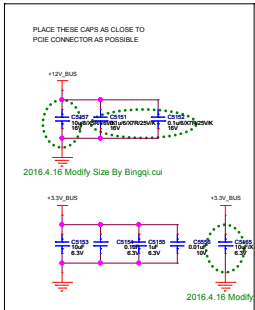
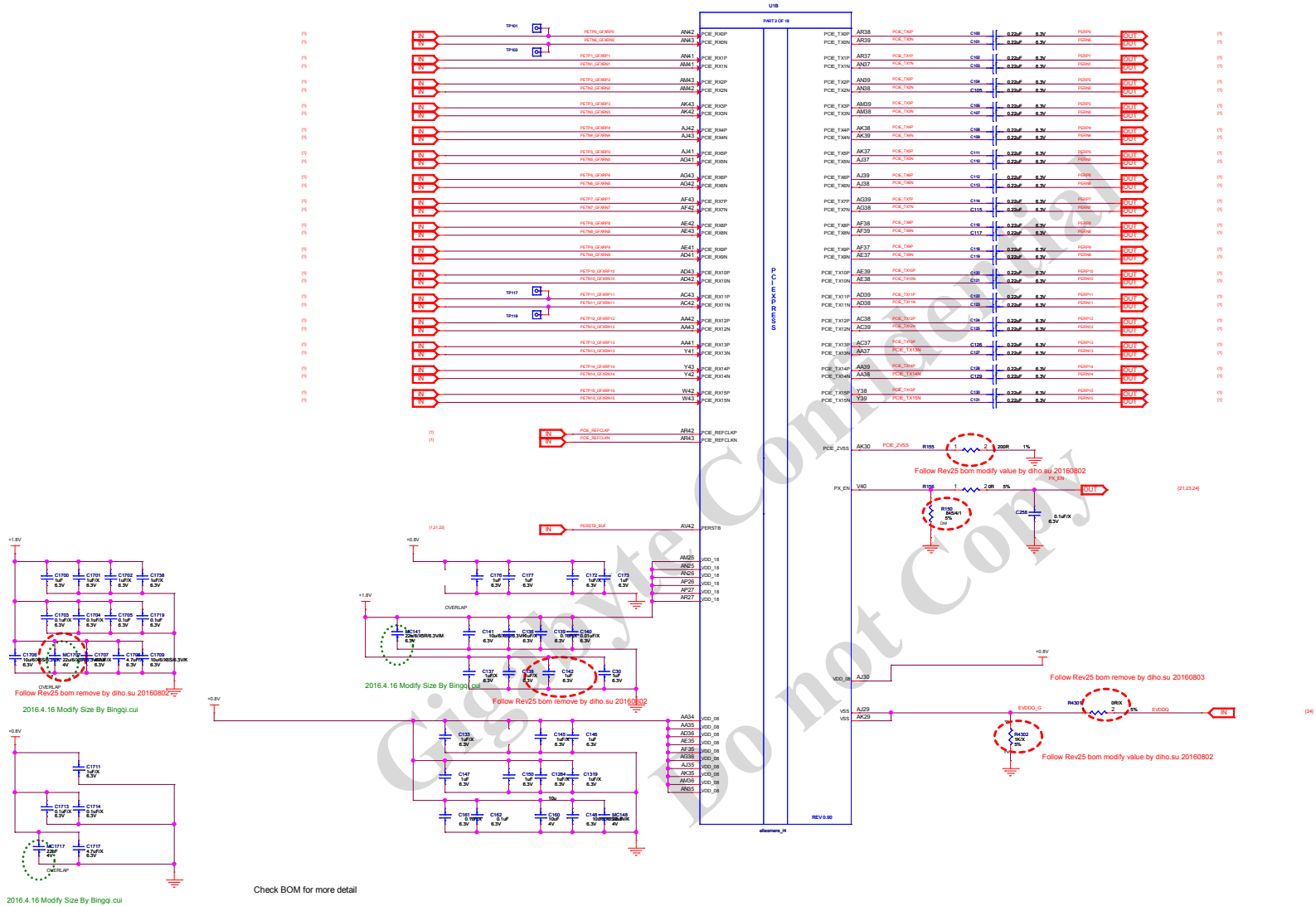


