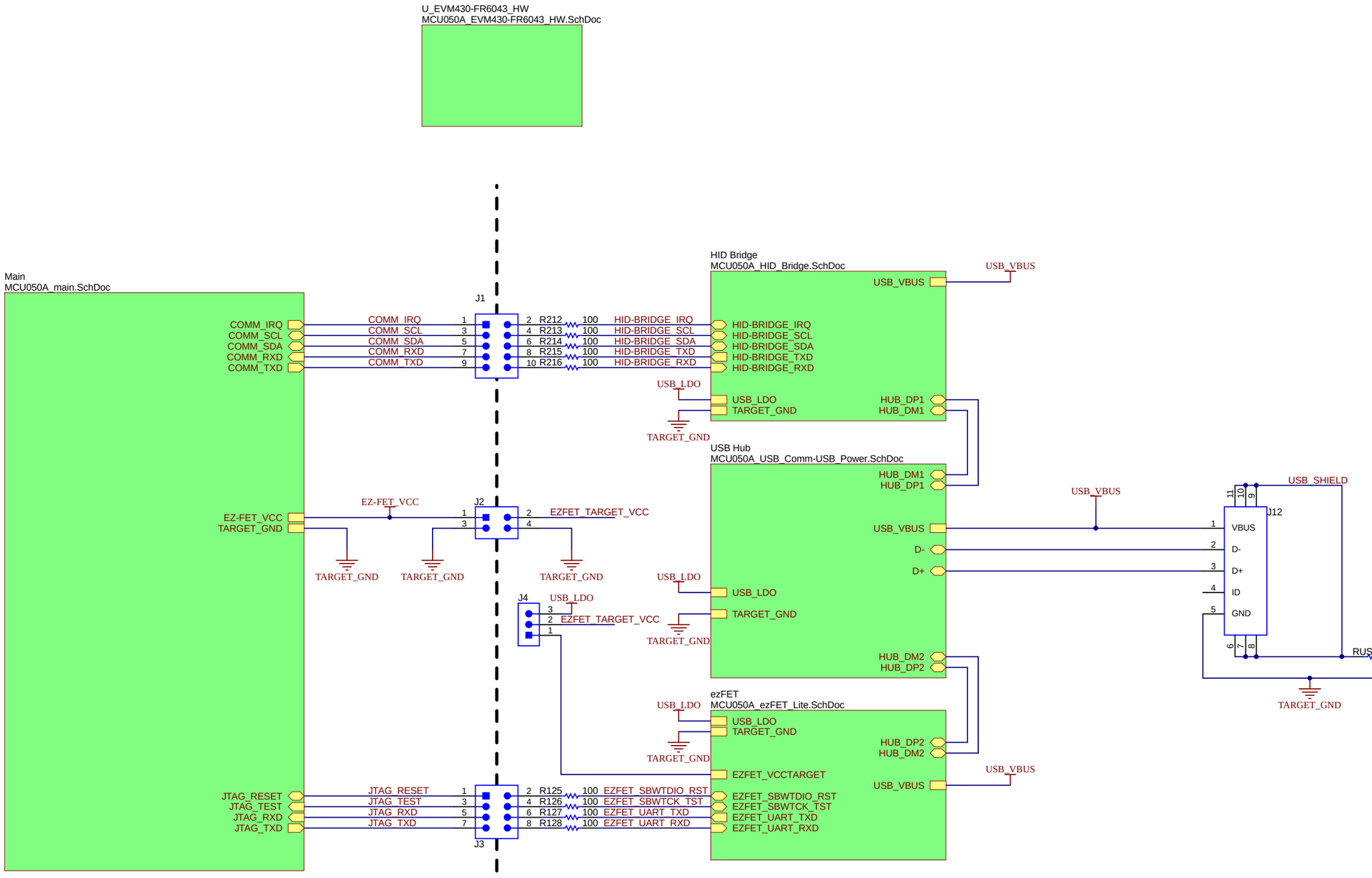

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Orderable: EVM430-FR6043	Designed for: Public Release	Mod. Date: 8/13/2019
TID #: N/A	Project Title: EVM430-FR5043	
Number: MCU050 Rev: A	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 1 of 7
Drawn By:	File: MCU050A_EVM430-FR6043.SchDoc	Size: B
Engineer: D. Garcia	Contact: http://www.ti.com/support	

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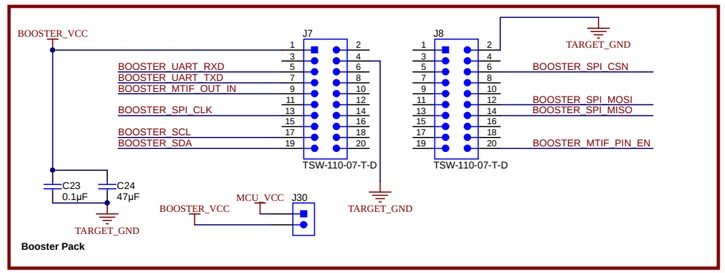

