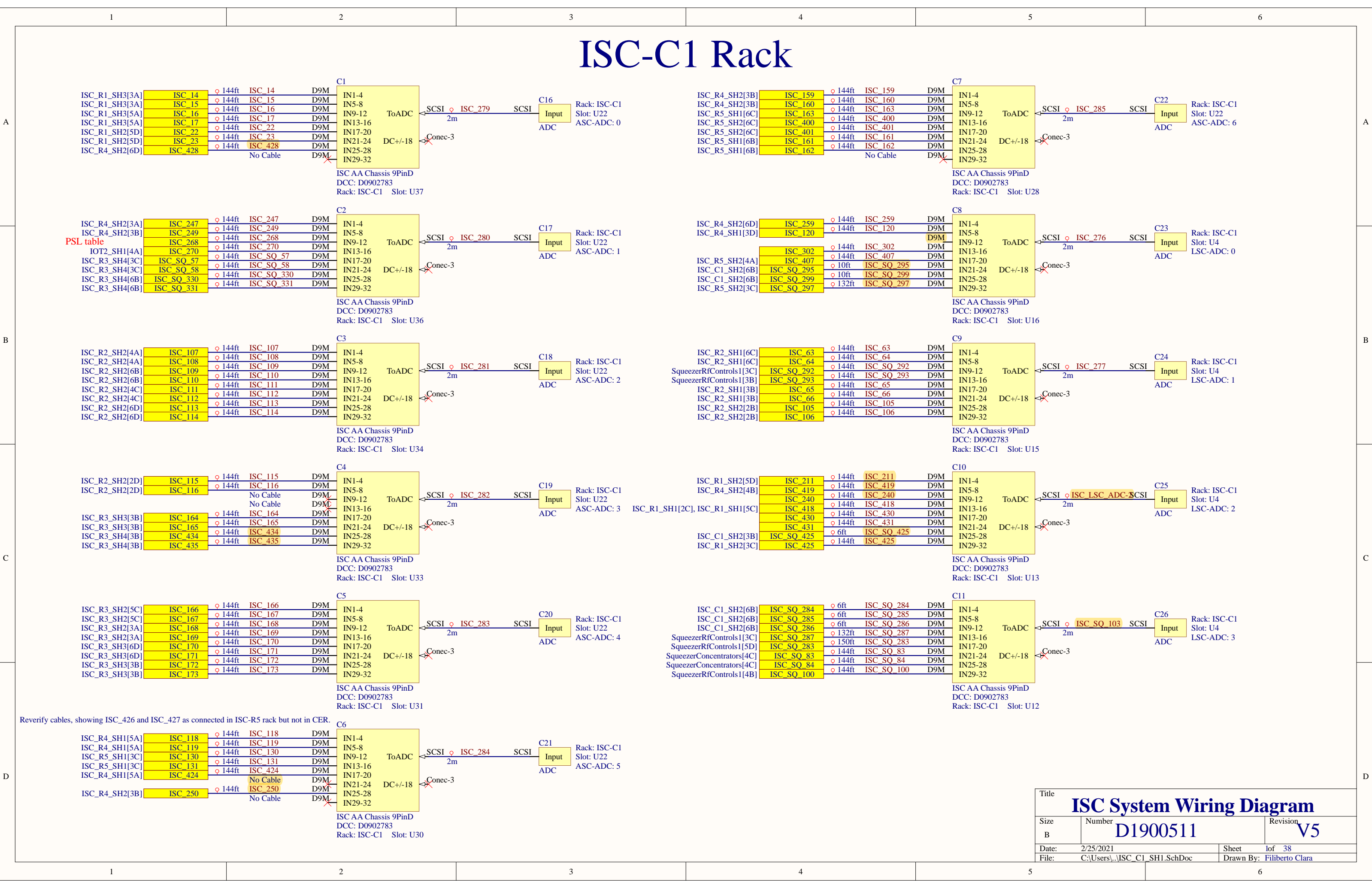


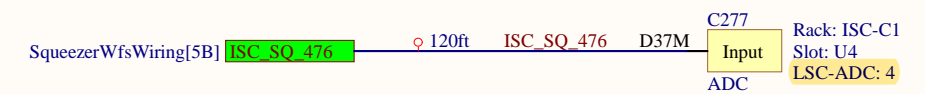
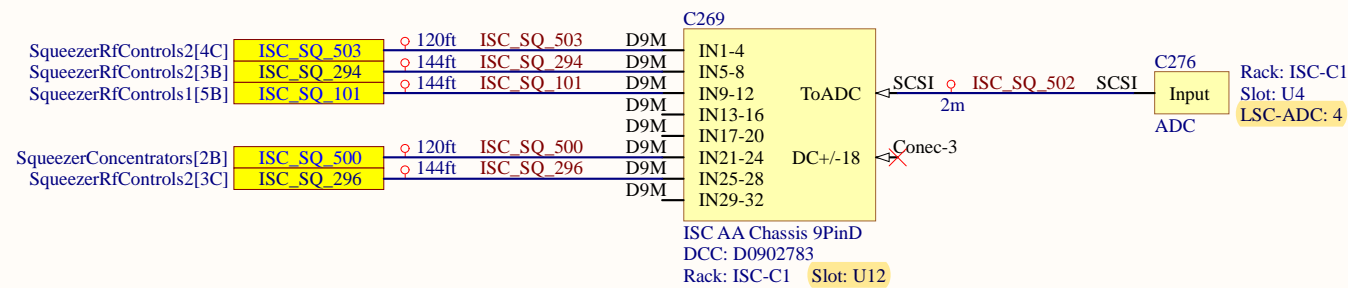
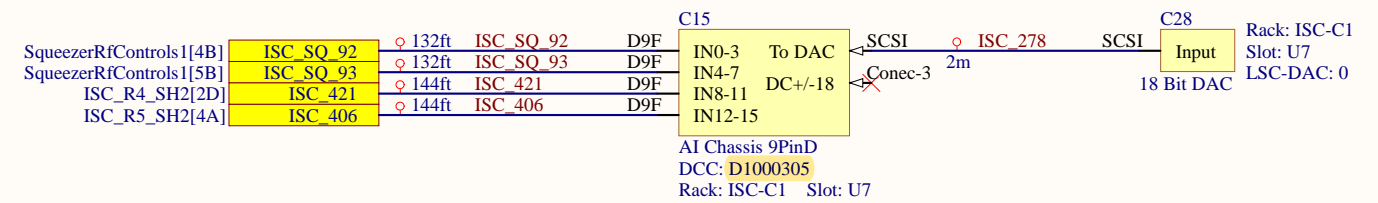
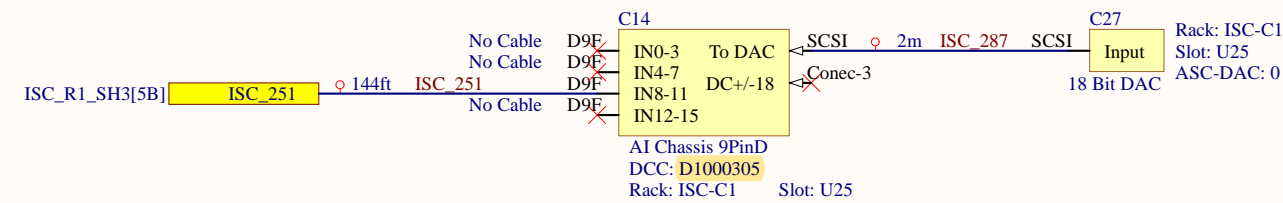
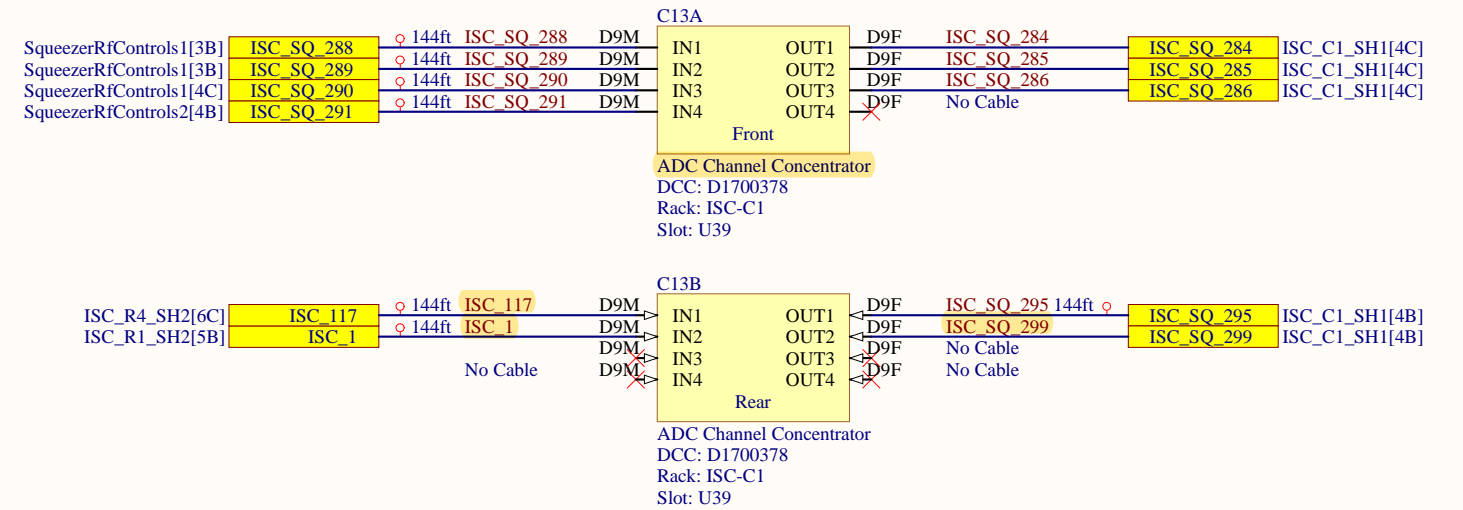
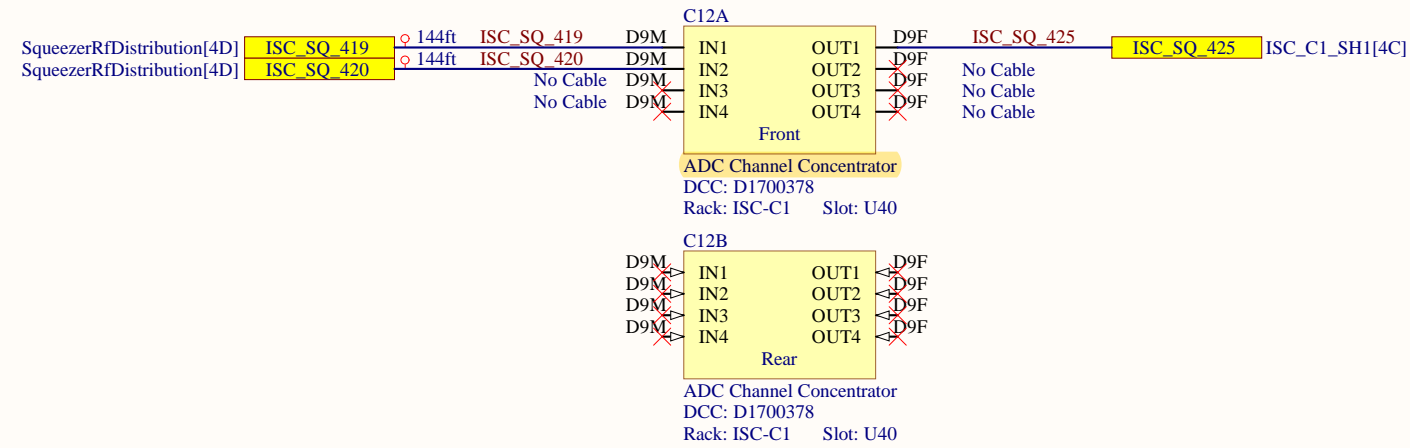
ISC-C1 Rack



Reverify cables, showing ISC_426 and ISC_427 as connected in ISC-R5 rack but not in CER.

Title			ISC System Wiring Diagram		
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Date:	2/25/2021	Sheet	1 of 38		
File:	C:\Users\...\ISC_C1_SH1.SchDoc	Drawn By:	Filiberto Clara		

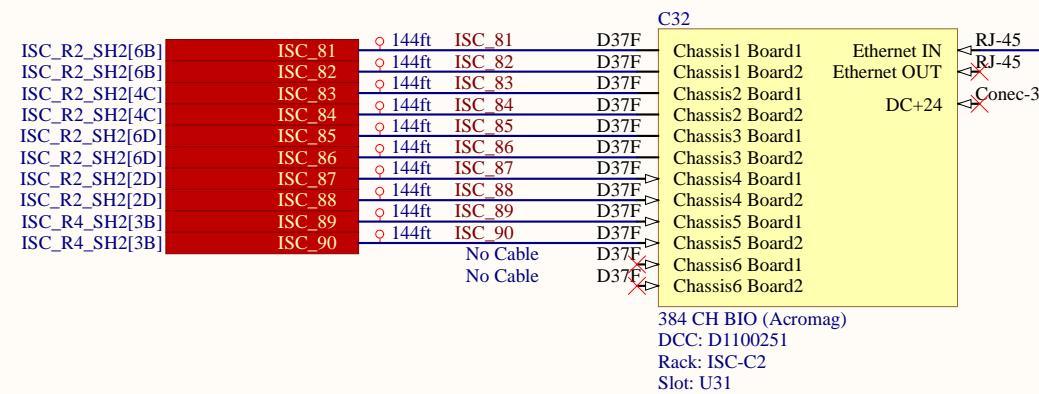
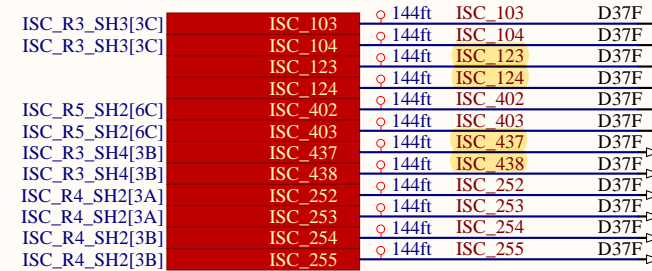
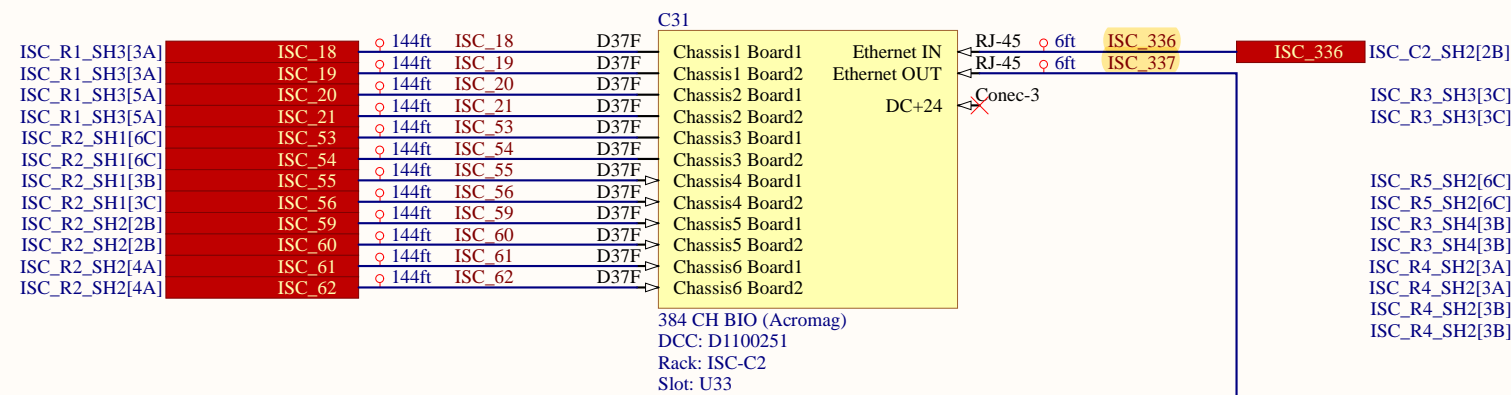
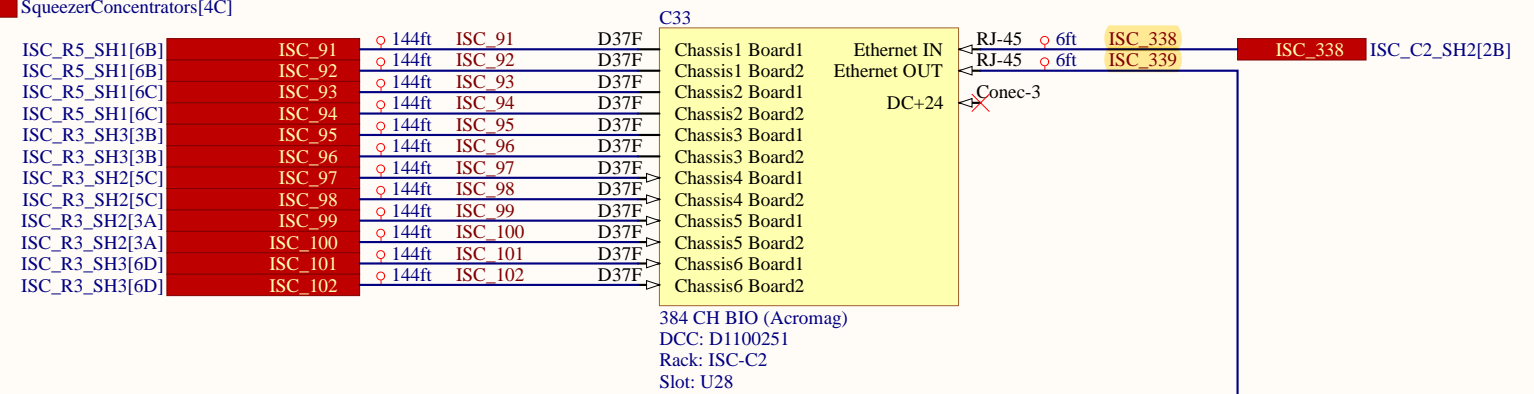
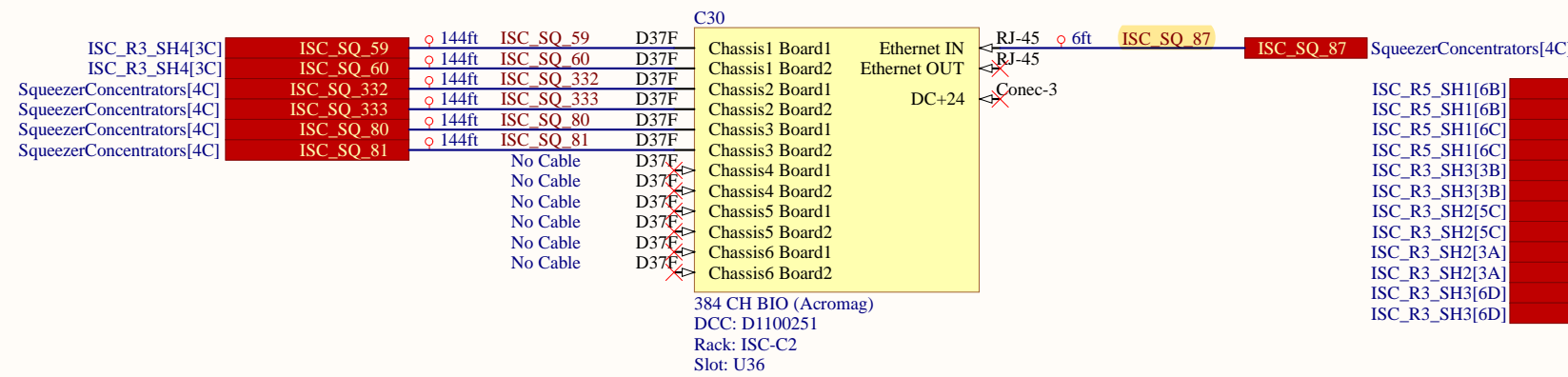
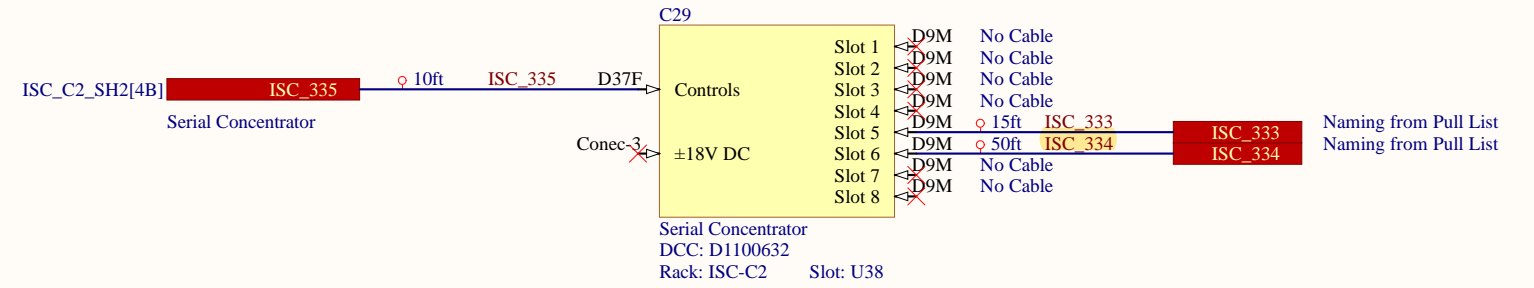
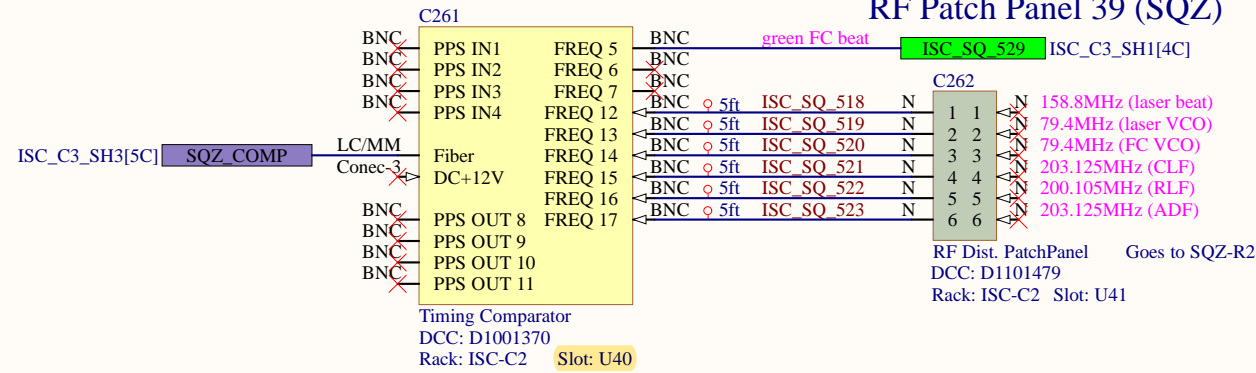
ISC-C1 Rack



Title			ISC System Wiring Diagram		
Size	Number			Revision	
B	D1900511			V5	
Date:	2/25/2021	Sheet	2 of 38		
File:	C:\Users\...\ISC_C1_SH2.SchDoc	Drawn By:	Filiberto Clara		

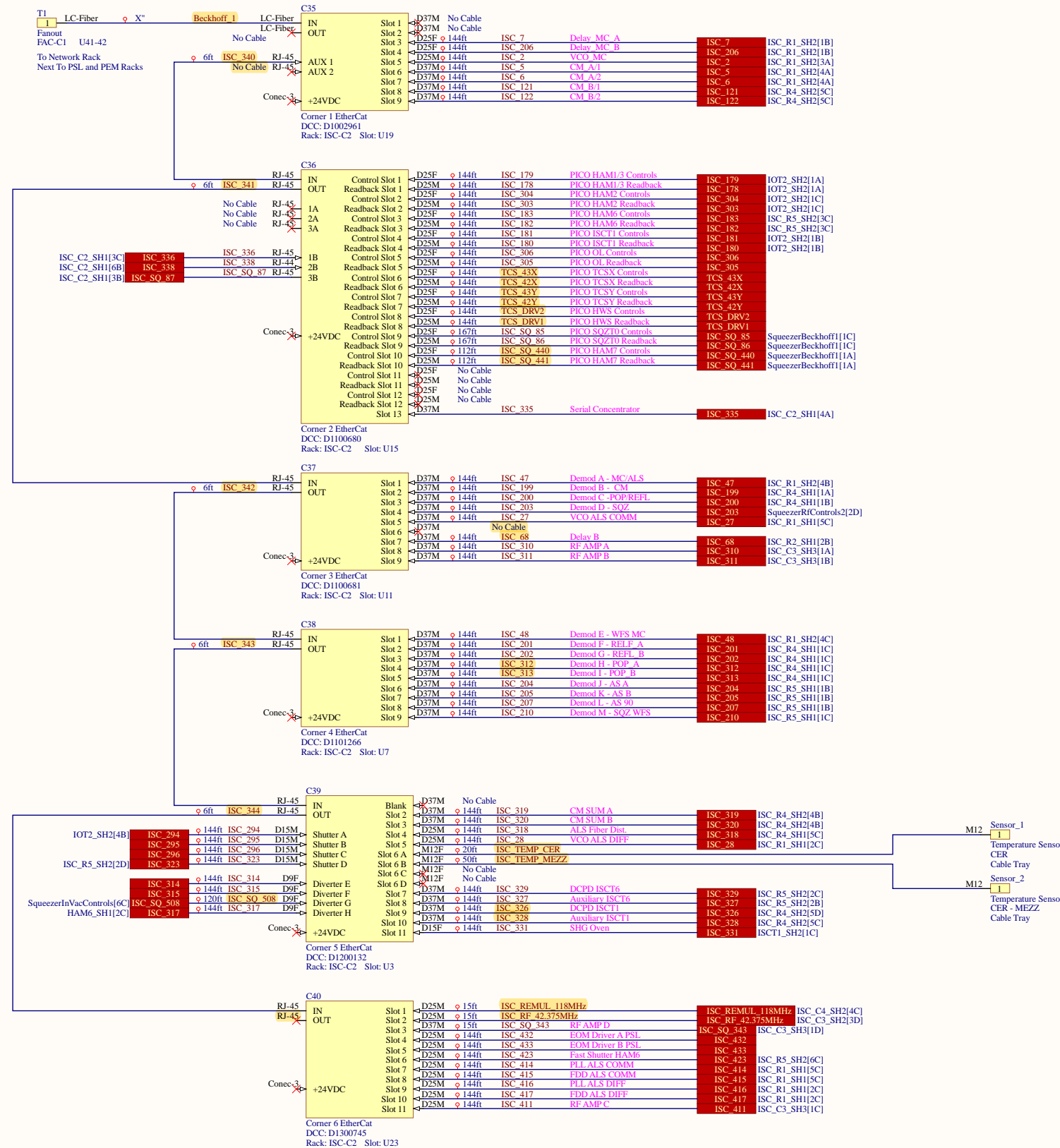
ISC-C2 Rack

RF Patch Panel 39 (SQZ)



Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 3 of 38
File:	C:\Users\...\ISC_C2_SH1.SchDoc	Drawn By: Filiberto Clara

ISC-C2 Rack

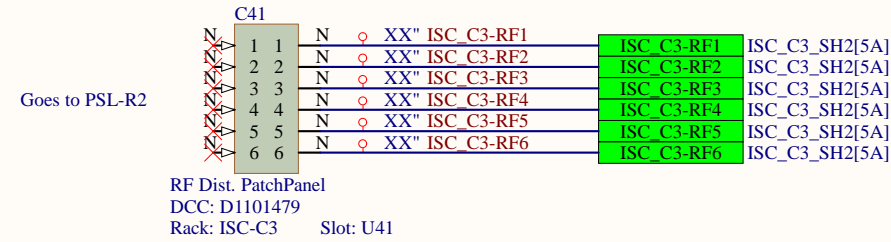


SQZ Drawing has Diff Mix 3.125MHz going to slot 2 need to verify

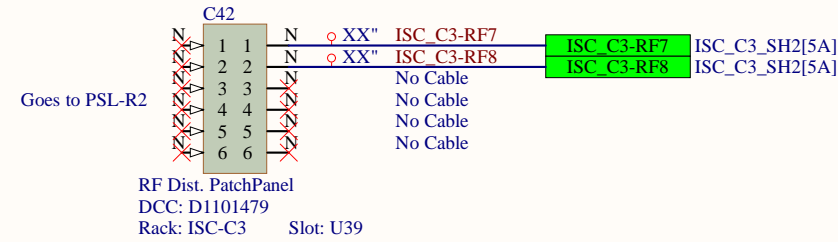
Title ISC System Wiring Diagram		
Size C	Number D1900511	Revision V5
Date: 2/25/2021	Sheet 4 of 38	
File: C:\Users\jisc\C2_SH2.SchDoc		