### (1) PCI-EXPRESS EDGE CONNECTOR

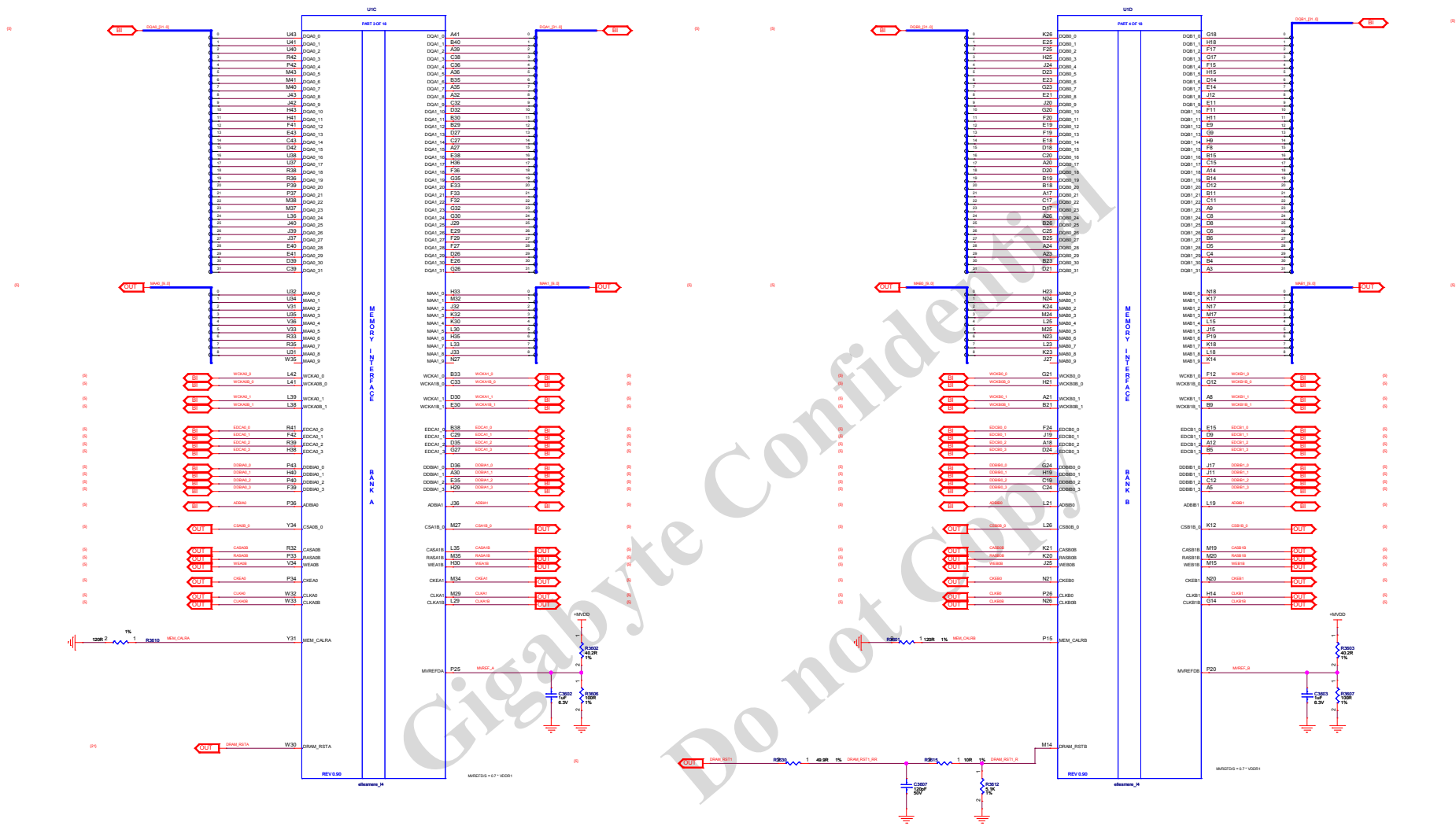


<b>GIGABYTE</b>			
Title <b>PCI Express</b>			
Size	Document Number	Rev	
Custom	<b>GV-RX470G1 GAMING-4GD</b>	1.1	
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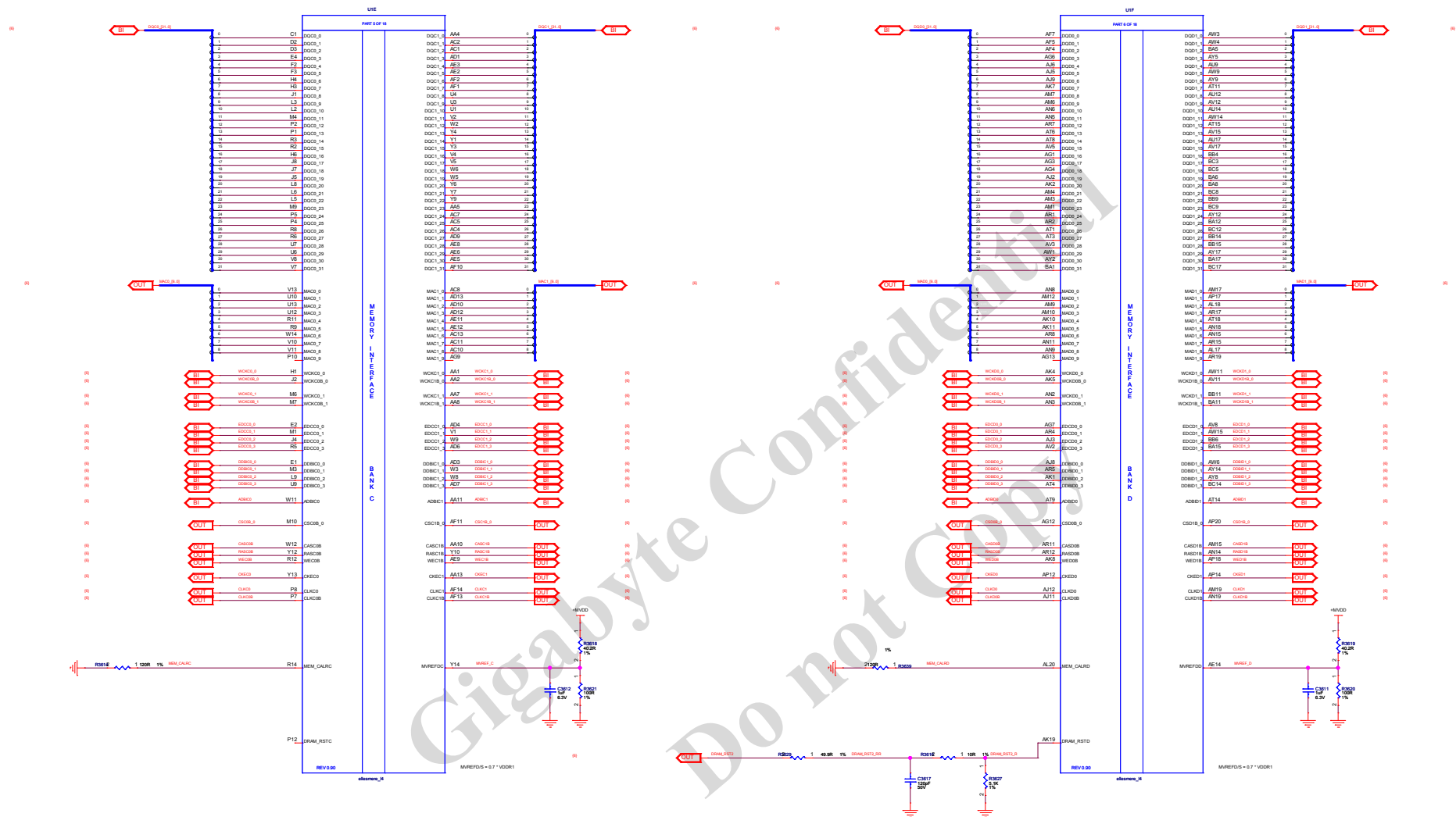
(2) ELLESMERE PCIE INTERFACE



