

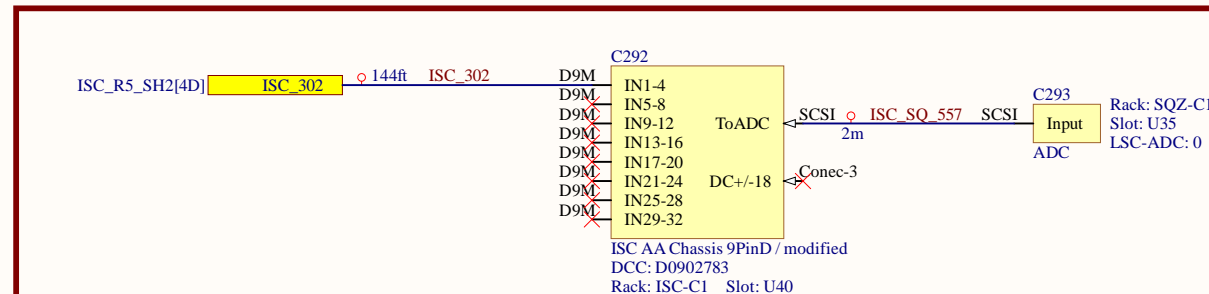
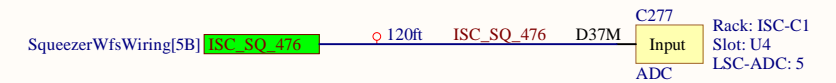
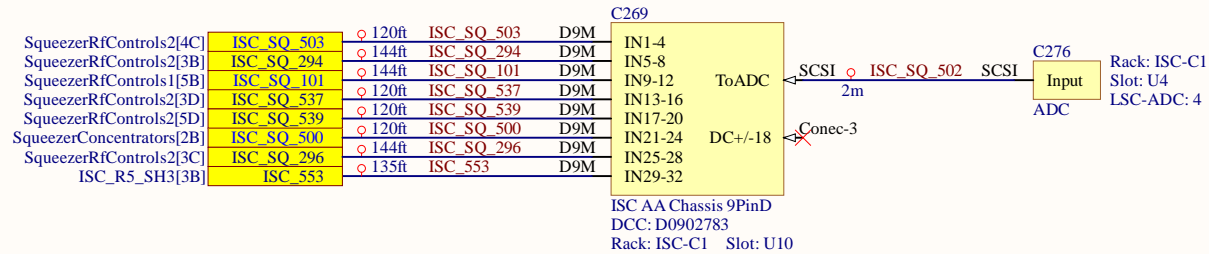
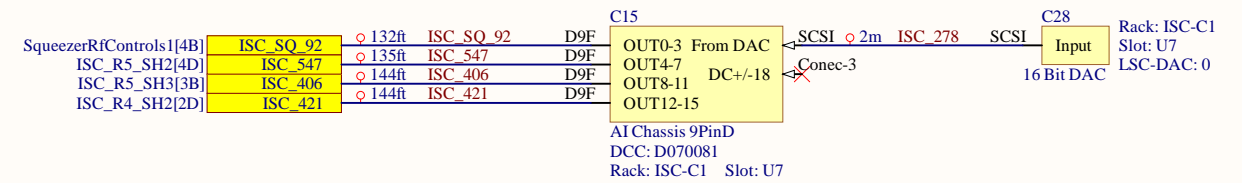
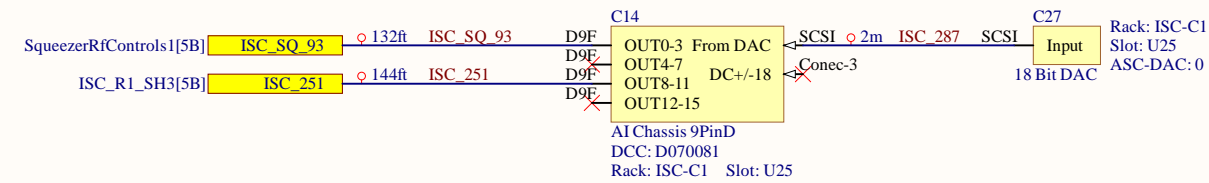
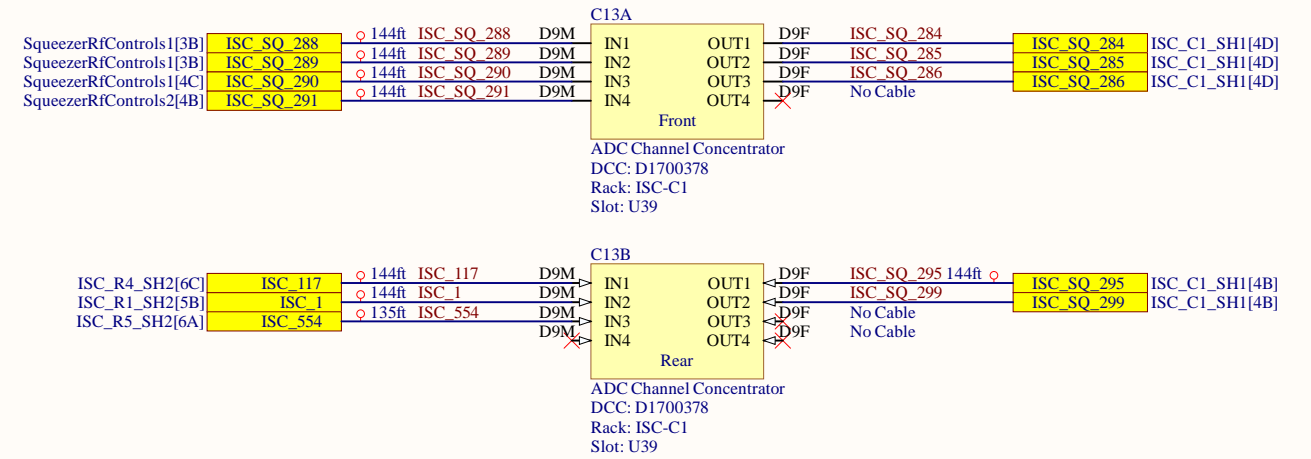
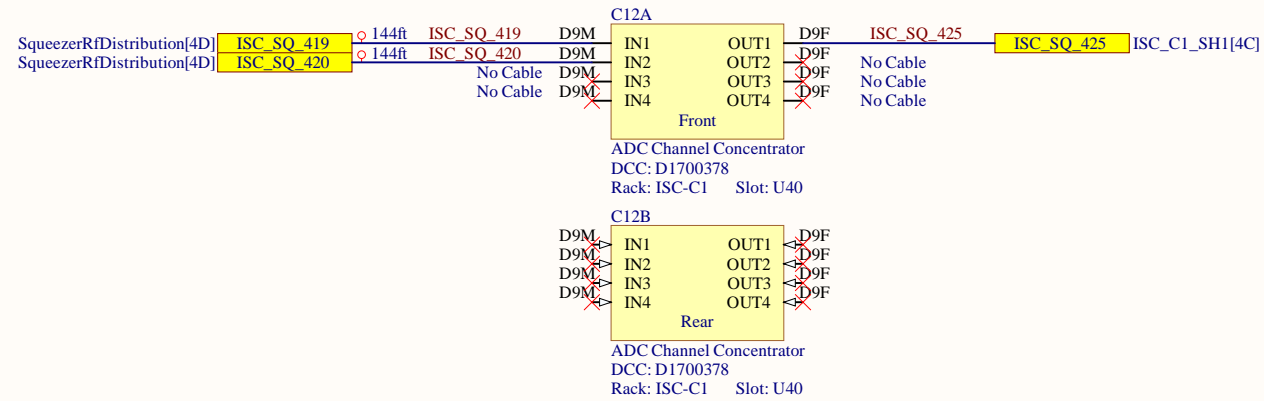
ISC-C1 Rack



Following cables are not connected in the CER:
ISC_101, ISC_175, ISC_242, ISC_410.

Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 1 37
File:	C:\Users\...ISC_C1_SH1.SchDoc	Drawn By: Filiberto Clara

ISC-C1 Rack

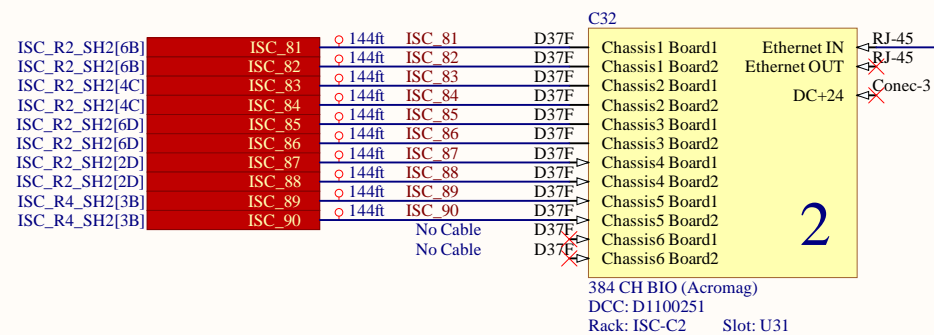
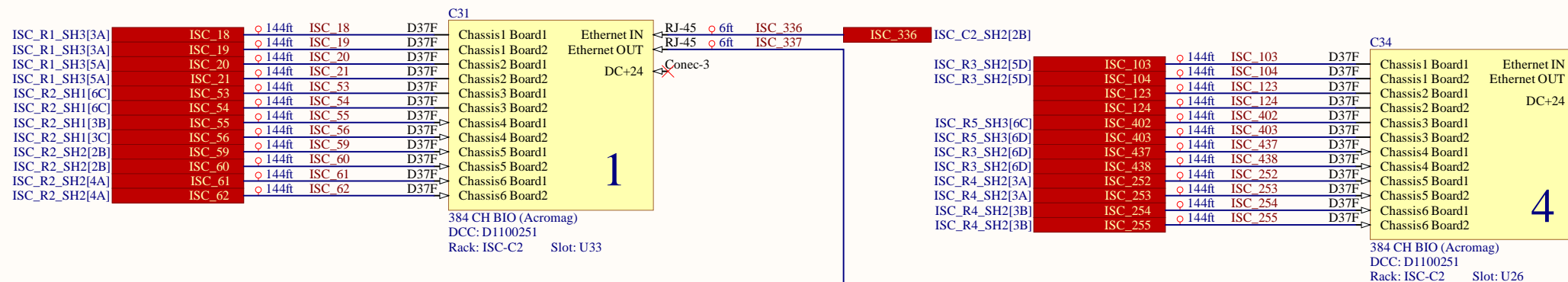
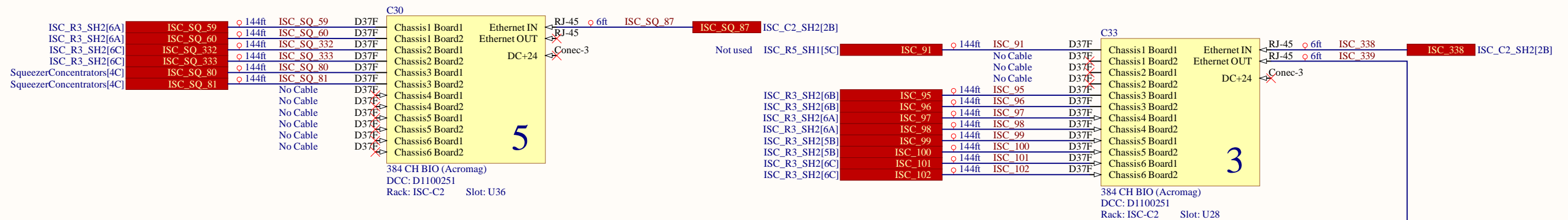
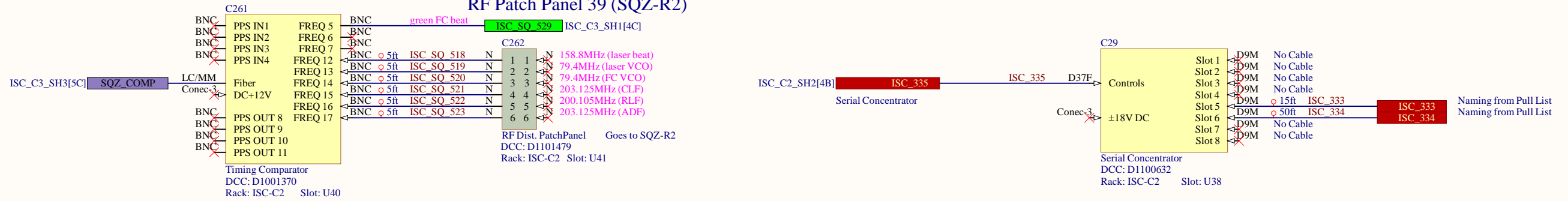


SQZ-C1 Rack

Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 2 37
File:	C:\Users\...ISC_C1_SH2.SchDoc	Drawn By: Filiberto Clara

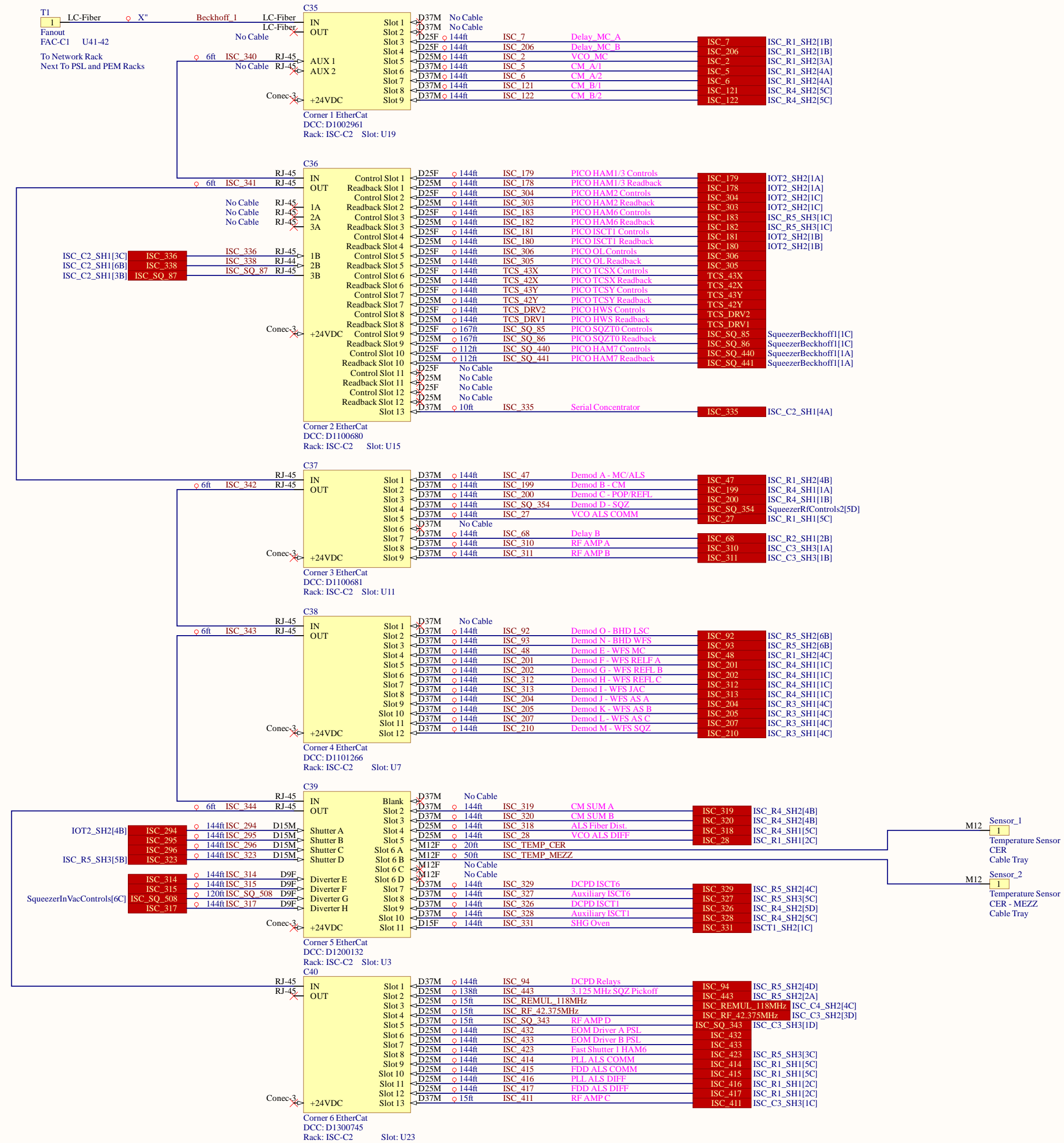
ISC-C2 Rack

RF Patch Panel 39 (SQZ-R2)



Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 3 37
File:	C:\Users\...\ISC_C2_SH1.SchDoc	Drawn By: Filiberto Clara

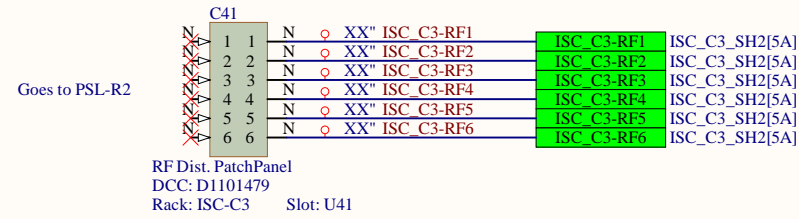
ISC-C2 Rack



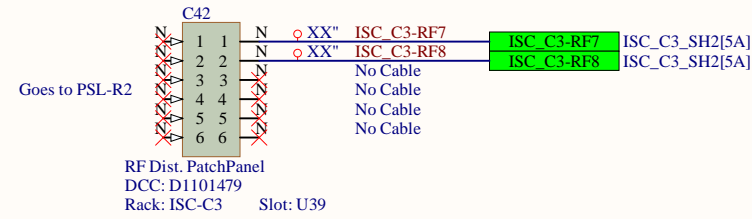
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ISC System Wiring Diagram		
Size	Number	Revision
C	D1900511	V10
Date:	8/13/2024	Sheet of 37
File:	C:\Users\...ISC_C2_SH2.SchDoc	Drawn By: Filiberto Clara

ISC-C3 Rack

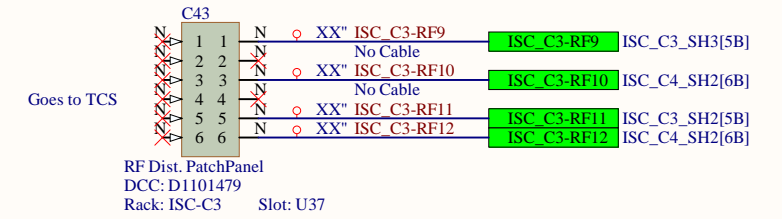
RF Patch Panel 7 (PSL)



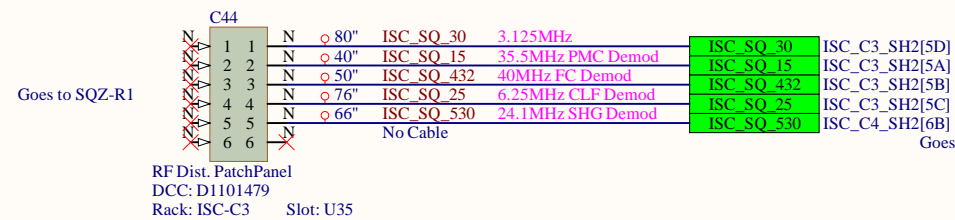
RF Patch Panel 8 (PSL)



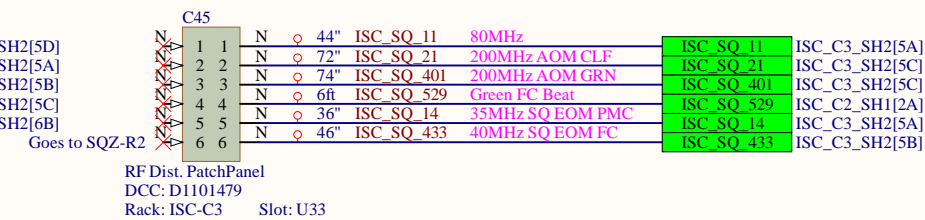
RF Patch Panel 9 (TCS)



RF Patch Panel 32 (SQZ-R1)



RF Patch Panel 33 (SQZ-R2)



Cables that are removed
ISC_SQ_31
ISC_SQ_12
ISC_SQ_78

Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V10			
Date:	8/13/2024	Sheet of	5	37	
File:	C:\Users\...\ISC_C3_SH1.SchDoc	Drawn By:	Filiberto Clara		

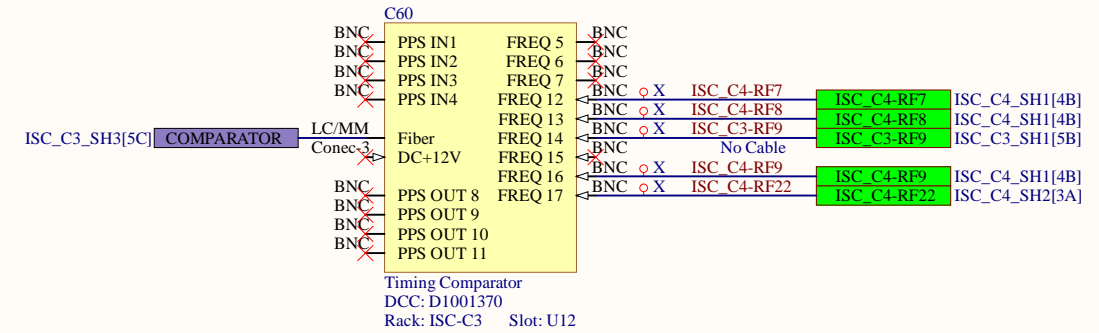
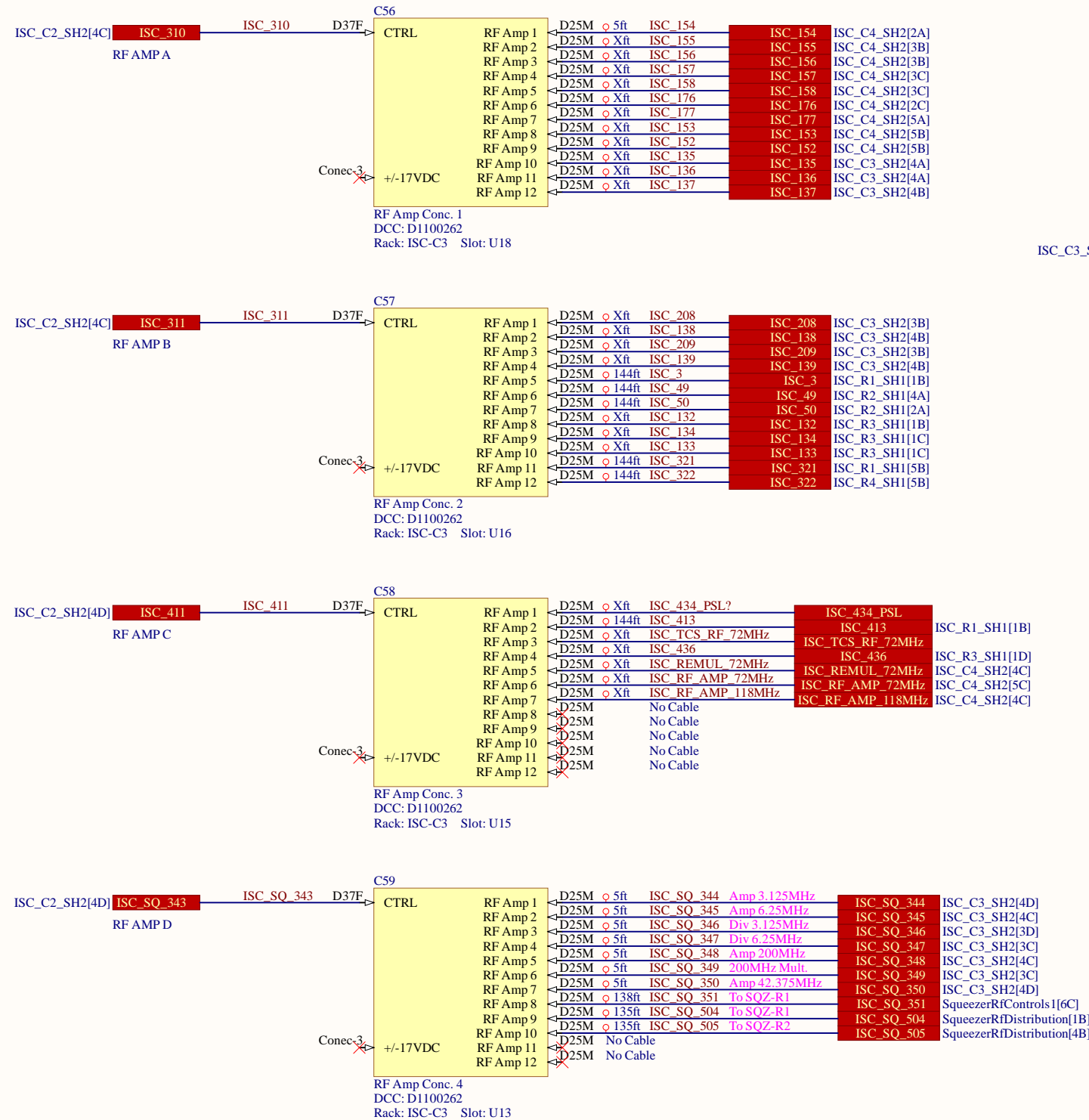
ISC-C3 Rack



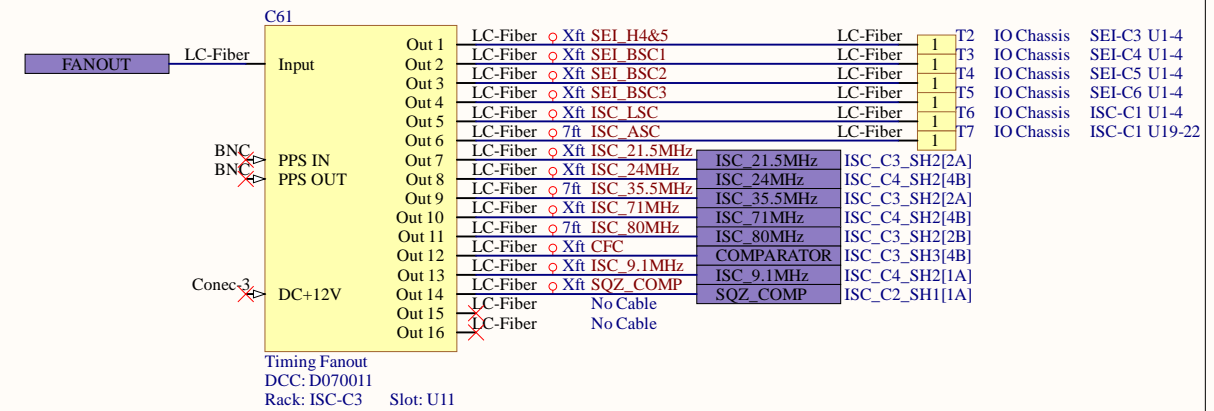
Need to label IFR cable with RF22

Title		ISC System Wiring Diagram	
Size	Number	Revision	
C	D1900511	V10	
Date:	8/13/2024	Sheet of 6	37
File:	C:\Users\...ISC_C3_SH2.SchDoc	Drawn By:	Filiberto Clara

