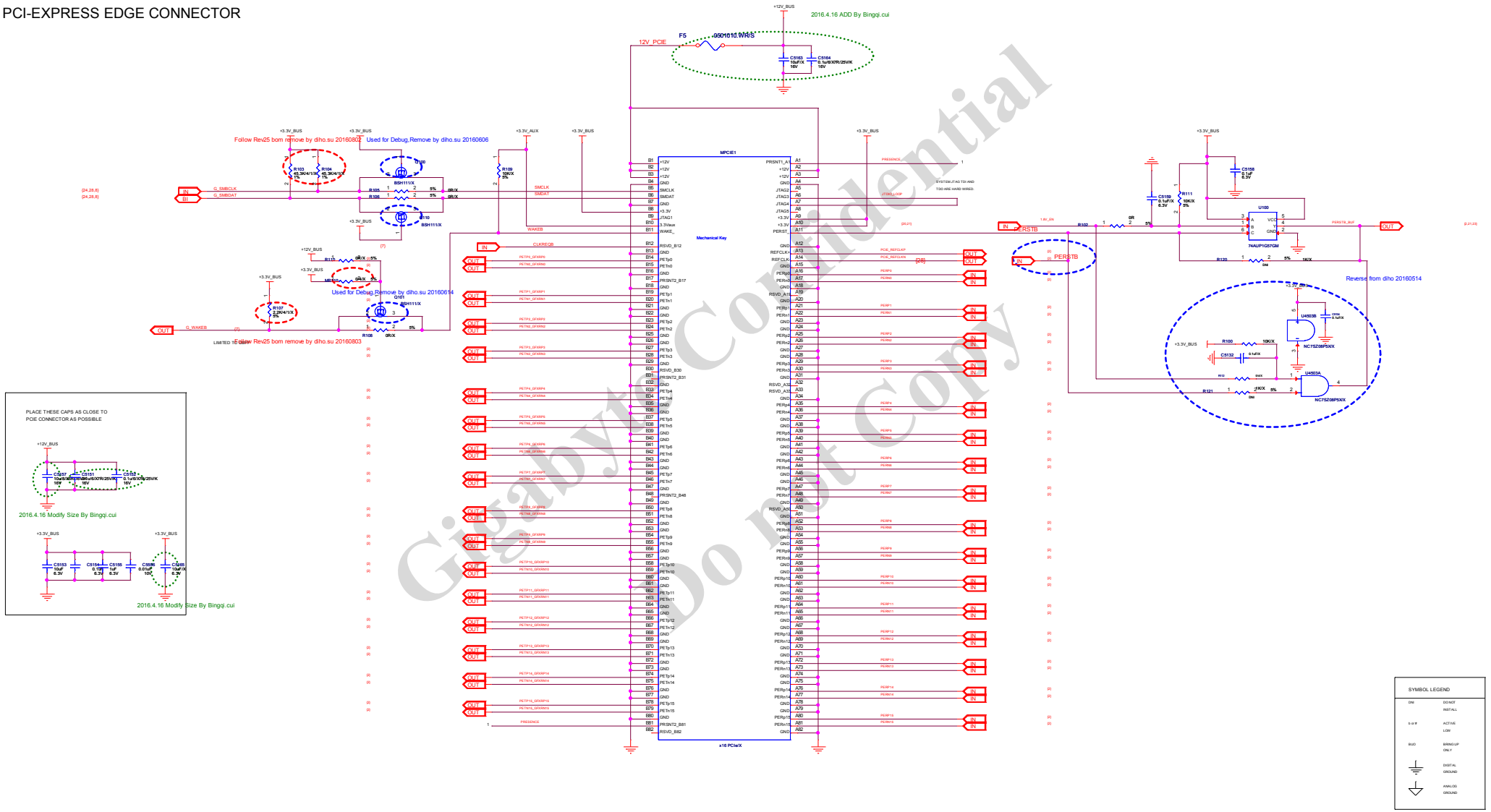
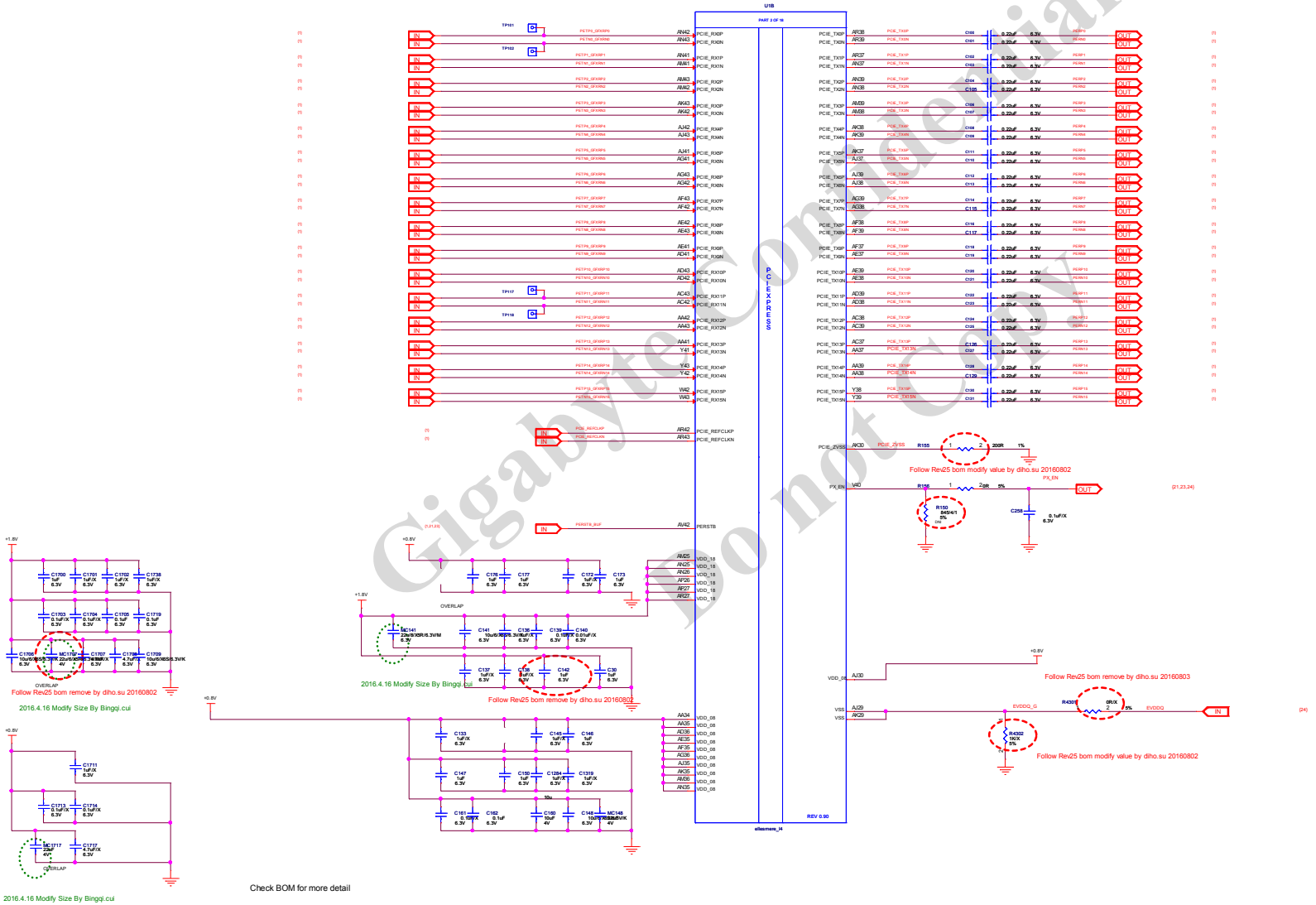
(1) PCI-EXPRESS EDGE CONNECTOR



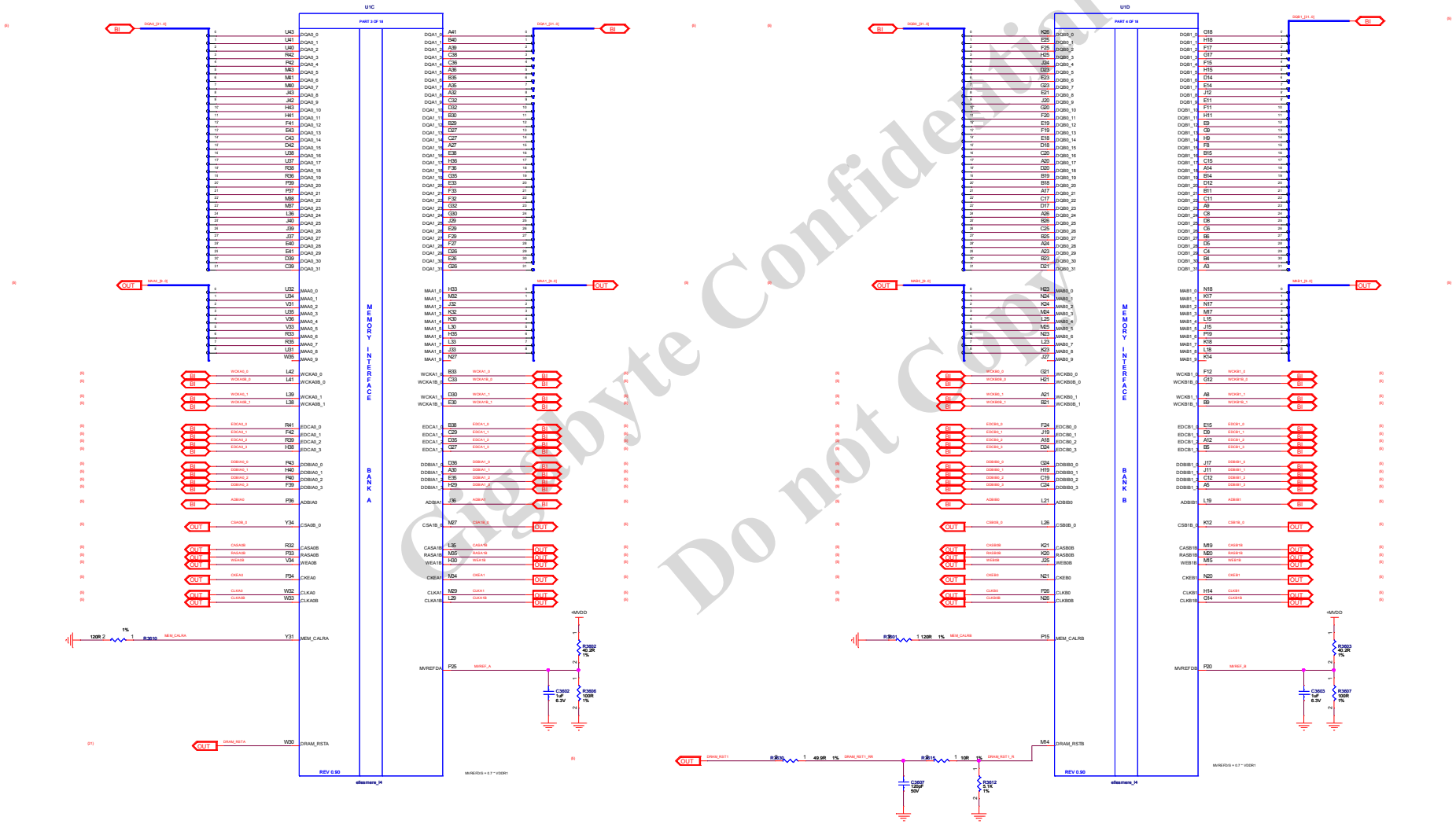
GIGABYTE		
Title: PCI Express		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 1 of 29	

(2) ELLESMERE PCIE INTERFACE



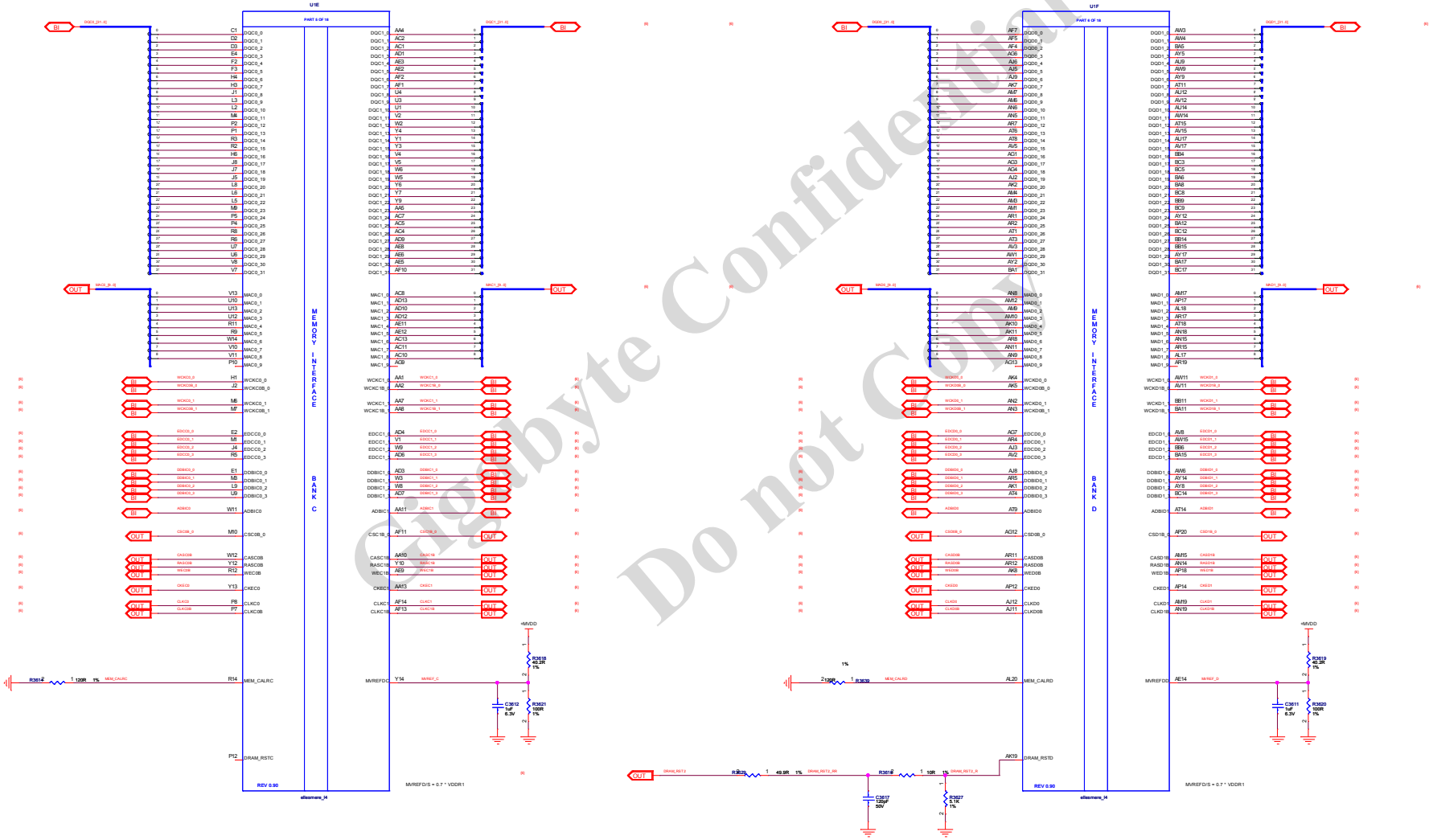
GIGABYTE		
Title	ELLESMERE PCIE INTERFACE	
Size	Document Number	Rev
Custom	GV-RX580GAMING-4GD	1.0
Date: Monday, February 27, 2017	Sheet 2 of 29	

