

i.MX8M-Panel PC

Table of Content

Page 0	Page Cover
Page 1	DIP168
Page 2	SD Card/SPAKER/RTC VBAT/RST
Page 3	AUDIO CODEC
Page 4	USB, QSPI, MODE
Page 5	USB HUB
Page 6	MINI PCI EXPRSS 1
Page 7	MIPI TO LVDS
Page 8	LCD / GAMMA_POWER
Page 9	9", 5.7" LCD LVDS
Page 10	LAN1 MII-2
Page 11	WiFi
Page 12	COM1/COM2/RS485/USB
Page 13	DC_DC
Page 14	Placement

PCB : DM421

PN8M5B-KIT : 5A+ BT/WiFi x 2 .

PN8M5N-KIT : 5A x 5 .

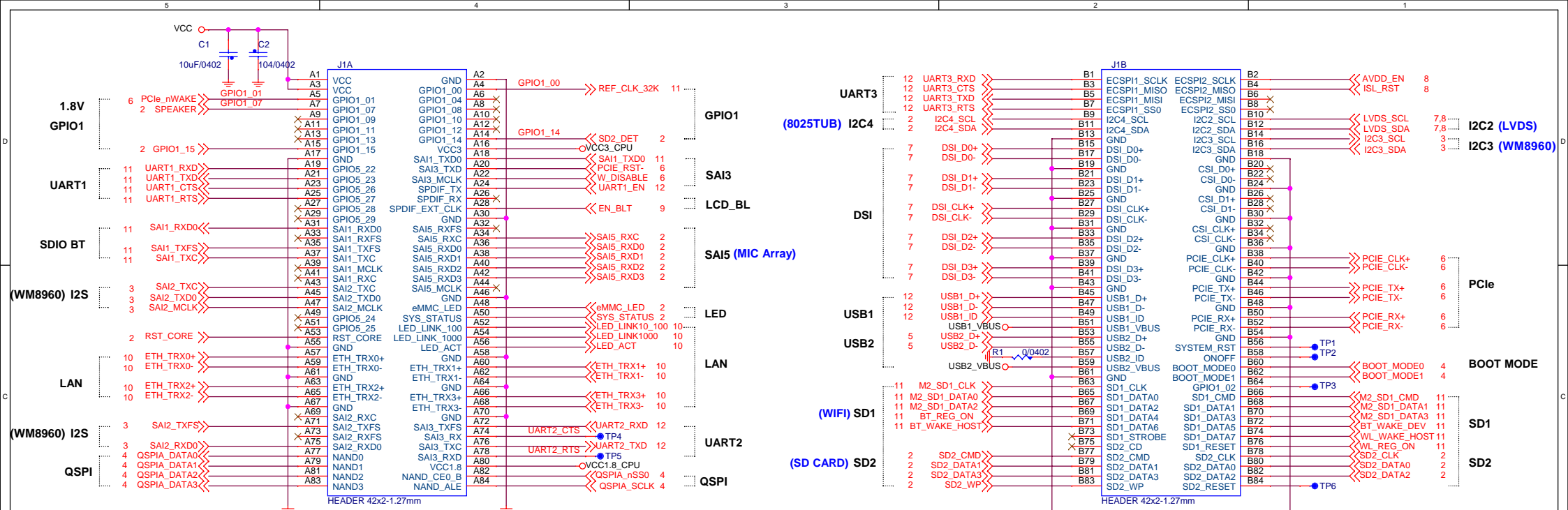
PN8M8B-KIT : 8A+ BT/WiFi x 8 .

PN8M8N-KIT : 8A x 5 .

* 5A (DC5V) ; 8A (DC8-35V) ; BT/WiFi : WM-BN-BM-26A-UFL

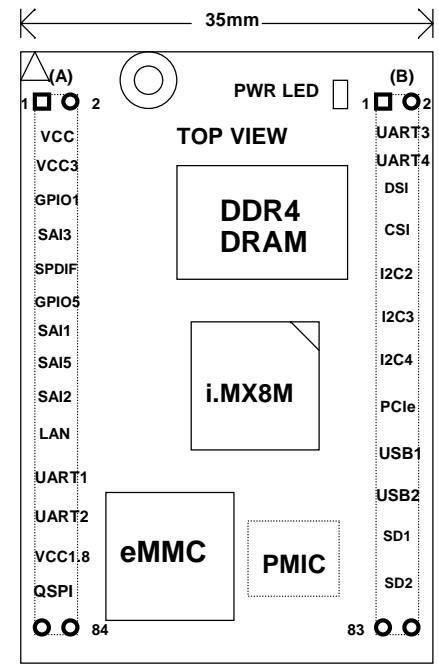
Revision History

Rev. Code	Date	By	Description
1.0	2019-2-3	Jason	Initial version

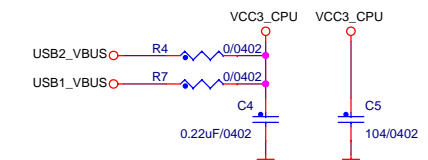


PH2*42(1.27)-5.3MM

PH2*42(1.27)-5.3MM



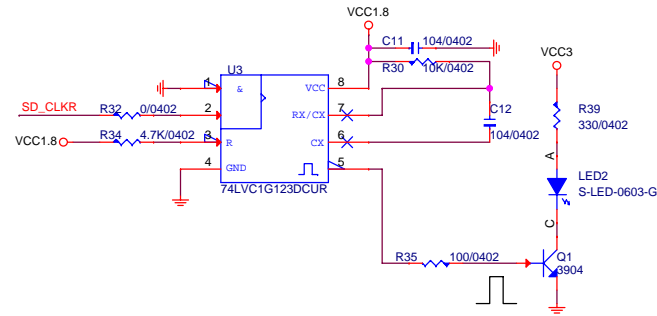
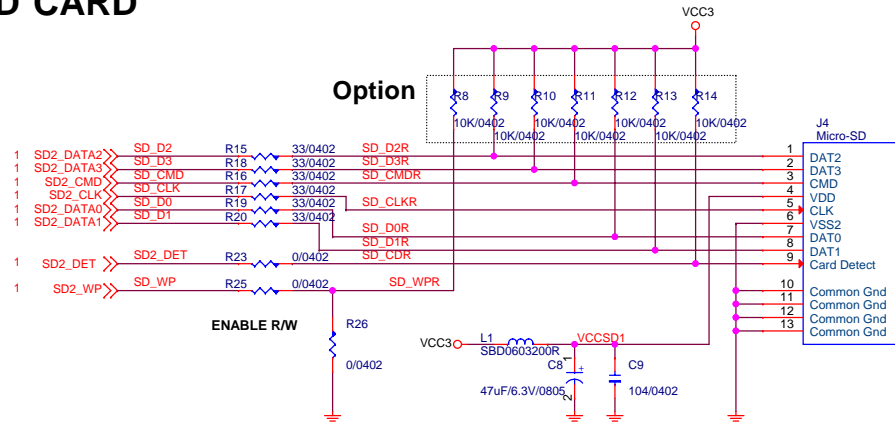
i.MX8M-DIP168 MODULE



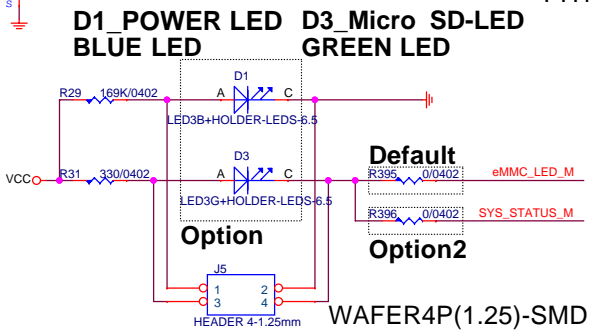
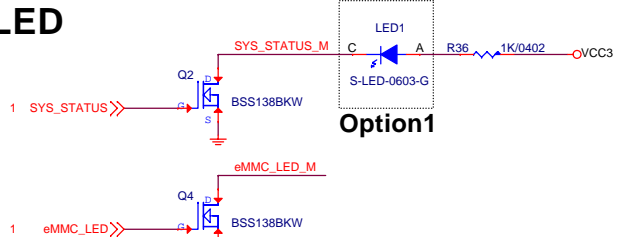
DM421 i.MX8M-Panel PC V1.0

