

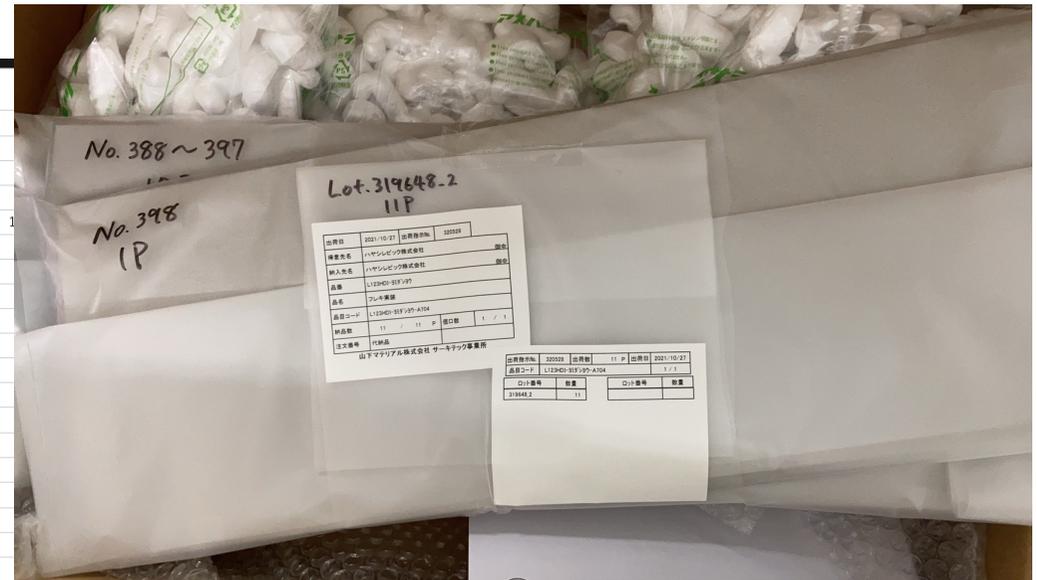
Production Status

RIKEN/RBRC

Itaru Nakagawa

Batch-3 HDI Production

1	Delivery Day	Batch	Order #	LOT #	Quantity	HDI Serial No.	Incremented Quantity	Inspection	Result	Shipped to Taiwan	
2	2019/1/23		349670	302382	6						
3	2019/2/6		349670	302725	4						
4	2019/9/11	Preproduction	350963	306716	20						
5	2019/11/20		Exchanged	307469	1						
6	2020/4/2		352075	310184	9	1	9	9			
7	2020/4/2	Batch-1A	352075	310185_1	7	10	16	16			
8	2020/4/2		352075	310185_2	13	17	29	29			
9	2020/4/2		352075	310186	29	30	59	59	50	Good?	
10	2020/4/28		352075	310188	17	60	76	76	70	bad	
11	2020/4/28		352075	310189	24	77	100	100	80, 84	bad	
12	2020/6/8		352075	311139	2	101	102	102			
13	2020/6/8		352075	311587_1	7	103	109	109	105	taiwan	
14	2020/6/17	Batch-1B	352075	311587_2	2	110	111	111		1 bad	
15	2020/6/17		352075	311614	15	112	126	126	122	taiwan	
16	2020/6/24		352075	311615	21	127	147	147	127	taiwan	
17	2020/7/9		352075	312095	20	148	167	167		3 bad	
18	2020/7/9		352075	312096_1	6	168	173	173			
19	2020/7/21		352075	312096_2_1	7	174	180	180			
20	2020/7/28	Batch-1A	Exchanged	312096_2_2	1	24	24	180			
21	2020/9/28		353110	312532	20	181	200	200		1 bad	
22	2020/9/28		353110	312533	16	201	216	216			
23	2020/9/29		353110	312534	7	217	223	223			
24	2020/9/29	Batch-2	353110	312535	14	224	237	237			
25	2020/9/29		353110	312536	7	238	244	244			
26	2020/10/27		353110	313304	24	245	268	268	265	taiwan	
27	2020/11/27		353110	313673	2	269	270	270		2	
28	2021/6/28			317333_2_2	11	271	281	281			
29	2021/7/5	Batch-3		317338	14	282	295	295		1 bad	
30	2021/7/19				317341	23	296	319	319		
31	2021/8/6				318459	22	319	340	342		Taiwan
32	2021/8/6				318600	13	341	353	353		Taiwan
33	2021/9/24				319648	34	354	387	371		BNL
34	2021/10/27				319648_2	11	388	398	398		Taiwan
35			Batch3 Sum (8/3)		83					Total	
36			Batch3 Goal		128						



90 Batch-2 Total

- 2 HDIs to be restored from batch-2 LOTs in BNL which haven't find any bad ones yet
- e.g. 311587_1, 311614, 311615, 311304
- Just in case, I also included No.269 and No.270 (flux removed).
- 11+2 HDI's are to be picked up on **Nov. 9th** shipped to NCU.