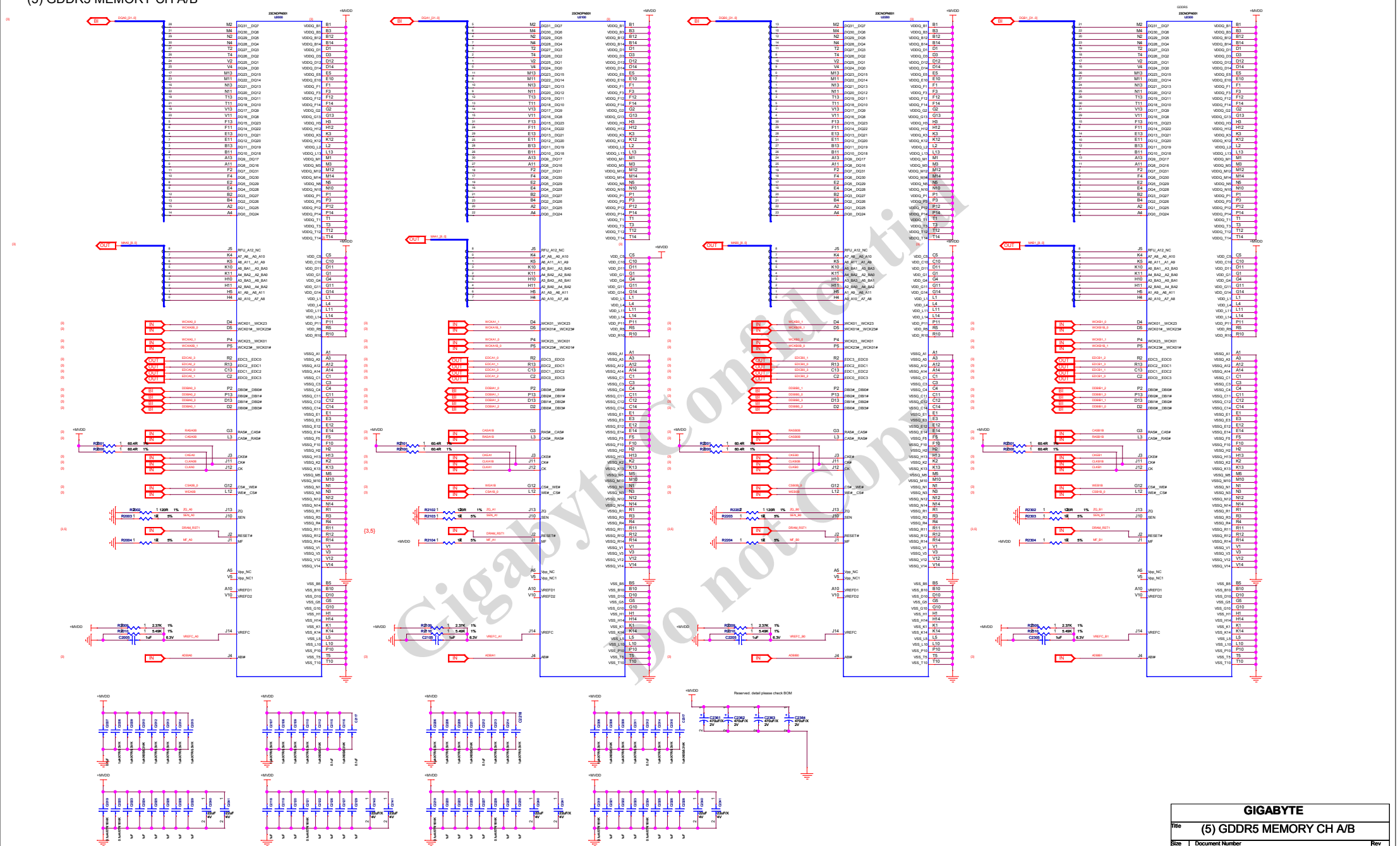
## (3) ELLESMERE MEM INTERFACE CH A/B



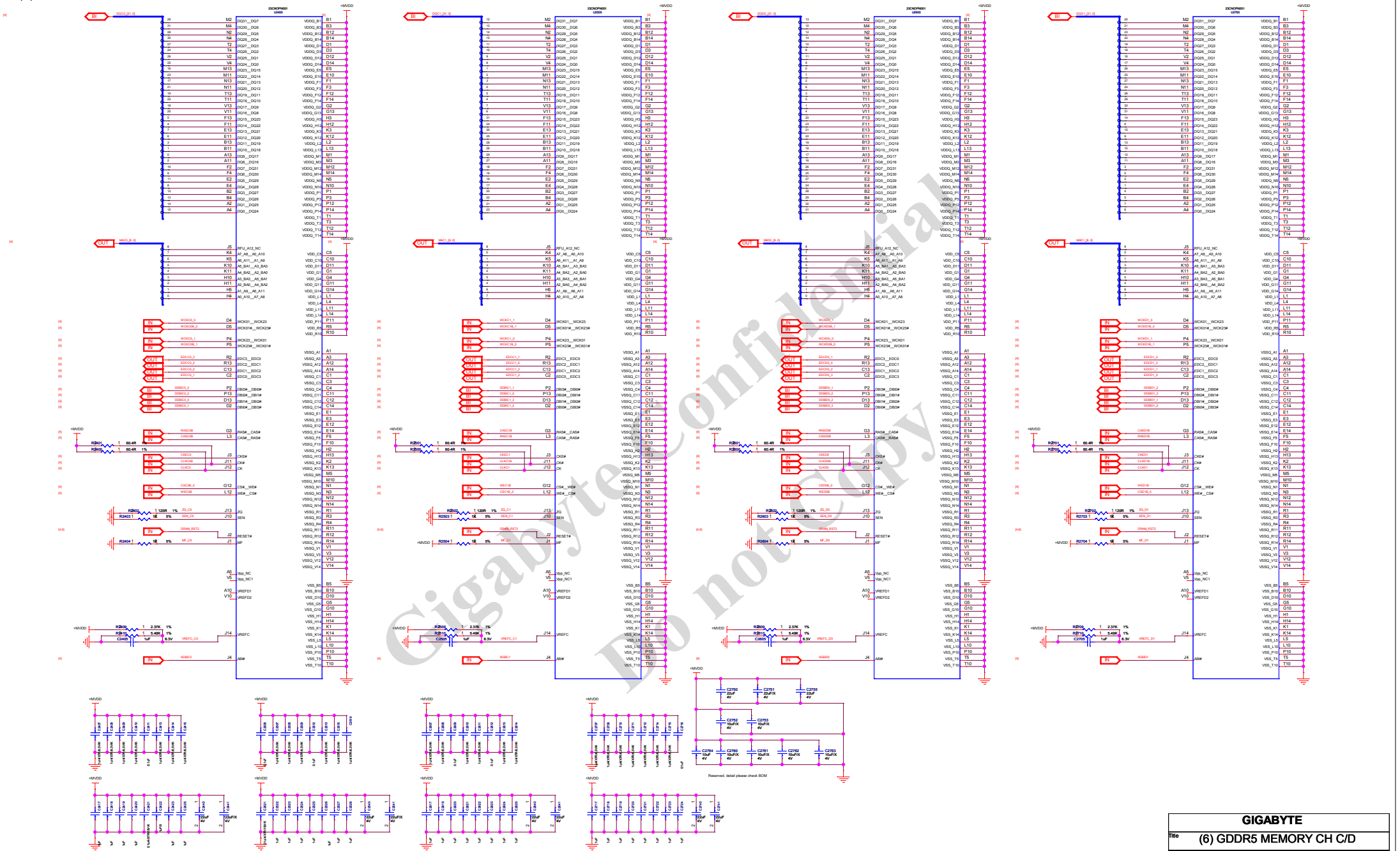
## (4) ELLESMERE MEM INTERFACE CH C/D



(5) GDDR5 MEMORY CH A/B

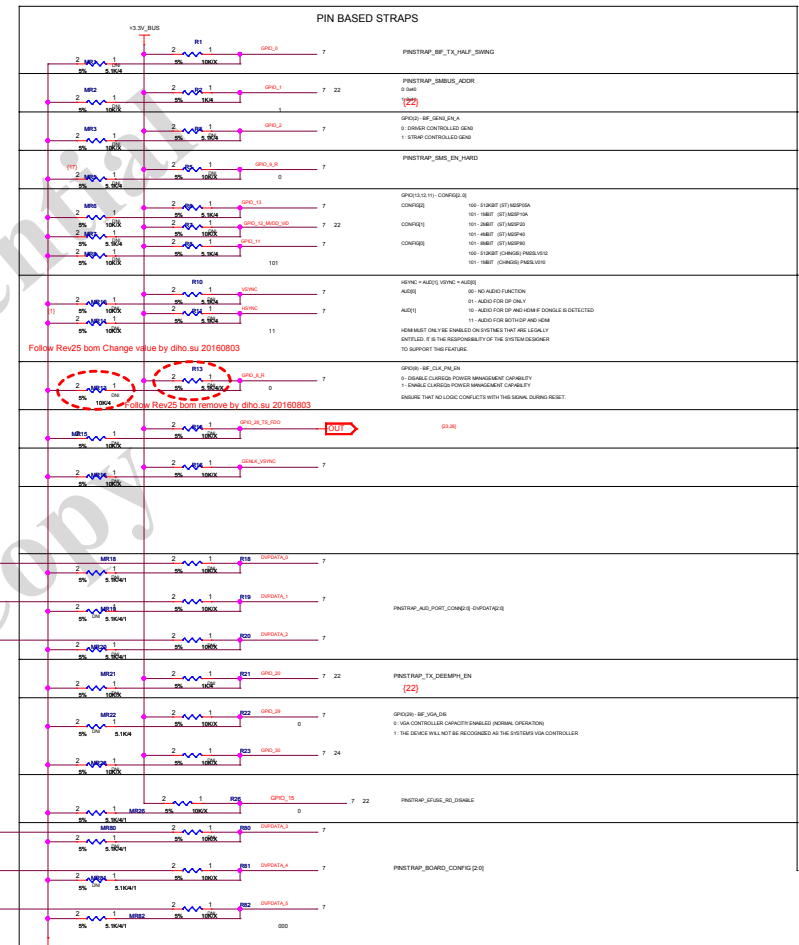
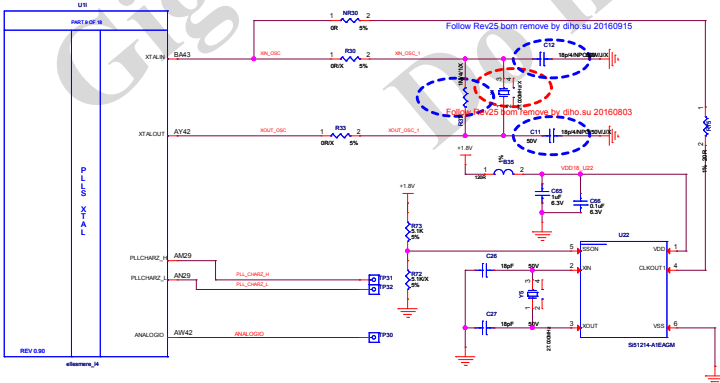
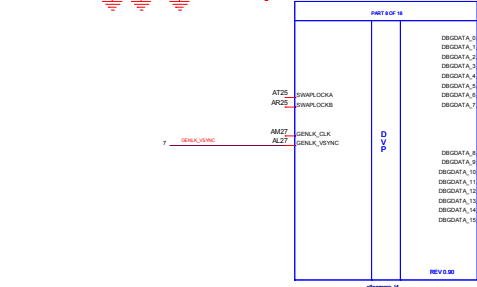
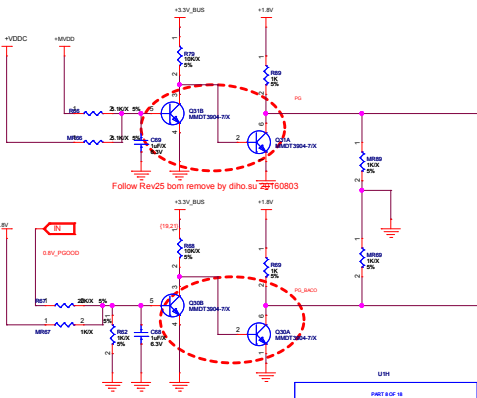


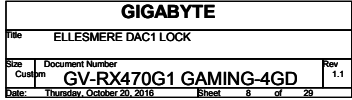
(6) GDDR5 MEMORY CH C/D



(7) ELLESMERE GPIO STRAP CF XTAL

I2C ADDRESS			FUNCTION	DEVICE
I2C ADDRESS			FUNCTION	DEVICE
0x48			EXT TEMP SENSOR	LM8503



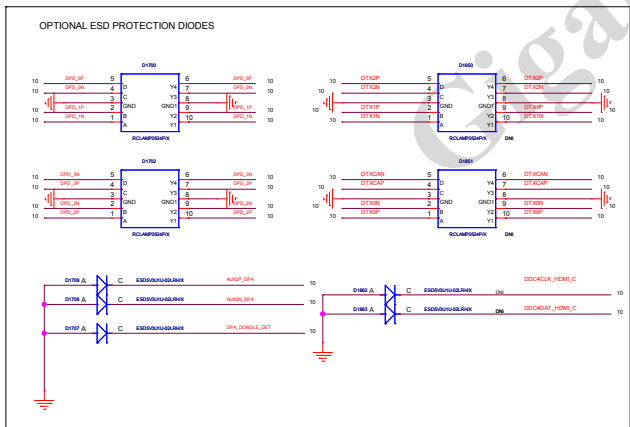
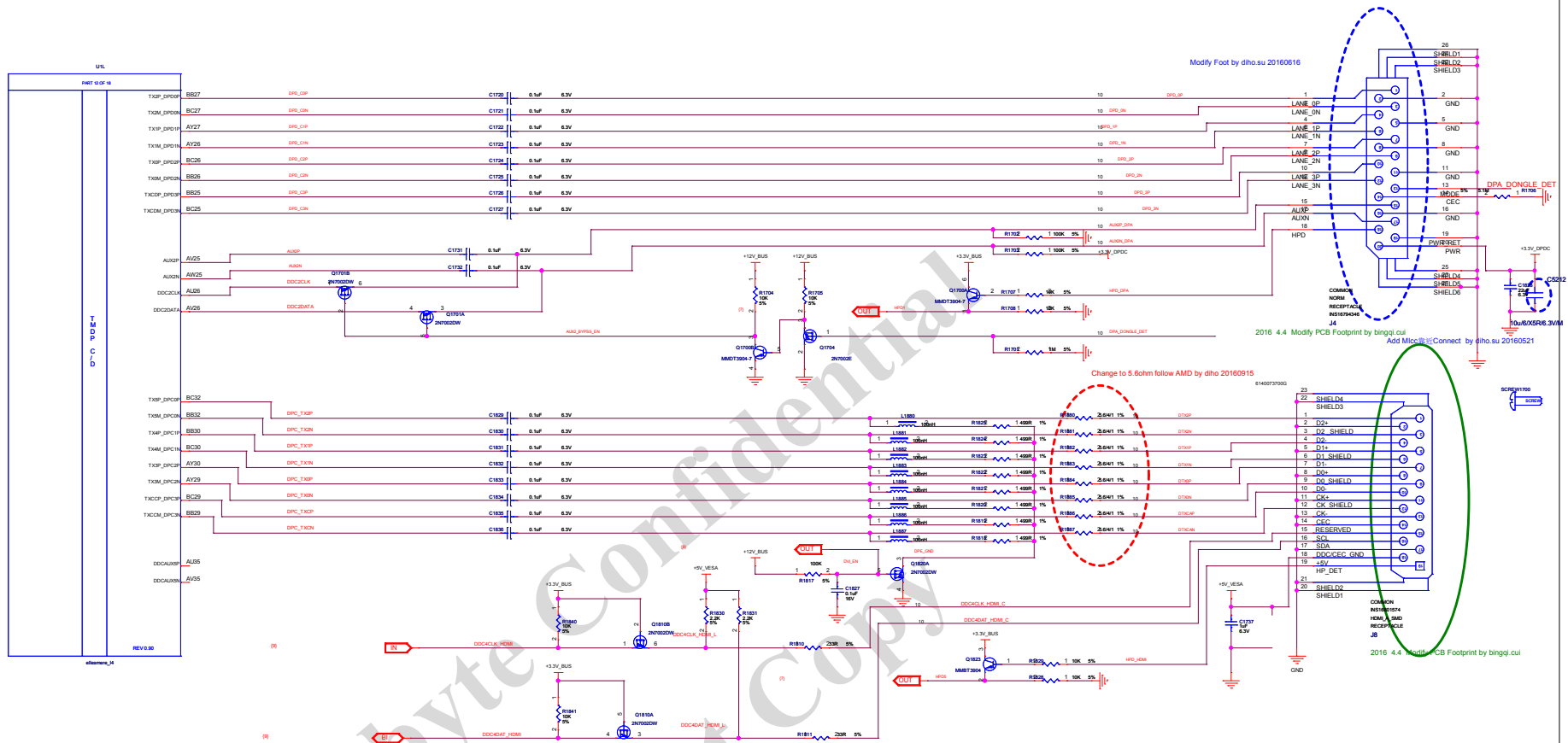
[illegible]