DMP ELECTRONICS INC.		
Title: CPU Board Connector		
Size: DM421	Document Number: DM421	Rev: 1.0
Date: Wednesday, February 19, 2020	Sheet: 2	of 15

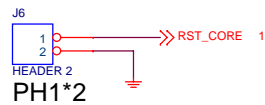
SD CARD



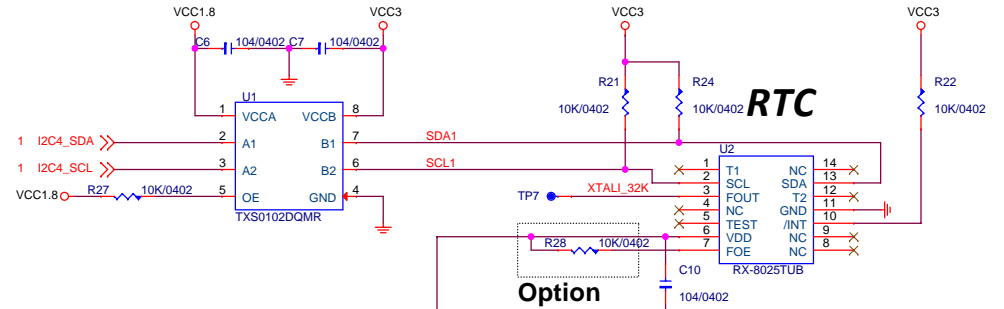
LED



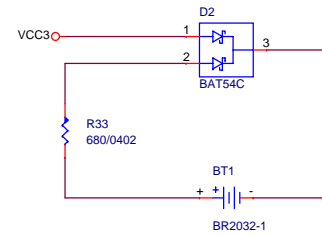
H/W RST



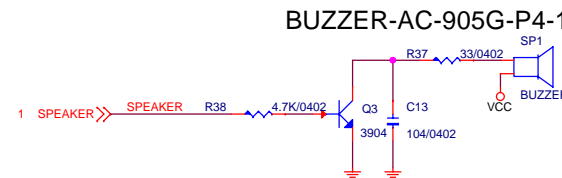
RTC/VBATT



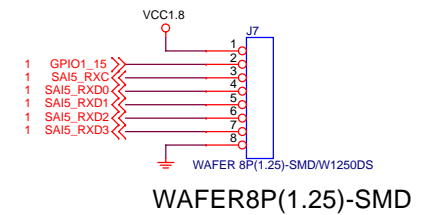
VBATT



SPEAKER



MIC Array

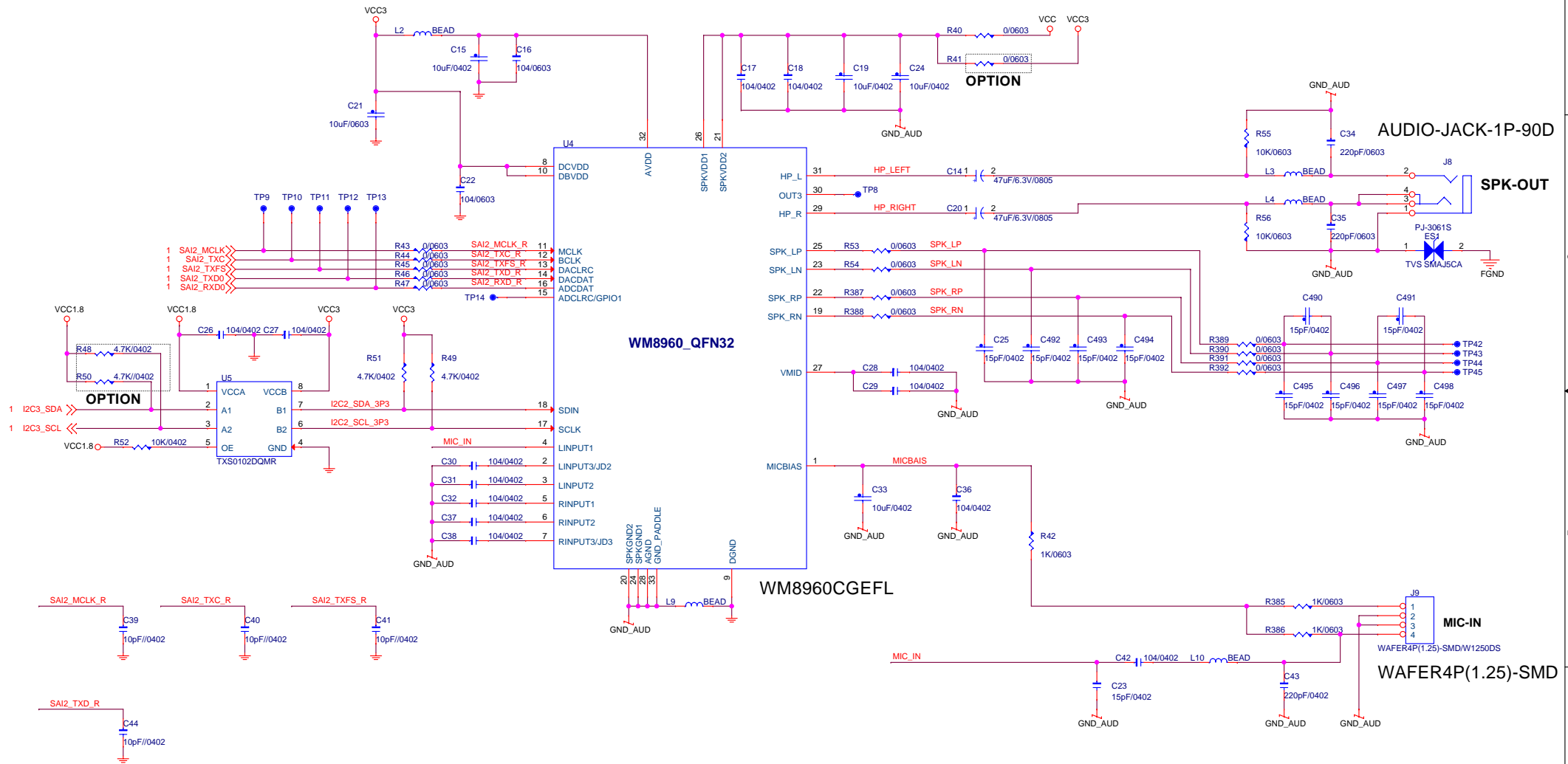


DMP ELECTRONICS INC.

Title		
SD Card/SPAKER/RTC VBAT/RST/MIC Array		
Size	Document Number	Rev
	DM421	1.0
Date:	Wednesday, February 19, 2020	Sheet 3 of 15

