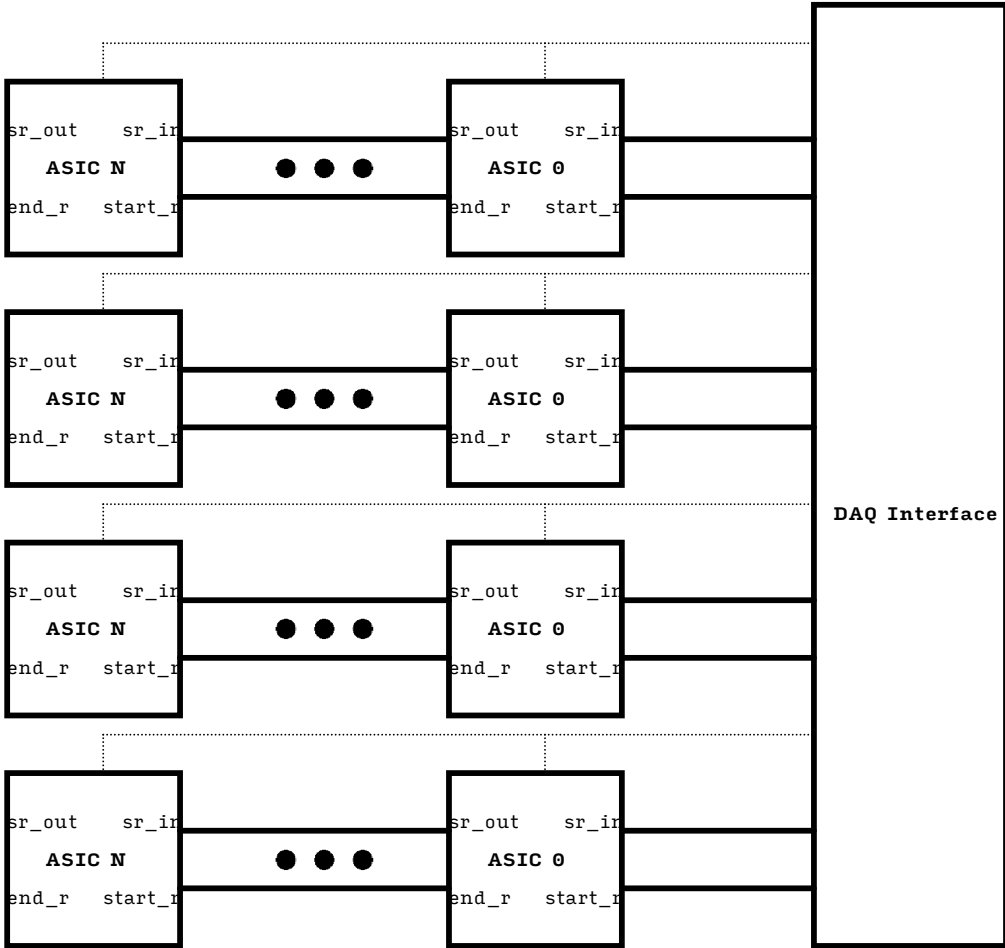


MICROROC is dedicated chip for GEM/MICROMEAS. MICROROC(pin pin compatible with HR2b) is based on HR2b same back-end, same readout format, same pinout, only the preamplifier is changing
Dynamic range 1fC~500fC



The GEM detector is designed as 37cm*37cm, and its effective area is 30cm*30cm. Each Microroc ASIC has 64 readout channels. That is to say some of Microrocs cannot be full used and the unused pin should tied to GND via a capacitor. The ESD protection is necessary as there might be spark in the GEM.



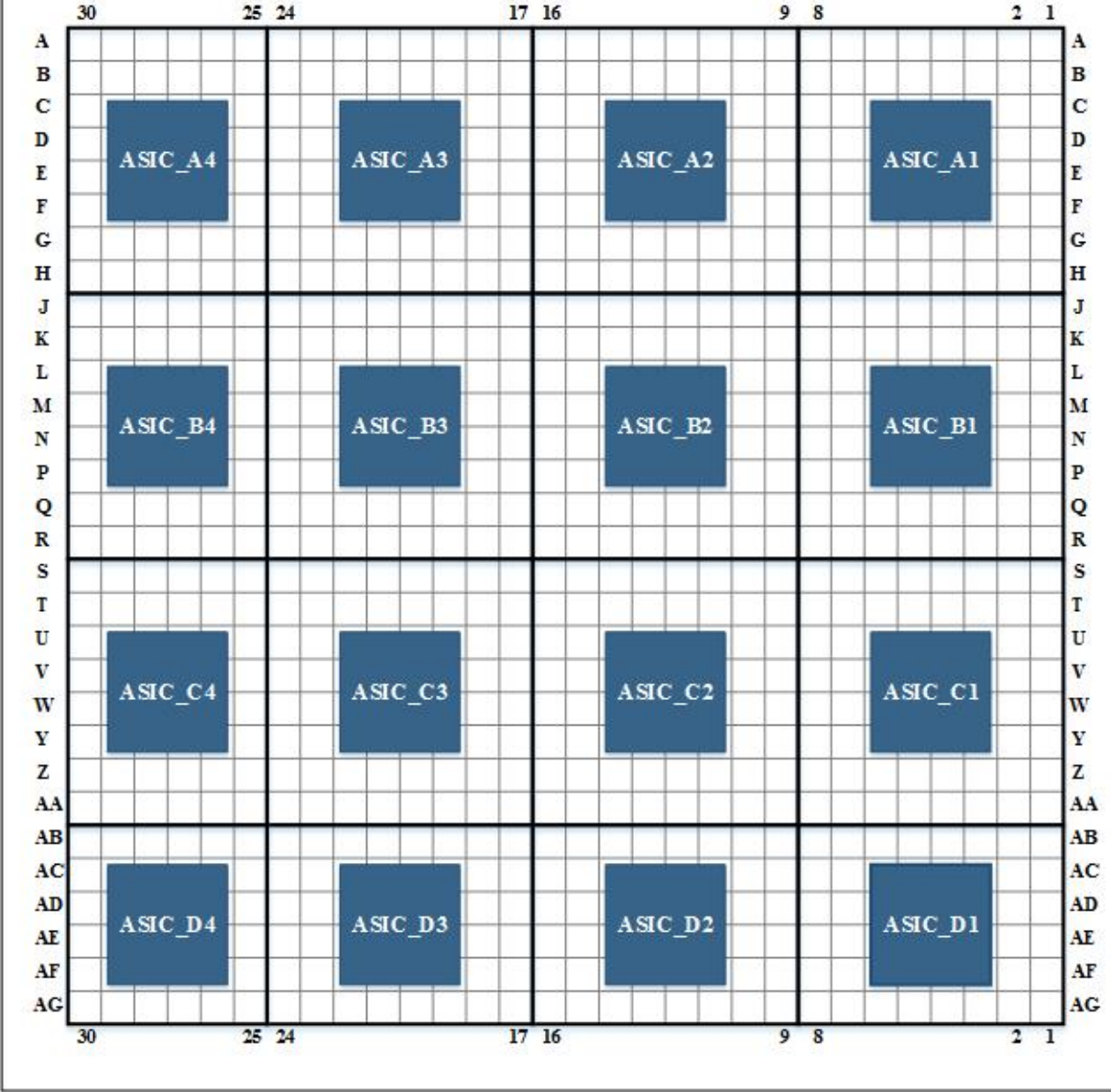
SDHCal FEB

SDHCal FEB
Version: 1.0
Design Tools: Cadence 16.6
Finish Date: 2017/08/23
Engineer: Yu Wang
Company: USTC

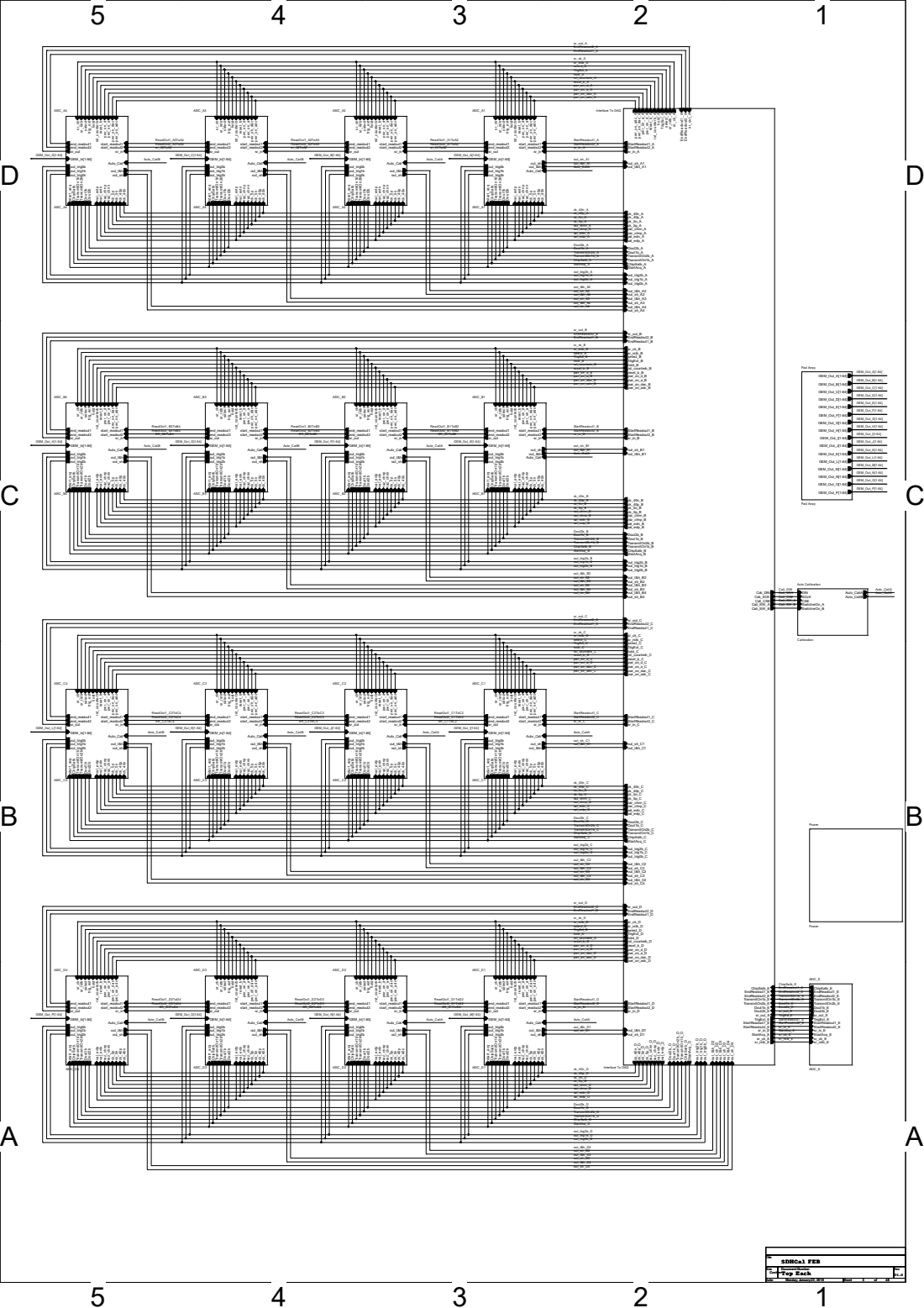
Tips: If there is gibberish, please install the 'Input' font, 'Romantic' font and 'Celestina' font.
Note: All the Title and Document Number is Input, blod, size 10. Rev is Input, size 6.
All the comments is Input, blue size 6
Note: All the unsolder package should value x(Not X)
Capacitor: F(Not f)

There are 3 kinds of control signals
1. Daisy chain signals: sr_in, sr_out, start_readout, end_readout
2. Independent signal for each chain: Dout1b, Dout2b, TransmitOn1b, TransmitOn2b, ChipSatb, TrigExt, StartAcq, StartReadout1, StartReadout2, sr_rstb, sr_ck, sr_in, EndReadout1, EndReadout2, sr_out
3. Common signals for all chains: 4 LVDS signals, power on signals, reset_b, rst_counterb, select, hold, out_trigger0~2b
FPGA LVDS driver can handle directly many ASICs (6~10) for sure. But if there is more ASICs, you should use more than 1 dedicated LVDS drivers. In this design, M-LVDS buffer is used

Title		
SDHCal FEB		
Size	Document Number	Rev
A4	Design Info	v1.0
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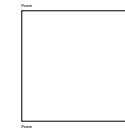


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SDHCal FEB		
Size	Document Number	Rev
A4	Design Structure	v1.0
Date:	Monday, January 22, 2018	Sheet 2 of 48

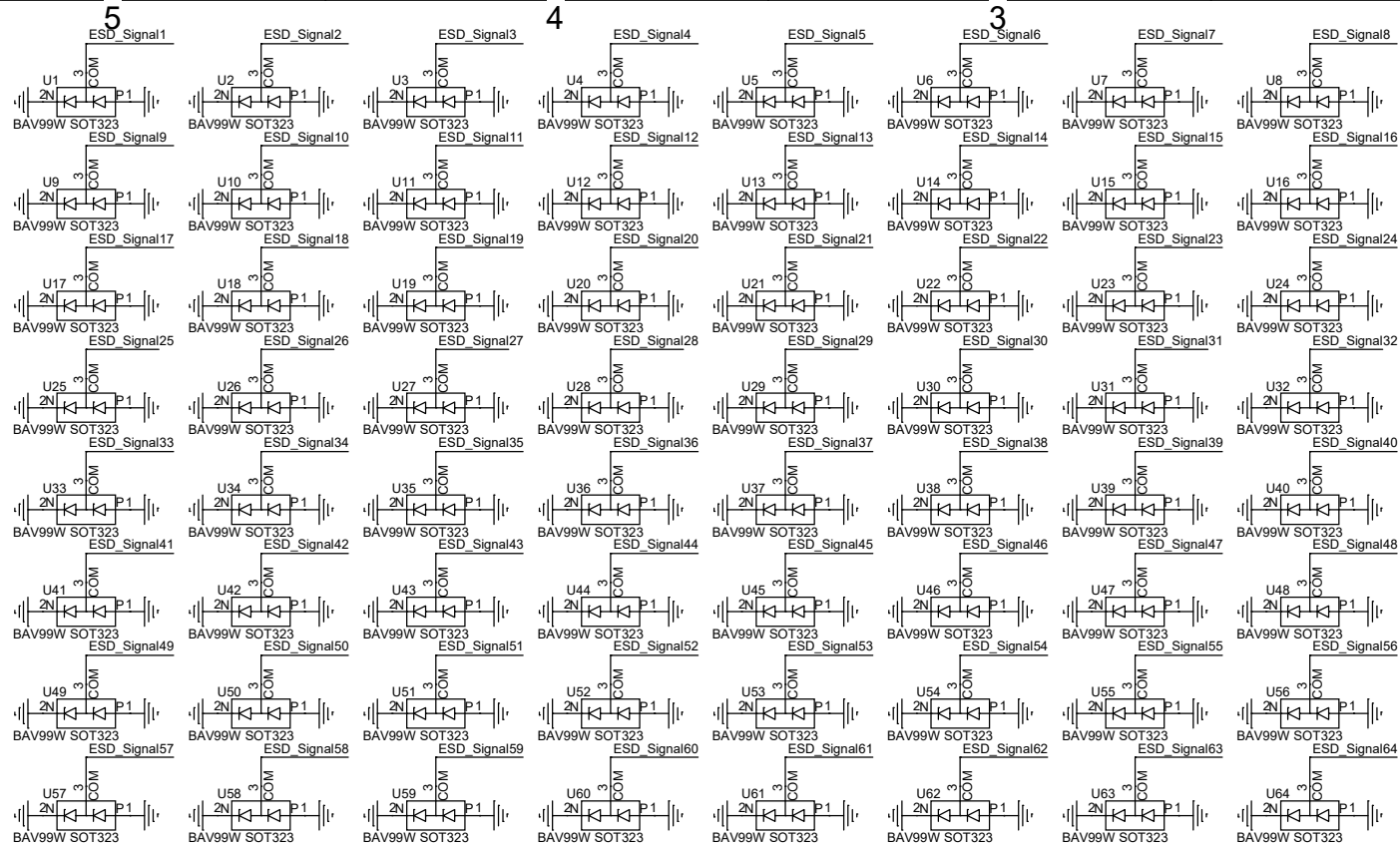


Port 1

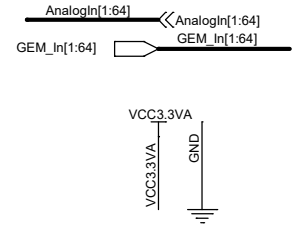
SWR_24_01	SWR_24_01
SWR_24_02	SWR_24_02
SWR_24_03	SWR_24_03
SWR_24_04	SWR_24_04
SWR_24_05	SWR_24_05
SWR_24_06	SWR_24_06
SWR_24_07	SWR_24_07
SWR_24_08	SWR_24_08
SWR_24_09	SWR_24_09
SWR_24_10	SWR_24_10
SWR_24_11	SWR_24_11
SWR_24_12	SWR_24_12
SWR_24_13	SWR_24_13
SWR_24_14	SWR_24_14
SWR_24_15	SWR_24_15
SWR_24_16	SWR_24_16



D



Although the each channel of MICROROC has a spark protection network, it's recommended to add external protection circuit. BAV99W is a choice but may not be the best!