(3) ELLESMERE MEM INTERFACE CH A/B



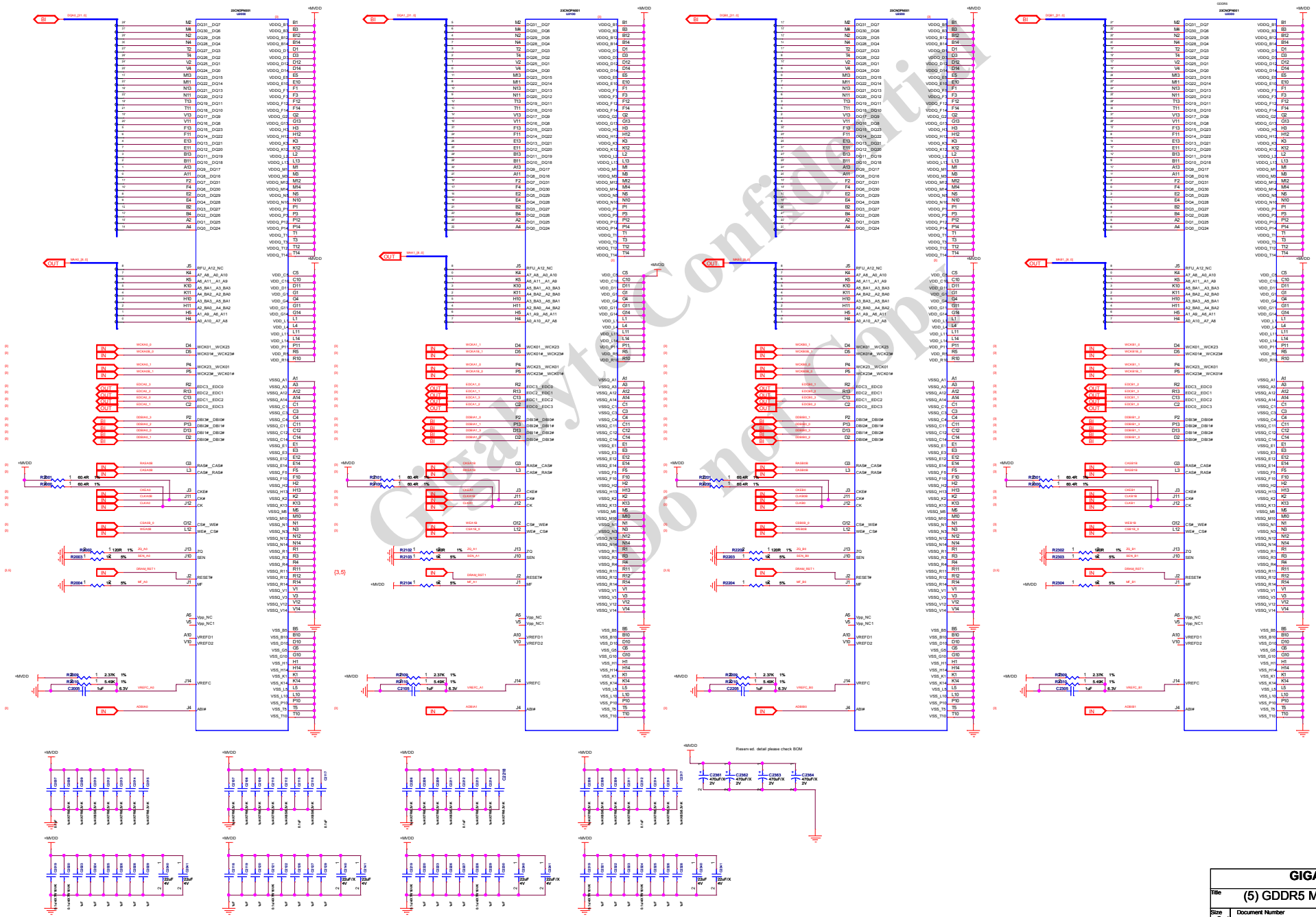
GIGABYTE		
Title: ELLESMERE MEM INTERFACE CH A/B		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 3 of 29	

(4) ELLESMERE MEM INTERFACE CH C/D



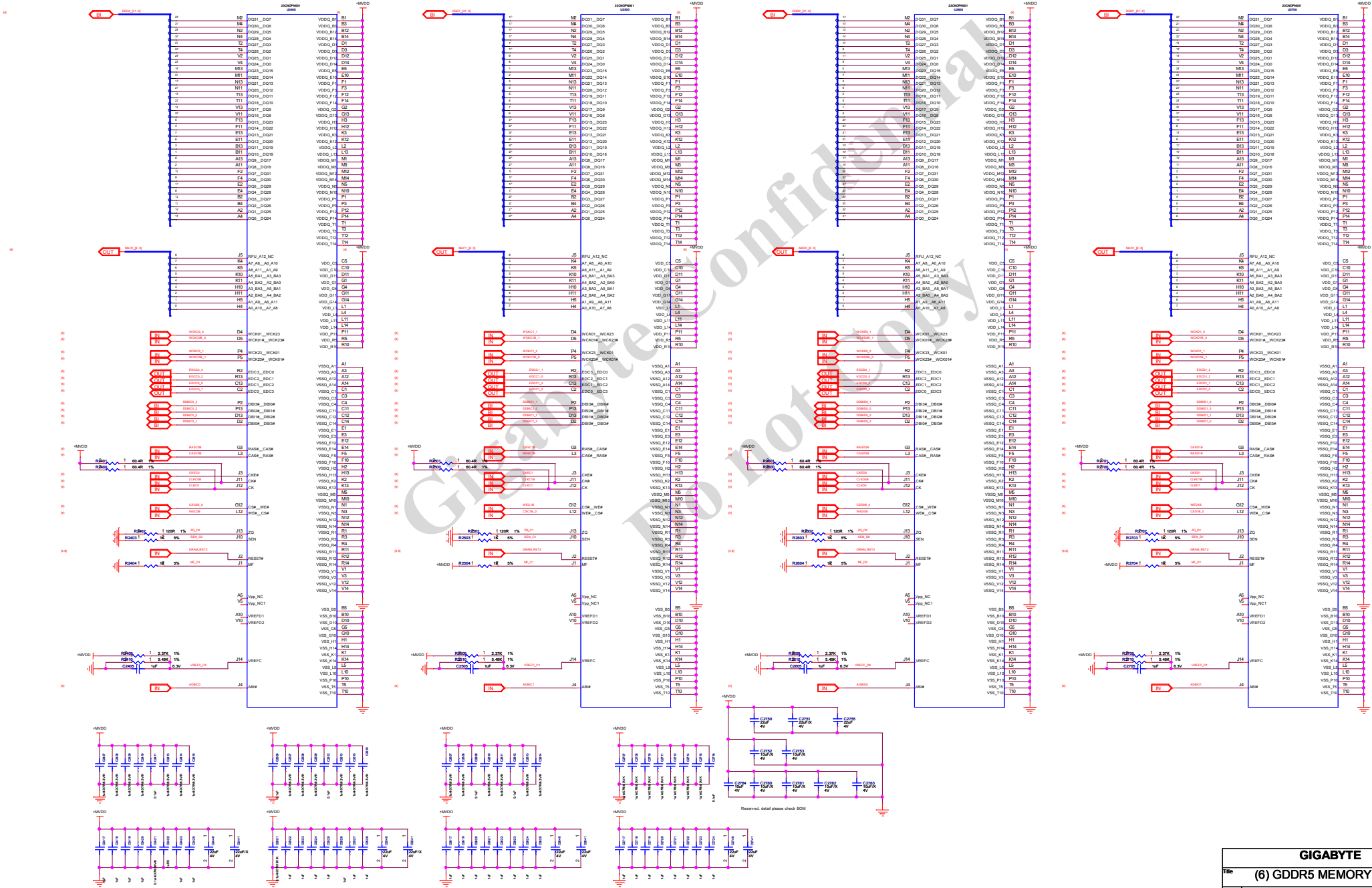
GIGABYTE		
Title: ELLESMERE MEM INTERFACE CH C/D		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 4 of 29	

(5) GDDR5 MEMORY CH A/B



GIGABYTE		
Title	(5) GDDR5 MEMORY CH A/B	
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 5 of 29	

(6) GDDR5 MEMORY CH C/D



GIGABYTE		
Title	(6) GDDR5 MEMORY CH C/D	
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 6 of 29	

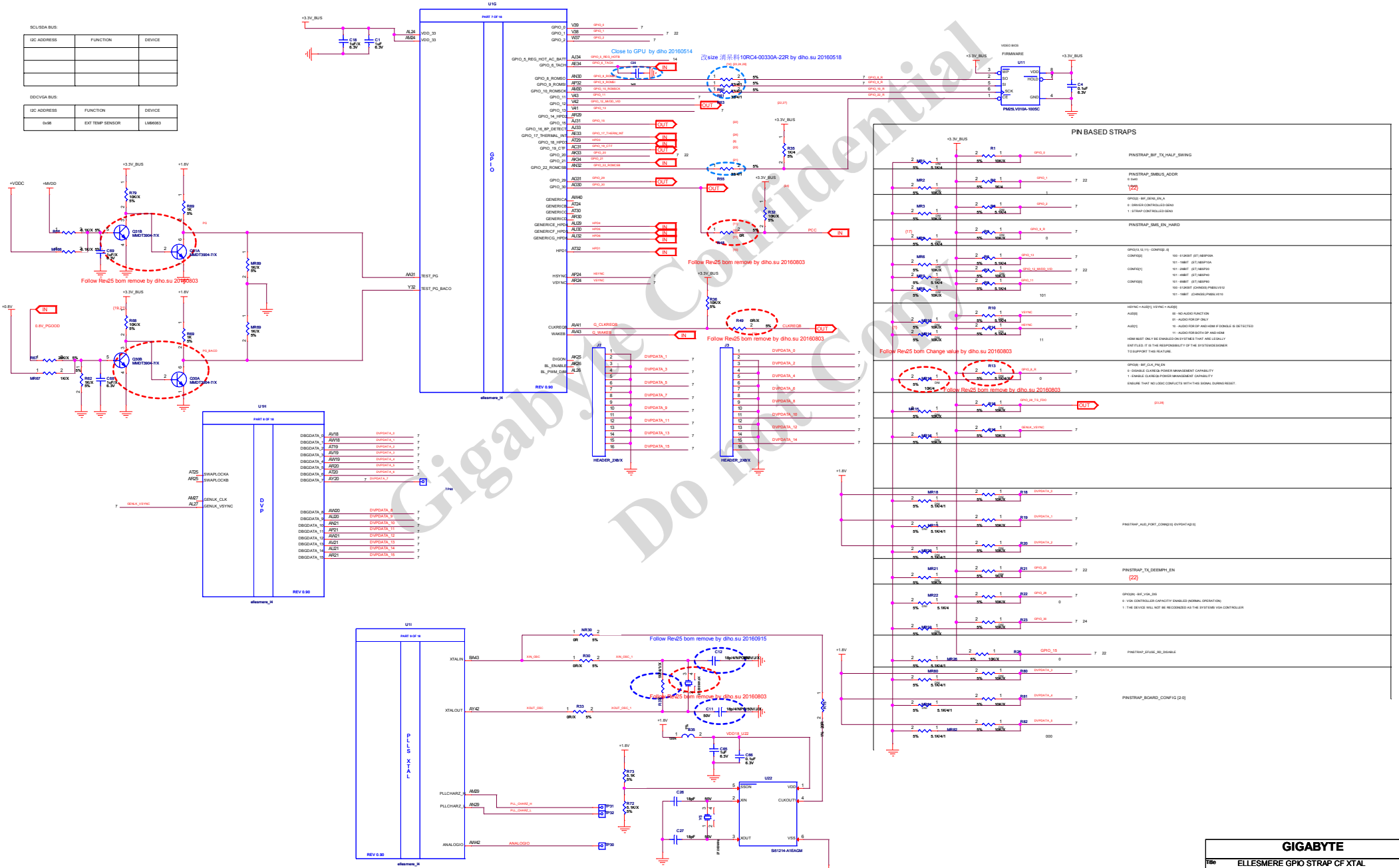
(7) ELLESMERE GPIO STRAP CF XTAL

SCL/SDA BUS:

I2C ADDRESS	FUNCTION	DEVICE

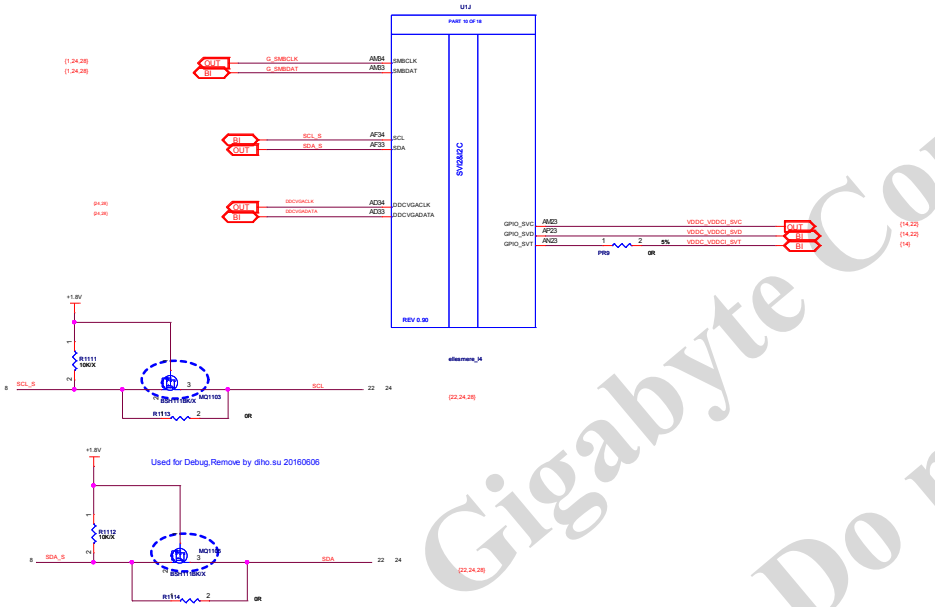
DDC/VGA BUS:

I2C ADDRESS	FUNCTION	DEVICE
0x98	EXT TEMP SENSOR	LM96063



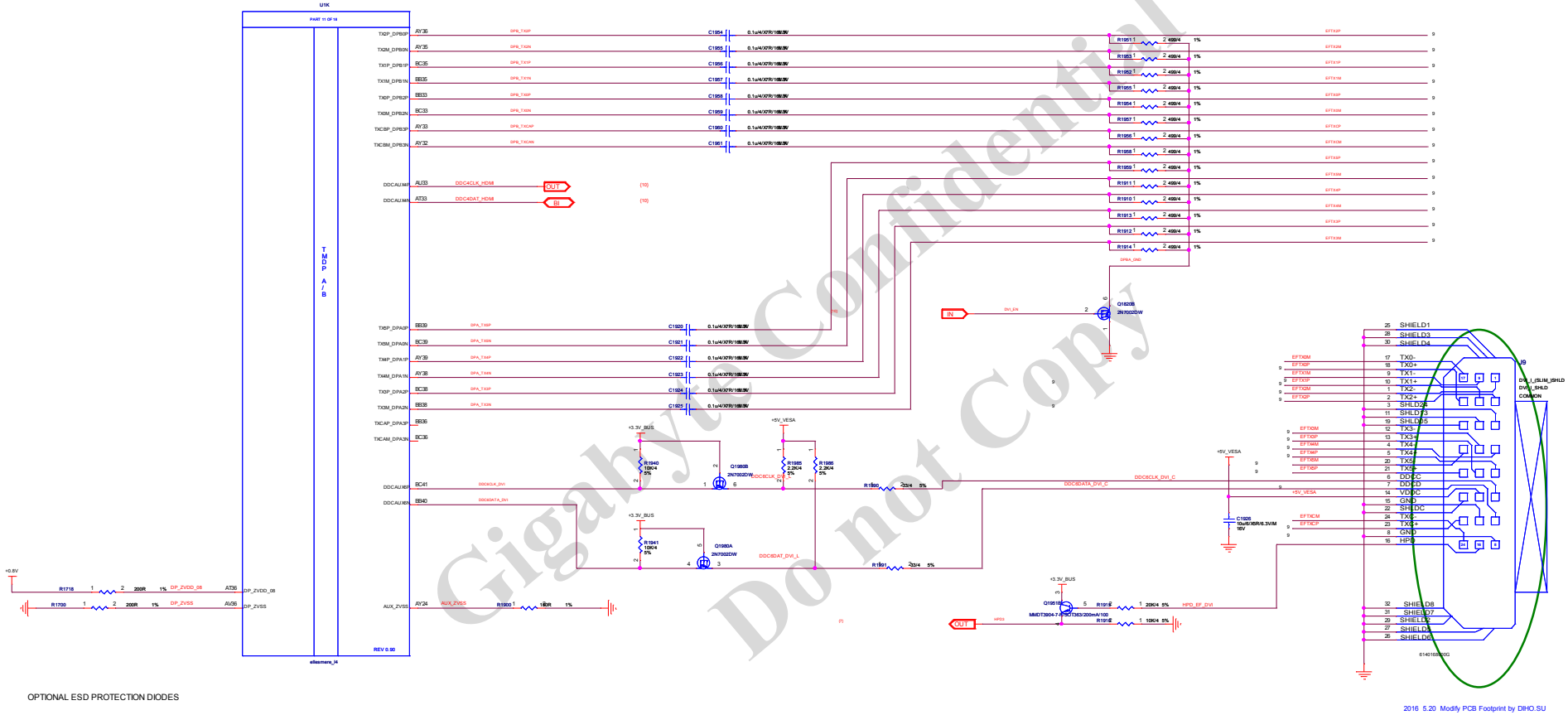
GIGABYTE		
Title	ELLESMERE GPIO STRAP CF XTAL	
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 7 of 29	

(8) ELLESMERE DAC1 LOCK

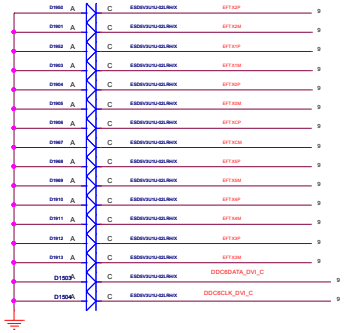


GIGABYTE		
Title: ELLESMERE DAC1 LOCK		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 8 of 29	

(9) ELLESMERE TMDP A/B



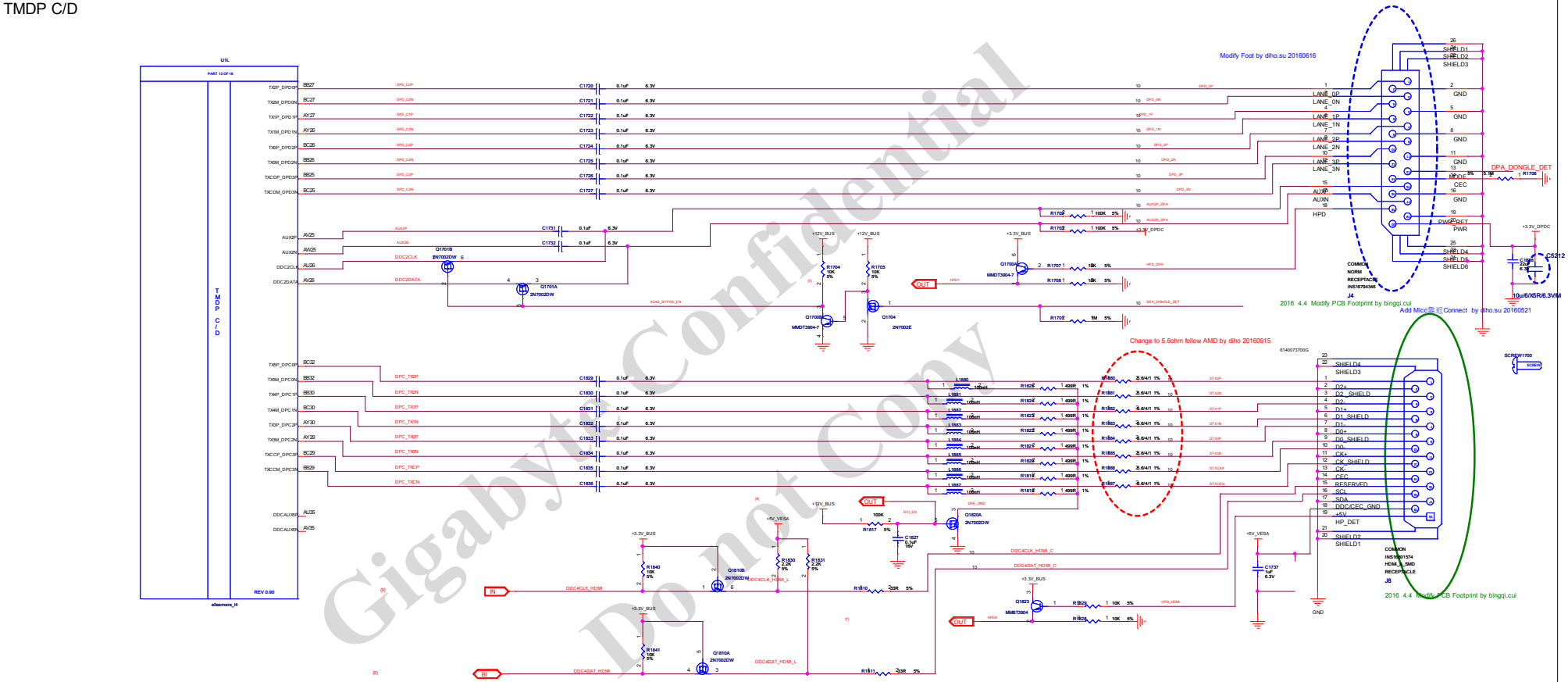
OPTIONAL ESD PROTECTION DIODES

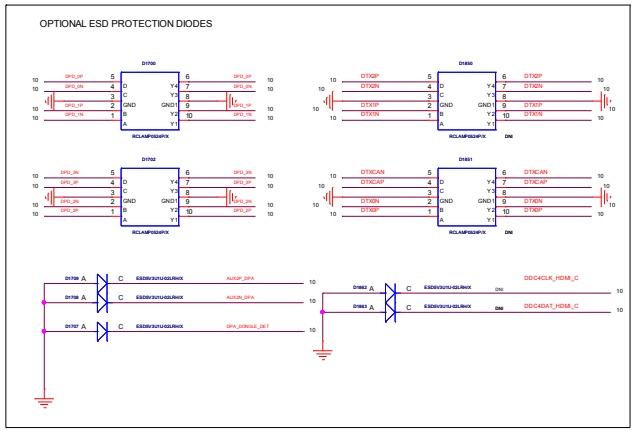


2016 5.20 Modify PCB Footprint by DIHO.SU

GIGABYTE		
Title: ELLESMERE TMDP A/B		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 9 of 29	

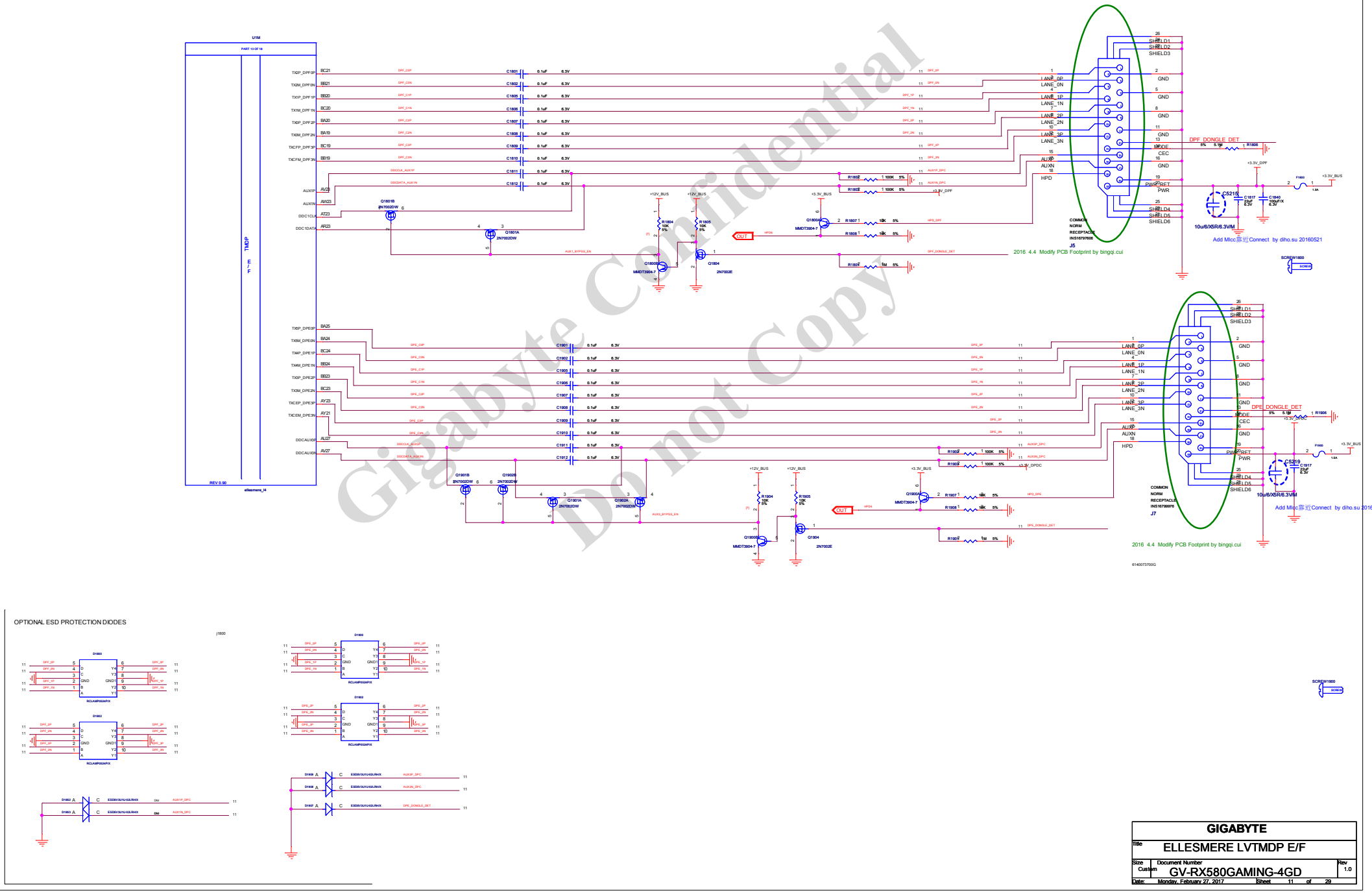
(10) ELLESMERE TMDP C/D





GIGABYTE		
Title: ELLESMERE TMDP C/D		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 10 of 29	