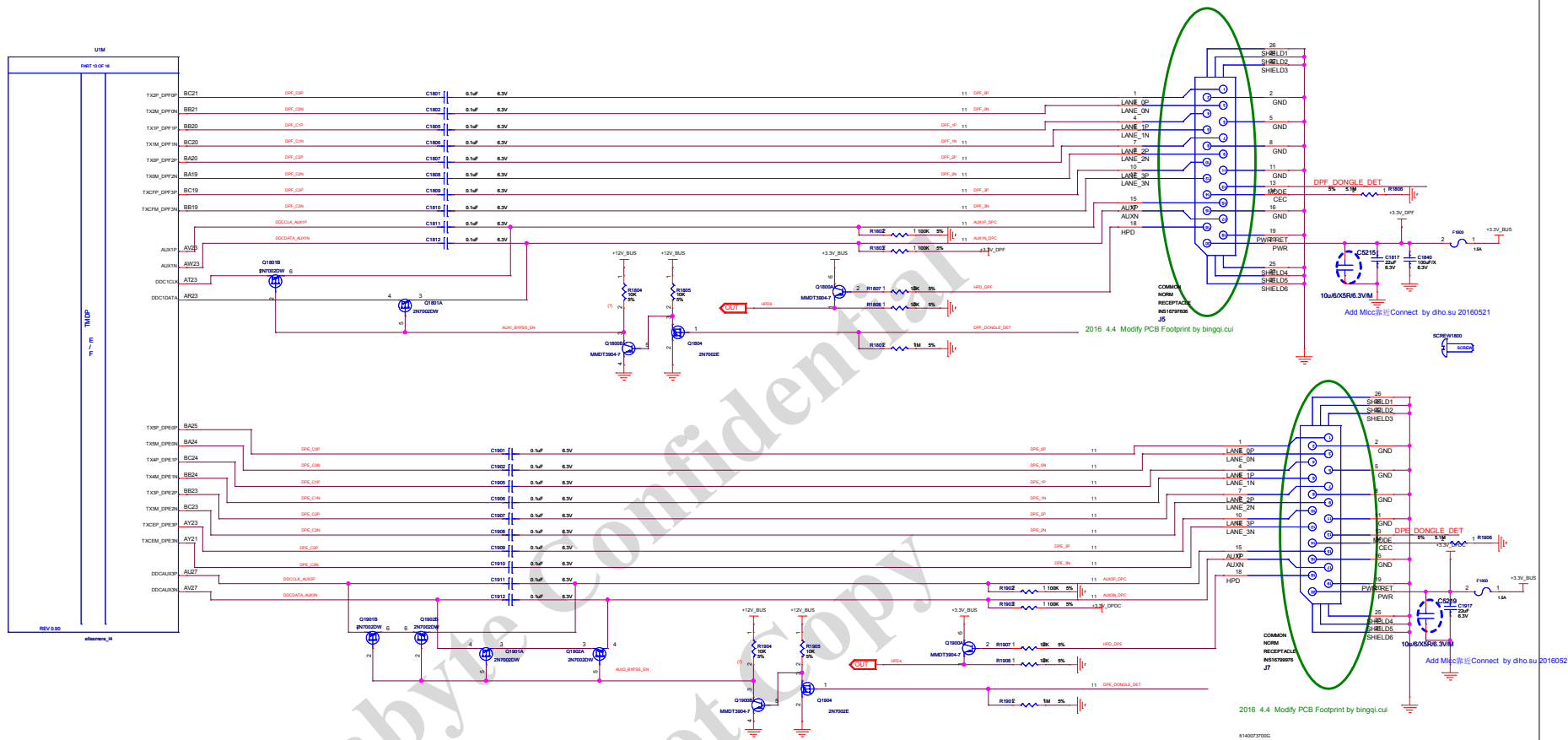




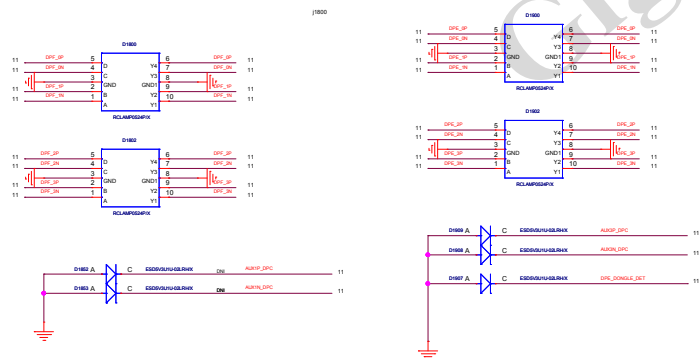
2016 5.20 Modify PCB Footprint by DIHO.SU

[illegible]



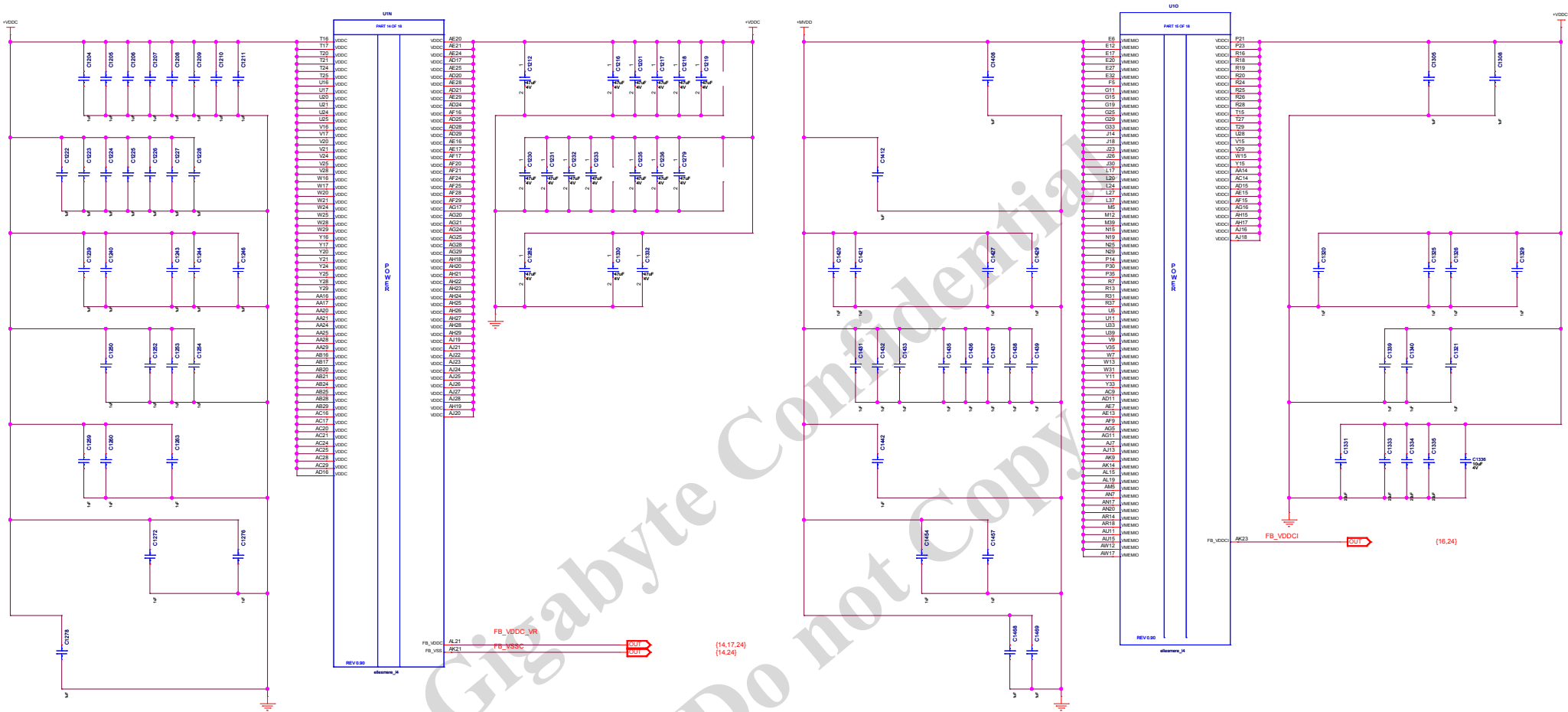


### OPTIONAL ESD PROTECTION DIODES



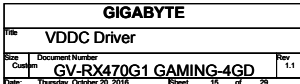
<b>GIGABYTE</b>			
Title <b>ELLESMERE LVTMDP E/F</b>			
Size	Document Number		Rev
Custom	<b>GV-RX470G1 GAMING-4GD</b>		1.1
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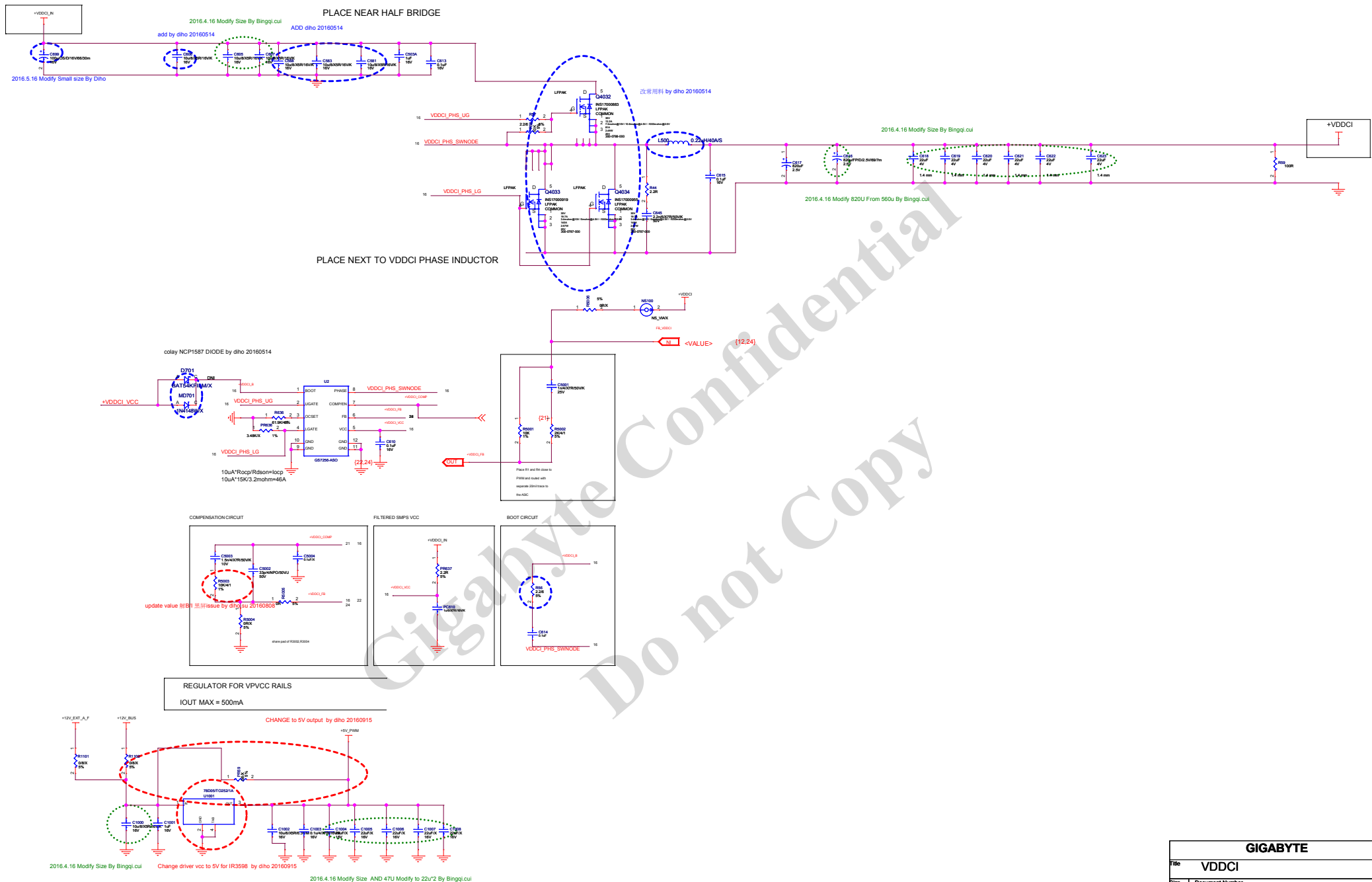
(12) ELLESMERE POWER



