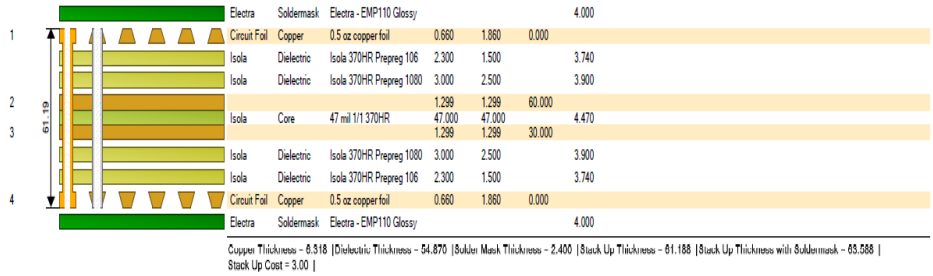
GROWHOUSE - IOT GATEWAY

MAJOR REVISION HISTORY :

PCB REV.	SCH. REV.	DESCRIPTION	DATE
1.0	0.1	Created Intial Draft	21/09/2018
	0.5	Schematic Released for External Review	16/11/2018
	1.0	PCB Released To Fabrication	09/01/2019
2.0	2.0	Beta PCB Released To Fabrication	31/07/2019

PAGE 01 : COVER PAGE
PAGE 02 : BLOCK DAIGRAM
PAGE 03 : EXPANSION CONNECTORS
PAGE 04 : USB TO ETHERNET
PAGE 05 : ZIGBEE MODULE
PAGE 06 : REVISION HISTORY

PCB LAYER STACK-UP DETAILS



Layer	Stack up	Supplier	Type	Description	Base Thickness	Finish Thickness	Copper Coverage	er
		Electra	Soldermask	Electra - EMP110 Glossy				4.000
1		Circuit Foil	Copper	0.5 oz copper foil	0.660	1.860	0.000	
		Isola	Dielectric	Isola 370HR Prepreg 106	2.300	1.500		3.740
		Isola	Dielectric	Isola 370HR Prepreg 1080	3.000	2.500		3.900
2					1.299	1.299	60.000	
		Isola	Core	47 mil 1/1 370HR	47.000	47.000		4.470
3					1.299	1.299	30.000	
		Isola	Dielectric	Isola 370HR Prepreg 1080	3.000	2.500		3.900
		Isola	Dielectric	Isola 370HR Prepreg 106	2.300	1.500		3.740
4		Circuit Foil	Copper	0.5 oz copper foil	0.660	1.860	0.000	
		Electra	Soldermask	Electra - EMP110 Glossy				4.000

61.19

Copper Thickness = 6.318 |Dielectric Thickness = 54.870 |Solder Mask Thickness = 2.400 |Stack Up Thickness = 61.188 |Stack Up Thickness with Soldermask = 63.588 | Stack Up Cost = 3.00 |

PCB MECHANICAL DETAILS :

1. PCB SIZE: 77 MM x 54 MM
2. PCB MATERIAL: FR-4
3. NUMBER OF LAYERS: 4
4. IMPEDANCE CONTROL: YES

NOTES, UNLESS OTHERWISE SPECIFIED :

1. RESISTANCE VALUES ARE IN OHMS.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. PARTS NOT INSTALLED ARE INDICATED WITH 'DNP'.
4. SIGNAL NET NAMES WITH "#" SUFFIX, ARE ACTIVE LOW SIGNALS.
5. RESISTORS ARE OF 0402 SIZE AND 5% TOLERANCE UNLESS SPECIFIED OTHERWISE
6. CAPACITORS ARE OF 0402 SIZE UNLESS SPECIFIED OTHERWISE
7. ALL THE PARTS INDUSTRIAL TEMPERATURE GRADE.