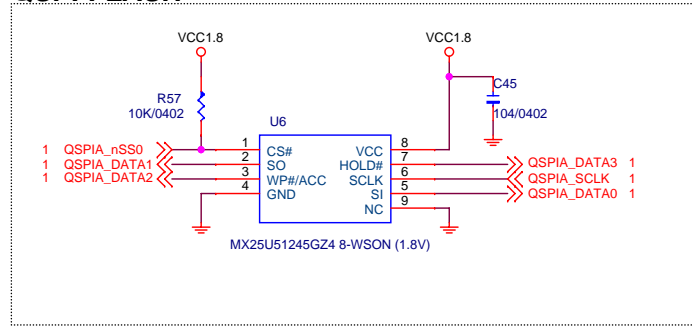
AUDIO

Audio CODEC



QSPI

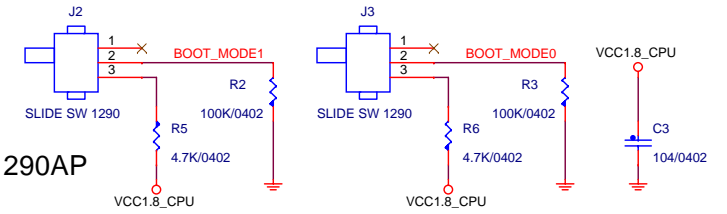
QSPI FLASH



OPTION

Boot Mode

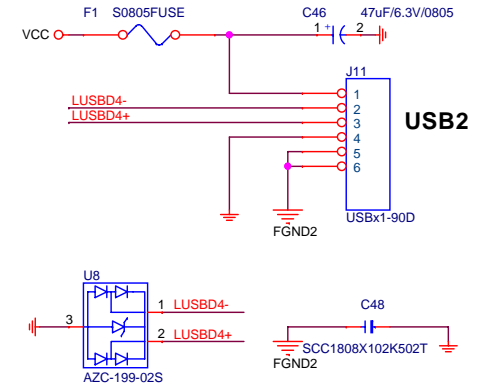
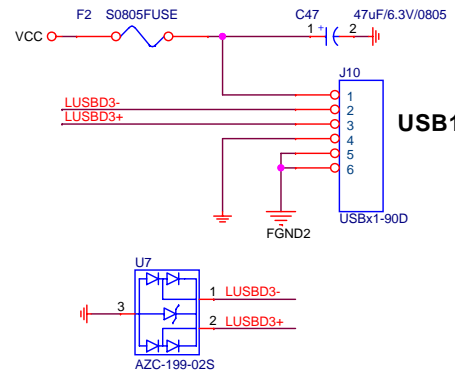
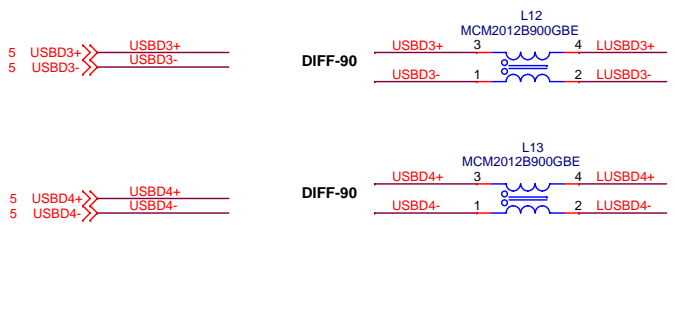
- 1 BOOT_MODE0 >> BOOT_MODE0
- 1 BOOT_MODE1 >> BOOT_MODE1



DSW1P-SMD-H-1290AP

BOOT_MODE1	BOOT_MODE0	Boot Source
0	0	Boot from fuses
0	1	Serial downloader
1	0	Internal boot
1	1	Reserved

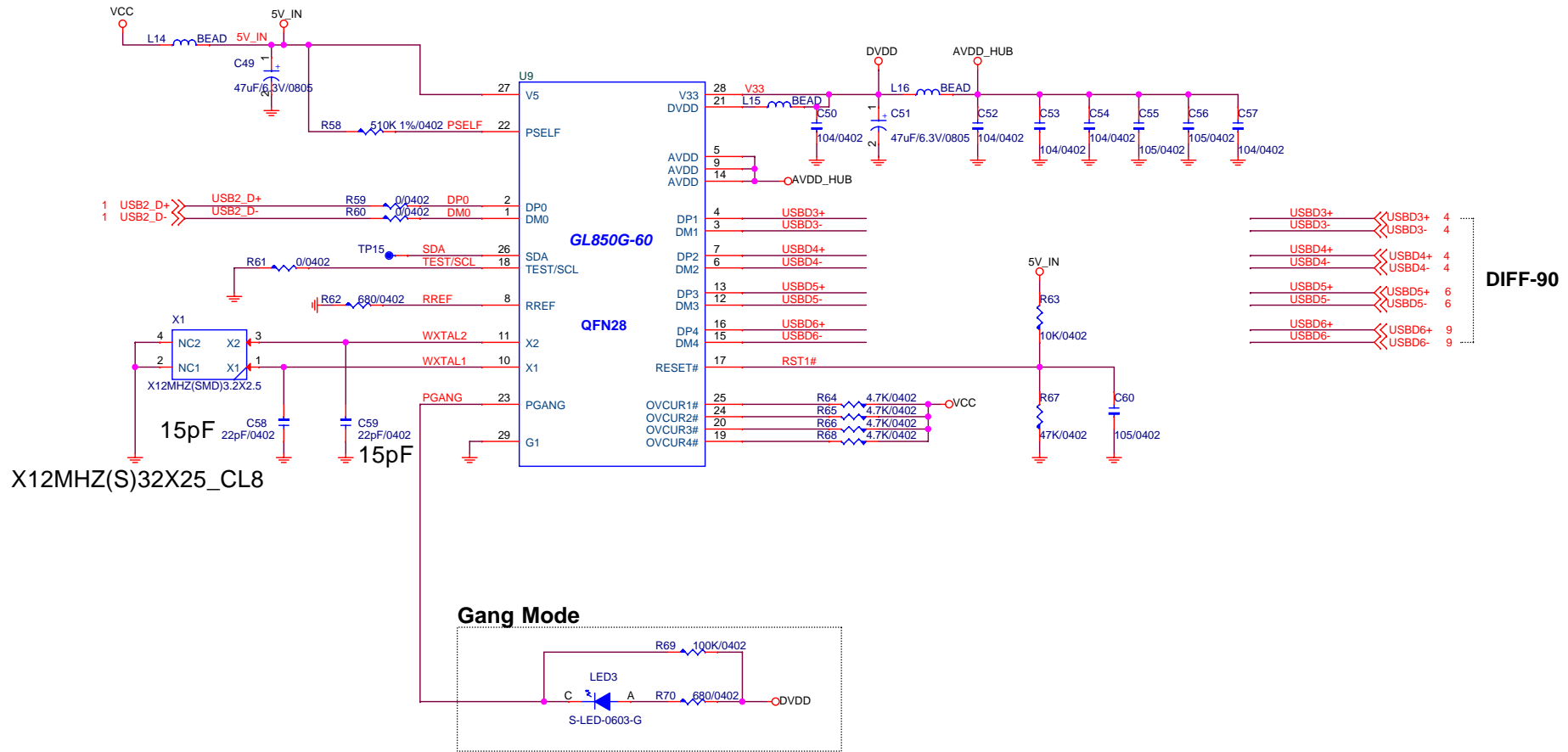
USB



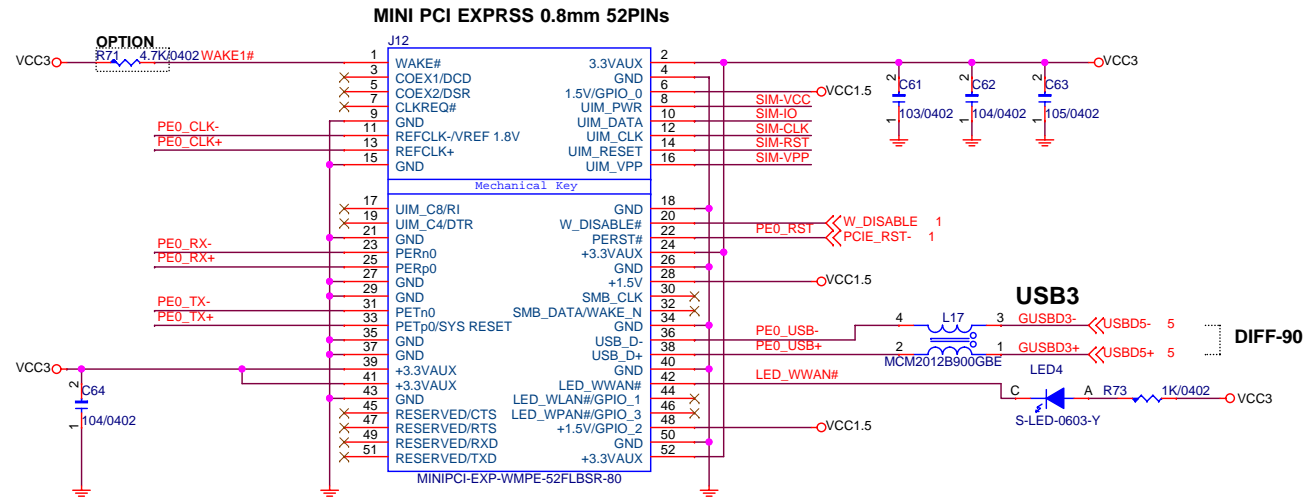
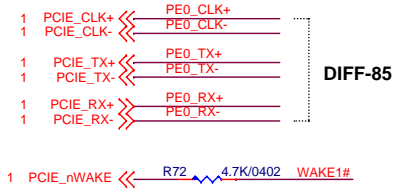
DMP ELECTRONICS INC.

