

Production Status

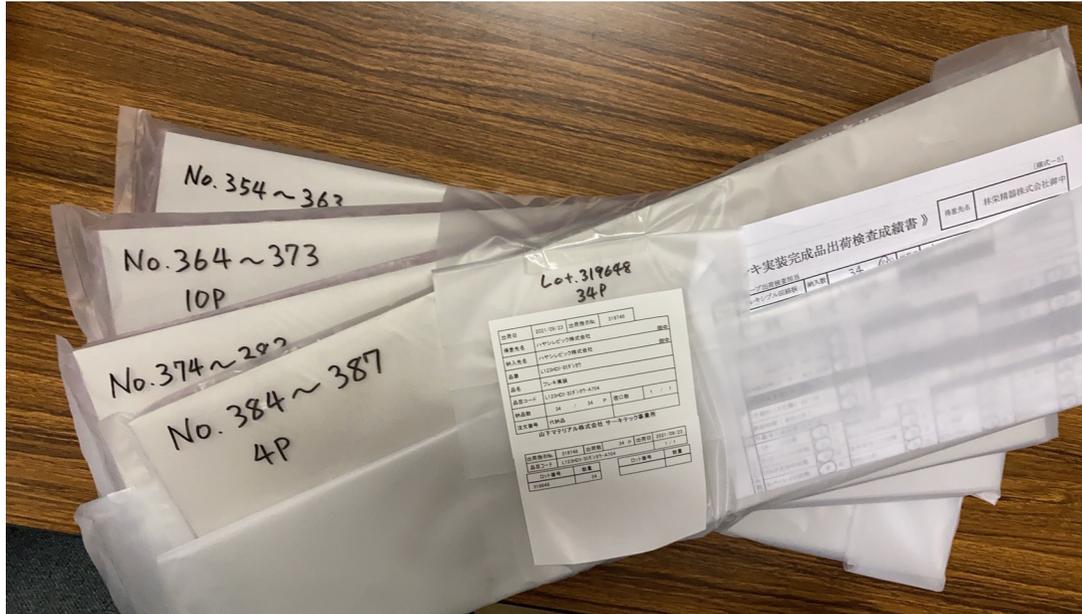
RIKEN/RBRC

Itaru Nakagawa

Table of Contents

- HDI
 - Batch-3 HDIs for BNL and the rest for Taiwan
- Stave
 - Batch-4 Staves for Taiwan
- Bus Extender
 - Delayed. 1.1m prototype contract is now under negotiation with Hayashi-REPIC co. for the price.
- Beam Clock Distribution Board
 - Simplified design (less fan out)
 - Component selection and quotes
- Conversion Cable
 - Separate slides

Batch-3 HDI



- 34 HDI's were delivered on Sept.24th
- Shipped on Sept.29th to BNL.
- 13 more HDI's are to be processed for Taiwan.
- Components to be mounted on them are to be available in mid. Oct.
- Another 1 week or so for the implementation.
- Expected delivery to Taiwan in the end of October.

	A	B	C	D	E	F	G	H	I	J	K	
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	Preproduction	349670	302725	4							
4	2019/9/11		350963	306716	20							
5	2019/11/20		Exchanged	307469	1							
6	2020/4/2	Batch-1A	352075	310184	9	1	9	9				
7	2020/4/2		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, 94	bad		
12	2020/6/8		352075	311139	2	101	102	102				
13	2020/6/8		352075	311587_1	7	103	109	109	105		6	
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		14	
16	2020/6/24		352075	311615	21	127	147	147	127		20	
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	Batch-2	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		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		3	
27	2020/11/27		353110	313673	2	269	270	270			2	
28	2021/6/28	Batch-3		317333_2_2	11	271	281	281				
29	2021/7/5				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	2021/11?				13							
35			Batch3 Sum (8/3)		83						Total	