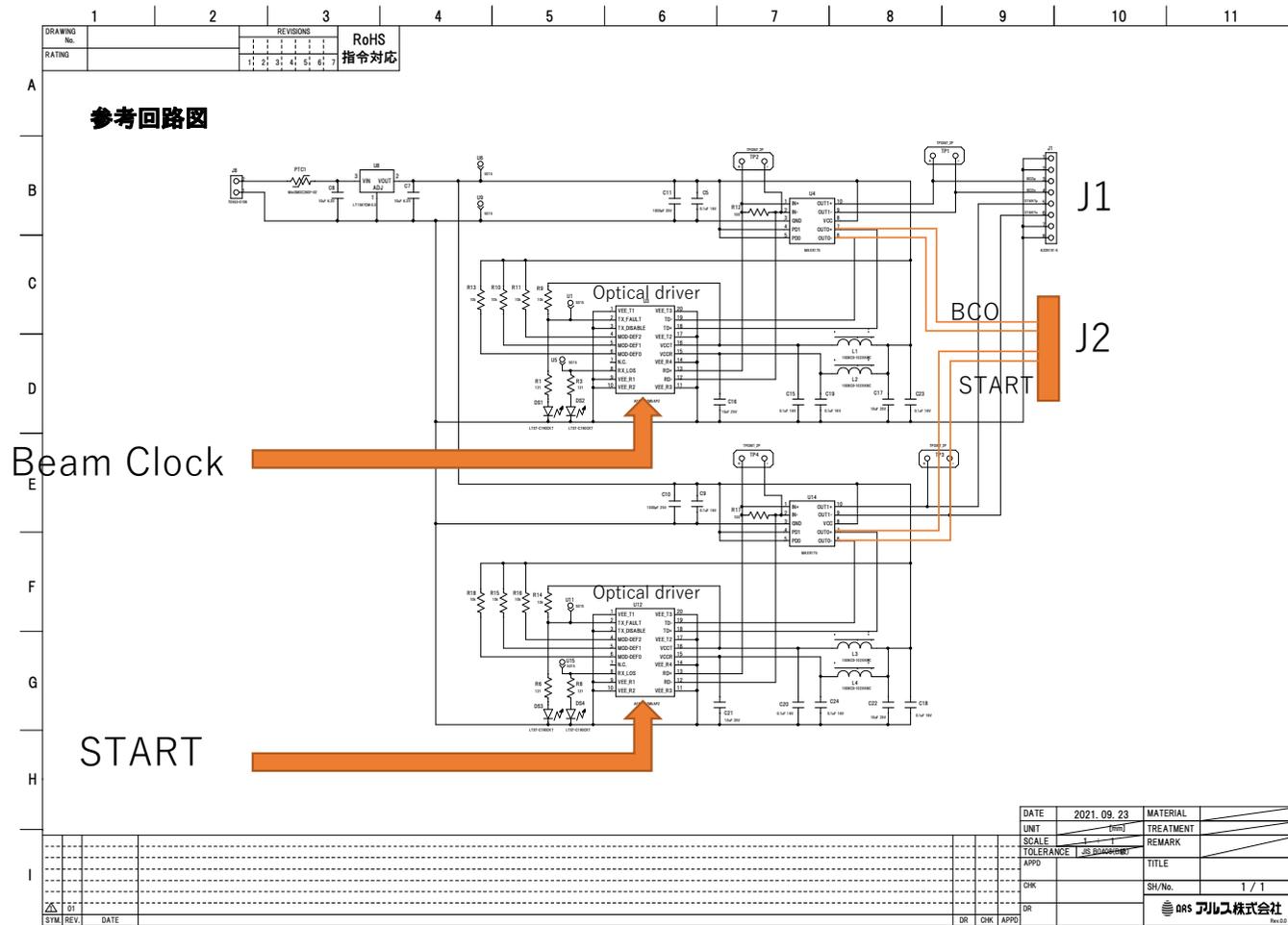
BCLK Fan-Out and Distribution Boards

Beam Clock Fan-out Board

- The boards are already in production by Steve Boose.