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Title: COVER PAGE		
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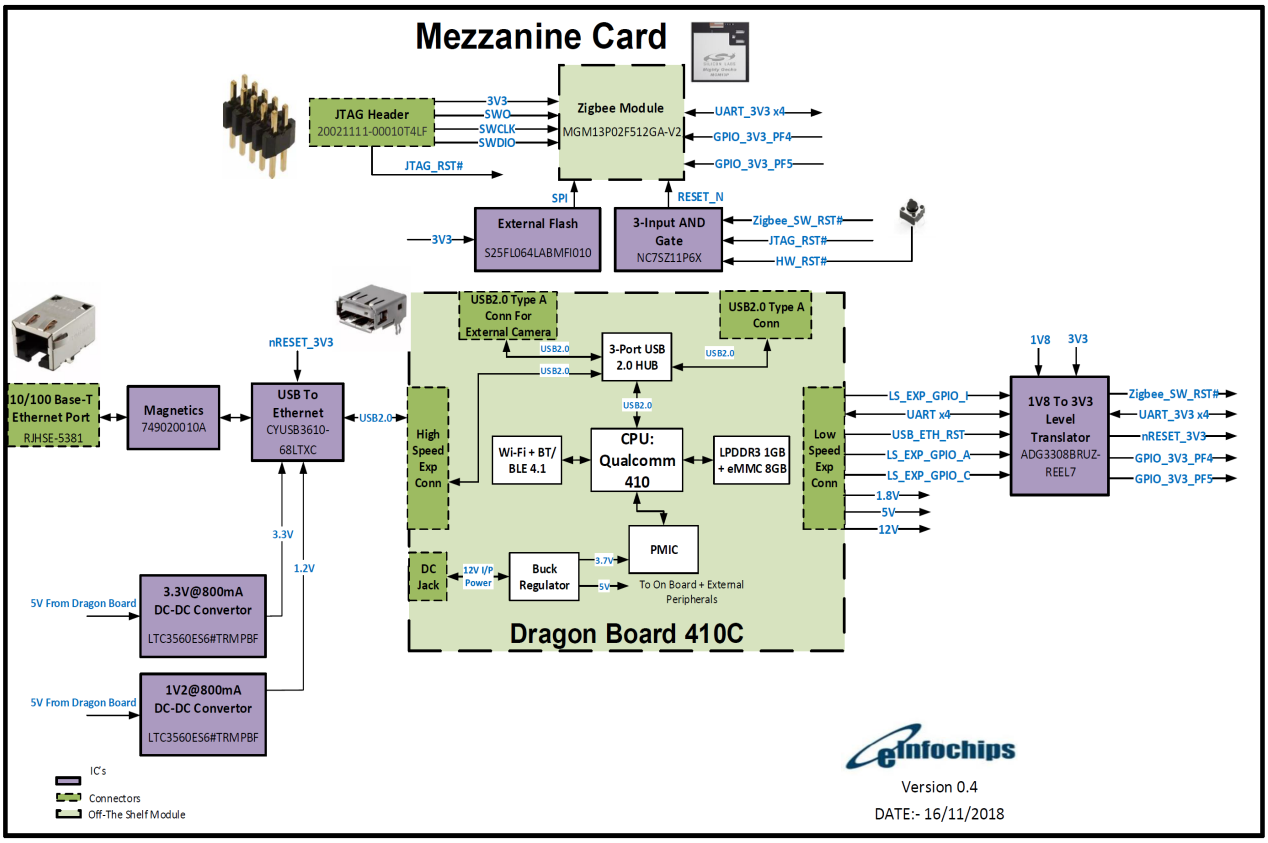
BLOCK DIAGRAM



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Title: BLOCK DIAGRAM		eInfochips The Solutions People
Size: C	eInfochips#: 16_00675_02	Rev: 2.0
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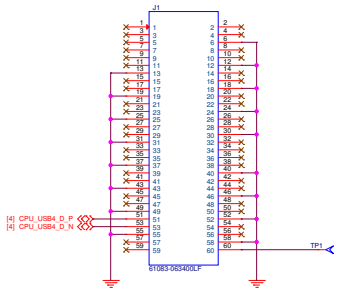
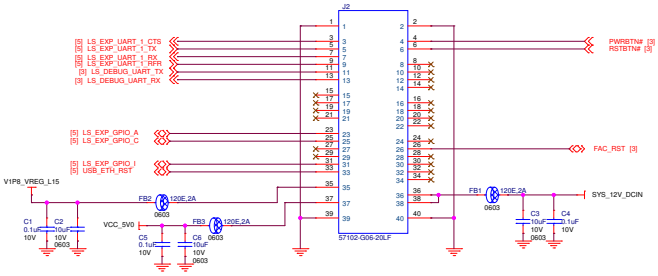
B2B EXPANSION CONNECTORS