ISC-C3 Rack

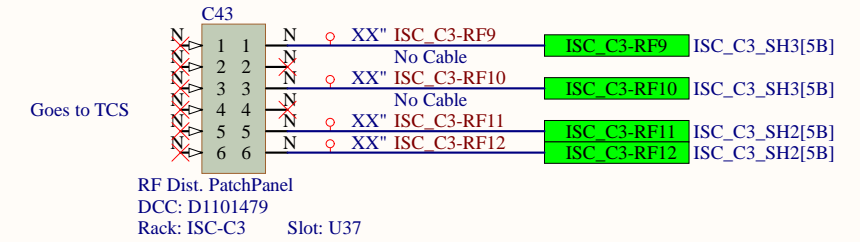
RF Patch Panel 7 (PSL)



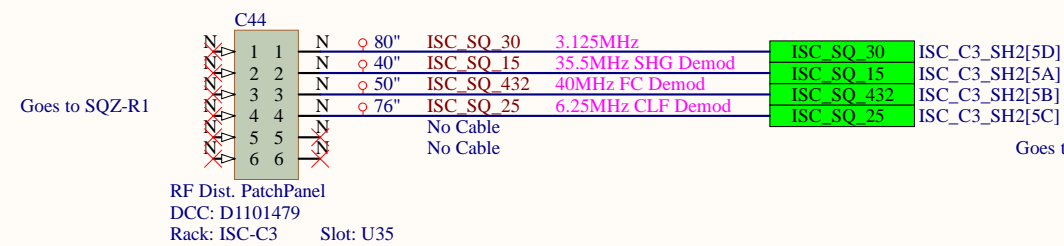
RF Patch Panel 8 (PSL)



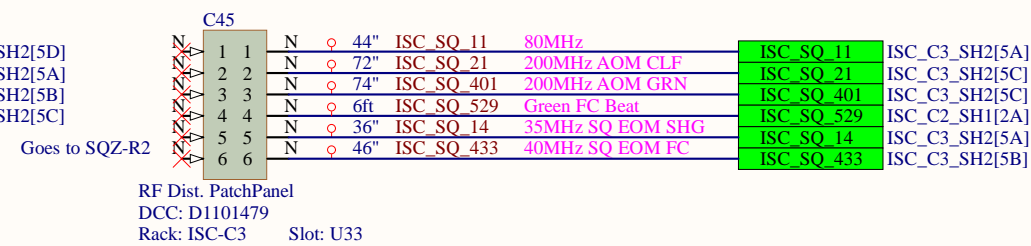
RF Patch Panel 9 (TCS)



RF Patch Panel 32 (SQZ)



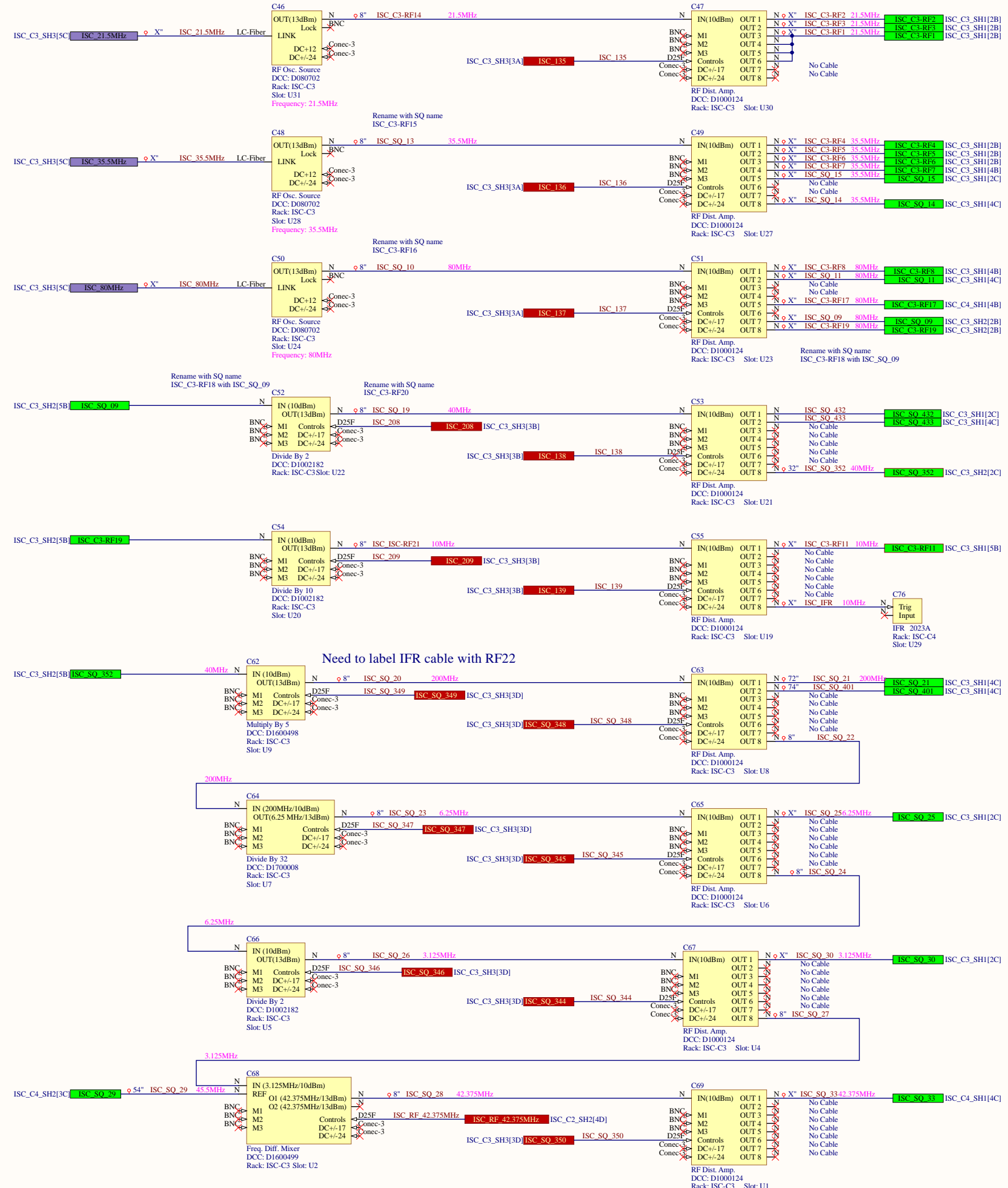
RF Patch Panel 33 (SQZ)



Cables that are removed
ISC_SQ_31
ISC_SQ_12
ISC_SQ_78

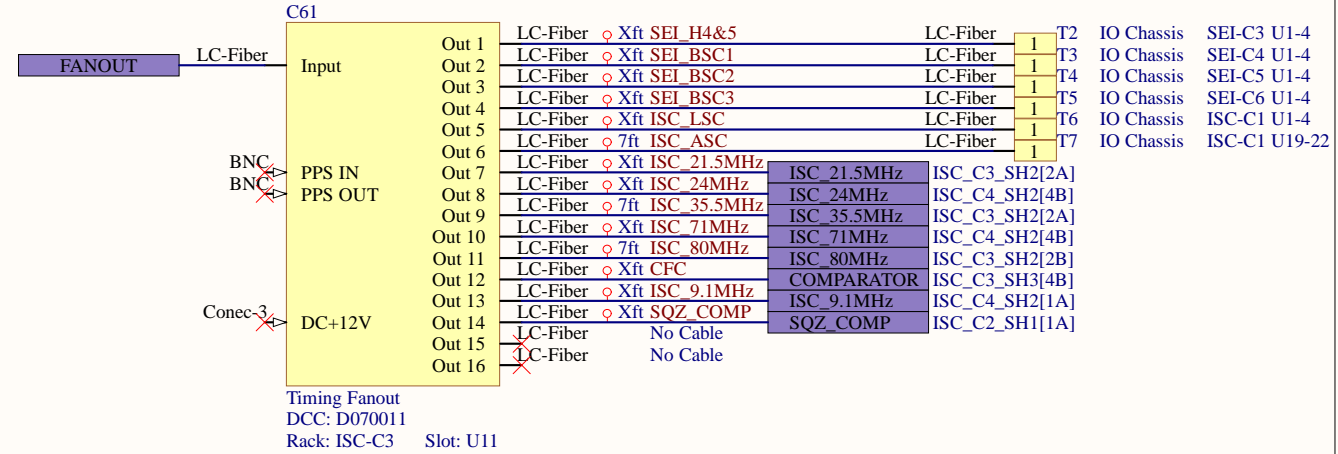
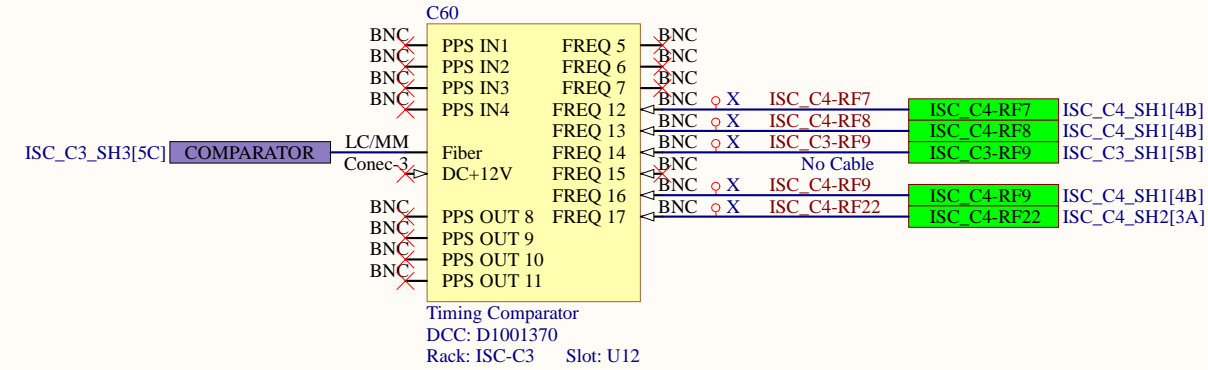
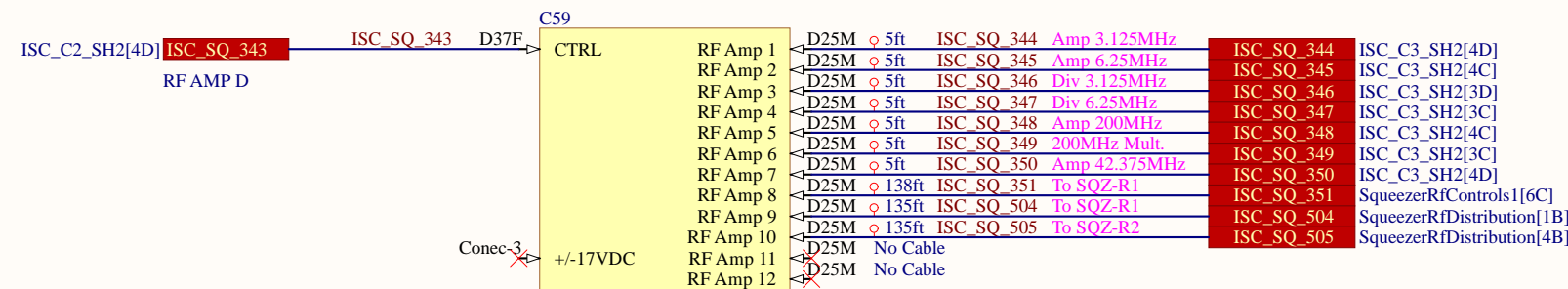
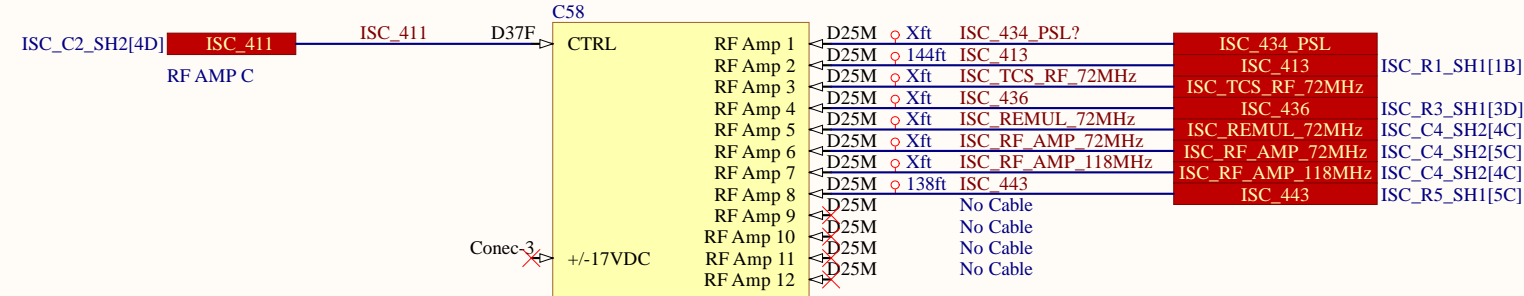
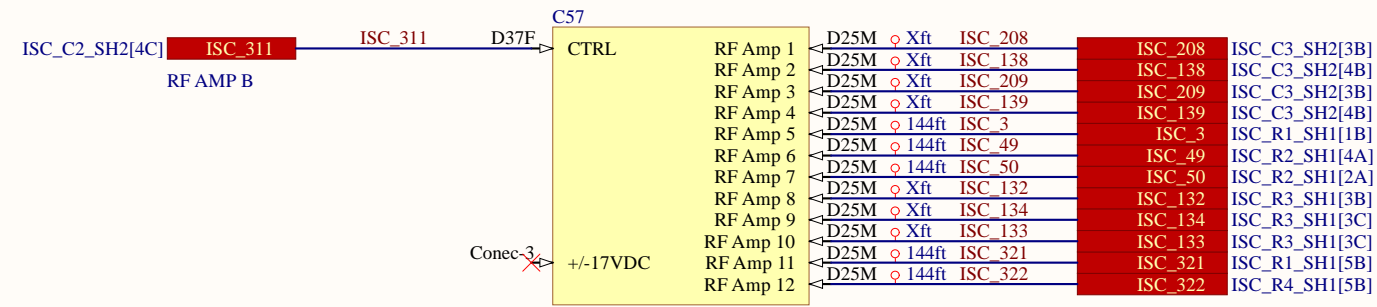
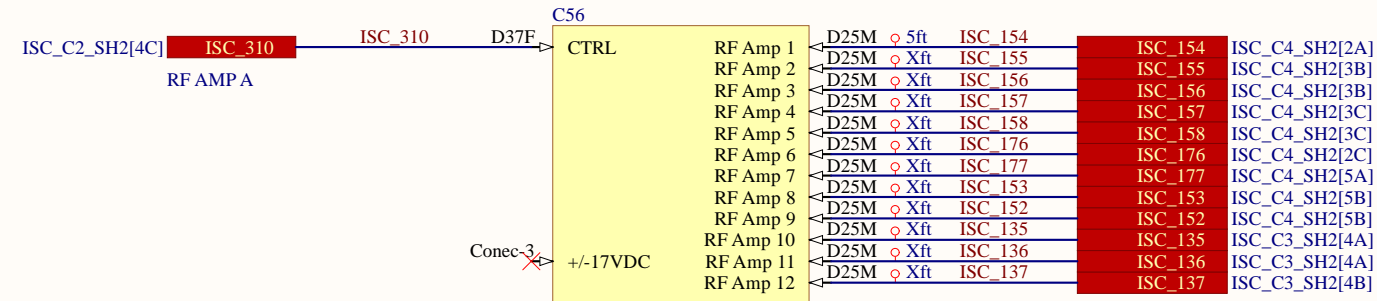
Title			ISC System Wiring Diagram		
Size	Number			Revision	
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File:	C:\Users\...\ISC_C3_SH1.SchDoc	Drawn By:	Filiberto Clara		

ISC-C3 Rack



Title			
ISC System Wiring Diagram		Revision	V5
Size	Number	D1900511	
Date:	2/25/2011	Sheet	6 of 38
File:	C:\Users\...ISC_C3_SH2.SchDoc	Drawn By:	Filberto Clara

ISC-C3 Rack

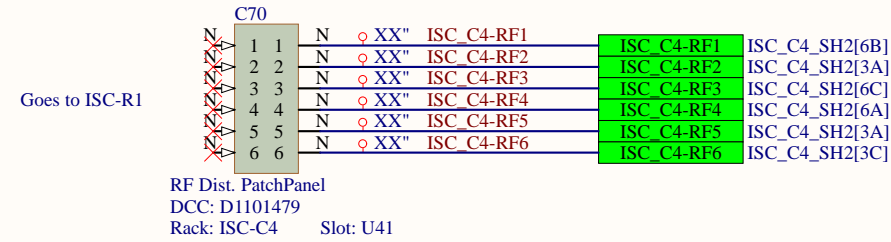


Need Locations of other ends.
SEI IO Chassis

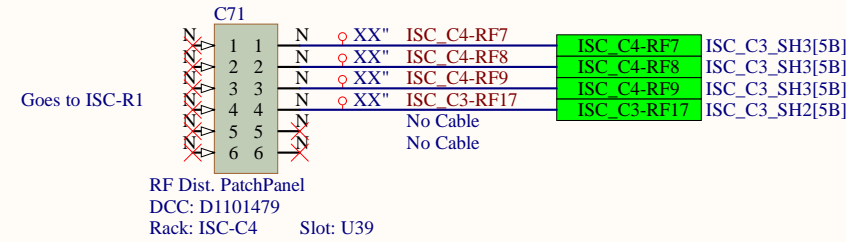
Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	7	of 38	
File:	C:\Users\...\ISC_C3_SH3.SchDoc	Drawn By:	Filiberto Clara		

ISC-C4 Rack

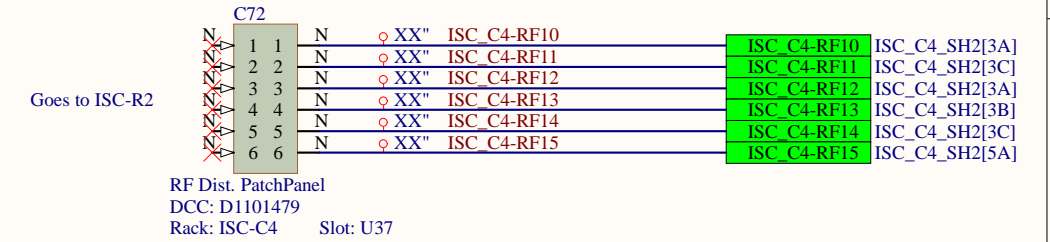
RF Patch Panel 1 (ISC)



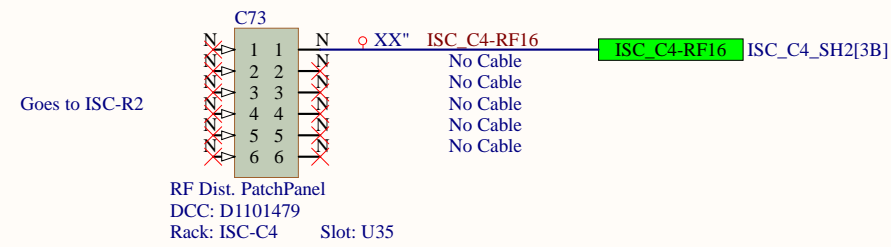
RF Patch Panel 2 (ISC)



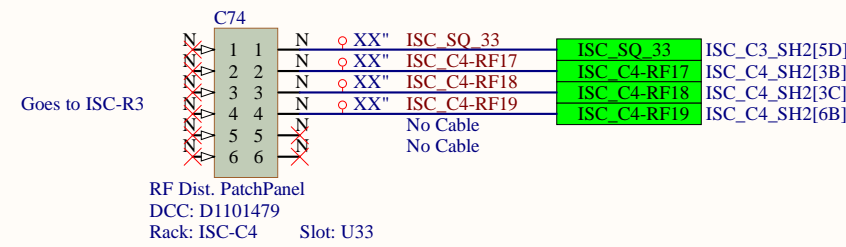
RF Patch Panel 3 (ISC)



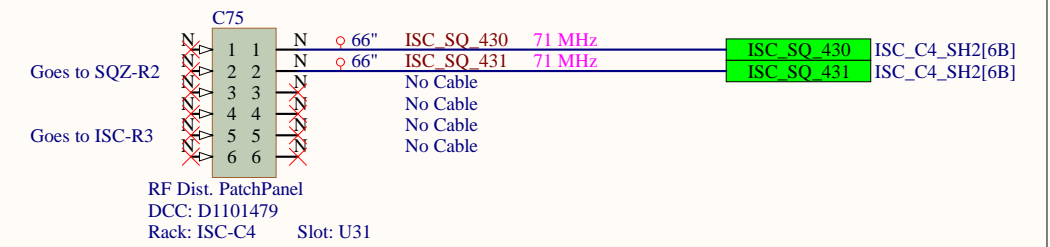
RF Patch Panel 4 (ISC)



RF Patch Panel 5 (ISC)

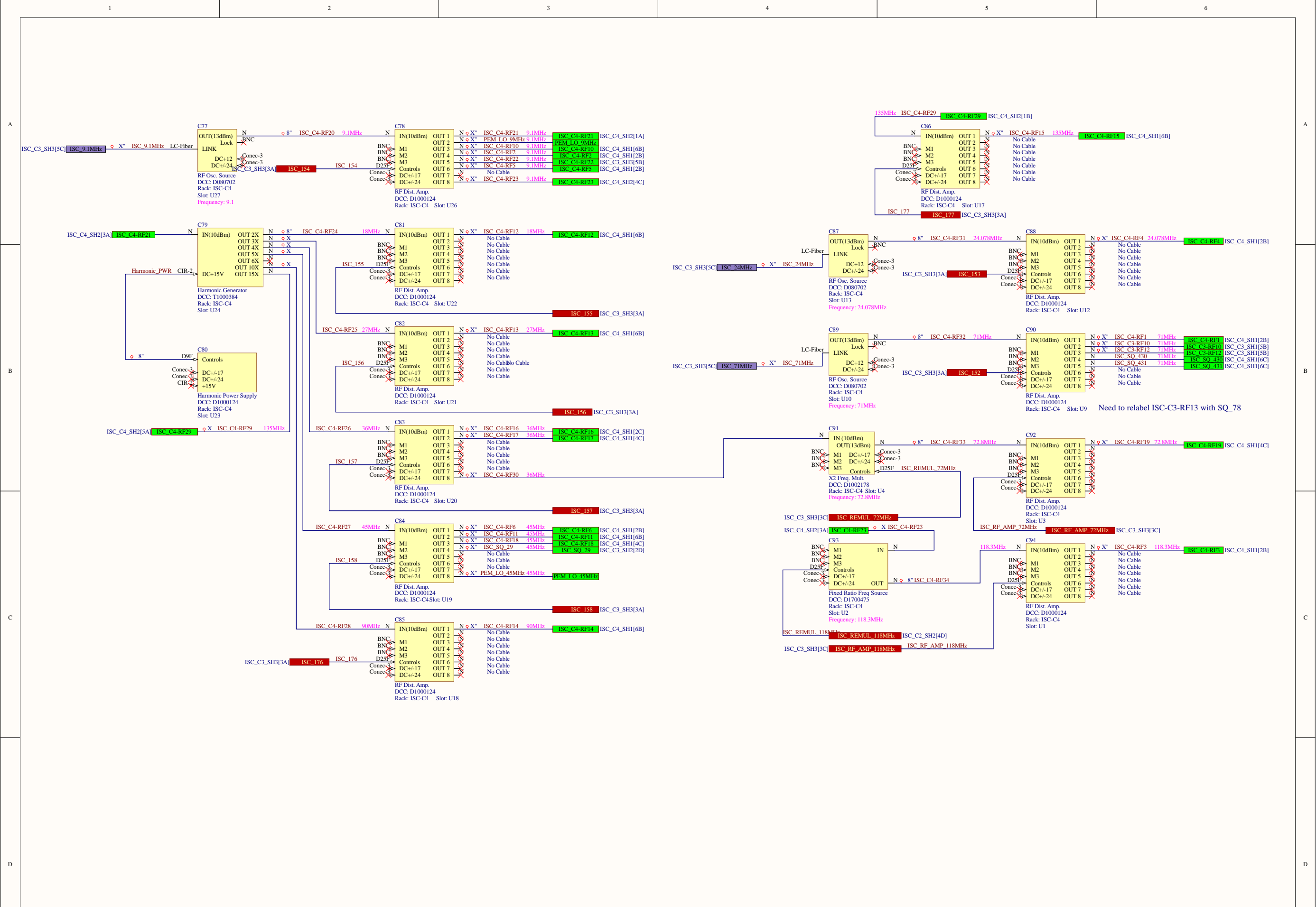


RF Patch Panel 6 (SQZ/ISC)



ISC System Wiring Diagram

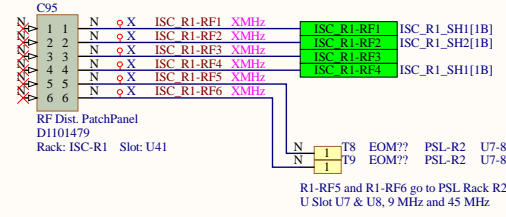
Title	ISC System Wiring Diagram	
Size	Number	Revision
B	D1900511	V5
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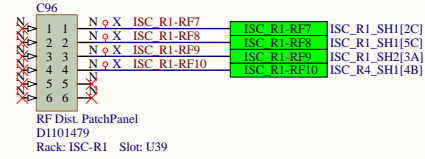
ISC-C4 Rack

Title		
ISC System Wiring Diagram		
Size	Number	Revision
c	D1900511	V5
Date:	2/25/2011	Sheet 9 of 38
File:	C:\Users\...ISC_C4_SH2.SchDoc	Drawn By: Filiberto Clara