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GEM_In1	R1	100	ESD_Signal1	C1	10nF	AnalogIn1
GEM_In5	R5	100	ESD_Signal5	C5	10nF	AnalogIn5
GEM_In9	R9	100	ESD_Signal9	C9	10nF	AnalogIn9
GEM_In13	R13	100	ESD_Signal13	C13	10nF	AnalogIn13
GEM_In17	R17	100	ESD_Signal17	C17	10nF	AnalogIn17
GEM_In21	R21	100	ESD_Signal21	C21	10nF	AnalogIn21
GEM_In25	R25	100	ESD_Signal25	C25	10nF	AnalogIn25
GEM_In29	R29	100	ESD_Signal29	C29	10nF	AnalogIn29
GEM_In33	R33	100	ESD_Signal33	C33	10nF	AnalogIn33
GEM_In37	R37	100	ESD_Signal37	C37	10nF	AnalogIn37
GEM_In41	R41	100	ESD_Signal41	C41	10nF	AnalogIn41
GEM_In45	R45	100	ESD_Signal45	C45	10nF	AnalogIn45
GEM_In49	R49	100	ESD_Signal49	C49	10nF	AnalogIn49
GEM_In53	R53	100	ESD_Signal53	C53	10nF	AnalogIn53
GEM_In57	R57	100	ESD_Signal57	C57	10nF	AnalogIn57
GEM_In61	R61	100	ESD_Signal61	C61	10nF	AnalogIn61

GEM_In2	R2	100	ESD_Signal2	C2	10nF	AnalogIn2
GEM_In6	R6	100	ESD_Signal6	C6	10nF	AnalogIn6
GEM_In10	R10	100	ESD_Signal10	C10	10nF	AnalogIn10
GEM_In14	R14	100	ESD_Signal14	C14	10nF	AnalogIn14
GEM_In18	R18	100	ESD_Signal18	C18	10nF	AnalogIn18
GEM_In22	R22	100	ESD_Signal22	C22	10nF	AnalogIn22
GEM_In26	R26	100	ESD_Signal26	C26	10nF	AnalogIn26
GEM_In30	R30	100	ESD_Signal30	C30	10nF	AnalogIn30
GEM_In34	R34	100	ESD_Signal34	C34	10nF	AnalogIn34
GEM_In38	R38	100	ESD_Signal38	C38	10nF	AnalogIn38
GEM_In42	R42	100	ESD_Signal42	C42	10nF	AnalogIn42
GEM_In46	R46	100	ESD_Signal46	C46	10nF	AnalogIn46
GEM_In50	R50	100	ESD_Signal50	C50	10nF	AnalogIn50
GEM_In54	R54	100	ESD_Signal54	C54	10nF	AnalogIn54
GEM_In58	R58	100	ESD_Signal58	C58	10nF	AnalogIn58
GEM_In62	R62	100	ESD_Signal62	C62	10nF	AnalogIn62

GEM_In3	R3	100	ESD_Signal3	C3	10nF	AnalogIn3
GEM_In7	R7	100	ESD_Signal7	C7	10nF	AnalogIn7
GEM_In11	R11	100	ESD_Signal11	C11	10nF	AnalogIn11
GEM_In15	R15	100	ESD_Signal15	C15	10nF	AnalogIn15
GEM_In19	R19	100	ESD_Signal19	C19	10nF	AnalogIn19
GEM_In23	R23	100	ESD_Signal23	C23	10nF	AnalogIn23
GEM_In27	R27	100	ESD_Signal27	C27	10nF	AnalogIn27
GEM_In31	R31	100	ESD_Signal31	C31	10nF	AnalogIn31
GEM_In35	R35	100	ESD_Signal35	C35	10nF	AnalogIn35
GEM_In39	R39	100	ESD_Signal39	C39	10nF	AnalogIn39
GEM_In43	R43	100	ESD_Signal43	C43	10nF	AnalogIn43
GEM_In47	R47	100	ESD_Signal47	C47	10nF	AnalogIn47
GEM_In51	R51	100	ESD_Signal51	C51	10nF	AnalogIn51
GEM_In55	R55	100	ESD_Signal55	C55	10nF	AnalogIn55
GEM_In59	R59	100	ESD_Signal59	C59	10nF	AnalogIn59
GEM_In63	R63	100	ESD_Signal63	C63	10nF	AnalogIn63

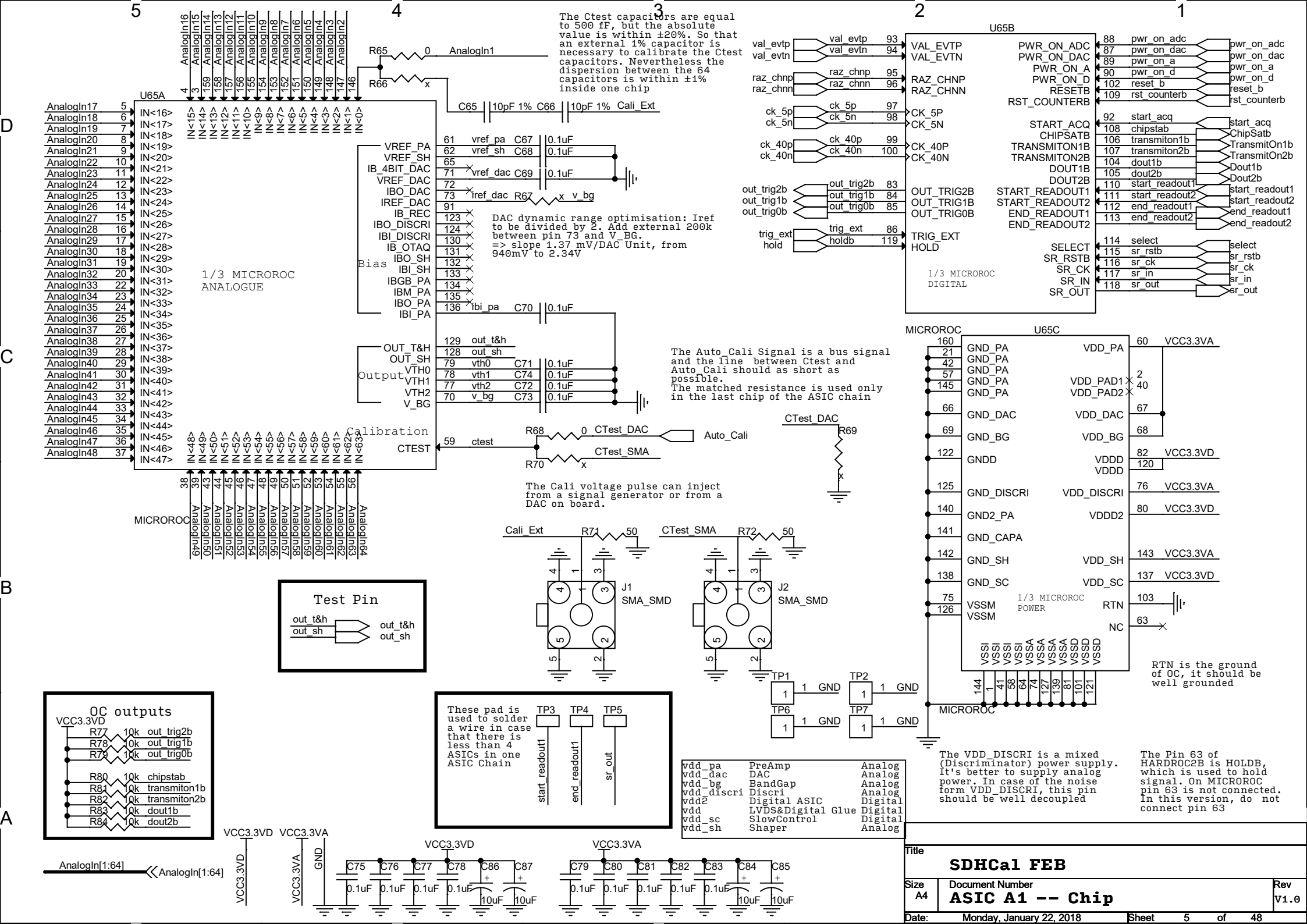
GEM_In4	R4	100	ESD_Signal4	C4	10nF	AnalogIn4
GEM_In8	R8	100	ESD_Signal8	C8	10nF	AnalogIn8
GEM_In12	R12	100	ESD_Signal12	C12	10nF	AnalogIn12
GEM_In16	R16	100	ESD_Signal16	C16	10nF	AnalogIn16
GEM_In20	R20	100	ESD_Signal20	C20	10nF	AnalogIn20
GEM_In24	R24	100	ESD_Signal24	C24	10nF	AnalogIn24
GEM_In28	R28	100	ESD_Signal28	C28	10nF	AnalogIn28
GEM_In32	R32	100	ESD_Signal32	C32	10nF	AnalogIn32
GEM_In36	R36	100	ESD_Signal36	C36	10nF	AnalogIn36
GEM_In40	R40	100	ESD_Signal40	C40	10nF	AnalogIn40
GEM_In44	R44	100	ESD_Signal44	C44	10nF	AnalogIn44
GEM_In48	R48	100	ESD_Signal48	C48	10nF	AnalogIn48
GEM_In52	R52	100	ESD_Signal52	C52	10nF	AnalogIn52
GEM_In56	R56	100	ESD_Signal56	C56	10nF	AnalogIn56
GEM_In60	R60	100	ESD_Signal60	C60	10nF	AnalogIn60
GEM_In64	R64	100	ESD_Signal64	C64	10nF	AnalogIn64

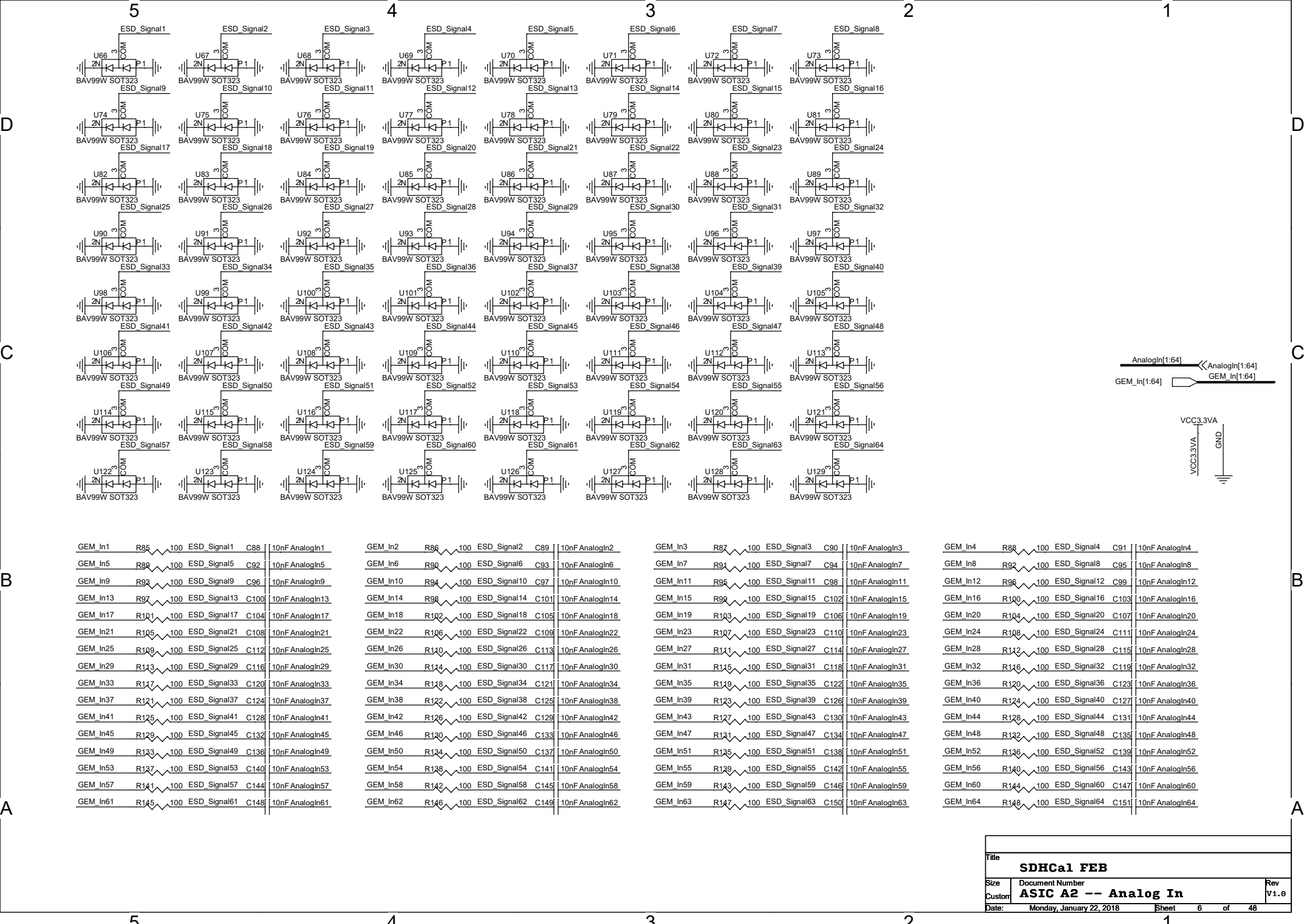
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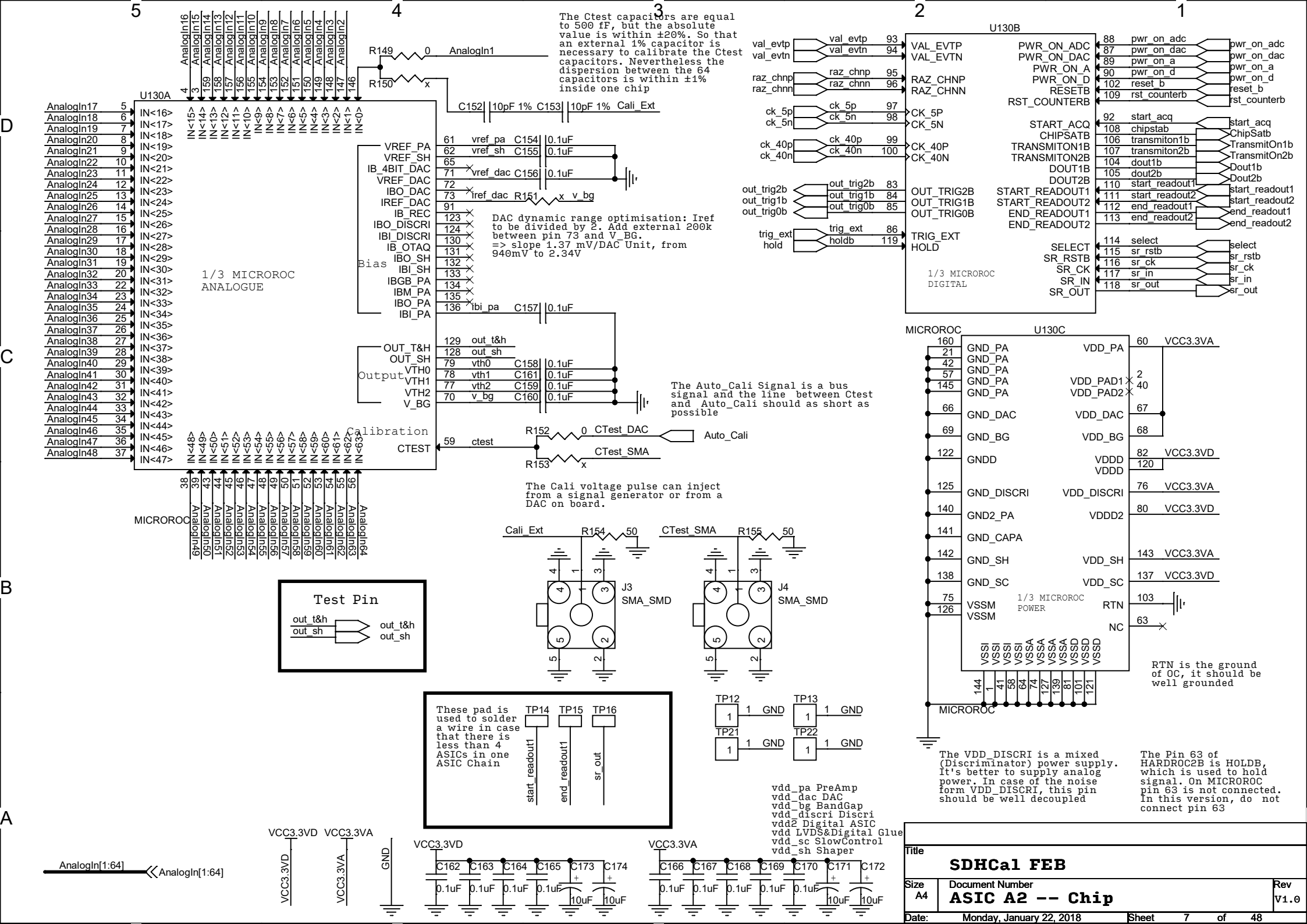
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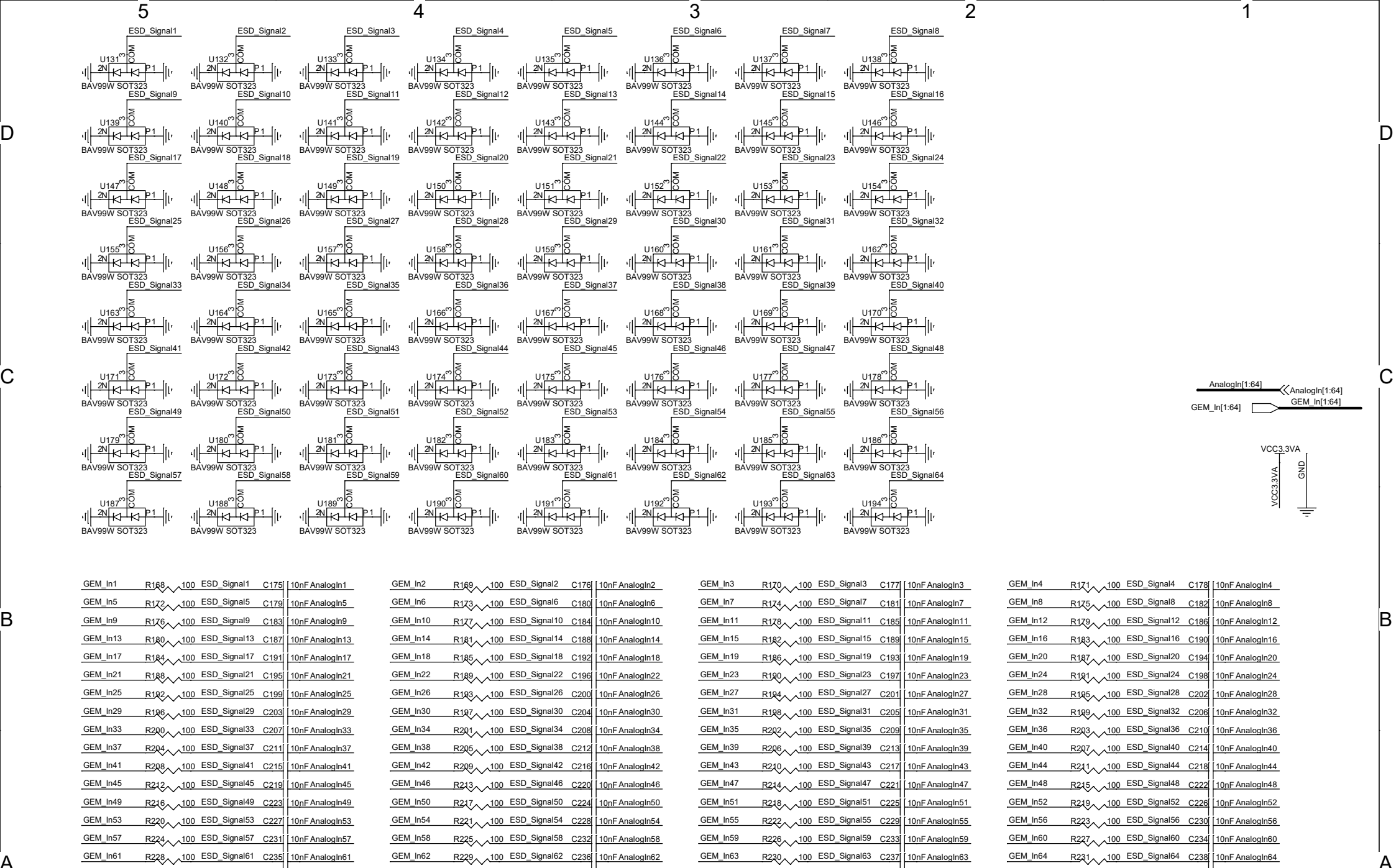
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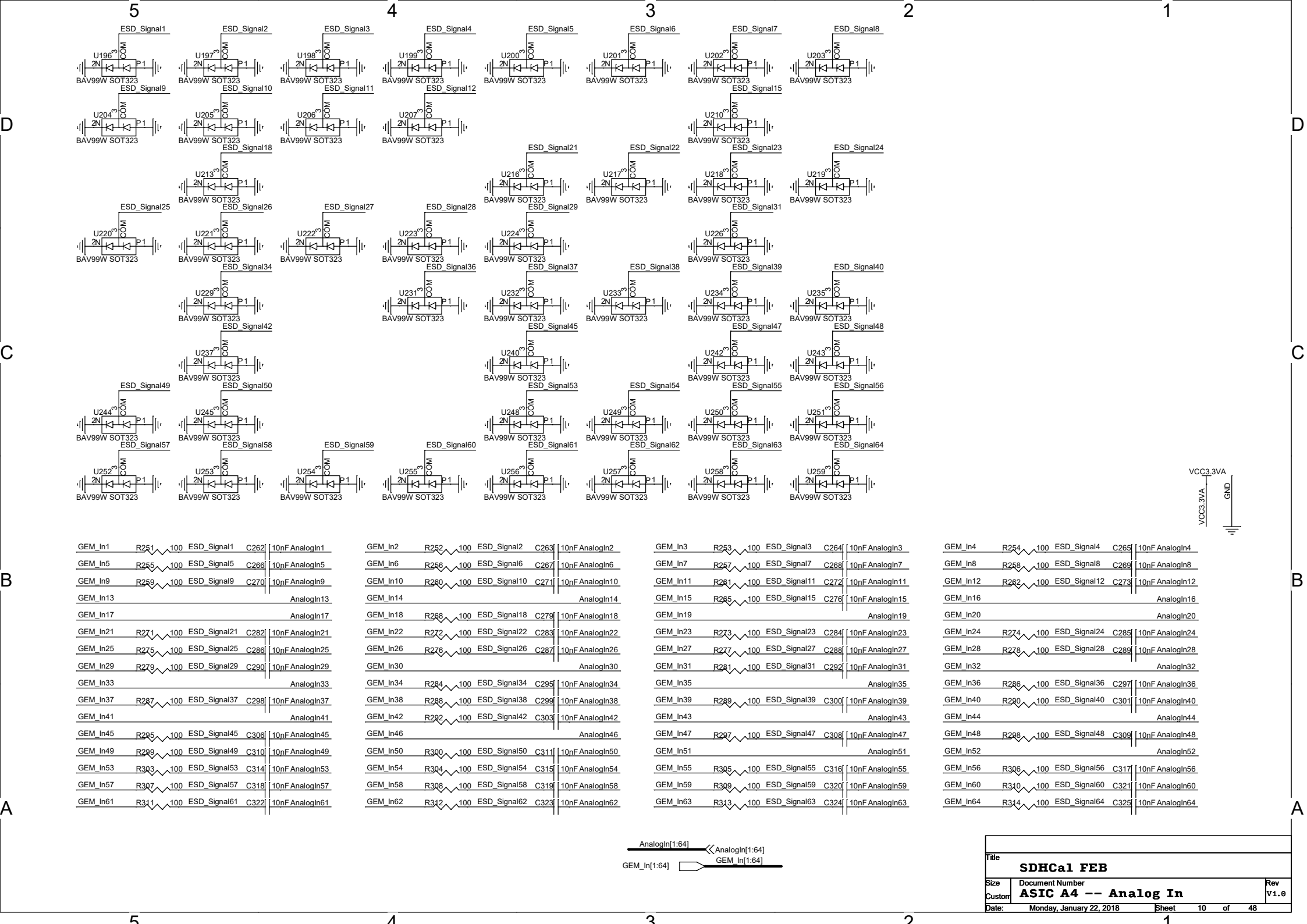
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SDHCa1 FEB			
Size	Document Number	Rev	
Custom	ASIC A1 -- Analog In	V1.0	
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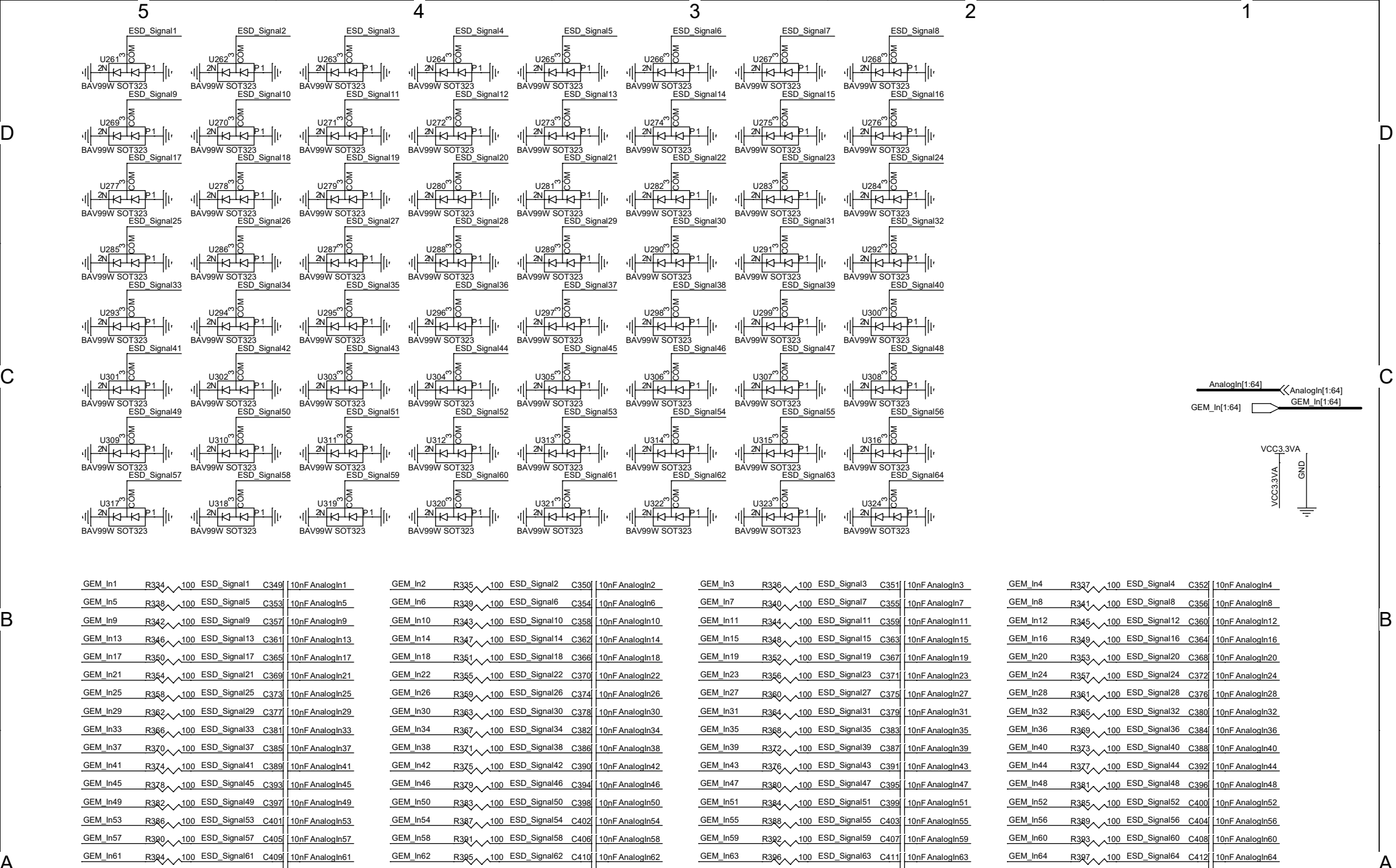










