Project: KC790

PCB Size : 174*175 mm

Project

Document No :

X03 : 04/29/2016Y

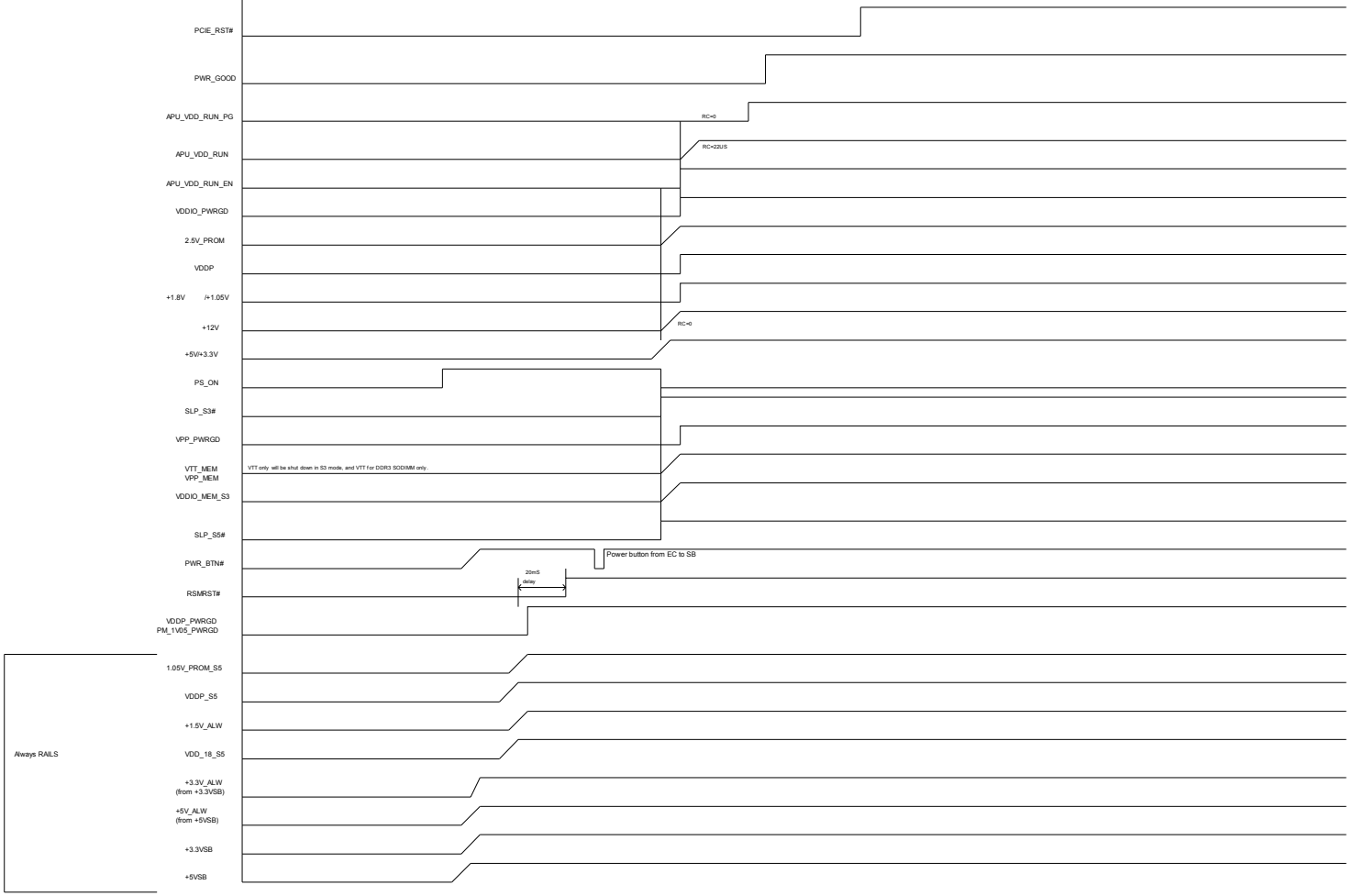
LITE-ON TECHNOLOGY CORP.

Title: 01. Block Diagram

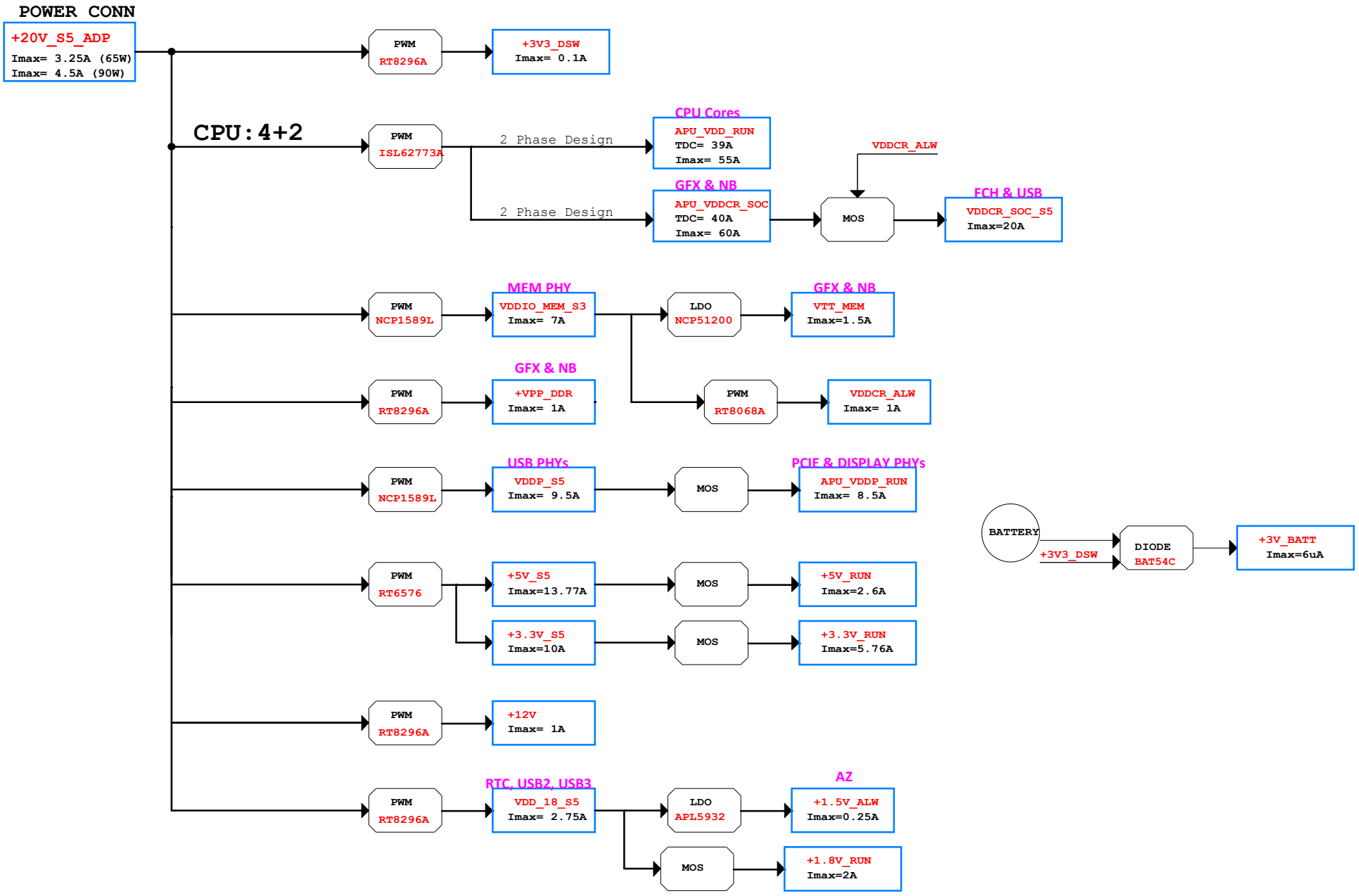
Size: C | Document Number: KC790 | Rev: X03

Date: Saturday, April 30, 2016 | Sheet 1 of 60

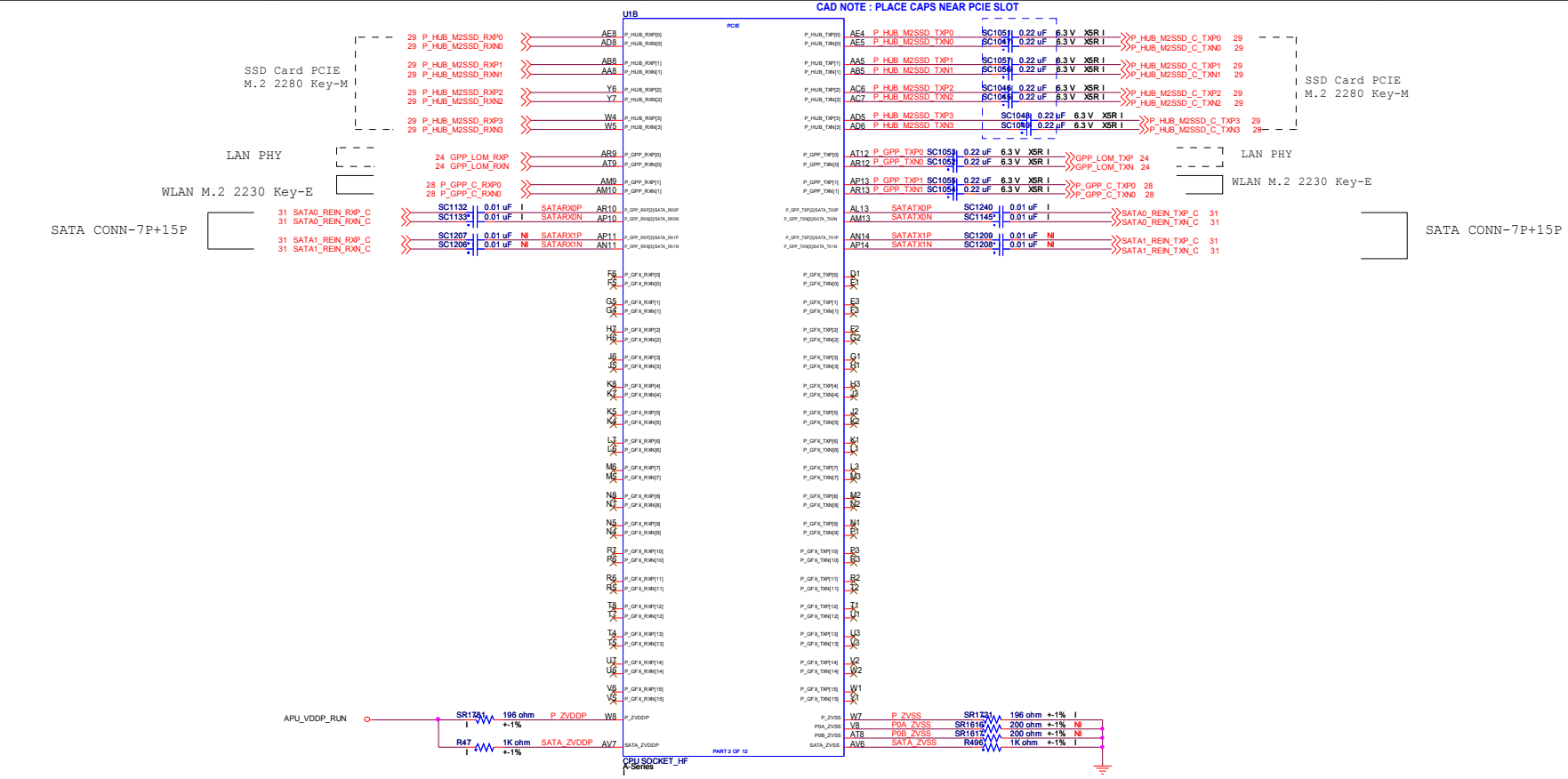
Power on Sequence required:

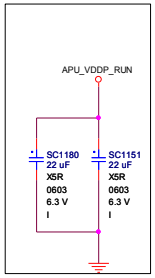


LITE-ON TECHNOLOGY CORP.		
Title: 02. Power Sequence		
Size: C	Document Number: KC790	Rev: X03
Date: Wednesday, April 20, 2016	Sheet 2 of 60	

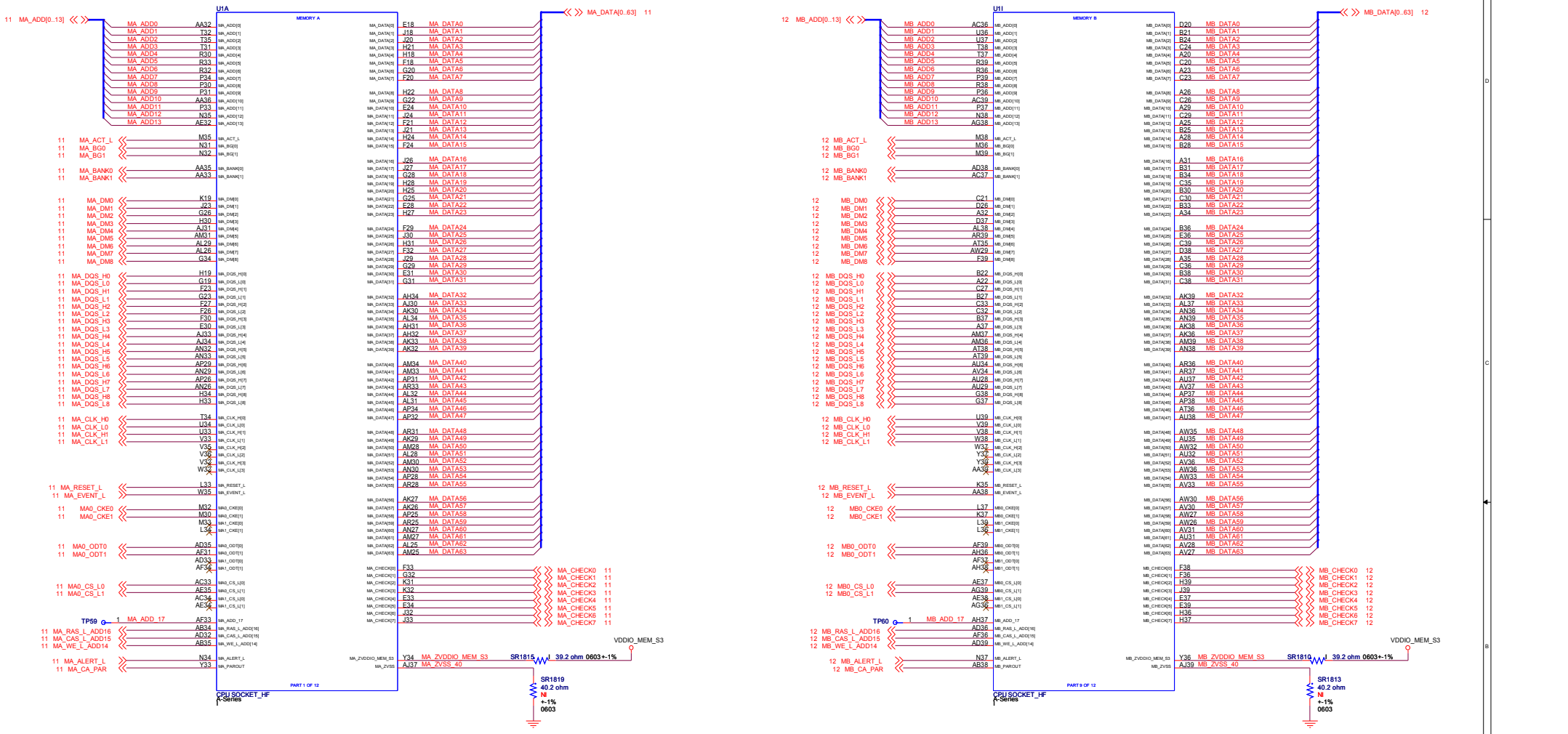


LITE-ON TECHNOLOGY CORP.		
Title: 03. Power Delivery Map		
Size: C	Document Number: KC790	Rev: X03
Date: Wednesday, April 20, 2016	Sheet 3 of 60	

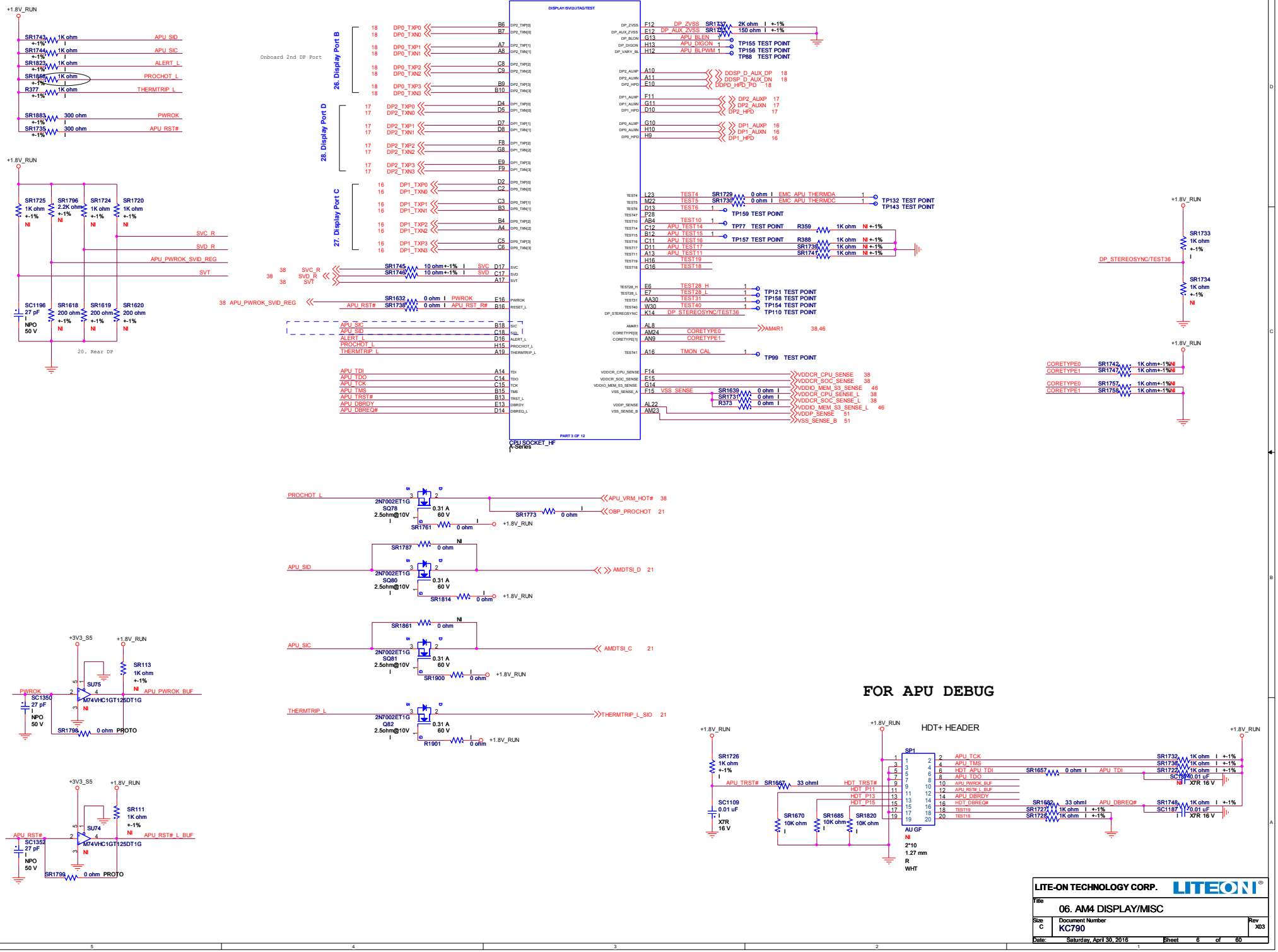


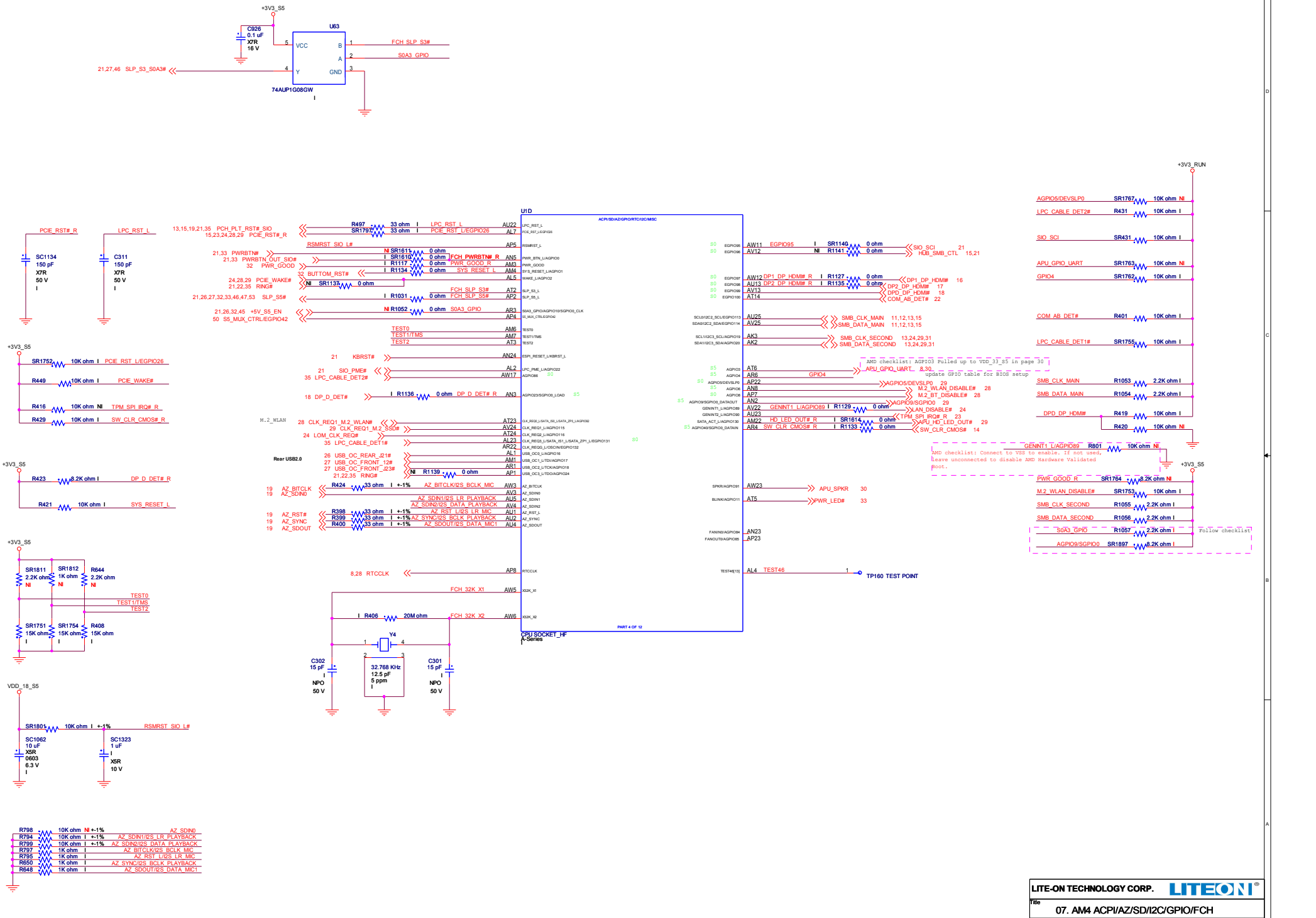


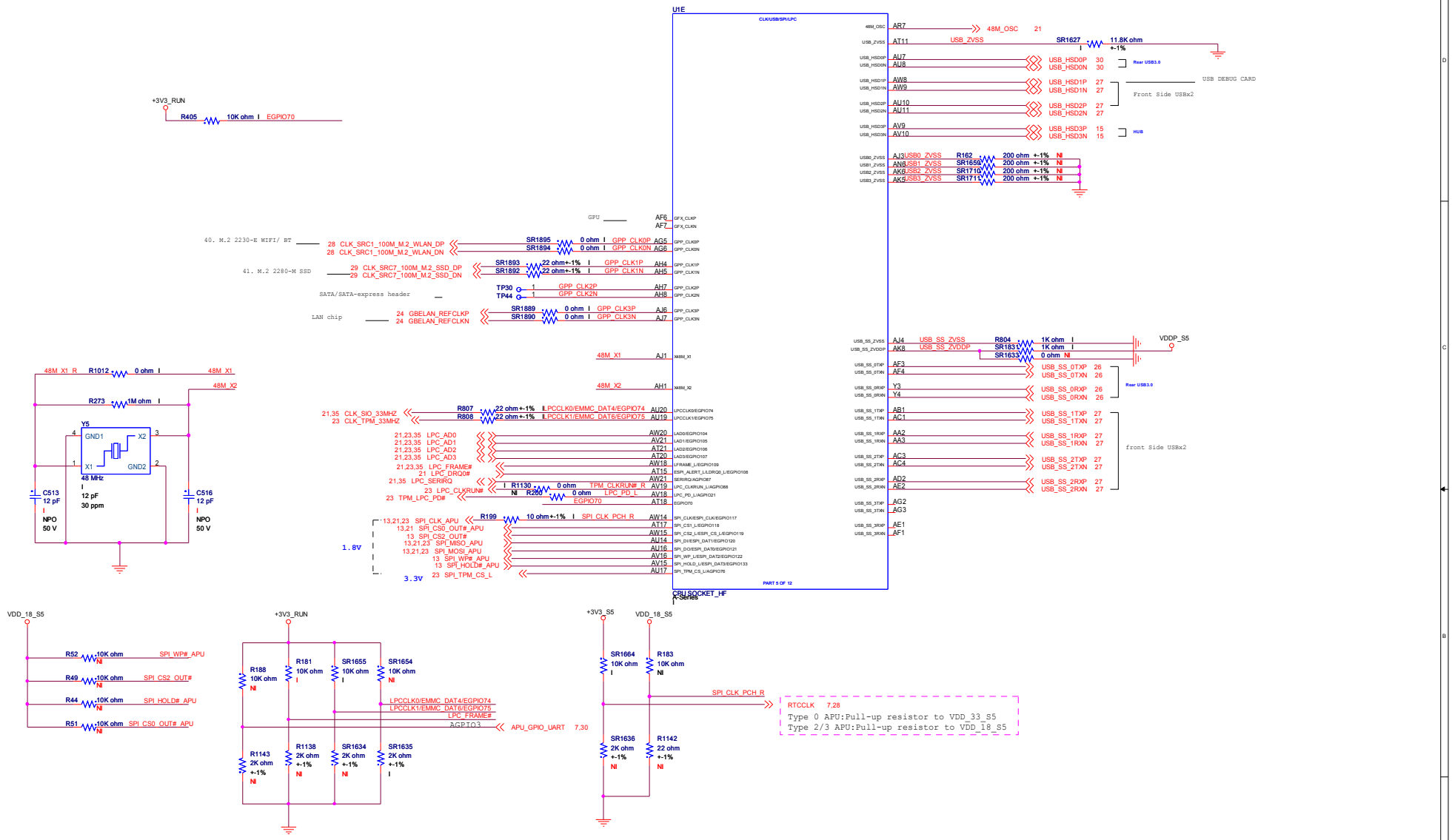
LITE-ON TECHNOLOGY CORP.		
Title: 04. AM4: PCIE I/F		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 4 of 60	



LITE-ON TECHNOLOGY CORP.	LITEON
Title	05. AM4 MEM
Size: C	Document Number: KC790
Rev: X03	
Date: Saturday, April 30, 2016	Sheet 5 of 60


Net name bus APU pin name
DP0 DP2 ----------> DP HDR
DP2 DP1 ----------> DP1 LEGO
DP1 DP0 ----------> DP2
U1C
DISPLAY/SVI2/JTAG/TEST
CPU SOCKET_HF
A-Series
PART 3 OF 12
26. Display Port B
28. Display Port D
27. Display Port C
Onboard 2nd DP Port
20. Rear DP
+1.8V_RUN
+3V3_S5
SR1743 1K ohm APU_SID
SR1744 1K ohm APU_SIC
SR1823 1K ohm ALERT_L
SR1886 1K ohm PROCHOT_L
R377 1K ohm THERMTRIP_L
SR1883 300 ohm PWROK
SR1735 300 ohm APU_RST#
SR1725 1K ohm NI
SR1796 2.2K ohm NI
SR1724 1K ohm NI
SR1720 1K ohm NI
SVC_R
SVD_R
APU_PWROK_SVID_REG
SVT
SC1196 27 pF NPO 50 V
SR1618 200 ohm NI
SR1619 200 ohm NI
SR1620 200 ohm NI
SR1745 10 ohm NI SVC
SR1746 10 ohm NI SVD
SR1632 0 ohm PWROK
SR1738 0 ohm APU_RST_R#
APU_SIC
APU_SID
ALERT_L
PROCHOT_L
THERMTRIP_L
APU_TDI
APU_TDO
APU_TCK
APU_TMS
APU_TRST#
APU_DBRDY
APU_DBREQ#
DP_ZVSS
DP_AUX_ZVSS
DP_BLON
DP_DIGON
DP_VARY_BL
APU_BLEN
APU_DIGON
APU_BLPWM
SR1737 2K ohm
SR1738 150 ohm
TP155 TEST POINT
TP156 TEST POINT
TP88 TEST POINT
DDSP_D_AUX_DP
DDSP_D_AUX_DN
DDPD_HPD_PD
DP2_AUXP
DP2_AUXN
DP2_HPD
DP1_AUXP
DP1_AUXN
DP1_HPD
TEST4
TEST5
TEST6
TEST10
TEST14
TEST15
TEST16
TEST17
TEST11
TEST19
TEST18
SR1729 0 ohm EMC_APU_THERMDA
SR1730 0 ohm EMC_APU_THERMDC
TP132 TEST POINT
TP143 TEST POINT
TP159 TEST POINT
TP77 TEST POINT
TP157 TEST POINT
R359 1K ohm NI
R388 1K ohm NI
SR1739 1K ohm NI
SR1747 1K ohm NI
TEST28_H
TEST28_L
TEST31
TEST40
DP_STEREOSYNC/TEST36
TP121 TEST POINT
TP158 TEST POINT
TP154 TEST POINT
TP110 TEST POINT
AM4R1
CORETYPE0
CORETYPE1
TMON_CAL
TP99 TEST POINT
VDDCR_CPU_SENSE
VDDCR_SOC_SENSE
VDDIO_MEM_S3_SENSE
VSS_SENSE_A
VSS_SENSE
SR1639 0 ohm
SR1731 0 ohm
R373 0 ohm
VDDP_SENSE
VSS_SENSE_B
SR1733 1K ohm
SR1734 1K ohm NI
SR1742 1K ohm NI
SR1747 1K ohm NI
SR1757 1K ohm NI
SR1758 1K ohm NI
PROCHOT_L
2N7002ET1G SQ78 2.5ohm@10V 0.31 A 60 V
SR1761 0 ohm
SR1773 0 ohm
APU_VRM_HOT# 38
OBP_PROCHOT 21
APU_SID
SR1787 0 ohm NI
SQ80
SR1814 0 ohm
AMDTSI_D 21
APU_SIC
SR1861 0 ohm NI
SQ81
SR1900 0 ohm
AMDTSI_C 21
THERMTRIP_L
SQ82
R1901 0 ohm
THERMTRIP_L_SIO 21
SU75 M74VHC1GT125DT1G
PWROK
SC1350 27 pF NPO 50 V
SR113 1K ohm NI
APU_PWROK_BUF
SR1796 0 ohm PROTO
SU74
APU_RST#
SC1352 27 pF NPO 50 V
SR111 1K ohm NI
APU_RST#_L_BUF
SR1799 0 ohm PROTO
FOR APU DEBUG
HDT+ HEADER
SP1
AU GF NI 2*10 1.27 mm R WHT
APU_TCK
APU_TMS
HDT_APU_TDI
APU_TDO
APU_PWROK_BUF
APU_RST#_L_BUF
APU_DBRDY
HDT_DBREQ#
TEST19
TEST18
SR1657 0 ohm
SR1726 1K ohm
SC1109 0.01 uF X7R 16 V
SR1667 33 ohm
HDT_TRST#
HDT_P11
HDT_P13
HDT_P15
SR1670 10K ohm
SR1685 10K ohm
SR1820 10K ohm
SR1682 33 ohm
SR1727 1K ohm
SR1728 1K ohm
SR1732 1K ohm
SR1736 1K ohm
SR1722 1K ohm
SC1186 0.01 uF X7R 16 V
SR1748 1K ohm
SC1187 0.01 uF X7R 16 V
LITE-ON TECHNOLOGY CORP.
Title
06. AM4 DISPLAY/MISC
Size C
Document Number KC790
Rev X03
Date: Saturday, April 30, 2016
Sheet 6 of 60