Title			Rev
USB, QSPI, MODE			
Size	Document Number	Rev	
	DM421	1.0	
Date:	Wednesday, February 19, 2020	Sheet	5 of 15

USB HUB

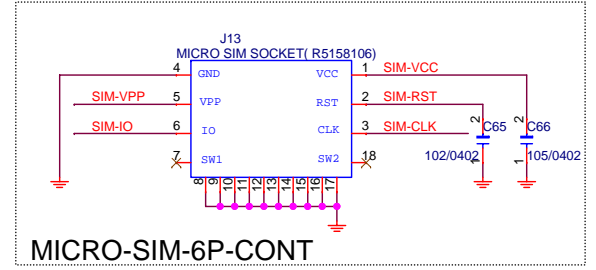


MINI PCI EXPRESS 1

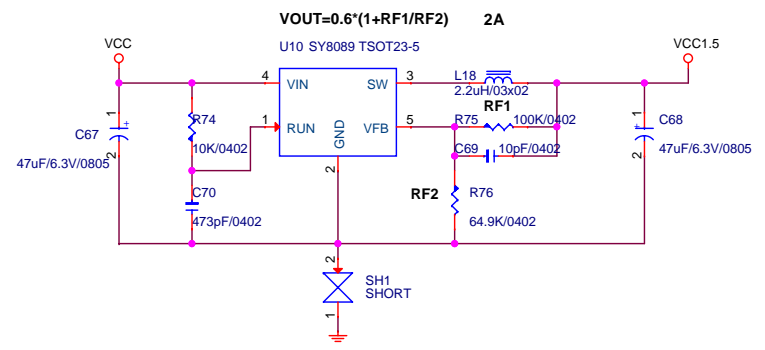


MINIPCI-EXP-52P-8.0 + T-55X40X20-SMD x 2 / Set .

SIM CARD HOLDER

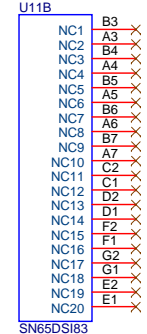
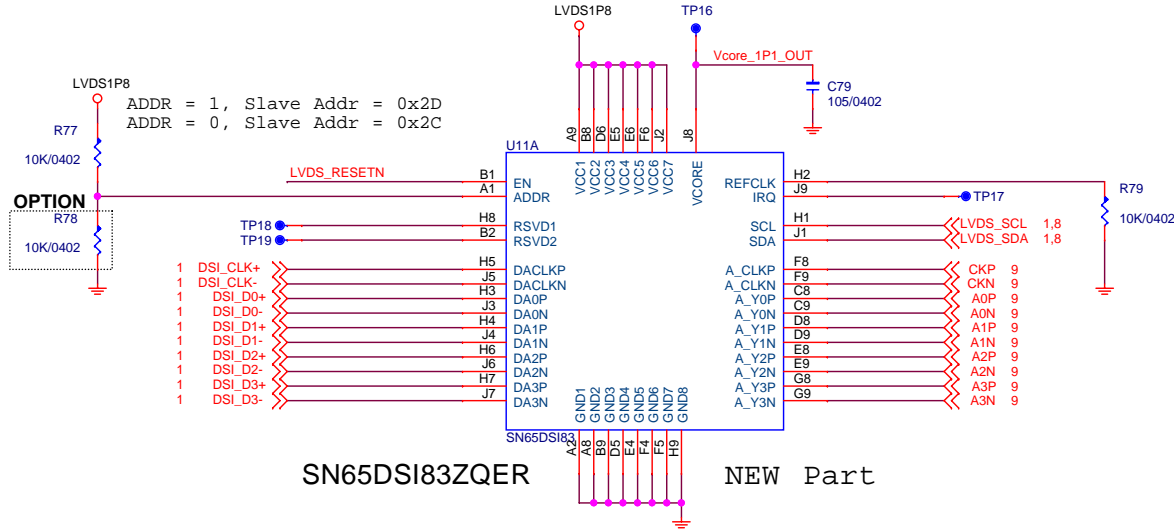
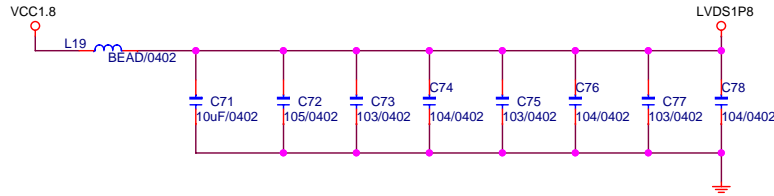


VCC 1.5V L18 : SBD2.2UH1.8A-252012

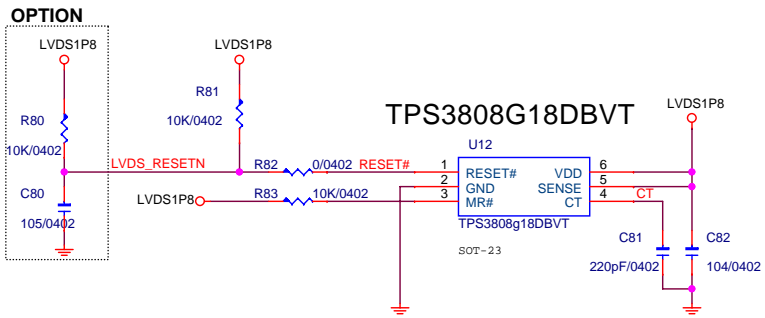


DMP ELECTRONICS INC.			
Title: MINI PCI EXPRESS 1			
Size: DM421	Document Number: DM421	Rev: 1.0	
Date: Wednesday, February 19, 2020	Sheet: 7	of 15	

MIPI TO LVDS



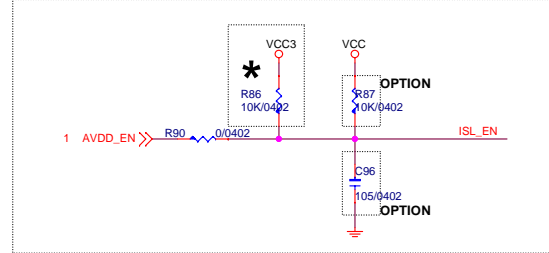
SN65DSI83ZQER NEW Part



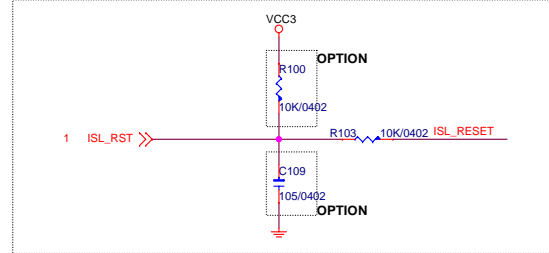
DMP ELECTRONICS INC.		
Title: MIPI TO LVDS		
Size	Document Number: DM421	Rev: 1.0
Date: Wednesday, February 19, 2020	Sheet: 8	of 15