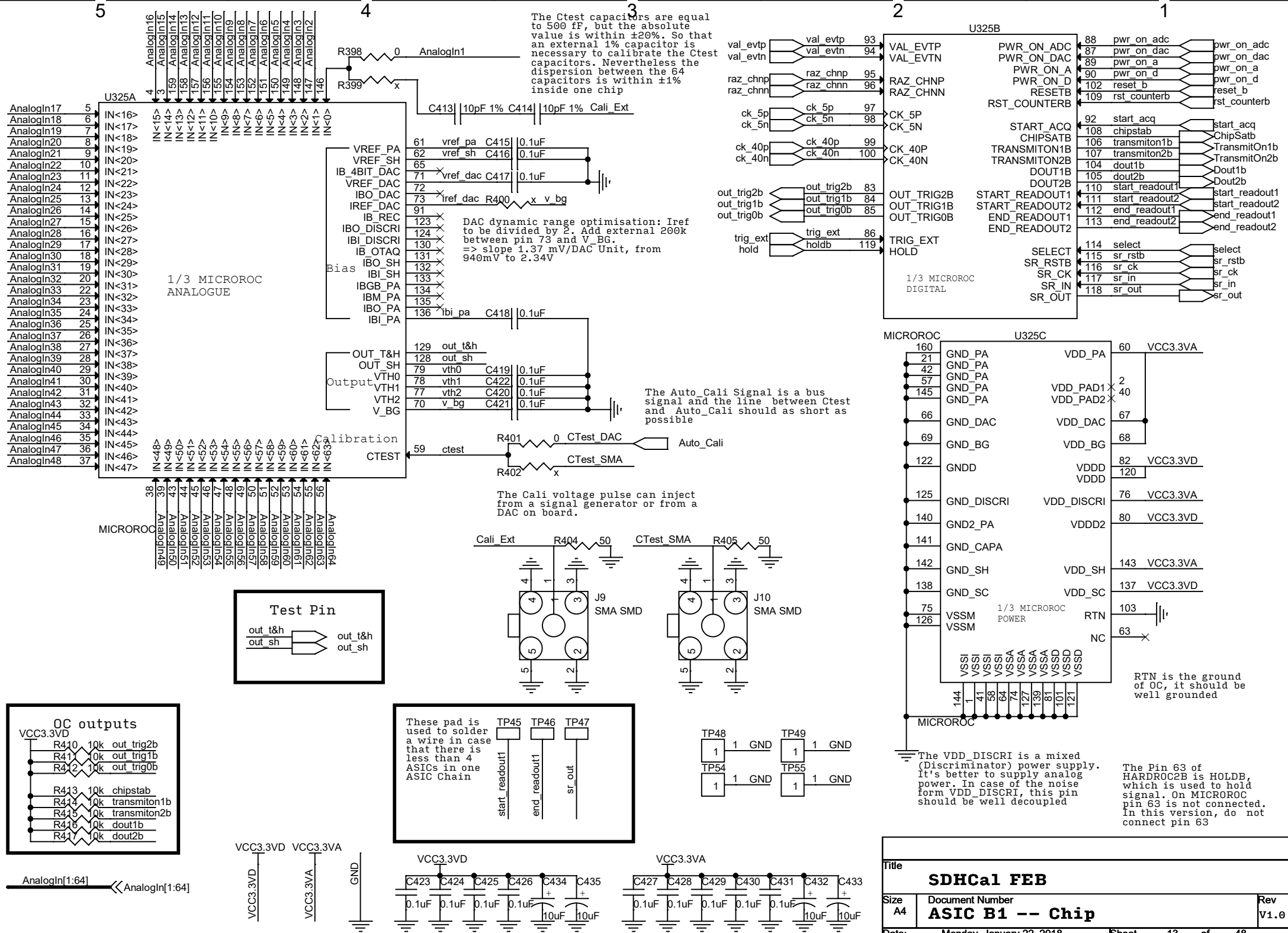


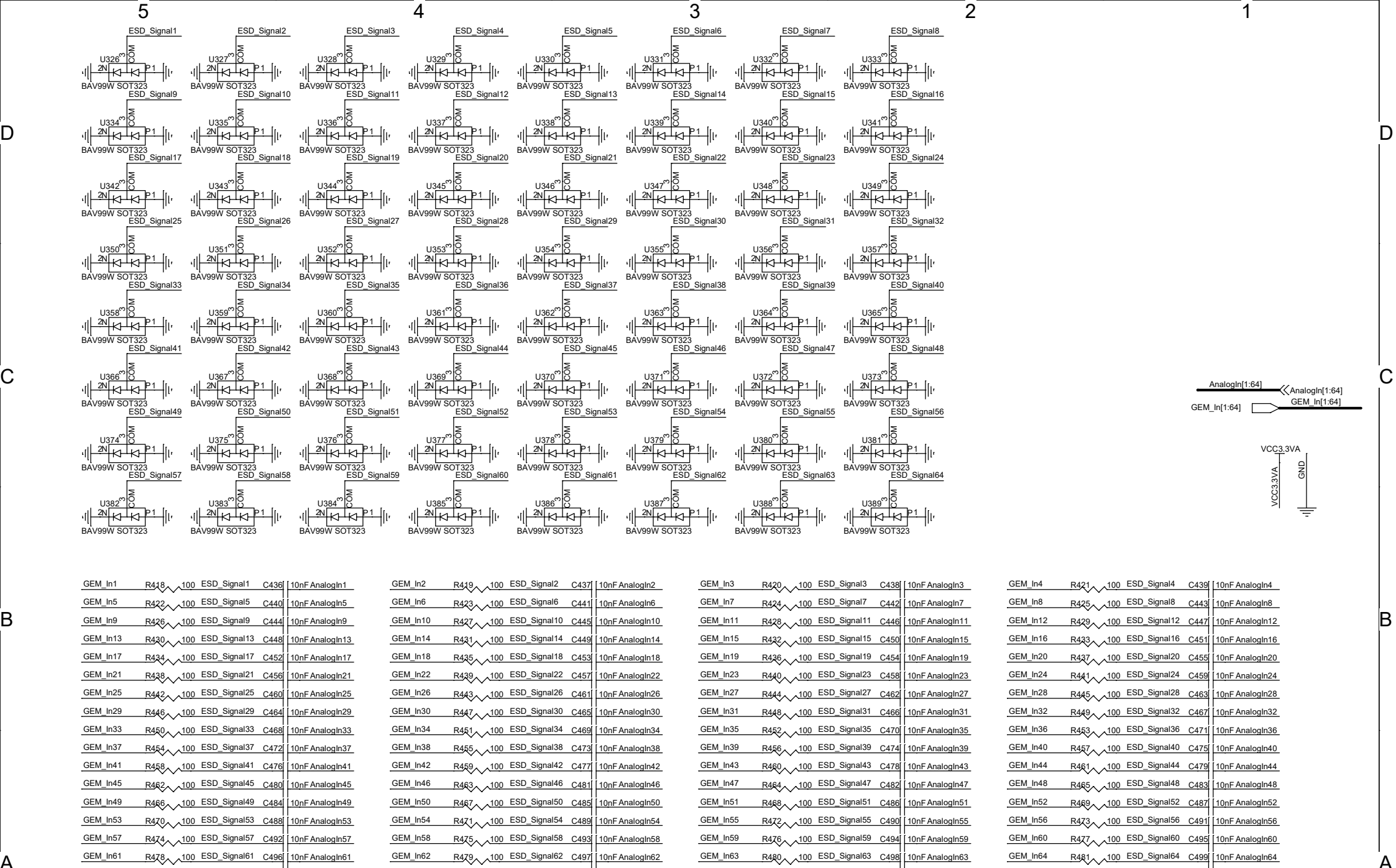
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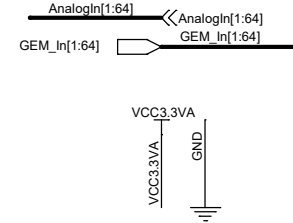


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GEM_In5	R422	100	ESD_Signal5	C440	10nF AnalogIn5
GEM_In9	R426	100	ESD_Signal9	C444	10nF AnalogIn9
GEM_In13	R430	100	ESD_Signal13	C448	10nF AnalogIn13
GEM_In17	R434	100	ESD_Signal17	C452	10nF AnalogIn17
GEM_In21	R438	100	ESD_Signal21	C456	10nF AnalogIn21
GEM_In25	R442	100	ESD_Signal25	C460	10nF AnalogIn25
GEM_In29	R446	100	ESD_Signal29	C464	10nF AnalogIn29
GEM_In33	R450	100	ESD_Signal33	C468	10nF AnalogIn33
GEM_In37	R454	100	ESD_Signal37	C472	10nF AnalogIn37
GEM_In41	R458	100	ESD_Signal41	C476	10nF AnalogIn41
GEM_In45	R462	100	ESD_Signal45	C480	10nF AnalogIn45
GEM_In49	R466	100	ESD_Signal49	C484	10nF AnalogIn49
GEM_In53	R470	100	ESD_Signal53	C488	10nF AnalogIn53
GEM_In57	R474	100	ESD_Signal57	C492	10nF AnalogIn57
GEM_In61	R478	100	ESD_Signal61	C496	10nF AnalogIn61

GEM_In2	R419	100	ESD_Signal2	C437	10nF AnalogIn2
GEM_In6	R423	100	ESD_Signal6	C441	10nF AnalogIn6
GEM_In10	R427	100	ESD_Signal10	C445	10nF AnalogIn10
GEM_In14	R431	100	ESD_Signal14	C449	10nF AnalogIn14
GEM_In18	R435	100	ESD_Signal18	C453	10nF AnalogIn18
GEM_In22	R439	100	ESD_Signal22	C457	10nF AnalogIn22
GEM_In26	R443	100	ESD_Signal26	C461	10nF AnalogIn26
GEM_In30	R447	100	ESD_Signal30	C465	10nF AnalogIn30
GEM_In34	R451	100	ESD_Signal34	C469	10nF AnalogIn34
GEM_In38	R455	100	ESD_Signal38	C473	10nF AnalogIn38
GEM_In42	R459	100	ESD_Signal42	C477	10nF AnalogIn42
GEM_In46	R463	100	ESD_Signal46	C481	10nF AnalogIn46
GEM_In50	R467	100	ESD_Signal50	C485	10nF AnalogIn50
GEM_In54	R471	100	ESD_Signal54	C489	10nF AnalogIn54
GEM_In58	R475	100	ESD_Signal58	C493	10nF AnalogIn58
GEM_In62	R479	100	ESD_Signal62	C497	10nF AnalogIn62

GEM_In3	R420	100	ESD_Signal3	C438	10nF AnalogIn3
GEM_In7	R424	100	ESD_Signal7	C442	10nF AnalogIn7
GEM_In11	R428	100	ESD_Signal11	C446	10nF AnalogIn11
GEM_In15	R432	100	ESD_Signal15	C450	10nF AnalogIn15
GEM_In19	R436	100	ESD_Signal19	C454	10nF AnalogIn19
GEM_In23	R440	100	ESD_Signal23	C458	10nF AnalogIn23
GEM_In27	R444	100	ESD_Signal27	C462	10nF AnalogIn27
GEM_In31	R448	100	ESD_Signal31	C466	10nF AnalogIn31
GEM_In35	R452	100	ESD_Signal35	C470	10nF AnalogIn35
GEM_In39	R456	100	ESD_Signal39	C474	10nF AnalogIn39
GEM_In43	R460	100	ESD_Signal43	C478	10nF AnalogIn43
GEM_In47	R464	100	ESD_Signal47	C482	10nF AnalogIn47
GEM_In51	R468	100	ESD_Signal51	C486	10nF AnalogIn51
GEM_In55	R472	100	ESD_Signal55	C490	10nF AnalogIn55
GEM_In59	R476	100	ESD_Signal59	C494	10nF AnalogIn59
GEM_In63	R480	100	ESD_Signal63	C498	10nF AnalogIn63

GEM_In4	R421	100	ESD_Signal4	C439	10nF AnalogIn4
GEM_In8	R425	100	ESD_Signal8	C443	10nF AnalogIn8
GEM_In12	R429	100	ESD_Signal12	C447	10nF AnalogIn12
GEM_In16	R433	100	ESD_Signal16	C451	10nF AnalogIn16
GEM_In20	R437	100	ESD_Signal20	C455	10nF AnalogIn20
GEM_In24	R441	100	ESD_Signal24	C459	10nF AnalogIn24
GEM_In28	R445	100	ESD_Signal28	C463	10nF AnalogIn28
GEM_In32	R449	100	ESD_Signal32	C467	10nF AnalogIn32
GEM_In36	R453	100	ESD_Signal36	C471	10nF AnalogIn36
GEM_In40	R457	100	ESD_Signal40	C475	10nF AnalogIn40
GEM_In44	R461	100	ESD_Signal44	C479	10nF AnalogIn44
GEM_In48	R465	100	ESD_Signal48	C483	10nF AnalogIn48
GEM_In52	R469	100	ESD_Signal52	C487	10nF AnalogIn52
GEM_In56	R473	100	ESD_Signal56	C491	10nF AnalogIn56
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GEM_In64	R481	100	ESD_Signal64	C499	10nF AnalogIn64