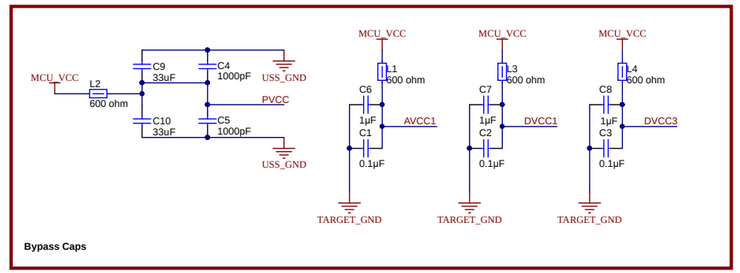

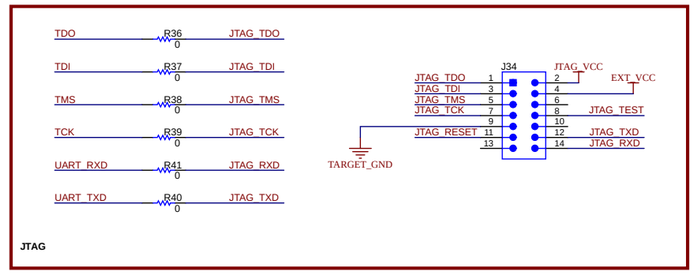

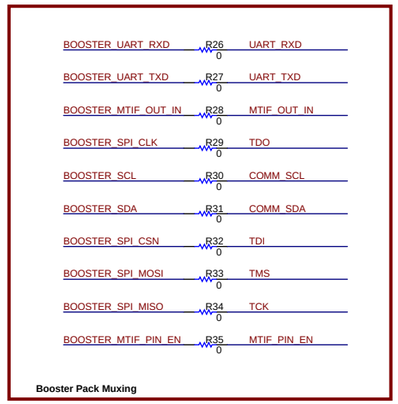

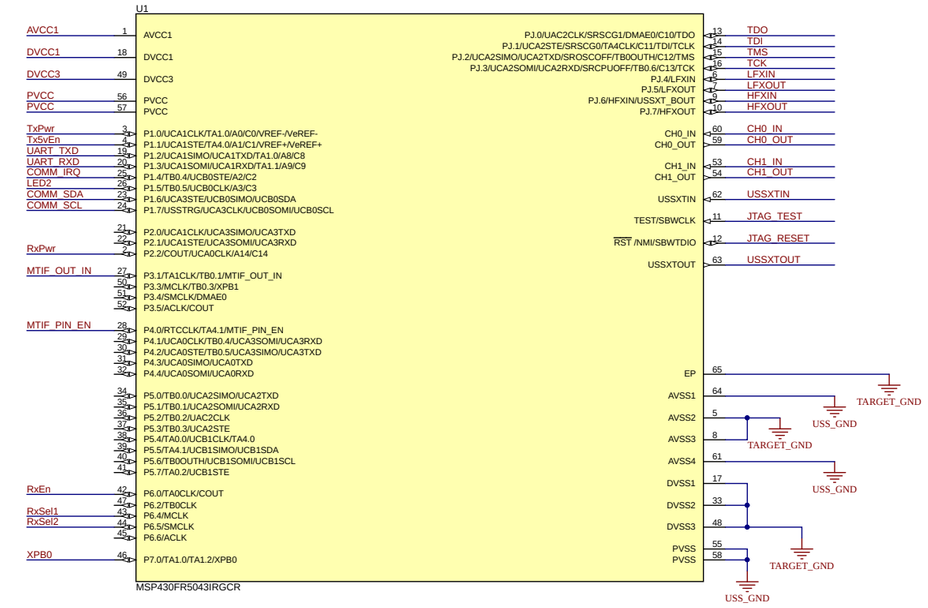

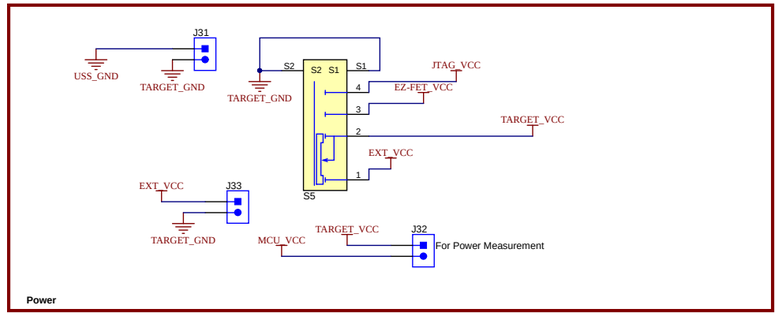

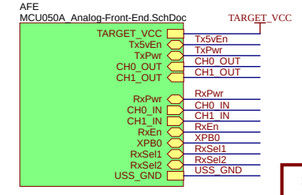

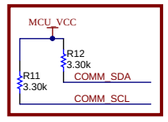

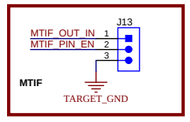

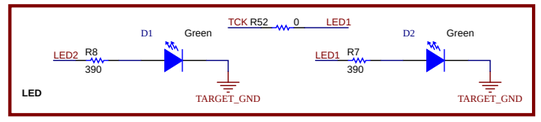

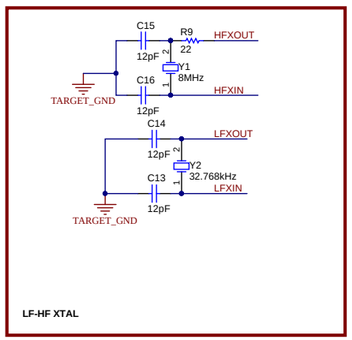

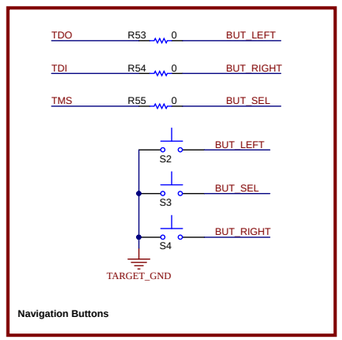

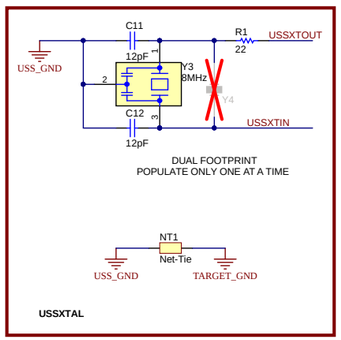

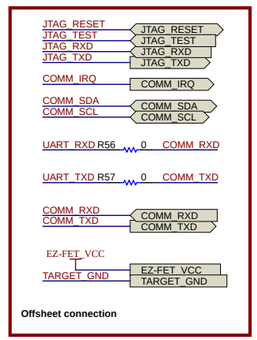