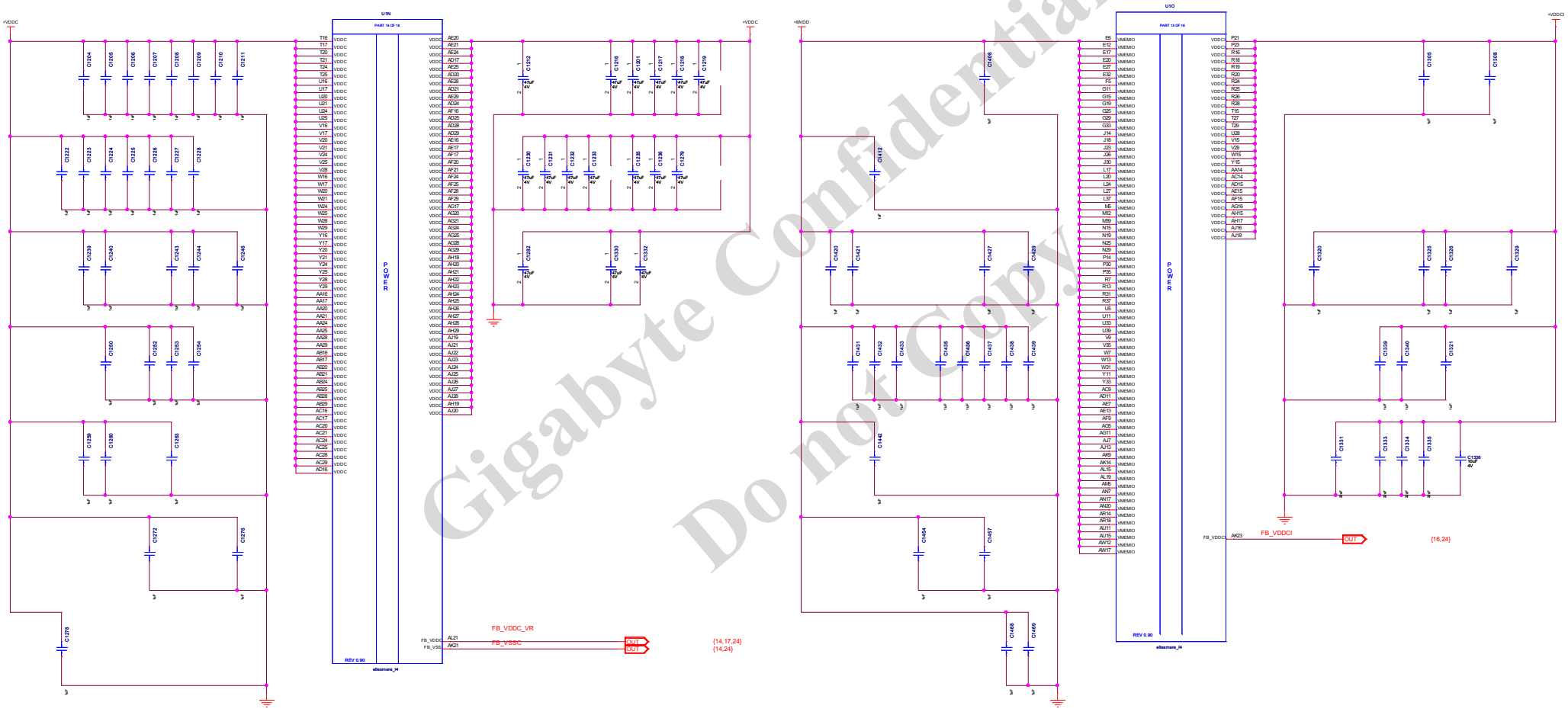
(11) ELLESMERE LVTMDP E/F



OPTIONAL ESD PROTECTION DIODES

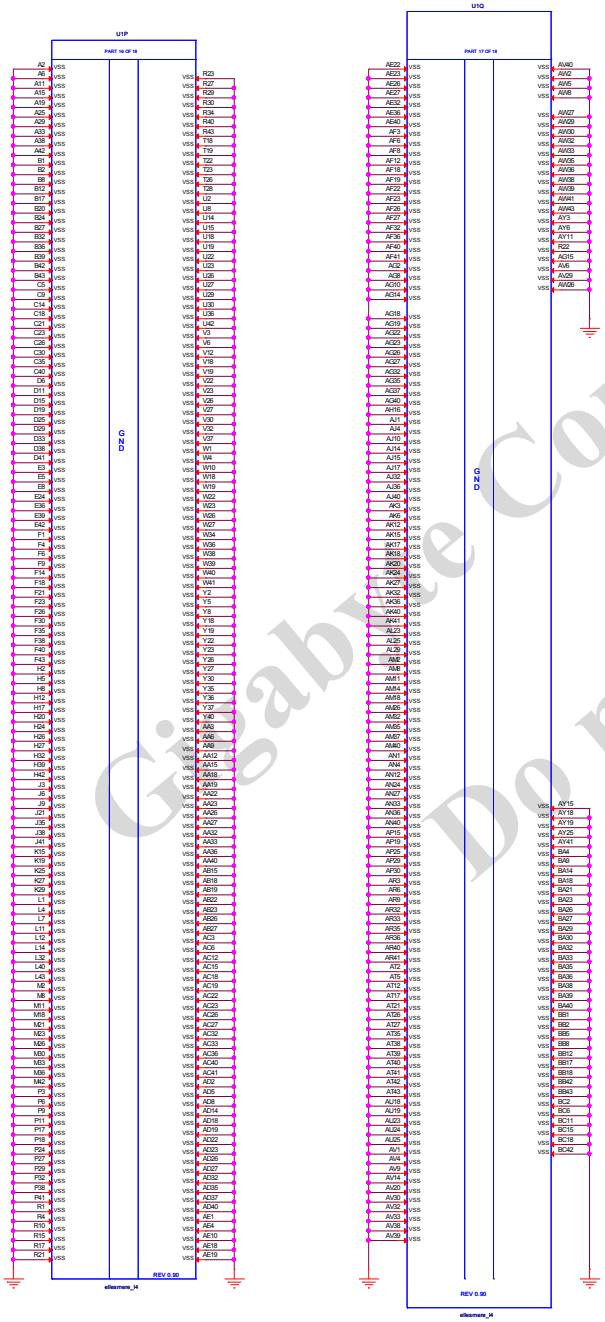
GIGABYTE		
Title: ELLESMERE LVTMDP E/F		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 11 of 29	

(12) ELLESMERE POWER

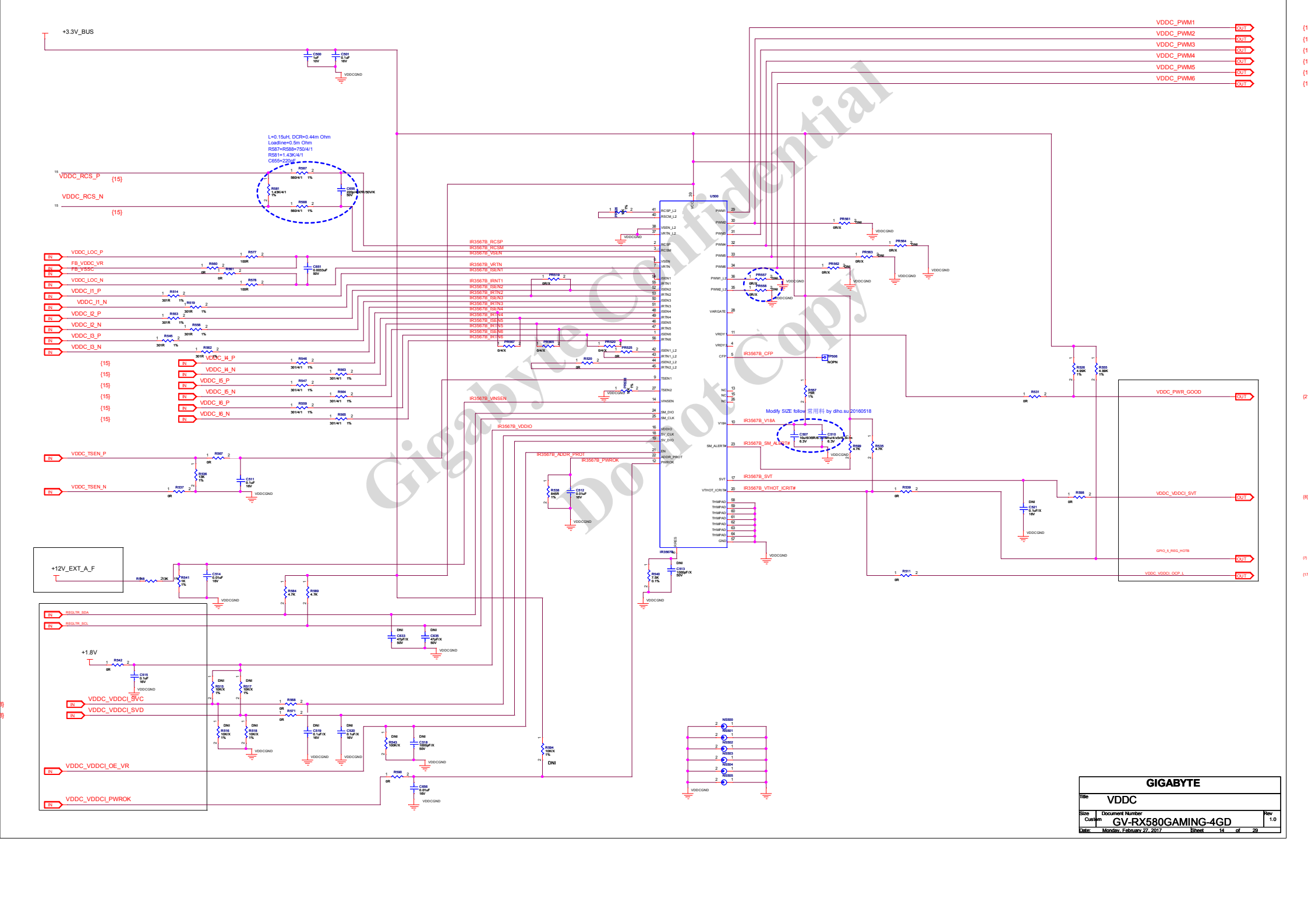


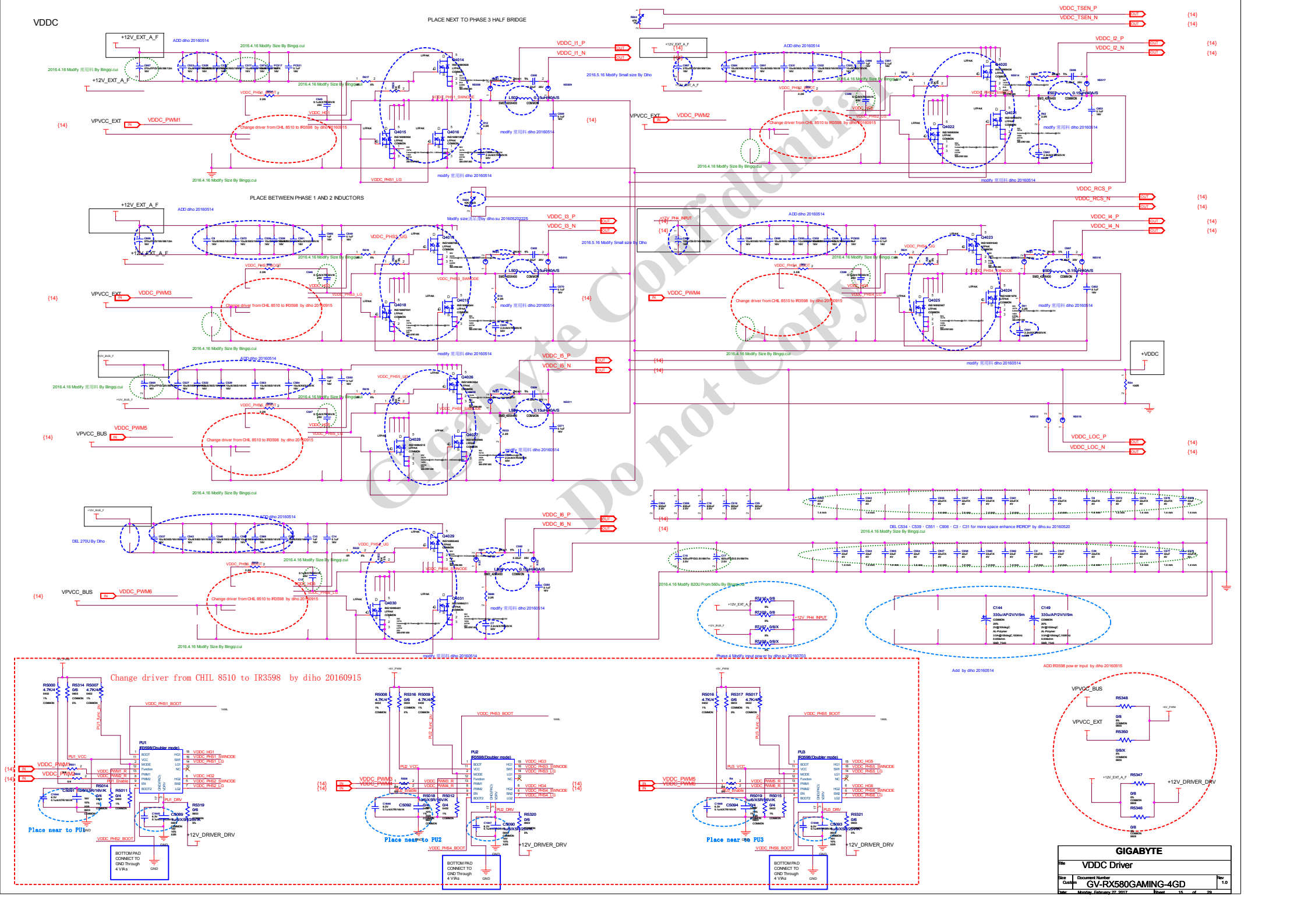
GIGABYTE		
Title	PCI Express	
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 12 of 29	