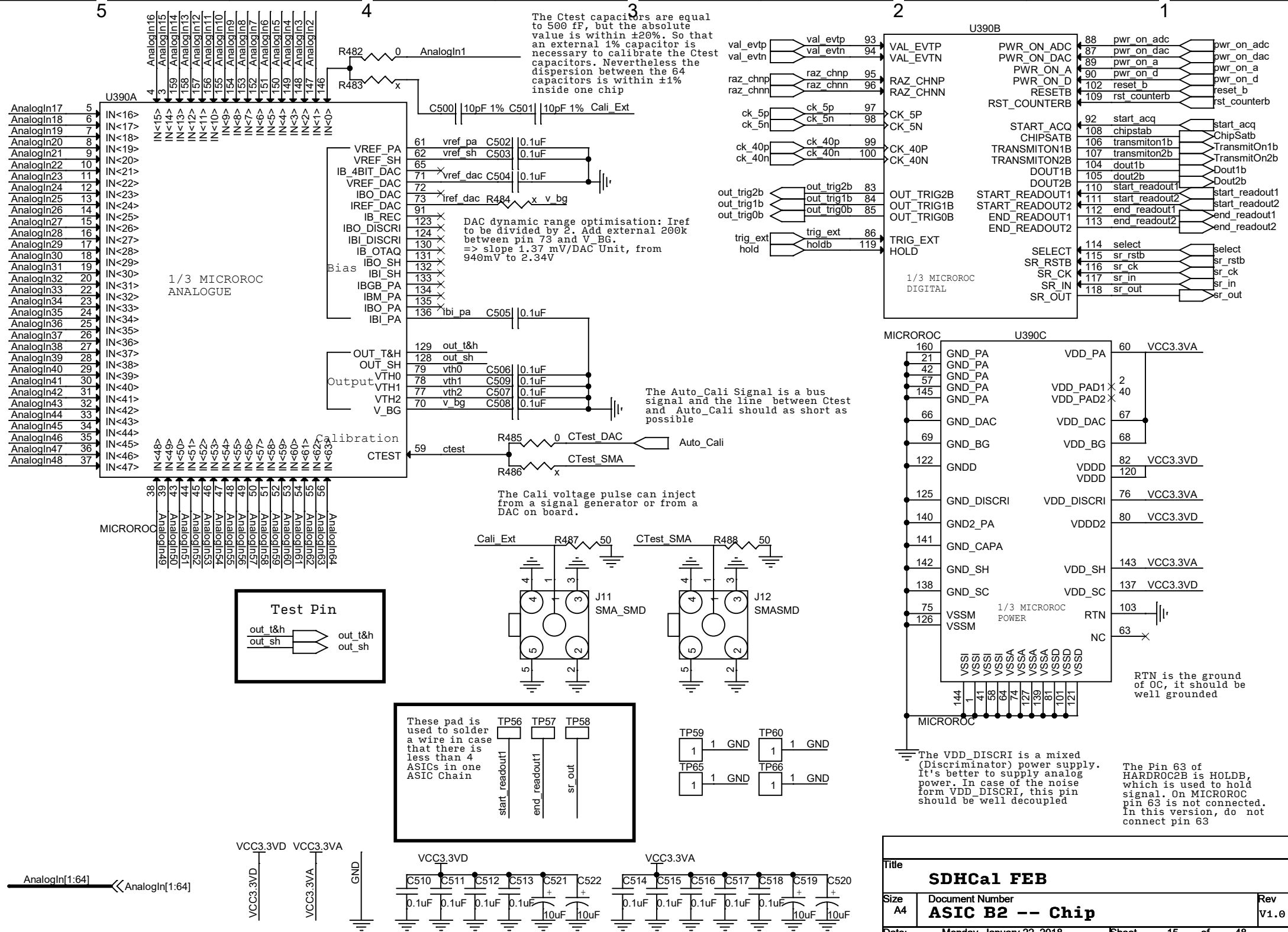


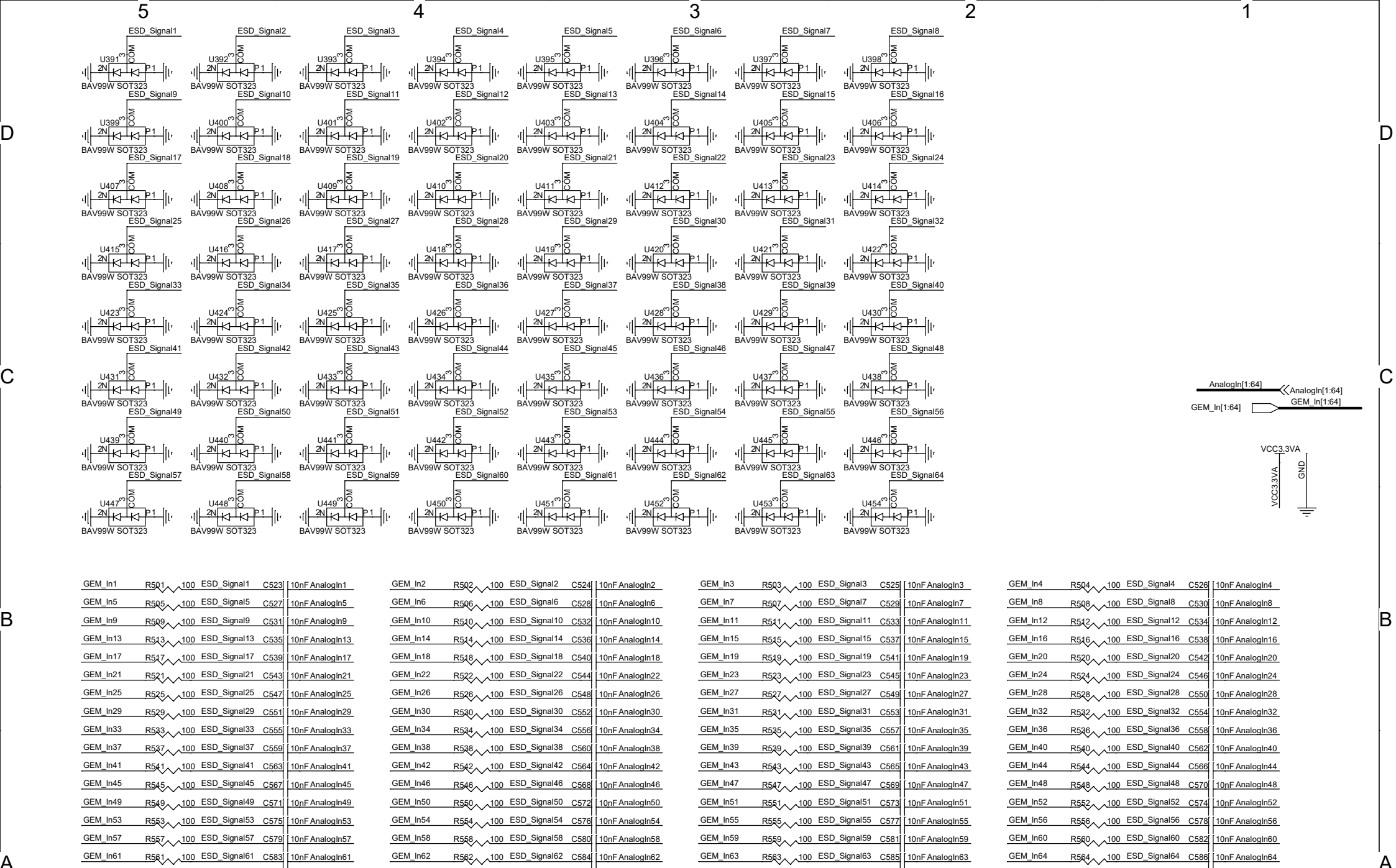
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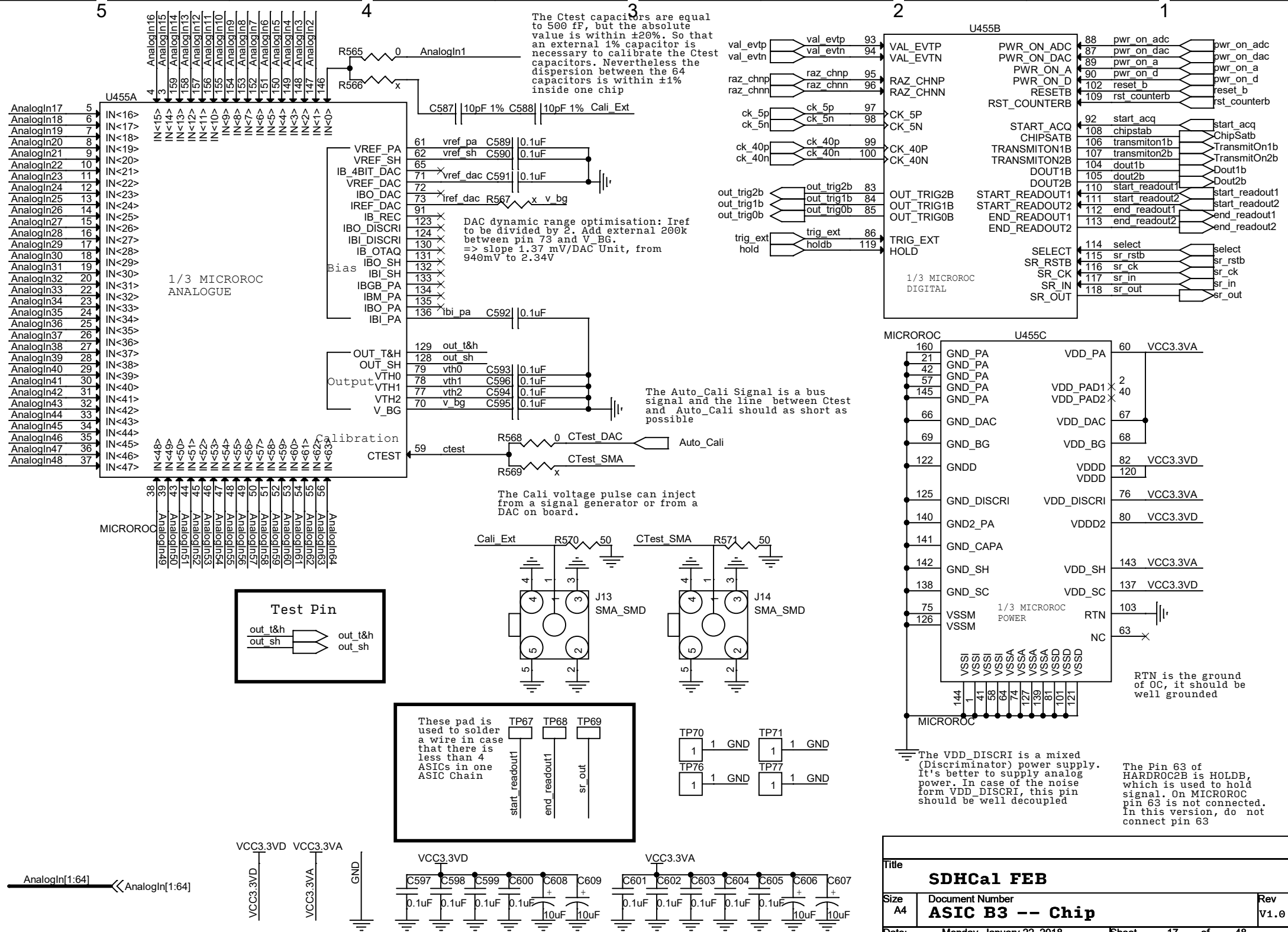


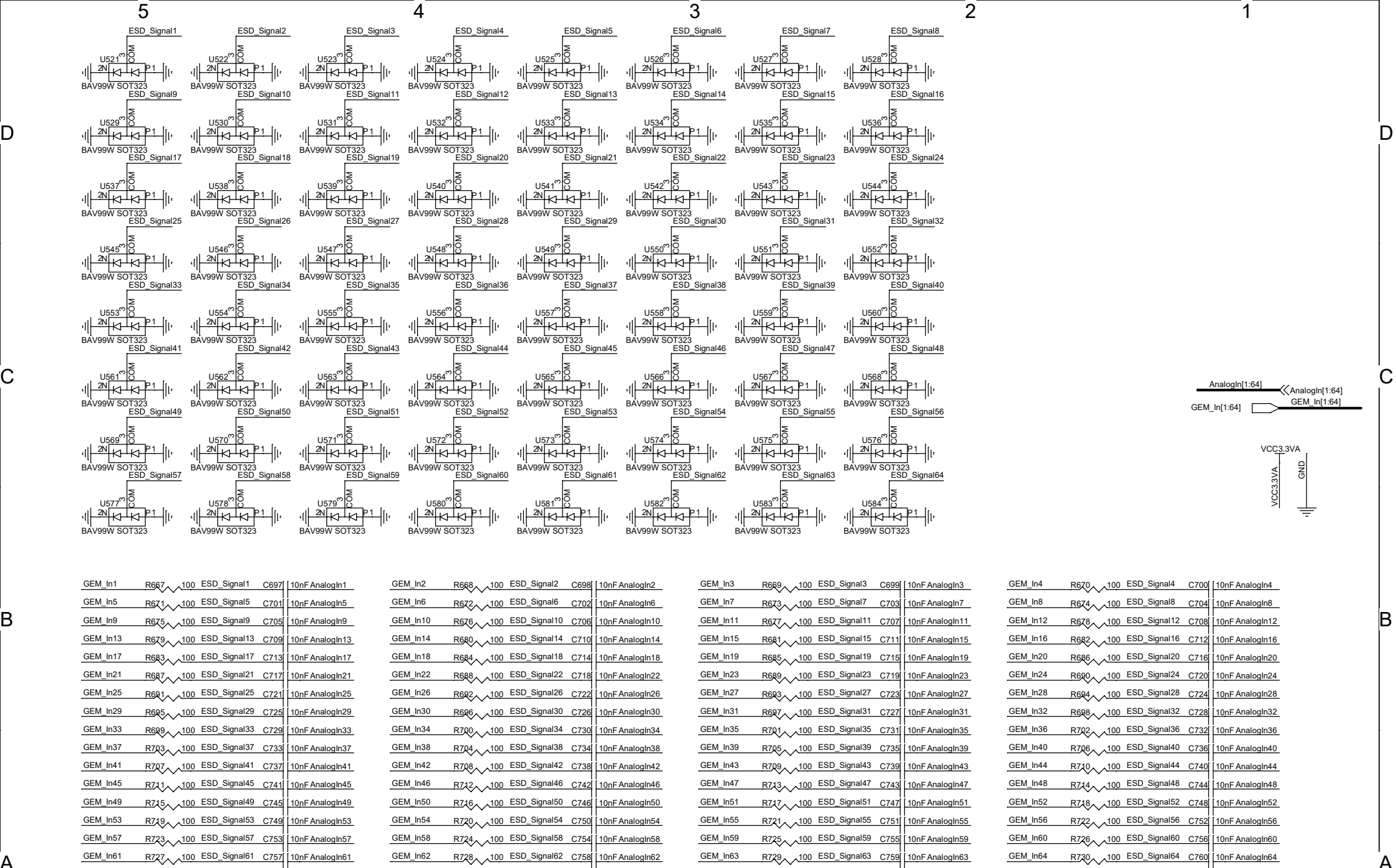
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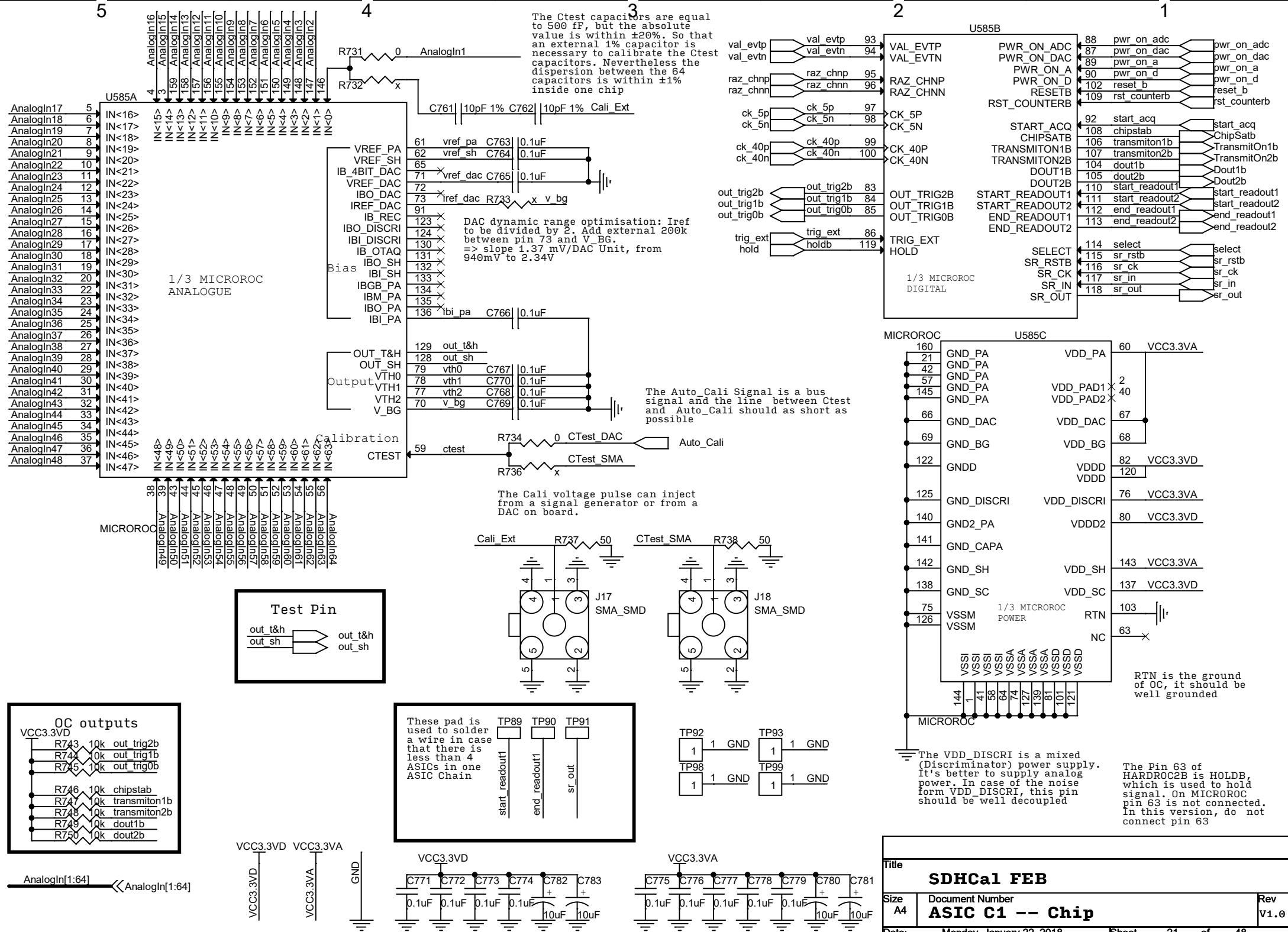