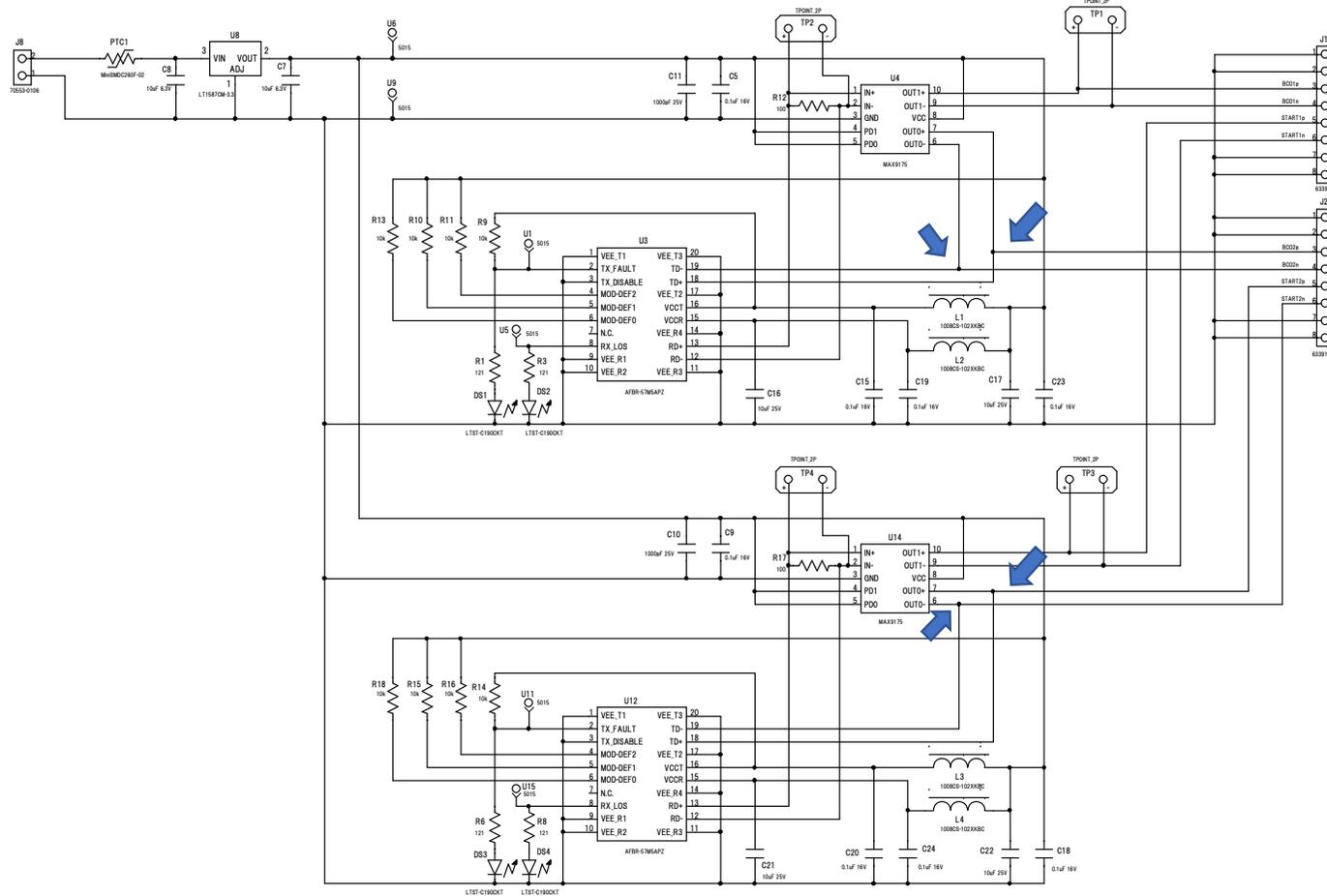


Beam Clock Distribution Board



