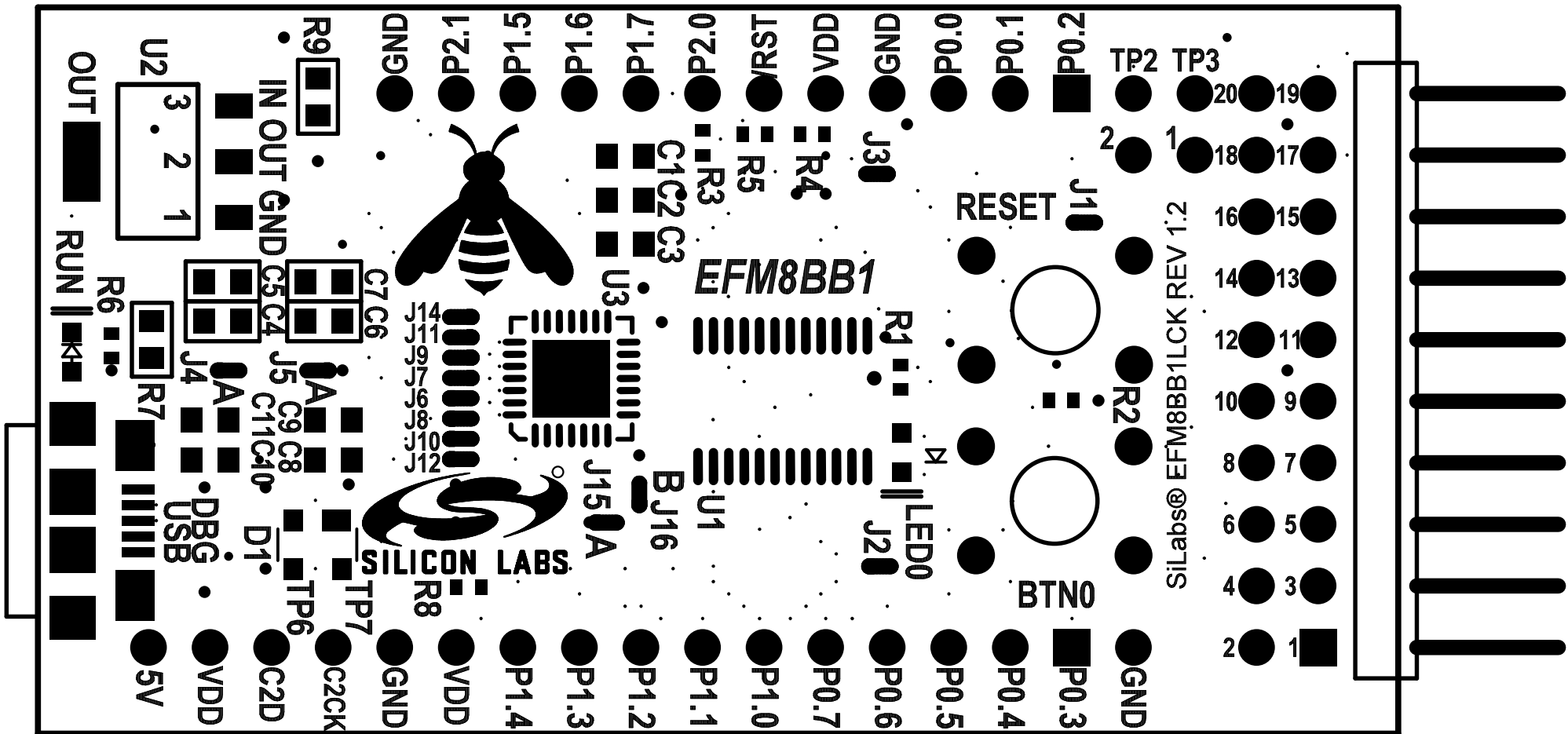
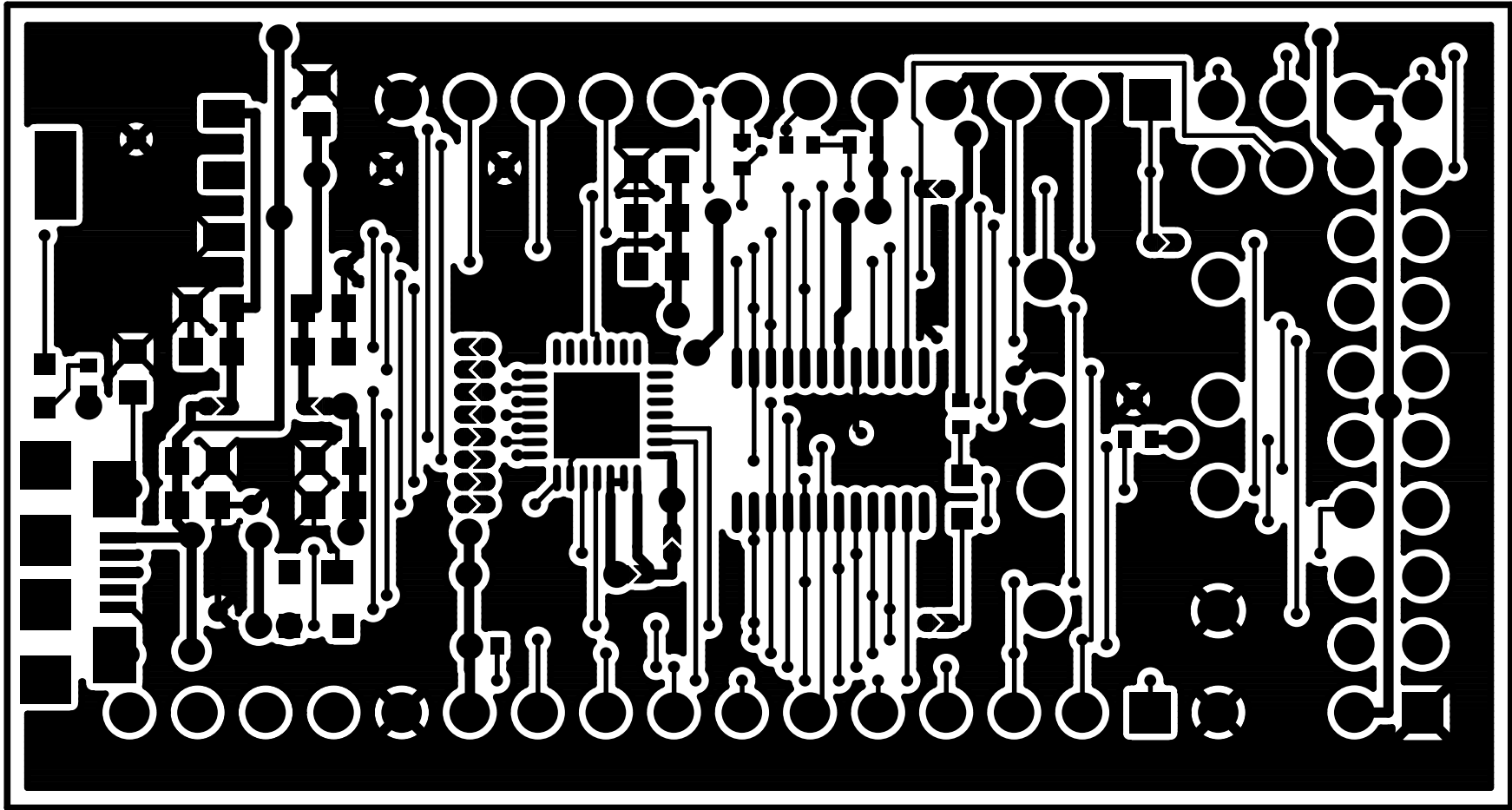