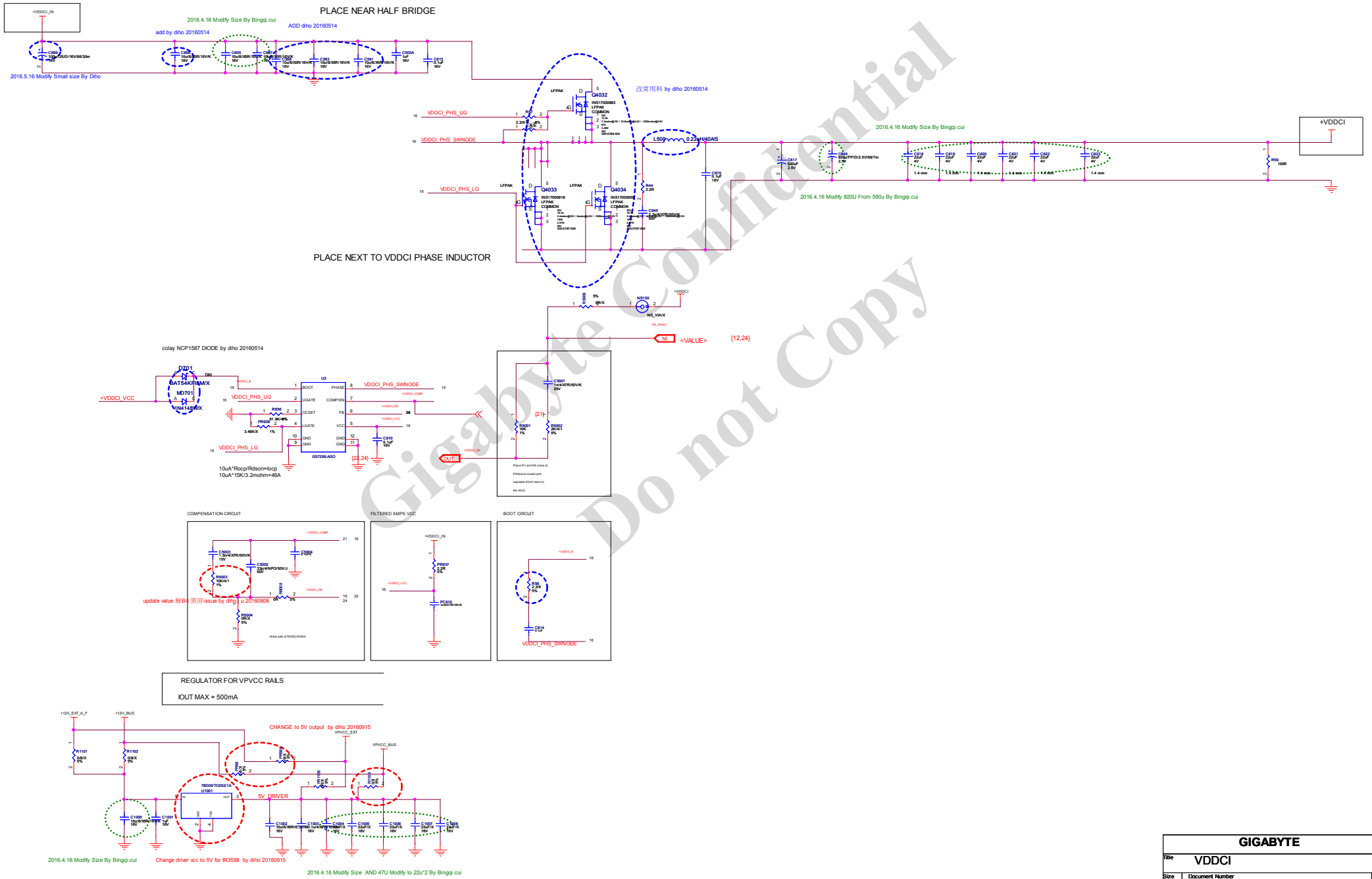
(13) ELLESMERE GROUND



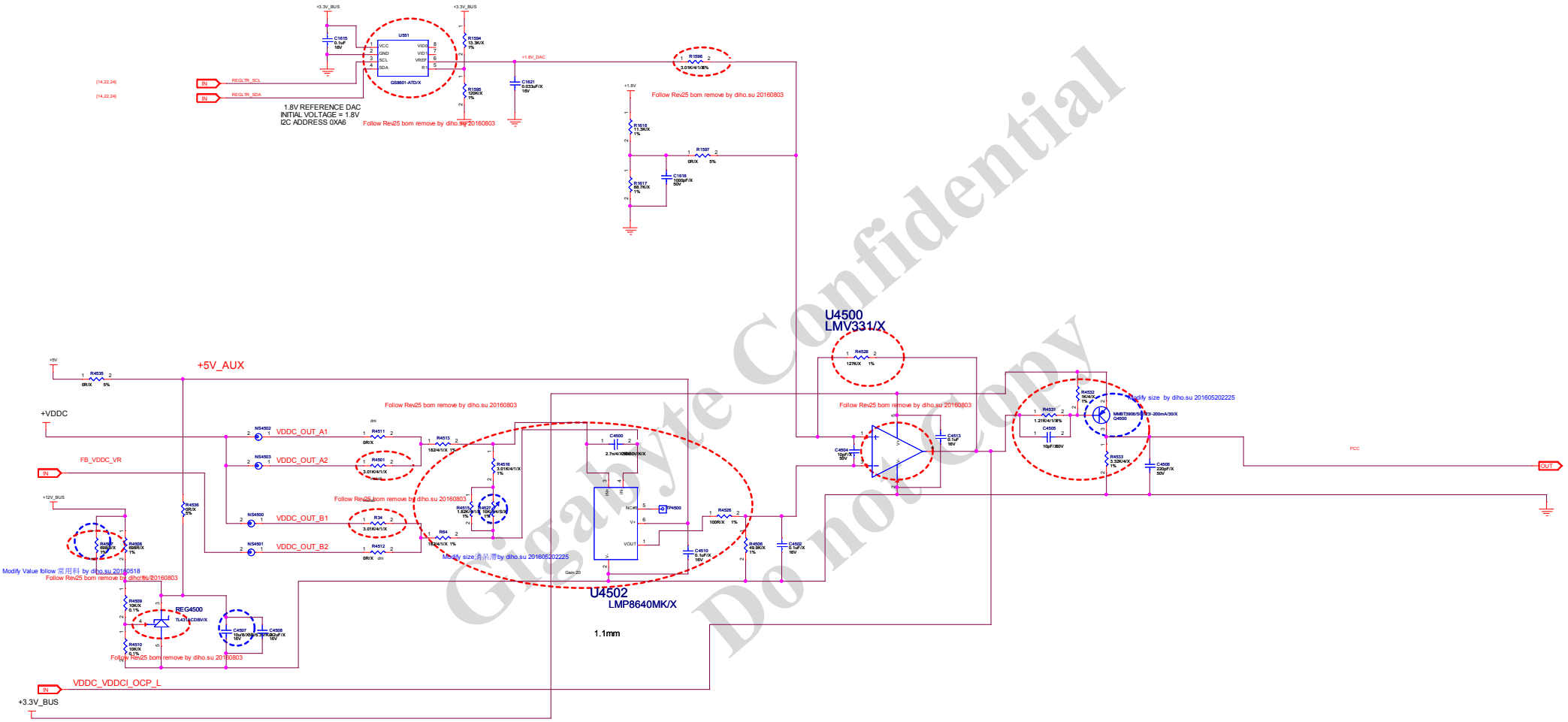
GIGABYTE		
Title: ELLESMERE GND		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 13 of 29	



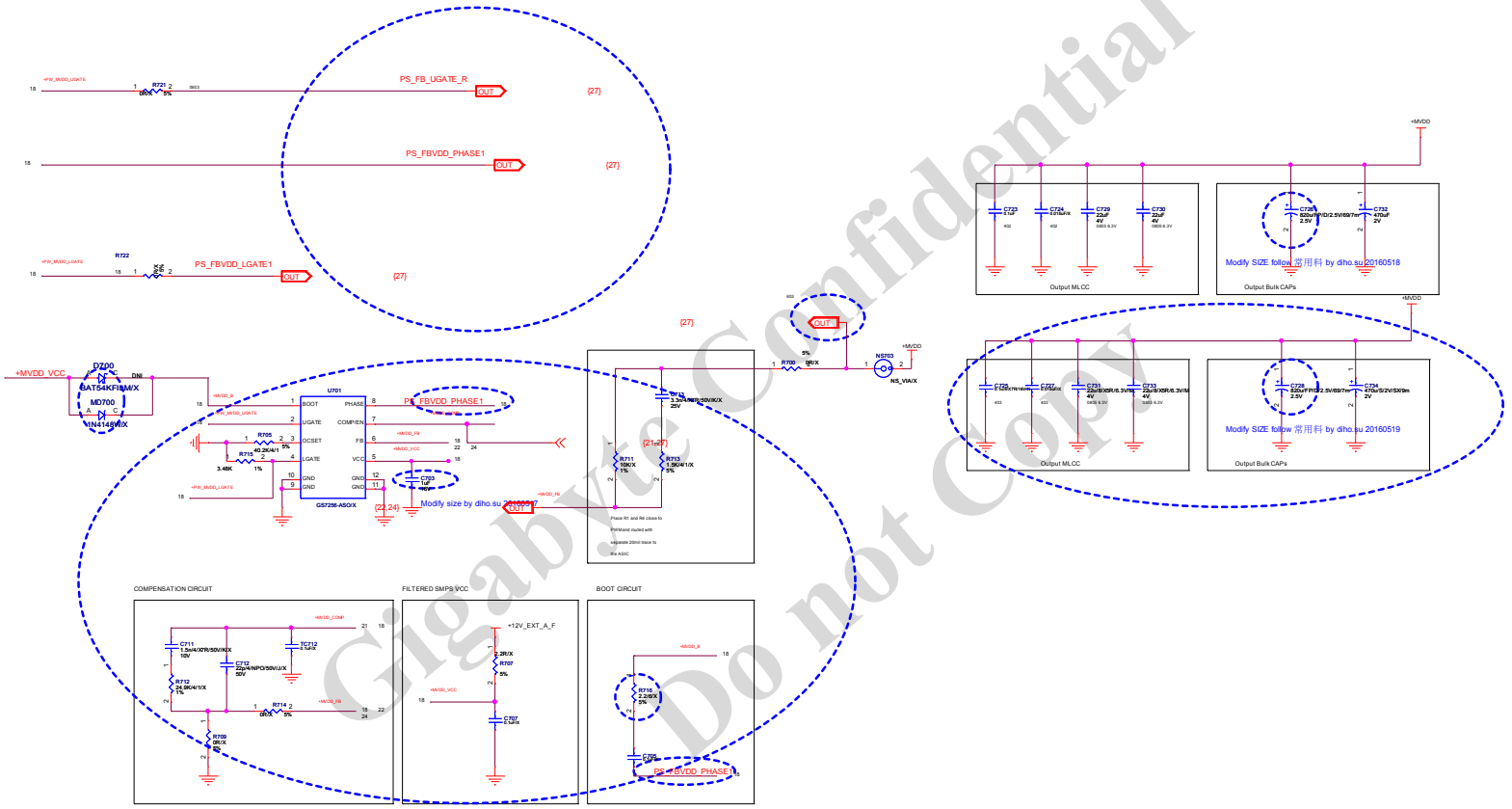

VDDC
PLACE NEXT TO PHASE 3 HALF BRIDGE
PLACE BETWEEN PHASE 1 AND 2 INDUCTORS
VDDC_I1_P
VDDC_I1_N
VDDC_I2_P
VDDC_I2_N
VDDC_I3_P
VDDC_I3_N
VDDC_I4_P
VDDC_I4_N
VDDC_I5_P
VDDC_I5_N
VDDC_I6_P
VDDC_I6_N
VDDC_TSEN_P
VDDC_TSEN_N
VDDC_RCS_P
VDDC_RCS_N
VDDC_LOC_P
VDDC_LOC_N
VPVCC_EXT
VPVCC_BUS
VDDC_PWM1
VDDC_PWM2
VDDC_PWM3
VDDC_PWM4
VDDC_PWM5
VDDC_PWM6
+12V_EXT_A_F
+12V_PH4_INPUT
+VDDC
Change driver from CHIL 8510 to IR3598 by diho 20160915
Change driver from CHIL 8510 to IR3598 by diho 20160915
Add by diho 20160514
ADD IR3598 pow er input by diho 20160915
Place near to PU1
Place near to PU2
Place near to PU3
BOTTOM PAD CONNECT TO GND Through 4 VIAs
+12V_DRIVER_DRV
GIGABYTE
VDDC Driver
GV-RX580GAMING-4GD
Rev 1.0
Monday, February 27, 2017
Sheet 15 of 29