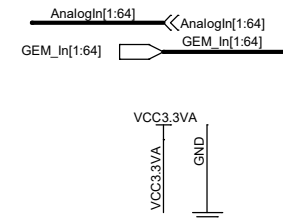
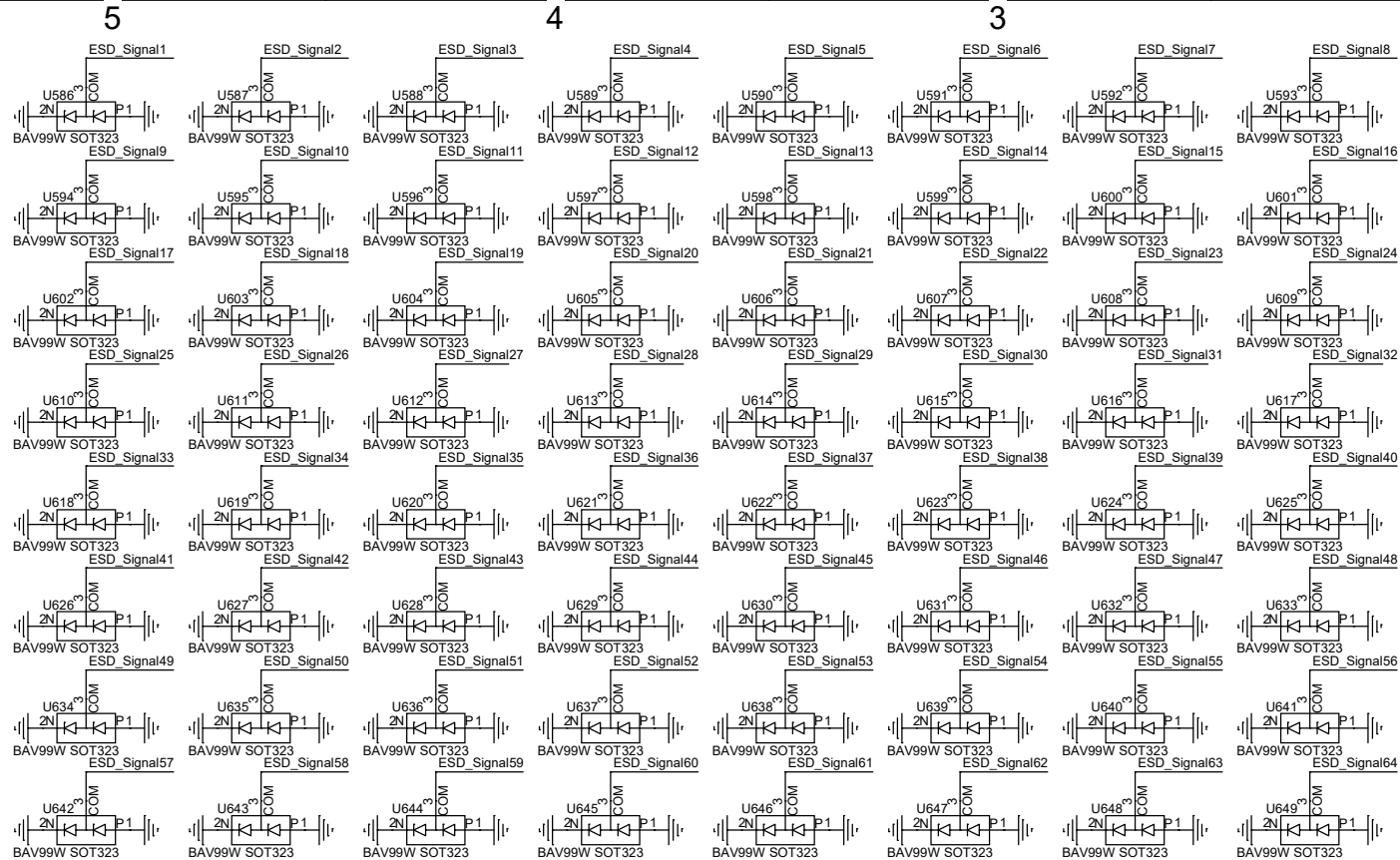
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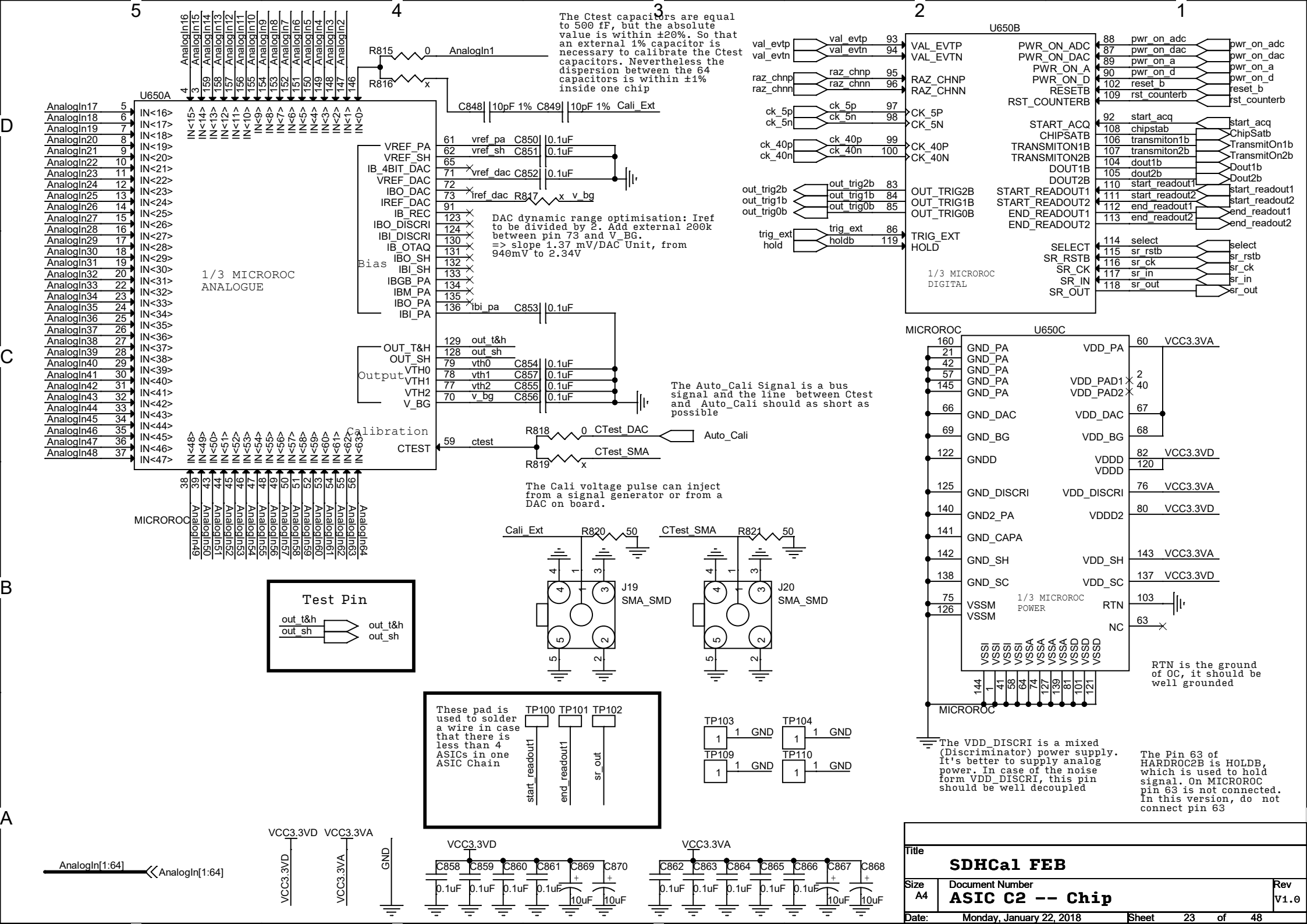
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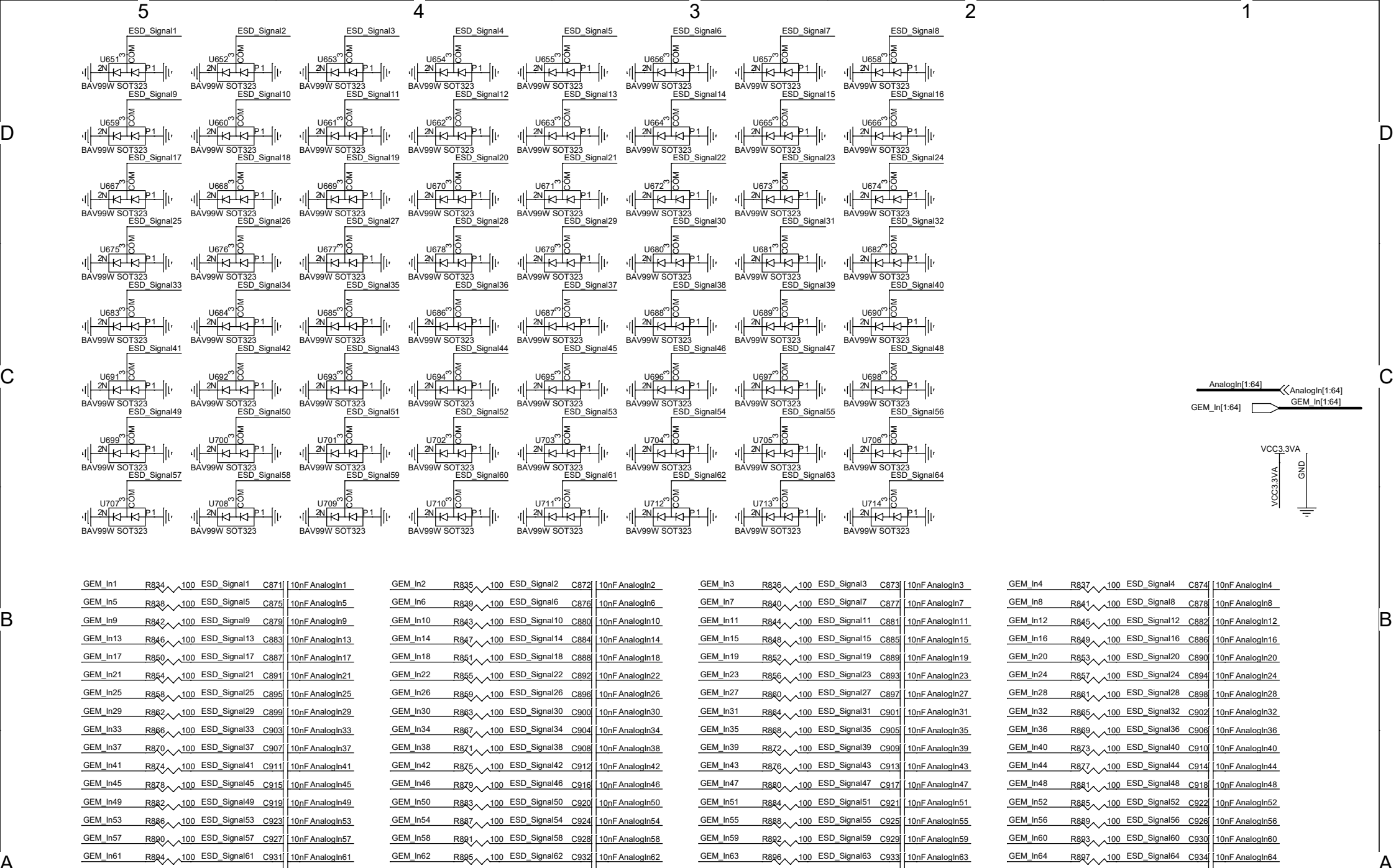
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GEM_In1	R751	100	ESD_Signal1	C784	10nF AnalogIn1	GEM_In2	R752	100	ESD_Signal2	C785	10nF AnalogIn2	GEM_In3	R753	100	ESD_Signal3	C786	10nF AnalogIn3	GEM_In4	R754	100	ESD_Signal4	C787	10nF AnalogIn4
GEM_In5	R755	100	ESD_Signal5	C788	10nF AnalogIn5	GEM_In6	R756	100	ESD_Signal6	C789	10nF AnalogIn6	GEM_In7	R757	100	ESD_Signal7	C790	10nF AnalogIn7	GEM_In8	R758	100	ESD_Signal8	C791	10nF AnalogIn8
GEM_In9	R759	100	ESD_Signal9	C792	10nF AnalogIn9	GEM_In10	R760	100	ESD_Signal10	C793	10nF AnalogIn10	GEM_In11	R761	100	ESD_Signal11	C794	10nF AnalogIn11	GEM_In12	R762	100	ESD_Signal12	C795	10nF AnalogIn12
GEM_In13	R763	100	ESD_Signal13	C796	10nF AnalogIn13	GEM_In14	R764	100	ESD_Signal14	C797	10nF AnalogIn14	GEM_In15	R765	100	ESD_Signal15	C798	10nF AnalogIn15	GEM_In16	R766	100	ESD_Signal16	C799	10nF AnalogIn16
GEM_In17	R767	100	ESD_Signal17	C800	10nF AnalogIn17	GEM_In18	R768	100	ESD_Signal18	C801	10nF AnalogIn18	GEM_In19	R769	100	ESD_Signal19	C802	10nF AnalogIn19	GEM_In20	R770	100	ESD_Signal20	C803	10nF AnalogIn20
GEM_In21	R771	100	ESD_Signal21	C804	10nF AnalogIn21	GEM_In22	R772	100	ESD_Signal22	C805	10nF AnalogIn22	GEM_In23	R773	100	ESD_Signal23	C806	10nF AnalogIn23	GEM_In24	R774	100	ESD_Signal24	C807	10nF AnalogIn24
GEM_In25	R775	100	ESD_Signal25	C808	10nF AnalogIn25	GEM_In26	R776	100	ESD_Signal26	C809	10nF AnalogIn26	GEM_In27	R777	100	ESD_Signal27	C810	10nF AnalogIn27	GEM_In28	R778	100	ESD_Signal28	C811	10nF AnalogIn28
GEM_In29	R779	100	ESD_Signal29	C812	10nF AnalogIn29	GEM_In30	R780	100	ESD_Signal30	C813	10nF AnalogIn30	GEM_In31	R781	100	ESD_Signal31	C814	10nF AnalogIn31	GEM_In32	R782	100	ESD_Signal32	C815	10nF AnalogIn32
GEM_In33	R783	100	ESD_Signal33	C816	10nF AnalogIn33	GEM_In34	R784	100	ESD_Signal34	C817	10nF AnalogIn34	GEM_In35	R785	100	ESD_Signal35	C818	10nF AnalogIn35	GEM_In36	R786	100	ESD_Signal36	C819	10nF AnalogIn36
GEM_In37	R787	100	ESD_Signal37	C820	10nF AnalogIn37	GEM_In38	R788	100	ESD_Signal38	C821	10nF AnalogIn38	GEM_In39	R789	100	ESD_Signal39	C822	10nF AnalogIn39	GEM_In40	R790	100	ESD_Signal40	C823	10nF AnalogIn40
GEM_In41	R791	100	ESD_Signal41	C824	10nF AnalogIn41	GEM_In42	R792	100	ESD_Signal42	C825	10nF AnalogIn42	GEM_In43	R793	100	ESD_Signal43	C826	10nF AnalogIn43	GEM_In44	R794	100	ESD_Signal44	C827	10nF AnalogIn44
GEM_In45	R795	100	ESD_Signal45	C828	10nF AnalogIn45	GEM_In46	R796	100	ESD_Signal46	C829	10nF AnalogIn46	GEM_In47	R797	100	ESD_Signal47	C830	10nF AnalogIn47	GEM_In48	R798	100	ESD_Signal48	C831	10nF AnalogIn48
GEM_In49	R799	100	ESD_Signal49	C832	10nF AnalogIn49	GEM_In50	R800	100	ESD_Signal50	C833	10nF AnalogIn50	GEM_In51	R801	100	ESD_Signal51	C834	10nF AnalogIn51	GEM_In52	R802	100	ESD_Signal52	C835	10nF AnalogIn52
GEM_In53	R803	100	ESD_Signal53	C836	10nF AnalogIn53	GEM_In54	R804	100	ESD_Signal54	C837	10nF AnalogIn54	GEM_In55	R805	100	ESD_Signal55	C838	10nF AnalogIn55	GEM_In56	R806	100	ESD_Signal56	C839	10nF AnalogIn56
GEM_In57	R807	100	ESD_Signal57	C840	10nF AnalogIn57	GEM_In58	R808	100	ESD_Signal58	C841	10nF AnalogIn58	GEM_In59	R809	100	ESD_Signal59	C842	10nF AnalogIn59	GEM_In60	R810	100	ESD_Signal60	C843	10nF AnalogIn60
GEM_In61	R811	100	ESD_Signal61	C844	10nF AnalogIn61	GEM_In62	R812	100	ESD_Signal62	C845	10nF AnalogIn62	GEM_In63	R813	100	ESD_Signal63	C846	10nF AnalogIn63	GEM_In64	R814	100	ESD_Signal64	C847	10nF AnalogIn64



