

PG410 A01

GP106 8GB/4GB GDDR5, 256b, 256Mx32/128MX32
Tall DVI-D + DP + DP + HDMI + HDMI

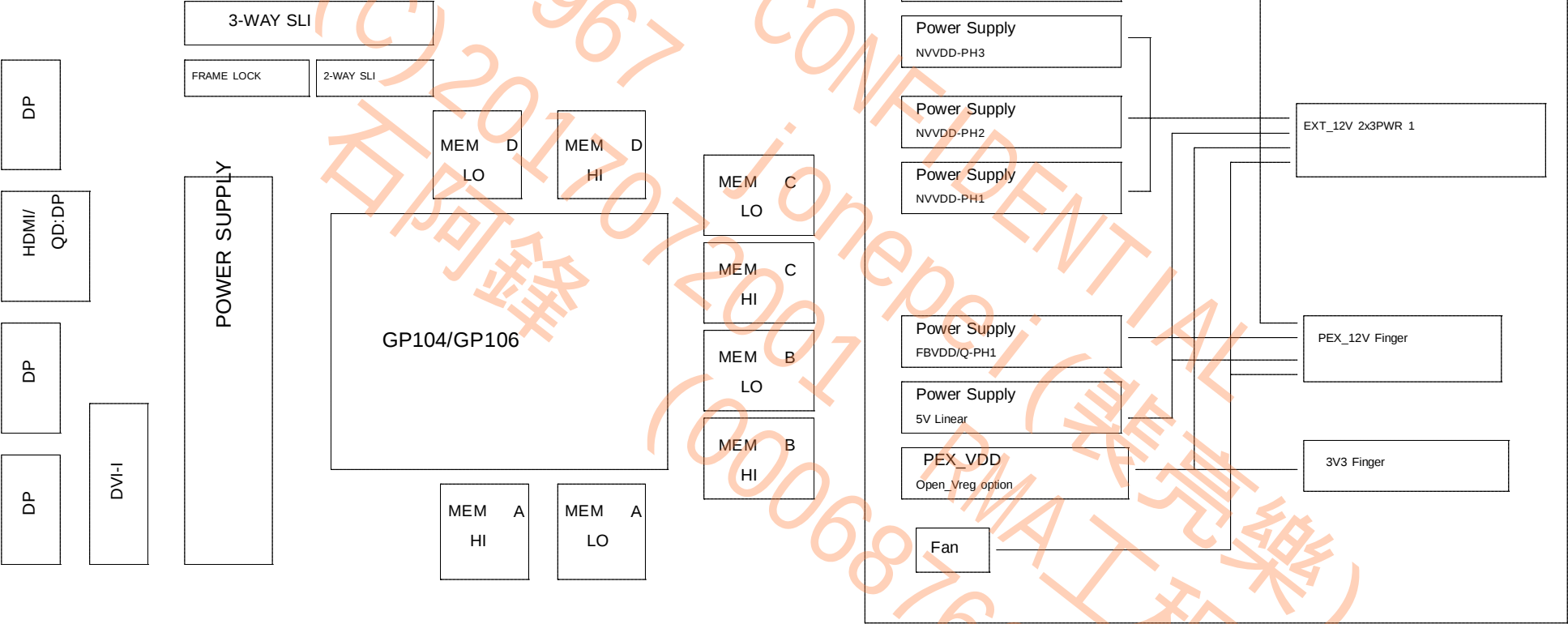
TABLE OF CONTENTS

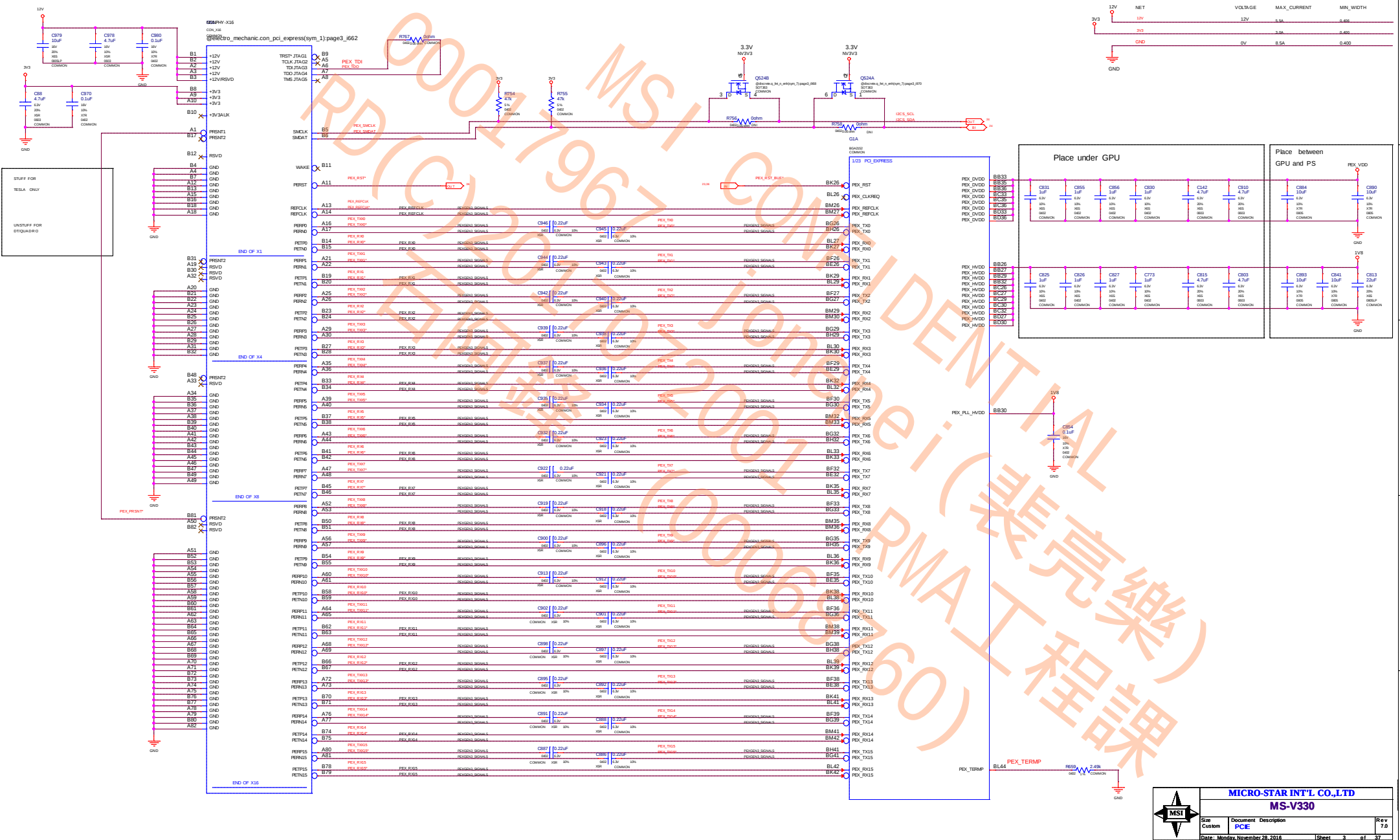
Page	Description
1	Table of Contents
2	Block Diagram
3	PCI Express
4	GPU FB_AB
5	MEMORY: FBA[31:0]
6	MEMORY: FBA[63:32]
7	MEMORY: FBB[31:0]
8	MEMORY: FBB[63:32]
9	MEM FB_AB PWR
10	GPU FB_CD
11	MEMORY: FBC[31:0]
12	MEMORY: FBC[63:32]
13	MEMORY: FBD[31:0]
14	MEMORY: FBD[63:32]
15	MEM FB_CD PWR
16	GPU PWR & GND
17	GPU Decoupling
18	IFPAB DVI-D-DL
19	IFPE DP
20	IFPF DP
21	IFPC HDMI/DP
22	IFPD DP
23	MIOA/B Interface and Frame Lock
24	MISC1: Fan, Thermal, JTAG, GPIO, STEREO
25	MISC2: ROM, XTAL, STRAPS

Page	Description
26	PS: 1V8_PLL, 1V8_AON
27	PS: 5V, PEX_VDD
28	PS: NV3V3, NV12V
29	PS: FBVDD
30	PS: NVVDD Controller
31	PS: NVVDD Phase 1,2 & 3
32	PS: NVVDD Rail Balance Login & Dynamic Phase
33	PS: Input, Filtering, and Monitoring
34	PS: 12V Power Steering, PSI Control & LED
35	PS: Shut Down and Sequencing
36	PS: GC6 MISC
37	MECH