ISC-C3 Rack



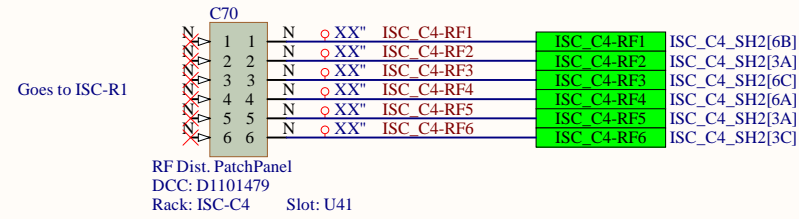
Need Locations of other ends.
 SEI IO Chassis



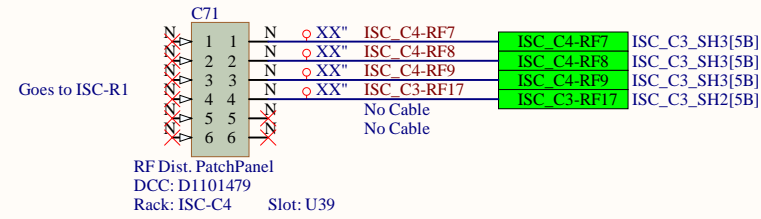
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Size	Number	Revision	
B	D1900511	V10	
Date:	8/13/2024	Sheet of 7	37
File:	C:\Users\...ISC_C3_SH3.SchDoc	Drawn By: Filiberto Clara	

ISC-C4 Rack

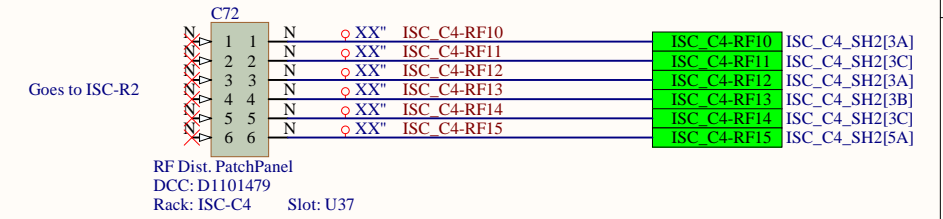
RF Patch Panel 1 (ISC-R1/IO)



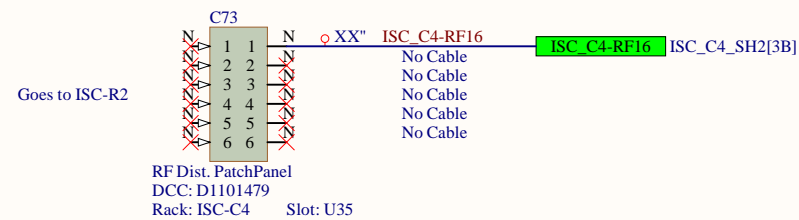
RF Patch Panel 2 (ISC-R1/IO)



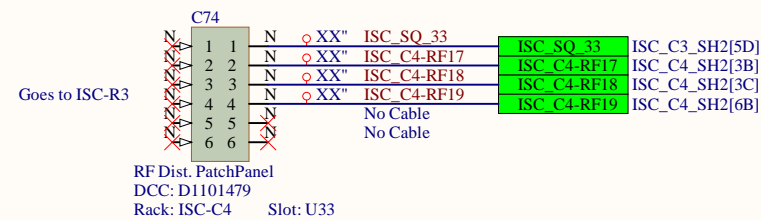
RF Patch Panel 3 (ISC-R2/REFL)



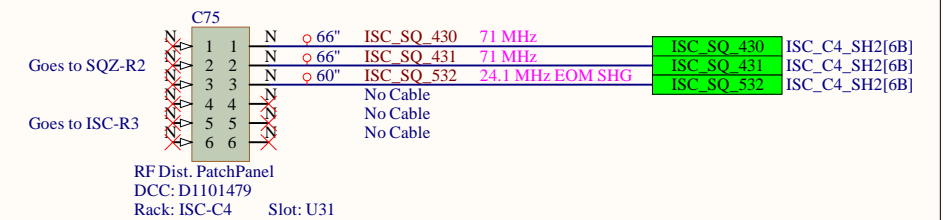
RF Patch Panel 4 (ISC-R2/REFL)



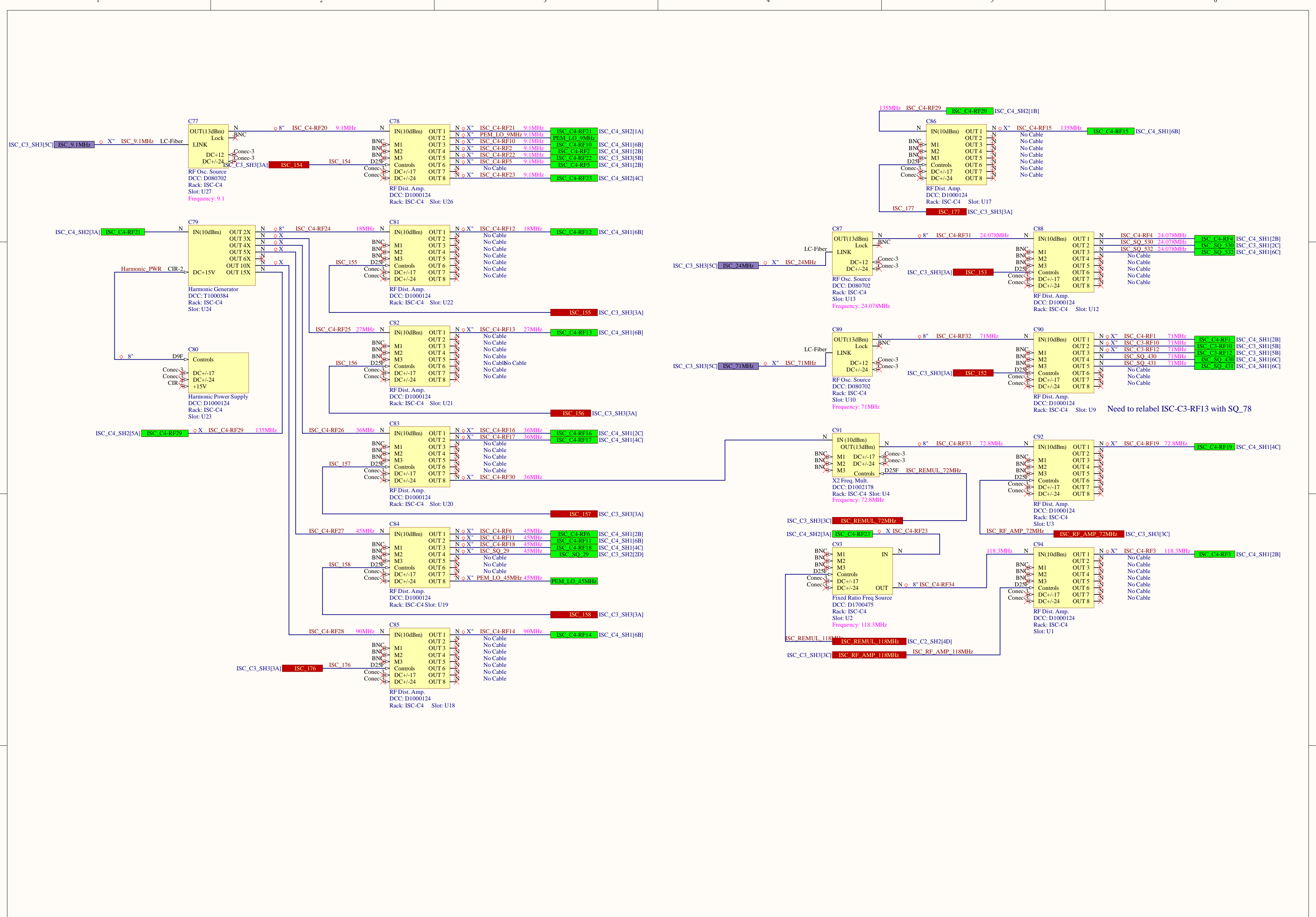
RF Patch Panel 5 (ISC-R3/AS)



RF Patch Panel 6 (SQZ-R2/ISC-R3)



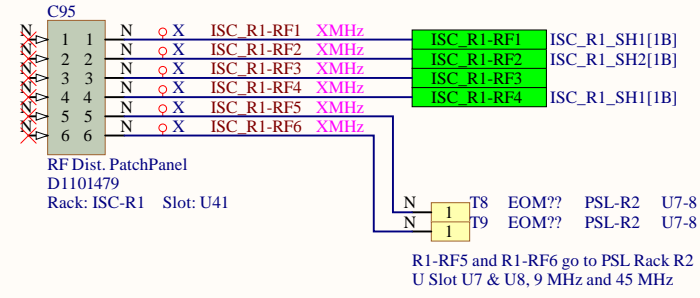
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ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 8 37
File:	C:\Users\...\ISC_C4_SH1.SchDoc	Drawn By: Filiberto Clara



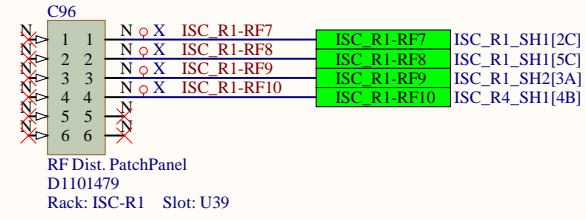
ISC-C4 Rack

Title		ISC System Wiring Diagram	
Size	Number	Revision	
C	D1900511	V10	
Date:	8/13/2024	Sheet of 9	37
File:	C:\Users\...ISC_C4_SH2.SchDoc	Drawn By:	Filiberto Clara

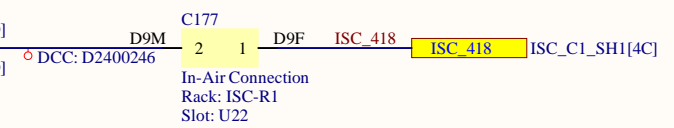
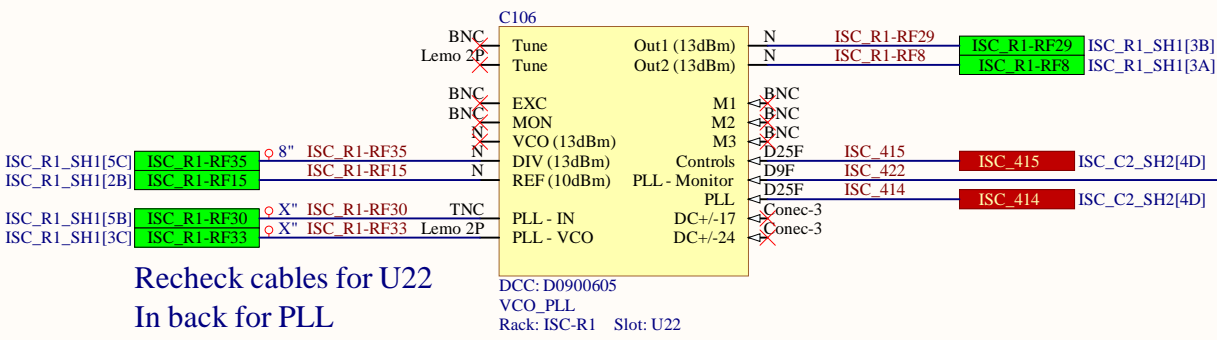
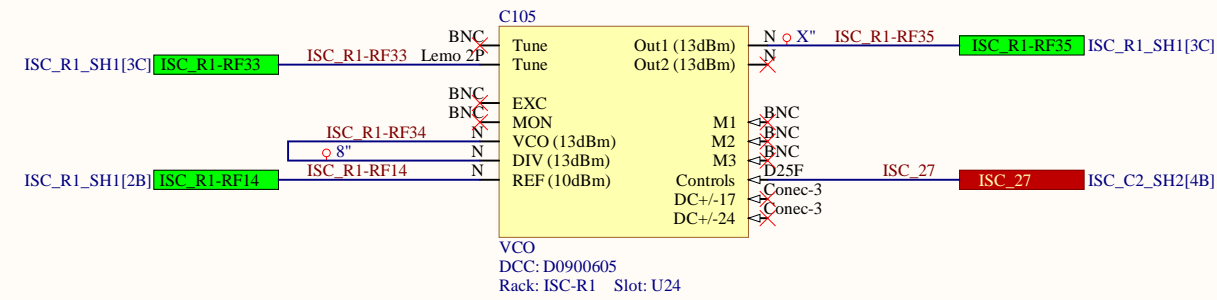
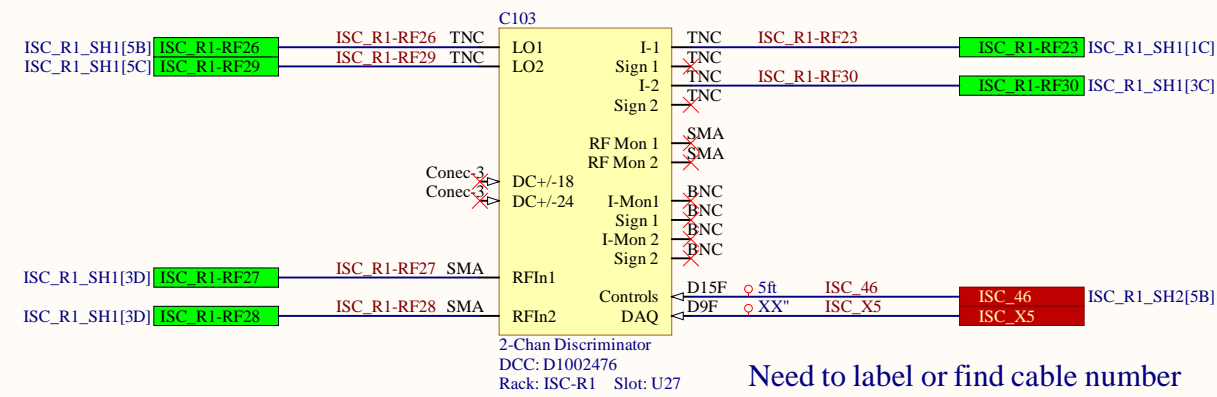
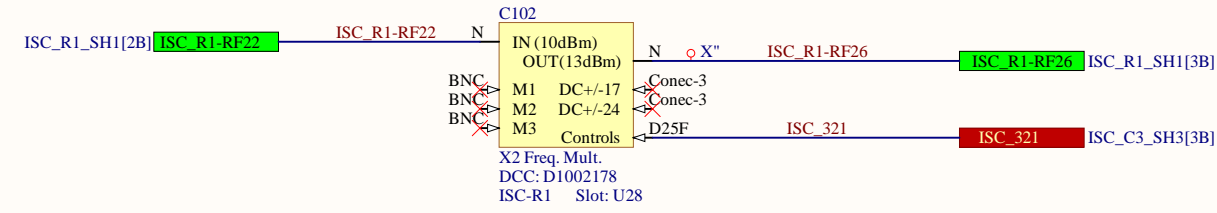
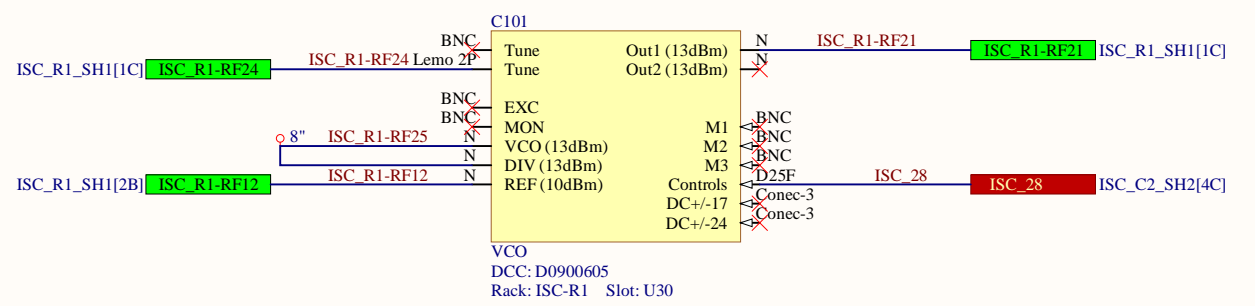
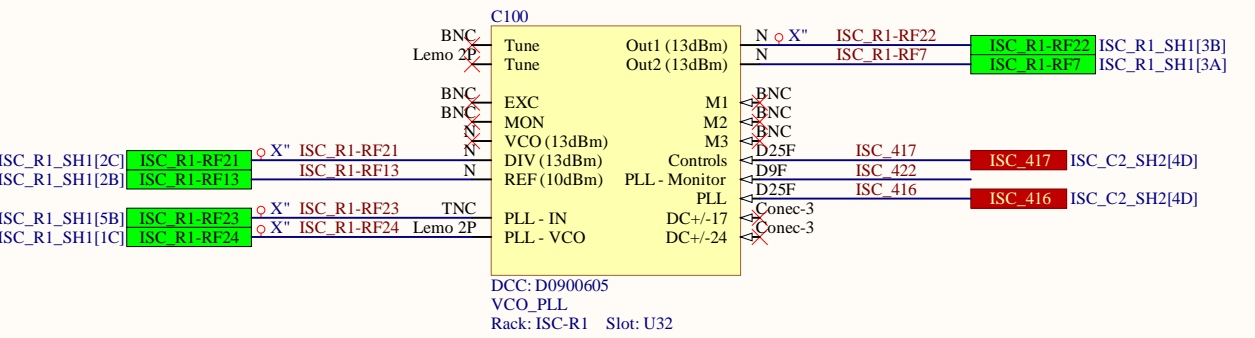
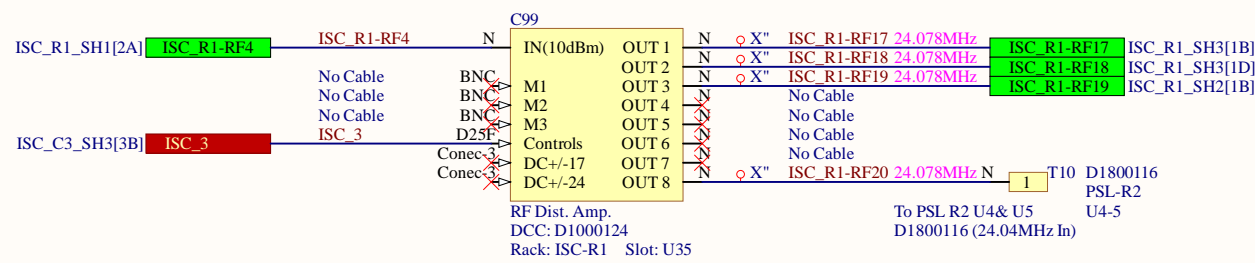
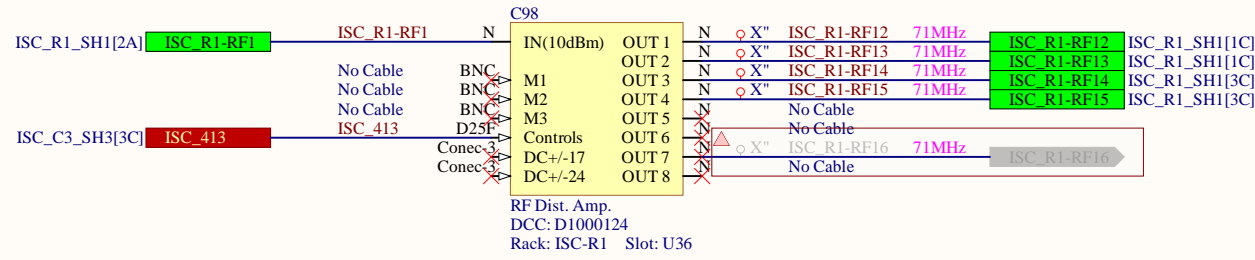
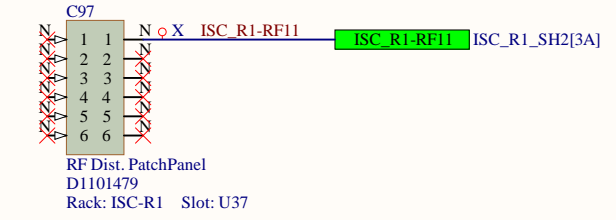
RF Patch Panel 10



RF Patch Panel 11

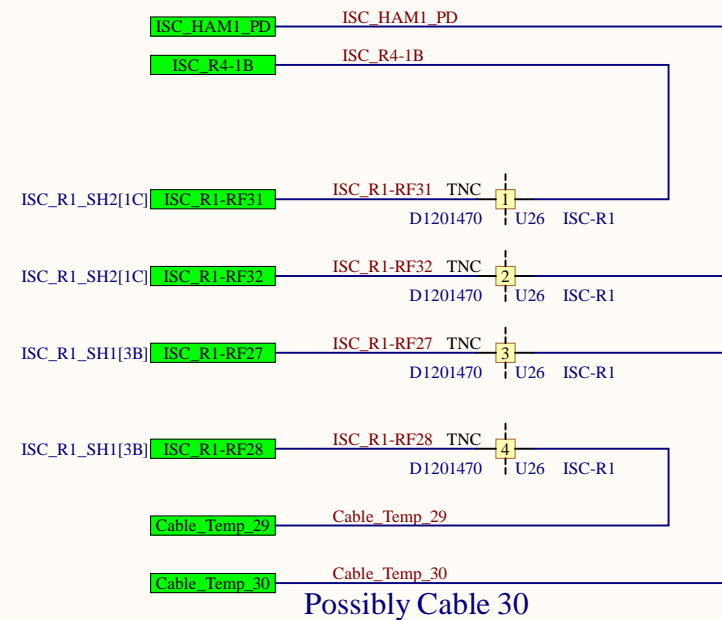


RF Patch Panel 12



Need to label or find cable number

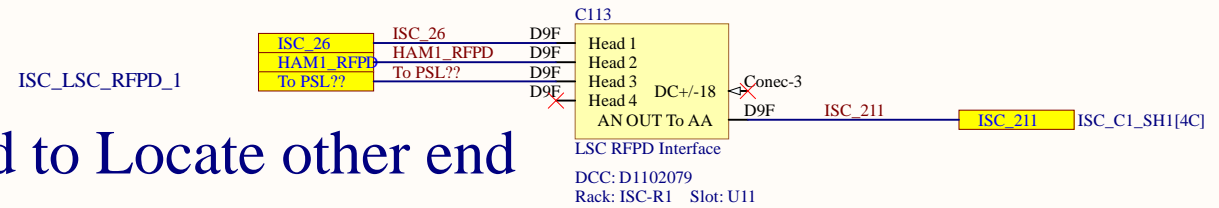
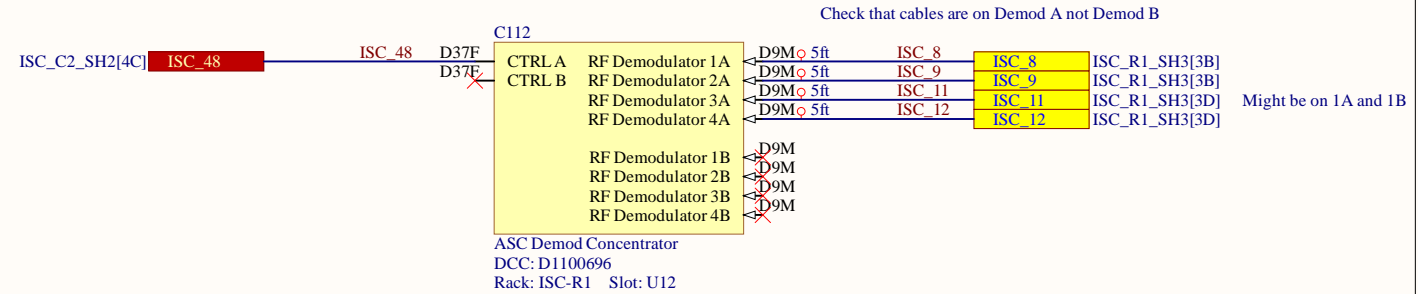
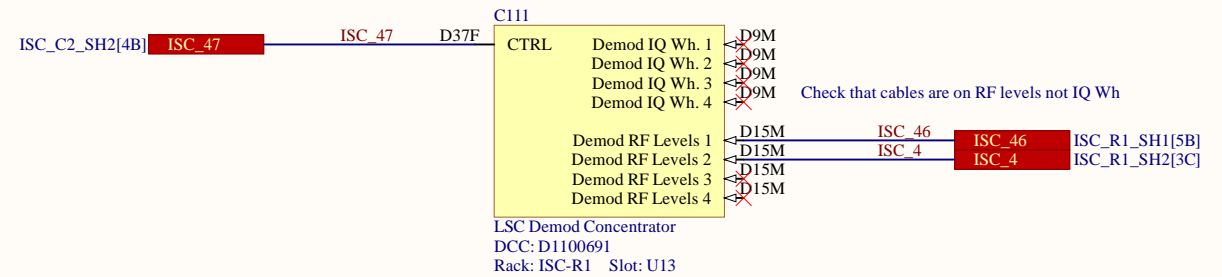
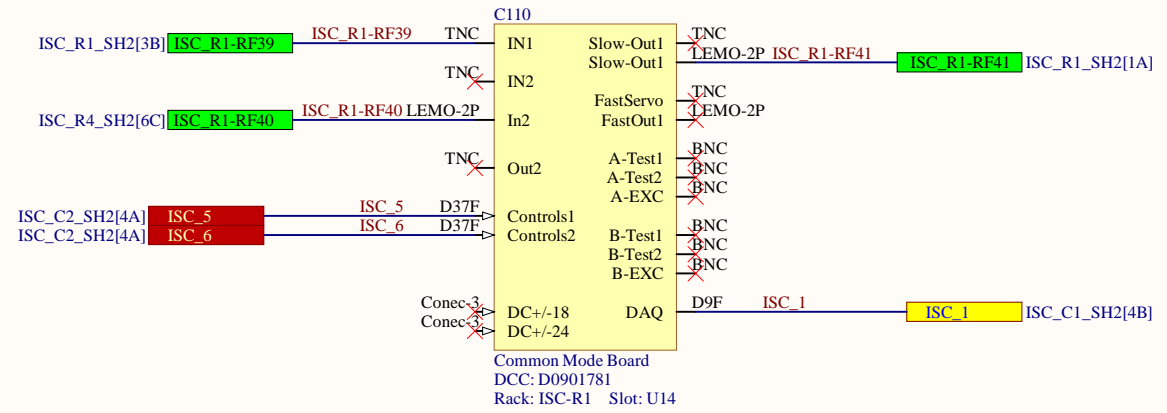
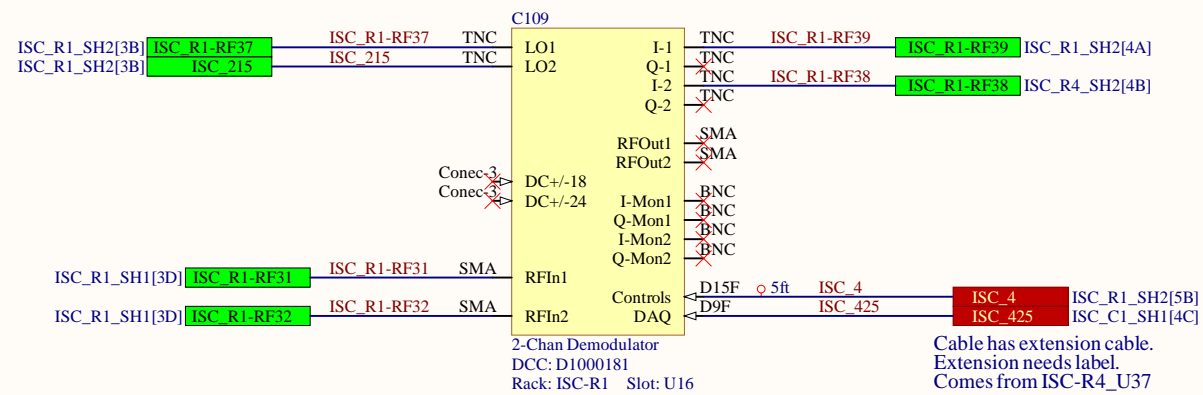
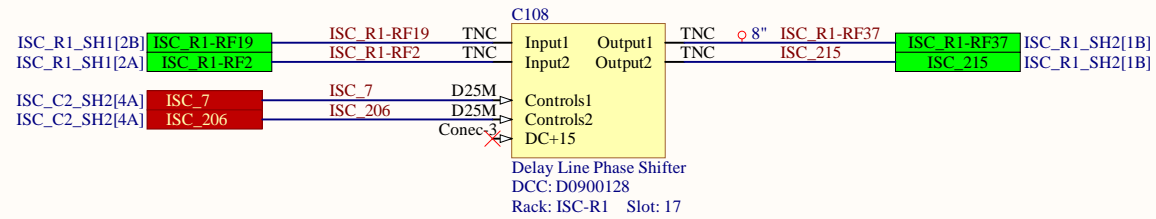
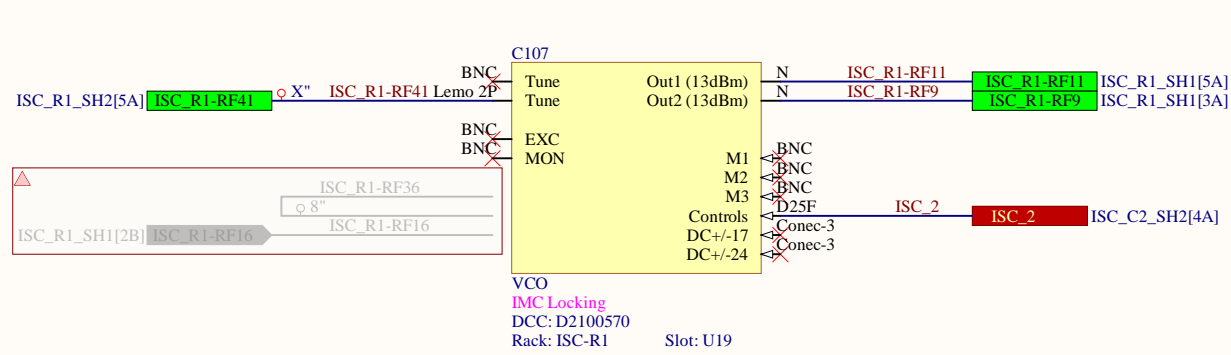
Recheck cables for U22
In back for PLL