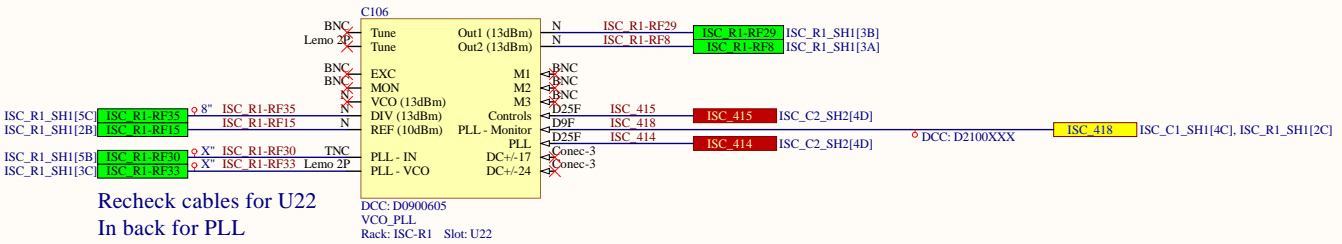
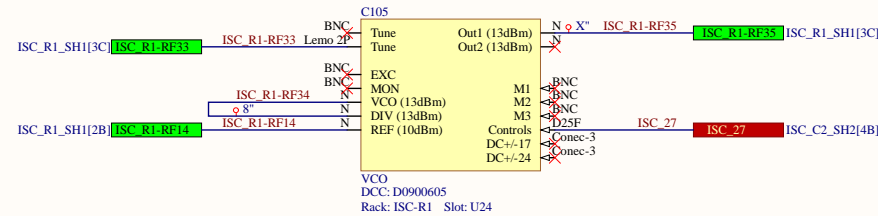
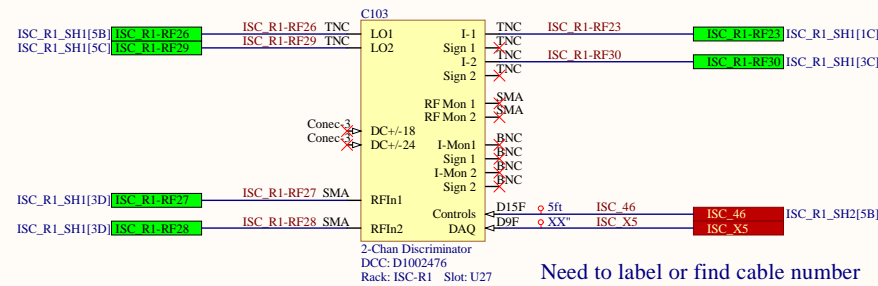
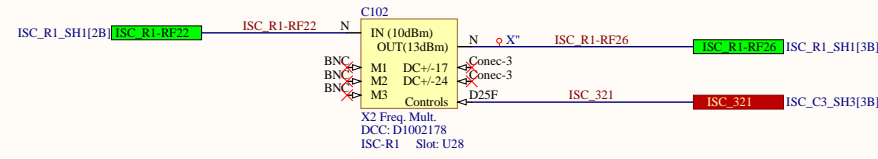
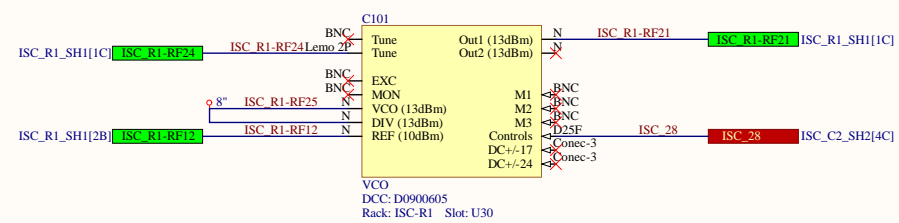
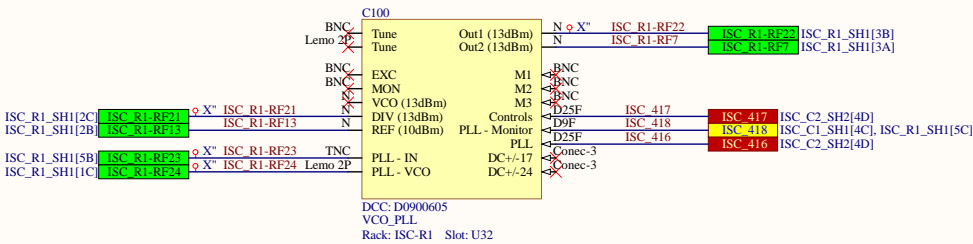
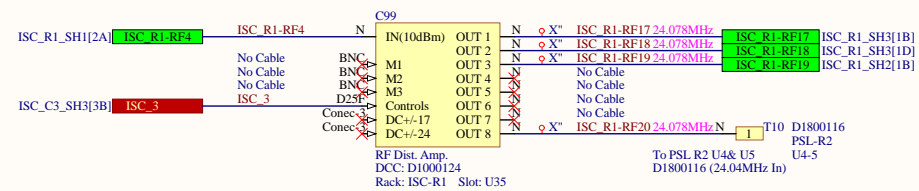
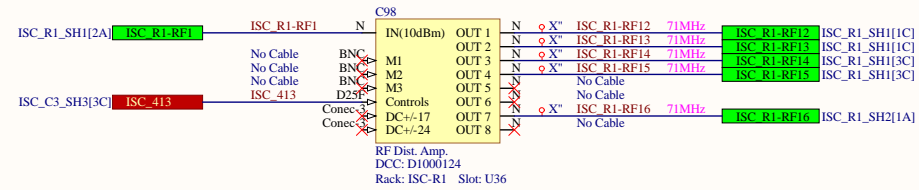
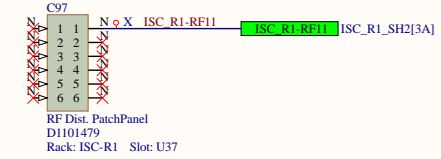
RF Patch Panel 10



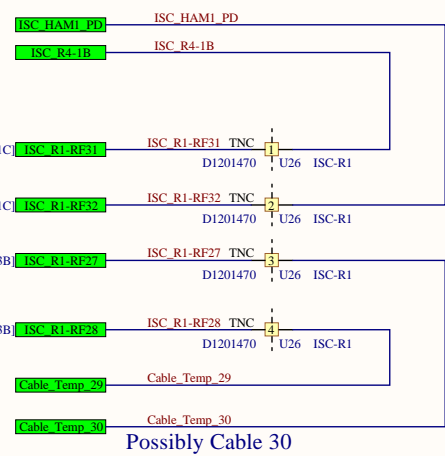
RF Patch Panel 11



RF Patch Panel 12



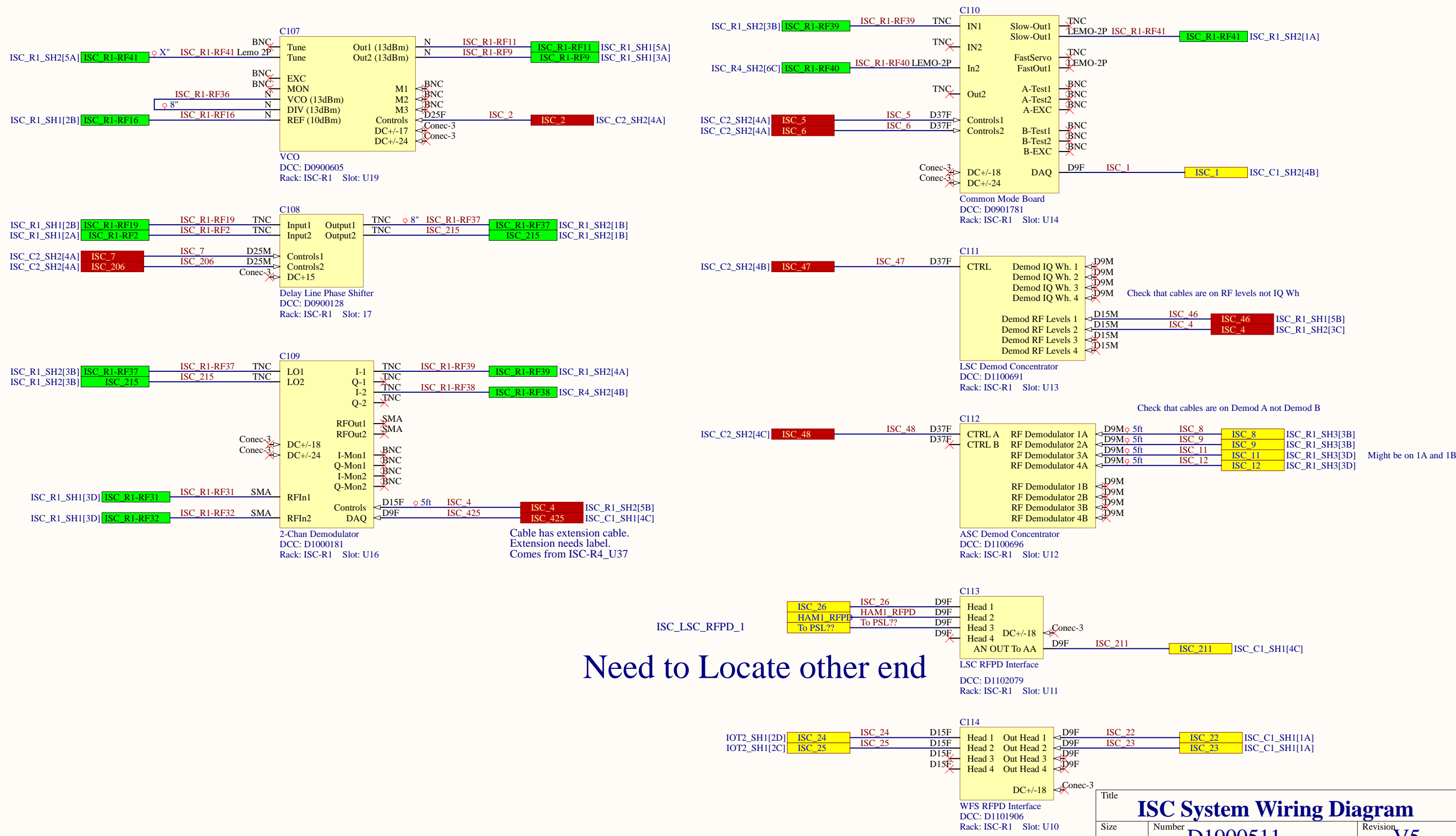
Recheck cables for U22
In back for PLL



ISC-R1 Rack

Title ISC System Wiring Diagram		
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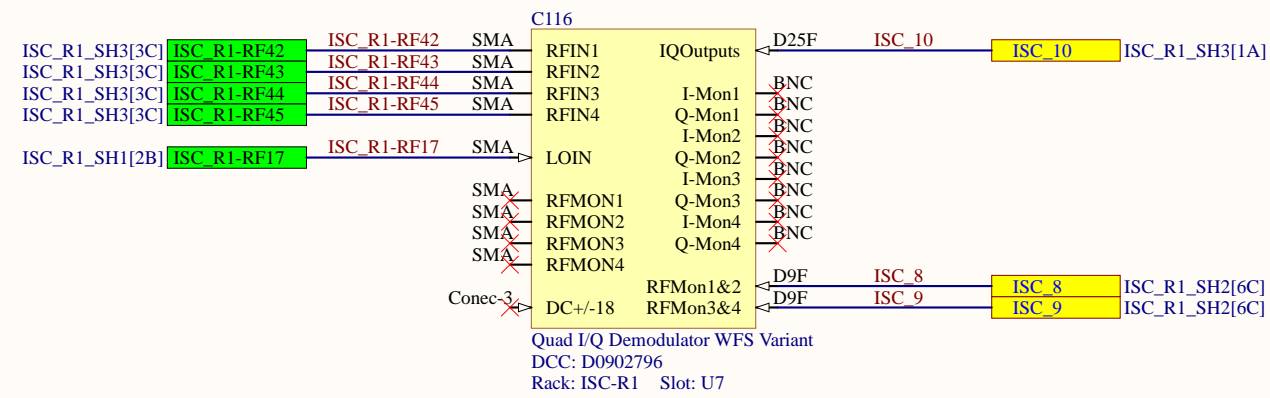
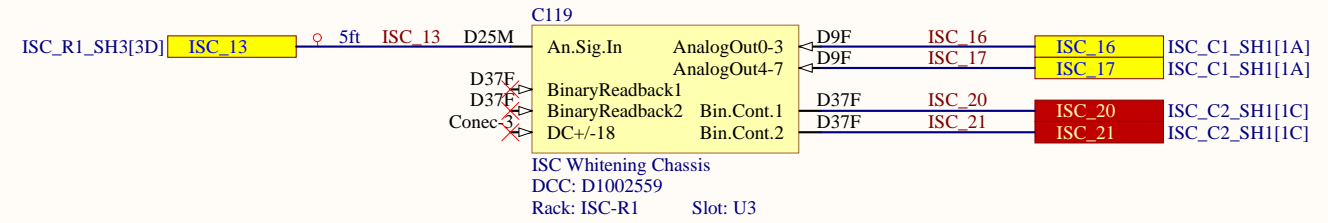
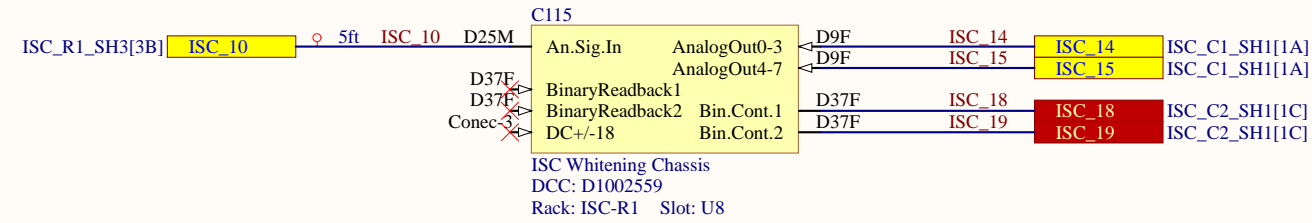
ISC-R1 Rack



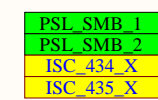
Need to Locate other end

ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 11 of 38
File:	C:\Users\...ISC_R1_SH2.SchDoc	Drawn By: Filiberto Clara

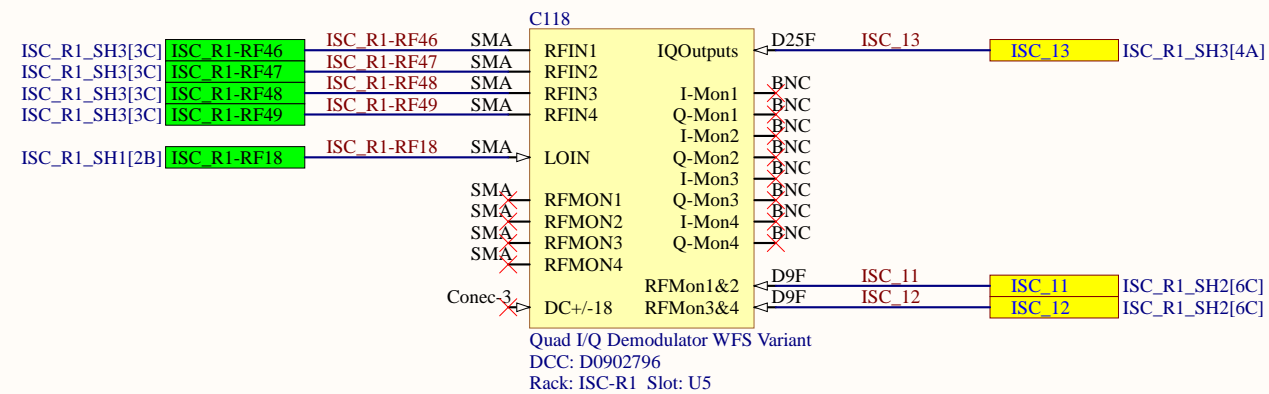
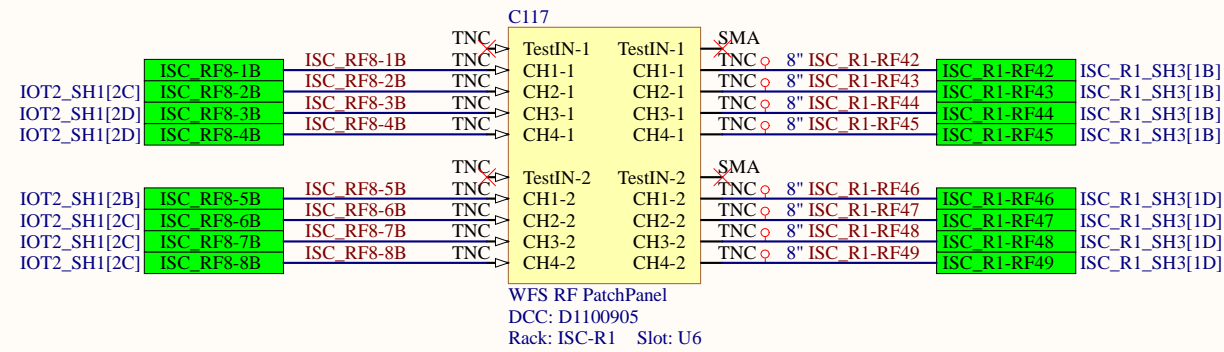
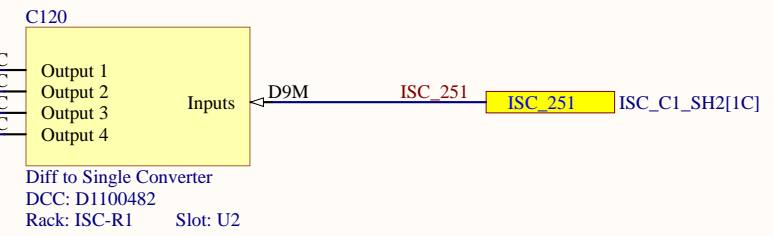
ISC-R1 Rack



Need to locate other end



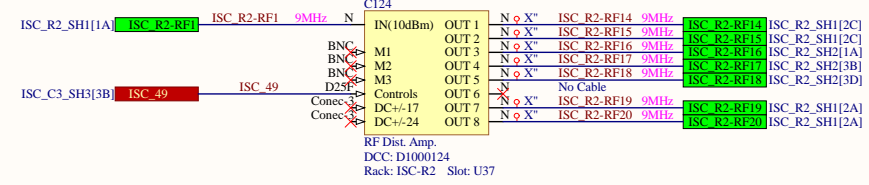
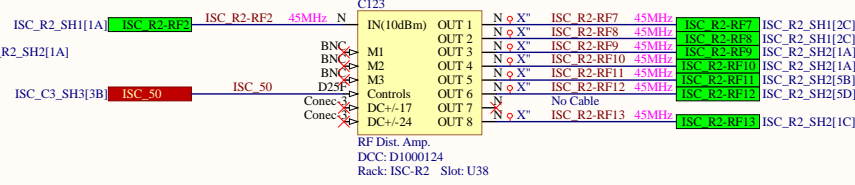
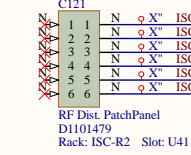
434/435 already used
ASC-POP_X_PIT/YAW



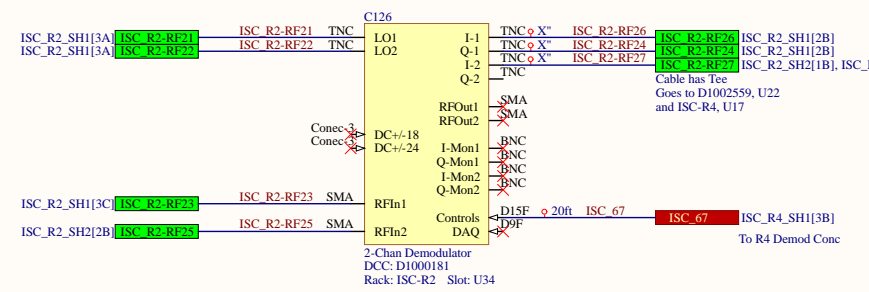
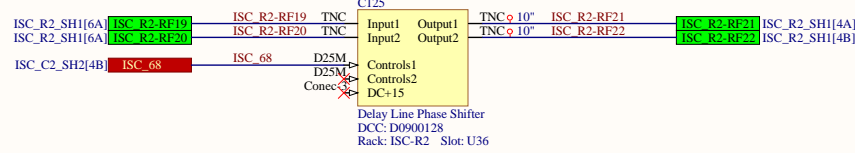
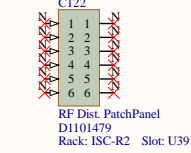
Title			ISC System Wiring Diagram		
Size	Number			Revision	
B	D1900511			V5	
Date:	2/25/2021	Sheet	12	of	38
File:	C:\Users\...\ISC_R1_SH3.SchDoc	Drawn By:	Filiberto Clara		

ISC-R2 Rack

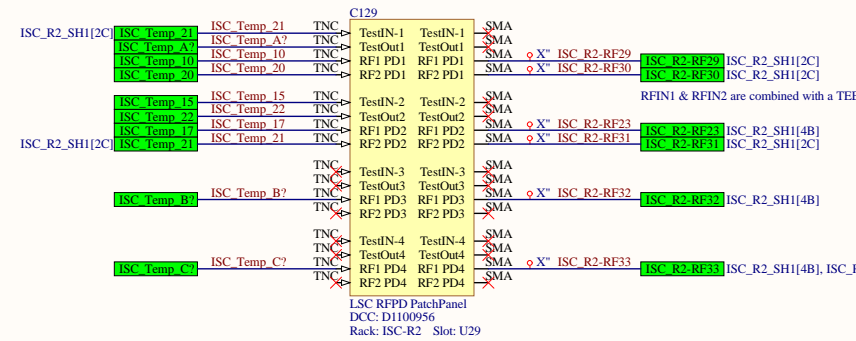
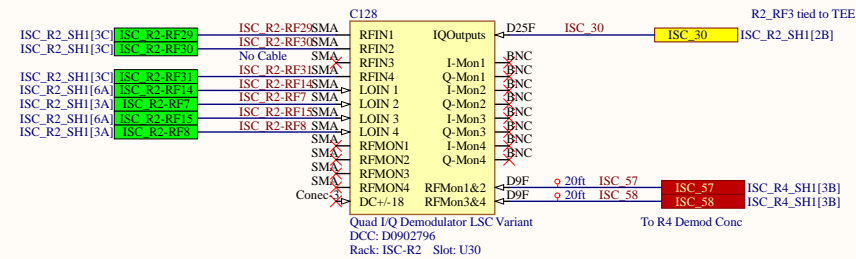
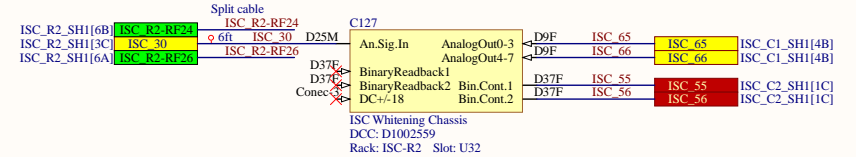
RF Patch Panel 13



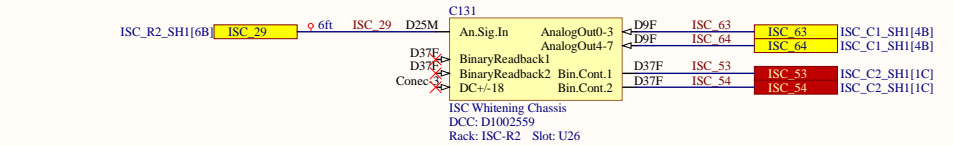
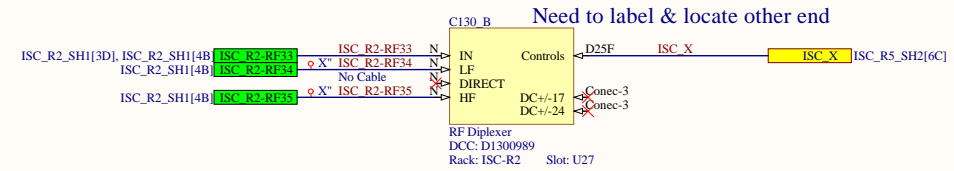
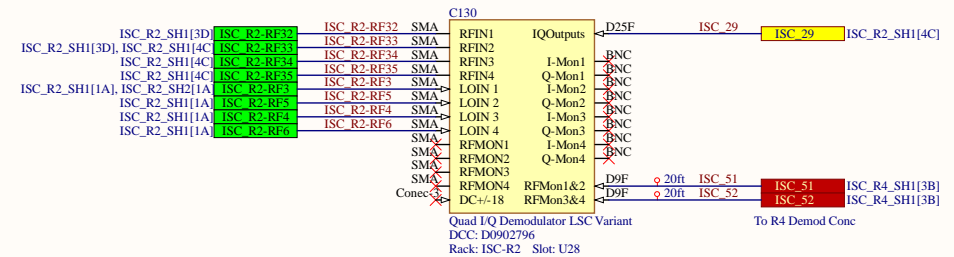
RF Patch Panel 14



LSC POPAIR A 9&45, LSC REFLAIR A 45



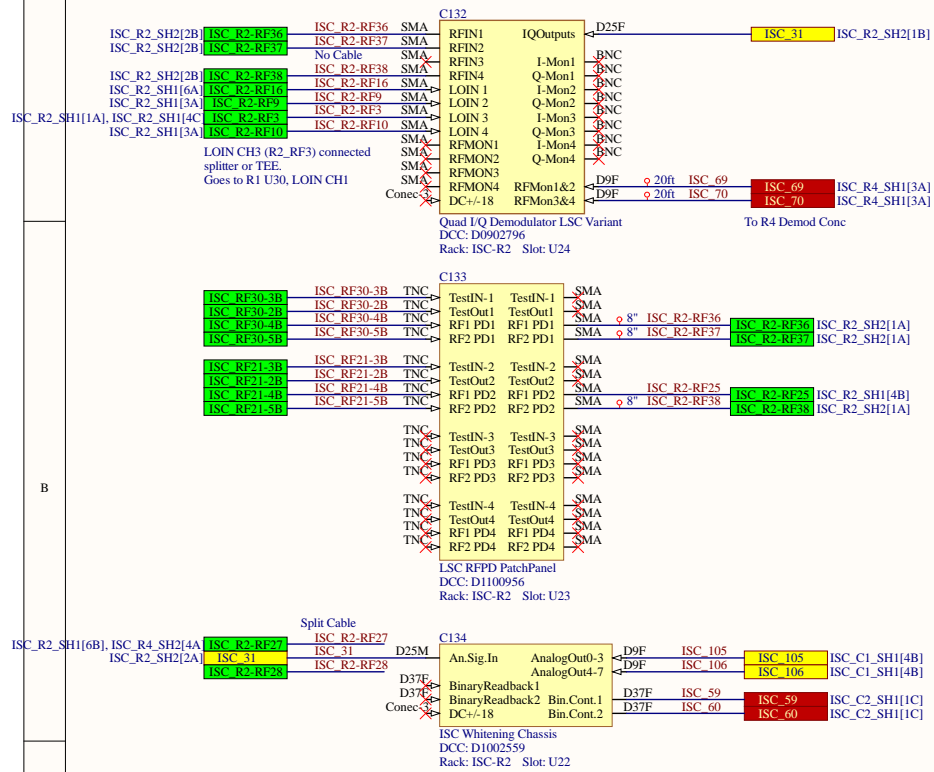
LSC POPAIR B 18&90, LSC REFLAIR B 27&135



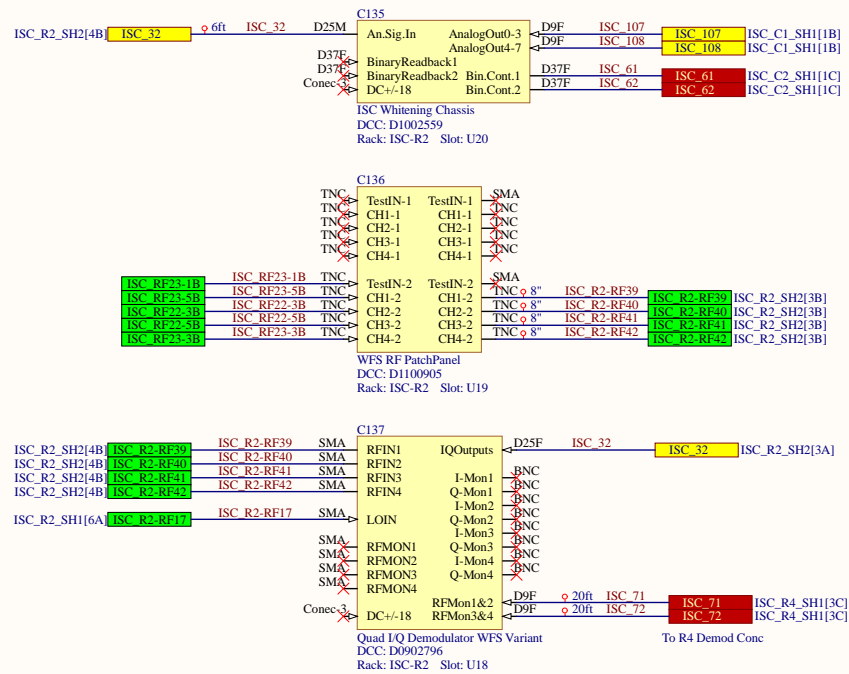
Title		
ISC System Wiring Diagram		
Size	Number	Revision
c	D1900511	V5
Date:	2/25/2021	Sheet 13 of 38
File:	C:\Users\JSC_R2_SH1\SchDoc	Drawn By: Filiberto Clara

