

Arrow iMX8M HMI Platform

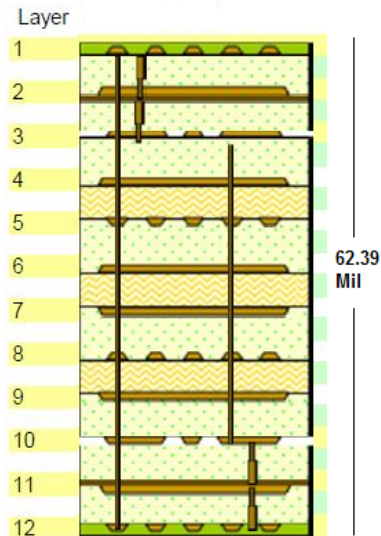
MAJOR REVISION HISTORY :

PCB REV.	SCH. REV.	DESCRIPTION	DATE
	0.1	Initial schematic draft created	13-Aug-2018
	0.2	Draft version with incorporated review comments	25-Aug-2018
	0.3	Draft version with incorporated review comments	28-Sep-2018
	0.4	Draft version with incorporated review comments	03-Oct-2018
	0.5	Draft version with incorporated review comments	08-Oct-2018
	0.6	Draft version with back annotation	10-Oct-2018
1.0	1.0	Released Version	11-Oct-2018
	1.1	Beta Draft Version	16-Jan-2019
	1.2	Draft version with incorporated review comments	18-Jan-2019
2.0	2.0	Beta Released Version	8-Feb-2019
	2.1	Draft version with incorporated review comments	3-April-2019
2.0	2.2	Production Version Released	4-April-2019
	2.3	Schematic updated as per part ordered for Production	18-Nov-2019

PAGE DESCRIPTION :

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PCB LAYER STACK-UP DETAILS :




PCB MECHANICAL DETAILS :

1. PCB SIZE: 85 mm X 100 mm X 1.57 mm
2. PCB MATERIAL: FR4
3. NUMBER OF LAYERS: 12
4. IMPEDANCE CONTROL: YES

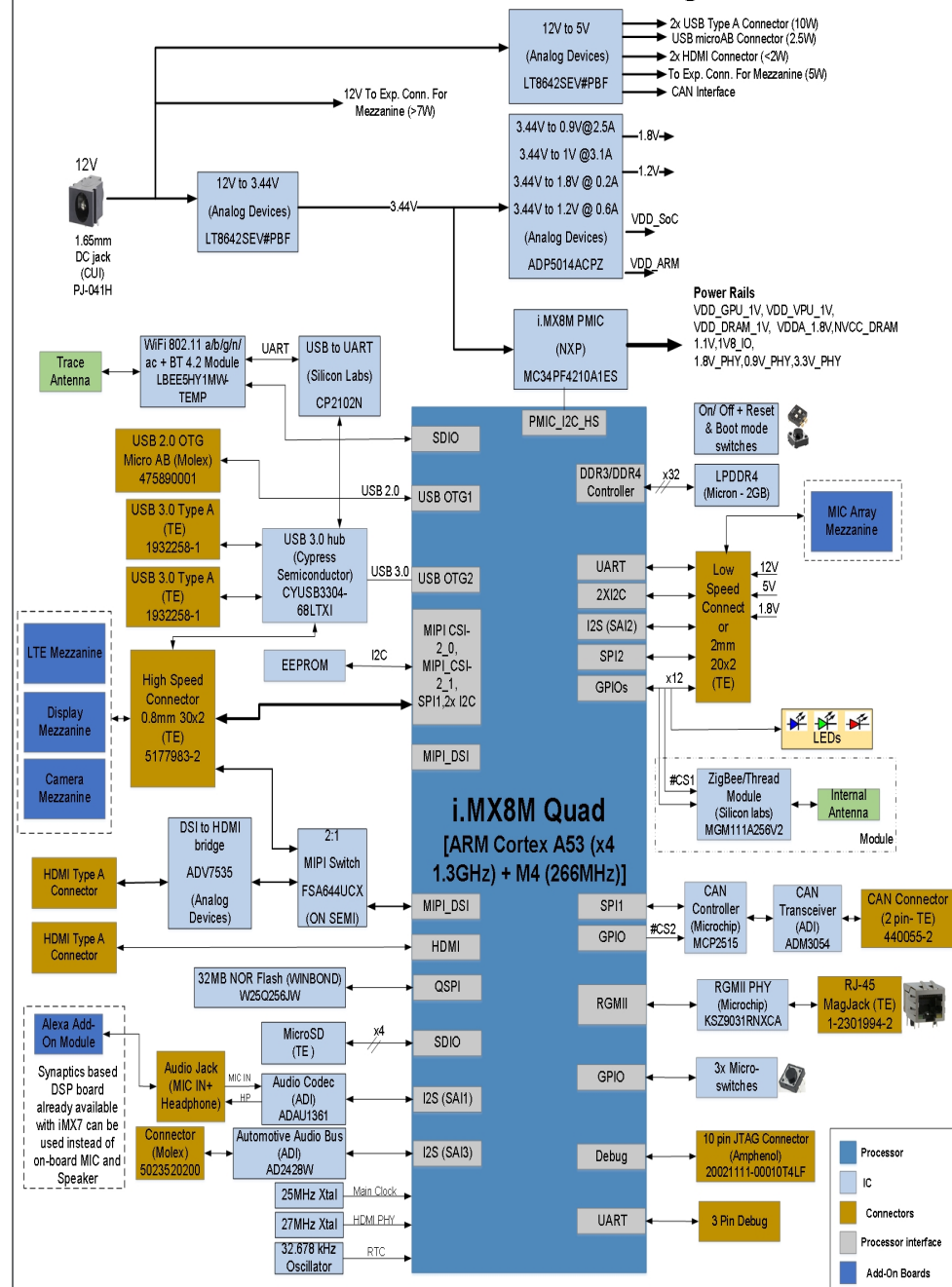
NOTES, UNLESS OTHERWISE SPECIFIED :

1. RESISTANCE VALUES ARE IN OHM.
2. PARTS NOT INSTALLED ARE INDICATED WITH 'NU' or 'DNP'.

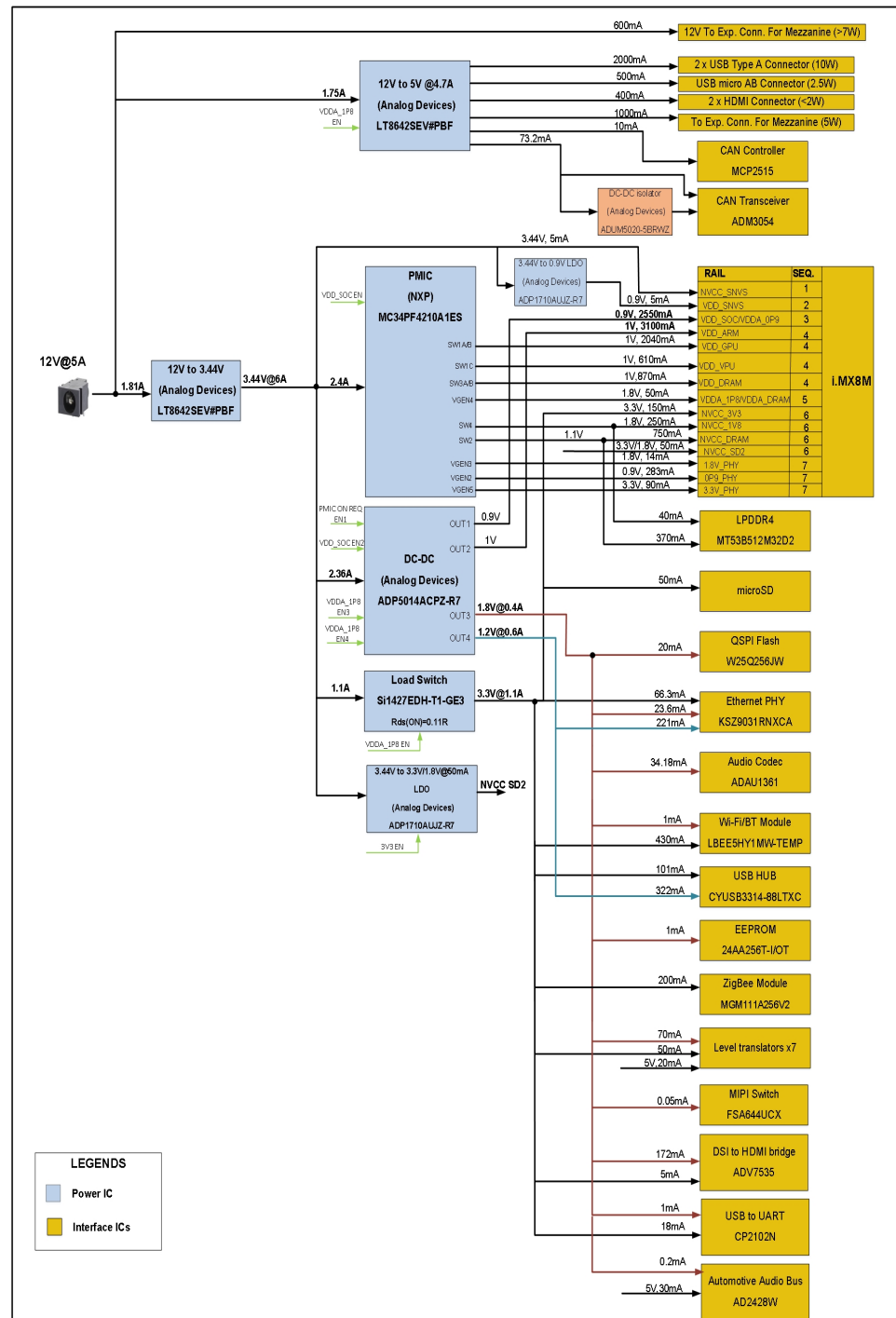
Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title COVER PAGE		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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BLOCK DIAGRAM

i.MX8M HMI Platform Block Diagram v2.1




POWER SCHEME



I2C ADDRESS TABLE

DEVICE	DEVICE ADDRESS	I2C Interface	IO LEVEL
PMIC PF4210	0x08	I2C 1	1.8V
LOW SPEED EXPANSION	NA	I2C 1	1.8V
LOW SPEED EXPANSION	NA	I2C 2	1.8V
HIGH SPEED EXPANSION	NA	I2C 3	1.8V
HIGH SPEED EXPANSION	NA	I2C 4	1.8V
EEPROM	0x50	I2C 2	1.8V
Audio Codec ADAU1361	0x38	I2C 2	1.8V
DSI to HDMI	0X72	I2C 1	1.8V
USB HUB CYUSB3304	0X60	I2C 4	3.3V
A71CH Security IC	0X49	I2C 3	1.8V
AD2428W (A2B)	0X68	I2C 2	1.8V

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PROCESSOR GPIO TABLE1

GPIO BANK1


GPIO1	ECSPi1_SS1	OUTPUT
GPIO2	nWDOG (WATCHDOG TIMER)	OUTPUT
GPIO3	LS_GPIO1_J	BIDIRECTIONAL
GPIO4	SD2_VSELECT (SD2 VOLTAGE SELECT)	OUTPUT
GPIO5	LS_GPIO1_L	BIDIRECTIONAL
GPIO6	GPIO_CAN_nINT (INTERRUPT FROM CAN)	INPUT
GPIO7	PMIC_nINT (INTERRUPT FROM PMIC)	INPUT
GPIO8	ECSPi2_SS1	OUTPUT
GPIO9	ENET_nRST (ETHERNET PHY nRESET)	OUTPUT
GPIO10	USB1_OTG_ID	INPUT
GPIO11	ENET_nINT (INTERRUPT FROM ETHERNET PHY)	INPUT
GPIO12	USB1_OTG_PWR	OUTPUT
GPIO13	USB1_OTG_OC	INPUT

GPIO BANK2

GPIO6	GPIO_CAN_TX0RTS	OUTPUT
GPIO7	LS_GPIO2_E	BIDIRECTIONAL
GPIO8	LS_GPIO2_G	BIDIRECTIONAL
GPIO9	GPIO_CAN_RX0BF	INPUT
GPIO10	LS_GPIO2_A	BIDIRECTIONAL
GPIO11	LS_GPIO2_B	BIDIRECTIONAL

GPIO BANK4

GPIO0	BT_LED	OUTPUT
GPIO1	WL_LED	OUTPUT
GPIO21	USER_LED1	OUTPUT
GPIO22	USER_LED2	OUTPUT
GPIO27	FAN_ON	OUTPUT
GPIO28	USER_LED3	OUTPUT
GPIO29	USER_LED4	OUTPUT

Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
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PROCESSOR GPIO TABLE2