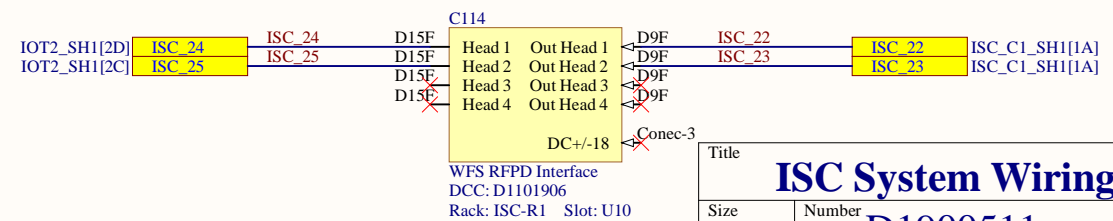
ISC-R1 Rack

Title		
ISC System Wiring Diagram		
Size	Number	Revision
C	D1900511	V10
Date:	8/13/2024	Sheet of 37
File:	C:\Users\...ISC_R1_SchDoc	Drawn By: Filiberto Clara

ISC-R1 Rack

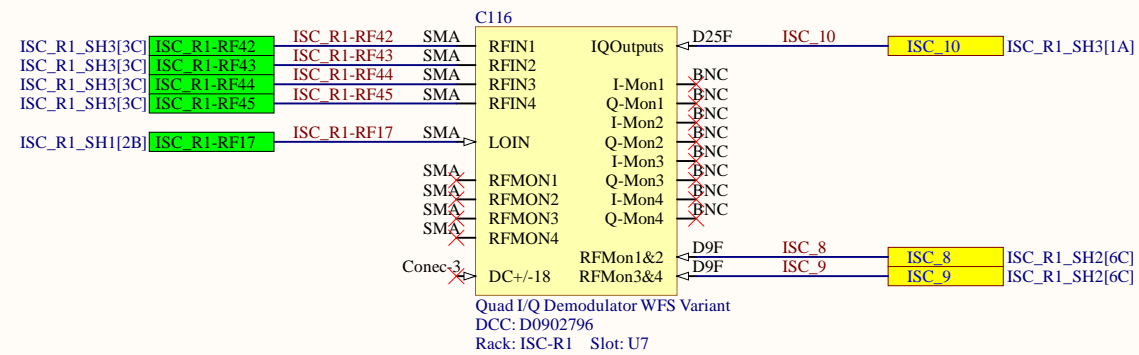
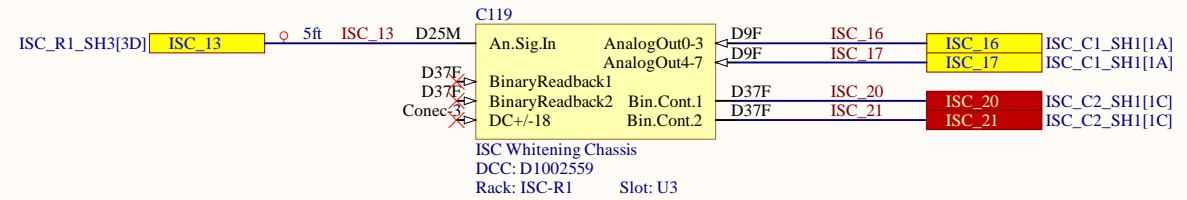
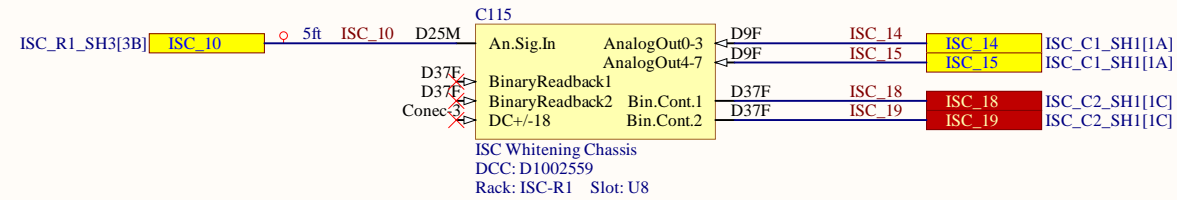


Need to Locate other end

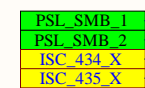


Title			
ISC System Wiring Diagram			
Size	Number	Revision	
B	D1900511	V10	
Date:	8/13/2024	Sheet of 1	37
File:	C:\Users\...ISC_R1_SH2.SchDoc	Drawn By:	Filiberto Clara

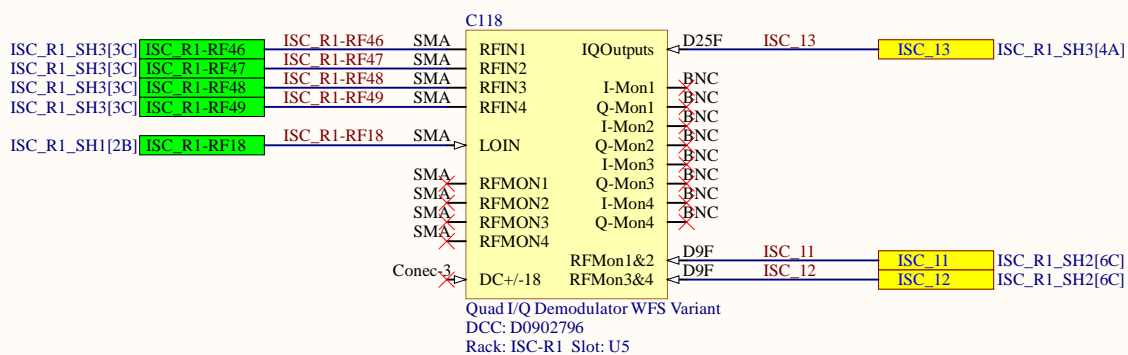
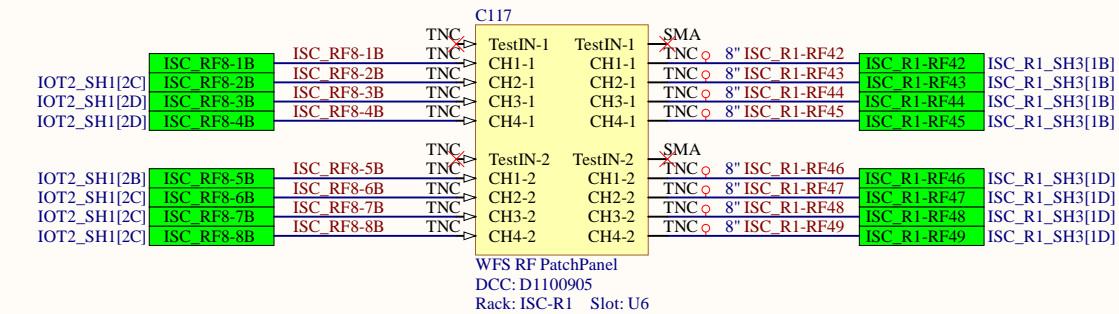
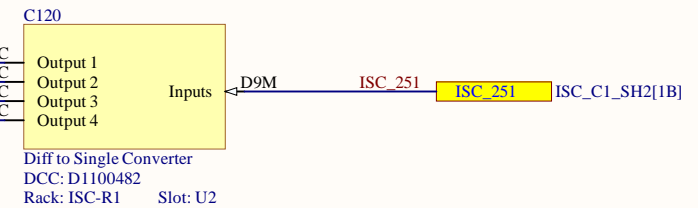
ISC-R1 Rack



Need to locate other end



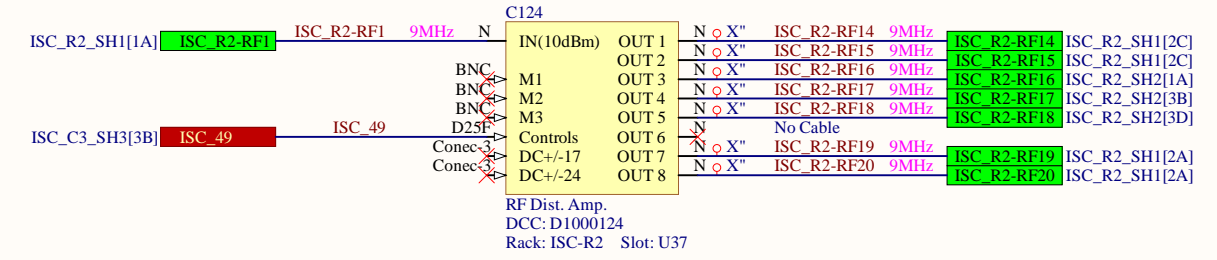
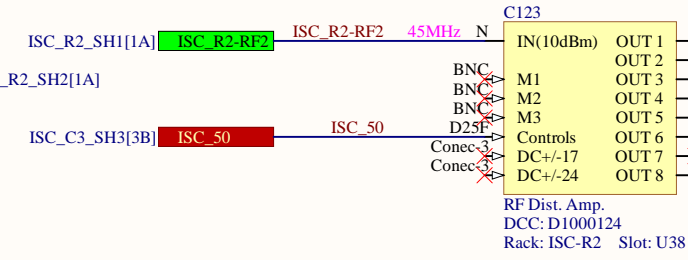
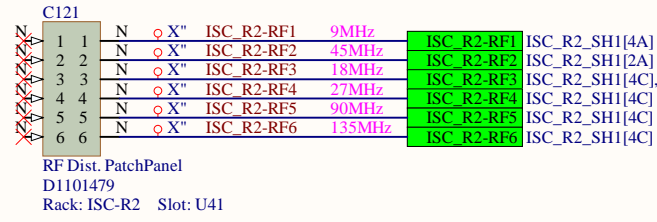
434/435 already used
 ASC-POP_X_PIT/YAW



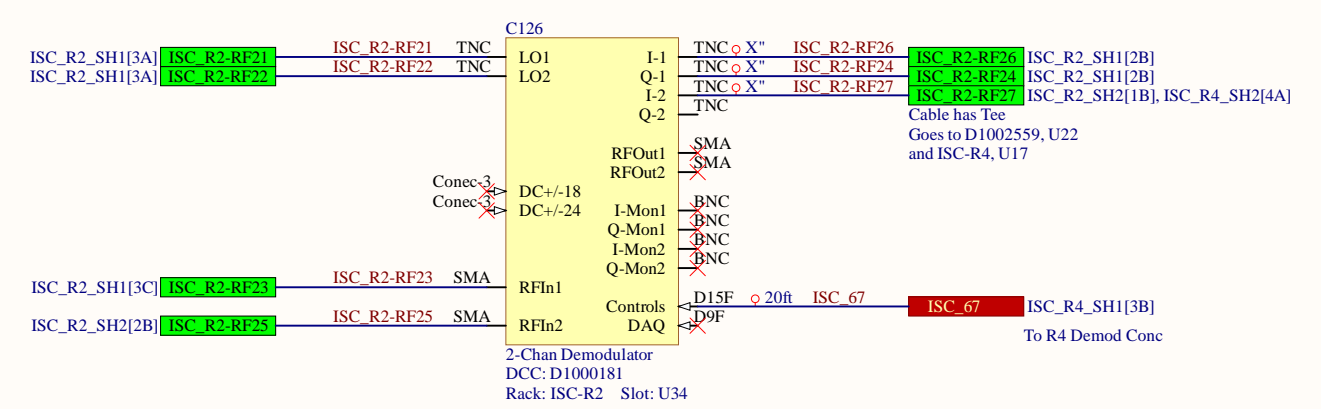
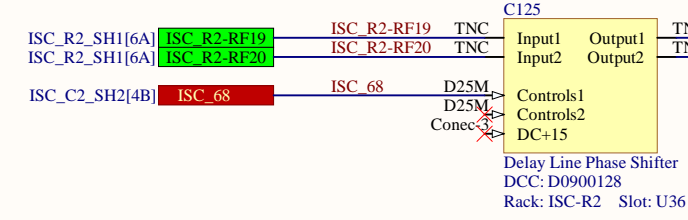
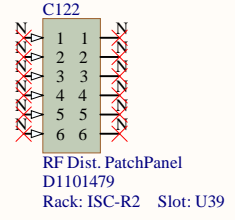
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ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 2 37
File:	C:\Users\...ISC_R1_SH3.SchDoc	Drawn By: Filiberto Clara

ISC-R2 Rack

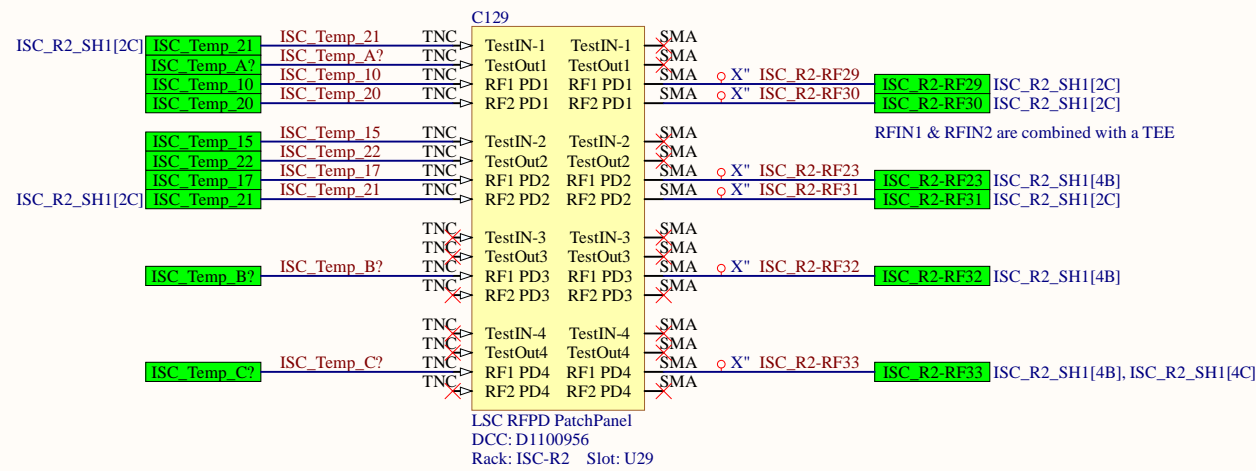
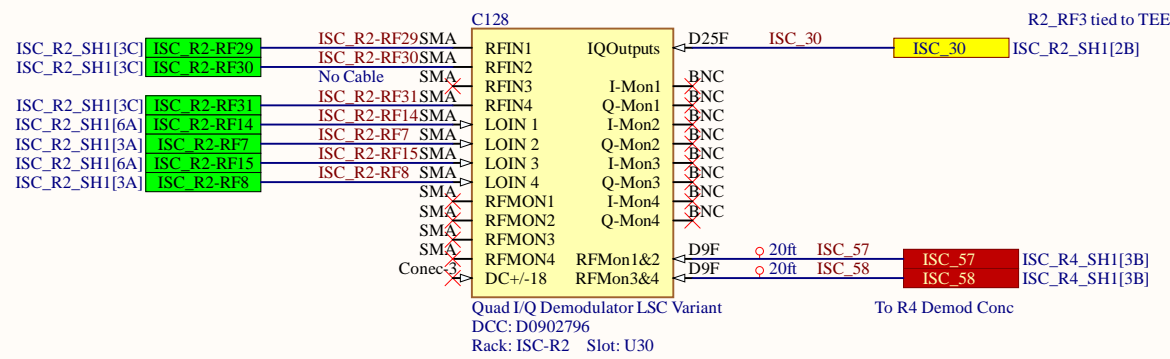
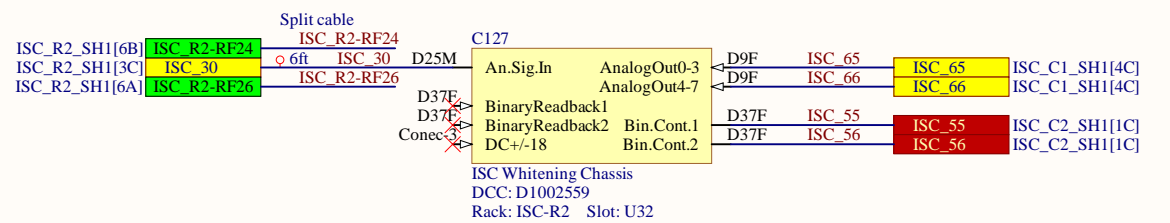
RF Patch Panel 13



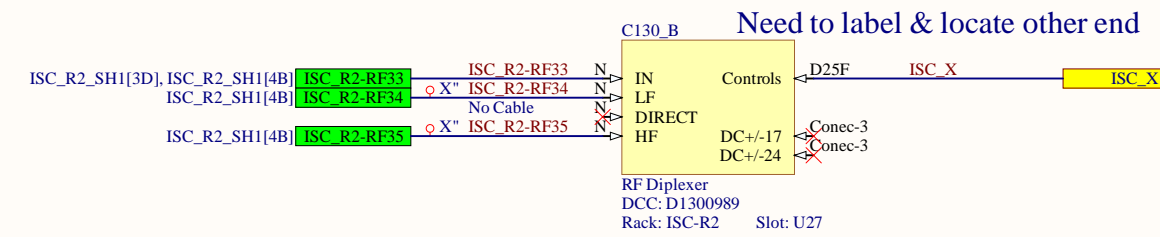
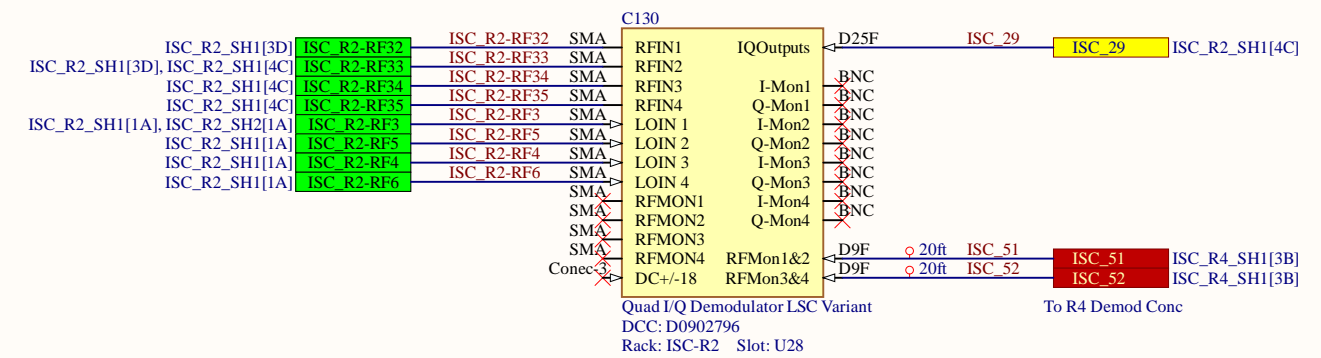
RF Patch Panel 14



LSC POPAIR A 9&45, LSC REFLAIR A 45



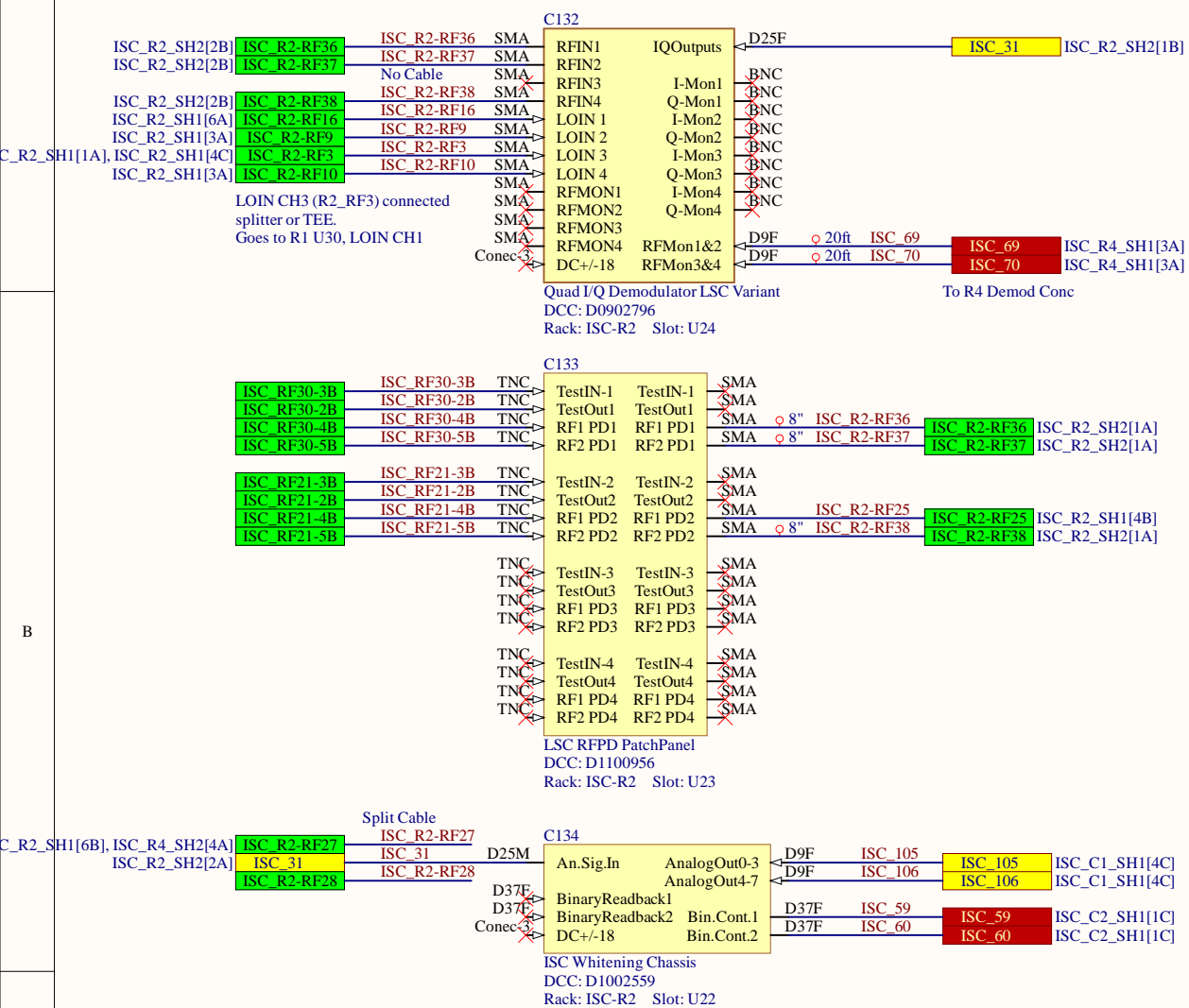
LSC POPAIR B 18&90, LSC REFLAIR B 27&135