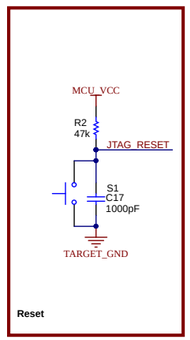

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Orderable: EVM430-FR6043		Designed for: Public Release	Mod. Date: 8/13/2019
TID #: N/A		Project Title: EVM430-FR5043	
Number: MCU050	Rev: A	Sheet Title:	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 2 of 7
Drawn By:		File: MCU050A_main.SchDoc	Size: B
Engineer: D. Garcia		Contact: http://www.ti.com/support	

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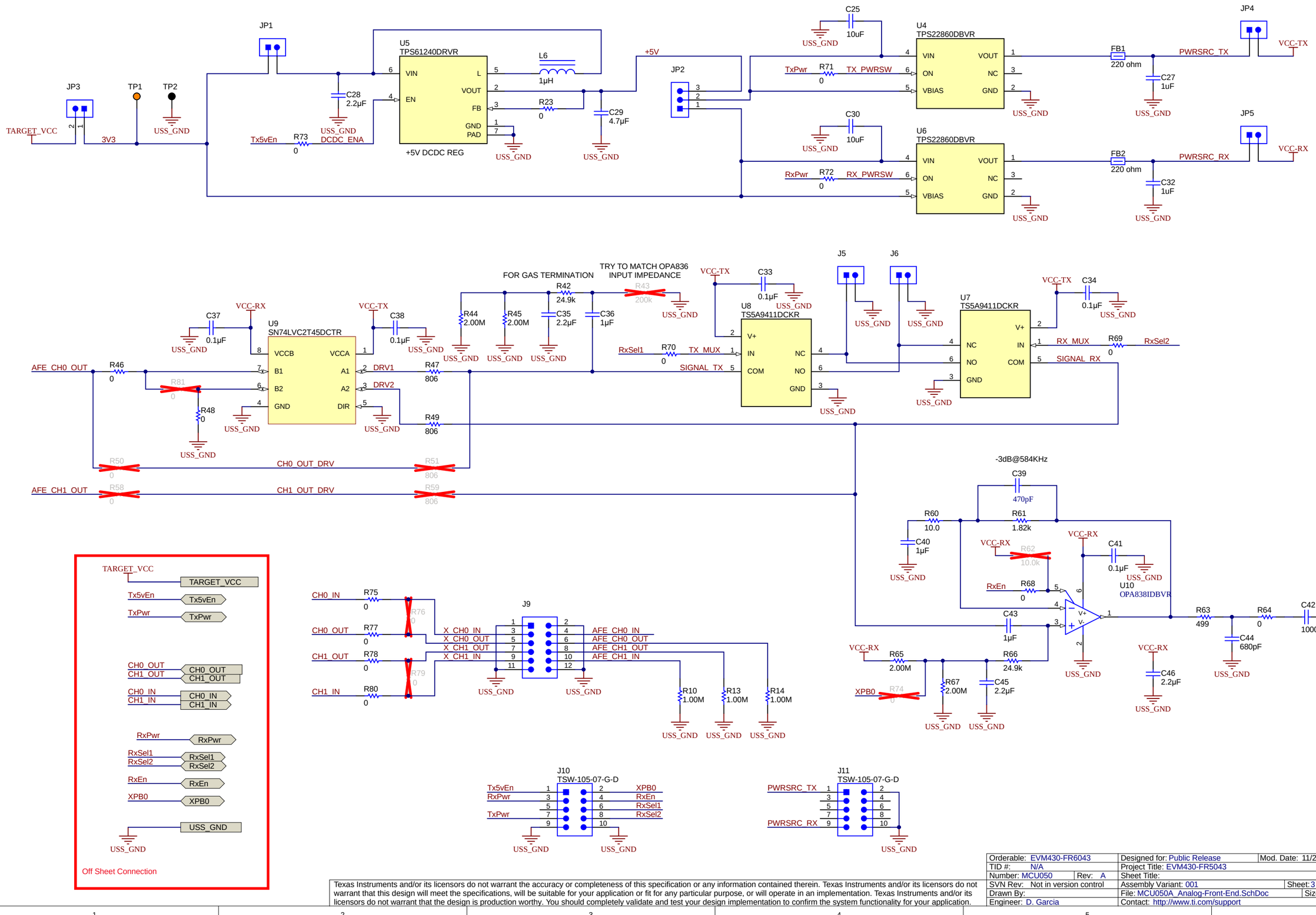

