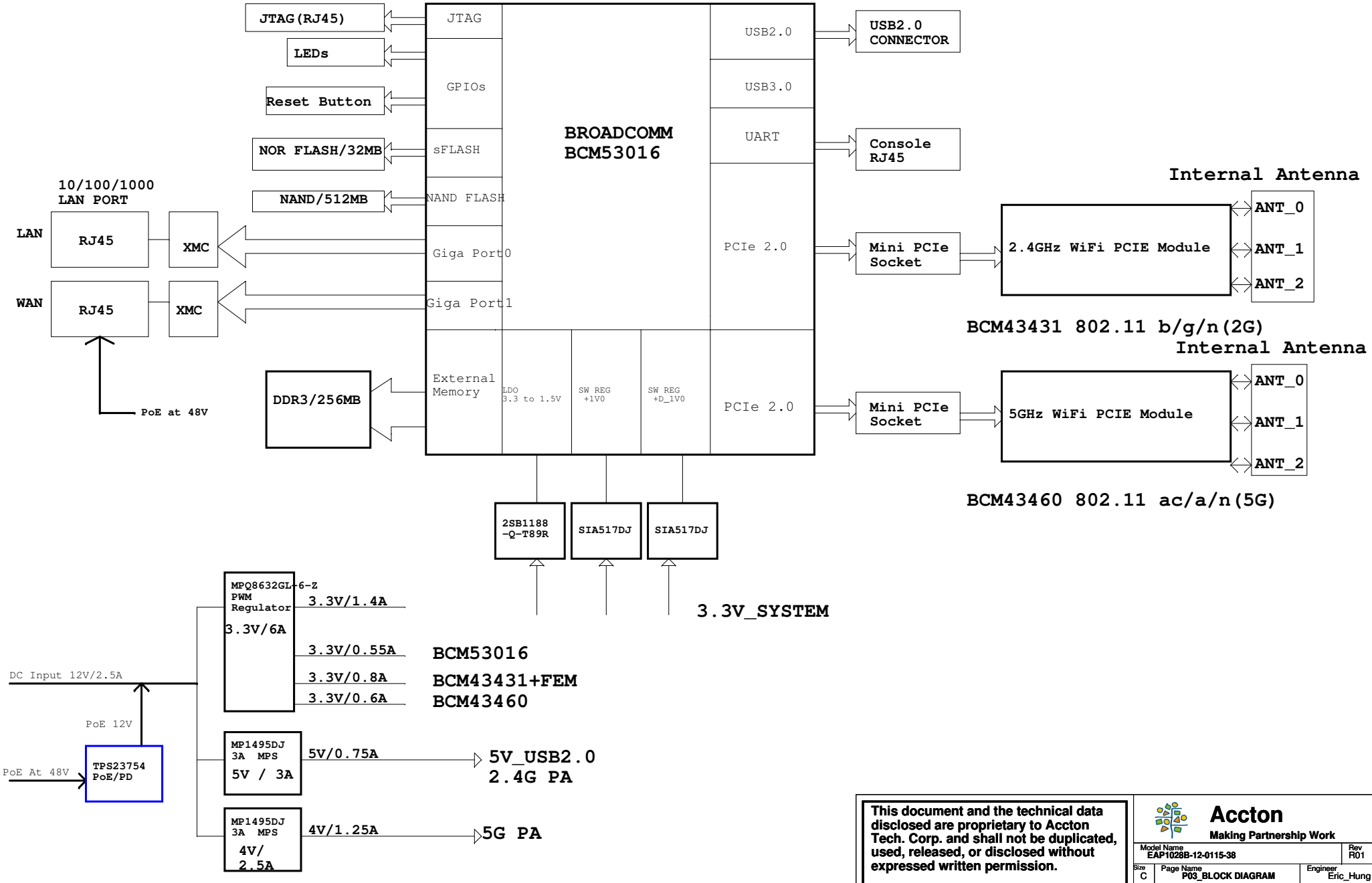
REVISION HISTORY

Version	Date	Change Description
R01	2015/02/04	1. Copy EAP1028B-EC schematic 2. CPU change to BCM53016 (110000000211A) 3. Set the Watchdog & TPM Circuit to not on pieces
R01	2015/02/17	1. C37&C38 - 2041061KE100J change to 204000000316A(C SMD CER 22uF 10% 25V X5R 1206 T1.6mm LT/LF SAMSUNG) 2. 107300000025A(4Gb) change to 107300000076A (1Gb) 3. Set NAND Boot
R01	2015/02/25	1. Remove USB Circuit and 5V convert for USB_5V
R01	2016/01/07	1. set NAND Flash page to 00 , and set ECC to 0010 2. Add Q11, R309 ; remove R313

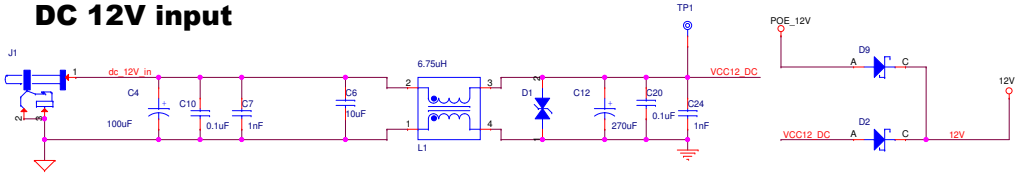
System Block Diagram



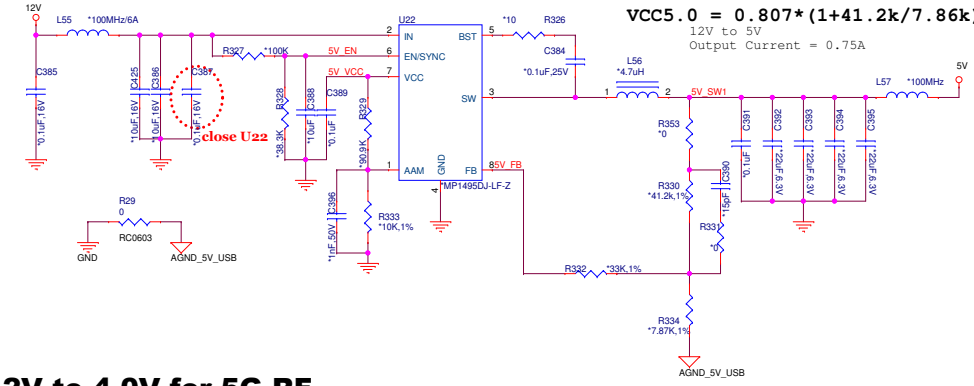
Accton
Making Partnership Work

Model Name: EAP1028B-12-0115-38		Rev: R01
Size: C	Page Name: P03_BLOCK DIAGRAM	Engineer: Eric_Hung
Date: Thursday, January 07, 2016	Sheet 2 of 14	

DC 12V input



12V to 5V for USB



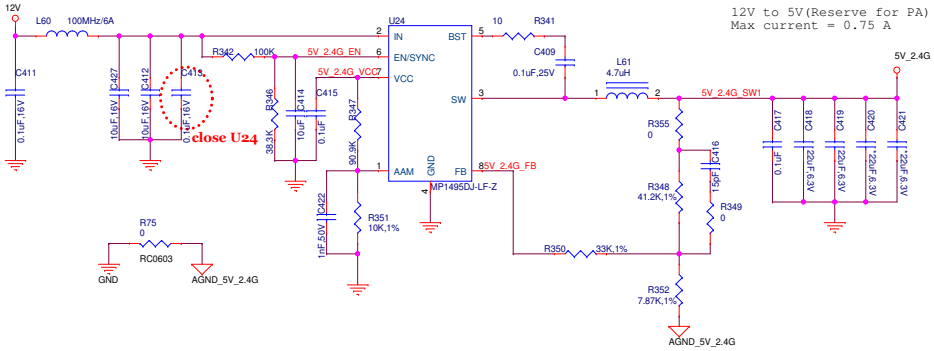
VCC5.0 = 0.807*(1+41.2k/7.86k)=5.037V

12V to 5V
Output Current = 0.75A

12V to 5V for 2.4G RF

VCC5.0 = 0.807*(1+41.2k/7.86k)=5.037V

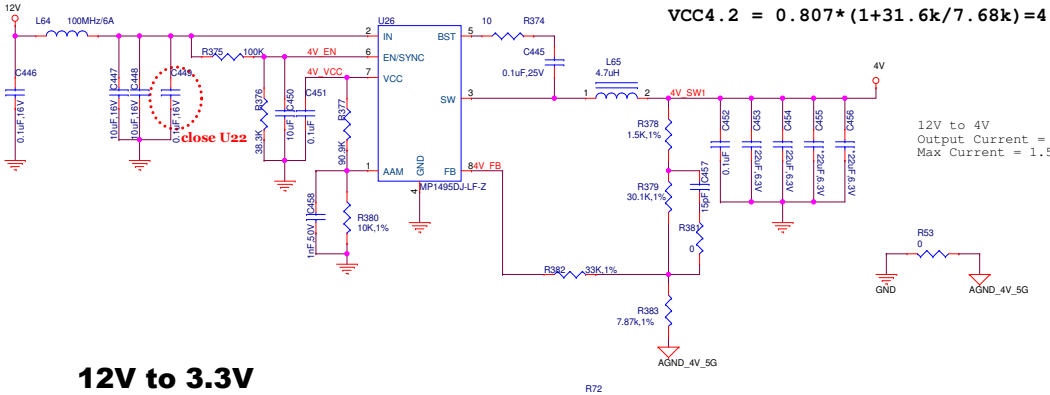
12V to 5V(Reserve for PA)
Max current = 0.75 A