LCD / GAMMA_POWER

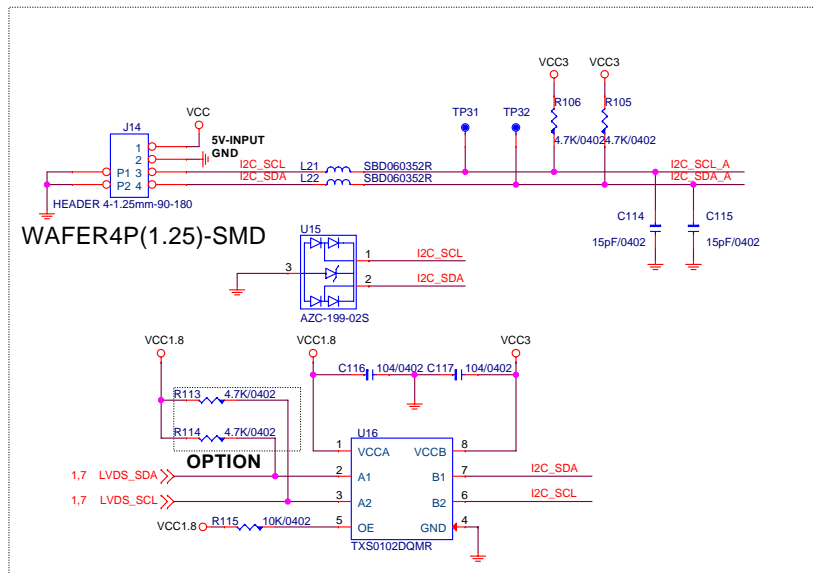
AVDD_EN



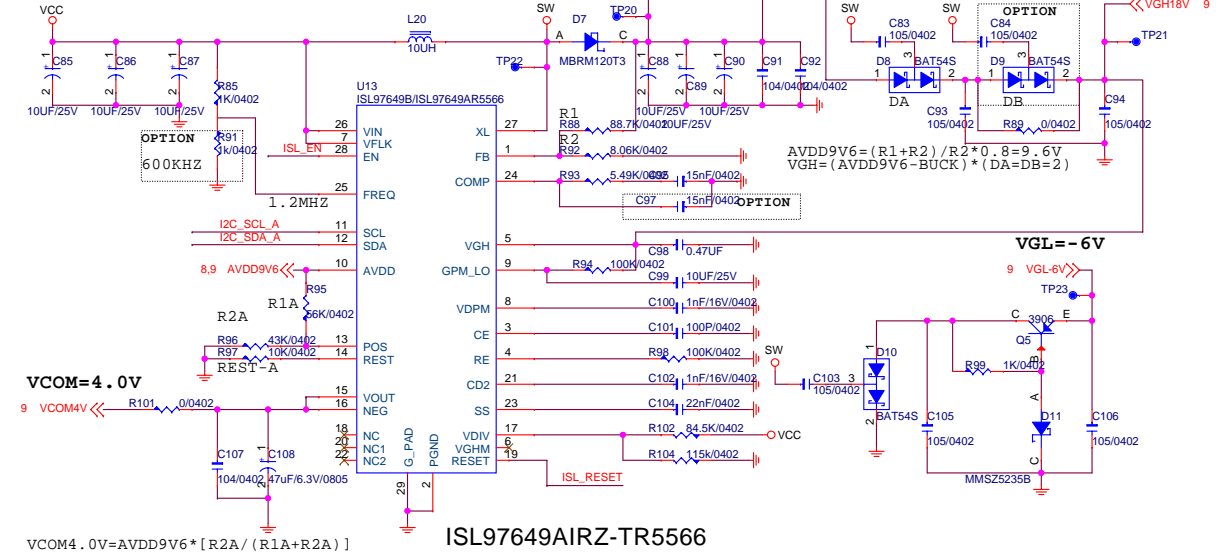
* ISL_RESET



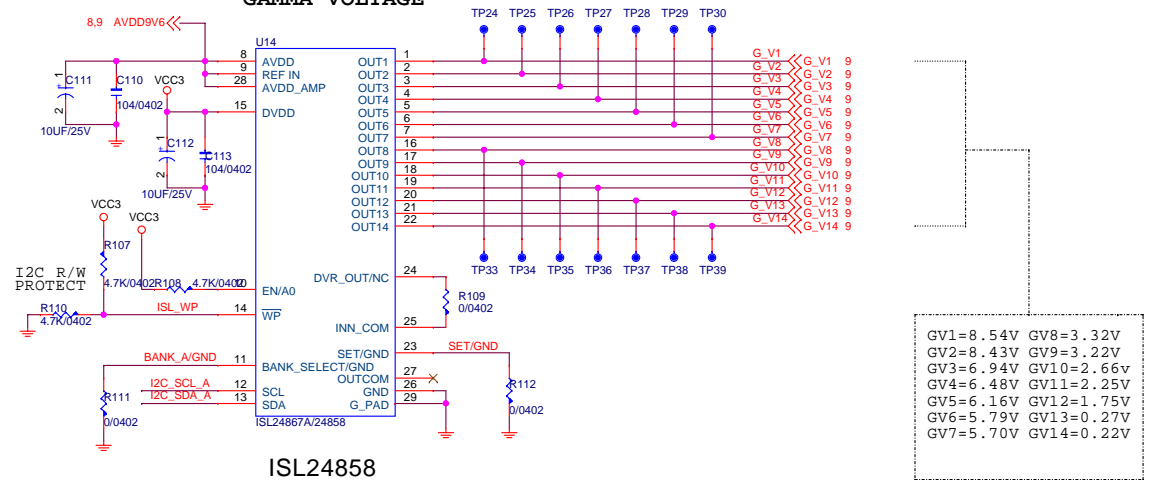
* I2C EXT INPUT



VCC=5V



GAMMA VOLTAGE



DMP ELECTRONICS INC.

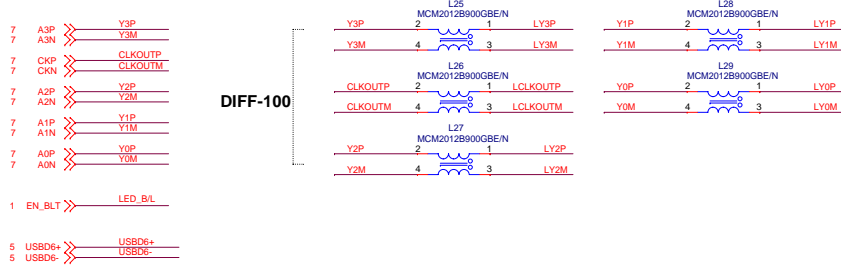
Title
LCD / GAMMA_POWER

Size Document Number
DW421

Rev
1.0

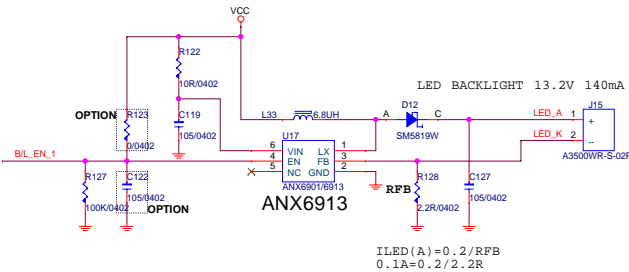
Date: Wednesday, February 19, 2020 Sheet 9 of 15