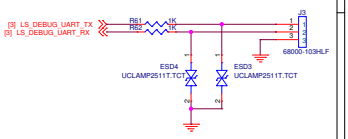
HIGH SPEED EXPANSION CONN



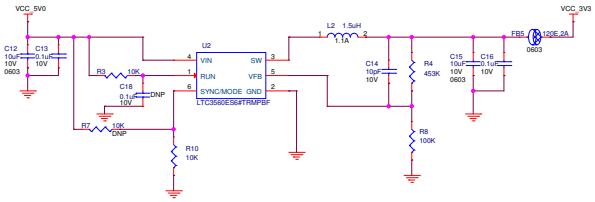
LOW SPEED EXPANSION CONN



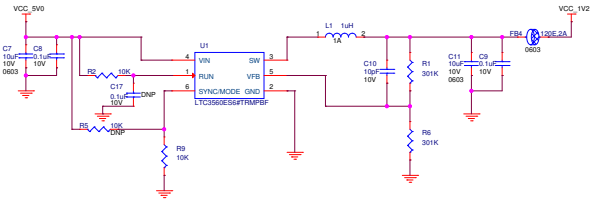
UART CONSOLE



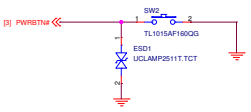
5V TO 3.3V@800mA DC TO DC CONVERTOR



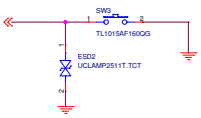
5V TO 1.2V@800mA DC TO DC CONVERTOR



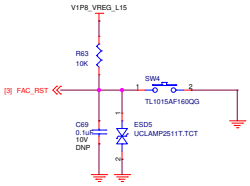
POWER SWITCH



RESET SWITCH



FACTORY RESET SWITCH



Project: IOT GATEWAY	Designed eInfochips	
Title: EXPANSION CONNECTORS		
Size: C	eInfochips#: 16_00675_02	Rev: 2.0
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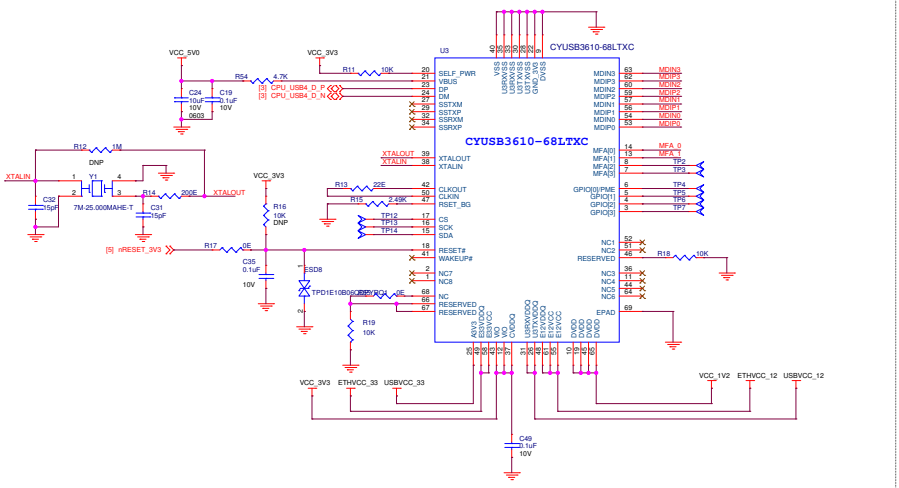
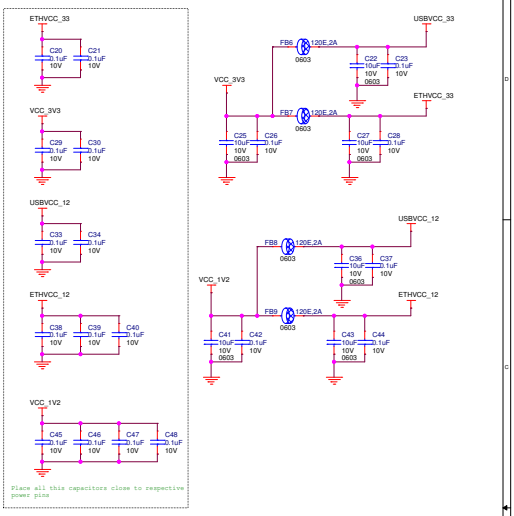
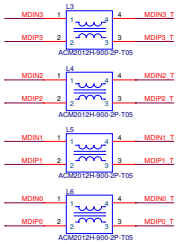
USB3.0 TO GIGABIT ETHERNET CONTROLLER