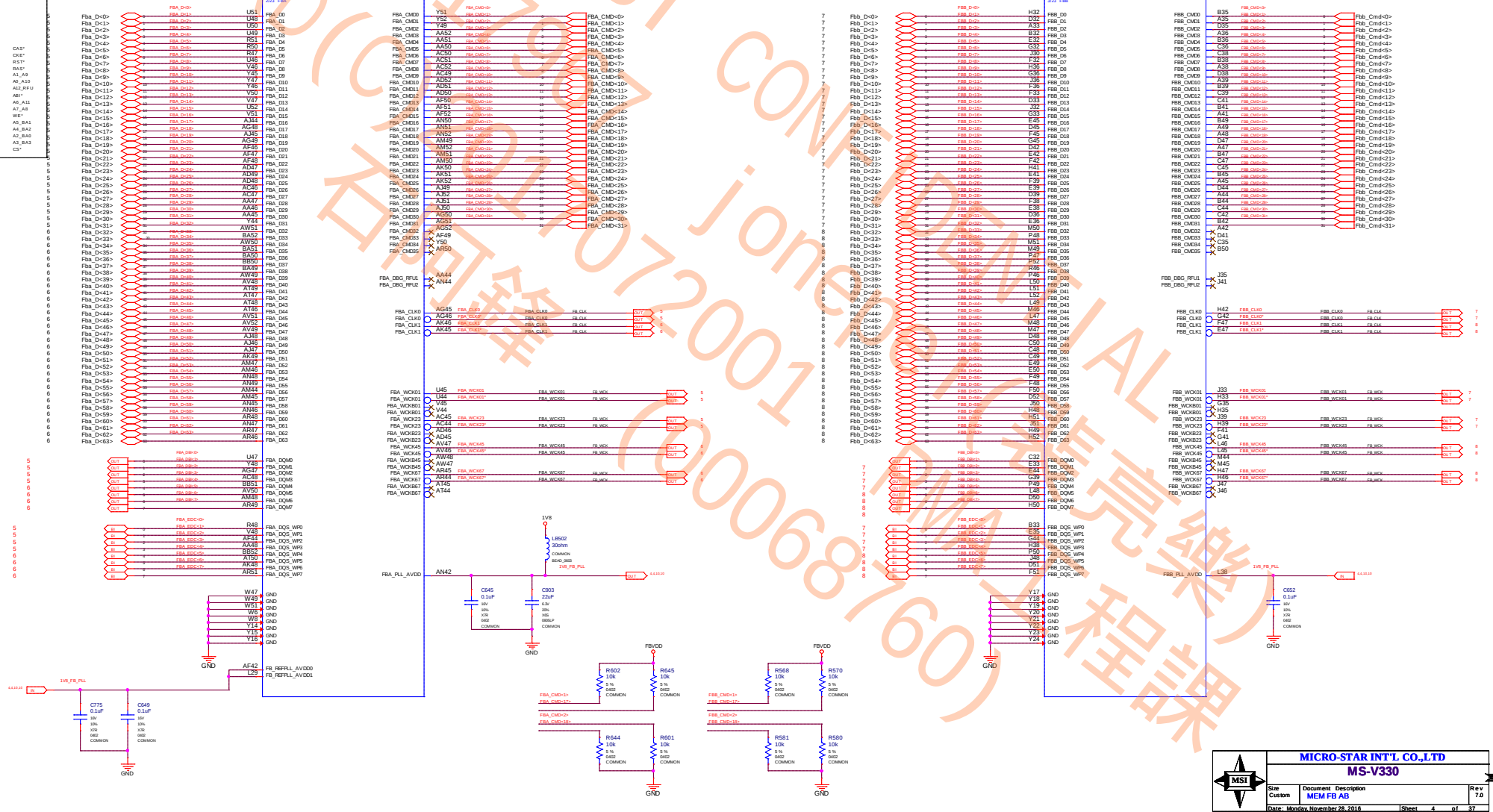
V330-T 0 00 PG41 00
1 - 00000000
2 - 00000000
3 - 00000000
4 - 00000000

MICRO-STAR INT'L CO., LTD			
MS-V330			
Size	Document	Description	Rev
Custom	TABLE		7.0
Date: Monday, November 28, 2016		Sheet	1 of 37

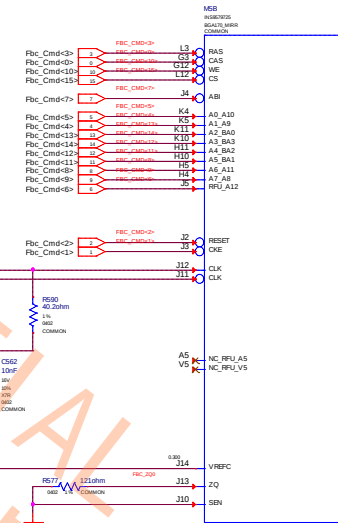


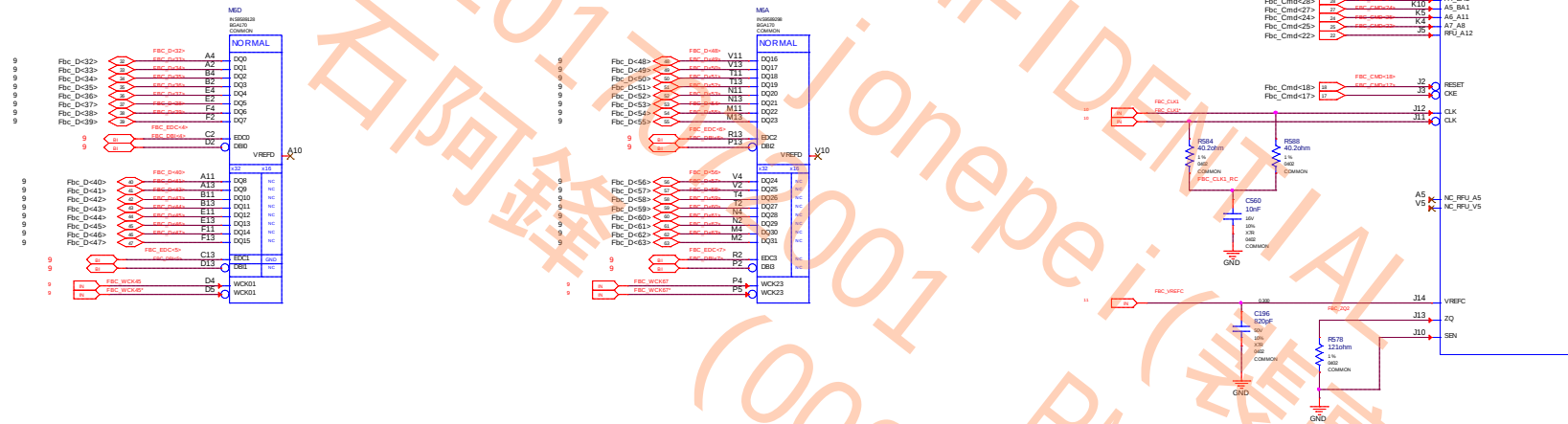


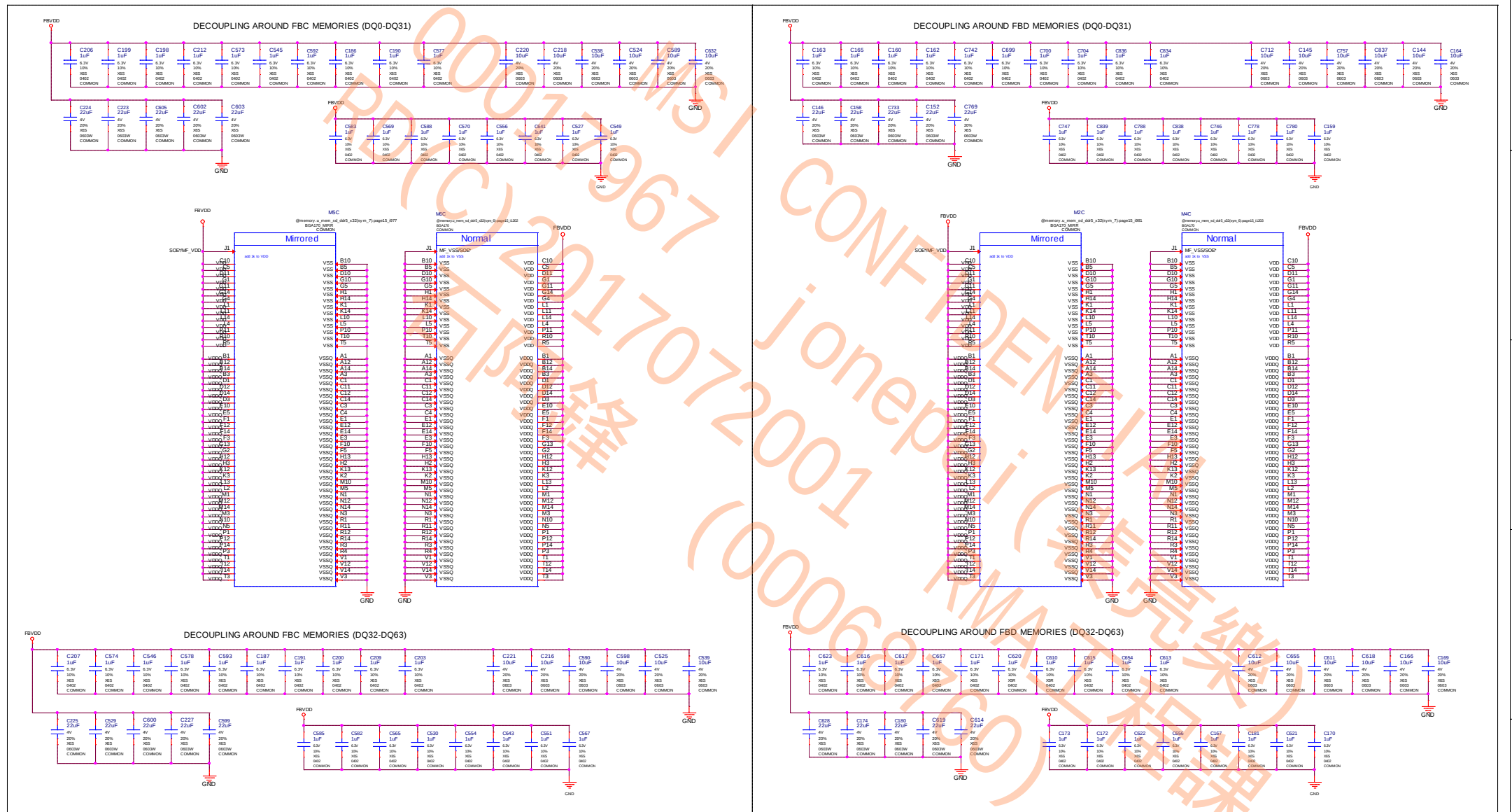
GDMS CML Mapping			
CMD	CMD		32.43
CM00	CAS*		
CM01	CAS*		
CM02	BS*		
CM03	BA*		
CM04	A3, A9		
CM05	A0, A10		
CM06	A2, RFU		
CM07	AB*		
CM08	AB, A11		
CM09	WT, A8		
CM10	WE*		
CM11	A5, BA1		
CM12	A4, BA2		
CM13	A2, BA0		
CM14	A3, BA3		
CM15	CS*		
CM16		CAS*	
CM17		CE*	
CM18		BS*	
CM19		BA*	
CM20		A3, A9	
CM21		A0, A10	
CM22		A2, RFU	
CM23		AB*	
CM24		AB, A11	
CM25		WT*	
CM26		WE*	
CM27		A5, BA1	
CM28		A4, BA2	
CM29		A2, BA0	
CM30		A3, BA3	
CM31		CS*	