GPIO BANK3

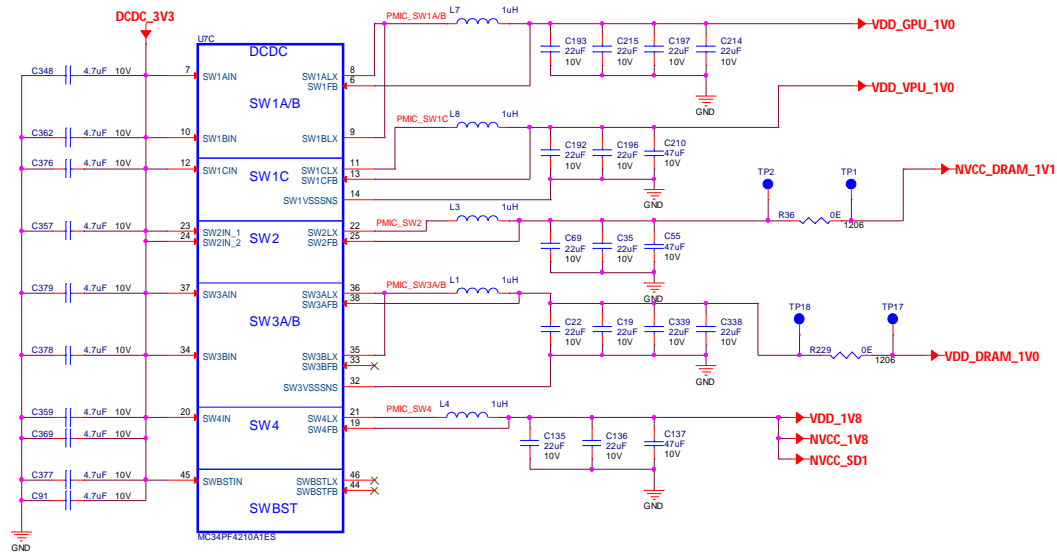
GPIO2	LS_GPIO3_H	BIDIRECTIONAL
GPIO3	WL_REG_ON	OUTPUT
GPIO4	DSI_SW_SEL	OUTPUT
GPIO5	BT_REG_ON	OUTPUT
GPIO10	nWAKE_ZigBee	OUTPUT
GPIO11	nINT_ZigBee	INPUT
GPIO12	LS_GPIO3_I	BIDIRECTIONAL
GPIO13	LS_GPIO3_K	BIDIRECTIONAL
GPIO14	BT_HOST_WAKE	INPUT
GPIO15	DSI_INT_OUT	INPUT
GPIO16	mSW1	INPUT
GPIO17	mSW3	INPUT
GPIO18	mSW2	INPUT
GPIO20	LS_GPIO3_D	BIDIRECTIONAL
GPIO21	LS_GPIO3_F	BIDIRECTIONAL
GPIO22	BT_DEV_WAKE	OUTPUT
GPIO24	LS_GPIO3_C	BIDIRECTIONAL
GPIO25	CAN_RST#	OUTPUT

GPIO BANK5

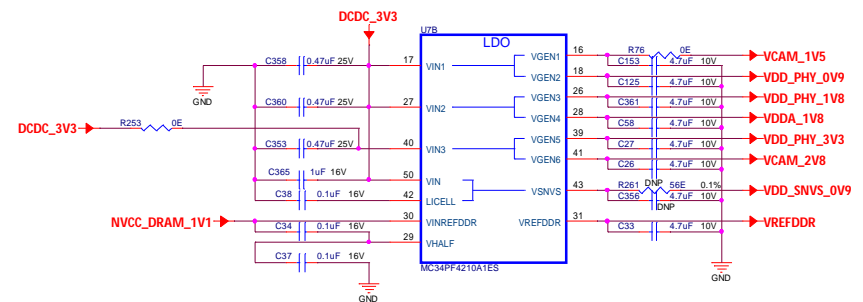
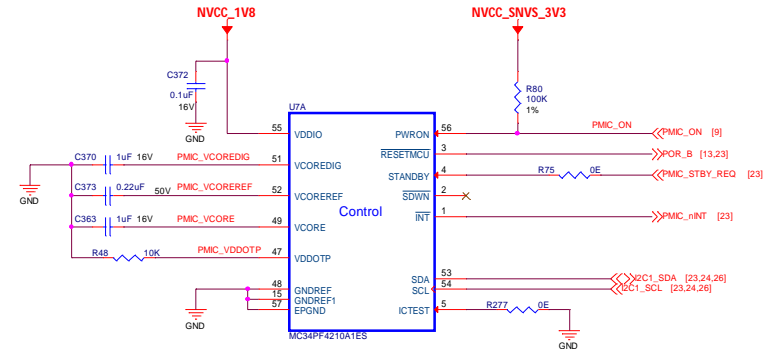
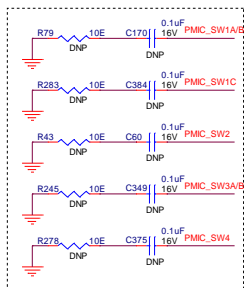
GPIO2	HP_DET_B (HEADPHONE DETECT)	INPUT
GPIO4	nRESET_ZigBee	OUTPUT
GPIO5	USB_HUB_RST	OUTPUT


Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title PROCESSOR GPIO TABLE2		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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PMIC SECTION

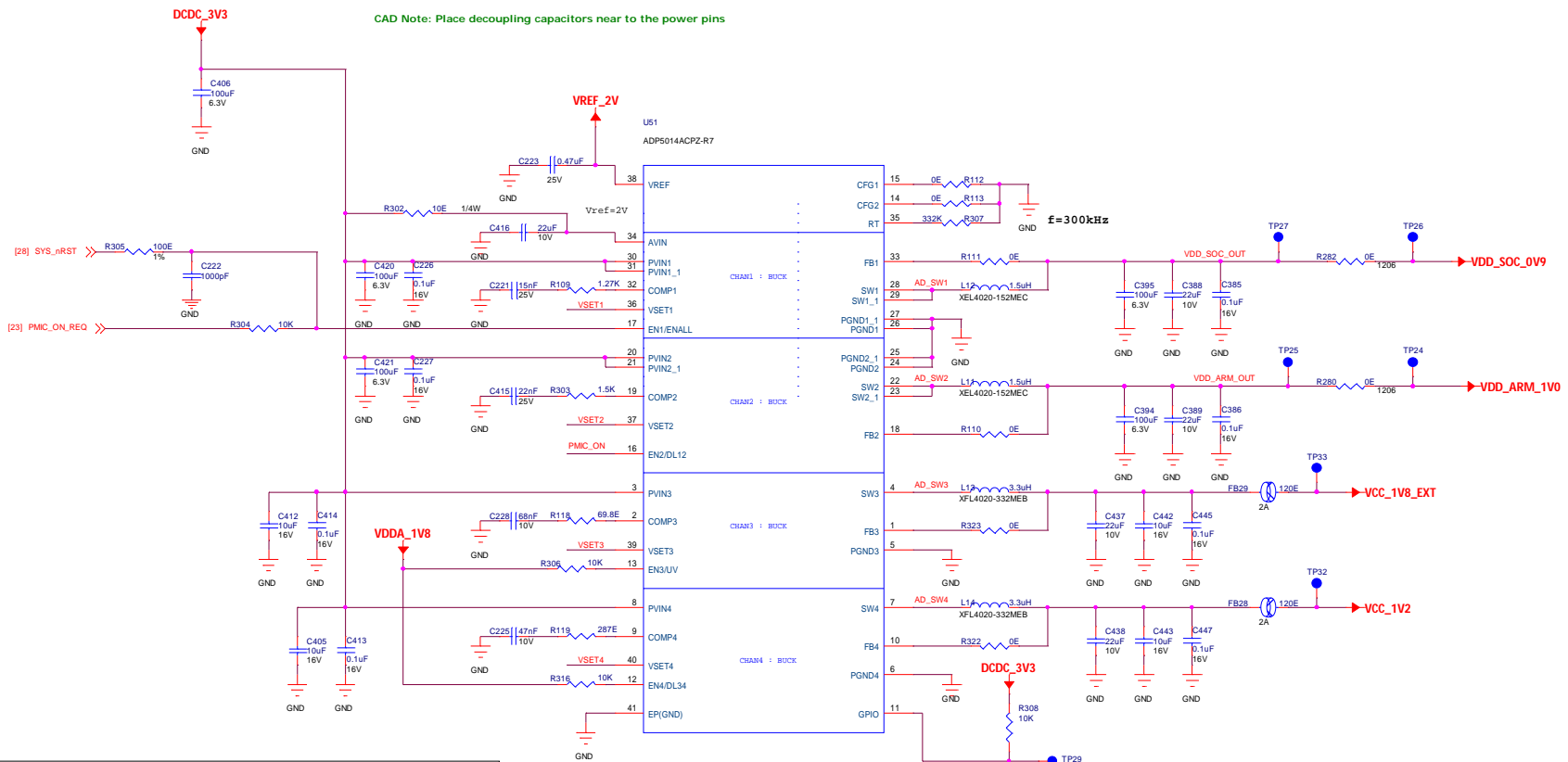


Snubber tuning provision

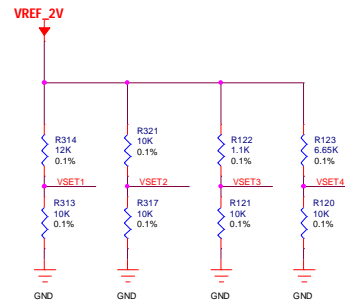
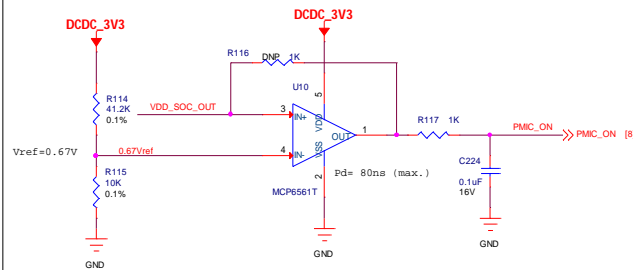


Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title PMIC SECTION		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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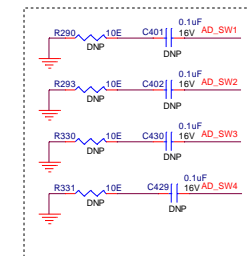
POWER REGULATORS



Push-Pull Comparator for Power Good signal of VDD_SOC Supply

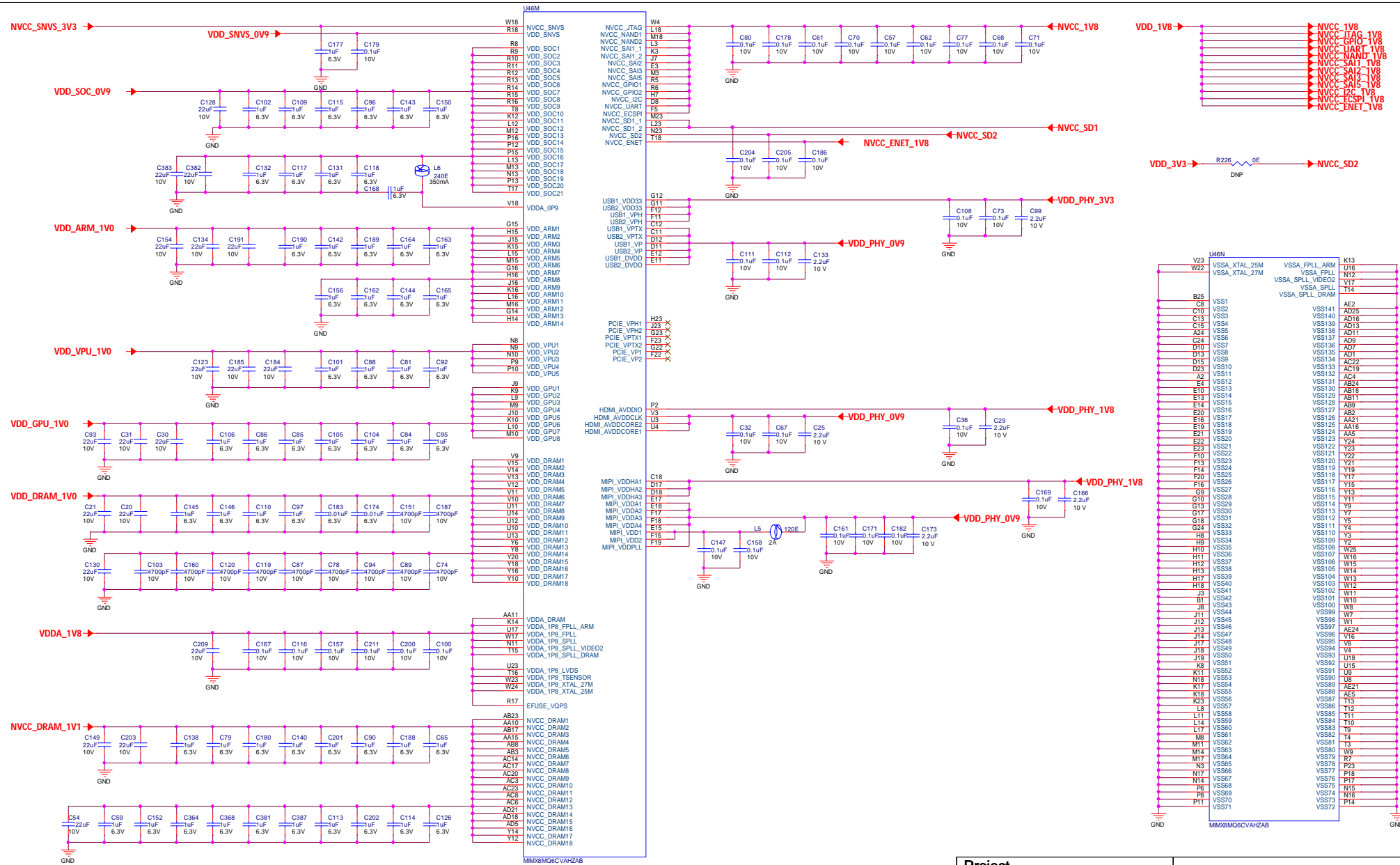



Snubber tuning provision



Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title POWER REGULATORS		eInfochips The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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PROCESSOR(iMX 8M) POWER AND GROUND