Pin	Signal	Pin	Signal
1	AE	17	AE17
2	AE1	18	AE18
3	AE2	19	AE19
4	AE3	20	AE20
5	AE4	21	AE21
6	AE5	22	AE22
7	AE6	23	AE23
8	AE7	24	AE24
9	AE8	25	AE25
10	AE9	26	AE26
11	AE10	27	AE27
12	AE11	28	AE28
13	AE12	29	AE29
14	AE13	30	AE30
15	AE14	31	AE31
16	AE15	32	AE32
17	AE16	33	AE33
18	AE17	34	AE34
19	AE18	35	AE35
20	AE19	36	AE36
21	AE20	37	AE37
22	AE21	38	AE38
23	AE22	39	AE39
24	AE23	40	AE40
25	AE24	41	AE41
26	AE25	42	AE42
27	AE26	43	AE43
28	AE27	44	AE44
29	AE28	45	AE45
30	AE29	46	AE46
31	AE30	47	AE47
32	AE31	48	AE48
33	AE32	49	AE49
34	AE33	50	AE50
35	AE34	51	AE51
36	AE35	52	AE52
37	AE36	53	AE53
38	AE37	54	AE54
39	AE38	55	AE55
40	AE39	56	AE56
41	AE40	57	AE57
42	AE41	58	AE58
43	AE42	59	AE59
44	AE43	60	AE60
45	AE44	61	AE61
46	AE45	62	AE62
47	AE46	63	AE63
48	AE47	64	AE64
49	AE48	65	AE65
50	AE49	66	AE66
51	AE50	67	AE67
52	AE51	68	AE68
53	AE52	69	AE69
54	AE53	70	AE70
55	AE54	71	AE71
56	AE55	72	AE72
57	AE56	73	AE73
58	AE57	74	AE74
59	AE58	75	AE75
60	AE59	76	AE76
61	AE60	77	AE77
62	AE61	78	AE78
63	AE62	79	AE79
64	AE63	80	AE80
65	AE64	81	AE81
66	AE65	82	AE82
67	AE66	83	AE83
68	AE67	84	AE84
69	AE68	85	AE85
70	AE69	86	AE86
71	AE70	87	AE87
72	AE71	88	AE88
73	AE72	89	AE89
74	AE73	90	AE90
75	AE74	91	AE91
76	AE75	92	AE92
77	AE76	93	AE93
78	AE77	94	AE94
79	AE78	95	AE95
80	AE79	96	AE96
81	AE80	97	AE97
82	AE81	98	AE98
83	AE82	99	AE99
84	AE83	100	AE100
85	AE84	101	AE101
86	AE85	102	AE102
87	AE86	103	AE103
88	AE87	104	AE104
89	AE88	105	AE105
90	AE89	106	AE106
91	AE90	107	AE107
92	AE91	108	AE108
93	AE92	109	AE109
94	AE93	110	AE110
95	AE94	111	AE111
96	AE95	112	AE112
97	AE96	113	AE113
98	AE97	114	AE114
99	AE98	115	AE115
100	AE99	116	AE116
101	AE100	117	AE117
102	AE101	118	AE118
103	AE102	119	AE119
104	AE103	120	AE120
105	AE104	121	AE121
106	AE105	122	AE122
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108	AE107	124	AE124
109	AE108	125	AE125
110	AE109	126	AE126
111	AE110	127	







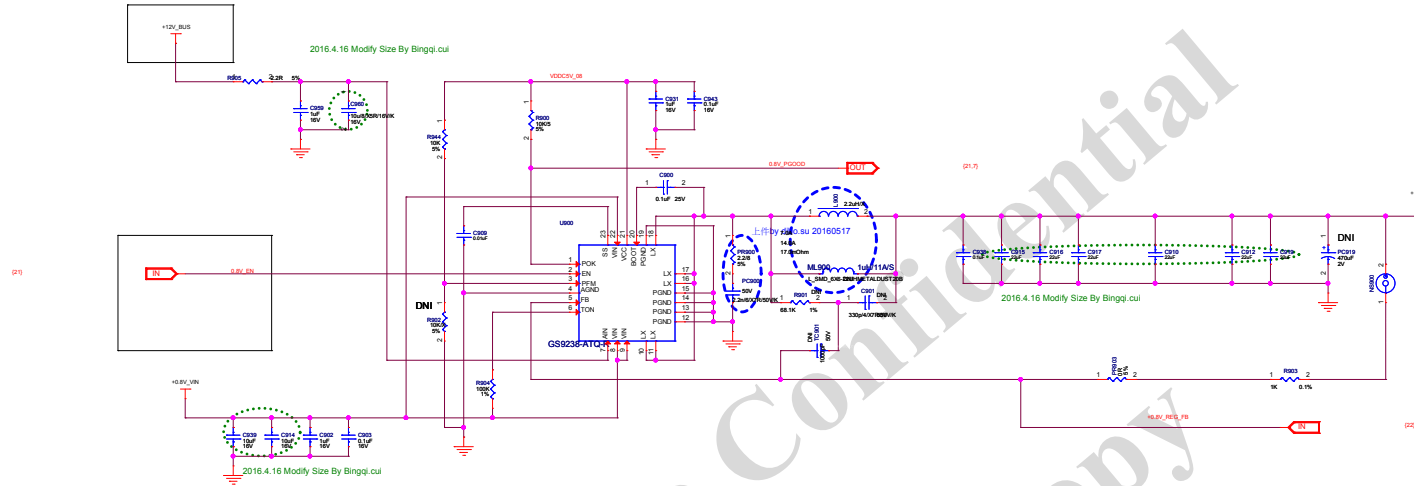
GIGABYTE			
File	VDDCI		
Size	Document Number	Rev	
Custm	GV-RX470G1 GAMING-4GD	1.1	
Date:	Thursday, October 20, 2016	Sheet	16 of 29







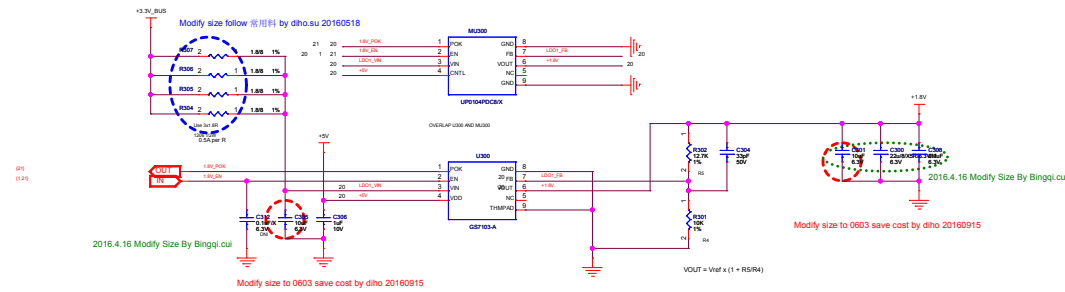
(17) 0.95V



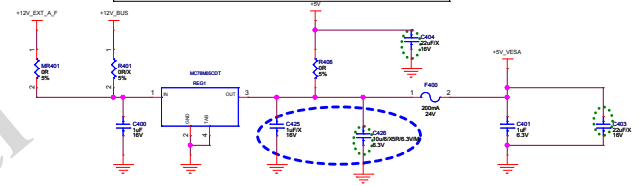
(18) SMALL RAIL REGULATORS

LDO #1: VIN = 3.0V TO 3.6V MAX  
PCB: 50 TO 70mm SQ. COPPER AREA FOR COOLING

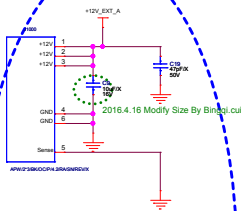
VOUT = +1.8V +/- 2%  
IOUT = 1.3A RMS MAX



