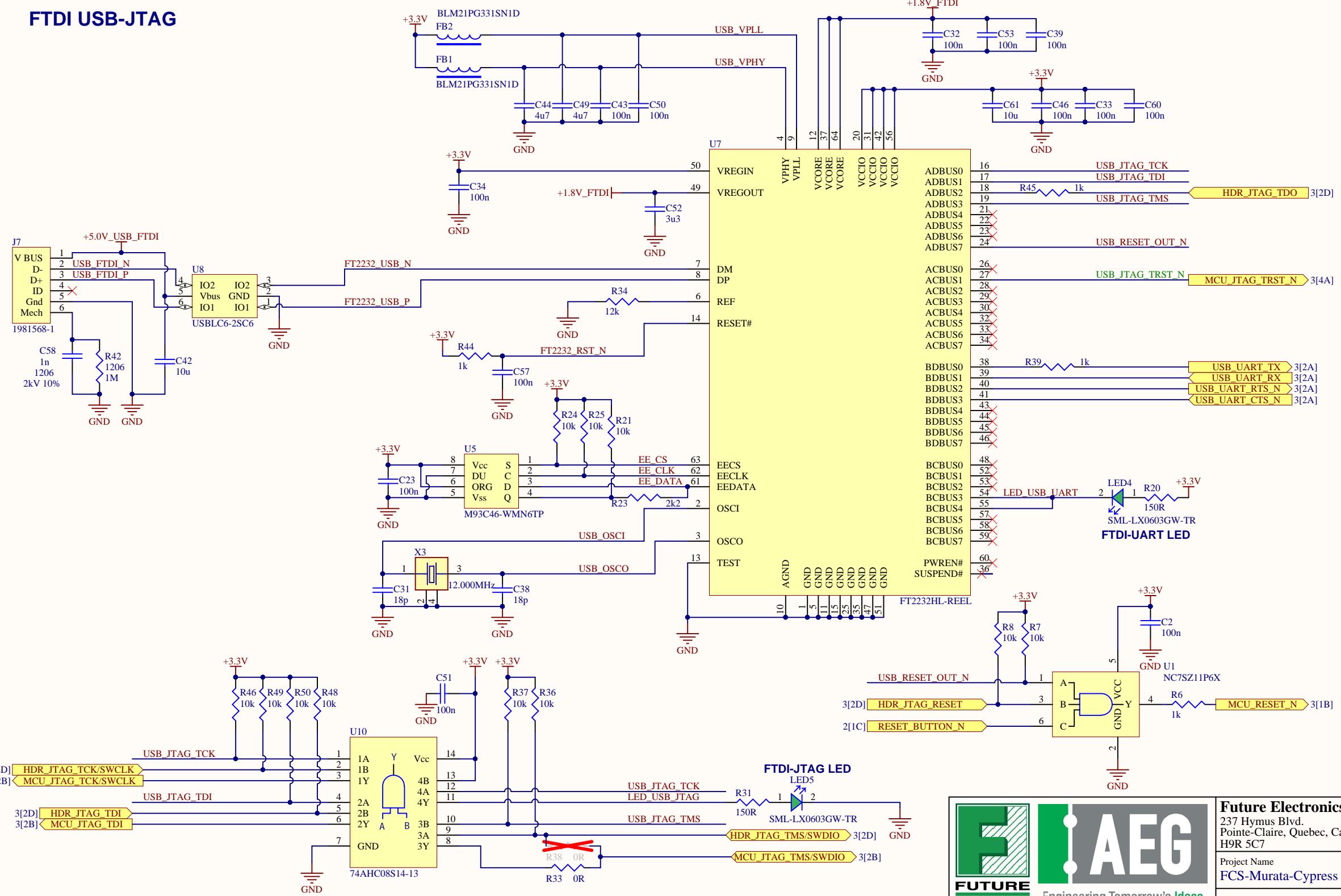


# FTDI USB-JTAG

A



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R49 : SWD via Debugger Connector  
R50 : JTAG via FTDI Programmer

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Engineering Tomorrow's Ideas