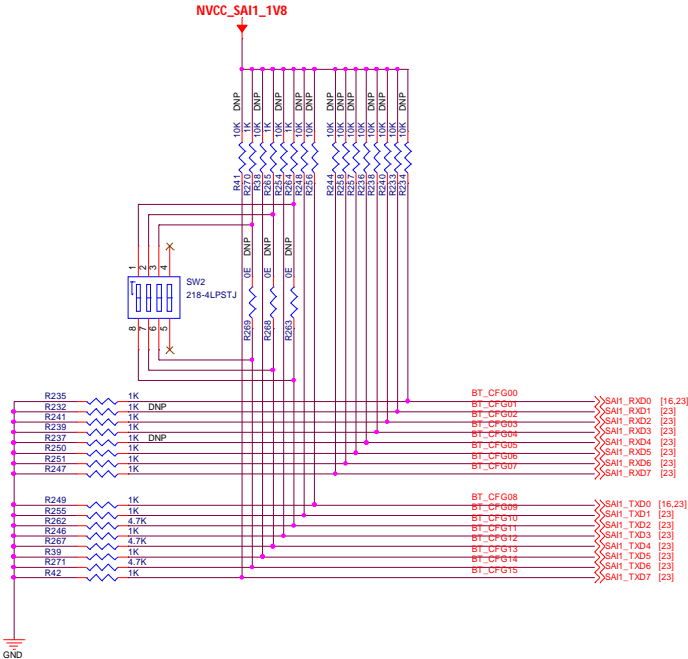


Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title PROCESSOR POWER AND GROUND		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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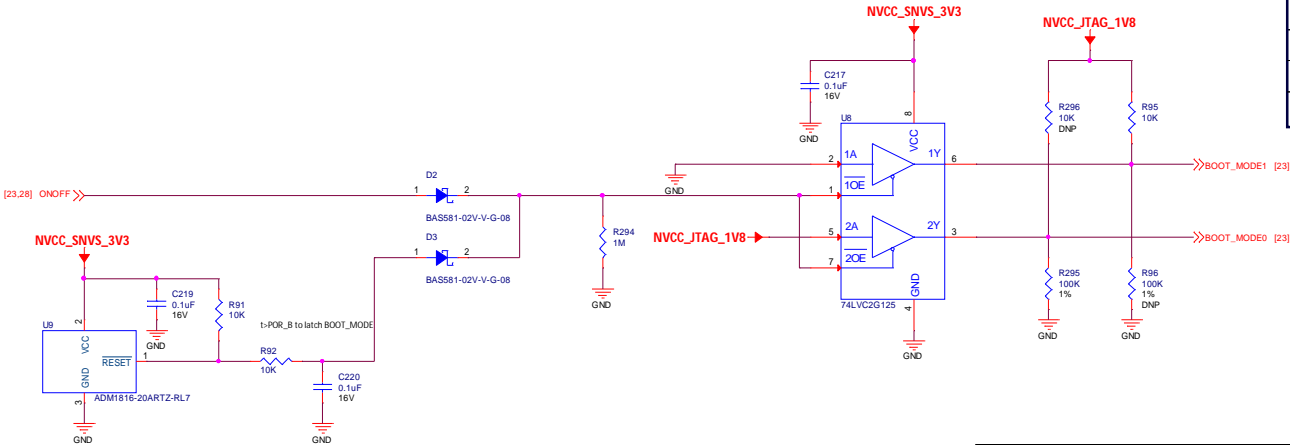
PROCESSOR(iMX 8M QUAD) CONTROL


QSPI boot is not supported by ROM in current Silicon revision

BMODE[2:0]	BOOT Configuration
011	Boot from SD2
100	Boot from QSPI

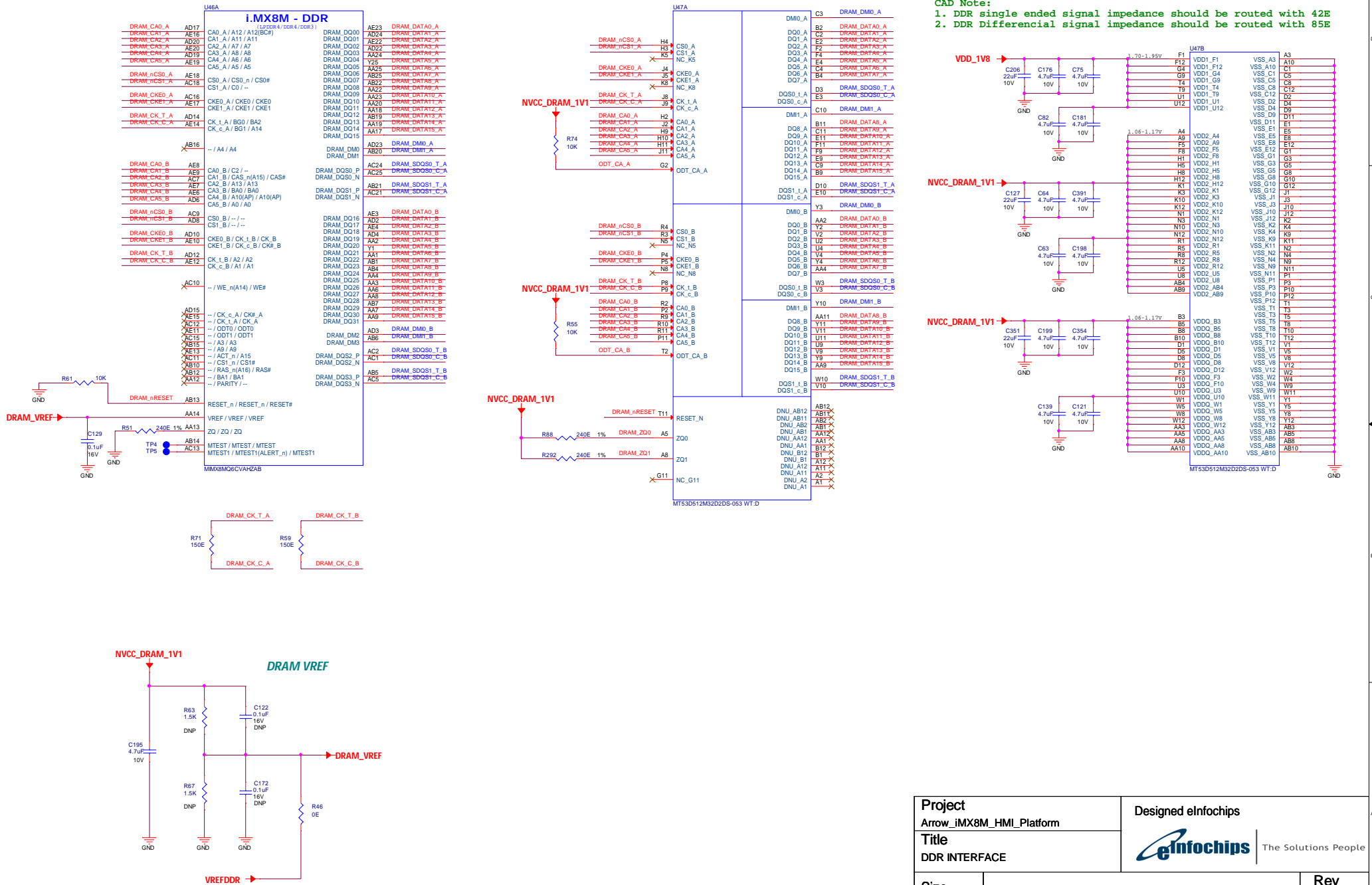


BMODE[1:0]	BOOT Source
00	Boot from fuses
01	Serial downloader
10	Internal boot
11	Reserved




Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title PROCESSOR CONTROL		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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DDR INTERFACE



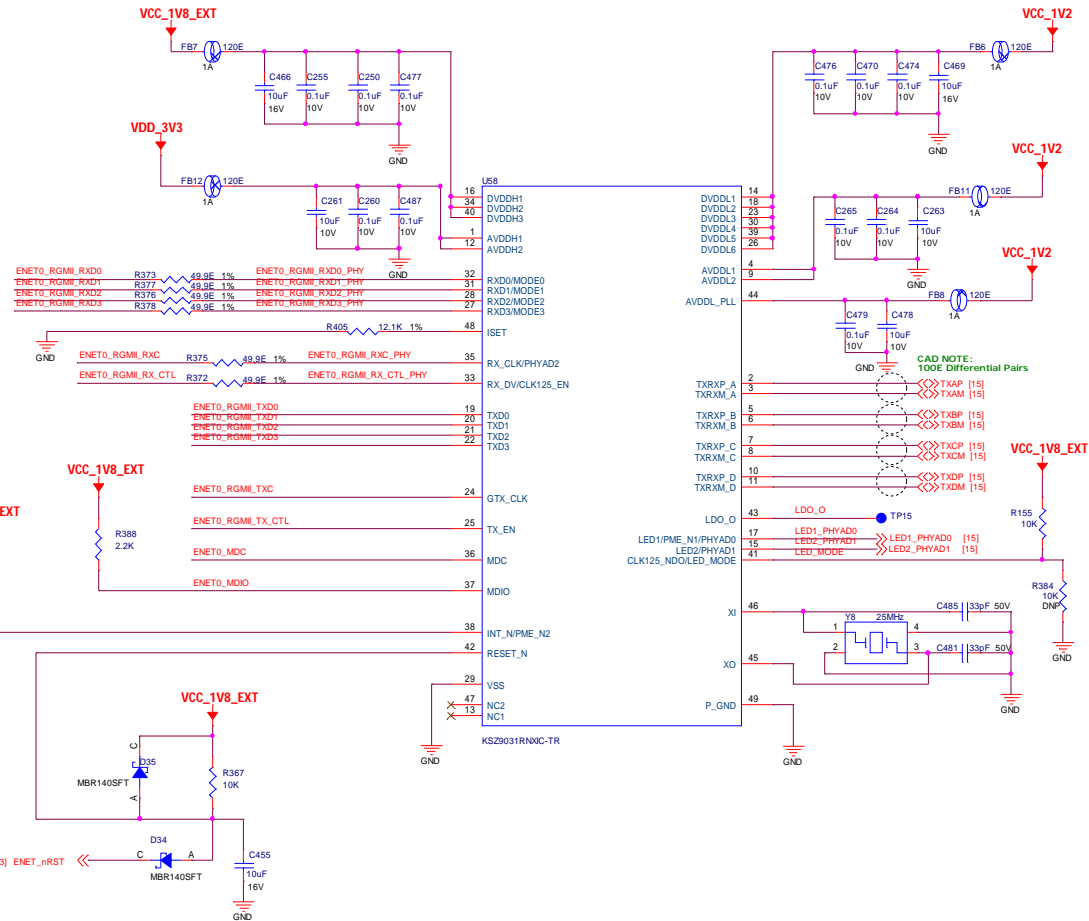
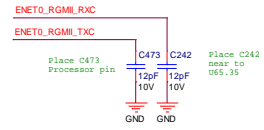
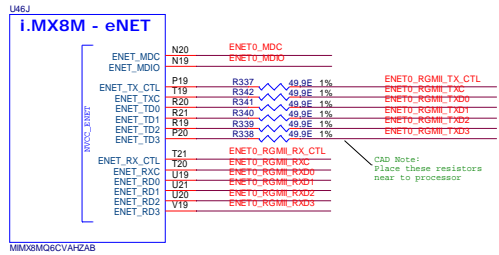
Note : LPDDR4 4GB and 2GB parts are pin to pin compatible

Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title DDR INTERFACE		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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ETHERNET SECTION

