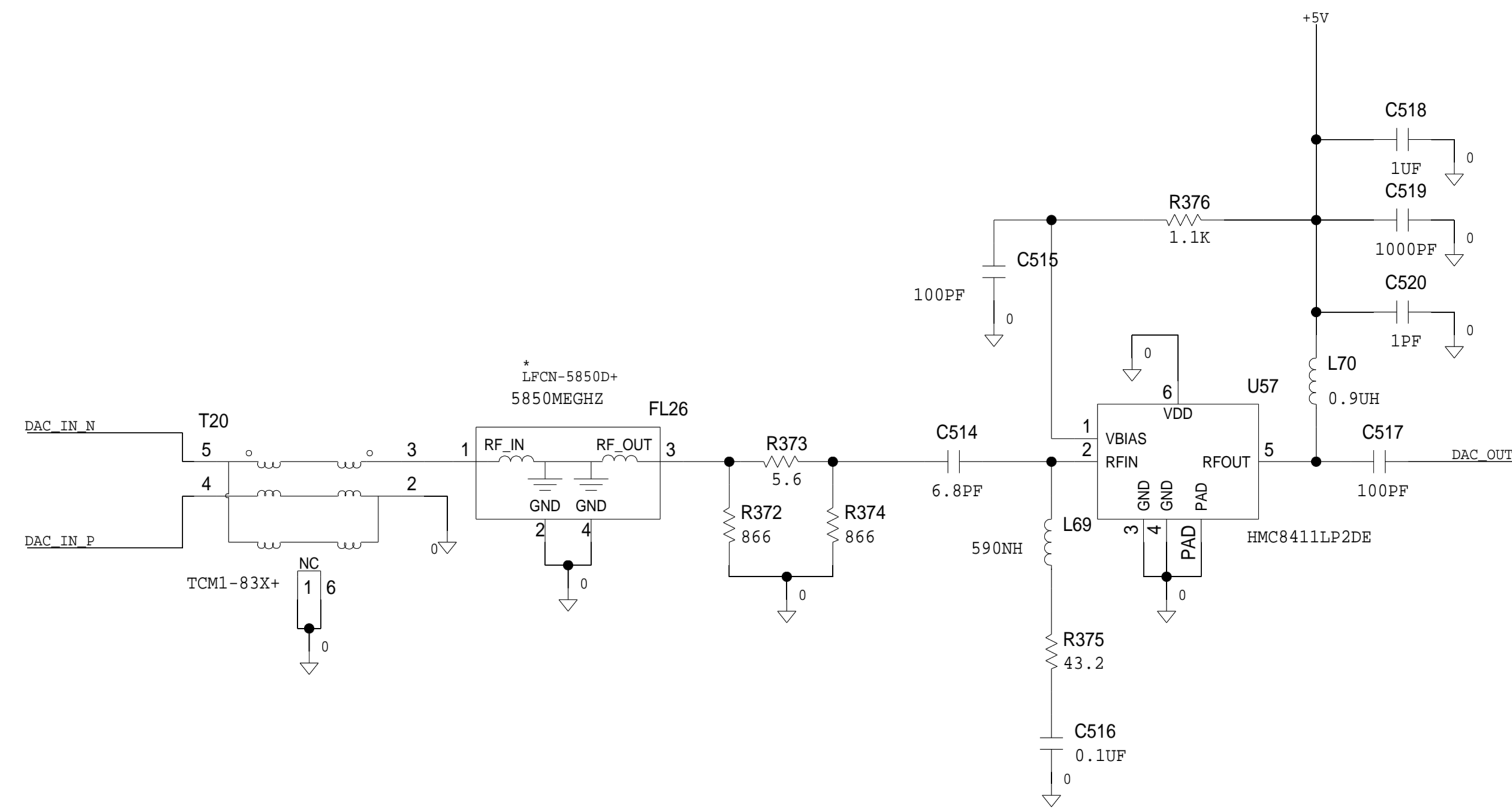
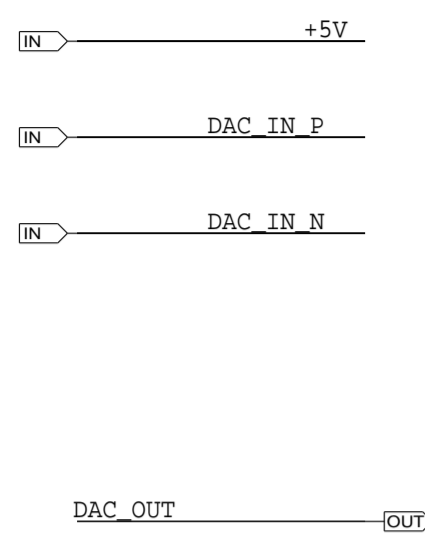


	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1 SHEET 58 OF 80

# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ

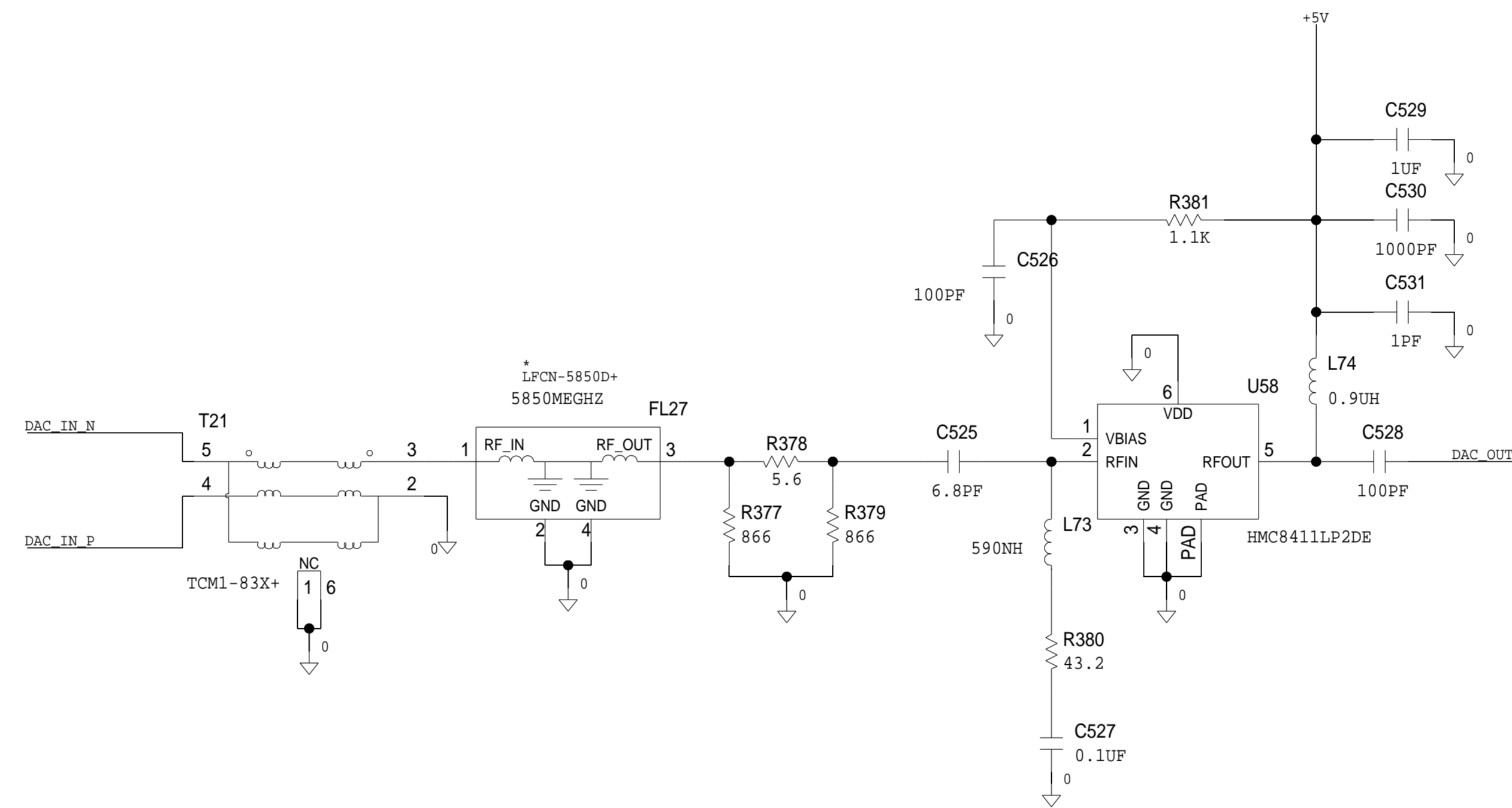
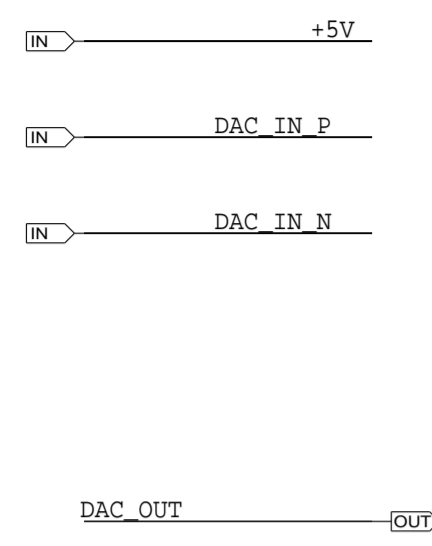