ISC-R2 Rack

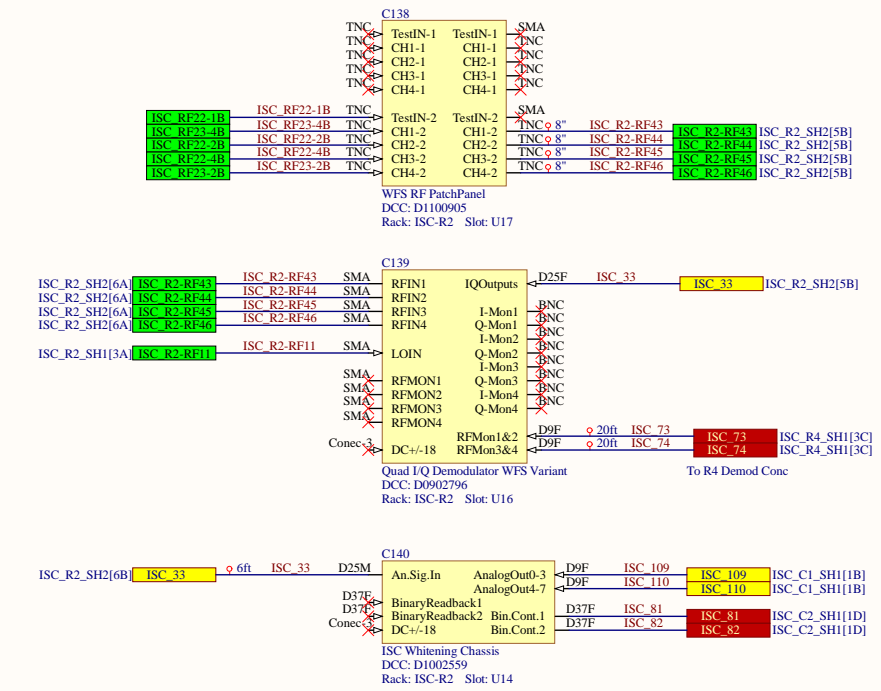
LSC POP, LSC REFL



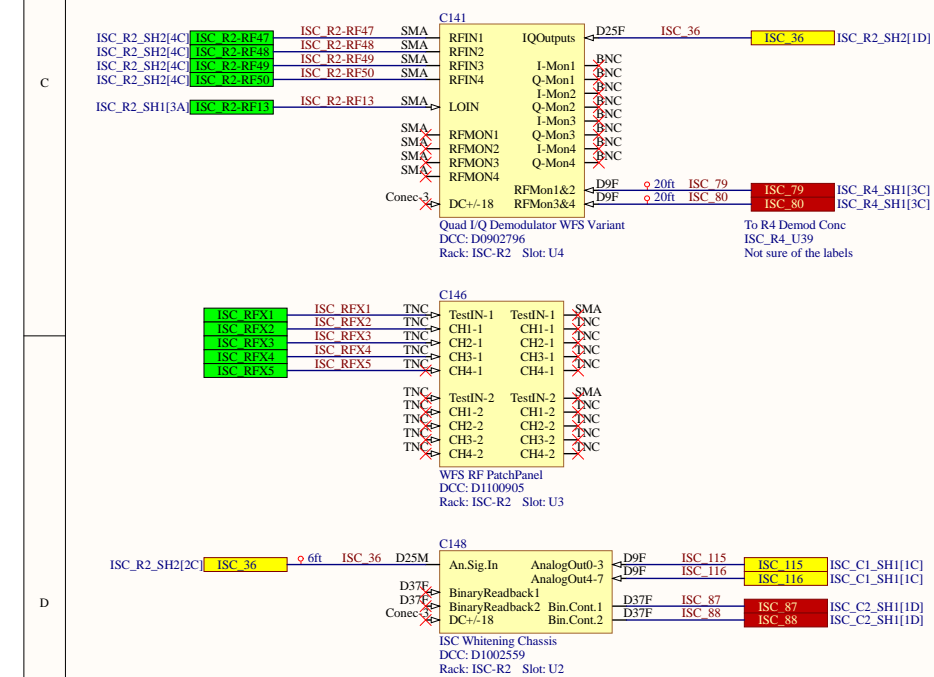
ASC REFL A 9MHz



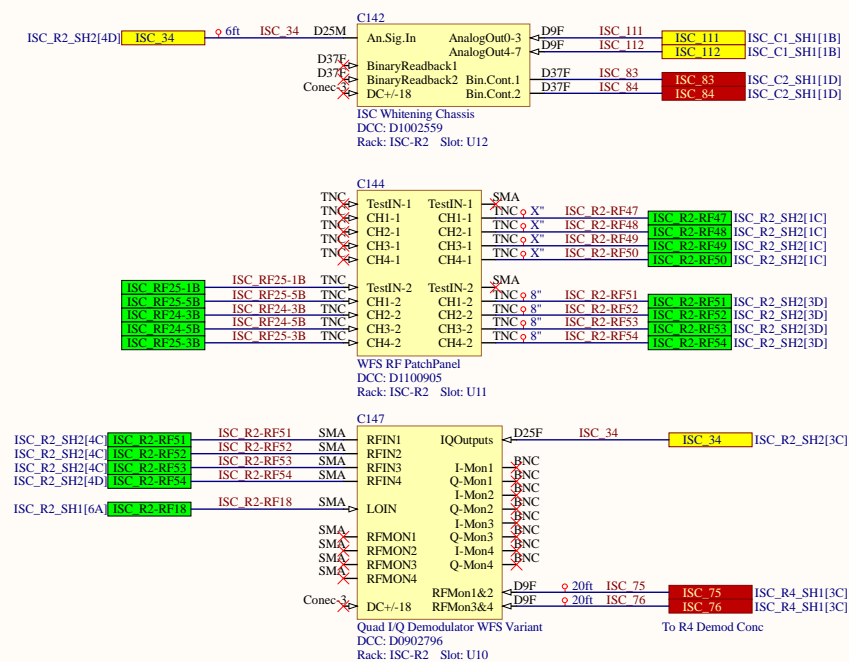
ASC REFL A 45MHz



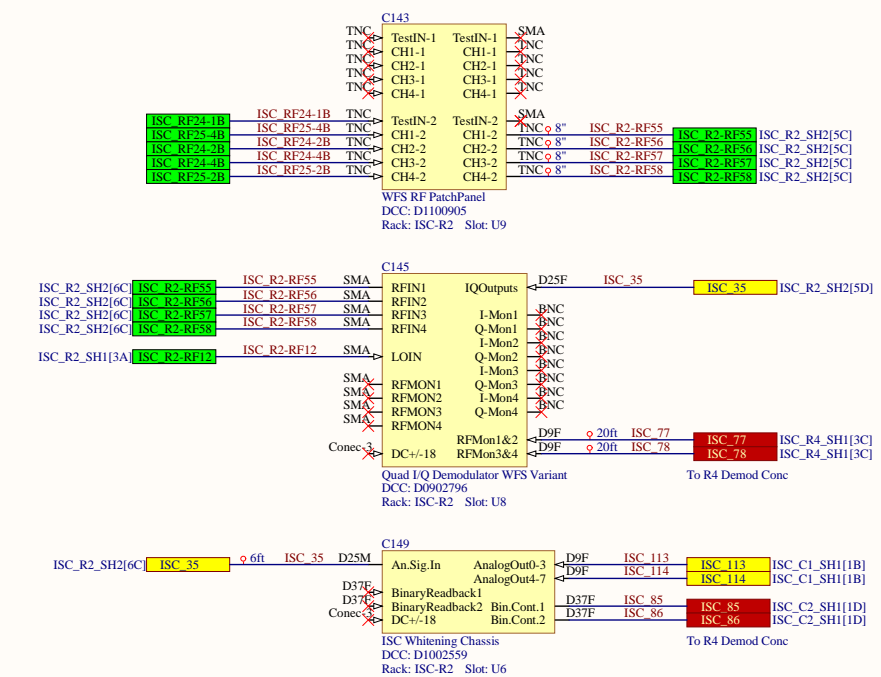
ASC POP A 45MHz



ASC REFL B 9MHz

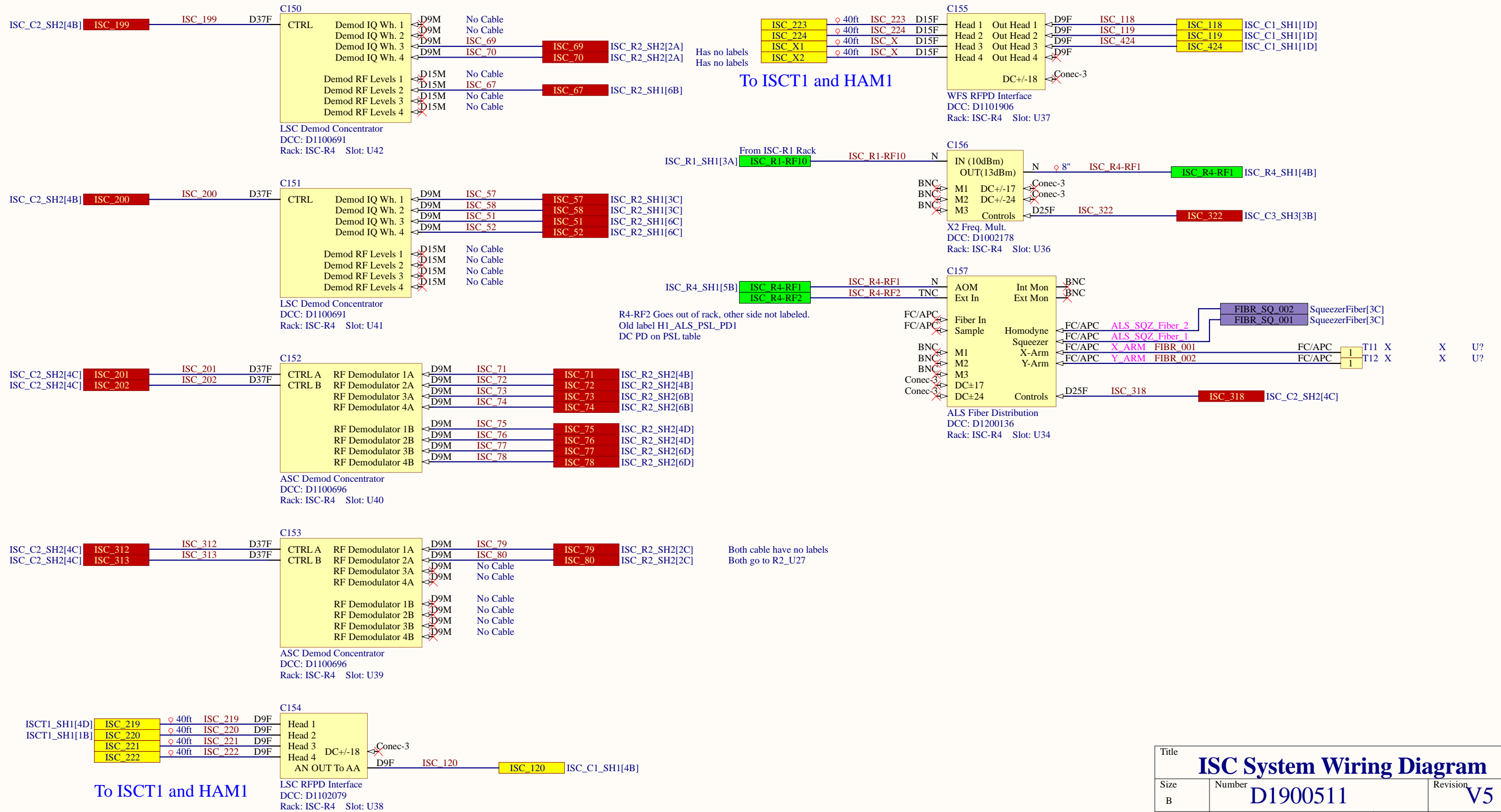


ASC REFL B 45MHz



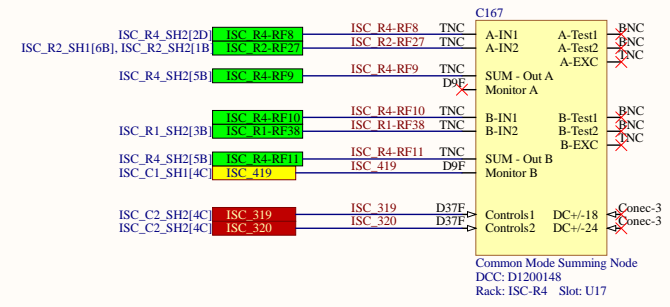
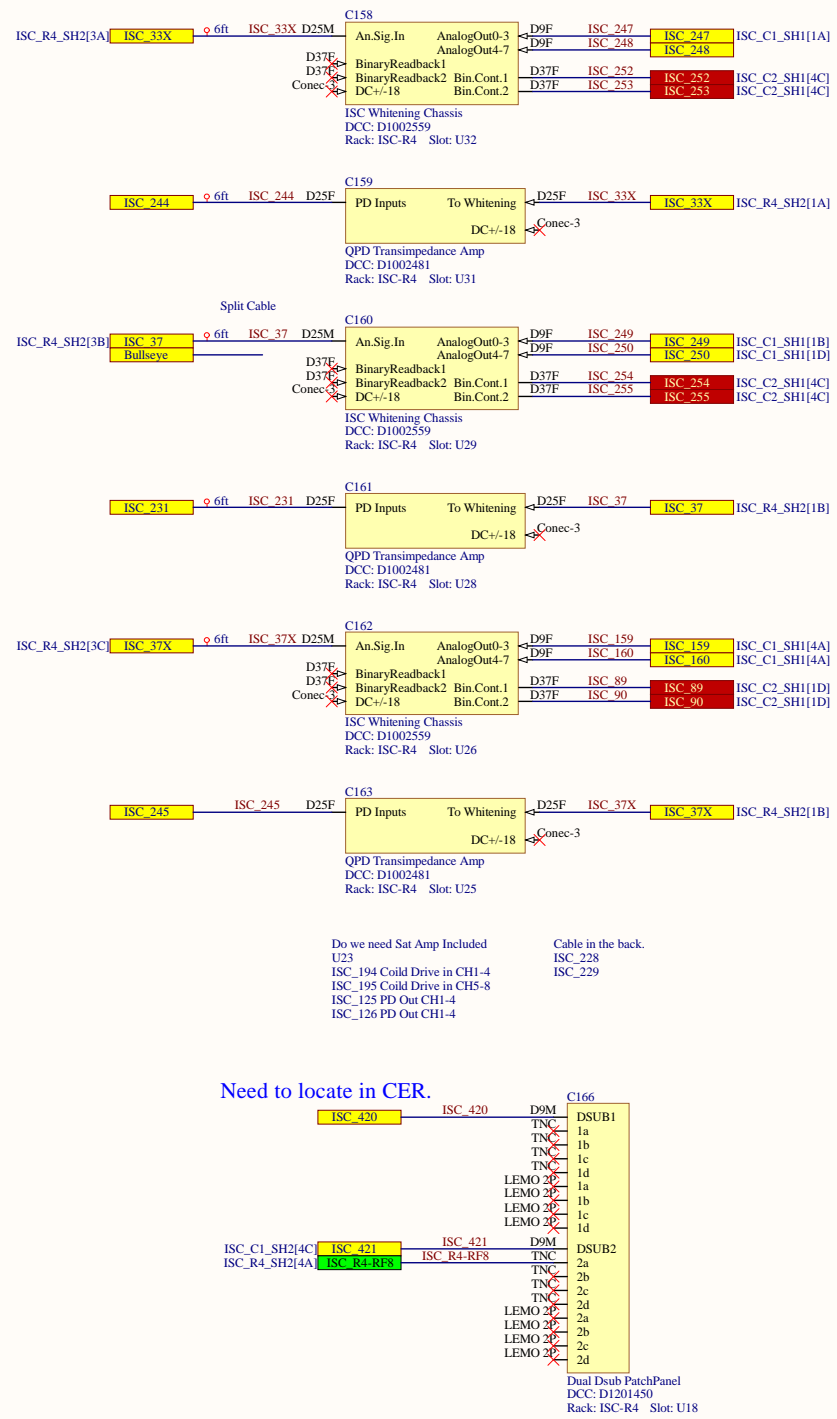
Title		
ISC System Wiring Diagram		
Size	Number	Revision
c	D1900511	V5
Date:	2/25/2021	Sheet 14 of 38
File:	C:\Users\...ISC_R2_SH2.SchDoc	Drawn By: Filiberto Clara

ISC-R4 Rack

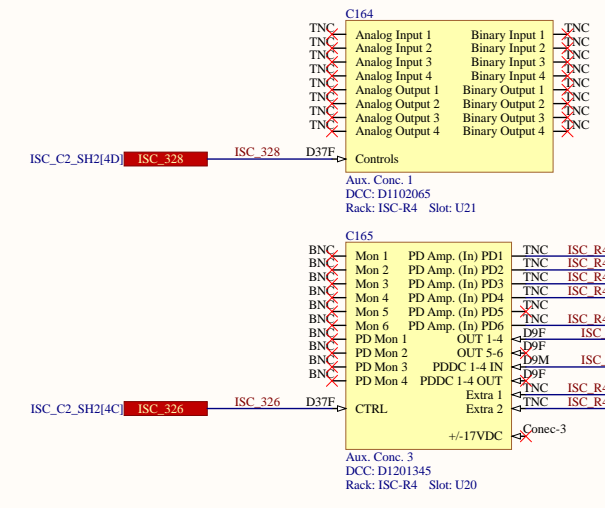
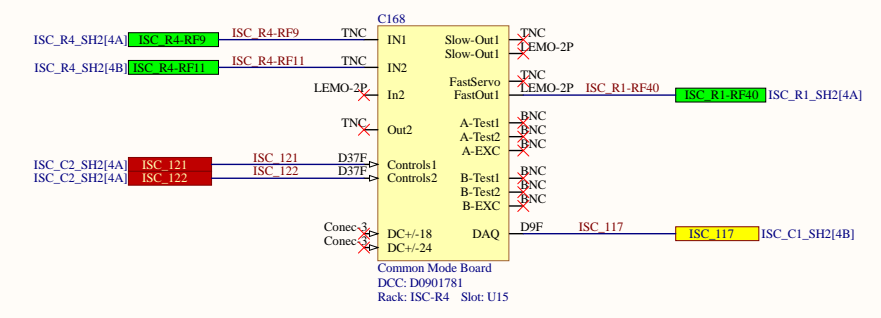


Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 16 of 38
File:	C:\Users\...\ISC_R4_SH1.SchDoc	Drawn By: Filiberto Clara

ISC-R4 Rack



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

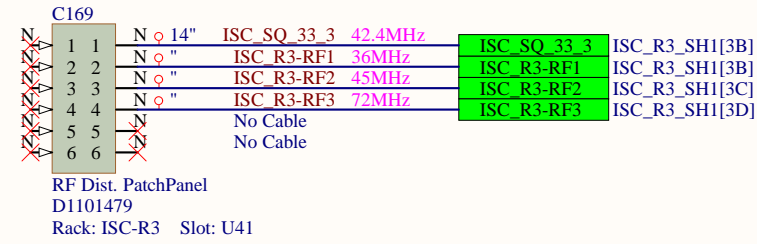


Title		
ISC System Wiring Diagram		
Size	Number	Revision
c	D1900511	V5
Date:	2/25/2021	Sheet 17 of 38
File:	C:\Users\jisc_r4.SH2.SchDoc	Drawn By: Filiberto Clara

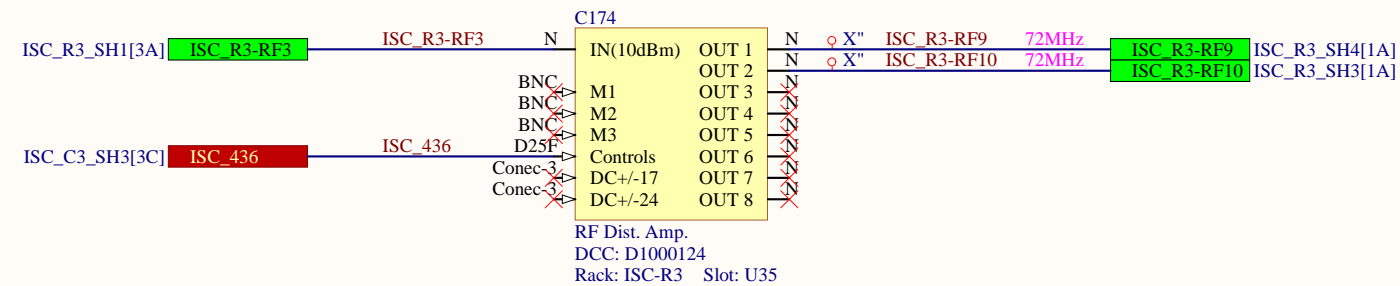
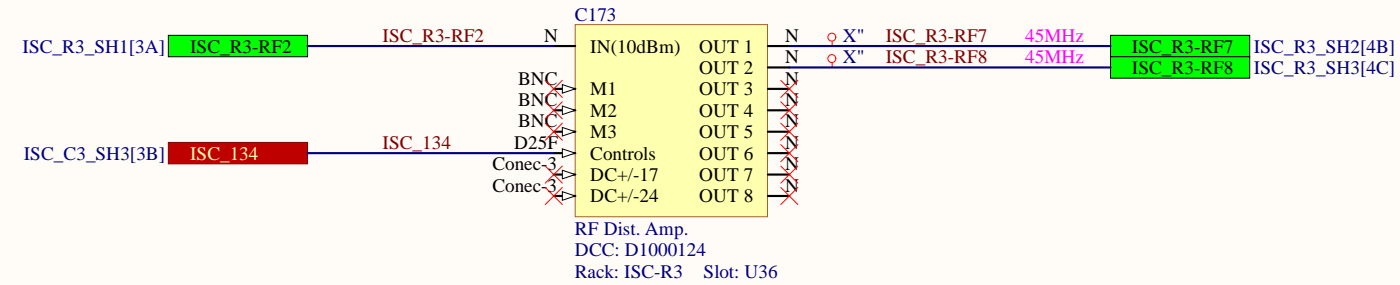
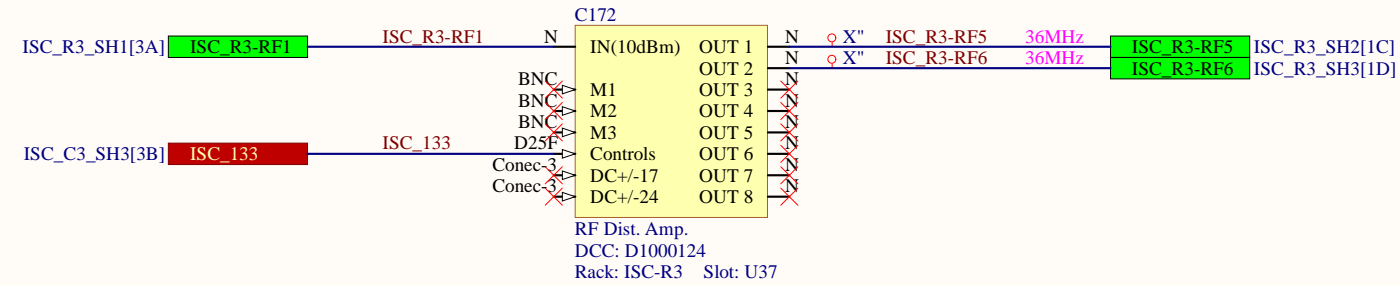
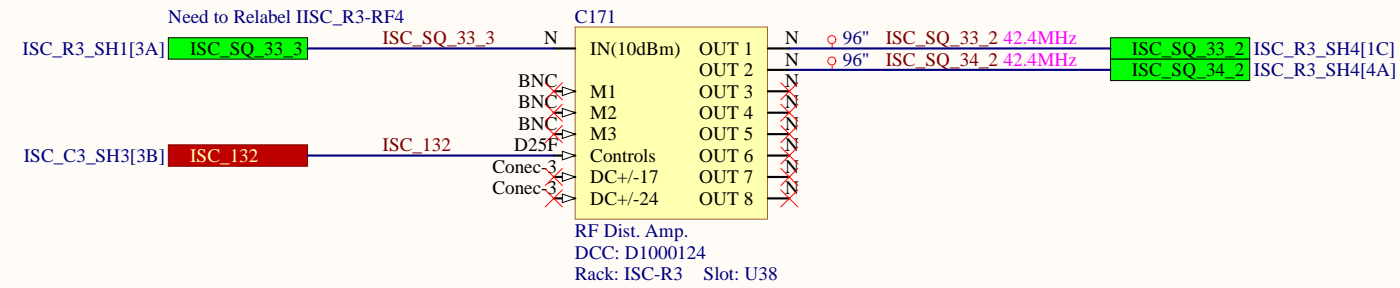
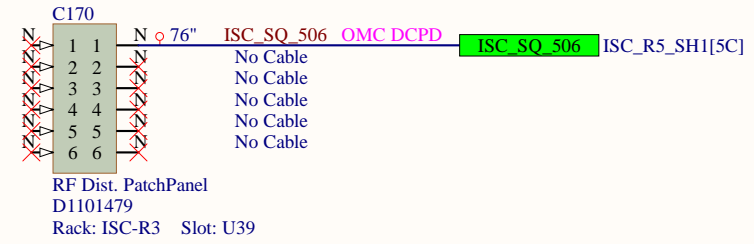
ISC-R3 Rack

Need to Relabel ISC_R3-RF4

RF Patch Panel 15

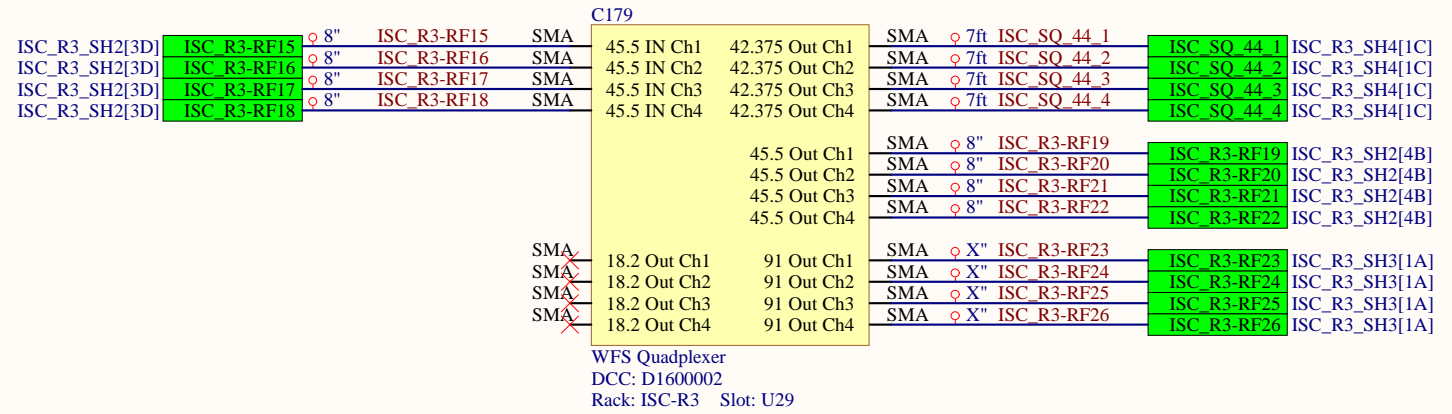
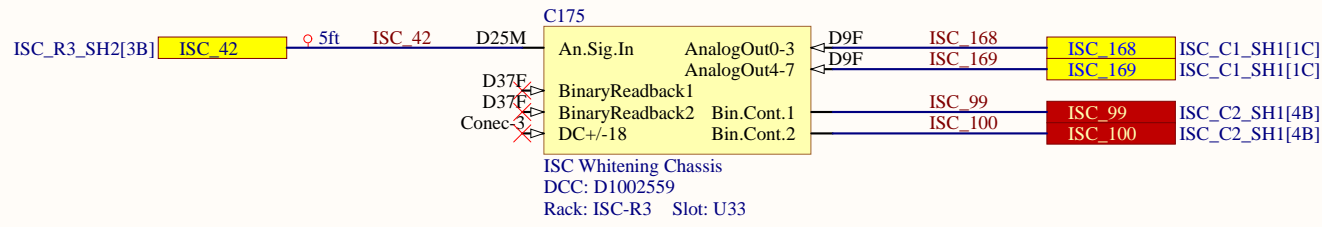