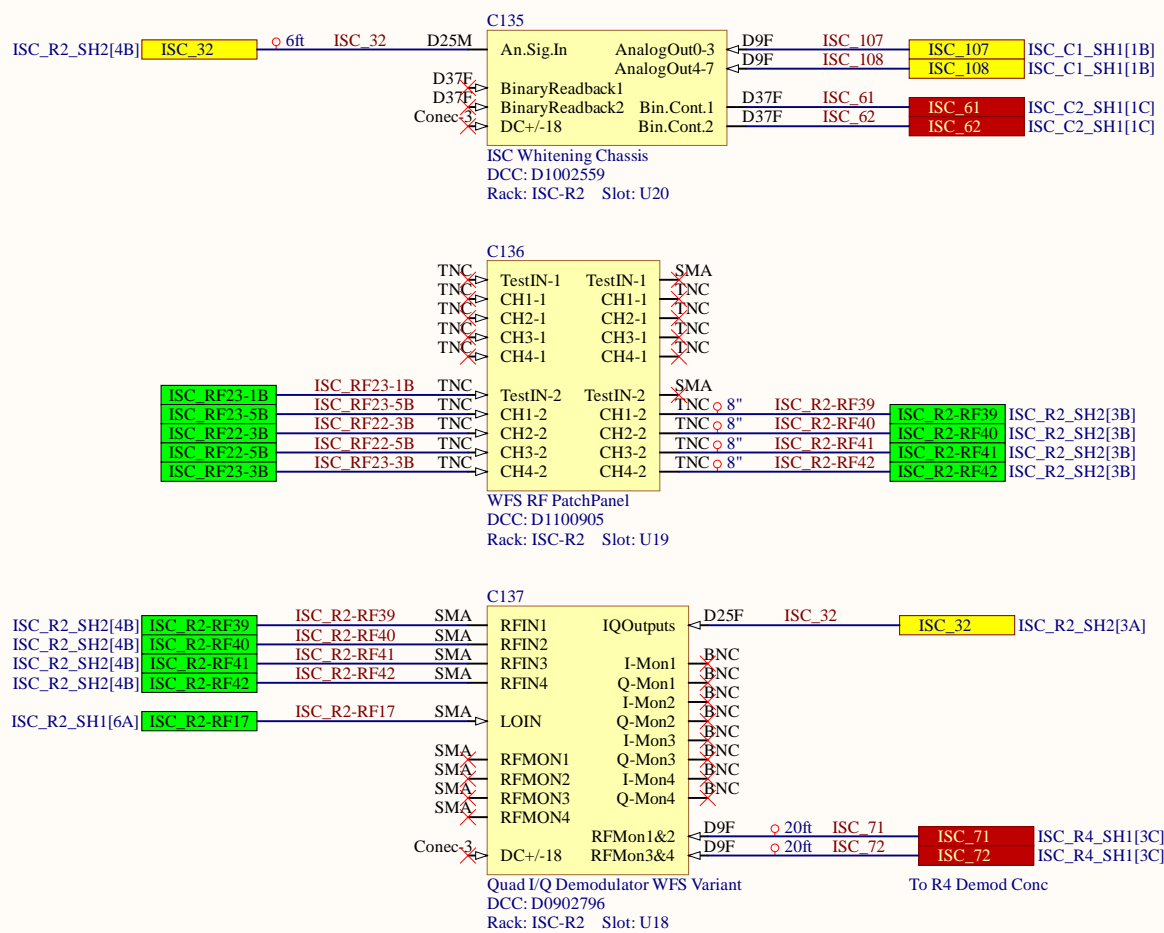
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ISC System Wiring Diagram		
Size	Number	Revision
C	D1900511	V10
Date:	8/13/2024	Sheet of3 37
File:	C:\Users\...ISC_R2_SH1.SchDoc	Drawn By: Filiberto Clara

ISC-R2 Rack

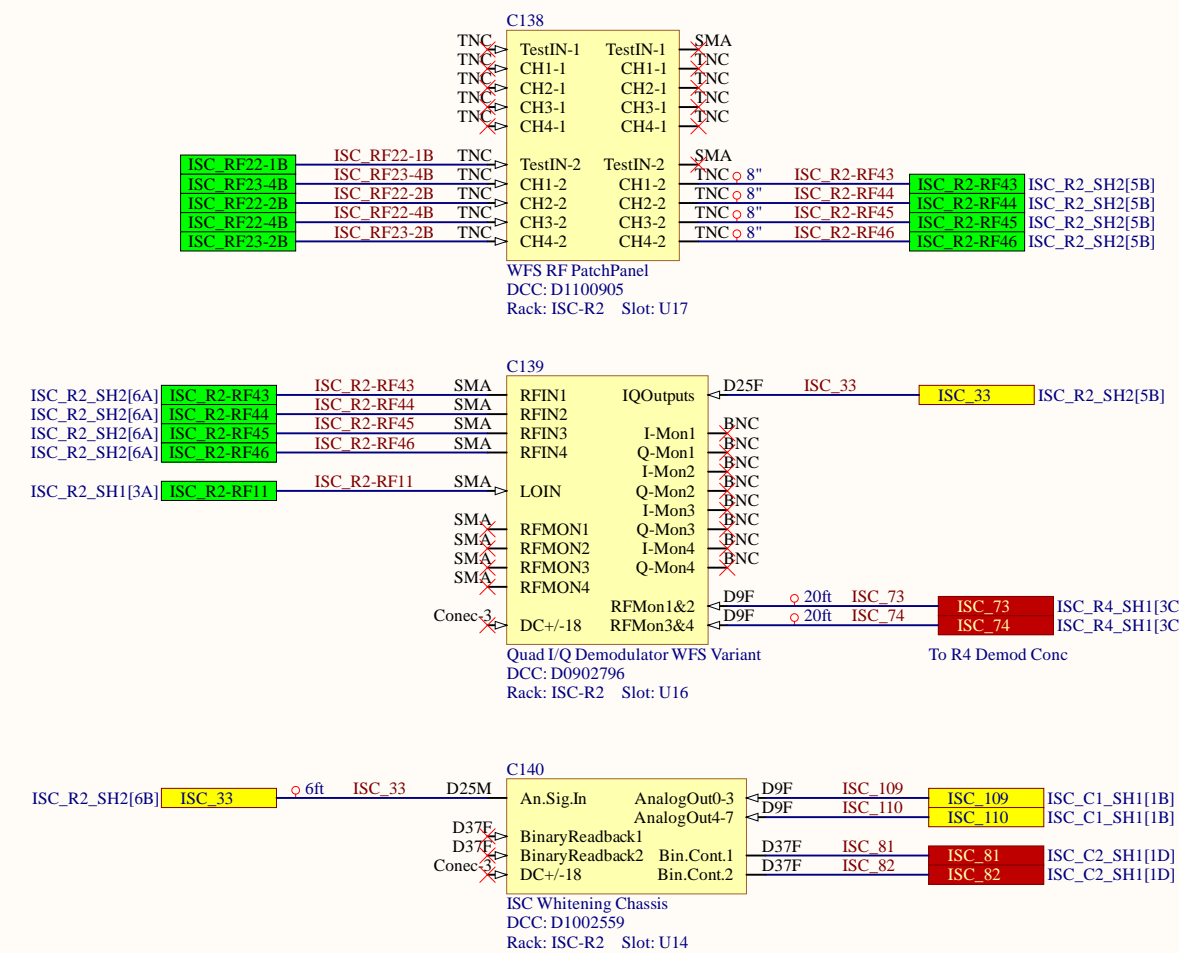
LSC POP, LSC REFL



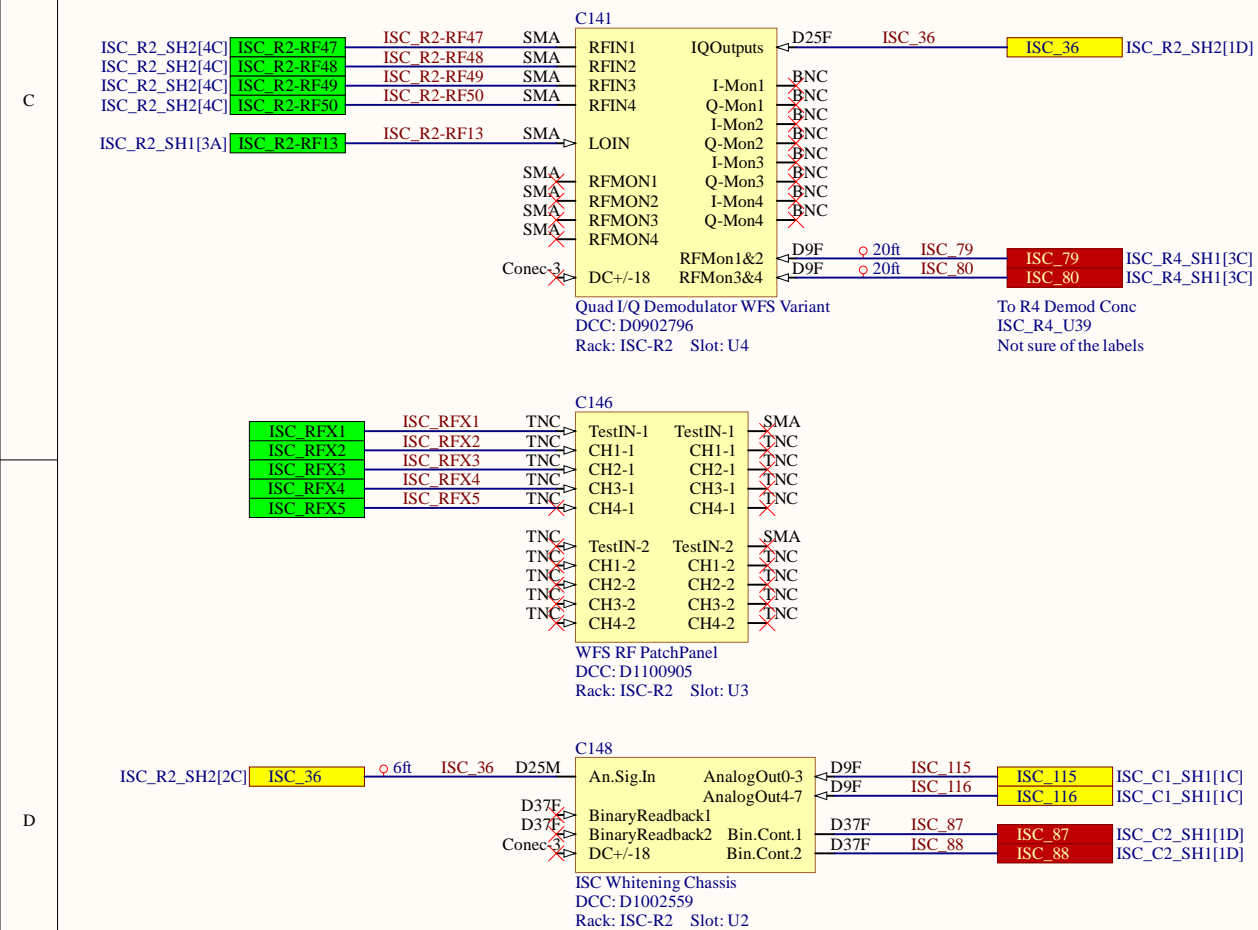
ASC REFL A 9MHz



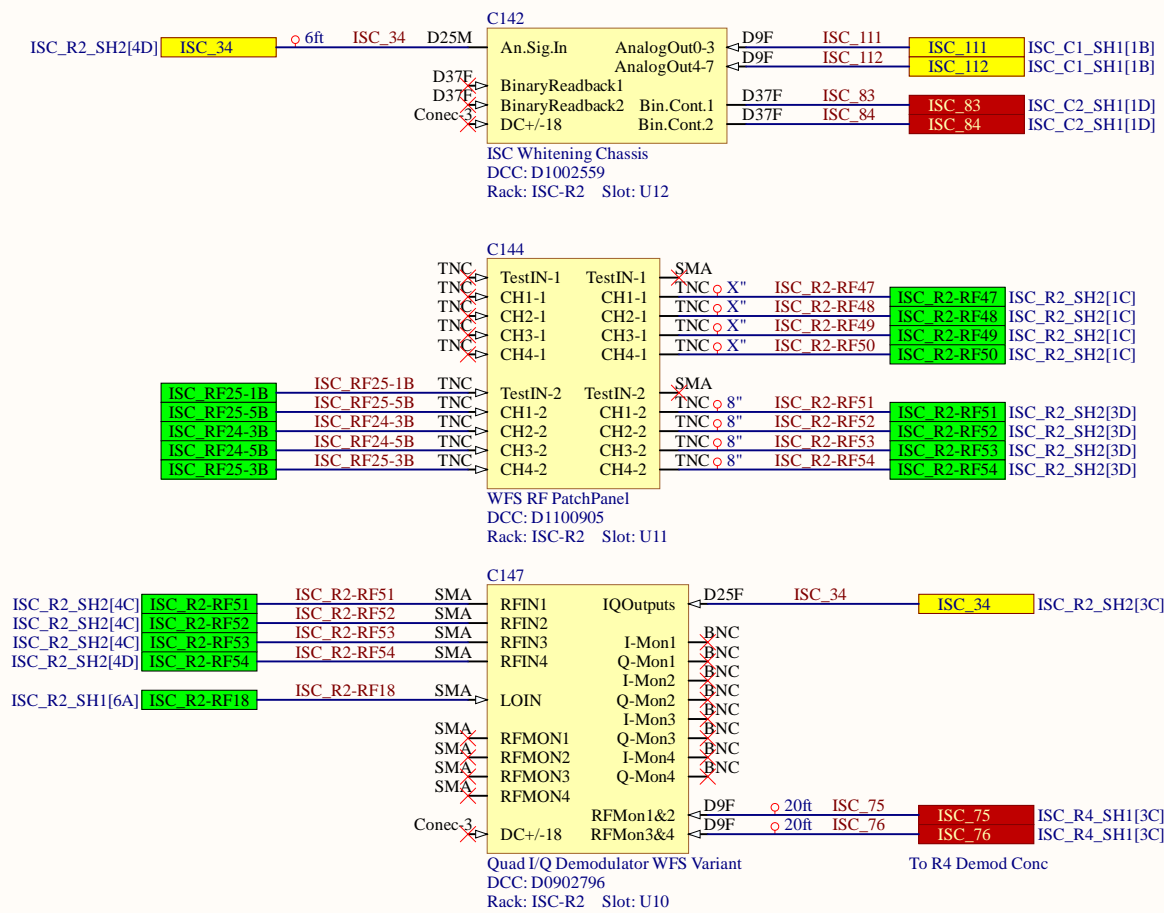
ASC REFL A 45MHz



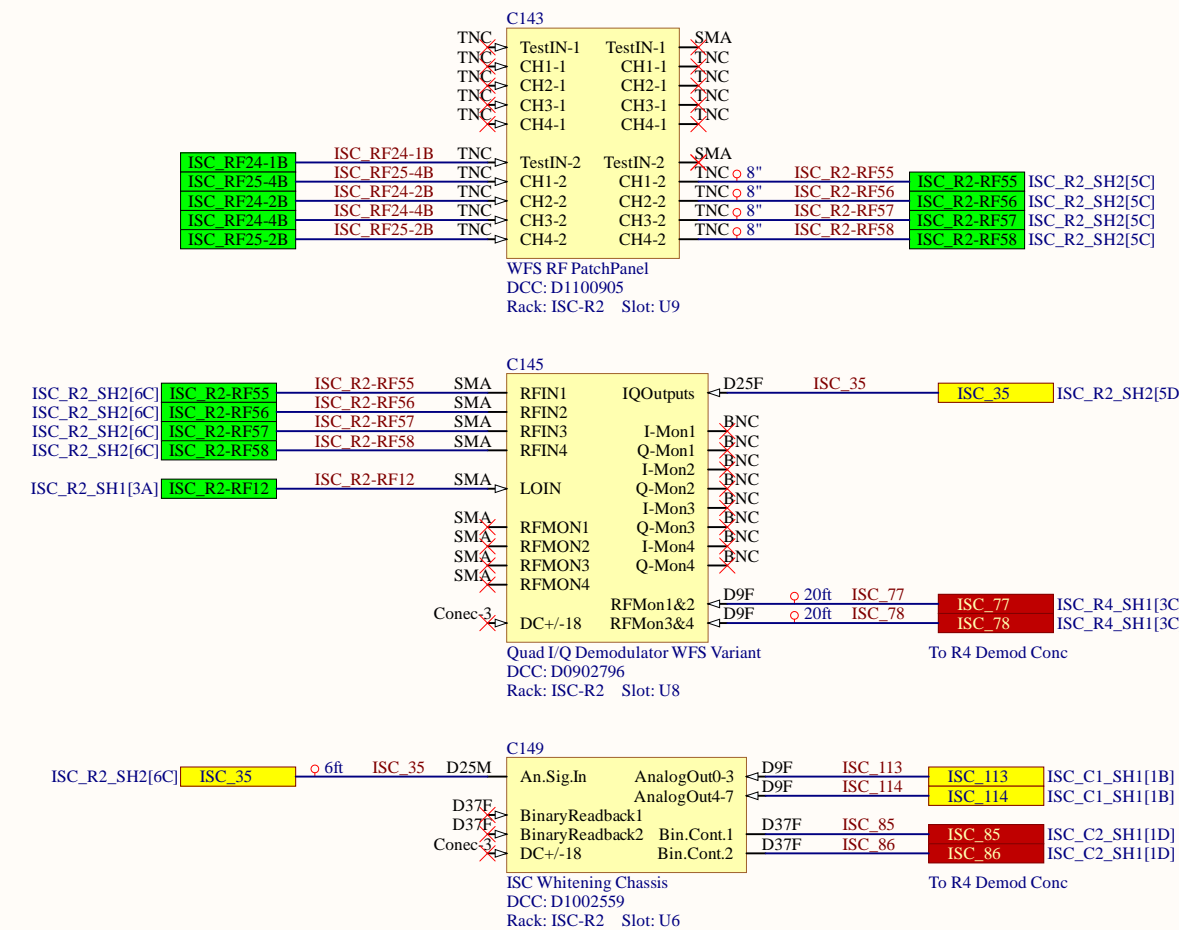
ASC POP A 45MHz



ASC REFL B 9MHz

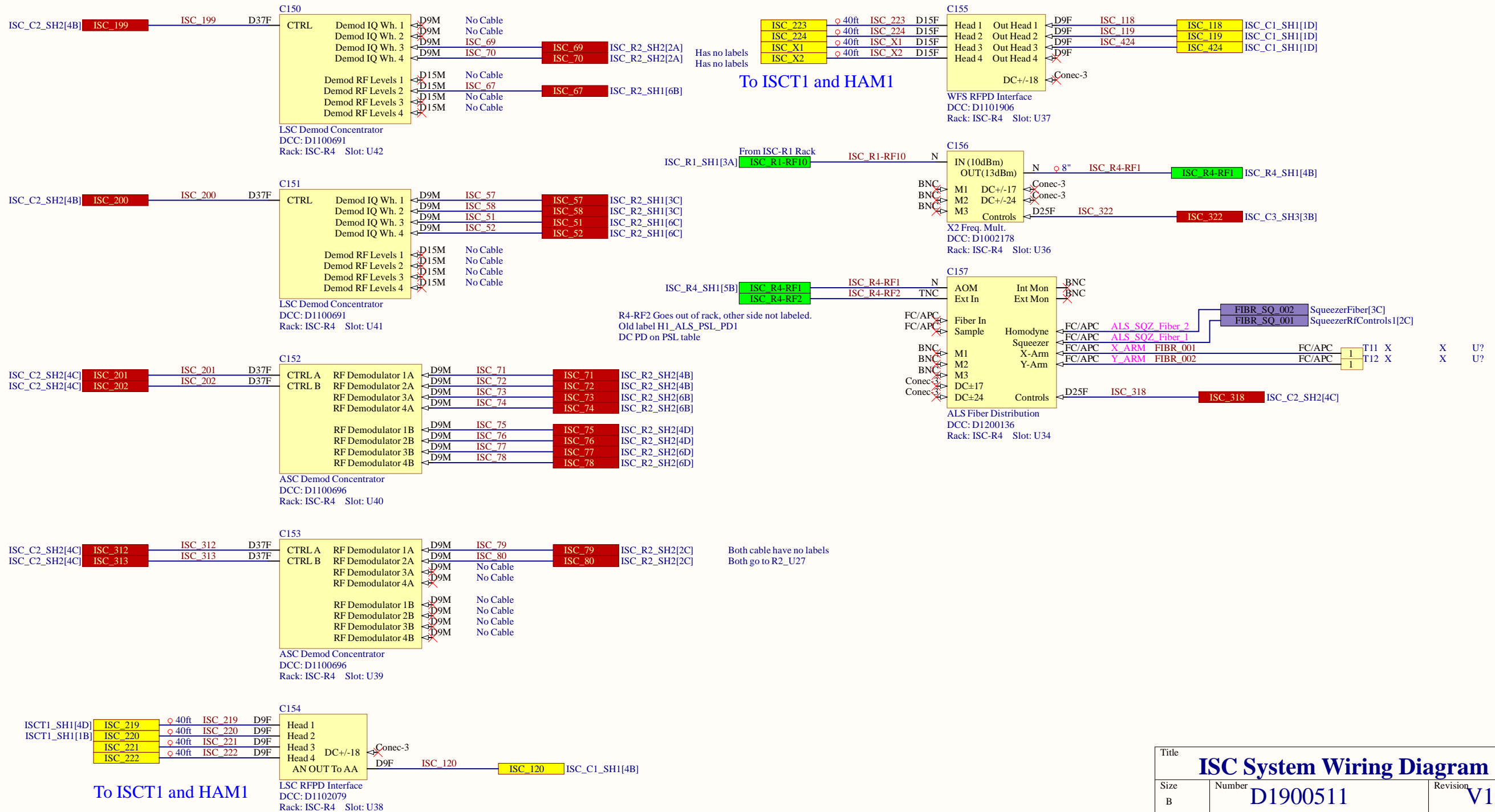


ASC REFL B 45MHz



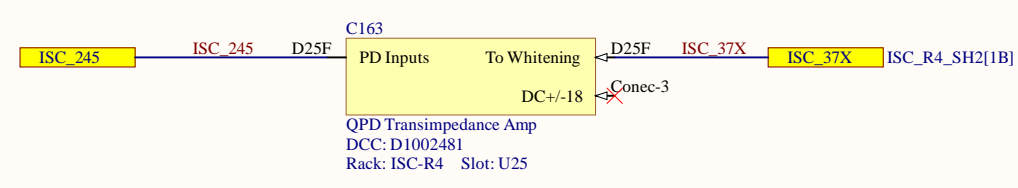
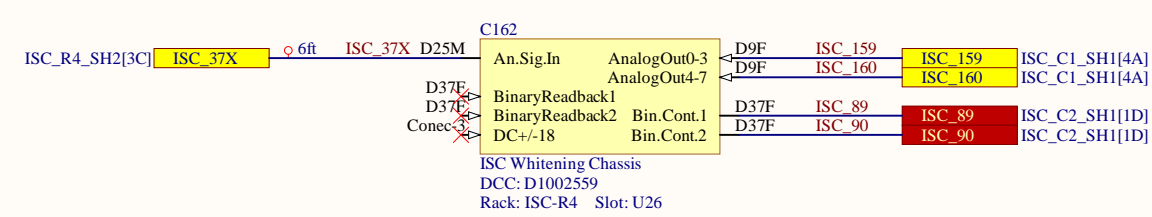
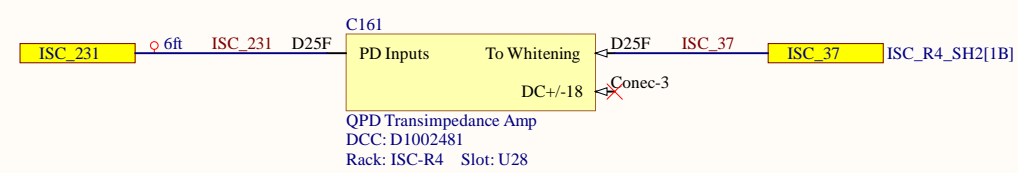
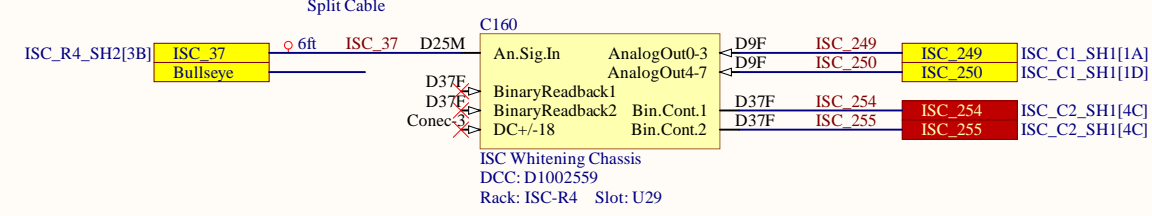
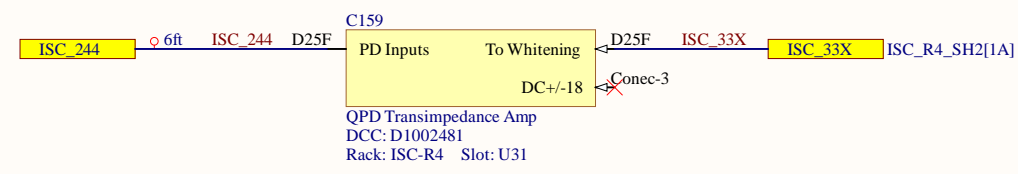
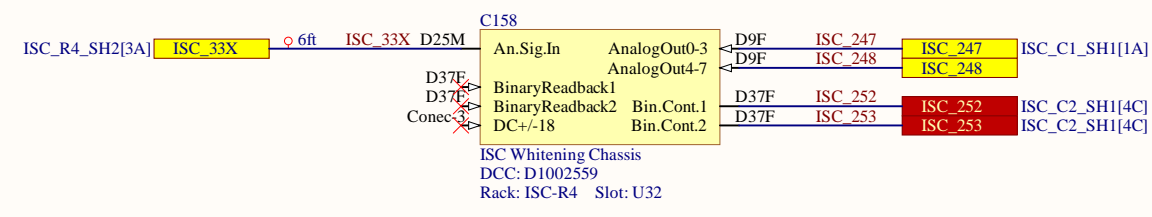
Title		
ISC System Wiring Diagram		
Size	Number	Revision
C	D1900511	V10
Date:	8/13/2024	Sheet of 4 37
File:	C:\Users\...ISC_R2_SH2.SchDoc	Drawn By: Filiberto Clara

ISC-R4 Rack



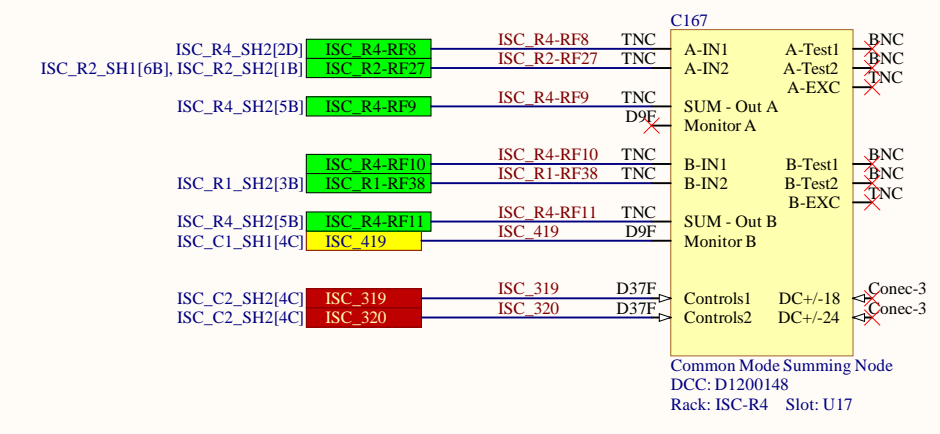
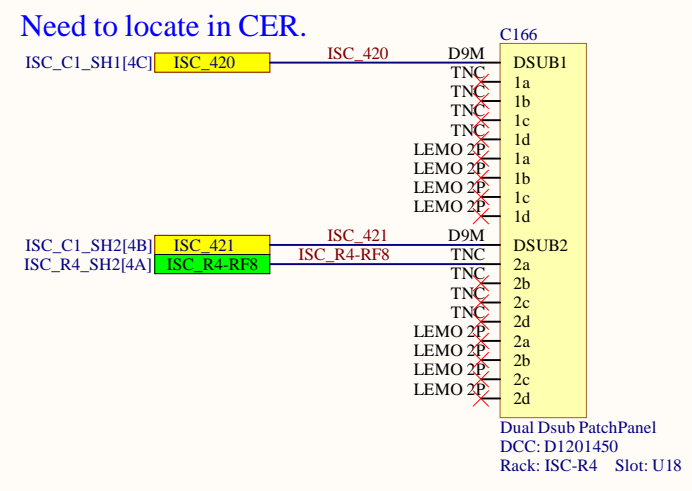
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ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 5 37
File:	C:\Users\...\ISC_R4_SH1.SchDoc	Drawn By: Filiberto Clara