12V to 4.0V for 5G RF

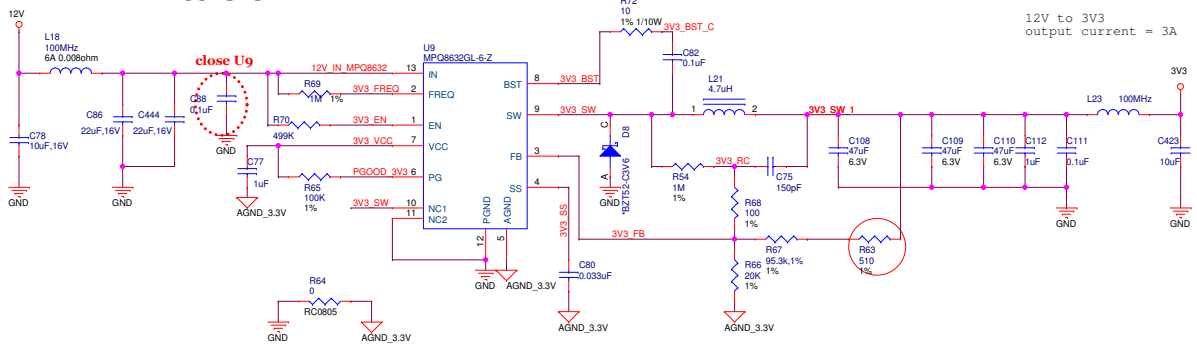
VCC4.2 = 0.807*(1+31.6k/7.68k)=4.01V

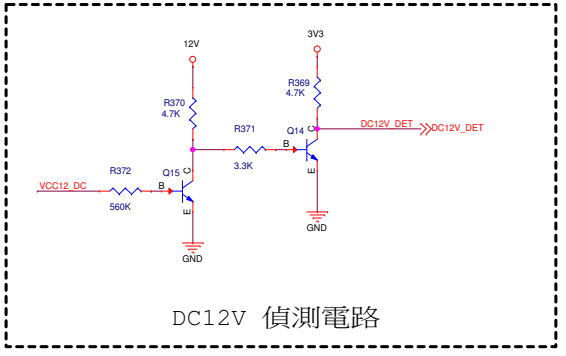
12V to 4V
Output Current = 0.45A
Max Current = 1.5A



12V to 3.3V

12V to 3V3
output current = 3A





DC12V 偵測電路

Accton
Making Partnership Work

Model Name: EAP1028B-25-0714-EC		Rev: R01
Size: C	Page Name: P4_DC to DC	Engineer: Eric_Hung
Date: Thursday, January 07, 2016	Sheet 3 of 14	

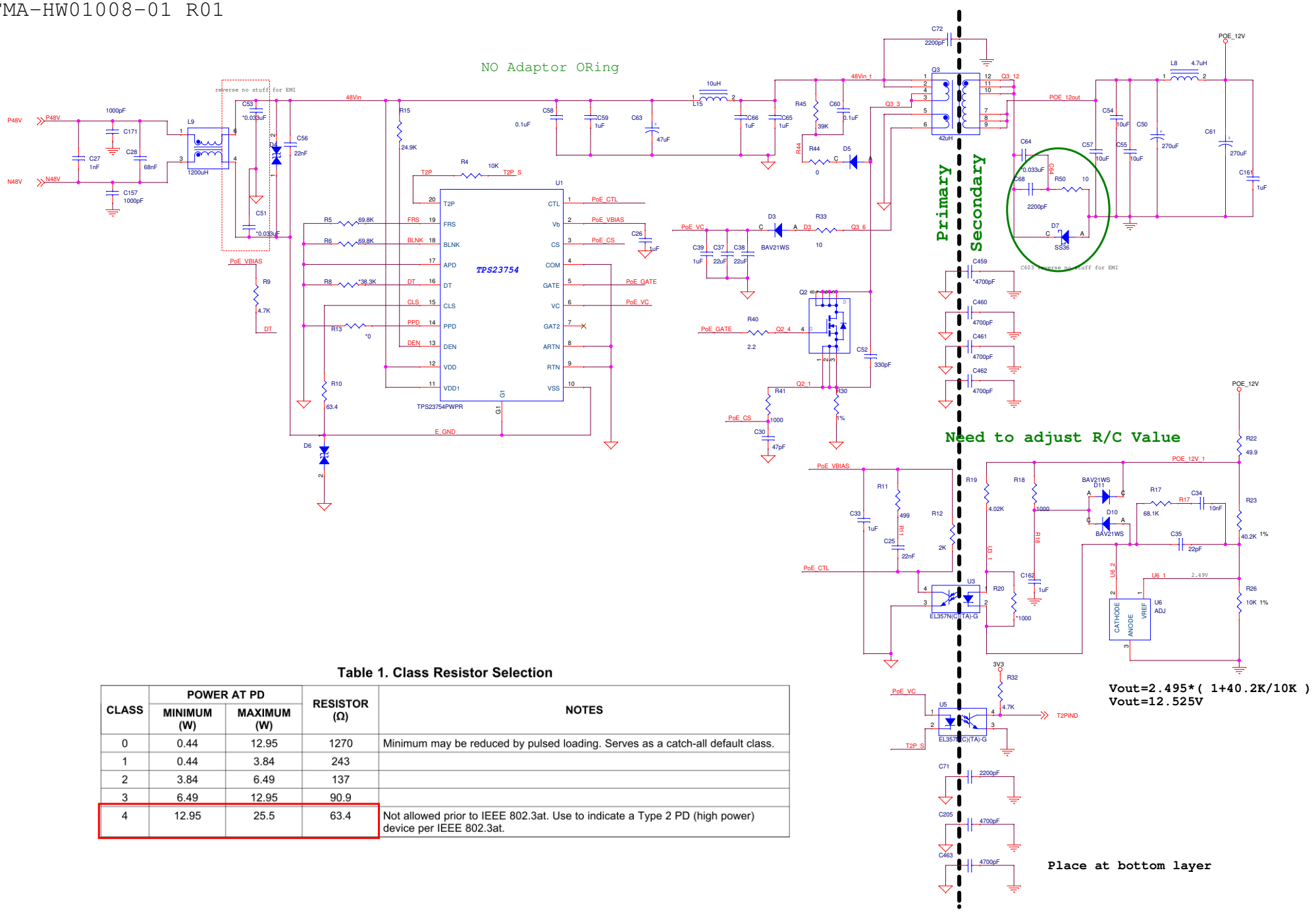


Table 1. Class Resistor Selection

CLASS	POWER AT PD		RESISTOR (Ω)	NOTES
	MINIMUM (W)	MAXIMUM (W)		
0	0.44	12.95	1270	Minimum may be reduced by pulsed loading. Serves as a catch-all default class.
1	0.44	3.84	243	
2	3.84	6.49	137	
3	6.49	12.95	90.9	
4	12.95	25.5	63.4	Not allowed prior to IEEE 802.3at. Use to indicate a Type 2 PD (high power) device per IEEE 802.3at.