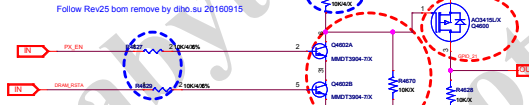
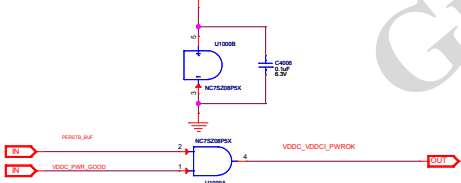
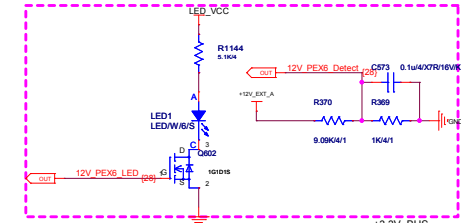
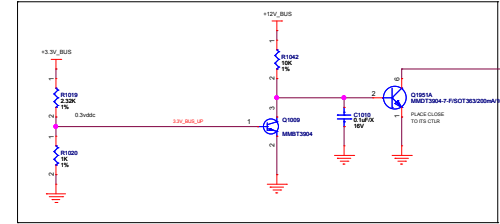
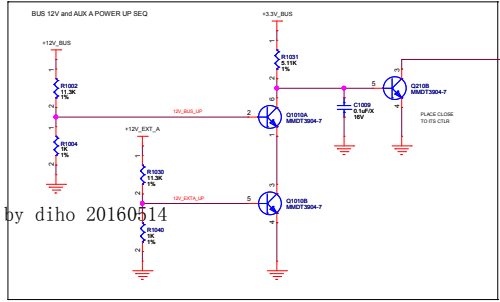
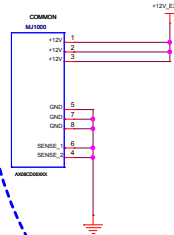
REGULATOR FOR +5V RAILS  
IOUT MAX = 150mA



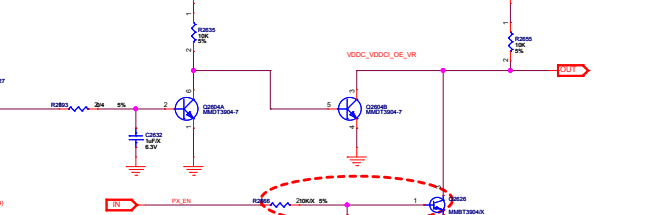
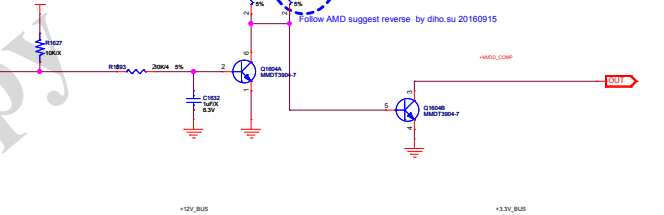
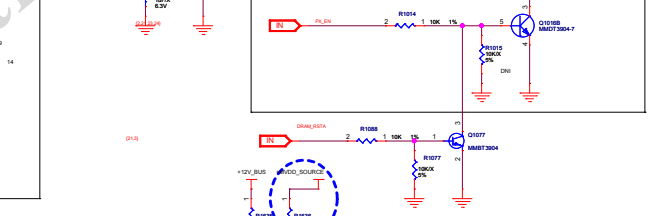
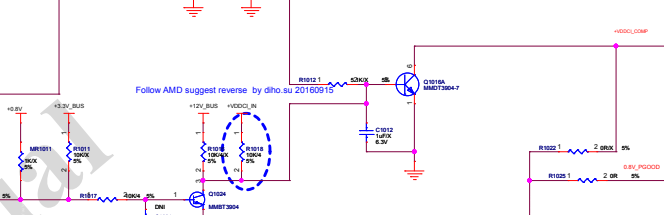
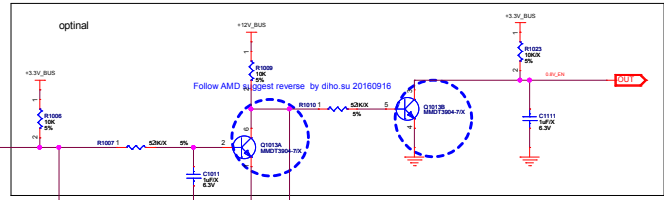
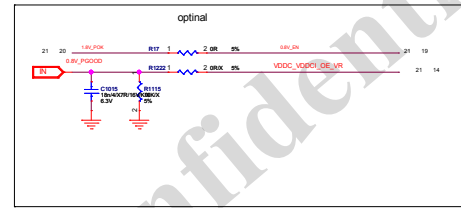
(19) POWER MANAGEMENT



6PIN&8PIN CONNECT COLAY by diho 20160514

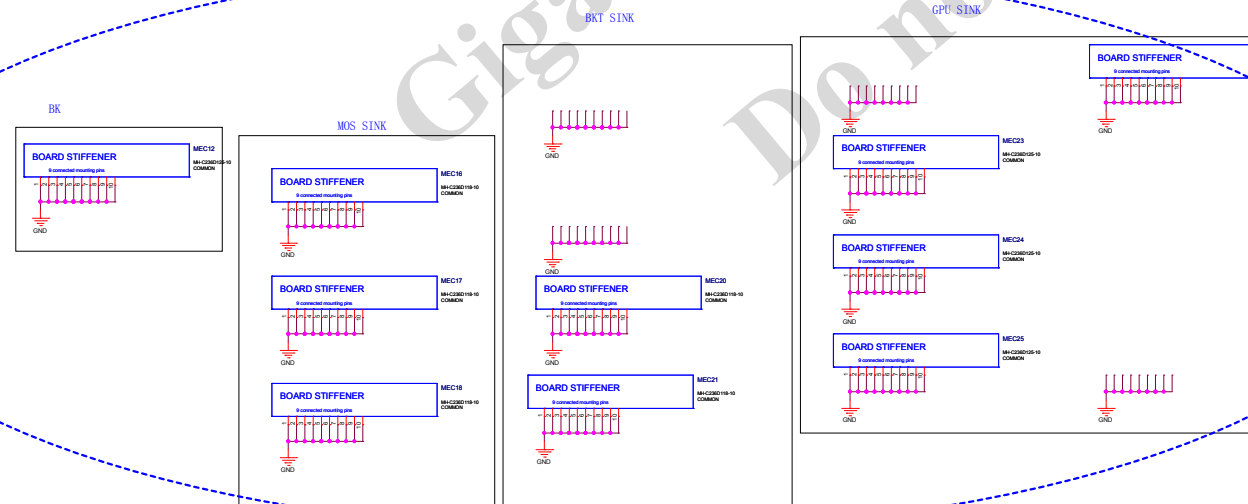
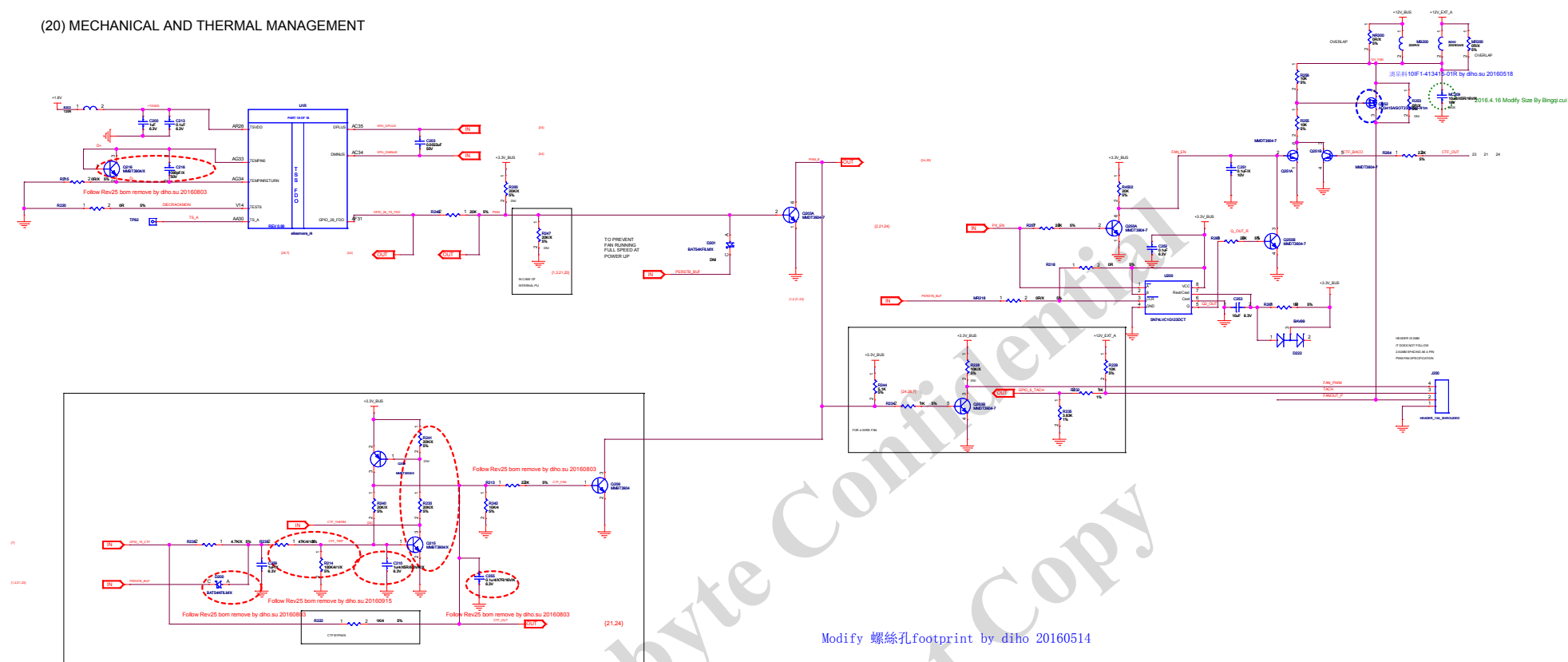