9",5.7" LCD LVDS

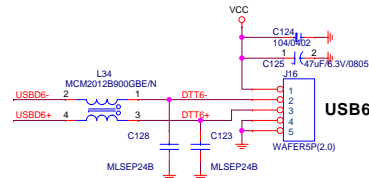


DIFF-100

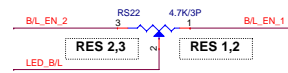
LED BACKLIGHT DRIVER



FOR TOUCH SCREEN



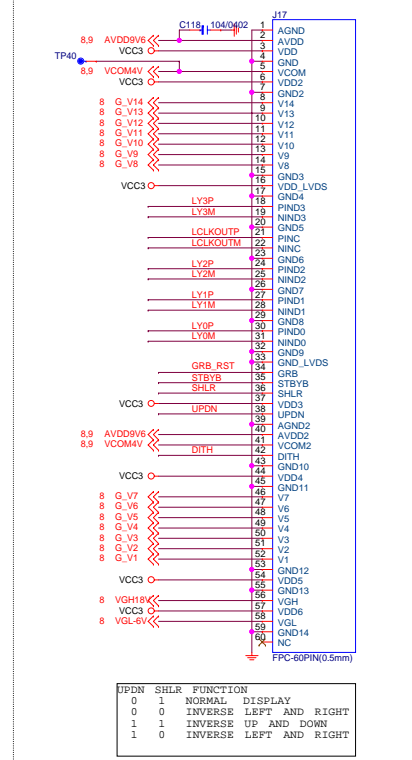
LCD PANEL STRAP



OPTION	LED BACKLIGHT SELECTION
RES 1,2	9" LCD
RES 2,3	5.7" LCD

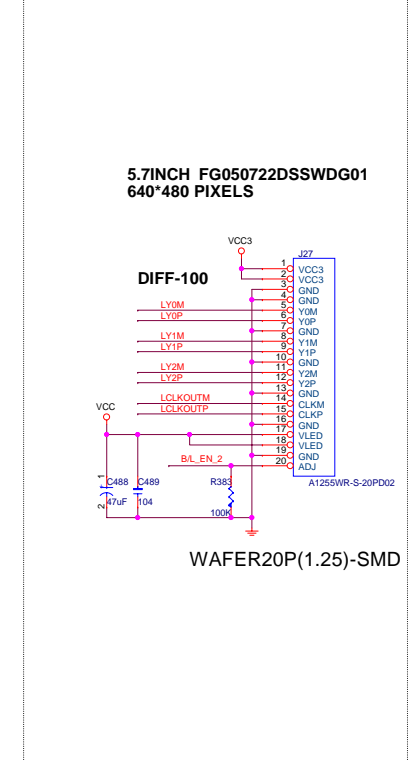
NOTE: J17 & J27 must be Dual-Lay for OPTION1 & OPTION2's Function Request

OPTION1



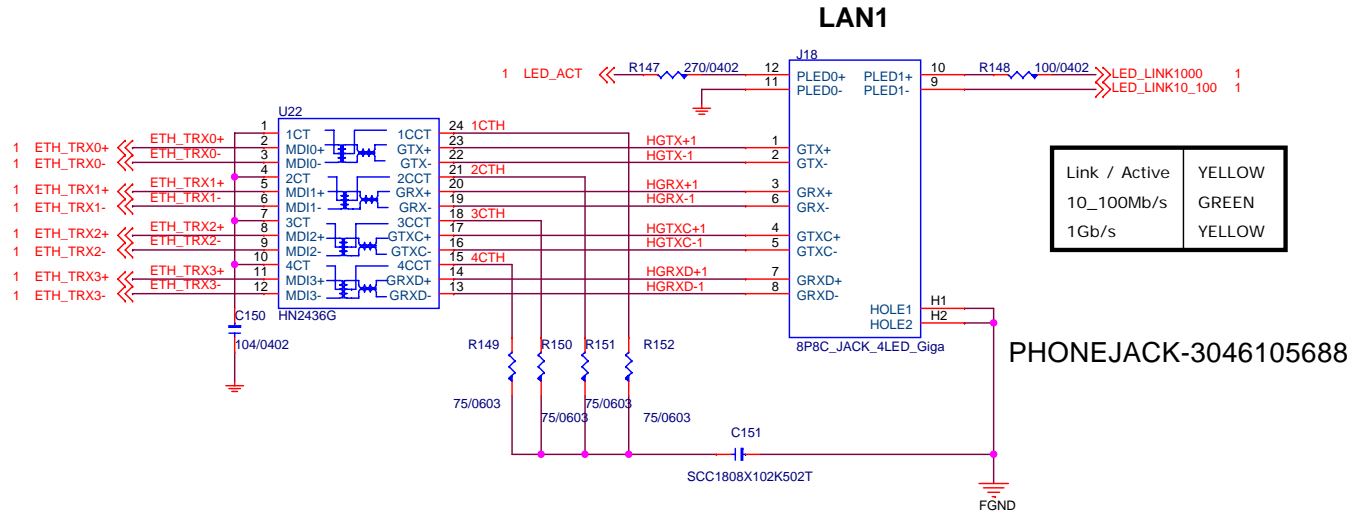
9" LCD_LVDS 24bit
9INCH CLAA090NA02CW 1024*600PIXELS

OPTION2



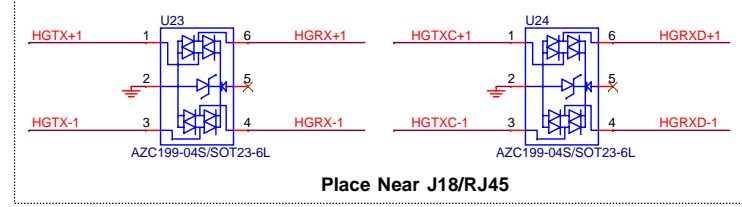
5.7" LCD_LVDS 18bit

RGMII 10/100/1000Mbps LAN-1



Link / Active	YELLOW
10_100Mb/s	GREEN
1Gb/s	YELLOW

LAN ESD



DMP ELECTRONICS INC.