Accton
Making Partnership Work

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Size: C	Page Name: P05_PD_LTC4269-1	Engineer: Eric_Hung
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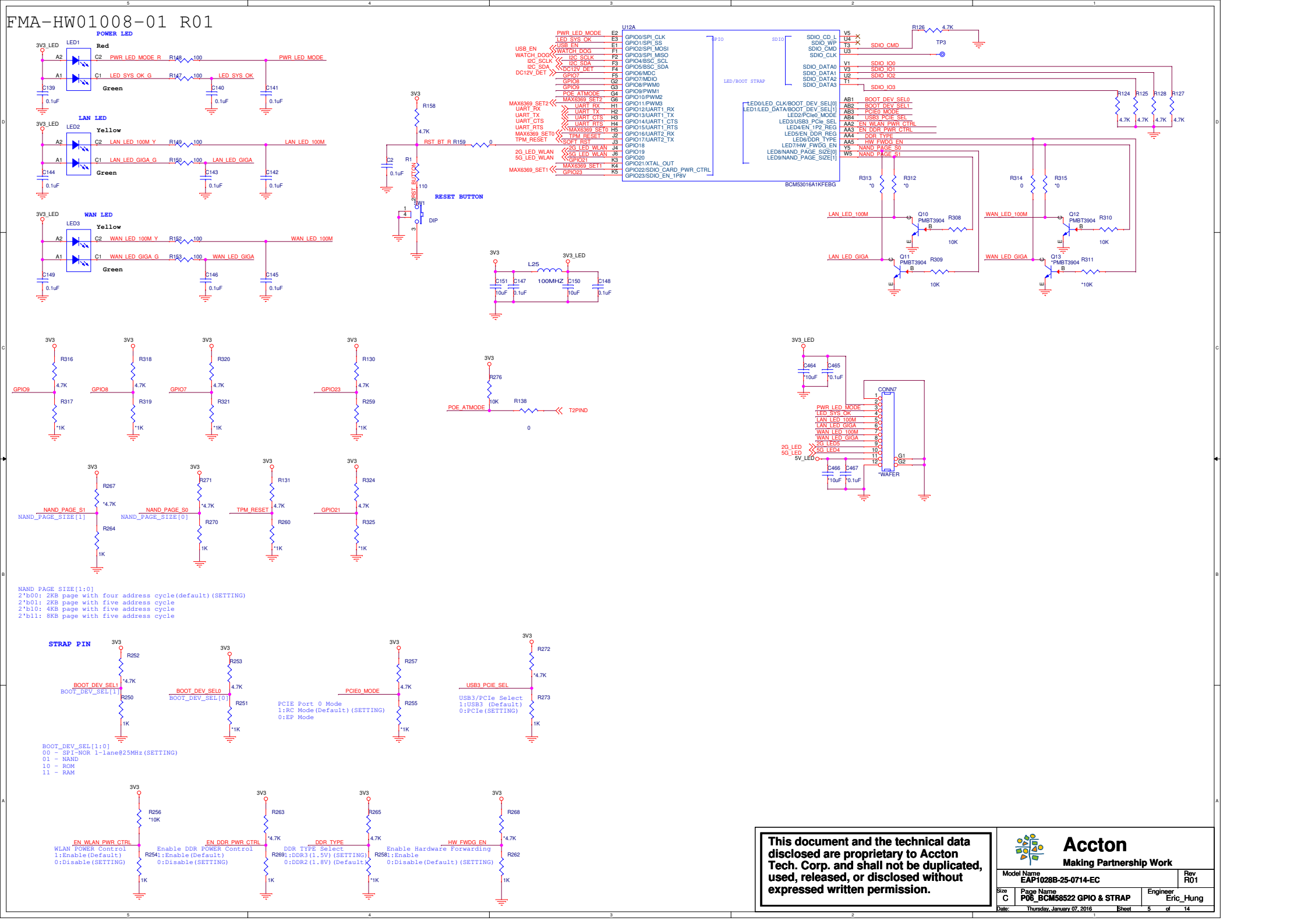

Accton
Making Partnership Work

Model Name: EAP1028B-25-0714-EC		Rev: R01
Size: C	Page Name: P06_BCM58522 GPIO & STRAP	Engineer: Eric_Hung
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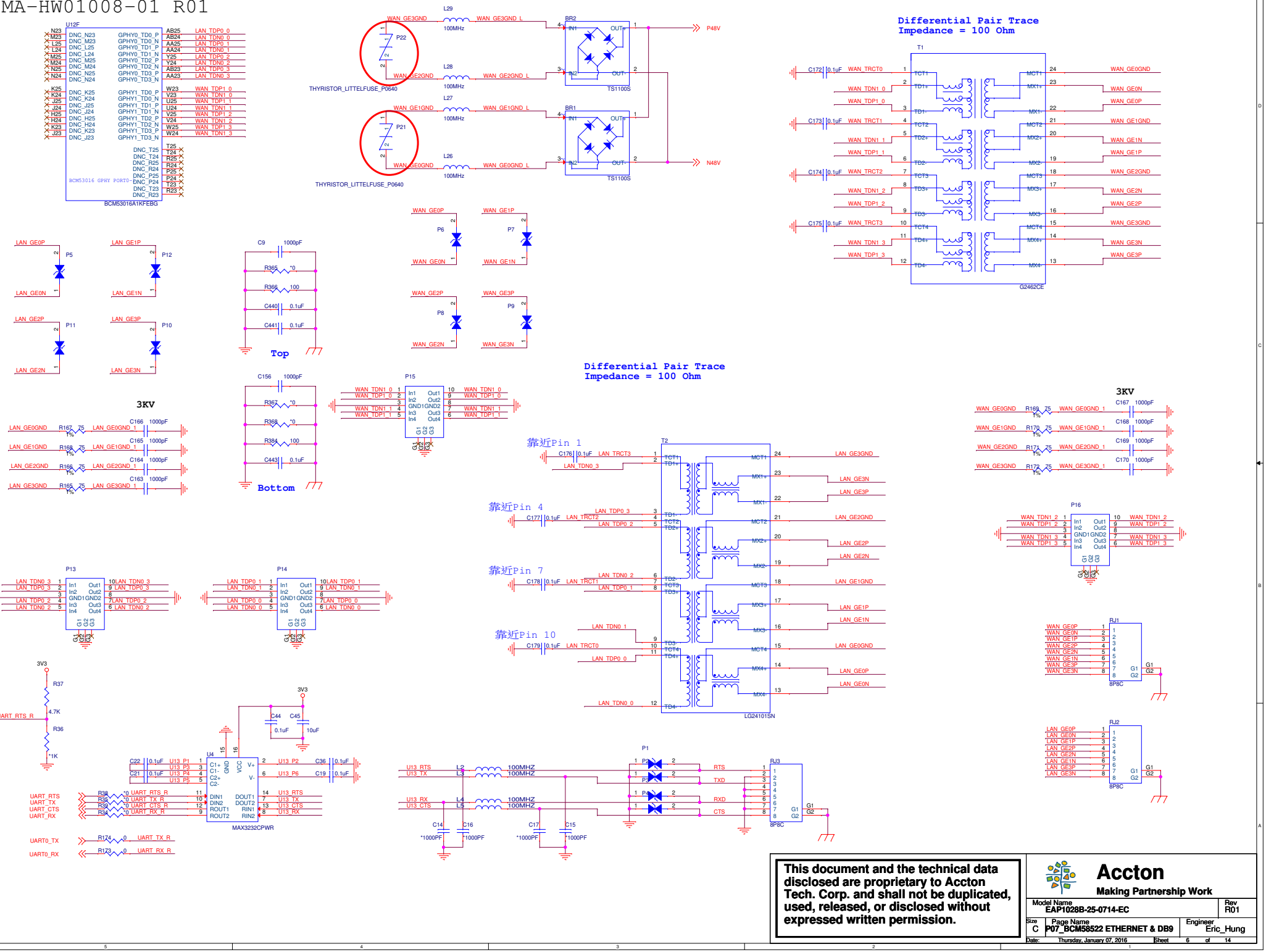