ISC-R4 Rack

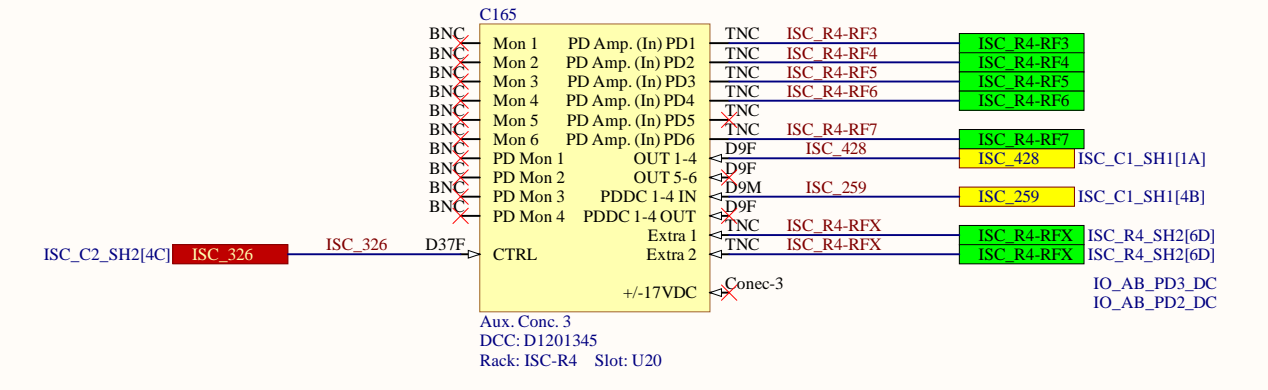
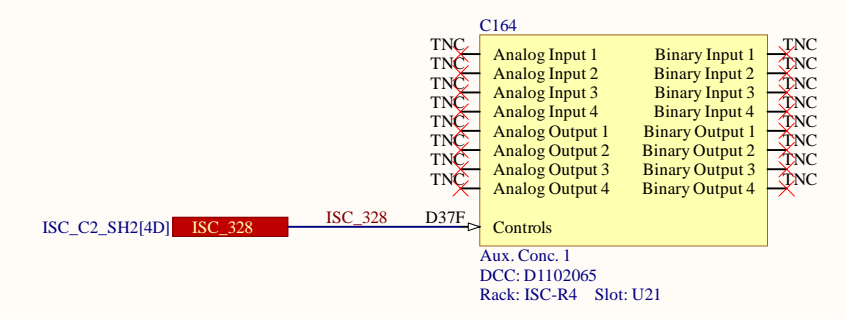
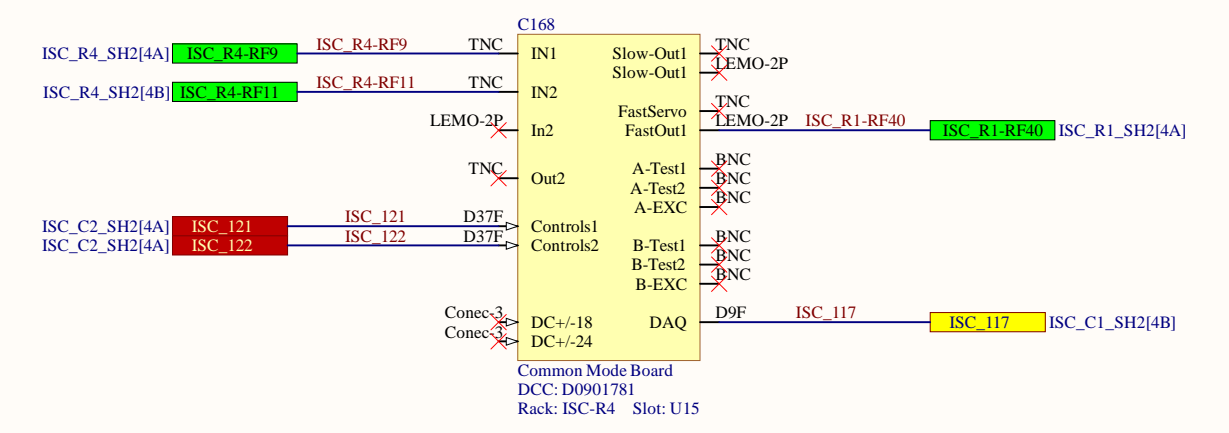


Do we need Sat Amp Included
 U23
 ISC_194 Coild Drive in CH1-4
 ISC_195 Coild Drive in CH5-8
 ISC_125 PD Out CH1-4
 ISC_126 PD Out CH1-4

Cable in the back.
 ISC_228
 ISC_229



Otherside not labeled. RED
 Otherside not labeled. Green
 Otherside not labeled. R4 ISC1
 Otherside not labeled. R4 ISC2
 Otherside not labeled. Old label H1_ALS_PSL_PD1

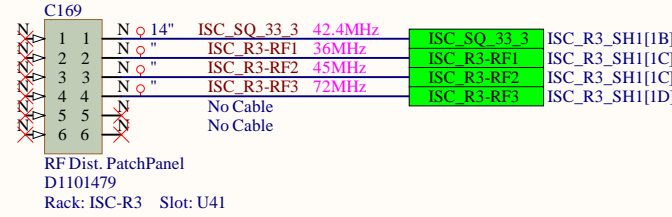


Title		
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Size	Number	Revision
C	D1900511	V10
Date:	8/13/2024	Sheet of 6 37
File:	C:\Users\...ISC_R4_SH2.SchDoc	Drawn By: Filiberto Clara

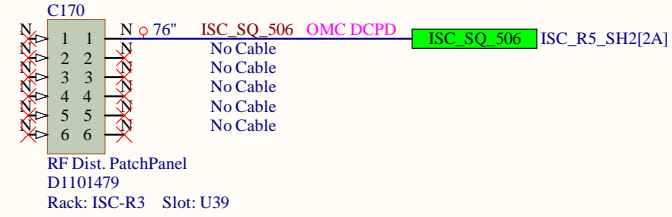
ISC-R3 Rack

Need to Relabel ISC_R3-RF4

RF Patch Panel 15

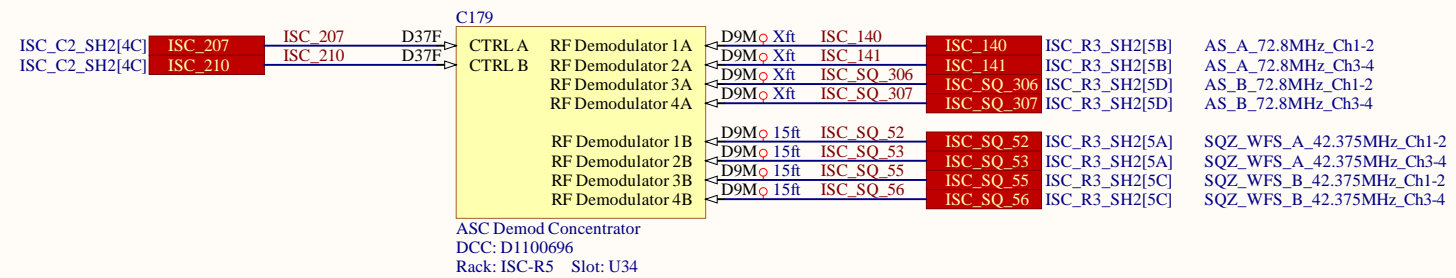
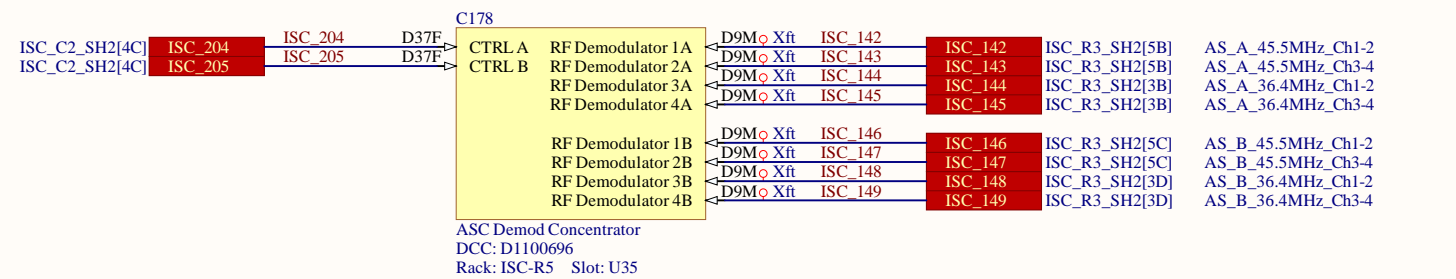
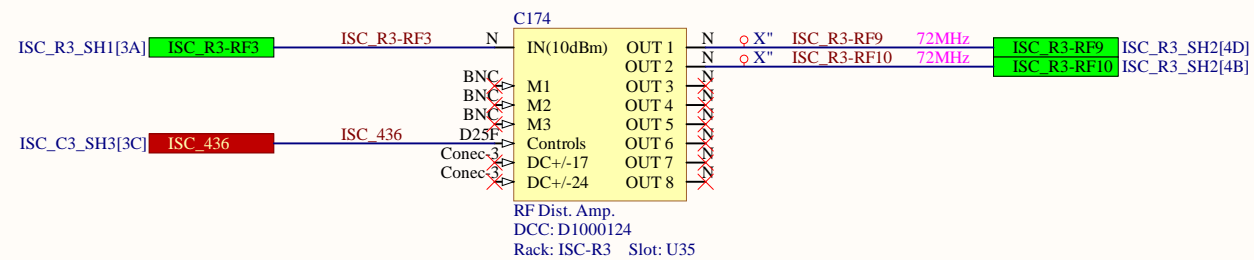
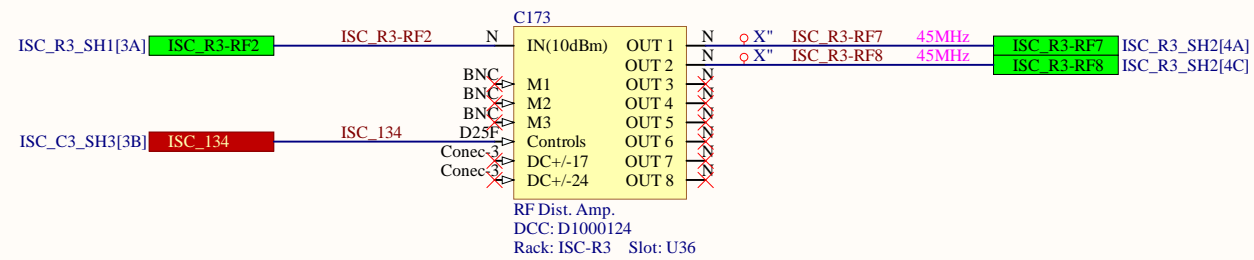
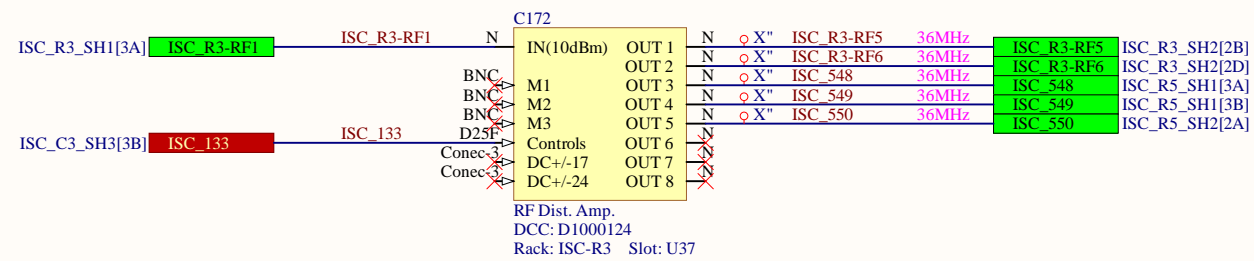
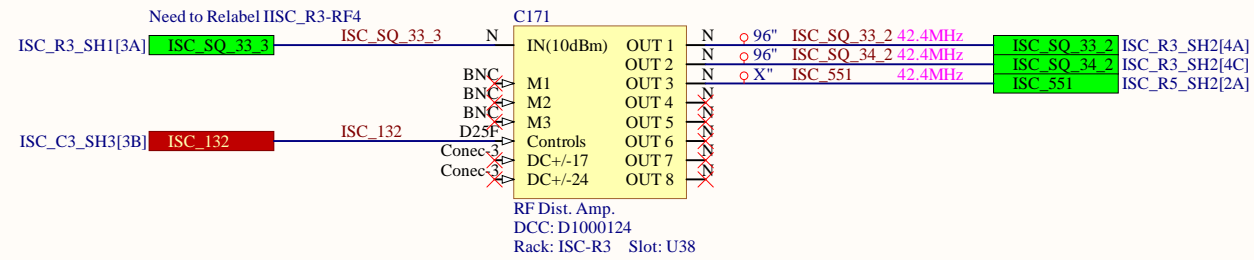


RF Patch Panel 16



Goes to ISC-C4

Goes to SQZ-R1/ISC-C4



Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V10			
Date:	8/13/2024	Sheet of	7	37	
File:	C:\Users\...ISC_R3_SH1.SchDoc	Drawn By:	Filiberto Clara		

ISC-R3 Rack

AS_A WFS 42MHz

AS_A WFS >45MHz

AS_A WFS RF multiplexer

AS_A WFS 45MHz

AS_A WFS 72MHz

AS_A WFS 36MHz

LO_A WFS 45MHz

LO_B WFS 45MHz

AS_B WFS >45MHz

AS_B WFS RF multiplexer

AS_B WFS 42MHz

AS_B WFS 45MHz

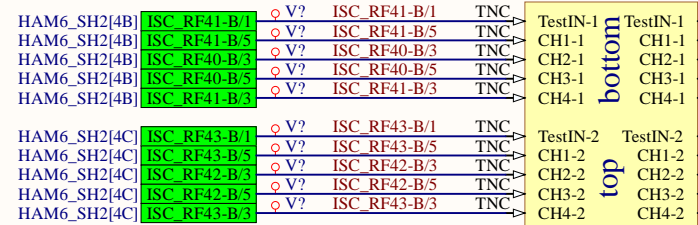
AS_B WFS 72MHz

AS_B WFS 36MHz

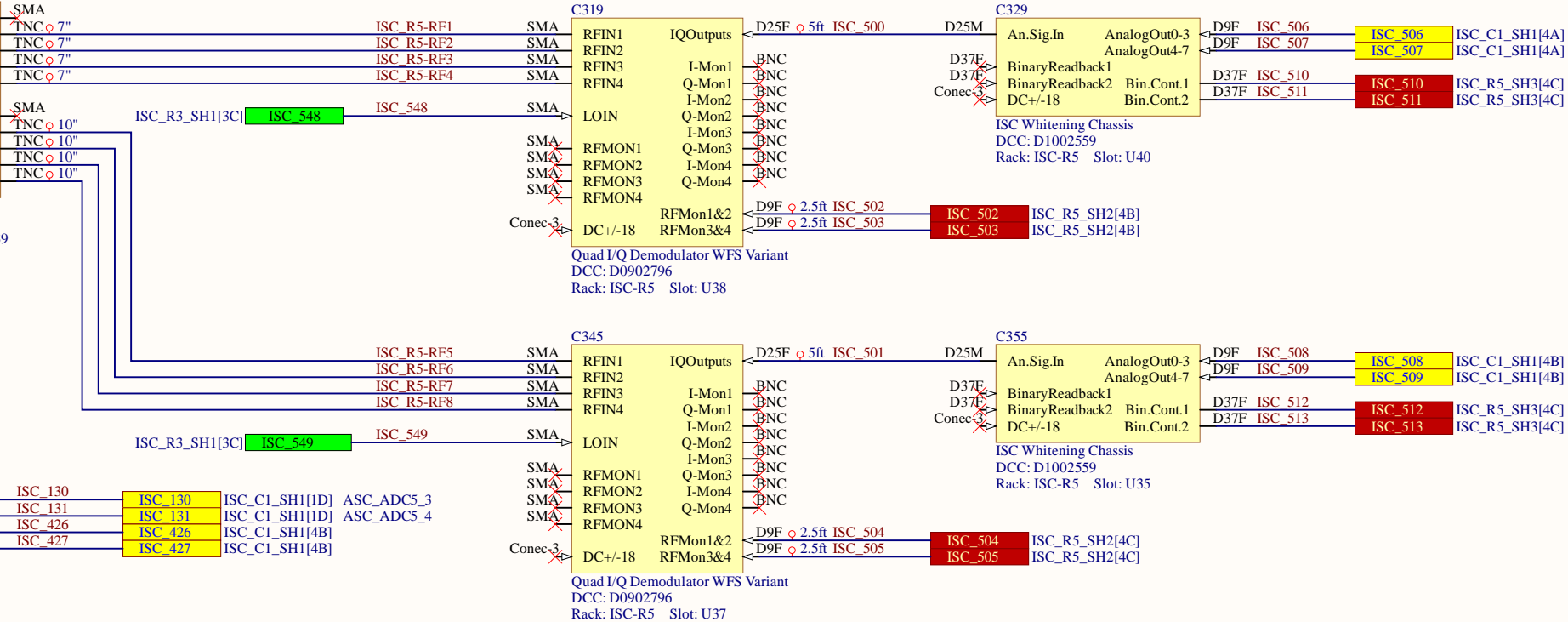
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Size	Number	Revision		V10	
C	D1900511				
Date:	8/13/2024	Sheet of	18	37	
File:	C:\Users\...ISC_R3_SHT.SchDoc	Drawn By:	Filiberto Clam		

ISC-R5 Rack (ASC)

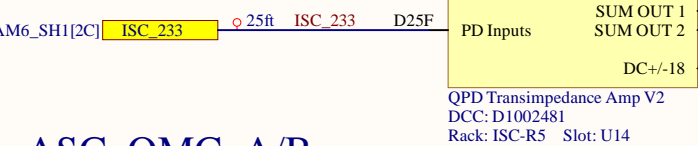
LO_A WFS 36MHz



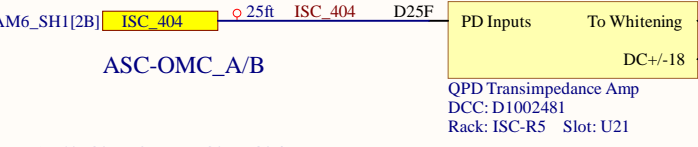
LO_B WFS 36MHz



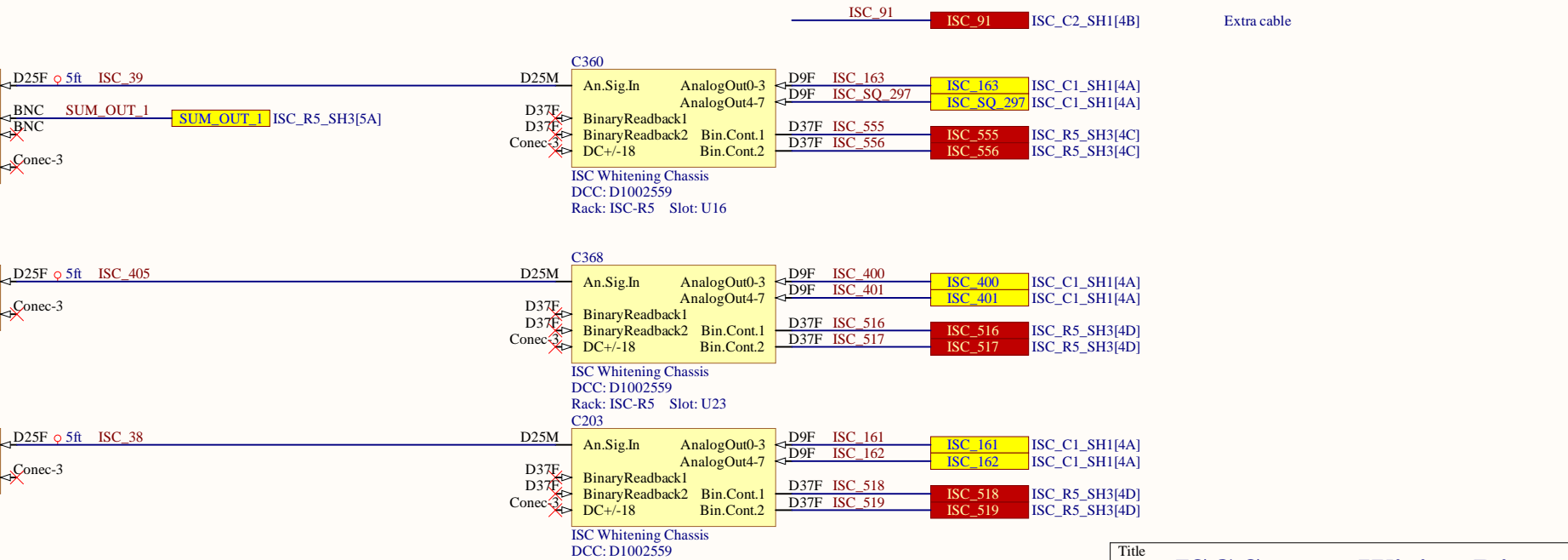
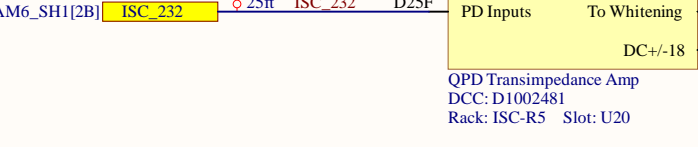
ASC_AS_C/LO_C



ASC_OMC_A/B

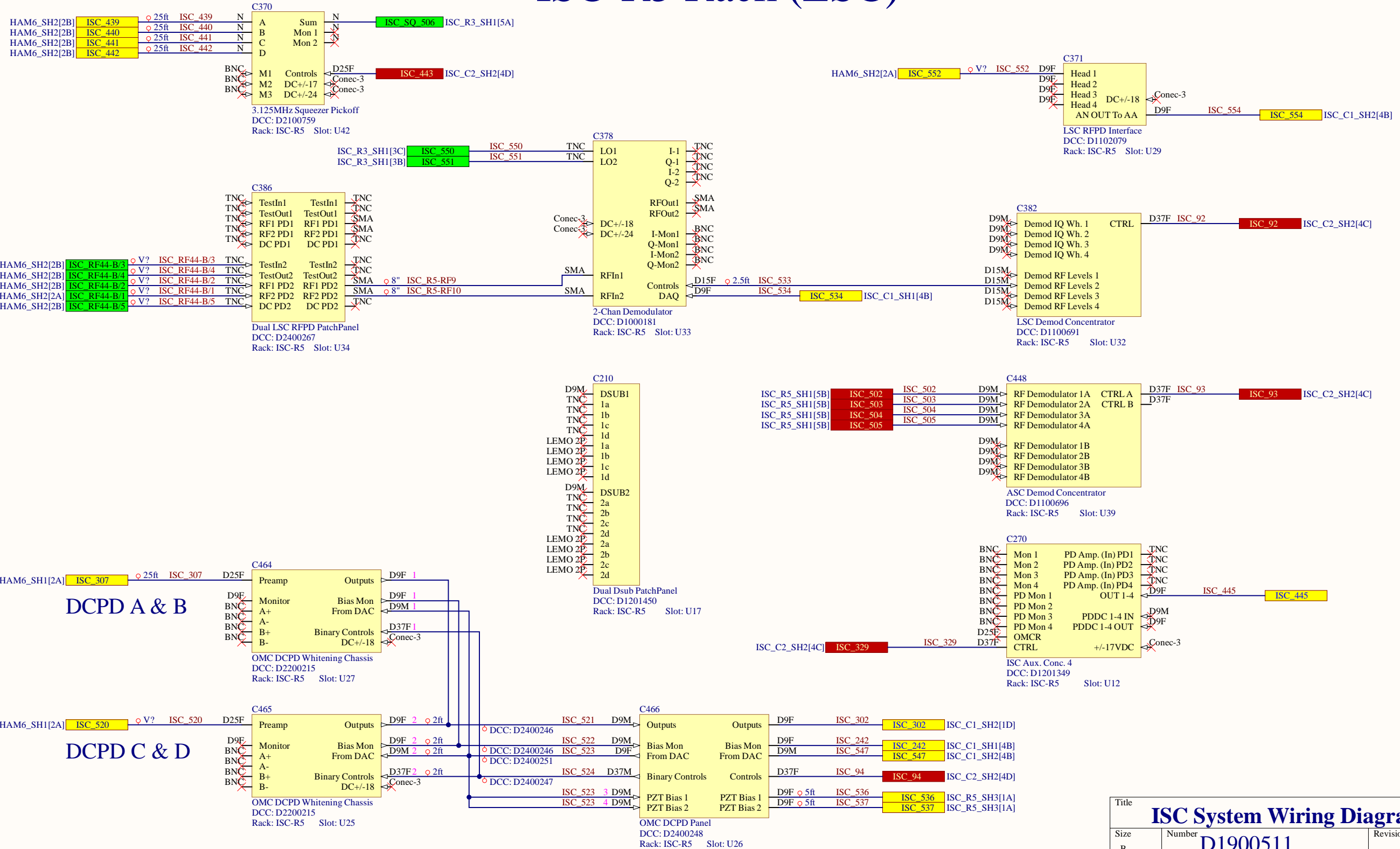


ASC_OMC_C/D

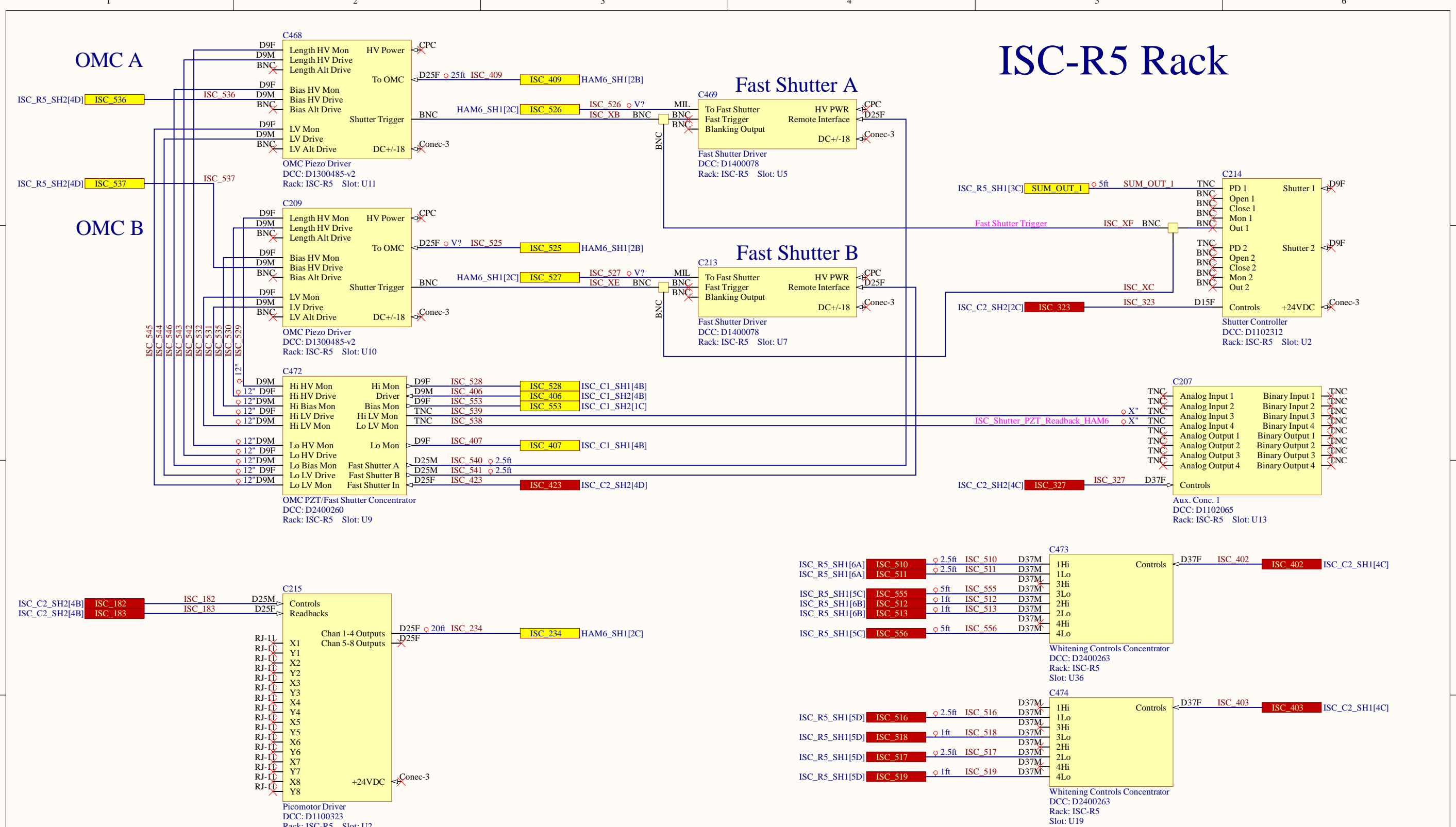


Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V10			
Date:	8/13/2024	Sheet of	9	37	
File:	C:\Users\...ISC_R5_SH1.SchDoc	Drawn By:	Filiberto Clara		