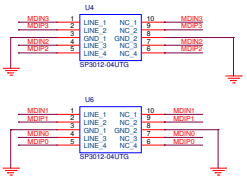
POWER SUPPLY



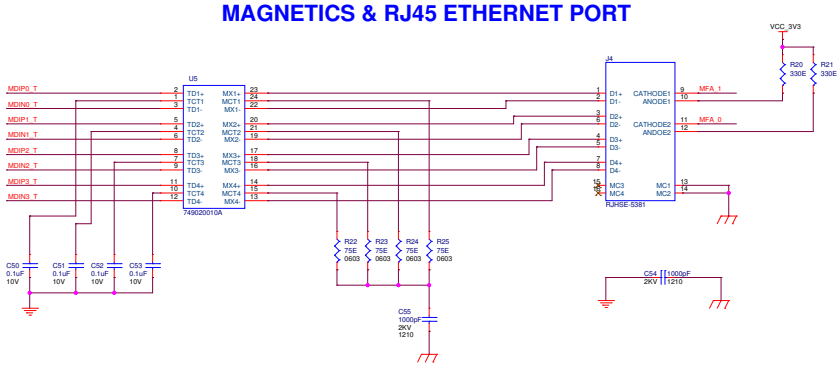
EMI PROTECTION



ESD PROTECTION



MAGNETICS & RJ45 ETHERNET PORT



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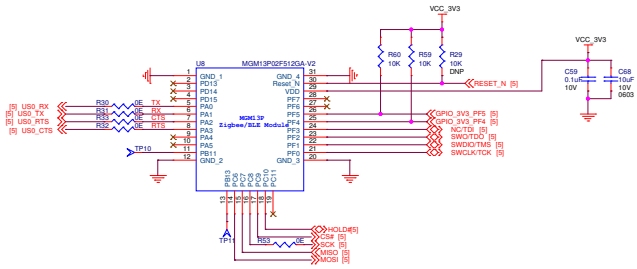
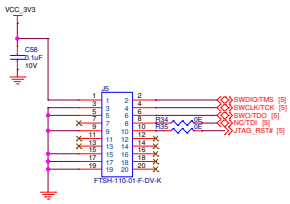
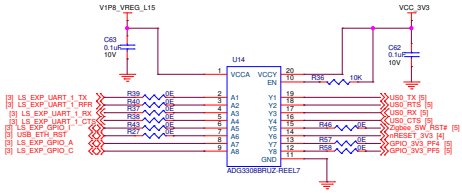
ZIGBEE/BLE MODULE



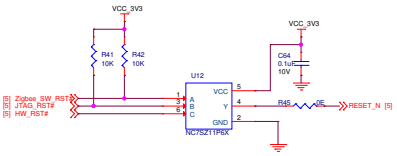
JTAG INTERFACE



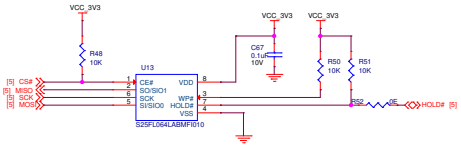
1.8V TO 3.3V LEVEL TRANSLATOR



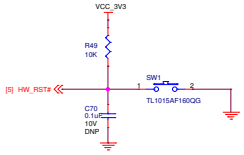
3-INPUT AND GATE



SPI FLASH FOR OTA UPGRADE



HARDWARE RESET



Project: IOT GATEWAY	Designed eInfochips	
Title: ZIGBEE MODULE		
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REVISION HISTORY

PCB REV	SCH REV	CHANGE DESCRIPTION	DATE
1.0	0.1	- Created Initial Draft	19/09/2018
	0.2	- Changed the USB To Ethernet Microchip Part# LAN7500 U3 to the Cypress part# CYUSB3610 - Changed the U1 & U2 part to LTC3560ES6#TRMPBF as per the new cypress part - Changed the U13 part to IS25LQ040B-JNLE as it is proven with EFR32 series controller for OTA upgrade.	16/10/2018
	0.3	- Added Reset (SW3) & Power (SW2) Switch on Mezaanine Card to debug 410C Dragon Board - Added Series Resistor R54 of 4.7K value on VBUS input Pin#21 of U3. - Added TPs on EEPROM Singals of U3. - Added 0E Resistor on Pin# 68 of U3.	29/10/2018
	0.4	- Added Standard 2.1 mm DC Jack as dummy part	05/11/2018
	0.5	- Changed U11 part to ADG3308BRUZ-REEL7 from NLSX5014MUTAG & removed U9 from the design - Changed U13 part to S25FL064LABMFI010 from IS25LQ040B-JBLE	16/11/2018
	0.6	- Added Factory Reset Switch SW4 on GPIO_69 of Q410 Processor & its discretes in the design as per F/W team feedback	03/12/2018
	1.0	- PCB Released to Fabrication	09/01/2019
2.0	1.1	- Added ESD8 on reset line of U3 - U4, U6 & C35 is DNP in Alpha schematic, need to populate in beta schematic for ESD perpouse	18/07/2019
	1.2	- Change the ESD8 part# to TPD1E10B06QDPYRQ1	23/07/2019
	2.0	- Board Released for Fabrication	31/07/2019

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Title REVISION HISTORY		
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