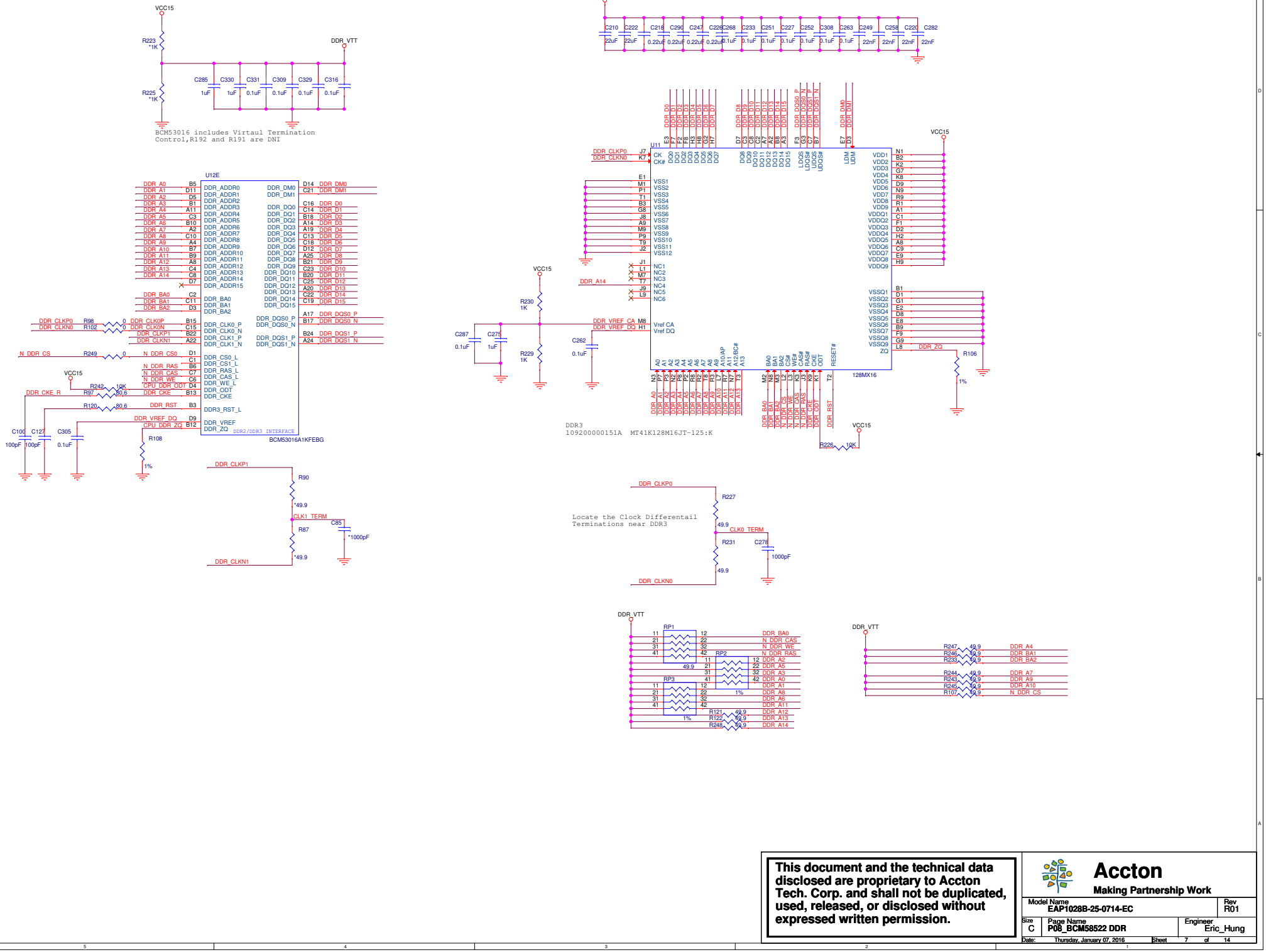

Accton
Making Partnership Work

Model Name: EAP1028B-25-0714-EC		Rev: R01
Size: C	Page Name: P08_BCM58522 DDR	Engineer: Eric_Hung
Date: Thursday, January 07, 2016	Sheet 7 of 14	

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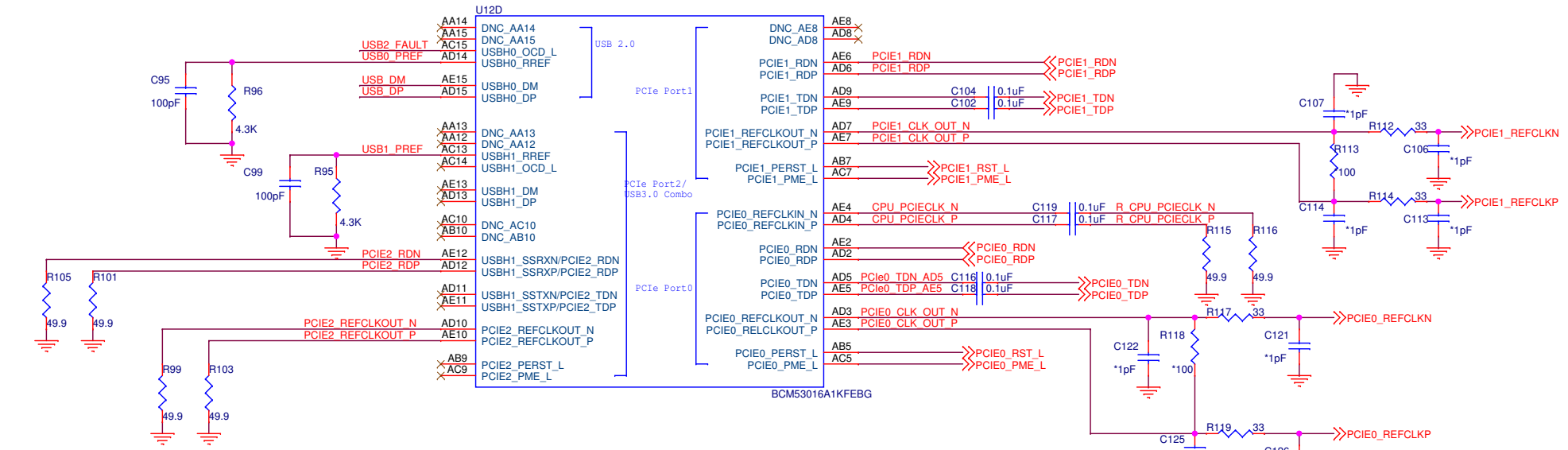
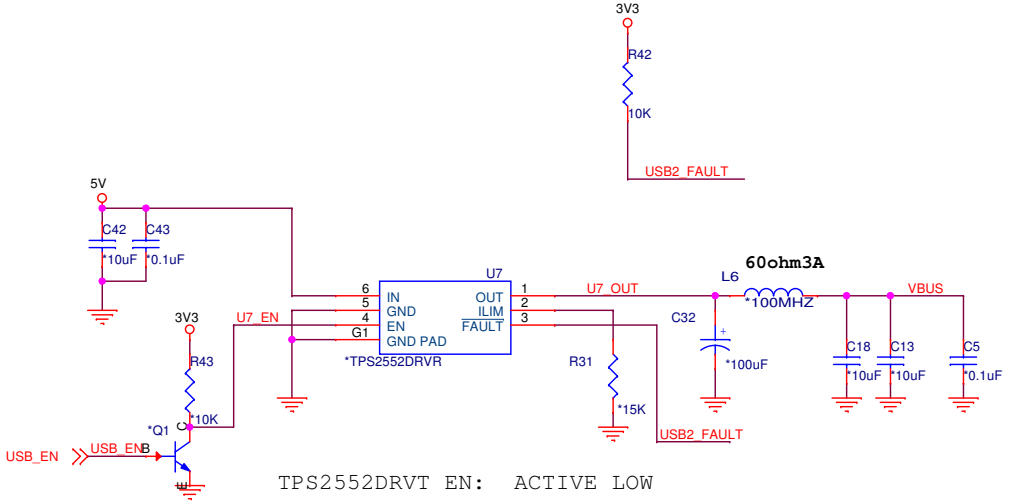
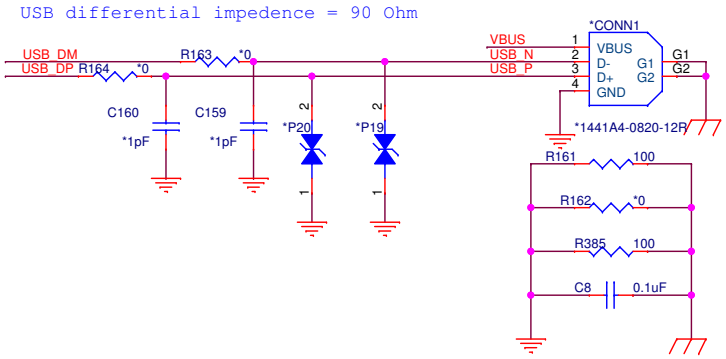