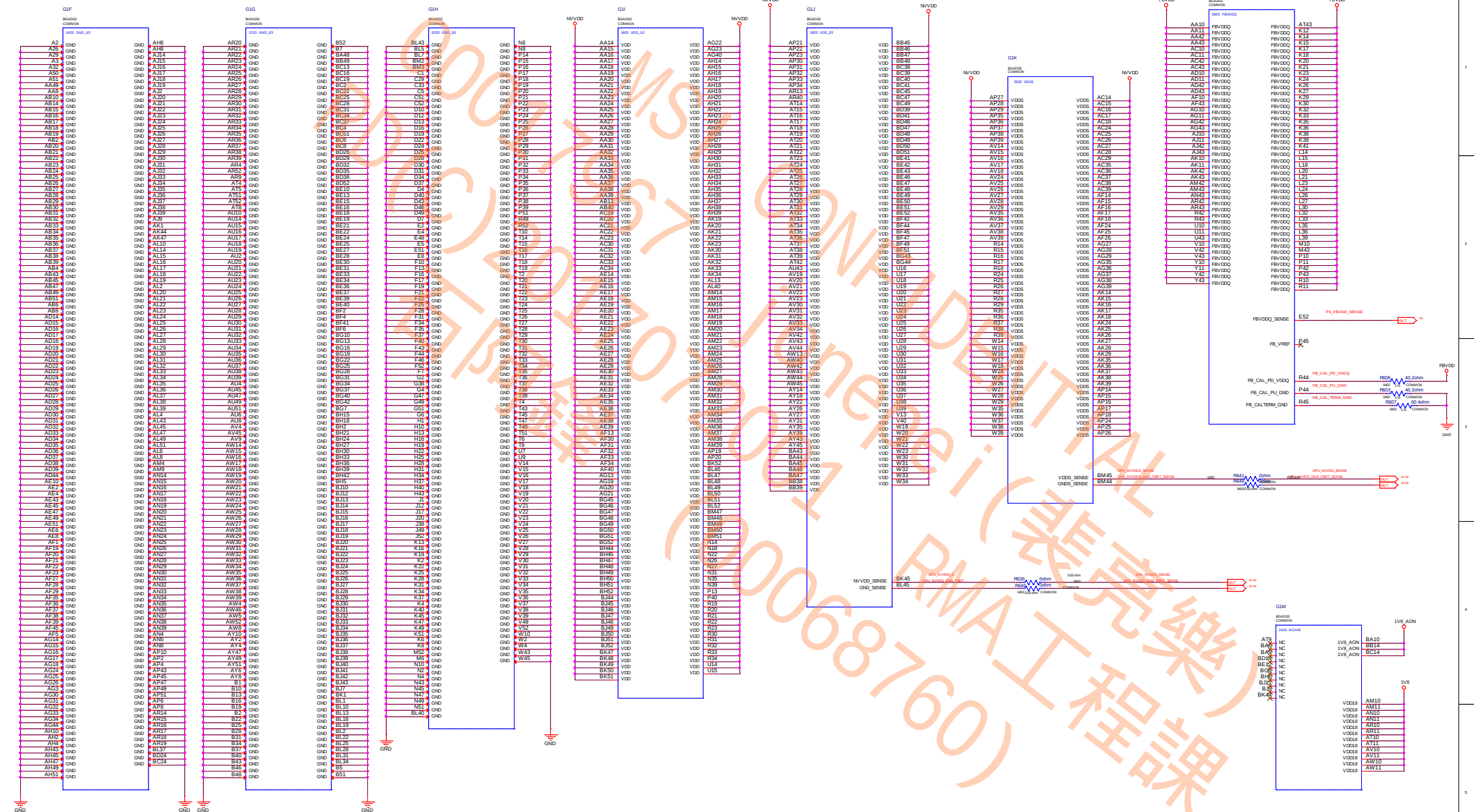


QDDR5 CMD Mapping		
Cmd	QDDR5	32-Bit
CMDO	CAS*	
CMO1	CAS*	
CMO2	RST*	
CMO3	RAS*	
CMO4	AI, BA1	
CMO5	AI, BA2	
CMO6	AI, BA3	
CMO7	AI, BA4	
CMO8	AI, BA5	
CMO9	AI, BA6	
CMO10	AI, BA7	
CMO11	AI, BA8	
CMO12	AI, BA9	
CMO13	AI, BA10	
CMO14	AI, BA11	
CMO15	AI, BA12	
CMO16	AI, BA13	
CMO17	AI, BA14	
CMO18	AI, BA15	
CMO19	AI, BA16	
CMO20	AI, BA17	
CMO21	AI, BA18	
CMO22	AI, BA19	
CMO23	AI, BA20	
CMO24	AI, BA21	
CMO25	AI, BA22	
CMO26	AI, BA23	
CMO27	AI, BA24	
CMO28	AI, BA25	
CMO29	AI, BA26	
CMO30	AI, BA27	
CMO31	AI, BA28	
CMO32	AI, BA29	
CMO33	AI, BA30	
CMO34	AI, BA31	
CMO35	AI, BA32	
CMO36	AI, BA33	
CMO37	AI, BA34	
CMO38	AI, BA35	
CMO39	AI, BA36	
CMO40	AI, BA37	
CMO41	AI, BA38	
CMO42	AI, BA39	
CMO43	AI, BA40	
CMO44	AI, BA41	
CMO45	AI, BA42	
CMO46	AI, BA43	
CMO47	AI, BA44	
CMO48	AI, BA45	
CMO49	AI, BA46	
CMO50	AI, BA47	
CMO51	AI, BA48	
CMO52	AI, BA49	
CMO53	AI, BA50	
CMO54	AI, BA51	
CMO55	AI, BA52	
CMO56	AI, BA53	
CMO57	AI, BA54	
CMO58	AI, BA55	
CMO59	AI, BA56	
CMO60	AI, BA57	
CMO61	AI, BA58	
CMO62	AI, BA59	
CMO63	AI, BA60	
CMO64	AI, BA61	
CMO65	AI, BA62	
CMO66	AI, BA63	
CMO67	AI, BA64	
CMO68	AI, BA65	
CMO69	AI, BA66	
CMO70	AI, BA67	
CMO71	AI, BA68	
CMO72	AI, BA69	
CMO73	AI, BA70	
CMO74	AI, BA71	
CMO75	AI, BA72	
CMO76	AI, BA73	
CMO77	AI, BA74	
CMO78	AI, BA75	
CMO79	AI, BA76	
CMO80	AI, BA77	
CMO81	AI, BA78	
CMO82	AI, BA79	
CMO83	AI, BA80	
CMO84	AI, BA81	
CMO85	AI, BA82	
CMO86	AI, BA83	
CMO87	AI, BA84	
CMO88	AI, BA85	
CMO89	AI, BA86	
CMO90	AI, BA87	
CMO91	AI, BA88	
CMO92	AI, BA89	
CMO93	AI, BA90	
CMO94	AI, BA91	
CMO95	AI, BA92	
CMO96	AI, BA93	
CMO97	AI, BA94	
CMO98	AI, BA95	
CMO99	AI, BA96	
CMO100	AI, BA97	
CMO101	AI, BA98	
CMO102	AI, BA99	
CMO103	AI, BA100	
CMO104	AI, BA101	
CMO105	AI, BA102	
CMO106	AI, BA103	
CMO107	AI, BA104	
CMO108	AI, BA105	
CMO109	AI, BA106	
CMO110	AI, BA107	
CMO111	AI, BA108	
CMO112	AI, BA109	
CMO113	AI, BA110	
CMO114	AI, BA111	
CMO115	AI, BA112	
CMO116	AI, BA113	
CMO117	AI, BA114	
CMO118	AI, BA115	
CMO119	AI, BA116	
CMO120	AI, BA117	
CMO121	AI, BA118	
CMO122	AI, BA119	
CMO123	AI, BA120	
CMO124	AI, BA121	
CMO125	AI, BA122	
CMO126	AI, BA123	
CMO127	AI, BA124	
CMO128	AI, BA125	
CMO129	AI, BA126	
CMO130	AI, BA127	
CMO131	AI, BA128	
CMO132	AI, BA129	
CMO133	AI, BA130	
CMO134	AI, BA131	
CMO135	AI, BA132	
CMO136	AI, BA133	
CMO137	AI, BA134	
CMO138	AI, BA135	
CMO139	AI, BA136	
CMO140	AI, BA137	
CMO141	AI, BA138	
CMO142	AI, BA139	
CMO143	AI, BA140	
CMO144	AI, BA141	
CMO145	AI, BA142	
CMO146	AI, BA143	
CMO147	AI, BA144	
CMO148	AI, BA145	
CMO149	AI, BA146	
CMO150	AI, BA147	
CMO151	AI, BA148	
CMO152	AI, BA149	
CMO153	AI, BA150	
CMO154	AI, BA151	
CMO155	AI, BA152	
CMO156	AI, BA153	
CMO157	AI, BA154	
CMO158	AI, BA155	
CMO159	AI, BA156	
CMO160	AI, BA157	
CMO161	AI, BA158	
CMO162	AI, BA159	
CMO163	AI, BA160	
CMO164	AI, BA161	
CMO165	AI, BA162	
CMO166	AI, BA163	
CMO167	AI, BA164	
CMO168	AI, BA165	
CMO169	AI, BA166	
CMO170	AI, BA167	
CMO171	AI, BA168	
CMO172	AI, BA169	
CMO173	AI, BA170	
CMO174	AI, BA171	
CMO175	AI, BA172	
CMO176	AI, BA173	
CMO177	AI, BA174	
CMO178	AI, BA175	
CMO179	AI, BA176	
CMO180	AI, BA177	
CMO181	AI, BA178	
CMO182	AI, BA179	
CMO183	AI, BA180	
CMO184	AI, BA181	
CMO185	AI, BA182	
CMO186	AI, BA183	
CMO187	AI, BA184	
CMO188	AI, BA185	
CMO189	AI, BA186	
CMO190	AI, BA187	
CMO191	AI, BA188	
CMO192	AI, BA189	
CMO193	AI, BA190	
CMO194	AI, BA191	
CMO195	AI, BA192	
CMO196	AI, BA193	
CMO197	AI, BA194	
CMO198	AI, BA195	
CMO199	AI, BA196	
CMO200	AI, BA197	
CMO201	AI, BA198	
CMO202	AI, BA199	
CMO203	AI, BA200	
CMO204	AI, BA201	
CMO205	AI, BA202	
CMO206	AI, BA203	
CMO207	AI, BA204	
CMO208	AI, BA205	
CMO209	AI, BA206	
CMO210	AI, BA207	
CMO211	AI, BA208	
CMO212	AI, BA209	
CMO213	AI, BA210	
CMO214	AI, BA211	
CMO215	AI, BA212	
CMO216	AI, BA213	
CMO217	AI, BA214	
CMO218	AI, BA215	
CMO219	AI, BA216	
CMO220	AI, BA217	
CMO221	AI, BA218	
CMO222	AI, BA219	
CMO223	AI, BA220	
CMO224	AI, BA221	
CMO225	AI, BA222	
CMO226	AI, BA223	
CMO227	AI, BA224	
CMO228	AI, BA225	
CMO229	AI, BA226	
CMO230	AI, BA227	
CMO231	AI, BA228	
CMO232	AI, BA229	
CMO233	AI, BA230	
CMO234	AI, BA231	
CMO235	AI, BA232	
CMO236	AI, BA233	
CMO237	AI, BA234	
CMO238	AI, BA235	
CMO239	AI, BA236	
CMO240	AI, BA237	
CMO241	AI, BA238	
CMO242	AI, BA239	
CMO243	AI, BA240	
CMO244	AI, BA241	
CMO245	AI, BA242	
CMO246	AI, BA243	
CMO247	AI, BA244	
CMO248	AI, BA245	
CMO249	AI, BA246	
CMO250	AI, BA247	
CMO251	AI, BA248	
CMO252	AI, BA249	
CMO253	AI, BA250	
CMO254	AI, BA251	
CMO255	AI, BA252	
CMO256	AI, BA253	
CMO257	AI, BA254	
CMO258	AI, BA255	
CMO259	AI, BA256	
CMO260	AI, BA257	
CMO261	AI, BA258	
CMO262	AI, BA259	
CMO263	AI, BA260	
CMO264	AI, BA261	
CMO265	AI, BA262	
CMO266	AI, BA263	
CMO267	AI, BA264	
CMO268	AI, BA265	
CMO269	AI, BA266	
CMO270	AI, BA267	
CMO271	AI, BA268	
CMO272	AI, BA269	
CMO273	AI, BA270	
CMO274	AI, BA271	
CMO275	AI, BA272	
CMO276	AI, BA273	
CMO277	AI, BA274	
CMO278	AI, BA275	
CMO279	AI, BA276	
CMO280	AI, BA277	
CMO281	AI, BA278	
CMO282	AI, BA279	
CMO283	AI, BA280	
CMO284	AI, BA281	
CMO285	AI, BA282	
CMO286	AI, BA283	
CMO287	AI, BA284	
CMO288	AI, BA285	
CMO289	AI, BA286	
CMO290	AI, BA287	
CMO291	AI, BA288	
CMO292	AI, BA289	
CMO293	AI, BA290	
CMO294	AI, BA291	
CMO295	AI, BA292	
CMO296	AI, BA293	
CMO297	AI, BA294	
CMO298	AI, BA295	
CMO299	AI, BA296	
CMO300	AI, BA297	
CMO301	AI, BA298	
CMO302	AI, BA299	
CMO303	AI, BA300	
CMO304	AI, BA301	
CMO305	AI, BA302	
CMO306	AI, BA303	
CMO307	AI, BA304	
CMO308	AI, BA305	
CMO309	AI, BA306	
CMO310	AI, BA307	
CMO311	AI, BA308	
CMO312	AI, BA309	
CMO313	AI, BA310	
CMO314	AI, BA311	
CMO315	AI, BA312	
CMO316	AI, BA313	
CMO317	AI, BA314	
CMO318	AI, BA315	
CMO319	AI, BA316	
CMO320	AI, BA317	
CMO321	AI, BA318	
CMO322	AI, BA319	
CMO323	AI, BA320	
CMO324	AI, BA321	
CMO325	AI, BA322	
CMO326	AI, BA323	
CMO327	AI, BA324	
CMO328	AI, BA325	
CMO329	AI, BA326	
CMO330	AI, BA327	
CMO331	AI, BA328	
CMO332	AI, BA329	
CMO333	AI, BA330	
CMO334	AI, BA331	
CMO335	AI, BA332	
CMO336	AI, BA333	
CMO337	AI, BA334	
CMO338	AI, BA335	
CMO339	AI, BA336	
CMO340	AI, BA337	
CMO341	AI, BA338	
CMO342	AI, BA339	
CMO343	AI, BA340	
CMO344	AI, BA341	
CMO345	AI, BA342	
CMO346	AI, BA343	
CMO347	AI, BA344	
CMO348	AI, BA345	
CMO349	AI, BA346	
CMO350	AI, BA347	
CMO351	AI, BA348	
CMO352	AI, BA349	
CMO353	AI, BA350	
CMO354	AI, BA351	
CMO355	AI, BA352	
CMO356	AI, BA353	
CMO357	AI, BA354	
CMO358	AI, BA355	
CMO359	AI, BA356	
CMO360	AI, BA357	
CMO361	AI, BA358	
CMO362	AI, BA359	
CMO363	AI, BA360	
CMO364	AI, BA361	
CMO365	AI, BA362	
CMO366	AI, BA363	
CMO367	AI, BA364	
CMO368	AI, BA365	
CMO369	AI, BA366	
CMO370	AI, BA367	
CMO371	AI, BA368	
CMO372	AI, BA369	
CMO373	AI, BA370	
CMO374	AI, BA371	
CMO375	AI, BA372	
CMO376	AI, BA373	
CMO377	AI, BA374	
CMO378	AI, BA375	
CMO379	AI, BA376	
CMO380	AI, BA377	
CMO381	AI, BA378	
CMO382	AI, BA379	
CMO383	AI, BA380	
CMO384	AI, BA381	
CMO385	AI, BA382	
CMO386	AI, BA383	
CMO387	AI, BA384	
CMO388	AI, BA385	
CMO389	AI, BA386	
CMO390	AI, BA387	
CMO391	AI, BA388	
CMO392	AI, BA389	
CMO393	AI, BA390	
CMO394	AI, BA391	
CMO395	AI, BA392	
CMO396	AI, BA393	
CMO397	AI, BA394	
CMO398	AI, BA395	
CMO399	AI, BA396	
CMO400	AI, BA397	
CMO401	AI, BA398	
CMO402	AI, BA399	