## Future Electronics - System Design Center NA

237 Hymus Blvd.  
Pointe-Claire, Quebec, Canada  
H9R 5C7

Project Name  
**FCS-Murata-Cypress Dev kit Rev 2**

Title  
**FTDI**

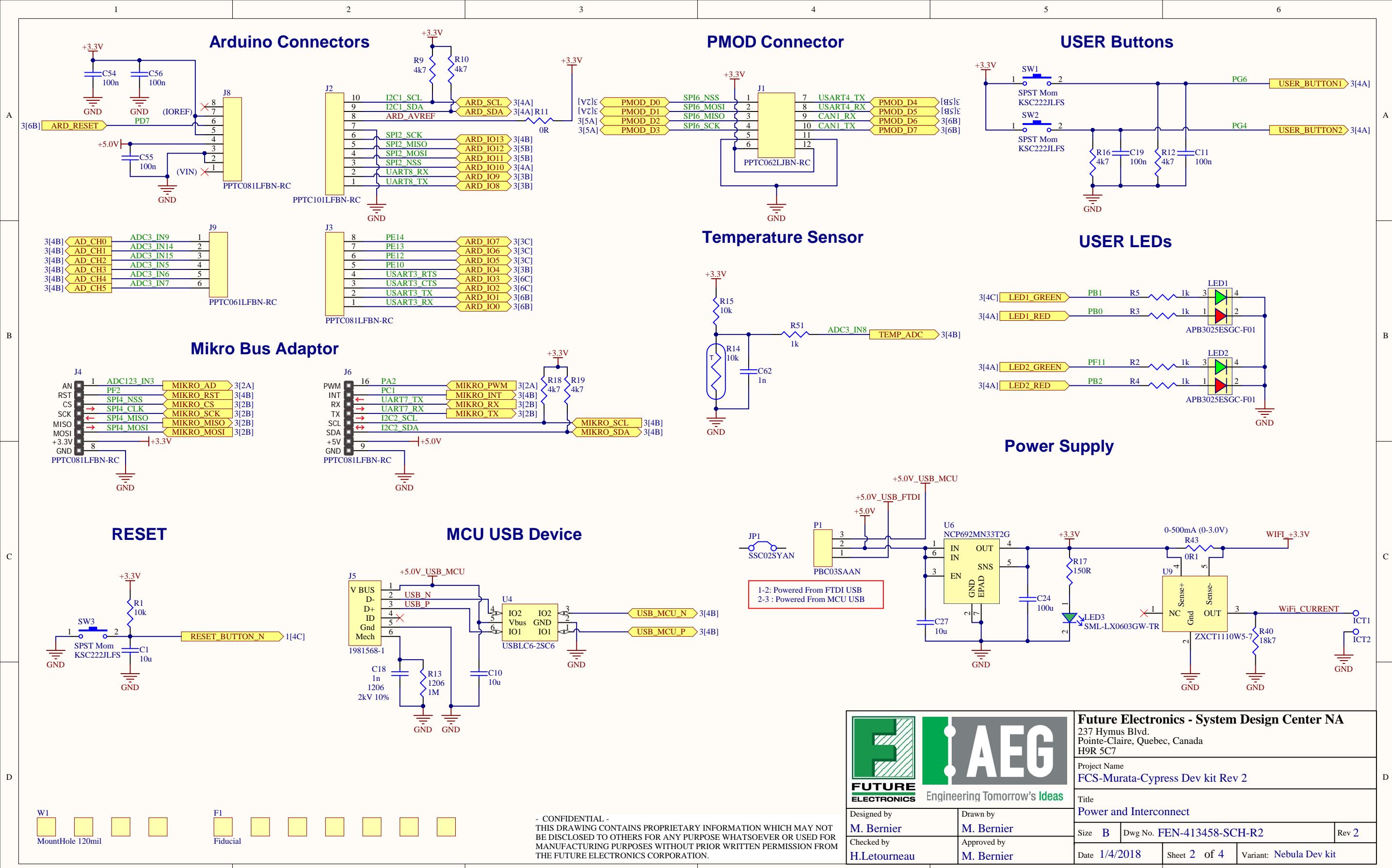
Size **B** Dwg No. **FEN-413458-SCH-R2**