+3V3_S5
C926
0.1 uF
X7R
16 V
U63
VCC
B
A
Y
GND
FCH_SLP_S3#
S0A3_GPIO
21,27,46 SLP_S3_S0A3#
74AUP1G08GW
U1D
ACPI/SD/AZ/GPIO/RTC/I2C/MISC
PART 4 OF 12
CPU SOCKET_HF
A-Series
+3V3_RUN
PCIE_RST#_R
LPC_RST_L
SC1134
150 pF
X7R
50 V
C311
150 pF
X7R
50 V
13,15,19,21,35 PCH_PLT_RST#_SIO
15,23,24,28,29 PCIE_RST#_R
R497 33 ohm LPC_RST_L
SR1797 33 ohm PCIE_RST_L/EGPIO26
RSMRST_SIO_L#
21,33 PWRBTN#
21,33 PWRBTN_OUT_SIO#
32 PWR_GOOD
SR1611 0 ohm
SR1610 0 ohm FCH_PWRBTN#_R
R1117 0 ohm PWR_GOOD_R
32 BUTTOM_RST#
R1134 0 ohm SYS_RESET_L
24,28,29 PCIE_WAKE#
21,22,35 RING#
NI SR1137 0 ohm
21,26,27,32,33,46,47,53 SLP_S5#
R1031 0 ohm FCH_SLP_S5#
FCH_SLP_S3#
21,26,32,45 +5V_S5_EN
50 S5_MUX_CTRL/EGPIO42
NI R1052 0 ohm S0A3_GPIO
TEST0
TEST1/TMS
TEST2
21 KBRST#
21 SIO_PME#
35 LPC_CABLE_DET2#
18 DP_D_DET#
R1136 0 ohm DP_D_DET#_R
M.2_WLAN
28 CLK_REQ1_M.2_WLAN#
29 CLK_REQ1_M.2_SSD#
24 LOM_CLK_REQ#
35 LPC_CABLE_DET1#
Rear USB2.0
26 USB_OC_REAR_I21#
27 USB_OC_FRONT_I2#
27 USB_OC_FRONT_I23#
21,22,35 RING#
NI R1139 0 ohm
19 AZ_BITCLK
19 AZ_SDIN0
R424 33 ohm +-1% AZ_BITCLK/I2S_BCLK_MIC
AZ_SDIN1/I2S_LR_PLAYBACK
AZ_SDIN2/I2S_DATA_PLAYBACK
19 AZ_RST#
19 AZ_SYNC
19 AZ_SDOUT
R398 33 ohm +-1% AZ_RST_L/I2S_LR_MIC
R399 33 ohm +-1% AZ_SYNC/I2S_BCLK_PLAYBACK
R400 33 ohm +-1% AZ_SDOUT/I2S_DATA_MIC1
8,28 RTCCLK
FCH_32K_X1
R406 20M ohm FCH_32K_X2
Y4
32.768 KHz
12.5 pF
5 ppm
C302
15 pF
NPO
50 V
C301
15 pF
NPO
50 V
+3V3_S5
SR1752 10K ohm PCIE_RST_L/EGPIO26
R449 10K ohm PCIE_WAKE#
R416 10K ohm NI TPM_SPI_IRQ#_R
R429 10K ohm SW_CLR_CMOS#_R
R423 8.2K ohm DP_D_DET#_R
R421 10K ohm SYS_RESET_L
SR1811 2.2K ohm NI
SR1812 1K ohm NI
R644 2.2K ohm NI
TEST0
TEST1/TMS
TEST2
SR1751 15K ohm
SR1754 15K ohm
R408 15K ohm
VDD_18_S5
SR1801 10K ohm +-1% RSMRST_SIO_L#
SC1062
10 uF
X5R
0603
6.3 V
SC1323
1 uF
X5R
10 V
R798 10K ohm NI +-1% AZ_SDIN0
R794 10K ohm +-1% AZ_SDIN1/I2S_LR_PLAYBACK
R799 10K ohm +-1% AZ_SDIN2/I2S_DATA_PLAYBACK
R797 1K ohm AZ_BITCLK/I2S_BCLK_MIC
R795 1K ohm AZ_RST_L/I2S_LR_MIC
R650 1K ohm AZ_SYNC/I2S_BCLK_PLAYBACK
R648 1K ohm AZ_SDOUT/I2S_DATA_MIC1
AW11 EGPIO95 SR1140 0 ohm SIO_SCI 21
AV12 NI R1141 0 ohm HUB_SMB_CTL 15,21
AW12 DP1_DP_HDMI#_R R1127 0 ohm DP1_DP_HDMI# 16
AU13 DP2_DP_HDMI#_R R1135 0 ohm DP2_DP_HDMI# 17
AV13 DPD_DP_HDMI# 18
AT14 COM_AB_DET# 22
AU25 SMB_CLK_MAIN 11,12,13,15
AV25 SMB_DATA_MAIN 11,12,13,15
AK3 SMB_CLK_SECOND 13,24,29,31
AK2 SMB_DATA_SECOND 13,24,29,31
AT6 APU_GPIO_UART_ 8,30
AR6 GPIO4
AMD checklist: AGPI03 Pulled up to VDD_33_S5 in page 30
update GPIO table for BIOS setup
AP22 AGPIO5/DEVSLP0 29
AN8 M.2_WLAN_DISABLE# 28
AP7 M.2_BT_DISABLE# 28
AN2 AGPIO9/SGPIO0 29
AV22 GENINT1_L/AGPIO89 R1129 0 ohm LAN_DISABLE# 24
AU23 TPM_SPI_IRQ#_R 23
AM22 HD_LED_OUT#_R SR1614 0 ohm APU_HD_LED_OUT# 29
AR4 SW_CLR_CMOS#_R R1133 0 ohm SW_CLR_CMOS# 14
AMD checklist: Connect to VSS to enable. If not used, leave unconnected to disable AMD Hardware Validated Boot.
GENINT1_L/AGPIO89 R801 10K ohm NI
AW23 SPKR/AGPIO91 APU_SPKR 30
AT5 BLINK/AGPIO11 PWR_LED# 33
AN23 FANIND/AGPIO94
AP23 FANOUT0/AGPIO95
AL4 TEST46 1 TP160 TEST POINT
AGPIO5/DEVSLP0 SR1767 10K ohm NI
LPC_CABLE_DET2# R431 10K ohm
SIO_SCI SR431 10K ohm
APU_GPIO_UART SR1763 10K ohm NI
GPIO4 SR1762 10K ohm
COM_AB_DET# R401 10K ohm
LPC_CABLE_DET1# SR1755 10K ohm
SMB_CLK_MAIN R1053 2.2K ohm
SMB_DATA_MAIN R1054 2.2K ohm
DPD_DP_HDMI# R419 10K ohm
R420 10K ohm NI
+3V3_S5
PWR_GOOD_R SR1764 8.2K ohm NI
M.2_WLAN_DISABLE# SR1753 10K ohm
SMB_CLK_SECOND R1055 2.2K ohm
SMB_DATA_SECOND R1056 2.2K ohm
S0A3_GPIO R1057 2.2K ohm
Follow checklist
AGPIO9/SGPIO0 SR1897 8.2K ohm
LITE-ON TECHNOLOGY CORP.
Title
07. AM4 ACPI/AZ/SD/I2C/GPIO/FCH
Size C
Document Number KC790
Rev X03
Date: Saturday, April 30, 2016
Sheet 7 of 60



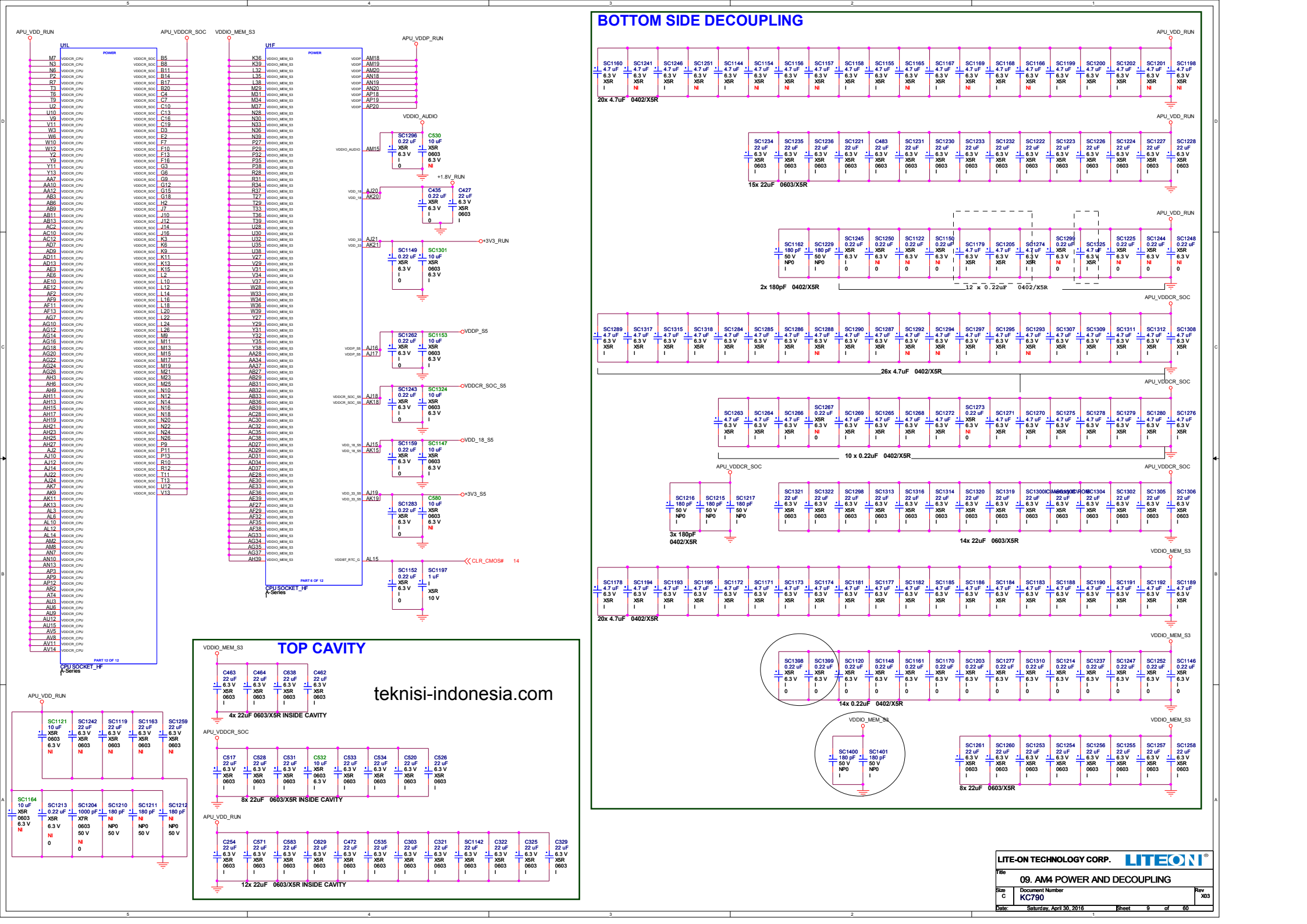
	LPC_CLK0	LPC_CLK1	AGPIO3	RTC_CLK	LFRAME_L	SYS_RST#	SPI CLK (ZP)
PULL HIGH	BOOT FAIL TIMER ENABLED	Use 48Mhz crystal clock and generate both internal and external clocks (DEFAULT)	Enhanced reset logic (for quicker S5\ resume) (DEFAULT)	SPI ROM (DEFAULT)	SPI ROM (DEFAULT)	normal reset mode (DEFAULT)	Use 48Mhz crystal clock and generate both internal and external clocks (DEFAULT)
PULL LOW	BOOT FAIL TIMER DISABLE (DEFAULT)	Use 100Mhz PCIE clock as reference clock and generate internal clocks only	Default to traditional reset logic	LPC ROM	LPC ROM	short reset mode	Use 100Mhz PCIE clock as reference clock and generate internal clocks only
	CZ/ST DIE ONLY						ZP DIE ONLY

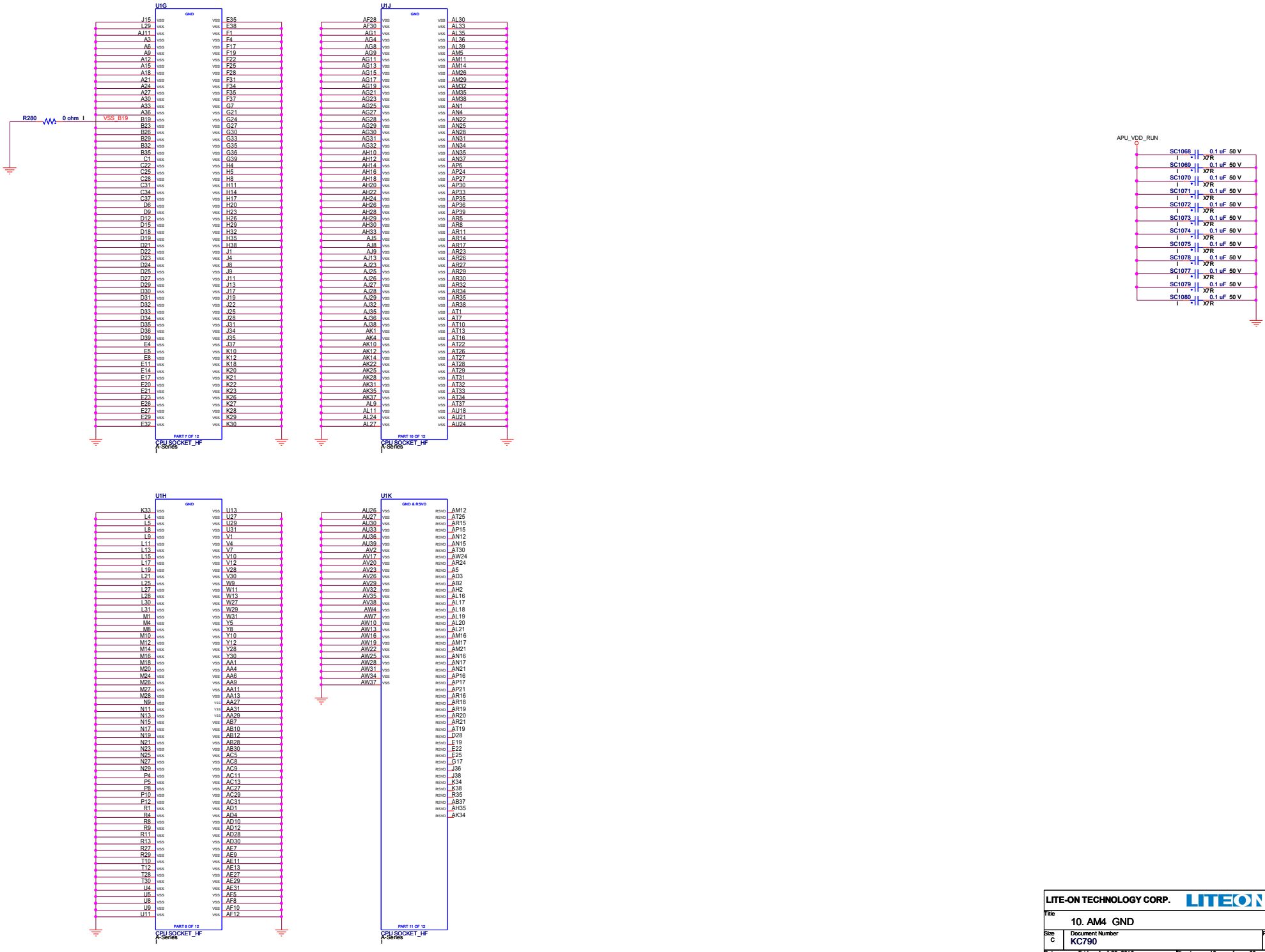
LITE-ON TECHNOLOGY CORP.

Title: 08. AM4 CLK/LPC/SPI/USB

Size: C | Document Number: KC790 | Rev: X03

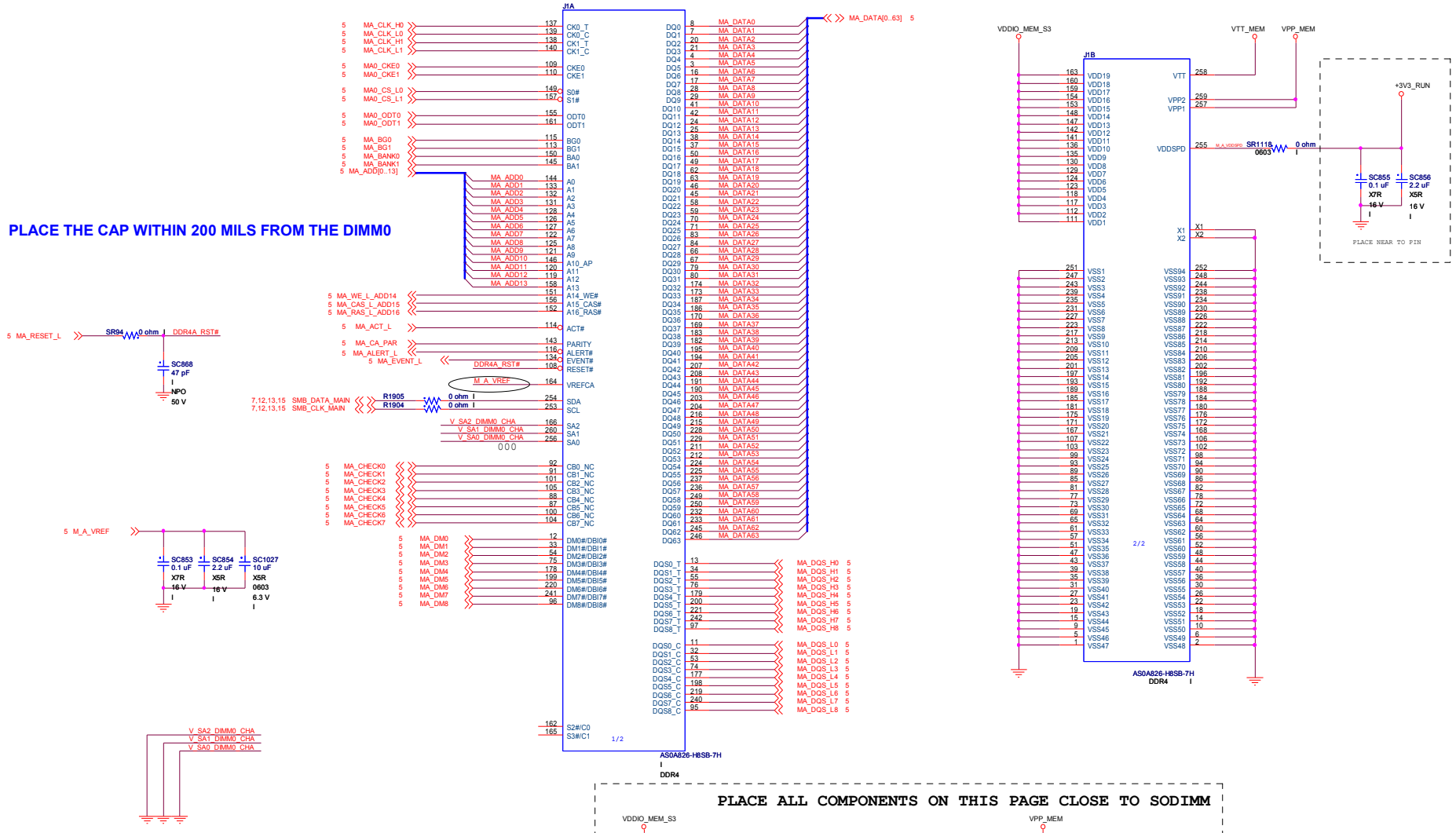
Date: Saturday, April 30, 2016 | Sheet 8 of 60


BOTTOM SIDE DECOUPLING
TOP CAVITY
teknisi-indonesia.com
APU_VDD_RUN
APU_VDDCR_SOC
VDDIO_MEM_S3
APU_VDDP_RUN
VDDIO_AUDIO
+1.8V_RUN
+3V3_RUN
VDDP_S5
VDDCR_SOC_S5
VDD_18_S5
+3V3_S5
CLR_CMOS#
U1L
U1F
CPU SOCKET_HF
A-Series
I-Series
20x 4.7uF 0402/X5R
15x 22uF 0603/X5R
2x 180pF 0402/X5R
12 x 0.22uF 0402/X5R
26x 4.7uF 0402/X5R
10 x 0.22uF 0402/X5R
3x 180pF 0402/X5R
14x 22uF 0603/X5R
4x 22uF 0603/X5R INSIDE CAVITY
8x 22uF 0603/X5R INSIDE CAVITY
12x 22uF 0603/X5R INSIDE CAVITY
LITE-ON TECHNOLOGY CORP.
09. AM4 POWER AND DECOUPLING
Size C
Document Number KC790
Rev X03
Date: Saturday, April 30, 2016
Sheet 9 of 60

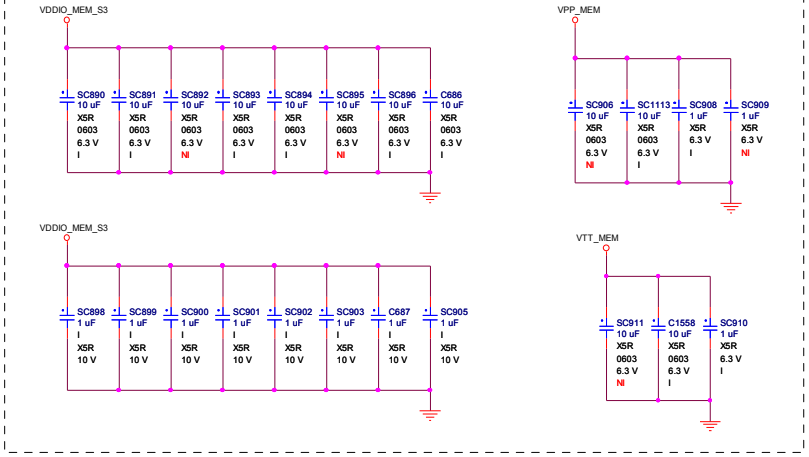


LITE-ON TECHNOLOGY CORP.		
Title: 10. AM4 GND		
Size: C	Document Number: KC790	Rev: X03
Date: Friday, April 29, 2016	Sheet 10 of 60	

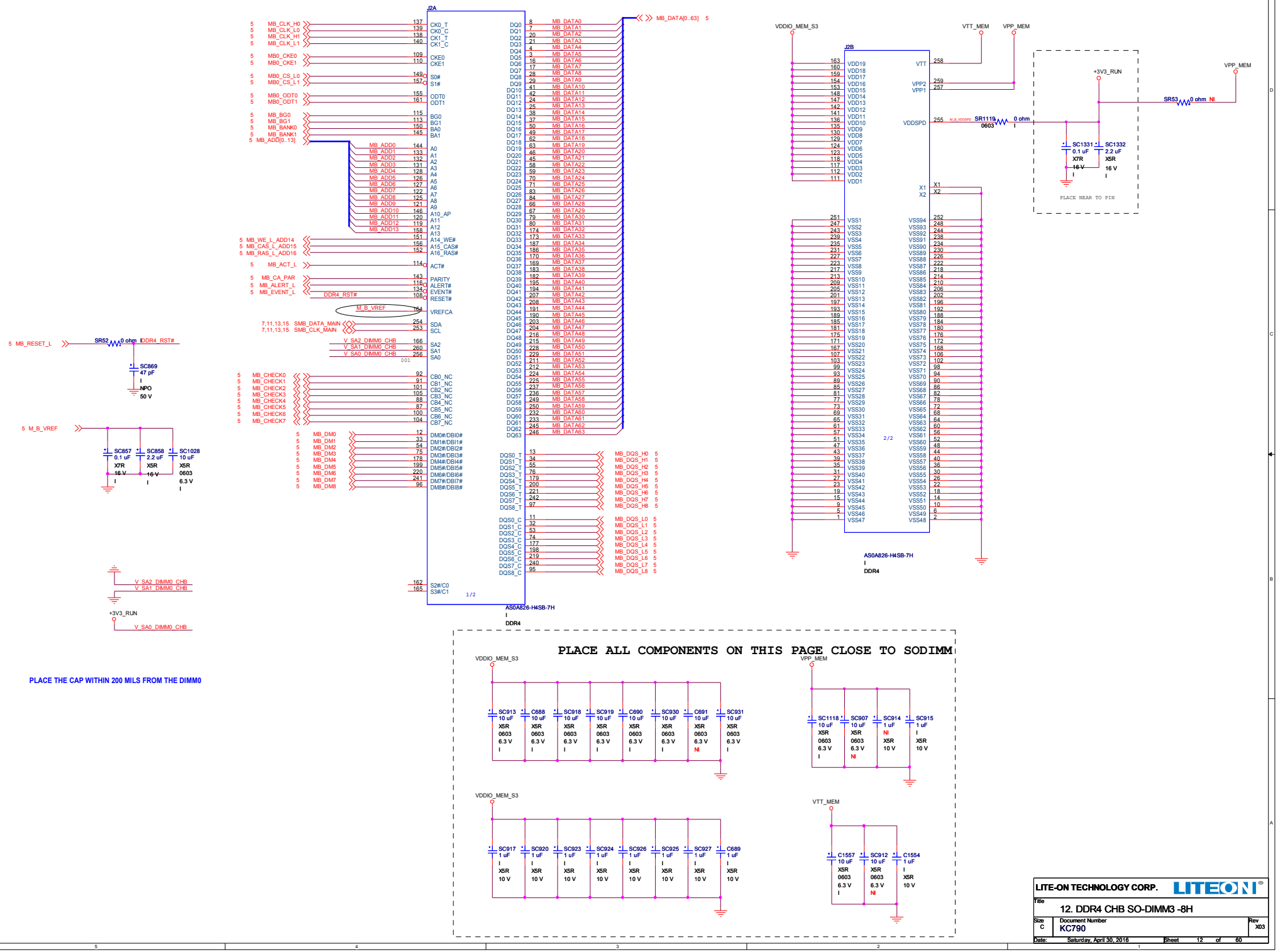
PLACE THE CAP WITHIN 200 MILS FROM THE DIMM0



PLACE ALL COMPONENTS ON THIS PAGE CLOSE TO SODIMM



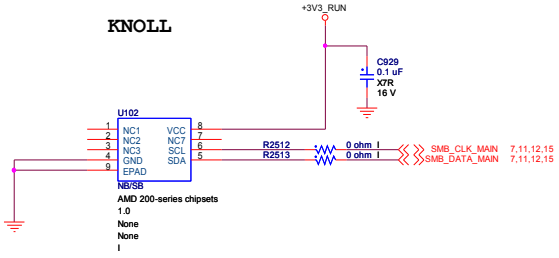
LITE-ON TECHNOLOGY CORP.		
Title: 11. DDR4 CHA SO-DIMM1 -4H		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 11 of 60	

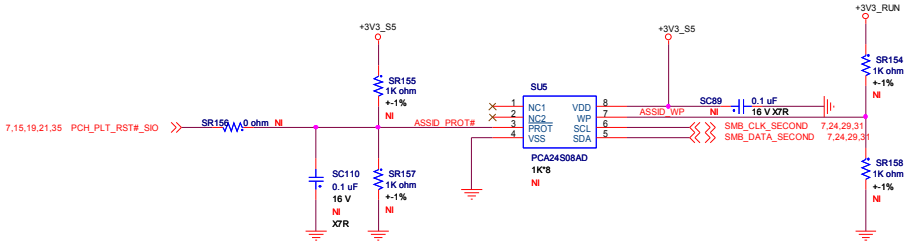


Title	12. DDR4 CHB SO-DIMM3 -8H
Size	C
Document Number	KC790
Rev	X03
Date:	Saturday, April 30, 2016
Sheet	12 of 60

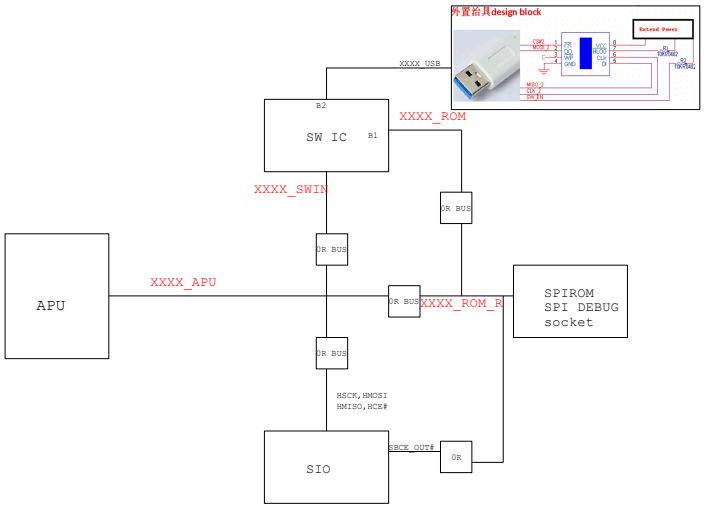
LITE-ON TECHNOLOGY CORP.