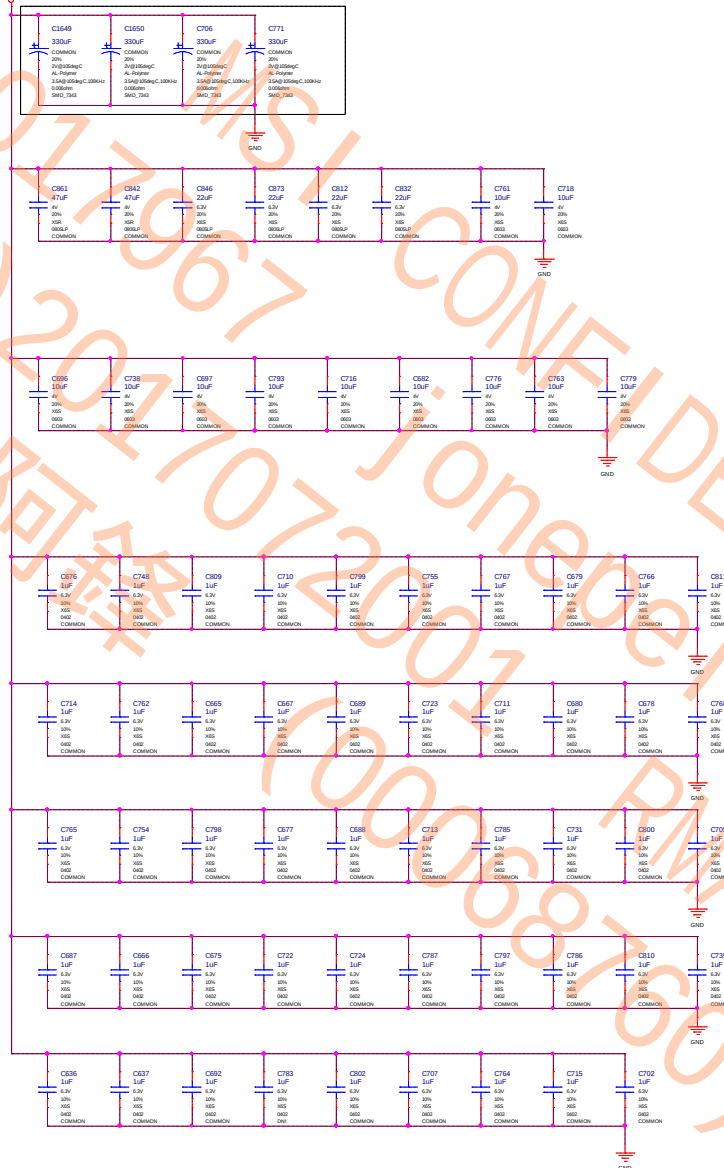
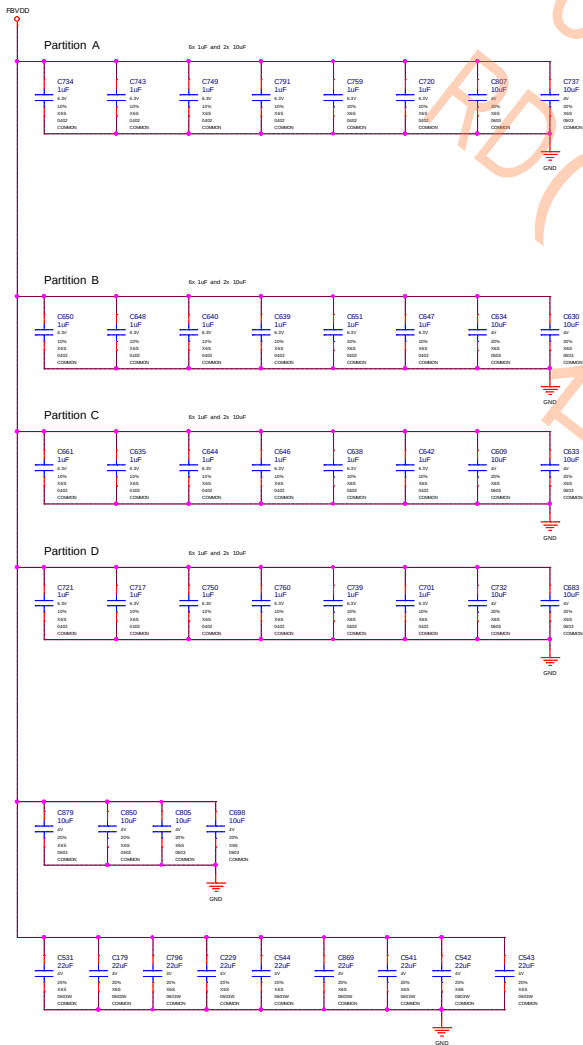