Rev **2**

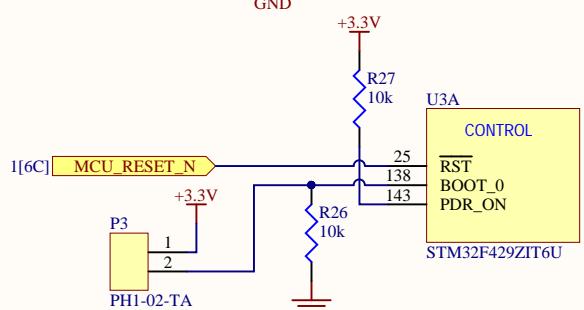
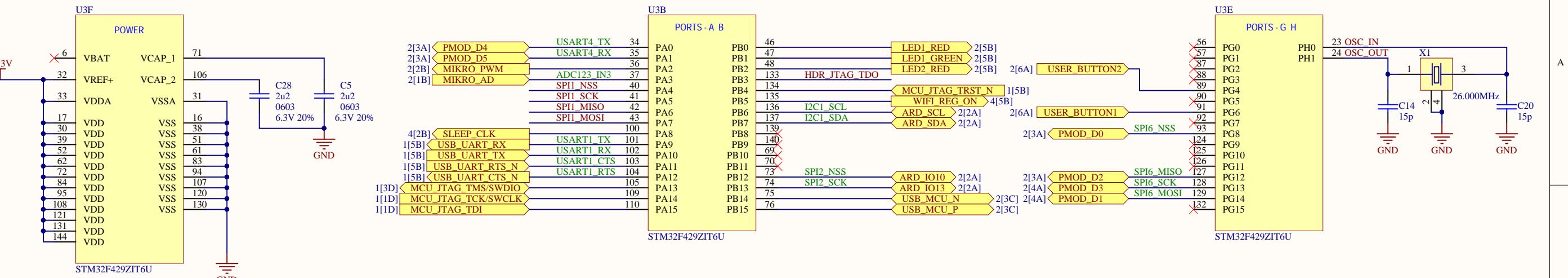
Checked by **H.Letourneau** Approved by **M. Bernier**

Date **1/10/2018** Sheet **1 of 4** Variant: **Nebula Dev kit**

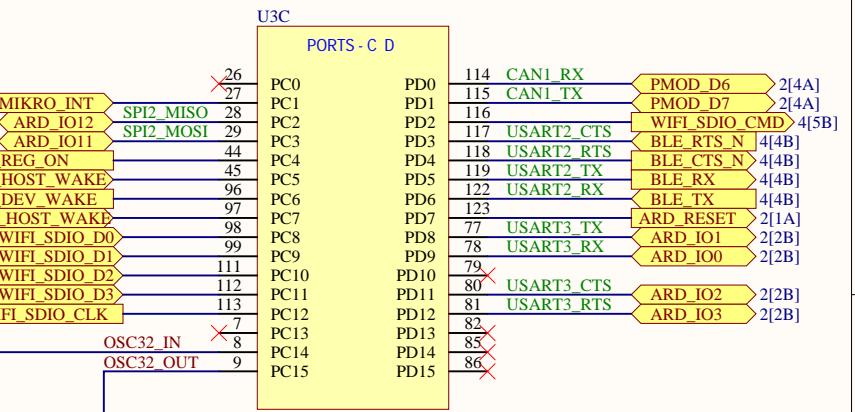
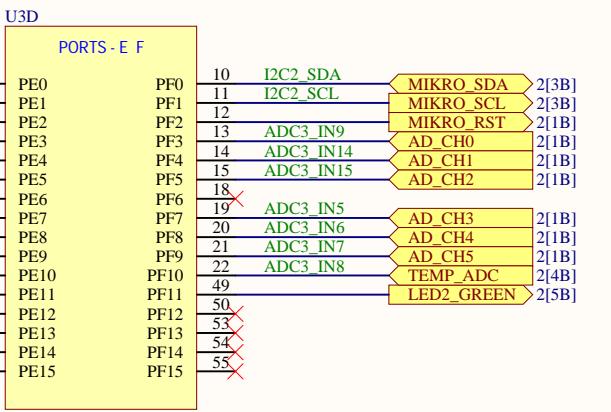
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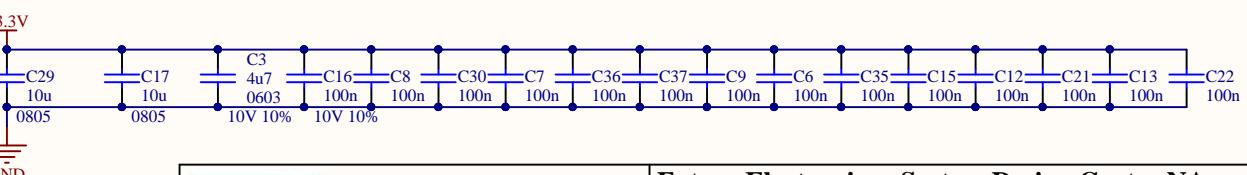
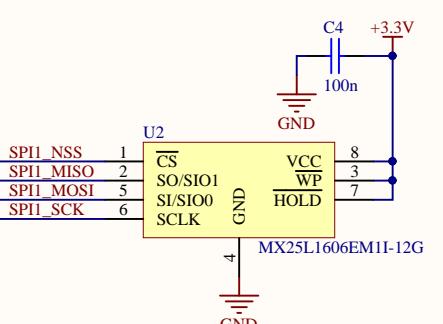
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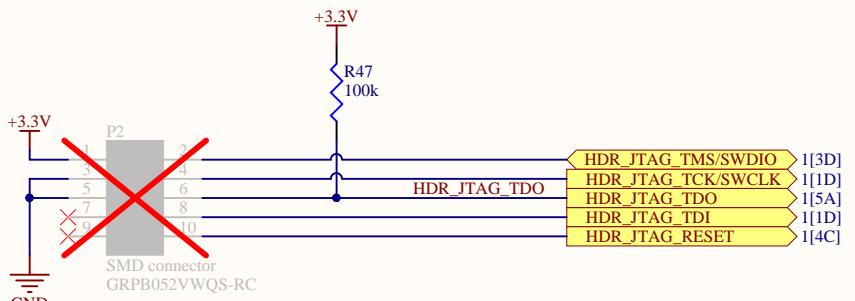
Populate jumper for programming MCU through USB using ST utility