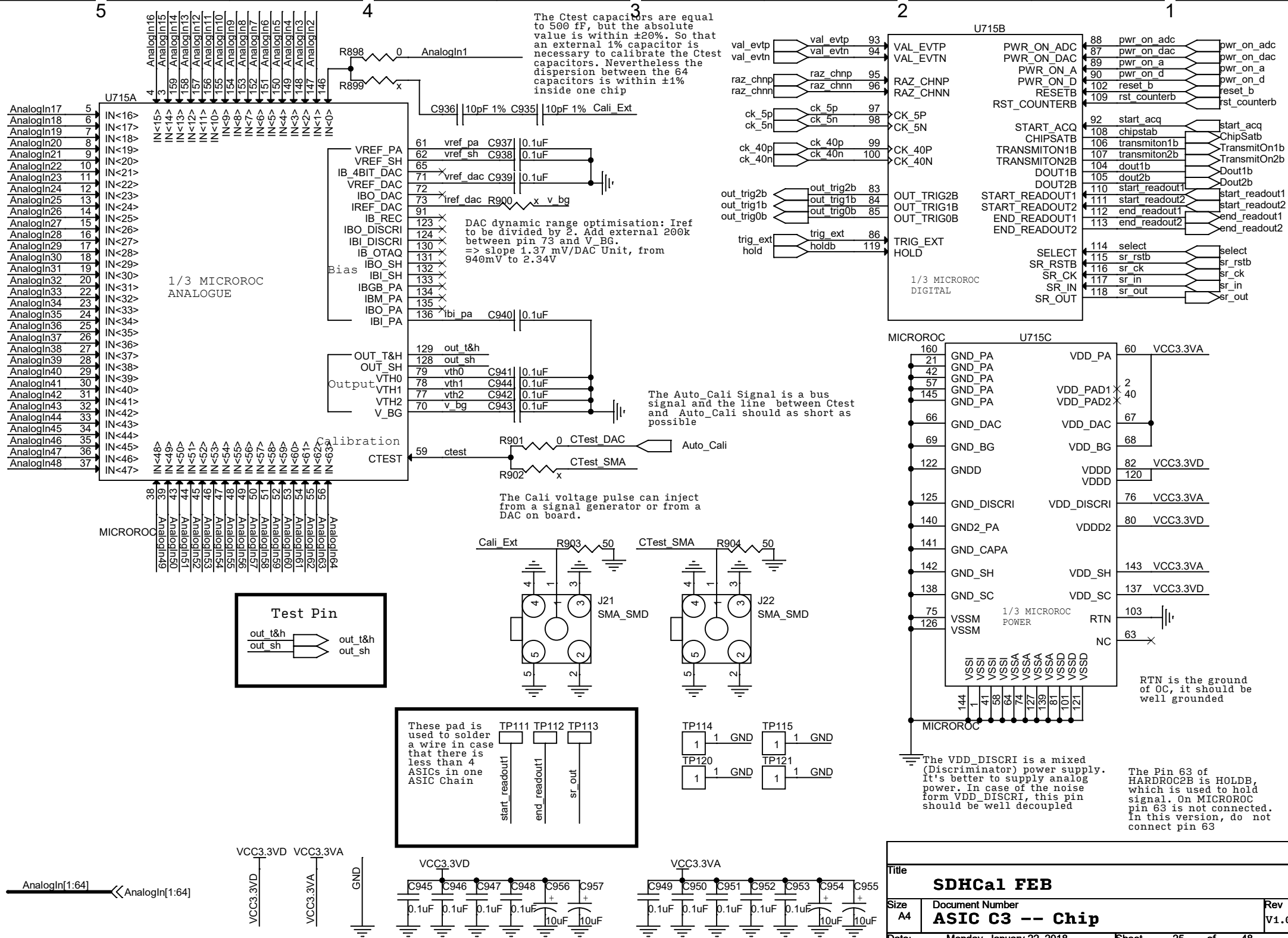


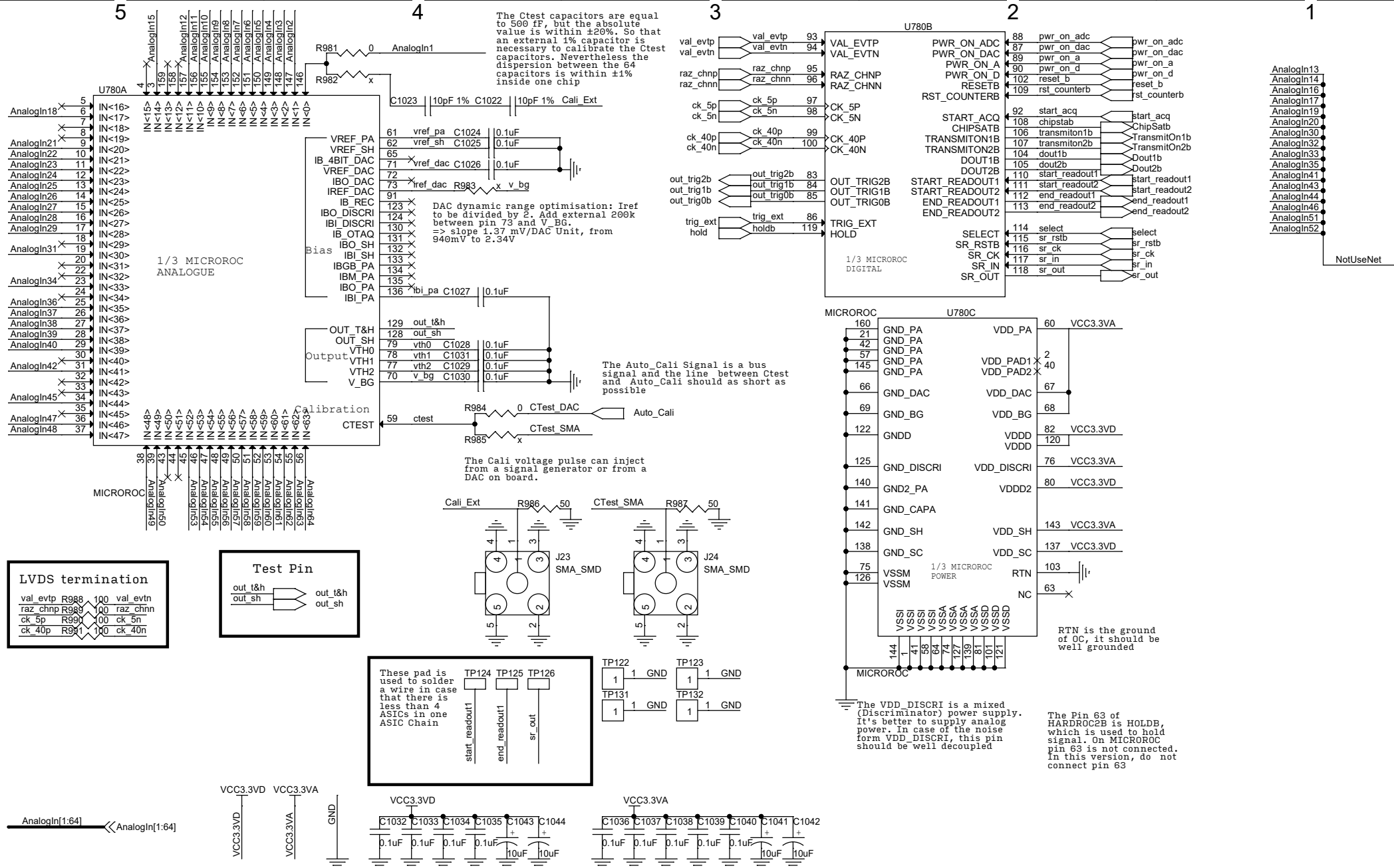
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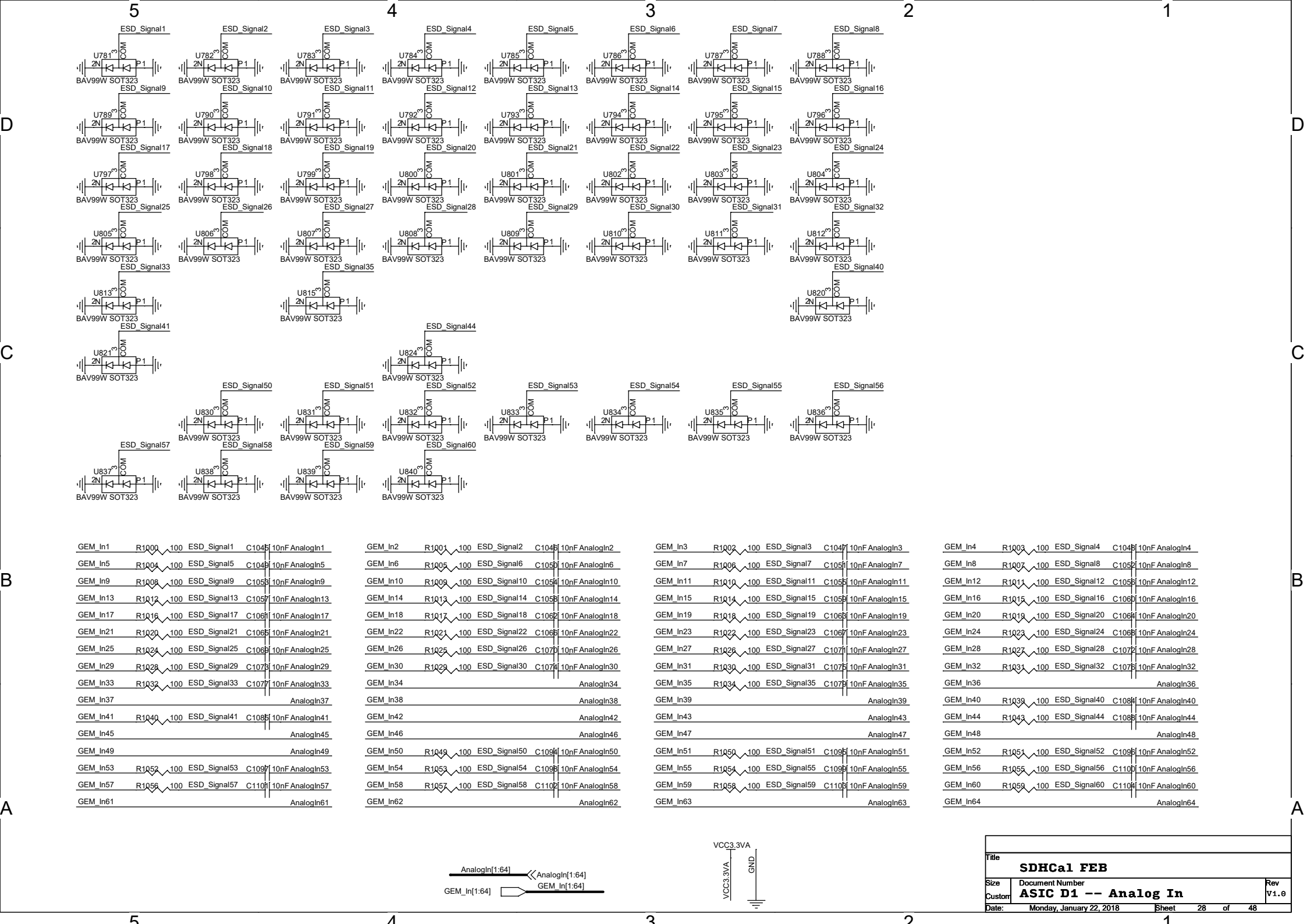
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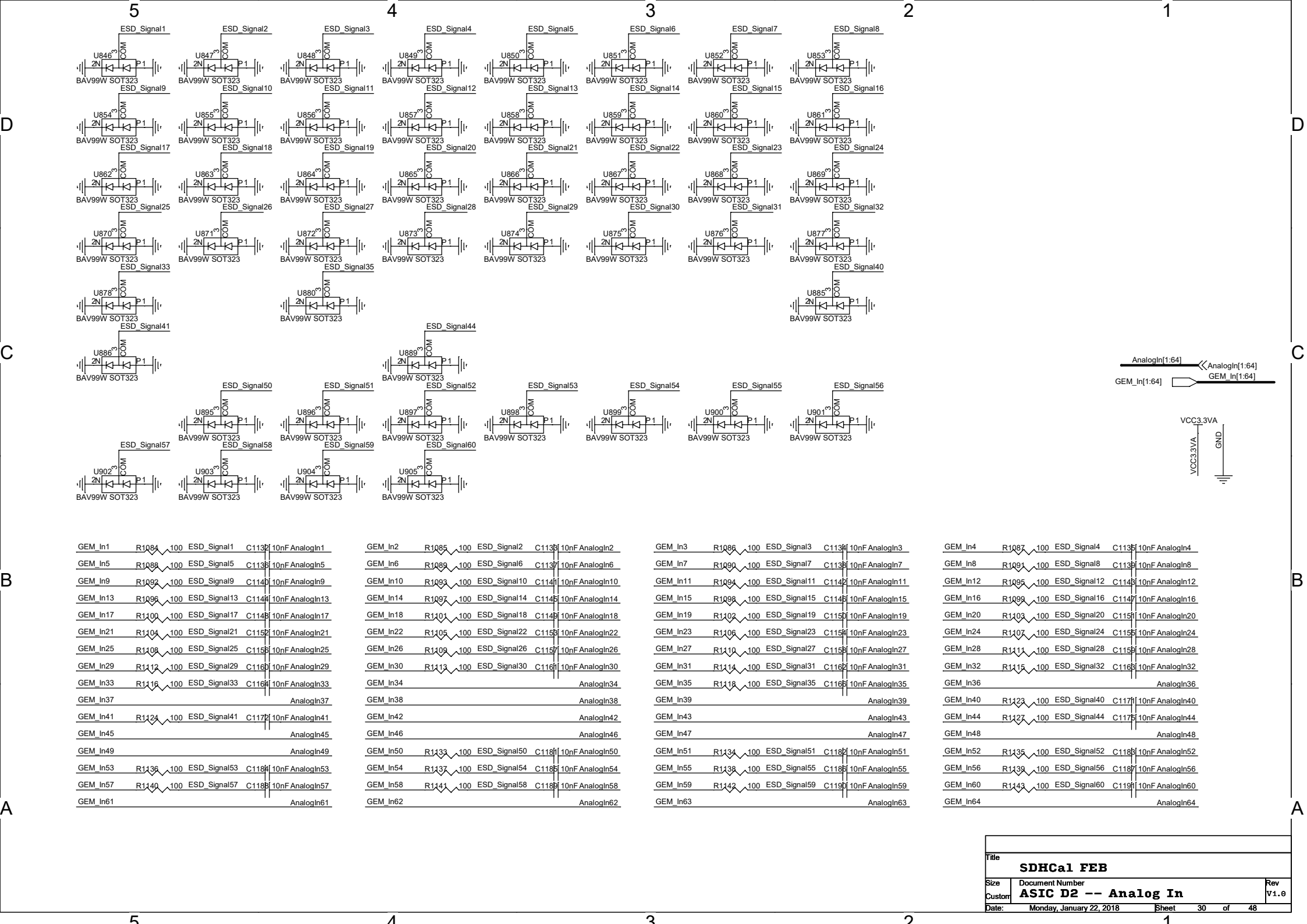
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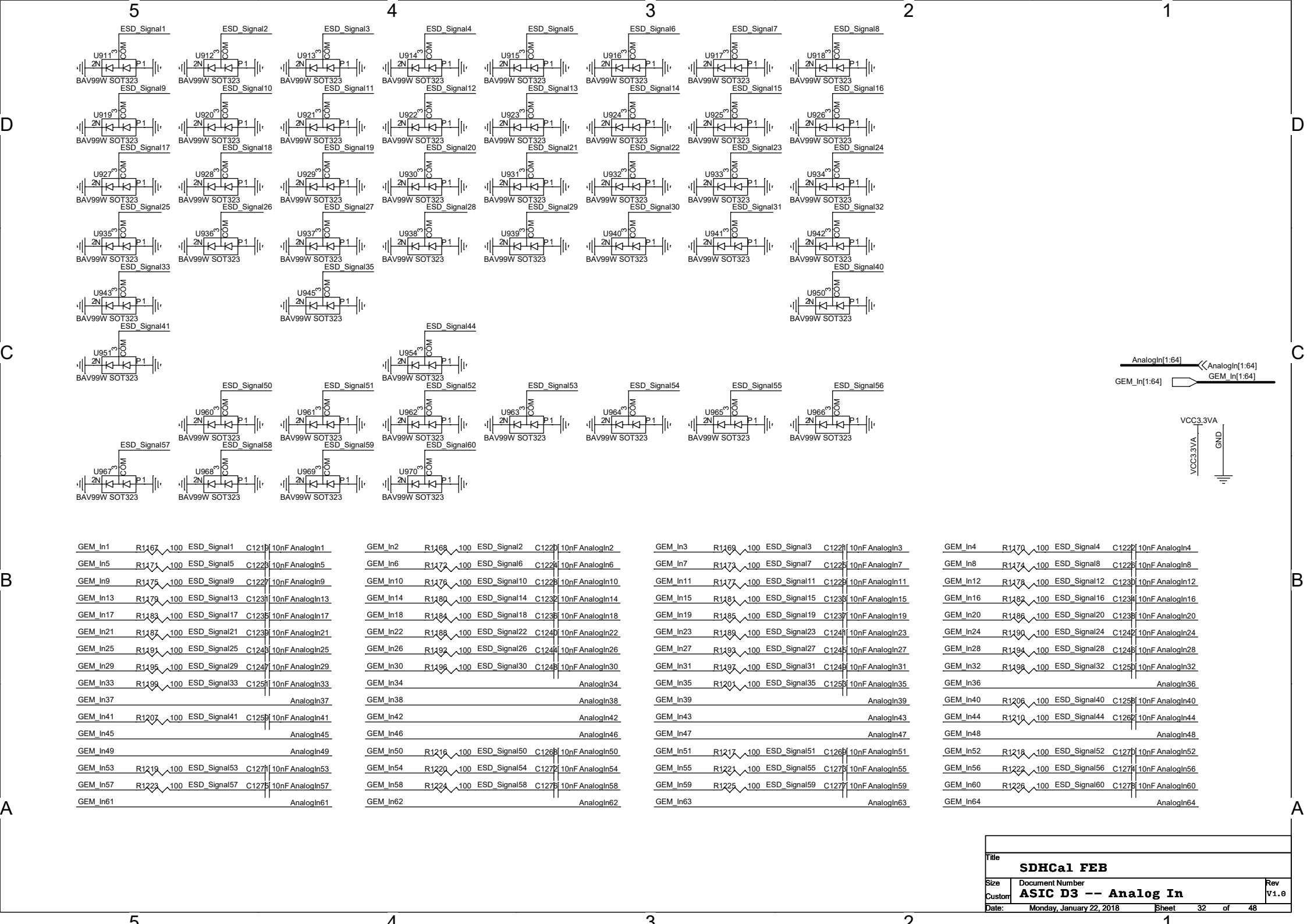
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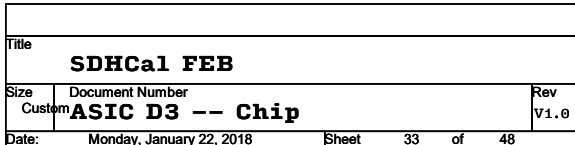


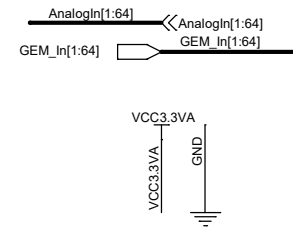
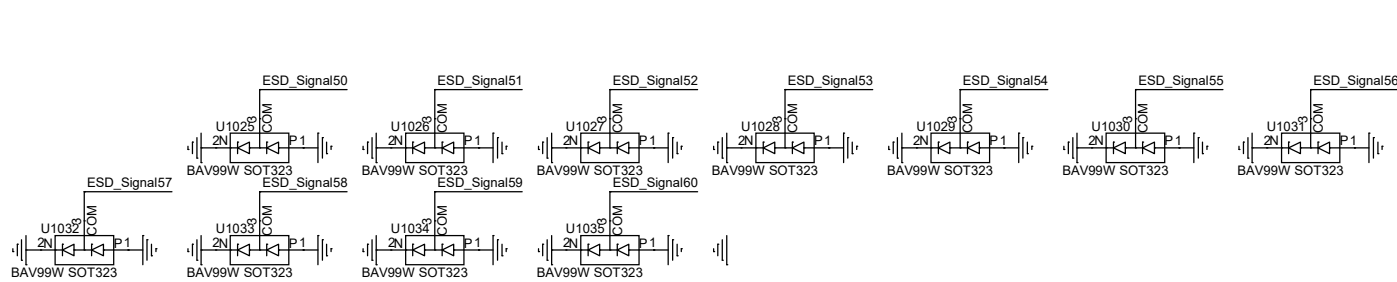
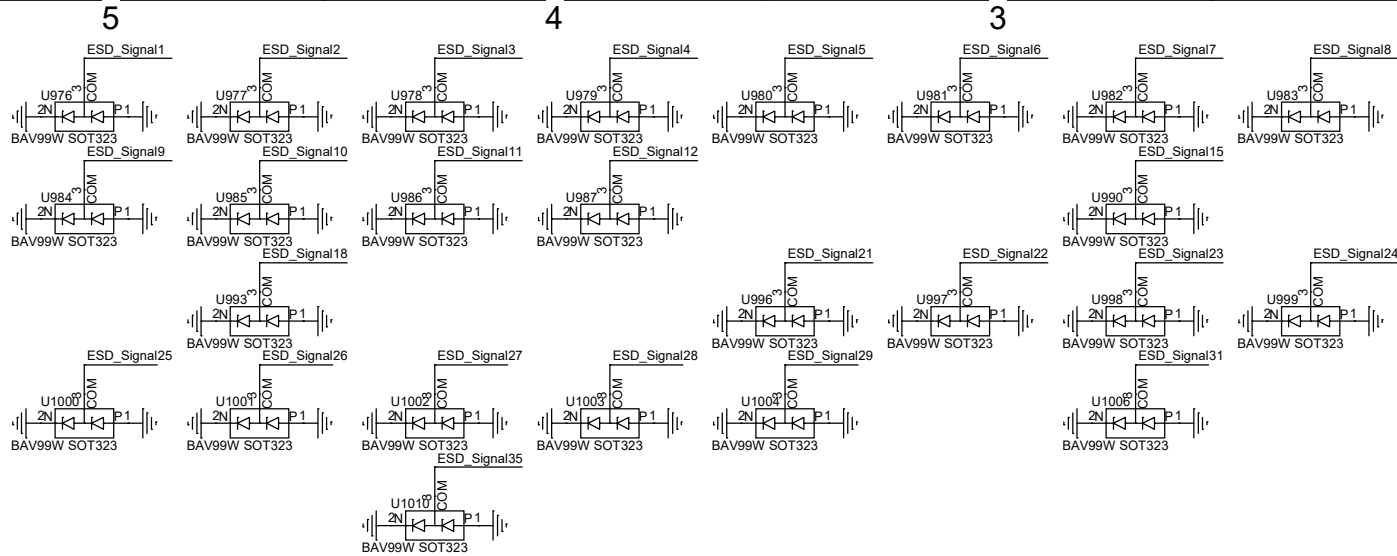










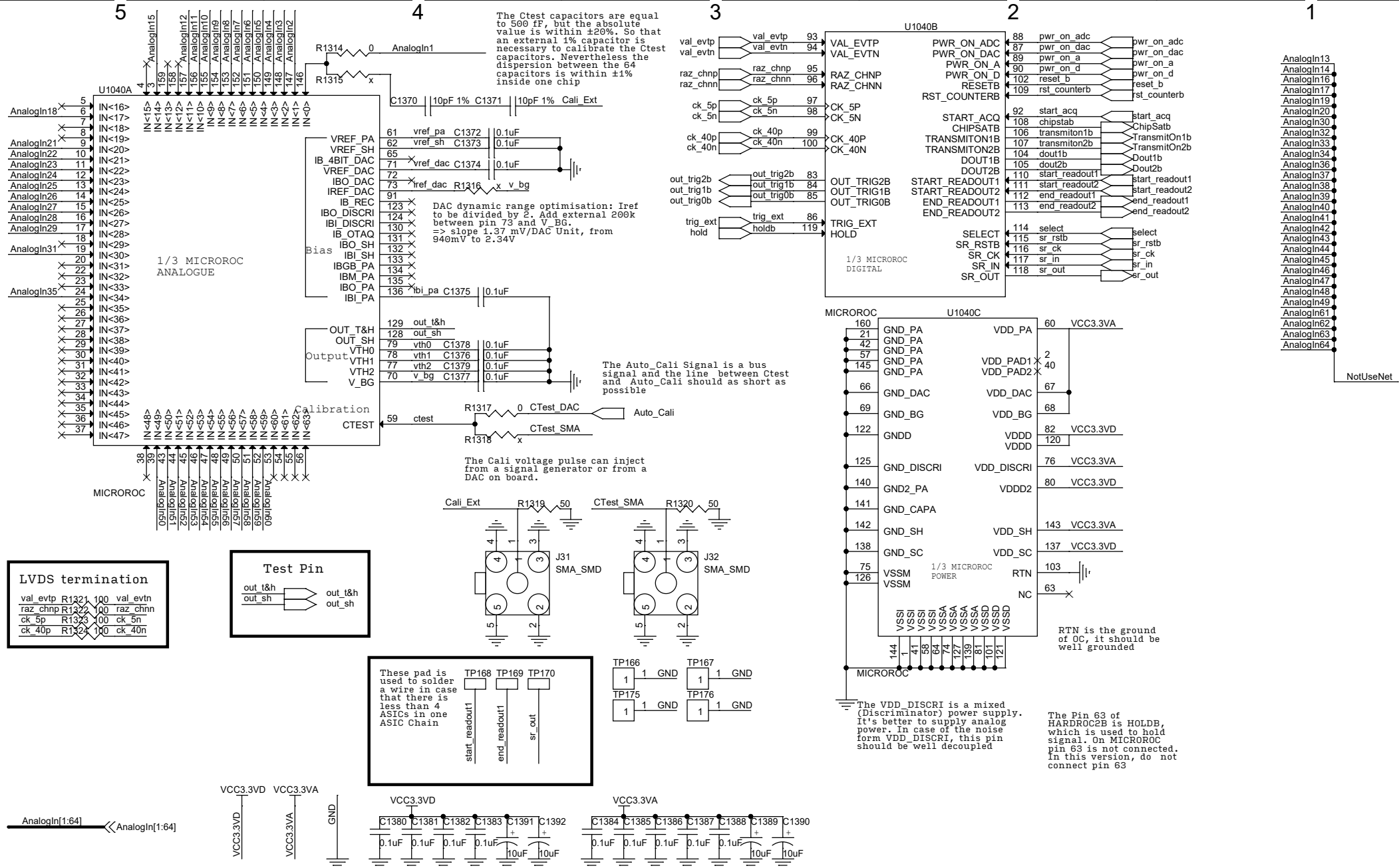


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GEM_In5	R1254	100	ESD_Signal5	C1310	10nF AnalogIn5
GEM_In9	R1258	100	ESD_Signal9	C1314	10nF AnalogIn9
GEM_In13					AnalogIn13
GEM_In17					AnalogIn17
GEM_In21	R1270	100	ESD_Signal21	C1326	10nF AnalogIn21
GEM_In25	R1274	100	ESD_Signal25	C1330	10nF AnalogIn25
GEM_In29	R1278	100	ESD_Signal29	C1334	10nF AnalogIn29
GEM_In33					AnalogIn33
GEM_In37					AnalogIn37
GEM_In41					AnalogIn41
GEM_In45					AnalogIn45
GEM_In49					AnalogIn49
GEM_In53	R1302	100	ESD_Signal53	C1358	10nF AnalogIn53
GEM_In57	R1306	100	ESD_Signal57	C1362	10nF AnalogIn57
GEM_In61					AnalogIn61