Note: 1.8Volt ENET0_RGMII TX and RX

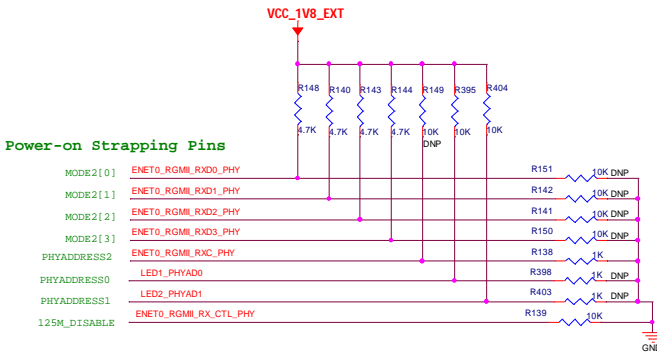



CAD Note:
RGMII signals should be routed with 50E Impedance

MODE2[3:0]

```
(Default assemble: 1111)
0100 NAND tree mode
0111 Chip power-down mode
1100 RGMII mode - Advertise 1000BASE-T half-duplex only
1101 RGMII mode - Advertise 1000BASE-T full- and half-duplex only
1110 RGMII mode - Advertise all capabilities (10/100/1000 speed half-/full-duplex),
      except 1000BASE-T halfduplex
1111 RGMII mode - Advertise all capabilities (10/100/1000 speed half-/full-duplex)

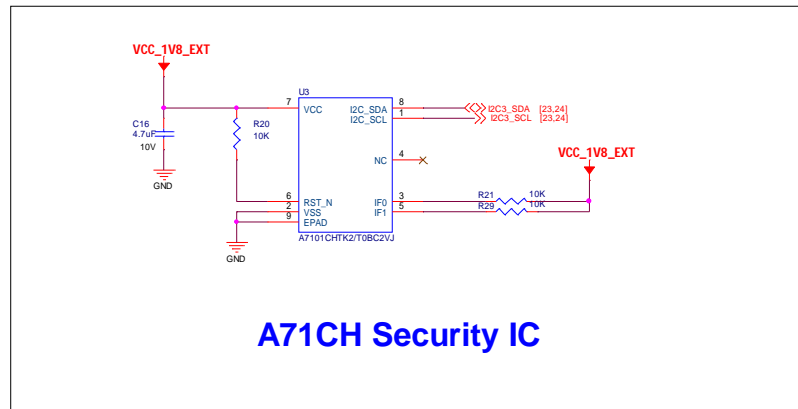
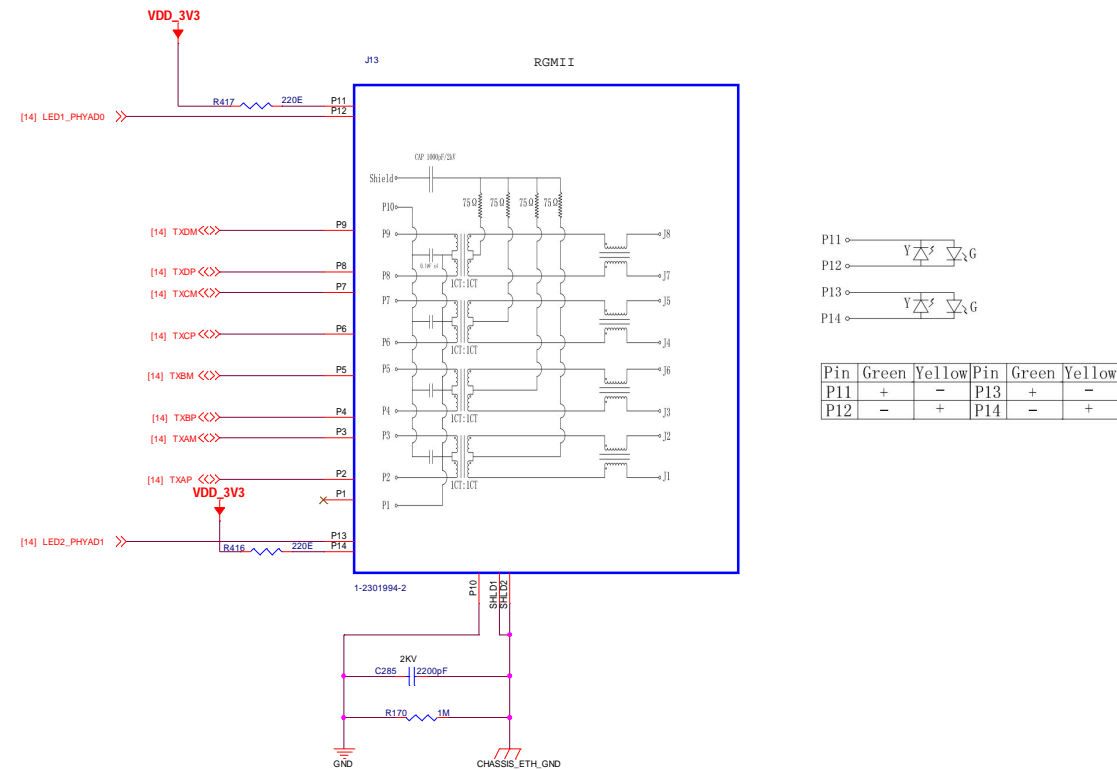
Others Reserved
```




Project Arrow_iMX8M_HML_Platform		Designed eInfochips	
Title ETHERNET SECTION1		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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ETHERNET CONNECTOR

ETHERNET CONNECTOR INTERFACE (RGMII MODE)



Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title ETHERNET SECTION2		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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AUDIO SECTION

Audio Codec

AUDIO SECTION

Audio Codec

AUDIO SECTION

Audio Codec

Headphone Out + MIC IN

AUDIO SECTION

Audio Codec

AUDIO SECTION

Audio Codec

Audio Codec Jack Standard Selection (Headphone Out + MIC IN)

Resistor (Ref Des)	CTIA Standard	OMTP Standard
R382	Mount	Unmount
R386	Unmount	Mount
R361	Unmount	Mount
R360	Mount	Unmount

Headphone Out + MIC IN

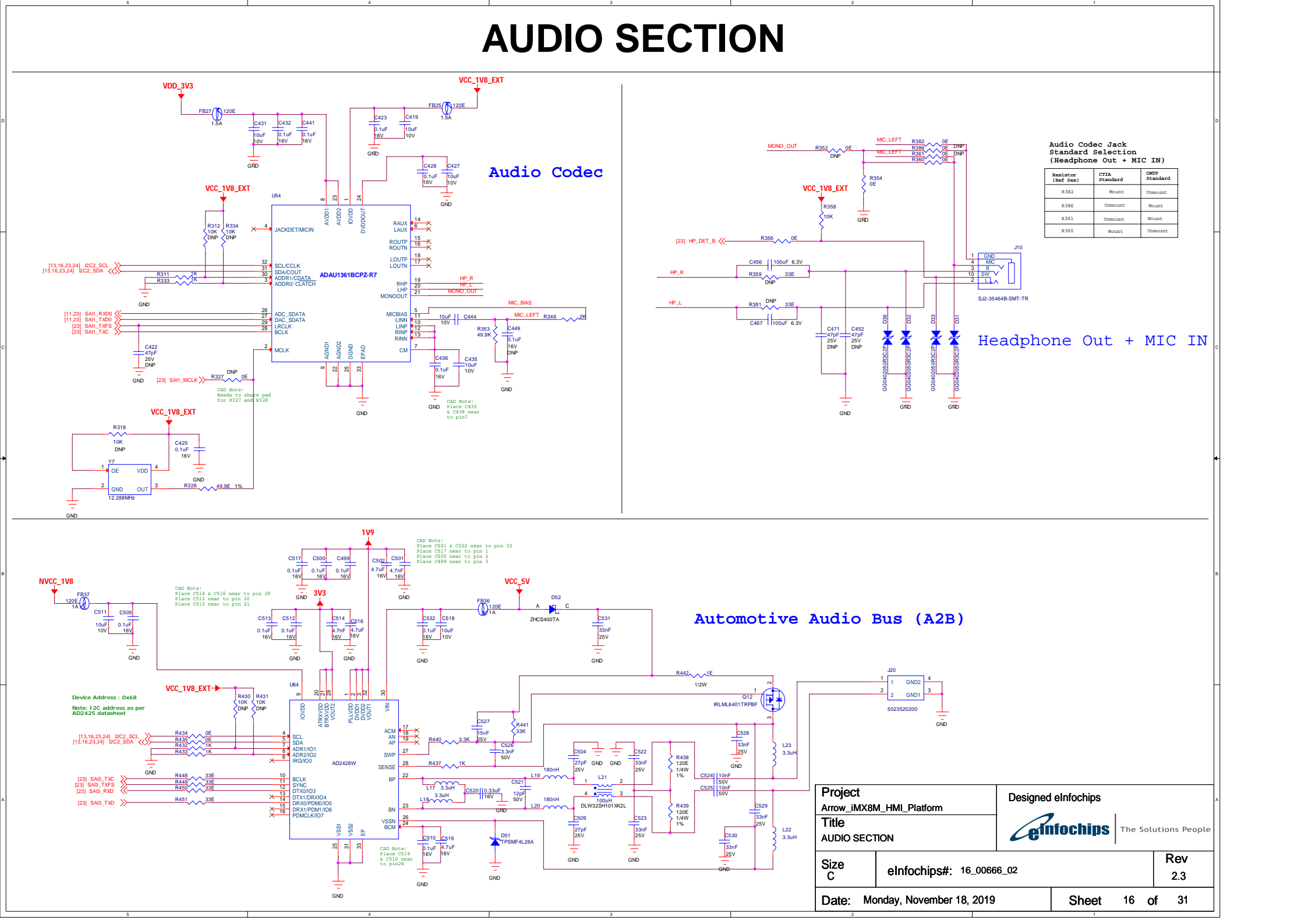
AUDIO SECTION

Audio Codec

[illegible]

AUDIO SECTION

Audio Codec



AUDIO SECTION

AUDIO SECTION

Audio Codec

Resistor (Ref Des)	CTIA Standard	OMTP Standard
R382	Mount	Unmount
R386	Unmount	Mount
R361	Unmount	Mount
R360	Mount	Unmount

Headphone Out + MIC IN

Automotive Audio Bus (A2B)

Power and Signal Conditioning

Project
Arrow_iMX8M_HMI_Platform

Title
AUDIO SECTION

Size
C

Date: Monday, November 18, 2019

Designed einfochips

Rev
2.3

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AUDIO SECTION

Audio Codec

Headphone Out + MIC IN

Resistor (Ref Des)	CTIA Standard	OMTP Standard
R382	Mount	Unmount
R386	Unmount	Mount
R361	Unmount	Mount
R360	Mount	Unmount

Automotive Audio Bus (A2B)

AUDIO SECTION

Audio Codec

Headphone Out + MIC IN

Resistor (Ref Des)	CTIA Standard	OMTP Standard
R382	Mount	Unmount
R386	Unmount	Mount
R361	Unmount	Mount
R360	Mount	Unmount

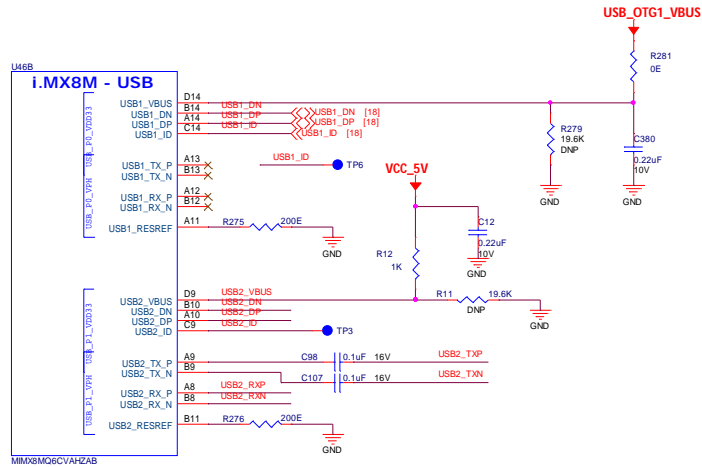
Automotive Audio Bus (A2B)

AUDIO SECTION

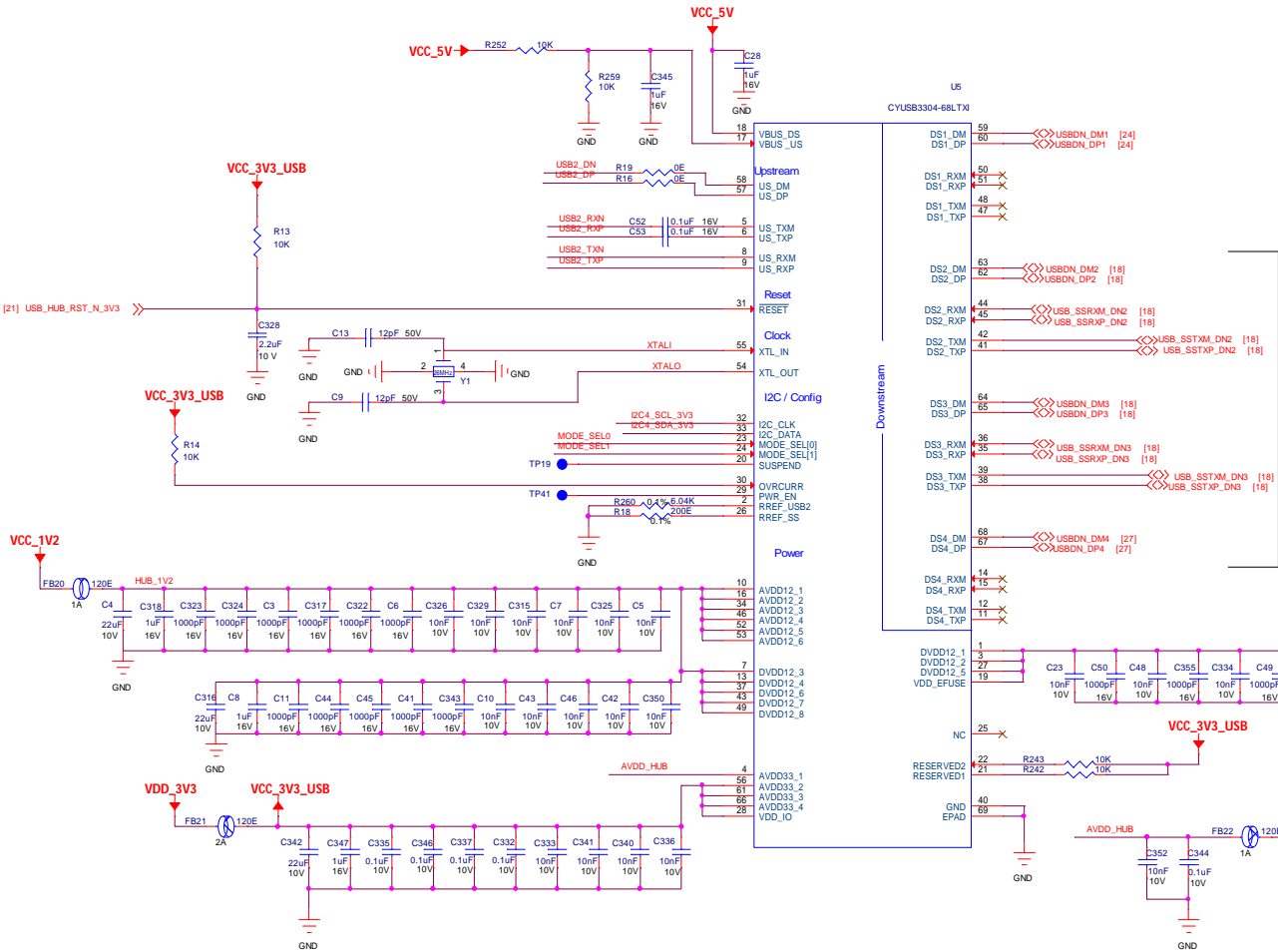
Audio Codec

AUDIO SECTION

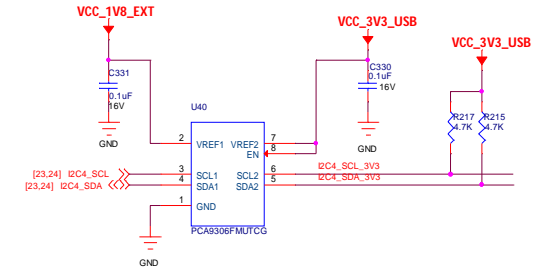
USB HUB CONTROLLER



USB 3.0 HUB (4 DOWN STREAM PORTS)