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	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

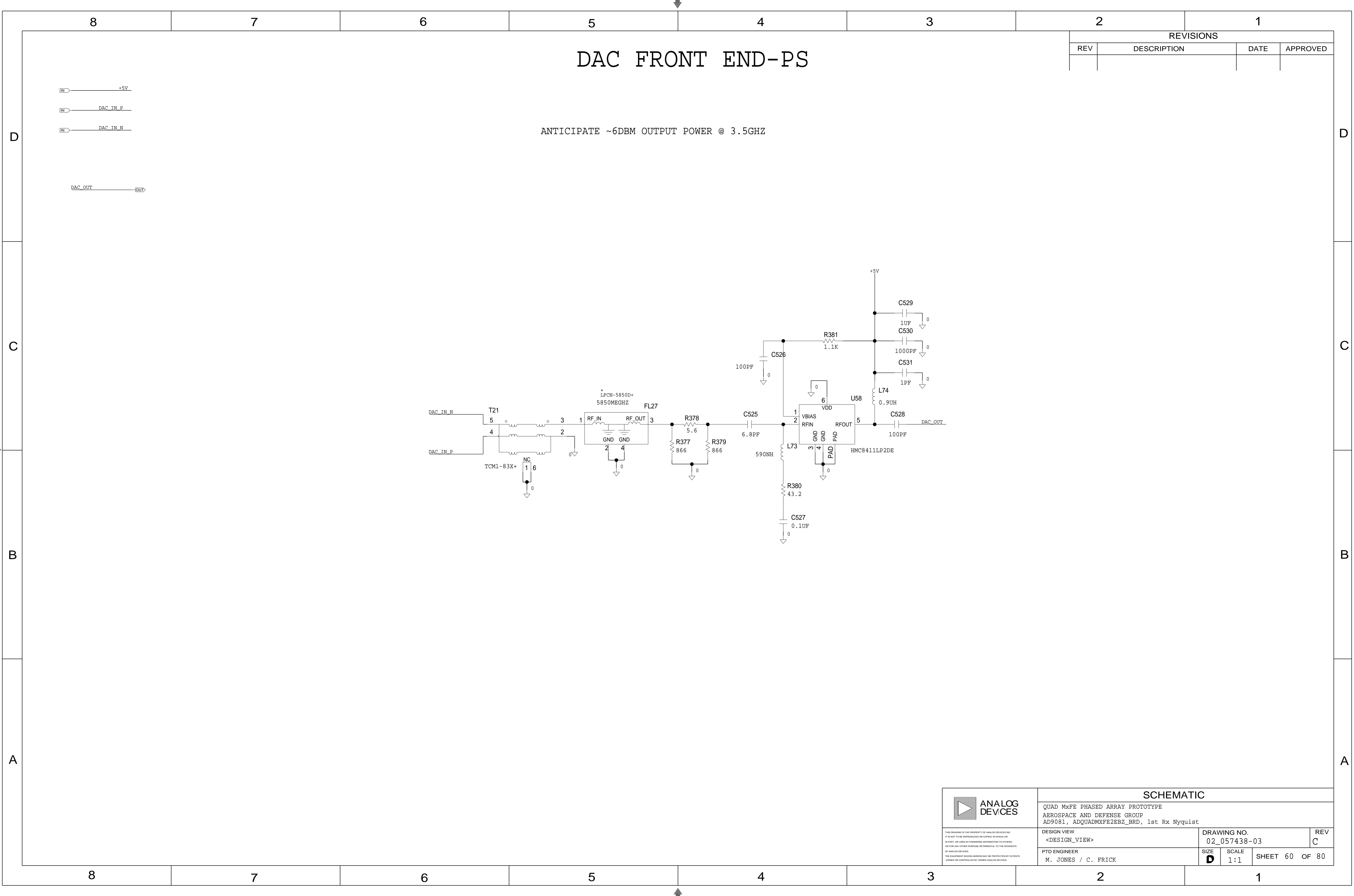
# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



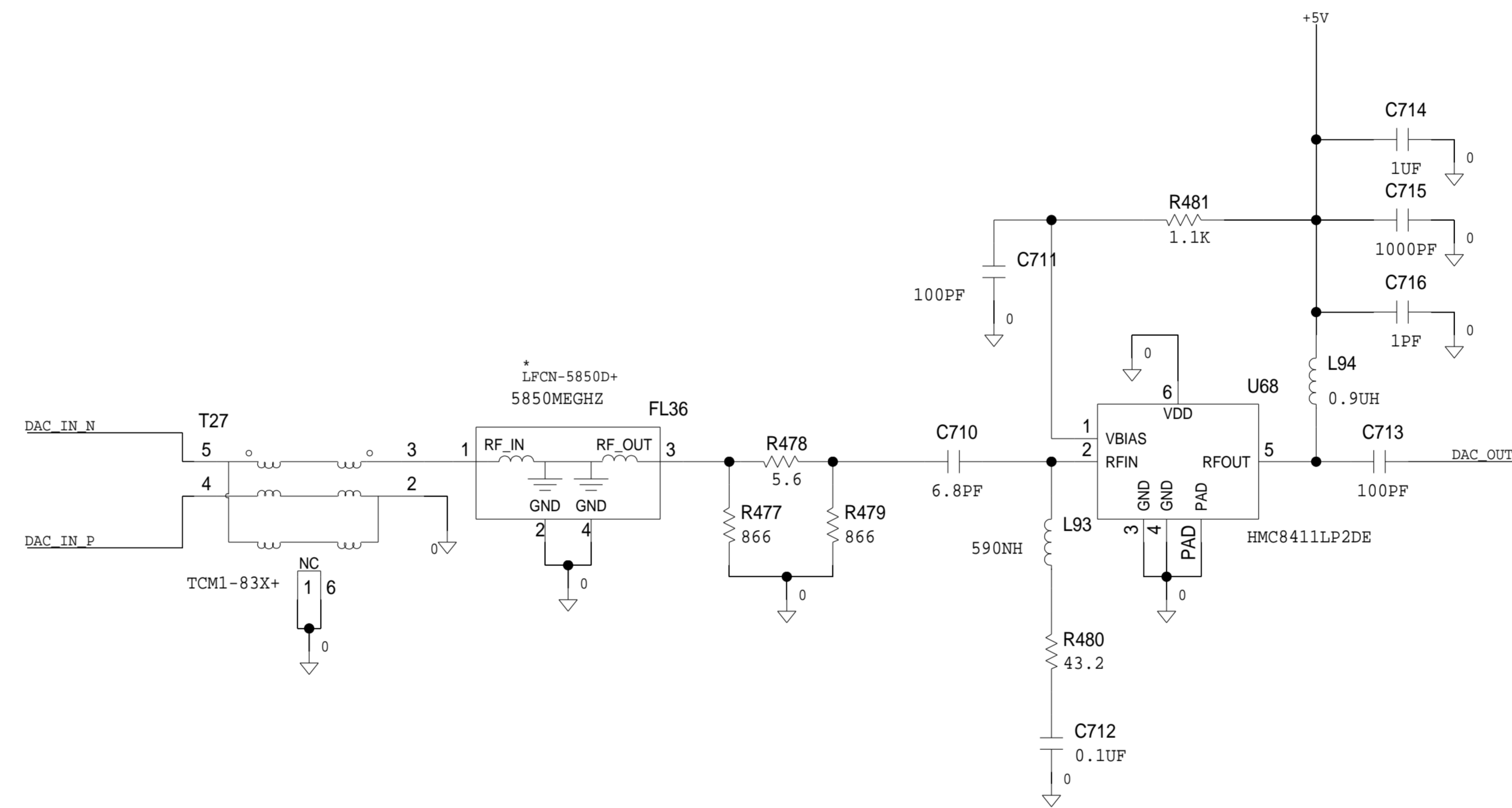
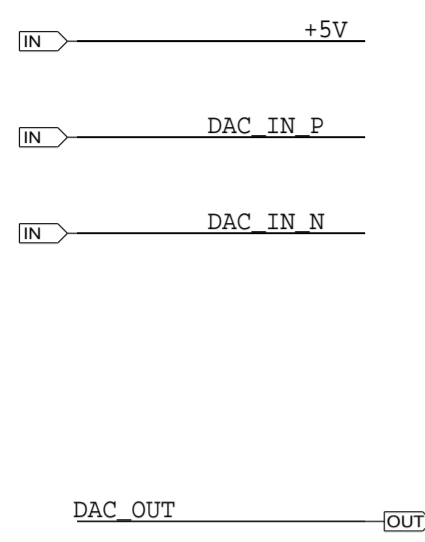
	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 60 OF 80



# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ

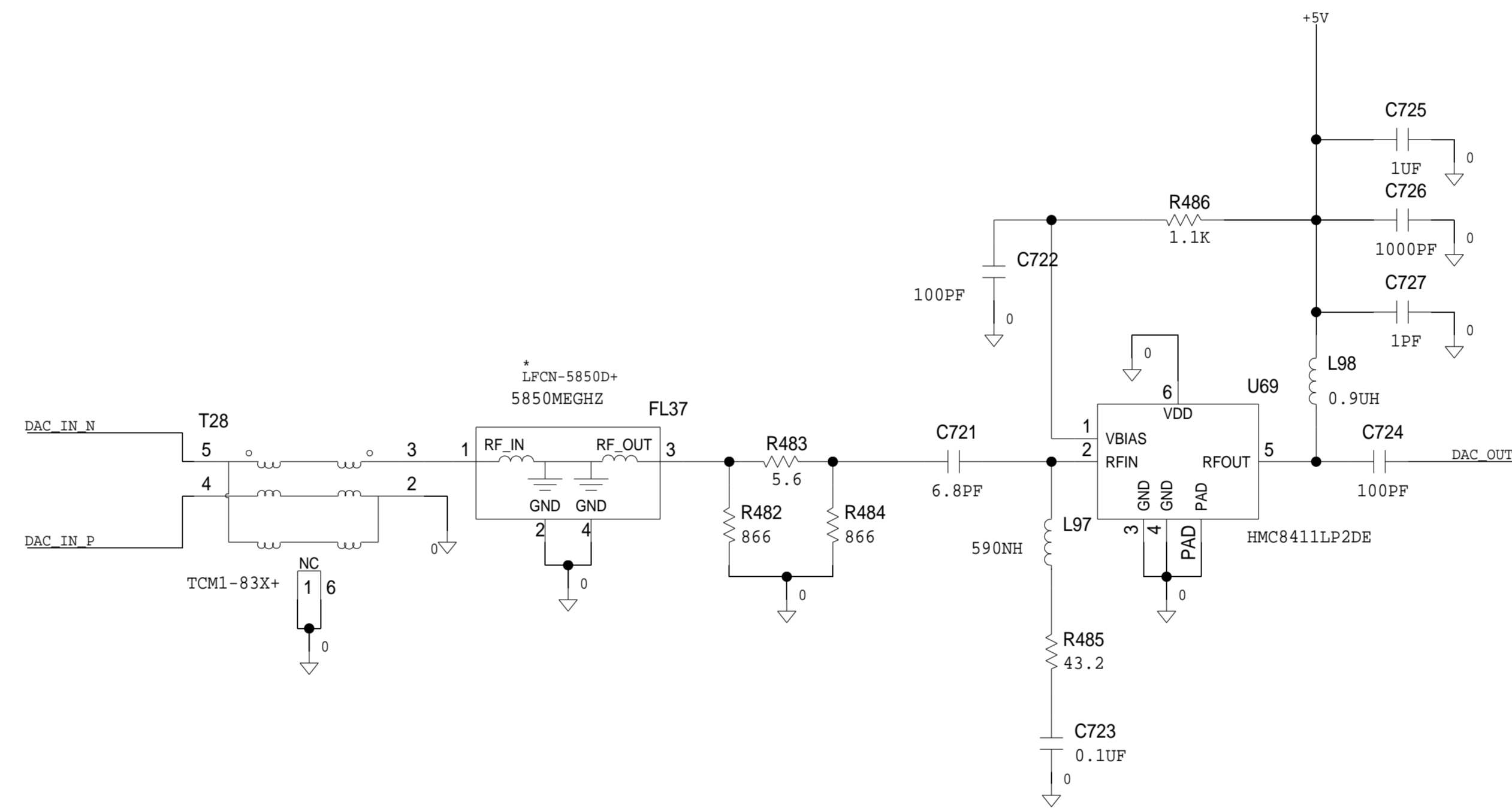
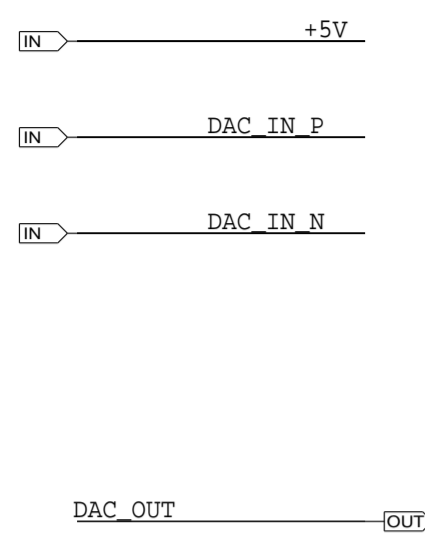


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	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE <b>D</b>	SCALE 1:1

# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



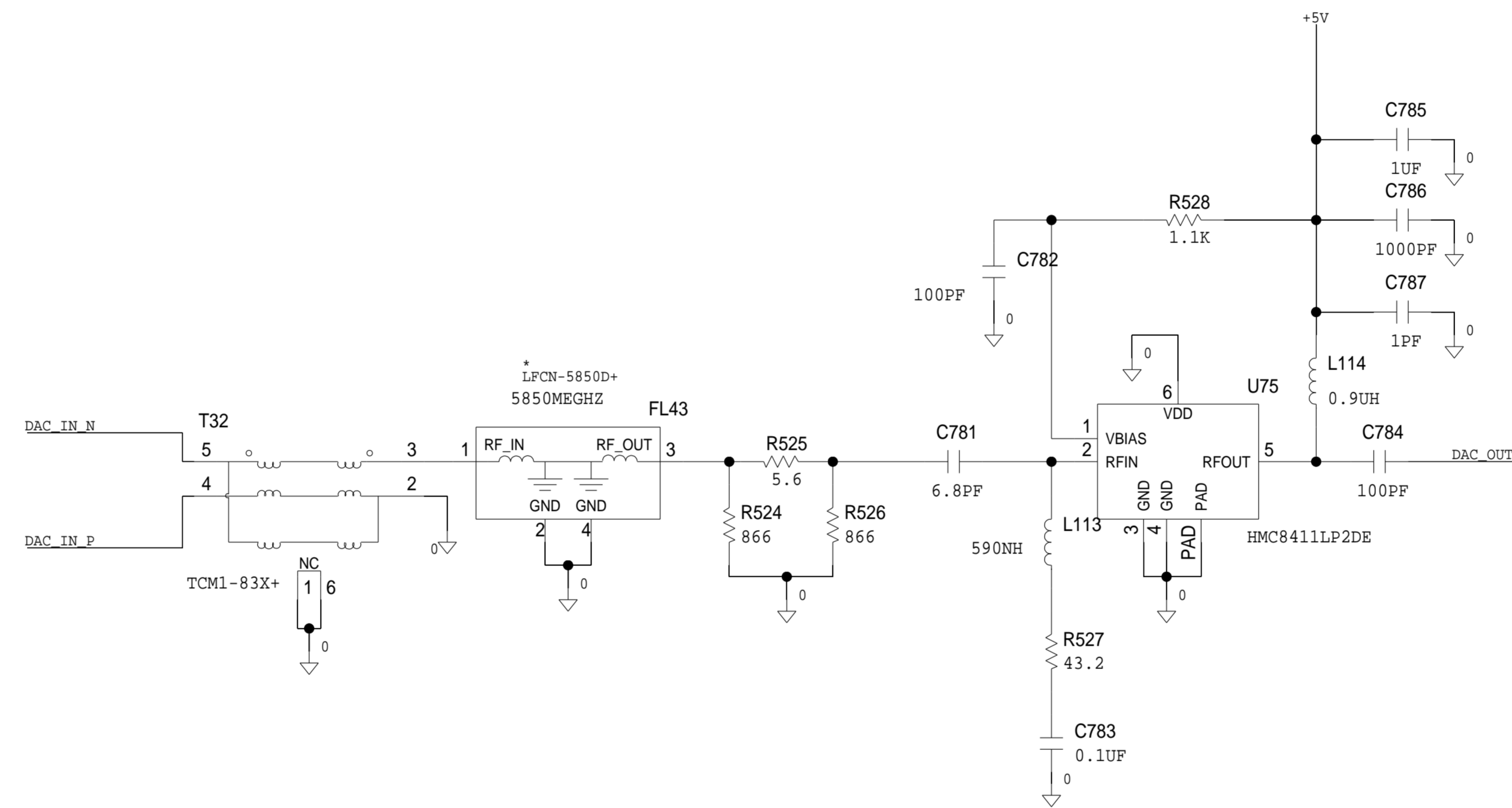
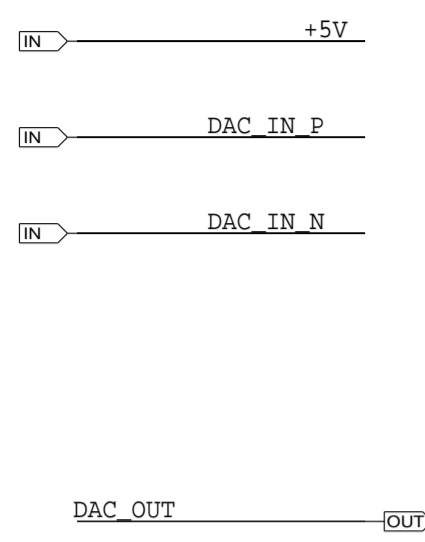
	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