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Orderable: EVM430-FR6043	Designed for: Public Release	Mod. Date: 11/20/2019
TID #: N/A	Project Title: EVM430-FR5043	
Number: MCU050 Rev: A	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 3 of 7
Drawn By:	File: MCU050A_Analog-Front-End.SchDoc	Size: B
Engineer: D. Garcia	Contact: http://www.ti.com/support	

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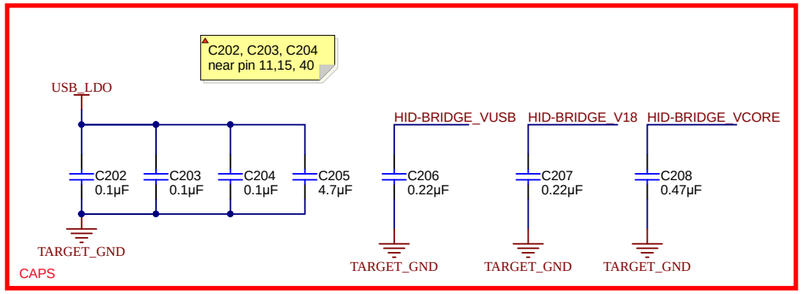

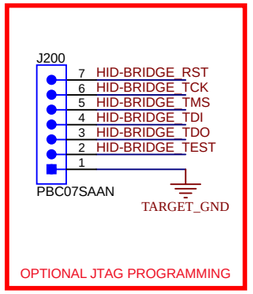

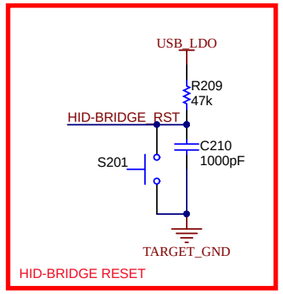

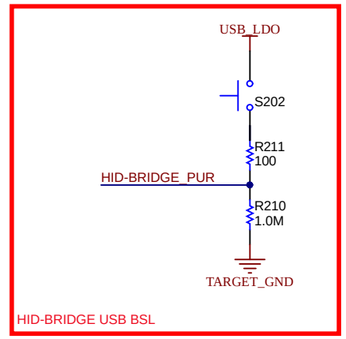