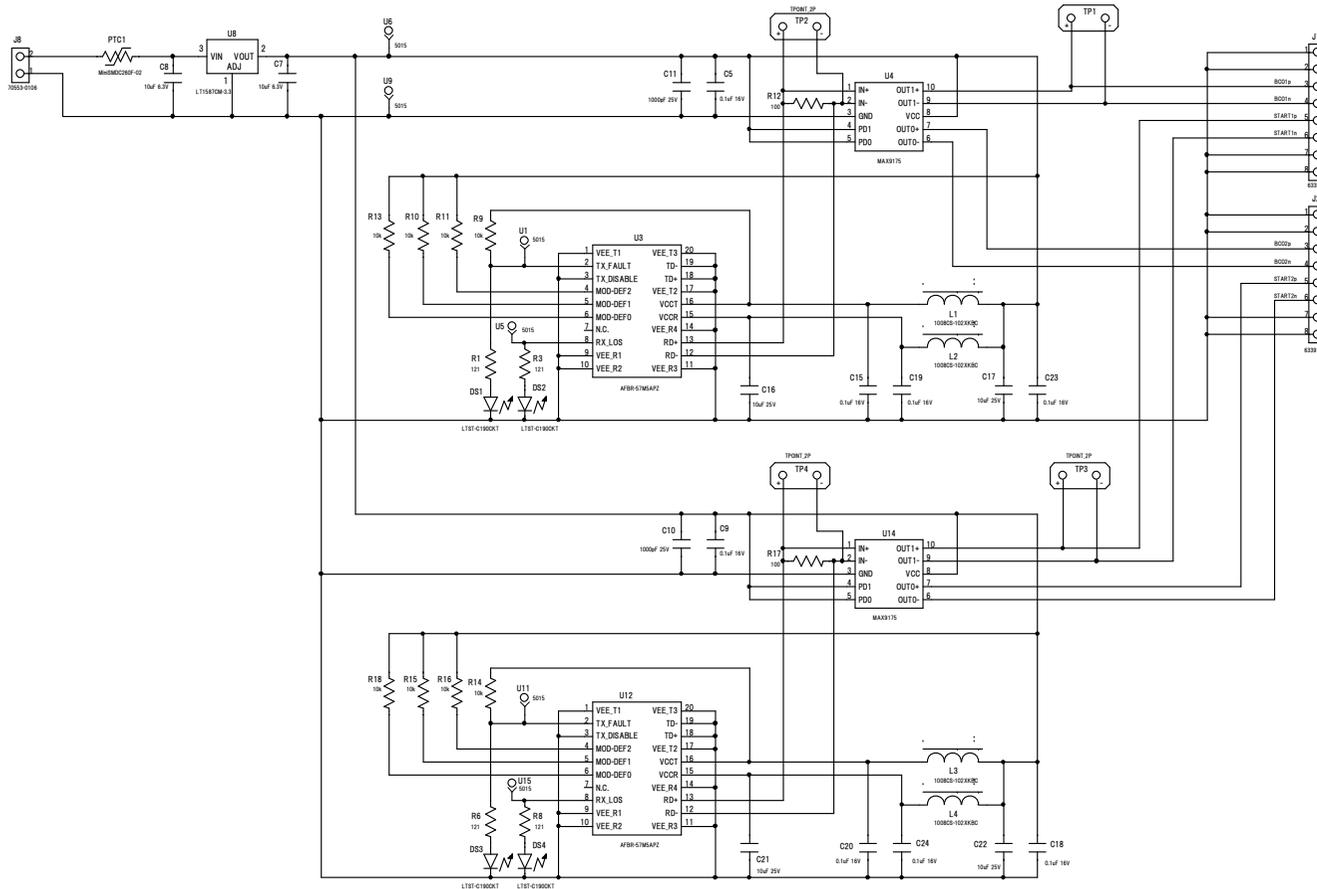
- Sept.25th Design by ARS co.
- Requested to add J2 port.