RF Patch Panel 16

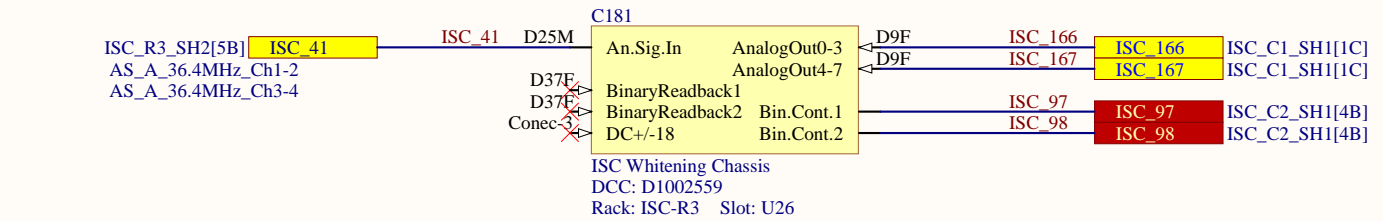
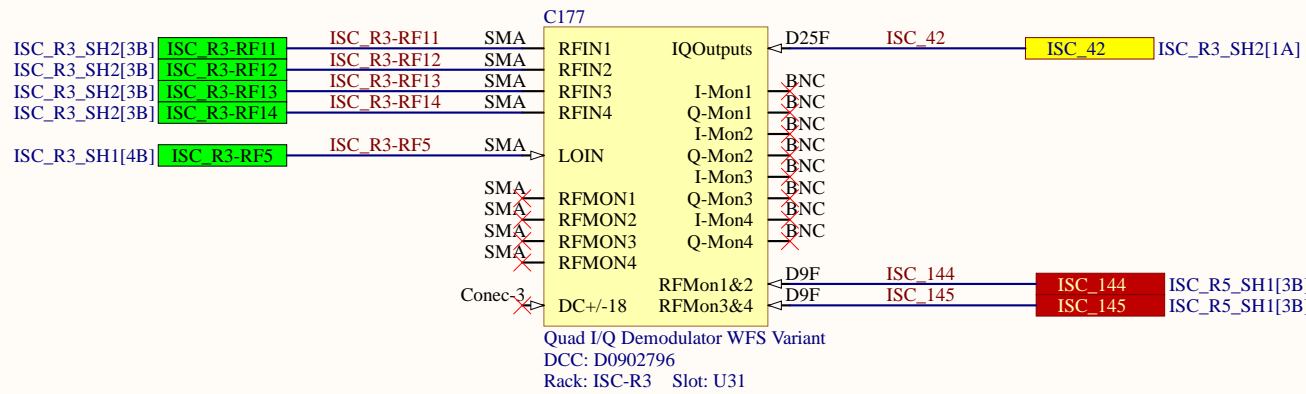
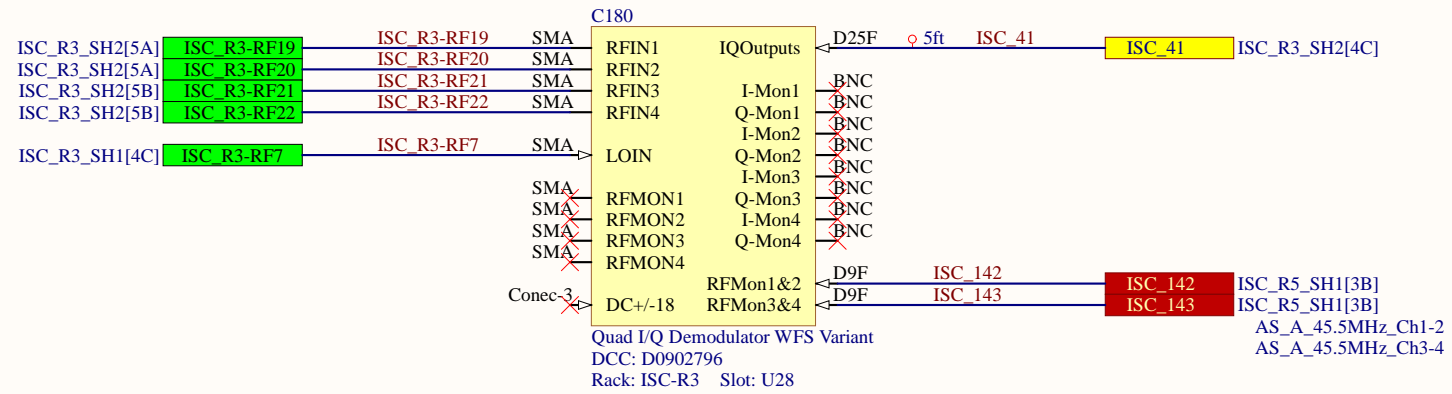
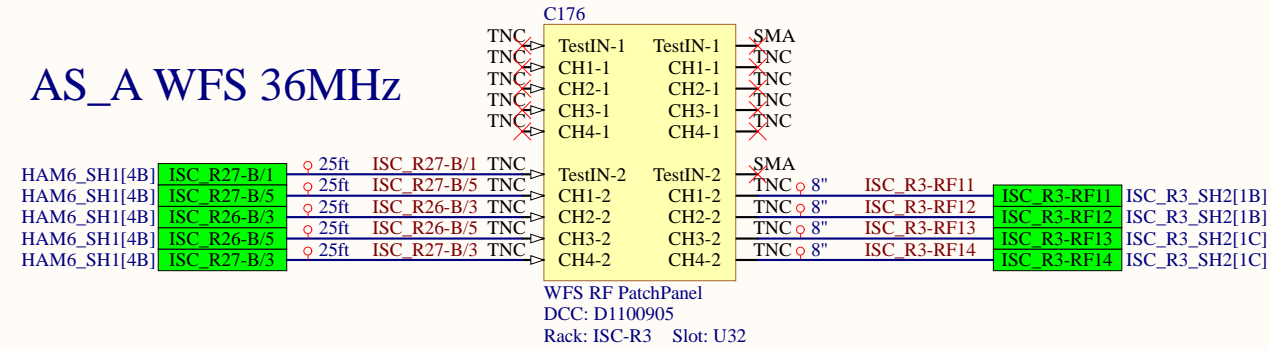


Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	18	of	38
File:	C:\Users\...\ISC_R3_SH1.SchDoc	Drawn By:	Filiberto Clara		

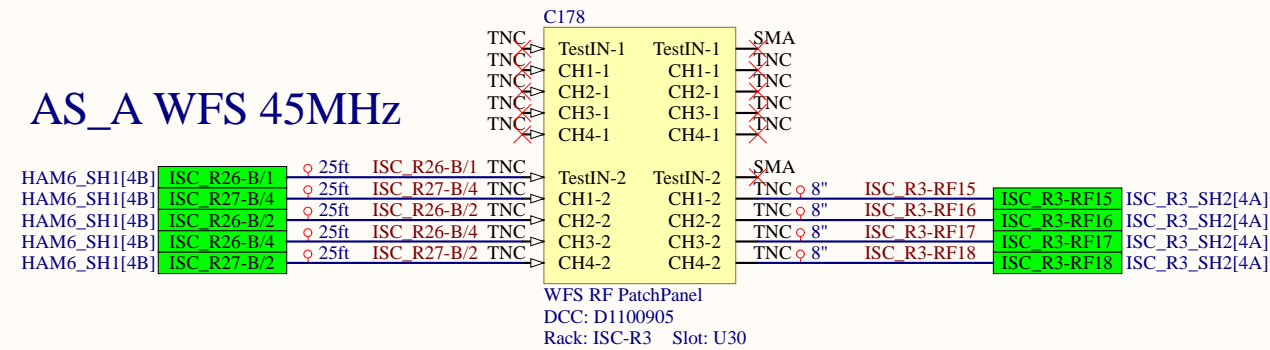
ISC-R3 Rack



AS_A WFS 36MHz

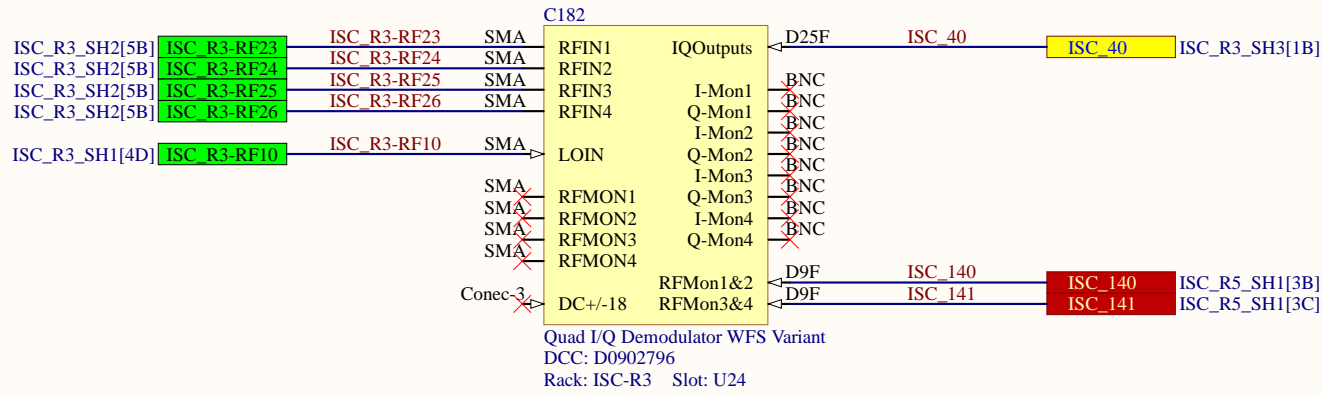


AS_A WFS 45MHz

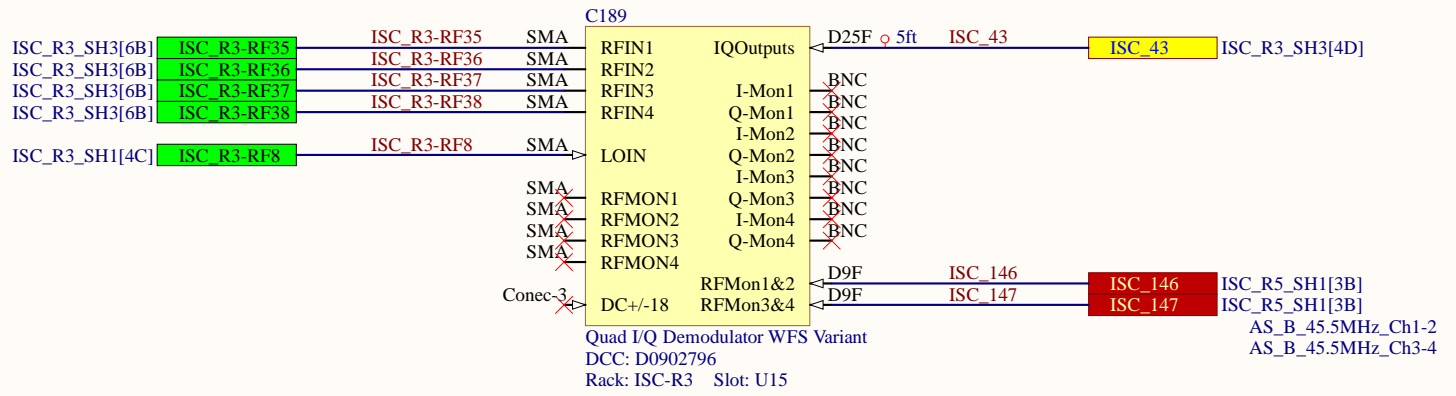
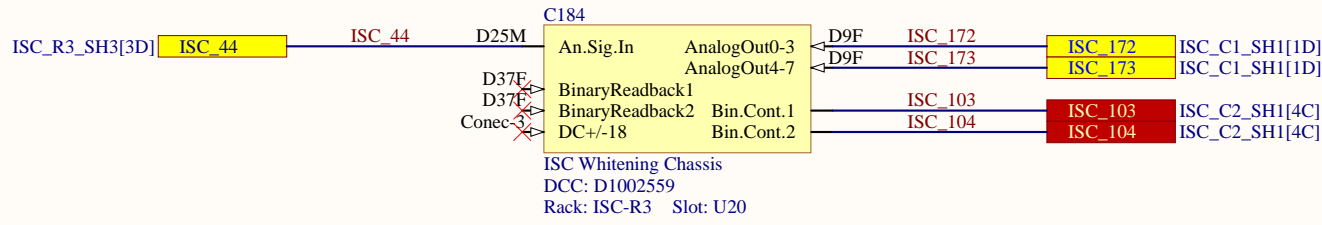
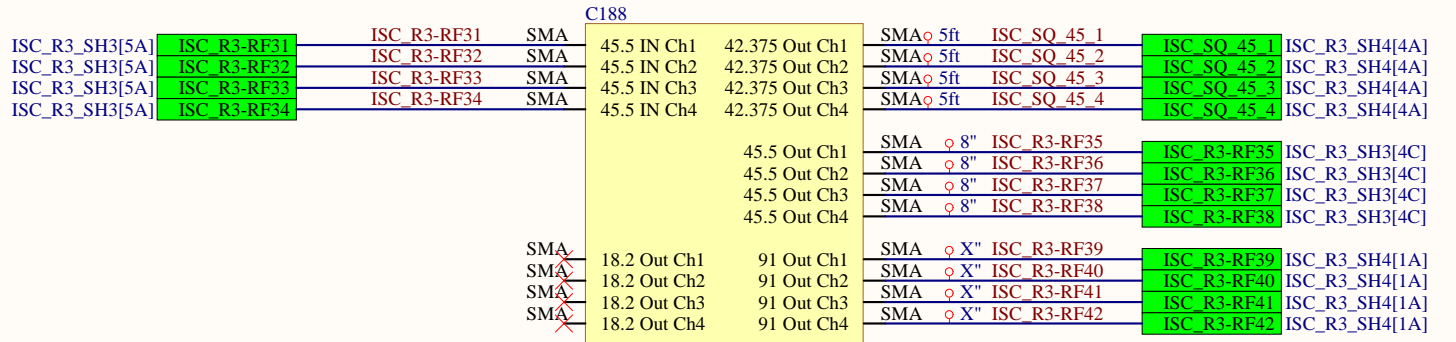
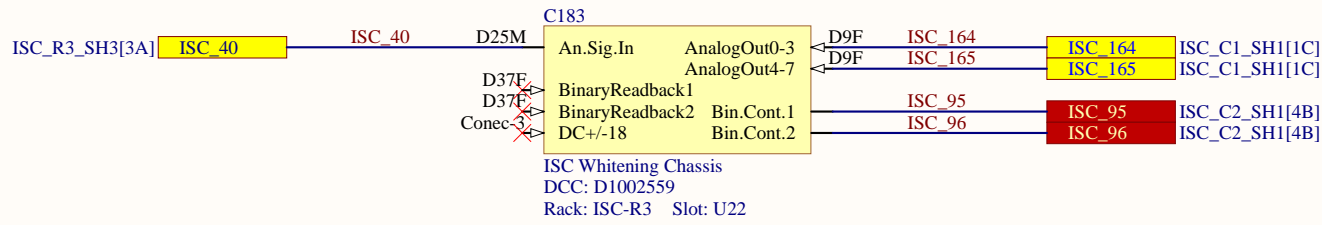
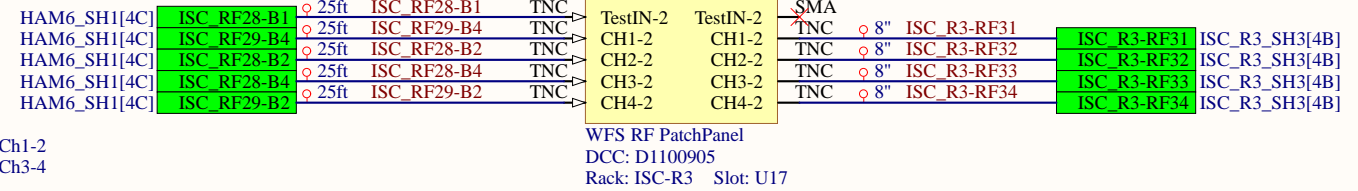


Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 19 of 38
File:	C:\Users\...\ISC_R3_SH2.SchDoc	Drawn By: Filiberto Clara

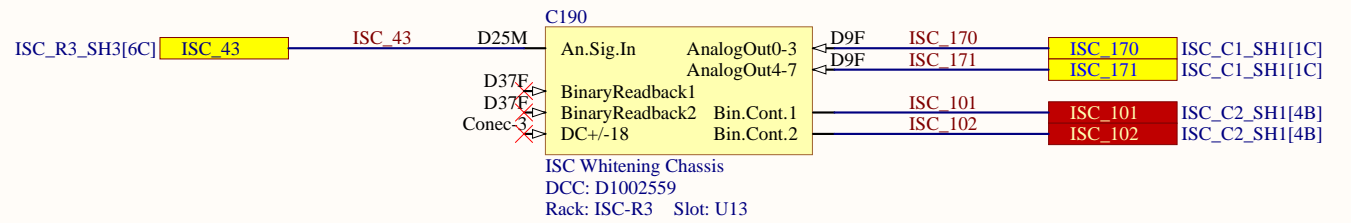
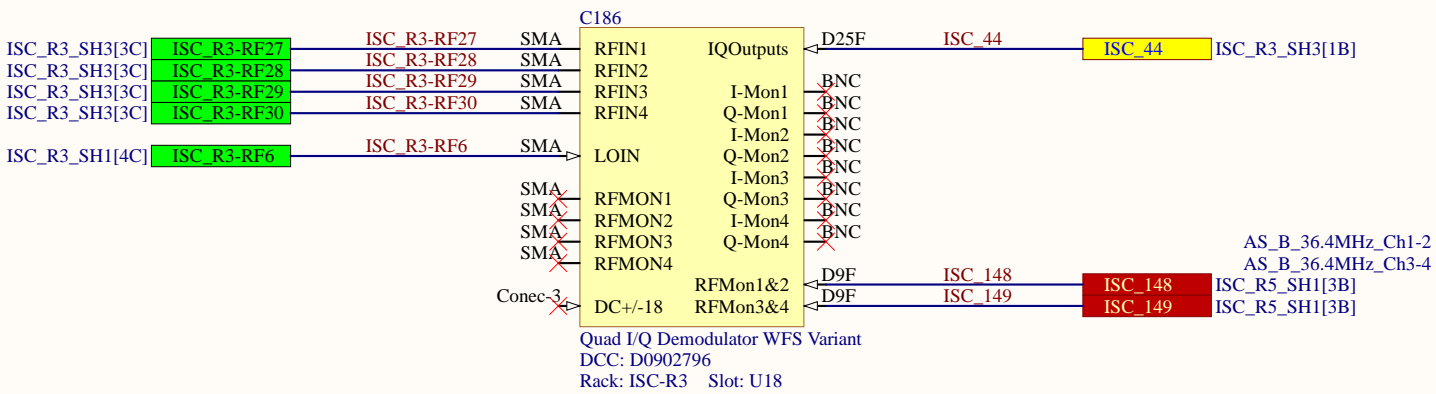
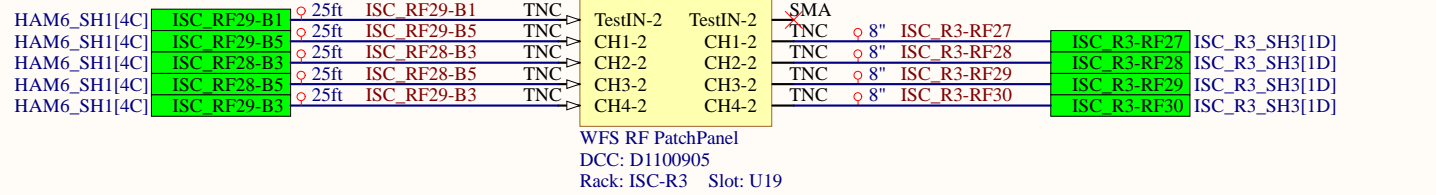
ISC-R3 Rack



AS_A WFS 45MHz



AS_A WFS 36MHz

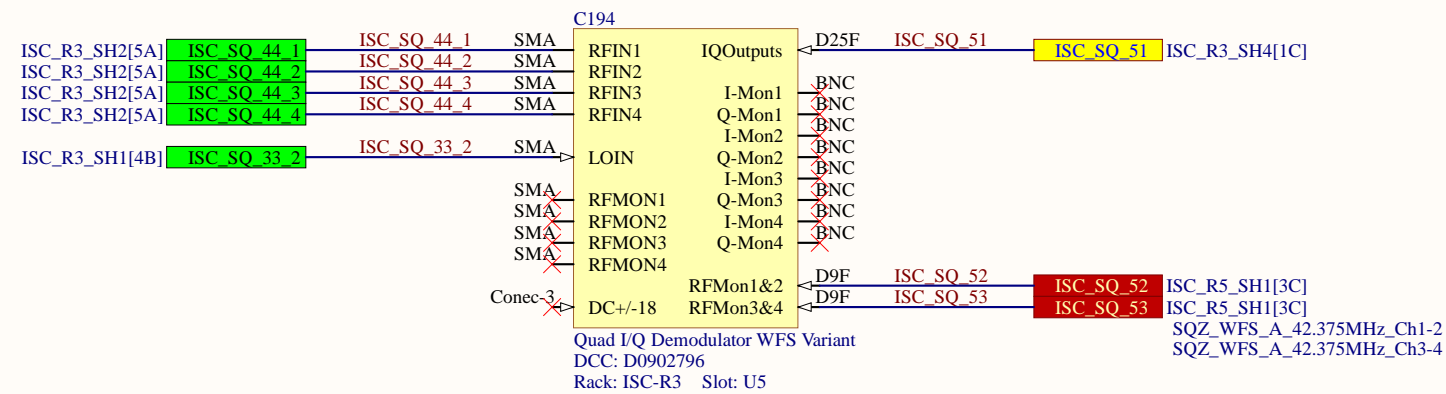
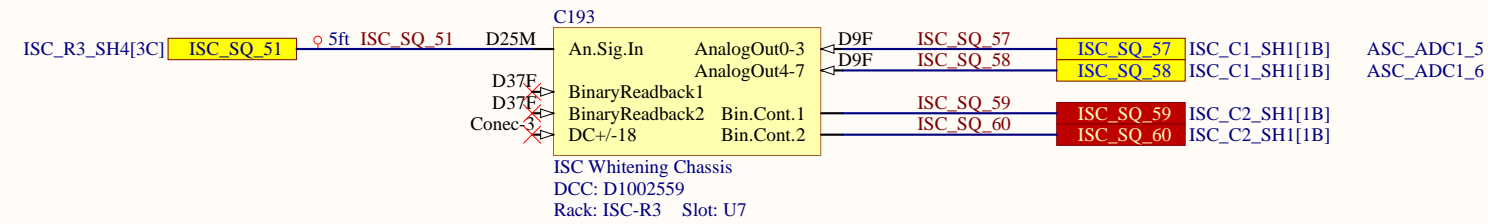
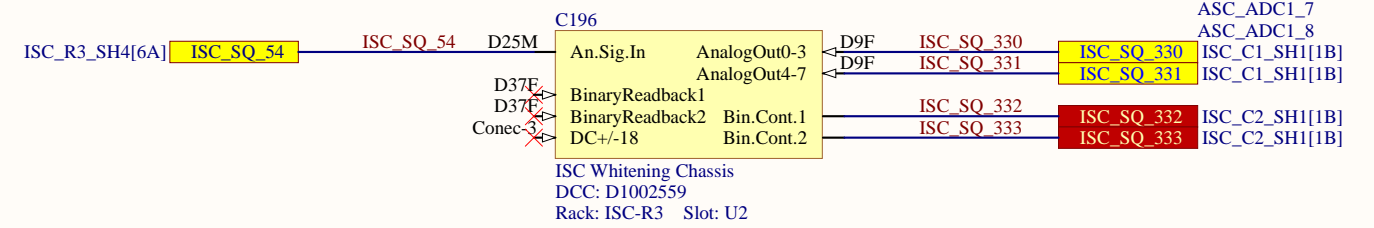
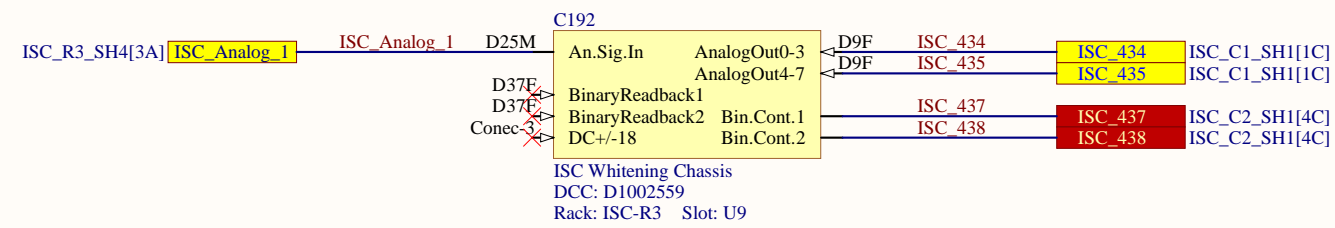
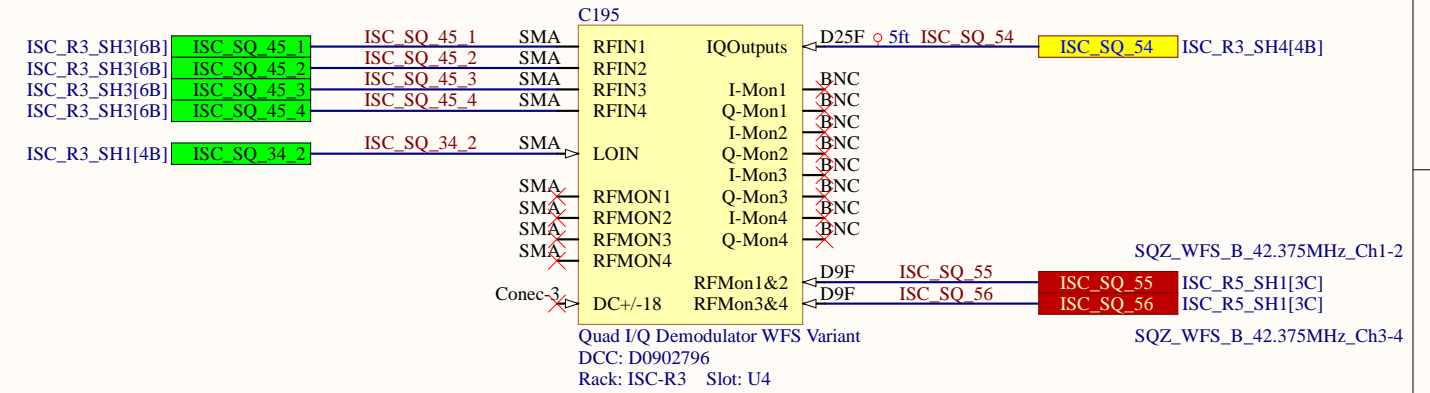
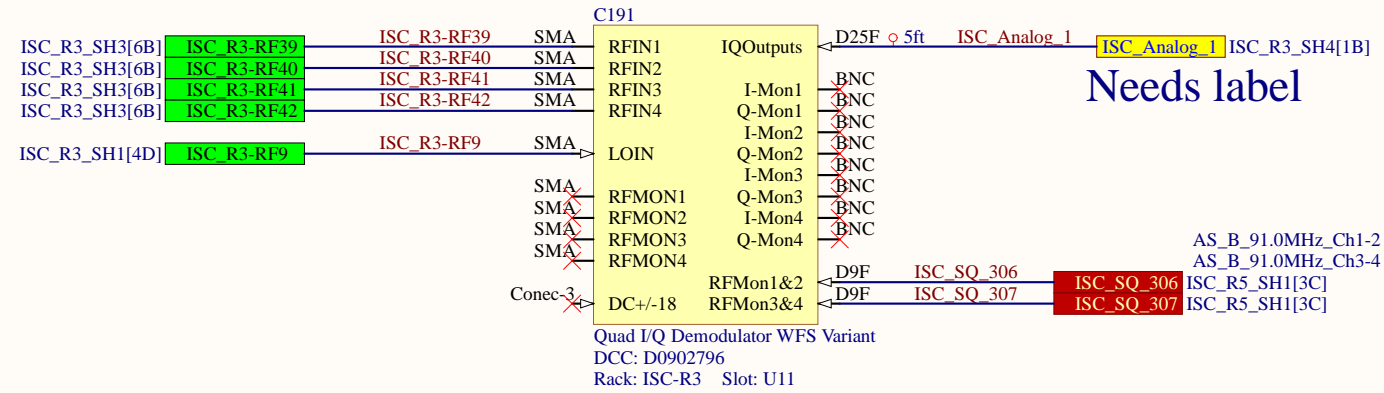


Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	20	of 38	
File:	C:\Users\...\ISC_R3_SH3.SchDoc	Drawn By:	Filiberto Clara		