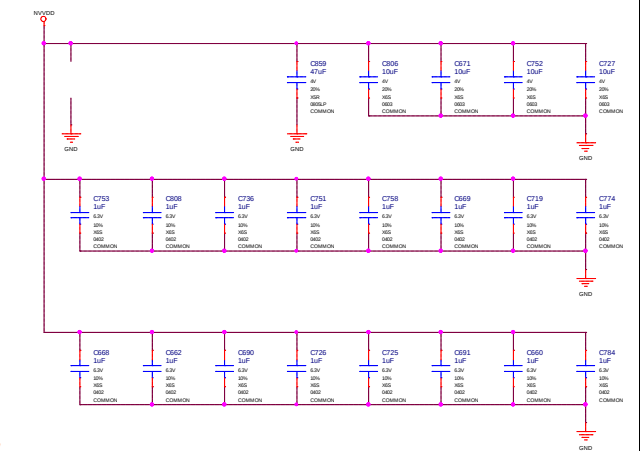


NVVDD

FBVDD

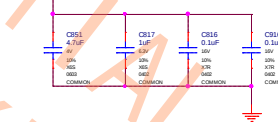


NVVDD



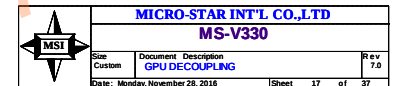
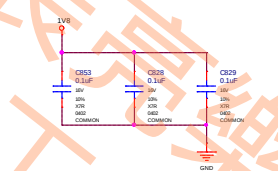
1V8_AON