Beam Clock Distribution Board



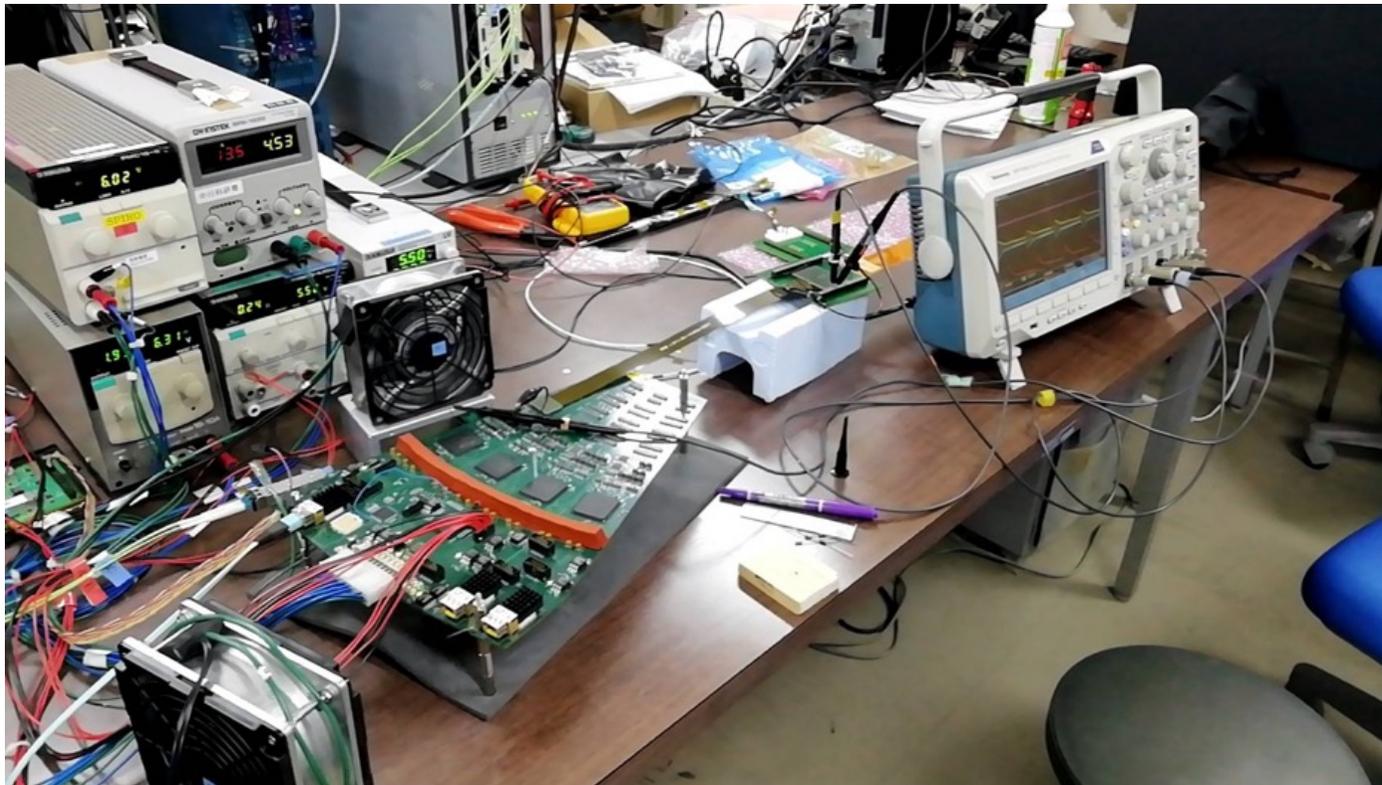
- Oct.20th Design by ARS co.
- Requested to avoid splitting output signals for J2.

Nov. 4th Modified Design by ARS co.



- This is OK to me.
- Would like to move on for the fabrication once components are delivered from BNL.

Interception Board Update



Potential Side Effect of the Interception board

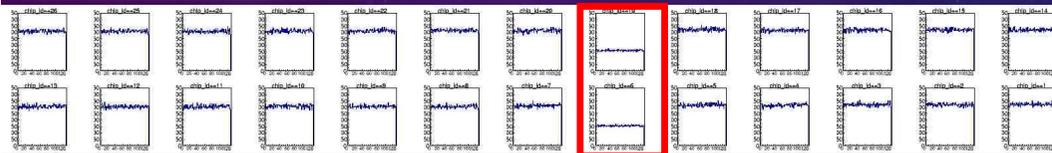
- Degradation of signal to ROC. Below is the evidence. Some chip failed to transmit signals and ended up with the half entry with the interception board.