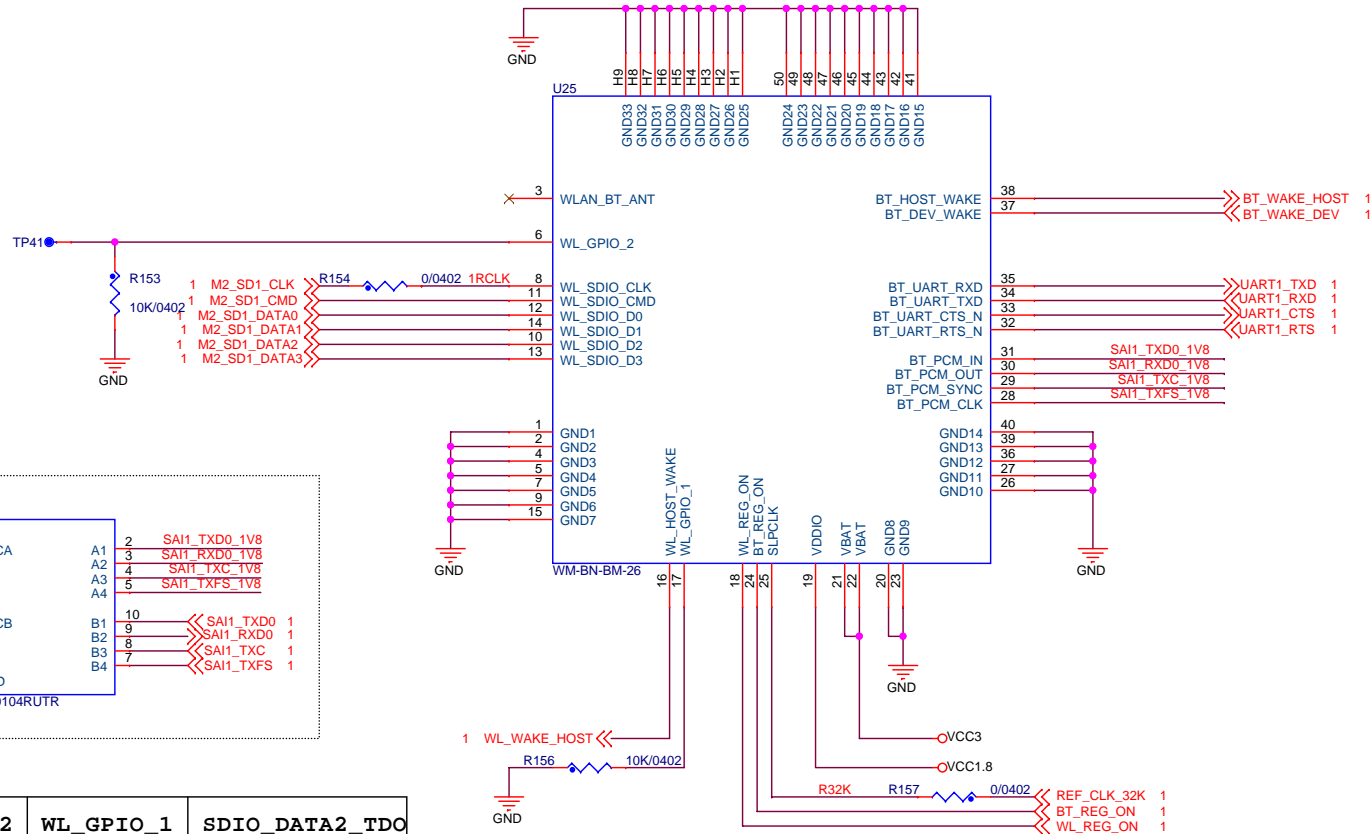
Title: LAN1

Size: Document Number DM421 Rev 1.0

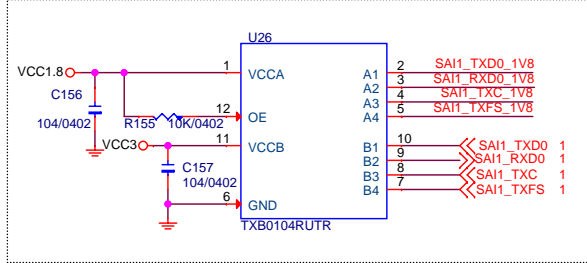
Date: Wednesday, February 19, 2020 Sheet 11 of 15

2.4G WIFI Module

NEW : WM-BN-BM-26A-UFL (Ext. Antenna ver.)



LEVEL SHIFT



Option	WL_GPIO_2	WL_GPIO_1	SDIO_DATA2_TDO
SDIO	L	L	H
JTAG over SDIO (Default)	L	H	H
JTAG over BT PCM	H	L	H
SWD over GPIO[2:1]	H	H	H
gSPI	X	X	L

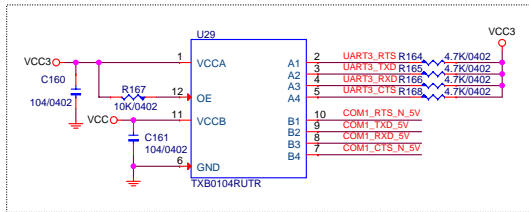
DMP ELECTRONICS INC.

Title		WIFI&Bluetooth
Size	Document Number	Rev
	DM421	1.0
Date:	Wednesday, February 19, 2020	Sheet 12 of 15

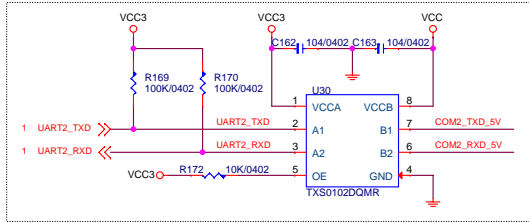
COM1/COM2



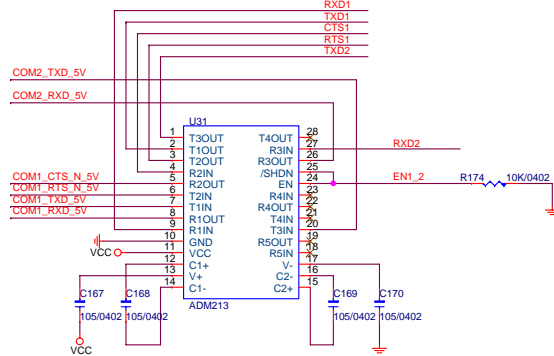
COM1 LEVEL SHIFT



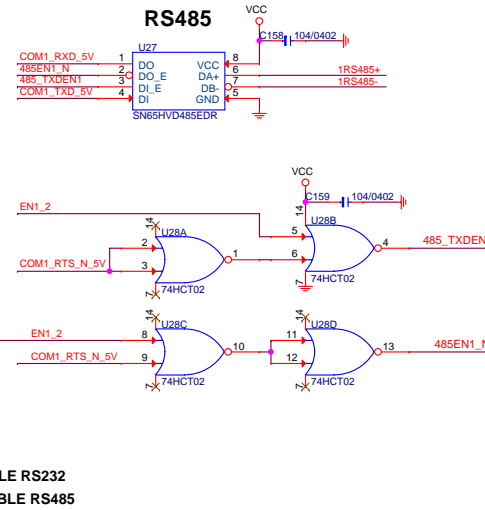
COM2 LEVEL SHIFT



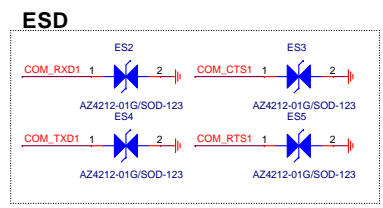
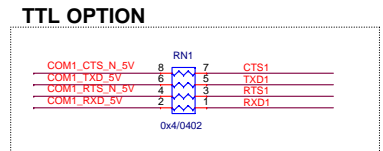
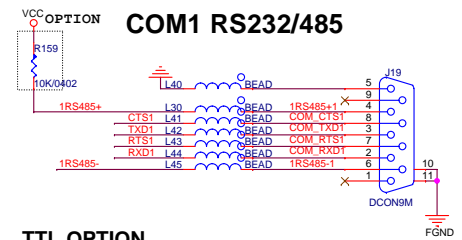
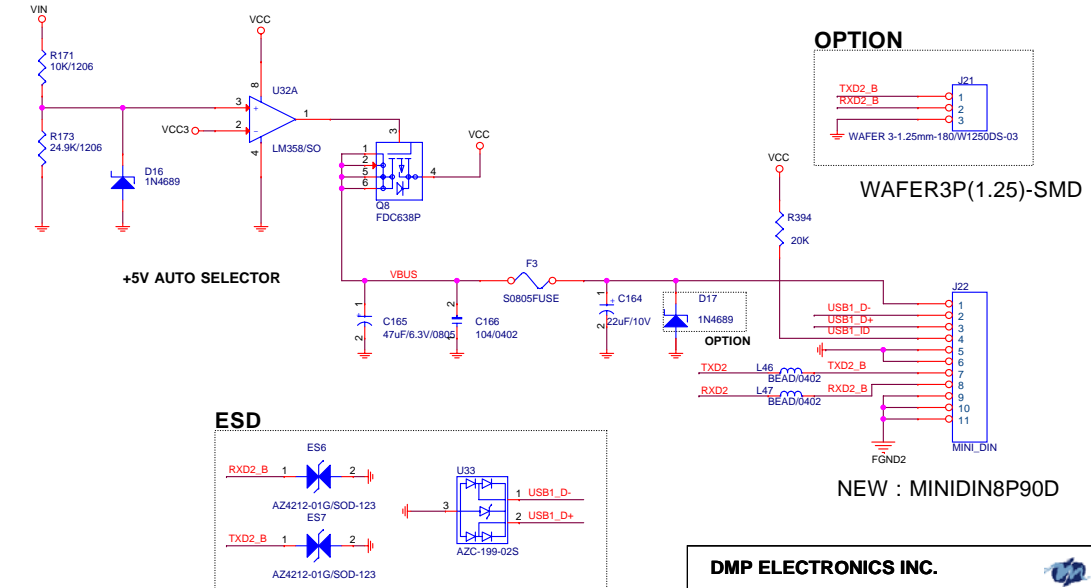
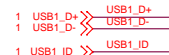
RS232