GIGABYTE		
Title: VDDCI		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 16 of 29	



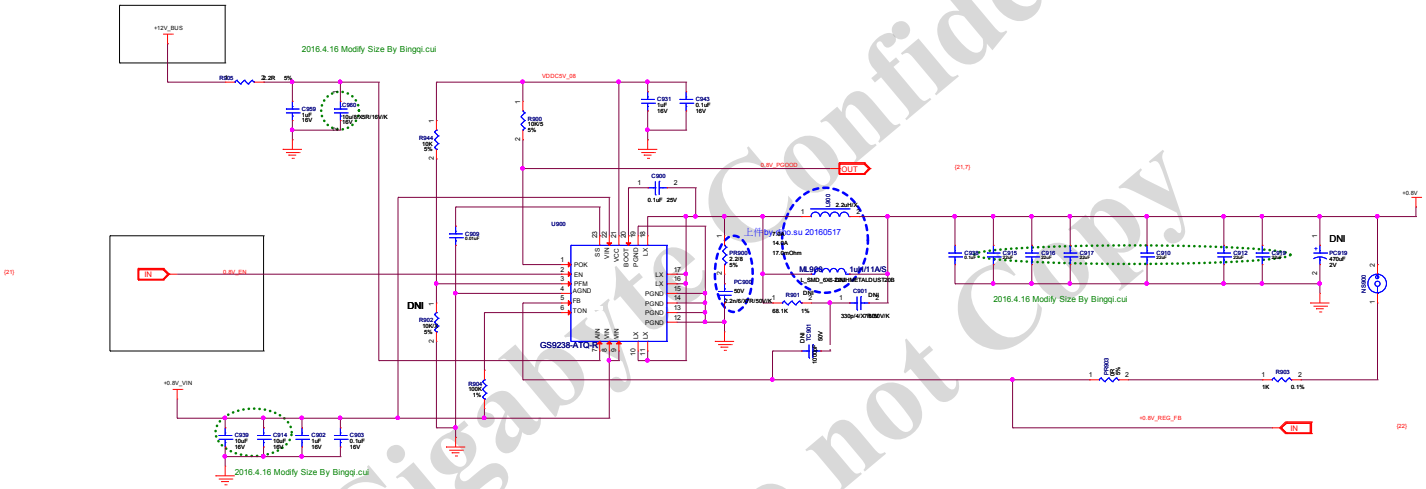
CHANGE POWER PHASE TO PAGE26 by diho 20160514



/X Single phase power by diho.su 20160517

GIGABYTE		
Title: MVDD		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 18 of 29	

(17) 0.95V

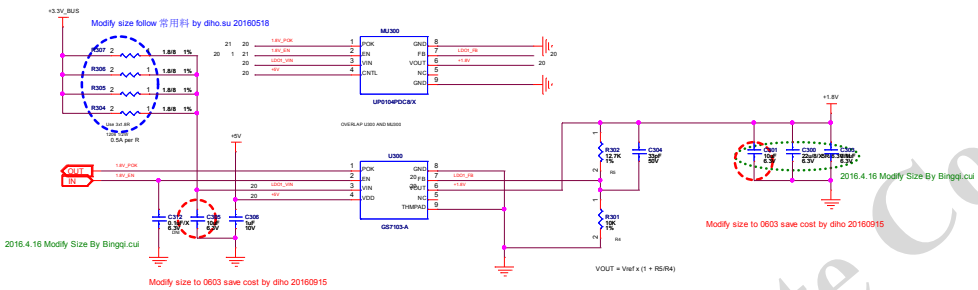


GIGABYTE		
Title: 0.95V		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 19 of 29	

(18) SMALL RAIL REGULATORS

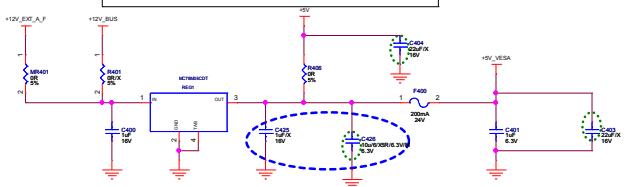
LDO #1: VIN = 3.0V TO 3.6V MAX VOUT = +1.8V +/- 2% IOUT = 1.3A RMS MAX

PCB: 50 TO 70mm SQ. COPPER AREA FOR COOLING



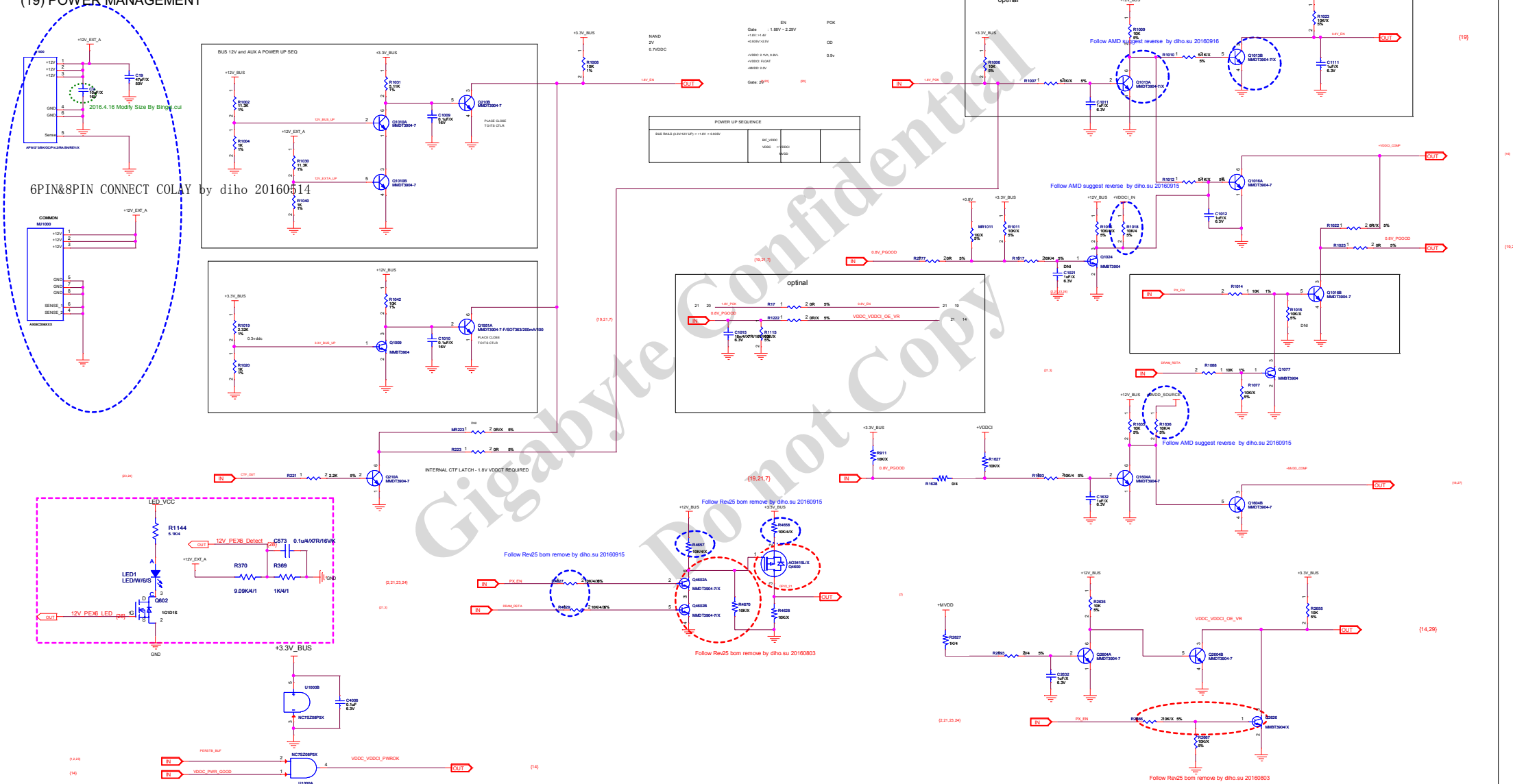
REGULATOR FOR +5V RAILS

IOUT MAX = 150mA

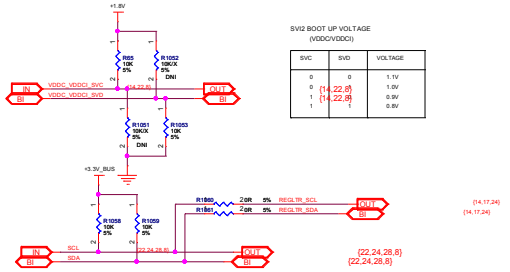


GIGABYTE		
Title: SMALL RAIL REGULATORS		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 20 of 29	

(19) POWER MANAGEMENT

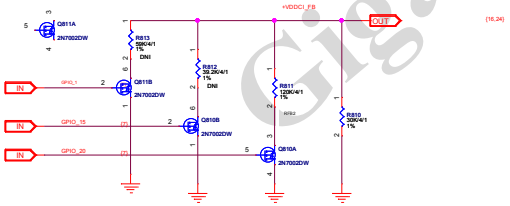


Title	GIGABYTE POWER MANAGEMENT1
Size	Custom
Document Number	GV-RX580GAMING-4GD
Rev	1.0
Date:	Monday, February 27, 2017
Sheet	21 of 29

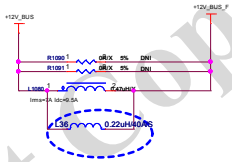


SVI2 BOOT UP VOLTAGE
(VDDC/VDDCI)

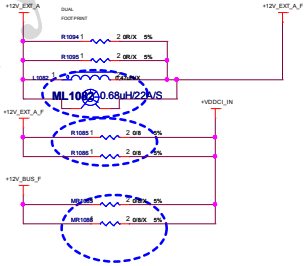
SVC	SVD	VOLTAGE
0	0	1.1V
0	1	1.0V
1	0	0.9V
1	1	0.8V



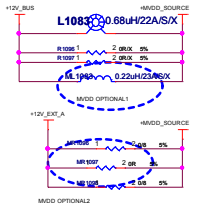
+12V_BUS INPUT



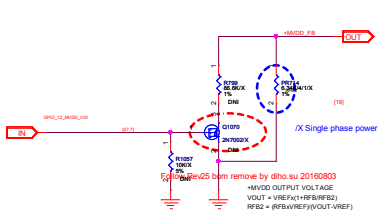
+12V_EXT_A INPUT



Modify size follow 常用料 by diho.su 20160519



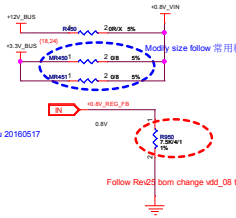
Modify size follow 常用料 by diho.su 20160518



/X Single phase power by diho.su 20160517

Follow Rev25 bom remove by diho.su 20160803

+MVDD OUTPUT VOLTAGE
VOUT = VREFx(1+RFB/RFB2)
RFB2 = (RFBxVREF)/(VOUT-VREF)