VOLTAGE LEVEL TRANSLATOR



Mode Selection Table

MODE_SEL1	MODE_SEL0	Configuration Modes
0	0	Reserved. Do not use this mode.
1	1	Internal ROM configuration
0	1	I2C Master read configuration from I2C EEPROM
1	0	I2C Slave configure from an external I2C Master

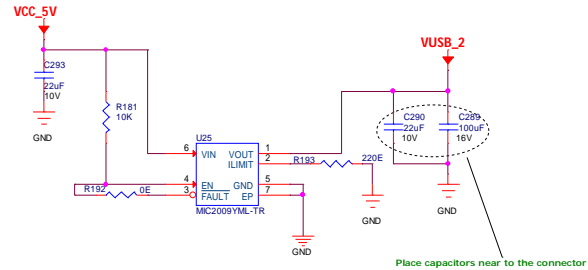
CAD Note:
USB signals should be routed with 90Ω Impedance

Note: USB 3.0 Downstream port speed will be divided by four due to USB HUB

Project Arrow_iMX8M_HMI_Platform		Designed einfochips	
Title USB HUB CONTROLLER		einfochips The Solutions People	
Size C	einfochips#: 16_00666_02		Rev 2.3
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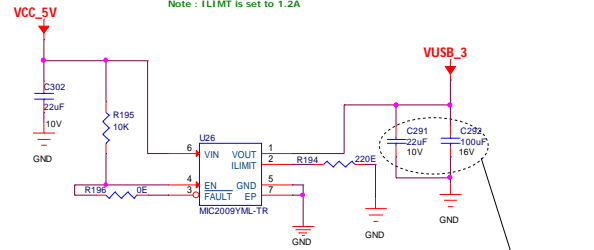
USB CONNECTORS

USB 3.0 TYPE A HOST CONNECTORS



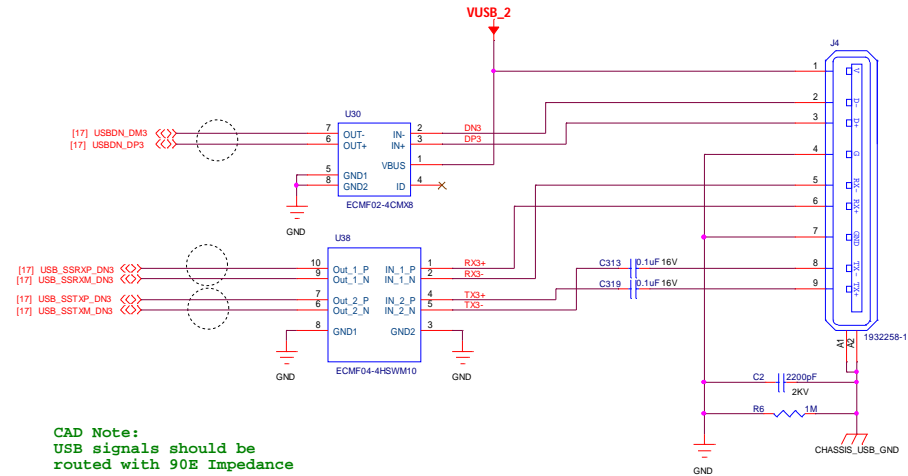
Note : ILMIT is set to 1.2A

Place capacitors near to the connector



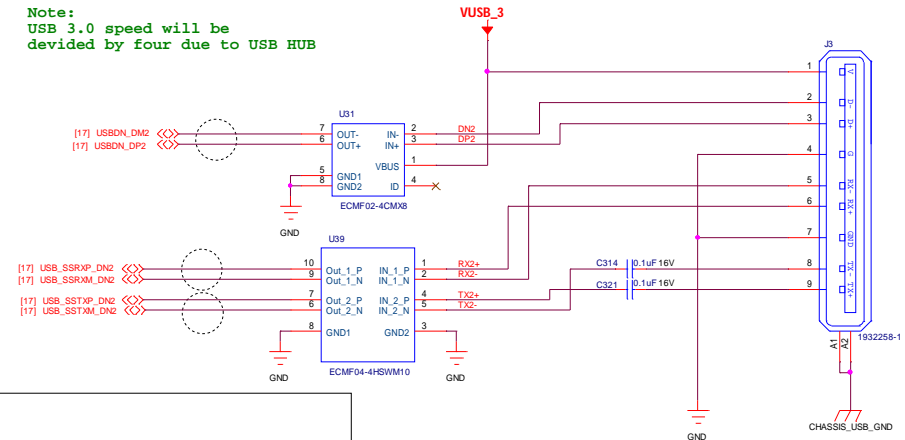
Note : ILMIT is set to 1.2A

Place capacitors near to the connector

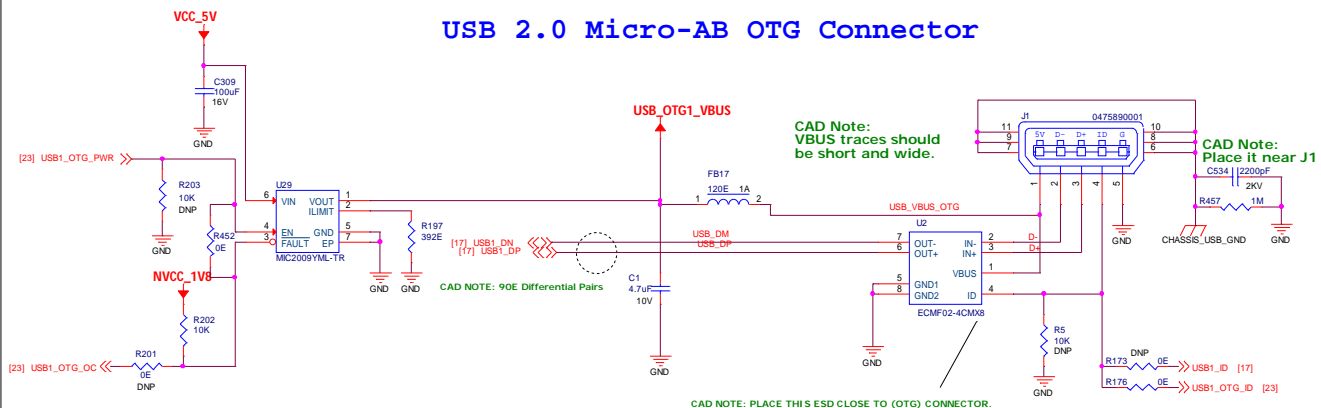


CAD Note:
USB signals should be
routed with 90E Impedance

Note:
USB 3.0 speed will be
divided by four due to USB HUB




USB 2.0 Micro-AB OTG Connector



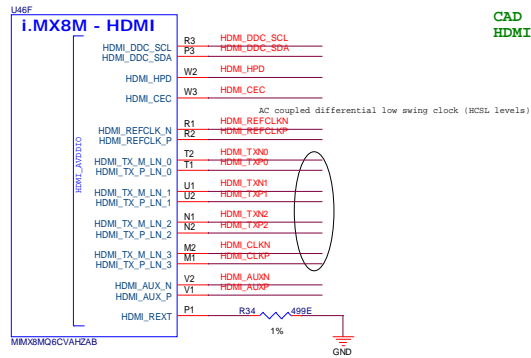
CAD Note:
VBUS traces should
be short and wide.

CAD Note:
Place it near J1

CAD Note: PLACE THIS ESD CLOSE TO (OTG) CONNECTOR.

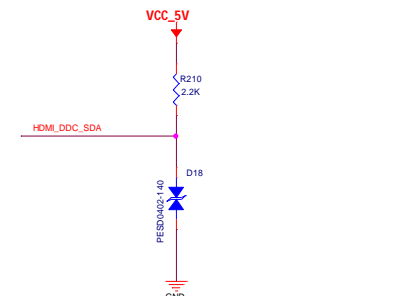
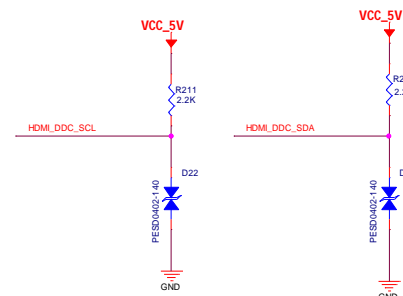
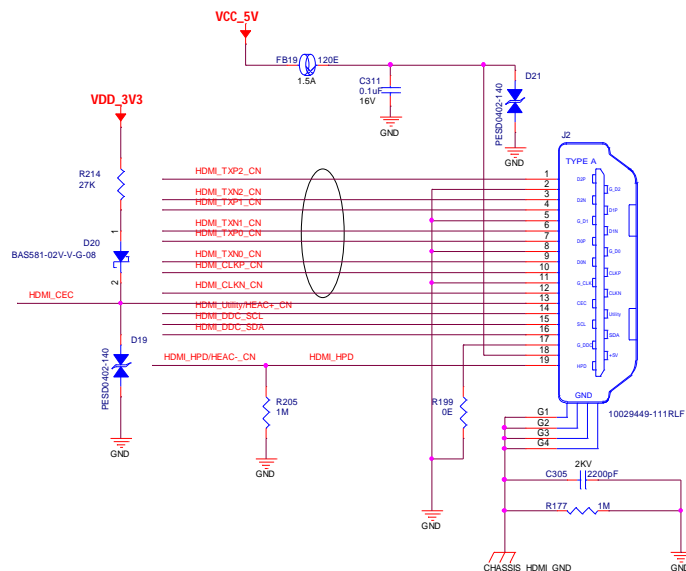
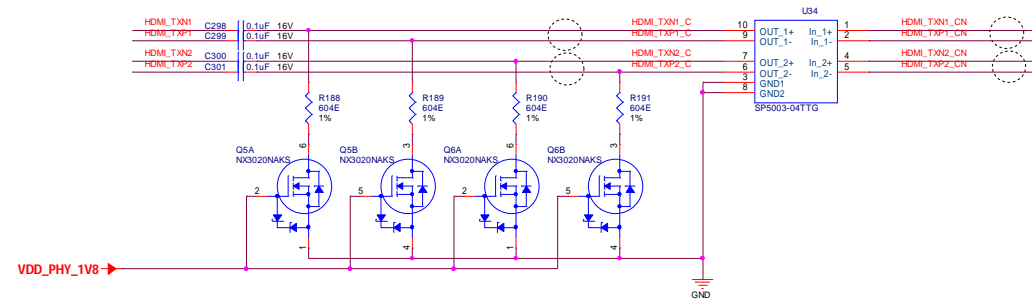
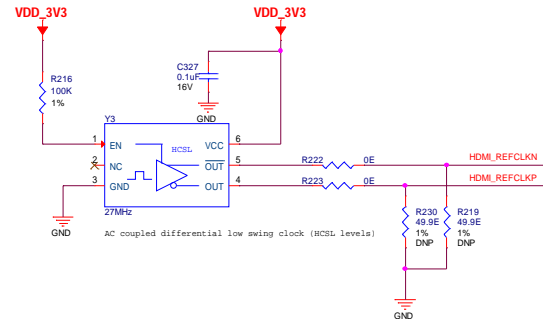
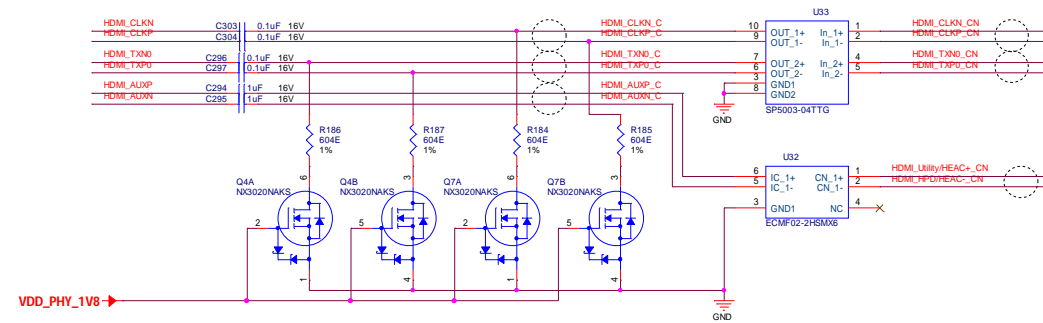
Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title USB CONNECTORS		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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HDMI CONNECTOR