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# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ

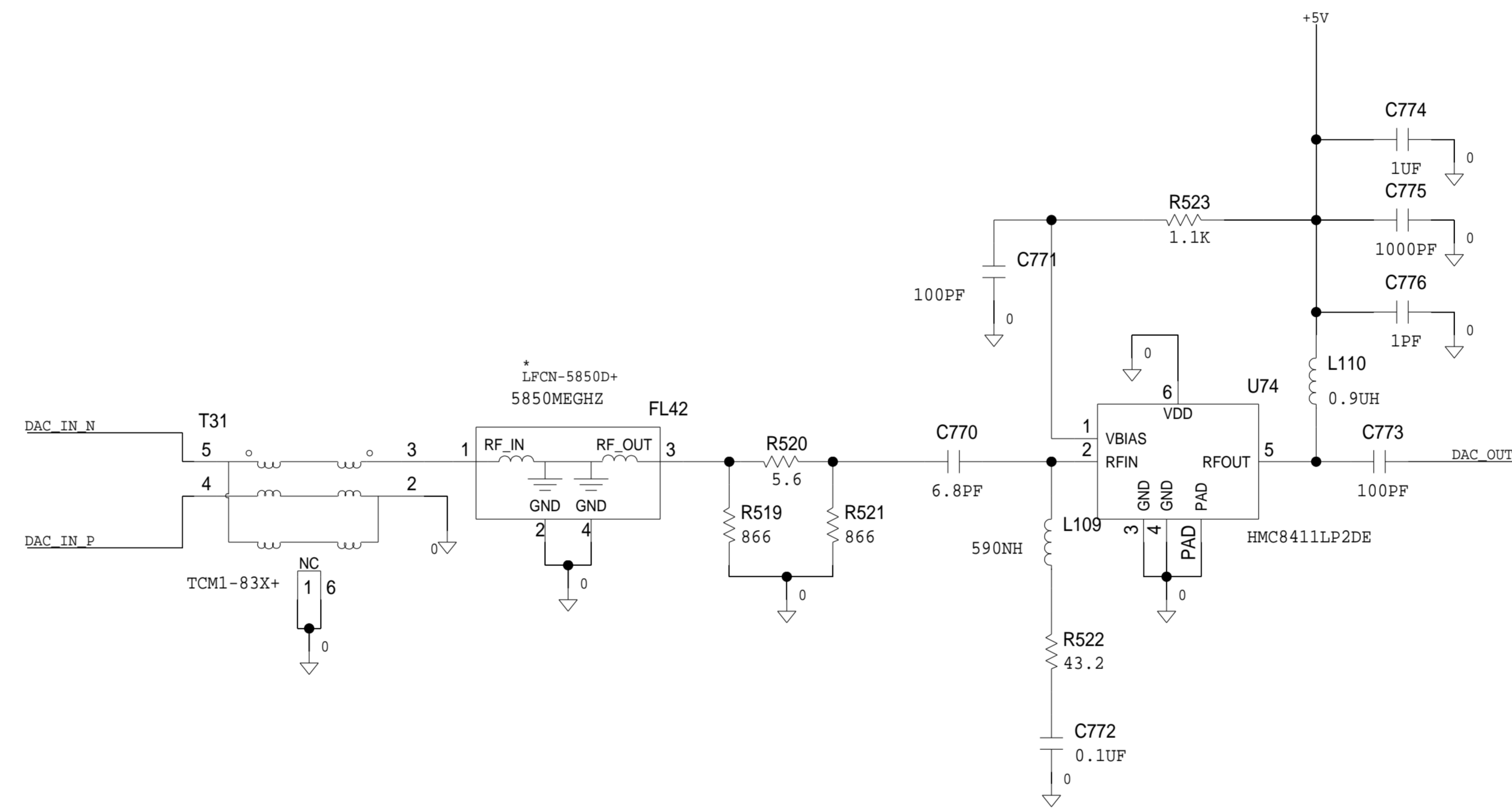
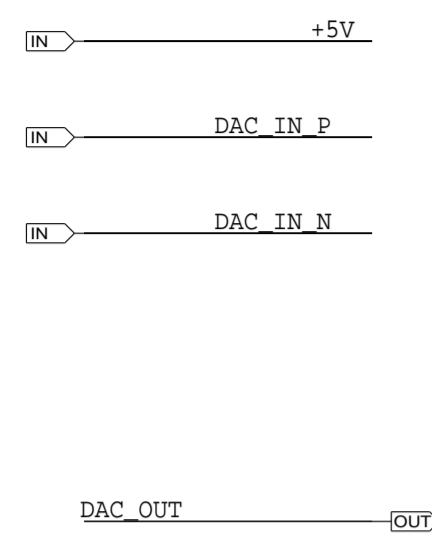


	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

# DAC FRONT END-PS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

ANTICIPATE ~6DBM OUTPUT POWER @ 3.5GHZ



	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

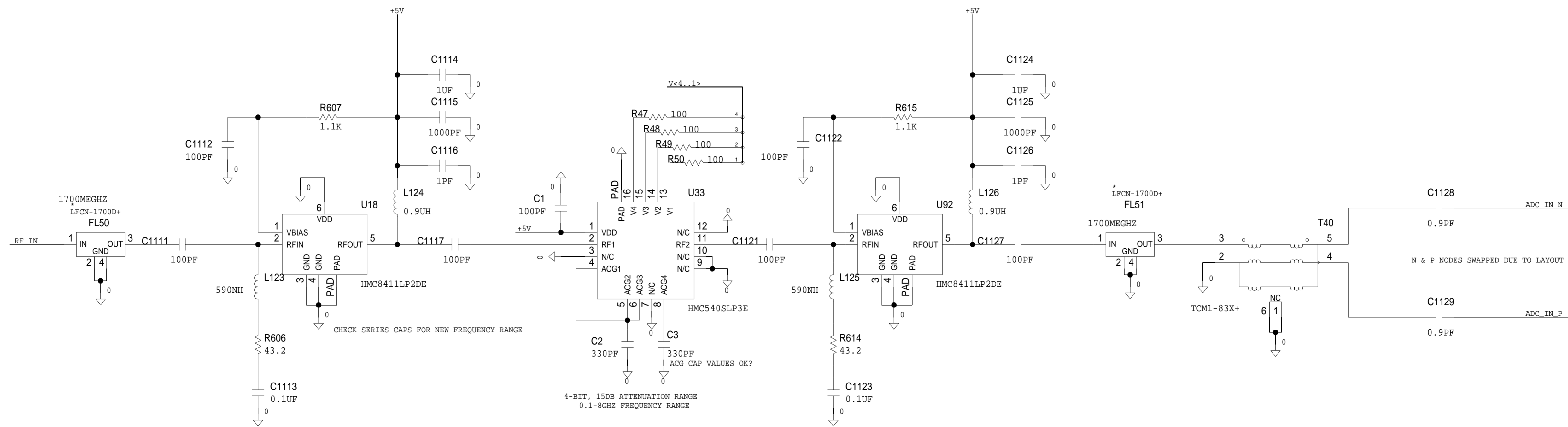


# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN  $V_{c4...1}$   
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