## Serial Flash 8Mbit



Cortex-M Debug Connector (SWD)



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237 Hymus Blvd.  
Pointe-Claire, Quebec, Canada  
J3T 5C7

Project Name  
**ECS\_Murata\_Cypress\_Dev\_kit Rev.2**

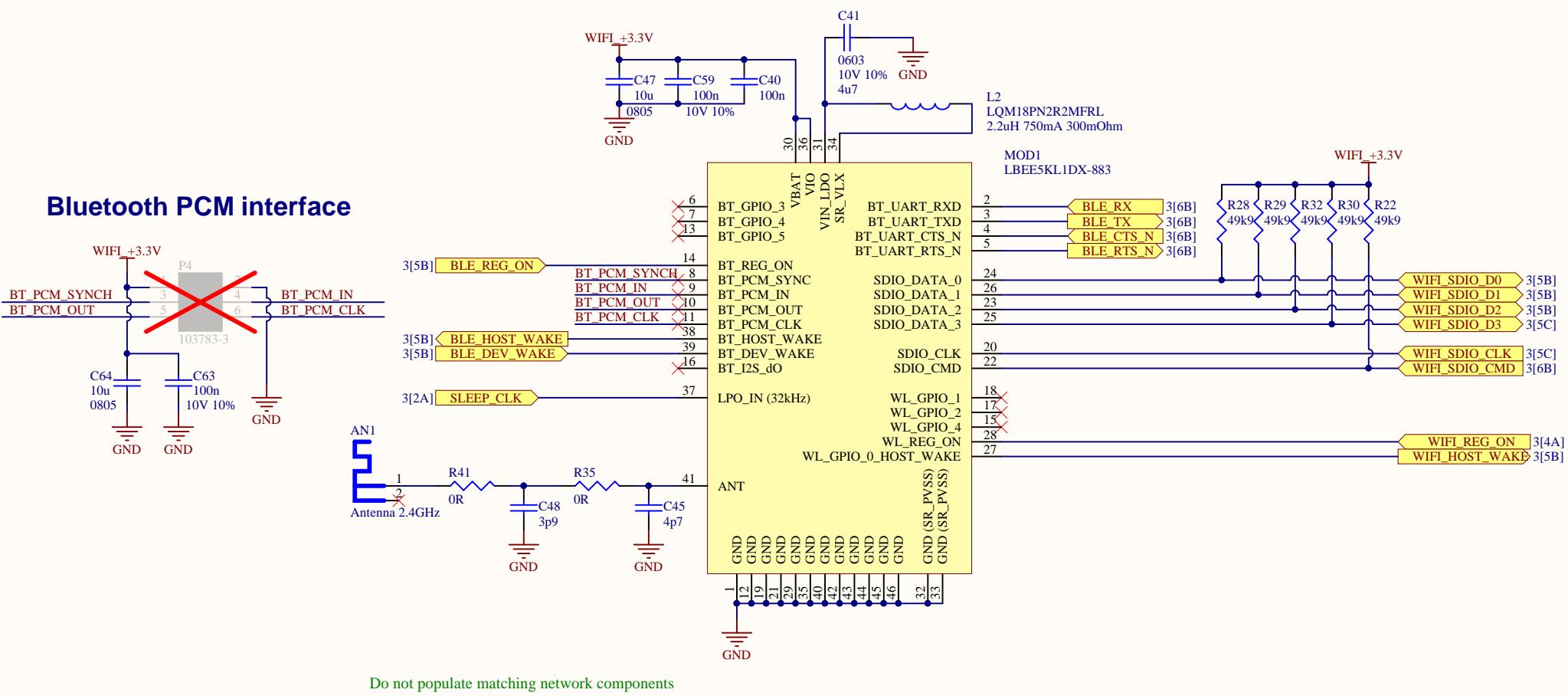
### Title:

## Microcontroller

Size B Dwg No. FEN-413458-SCH-R2 Rev 2

Date 2/15/2018 Sheet 3 of 4 Variant: Nebula Dev kit

## WiFi and Bluetooth Module



**Future Electronics - System Design Center NA**  
237 Hymus Blvd.  
Pointe-Claire, Quebec, Canada  
H9R 5C7

Project Name  
**FCS-Murata-Cypress Dev kit Rev 2**

Title  
**WIFI**

Size **B** Dwg No. **FEN-413458-SCH-R2**

Rev **2**

Designed by <b>M. Bernier</b>	Drawn by <b>M. Bernier</b>
Checked by <b>H.Letourneau</b>	Approved by <b>M. Bernier</b>
Date <b>2/15/2018</b>	Sheet <b>4</b> of <b>4</b>
Variant: <b>Nebula Dev kit</b>	

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1	2	3	4	5	6	7	8
Layers	Top Layer				Instructions (GM16) Top Overlay		

Impedance Requirements					
Layer	Impedance 50 Ohms	Impedance 90 Ohms (Diff)	Co-planar Waveguide : 50 Ohms		
	Trace Width (mils)	Trace Width (mils)	Trace Spacing (mils)	Trace Width (mils)	Trace Spacing (mils)
Top Layer	9 mils	8 mils	9 mils	10 mils	30 mils
Bottom Layer	9 mils	8 mils	9 mils	10 mils	30 mils

Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0,40mil	3,5	
3	Top Layer	Copper	2,10mil		
4	Dielectric1	FR-4 HTg	6,00mil	4,5	
5	GND	Copper	1,40mil		
6	Dielectric3	FR-4 HTg	45,00mil	4,5	
7	Power	Copper	1,40mil		
8	Dielectric2	FR-4 HTg	6,00mil	4,5	
9	Bottom Layer	Copper	2,10mil		
10	Bottom Solder	Solder Resist	0,40mil	3,5	
11	Bottom Overlay				

NOTES: < UNLESS OTHERWISE SPECIFIED >

1. BOARD SPECS - BOARD SHALL BE MANUFACTURED TO MEET  
ALL SPECS DEFINED UNDER IPC-A-600 (LATEST REVISION)

2. BASE MATERIAL - FR4 High Tg  Metal Core  Other   
- Tg for LAMINATE AND PREPREG SHALL BE GREATER THAN OR EQUAL  
TO 170°C