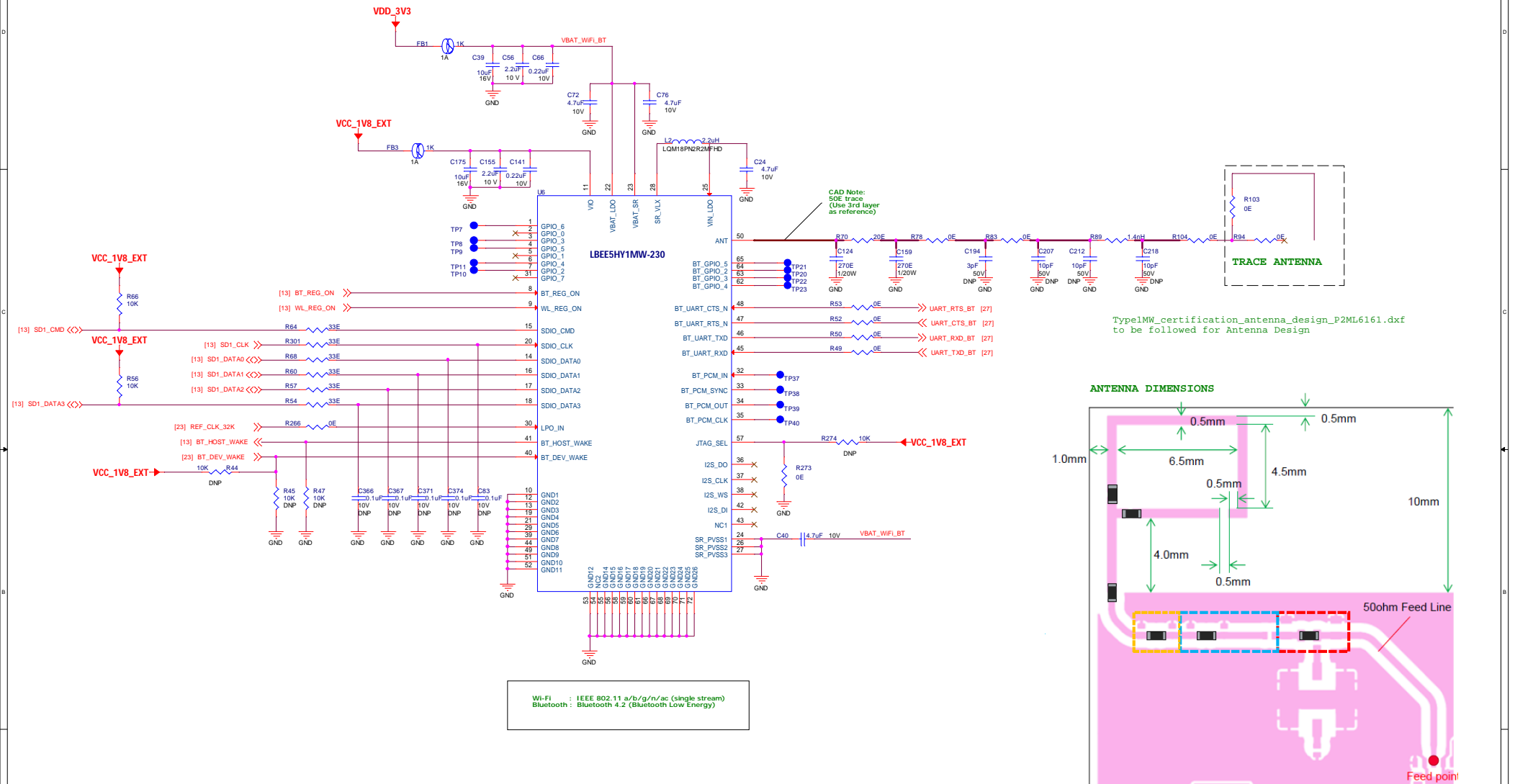
CAD Note:
HDMI signals should be routed with 100E Impedance


HDMI data EMI/ESD



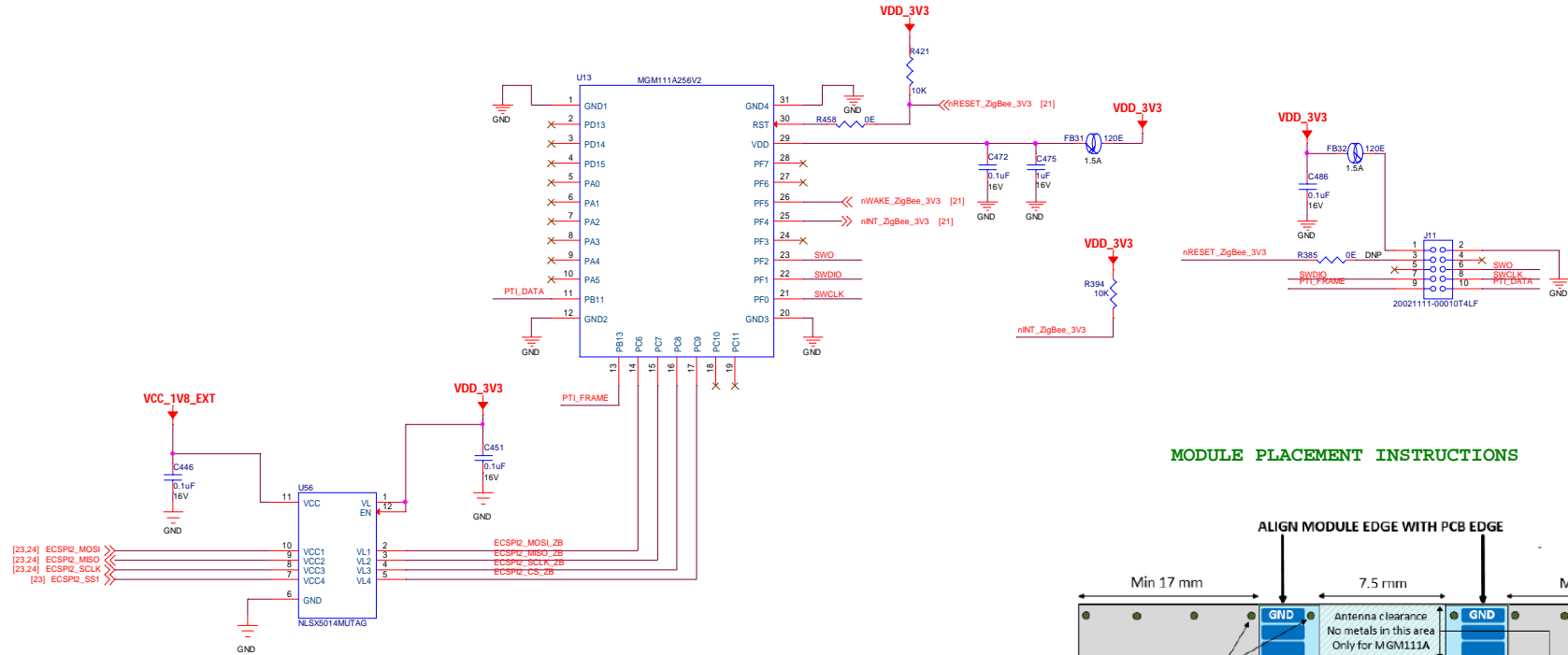
Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title HDMI CONNECTOR		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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Wi-Fi AND BLUETOOTH SECTION

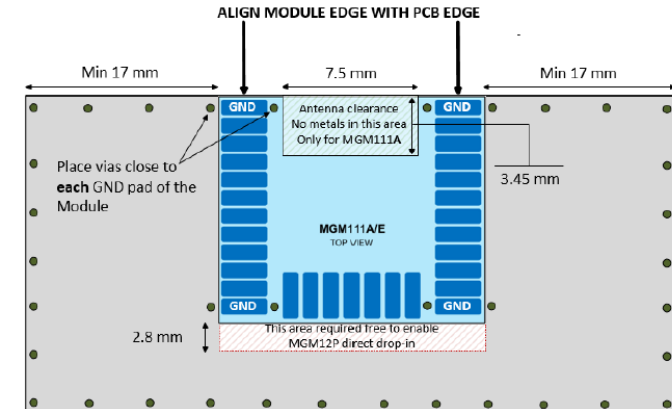


Project Arrow_iMX8M_HMI_Platform		Designed elnfochips	
Title Wi-Fi AND BLUETOOTH SECTION		 The Solutions People	
Size C	elnfochips#: 16_00666_02		Rev 2.3
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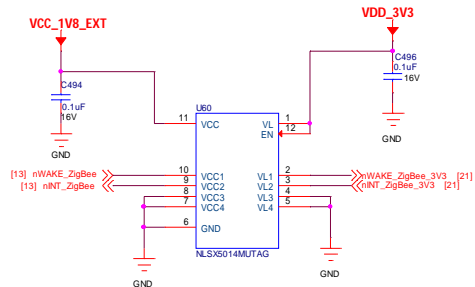
ZIGBEE SECTION



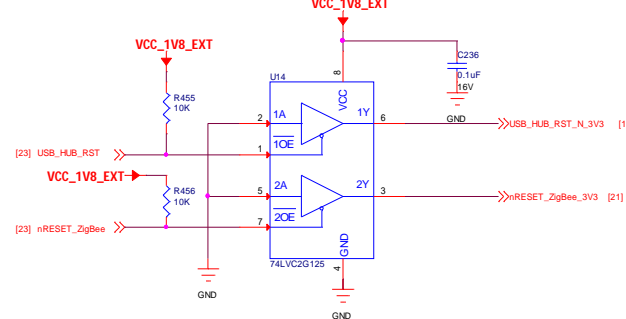
MODULE PLACEMENT INSTRUCTIONS




Level Translator

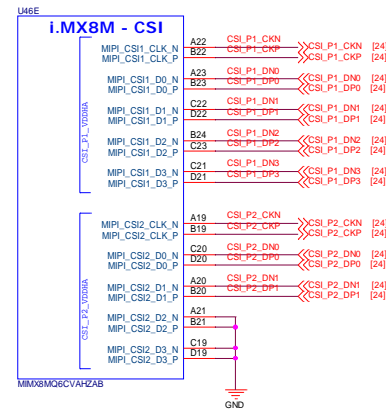


Reset Buffer

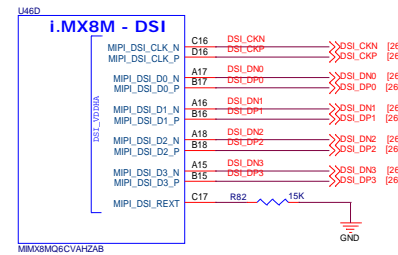
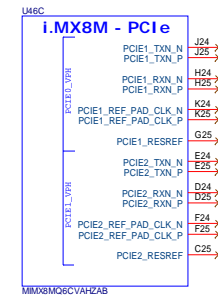


Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title ZIGBEE SECTION		 The Solutions People	
Size C	eInfochips#: 16_00666_02		Rev 2.3
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PROCESSOR OTHER INTERFACES1



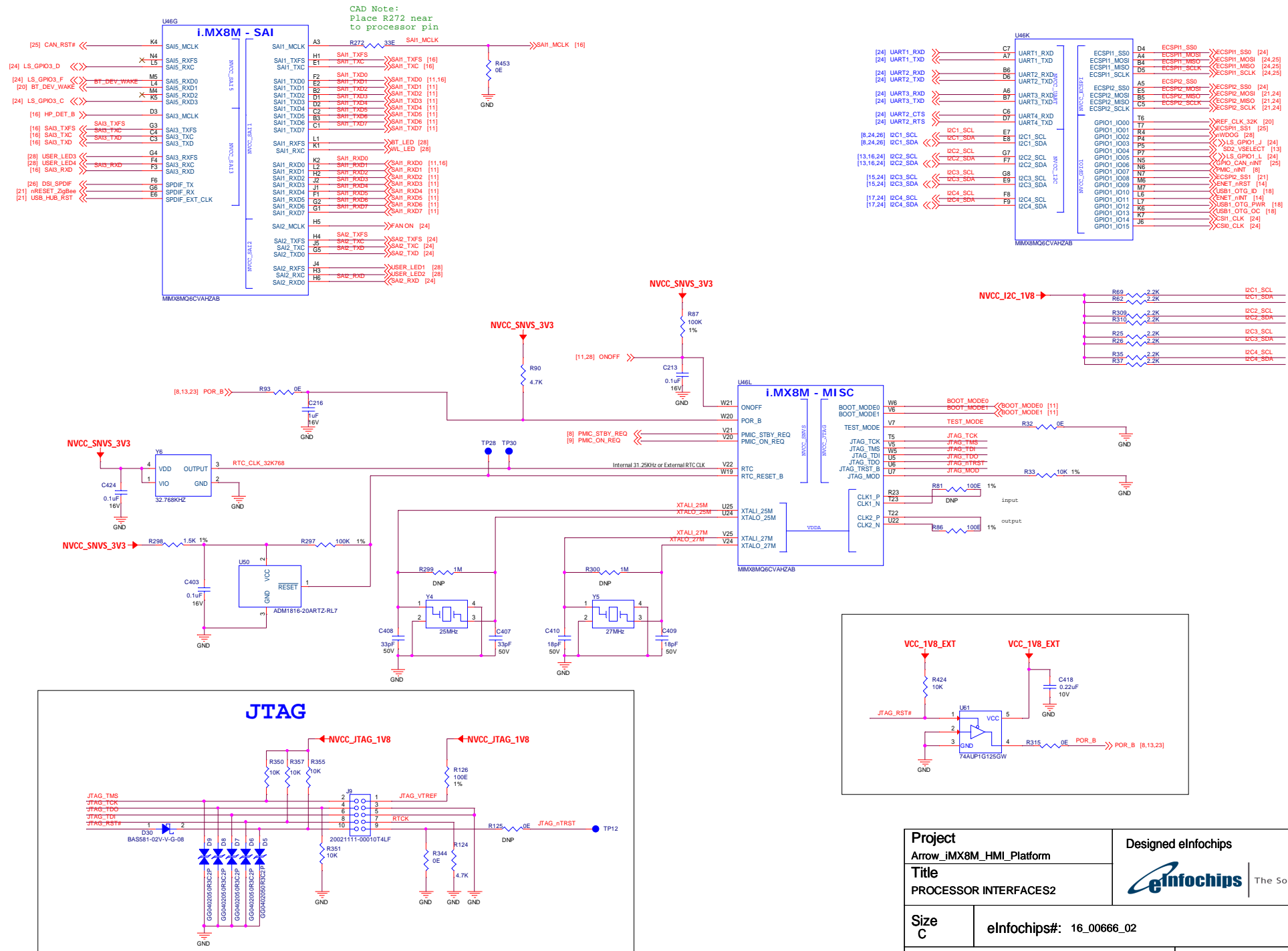
CAD Note:
MIPI CSI signals should be
routed with 100E Impedance