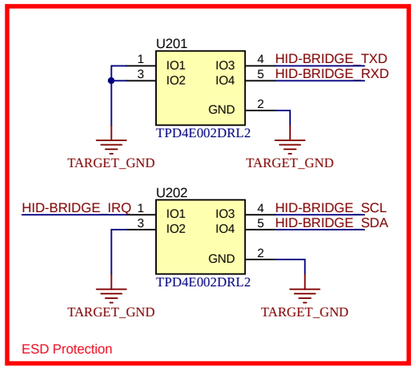

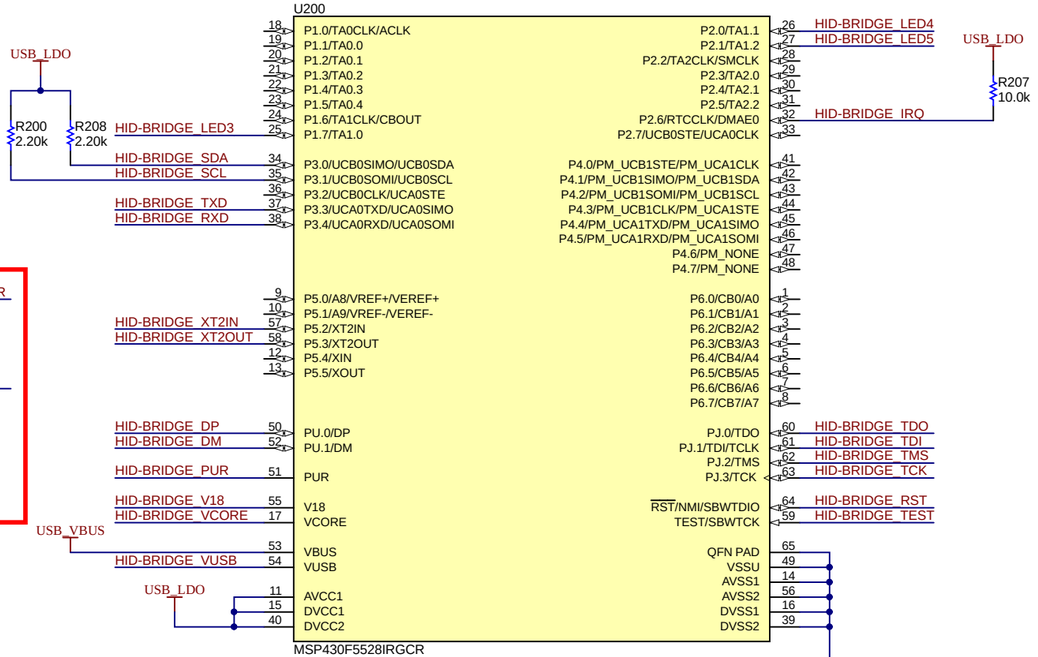

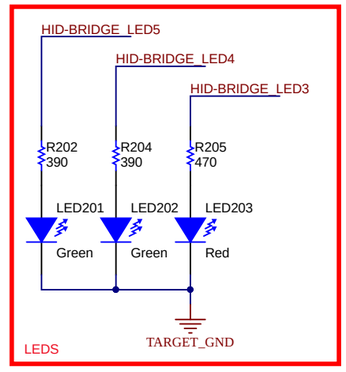

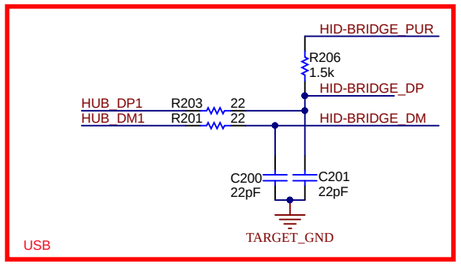

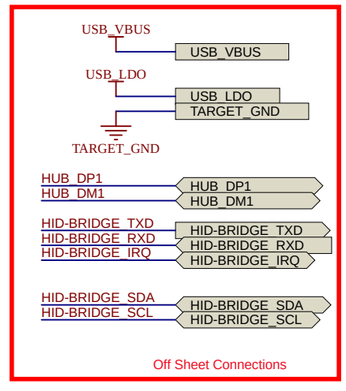

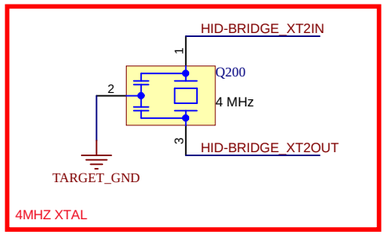

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Orderable: EVM430-FR6043	Designed for: Public Release	Mod. Date: 8/13/2019
TID #: N/A	Project Title: EVM430-FR5043	
Number: MCU050 Rev: A	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 4 of 7
Drawn By:	File: MCU050A_HID_Bridge.SchDoc	Size: B
Engineer: D. Garcia	Contact: http://www.ti.com/support	http://www.ti.com