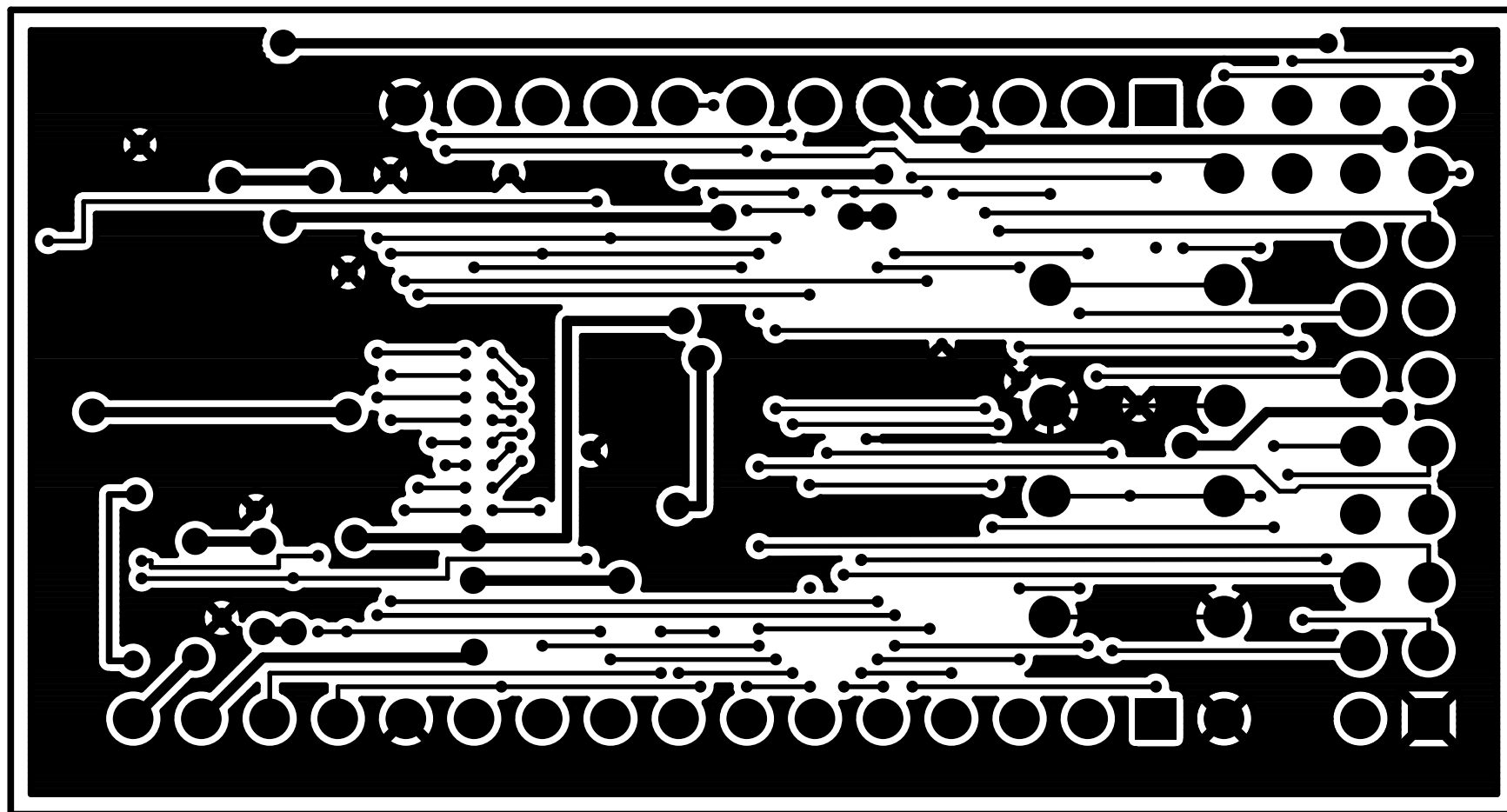