3. COPPER FOIL WEIGHT - SEE TABLE FOR FINISHED STACK-UP DETAIL

4. PLATING - 0.5oz  0.75oz  1oz  Other

5. FINISH - HASL RoHS  HASL  Immersion Silver  Immersion Tin  ENIG   
Other

6. SOLDER MASK - APPLY SOLDER MASK AS PER SPECIFIED IPC-SM-840 ON PCB OVER BARE COPPER  
- GREEN  WHITE  BLUE  Other

7. SILKSCREEN - LPI - APPLY EPOXY BASED INK  
- TOP/BOTTOM  TOP ONLY  BOTTOM ONLY  NONE   
- WHITE  BLACK  Other

8. IMPEDANCE CONTROL - NO  YES  SEE TABLE FOR DETAIL

9. ELECTRICAL TEST - 100% IPC-D-356B

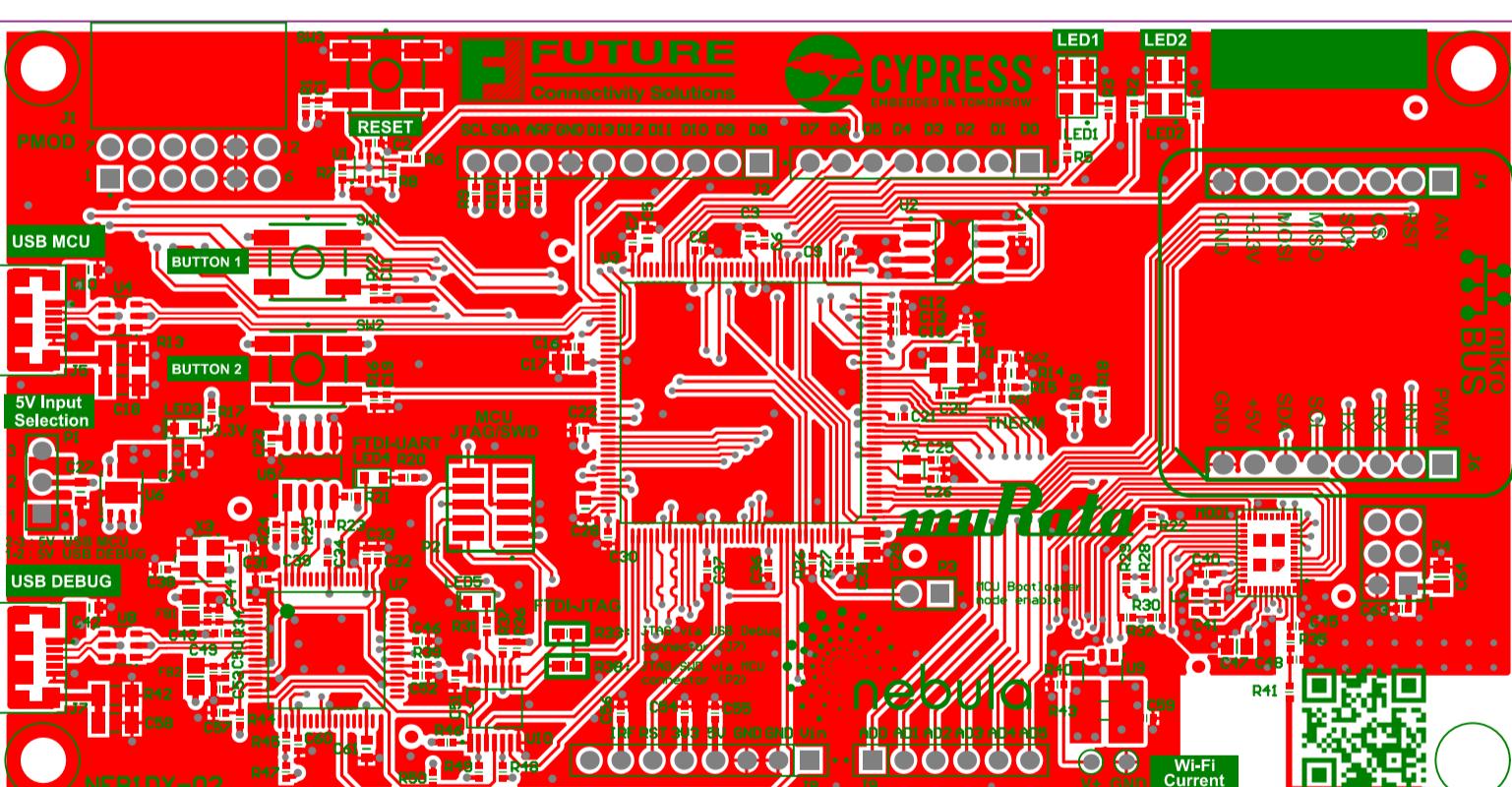
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- ALL HOLES LOCATION TOLERANCES ARE TO BE +/- .002 IN REFERENCE TO THE PRIMARY DATUM

11. GERBER FILES - SUPPLIED GERBER FILES MUST NOT BE MODIFIED WITHOUT PRIOR PERMISSION FROM THE CLIENT

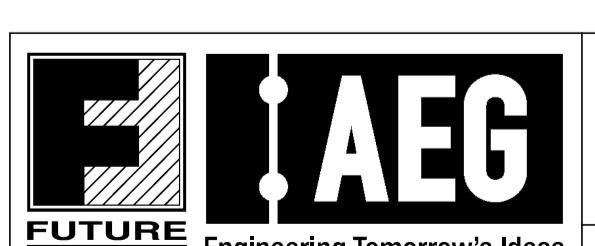
12. LOGO - ONLY LOGOS SUPPLIED IN GERBER FILES WILL BE ACCEPTED ON PCB

13. TOOLING HOLES - NO HOLES SHALL BE PERMITTED WITHIN THE BOARD AREA, EXCEPT THOSE INDICATED  
IN THE DRILL LEGEND

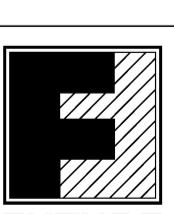
14. REGISTRATION - REGISTRATION OF PATTERNS TO BE WITHIN +/- .005 LOCATION OF PATTERN ON BOARD  
TO DIMENSION SHOWN