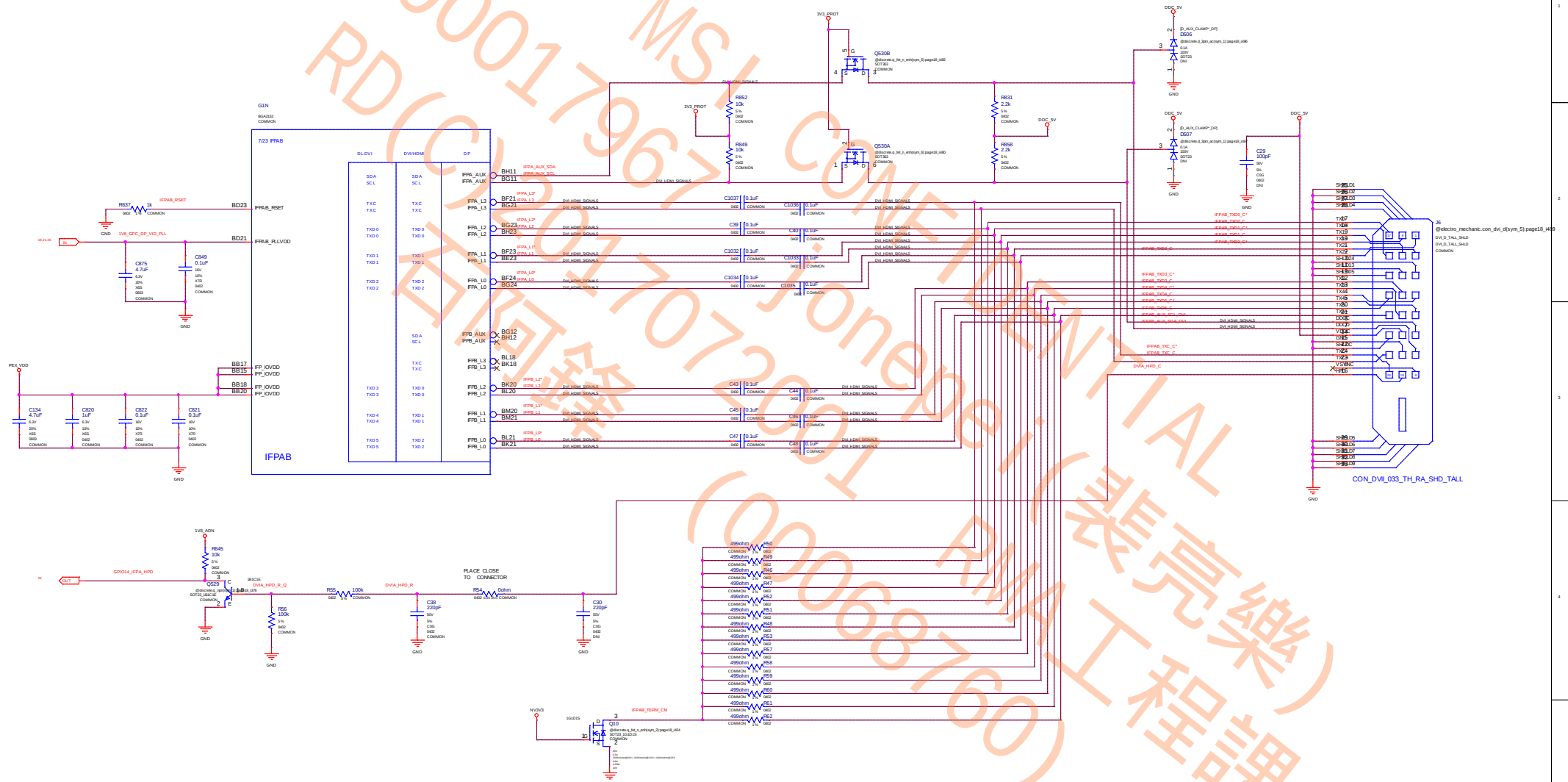
1Vs_AON
place 1 0.1uF cap near BA10

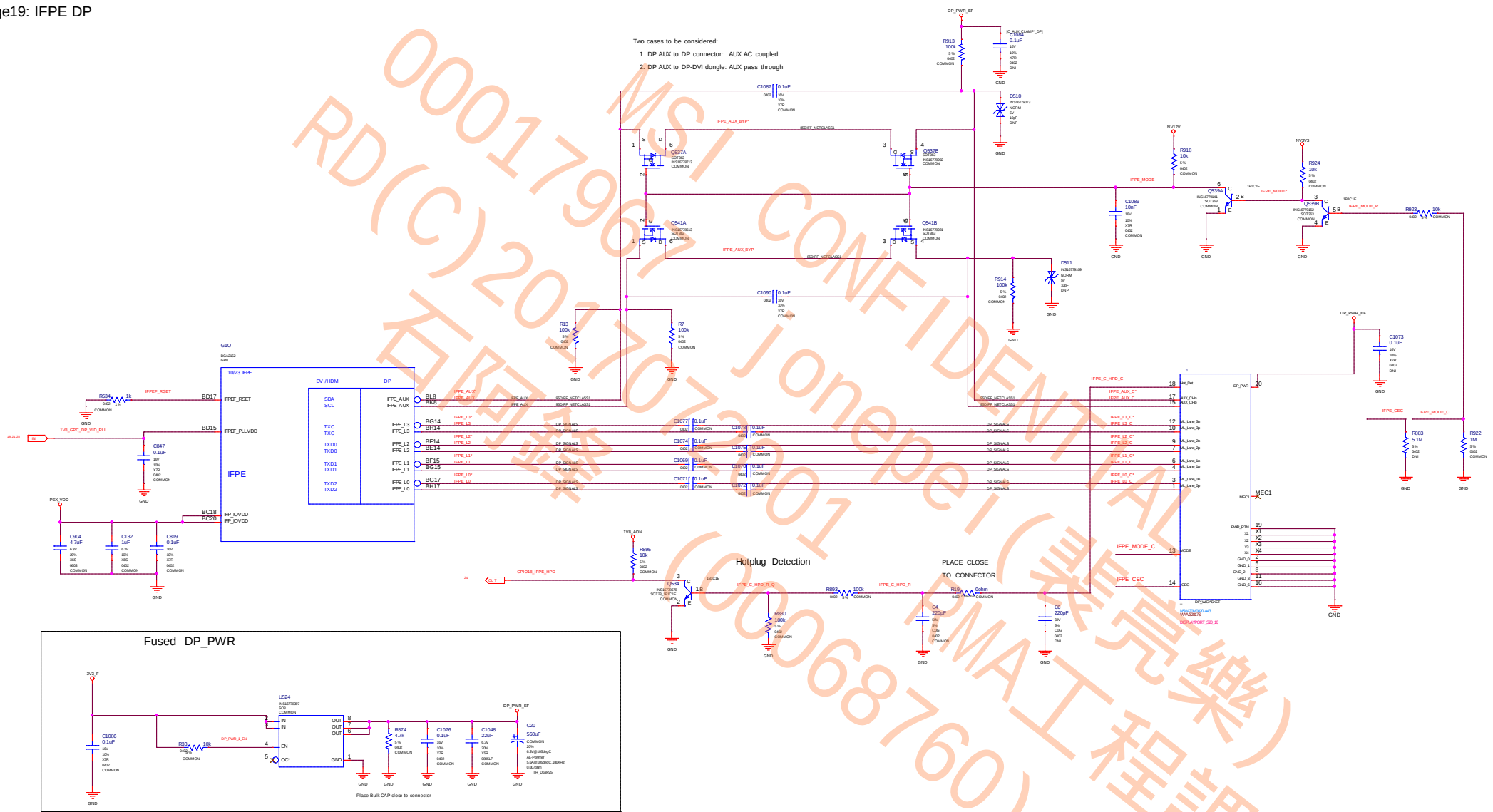


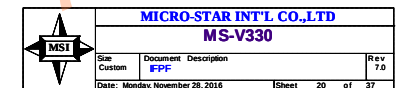
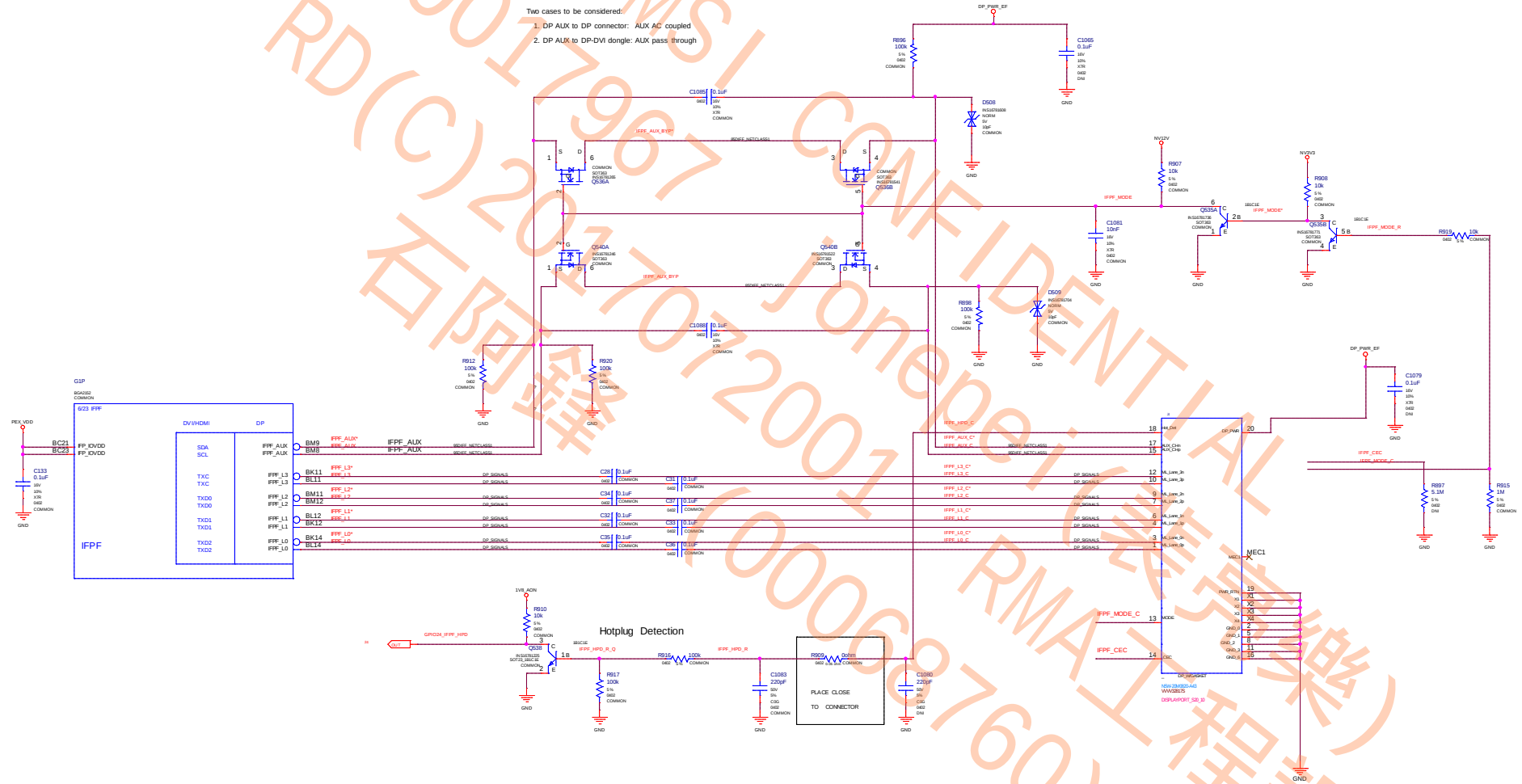
place 1 0.1uf cap for B814 and B