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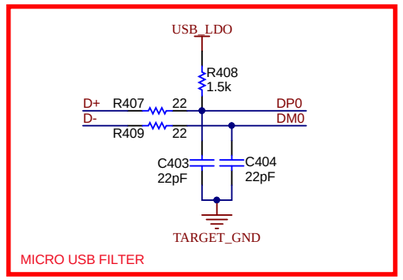
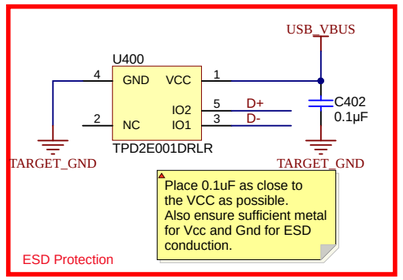
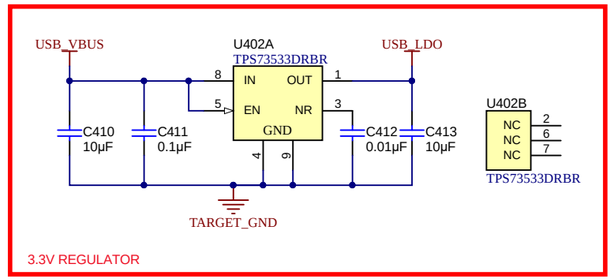
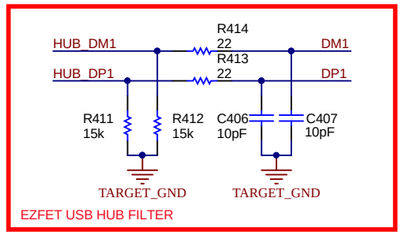
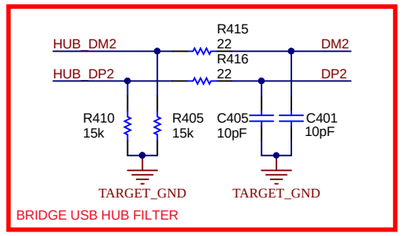
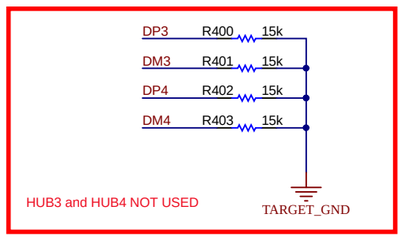


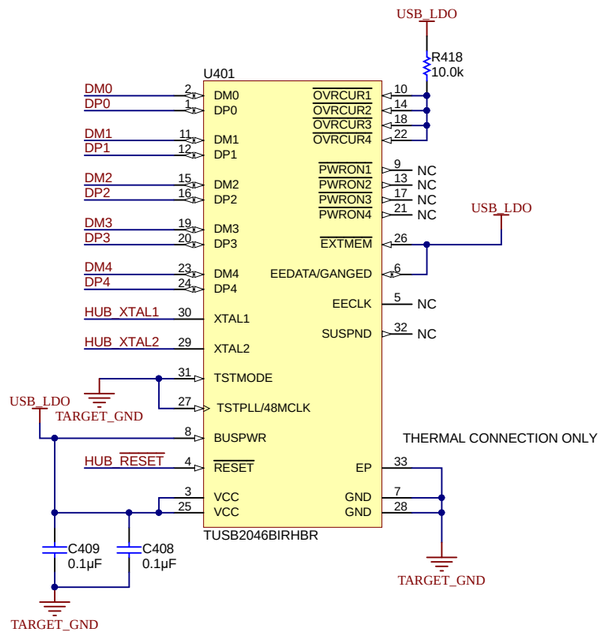




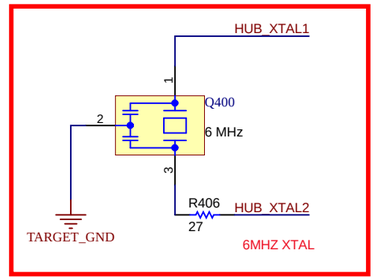


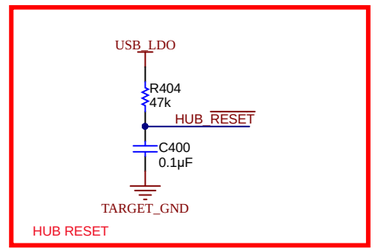


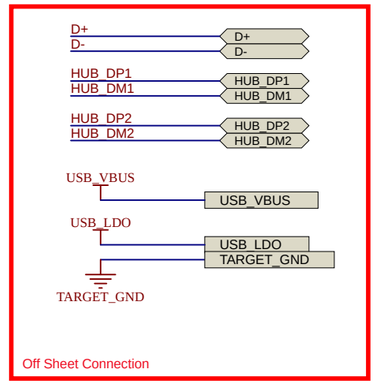




USB HUB







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Orderable: EVM430-FR6043		Designed for: Public Release	Mod. Date: 8/13/2019
TID #: N/A		Project Title: EVM430-FR5043	
Number: MCU050	Rev: A	Sheet Title:	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 5 of 7
Drawn By:		File: MCU050A_USB_Comm-USB_Power.SchDoc	Size: B
Engineer: D. Garcia		Contact: http://www.ti.com/support	

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MSP430F5528 EZFET-LITE

Energy Trace

EZFET_VCCOUT
R116 221k
R117 221k
C114 33pF
TARGET_GND
USB_LDO
R118 221k
R119 221k
C115 33pF
TARGET_GND
USB_LDO
R111 4.7k
R112 4.7k
EZFET_HOSTSCL
EZFET_HOSTSDA