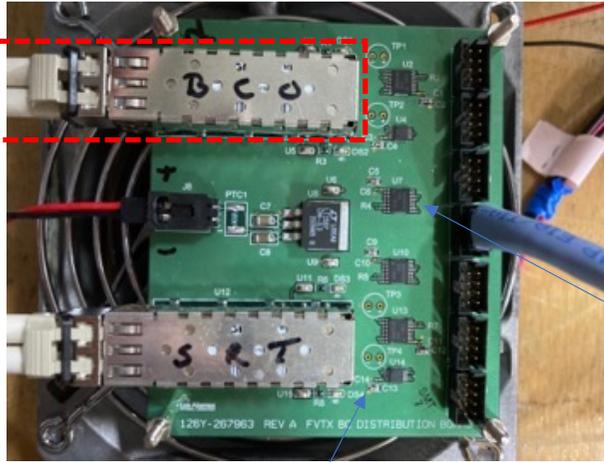
Batch-4 Stave for Taiwan Assembly

	Required	Spare	Total
Barrel-1	17	2	19
Barrel-2	6	2	8
Total	23	4	27

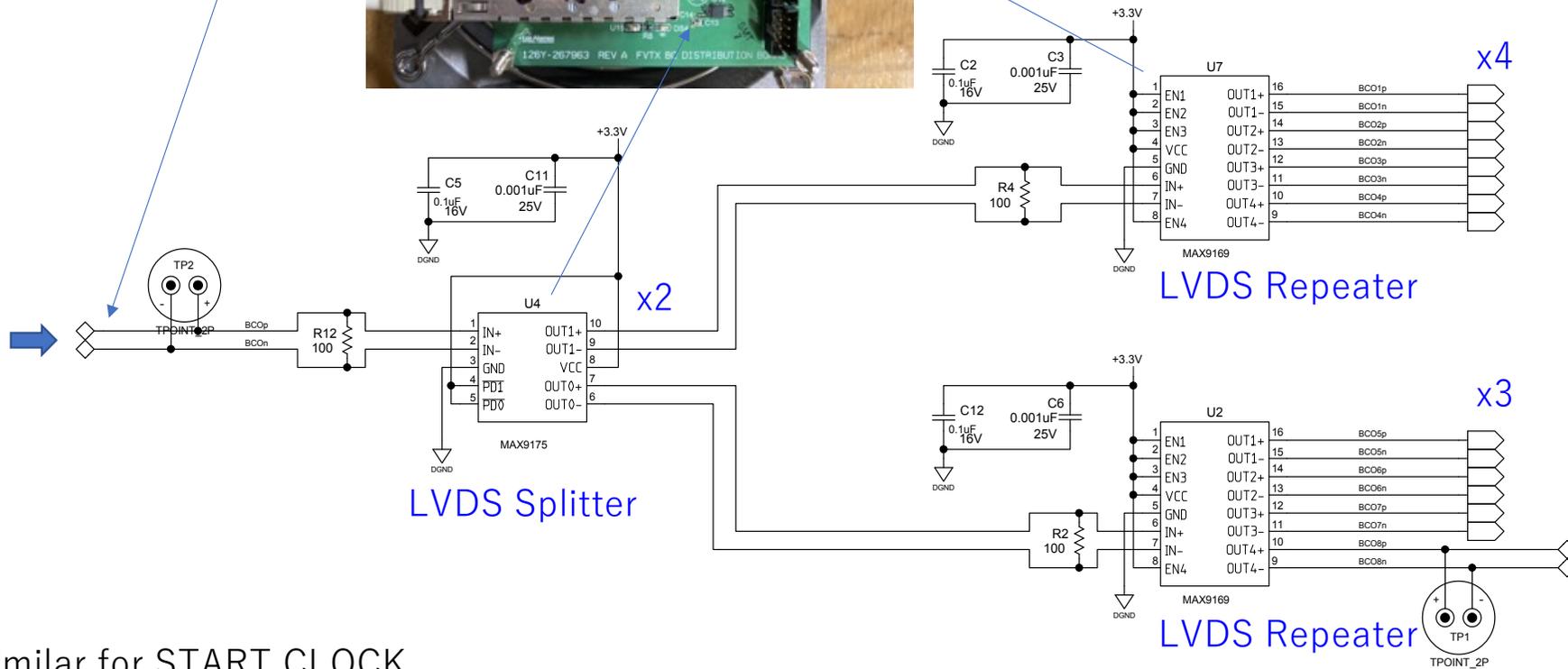
- Placed the order to Asuka.
- Leadtime 2 months (Expected delivery in end of November to RIKEN.)