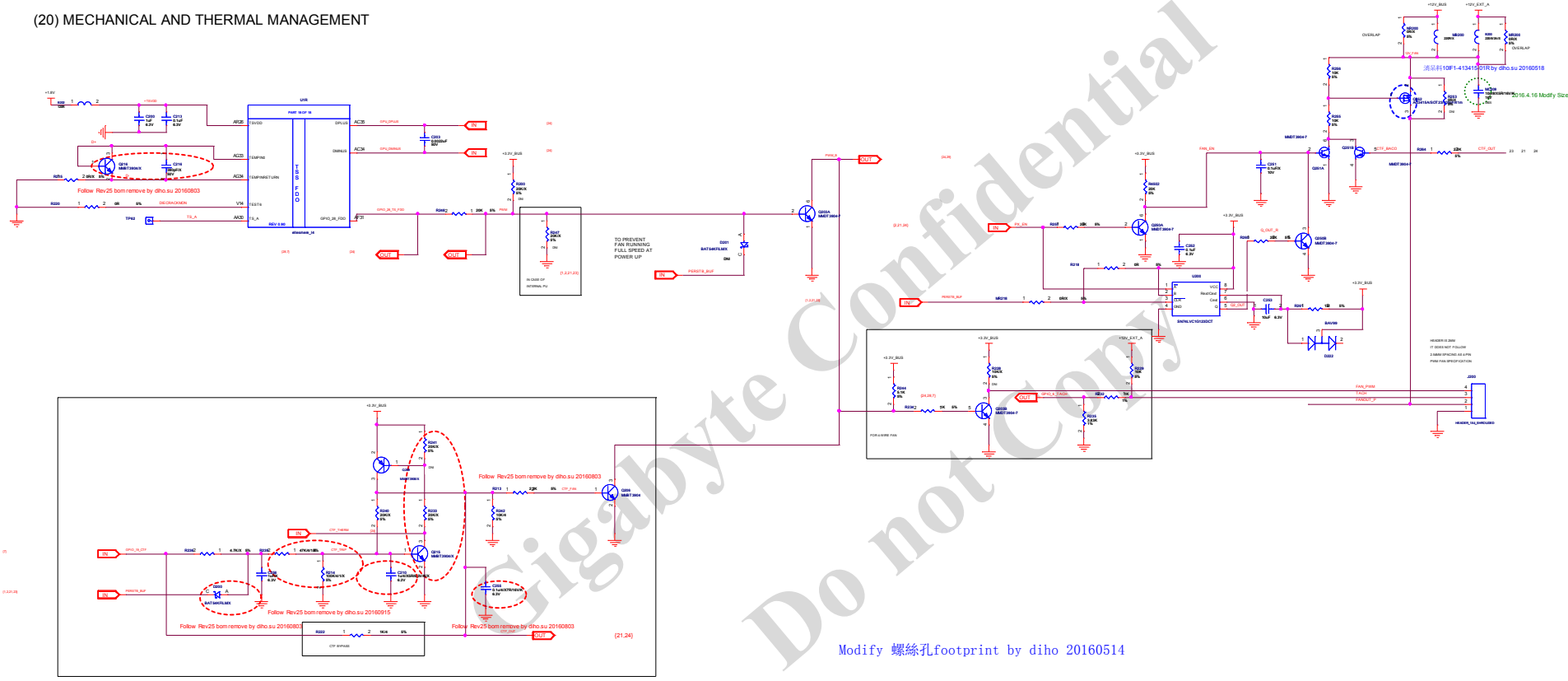


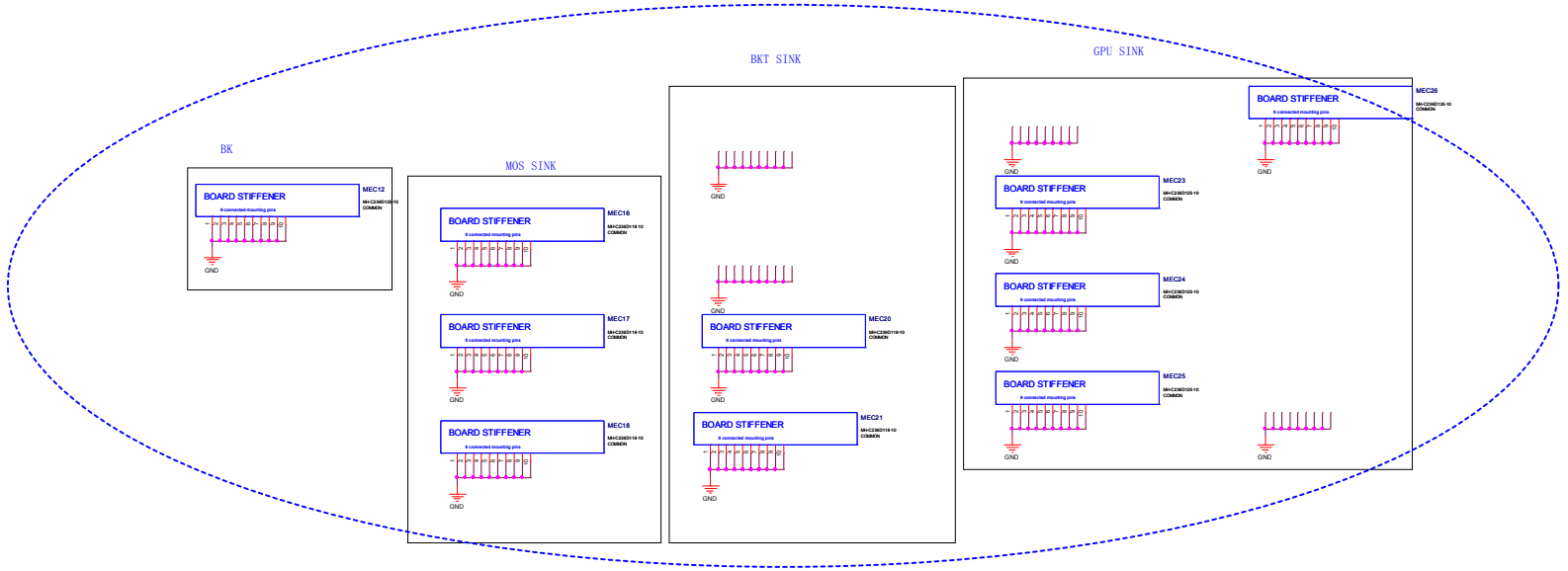
Modify size follow 常用料 by diho.su 20160520

Follow Rev25 bom change vdd_08 to 0.9V by diho.su 20160803

GIGABYTE		
Title: POWER MANAGEMENT2		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 22 of 29	

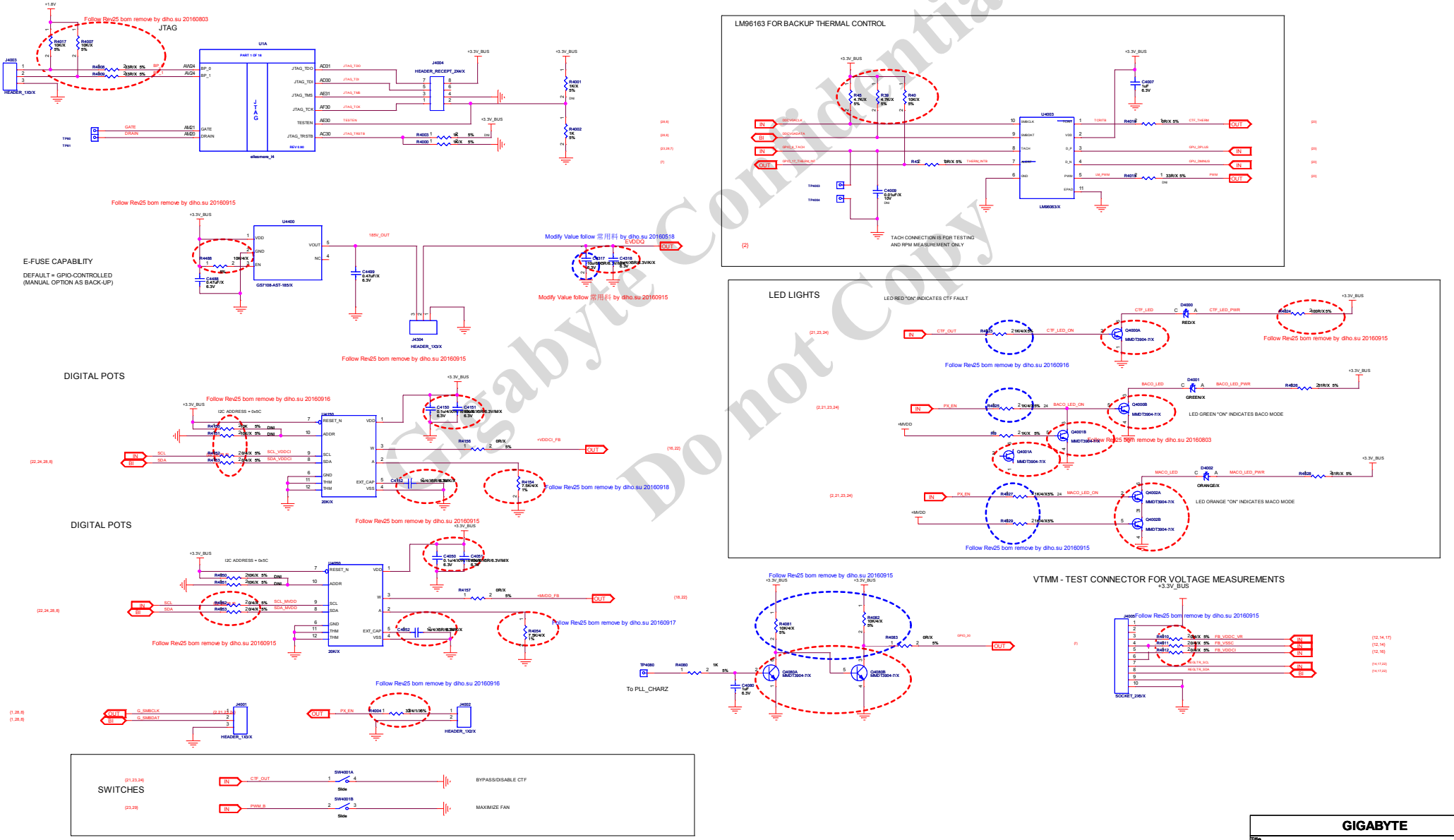
(20) MECHANICAL AND THERMAL MANAGEMENT



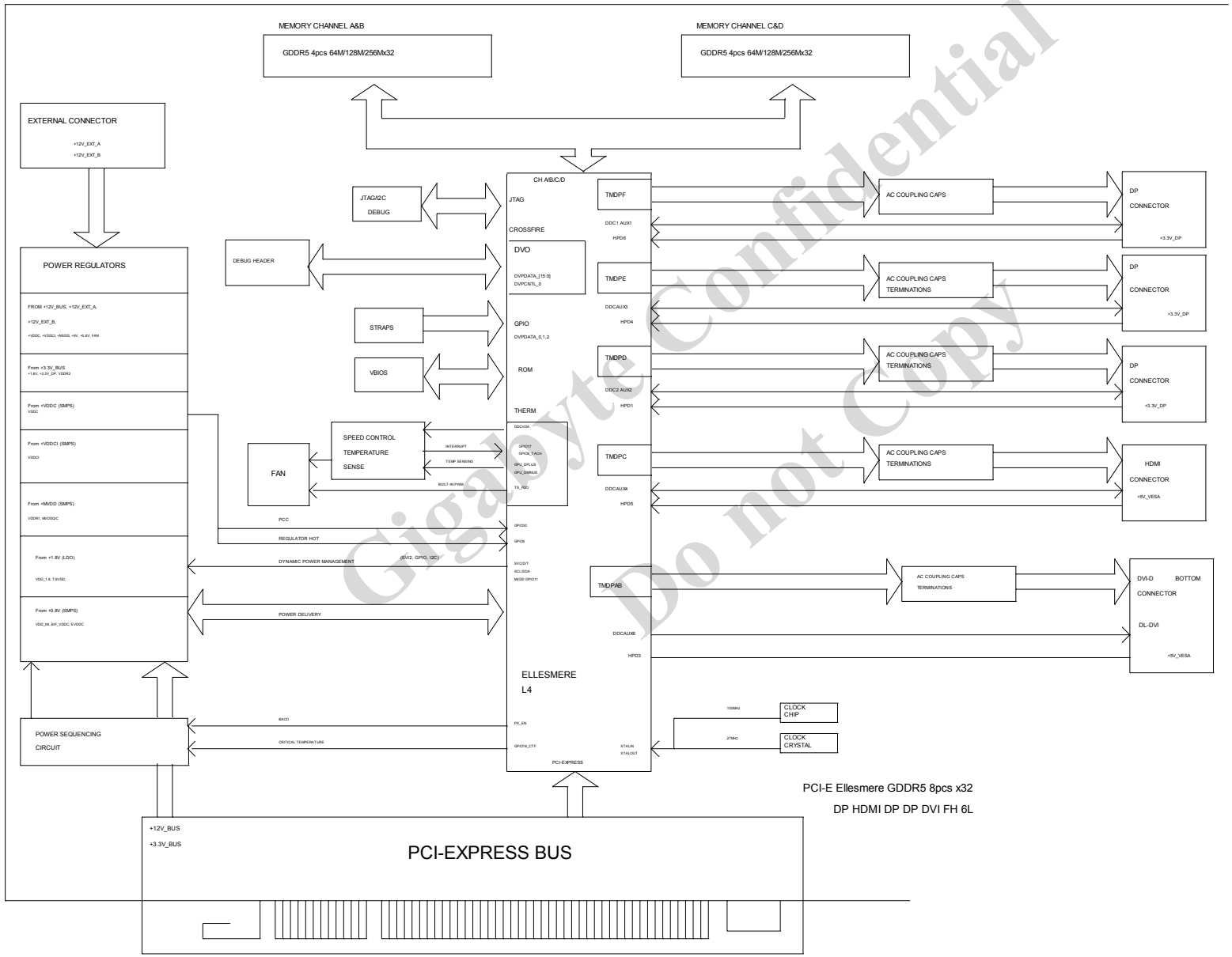


GIGABYTE			
Title	MECHANICAL AND THERMAL MANAGEMENT		
Size	Document Number		Rev
Custom	GV-RX580GAMING-4GD		1.0
Date:	Monday, February 27, 2017	Sheet 23 of 29	