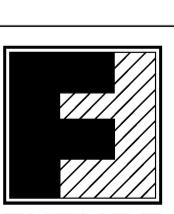


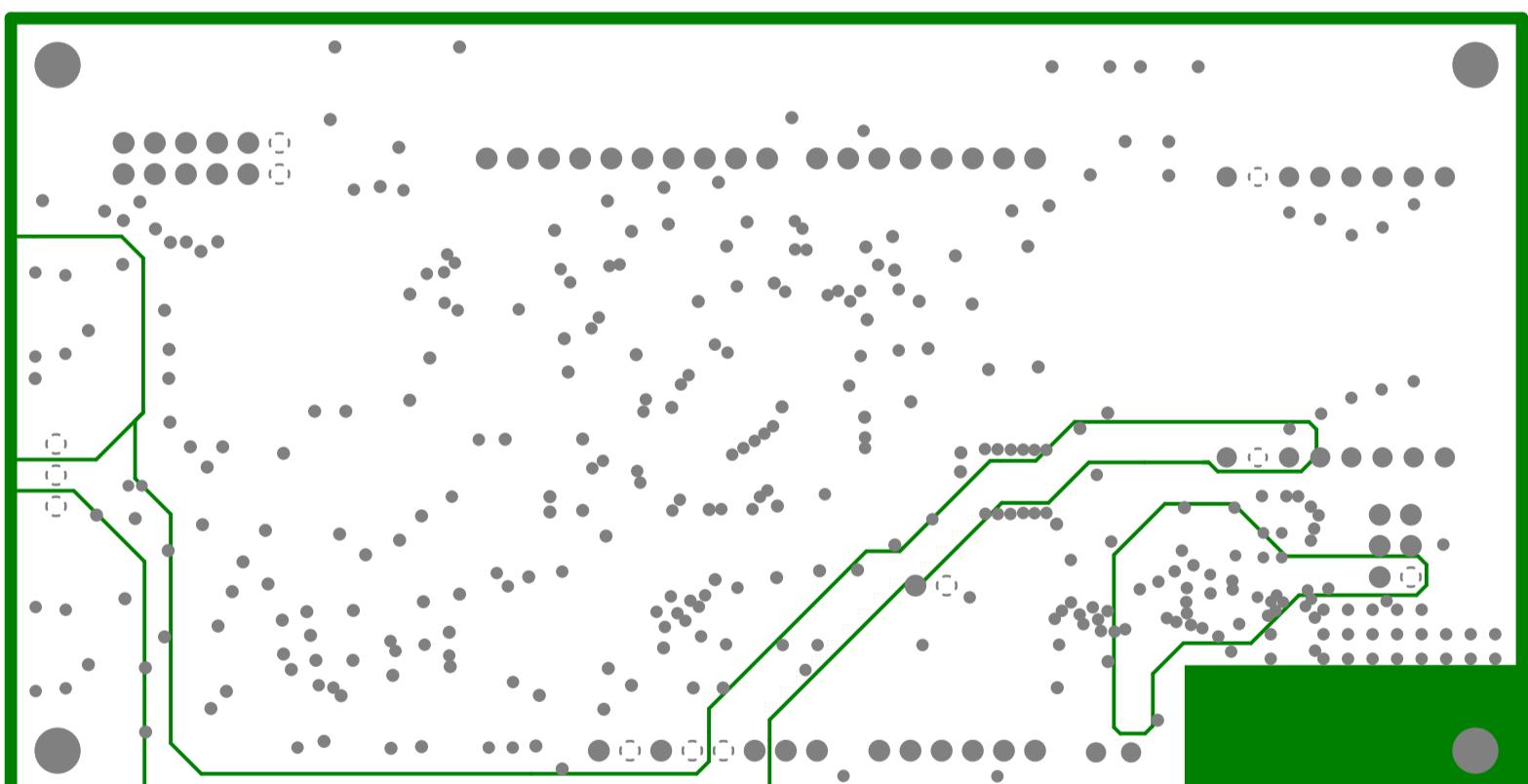
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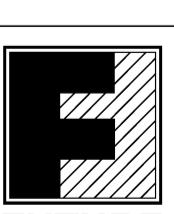
Future Electronics – System Design Center NA	
237 Hymus Blvd Pointe-Claire, Quebec, Canada H9R 5C7	
<input checked="" type="checkbox"/>	
Project #	FCS-Murata-Cypress Dev kit
Designed by:	M. Bernier
Drawn by:	M. Bernier
Title:	FCS-Murata-Cypress Dev kit
Checked by:	H.Letourneau
Approved by:	M. Bernier
Date:	2/16/2018
Size: B	DWG NO: FEN-413458-PCB-R2
REV: 2	
Sheet	1 of 1