COM1 RS232/RS485



COM2 RS232/USB1



DC POWER

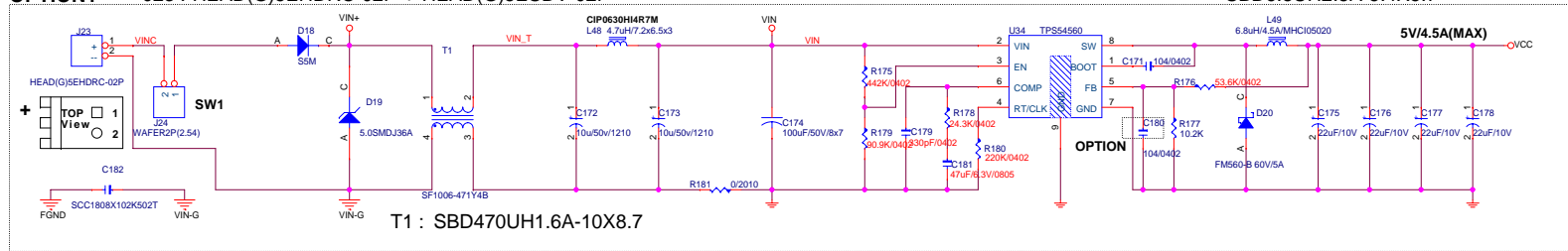
8A : DC-IN 12V~36V

L48 : SBD4.7UH5.5A-7.2X6.5

OPTION1

J23 : HEAD(G)5EHDRC-02P + HEAD(G)5ESDV-02P

SBD6.8UH2.8A-5.4X5.7

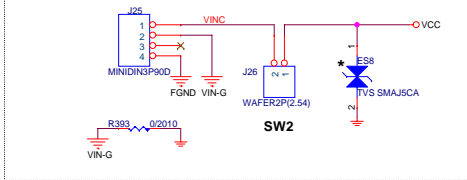


SW1,SW2 Reference : DM307A Layout

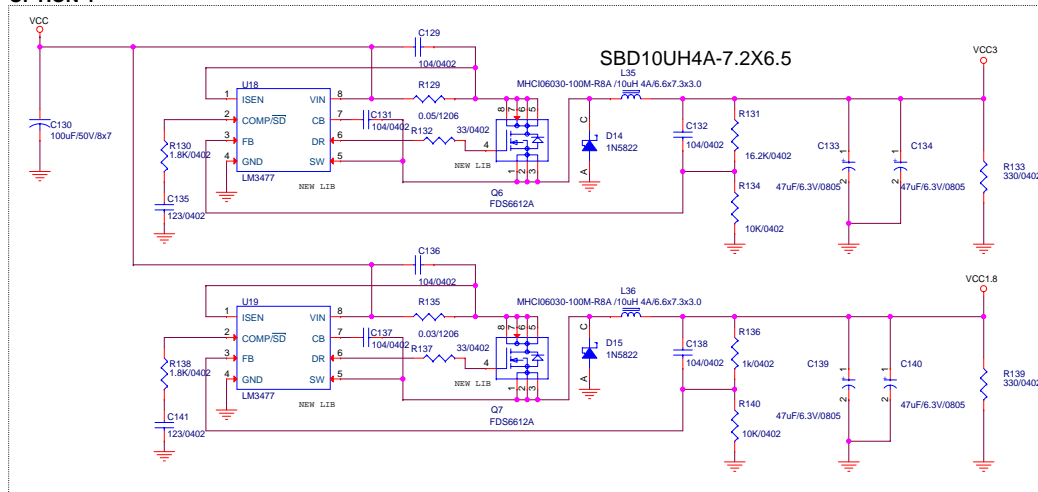
POWER CONNECTOR

OPTION2

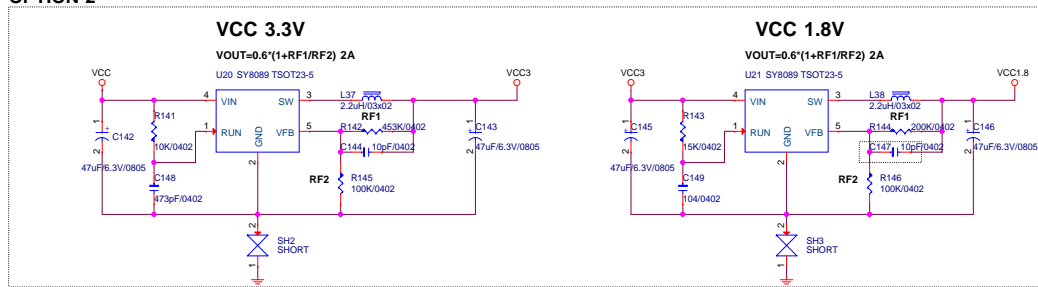
5A : DC 5V INPUT



OPTION 1



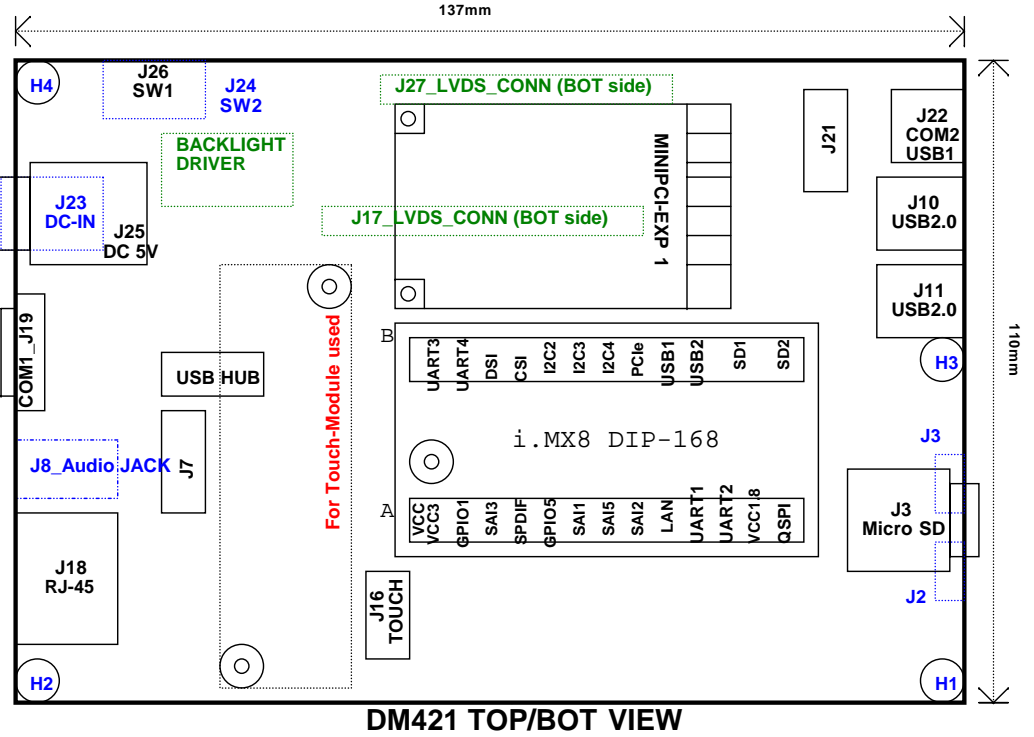
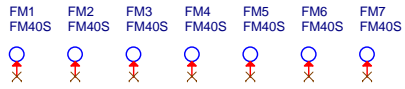
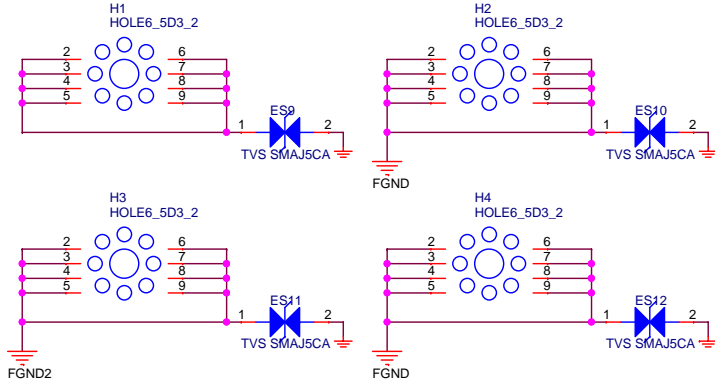
OPTION 2



DMP ELECTRONICS INC.

file		
DC TO DC		
Size	Document Number	Rev
	DM421	1.0
Date:	Wednesday, February 19, 2020	Sheet 14 of 15

Placement



DM421 TOP/BOT VIEW

DMP ELECTRONICS INC.



Title		Placement
Size	Document Number DM421	Rev 1.0
Date:	Tuesday, February 18, 2020	Sheet 15 of 15