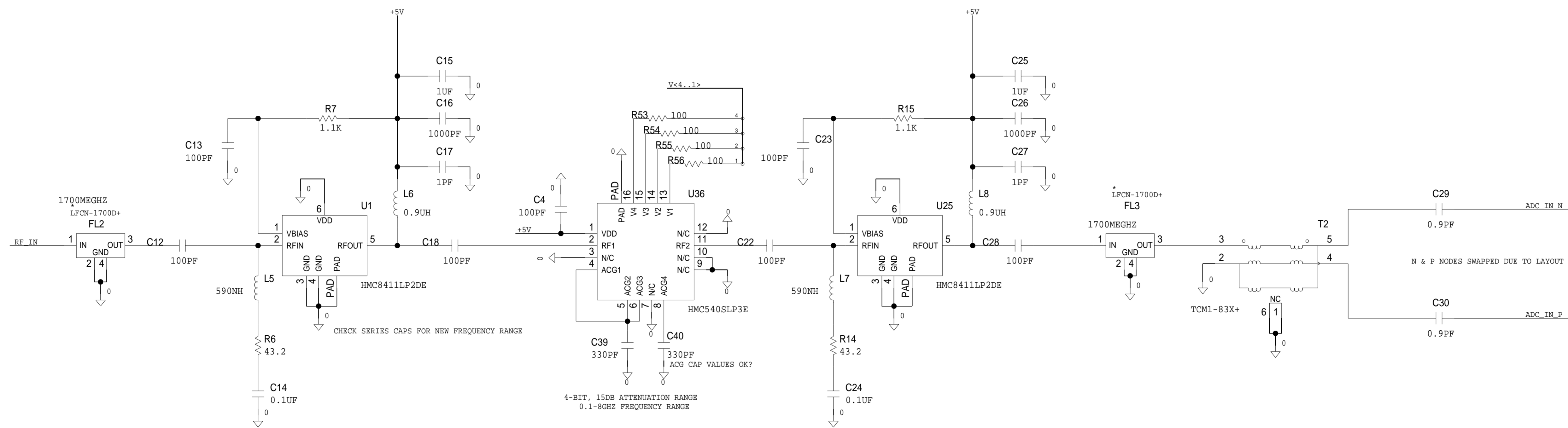
	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 65 OF 80	

# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN V<4..1>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



	<b>SCHEMATIC</b>		
	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

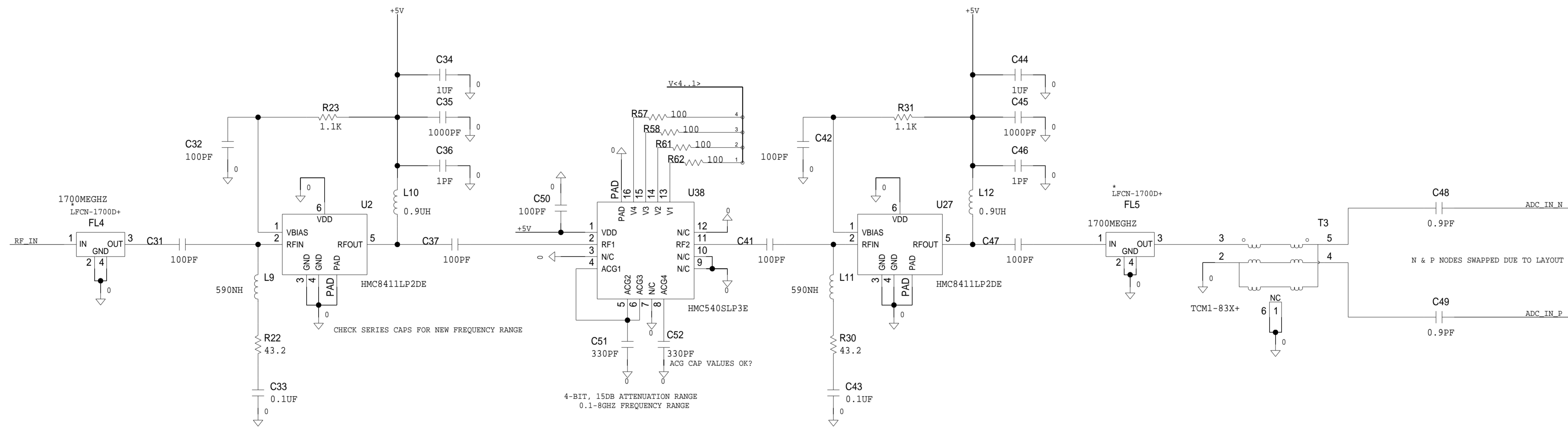
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# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN V<4...1>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



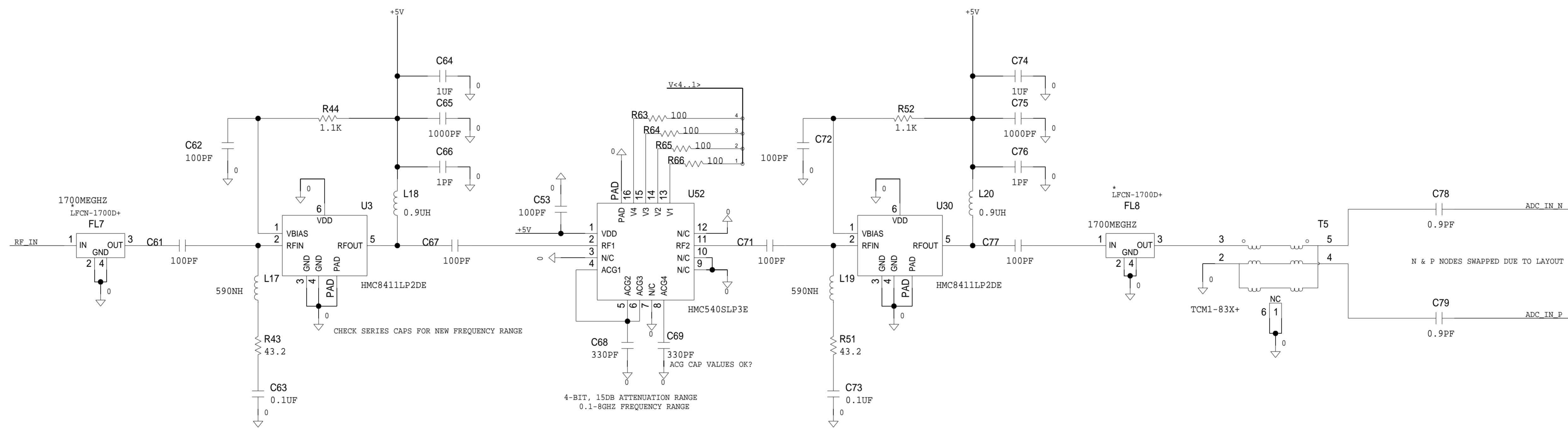
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	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN → V<4...1>  
 IN → +5V  
 IN → RF\_IN

ADC\_IN\_P → OUT  
 ADC\_IN\_N → OUT



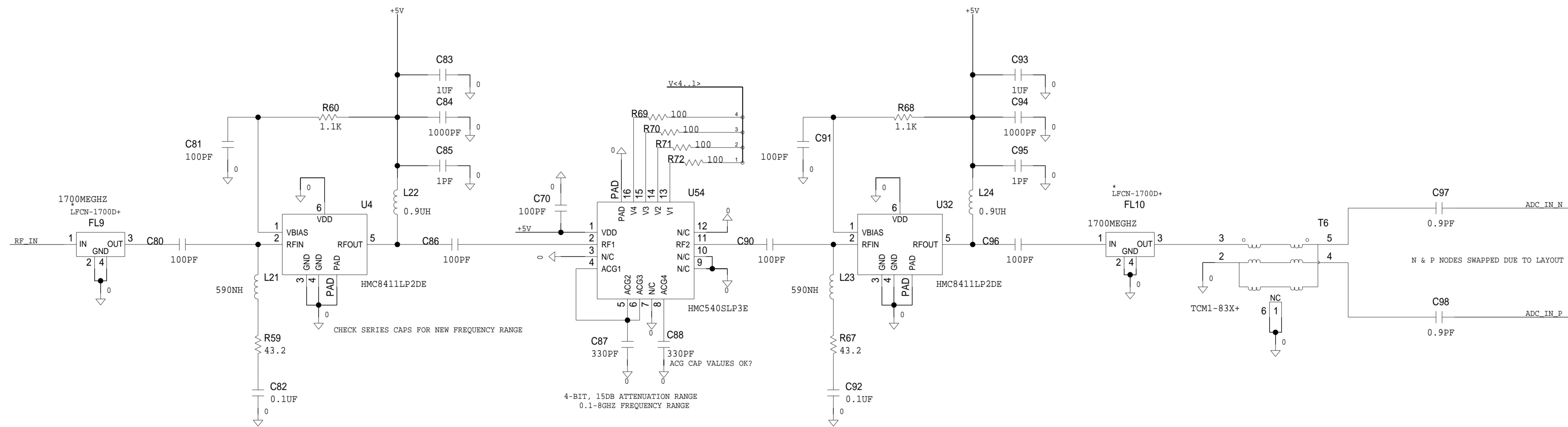
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	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN V<4...1>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



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	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