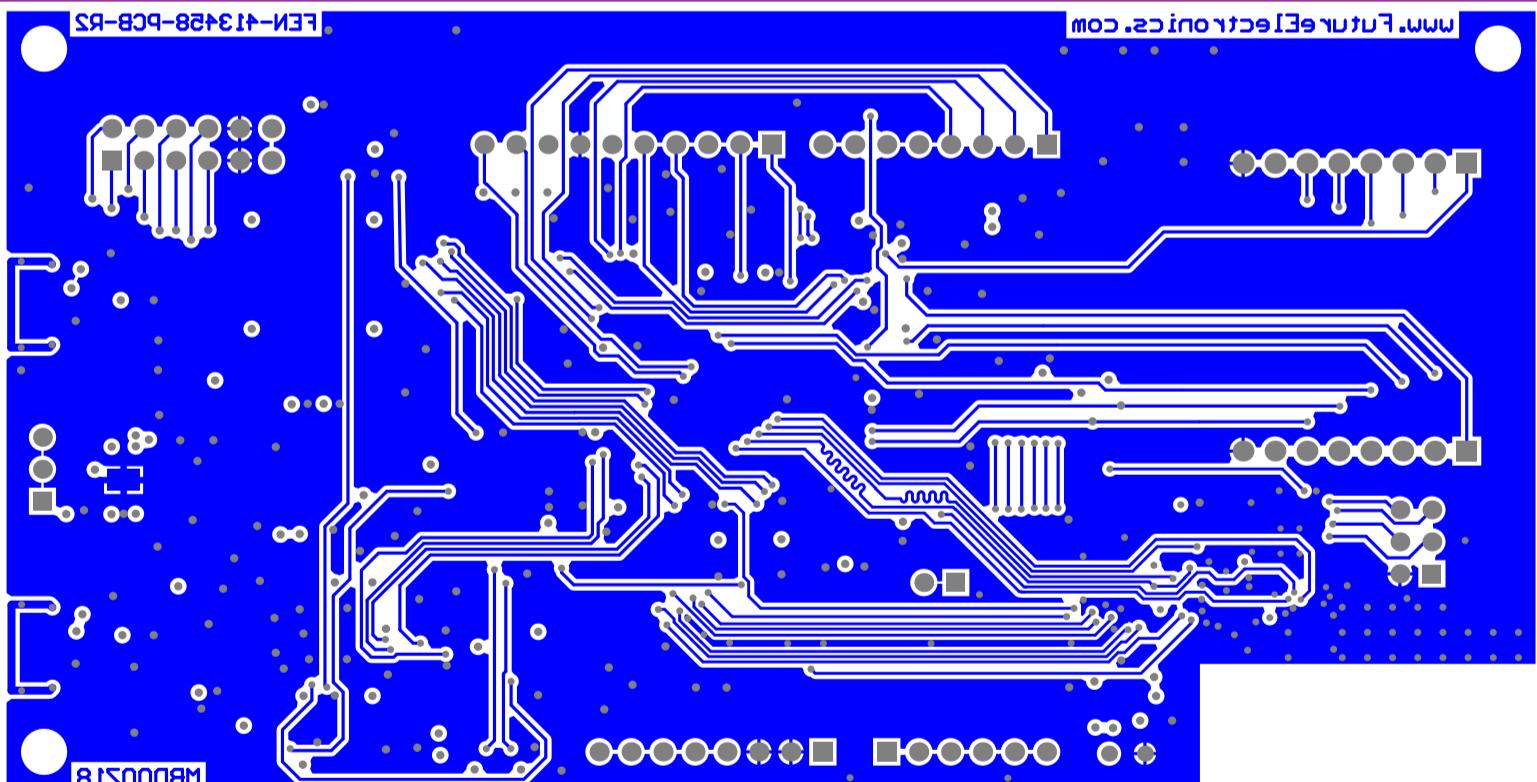
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  <p>Future Electronics – System Design Center NA 237 Hymus Blvd Pointe-Claire, Quebec, Canada H9R 5C7</p> <p>Project # FCS-Murata-Cypress Dev kit</p> <p>Designed by: M. Bernier Drawn by: M. Bernier Title: FCS-Murata-Cypress Dev kit</p> <p>Checked by: H.Letourneau Approved by: M. Bernier Size: B DWG NO: FEN-413458-PCB-R2 REV: 2</p> <p>Date: 2/16/2018 Sheet 1 of 1</p> <p>- CONFIDENTIAL - THIS DRAWING CONTAINS PROPRIETARY INFORMATION WHICH MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE WHATSOEVER OR USED FOR MANUFACTURING PURPOSES WITHOUT PRIOR WRITTEN PERMISSION FROM THE FUTURE ELECTRONICS CORPORATION.</p>																																																																															

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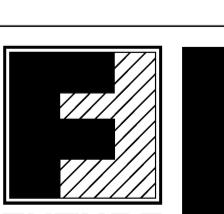
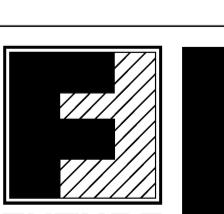
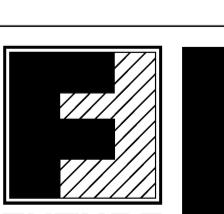


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