TPS2552DRVT EN: ACTIVE LOW



Accton
Making Partnership Work

Model Name: EAP1028B-25-0714-EC		Rev: R01
Size: B	Page Name: P09_BCM58522 PCIE and USB	Engineer: Eric_Hung
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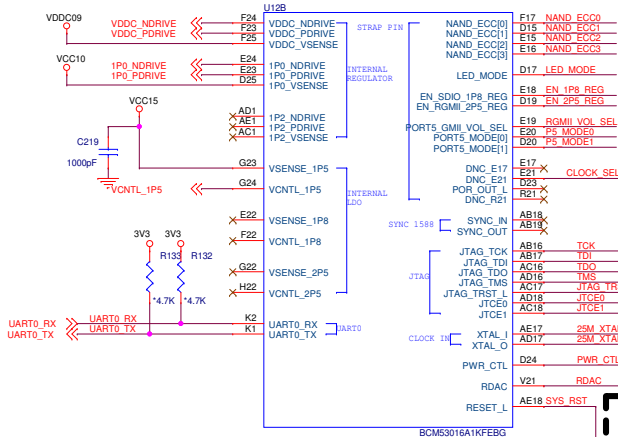
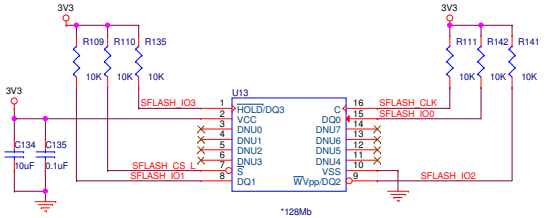
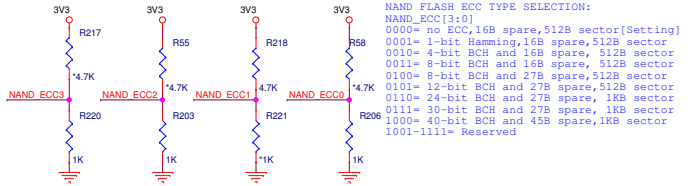
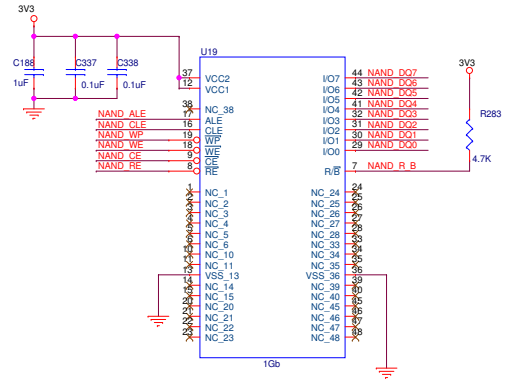
SPI NOR Flash 16MB= 128Mb

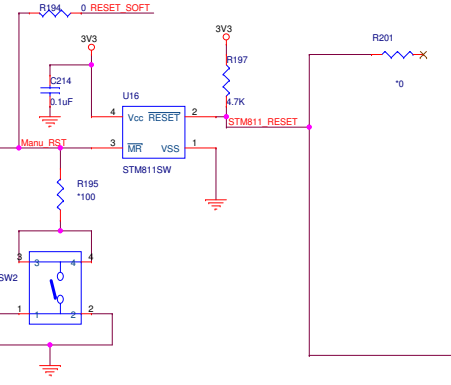








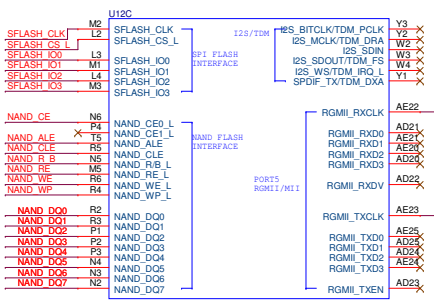
1 Gb NAND FLASH
107300000076A Micron MT29F1G08ABAEAWP:E

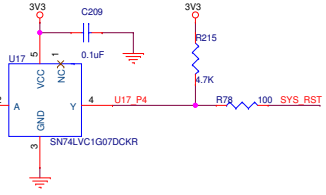


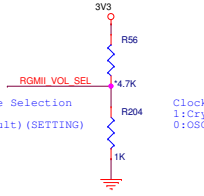
Reset time must more than 200ms

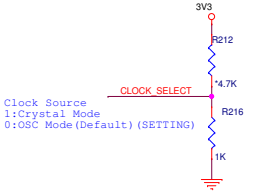
Locate R46,R45 as closed to Pin P19(RDAC) as possible. Net RDAC as wide as possible.

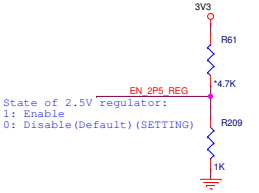
OSC
1161000000194A HONSONIC

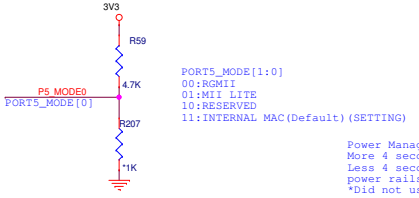


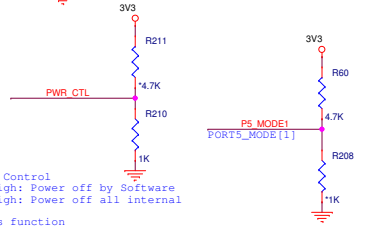


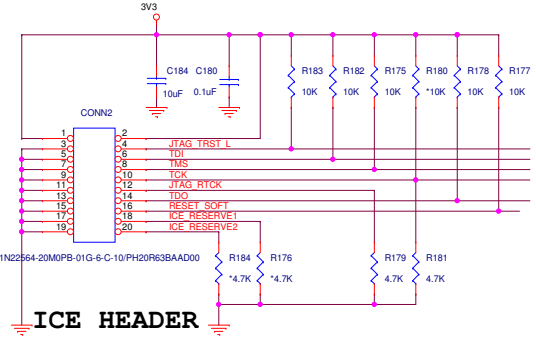












Accton
Making Partnership Work

Model Name	Rev
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Size	Page Name	Engineer
C	P10_BCM58522 FLASH & RESET	Eric_Hung

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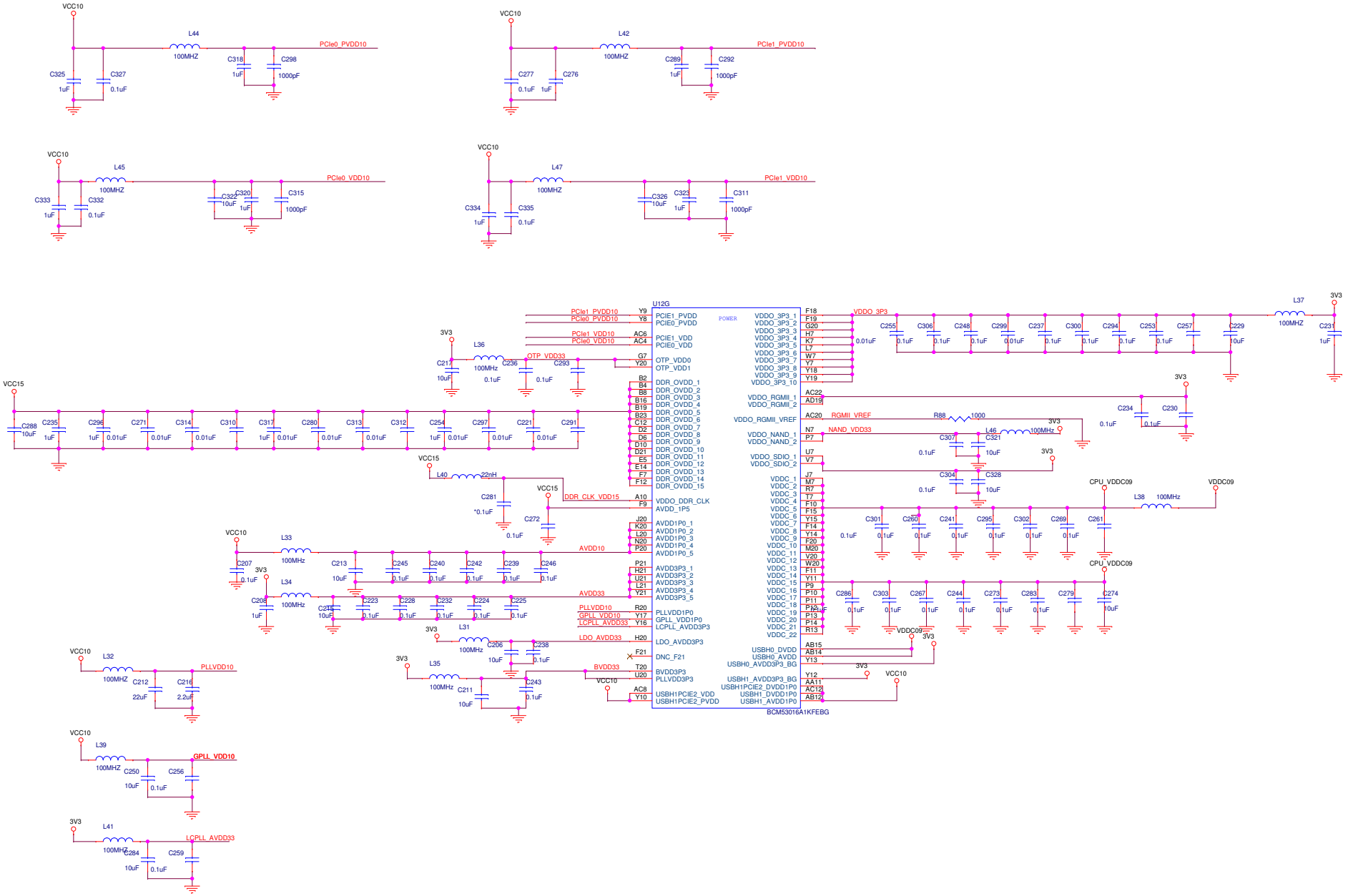