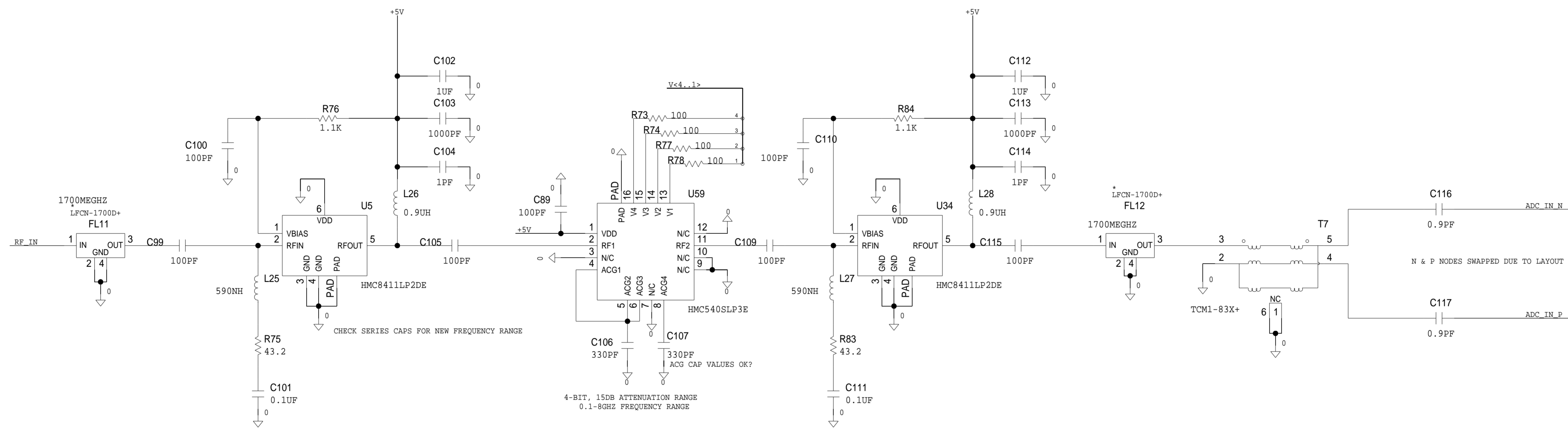
SHEET 69 OF 80

# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN V<4...1>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

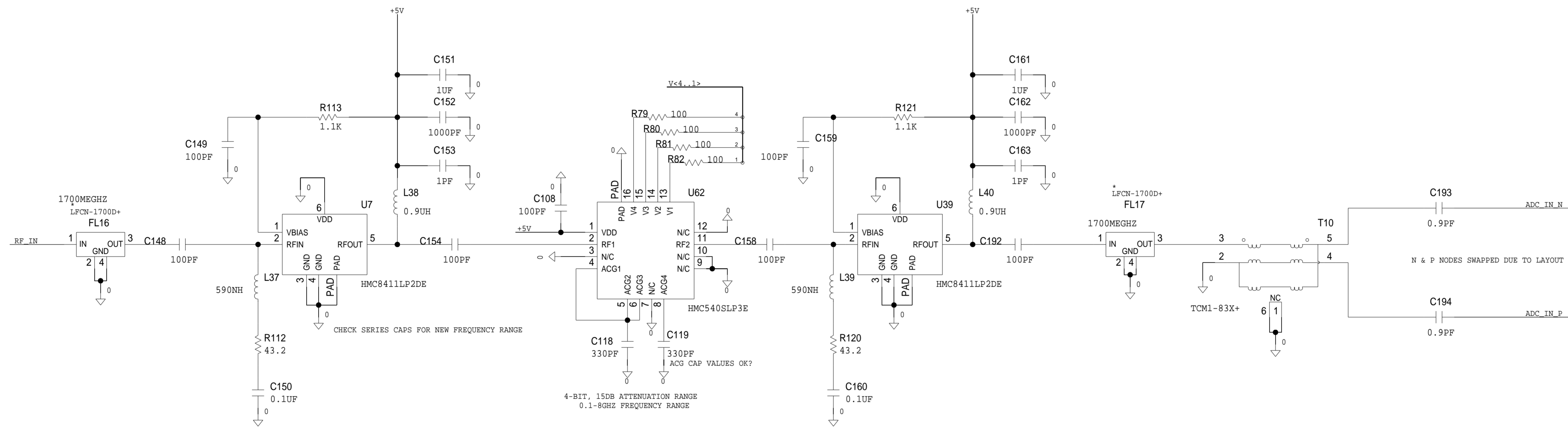
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# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN V<4..1>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



	<b>SCHEMATIC</b>		
	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

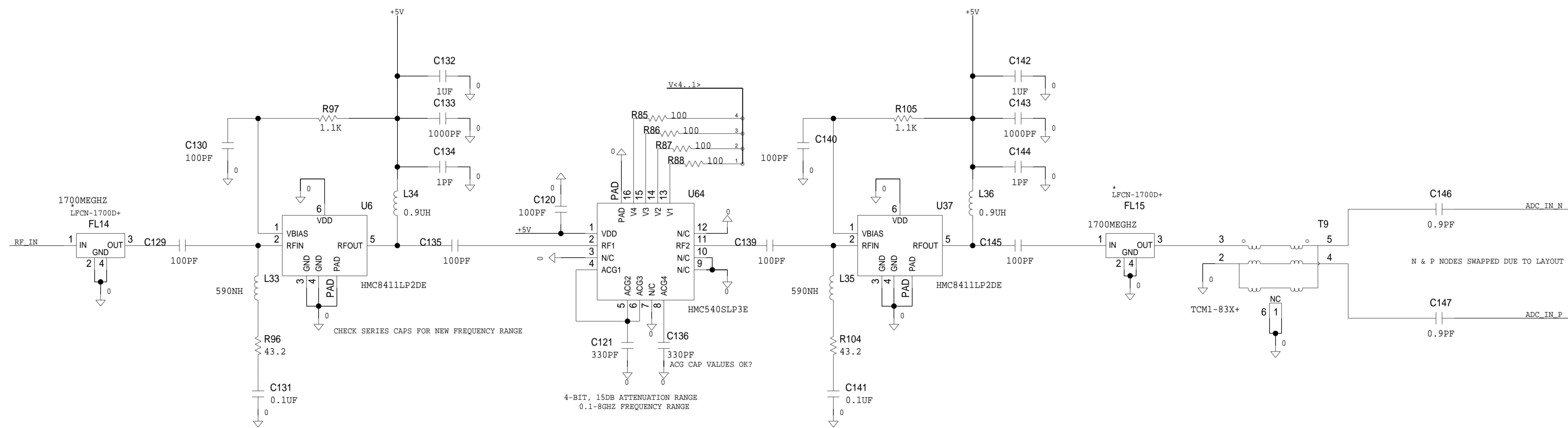
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# ADC FRONT END

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN → V<4...1>  
 IN → +5V  
 IN → RF\_IN

ADC\_IN\_P → OUT  
 ADC\_IN\_N → OUT



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	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 72 OF 80

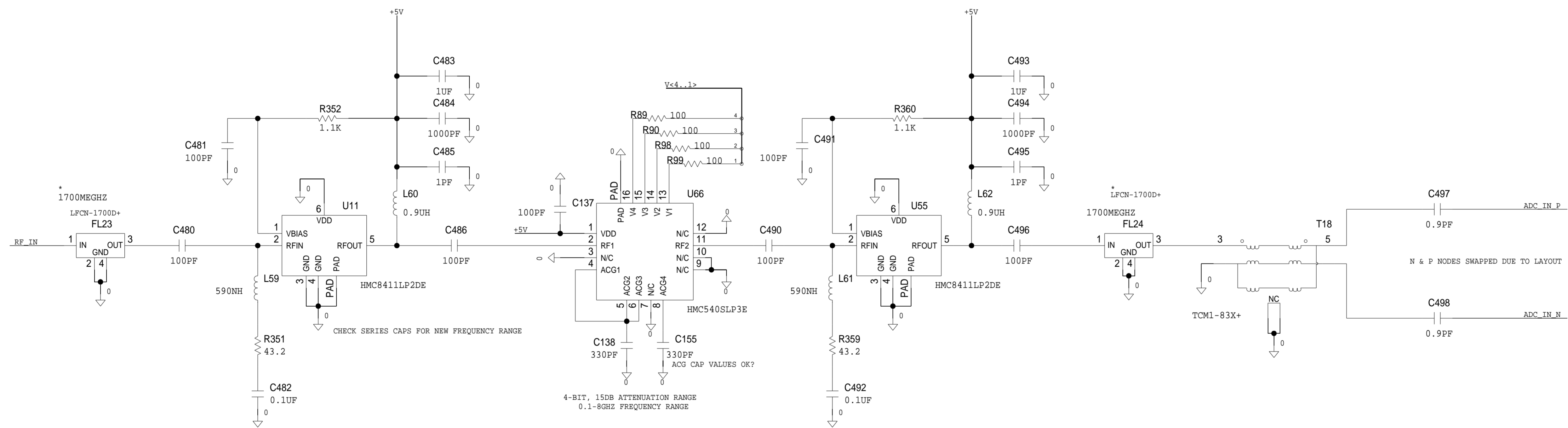


# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN Vc4...i>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P OUT  
 ADC\_IN\_N OUT