EFM8BB1LCK V1.2 - SILKSCREEN TOP

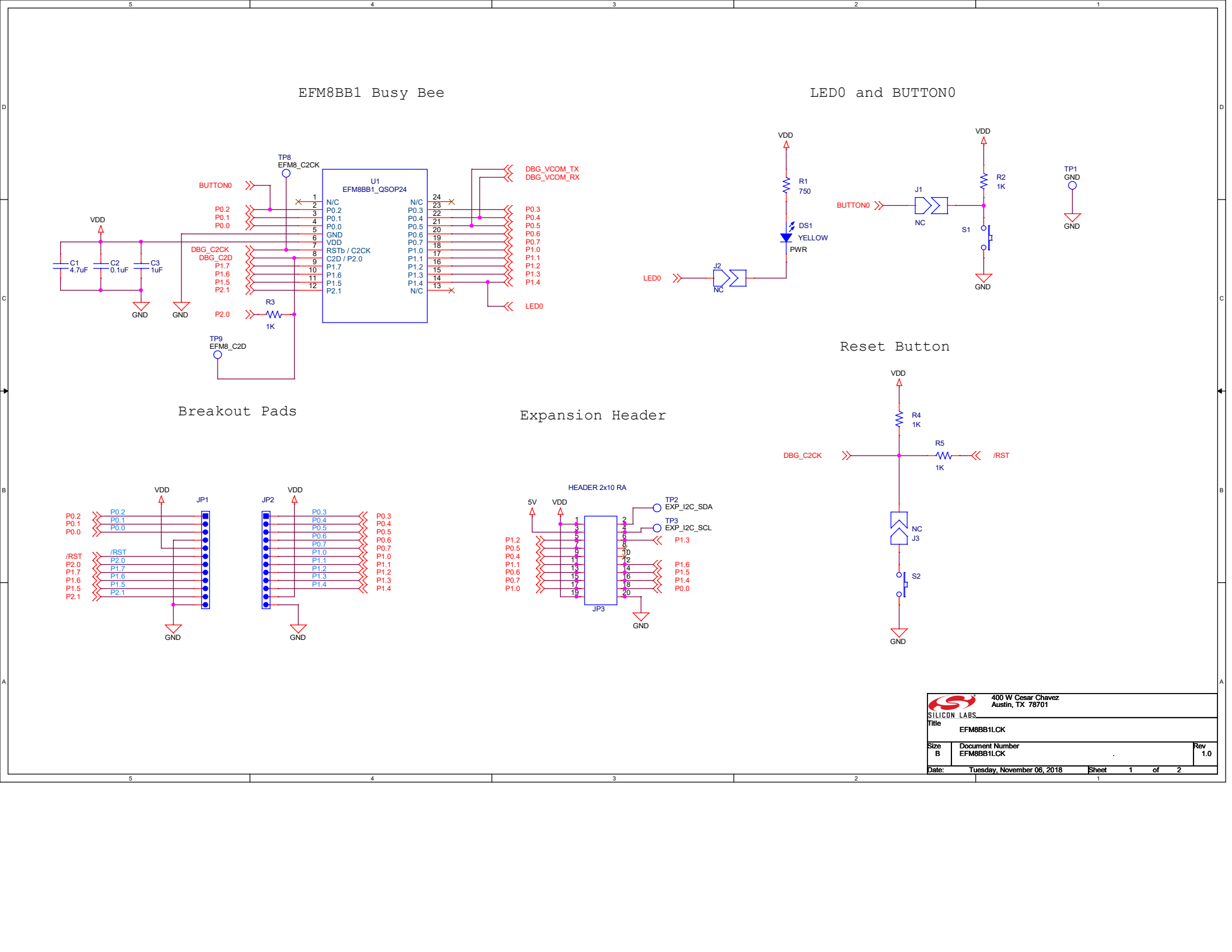