Beam Clock Distribution Board

BCLB Schematics



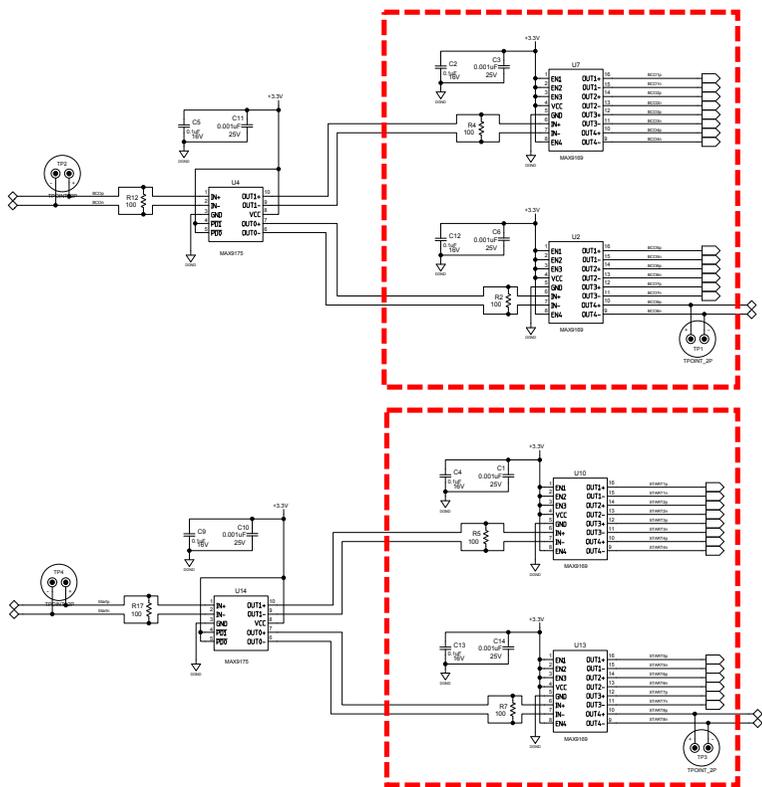
BCO CLCK



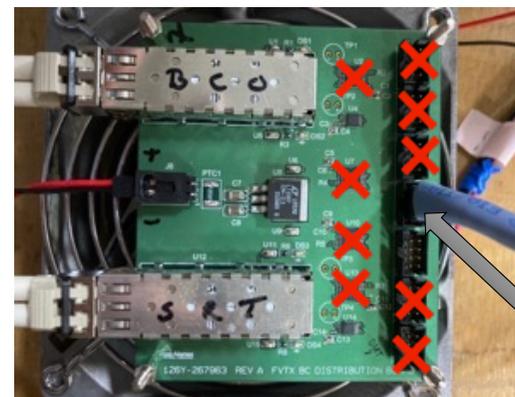
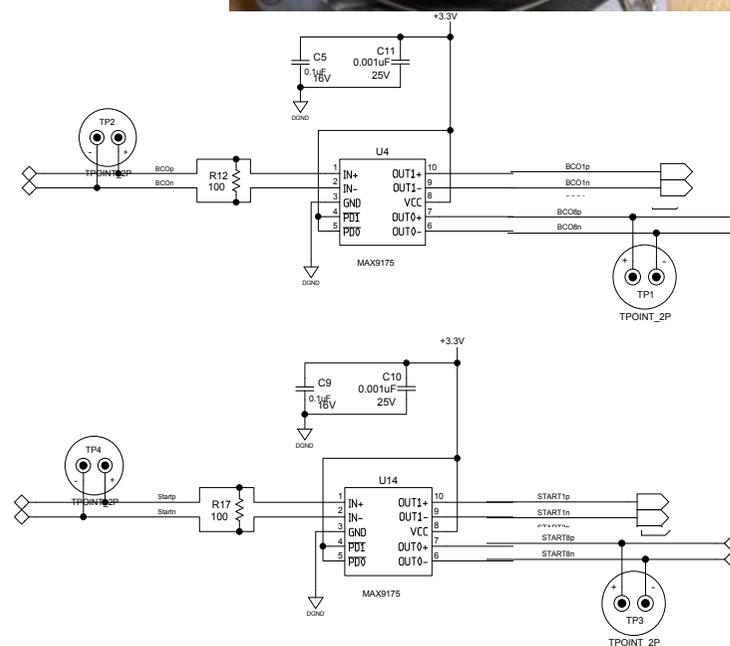
* Similar for START CLOCK