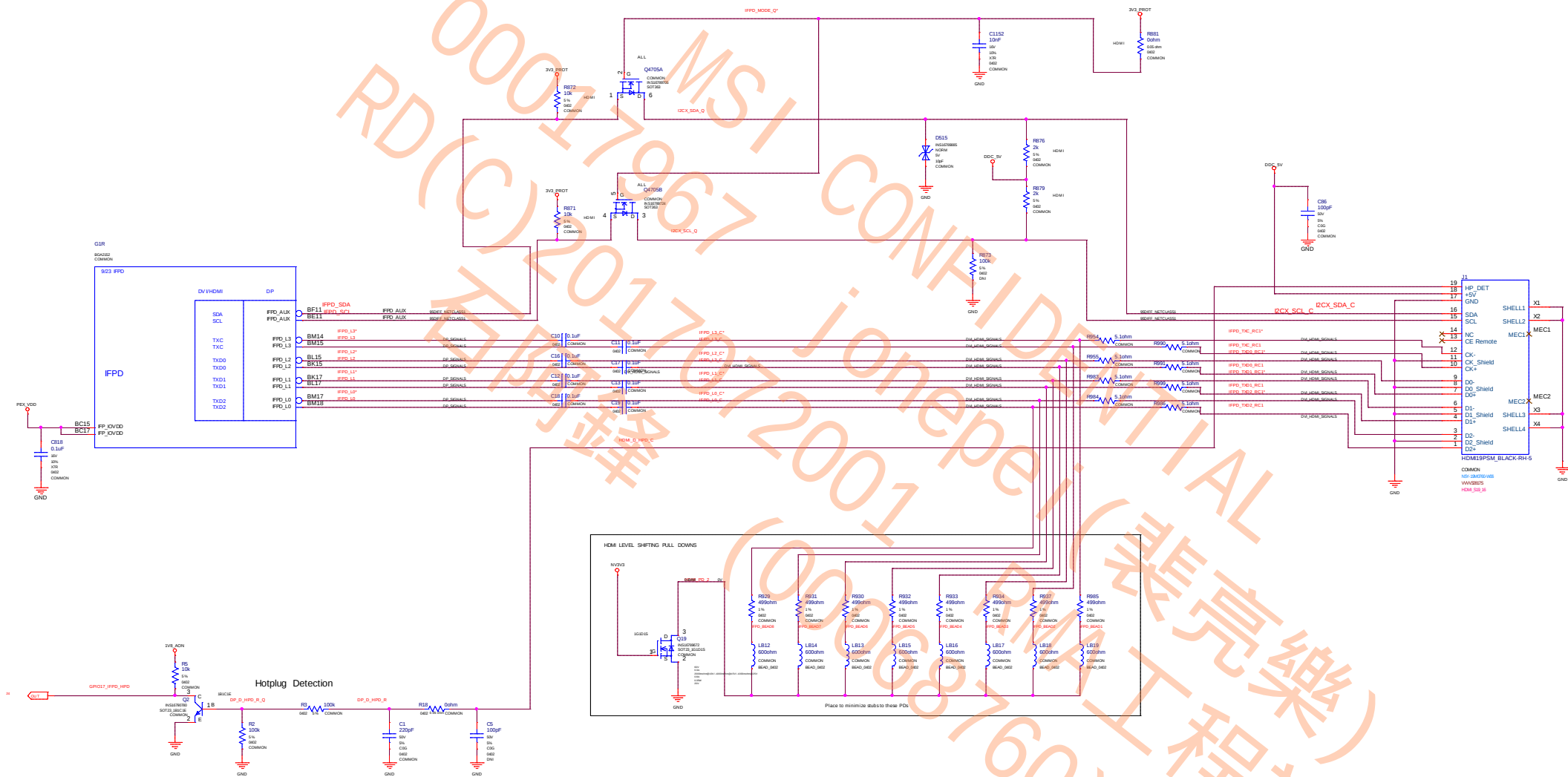
1V8_MAIN

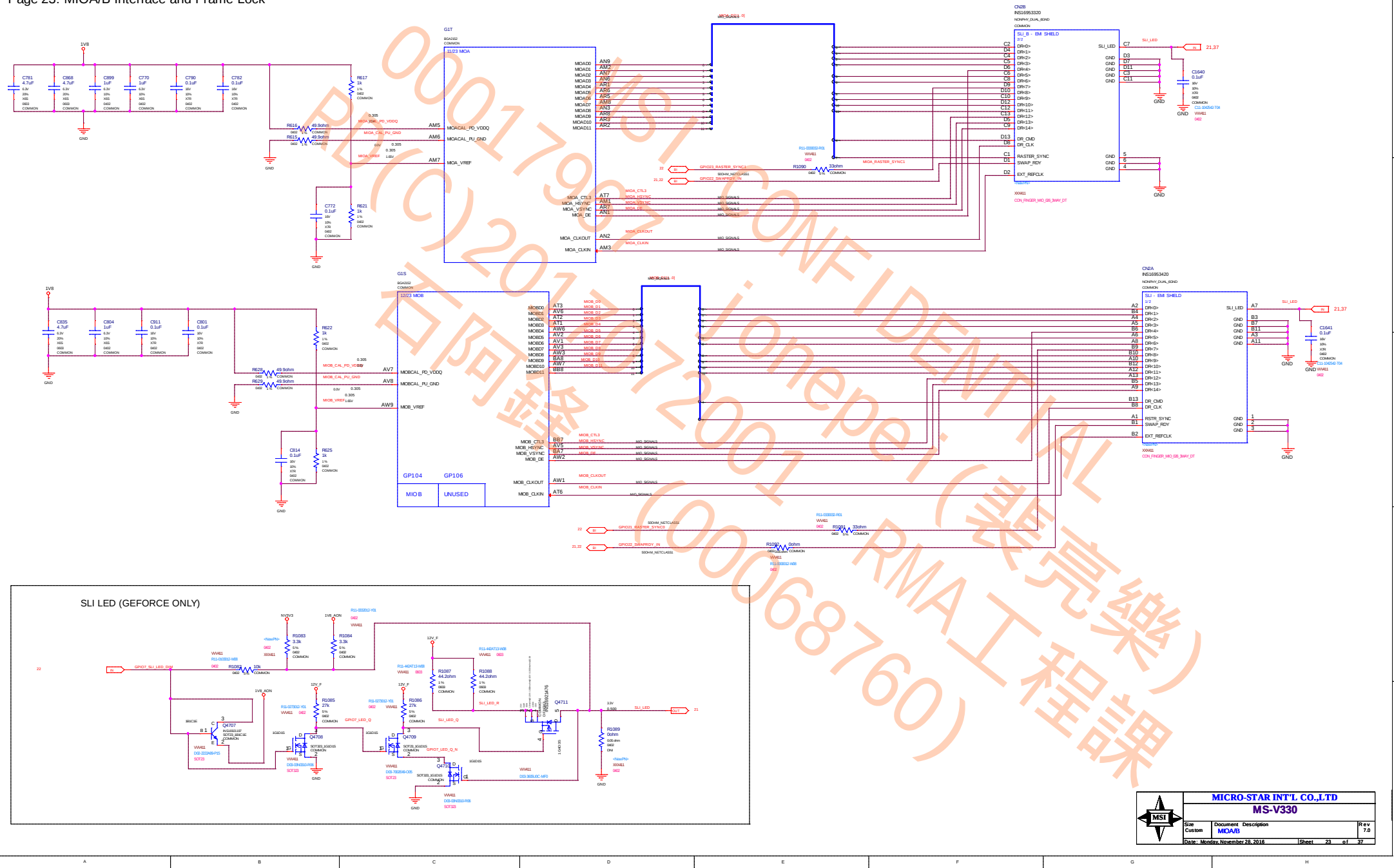


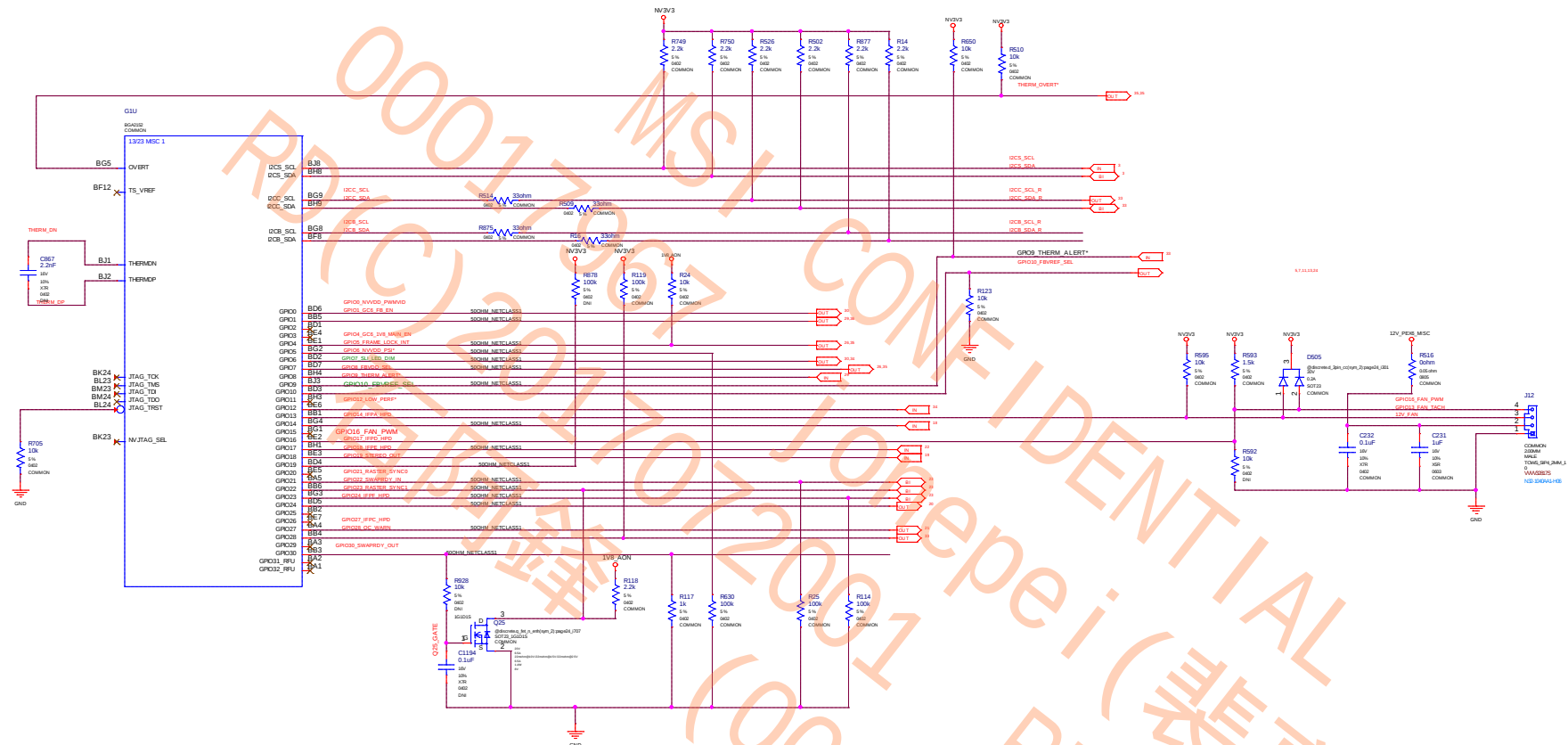












MICRO-STAR INT'L CO.,LTD

MS-V330

Size	Document Description	Rev
Custom	FAN	7.0
Date: Monday, November 28, 2016		Sheet 24 of 37

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]
L	L	L	00000
L	L	H	00001
L	H	L	00010
L	H	H	00011
H	H	L	00110
H	H	H	00111
L	L	M	01000

ROM_SO	ROM_SI	ROM_SCLK	SOR_EXPOSED[3:0]	1:ENABLE 0:DISABLE
L	L	L	1111	DEFAULT
L	L	H	1110	
L	H	L	1101	
L	H	H	1100	
H	L	L	1011	
H	L	H	1010	
H	H	L	1001	
H	H	H	1000	
L	L	M	0111	
L	M	L	0110	
L	M	H	0101	
L	H	M	0100	
H	L	M	0011	
H	M	L	0010	
H	M	H	0001	
H	H	M	0000	

STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCE_CFG	VGA_DEVICE
M	H	H	1	1	1	1
M	H	L	1	1	1	0
M	L	H	1	1	0	1
M	L	L	1	1	0	0
L	H	M	1	0	1	1
L	M	H	1	0	1	0
L	M	L	1	0	0	1
L	L	M	1	0	0	0
H	H	H	0	1	1	1
H	H	L	0	1	1	0
H	L	H	0	1	0	1
H	L	L	0	1	0	0
L	H	H	0	0	1	1
L	H	L	0	0	1	0
L	L	H	0	0	0	1
L	L	L	0	0	0	0

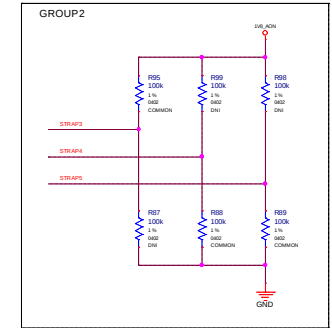
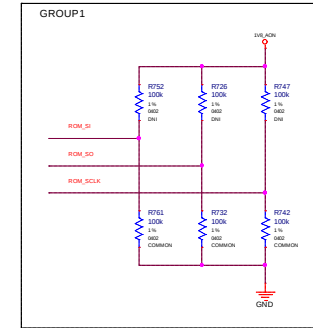
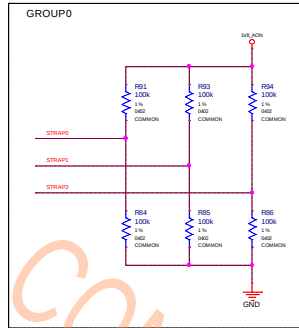
H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

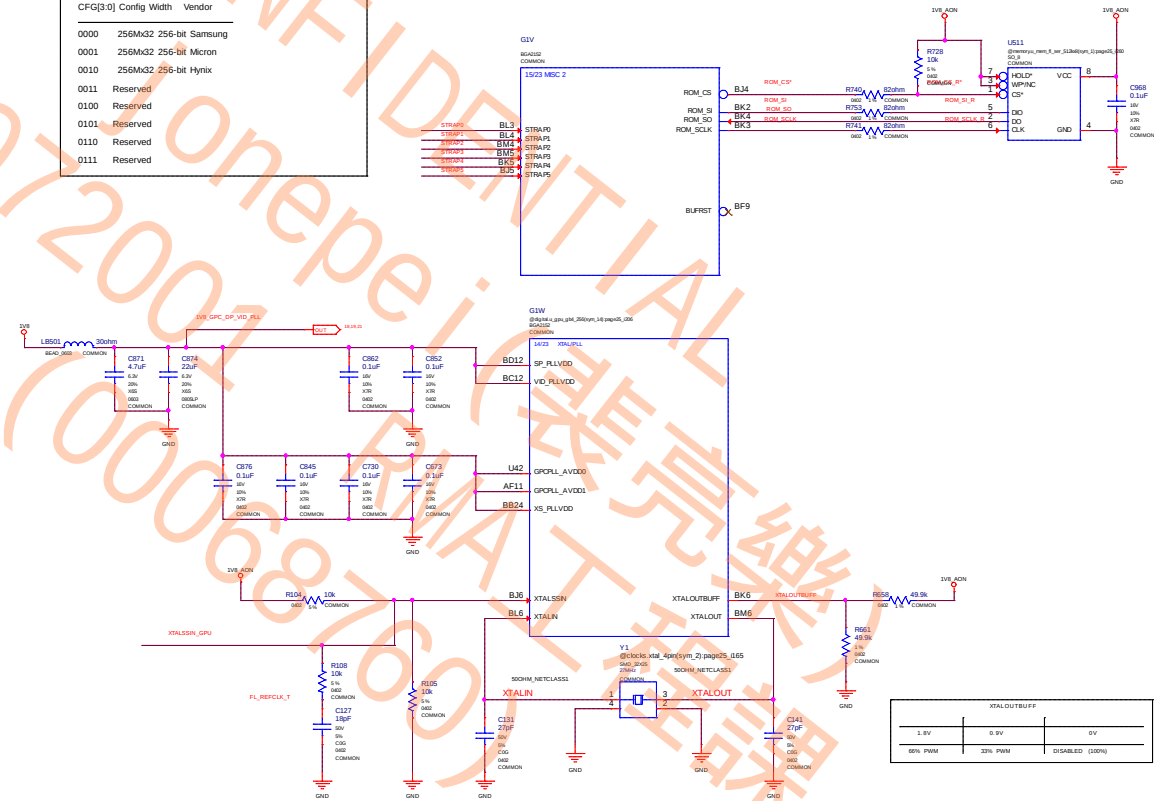
1:DEVID_SEL REBRAND
0:DEVID_SEL ORGNAL

1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

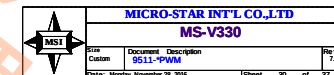


CFG(3:0)	Config	Width	Vendor
0000	256Mx32	256-bit	Samsung
0001	256Mx32	256-bit	Micron
0010	256Mx32	256-bit	Hynix
0011	Reserved		
0100	Reserved		
0101	Reserved		
0110	Reserved		
0111	Reserved		