ISC-R3 Rack

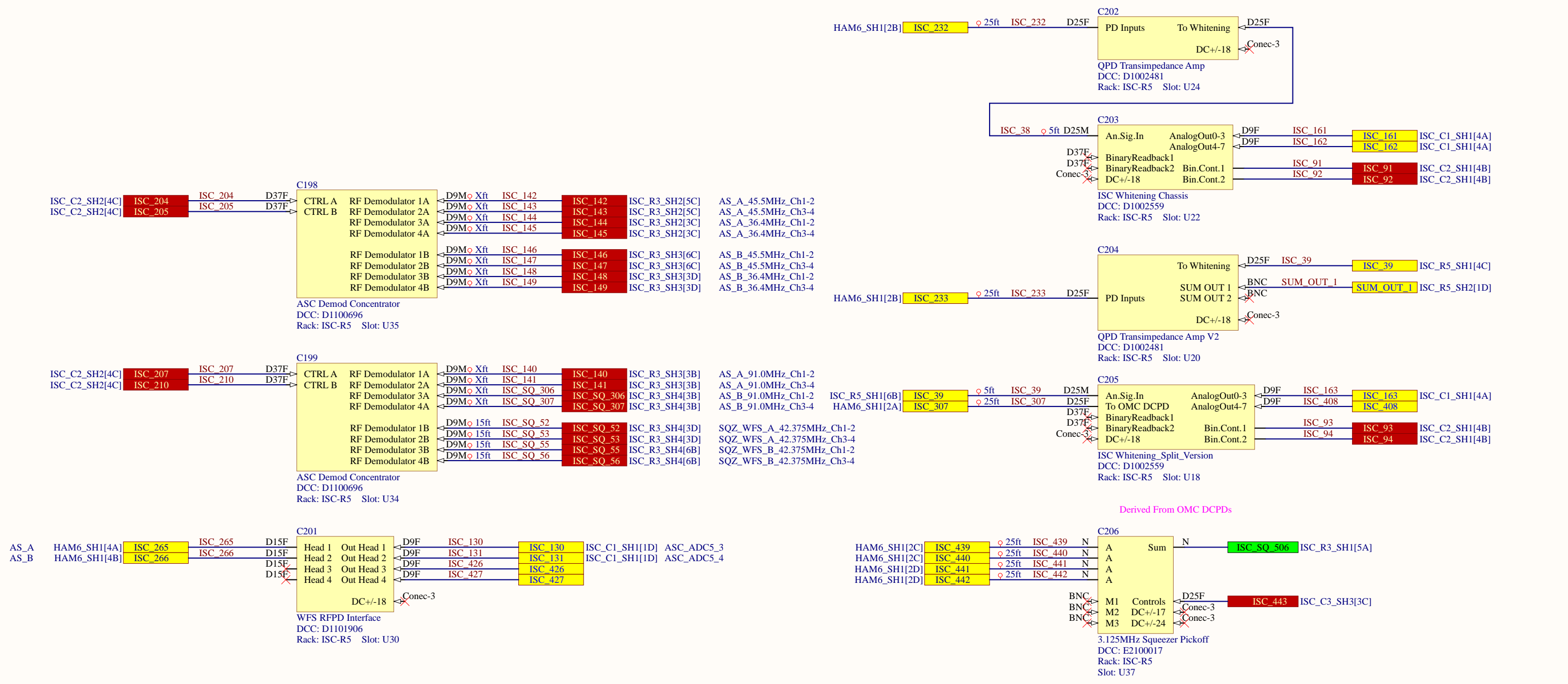
Needs labels

Needs label



Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 21 of 38
File:	C:\Users\...\ISC_R3_SH4.SchDoc	Drawn By: Filiberto Clara

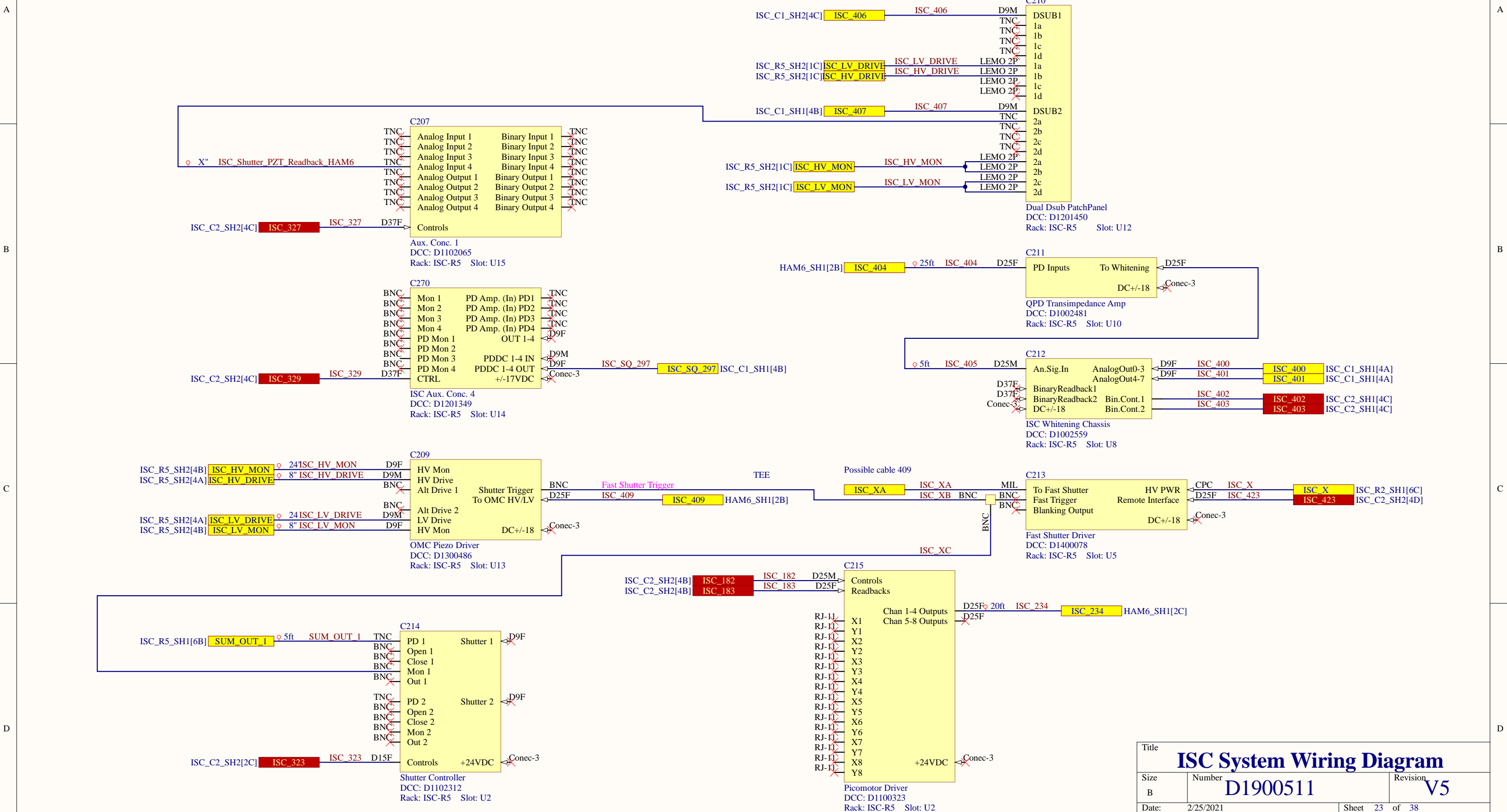
ISC-R5 Rack



The whitening chassis and the OMC berakout will be replaced for the new in-vac DCPDs.
The 3.1MHz signal will be brought out separately on coax.

Title		
ISC System Wiring Diagram		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 22 of 38
File:	C:\Users\...\ISC_R5_SH1.SchDoc	Drawn By: Filiberto Clara

ISC-R5 Rack



Title ISC System Wiring Diagram		
Size B	Number D1900511	Revision V5
Date: 2/25/2021	Sheet 23 of 38	Drawn By: Filiberto Clara
File: C:\Users\...\ISC_R5_SH2.SchDoc		

ISCT1 - Right Side

Inside Enclosure

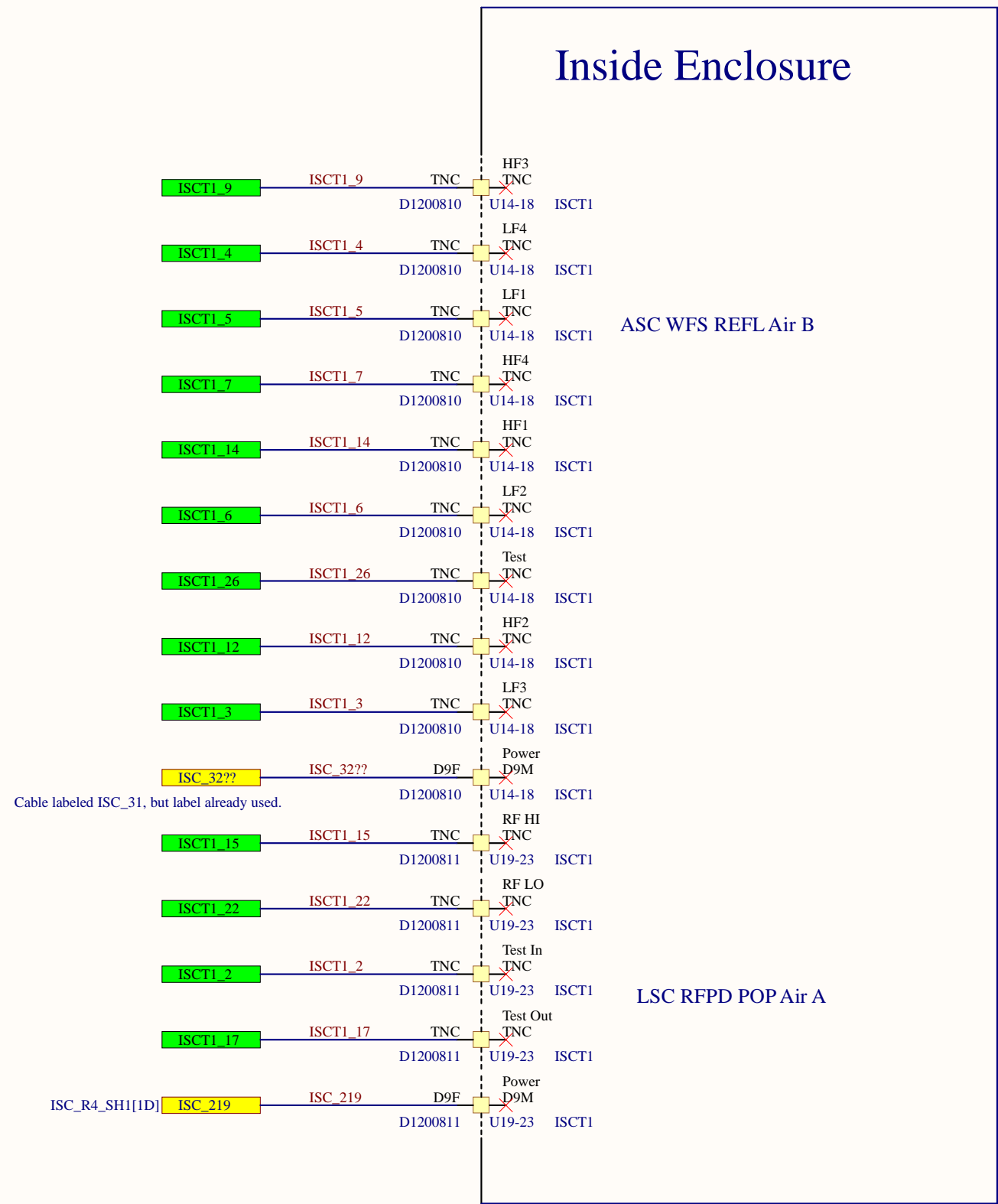
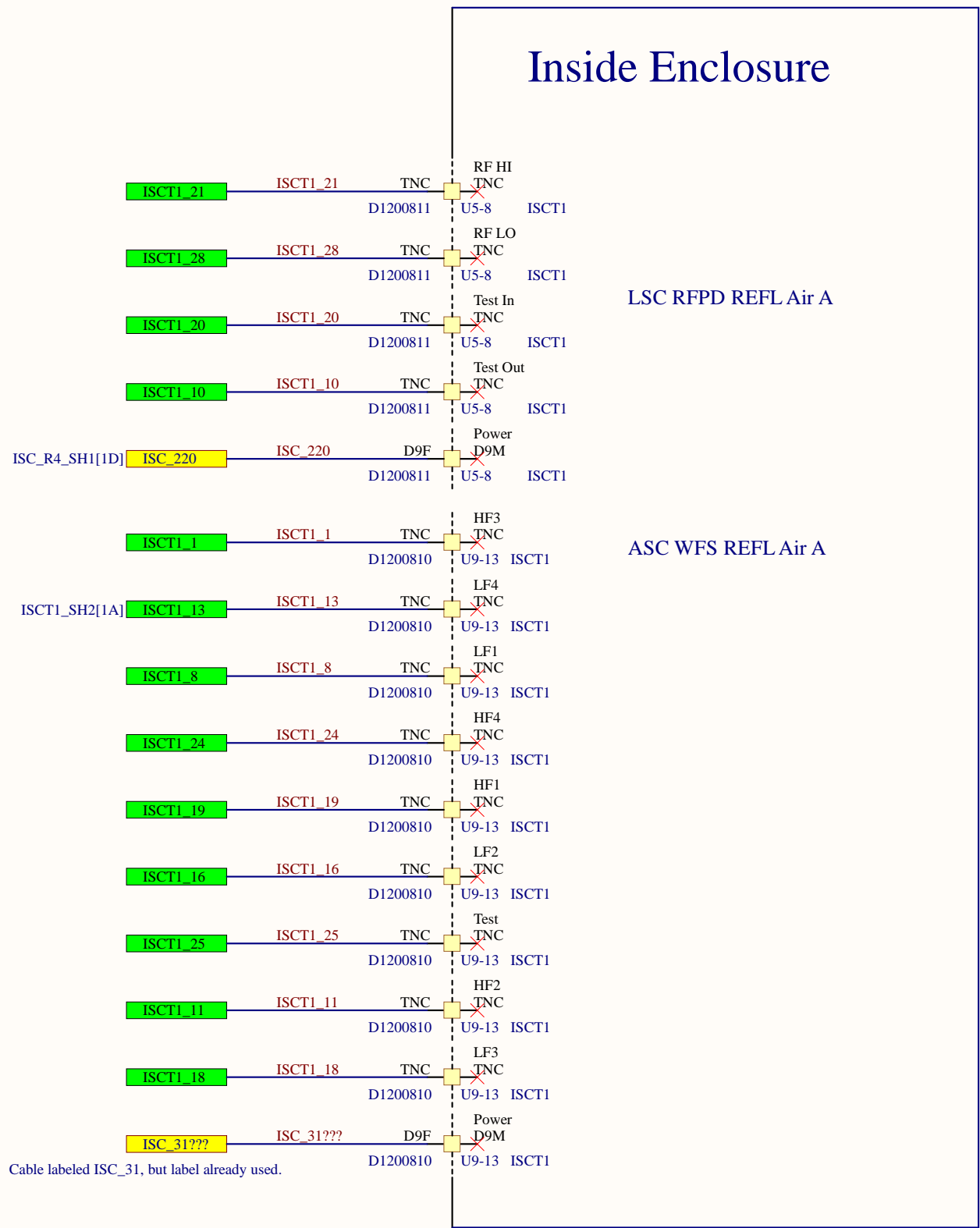
Inside Enclosure

LSC RFPD REFL Air A

ASC WFS REFL Air B

ASC WFS REFL Air A

LSC RFPD POP Air A



Cable labeled ISC_31, but label already used.

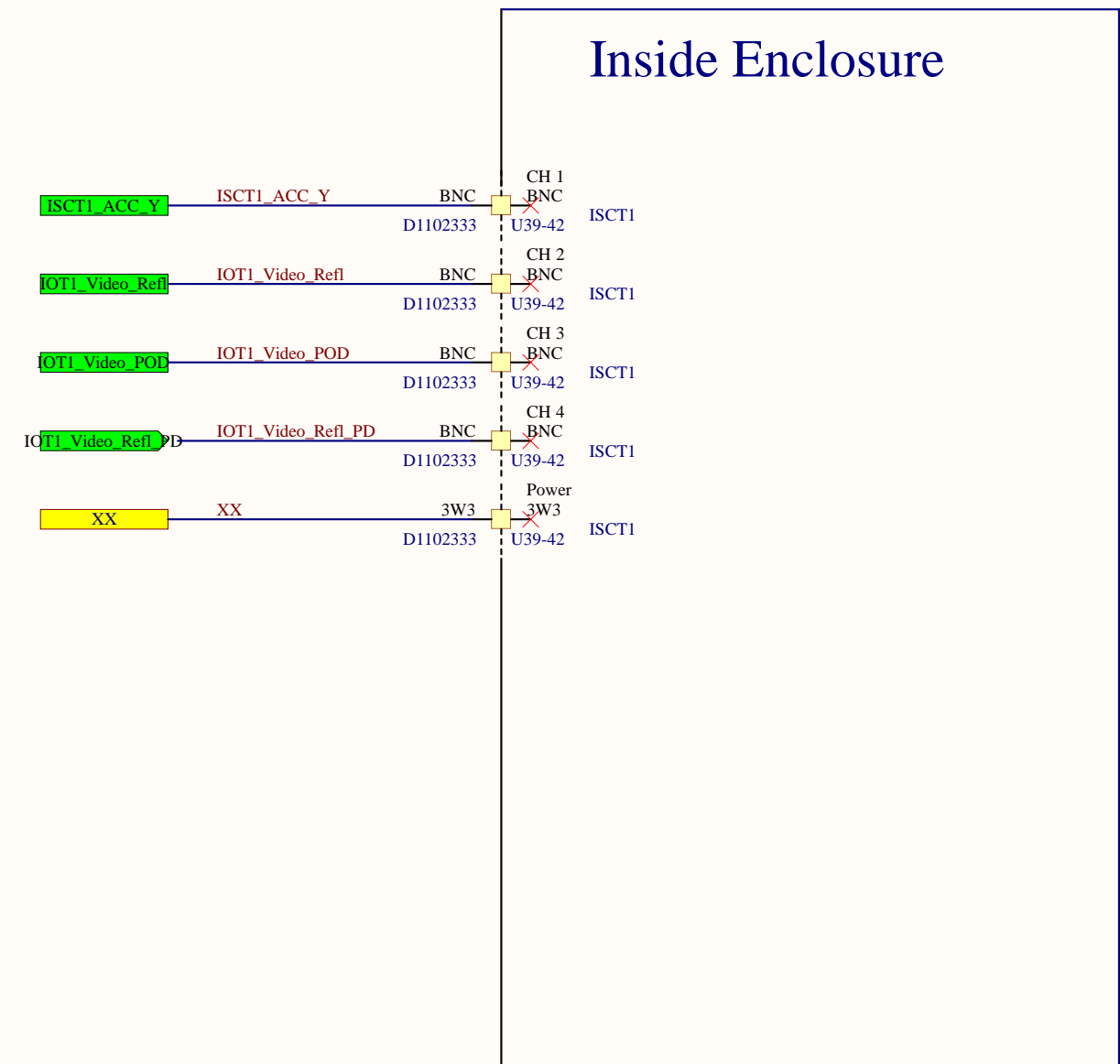
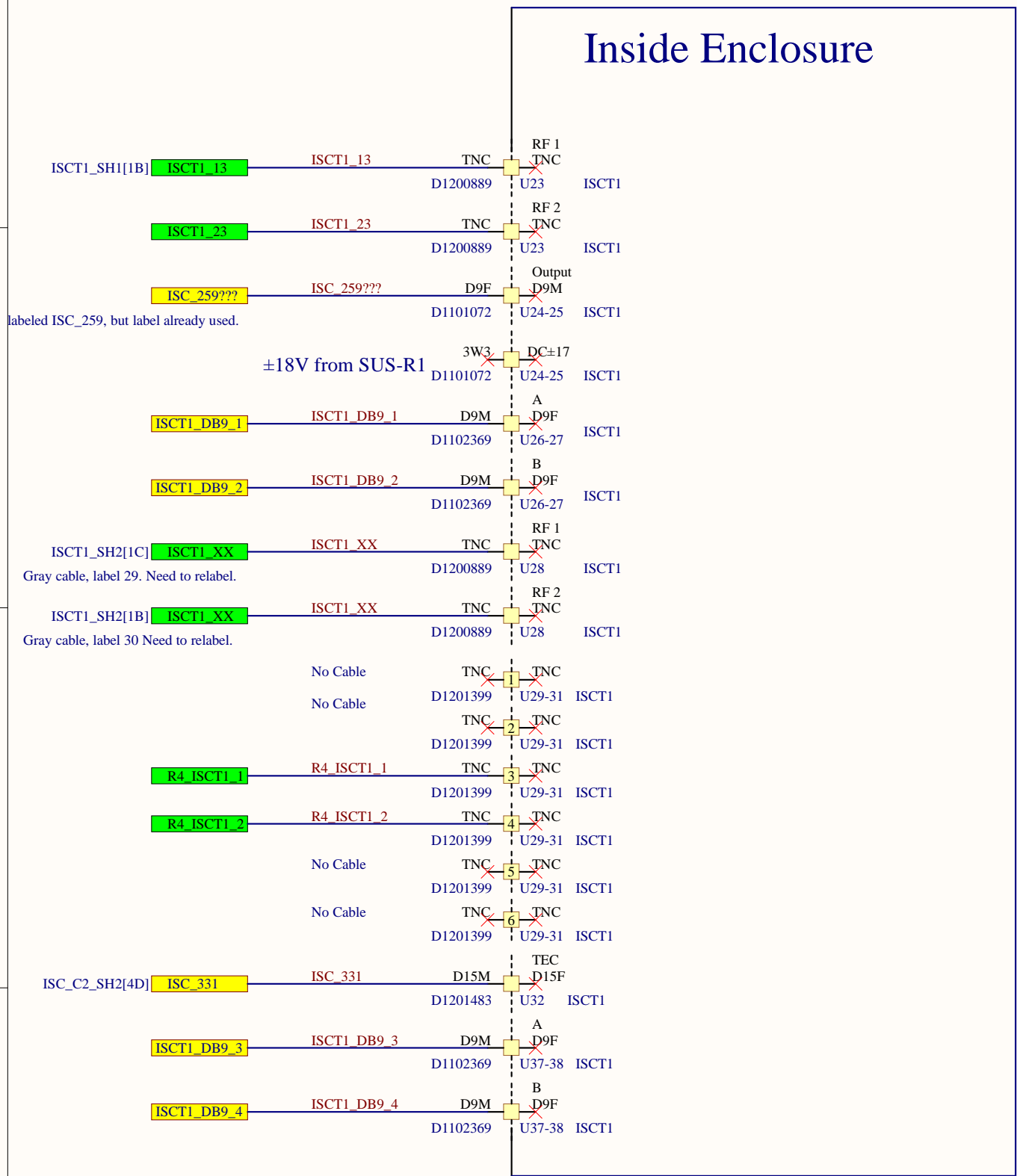
Cable labeled ISC_31, but label already used.

Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	24	of	38
File:	C:\Users\...\ISCT1_SH1.SchDoc	Drawn By:	Filiberto Clara		

ISCT1 - Right Side

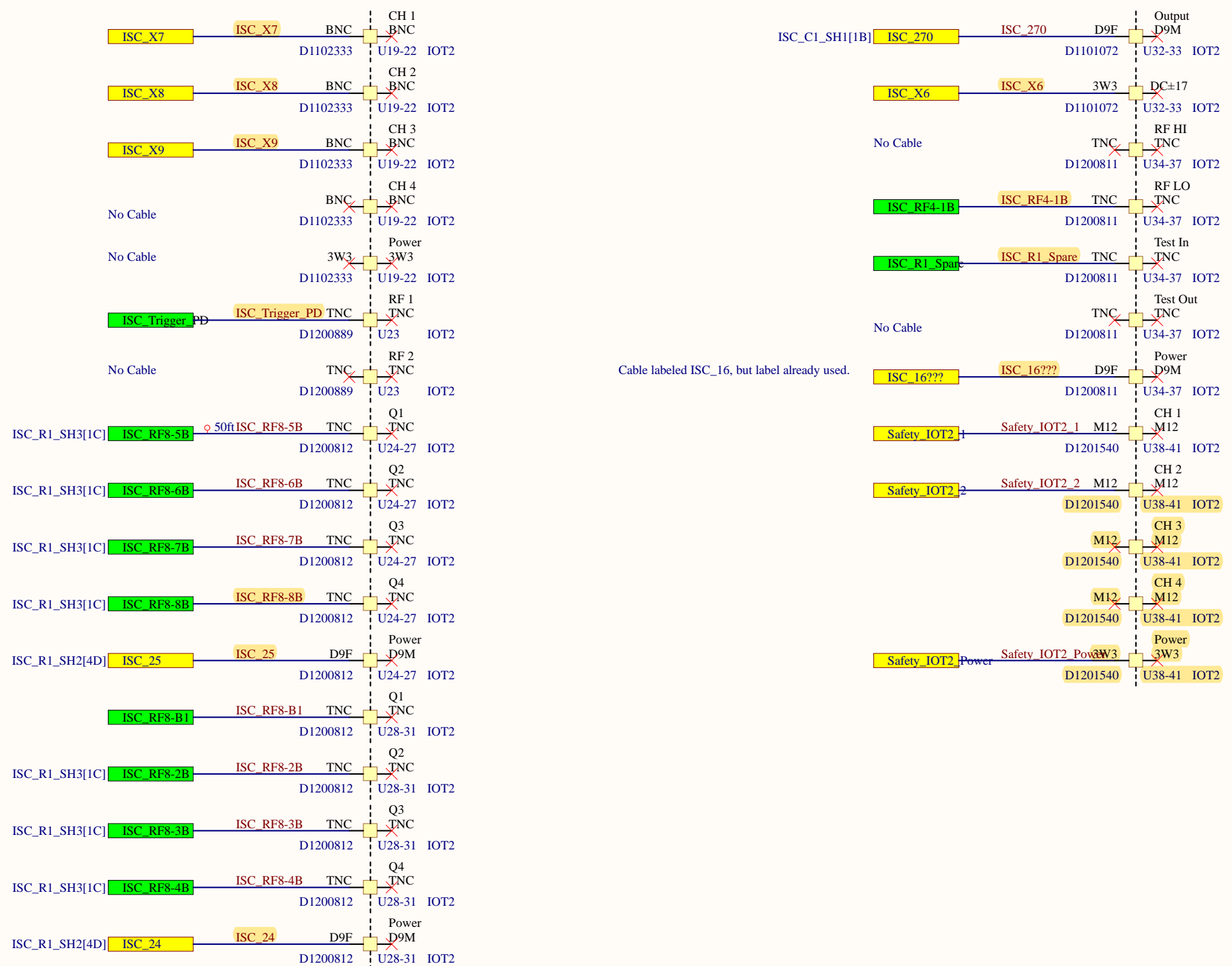
Inside Enclosure

Inside Enclosure



Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	25	of	38
File:	C:\Users\...\ISCT1_SH2.SchDoc	Drawn By:	Filiberto Clara		