Accton
Making Partnership Work

Model Name	Rev
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Size	Page Name	Engineer
C	P11_BCM58522 POWER	Eric_Hung

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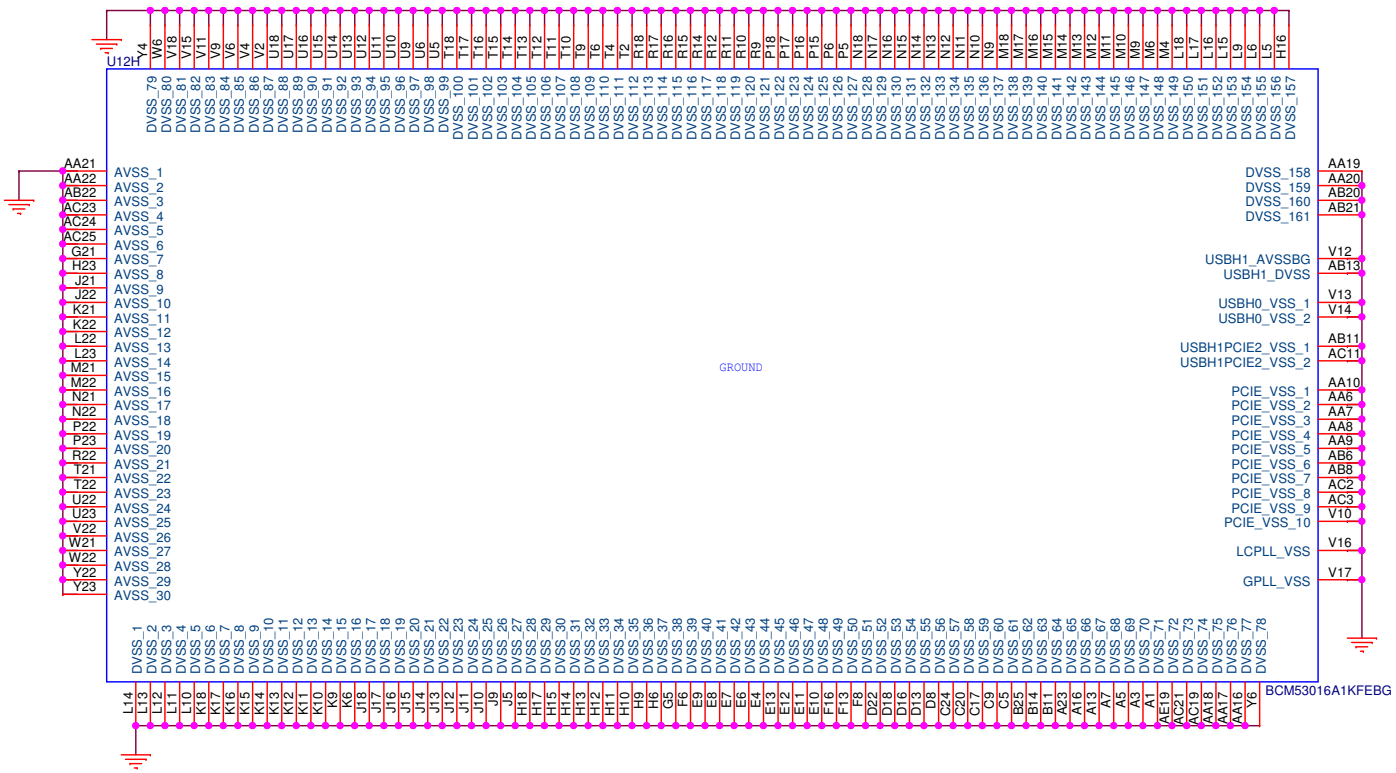

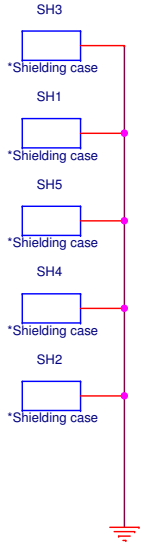

Accton
Making Partnership Work

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Size: B	Page Name: P12_BCM58522 GROUND	Engineer: Eric_Hung
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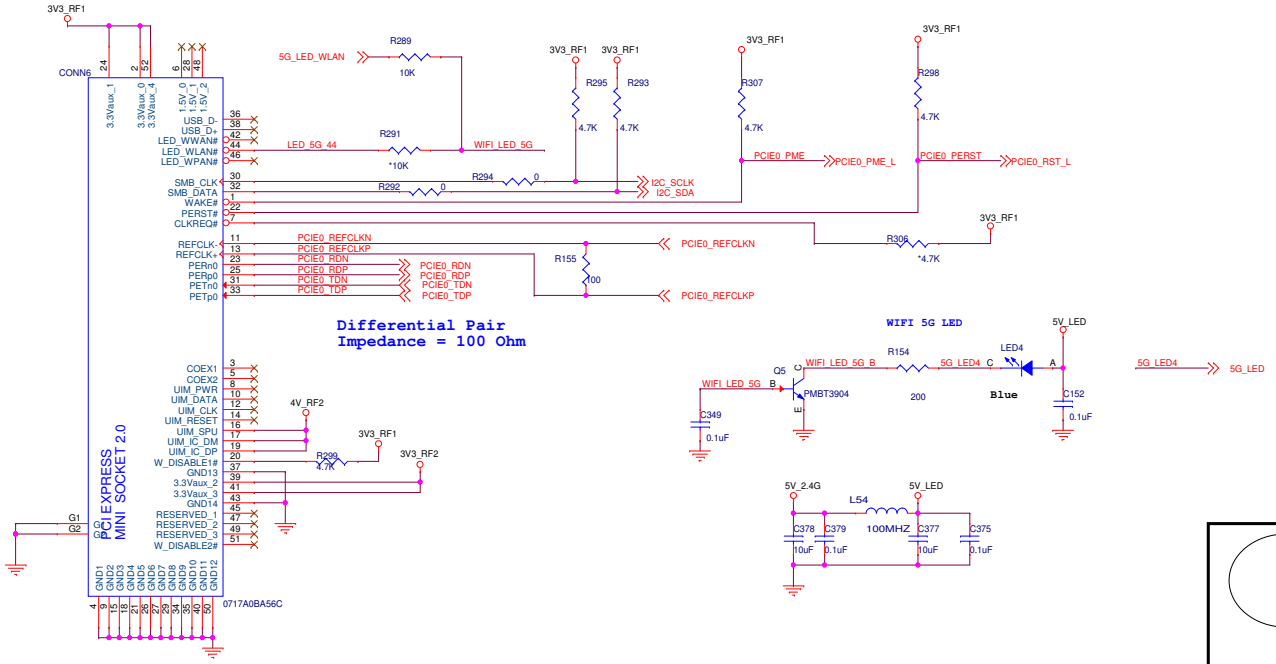
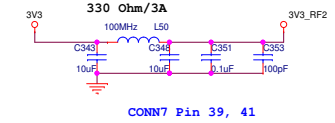
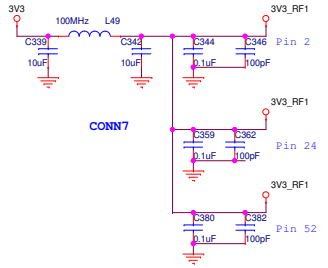
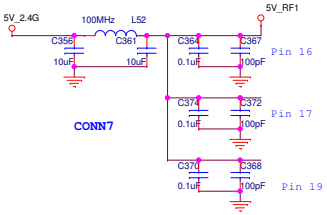
for 5G