POWER UP SEQUENCE		
BUS 12V (12V/12V/12V) = +1.8V + 0.88V		
BUS 3.3V (3.3V/3.3V/3.3V) = +1.8V + 0.88V		

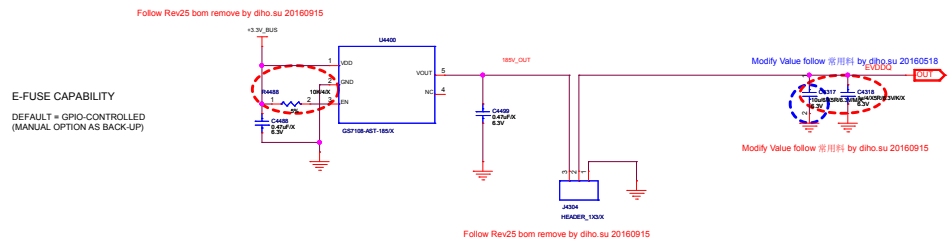
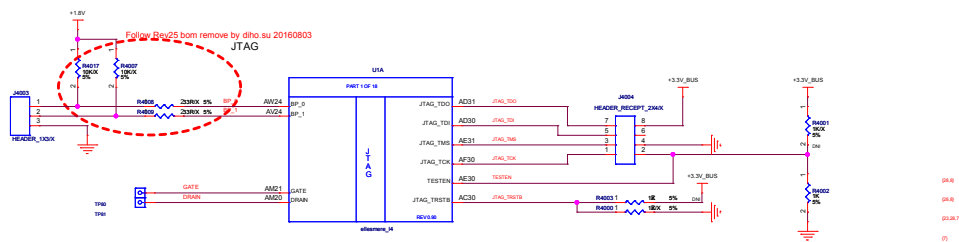




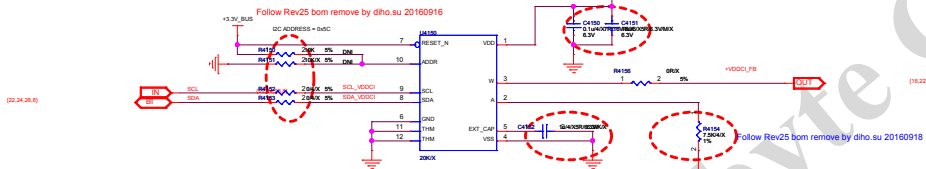
## (20) MECHANICAL AND THERMAL MANAGEMENT



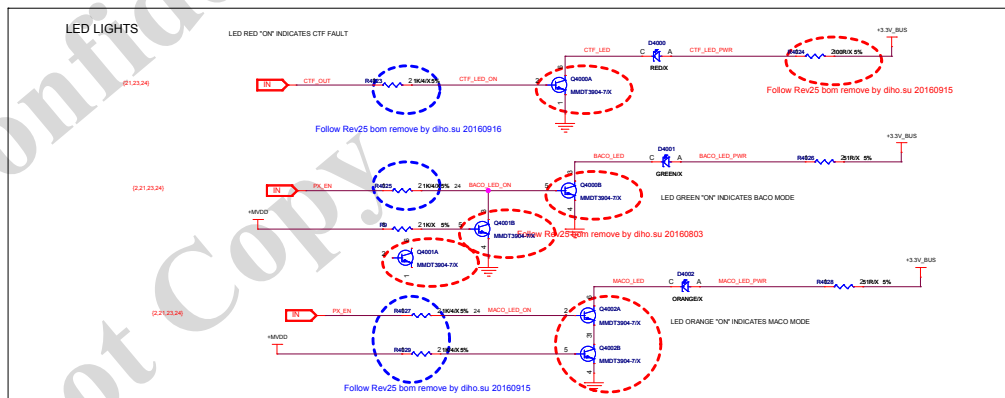
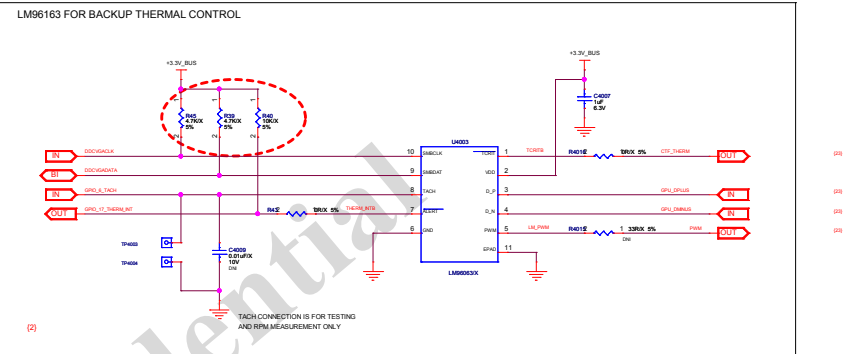
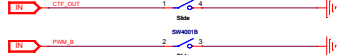
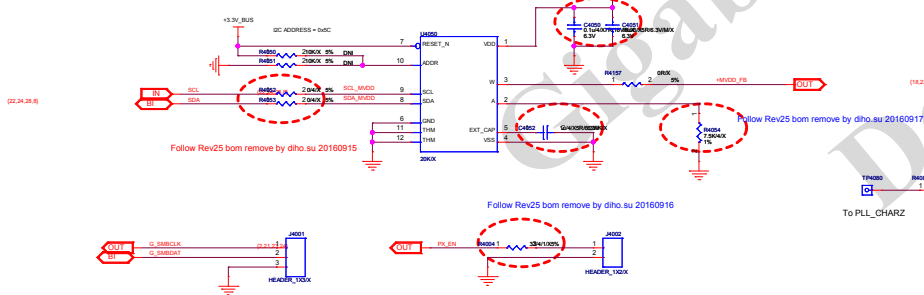
## (21) DEBUG CIRCUITS