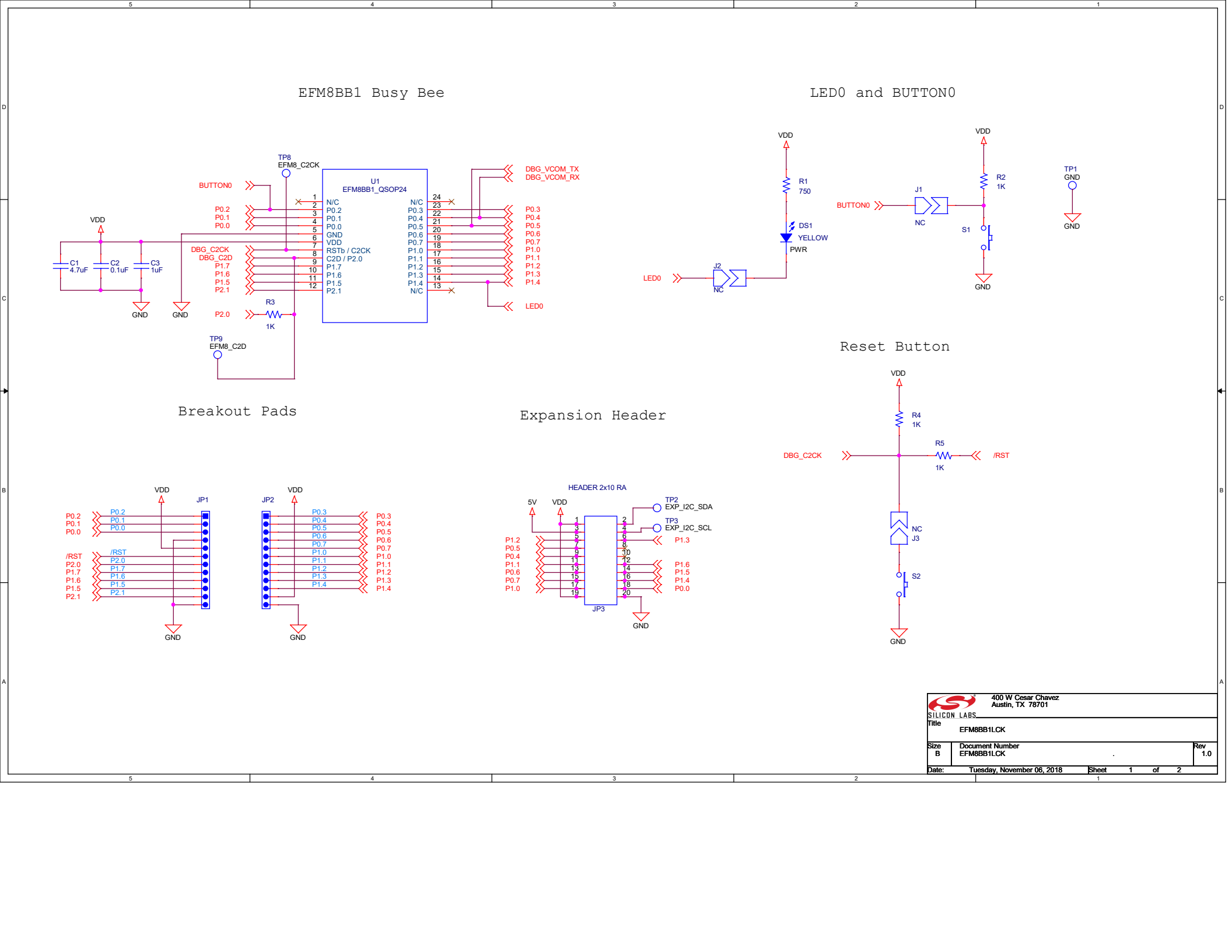