CAD Note:
MIPI DSI signals should be
routed with 100E Impedance

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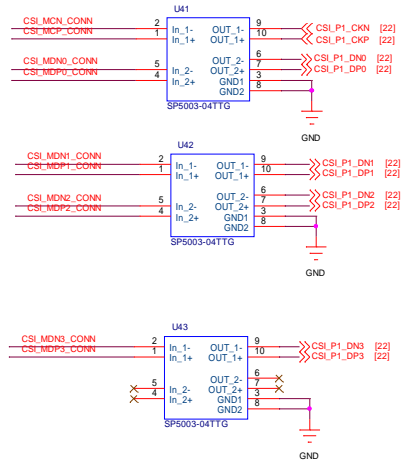
PROCESSOR OTHER INTERFACES2



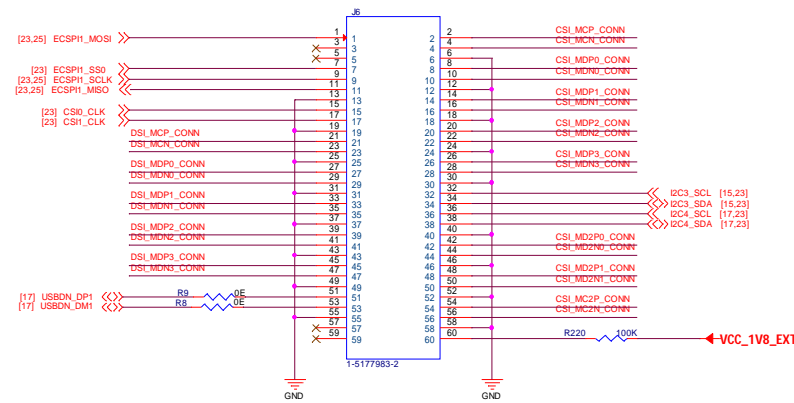
Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
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HS / LS EXPANSION CONNECTOR

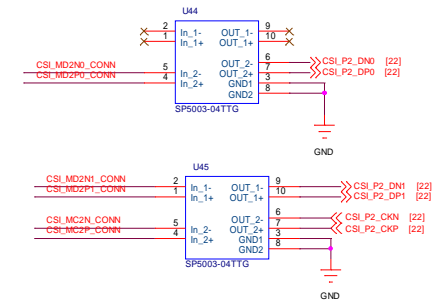
CSI1 EMI FILTERS



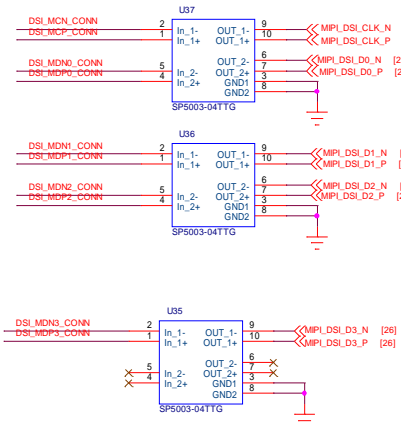
HIGH SPEED EXPANSION CONNECTOR



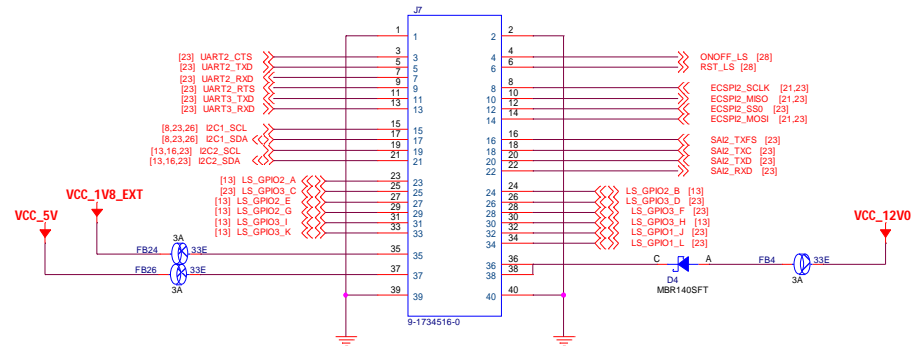
CSI2 EMI FILTERS



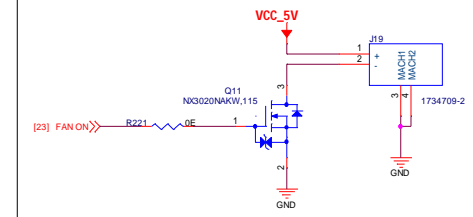
DSI0 EMI FILTERS



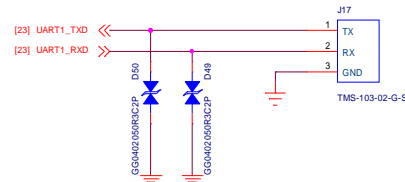
LOW SPEED EXPANSION CONNECTOR



FAN CONNECTOR



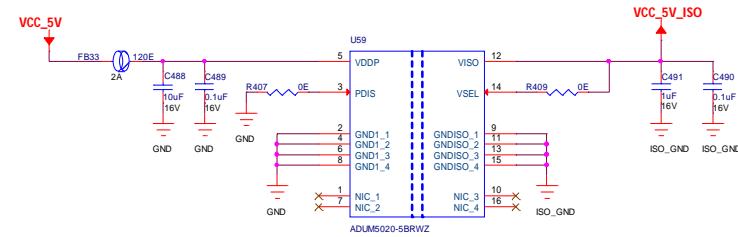
DEBUG UART



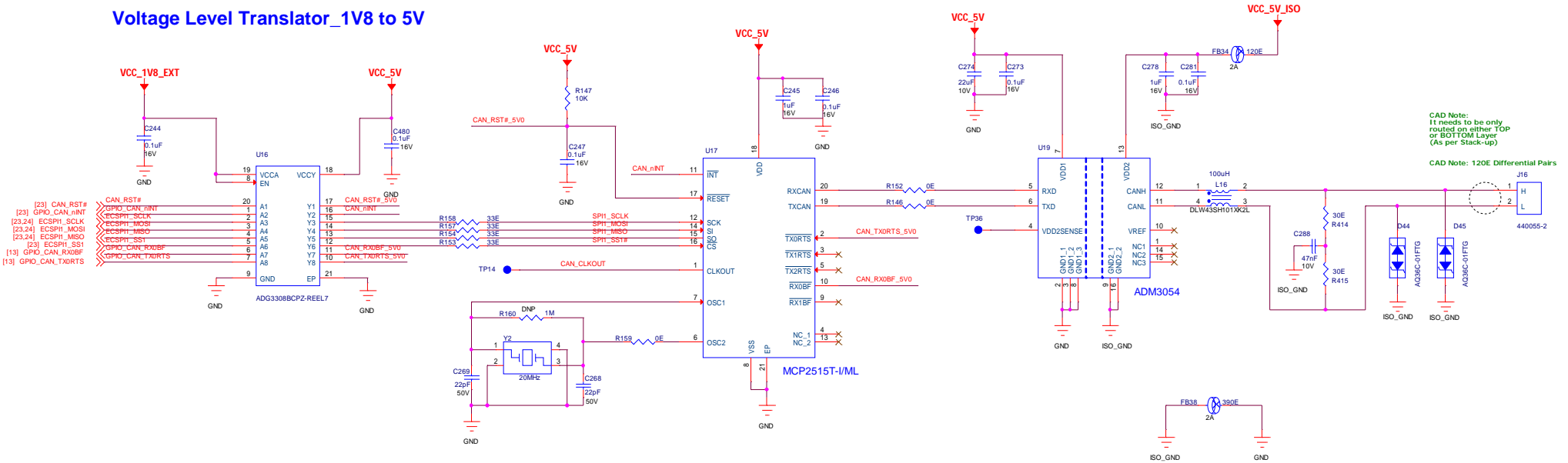
Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
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CAN INTERFACE

DC-DC ISOLATOR

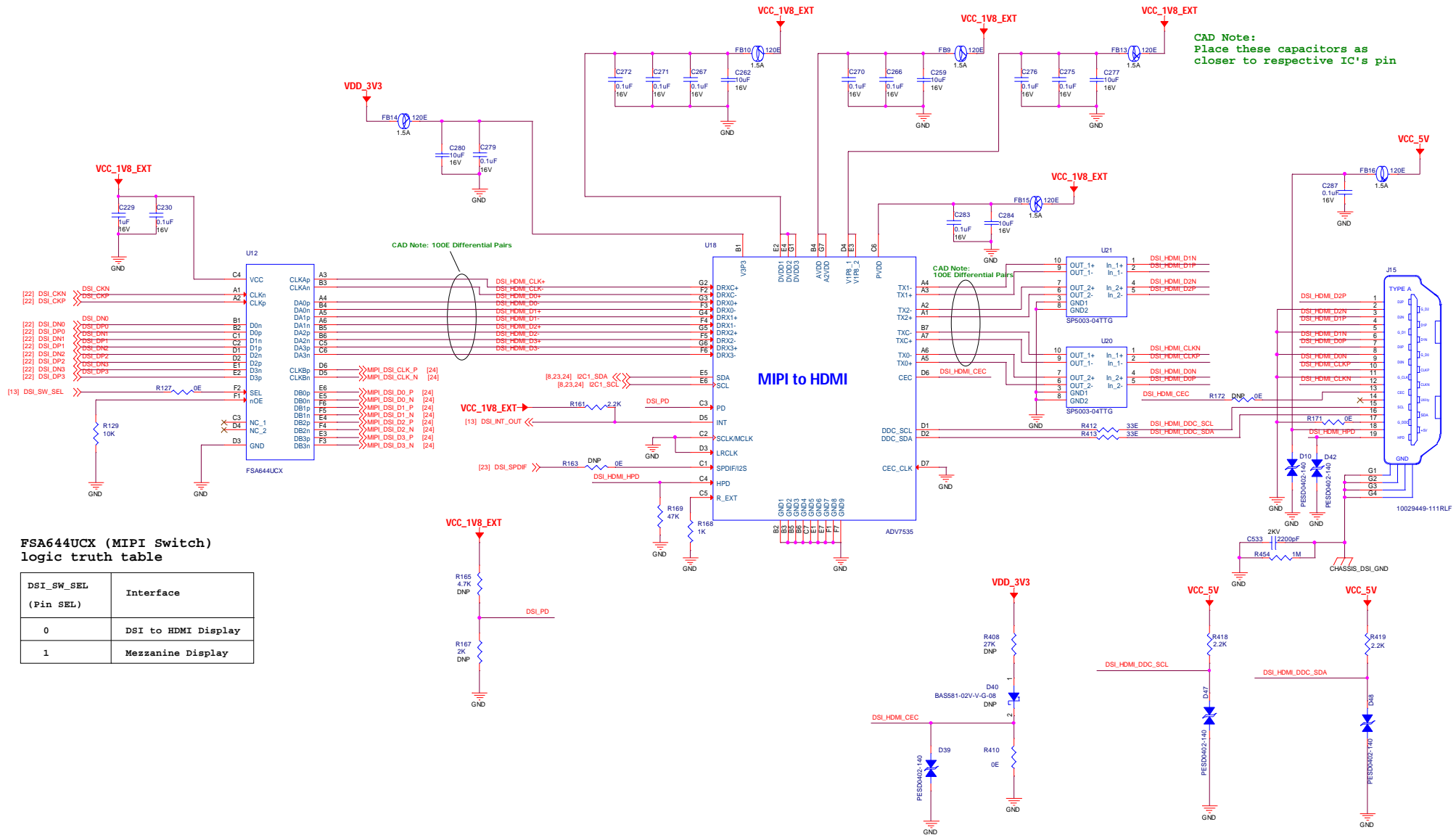


Voltage Level Translator_1V8 to 5V



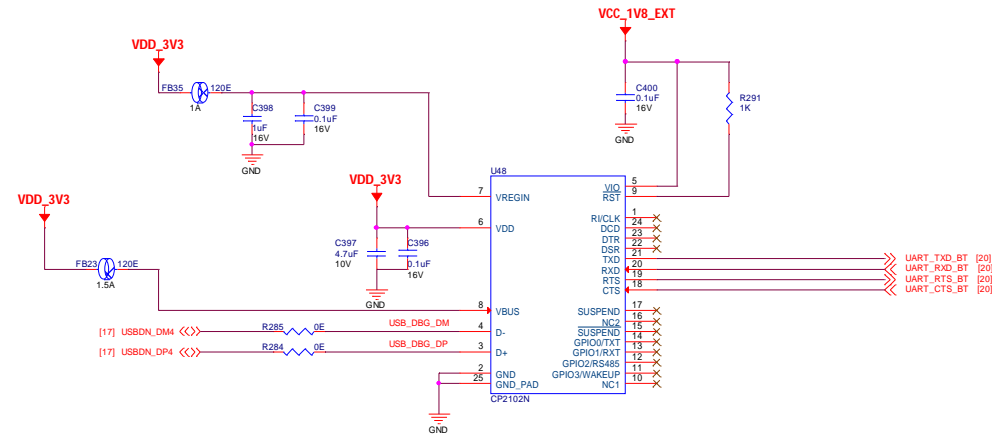
Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
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DSI TO HDMI INTERFACE