U102
EZFET_AVCCOUT 1 P1.0/TA0CLK/ACLK/A0/CA0
EZFET_DCDCCAL1 2 P1.1/TA0.0/A1/CA1
EZFET_DCDCPULSE 3 P1.2/TA0.1/A2/CA2
EZFET_DCDCIO0 4 P1.3/ADC10CLK/CAOUT/A3/VREF-/VEREF-/CA3
EZFET_DCDCIO1 5 P1.4/SMCLK/TA0.2/A4/VREF+/VEREF+/CA4/TCK
EZFET_AVCC 6 P1.5/TA0.0/SCLK/A5/CA5/TMS
EZFET_HOSTSCL 7 P1.6/TA0.1/SDO/SCL/A6/CA6/TDI/TCLK
EZFET_HOSTSDA 8 P1.7/CAOUT/SDI/SDA/A7/CA7/TDO/TDI
EZFET_DCDCRST 9 RST/NMI/SBWTDIO
EZFET_DCDCTEST 10 TEST/SBWTCK
15 AVCC
16 DVCC
P2.6/XIN/TA0.1 12 EZFET_DCDCCAL0
P2.7/XOUT 11 EZFET_DCDCCAL2
QFN PAD 17
AVSS 13
DVSS 14
MSP430G2452IRSA16T

EZFET_DCDCCAL1 R115 3.32k EZFET_VCCOUT
R113 2.20k
R114 6.81k
TARGET_GND
USB_LDO
C112 4.7µF
C113 0.1µF
TARGET_GND

U101
EZFET_VCCEN1 3 IN1
EZFET_VCCOUT 8 COM1
4 COM2
EZFET_VCCEN2 7 IN2
V+ 2
NO1 1 EZFET_VCCTARGET
NO2 5
GND 6
TS5A21366RSER
USB_VBUS
C119 0.1µF
R123 47k
R121 47k
TARGET_GND
TARGET_GND
TARGET_GND

USB_VBUS
D102
EZFET_DCDCPULSE
R122 820
R120 470
C116 4.7µF
C117 4.7µF
C118 0.1µF
Q101
Q102
D103
L101
R124 0
C120 4.7µF
C121 0.1µF
EZFET_VCCOUT
TARGET_GND
TARGET_GND

U100
EZFET_LED1 20 P1.0/TA0CLK/ACLK
EZFET_LED2 21 P1.1/TA0.0
P1.2/TA0.1
P1.3/TA0.2
P1.4/TA0.3
P1.5/TA0.4
P1.6/TA1CLK/CBOUT
P1.7/TA1.0
EZFET_HOSTSDA 34 P3.0/UCB0SIMO/UCB0SDA
EZFET_HOSTSCL 35 P3.1/UCB0SOMI/UCB0SCL
36 P3.2/UCB0CLK/UCA0STE
EZFET_UART_TXD 37 P3.3/UCA0TXD/UCA0SIMO
EZFET_UART_RXD 38 P3.4/UCA0RXD/UCA0SOMI
EZFET_VREF 9 P5.0/A8/VREF+/VEREF+
10 P5.1/A9/VREF-/VEREF-
EZFET_XT2IN 57 P5.2/XT2IN
EZFET_XT2OUT 58 P5.3/XT2OUT
12 P5.4/XIN
13 P5.5/XOUT
EZFET_DP 50 PU.0/DP
EZFET_DM 52 PU.1/DM
EZFET_PUR 51 PUR
EZFET_V18 55 V18
EZFET_VCORE 17 VCORE
USB_VBUS
53 VBUS
EZFET_VUSB 54 VUSB
USB_LDO
11 AVCC1
15 DVCC1
40 DVCC2
P2.0/TA1.1 26 EZFET_VCCEN1
P2.1/TA1.2 27 EZFET_VCCEN2
P2.2/TA2CLK/SMCLK 28 EZFET_DCDCPULSE
P2.3/TA2.0 29
P2.4/TA2.1 30
P2.5/TA2.2 31
P2.6/RTCCLK/DMAE0 32
P2.7/UCB0STE/UCA0CLK 33
P4.0/PM_UCB1STE/PM_UCA1CLK 41
P4.1/PM_UCB1SIMO/PM_UCB1SDA 42
P4.2/PM_UCB1SOMI/PM_UCB1SCL 43 EZFET_SBWTDIO_RST
P4.3/PM_UCB1CLK/PM_UCA1STE 44 EZFET_SBWTCK_TST
P4.4/PM_UCA1TXD/PM_UCA1SIMO 45
P4.5/PM_UCA1RXD/PM_UCA1SOMI 46
P4.6/PM_NONE 47
P4.7/PM_NONE 48
P6.0/CB0/A0 1 EZFET_AVBUS
P6.1/CB1/A1 2 EZFET_AVCCOUT2ADC
P6.2/CB2/A2 3
P6.3/CB3/A3 4
P6.4/CB4/A4 5 EZFET_DCDCIO0
P6.5/CB5/A5 6 EZFET_DCDCIO1
P6.6/CB6/A6 7 EZFET_DCDCRST
P6.7/CB7/A7 8 EZFET_DCDCTEST
PJ.0/TDO 60 EZFET_TDO
PJ.1/TDI/TCLK 61 EZFET_TDI
PJ.2/TMS 62 EZFET_TMS
PJ.3/TCK 63 EZFET_TCK
RST/NMI/SBWTDIO 64 EZFET_RST
TEST/SBWTCK 59 EZFET_TEST
QFN PAD 65
VSSU 49
AVSS1 14
AVSS2 56
DVSS1 16
DVSS2 39
MSP430F5528IRGCR
TARGET_GND