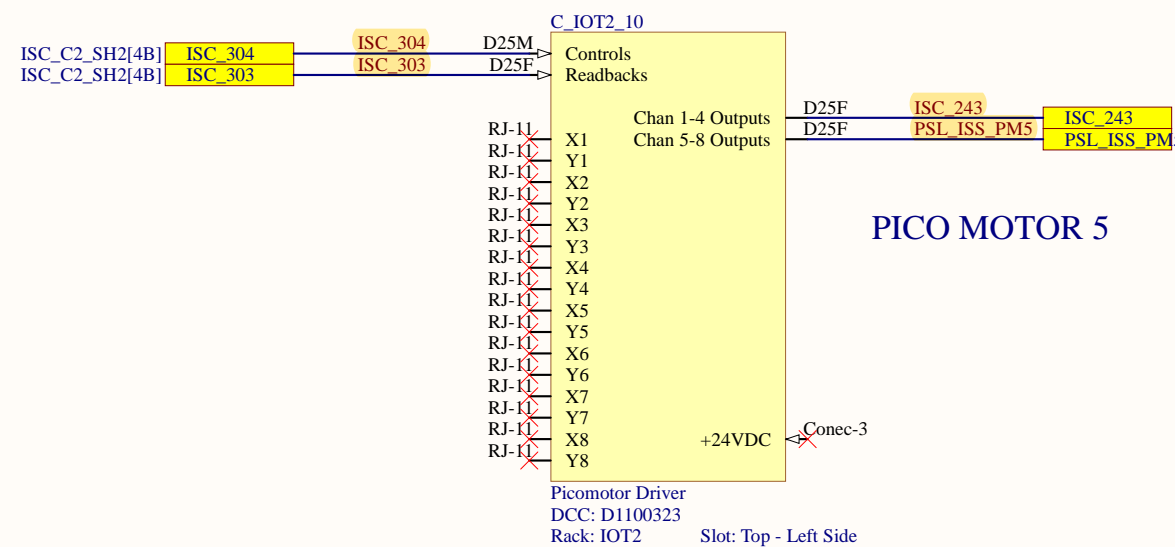
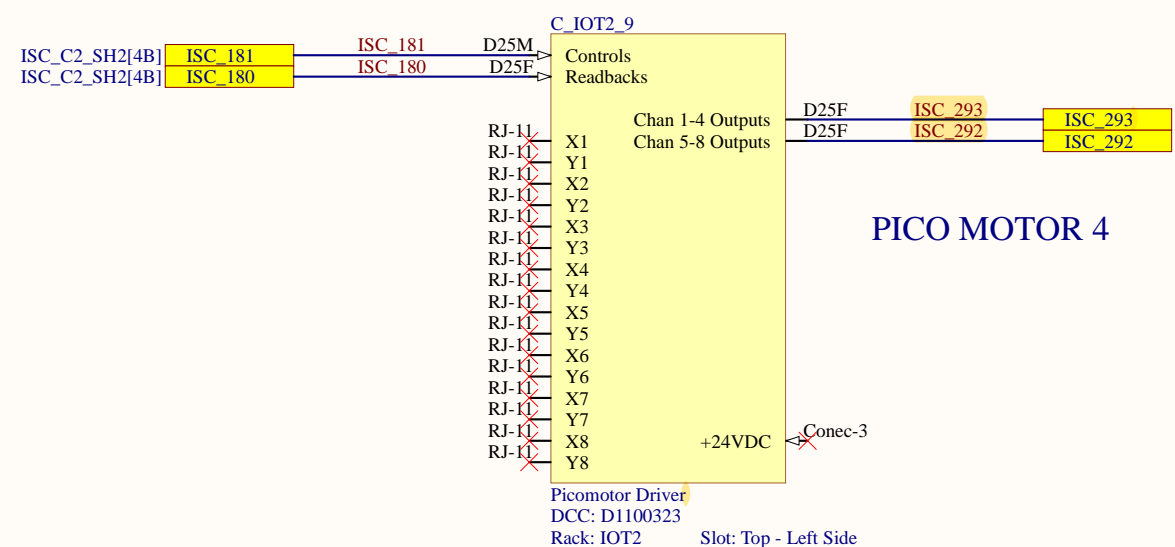
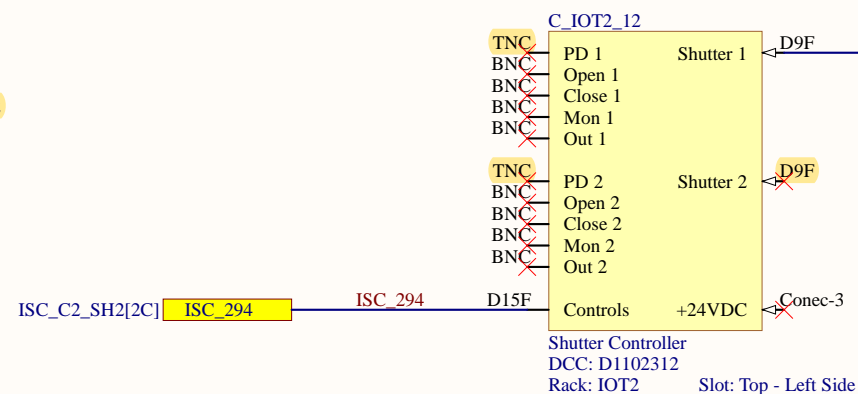
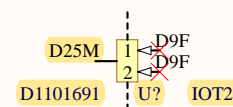
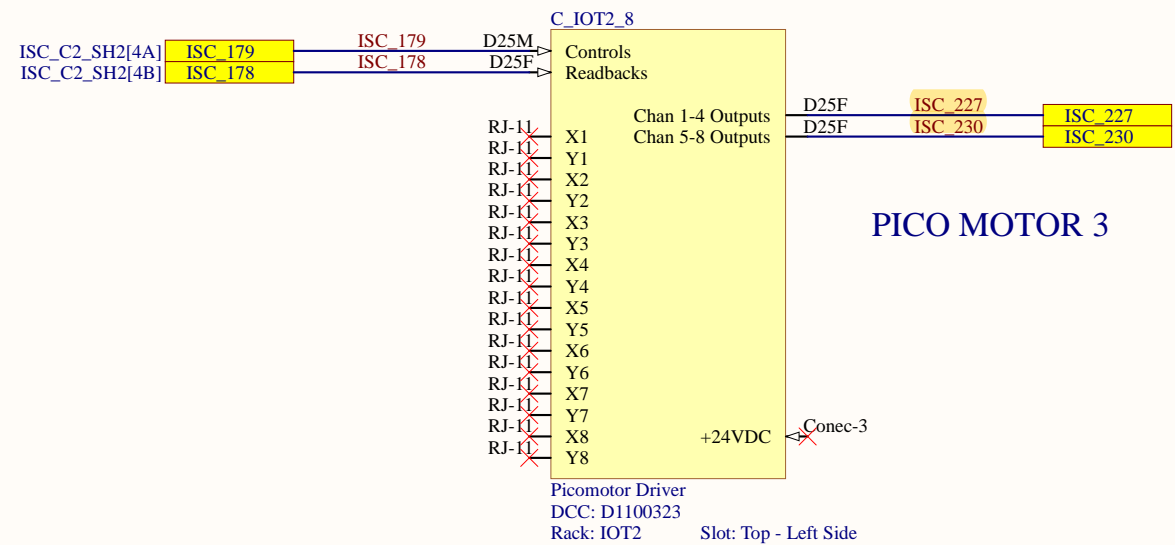
IOT2 - Left Side



Cable labeled ISC_16, but label already used.



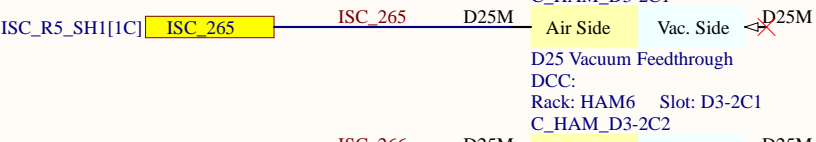
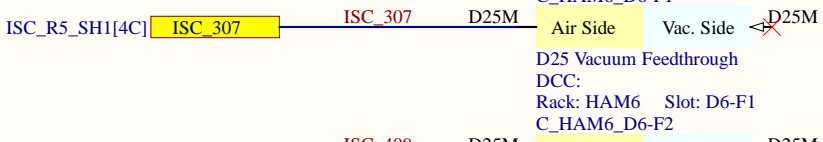
Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	26	of 38	
File:	C:\Users\...\IOT2_SH1.SchDoc	Drawn By:	Filiberto Clara		



Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	27	of	38
File:	C:\Users\...\IOT2_SH2.SchDoc	Drawn By:	Filiberto Clara		

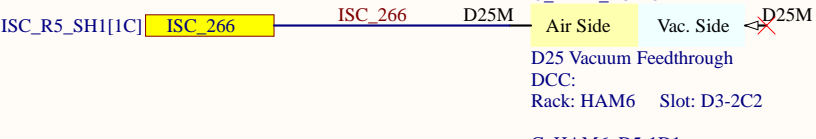
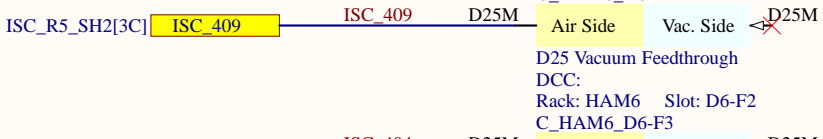
HAM6 Flange Layout

DCPD



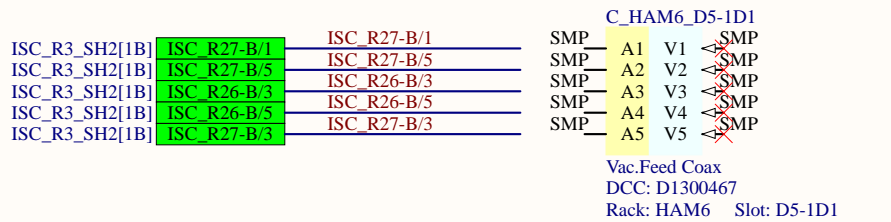
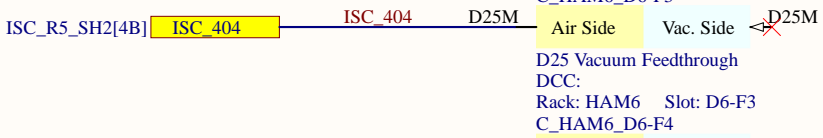
AS_A WFS DC

PZTs



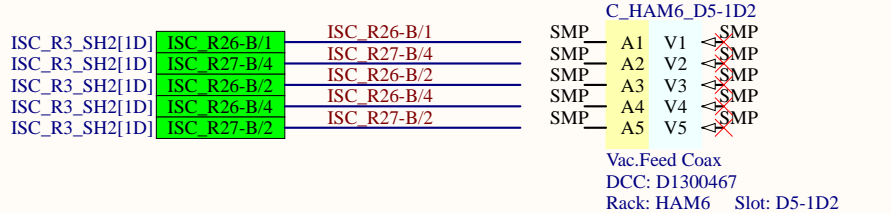
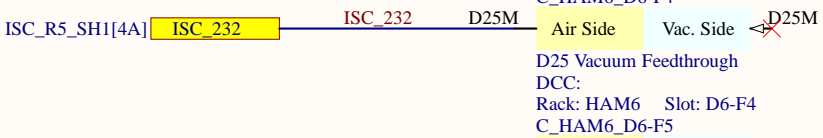
AS_B WFS DC

OMC QPD



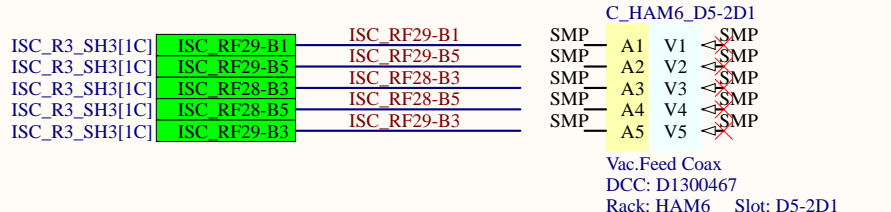
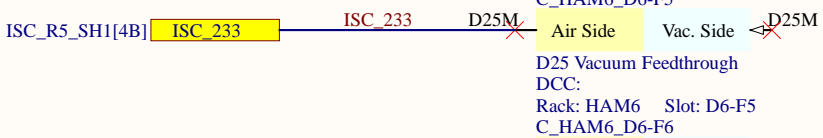
AS_A WFS 36MHz

OMCR QPD



AS_A WFS 45MHz

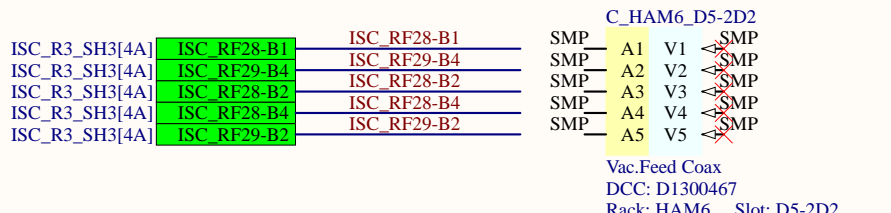
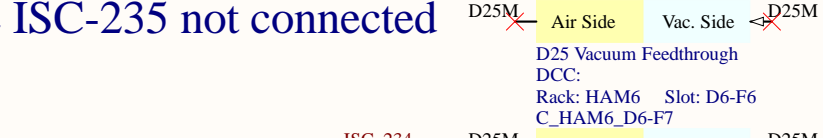
AS_C QPD



AS_B WFS 36MHz

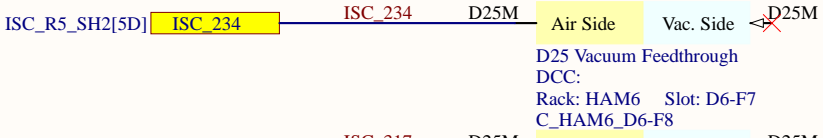
OMCR/AS Picomotor

Cable ISC-235 not connected

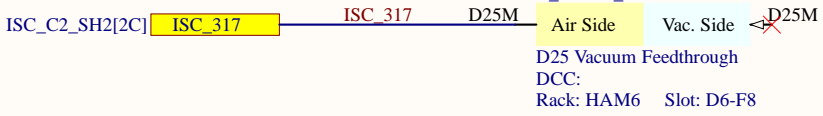


AS_B WFS 45MHz

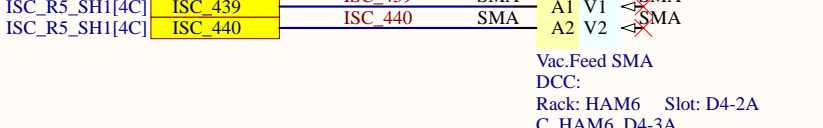
AS_C Picomotor



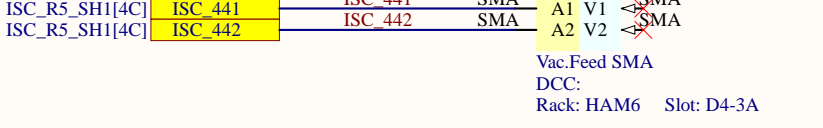
Beam diverter



DCPD 3.1MHz A/B



DCPD 3.1MHz C/D



Need to check WFS RF!

Title			ISC System Wiring Diagram		
Size	Number	Revision			
B	D1900511	V5			
Date:	2/25/2021	Sheet	28	38	
File:	C:\Users\...\HAM6_SH1.SchDoc	Drawn By:	Filiberto Clara		

1

2

3

4

5

6

A

A

B

B

C

C

D

D

SQZ-FC_QPD_A

DCC: D2000246
Rack: HAM7 ISI Slot: QPD A
105kHz QPD Head Vac.



D25M



ft

VAC_SQ_001



D25M

C383 DCC: Slot: D8-F1 Rack: HAM7
Vac. Side Air Side
D25 Vacuum Feedthrough

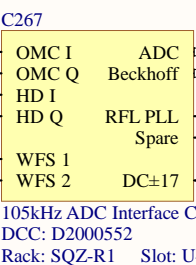


70ft



70ft

SqueezerRfControls1[3B] ISC_SQ_472 45" ISC_SQ_472 TNC
SqueezerRfControls1[3B] ISC_SQ_473 45" ISC_SQ_473 TNC
SqueezerRfControls1[3B] ISC_SQ_474 45" ISC_SQ_474 TNC
SqueezerRfControls1[3B] ISC_SQ_475 45" ISC_SQ_475 TNC



D37F

ISC_SQ_476



ISC_SQ_476

ISC_C1_SH2[5D]

D25F

ISC_SQ_477



ISC_SQ_477

FC QPDs

SqueezerBeckhoff2[3C]

D9M

ISC_SQ_478



ISC_SQ_478

SqueezerRfControls2[6C]

D9M

ISC_SQ_525



ISC_SQ_525

SqueezerRfControls2[3C]

WFS 1

WFS 2

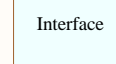
DC±17



Conec-3

SQZ-FC_QPD_B

DCC: D2000246
Rack: HAM7 ISI Slot: QPD B
105kHz QPD Head Vac.



D25M



ft

VAC_SQ_002



D25M

C384 DCC: Slot: D8-F2 Rack: HAM7
Vac. Side Air Side
D25 Vacuum Feedthrough



70ft



70ft

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	V5			
Date:	2/25/2021	Sheet	29	38	
File:	C:\Users\...\SqueezerWfsWiring.SchDoc	Drawn By:	R. Abbott		

1

2

3

4

5

6

A

B

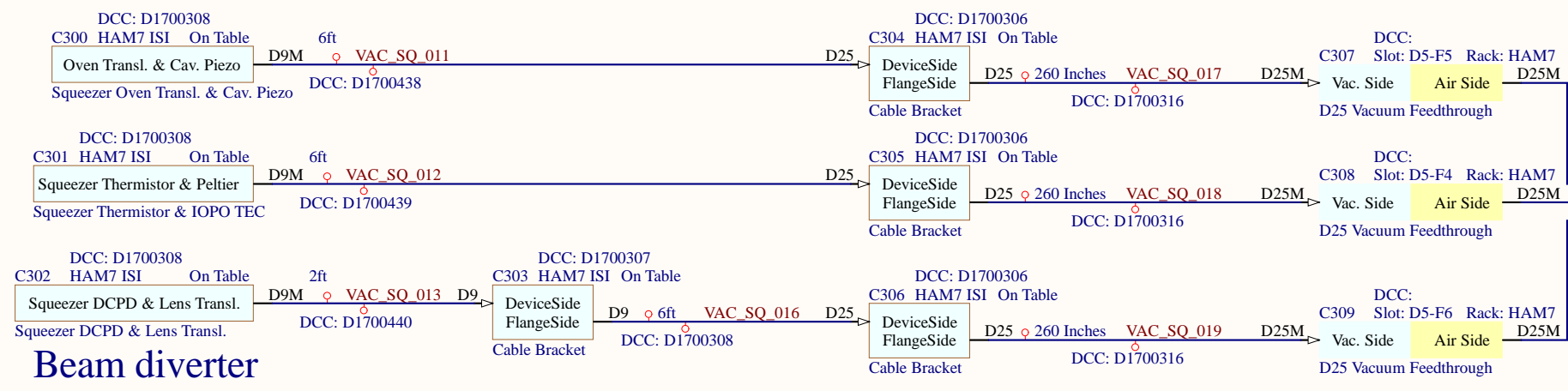
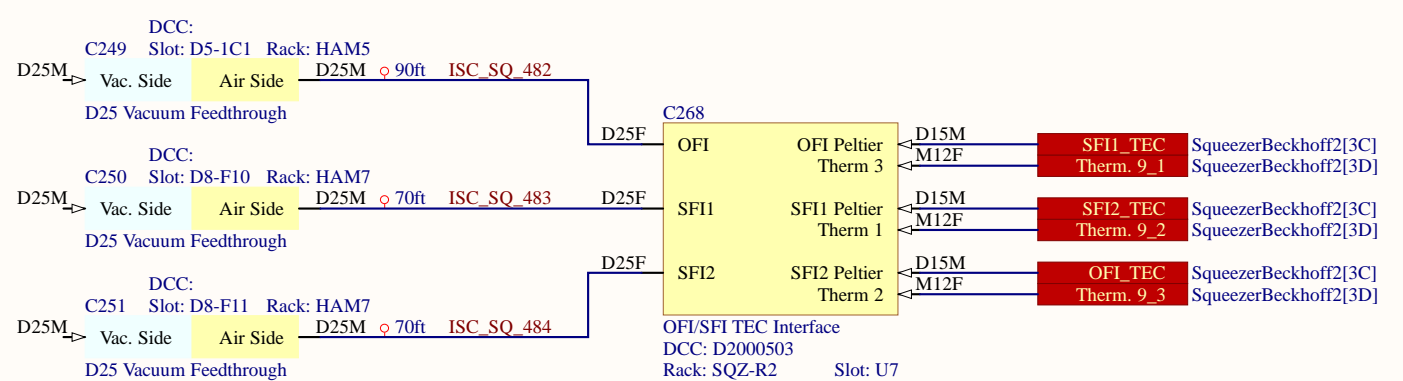
C

D

OFI 2

SFI 1

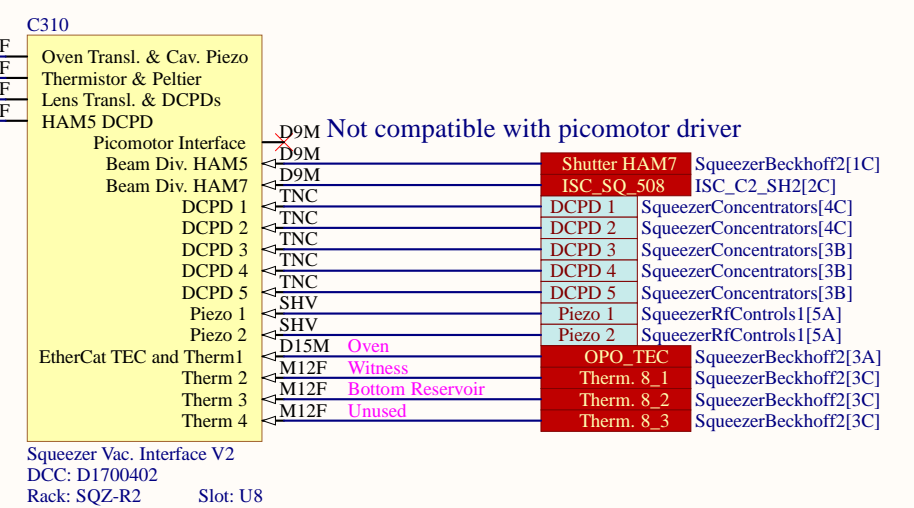
SFI 2



Beam diverter

D1700308 Wiring Diagram - More Cables

HAM5 DCPD Beam diverter?



Not compatible with picomotor driver

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

	LHO	LLO
DCPD1	Red/CLF	Green pump
DCPD2	Green pump	Red/CLF

Swap DCPD1 & DCPD2 for H1

Last Edited: 2/11/2021

Title Squeezer In-Vacuum Controls		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: B	DCC Number: D1900511	Revision: V5	Engineer: R. Abbott	Date: 2/25/2021	Time: 1:51:31 PM
File: C:\Users\Daniel\Documents\Protel\WiringPlan\ISC\D1900511\SqueezerInVacControls.SchDoc					Sheet 30 of 38

A

A

B

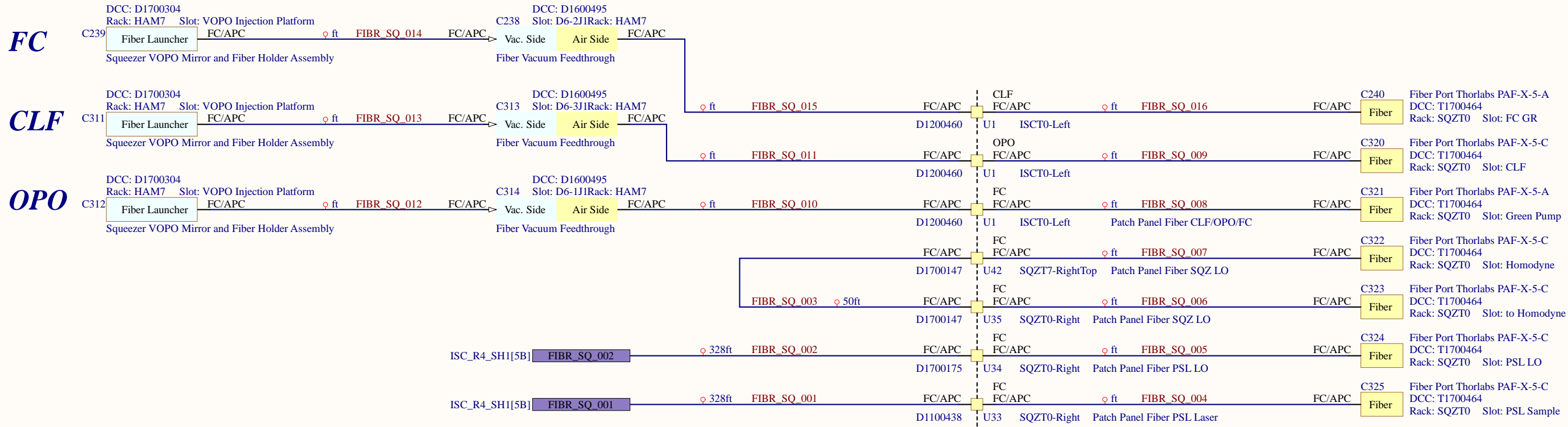
B

C

C

D

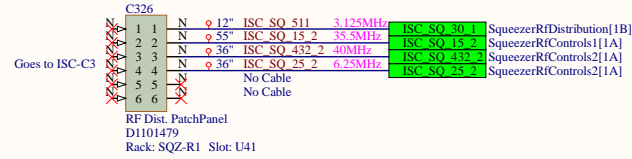
D



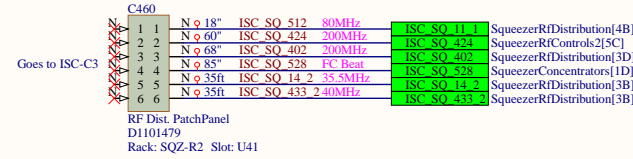
Last Edited: 2/22/2021

Title		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: B	DCC Number: D1900511	Revision: V5	Engineer: R. Abbott	Date: 2/25/2021	Time: 1:51:31 PM
File: C:\Users\Daniel\Documents\Protel\WiringPlan\ISC\D1900511\SqueezerFiber.SchDoc					
Sheet 31 of 38					