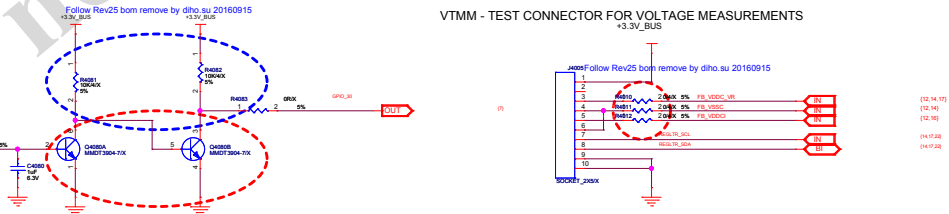
## DIGITAL POTS



## DIGITAL POTS



VTMM - TEST CONNECTOR FOR VOLTAGE MEASUREMENTS  
+3.3V\_BUS

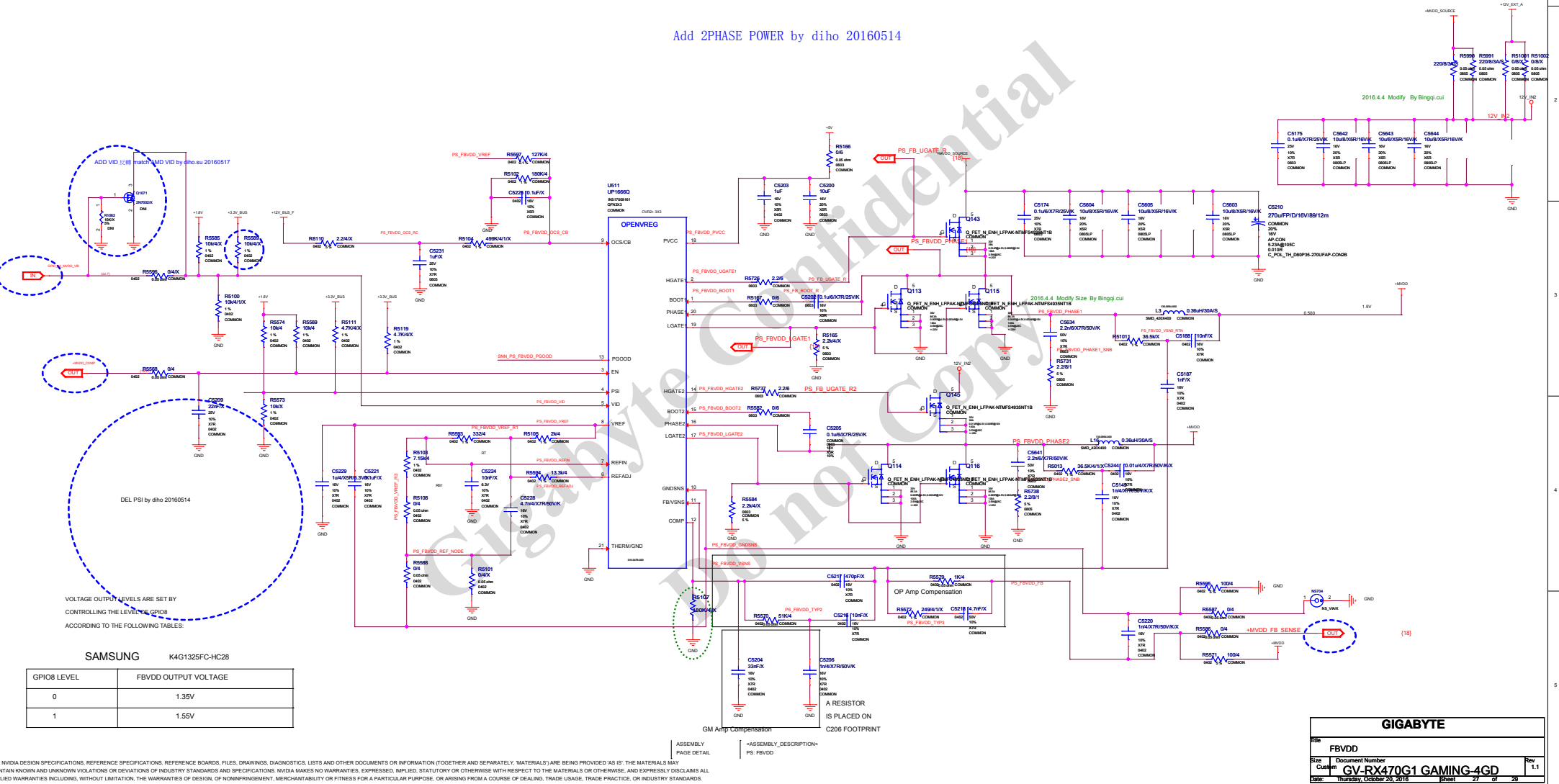


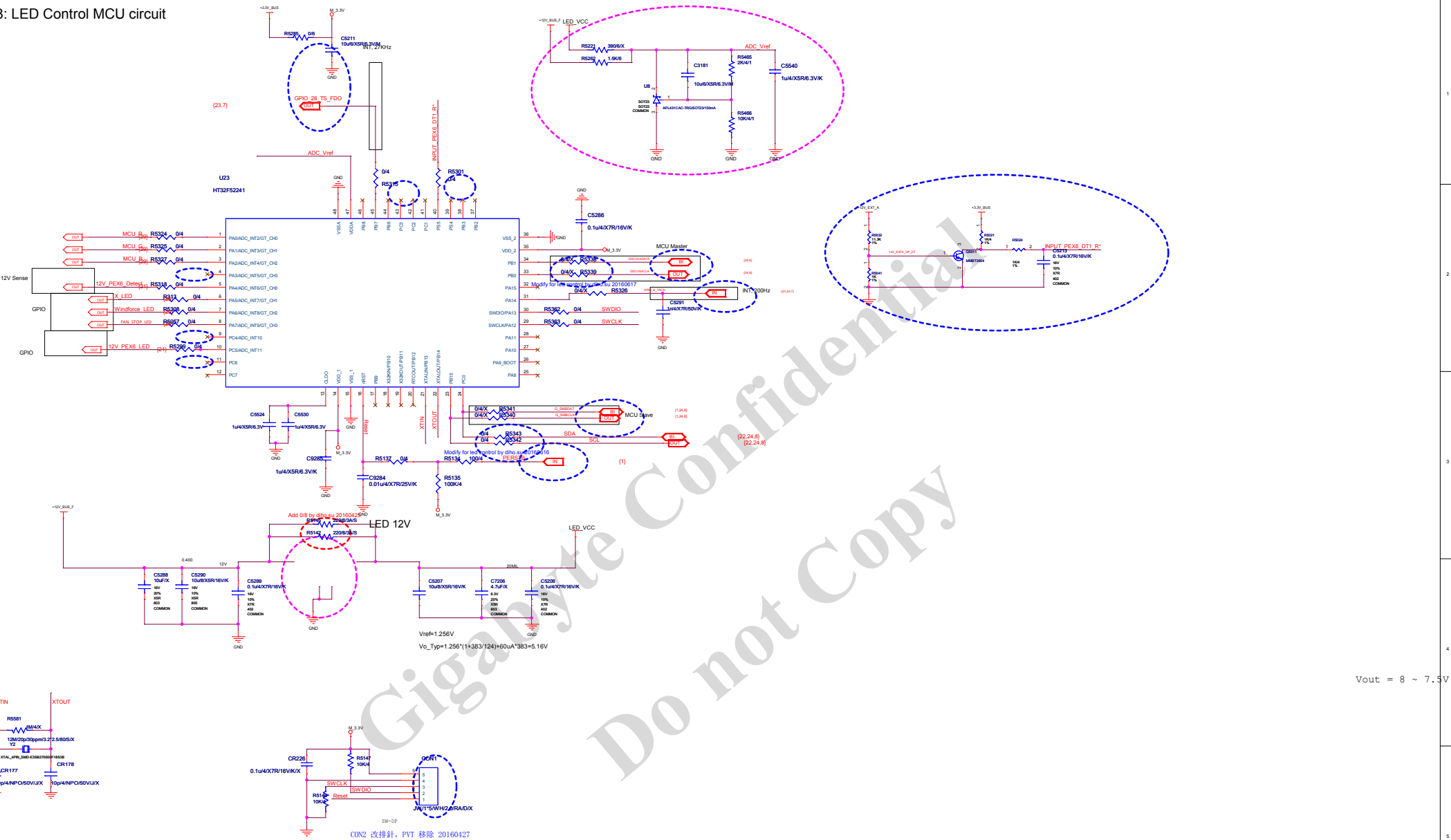




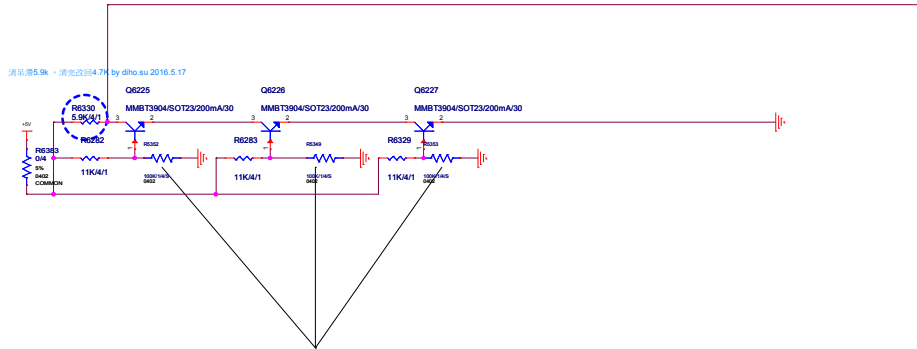
0	00A	00-0000-00	
1	00B	00-0000-01	1. Add GPIO for SPI and I2C 2. Update GPIO driver registers
2	00C	00-0000-02	GPIO: - add gpio module R1000-010007 - add pull down resistor L1000-010007 - remove C400, C401, V400, C410, C414, R400
3	00D	00-0000-03	Modify GPIO Design

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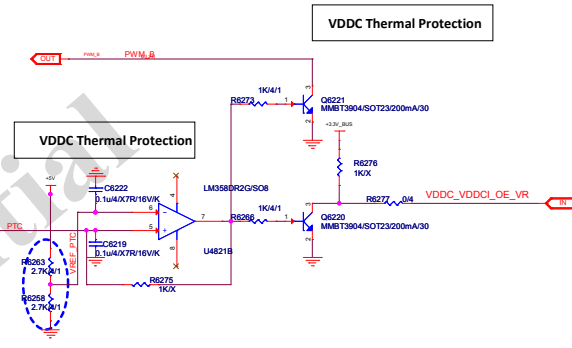
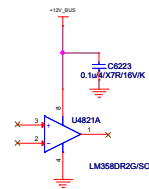




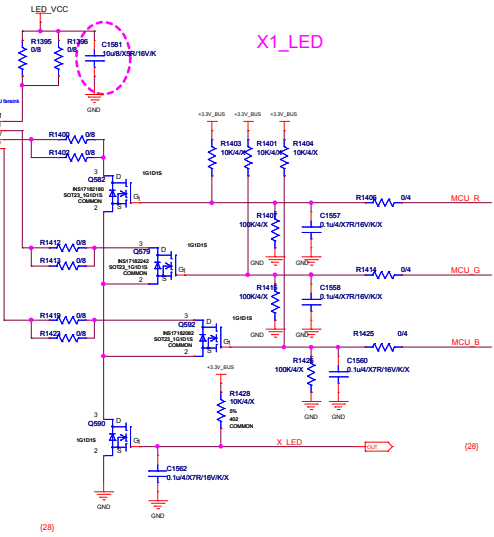
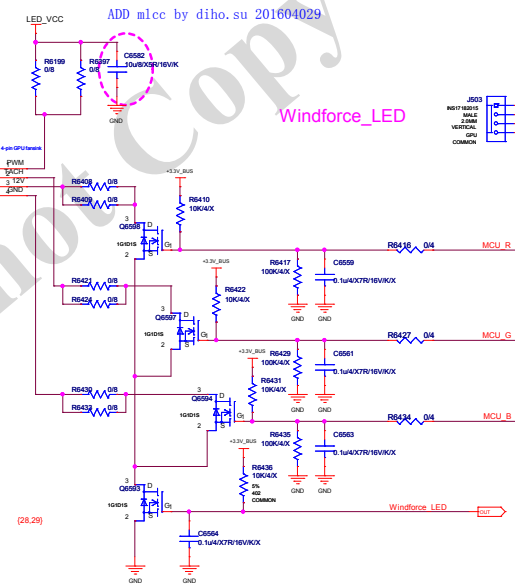
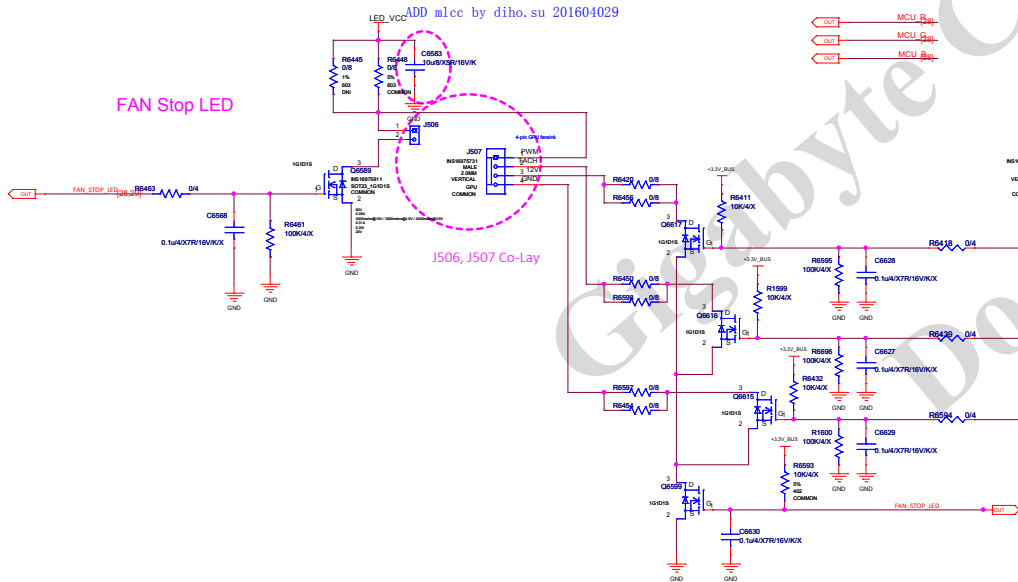
ADD MOS VRHOT CIRCUIT



Near VDDC each high side MOS



(14,21)



(28)

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PAGE DETAIL

MECH: Bracket/Thermal

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