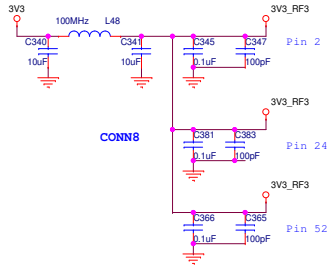


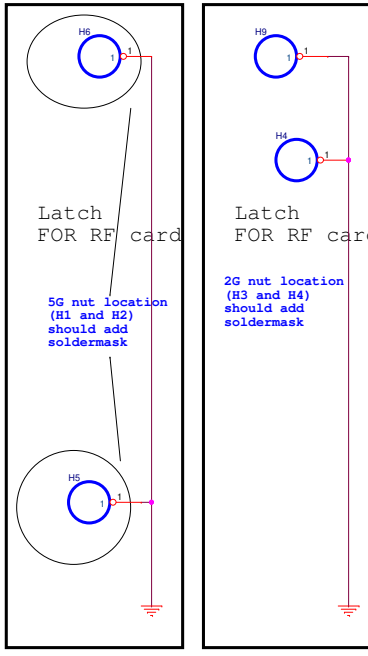


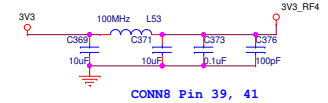
CONN7 Pin 39, 41





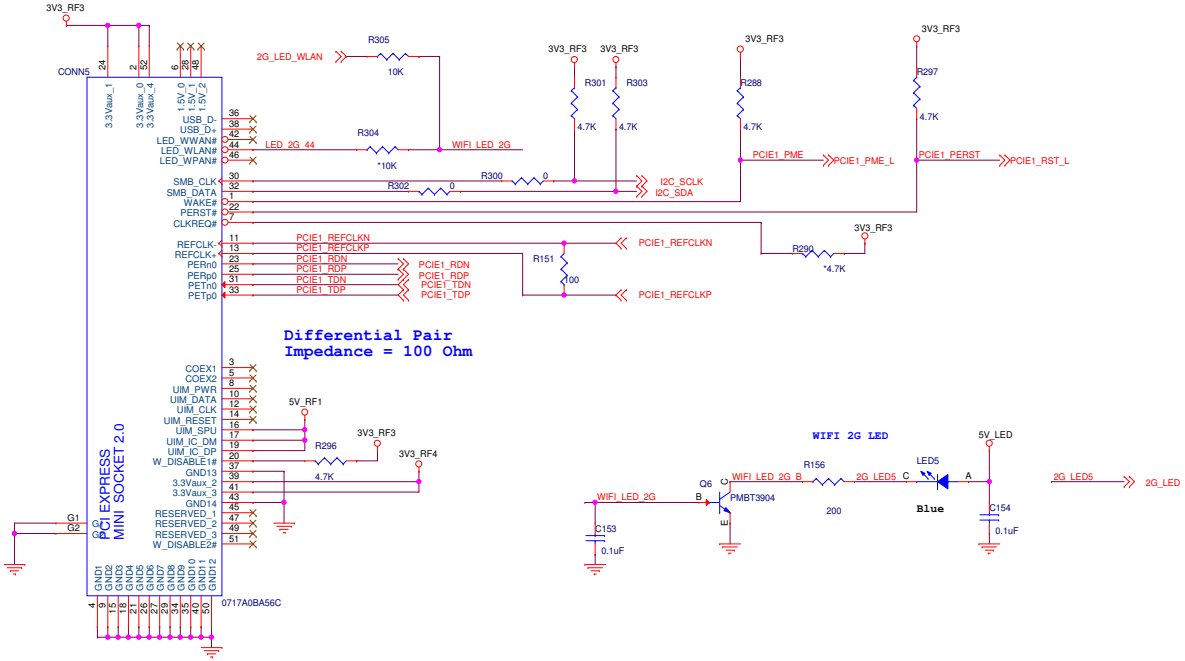


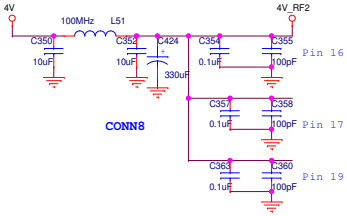




CONN8 Pin 39, 41

for 2G





Accton
Making Partnership Work

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Size: C	Page Name: P13_802.11n/ac Module	Engineer: Eric_Hung
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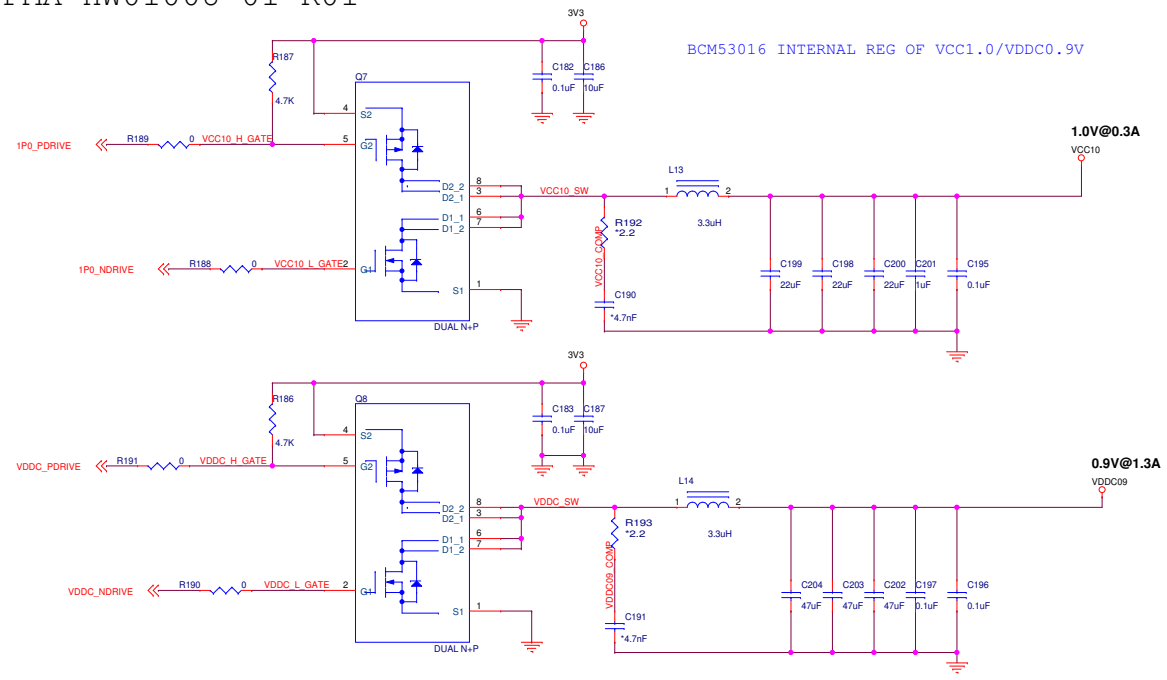
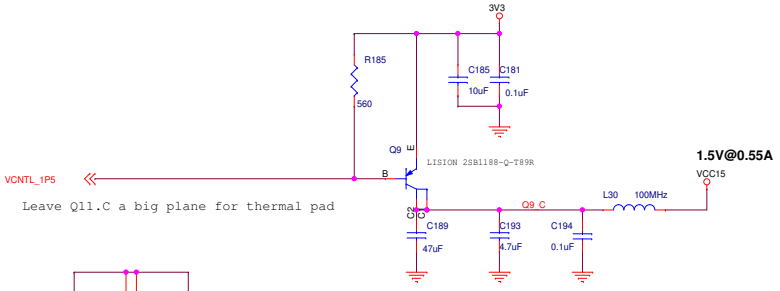
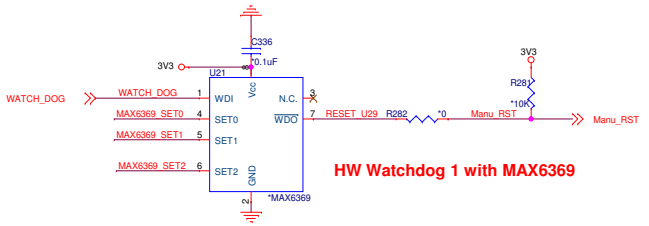
BCM53016 INTERNAL REG OF VCC1.0/VDDC0.9V