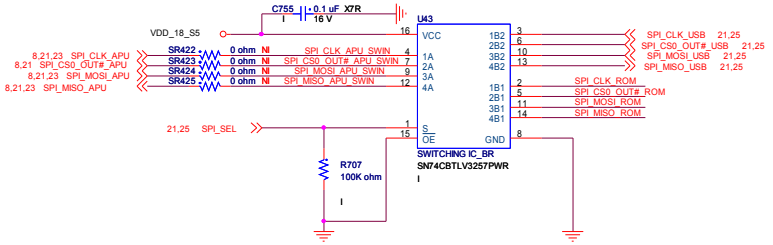
KNOLL



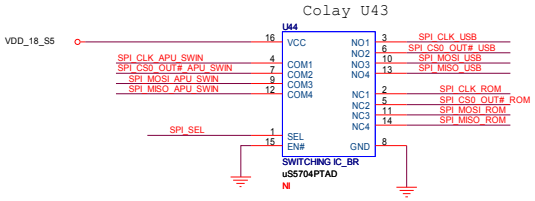


BIOS Recovery Function

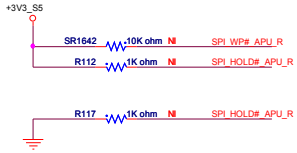


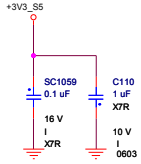


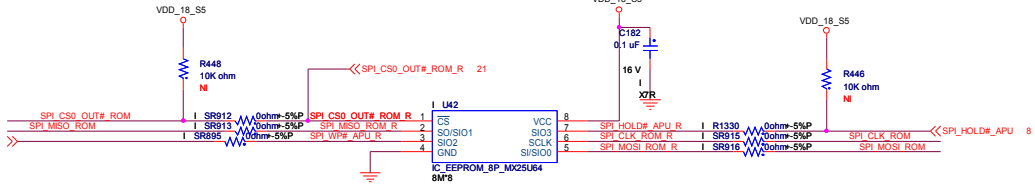
INPUT		Function
$\overline{OE}$	S	
L	L	B1 Port
L	H	B2 Port
H	X	Disconnect



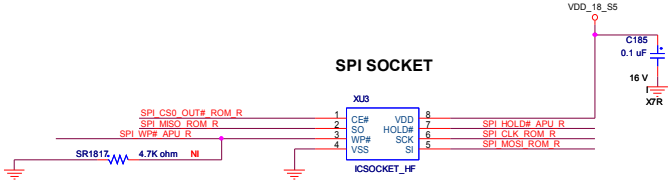
SPI0 8MB





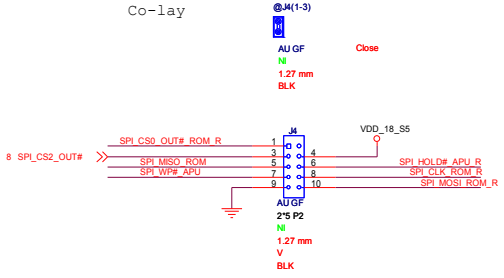


SPI SOCKET



SPI FLASH

Co-lay



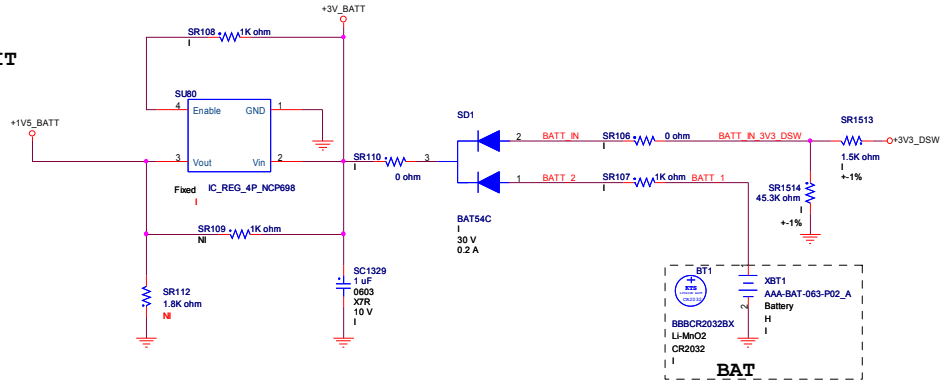
LITE-ON TECHNOLOGY CORP.

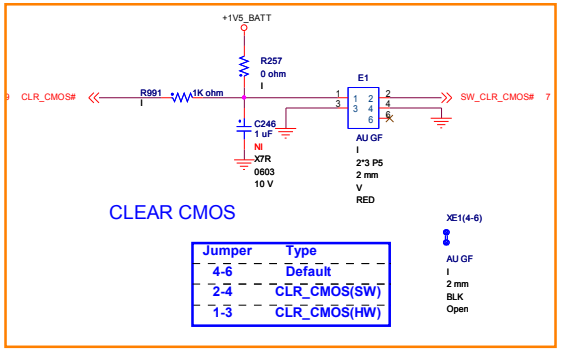
Title: 13. Knoll &Asset ID&SPI ROM

Size: C | Document Number: KC790 | Rev: X03

Date: Saturday, April 30, 2016 | Sheet 13 of 60

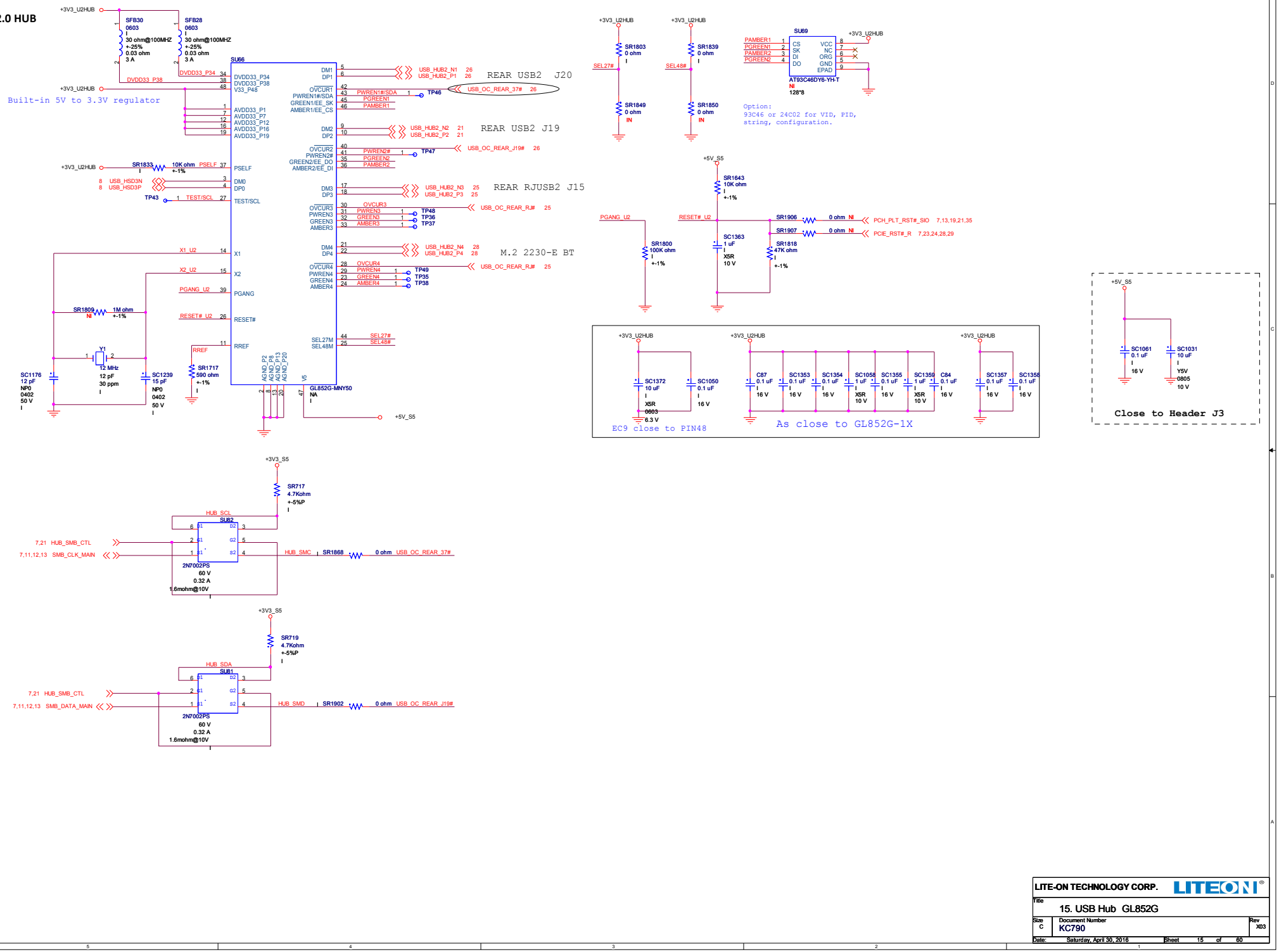
BATTERY CIRCUIT





LITE-ON TECHNOLOGY CORP.		
Title: 14. CMOS Clear / Battery/ HDR		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 14 of 60	

USB2.0 HUB



LITE-ON TECHNOLOGY CORP.			
Title: 15. USB Hub GL852G			
Size: C	Document Number: KC790		Rev: X03
Date: Saturday, April 30, 2016	Sheet 15 of 60		

BOM --> L -DP ; M -HDMI

HDMI high speed signal level shift

IF U7 NI ,below item INSTALL 0 ohm

CAD Note : Please place 470 ohm component as short as passable (to bridge the antenna effect)

HDMI other signal level shift

For HDMI

option for layout length not enough

IF U7 NI ,Cxxx INSTALL 0 ohm

DP & HDMI co-lay Connector

DP2

DP:
I R1225 (0 ohm)
NI R301
HDMI :
I R1225 (20k ohm)
I R301

For DP

For HDMI

DisplayPort Interoperability

For DP

For HDMI

DP I, HDMI NI
U7 I, SQ45/SQ36/Q21/SQ113 NI

DP++(SUPPORT DONGLE)

CAD Note : Please place ESD component close to DP connector

Option for HDMI

DP NI, HDMI I

FOR HDMI

DP used 0 ohm
HDMI used Common Choke

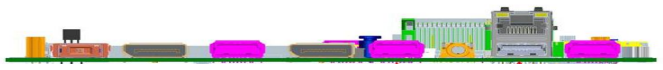
CAD Note : Please place Common Choke component close to DP & HDMI connector

LITE-ON TECHNOLOGY CORP.

Title: 16. Display Port 1

Size: Custom | Document Number: KC790 | Rev: X03

Date: Wednesday, May 04, 2016 | Sheet 16 of 60



DP1

LEGO USE

FOR DP

DisplayPort Interoperability

DP I, HDMI NI

(SUPPORT DONGLE)

CAD Note : Please place ESD component close to DP connector

CAD Note : Please place Common Choke component close to DP & HDMI connector

DP used 0 ohm
HDMI used Common Choke

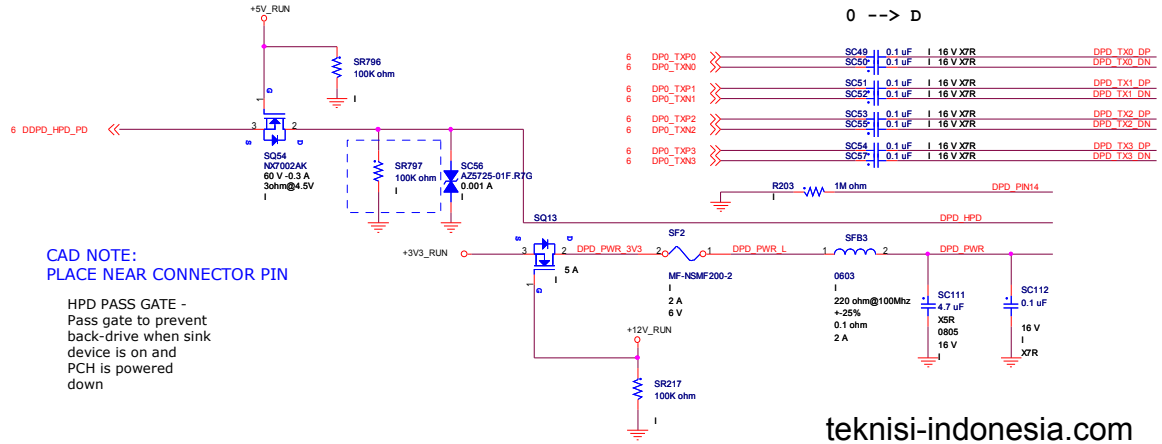
DP used 0 ohm
HDMI used Common Choke

DP used 0 ohm
HDMI used Common Choke

DP used 0 ohm
HDMI used Common Choke

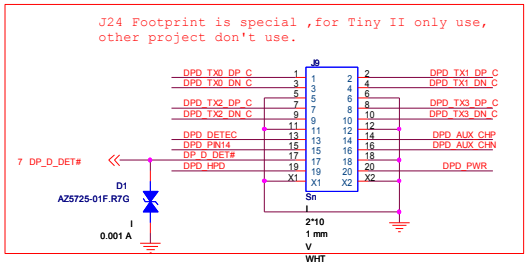
LITE-ON TECHNOLOGY CORP.			
Title: 17. Display Port & LEGO			
Size: C	Document Number: KC790		Rev: X03
Date: Tuesday, May 03, 2016	Sheet 17 of 60		

DISPLAY PORT



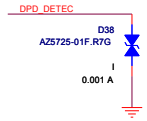
CAD NOTE:
PLACE NEAR CONNECTOR PIN

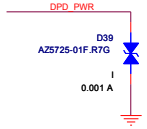
HPD PASS GATE -
Pass gate to prevent back-drive when sink device is on and PCH is powered down

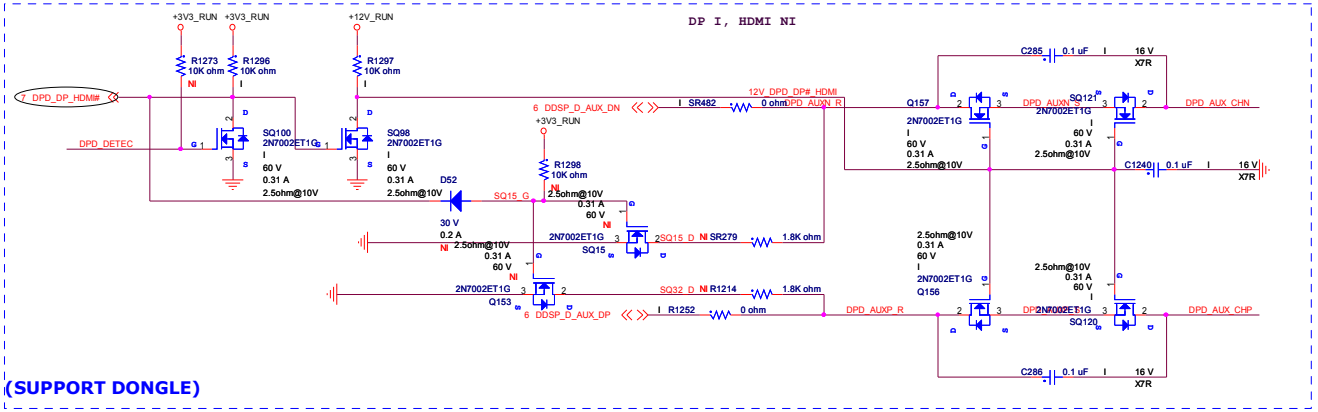


On Cable side Pin17 & Pin 18 need short

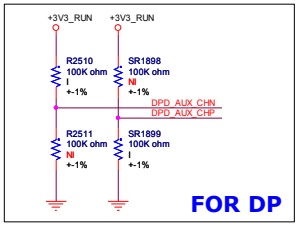
DPC_DETEC
L : Connect to Display Port or No Connection
H : Connect to Doungle



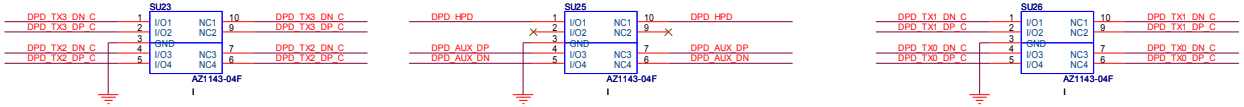


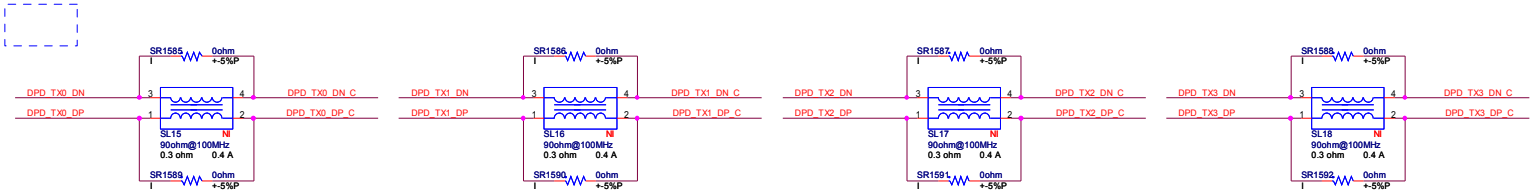


(SUPPORT DONGLE)



CAD Note : Please place ESD component close to DP connector





DP used O ohm
HDMI used Common Choke

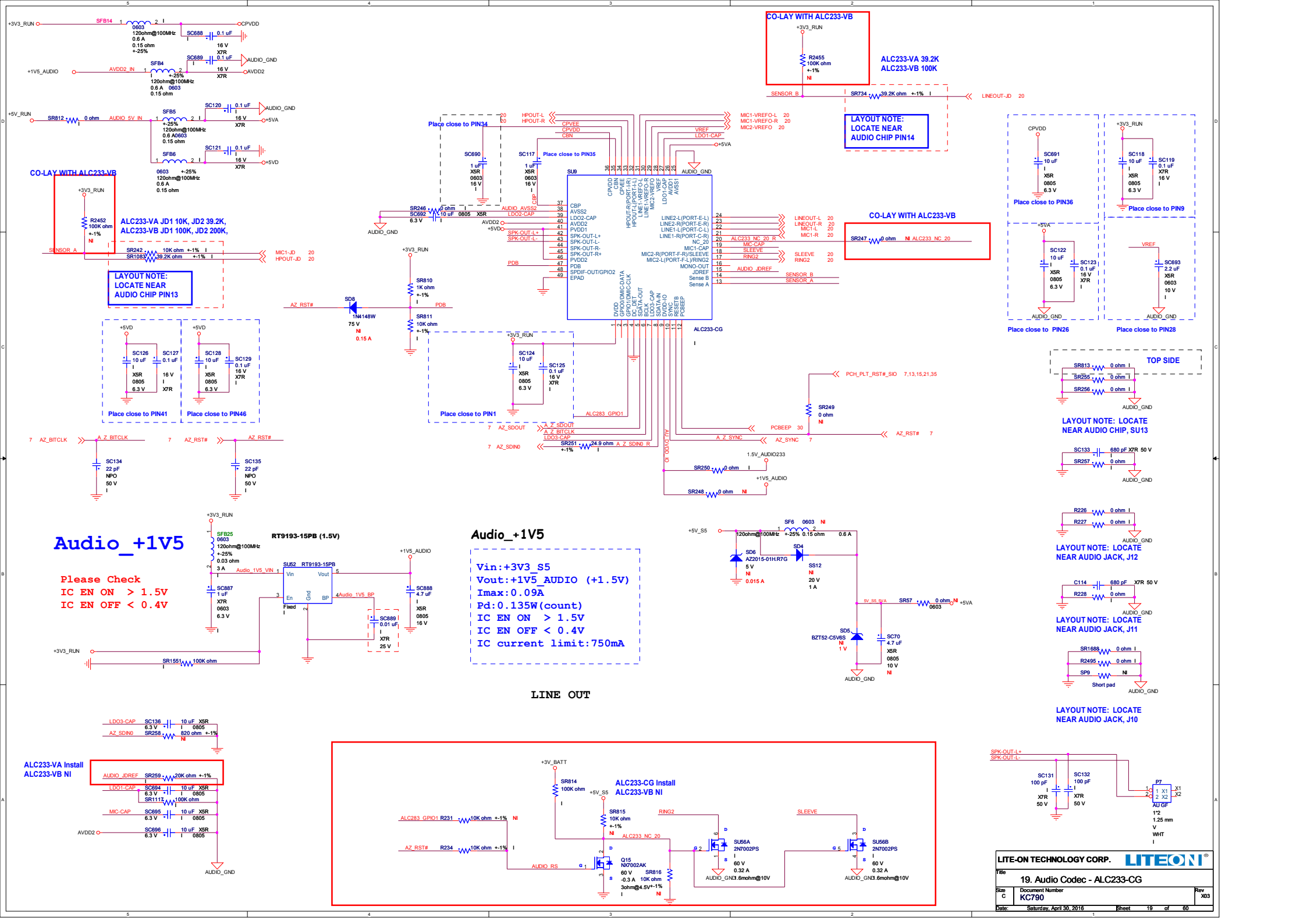
DP used O ohm
HDMI used Common Choke

DP used O ohm
HDMI used Common Choke

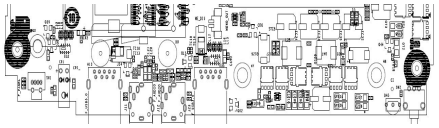
DP used O ohm
HDMI used Common Choke

CAD Note : Please place Common Choke component close to J9 pinheader

LITE-ON TECHNOLOGY CORP.		
Title: 18. Display Port HDR		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 18 of 60	

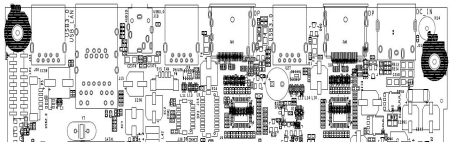

Audio_+1V5
Please Check
IC EN ON > 1.5V
IC EN OFF < 0.4V
RT9193-15PB (1.5V)
Audio_+1V5
Vin:+3V3_S5
Vout:+1V5_AUDIO (+1.5V)
Imax:0.09A
Pd:0.135W(count)
IC EN ON > 1.5V
IC EN OFF < 0.4V
IC current limit:750mA
LINE OUT
CO-LAY WITH ALC233-VB
ALC233-VA 39.2K
ALC233-VB 100K
LAYOUT NOTE: LOCATE NEAR AUDIO CHIP PIN14
ALC233-VA JD1 10K, JD2 39.2K,
ALC233-VB JD1 100K, JD2 200K,
LAYOUT NOTE: LOCATE NEAR AUDIO CHIP PIN13
Place close to PIN34
Place close to PIN35
Place close to PIN41
Place close to PIN46
Place close to PIN1
Place close to PIN36
Place close to PIN9
Place close to PIN26
Place close to PIN28
TOP SIDE
LAYOUT NOTE: LOCATE NEAR AUDIO CHIP, SU13
LAYOUT NOTE: LOCATE NEAR AUDIO JACK, J12
LAYOUT NOTE: LOCATE NEAR AUDIO JACK, J11
LAYOUT NOTE: LOCATE NEAR AUDIO JACK, J10
ALC233-CG Install
ALC233-VB NI
ALC233-VA Install
ALC233-VB NI
ALC233-CG
LITE-ON TECHNOLOGY CORP.
19. Audio Codec - ALC233-CG
KC790
Saturday, April 30, 2016

HP OUT



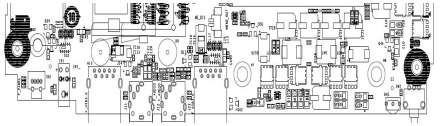
J12

Rear - LINE OUT



J10

MIC IN



J11

LITE-ON TECHNOLOGY CORP.			
Title: 20. Audio Jack_Line I-O/ Mic in			
Size: C	Document Number: KC790		Rev: X03
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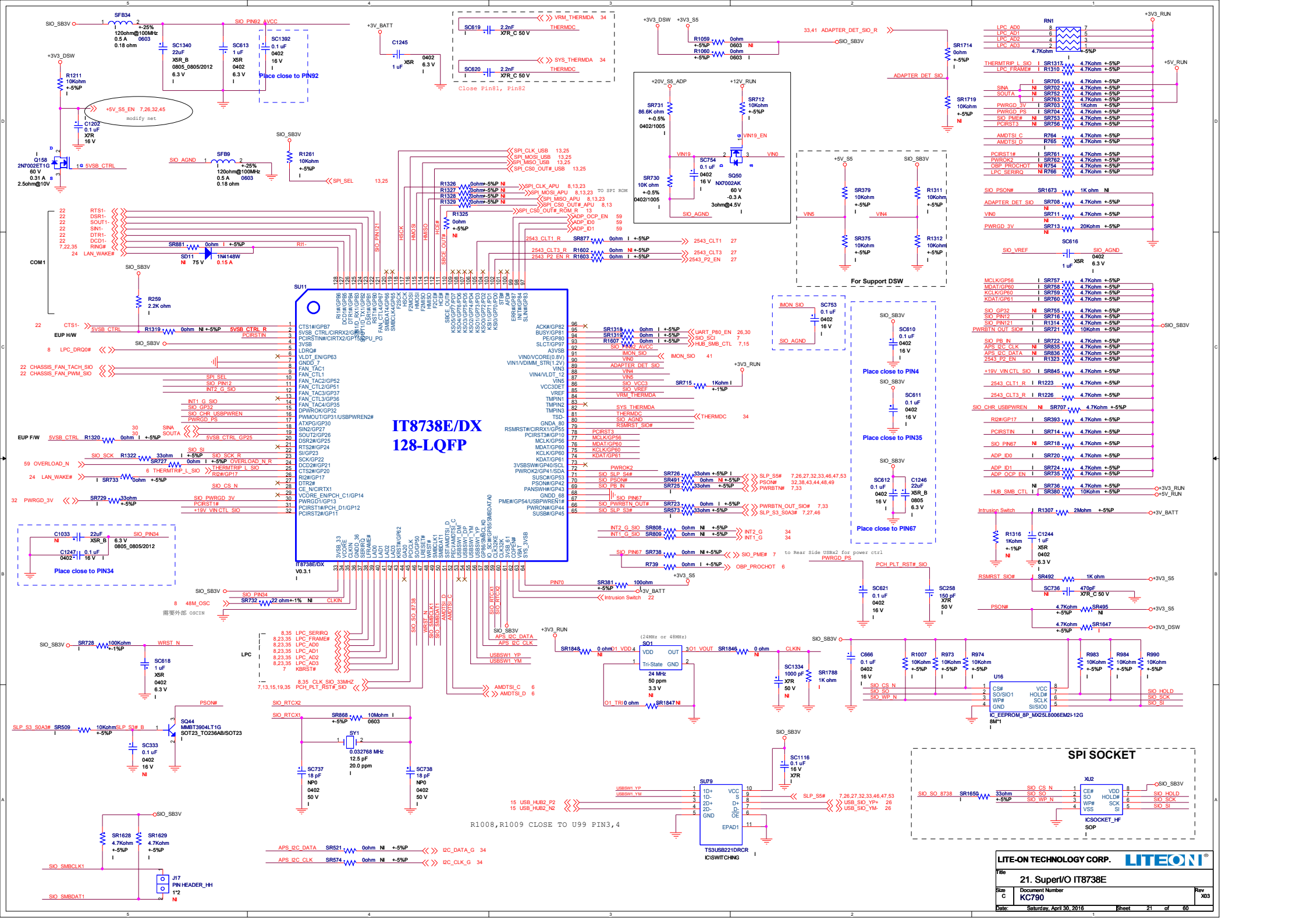
IT8738E/DX
128-LQFP
SU11
IT8738E/DX
V0.3.1
SPI SOCKET
XU2
SOP
U16
IC_EEPROM_8P_MX25L8006EM2I-12G
8M*1
SU79
TS3USB221DRCR
IC\SWITCHING
SU44
MMBT3904LT1G
SOT23_TO236AB/SOT23
SY1
0.032768 MHz
12.5 pF
20.0 ppm
SO1
24 MHz
50 ppm
3.3 V
J17
PIN HEADER_HH
1*2
COM1
EUP H/W
EUP F/W
LPC
For Support DSW
Place close to PIN92
Place close to PIN4
Place close to PIN35
Place close to PIN67
Place close to PIN34
Close Pin81, Pin82
R1008,R1009 CLOSE TO U99 PIN3,4
to Rear Side USBx2 for power ctrl
TO SPI ROM
需要外部 OSCIN
(24MHz or 48MHz)
LITE-ON TECHNOLOGY CORP.
21. Superl/O IT8738E
Size C
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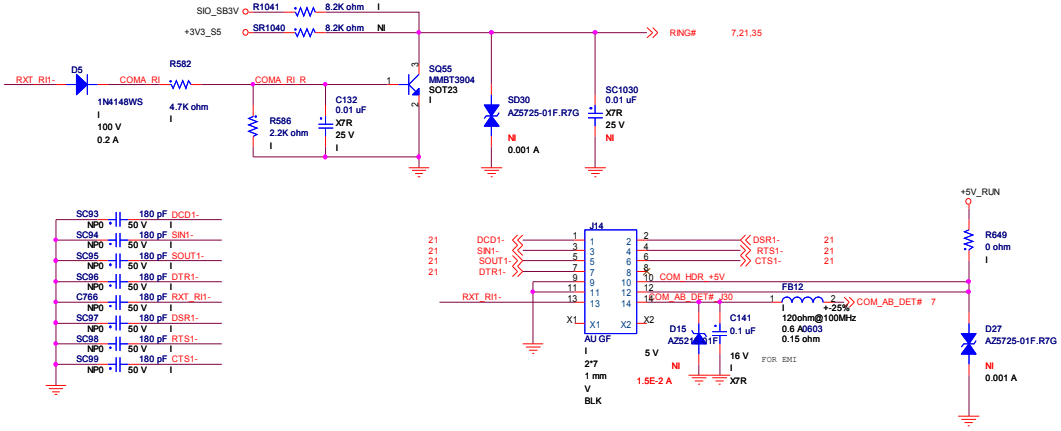
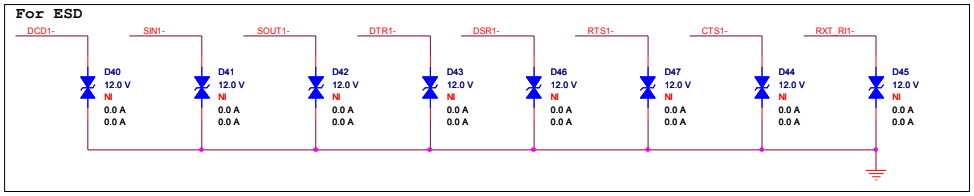
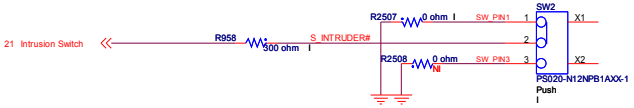
COM PORT HDR

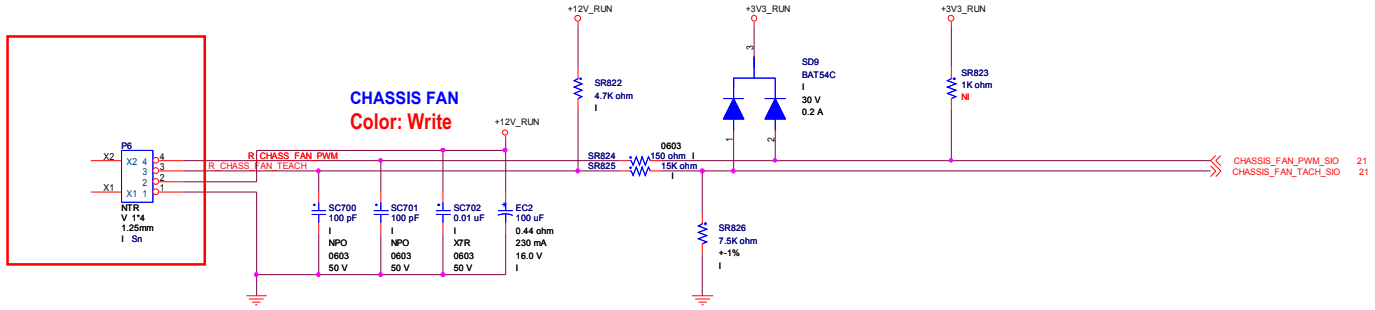




Intrusion Switch



CHASSIS/CPU/PSU FAN

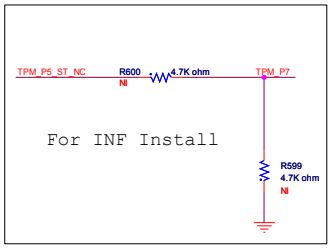


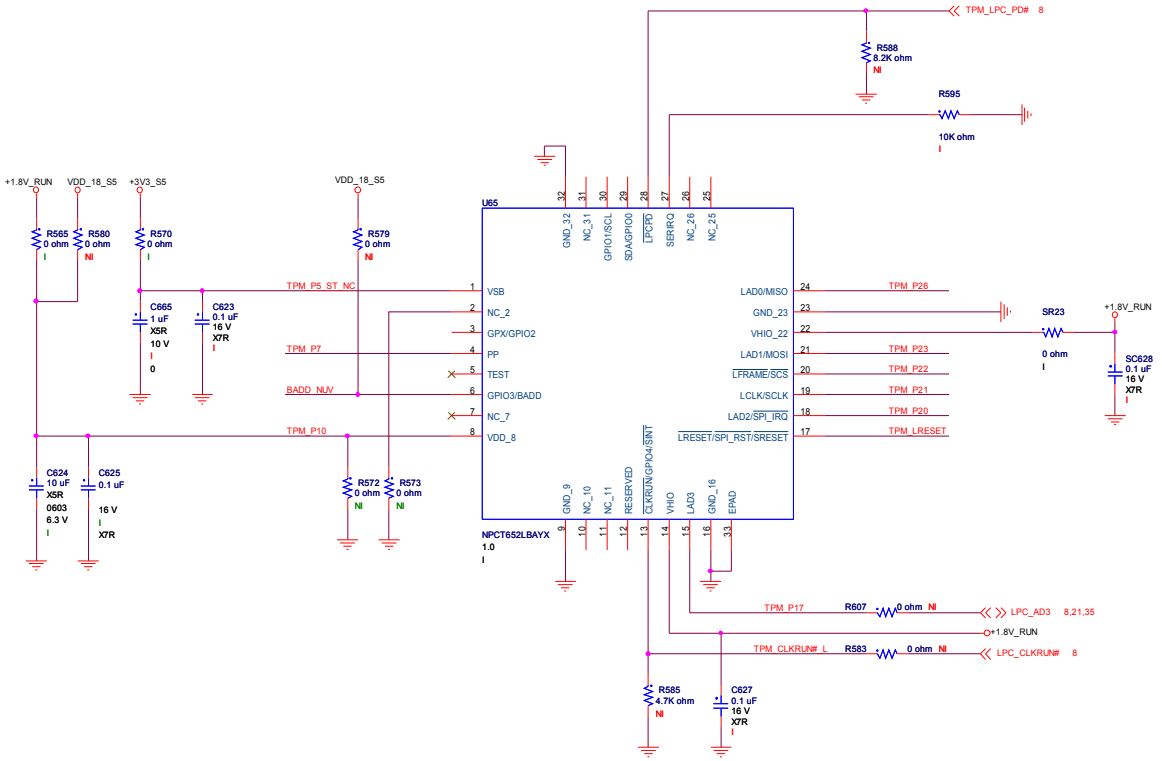
LITE-ON TECHNOLOGY CORP.