変更案

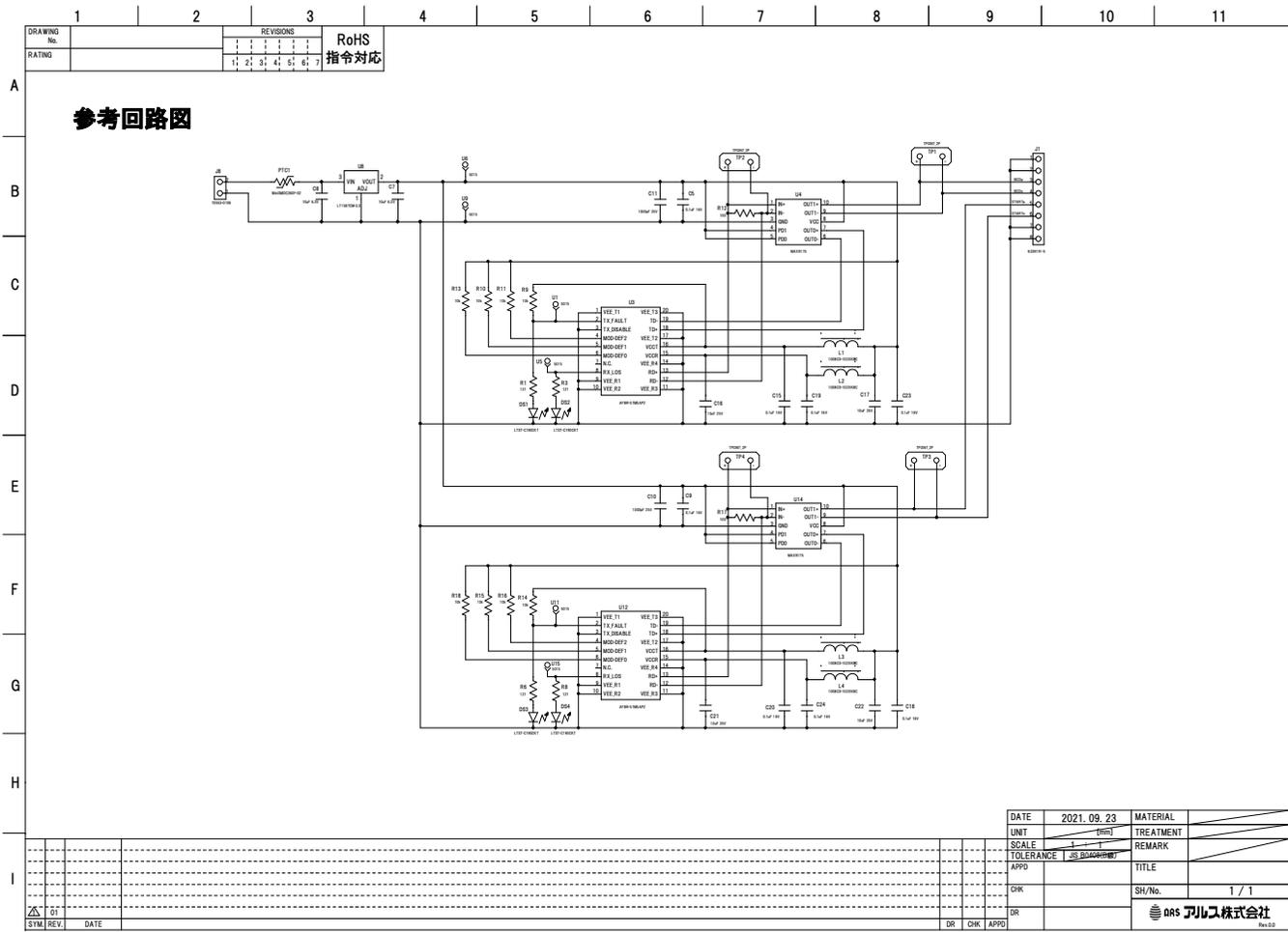
簡素化



出力コピー回路



Beam Clock Distribution Board



- Design work by ARS co.
- Waiting for my review.