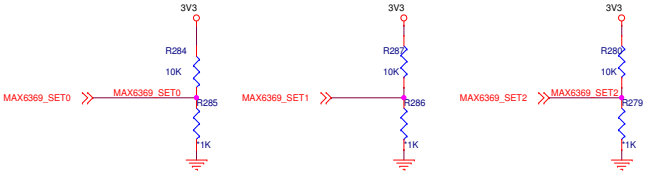


BCM53016 INTERNAL LDO OF 1.5V



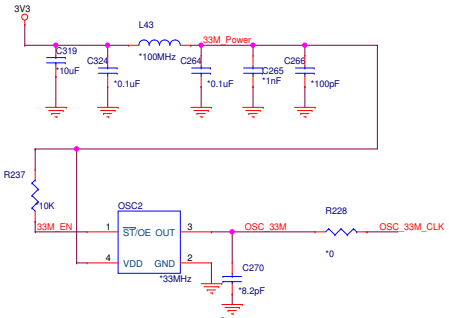


HW Watchdog 1 with MAX6369

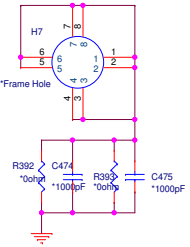


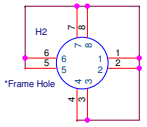
VSET2 = VCC, VSET1 = VCC, SET0 = VCC
60sec<Watchdog timeout period <180sec
60sec<Startup delay period <180sec

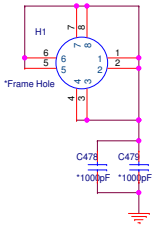
33MHz CLK OSCILLATOR (20PPM) For TPM

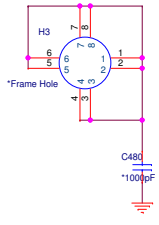


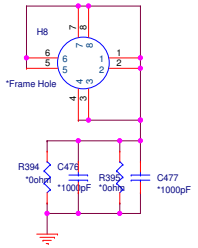
Close to OSC

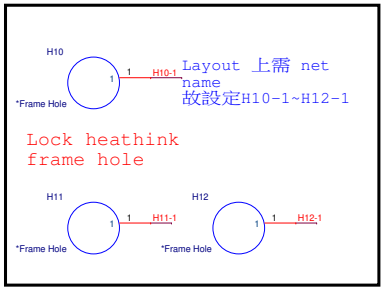




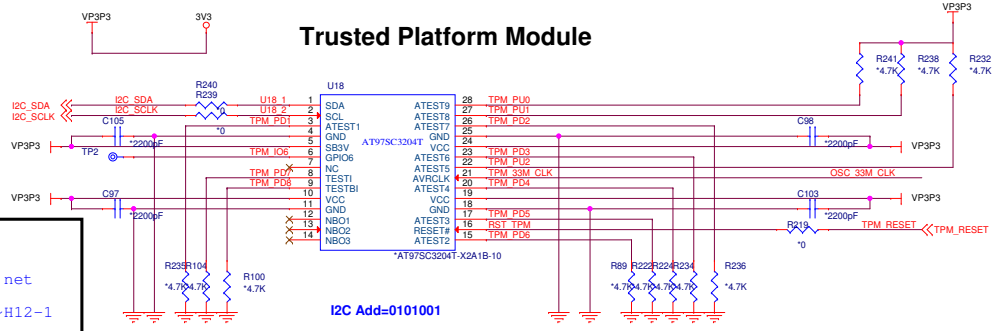








Trusted Platform Module



I2C Add=0101001

Accton
Making Partnership Work

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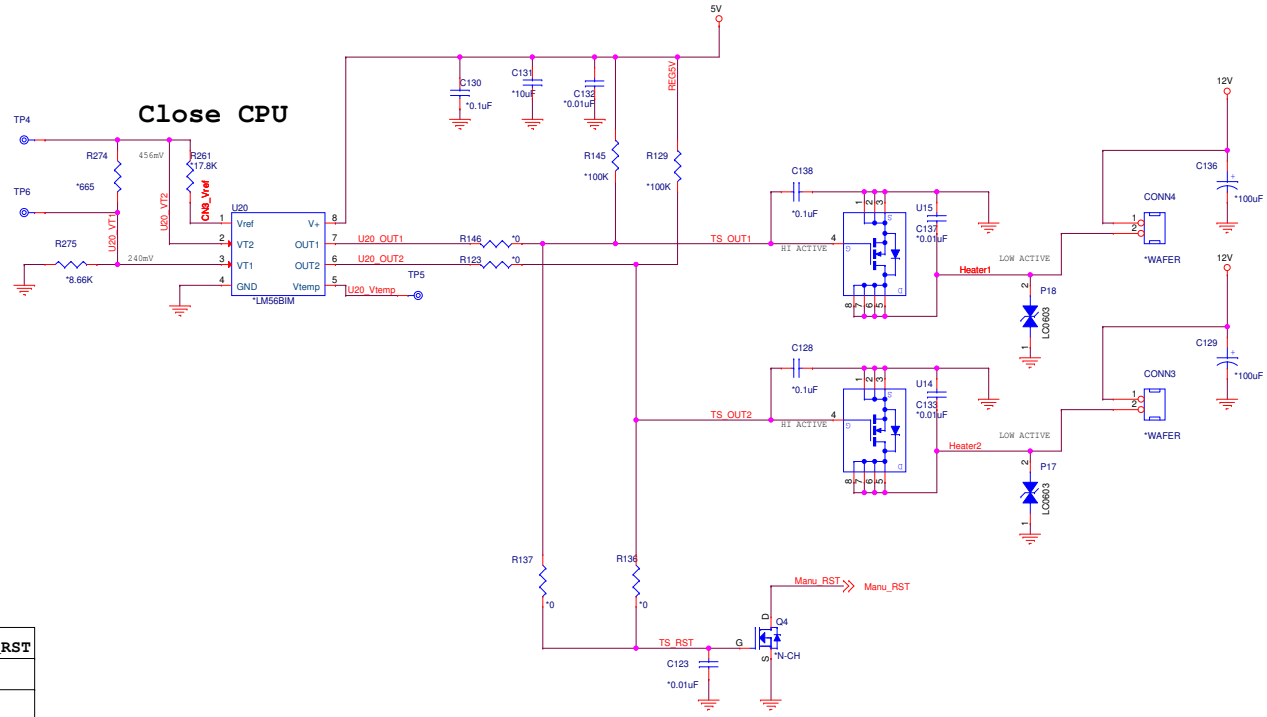
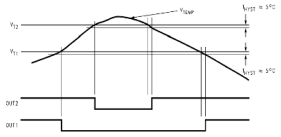
Close CPU



VT1 = 1.250V x (R1)/(R1 + R2 + R3)
VT2 = 1.250V x (R1 + R2)/(R1 + R2 + R3)
where:
(R1 + R2 + R3) = 27 kΩ and
VT1 or T2 = [6.20 mV/°C x T] + 395 mV therefore:
R1 = VT1/(1.25V) x 27 kΩ
R2 = (VT2/(1.25V) x 27 k)Ω-R1
R3 = 27 kΩ - R1 -R2

VT=395mV+(6.2mV/°C*Temp °C)
0°C= 0mV+395mV=395mV
5°C= 31mV+395mV=426mV
R1=(395/1250) x 27=8.532KΩ
R2 = (426/1250V) x 27 kΩ-R1=0.6696KΩ
R3 = 27 kΩ - R1 - R2=17.7984KΩ

Functional Description



	OUT1	OUT2	Heater1	Heater2	Manu_RST
Above 5°C	0V	0V	OFF	OFF	High
Below 5°C	0V	5V	OFF	ON	Low
Below 0°C	5V	5V	ON	ON	Low

Accton
Making Partnership Work

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