Title: 22. COM Port/ PS/2/ FAN CRTL

Size	Document Number	Rev
C	KC790	X03

Date: Saturday, April 30, 2016 Sheet 22 of 60





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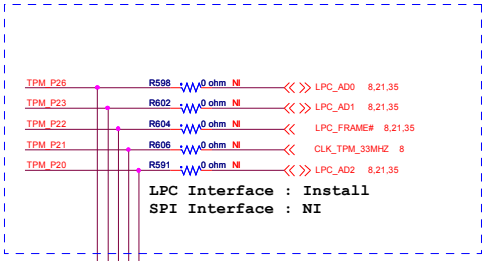
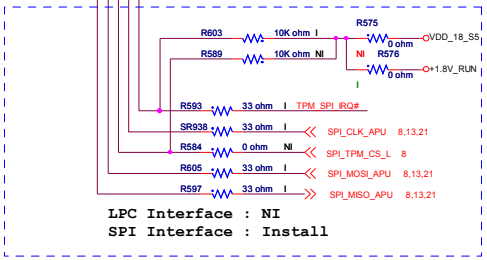
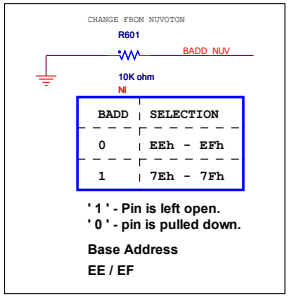
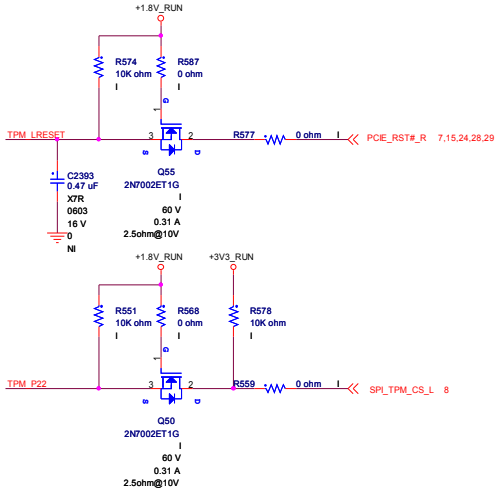
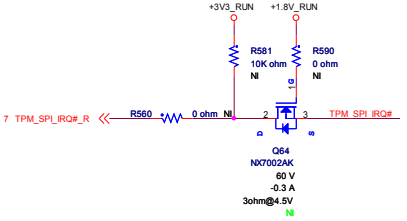




	INF	ST	NUVO
PIN1	VDD	NiC	VSB
PIN2	GND	GND	NC_2
PIN3	NC	NiC	GPX/GPIO2
PIN4	NC	NiC	PP
PIN5	NC	NiC	TEST
PIN6	GPIO	NC	GPIO3/BADD
PIN7	PP	PP	NC_7
PIN8	GND	NiC	VDD_8
PIN9	NC	NiC	GND_9
PIN10	NC	NiC	NC_9
PIN11	NC	NiC	NC_10
PIN12	NC	NiC	NC_11
PIN13	NC	NiC	CLKRUN/GPIO4/SINT
PIN14	NC	NiC	VHIO
PIN15	NC	NiC	LAD3
PIN16	NC	NiC	GND_16
PIN17	RST#	SPI_RST	SPI_RST
PIN18	PIRQ#	SPI_PIRQ	LAD2/SPI_IRQ
PIN19	SCLK	SPI_CLK	LCLK/SCLK
PIN20	CS#	SPI_CS	LFRAME/SCS
PIN21	MOSI	MOSI	LAD1/MOSI
PIN22	VDD	VPS	VHIO_22
PIN23	GND	NiC	GND_23
PIN24	MISO	MISO	LAD0/MISO
PIN25	NC	NiC	NC
PIN26	NC	NiC	NC
PIN27	NC	NiC	SERIRQ
PIN28	NC	NiC	LPCCPD
PIN29	NC	NiC	SDA/GPIO0
PIN30	NC	NiC	GPIO1/SCL
PIN31	NC	NiC	NC
PIN32	GND	NiC	GND







LITE-ON TECHNOLOGY CORP.

Title: 23. TPM - TCG 2.0

Size: C | Document Number: KC790 | Rev: X03

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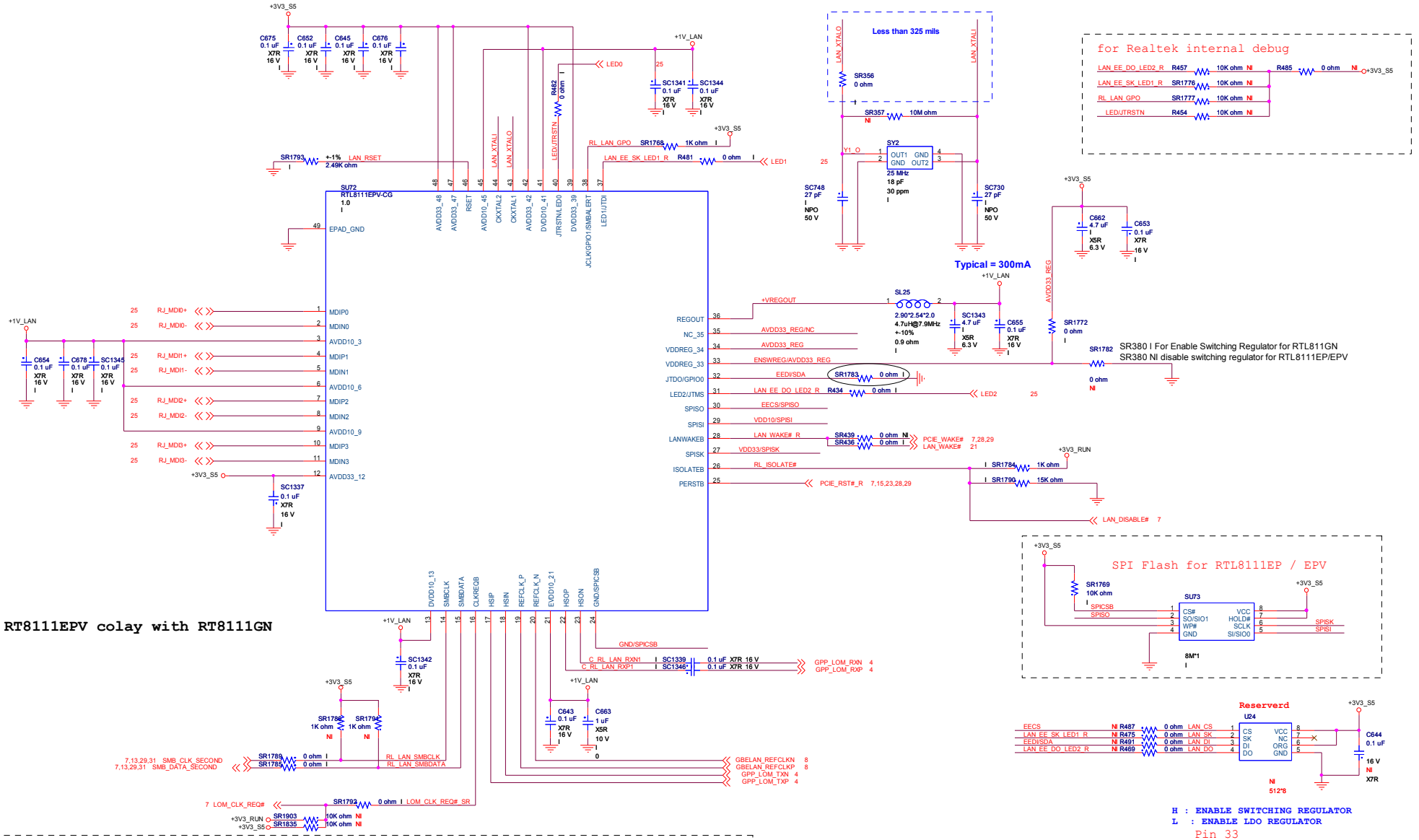

WOL	Status	Yellow	Green	Orange
Don't Care	Off	Off	Off	Off
Off	S3/S4/S5	Off	Off	Off
On	10Mb Inactive	On	Off	Off
On	10Mb Active	Blinking	Off	Off
On	100Mb Inactive	On	On	Off
On	100Mb Active	Blinking	On	Off
On	1Gb Inactive	On	Off	On
On	1Gb Active	Blinking	Off	On

LITE-ON TECHNOLOGY CORP.

Title: 24. LAN RTL8111EPV

Size: C | Document Number: KC790 | Rev: X03

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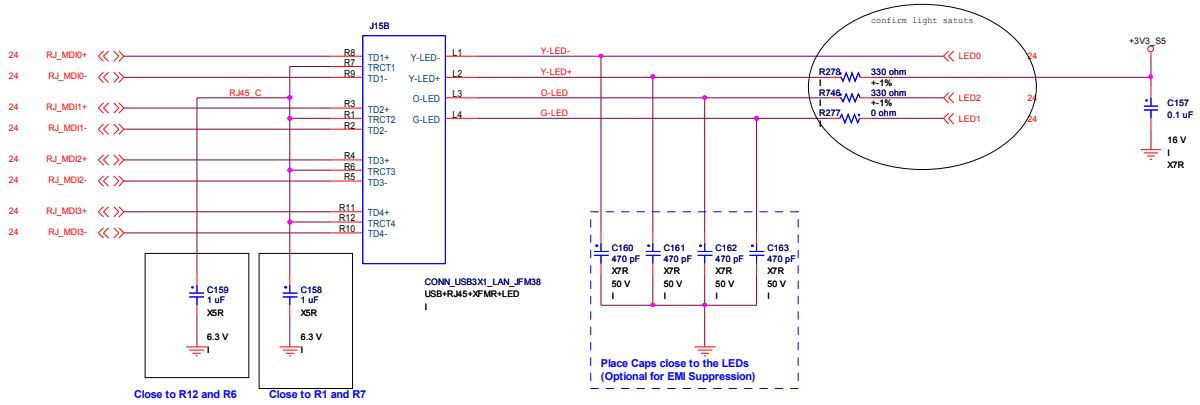
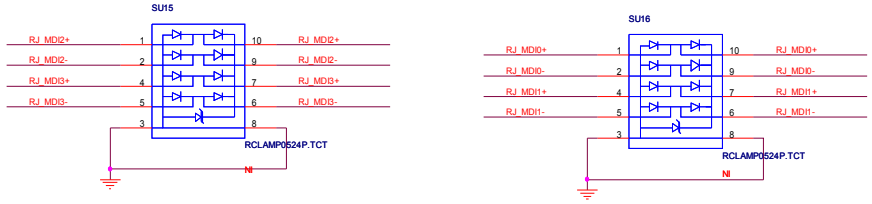
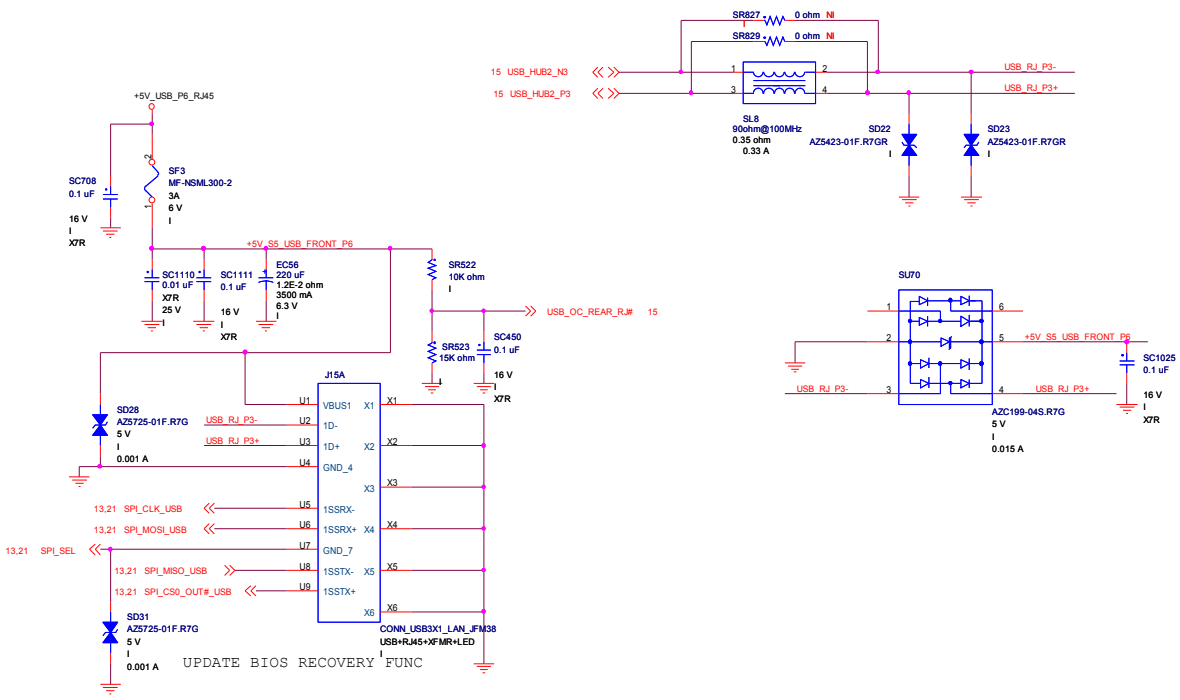






LITE-ON TECHNOLOGY CORP.		
Title: 25. RJ45 + USB3 Stack		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 25 of 60	

Rear Side USB2X2 USB3X1

J21 J19 J20

usb debug smart power on

+5V_USB_P5 SQ9 AP2306GN-HF +5V_S5 20 V 5.3 A

C176 0.1 uF 16 V X7R

F4 MF-NSMF200-2 2 A 6 V +5V_USB_P5_EN

+5V_S5_USB_REAR_P5

C178 0.01 uF X7R 25 V

C179 0.1 uF 16 V X7R

EC4 220 uF 1.2E-2 ohm 3500 mA 6.3 V

SR885 10K ohm USB_OC_REAR_J19# 15

SR886 15K ohm SC712 0.1 uF 16 V X7R

D20 AZ5725-01F.R7G 5 V 0.001 A

J19 VCC D- D+ GND X1 X2 USB CONN_HC A 1Port

USB_SIO_YM-_C USB_SIO_YP+_C

R1010 0 ohm NI R1011 0 ohm NI

21 USB_SIO_YP+ 21 USB_SIO_YM-

L2 90ohm@100MHz 0.35 ohm 0.33 A

USB_SIO_YP+_C USB_SIO_YM-_C

U18 +5V_S5_USB_REAR_P5 C1201 0.1 uF 16 V X7R

USB_SIO_YM-_C USB_SIO_YP+_C

AZC199-04S.R7G 5 V 0.015 A

+5V_USB_P4 SC91 0.1 uF 16 V X7R

F5 MF-NSMF200-2 2 A 6 V +5V_S5_USB_REAR_P4

C1248 0.01 uF X7R 25 V C181 0.1 uF 16 V X7R

EC5 220 uF 1.2E-2 ohm 3500 mA 6.3 V

R304 10K ohm USB_OC_REAR_J21# 7

R308 15K ohm C183 0.1 uF 16 V X7R

D34 AZ5725-01F.R7G 5 V 0.001 A

UPDATE FOR USB DEBUG CARD

J21 VBUS D- D+ GND X1 X2 SSRX- SSRX+ GND_DRAIN SSTX- SSTX+ USB CONN_HC A 1Port

USB_HSD0N- 3958 USB_HSD0P+ 3958

USB3_CON_RXN0 USB3_CON_RXP0 USB3_CON_TXN0 USB3_CON_TXP0

21,30 UART_P80_EN R42 100K ohm +-1% 0.001 A D21 AZ5725-01F.R7G 5 V

+5V_S5_USB_REAR_P4

USB_HSD0P+ 3958 USB_HSD0N- 3958

U27 I/O1 VDD NC I/O2 I/O3 I/O6 GND EPAD NC1 I/O5 I/O4

C184 0.1 uF 16 V X7R C1203 22 pF NPO 50 V

USB3_CON_TXP0 USB3_CON_RXP0 USB3_CON_TXN0 USB3_CON_RXN0

AZ1165-06F 5 V 0.015 A

+20V_S5_ADP SR887 100K ohm +-1%

+3V3_S5 SR889 10K ohm NI

+20V_S5_ADP SR888 10K ohm

+5V_USB_P5_EN SR890 100K ohm +-1% SC713 0.1 uF 16 V X7R

7,21,32,45 +5V_S5_EN SU32A 2N7002PS 1.6mohm@10V 0.32 A 60 V

+5V_USB_P5_EN# SR1593 10K ohm SU32B 2N7002PS 60 V 0.32 A 1.6mohm@10V

+5V_USB_P5 CONNECT J19 SR891 120 ohm 1206 USB_BL5 SU33B 2N7002PS 60 V 0.32 A 1.6mohm@10V

7,21,27,32,33,46,47,53 SLP_S5# SR892 1K ohm S4_CTL_P5# SU33A 2N7002PS 60 V 0.32 A 1.6mohm@10V

Discharge

5V_S5_DISABLE#	H	H	L	L
SLP_S4#	H	L	H	L
+5V_USB_P5_EN	H	H	H	L

+5V_USB_ODD_P37 SC3 0.1 uF 16 V X7R SF5 MF-NSML300-2 3A 6 V

+5V_S5_USB_REAR_P37 SC1018 0.01 uF X7R 25 V SC1019 0.1 uF 16 V X7R EC59 220 uF 1.2E-2 ohm 3500 mA 6.3 V Colse to P7

SR1456 10K ohm USB_OC_REAR_37# 15 SR1712 15K ohm SC1112 0.1 uF 16 V X7R

SD10 AZ5725-01F.R7G 5 V 0.001 A SC709 0.1 uF 16 V X7R

USB_HUB2_P1- USB_HUB2_P1+ J20 VCC D- D+ GND X1 X2 USB CONN_HC A 1Port

R298 0 ohm NI R300 0 ohm NI

30 USB_HSD0N_3958 30 USB_HSD0P_3958 L10 90ohm@100MHz 0.35 ohm 0.33 A

USB_HSD0N- 3958 USB_HSD0P+ 3958

R303 0 ohm R306 0 ohm

8 USB_SS_0RXN 8 USB_SS_0RXP L12 90ohm@100MHz 0.35 ohm 0.5 A NI

USB3_CON_RXN0 USB3_CON_RXP0

R309 0 ohm 0.5 A R312 0 ohm

8 USB_SS_0TXN 8 USB_SS_0TXP C340 0.1 uF X7R 16 V C342 0.1 uF X7R 16 V

USB_SS_0TXN_R USB_SS_0TXP_R L14 90ohm@100MHz 0.35 ohm NI

USB3_CON_TXN0 USB3_CON_TXP0

R969 0 ohm NI R970 0 ohm NI

15 USB_HUB2_P1 15 USB_HUB2_N1 L1 90ohm@100MHz 0.35 ohm 0.33 A

USB_HUB2_P1+ USB_HUB2_P1-

U8 +5V_S5_USB_REAR_P37 SC1021 0.1 uF 16 V X7R

USB_HUB2_P1- USB_HUB2_P1+

AZC199-04S.R7G 5 V 0.015 A

LITE-ON TECHNOLOGY CORP.

Title: 26. Rear USB2 x 3

Size: C Document Number: KC790 Rev: X03

Date: Saturday, April 30, 2016 Sheet 26 of 60

FRONT USB3.0 Charger x 1

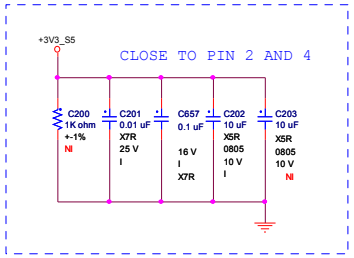
ILIM_HI	20.5K	2.5A	DCP	Tiny S3/S4/S5
			CDP	Tiny S0
ILIM_LO	47.5K	1.1A	SDP	Tiny not support

CTL1	CTL2	CTL3	ILIM_SEL	Charging Mode	Current Limit Setting	TPS2543 STATUS Output (active low)
						off
0	0	0	0	Discharge	NA	off
0	0	0	1	Discharge	NA	off
0	0	1	0	DCP / auto	ILIM_HI	off
0	0	1	1	DCP / auto	I_{OS_FW} & ILIM_HI [1]	DCP load present [2]
0	1	0	0	SDP	ILIM_LO	off
0	1	0	1	SDP	ILIM_HI	off
0	1	1	0	DCP / auto	ILIM_HI	off
0	1	1	1	DCP / auto	ILIM_HI	DCP load present [3]
1	0	0	0	DCP / Shorted	ILIM_LO	off
1	0	0	1	DCP / Shorted	ILIM_HI	off
1	0	1	0	DCP / Divider1	ILIM_LO	off
1	0	1	1	DCP / Divider1	ILIM_HI	off
1	1	0	0	SDP	ILIM_LO	off
1	1	0	1	SDP	ILIM_HI	off
1	1	1	0	SDP [4]	ILIM_LO	off
1	1	1	1	CDP [4]	ILIM_HI	CDP load present [5]

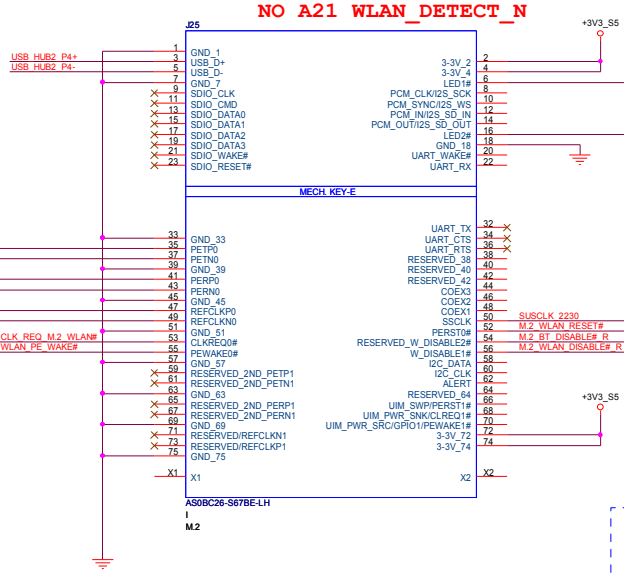
Follow BOM With J24

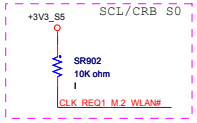
LITE-ON TECHNOLOGY CORP.		
Title	27. Front USB3 Charger x2	
Size C	Document Number KC790	Rev X03
Date: Saturday, April 30, 2016	Sheet 27 of 60	

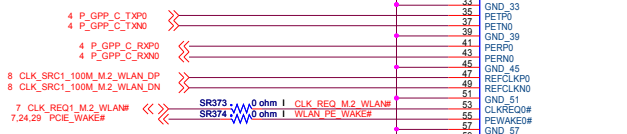
WLAN
M.2 2230 Key-E

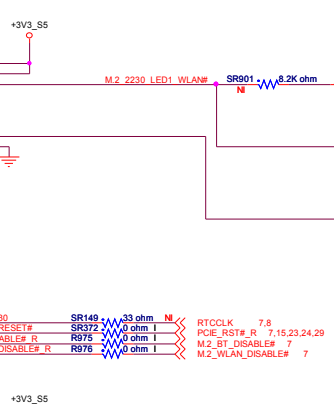


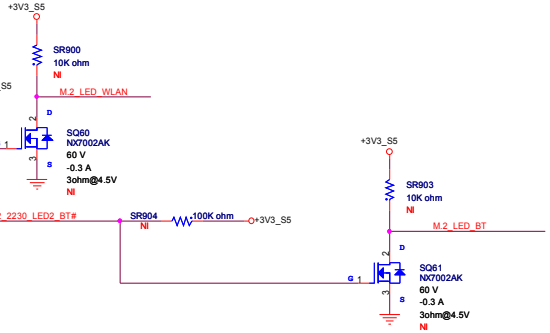
NO A21 WLAN_DETECT_N

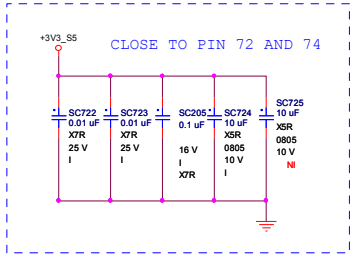


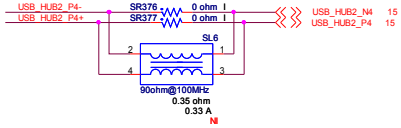


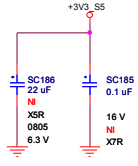






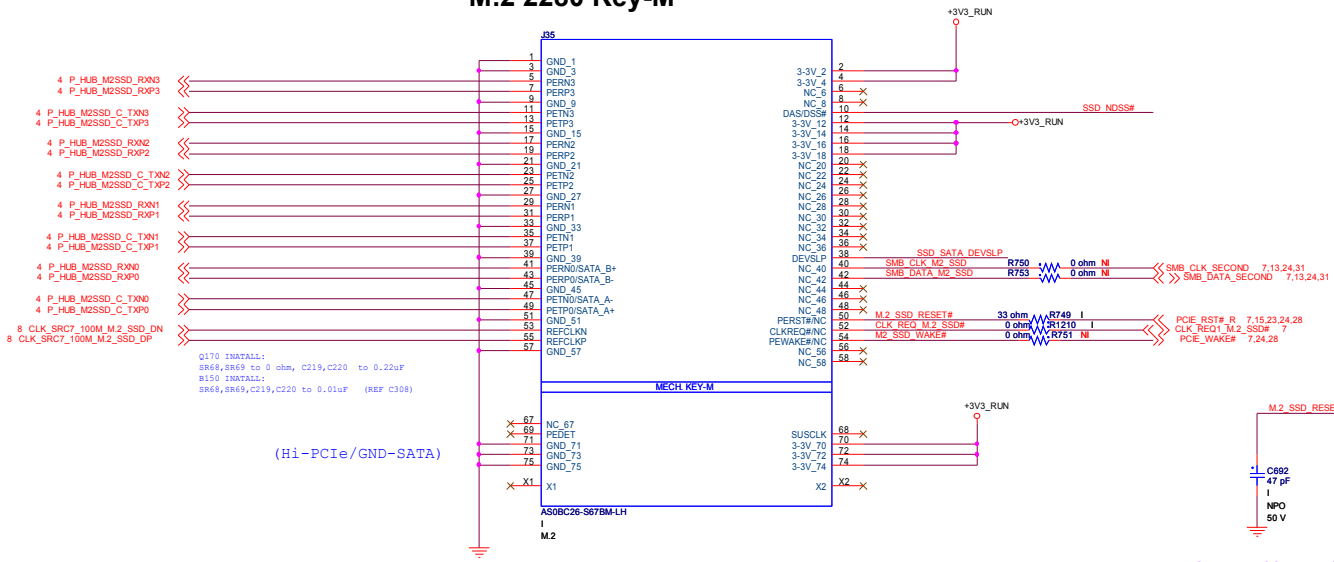


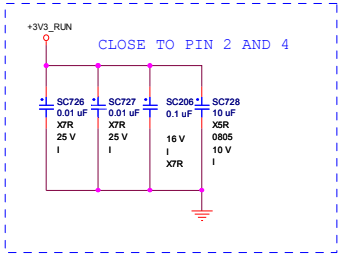


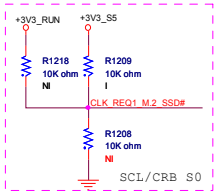


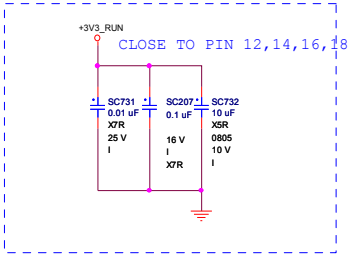
LITE-ON TECHNOLOGY CORP.		
Title: 29. M.2 2230-E WIFI/ BT		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 28 of 60	