ISC-R5 Rack (LSC)



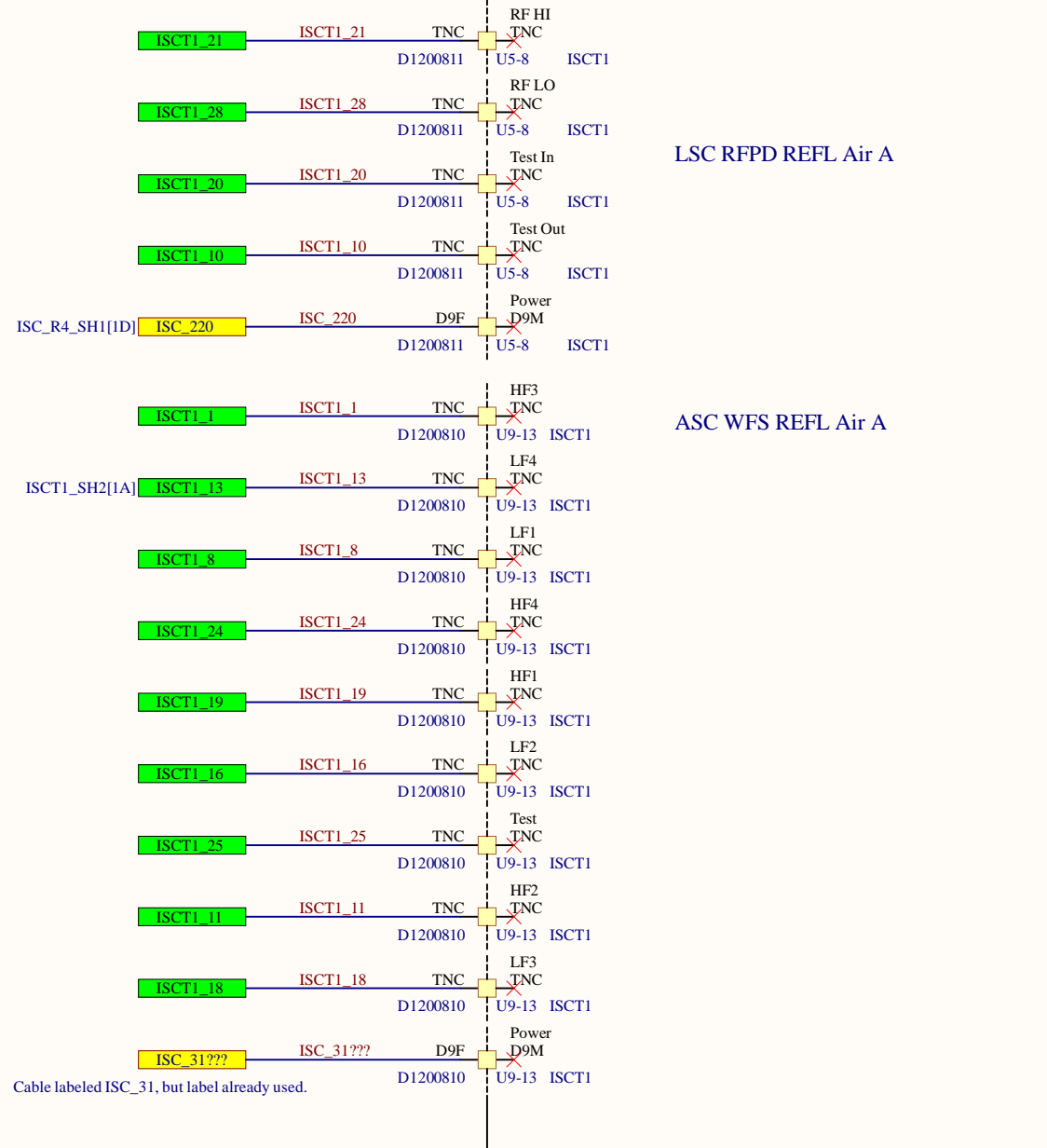
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File:	C:\Users\...ISC_R5_SH2.SchDoc	Drawn By: Filiberto Clara



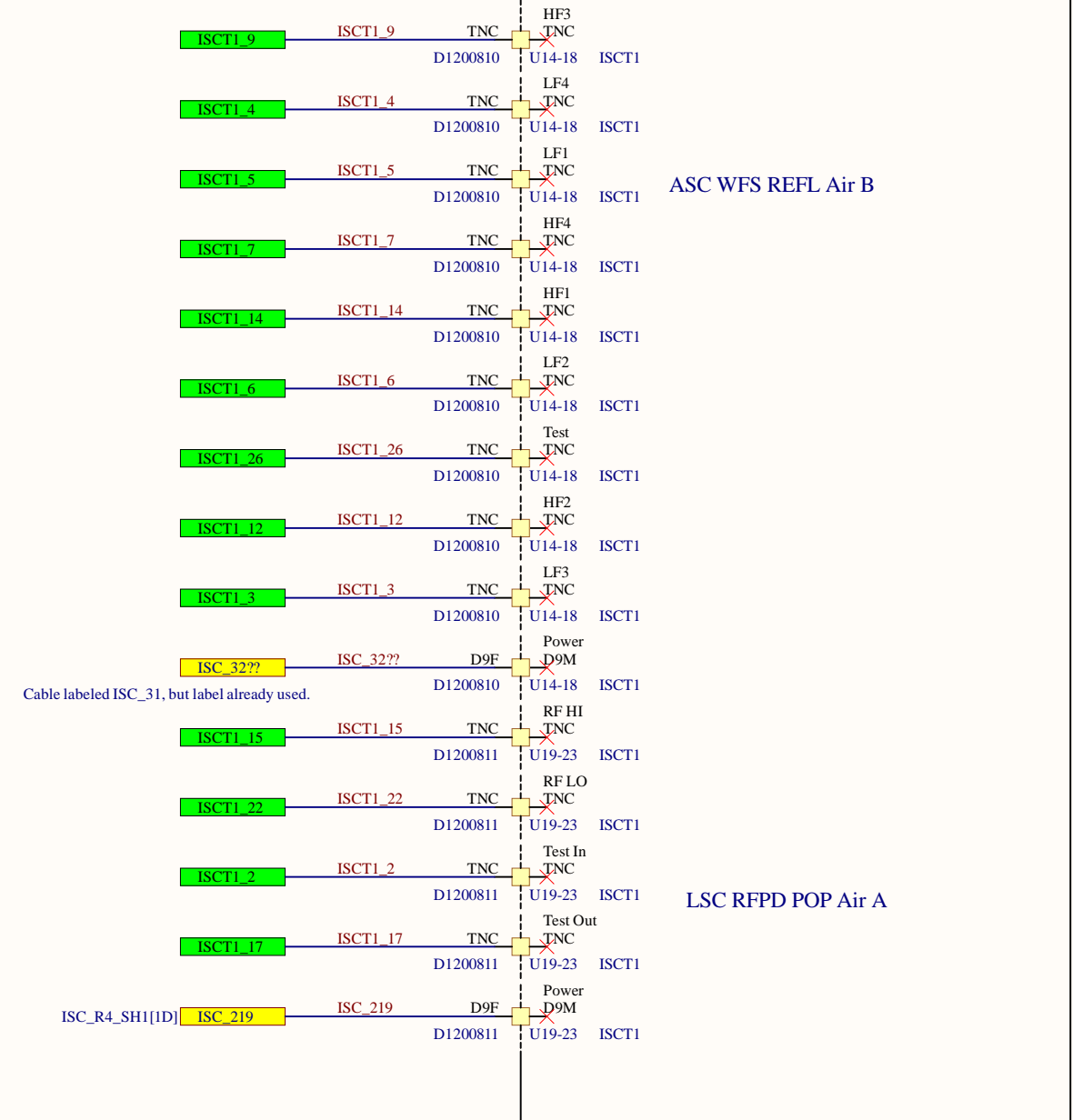
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Size	Number	Revision	
B	D1900511	V10	
Date:	8/13/2024	Sheet of	37
File:	C:\Users\...ISC_R5_SH3.SchDoc	Drawn By:	Filiberto Clara

ISCT1 - Right Side

Inside Enclosure



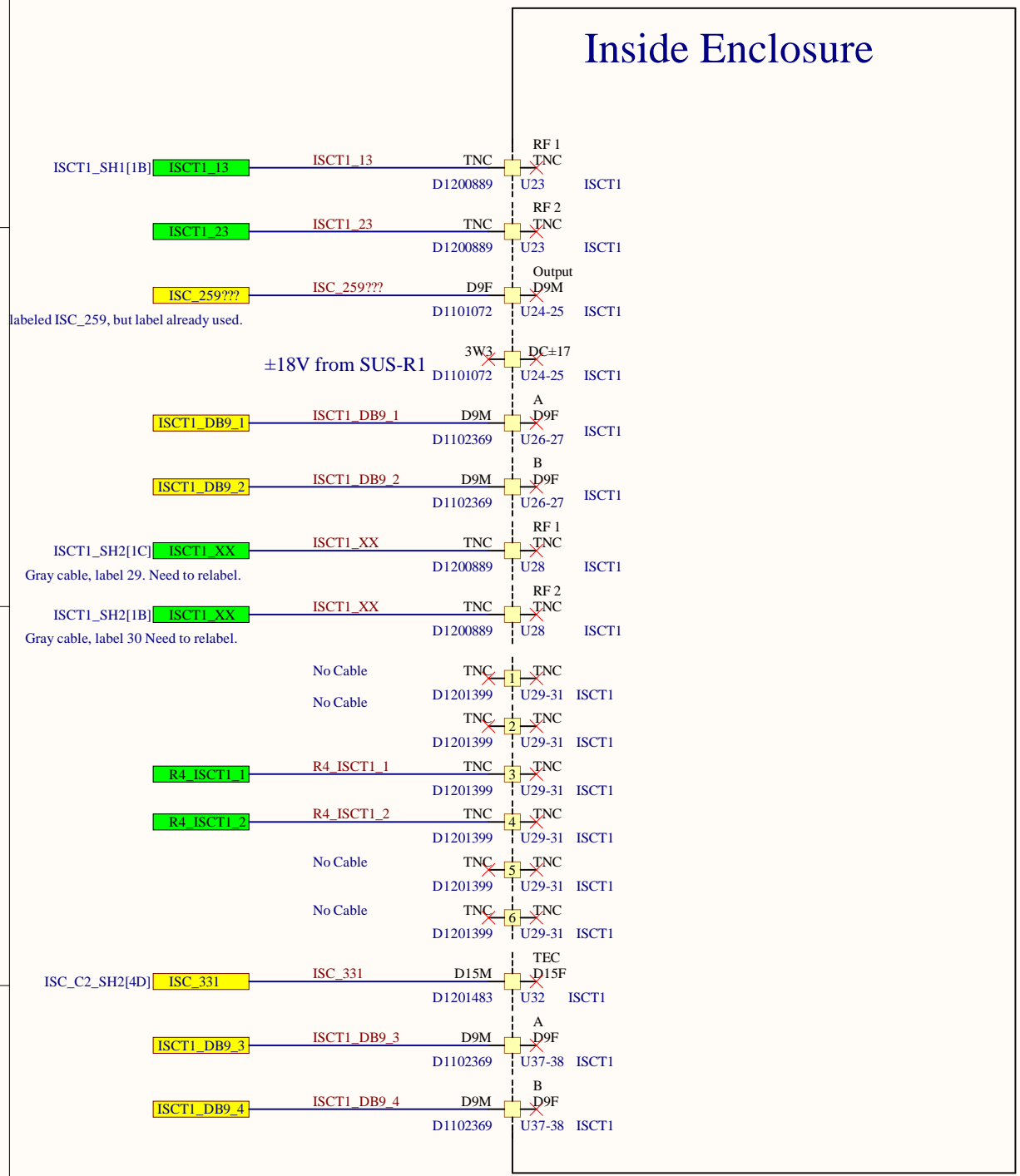
Inside Enclosure



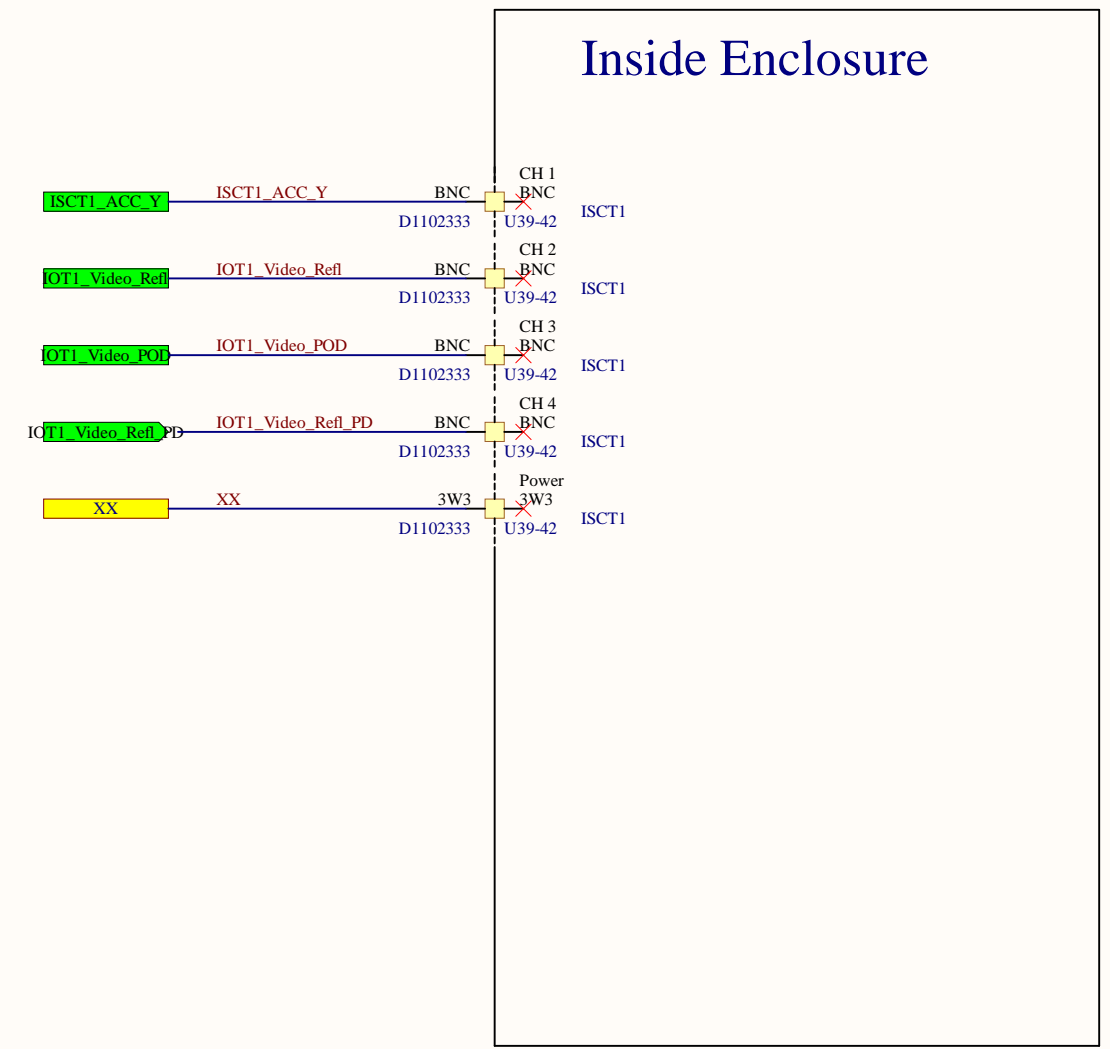
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Size	Number	Revision	
B	D1900511	V10	
Date:	8/13/2024	Sheet of 2	37
File:	C:\Users\...\ISCT1_SH1.SchDoc	Drawn By:	Filiberto Clara

ISCT1 - Right Side

Inside Enclosure

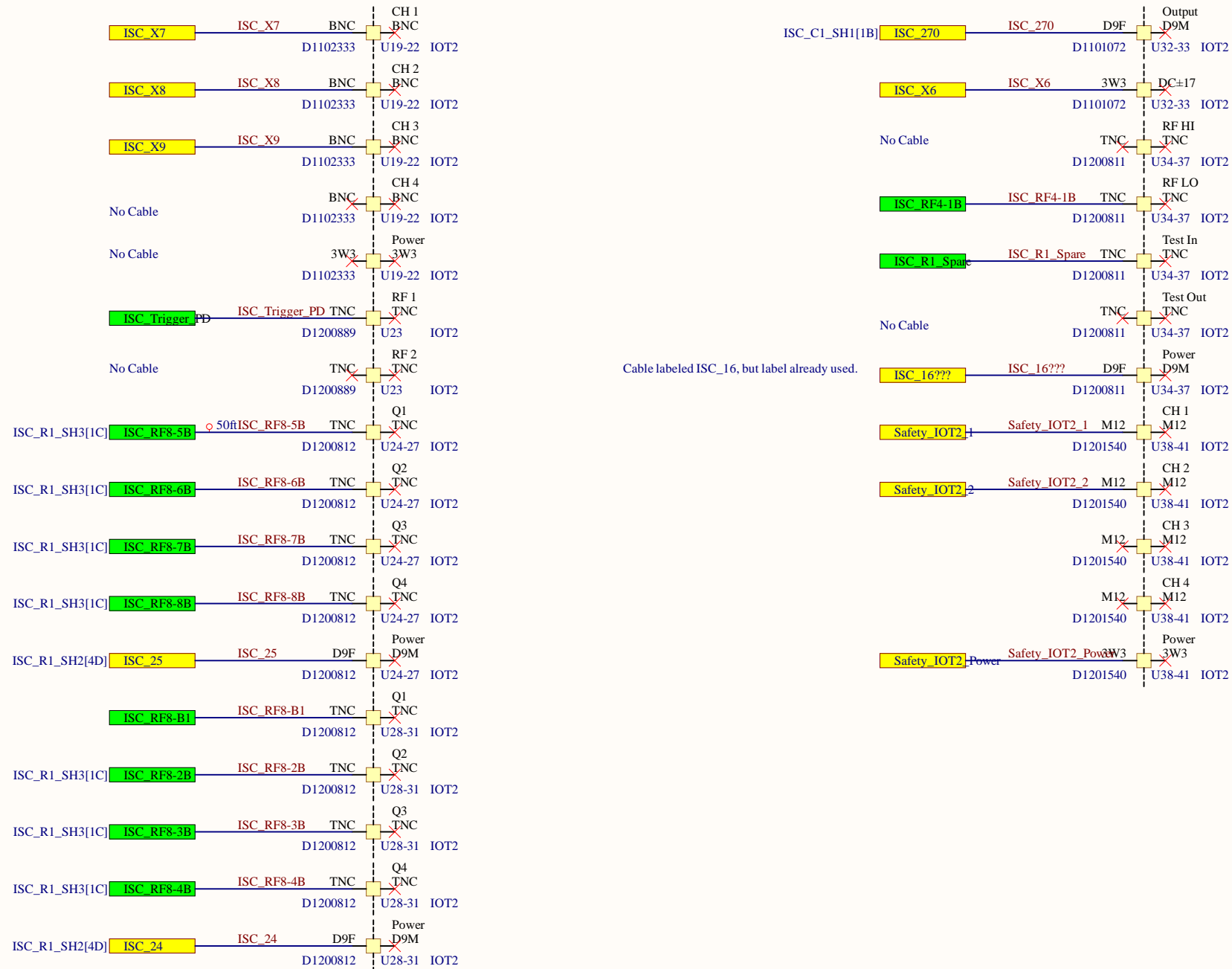


Inside Enclosure

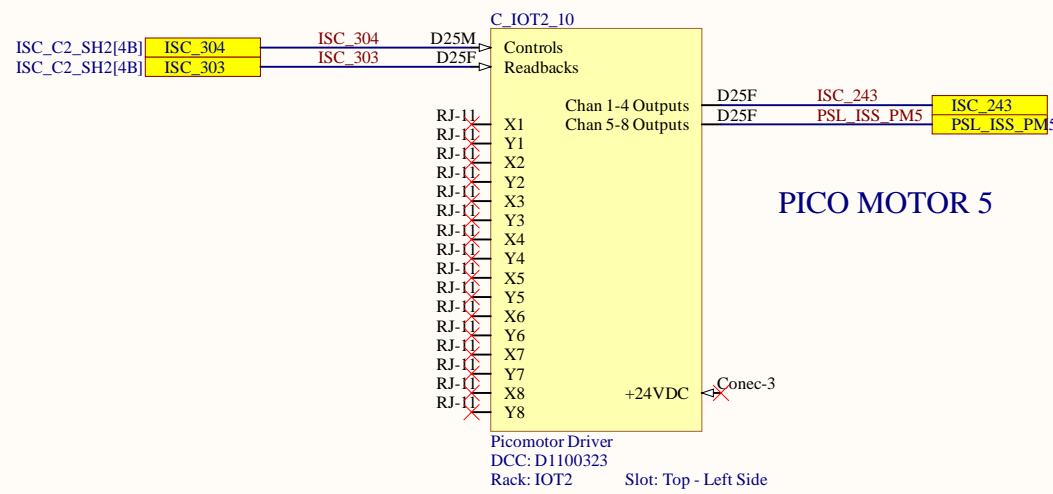
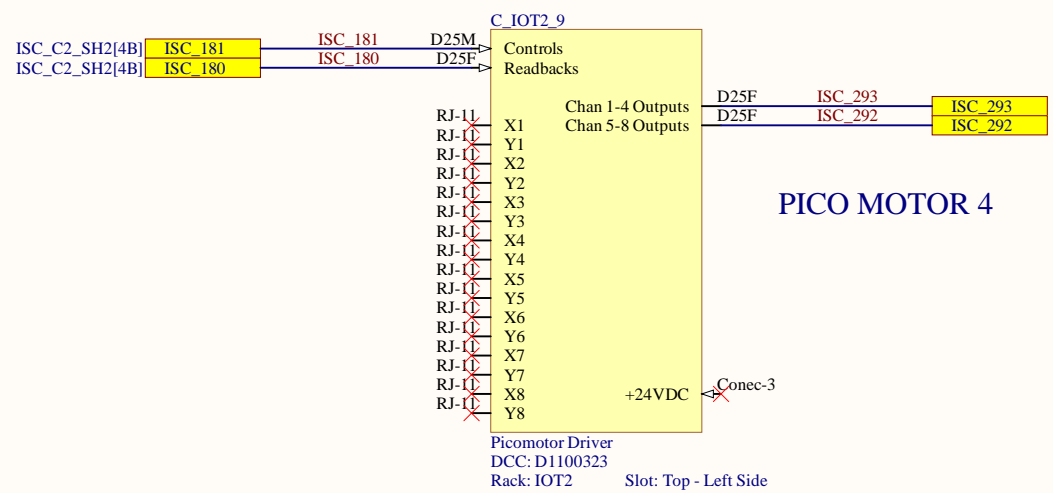
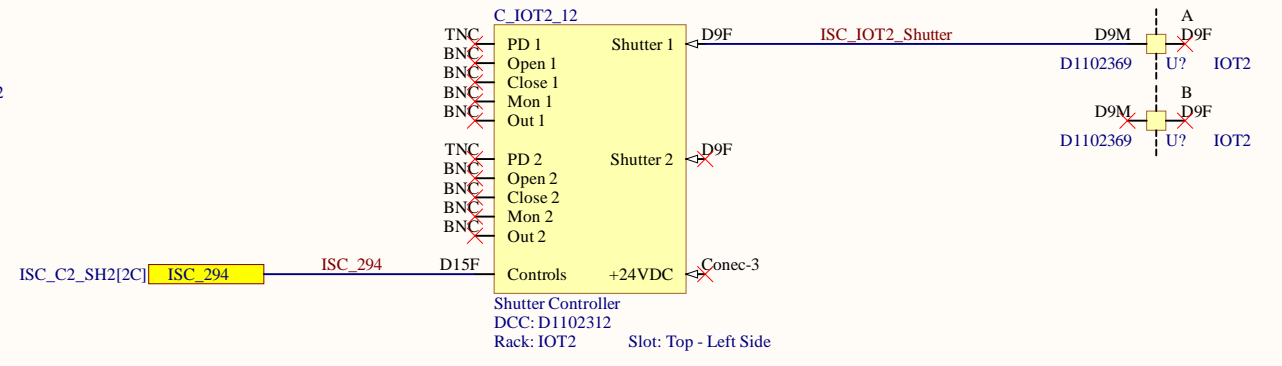
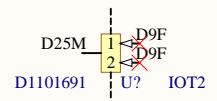
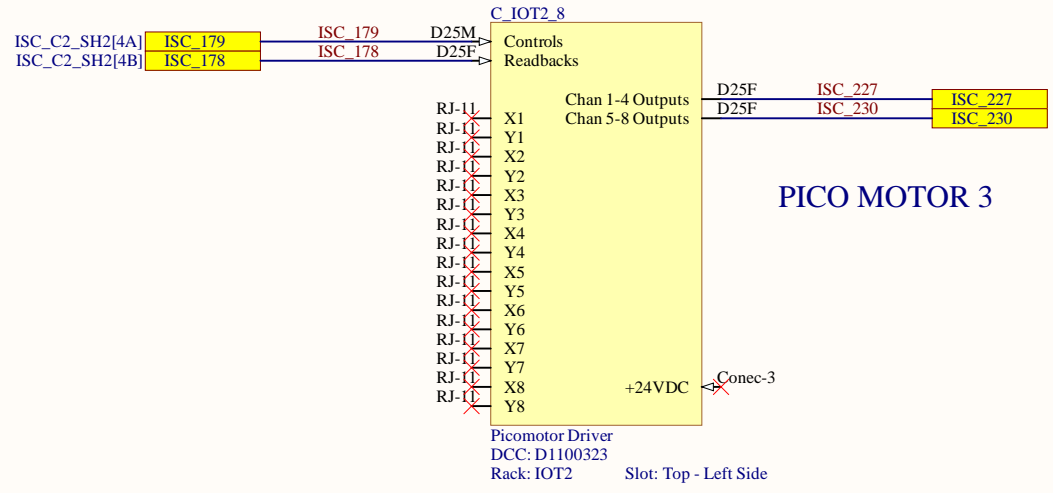


Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V10			
Date:	8/13/2024	Sheet of	37		
File:	C:\Users\...\ISCT1_SH2.SchDoc	Drawn By:	Filiberto Clara		

IOT2 - Left Side



Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 4 37
File:	C:\Users\Filiberto\IOT2_SH1.SchDoc	Drawn By: Filiberto Clara



Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 5 37
File:	C:\Users\...\IOT2_SH2.SchDoc	Drawn By: Filiberto Clara

HAM6 Flange Layout

DCPD A/B



DCPD C/D



OMC A PZTs



OMC B PZTs



OMC A/B QPD



OMC C/D QPD



AS_C/LO_C QPD



Picomotor



Fast Shutter 1



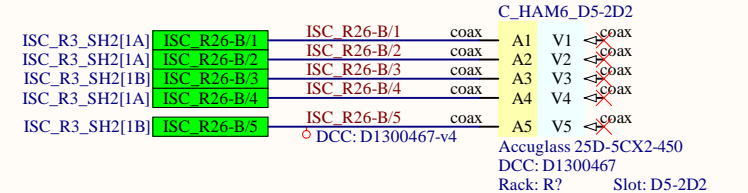
Fast Shutter 2



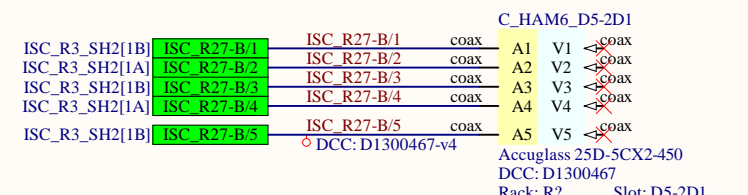
AS_A WFS DC



AS_B WFS DC



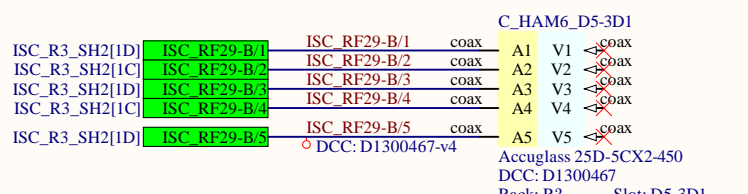
AS_A WFS 36/45MHz



AS_A WFS 36/45MHz



AS_B WFS 36/45MHz

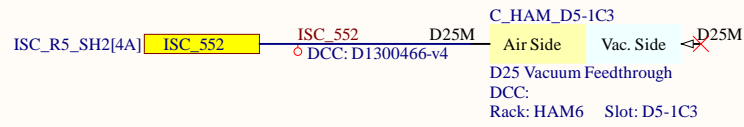


AS_B WFS 36/45MHz

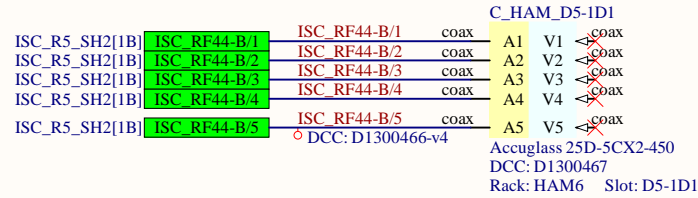
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Size	Number	Revision	
B	D1900511	V10	
Date:	8/13/2024	Sheet of	26 37
File:	C:\Users\...\\HAM6_SH1.SchDoc	Drawn By:	Filiberto Clara

HAM6 Flange Layout

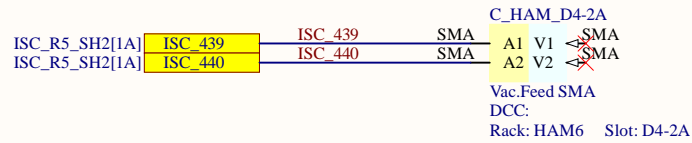
OMC_REFL DC



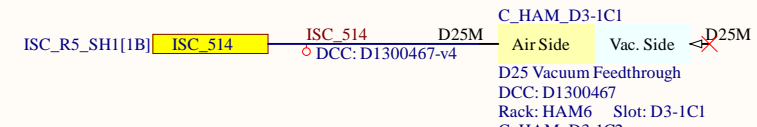
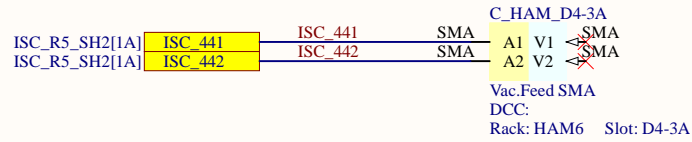
OMC_REFL_A



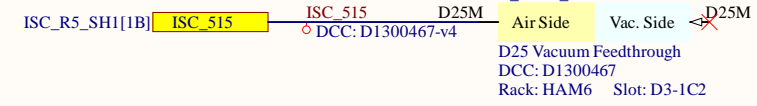
DCPD 3.1MHz A/B



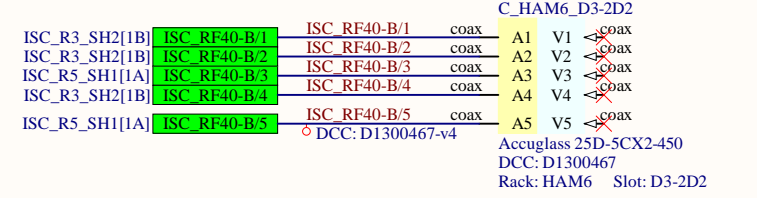
DCPD 3.1MHz C/D



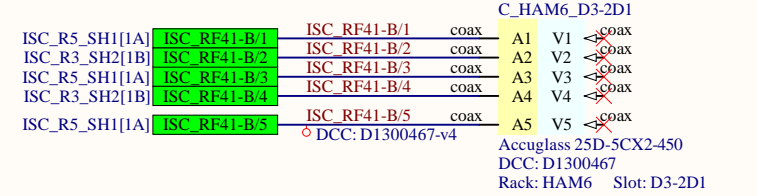
LO_A WFS DC



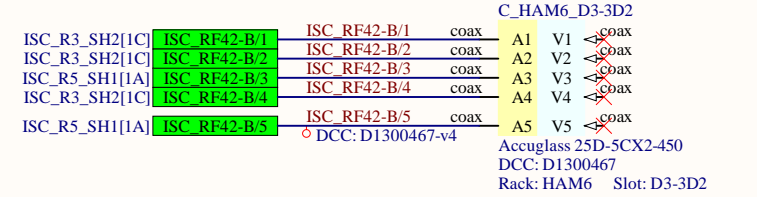
LO_B WFS DC



LO_A WFS 36/45MHz



LO_A WFS 36/45MHz

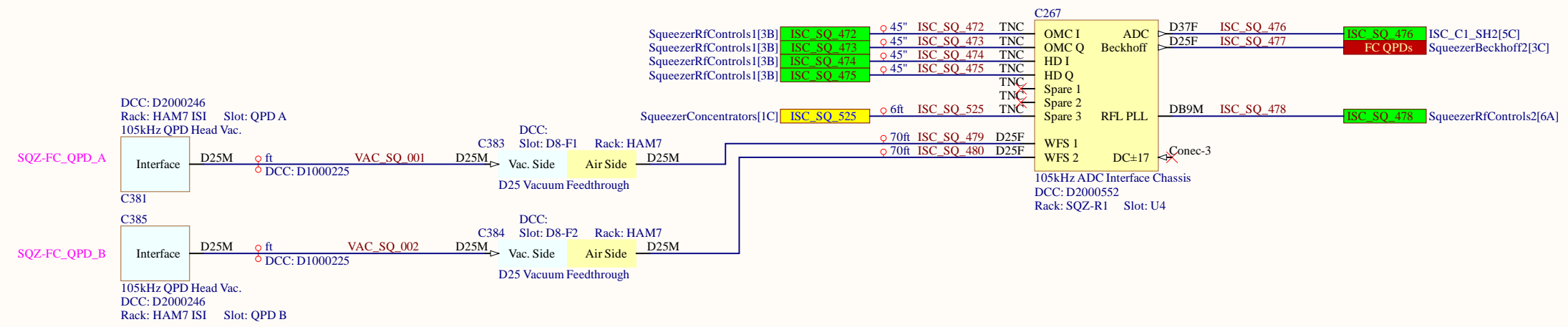


LO_B WFS 36/45MHz



LO_B WFS 36/45MHz

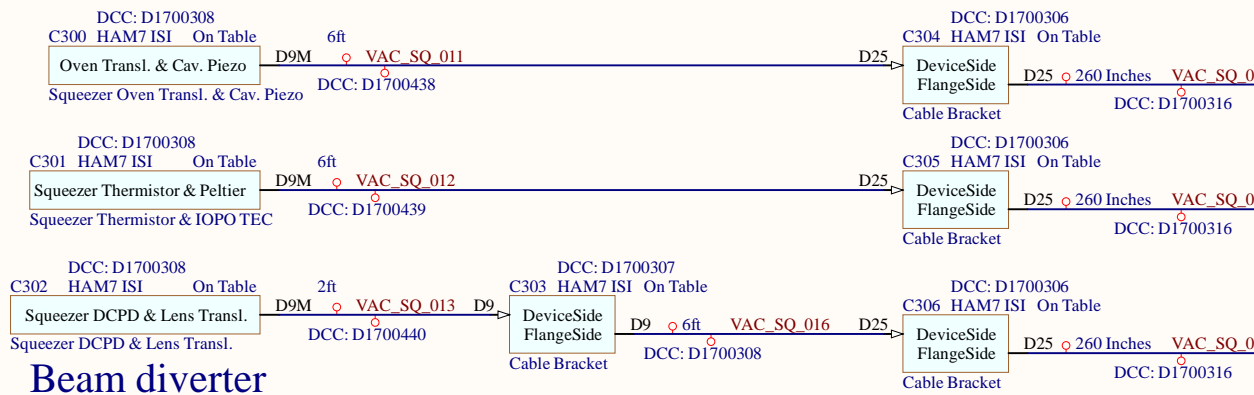
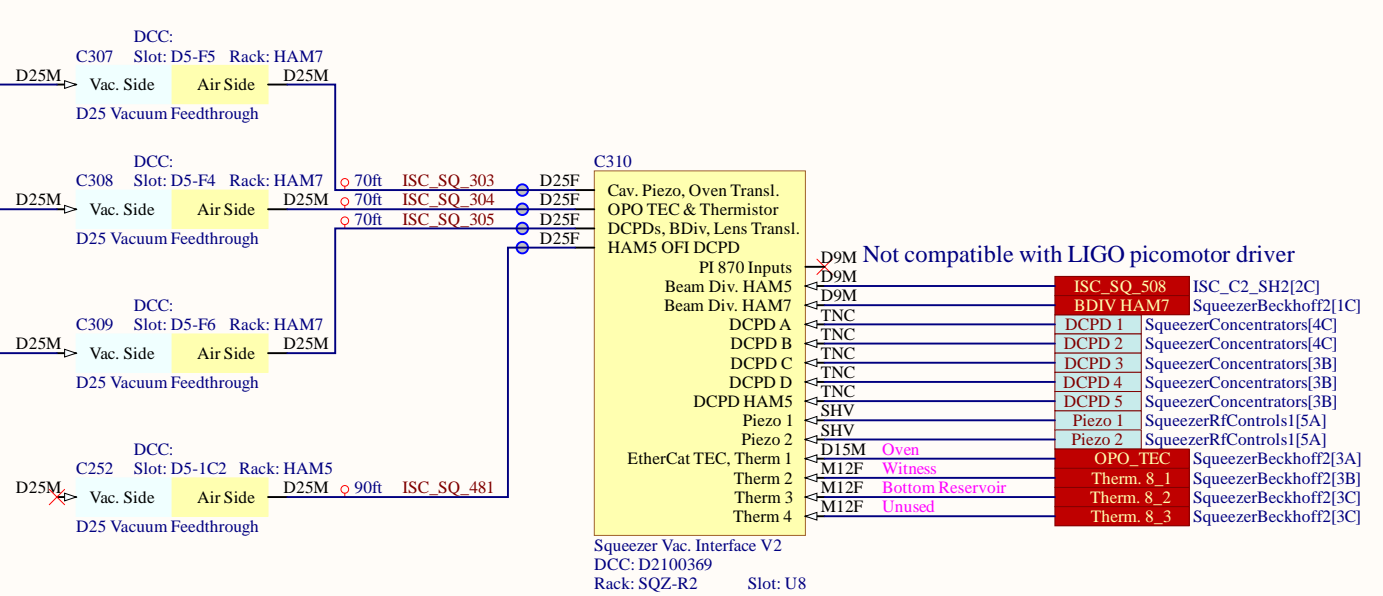
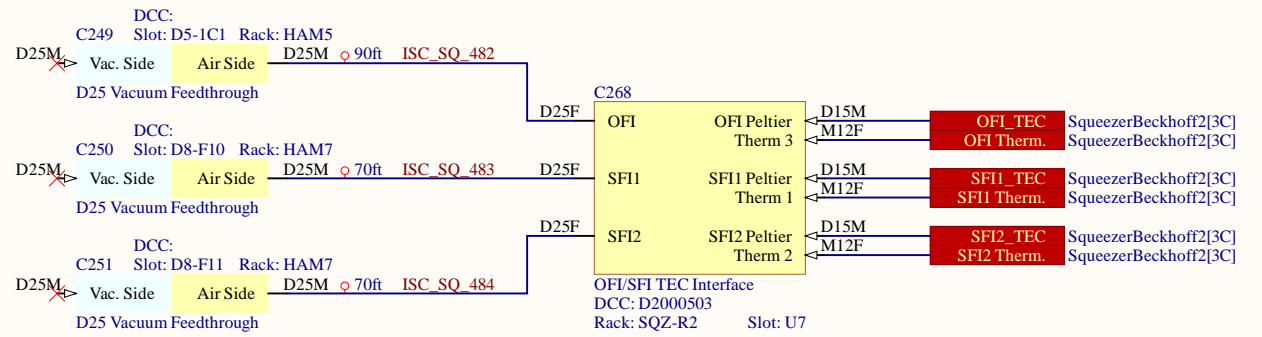
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Size	Number	Revision	
B	D1900511	V10	
Date:	8/13/2024	Sheet of	27 37
File:	C:\Users\...\\HAM6_SH2.SchDoc	Drawn By:	Filiberto Clara



Key

- Ties to Beckhoff <
- Ties to RF Distribution <
- Dot Identifies Cable Shield Terminating to Backshell
- ▽ Pin With Triangle Indicates Pin on Rear or the Like
- Pin With No Triangle Indicates Pin on Front or the Like
- Light Blue Symbols Are In-Vacuum
- Yellow Symbols Are In-Air

Title		
Squeezer Wavefront Sensing		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 28 37
File:	C:\Users\...\SqueezerWfsWiring.SchDoc	Drawn By: R. Abbott



Beam diverter

D1700308 Wiring Diagram - More Cables

Ties to Beckhoff
Ties to RF Distribution

Key

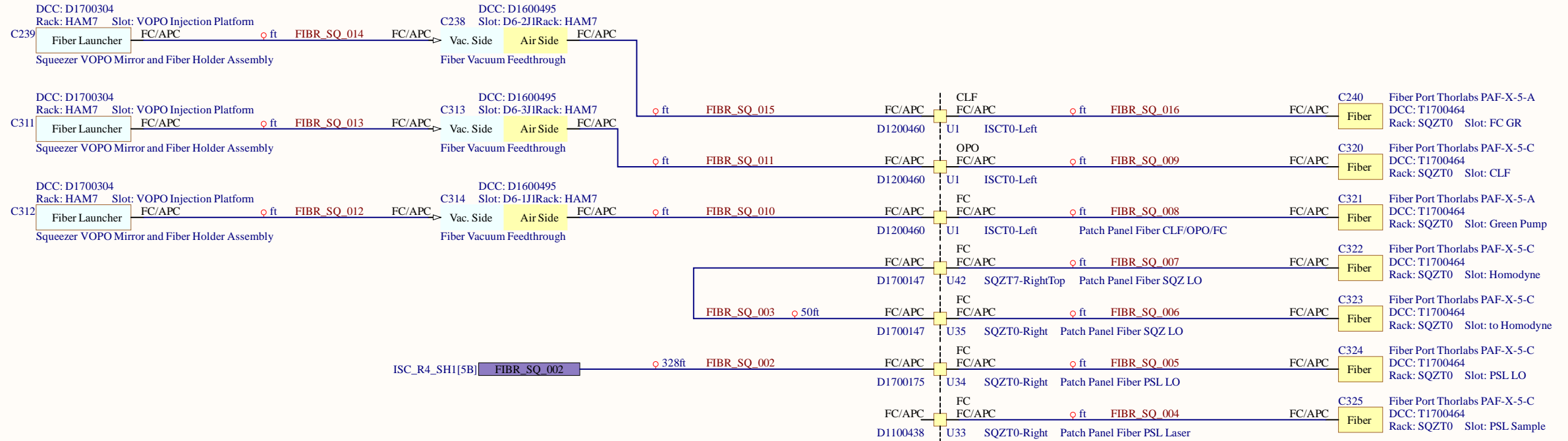
- Dot Identifies Cable Shield Terminating to Backshell
- Pin With Triangle Indicates Pin on Rear or the Like
- Pin With No Triangle Indicates Pin on Front or the Like
- Light Blue Symbols Are In-Vacuum
- Yellow Symbols Are In-Air

	LHO	LLO
DCPD A	Green pump	Green pump
DCPD B	Red CLF	Red CLF
DCPD C	Green FC	Green FC
DCPD D	OPI_A HAM7	OPI_A HAM7
DCPD HAM5	OPI_B HAM5	OPI_B HAM5

FC

CLF

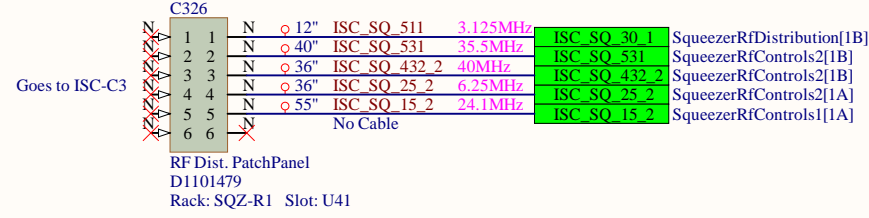
OPO



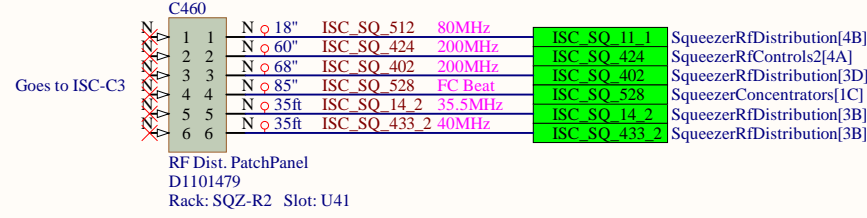
Last Edited: 7/24/2024

Title		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: B	DCC Number: D1900511	Revision: V10	Engineer: R. Abbott	Date: 8/13/2024	Time: 10:24:01 AM
File: C:\Users\daniel.sigg\Documents\Protel\WiringPlan\ISC\D1900511\SqueezerFiber.SchDoc					
Sheet 30 of 37					

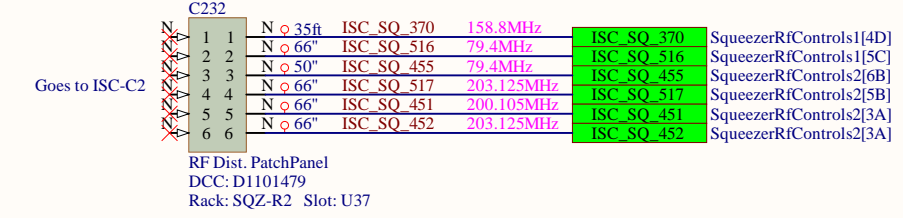
RF Patch Panel 34



RF Patch Panel 36



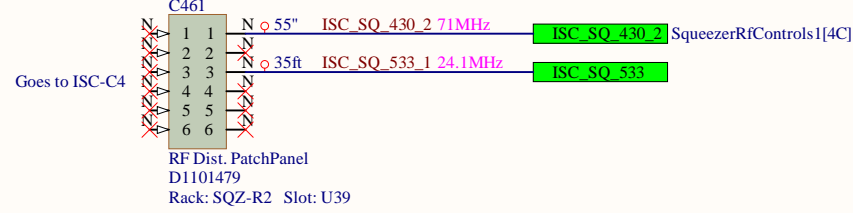
RF Patch Panel 38



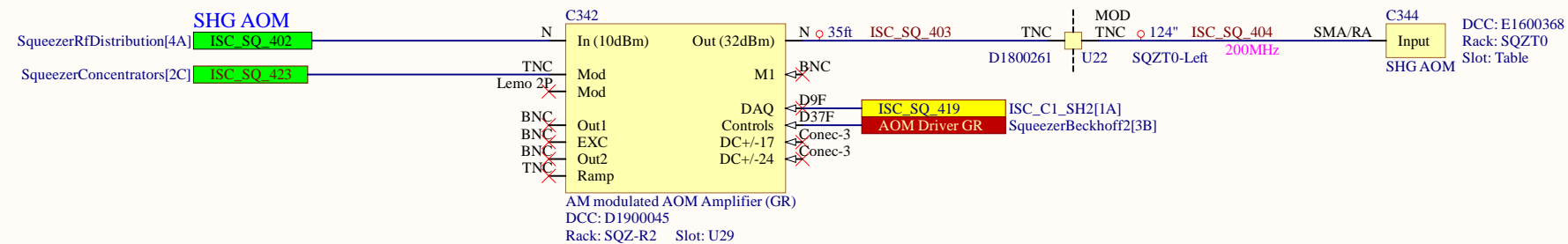
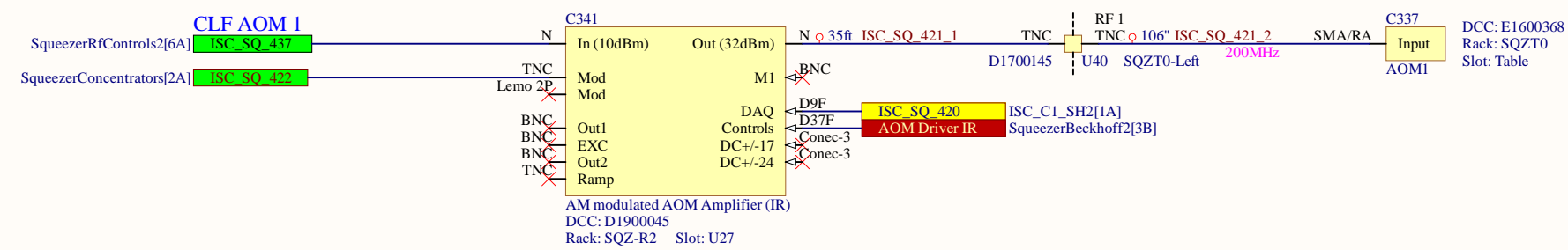
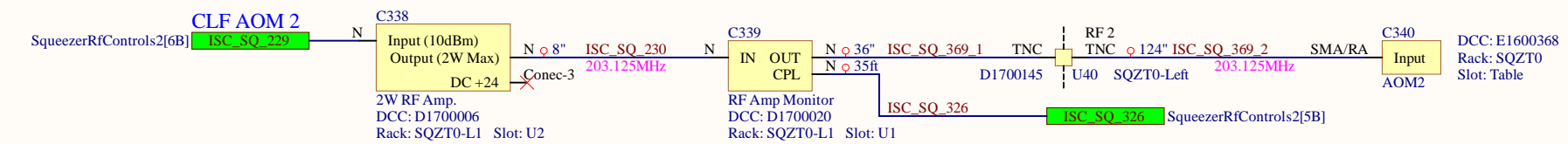
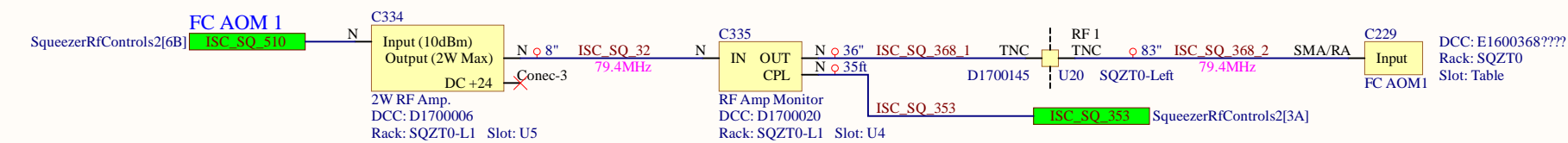
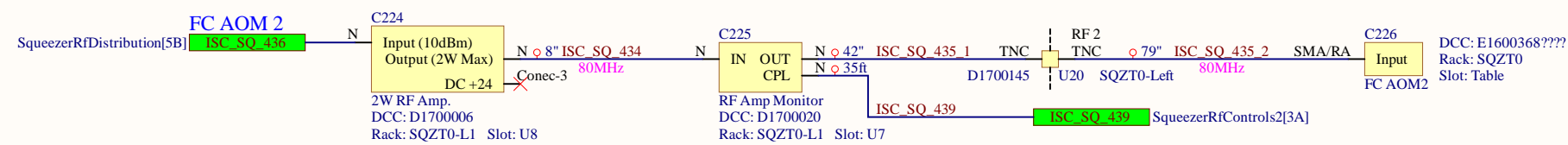
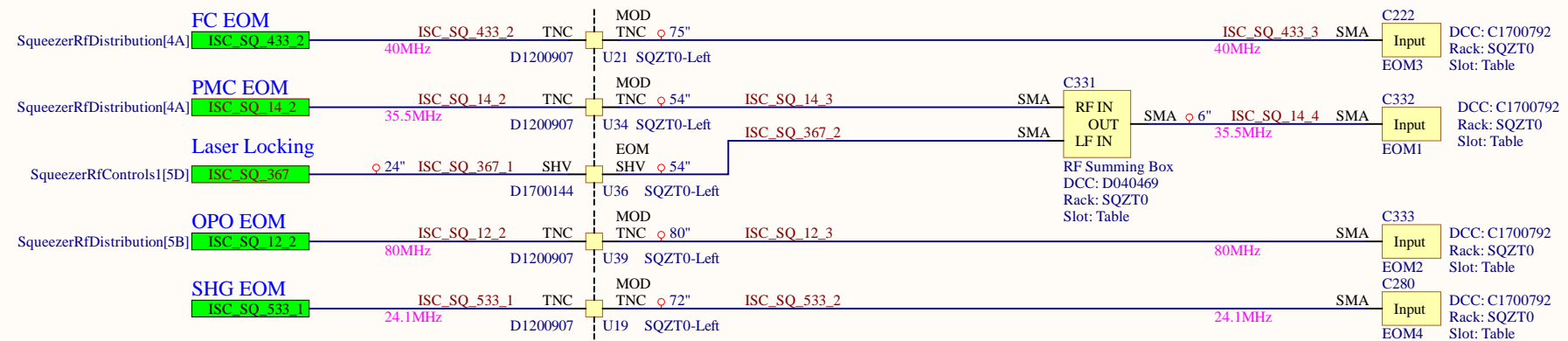
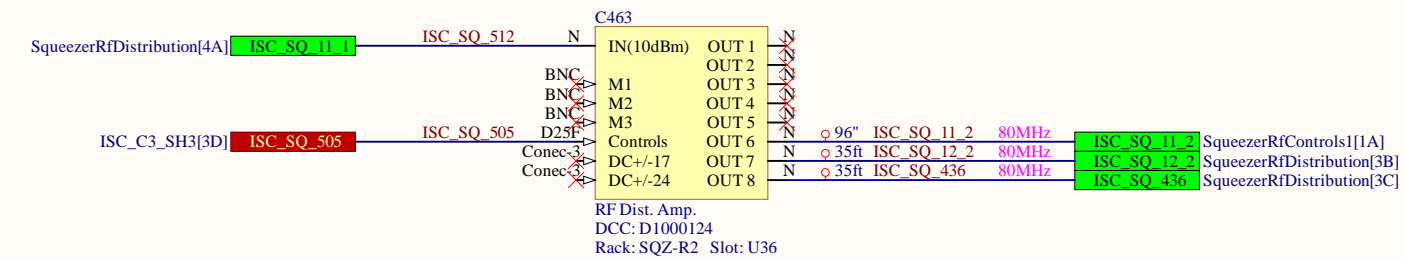
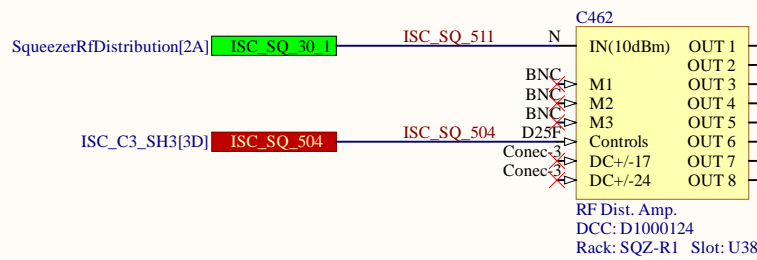
RF Patch Panel 35