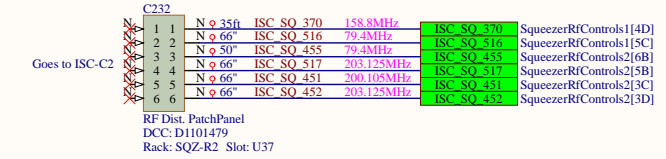
RF Patch Panel 34



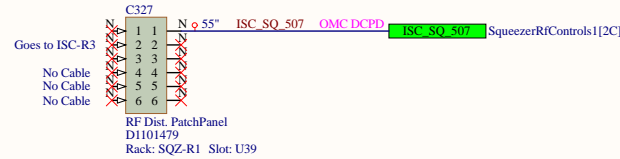
RF Patch Panel 36



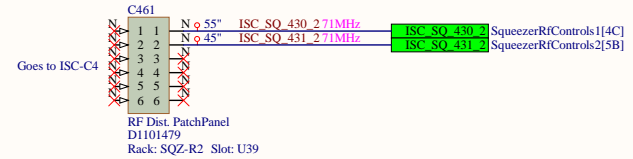
RF Patch Panel 38



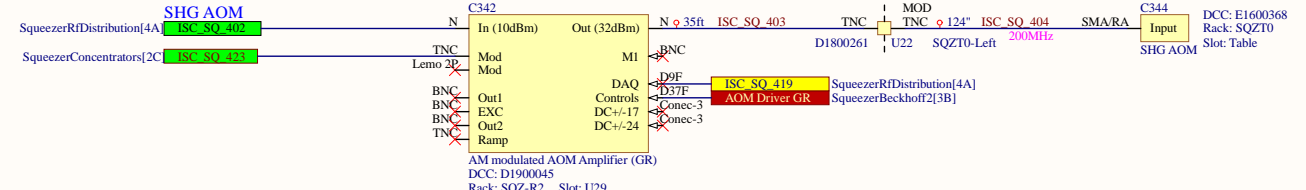
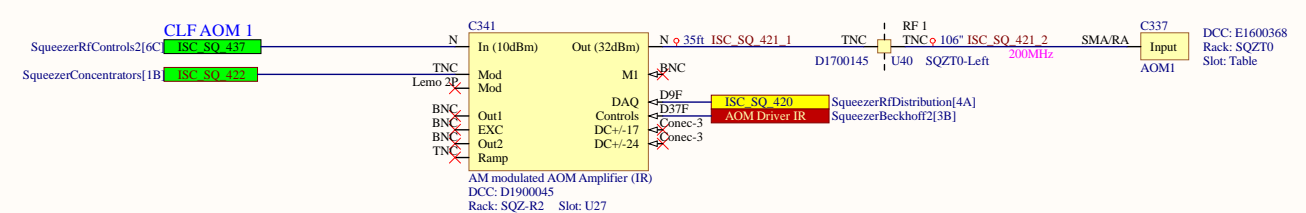
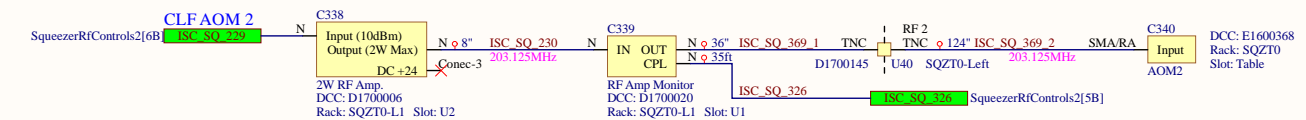
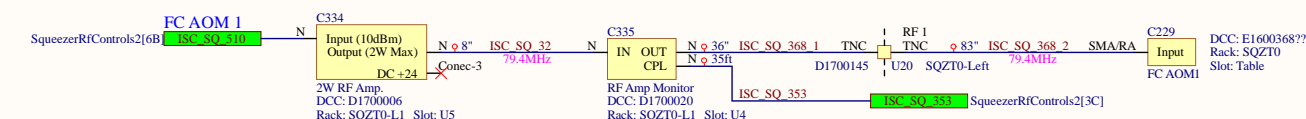
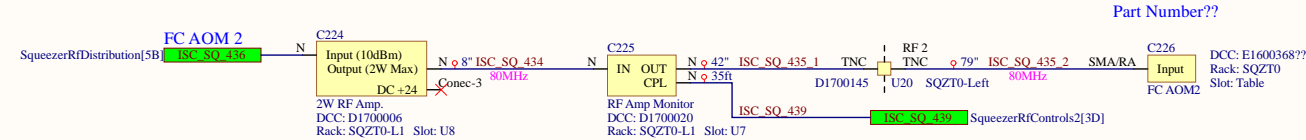
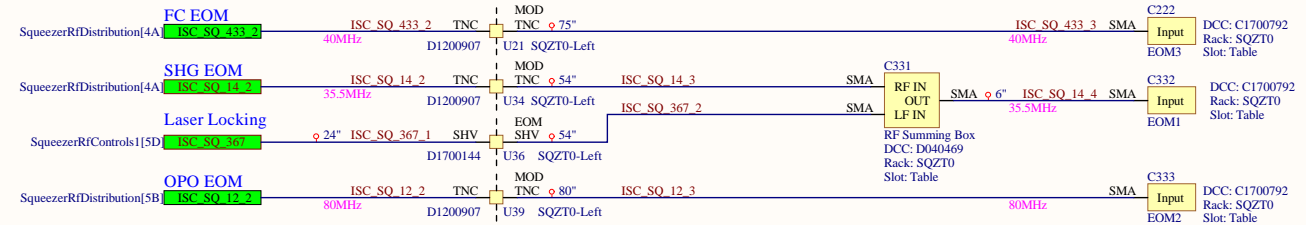
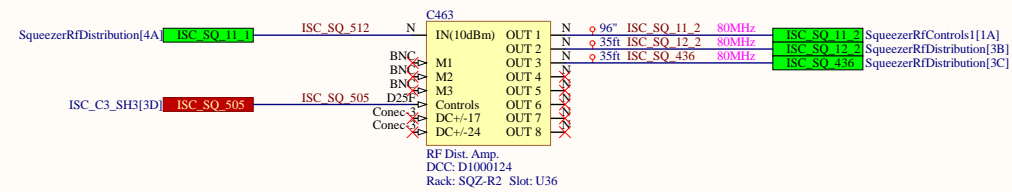
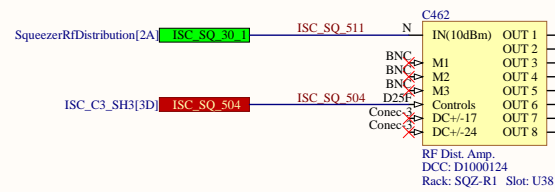
RF Patch Panel 35



RF Patch Panel 37



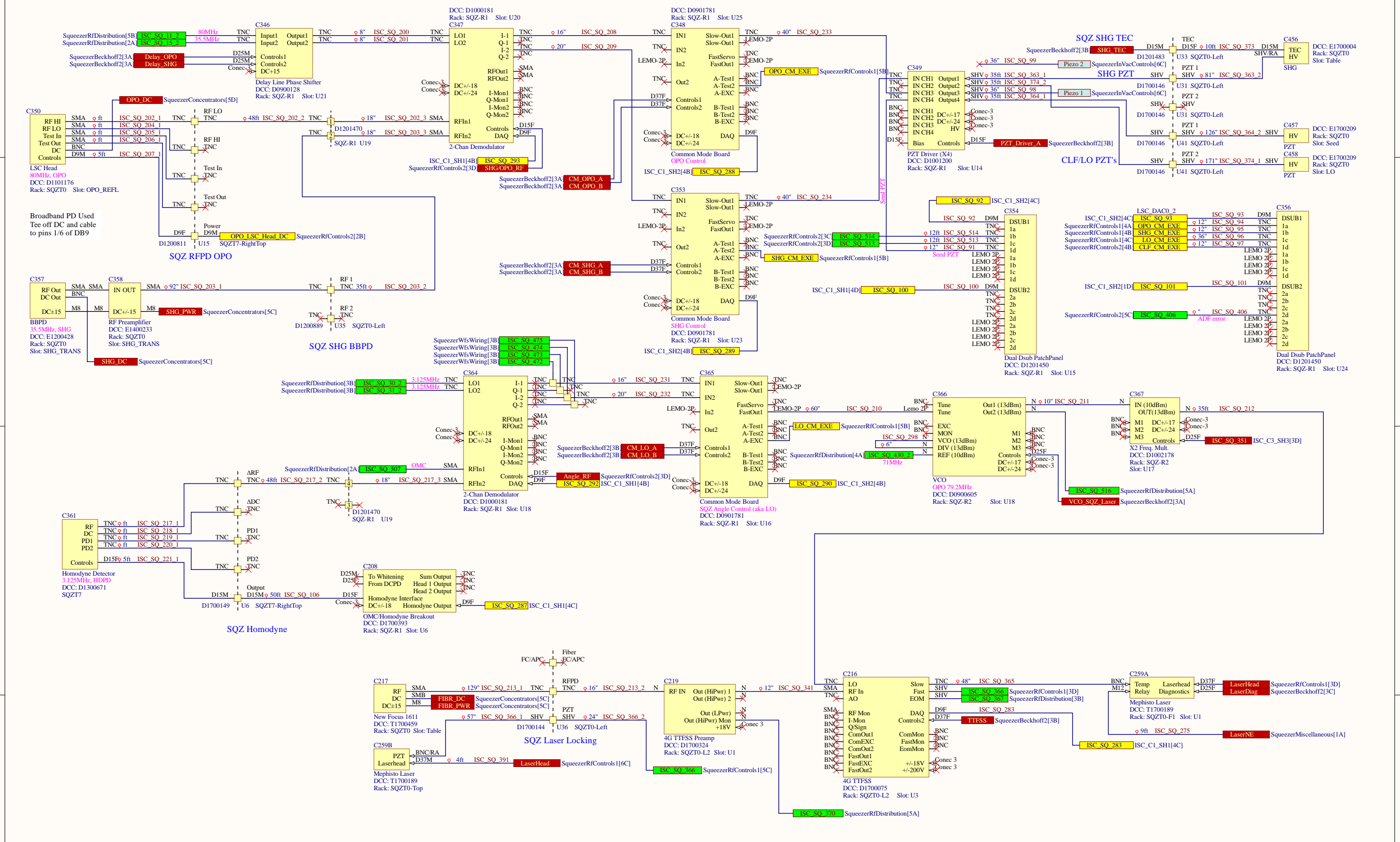
New cables for A_ start at ISC_SQ_430



Key

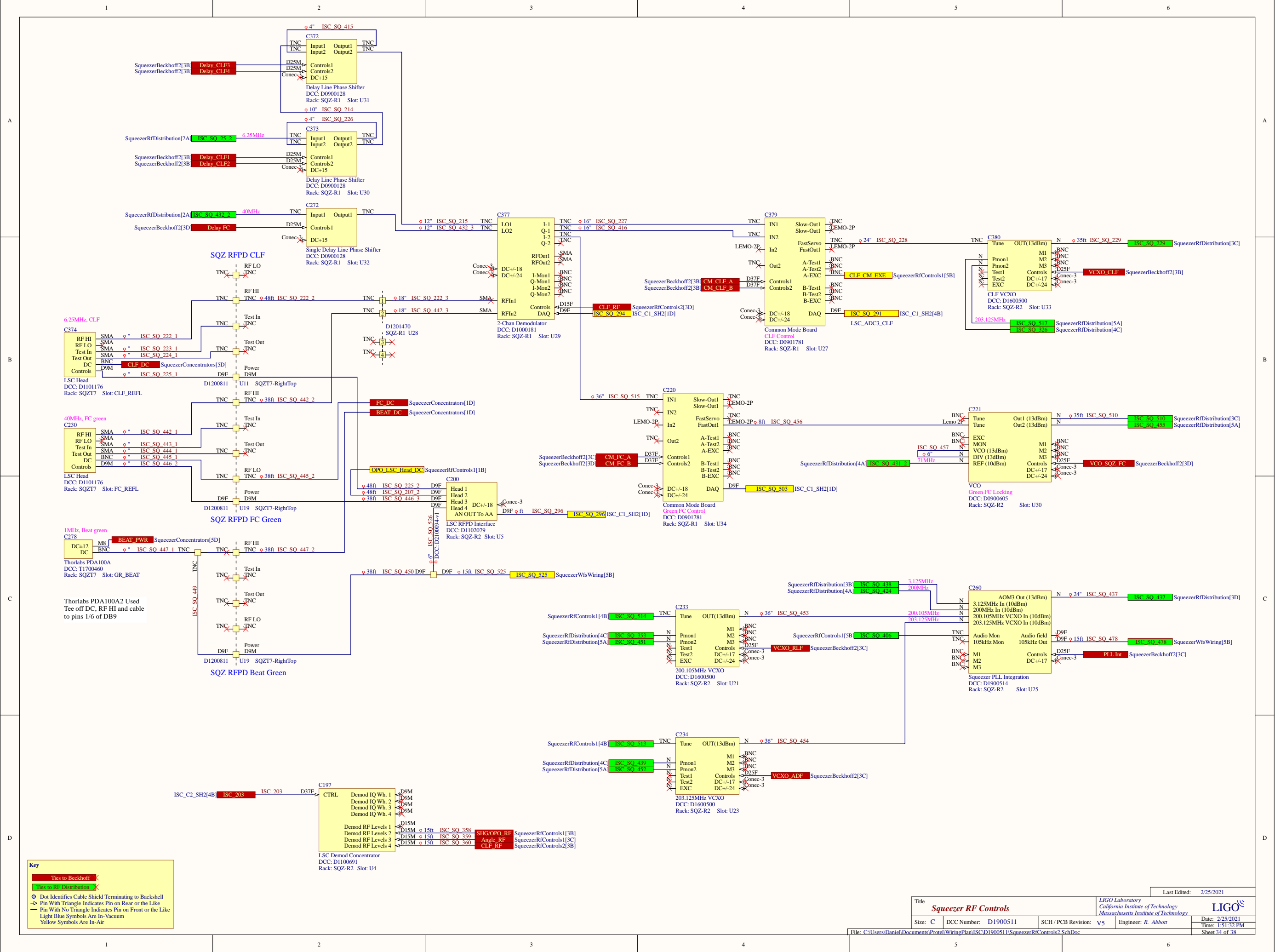
- Ties to Beckhoff
- Pin With Triangle Indicates Pin on Rear or the Like
- Pin With No Triangle Indicates Pin on Front or the Like
- Light Blue Symbols Are In-Vacuum
- Yellow Symbols Are In-Air

Title		
Squeezer RF Distribution		
Size	Number	Revision
C	D1900511	V5
Date:	2/25/2021	Sheet 38 of 38
File:	C:\Users\...SqueezerRfDistribution.SchDoc Drawn By: R. Abbott	



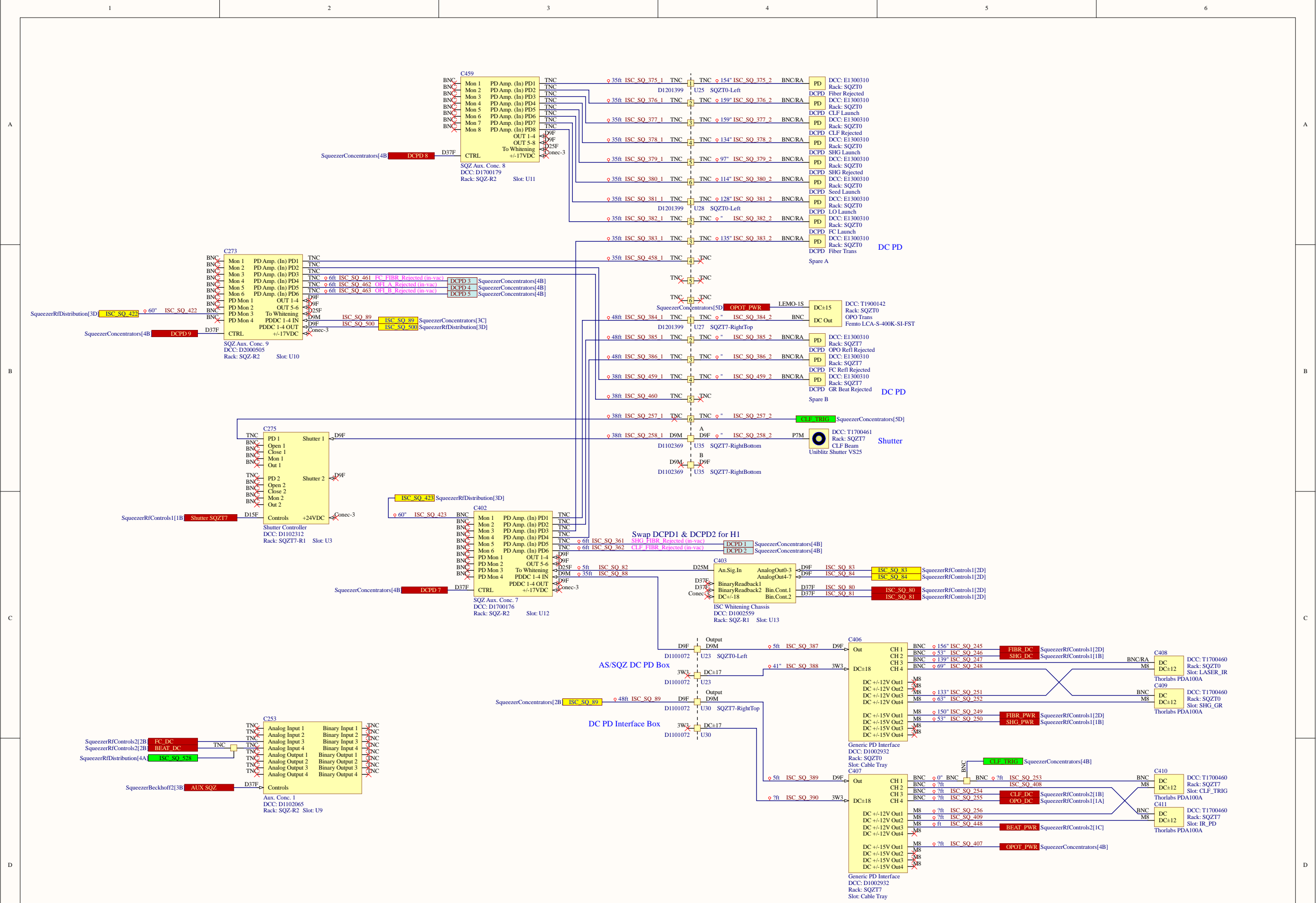
Key

- 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



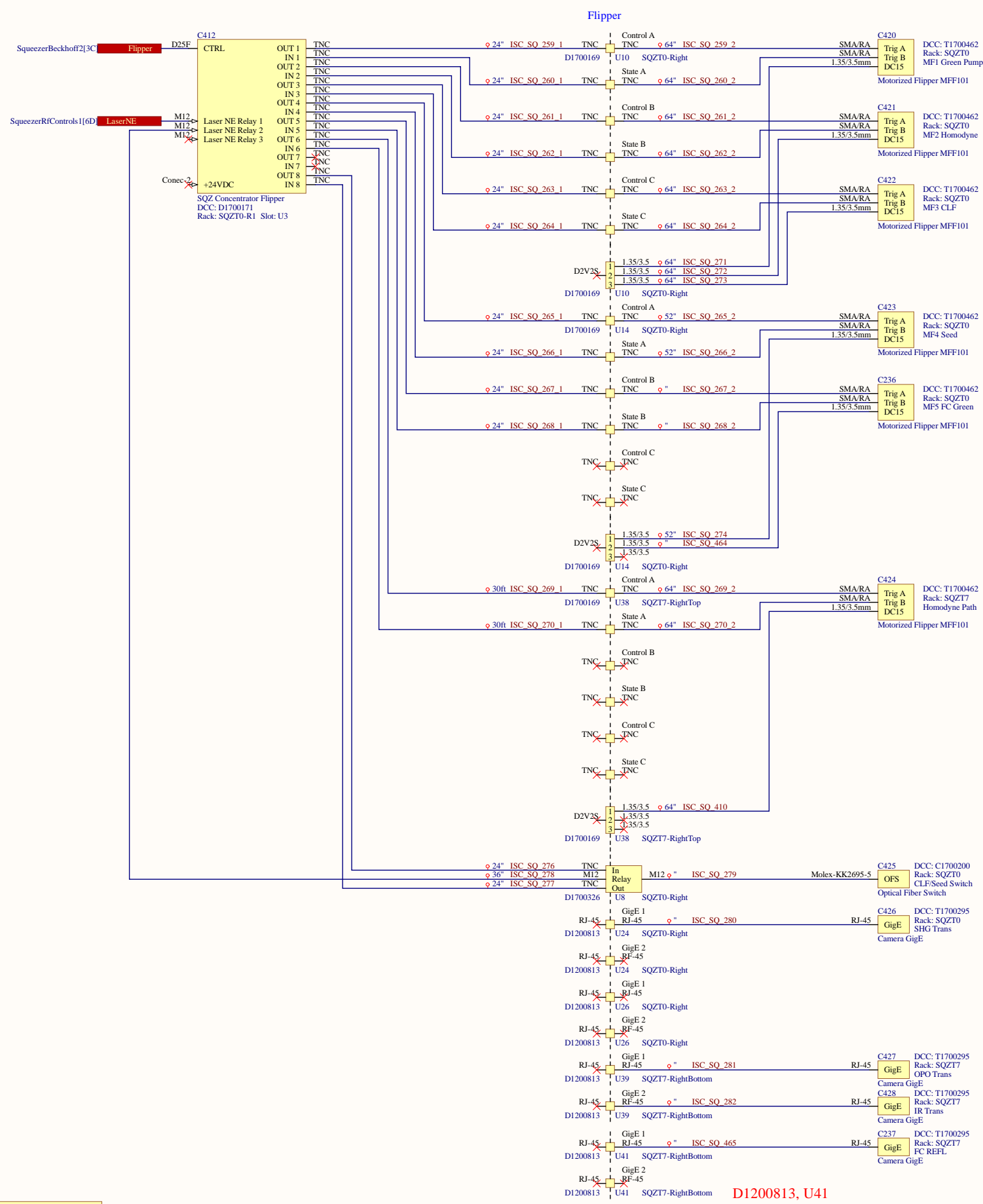
Key

- 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



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
- Yellow Symbols Are In-Air

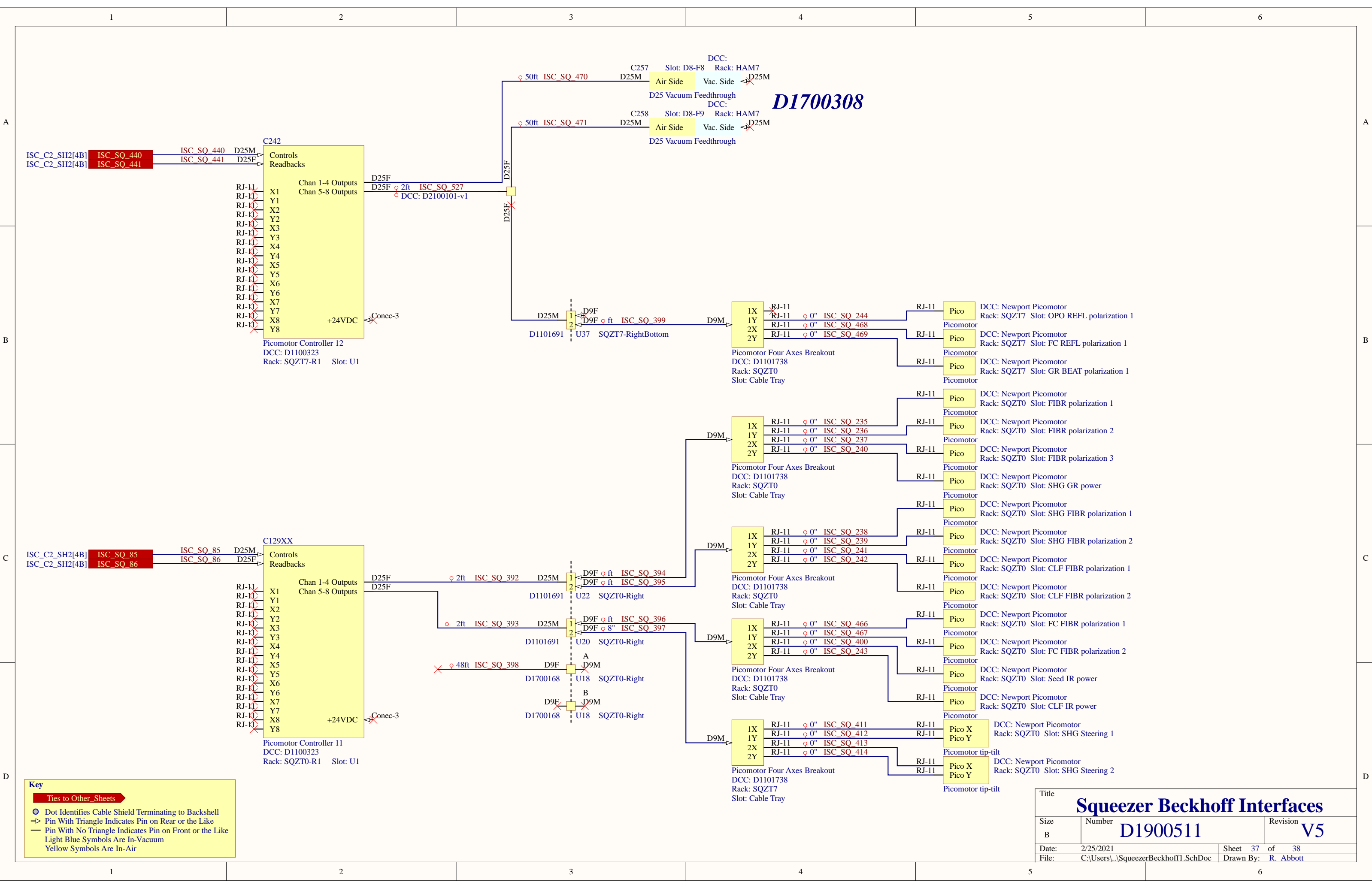


Key

- 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
- Yellow Symbols Are In-Air

D1200813, U41
New Cameras per Table Feedthrough Panel

Title Squeezer Miscellaneous		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		Last Edited: 2/10/2021	
Size: C	DCC Number: D1900511	SCH / PCB Revision: V5	Engineer: R. Abbott	Date: 2/25/2021	Time: 1:51:32 PM
File: C:\Users\Daniel\Documents\Protel\WiringPlan\ISCD1900511\SqueezerMiscellaneous.SchDoc					Sheet 36 of 38



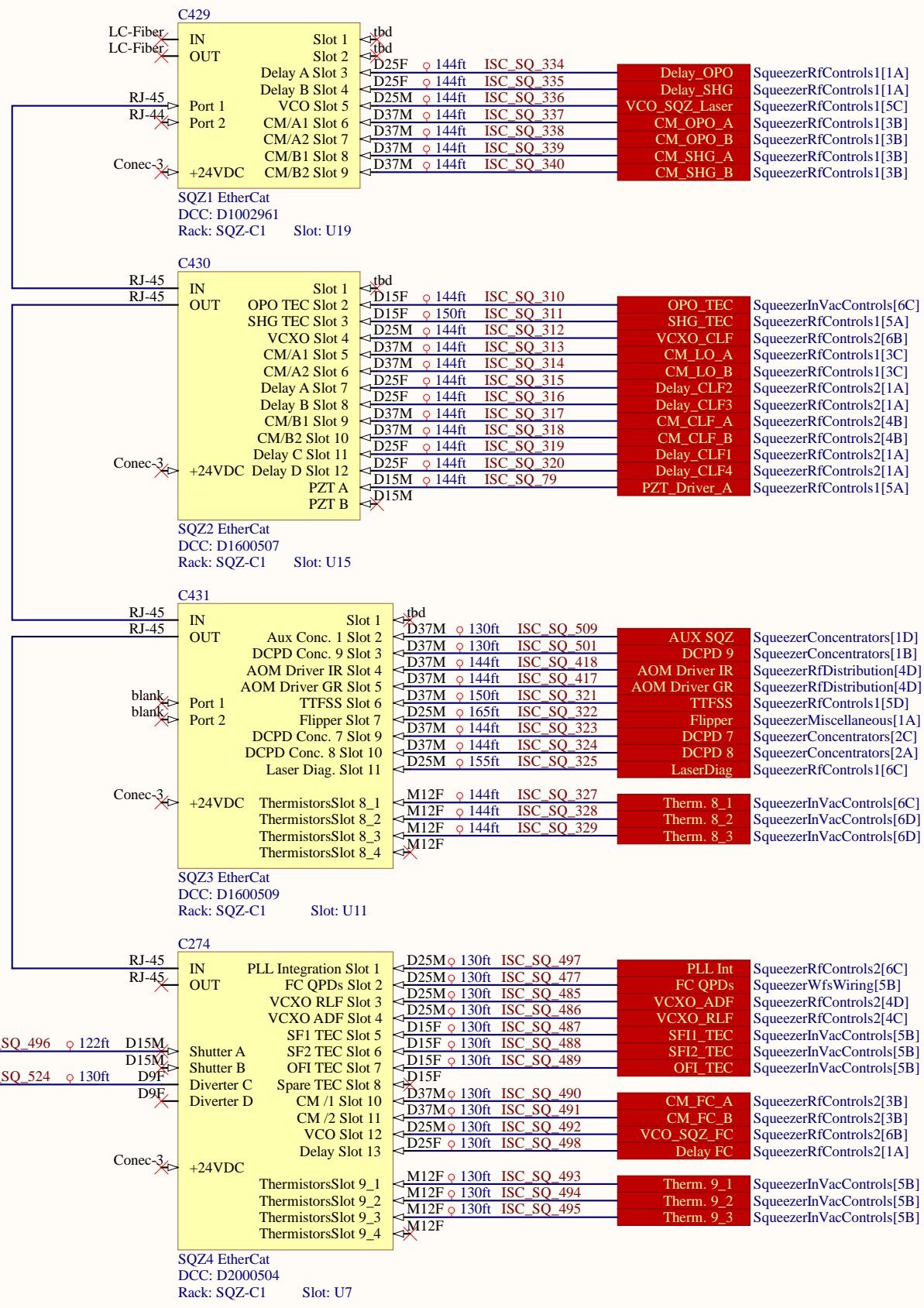
D1700308

C242
 Controls
 Readbacks
 Chan 1-4 Outputs
 Chan 5-8 Outputs
 +24VDC
 Picomotor Controller 12
 DCC: D1100323
 Rack: SQZT7-R1 Slot: U1

C129XX
 Controls
 Readbacks
 Chan 1-4 Outputs
 Chan 5-8 Outputs
 +24VDC
 Picomotor Controller 11
 DCC: D1100323
 Rack: SQZT0-R1 Slot: U1

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
 Yellow Symbols Are In-Air

Title		
Squeezer Beckhoff Interfaces		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 37 of 38
File:	C:\Users\...\SqueezerBeckhoff1.SchDoc	Drawn By: R. Abbott



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
- Yellow Symbols Are In-Air

Title		
Squeezer Beckhoff Interfaces		
Size	Number	Revision
B	D1900511	V5
Date:	2/25/2021	Sheet 38 of 38
File:	C:\Users\...\SqueezerBeckhoff2.SchDoc	Drawn By: R. Abbott