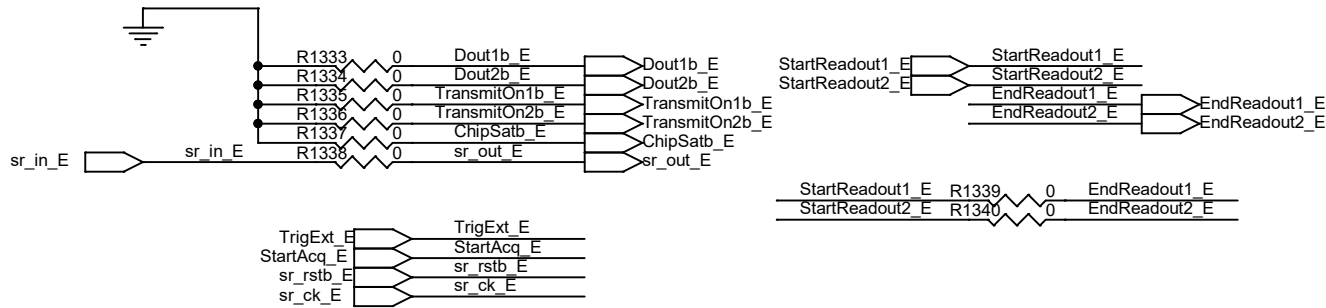
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GEM_In6	R1255	100	ESD_Signal6	C1311	10nF AnalogIn6
GEM_In10	R1259	100	ESD_Signal10	C1315	10nF AnalogIn10
GEM_In14					AnalogIn14
GEM_In18	R1267	100	ESD_Signal18	C1323	10nF AnalogIn18
GEM_In22	R1271	100	ESD_Signal22	C1327	10nF AnalogIn22
GEM_In26	R1275	100	ESD_Signal26	C1331	10nF AnalogIn26
GEM_In30					AnalogIn30
GEM_In34					AnalogIn34
GEM_In38					AnalogIn38
GEM_In42					AnalogIn42
GEM_In46					AnalogIn46
GEM_In50	R1299	100	ESD_Signal50	C1355	10nF AnalogIn50
GEM_In54	R1303	100	ESD_Signal54	C1359	10nF AnalogIn54
GEM_In58	R1307	100	ESD_Signal58	C1363	10nF AnalogIn58
GEM_In62					AnalogIn62

GEM_In3	R1252	100	ESD_Signal3	C1308	10nF AnalogIn3
GEM_In7	R1256	100	ESD_Signal7	C1312	10nF AnalogIn7
GEM_In11	R1260	100	ESD_Signal11	C1316	10nF AnalogIn11
GEM_In15	R1264	100	ESD_Signal15	C1320	10nF AnalogIn15
GEM_In19					AnalogIn19
GEM_In23	R1272	100	ESD_Signal23	C1328	10nF AnalogIn23
GEM_In27	R1276	100	ESD_Signal27	C1332	10nF AnalogIn27
GEM_In31	R1280	100	ESD_Signal31	C1336	10nF AnalogIn31
GEM_In35	R1284	100	ESD_Signal35	C1340	10nF AnalogIn35
GEM_In39					AnalogIn39
GEM_In43					AnalogIn43
GEM_In47					AnalogIn47
GEM_In51	R1300	100	ESD_Signal51	C1356	10nF AnalogIn51
GEM_In55	R1304	100	ESD_Signal55	C1360	10nF AnalogIn55
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GEM_In63					AnalogIn63

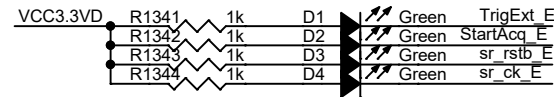
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GEM_In8	R1257	100	ESD_Signal8	C1319	10nF AnalogIn8
GEM_In12	R1261	100	ESD_Signal12	C1317	10nF AnalogIn12
GEM_In16					AnalogIn16
GEM_In20					AnalogIn20
GEM_In24	R1273	100	ESD_Signal24	C1329	10nF AnalogIn24
GEM_In28	R1277	100	ESD_Signal28	C1339	10nF AnalogIn28
GEM_In32					AnalogIn32
GEM_In36					AnalogIn36
GEM_In40					AnalogIn40
GEM_In44					AnalogIn44
GEM_In48					AnalogIn48
GEM_In52	R1301	100	ESD_Signal52	C1357	10nF AnalogIn52
GEM_In56	R1305	100	ESD_Signal56	C1367	10nF AnalogIn56
GEM_In60	R1309	100	ESD_Signal60	C1365	10nF AnalogIn60
GEM_In64					AnalogIn64



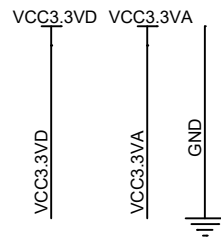
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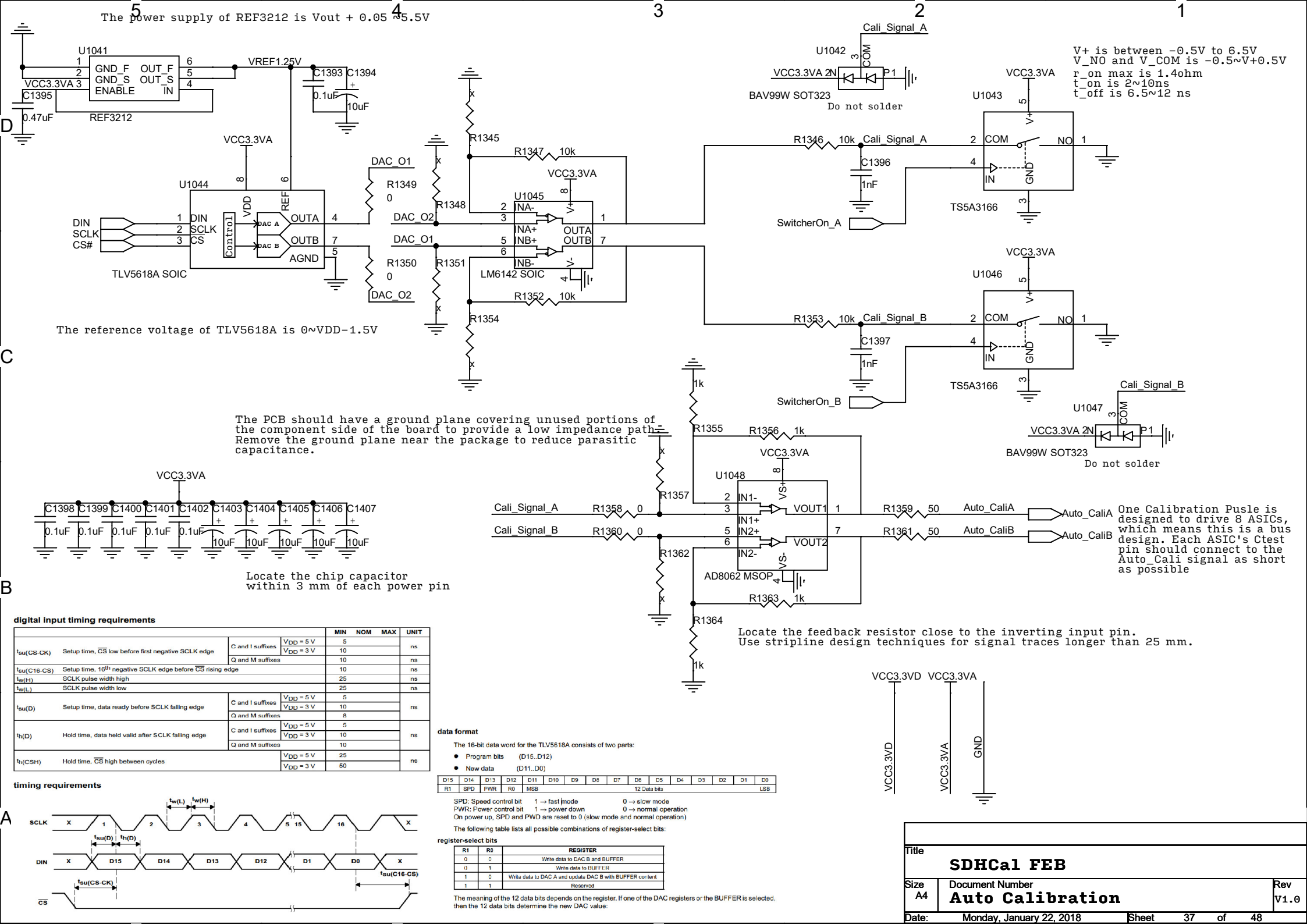


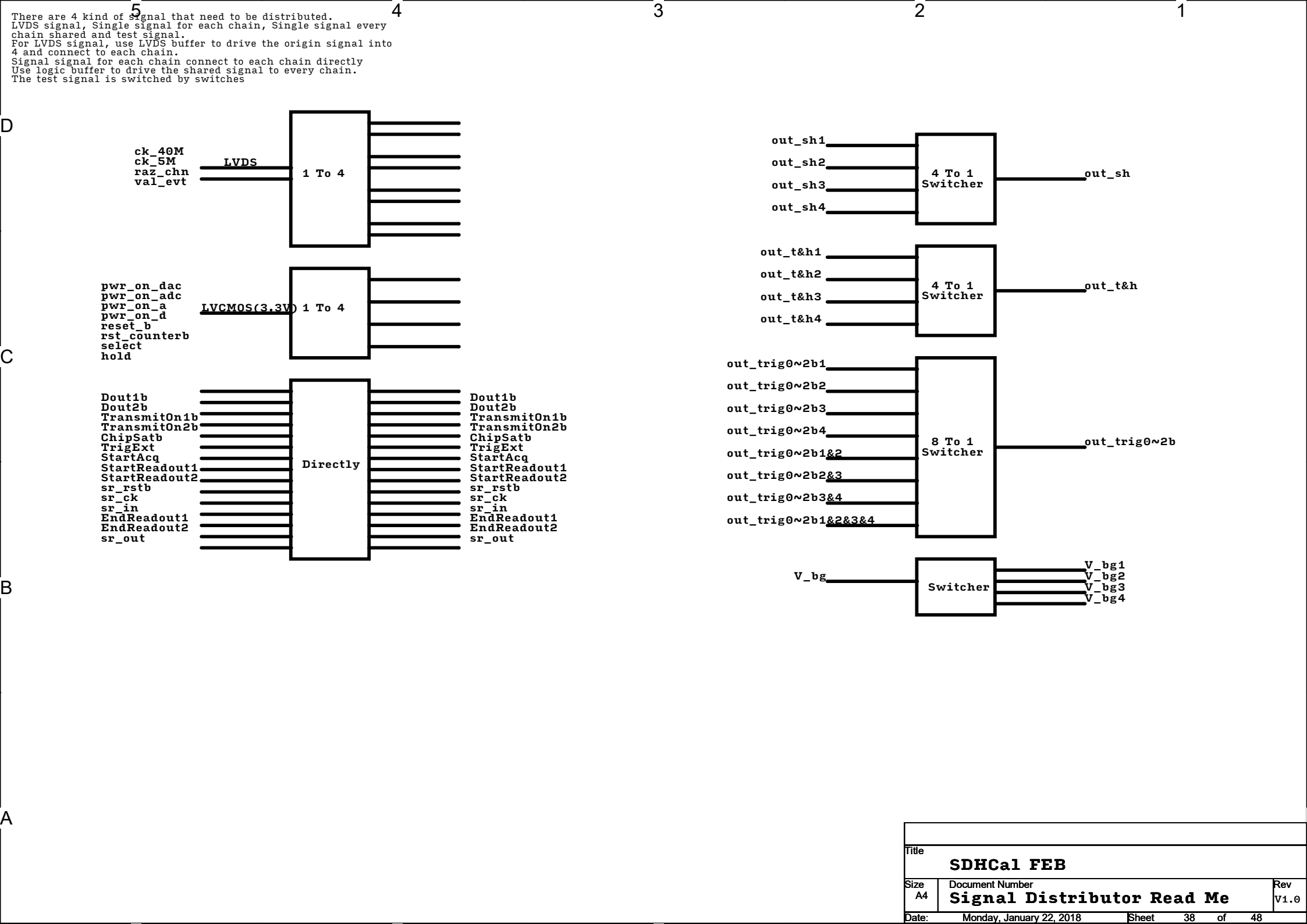
B



A

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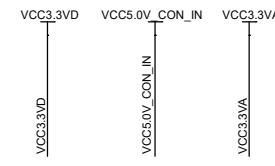
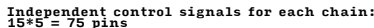
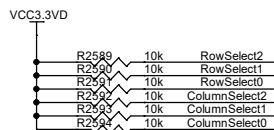
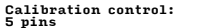
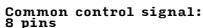




!!!

Warning: The male connector and female connector has different footprint and package.
The A1 pin of male connector is connected to the A1 pin of female connector, B1(male) connect to B1(female) ...
Note that this is different from ECal system but the signal connection is the same.

Female connector ERNI154744 on FEB
Male connector ERNI 154767 on DIF

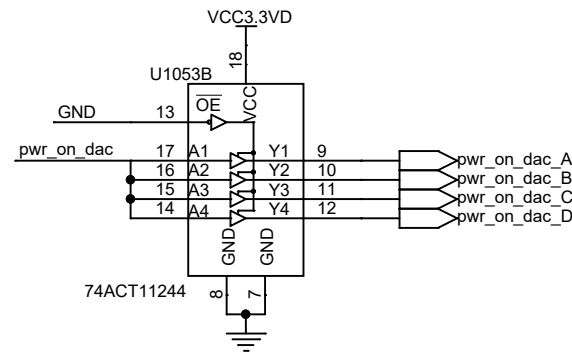
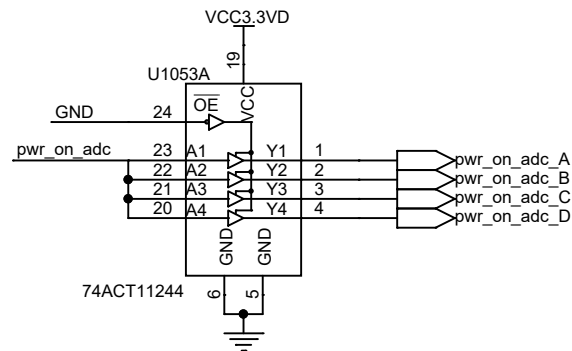
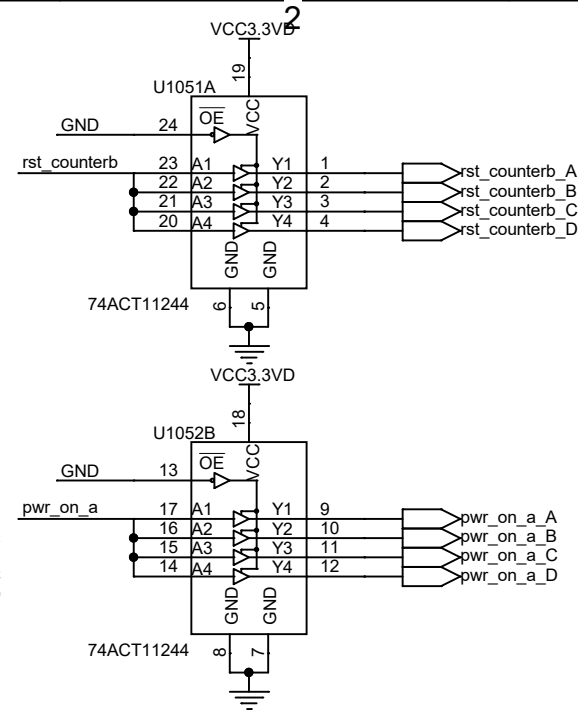
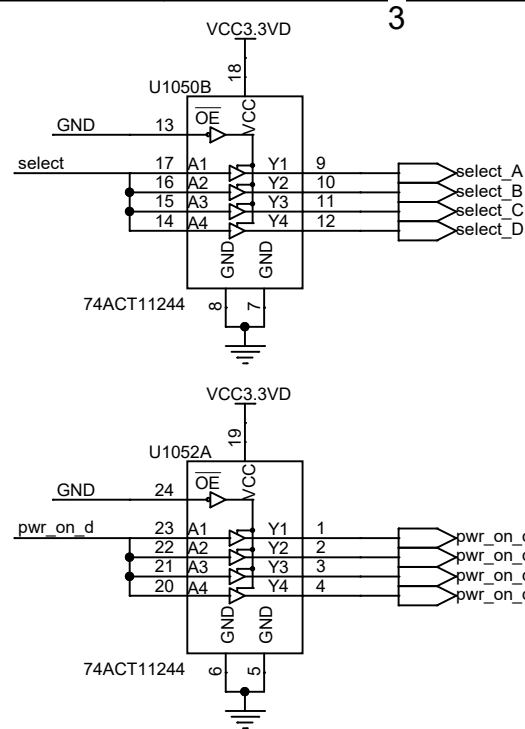
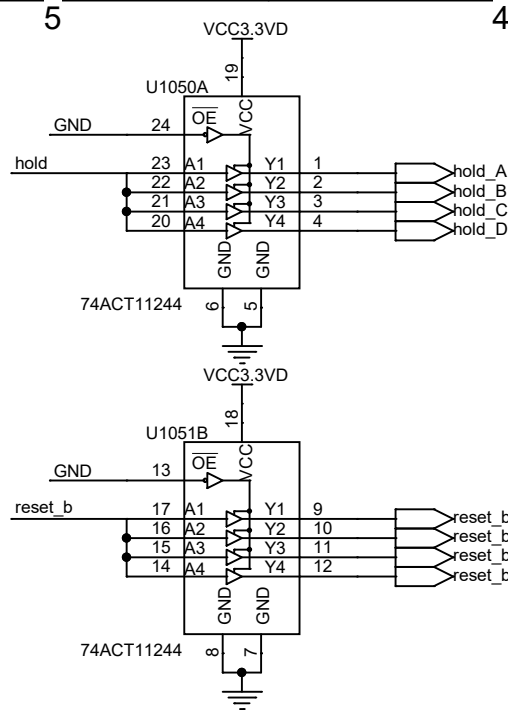