Y.Namimoto, INTT Japanese meeting (2021/11/4)

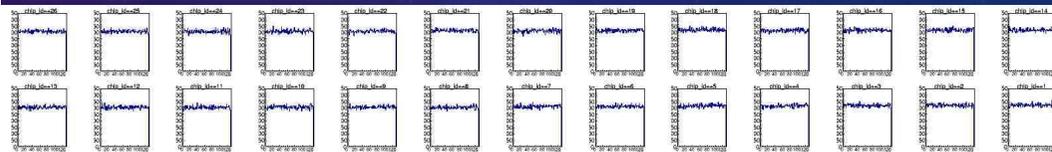
インターセプションボードの動作について

- インターセプションボードを付けてキャリブレーションテストを行うと、ハーフエントリーが見られる

台湾ラダー:インターセプションボードあり With Interception Board



台湾ラダー:インターセプションボードなし Without Interception Board



2021/11/4

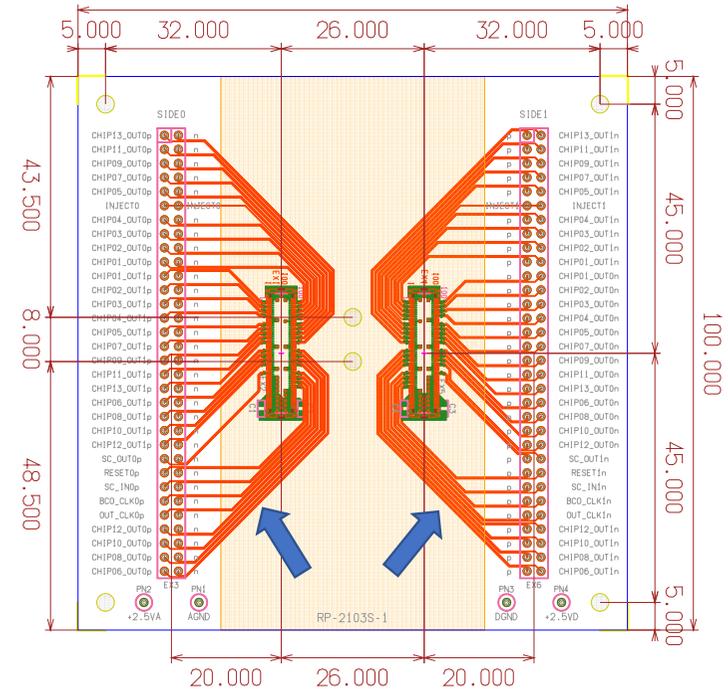
INTTJPMIT

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HDI + Bus Extender + 20cm Conversion Cable

2021/11/5

↑ Interception board



Chip-6 and Chip-19 have longest path and thus the affect on the transmitted signal is relatively large.

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Updated INTT Calibration Software Task List

1	Task	Sub-tasks	Been Done	Left To Do/Notes
2	Geant4	Detector components	Ladders	Done
3	Genki Nukazuka		the inner and the outer skins	not yet Will be implemented once the design is settled (soon)
4			Support structure (support pipe)	not yet Will be implemented once the design is settled (soon)
5			Bus extender	effective model it should be enough
6			Support structure	not yet Will be implemented once the design is settled (soon)
7			Cabling	not yet To be implemented for the pieces may not be negligible
8			Anything else?	
10	(mis)Misalignment	Ladder level		
11	?	wrt other dets.		
13	x-Calibrations	beam-test data	adc	To be analyzed Will be implemented after December 2021 beam test
14	Rikkyo Univ. & NWU		charge diffusion between strips	To be analyzed Will be implemented after December 2021 beam test
15			acceptance edge effects	To be analyzed Will be implemented after December 2021 beam test
16			track angle dependence	To be analyzed Will be implemented after December 2021 beam test
17	Dead/noisy maps	cosmic data w/ barrel		Can be started from fake mapping. To be updated after barrel assembly
18	Purdue Univ.			
19	Monitor stability	cosmic data w/ barrel	Studied CMS silicon online monitor	Learn schematic framework for sPHENIX and start developing the monitor for cosmic ray data taking of the assembled barrel in Spring, 2022.
20	Purdue Univ.			
23	Relevant num. for Alignment	Time for each step		
24		No. events needed		
26		Initial 1-x calibrations		
27		Calibs. filesize		
28		Estimated frequency		

Presented in the software and simulation meeting on Nov.2nd by Genki