	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

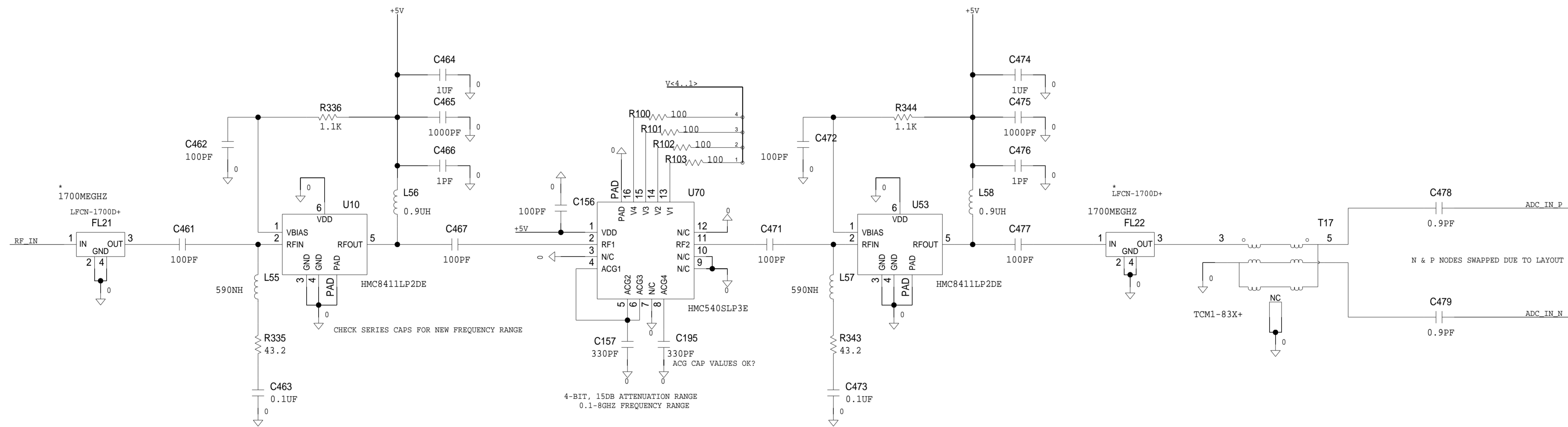
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# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN Vc4...i>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P OUT  
 ADC\_IN\_N OUT



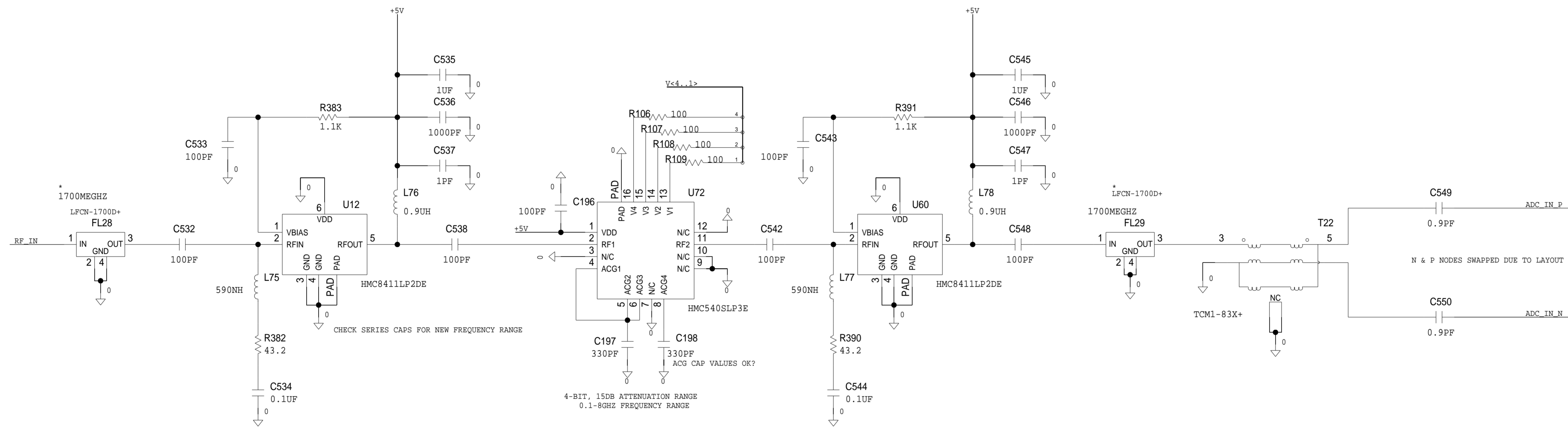
	<b>SCHEMATIC</b>		
	QUAD MxPxE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPxE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 74 OF 80

# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN  $V_{c4...1}$   
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



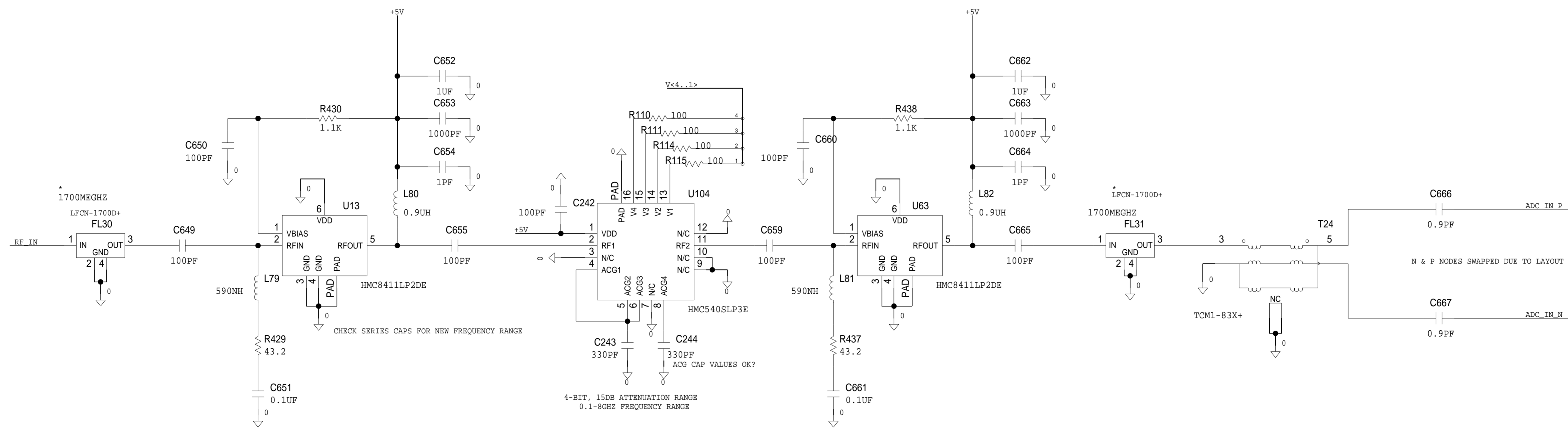
	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 75 OF 80

# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN Vc4...i>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



	<b>SCHEMATIC</b>		
	QUAD MxPE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

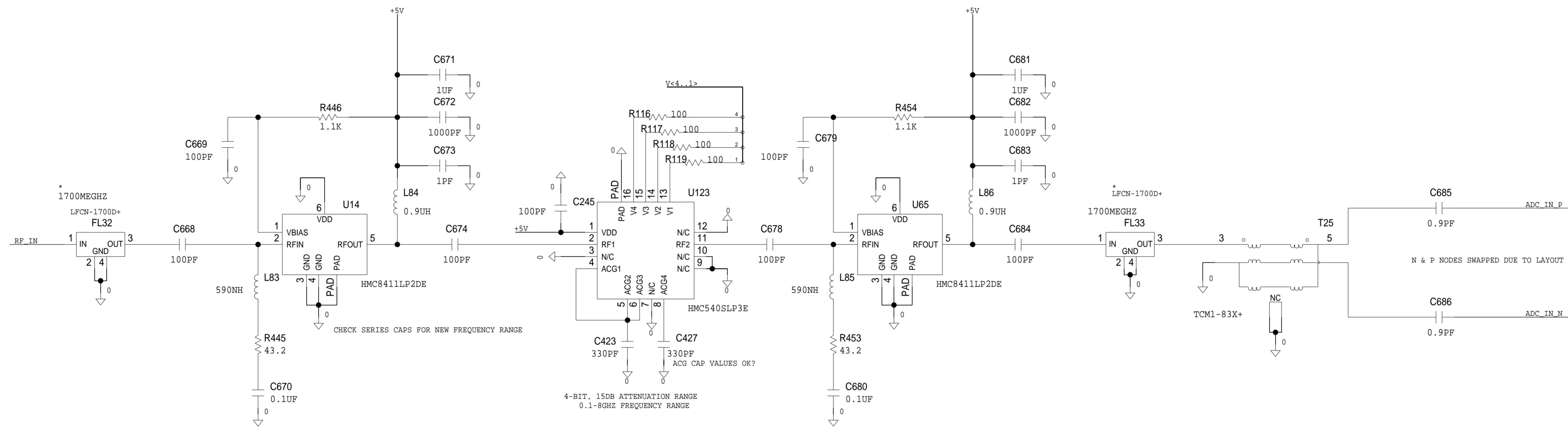
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# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN Vc4...i>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P OUT  
 ADC\_IN\_N OUT