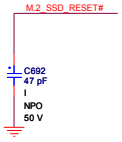
SSD Card PCIE
M.2 2280 Key-M

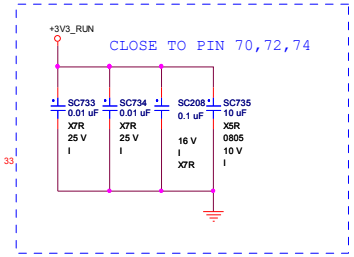




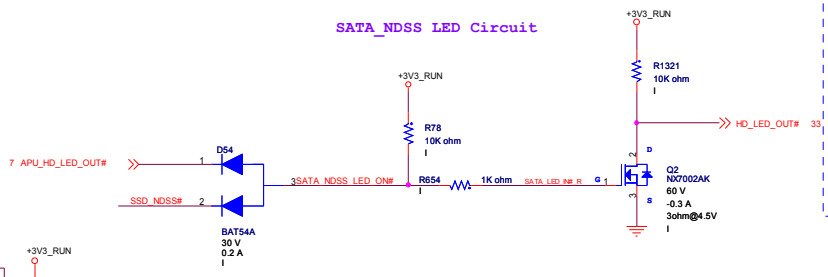


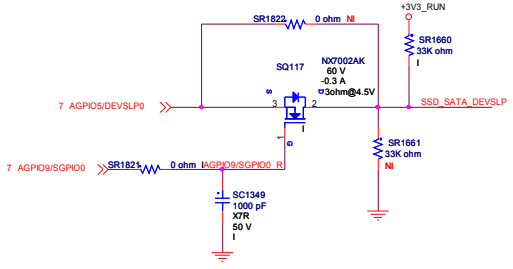






SATA_NDSS LED Circuit





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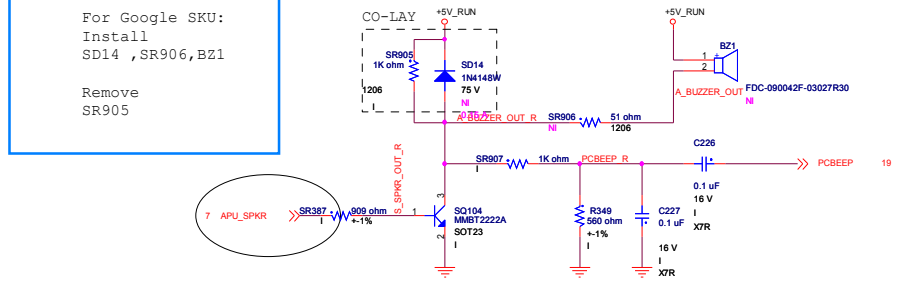
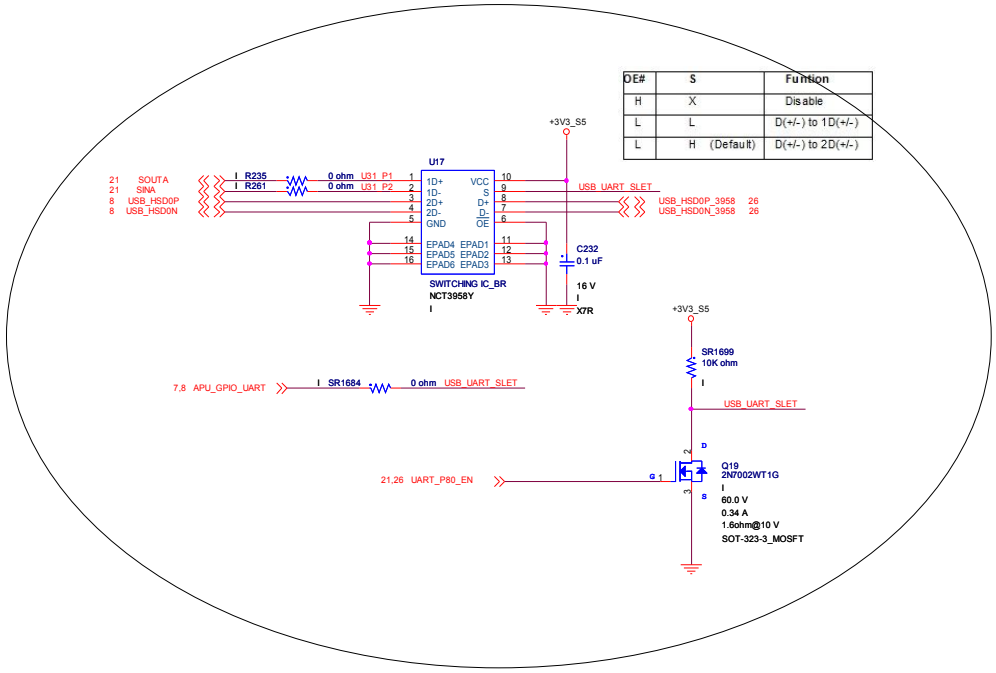
LITE-ON TECHNOLOGY CORP.		
Title: 29. M.2 2280-M SSD		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 29 of 60	

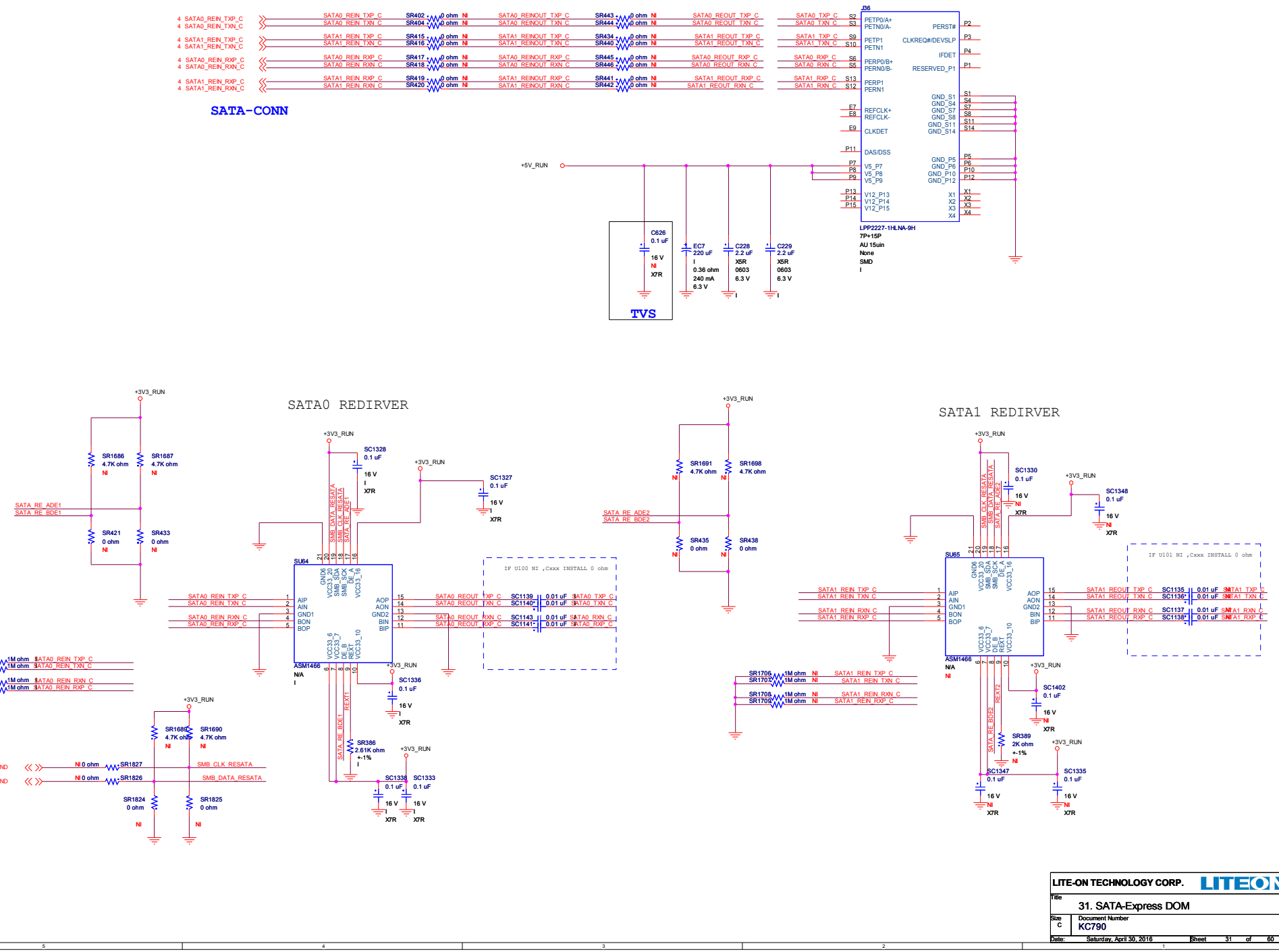
For Google SKU:
Install
SD14 ,SR906,BZ1

Remove
SR905





LITE-ON TECHNOLOGY CORP.	LITEON
Title	30. Buzzer &debug card
Size: C	Document Number: KC790
Rev: X03	
Date: Saturday, April 30, 2016	Sheet 30 of 60



LITE-ON TECHNOLOGY CORP.	
Title	31. SATA-Express DOM
Size	C
Document Number	KC790
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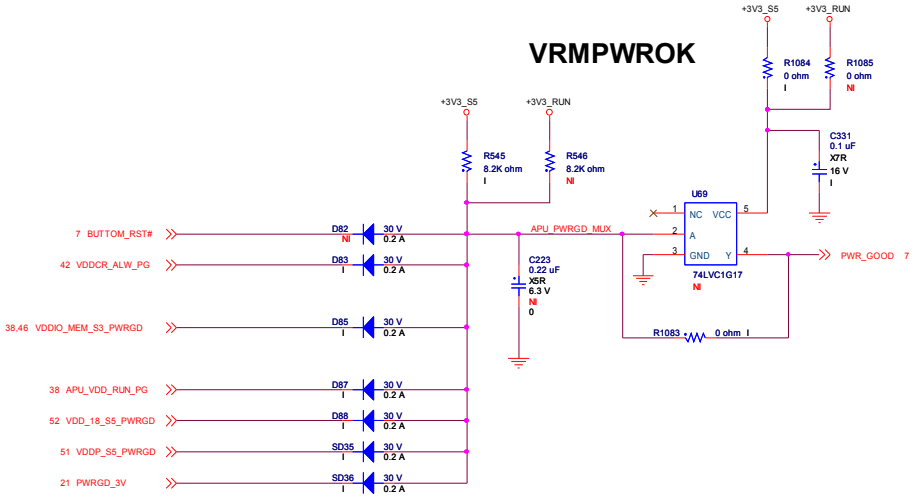
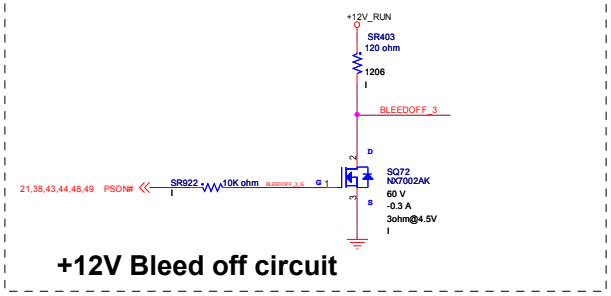
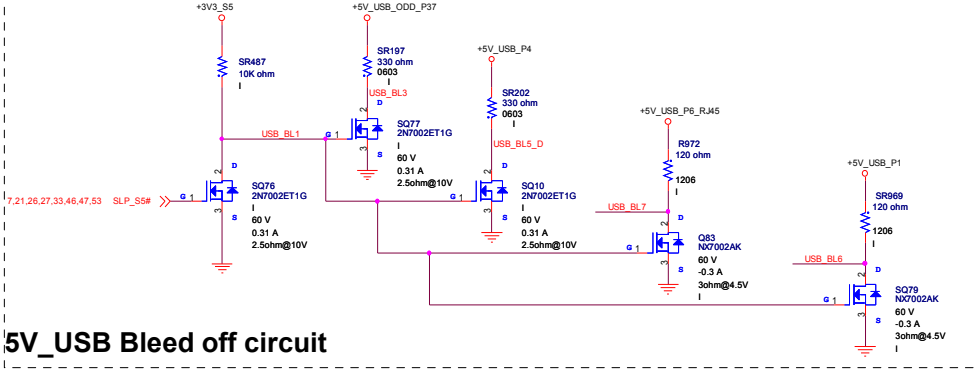
Date:	Saturday, April 30, 2016
Sheet	31 of 60

VRMPWROK

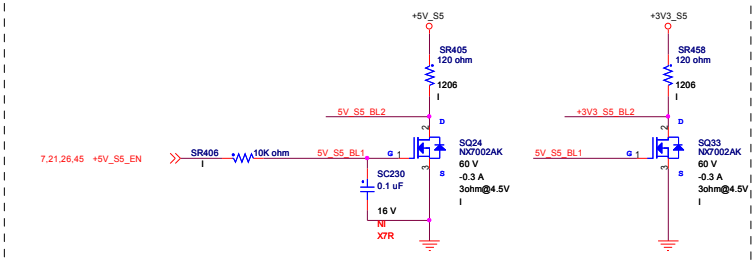




+12V Bleed off circuit

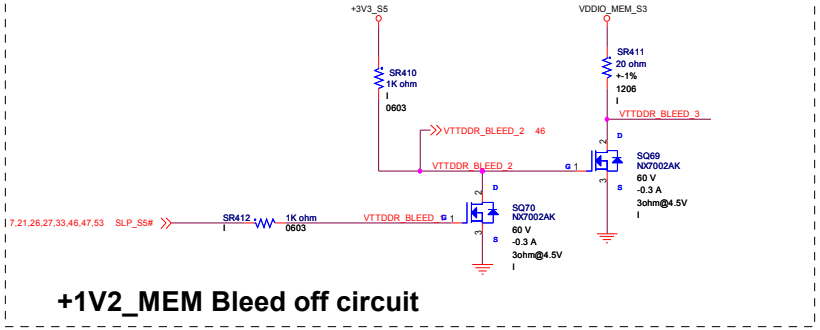


5V_USB Bleed off circuit

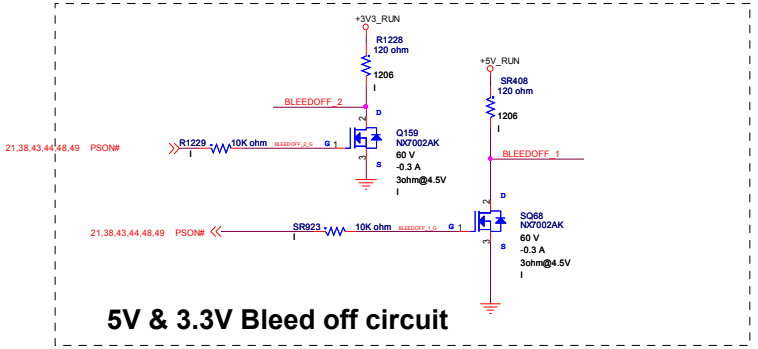


5V_S5 and 3V_S5 Bleed off circuit

DESIGN NOTE:THESE CIRCUITS ARE USED TO BLEED OFF 1.5V DDR



+1V2_MEM Bleed off circuit



5V & 3.3V Bleed off circuit

LITE-ON TECHNOLOGY CORP.

Title: 32. PWRGD & Bleed Off

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CONTROL PANEL / LED CIRCUITRY

POWER BUTTON & LED

Color	Functoin
G	HDD
G	WiFi
G	BT

Id = 25mA @ 2.8V (SPEC)
Id = (5V-2.8V) / 330ohm = 5mA
5m * 3.2 V = 16 mW
0.1W (For Current limit R)

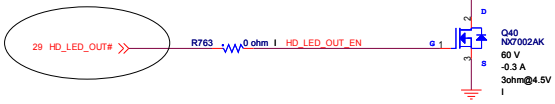
For NEC SKU:
Remove:
R765Q,Q42,R762
SW1
CR1

Install :
R779
SW1_
CR1_

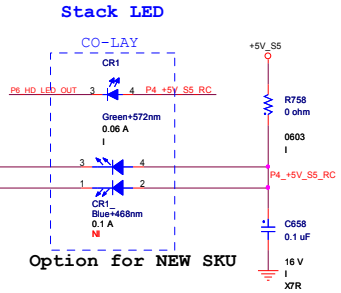
WLAN LED

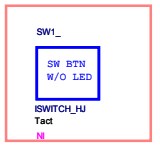
HDD LED

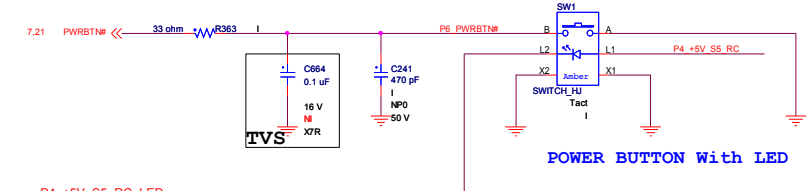
BT LED

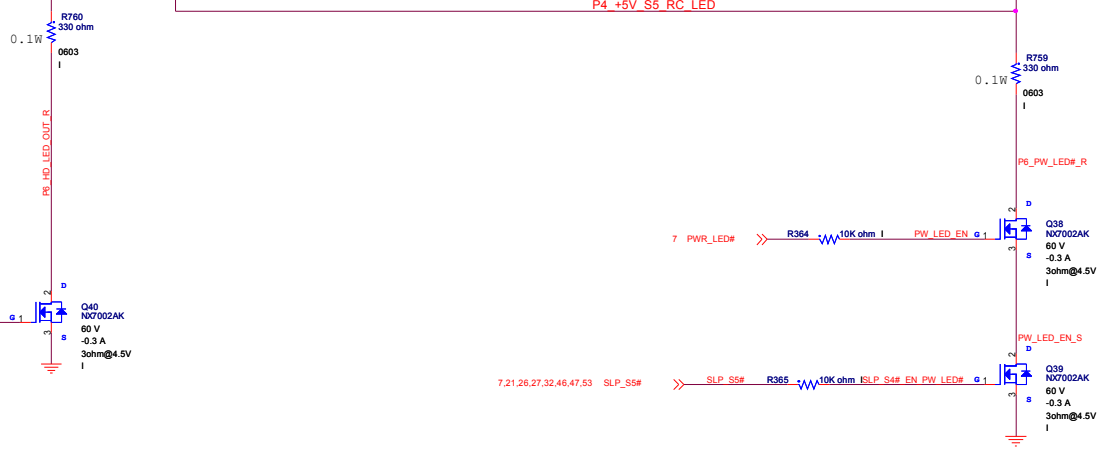


BT LED

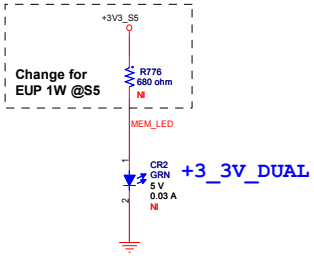


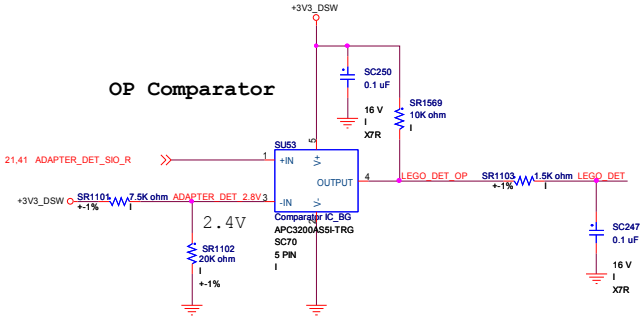


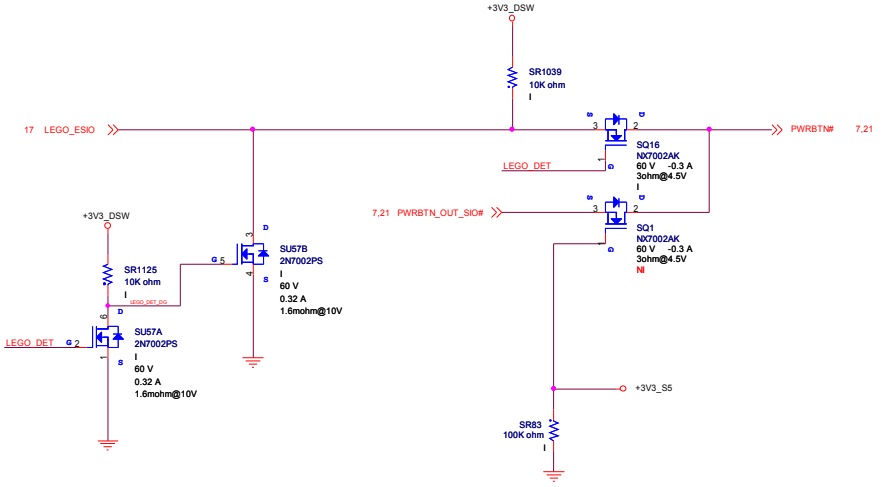




PCA LED CIRCUITS







LITE-ON TECHNOLOGY CORP.

Title: 33. Button/ LED

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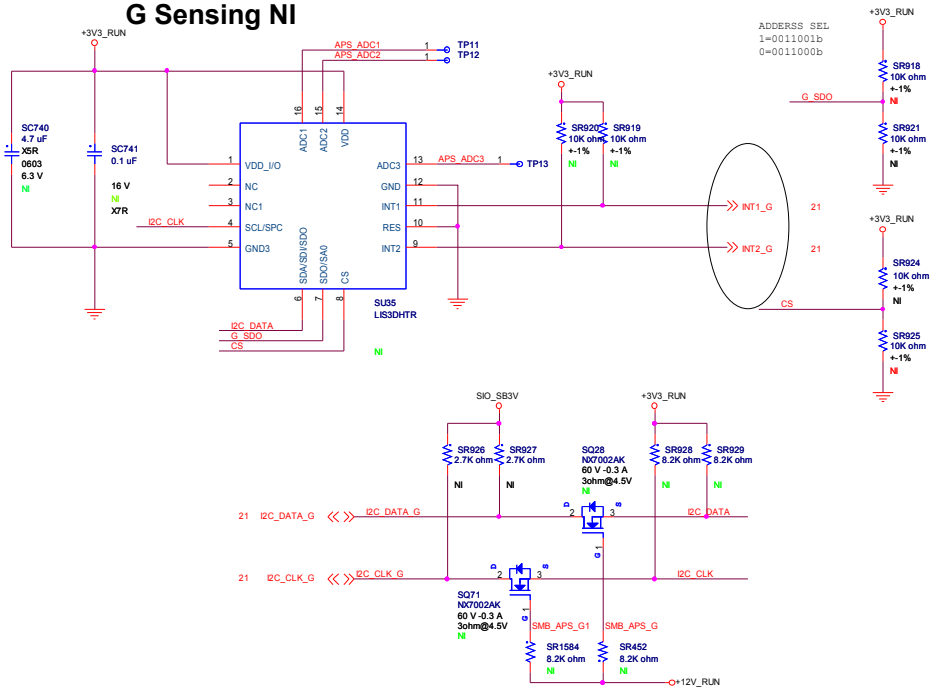
G Sensing NI



Temperature Sensing

Current Mode

CAD NOTE : Place MLCC Close to Thermal Diode

Acceptable Transistor Component
ST Micro: MMBT3904
ON Semiconsuctor: MMBT3904LT1
Fairchild Semiconductor: MMBT3904FSCT

LITE-ON TECHNOLOGY CORP.		
Title: 34. SM BUS/Thermal Sensing/APS		
Size: C	Document Number: KC790	Rev: X03
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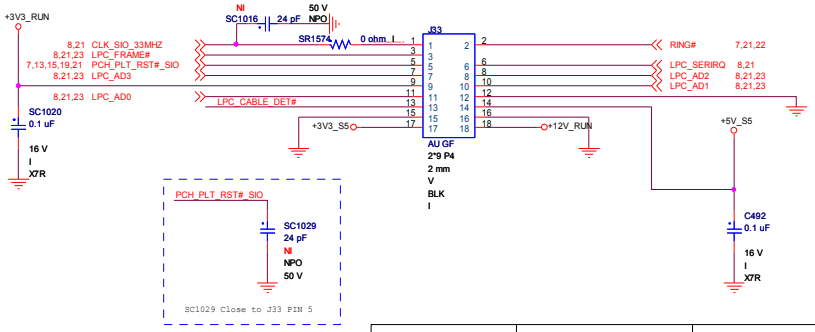
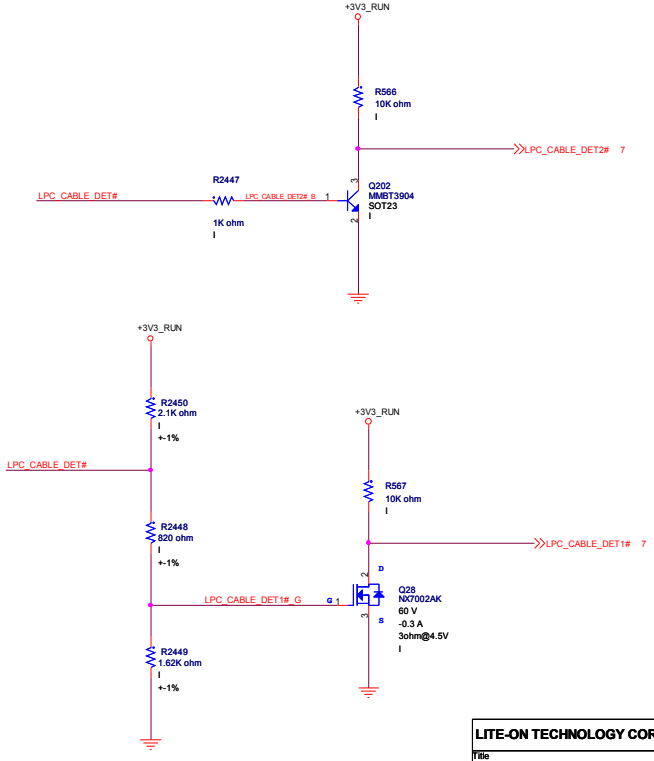
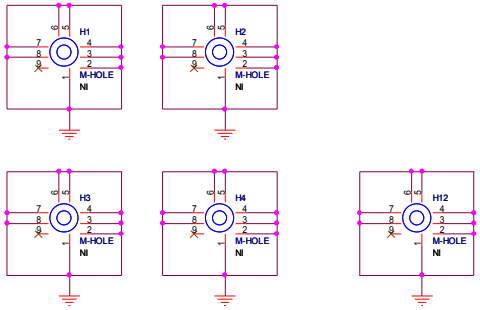
Debug port



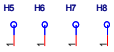
	LPC_CARD_DET#	LPC_CABLE_DET2#	LPC_CABLE_DET1#
No Card	Float (1.2V)	L	H
Card A	0V	H	H
Card B	3.3V	L	L

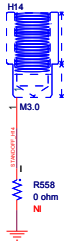


LITE-ON TECHNOLOGY CORP.			
Title	35. Debug Port		
Size C	Document Number KC790		Rev X03
Date: Saturday, April 30, 2016		Sheet 35 of 60	

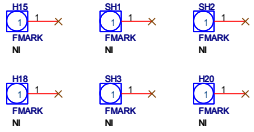


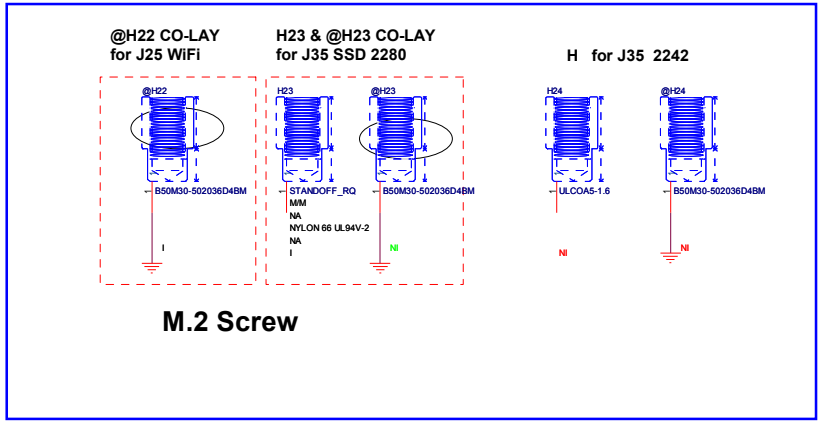
CPU HEATSINK_HOLE



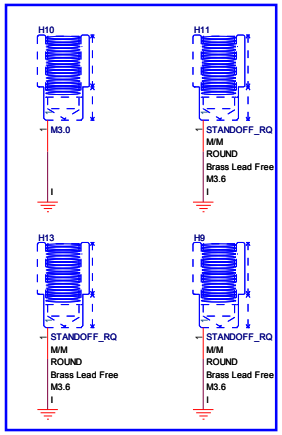


FAN DUCT





M.2 Screw



HDD Cage

#U1
LABEL
10*10 mm
BIOS
LABEL-BIOS-AMI 686 PLCC-RoHS

SN1
CT LABEL
NI

LTCT1
28*5.5MM LABEL
11S_LABEL
28*5.5 mm

PCB1
PCB
KC790
X01
174*175*1.6mm
OSP

@Q45
Housing
Housing
9x5.7x3.5mm

@J101
LABEL
LABEL
17x7mm

LITE-ON TECHNOLOGY CORP.

Title: 36. Mounting Hole/ PCB/ Metal

Size	Document Number	Rev
C	KC790	X03

Date: Friday, April 29, 2016 Sheet 36 of 60

Version Change List

Item	Date	Request Owner	Issue Description	Solution Description	Rev.
1.	2016/04/20	Jasper	Sourcer request to change	Change SU32,SU33,SU56,SU57,SU59,SU62,U104 from CA00065701NX-R to CA00082501NX-R	0.3
2.	2016/04/22	Jasper	iTE schematic review recommendation.	1.Populate SR1788. 2.Reserve LPC_SERIRQ pullup SR766. 3.SIO_PIN67 connect to OBP_PROCHOT for CPU process hot signal. 4.PSON# change pullup power from +3V3_S5 to +3V3_DSW. 5.Reserve SIO_PSON# pull-down 1K to GND. 6.Connect SIO pin25 to THERMTHIP_L_SIO for APU thermaltrip. 7.Connect SIO_SCI to APU GPIO. 8.Change LPC_FRAME R1310 to populate.	0.3
3.	2016/04/22	Jasper	USB HUB cannot separate disable USB port.	Change SU66 from GL852 to GL852G-MNY50.	0.3
4.	2016/04/26	Jasper	Lenovo request DP power need supply 2A.	Change F2/SF1/SF2 to 2A fuse and FB2/SFB29/SFB3 from 120 ohm/0.6A to 220 ohm/2A	0.3
5.	2016/04/27	Jasper	Check AMD schematic checklist v1.04	Reserve CLK_REQ1_M.2_SSD# pullup to +3V3_RUN	0.3
6.	2016/04/27	Jasper	Follow Lenovo DCLV2.7 special design item19 WOL: the wake up signal must choosed from SIO(RI) for non-intel LAN chip	Add LAN_WAKE# through R1604 to SIO RI2 for LAN WOL from G3 to S5.	0.3
7.	2016/04/28	Jasper	SMBus_MAIN have monotonic on KNOLL side	Add termination R2512/2513 on KNOLL side and SR1904/SR1905 on J1 side.	0.3
8.	2016/04/28	Jasper	Crystal Investigation report request	Change Y1 from 12M/30p to 12M/12p and SC1176 from 20pF to 12pF and SC1239 from 20pF to 15pF.	0.3
9.					
10.					