D

C

B

A



hold

select

reset_b

rst_counterb

pwr_on_d

pwr_on_a

pwr_on_adc

pwr_on_dac

hold

select

reset_b

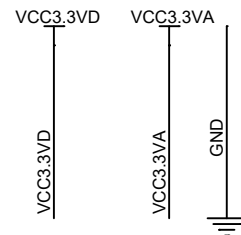
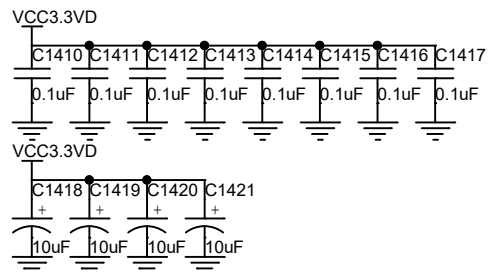
rst_counterb

pwr_on_d

pwr_on_a

pwr_on_adc

pwr_on_dac



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D

C

B

A

5

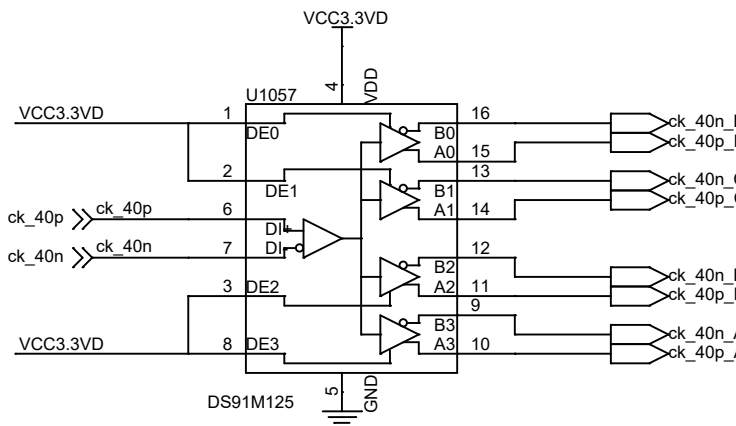
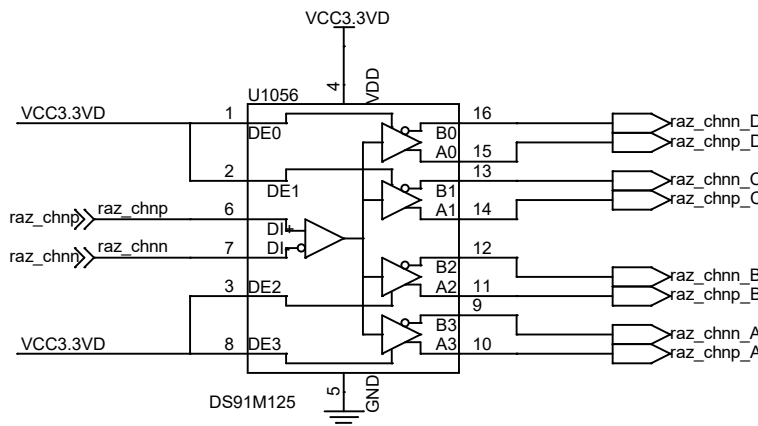
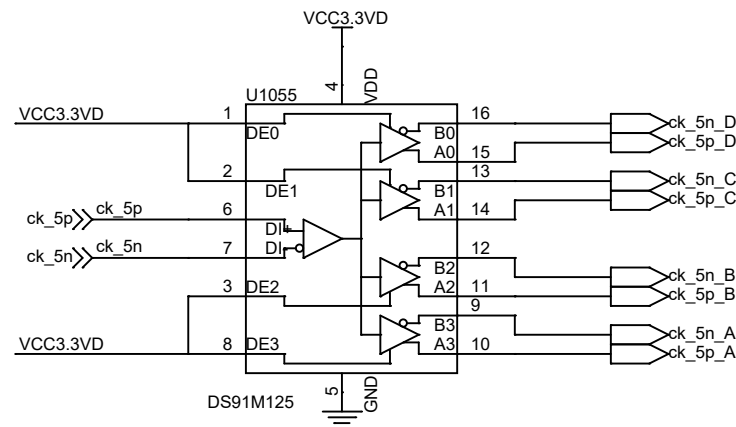
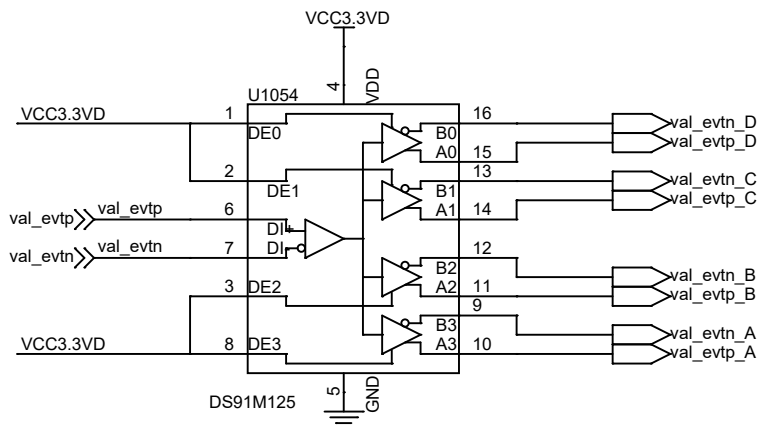
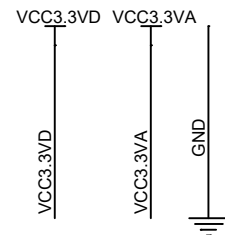
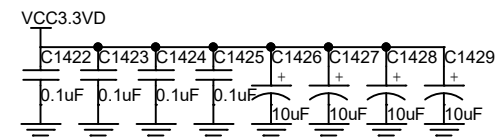
4

3

2

1

Driver enable pins:
When DE is low, the
driver is disabled.
When DE is high, the
driver is enabled.
There is a 300k ohm
pulldown resistor on
each pin.



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5 4 3 2 1

This part is the readout array of GEM detector. The effective area of the GEM detector is 30cm*30cm, and the total size is 37.4*37.4. The detail structure of the Pad Readout Array is discribed in the Mechanical structure of Pad Readout Array.pdf

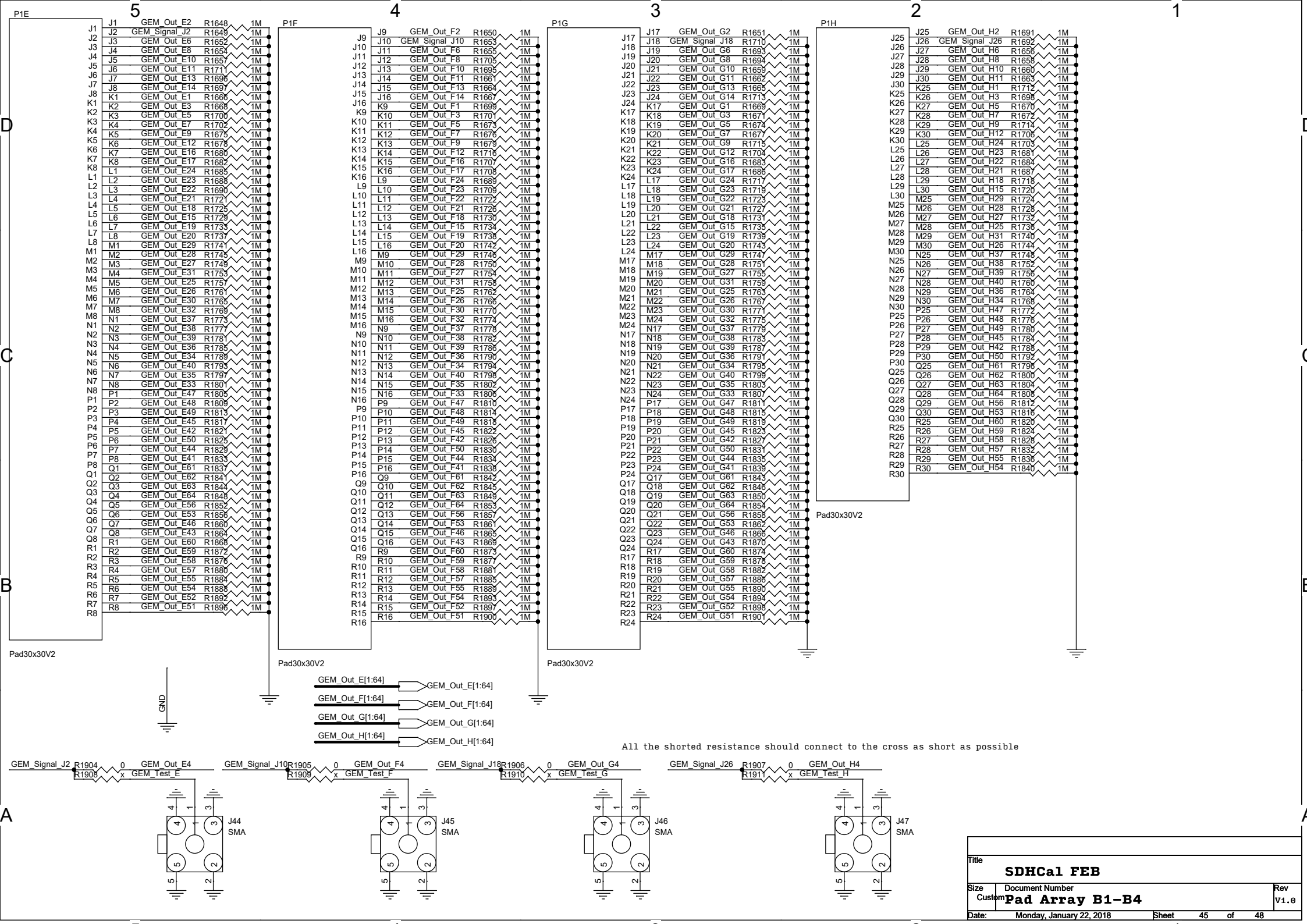
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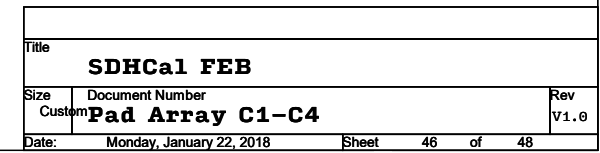
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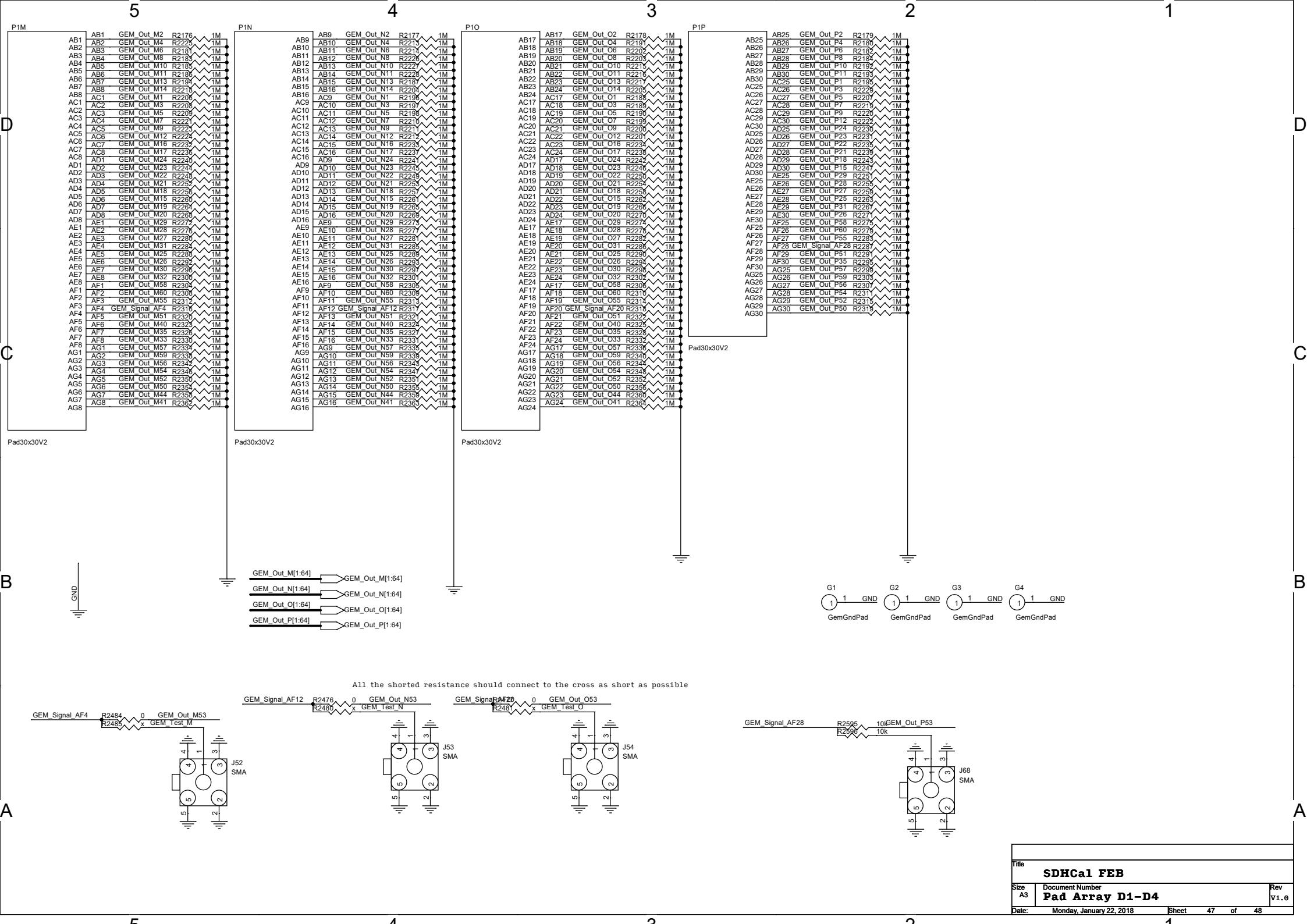
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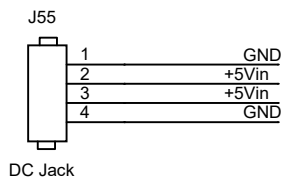
A

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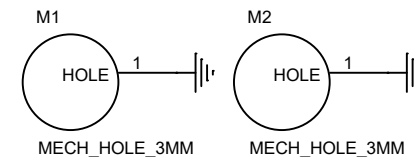
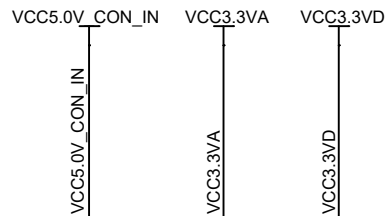
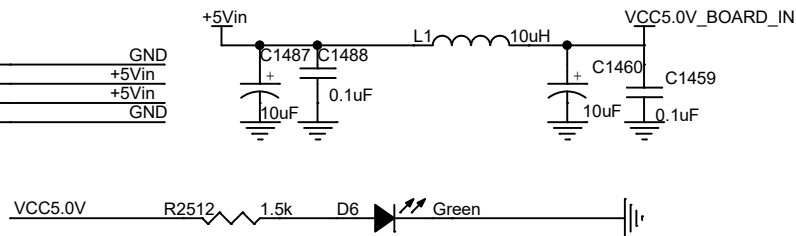




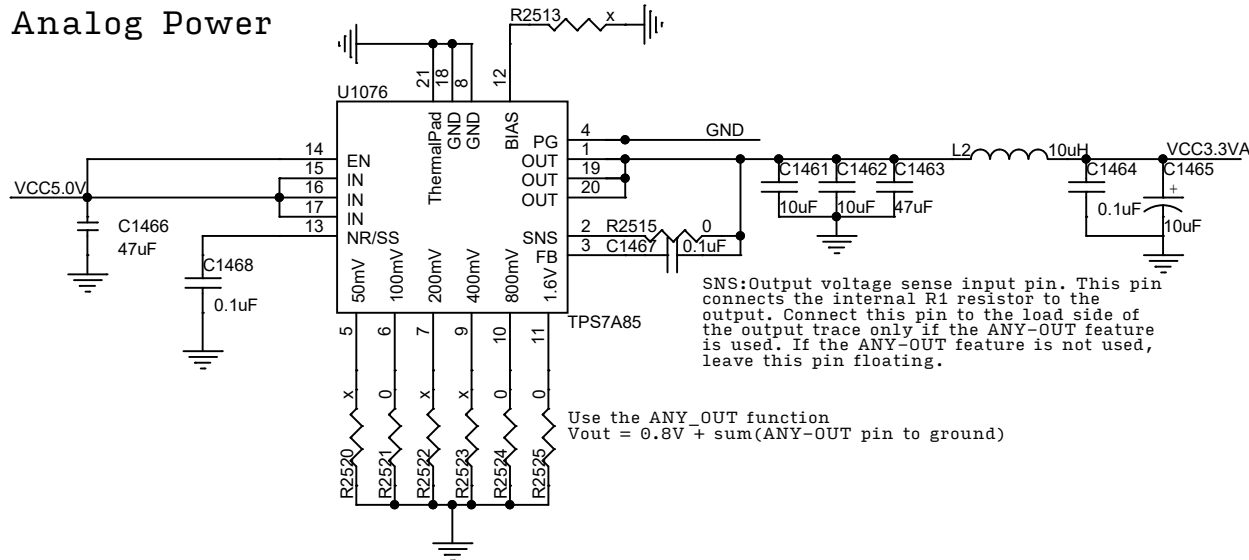




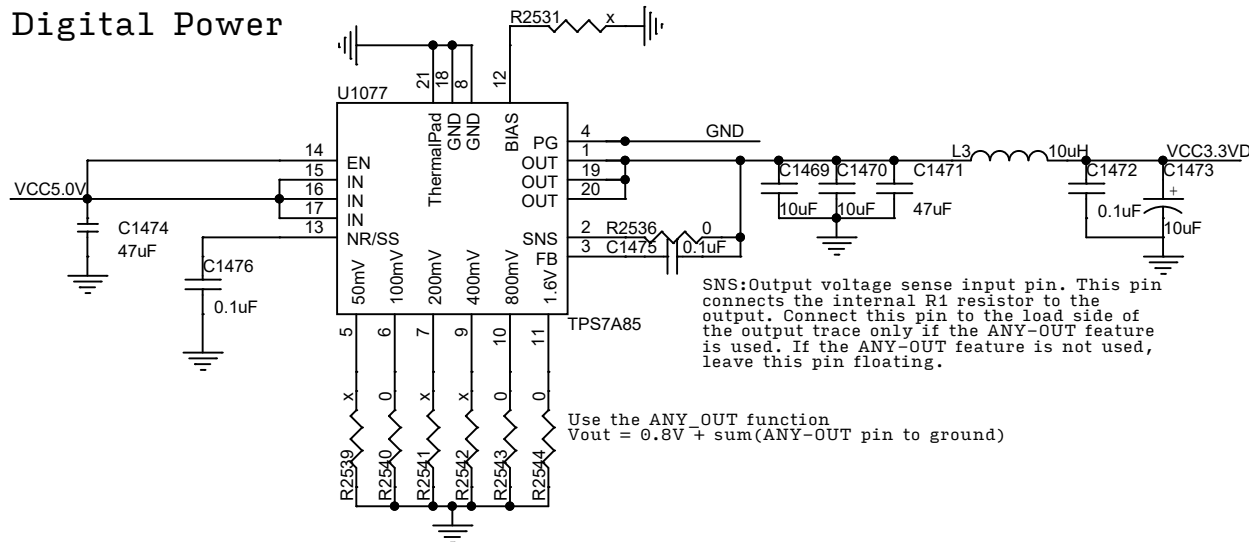
DC Jack



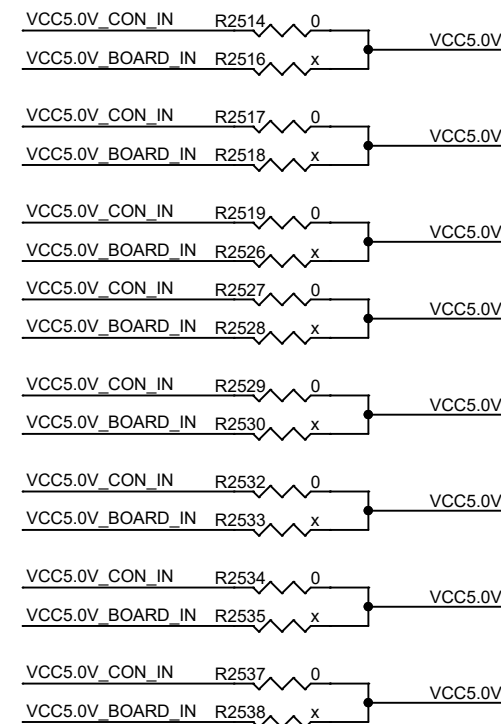
Analog Power



Digital Power



Caution: If using ECal DIF, only VCC5.0V_BOARD_IN is available



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