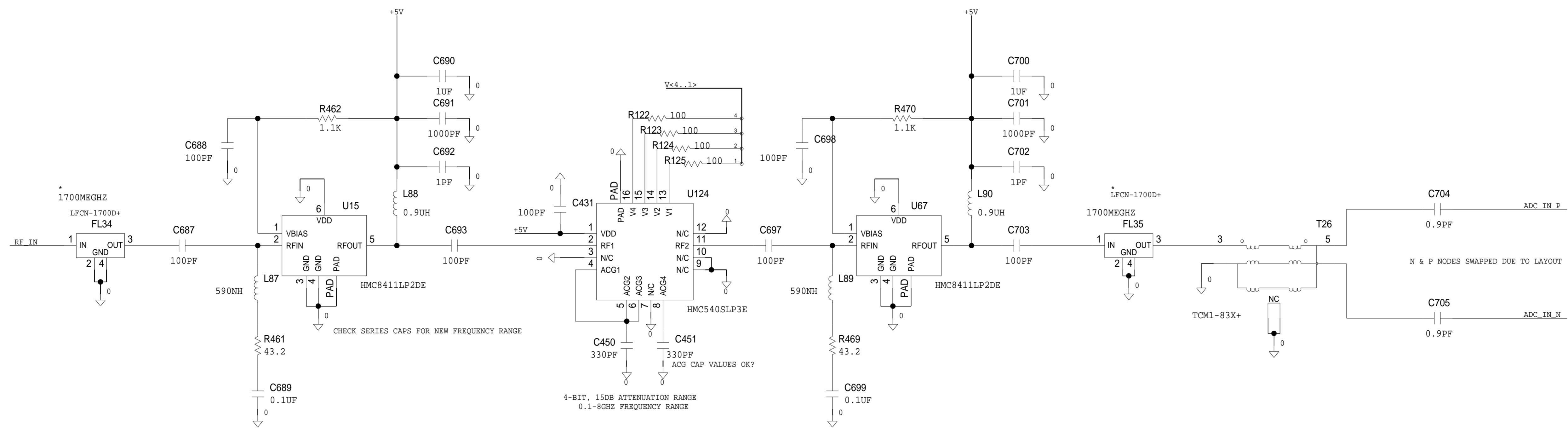
<p>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTERESTS OF ANALOG DEVICES. THE EQUIPMENT SHOWN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY ANALOG DEVICES.</p>	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1	SHEET 77 OF 80

# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN  $V_{c4...1}$   
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



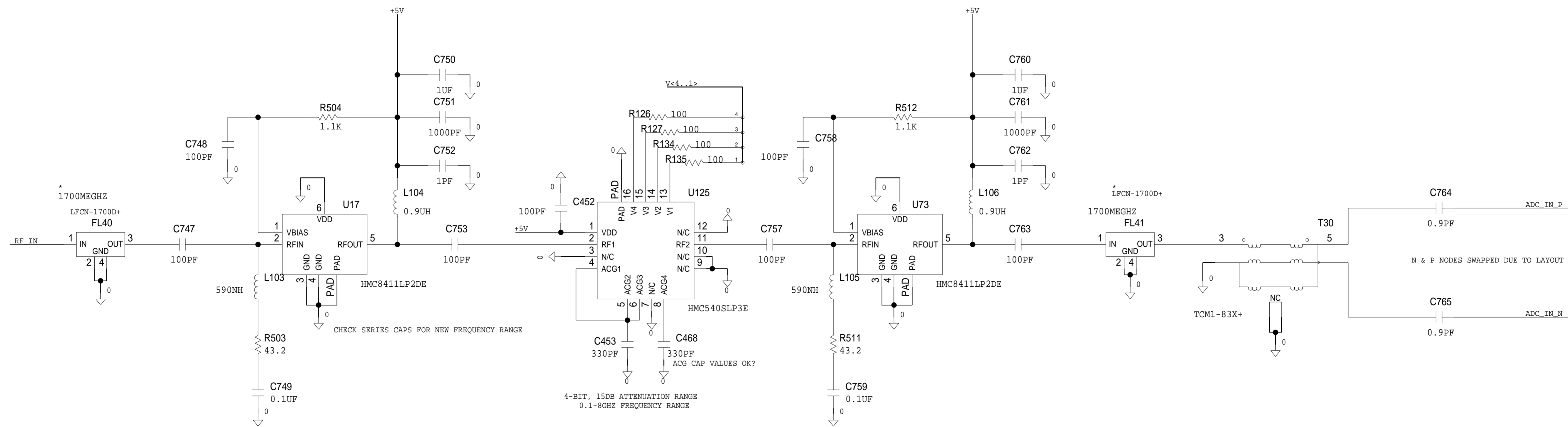
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	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN  $V_{c4...1}$   
 IN +5V  
 IN RF\_IN

ADC\_IN\_P (OUT)  
 ADC\_IN\_N (OUT)



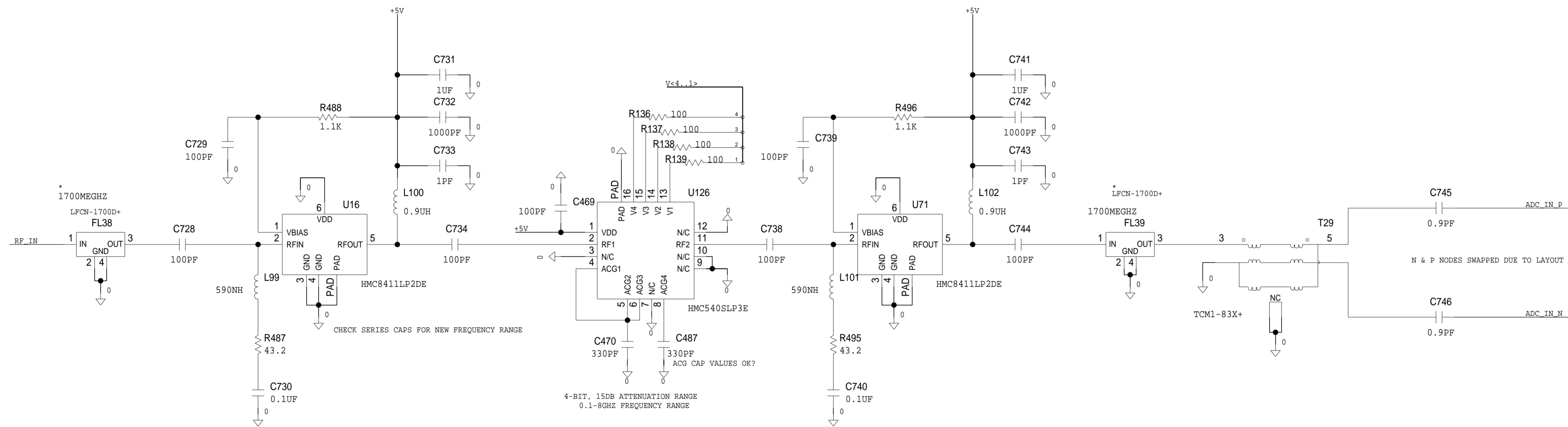
	<b>SCHEMATIC</b>		
	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1
		SHEET 79 OF 80	

# ADC FRONT END-WEST

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

IN Vc4...i>  
 IN +5V  
 IN RF\_IN

ADC\_IN\_P OUT  
 ADC\_IN\_N OUT



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	QUAD MxPFE PHASED ARRAY PROTOTYPE AEROSPACE AND DEFENSE GROUP AD9081, ADQUADMxPFE2EBZ_BRD, 1st Rx Nyquist		
	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_057438-03	REV C
	PTD ENGINEER M. JONES / C. FRICK	SIZE D	SCALE 1:1

SHEET 80 OF 80