RF Patch Panel 37



New cables for A_ start at ISC_SQ_430

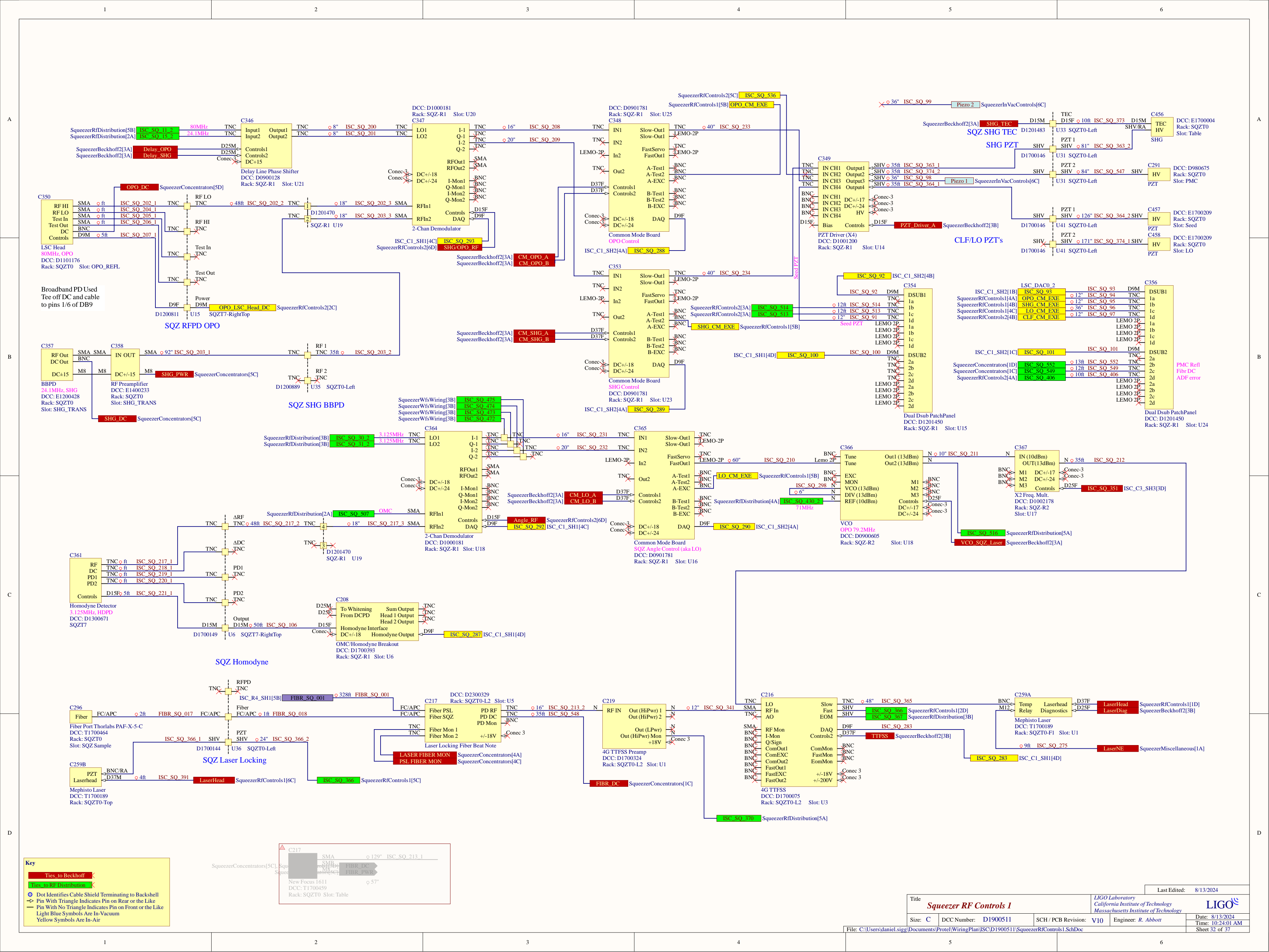


RF cables carrying the AOM signals need to be 1/4" superflexible helical corrugated coax.

Key

- Ties to Beckhoff
- Ties to RF Controls or WFS Wiring
- Dot Identifies Cable Shield Terminating to Backshell
- Pin With Triangle Indicates Pin on Rear or the Like
- Pin With No Triangle Indicates Pin on Front or the Like
- Light Blue Symbols Are In-Vacuum
- Yellow Symbols Are In-Air

Title		
Squeezer RF Distribution		
Size	Number	Revision
C	D1900511	V10
Date:	8/13/2024	Sheet of 31 37
File:	C:\Users\...SqueezerRfDistribution.SchDpDrawn By: R. Abbott	



80MHz
24.1MHz

80MHz, OPO
DCC: D1101176
Rack: SQZT0
Slot: OPO_REFL

Broadband PD Used
Tee off DC and cable
to pins 1/6 of DB9

BBPD
24.1MHz, SHG
DCC: E1200428
Rack: SQZT0
Slot: SHG_TRANS

RF Presampler
DCC: E1400233
Rack: SQZT0
Slot: SHG_TRANS

Homodyne Detector
3.125MHz, HDPD
DCC: D1300671
SQZT7

Mephisto Laser
DCC: T1700189
Rack: SQZT0-Top

4G TTFSS Preamp
DCC: D1700324
Rack: SQZT0-L2
Slot: U1

4G TTFSS
DCC: D1700075
Rack: SQZT0-L2
Slot: U3

Mephisto Laser
DCC: T1700189
Rack: SQZT0-F1
Slot: U1

4G TTFSS
DCC: D1700075
Rack: SQZT0-L2
Slot: U3

4G TTFSS
DCC: D1700075
Rack: SQZT0-L2
Slot: U3

4G TTFSS
DCC: D1700075
Rack: SQZT0-L2
Slot: U3

4G TTFSS
DCC: D1700075
Rack: SQZT0-L2
Slot: U3

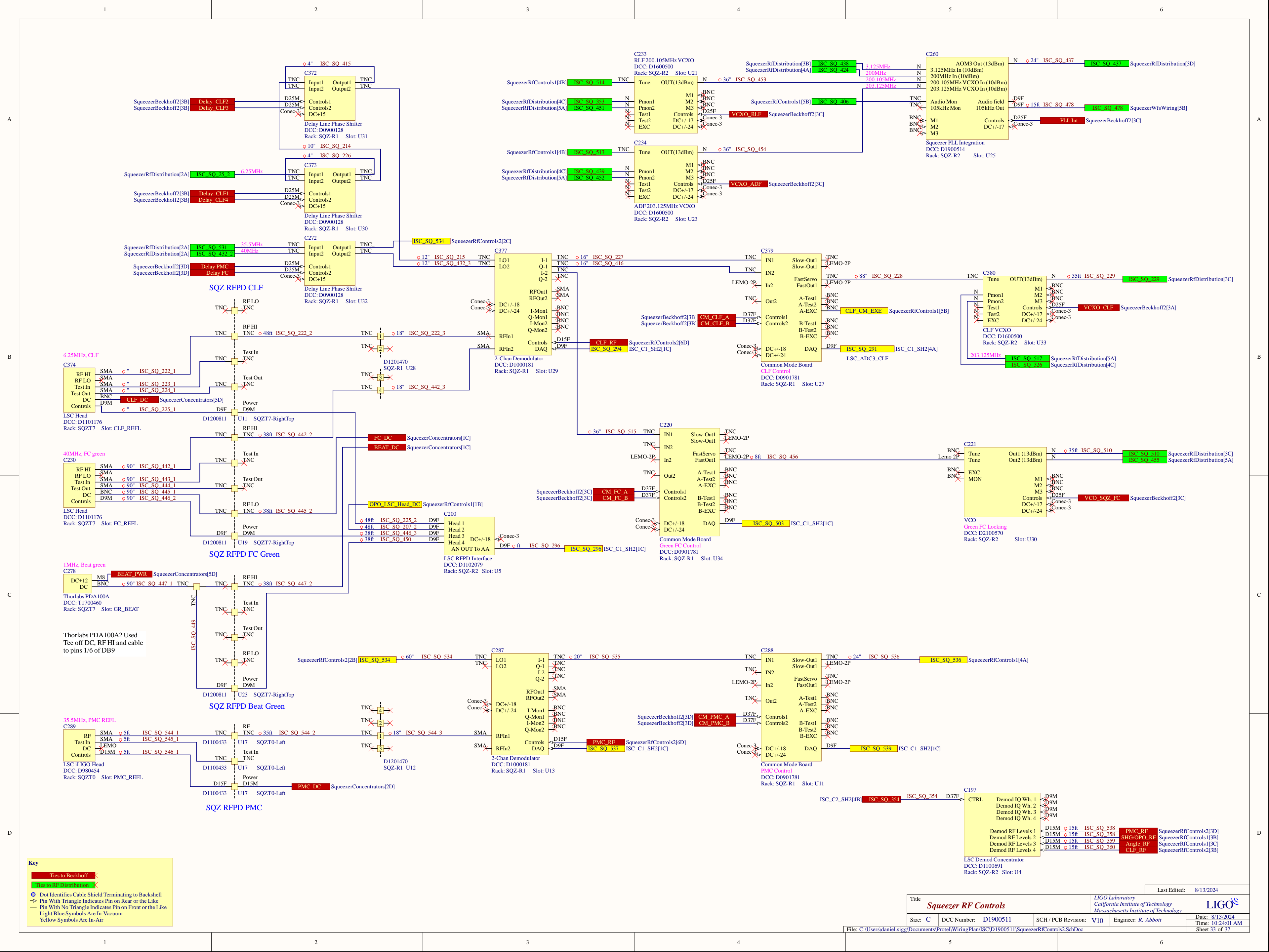
4G TTFSS
DCC: D1700075
Rack: SQZT0-L2
Slot: U3

4G TTFSS
DCC: D1700075
Rack: SQZT0-L2
Slot: U3

Key

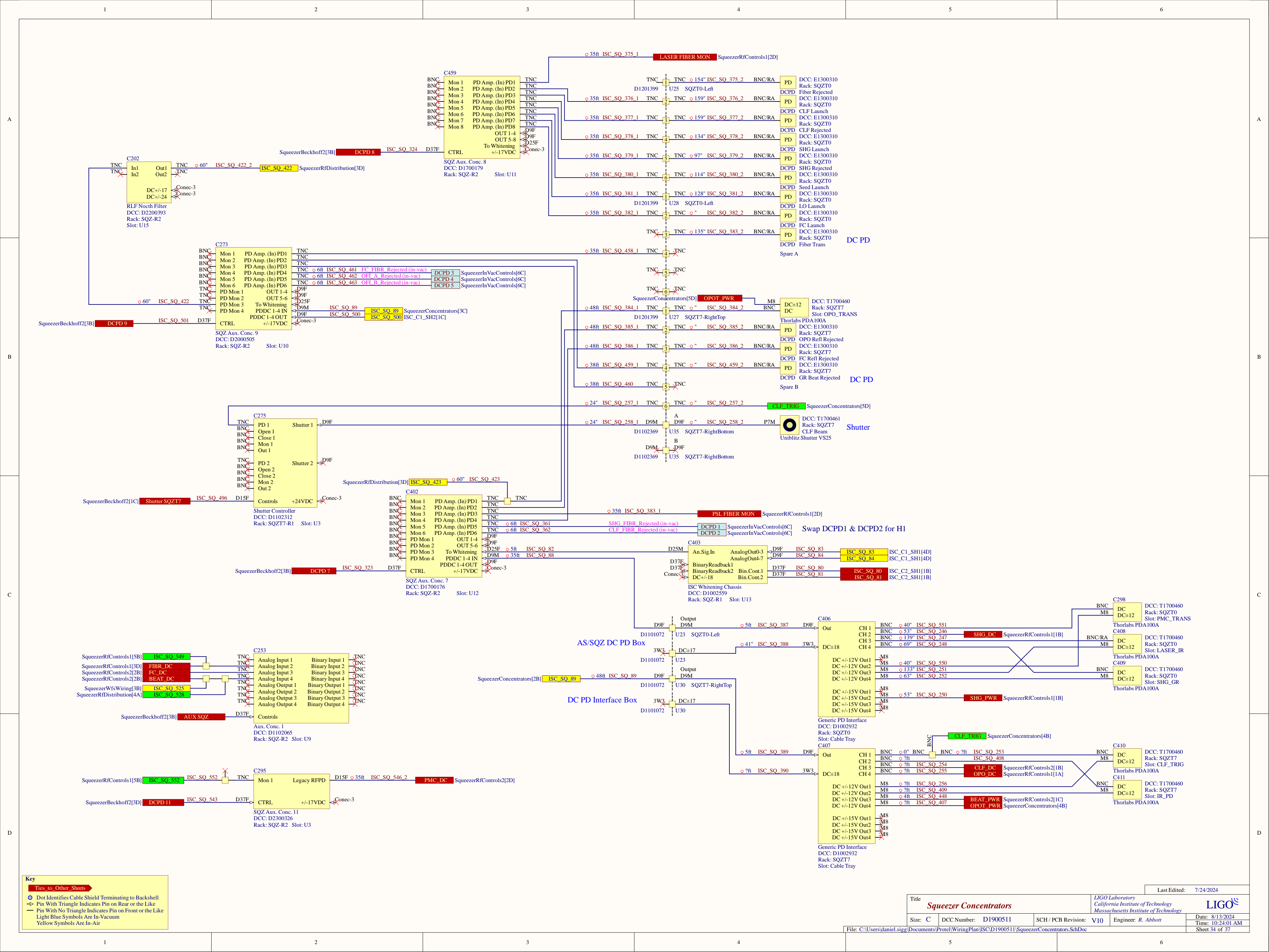
- Ties to Beckhoff
- Ties to RF Distribution
- Dot Identifies Cable Shield Terminating to Backshell
- Pin With Triangle Indicates Pin on Rear or the Like
- Pin With No Triangle Indicates Pin on Front or the Like
- Light Blue Symbols Are In-Vacuum
- Yellow Symbols Are In-Air

C217
SMA
SMB
FIBR_DC
FIBR_PWR
New Focus 1611
DCC: T1700459
Rack: SQZT0
Slot: Table



Key

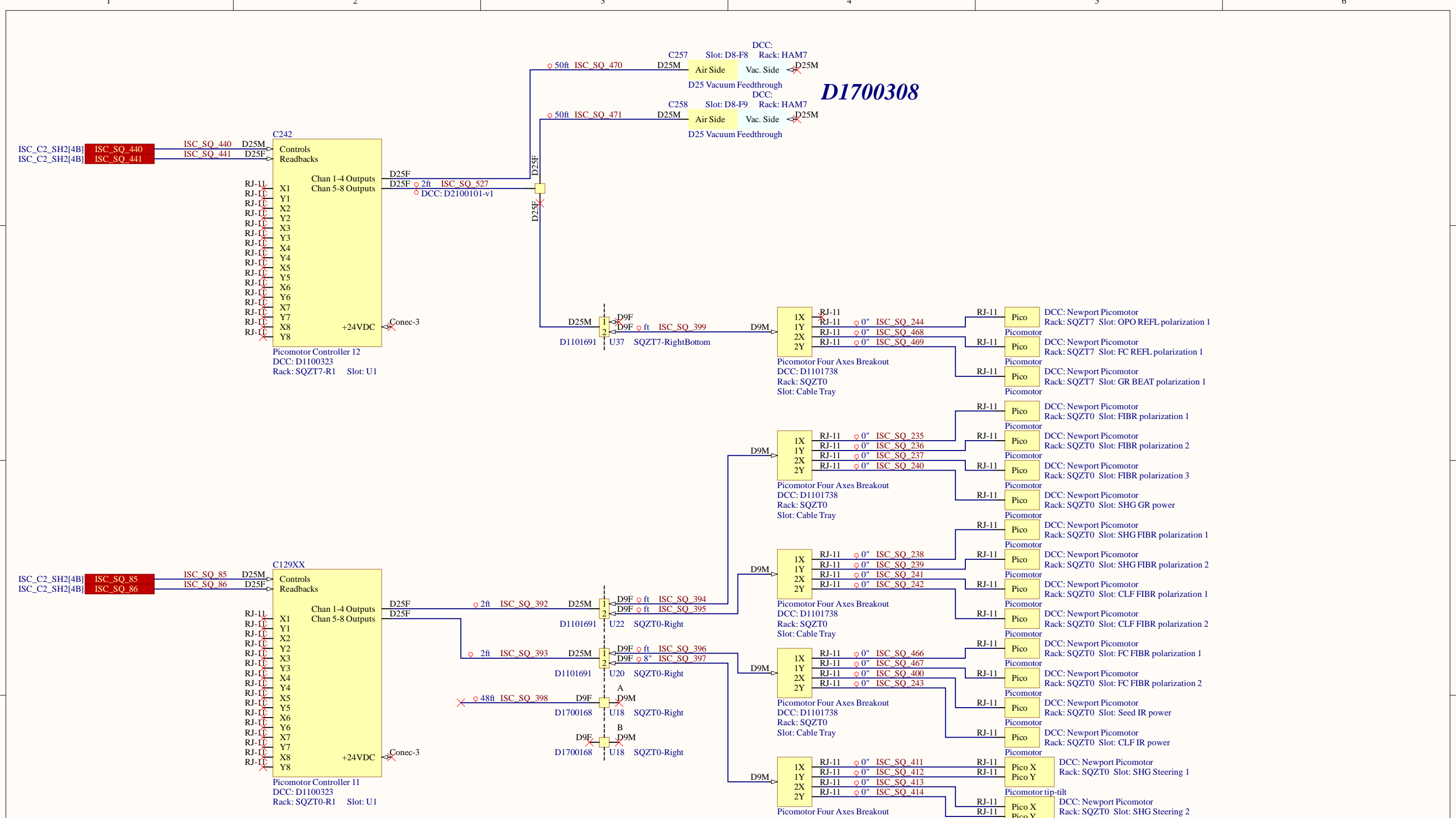
- Ties to Beckhoff
- Ties to RF Distribution
- Dot Identifies Cable Shield Terminating to Backshell
- △ Pin With Triangle Indicates Pin on Rear or the Like
- Pin With No Triangle Indicates Pin on Front or the Like
- Light Blue Symbols Are In-Vacuum
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Key

- Ties to Other Sheets
- Dot Identifies Cable Shield Terminating to Backshell
- ⇨ Pin With Triangle Indicates Pin on Rear or the Like
- ⇨ Pin With No Triangle Indicates Pin on Front or the Like
- Light Blue Symbols Are In-Vacuum
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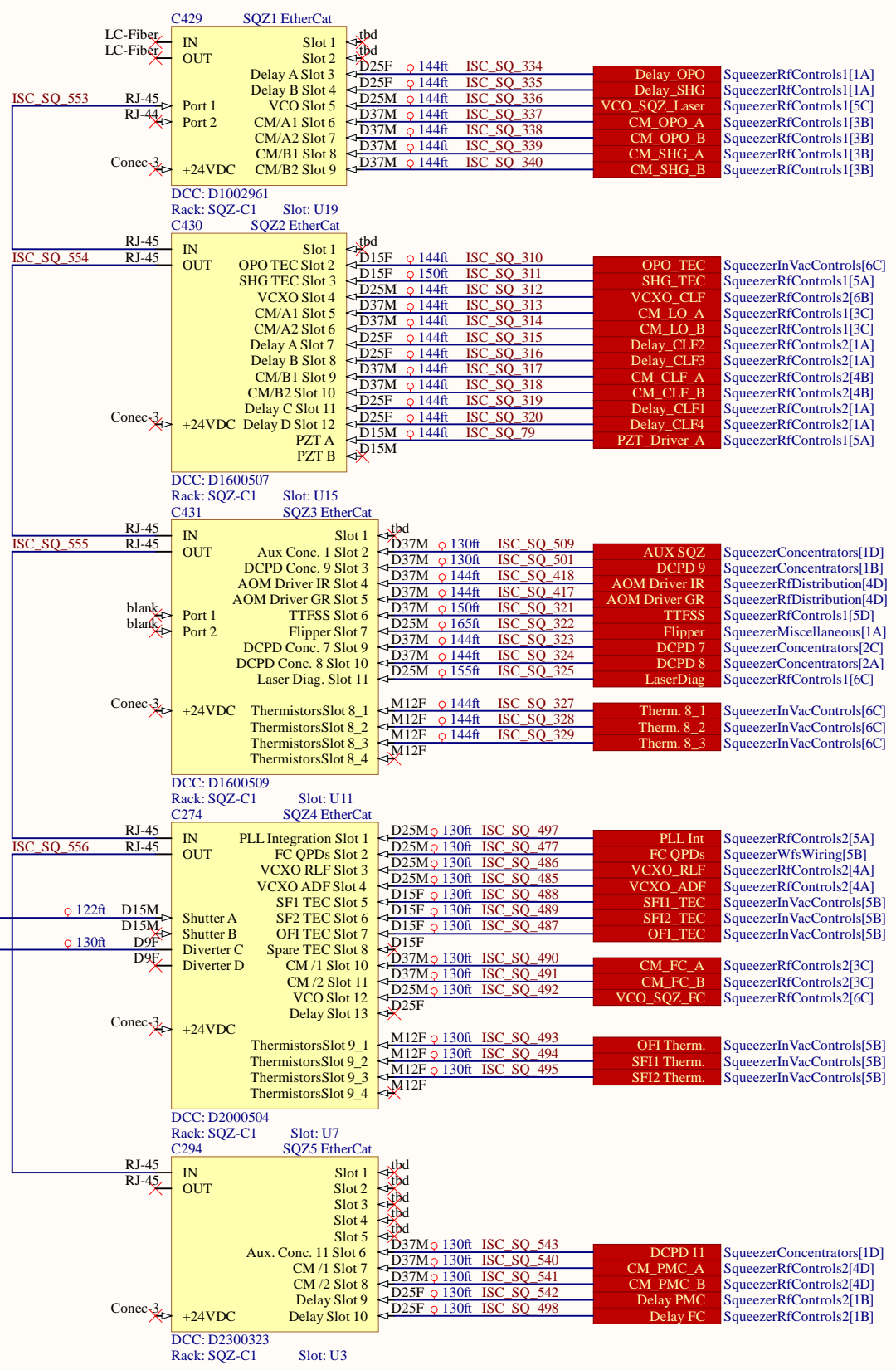
Title Squeezer Concentrators		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: C	DCC Number: D1900511	SCH / PCB Revision: V10	Engineer: R. Abbott	Date: 8/13/2024	Time: 10:24:01 AM
File: C:\Users\daniel.sig\Documents\Protel\WiringPlan\ISC\D1900511\SqueezerConcentrators.SchDoc			Last Edited: 7/24/2024		
			Sheet 34 of 37		



Key

- Ties to Other Sheets
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Title		
Squeezer Beckhoff Interfaces		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 6 37
File:	C:\Users\... \SqueezerBeckhoff1.SchDoc	Drawn By: R. Abbott



Key

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Squeezer Beckhoff Interfaces		
Size	Number	Revision
B	D1900511	V10
Date:	8/13/2024	Sheet of 7 37
File:	C:\Users\... \SqueezerBeckhoff2.SchDoc	Drawn By: R. Abbott