Component Lists

A	B	C	D	E	F	G	H	I	J	K	L	M
ITEM	QTY	メーカー	型式	1リール数/MOQ	概略のLT	備考	代替型式	代替メーカー	備考	QTY	LOCATION	
1	6	PANASONIC	ECJ-ZEB1E102K	15,000	-	EOL品	FN18N102J500PSG-GL 0603B102K500CT C1608X7R1H102K080AE GRM188R11H102KA01D	PDC WALSIN TDK MURATA	サイズ変更: 0201 (0603) →0603 (1608) 定格電圧変更: 25V→50V ※容量、許容差、温度特性同等	2	C10/C11	
2	12	PANASONIC	ECJ-1VB1C104K	4,000	-	EOL品	FN18X104K500PBG-GL 0603B104K500CT GRM188R11E104KA01D GRM188R11H104KA93D	PDC WALSIN MURATA MURATA	定格電圧変更: 16V→25V or 50V ※容量、許容差、温度特性同等	8	C5/C9/C15/C18/C19/ C20/C23/C24	
3	2	PANASONIC	ECJ-3YB0J106K	2,000	-	EOL品	FS31X106K250EPG-GL GRM31CD71H106KE11L GRM31CR71E106KA12L	PDC MURATA MURATA	C7/C8 サイズ変更: 1210 (3225) →1206 (3216) 定格電圧変更: 25V→25V or 50V C16/C17/C21/C22 定格電圧変更: 6.3V→25V or 50V ※部品共通化 ※容量、許容差、温度特性同等	6	C7/C8/C16/C17/C21/ C22	
4	4	TAIYO YUDEN	UMK325BJ106KM8P	1,000	12w以上	25V→50V品にてご提案						
5	4	LITE-ON	DIGIKEY_160-1181-1-ND	20,000	28w	EOL予定→代品で算出	APT1608SRCPRV	KingBright	※サイズ、Lens、Source Coloe、光度、波長等等	4	DS1/DS2/DS3/DS4	
6	7	MOLEX	87831-0820	4,000	10w以上							
7	1	MOLEX	70553-0106	50	-							
8	4	COILCRAFT	1008CS-102XKBC	2,000	-	代品で算出	LQW2UAS1R0J0C*	MURATA	※サイズ、諸特性同等	4	L1/L2/L3/L4	
9	1	TYCO ⇒リテールユーズ	MiniSMD260F-02	2,000	18w		MINISMD260F-2	LITTELFUSE		1	PTC1	
10	4	VISHAY DALE	CRCW0402121RFNED	10,000	87w以上		TSR3GTF121V RK73H1JTTD121F CR1/16 121FV	TATEYAMA KOA HOKURIKU	サイズ変更: 0402 (1005) →0603 (1608) ※抵抗値、許容差、温度係数同等、電力UP	4	R1/R3/R6/R8	
11	6	VISHAY DALE	CRCW0201100RFNED	10,000	20w以上		TSR3GTF101V RK73H1JTTD101F CR1/16 101FV	TATEYAMA KOA HOKURIKU	サイズ変更: 0201 (0603) →0603 (1608) ※抵抗値、許容差、温度係数同等、電力UP	2	R12/R17	
12	8	VISHAY DALE	CRCW020110K0FNED	10,000	20w以上		TSR3GTF103V RK73H1JTTD103F CR1/16 103FV	TATEYAMA KOA HOKURIKU	サイズ変更: 0201 (0603) →0603 (1608) ※抵抗値、許容差、温度係数同等、電力UP	8	R9/R10/R11/R13/R1 4/R15/R16/R18	
14	6	KEYSTONE	5015	1,000	18-20w					6	U1/U5/U6/U9/U11/U 15	
15	4	MAXIM	MAX9169EUE+T	2,500	未定							
16	2	AVAGO	AFBR-57MSAPZ	170	未定							
17	2	MAXIM	MAX9175EUB+T	2,500	未定							
18	1	LINEAR TECHNOLOGY	LT1587CM-3.3#TRPBF	750	30-32w		LMS1587IS-3.3/NOPB	TEXAS INSTRUMENTS	※パッケージ、諸特性同等	1	U8	
19	2	AMP	1367073-1	2,400	12w以上							
20	2	AMP	73927-0002			EOL品			OR ?	2	U3/U12	
21	2	AMP	73927-0004			EOL品	U77-A1118-200T	Amphenol				
			TPOINT_2P				OPEN	OPEN	未実装	4	TP1/TP2/TP3/TP4	

- The beam clock distribution boards for FVTX are 20 years old.
- Many components are discontinued.
- Difficult to purchase exactly the same products now.
- The realistic solution is to employ somewhat alternative products
- Go through regular tests
 - Thermal shock
 - Radiation
 - Beam test
 - Long term operation
 - Etc

Schedule

126Y-267963 概略スケジュールとイベント				9月				October				November				December				January				February			
項目	内容	対応者	備考	4週	1週	2週	3週	4週	1週	2週	3週	4週	1週	2週	3週	4週	1週	2週	3週	4週	1週	2週	3週	4週			
Component selection	代替部品調査、提案	アルス		→																							
	御見積	アルス		→																							
	承認	お客様	ご承認をもって部品発注を実施		→																						
Layout Design	基板レイアウト設計、提出	アルス	同形状、同取付。コネクタはロック機能要			→																					
	検図	お客様					→																				
	修正	アルス						→																			
	承認	お客様							→																		
Preparation	メタルマスク、PGM作成など	アルス							→																		
procurement	部品調達～入手	アルス	部品入手は3ヵ月で算出しているが、要確認																								
Fabrication	1-2pcs製造、納入	アルス																									
	評価確認	お客様																									
	残数製造、納入	アルス																									

Can be shortened by alternative component selection

- Total lead time : 5 months, which is OK for production.
- Trying to make up a scenario to have a prototype ready by the December beam test (very tight already!)