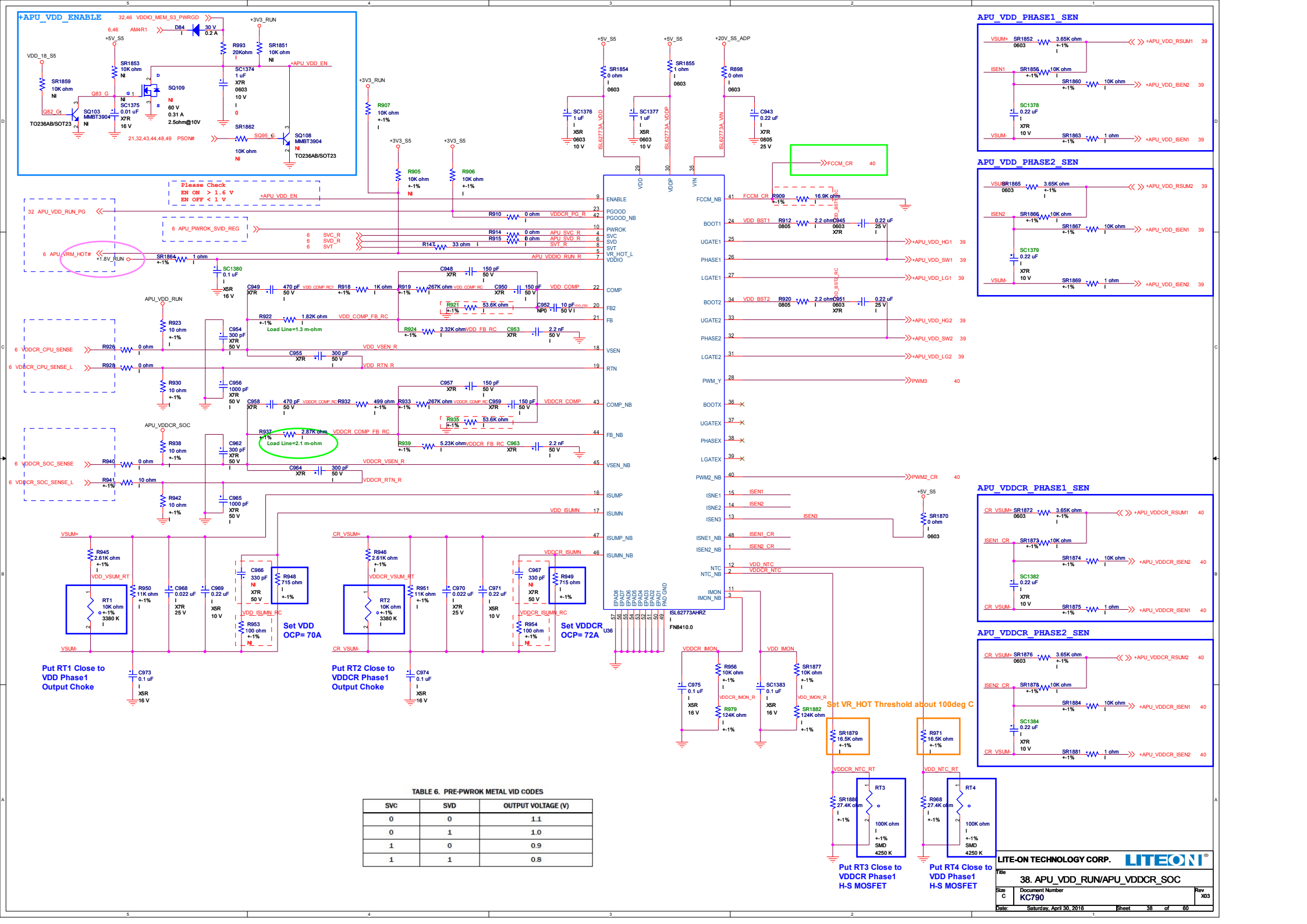


TABLE 6. PRE-PWROK METAL VID CODES

SVC	SVD	OUTPUT VOLTAGE (V)
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8

LITE-ON TECHNOLOGY CORP.

Title: 38. APU_VDD_RUN/APU_VDDCR_SOC

Size: C | Document Number: KC790 | Rev: X03

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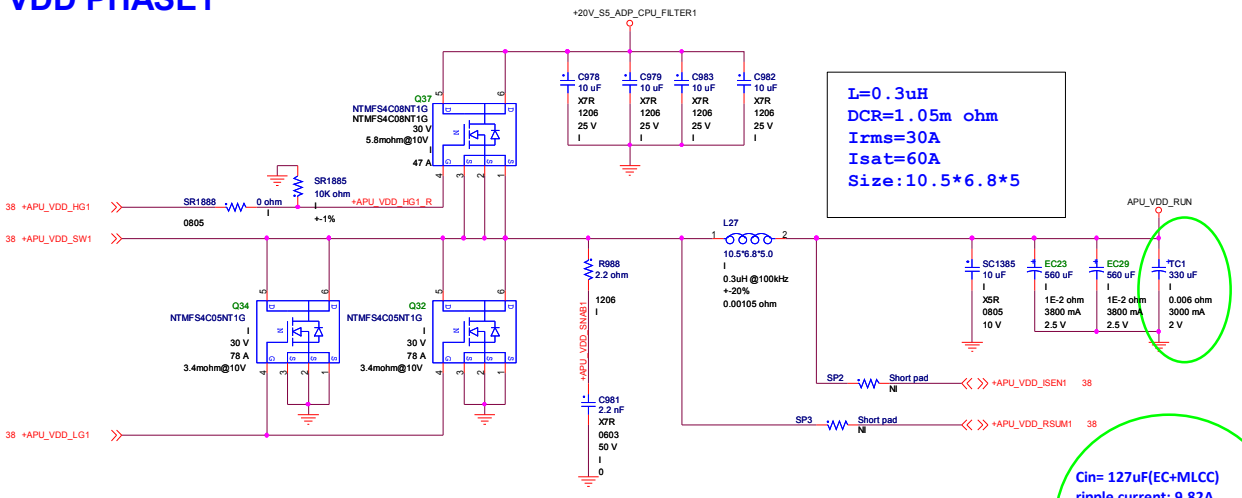
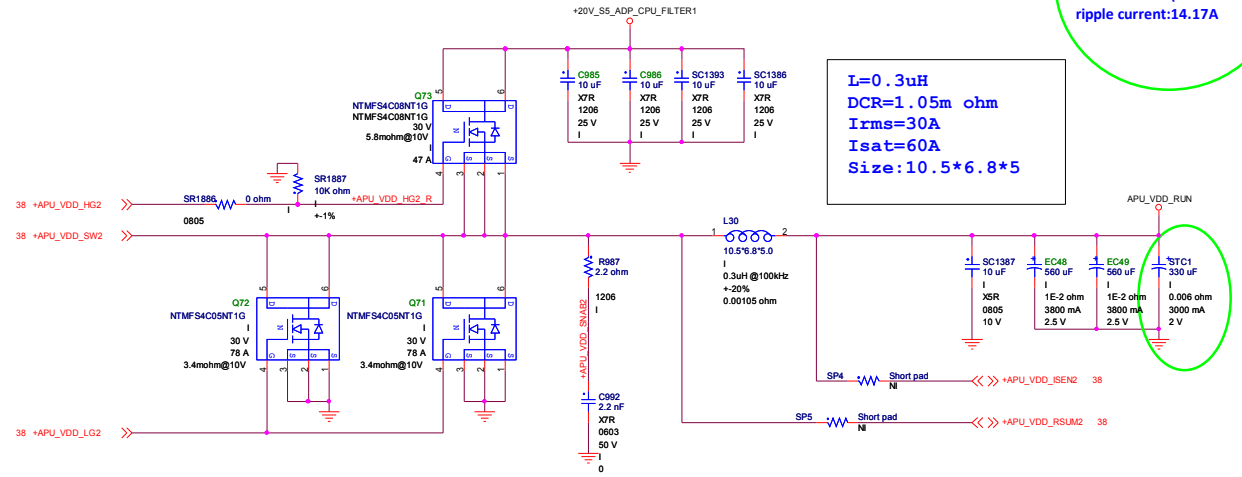
VDD PHASE1



L=0.3uH
DCR=1.05m ohm
Irms=30A
Isat=60A
Size:10.5*6.8*5

VDD PHASE2



L=0.3uH
DCR=1.05m ohm
Irms=30A
Isat=60A
Size:10.5*6.8*5

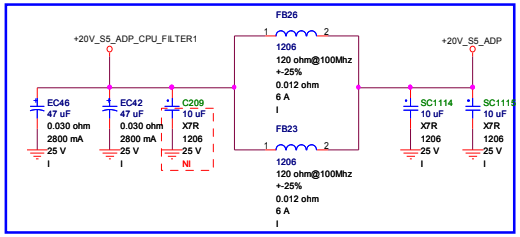
Cin= 127uF(EC+MLCC)
ripple current: 9.82A

Cout= 3288uF (EC+POSCAP+MLCC)
ripple current:14.17A

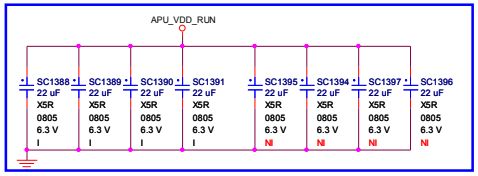
APU_VDD_RUN

TDC:39A
Imax:55A
OCP:70A
DC Load Line:1.3 mohm
Fsw:300KHz

APU_VDD_RUN_VIN_POWER



APU_VDD_RUN_Output_MLCC



MLCC ripple current(at 5 degree)= 2.49A, ESR= 4 mohm

LITE-ON TECHNOLOGY CORP.		
Title: 39. APU_VDD_RUN OUTPUT		
Size: C	Document Number: KC790	Rev: X03
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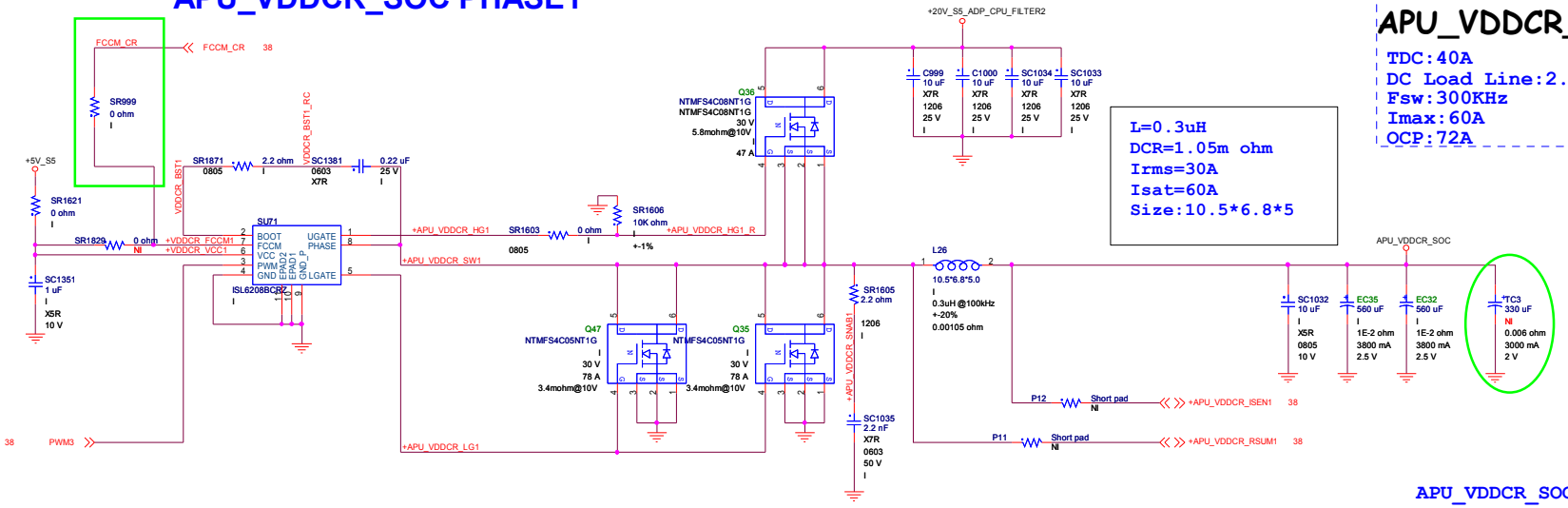
APU_VDDCR_SOC PHASE1



APU_VDDCR_SOC

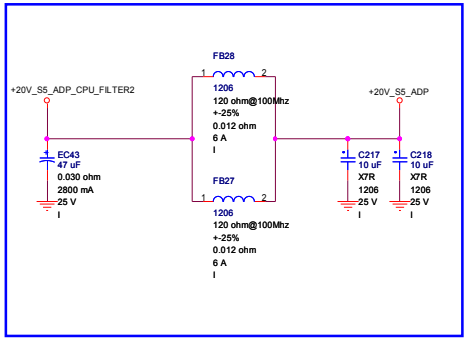
TDC:40A
DC Load Line:2.1 mohm
Fsw:300KHz
Imax:60A
OCP:72A

L=0.3uH
DCR=1.05m ohm
Irms=30A
Isat=60A
Size:10.5*6.8*5

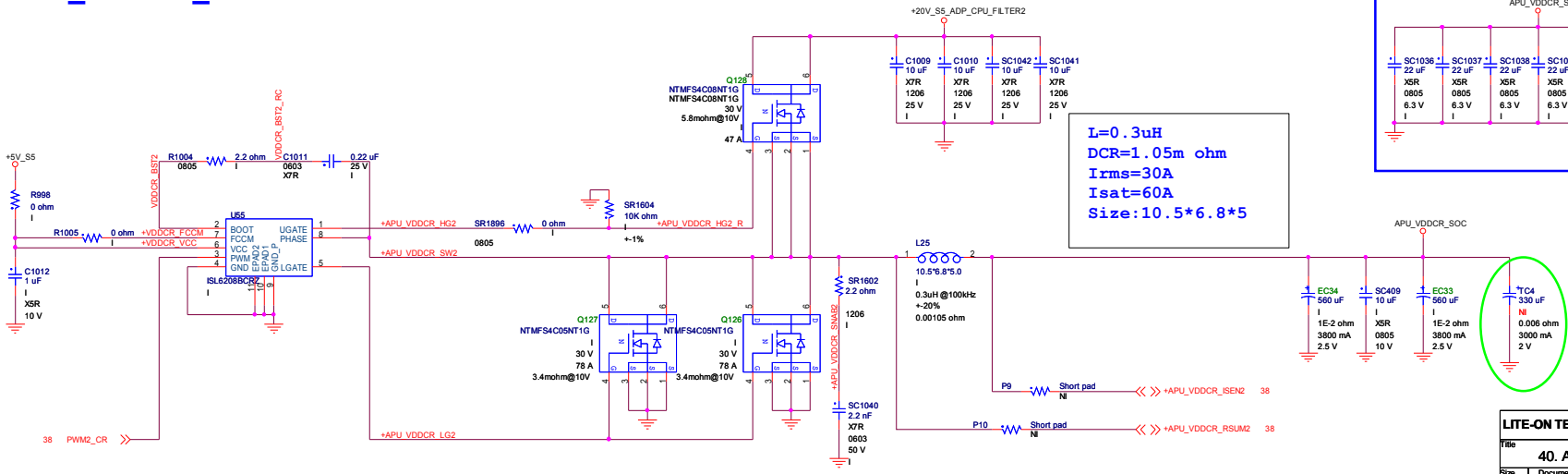
Cin= 127uF(EC+MLCC)
ripple current: 9.75A

Cout= 3288uF (EC+POSCAP+MLCC)
ripple current:11.73A

APU_VDDCR_SOC_VIN_POWER

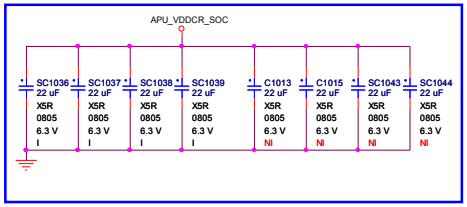


APU_VDDCR_SOC PHASE2



L=0.3uH
DCR=1.05m ohm
Irms=30A
Isat=60A
Size:10.5*6.8*5

APU_VDDCR_SOC_Output_MLCC

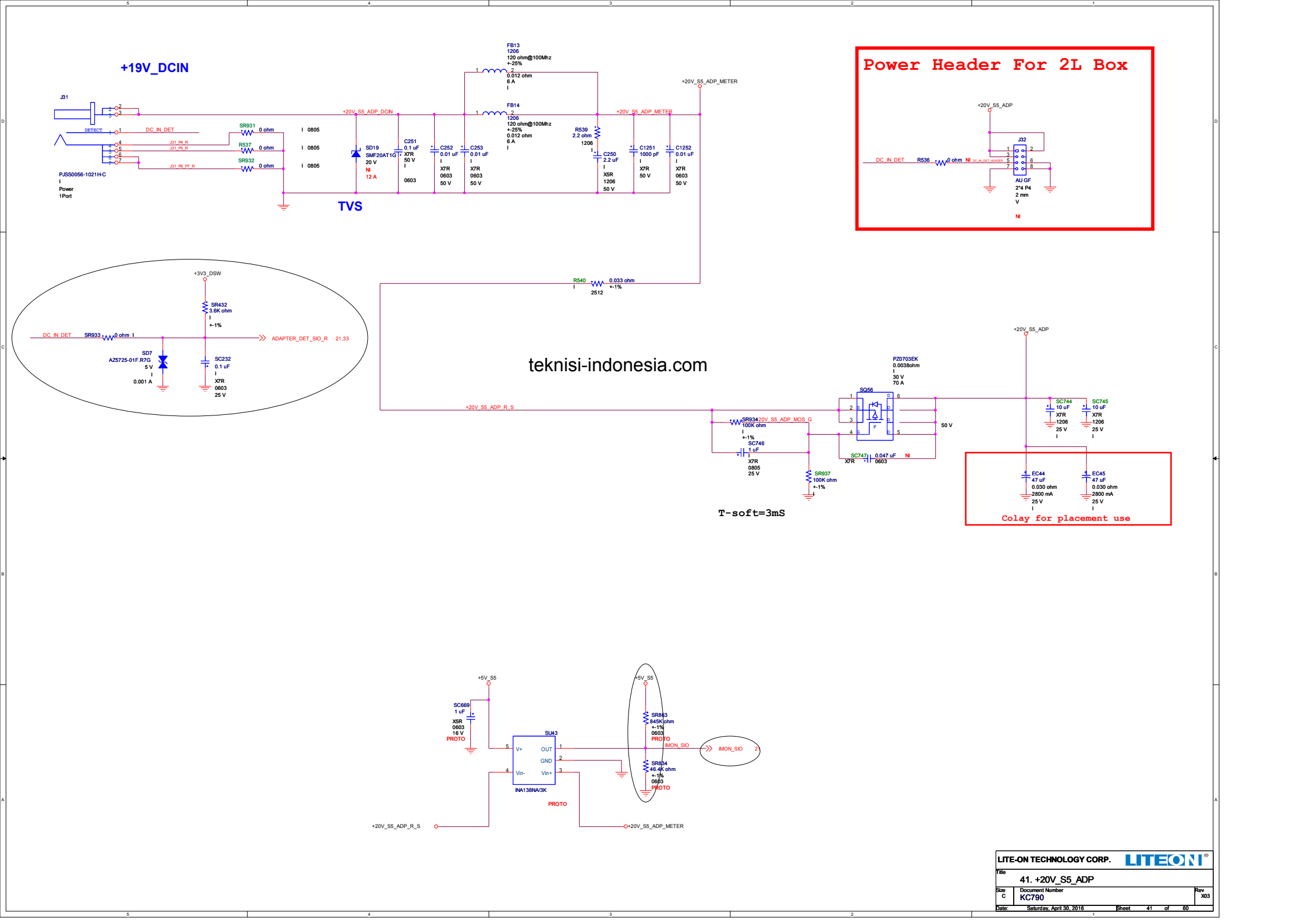


LITE-ON TECHNOLOGY CORP.

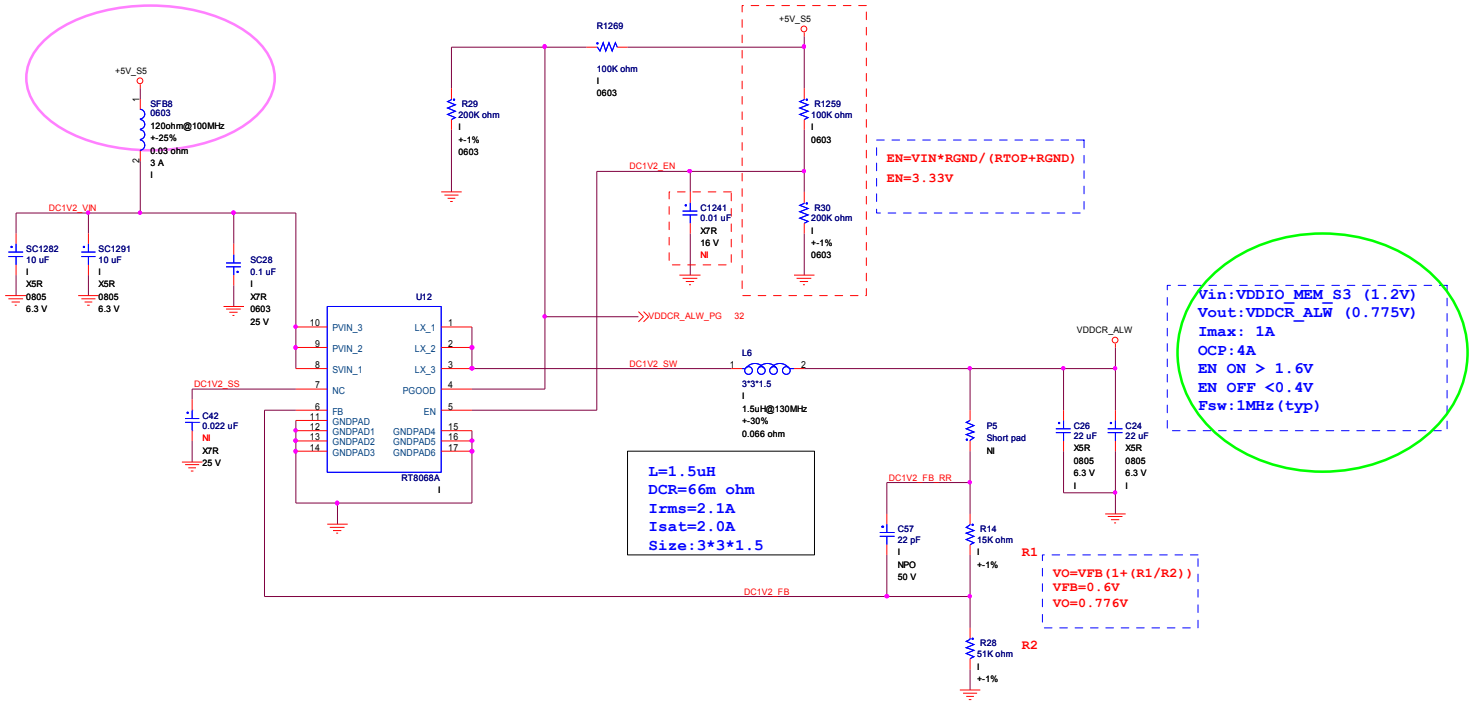
Title: 40. APU_VDDCR_SOC OUTPUT

Size	Document Number	Rev
C	KC790	X03

Date: Saturday, April 30, 2016 Sheet 40 of 60

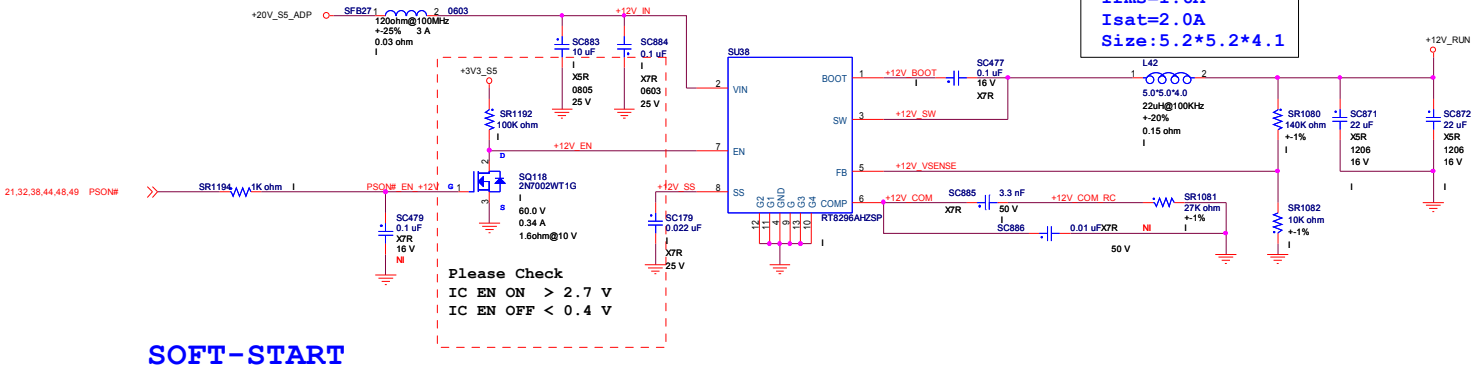


LITE-ON TECHNOLOGY CORP.		
Title	41. +20V_S5_ADP	
Size C	Document Number KC790	Rev X03
Date: Saturday, April 30, 2016	Sheet 41 of 60	



LITE-ON TECHNOLOGY CORP.		
Title: 42. VDDCR_ALW		
Size: C	Document Number: KC790	Rev: X03
Date: Saturday, April 30, 2016	Sheet 42 of 60	

+12V



Please Check
IC EN ON > 2.7 V
IC EN OFF < 0.4 V

SOFT-START
2.593mS

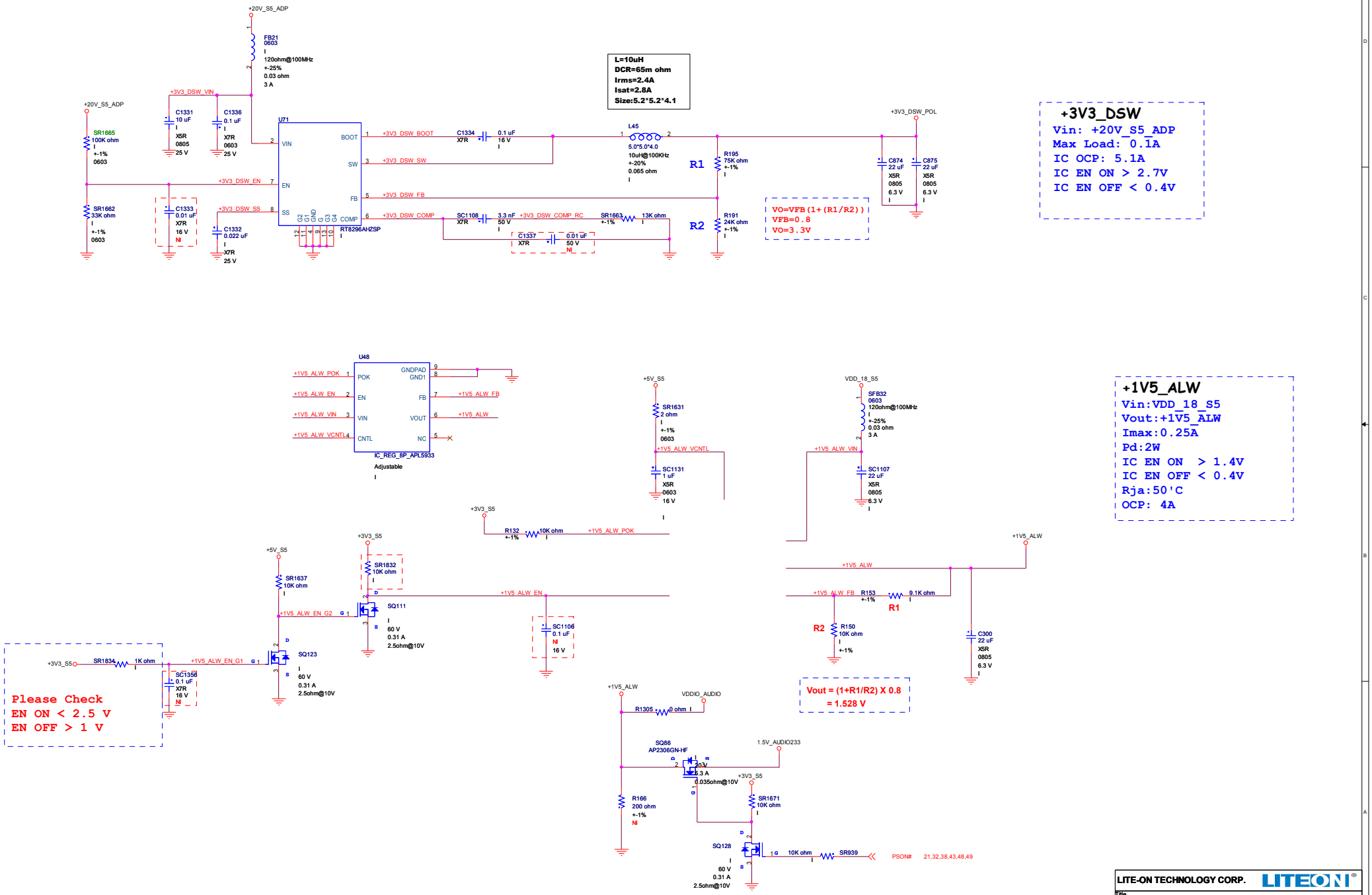
L=22uH
DCR=150m ohm
Irms=1.6A
Isat=2.0A
Size:5.2*5.2*4.1

+12V

Temp. Max. DC: 1A
OCP: 5.1A

VO=VFB(1+(R1/R2))
VFB=0.8
VO=12.05V

LITE-ON TECHNOLOGY CORP.			
Title: 43. +12V			
Size: C	Document Number: KC790		Rev: X03
Date: Saturday, April 30, 2016	Sheet 43 of 60		



LITE-ON TECHNOLOGY CORP.