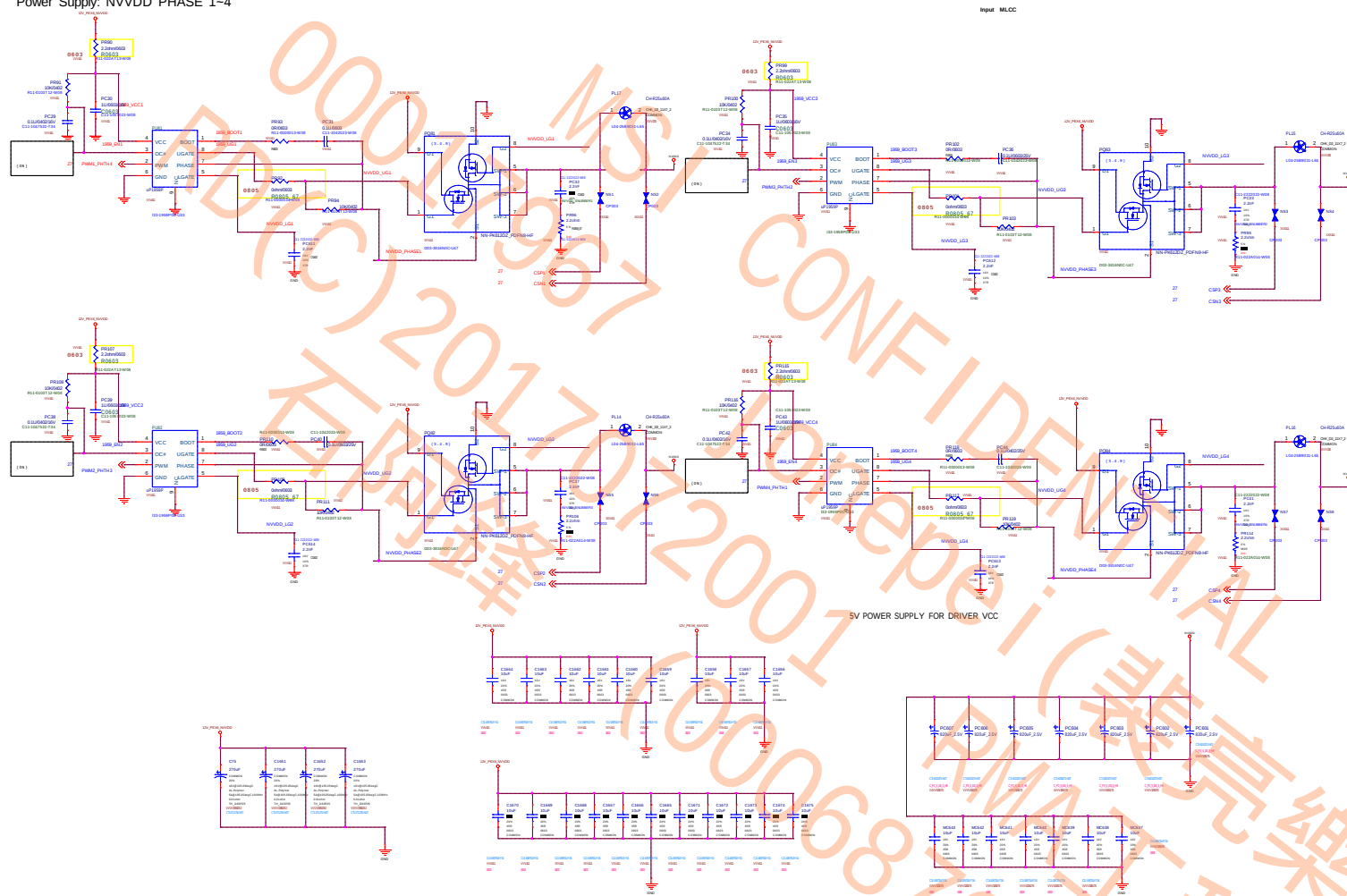


XTALOUTBUFF		
1.8V	0.9V	0V
80% PWM	20% PWM	DISABLED (2070)

MSI	MICRO-STAR INT'L CO.,LTD		
	MS-V330		
Size	Document	Description	Rev
Custom	STRAPS		7.0
Date: Monday, November 28, 2016		Sheet: 25	of 37



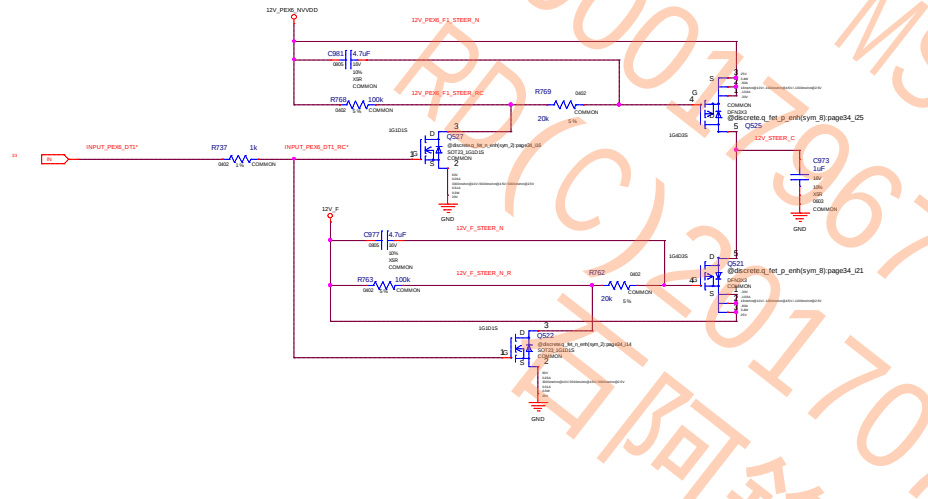
Power Supply: NVVDD PHASE 1~4



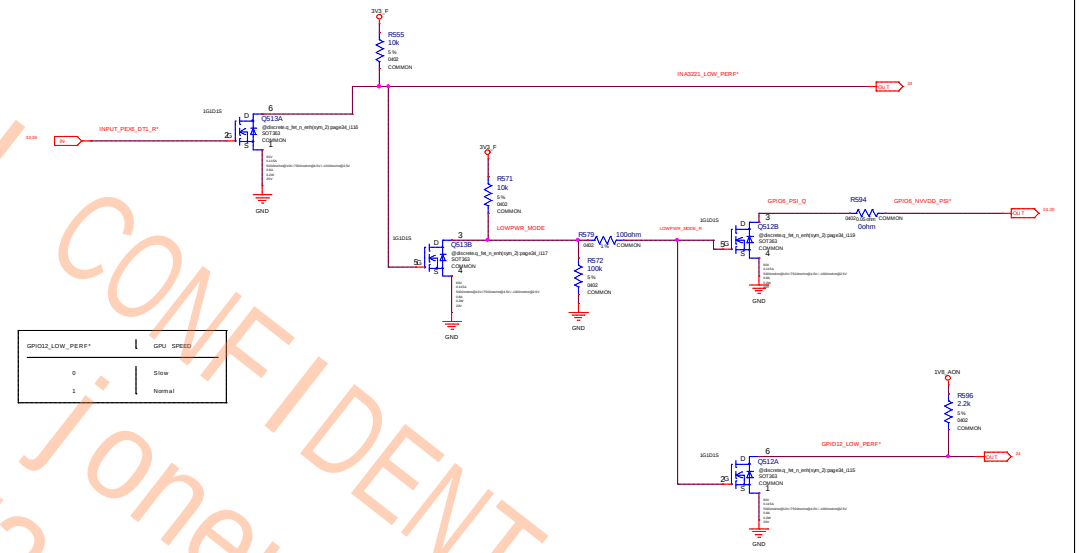


12V CURRENT STEERING (UNDER POWER BOOT):

GUIDES CURRENT FROM PEX EDGE TO PEX 6 PIN INPUT AREA

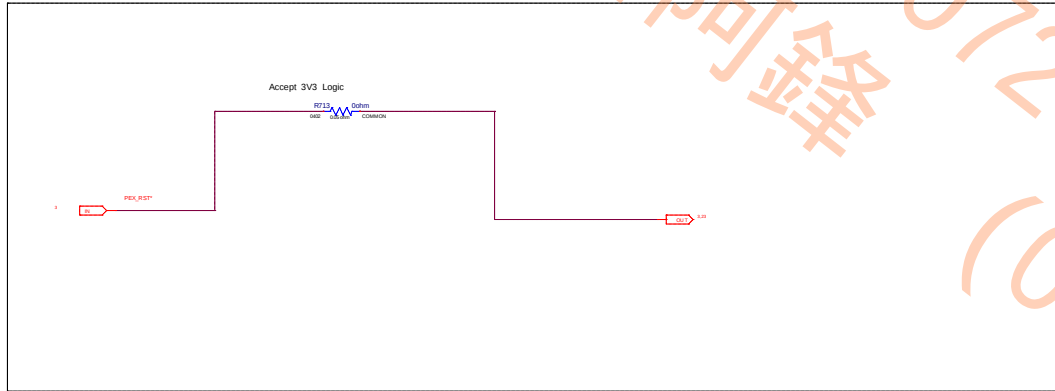


PEX Input - Power Level/PSI* Control



GeForce Logo LED

00017967 MSI CONFIDENTIAL
RD(C)20170720 jonepei (裴亮樂)
石阿鋒 (00068760) RMA工程師



GC6 FB ENABLE
GPU_EVENT*
PEX_CLKREQ*
PEX_RST# LOGIC

MICRO-STAR INT'L CO.,LTD			
MS-V330			
Size	Document	Description	Rev
Custom	GC6		7.0
Date: Monday, November 28, 2016		Sheet	38 of 37