EZFET_LED1
EZFET_LED2
R104 470
R105 390
LED101 Red
LED102 Green
TARGET_GND
LEDS

J100
7 EZFET_RST
6 EZFET_TCK
5 EZFET_TMS
4 EZFET_TDI
3 EZFET_TDO
2 EZFET_TEST
1
PBC07SAAN
TARGET_GND
EZFET_PROGRAM/DEBUG

USB_VBUS
R110 240k
EZFET_AVBUS
C110 33pF
R109 150k
TARGET_GND
VBUS SENSE

EZFET_SBWTDIO_RST 1
EZFET_SBWTCK_TST 3
U103
IO1
IO2
IO3
IO4
GND
4 EZFET_UART_RXD
5 EZFET_UART_TXD
2
TPD4E002DRL2
TARGET_GND
ESD Protection

EZFET_XT2IN
1
2
Q100
CSTCR4M00G15L99-R0
4 MHz
3
TARGET_GND
EZFET_XT2OUT
4MHZ XTAL

USB_LDO
R108 221k
EZFET_AVCCOUT2ADC
C109 33pF
R107 221k
TARGET_GND
TARGET VCC SENSE

EZFET_VCCTARGET → EZFET_VCCTARGET
USB_LDO → USB_LDO, TARGET_GND
TARGET_GND
HUB_DM2 → HUB_DM2
HUB_DP2 → HUB_DP2
EZFET_SBWTCK_TST → EZFET_SBWTCK_TST
EZFET_SBWTDIO_RST → EZFET_SBWTDIO_RST
EZFET_UART_RXD → EZFET_UART_RXD
EZFET_UART_TXD → EZFET_UART_TXD
USB_VBUS → USB_VBUS
Off Sheet Connection

EZFET_PUR
R103 1.5k
R101 22
HUB_DM2
EZFET_DM
HUB_DP2
EZFET_DP
R100 22
C100 22pF
C101 22pF
TARGET_GND
USB

USB_LDO
C102 0.1µF
C104 0.1µF
C103 4.7µF
TARGET_GND
EZFET_VUSB
C105 0.22µF
EZFET_V18
C106 0.22µF
EZFET_VCORE
C107 0.47µF
EZFET_VREF
C108 0.1µF
TARGET_GND
TARGET_GND
TARGET_GND
TARGET_GND
CAPS

USB_LDO
R106 47k
EZFET_RST
C111 1000pF
TARGET_GND
EZFET RESET

Orderable: EVM430-FR6043		Designed for: Public Release	Mod. Date: 8/13/2019
TID #: N/A		Project Title: EVM430-FR5043	
Number: MCU050	Rev: A	Sheet Title:	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 6 of 7
Drawn By:		File: MCU050A_ezFET_Lite.SchDoc	Size: B
Engineer: D. Garcia		Contact: http://www.ti.com/support	

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H1
SJ-5303 (CLEAR)

H2
SJ-5303 (CLEAR)

H3
SJ-5303 (CLEAR)

H4
SJ-5303 (CLEAR)

Logo1
PCB
LOGO
Texas Instruments

Logo2
PCB
LOGO
FCC disclaimer

Logo4
PCB
LOGO
WEEE logo

PCB Number: MCU050
PCB Rev: A

FID1
Fiducial

FID2
Fiducial

FID3
Fiducial

LOGO3
CE Mark

SH-J1 SH-J2 SH-J3 SH-J4 SH-J5 SH-J6 SH-J7 SH-J8 SH-J9 SH-J10 SH-J11 SH-J12 SH-J13 SH-J14 SH-J15 SH-J16 SH-J17 SH-J18

LBL1
PCB Label
THT-14-423-10
Size: 0.65" x 0.20 "

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

ZZ2
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Variant/Label Table	
Variant	Label Text
001	EVM430-FR6043

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Orderable: EVM430-FR6043	Designed for: Public Release	Mod. Date: 8/13/2019
TID #: N/A	Project Title: EVM430-FR5043	
Number: MCU050 Rev: A	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 7 of 7
Drawn By: Michael Schneider	File: MCU050A_EVM430-FR6043_HW.SchDoc	Size: B
Engineer: D. Garcia	Contact: http://www.ti.com/support	

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