Title: 44. +3V3_DSW / +1.5V_ALW

Size	Document Number	Rev
C	KC790	X03

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+5V_S5

Vin:+20V_S5_ADP_5V3V_FILTER
Vout:+5V
Imax: 13.77A
OCP: 25A
EN ON > 1.6V
EN OFF <0.4V
Fsw:300KHz(typ)

L=2.2uH
DCR=10m ohm
Irms=12A
Isat=25.6A
Size:11.5*10.3*4.2

+5V_S5 OCP
R=+/-1%
Rds=6.8m~8.5m
Icx=9uA~11uA
OCP=25A

Please Check
EN ON > 1.6V
EN OFF <0.4V

Colay for placement use

+3V3_PWR

Vin:+20V_S5_ADP_5V3V_FILTER
Vout:+3V3_S5
Imax:10A
OCP:18A
EN ON > 1.6V
EN OFF <0.4V
Fsw:355KHz(typ)

L=2.2uH
DCR=10m ohm
Irms=12A
Isat=25.6A
Size:11.5*10.3*4

+3V3_S5 OCP
R=+/-1%
Rds=6.8m~8.5m
Icx=9uA~11uA
OCP=18A

OCP
+3V3_S5
Rlimit=(Ilimit-ΔIL /2)*Ron*8/9uA=137K
+5V_S5
Rlimit=(Ilimit-ΔIL /2)*Ron*8/9uA=147K
Ron=8.5m Icx=9uA R=-1%

+3V3_S5
ΔIL /2=5.43/2=2.715

+5V_S5
ΔIL /2=5.82/2=2.91

使用RT6576 (+3V3_DSW)
1.FB22-->NI
2.FB40->NI
3.SR956-->NI
4.SR1516;SR1573,Q151;FB41-->Add

使用RT8296A (+3V3_DSW)
1.SR1516-->NI
2.FB41-->NI
3.SR1573->NI
4.Q151-->NI
5.FB22; FB40; SR956 --> add

Cin=116uF
ripple current:11.8A

+5V_S5:
Cout=220uF
ripple current:3.5A

+3V3_S5:
Cout=220uF
ripple current:3.5A

+3V3_S5

Soft start:2.519ms
inrush current:166.6mA

LITE-ON TECHNOLOGY CORP.

Title: 45. +5V_S5/+3V3_S5
Size: C | Document Number: KC790 | Rev: X03
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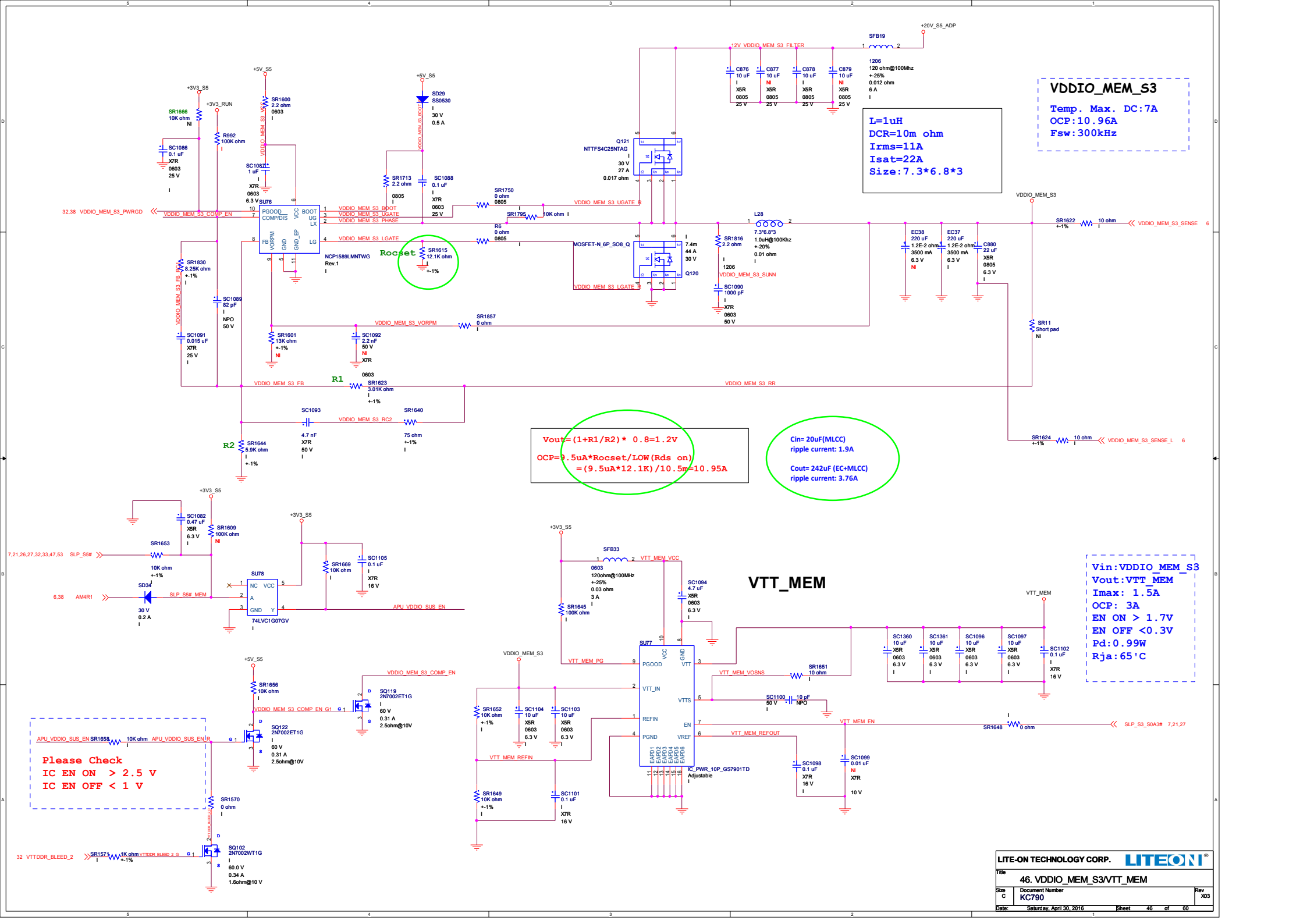
VDDIO_MEM_S3
Temp. Max. DC:7A
OCP:10.96A
Fsw:300kHz
L=1uH
DCR=10m ohm
Irms=11A
Isat=22A
Size:7.3*6.8*3
Vout=(1+R1/R2)* 0.8=1.2V
OCP=9.5uA*Rocset/LOW(Rds on)
=(9.5uA*12.1K)/10.5m=10.95A
Cin= 20uF(MLCC)
ripple current: 1.9A
Cout= 242uF (EC+MLCC)
ripple current: 3.76A
VTT_MEM
Vin:VDDIO_MEM_S3
Vout:VTT_MEM
Imax: 1.5A
OCP: 3A
EN ON > 1.7V
EN OFF <0.3V
Pd:0.99W
Rja:65'C
Please Check
IC EN ON > 2.5 V
IC EN OFF < 1 V
LITE-ON TECHNOLOGY CORP.
46. VDDIO_MEM_S3/VTT_MEM
Size C
Document Number KC790
Rev X03
Date: Saturday, April 30, 2016
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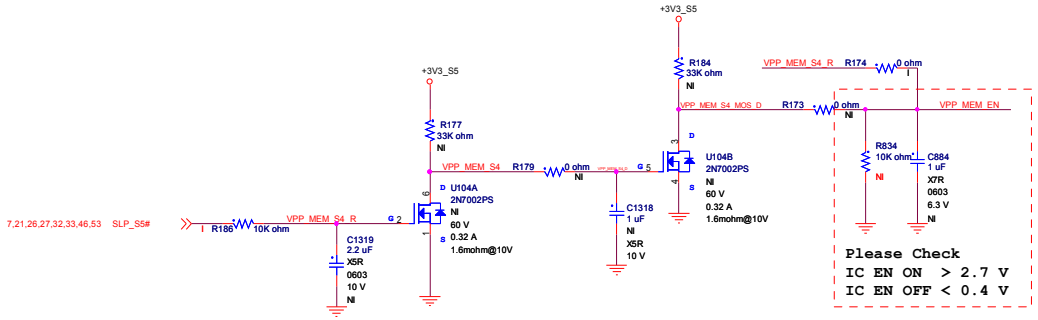

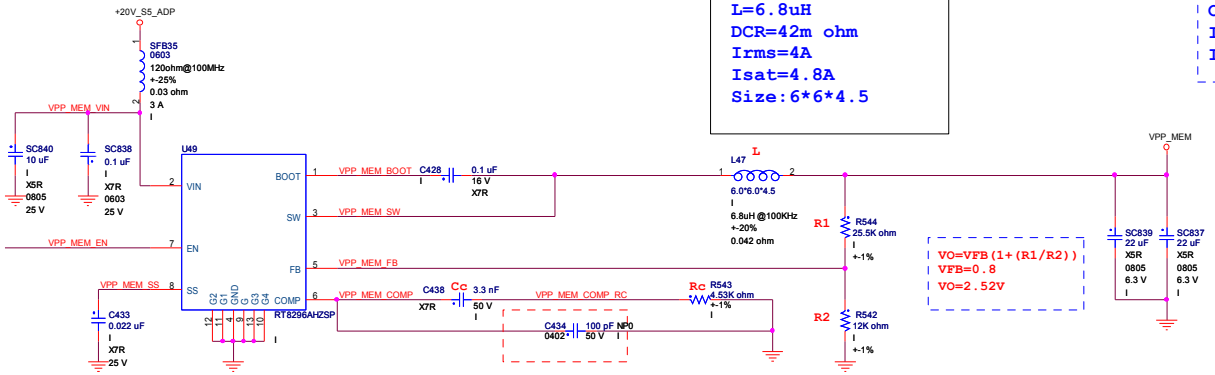

VPP_MEM

Temp. Max. DC: 1A
OCP: 5.1A
IC EN ON > 2.7V
IC EN OFF <0.4V

Table 1. Recommended Component Selection

V_{OUT} (V)	R1 (kΩ)	R2 (kΩ)	R_C (kΩ)	C_C (nF)	L (µH)	C_{OUT} (µF)
8	27	3	33	3.3	22	22 x 2
5	62	11.8	20	3.3	15	22 x 2
3.3	75	24	13	3.3	10	22 x 2
2.5	25.5	12	9.1	3.3	6.8	22 x 2
1.5	10.5	12	5.6	3.3	3.6	22 x 2
1.2	12	24	4.3	3.3	3.6	22 x 2
1	3	12	3.6	3.3	2	22 x 2

LITE-ON TECHNOLOGY CORP.

Title: 47. VPP_MEN

Size: C | Document Number: KC790 | Rev: X03

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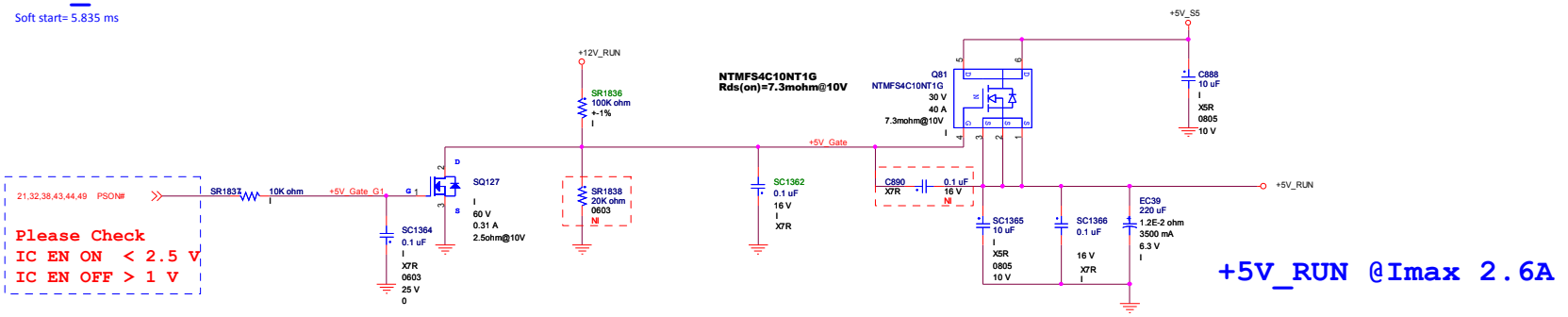
+5V_RUN

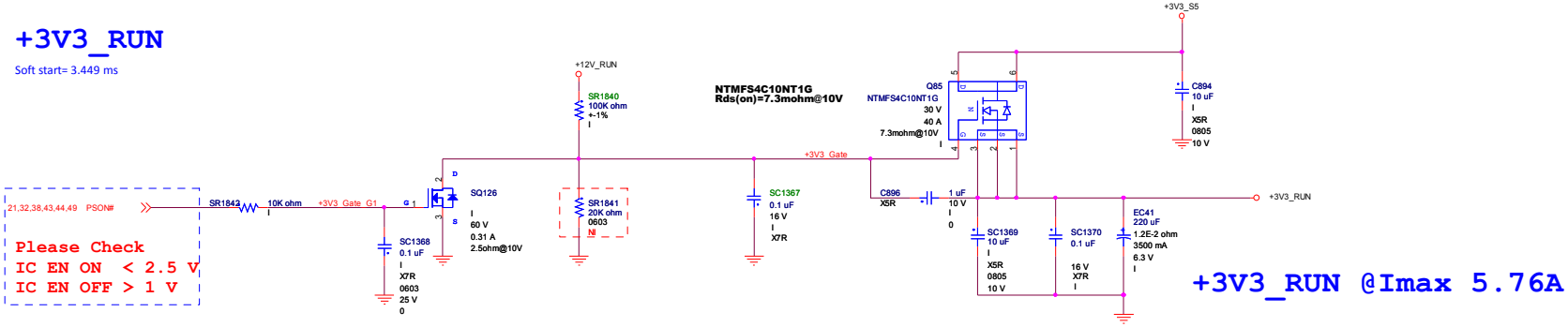
Soft start= 5.835 ms



+5V_RUN @Imax 2.6A

+3V3_RUN

Soft start= 3.449 ms



+3V3_RUN @Imax 5.76A

LITE-ON TECHNOLOGY CORP.		
Title: 48. +5V_RUN/+3V3_RUN		
Size: C	Document Number: KC790	Rev: X03
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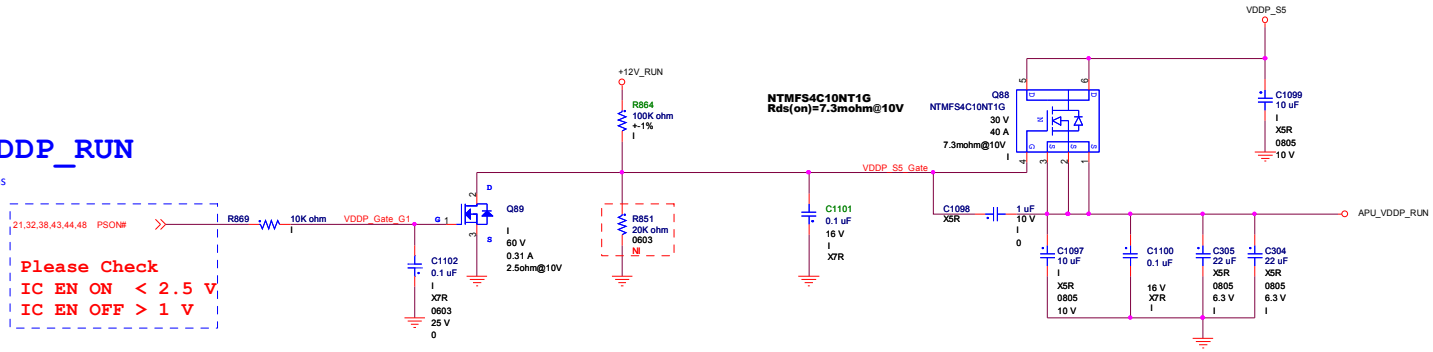
APU_VDDP_RUN

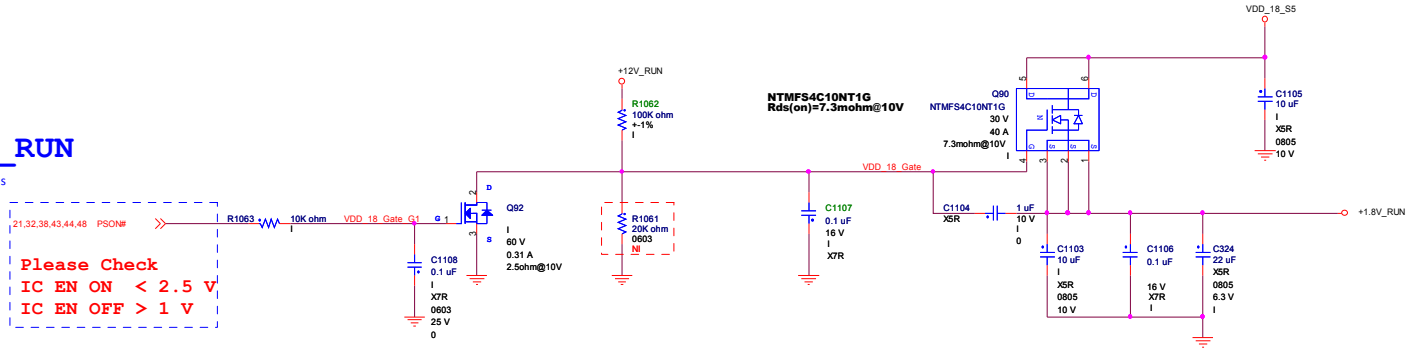
Soft start= 3.449 ms



APU_VDDP_RUN @Imax 8.5A

+1.8V_RUN

Soft start= 3.449 ms



+1.8V_RUN @Imax 2A

LITE-ON TECHNOLOGY CORP.		
Title	49. APP_VDDP_RUN/+1.8V_RUN	
Size C	Document Number KC790	Rev X03
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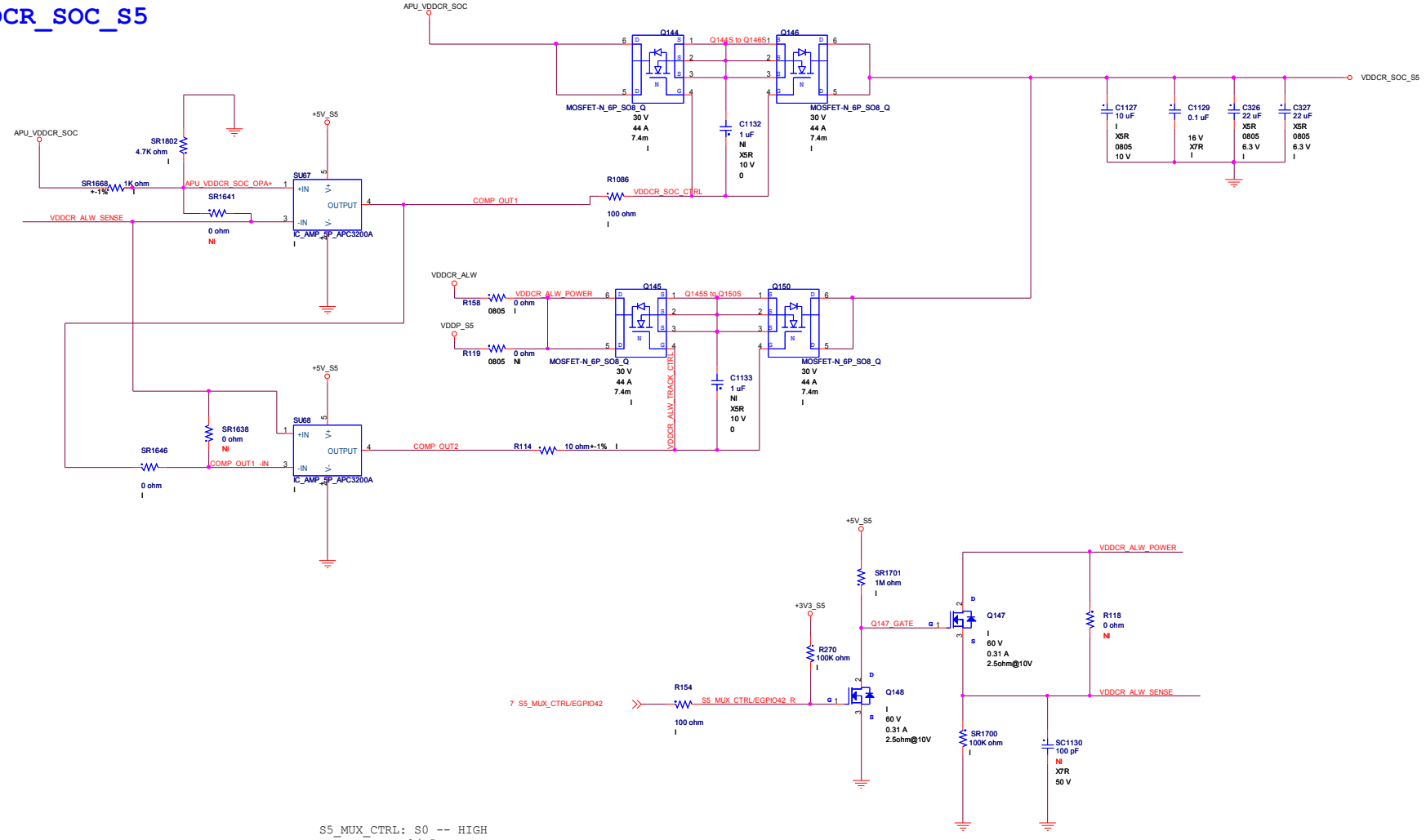
VDDCR_SOC_S5



S5_MUX_CTRL: S0 -- HIGH
S3/S5 -- LOW

H: +VDDCR_FCH_ALW will track VDDNB
L: If VDDCR_SOC<0.775V (OR 0.85V),VDDCR_SOC_S5 =0.775V.
If VDDCR_SOC >= 0.775V (OR 0.85V) , VDDCR_SOC_S5 will track VDDCR_NB

LITE-ON TECHNOLOGY CORP.		
Title: 50 .VDDCR_SOC_S5		
Size: C	Document Number: KC790	Rev: X03
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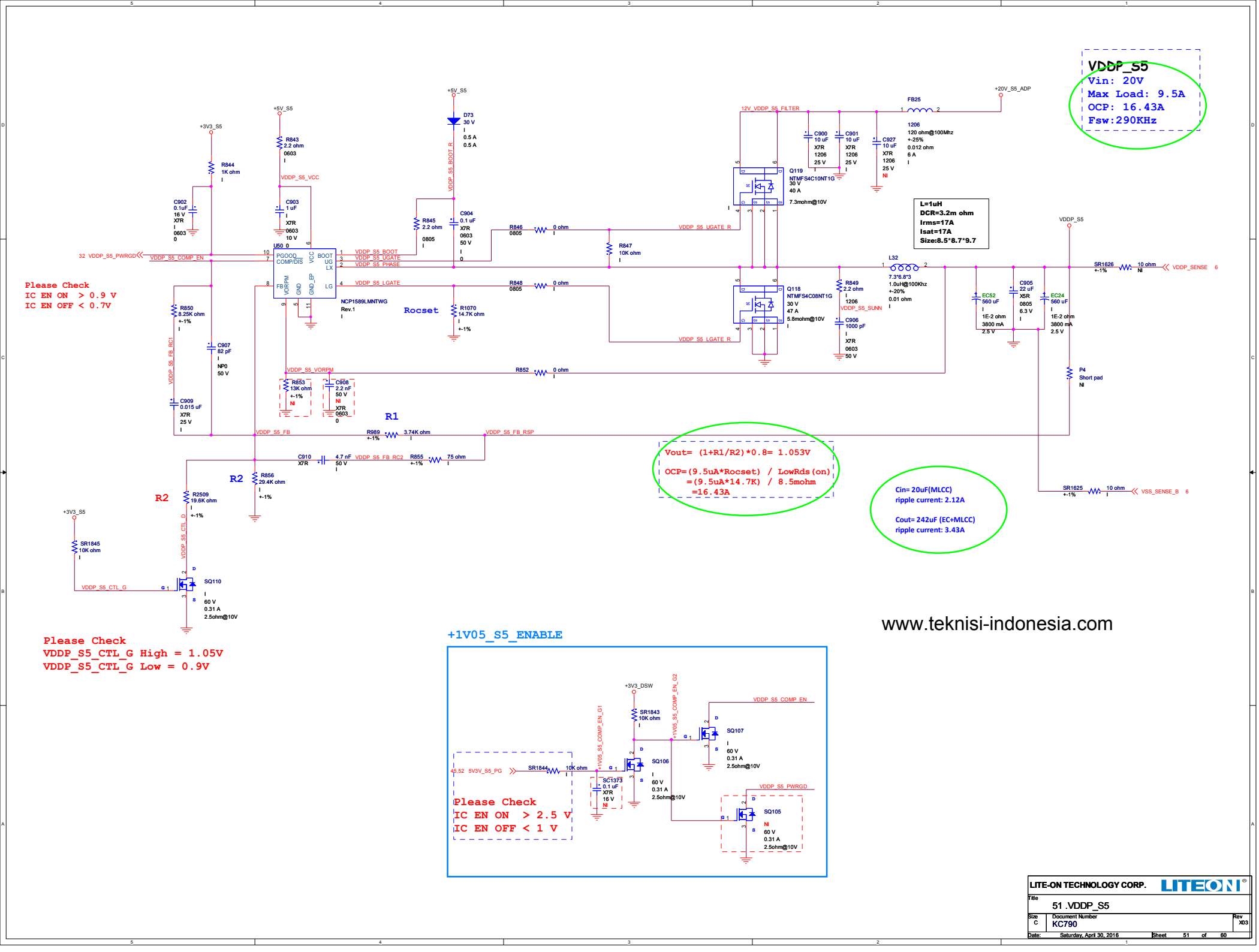

LITE-ON TECHNOLOGY CORP.	LITEON
Title	51 .VDDP_S5
Size C / Document Number	KC790 / Rev X03
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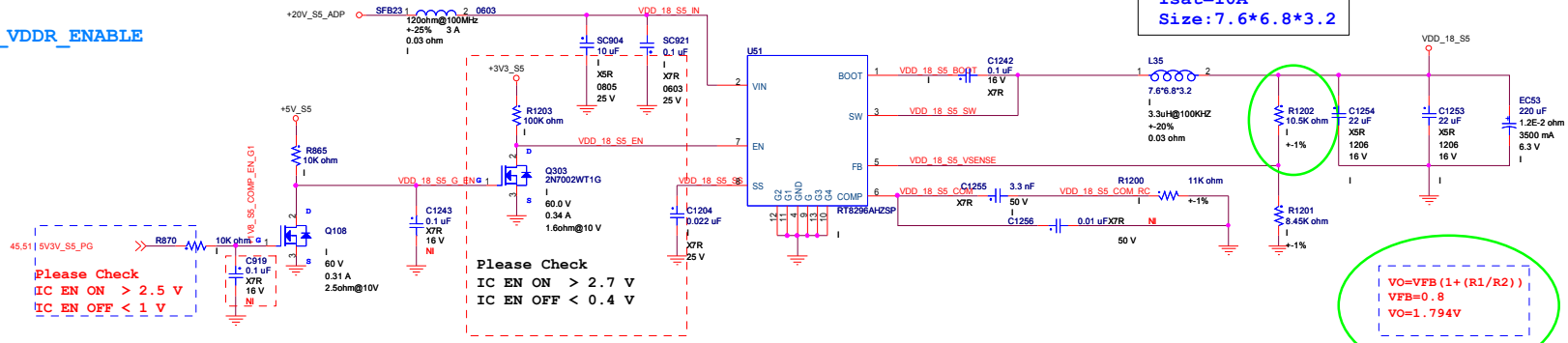
VDD_18_S5

VDD_18_S5
Temp. Max. DC: 2.75A
OCP: 5.1A
IC EN ON > 2.7V
IC EN OFF <0.4V

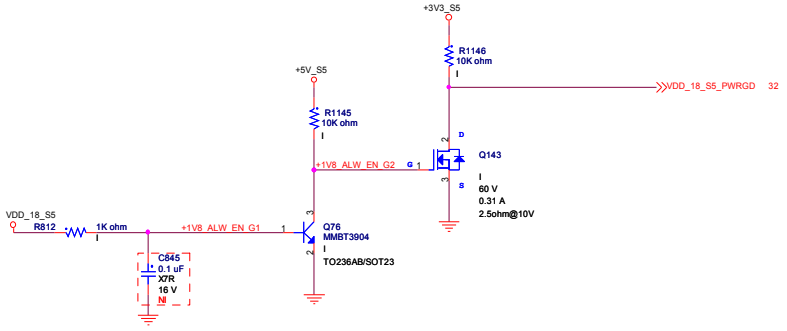
L=3.3uH
DCR=30m ohm
Irms=6A
Isat=10A
Size:7.6*6.8*3.2

+APU_VDDR_ENABLE



VO=VFB(1+(R1/R2))
VFB=0.8
VO=1.794V

SOFT-START
2.593mS



LITE-ON TECHNOLOGY CORP.

Title: 52 .VDD_18_S5

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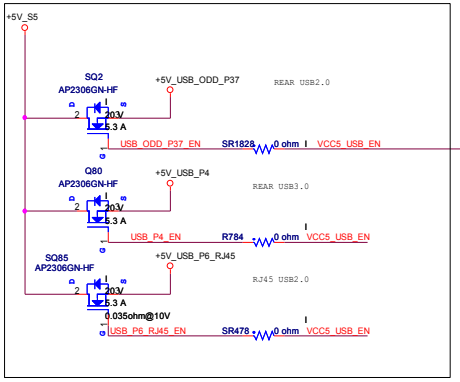
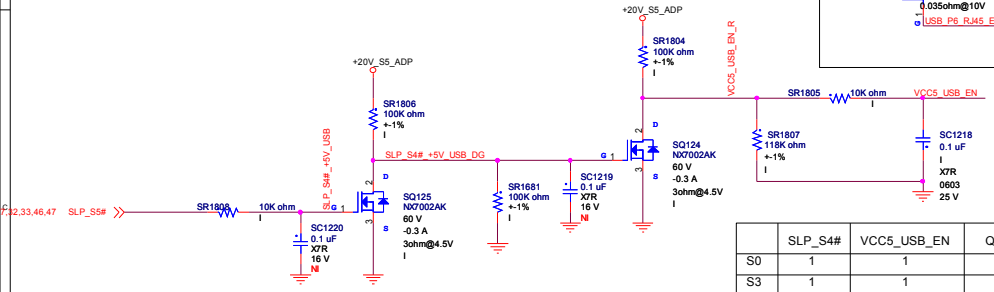
For Goolge SKU
Keep Q79 ,Q80 ,SQ85 then remove Others

Close to each fuse



+5V_USB



	SLP_S4#	VCC5_USB_EN	Q330/Q331/Q332
S0	1	1	ON
S3	1	1	ON
S4	0	0	OFF
S5	0	0	OFF

LITE-ON TECHNOLOGY CORP.			
Title: 53. +5V_USB			
Size: C	Document Number: KC790		Rev: X03
Date: Saturday, April 30, 2016	Sheet 53 of 60		

	LPC_CLK0	LPC_CLK1	AGPIO3	RTC_CLK	LFRAME_L	SYS_RST#	SPI CLK (ZP)
PULL HIGH	BOOT FAIL TIMER ENABLED	Use 48Mhz crystal clock and generate both internal and external clocks (DEFAULT)	Enhanced reset logic (for quicker S5\ resume) (DEFAULT)	SPI ROM (DEFAULT)	SPI ROM (DEFAULT)	normal reset mode (DEFAULT)	Use 48Mhz crystal clock and generate both internal and external clocks (DEFAULT)
PULL LOW	BOOT FAIL TIMER DISABLE (DEFAULT)	Use 100Mhz PCIE clock as reference clock and generate internal clocks only	Default to traditional reset logic	LPC ROM	LPC ROM	short reset mode	Use 100Mhz PCIE clock as reference clock and generate internal clocks only
	CZ/ST DIE ONLY						ZP DIE ONLY

LITE-ON TECHNOLOGY CORP.