DSI_SW_SEL (Pin SEL)	Interface
0	DSI to HDMI Display
1	Mezzanine Display

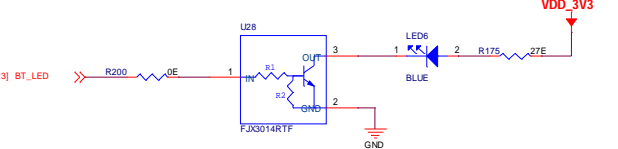
USB TO UART FOR LS CONNECTOR



Project Arrow_iMX8M_HMI_Platform		Designed eInfochips	
Title USB to UART Bridge		 The Solutions People	
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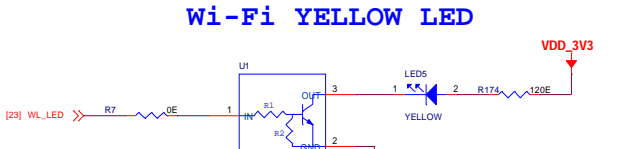
RESET SCHEME AND LED

BLUETOOTH BLUE LED



The circuit diagram for the Bluetooth Blue LED features a blue LED labeled LED6. The LED's anode (pin 1) is connected to the output (pin 3) of a BC107 NPN transistor (U28). The transistor's base (pin 1) is connected to a signal source [23] BT_LED through a 200 ohm resistor (R200). The emitter (pin 2) of the transistor is connected to ground. The LED's cathode (pin 2) is connected to ground through a 27 ohm resistor (R175). The LED is labeled 'BLUE'.

Wi-Fi YELLOW LED



The circuit diagram for the Wi-Fi Yellow LED features a yellow LED labeled LED5. The LED's anode (pin 1) is connected to the output (pin 3) of a BC107 NPN transistor (U1). The transistor's base (pin 1) is connected to a signal source [23] WL_LED through a 7 ohm resistor (R7). The emitter (pin 2) of the transistor is connected to ground. The LED's cathode (pin 2) is connected to ground through a 120 ohm resistor (R174). The LED is labeled 'YELLOW'.

[illegible]

2.63V Threshold
210 ms delay
Open-Drain RST output
Internal 100k Pullup on MR input
Idd = 10 uA max

3 Microswitches


4X USER GREEN LEDs

The diagram illustrates the circuit for driving four green LEDs (LED1, LED2, LED3, LED4) using four FJX3014RTF MOSFETs (U24, U23, U22, U27). Each LED is connected to a common VDD_3V3 supply through a resistor (R1, R2, R3, R4). The MOSFETs are configured as common-emitter amplifiers, with their bases connected to the USER_LED1 through USER_LED4 inputs through resistors (R180, R179, R178, R198). The MOSFETs are connected to ground through their emitters (pins 2). The MOSFETs are connected to the LEDs through their collectors (pins 3). The MOSFETs are connected to ground through their emitters (pins 2).

POWER ON-OFF SWITCH

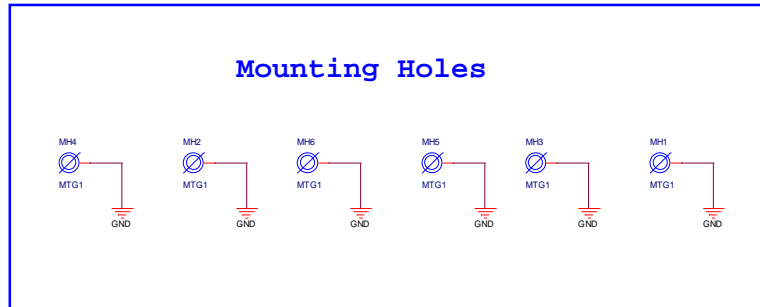
The top diagram illustrates the control circuit for the power on-off switch. It features a microcontroller (SW6) connected to a relay (SW_EVP-AA802Q) through a diode (D48) and a resistor (GG940205-05C2P). The relay is controlled by the microcontroller's output pin (A2) and is connected to the power supply (VCC) through a diode (D48) and a resistor (GG940205-05C2P). The power supply is connected to the relay's output pin (B1) and is labeled ONOFF [11,23,28].

The bottom diagram illustrates the power switch circuit. It shows the power supply (VCC_1V8_EXT) connected to a relay (U63) through a resistor (R425). The relay is controlled by the microcontroller's output pin (A2) and is connected to the power supply (VCC) through a diode (D48) and a resistor (R426). The power supply is connected to the relay's output pin (B1) and is labeled ONOFF [11,23,28].

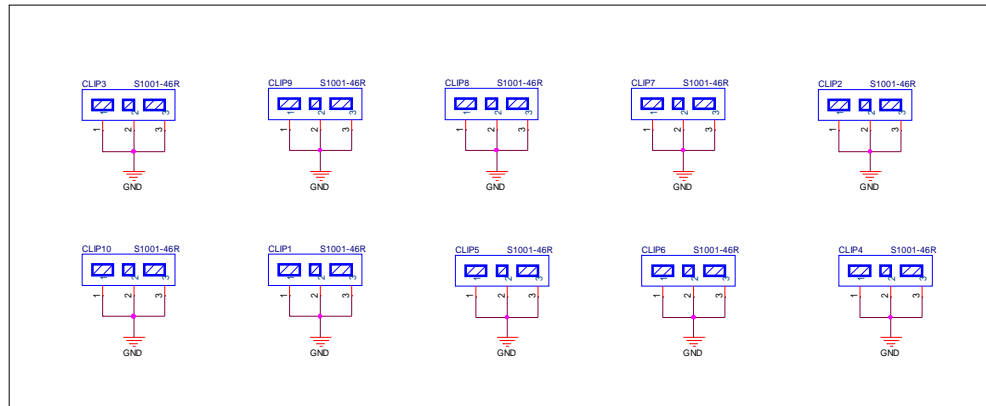
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MISCELLANEOUS

Mounting Holes




SHIELD CLIPS FOR PROCESSOR AND DDR SECTION



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REVISION HISTORY1

PCB REV	SCH REV	CHANGE DESCRIPTION	DATE	AUTHOR
	0.1	Initial draft version created for internal review	13/08/2018	eInfochips
	0.2	U7 part changed to MCP6561T, related circuitry changed and added N channel MOSFET SW1 and SW2:SW6 part changed for smaller footprints	25/08/2018	eInfochips
	0.3	ESD added on JTAG connector and R329, R330, R331 are mounted Net name updated for CSI signals on page 24 ; L2 part number changed Pull up provision removed for SD card signals ; R1764, R1765 pull down added at HPD pin of HDMI Reverse protection diode D803 for 12V mezzanine supply added Y502 changed to 20MHz ; C456 & C457 values changed to 16pF ; Removed U60 22uF and 220uF caps to be changed to smaller package ; L9,L10 parts changed for less height 1uF/16V changed to 0402 package ; 22uF/10V changed to 0603 package USB HUB Section power capacitors changed to small package Ethernet Section power capacitors changed to small package L3, L9, L10, L11, L12, L19, L20, L21, L104, L702, L703, L704, L705, L707 parts changed C1734, C1735, C1736, C1767 FPs changed to smaller ; Chassis ground changed U4 removed ; Q1603 added ; U603 value changed as per mfg part ; Y501 pin names modified Y3 part changed ; J9 & J20 part number changed ; U244 added ; C2118 added ; R11 removed GPIO table updated ; C2119 added USB to UART IC added ; A71CH Security IC added ; EEPROM part changed ADP2386 changed to LT8642S and respective passive components changed Murata review comments implemented ; Analog Devices review comments implemented J8, J9, J15, J16, J23 parts changed and footprints changed R1815, R1816, R1817 added ; C2138 added ; R510 & R511 changed to 22E ; R1764 & R1765 changed to 1M NXP review comments implemented ; Microchip Technology review comments implemented Changed C12 to 2.2uF ; R510, R511 mounted ; R512,R513 changed to DNP ; Deleted PCIe supplies to processor Removed C521,C526,C524 ; Changed C529, C530 to 33pF ; Added 10K pull-down on net ENET0_RGMII_RX_CTL Changed R455 to DNP ; Moved C562 after divider ; Y11 part changed same as Y401 USB HUB decaps added ; Switch symbol updated ; LED symbol updated ; CAD Notes added NXP review coments implemented ; C396 removed ; C2117 value changed to 100uF Implemented BOM review comments from Internal team U1603, C2141, C2142, R262, R265 removed ; R1824, R1825, R1826, R1827 added	28/09/2018	eInfochips
	0.4	Changed U7 related circuit Implemented SCH review comments from Internal team ESD Part number is changed on HDMI connector USB HUB port 1 and 4 connection swapped R1843, R1844 resistors added, Y2 part changed	03/10/2018	eInfochips

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REVISION HISTORY2

PCB REV	SCH REV	CHANGE DESCRIPTION	DATE	AUTHOR
	0.5	Removed R149 ; Changed R460 to 10K ; Removed R455 ; Swapped connection of U24 & U27 Removed D812 ; Removed R217, R218 QSPI power net changed ; D820 Added ; R1846 & C2155 added D819 & R1845 added ; C2156 added ; R164 removed CLIP16, CLIP18, CLIP32, CLIP33, CLIP34, CLIP35, CLIP36, CLIP37, CLIP38 removed R391, R392, R393, R394 removed ; R1814, R1813, R172, R168 changed to 0E	08/10/2018	eInfochips
	0.6	Back annotation done R54, R57, R60, R68, R301 changed to 33E after SI simulation of WIFI Section Ethernet RGMII part changed to Industrial (KSZ9031RNXIC-TR)	10/10/2018	eInfochips
	1.0	Alpha released version	11/10/2018	eInfochips
	1.1	SD Card Detect Pin Logic Swap ; USB Hub Mode Select change from external to internal ROM LED1 to LED6 symbol changed ; Changed J17 Debug connector to TMS-103-02-G-S Changed boot mode in BOM to internal boot ; Updated GPIO table in schematics ; R324 changed to 100K Added 0E reistor on MIC pin of Lineout jack to make it CTIA compatible ; U61, U62, U63 added Routed BT UART through USB to UART ; Changed USB to UART to CP2102N for 3M baud rate ADP5014 compensation network changed to C221=15nF, C415=22nF, C228=68nF, C225=47nF USB OTG Part Number changed to Molex-475890001 ; R166 changed to 0E USB_HUB_PWR_EN pull-up DNP for U25 & U26 for 5V; USB_HUB_PWR_EN pull-up added on 3.3V supply CAN SPI pull-up R389, R393, R397, R399 removed 0E removed in proven circuits: R58, R65, R368, R369, R207, R208, R72, R73, R24, R27, R28, R10, R98, R97, R105, R107, R106, R108, R100, R102, R101, R99, R162, R164, R320, R319 CAN Isolator part changed to ADM3054 U64 (AD2428W) and related componens added ; Removed R15, R17, R192, R196, R288 ADI review comments implemented	16/01/2019	eInfochips
	1.2	Internal review comments implemented ; R453 added ; R203, C422 changed to DNP ADI review comments implemented for A2B chassis ground changed ; Voltage level traslator changed to reset buffer C534,R457 and R458 are added,U14 VCC net name changed Murata module part number changed to LBEE5HY1MW-230- from LBEE5HY1MW-TEMP	18/01/2019	eInfochips
	2.0	Beta released version	08/02/2019	eInfochips
	2.1	R398, R403 changed from mounted to DNP ; R395, R404 changed from DNP to mounted LBEE5HY1MW Attenuator circuit modified: C124=270E, C159=270E, R70=20E, R89=1.4nH	03/04/2019	eInfochips
	2.2	Production version released	04/04/2019	eInfochips
	2.3	LPDDR4, Processor part number changed ; Q12 value corrected as per mfg part details	18/11/2019	eInfochips

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