(21) DEBUG CIRCUITS



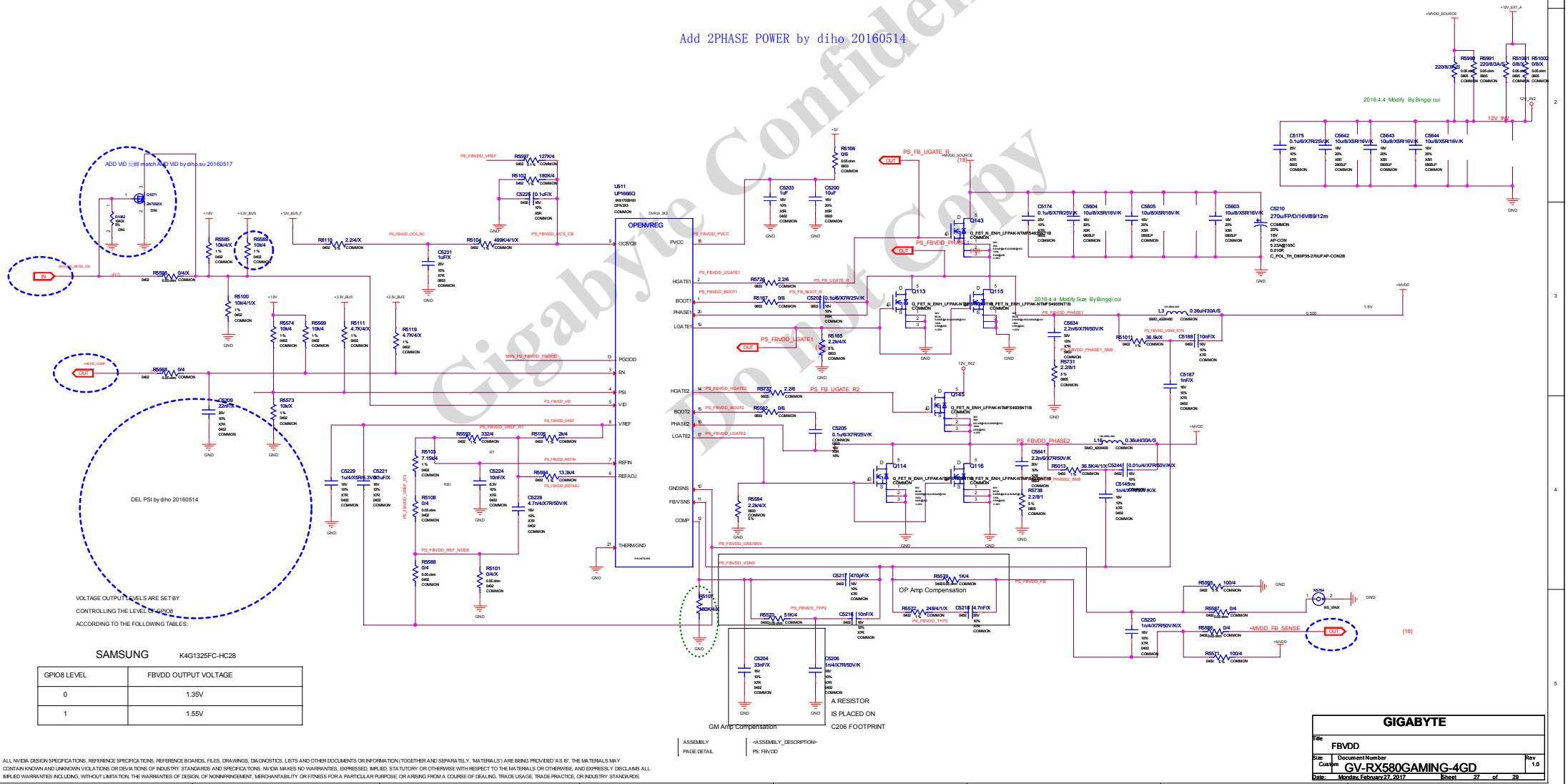
GIGABYTE		
Title: DEBUG CIRCUITS		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 24 of 29	



GIGABYTE		
Title: BLOCK DIAGRAM		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 25 of 29	

0	00A	08/26/2016	
1	00B	10/19/2016	1. Add GPIO1 for dynamic VDDCI 2. update VDDC drive sequence
2	00C	03/23/2016	HDMI: - add series resistor R1880 ~R1887 - add pull down inductor L1880 ~L1887 remove C405, C403, VR400,C410,C414,R405
3	00D	04/18/2016	Modify GBT Design

GIGABYTE		
Title: BLOCK DIAGRAM		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 26 of 29	



VOLTAGE OUTPUT LEVELS ARE SET BY
CONTROLLING THE LEVEL OF GPIO8
ACCORDING TO THE FOLLOWING TABLES:

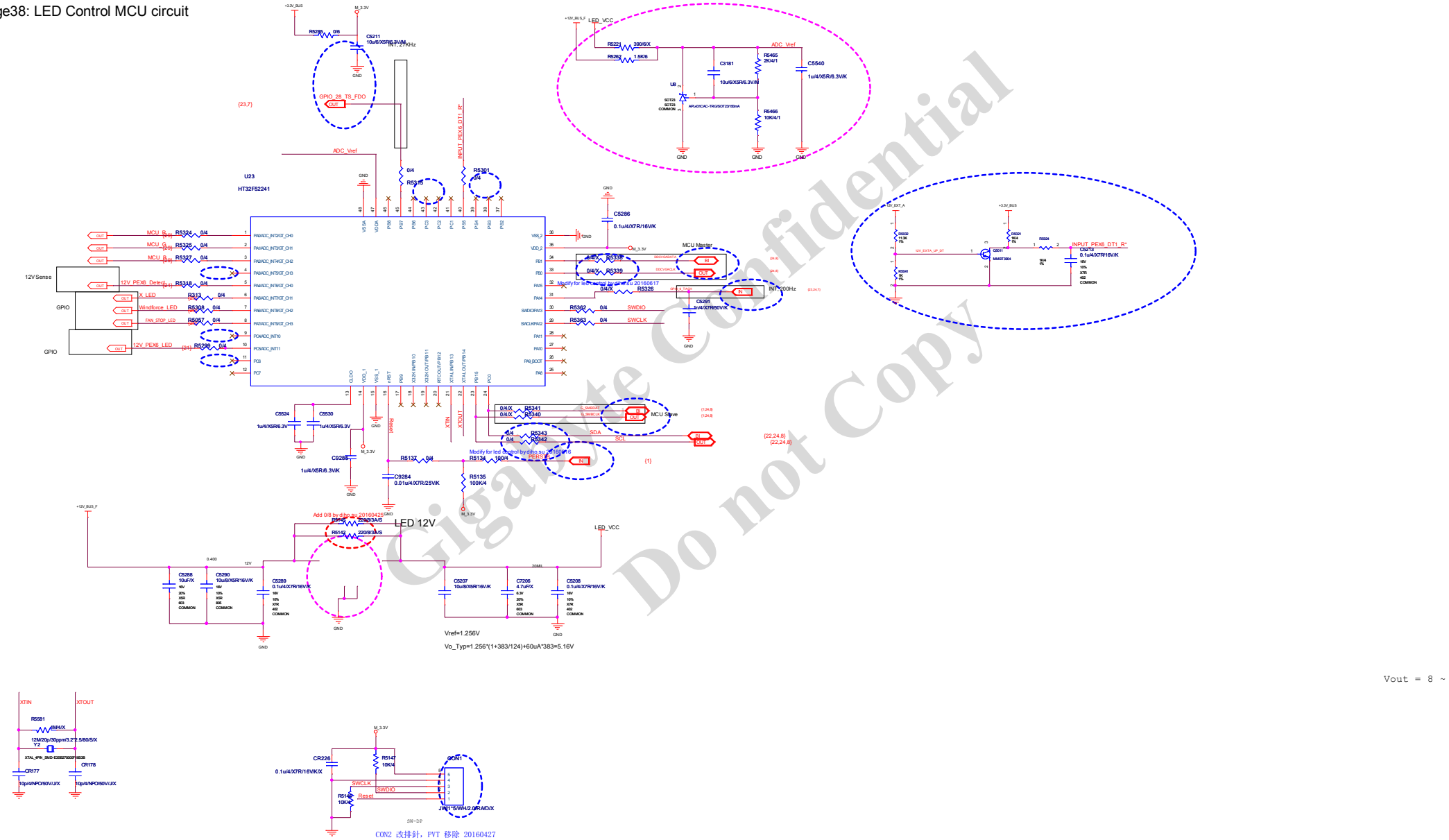
SAMSUNG K4G1325FC-HC28

GPIO8 LEVEL	FBVDD OUTPUT VOLTAGE
0	1.35V
1	1.55V

ASSEMBLY
PAGE DETAIL
<ASSEMBLY_DESCRIPTION>
PS: FBVDD

GIGABYTE		
Title: FBVDD		
Size: Custom	Document Number: GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 27 of 29	

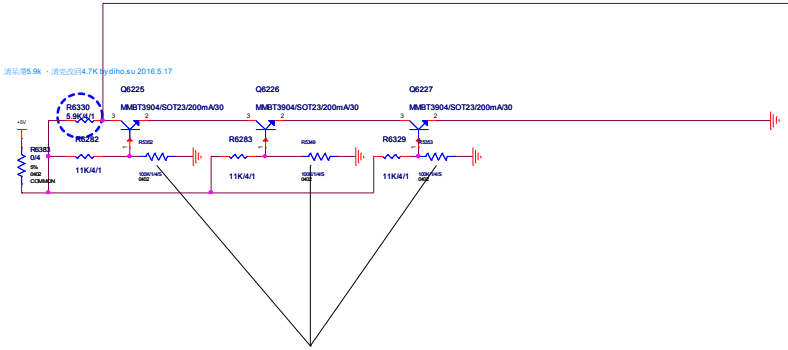
Page38: LED Control MCU circuit



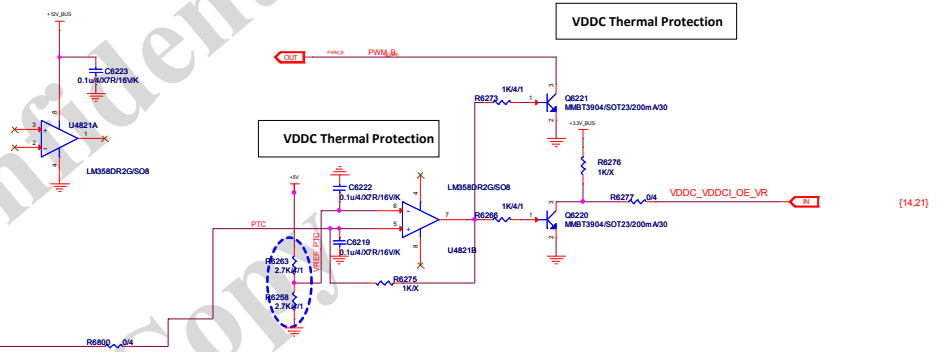
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MECH: Bracket/Thermal

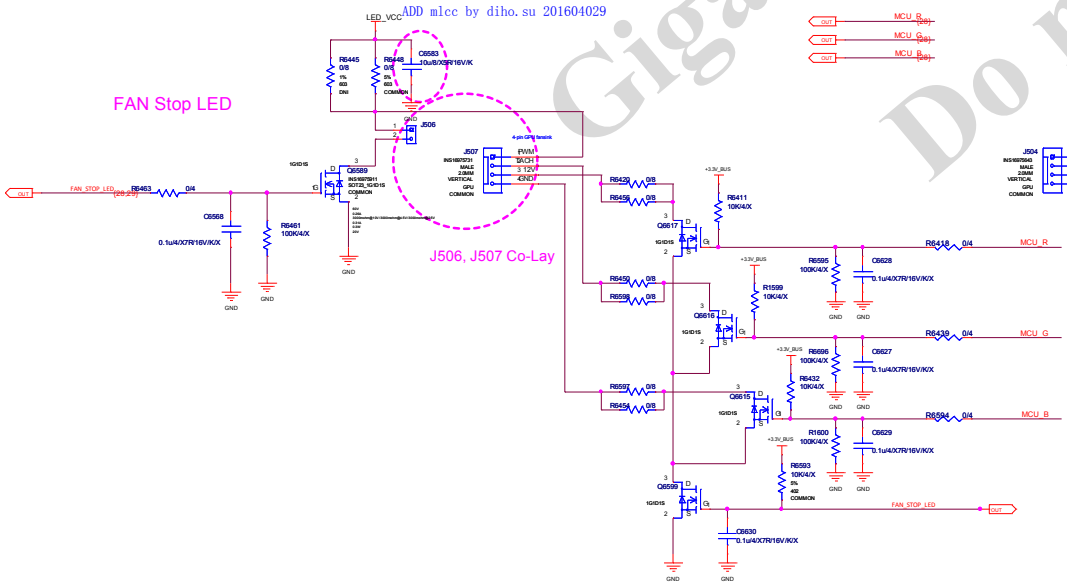
Title		
Size: Custom	Document Number: LED GV-RX580GAMING-4GD	Rev: 1.0
Date: Monday, February 27, 2017	Sheet 28 of 29	

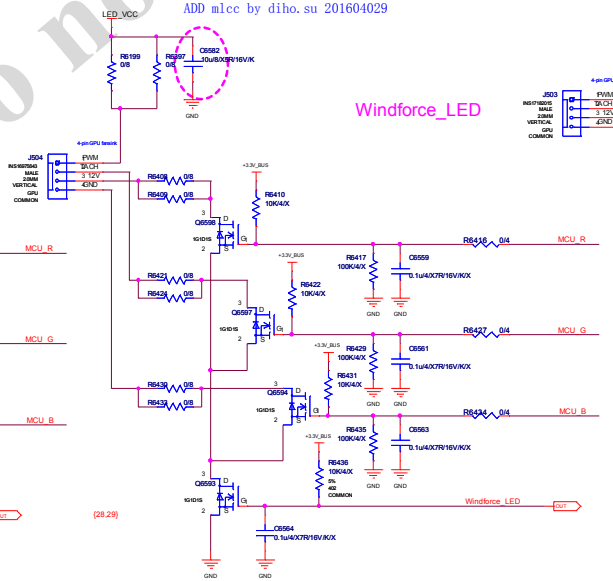
Add MOS VRHOT CIRCUIT

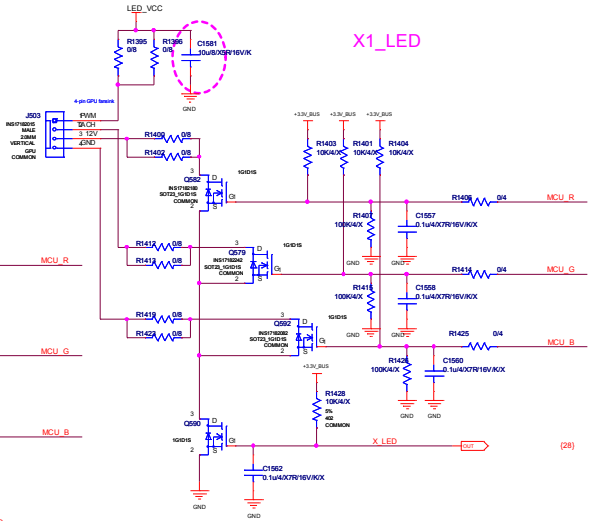


Near VDDC each high side MOS









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Date: Monday, February 27, 2017	Sheet 29 of 29	