Title: 54. STRAPPING PIN

Size: C | Document Number: KC790 | Rev: X03

Date: Wednesday, April 20, 2016 | Sheet 54 of 60

AM4 GPIO TABLE

GPIO	Signal Name	Power Domain	Pin Type	Default State at Power-Up	ACTIVE H/L	Integrated Resistor	Default Function at Power-Up	KC790
AGPIO0	PWR_BTN_L/AGPIO0	S5	IN/OUT	Input	---	INT / HIGH	PWR_BTN_L	PWRBTN#
AGPIO1	SYS_RESET_L/AGPIO1	S5	IN/OUT	Input	---	INT / HIGH	SYS_RESET_L	SYS_RESET_L
AGPIO2	WAKE_L/AGPIO2	S5	IN/OUT	Input	---	INT / HIGH	WAKE_L	PCIE_WAKE#
AGPIO3	AGPIO3	S5	IN/OUT	Input	---	INT / HIGH	AGPIO3	APU_GPIO_UART
AGPIO6	AGPIO6	S5	IN/OUT	Input	---	INT / HIGH	AGPIO6	M.2_WLAN_DISABLE#
AGPIO10	S0A3_GPIO/AGPIO10/ SGPIO0_CLK	S5	IN/OUT	Output	---	INT / HIGH	S0A3_GPIO	S0A3_GPIO
AGPIO11	BLINK/AGPIO11	S5	IN/OUT	Input	---	INT / HIGH	AGPIO11	PWR_LED#
AGPIO40	AGPIO40/ SGPIO0_DATAIN/ MDIO0_SDA	S5	IN/OUT	Input	---	INT / HIGH	AGPIO40	SW_CLR_CMOS#
AGPIO9	AGPIO9/ SGPIO0_DATAOUT	S5	IN/OUT	Input	---	INT / HIGH	AGPIO9	AGPIO9/SGPIO0
AGPIO4	AGPIO4	S5	IN/OUT	Input	---	INT / HIGH	AGPIO4	GPIO4
AGPIO16	USB_OC0_L/AGPIO16	S5	IN/OUT	Input	---	INT / HIGH	USB_OC0_L	USB_OC_REAR_J21#
AGPIO17	USB_OC1_L/TDI/ AGPIO17	S5	IN/OUT	Input	---	INT / HIGH	USB_OC1_L	USB_OC_FRONT_12#
AGPIO18	USB_OC2_L/TCK/ AGPIO18	S5	IN/OUT	Input	---	INT / HIGH	USB_OC2_L	USB_OC_FRONT_J23#
AGPIO19	SCL1/I2C3_SCL/ AGPIO19	S5	Open-Drain	Input	---		SCL1	SMB_CLK_SECOND
AGPIO21	LPC_PD_L/AGPIO21	S5	In/Out	Output	---	-	LPC_PD_L	TPM_LPC_PD#
AGPIO22	LPC_PME_L/AGPIO22	S5	In/Out	Input	---	INT / HIGH	LPC_PME	SIO_PME#
AGPIO23	AGPIO23/ SGPIO0_LOAD	S5	In/Out	Input	---	INT / HIGH	AGPIO23	DP_D_DET#_R
AGPIO24	USB_OC3_L/TDO/ AGPIO24	S5	In/Out	Input	---	INT / HIGH		NA
AGPIO76	SPI_TPM_CS_L/ AGPIO76	S0	In/Out	Input		-	SPI_TPM_CS_L	SPI_TPM_CS_L
AGPIO84	FANIN0/AGPIO84	S0	In/Out	Input		INT / HIGH	FANIN0	HUB2_AMBER3_R
AGPIO85	FANOUT0/AGPIO85	S0	In/Out	Input		INT / HIGH	AGPIO85	HUB2_AMBER4_R
AGPIO86	AGPIO86	S0	Input	Input		INT / HIGH	AGPIO86	LPC_CABLE_DET2#
AGPIO87	SERIRQ/AGPIO87	S0	In/Out	Input		INT / HIGH	SERIRQ	LPC_SERIRQ
AGPIO88	LPC_CLKRUN_L/ AGPIO88	S0	In/Out	Output		INT / HIGH	LPC_CLKRUN_L/	LPC_CLKRUN#
AGPIO90	GENINT2_L/AGPIO90	S0	In/Out	Input		INT / HIGH	GENINT2_L	TPM_SPI_IRQ#
AGPIO91	SPKR/AGPIO91	S0	In/Out	Input		INT / LOW	AGPIO91	APU_SPKR
AGPIO92	CLK_REQ0_L/ SATA_IS0_L/ SATA_ZP0_L/AGPIO92	S0	In/Out	Input		-	CLK_REQ0_L	CLK_REQ1_M.2_WLAN#
AGPIO115	CLK_REQ1_L/ AGPIO115	S0	In/Out	Input		INT / HIGH	CLK_REQ1_L	CLK_REQ1_M.2_SSD#
AGPIO116	CLK_REQ2_L/ AGPIO116	S0	In/Out	Input		INT / HIGH	CLK_REQ2_L	LOM_CLK_REQ#
AGPIO130	SATA_ACT_L/ AGPIO130	S0	Open-Drain	Input		-	SATA_ACT_L	APU_HD_LED_OUT#
EGPIO								
EGPIO26	PCIE_RST_L/EGPIO26	S5	In/Out	Output		-	PCIE_RST_L	PCIE_RST#_R
EGPIO42	S5_MUX_CTRL/ EGPIO42	S5	In/Out	Output		-	S5_MUX_CTRL	S5_MUX_CTRL/EGPIO42
AGPIO5	AGPIO5/DEVSLP0	S0	In/Out	Input		-	AGPIO5	AGPIO5/DEVSLP0
EGPIO74	LPCCLK0/EGPIO74	S0	In/Out	Output		-	LPCCLK0	CLK_SIO_33MHZ
EGPIO75	LPCCLK1/EGPIO75	S0	In/Out	Output		-	LPCCLK1	CLK_TPM_33MHZ
EGPIO70	EGPIO70	S0	In/Out	Input		INT / LOW	EGPIO70	EGPIO70
EGPIO95	EGPIO95	S0	In/Out	Input		INT / LOW	EGPIO95	EGPIO95
EGPIO96	EGPIO96	S0	In/Out	Input		INT / LOW	EGPIO96	NA
EGPIO97	EGPIO97	S0	In/Out	Input		INT / LOW	EGPIO97	DP1_DP_HDMI#
EGPIO98	EGPIO98	S0	In/Out	Input		INT / LOW	EGPIO98	DP2_DP_HDMI#
EGPIO99	EGPIO99	S0	In/Out	Input		INT / LOW	EGPIO99	DPD_DP_HDMI#
EGPIO100	EGPIO100	S0	In/Out	Input		INT / LOW	EGPIO100	COM_AB_DET#
AGPIO8	AGPIO8	S0	In/Out	Input		INT / LOW	AGPIO8	LPC_CABLE_DET2#
EGPIO113	SCL0/I2C2_SCL/ EGPIO113	S0	Open-Drain	Input		INT / HIGH	SCL0	SMB_CLK_MAIN
EGPIO114	SDA0/I2C2_SDA/ EGPIO114	S0	Open-Drain	Input		INT / HIGH	SDA0	SMB_DATA_MAIN
EGPIO117	SPI_CLK/ESPI_CLK/ EGPIO117	S0	In/Out	Input		INT / LOW	ESPI_CLK	SPI_CLK_APU
EGPIO118	SPI_CS1_L/EGPIO118	S0	In/Out	Input		-	SPI_CS1_L	SPI_CS0_OUT#_APU
EGPIO119	SPI_CS2_L/ESPI_CS_L/ EGPIO119	S0	In/Out	Input		-	SPI_CS2_L	SPI_CS2_OUT#
EGPIO120	SPI_DI/ESPI_DAT1/ EGPIO120	S0	In/Out	Input		INT / LOW	SPI_DI	SPI_MISO_APU
EGPIO121	SPI_DO/ESPI_DAT0/ EGPIO121	S0	In/Out	Input		INT / LOW	SPI_DO	SPI_MOSI_APU
EGPIO122	SPI_WP_L/ESPI_DAT2/ EGPIO122	S0	In/Out	Input		INT / HIGH	EGPIO122	SPI_WP#_APU
EGPIO131	CLK_REQ3_L/ SATA_IS1_L/ SATA_ZP1_L/EGPIO131	S0	In/Out	Input		-	CLK_REQ3_L	LPC_CABLE_DET1#
EGPIO132	CLK_REQG_L/OSCIN/ EGPIO132	S0	Input	Input		-	CLK_REQG_L	NA
EGPIO133	SPI_HOLD_L/ ESPI_DAT3/EGPIO133	S0	In/Out	Input		INT / HIGH	EGPIO133	SPI_HOLD#_APU
EGPIO104	LAD0/EGPIO104	S0	In/Out	Input		INT / LOW	LAD0	LPC_AD0
EGPIO105	LAD1/EGPIO105	S0	In/Out	Input		INT / LOW	LAD1	LPC_AD1
EGPIO106	LAD2/EGPIO106	S0	In/Out	Input		INT / LOW	LAD2	LPC_AD2
EGPIO107	LAD3/EGPIO107	S0	In/Out	Input		INT / LOW	LAD3	LPC_AD3
EGPIO108	ESPI_ALERT_L/ LDRQ0_L/EGPIO108	S0	Input	Input		INT / LOW	LDRQ0_L	LPC_DRQ0#
EGPIO109	LFRAME_L/EGPIO109	S0	In/Out	Output		-	LFRAME_L	LPC_FRAME#

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55. AM4 GPIO TABLE

Size: F | Document Number: KC790 | Rev: 0A

IT8738E/DX

GPIO(Pin Num)	Singnal Name	KC790	Function_1	Function_2	Function_3	Function_4	Function_5
GPIO10(78)	PCIRST3#/GP10	PCIRST3	PCIRST3#(DOD8/VCC3)	GP10(DIOD8/3VSB)			
GPIO11(32)	PCIRST2#/GP11	+19V_VIN CTL_SIO	PCIRST2#(DO8/VCC3)	GP11(DIOD8/3VSB)			
GPIO12(31)	PCIRST1#/PCH_D1/GP12	NA	PCIRST1#(DO8/VCC3)	PCH_D1(DIOD8/VCC3)	GP12(DIOD8/3VSB)		
GPIO13(30)	PWROK1/GP13	SIO_PWRGD_3V	PWROK1(DOD8/VCC3)	GP13(DIOD8/3VSB)			
GPIO14(29)	VCORE_EN/PCH_C1/GP14	NA	VCORE_EN(DOD8/VCC3)	PCH_C1(DIOD8/VCC3)	GP14(DIOD8/3VSB)		
GPIO15(3)	PCIRSTIN#/CIRTX2/GP15/CPU_PG	PCIRSTIN	PCIRSTIN#(DI)	CIRTX2(DOD8)	GP15(DIOD8)	CPU_PG(DOD8)	
GPIO16(2)	5VSB_CTRL#/CIRRX2/GP16	5VSB_CTRL	5VSB_CTRL#(DODB/3VSB)	DTR8#(DI/VCC3)	GP16(DIOD8/3VSB)		
GPIO17(26)	RI2#/GP17	RI2#/GP17	RI2#(DI/3VS)	GP17(DIOD8/3VSB			
GPIO20(25)	CTS2#/GP20	NA	GP20(DIOD8/3VSB)	CTS2#(DI/VCC3)			
GPIO21(24)	DCD2#/GP21	OVERLOAD_N_R	GP21(DIOD8/3VSB)	DCD2#(DI/VCC3)			
GPIO22(23)	SCK/GP22	SIO_SCK_R	SCK(DO8/3VSB)	GP22(DIOD8/3VSB)			
GPIO23(22)	SI/GP23	SIO_SI	SI(DO8/3VSB)	GP23(DIOD8/3VSB)			
GPIO24(21)	RTS2#/GP24	NA	GP24(DIOD8/3VSB)	RTS2#(DO8/VCC3)			
GPIO25(20)	DSR2#/GP25	NA	GP25(DIOD8/3VSB)	DSR2#(DI/VCC3)			
GPIO26(19)	SOUT2/GP26	SOUTA	GP26(DIOD8/3VSB	SOUT2#(DO8/VCC3)			
GPIO27(18)	SIN2/GP24	SINA	GP27(DIOD8/3VSB)	SIN2(DI/VCC3)			
GPIO30(17)	ATXPG/GP30	PWRGD_PS	ATXPG(DI/VCC3)	GP30(DIOD8/3VSB)			
GPIO31(16)	PWMOUT/GP31/USBPWREN2#	SIO_CHR_USBPWREN	PWM_OUT(DO8/3VSB)	GP31(DIOD8/3VS)			
GPIO32(15)	DPWROK/GP32	SIO_GP32	DPWORK(DOD83VSB)	GP32(DIOD8/3VSB)			
GPIO35(14)	FAN_TAC4/GP35	INT1_G_SIO	FAN_TAC4(DI/3VSB)	GP35(DIOD8/3VSB)			
GPIO36(13)	FAN_CTL3/GP36	NA	FAN_CTL3(DOD8/3VSB)	GP36(DIOD8/3VSB)			
GPIO37(12)	FAN_TAC3/GP37	INT2_G_SIO	FAN_TAC3(DI/3VSB)	GP37(DIOD8/3VSB)			
GPIO40(73)	3VSBSW#/GP40/SCL	NA	3VSBSW#(DO8/3VSB)	GP40(DIOD8/3VSB)	SCL(DIOD8/AVCC3)		
GPIO41(72)	PWROK2/GP41/SDA	NA	PWROK2(DOD8/VCC3)	GP41(DIOD8/3VSB)	SDA(DIOD8/AVCC3)		
GPIO42(70)	PSON#/GP42	SIO_PSON#	PSON#(DOD8/3VSB)	GP42(DIOD8/3VSB)			
GPIO43(69)	PANSWH#/GP43	SIO_PB_IN	PANSWH#(DI/3VSB)	GP43(DIOD8/3VSB)			
GPIO44(66)	PWRON#/GP44	SIO_PWRBTN_OUT#	PWRON#(DOD8/3VSB)	GP44(DIOD8/3VSB)			
GPIO45(65)	SUSB#/GP45	SIO_SLP_S3#	SUSB#(DI/3VSB)	GP45(DIOD8/3VSB)			
GPIO50(46)	SO/GP50	SIO_SO_8738	SO(DI/3VSB)	GP50(DIOD8/3VSB)			
GPIO51(11)	FAN_CTL2/GP51	SIO_PIN12	FAN_CTL2(DOD8/3VSB)	GP51(DIOD8/3VSB)			
GPIO52(10)	FAN_TAC2/GP52	SPI_SEL	FAN_TAC2(DI/3VSB)	GP52(DIOD8/3VSB)			
GPIO53(71)	SUSC#/GP53	SIO_SLP_S4#	SUSC#(DI/3VSB)	GP53(DIOD8/3VSB)			
GPIO54(67)	PME#/GP54/USBPWREN1#	SIO_PIN67	PME#(DOD8/3VSB)	GP54(DIOD8/3VSB)	USBPWREN1#(DOD8/3VSB)		
GPIO55(79)	RSMRST#/CIRRX1/GP55	RSMRST_SIO#	RSMRST#(DOD8/3VSB)	CIRRX1(DI/3VSB	GP55(DIOD8/3VSB)		
GPIO56(77)	MCLK/GP56	MCLK/GP56	MCLK(DIOD24/3VSB)	GP56(DIOD24/3VSB)			
GPIO57(76)	MDAT/GP57	MDAT/GP57	MDAT(DIOD24/3VSB)	GP57(DIOD24/3VSB)			
GPIO60(75)	KCLK/GP60	KCLK/GP60	KCLK(DIOD24/3VSB)	GP60(DIOD24/3VSB)			
GPIO61(74)	KDAT/GP61	KDAT/GP61	KDAT(DIOD24/3VSB)	GP61(DIOD24/3VSB)			
GPIO62(43)	KRST#/GP62	KBRST#	KRST#(DO8/VCC3)	GP62(DIOD8/3VSB)			
GPIO63(6)	VLDT_EN/GP63	NA	VLDT_EN(DO8/3VSB)	GP63(DIOD8/3VSB)			
GPIO65(119)	SMBCLK4/GP65	NA	SMBCLK4(DIOD24/3VSB)	GP65(DIOD24/3VSB)			
GPIO66(120)	SMBDAT4/GP66	NA	SMBDAT4(DIOD24/3VSB)	GP66(DIOD24/3VSB)			
GPIO67(121)	FAN_CTL4/GP67	SIO_PIN121	FAN_CTL4(DOD8/3VSB)	GP67(DIOD8/3VSB)			
GPIO70(102)	KSI0/PD0/GP70	2543_P2_EN	GP70(DIOD24/3VSB)	KSI0(DI/3VSB)	PD0(DIO24/VCC3)		
GPIO71(103)	KSI1/PD1/GP71	2543_CLT3_R	GP71(DIOD24/3VSB)	KSI0(DI/3VSB)	PD0(DIO24/VCC3)		
GPIO72(104)	KSO0/PD2/GP72	2543_EN_R	GP72(DIOD24/3VSB)	KSO0(DO24/3VSB)	PD2(DIO24/VCC3)		
GPIO73(105)	KSO1/PD3/GP73	2543_CLT1_R	GP73(DIOD24/3VSB)	KSO1(DO24/3VSB)	PD3(DIO24/VCC3)		
GPIO74(106)	KSO2/PD4/GP74	NA	GP74(DIOD24/3VSB)	KSO2(DO24/3VSB)	PD4(DIO24/VCC3)		
GPIO75(107)	KSO3/PD5/GP75	NA	GP75(DIOD24/3VSB)	KSO3(DO24/3VSB)	PD5(DIO24/VCC3)		
GPIO76(108)	KSO4/PD6/GP76	NA	GP76(DIOD24/3VSB)	KSO4(DO24/3VSB)	PD6(DIO24/VCC3)		
GPIO77(109)	KSO5/PD7/GP77	NA	GP77(DIOD24/3VSB)	KSO5(DO24/3VSB)	PD7(DIO24/VCC3)		
GPIO80(94)	PE/GP80	NA	PE(DI/VCC3)	GP80(DIOD24/3VSB)			
GPIO81(95)	BUSY/GP81	NA	BUSY(DI/VCC3)	GP81(DIOD24/3VSB)			
GPIO82(96)	ACK#/GP82	NA	ACK#(DI/VCC3)	GP82(DIOD24/3VSB)			
GPIO83(97)	SLIN#/GP83	ADP_ID1	SLIN#(DIO24/VCC3)	GP83(DIOD24/3VSB)			
GPIO84(98)	INIT#/GP84	ADP_ID0	INIT#(DIO24/VCC3)	GP84(DIOD24/3VSB)			
GPIO85(58)	IO_SCI#/GP85/SMBDAT0	APS_I2C_DATA	IO_SCI#(DOD24/3VSB)	GP85(DIOD24/3VSB)	SMBDAT(DIOD24/3VSB)		
GPIO86(57)	GP86/SMBCLK0	APS_I2C_CLK	GP86(DIOD24/3VSB)	SMBCLK0(DIOD24/3VSB)			
GPIO87(99)	ERR#/GP87	ADP_OCP_EN	ERR#(DI/VCC3)	GP87(DIOD24/3VSB)			
GPIO97(93)	SLCT/GP97	NA	SLCT(DI/VCC3)	GP97(DIOD24/3VSB)			
GPIOB0(122)	RTS1#/GPB0	RTS1-	RTS1#(DO8/VCC3)	GPB0(DIOD8/3VSB)			
GPIOB1(123)	DSR1#/GPB1	DSR1-	DSR1#(DI/VCC3)	GPB1(DIOD8/3VSB)			
GPIOB2(124)	SOUT1/D_TX1/GPB2	SOUT1-	SOUT1(DO8/VCC3)	D_TX1(DO8/3VSB)	GPB2(DIOD8/3VSB)		
GPIOB3(125)	SIN/D_RX1/GPB3	SIN1-	SIN(DI/VCC3)	D_RX1(DI/3VSB)	GPB3(DIOD8/3VSB)		
GPIOB4(126)	DTR1#/GPB4	DTR1-	DTR1#(DO8/VCC3)	GPB4(DIOD8/3VSB)			
GPIOB5(127)	DCD1#/GPB5	DCD1-	DCD1#(DI/VCC3)	GPB5(DIOD8/3VSB)			
GPIOB6(128)	RI1#/GPB6	RI1-	RI1#(DI/3VSB)	GPB6(DIOD8/3VSB)			
GPIOB7(1)	CTS1#/GPB7	CTS1-	CTS1#(DI/VCC3)	GPB7(DIOD8/3VSB)			

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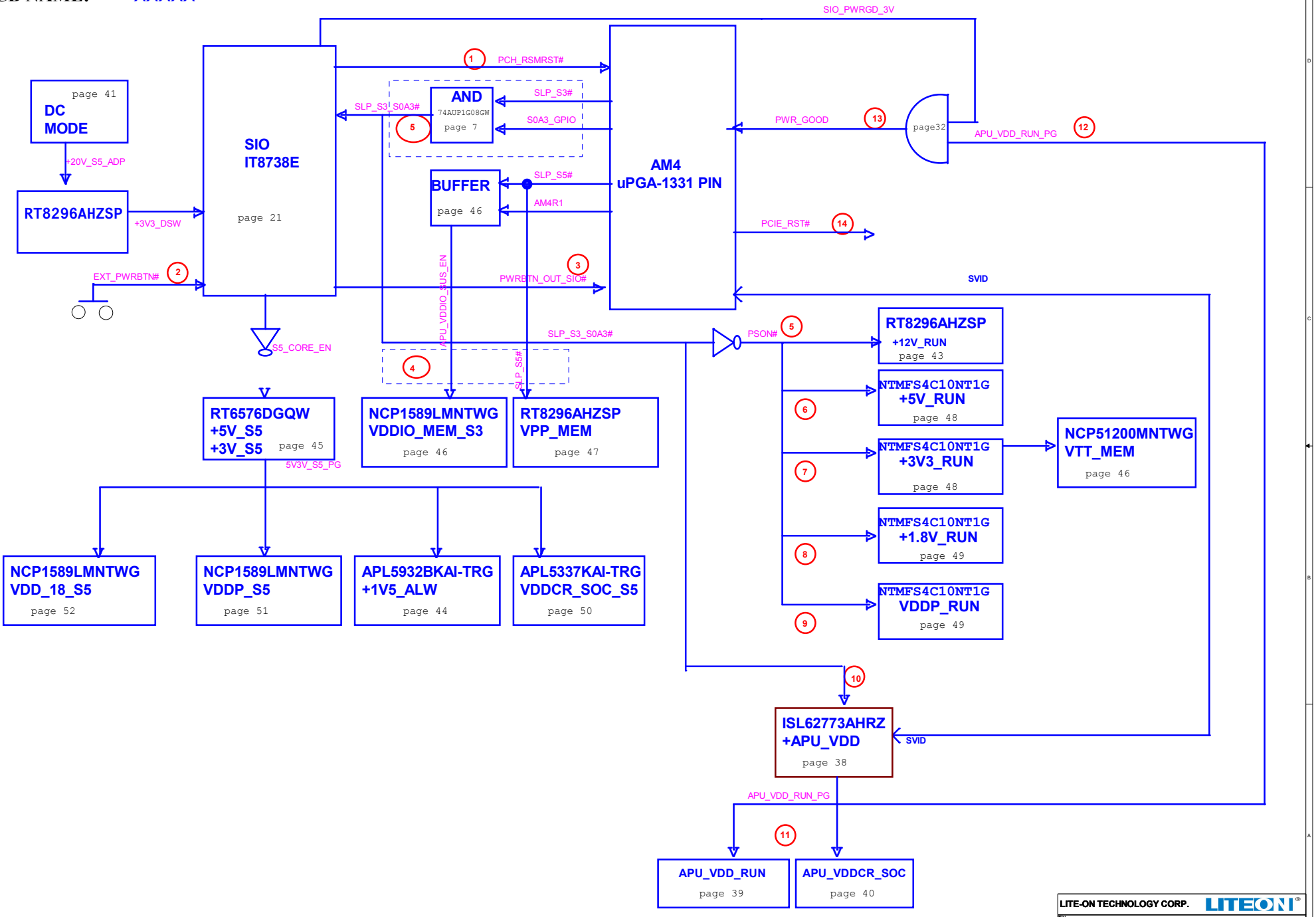
Title: 56. SIO GPIO TABLE

Size: D | Document Number: KC790 | Rev: X03

Date: Wednesday, April 20, 2016 | Sheet 56 of 60

MODEL NAME: *Power Sequence Block Diagram*
PCB NAME: *XXXXX*



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Title: 61. RESET MAP-CLOCK DIAGRAM

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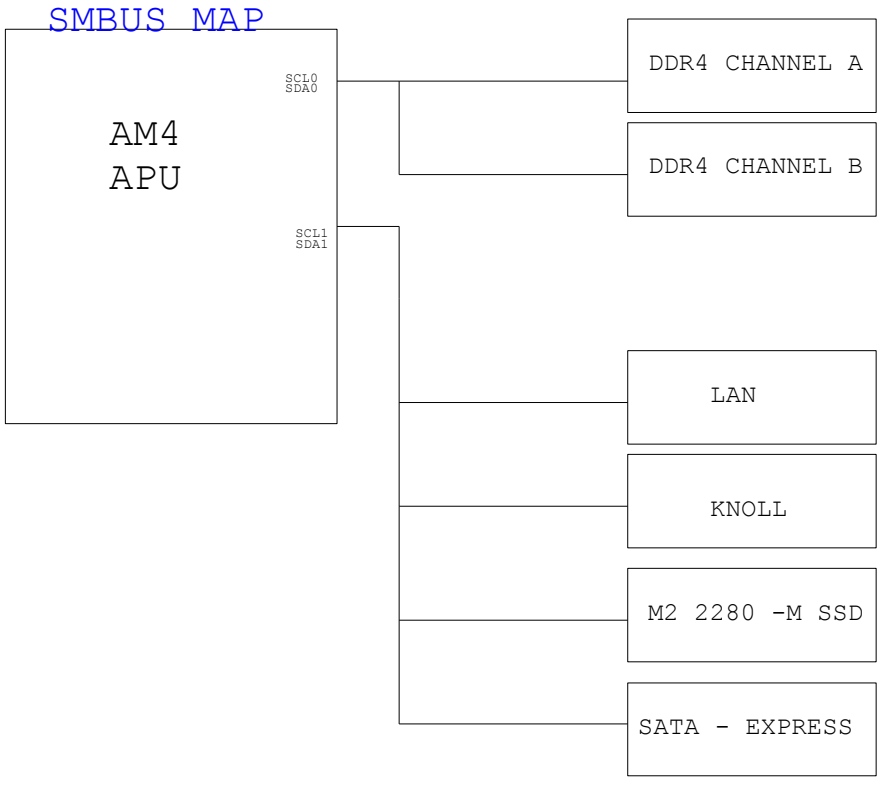
Date: Wednesday, April 20, 2016 | Sheet 57 of 60

SMBUS Block Diagram



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Title: 58.SMBUS Block Diagram		
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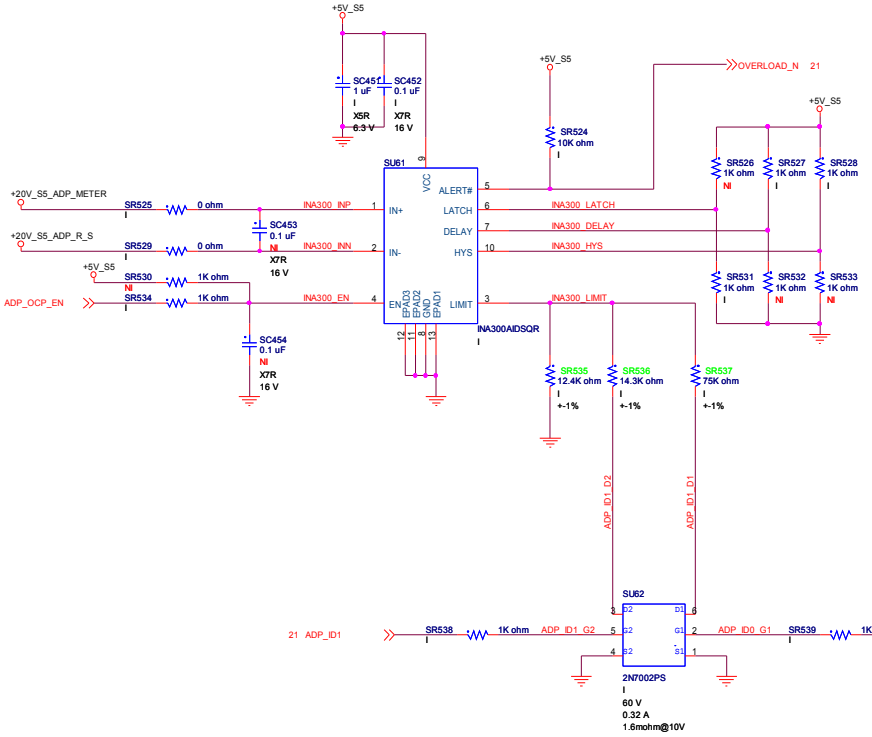
ADP_IN

ADP_OUT

>1.4V: Enable
<0.4V: Disable



DELAY
10us: Float
50us: GND
100us: VCC (default)

HYS
2mV: Float
4mV: GND
8mV: VCC (default)

LATCH:
OFF: GND (default)
ON: VCC

65W: 3.978A 啟動
90W: 4.495A 啟動
120W: 6A 啟動
135W: 6.75A 啟動for TIO

ADP TYPE

ID1	ID0	
0	0:	120W
0	1:	90W
1	0:	65W

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Title: 59. INA300

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P04
1. del SC1175, SC1151.
2. SC1060, SC1180 change to 22uF

P38
1. R905 change to I
2. +1.5V_ALW change to +1.8V_RUN

P39
1. L27, L29 重抓

P40
1. L26, L25 重抓

P42
1. VDDIO_MEM_S3 change to +5V_S5
2. del U59 circuit

P51
1. add EC24
2. EC52 change to 560uF

P52
1. add EC53

For SDV

P38
1. R921 change to 53.6K
2. R935 change to 53.6K
3. C953 change to 2.2nF
4. C963 change to 2.2nF
5. R909 change to I
6. R937 change to 2.87K

For SIT

P45
1. SC760 change to I

P46
1. R992 change to I, SR1666 change to NI
2. SC1090 change to 1nF

P47
1. C884 change to I

P52
1. R1200 change to 11K
2. R1201 change to 8.45K

P44
1. C1332 change to 0.022uF
2. SR1832 change to I

P40
1. add SR999 = 0R & connect to P38 R909

P51
1. C906 change to 1nF

P38
1. del SR1861, del SR1868
2. R909 change to 16.9K

For SIT (0421)

P39
1. add R907, R905 change to NI

For SIT (0427)

P45
1. R947 change to 75K

P44
1. U48 change to APL5933C

P42
1. add P5

For SIT (0429)

P39
1. TC2 => STC1
2. add EC46

P46
1. SU77 => GS7901TD
2. Q121 => NTTFS4C25NTAG
3. Q120 => NTTFS4C10NTAG

LITE-ON TECHNOLOGY CORP.		
Title: 60. Change List2		
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