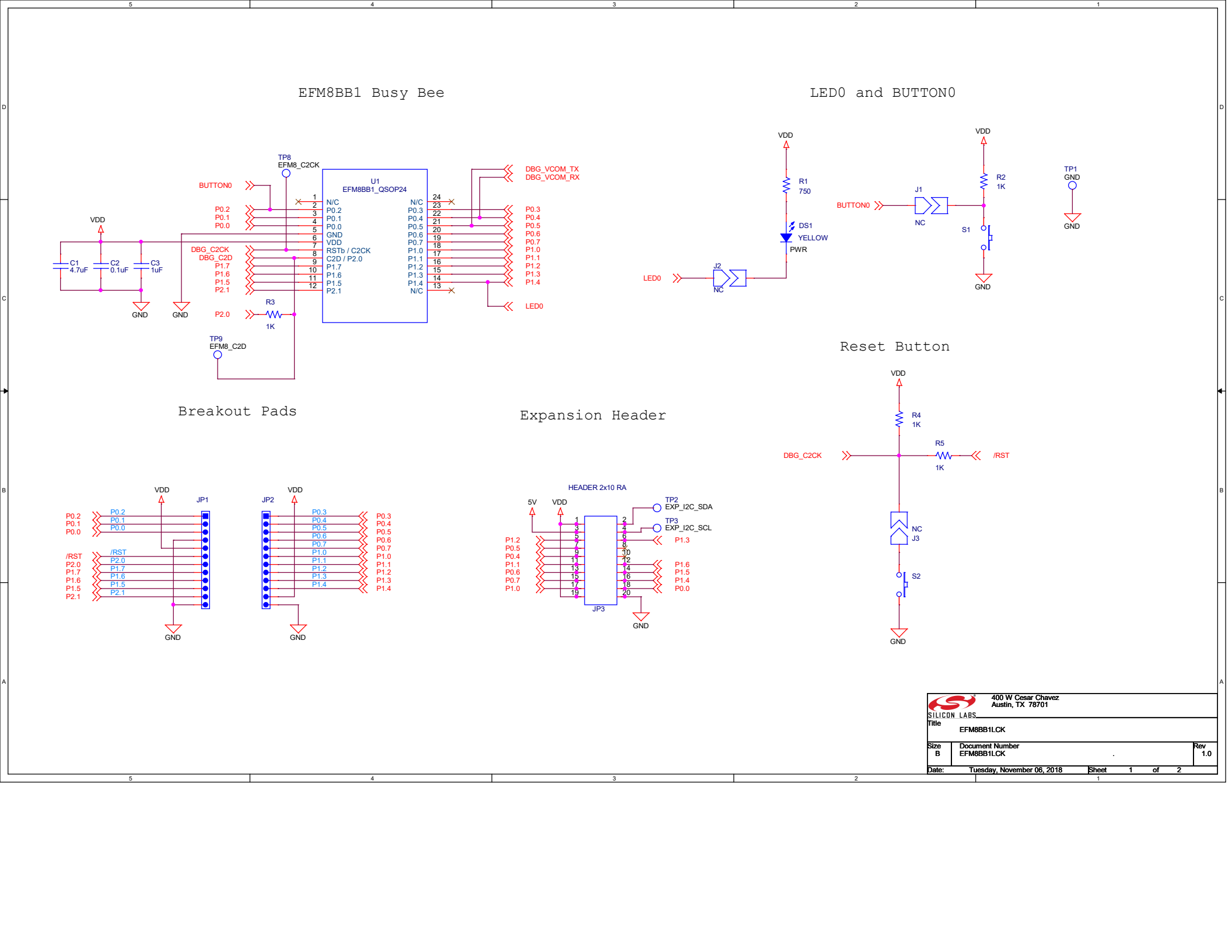
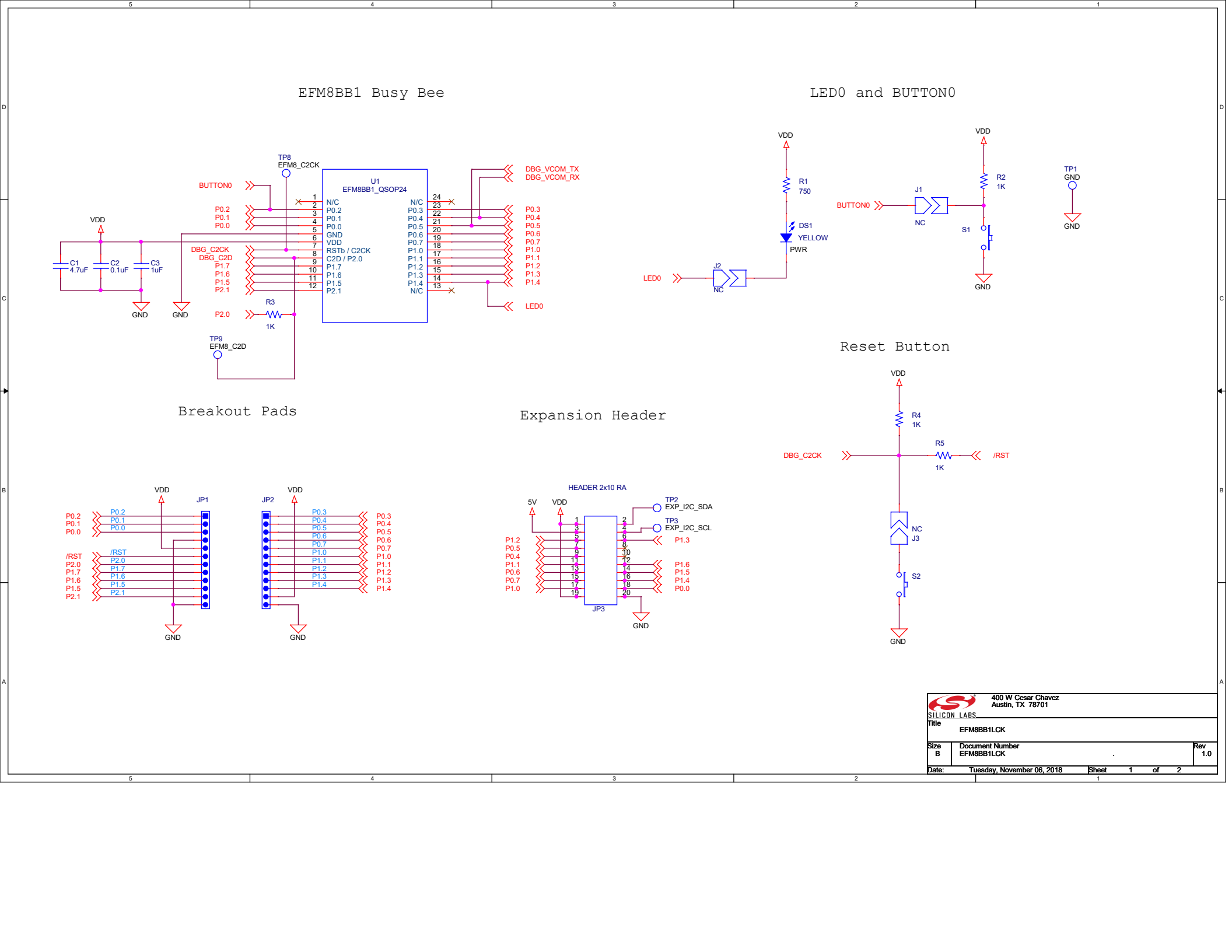


EFM8BB1LCK V1.2 - COPPER TOP



EFM8BB1LCK V1.2 - COPPER BOTTOM

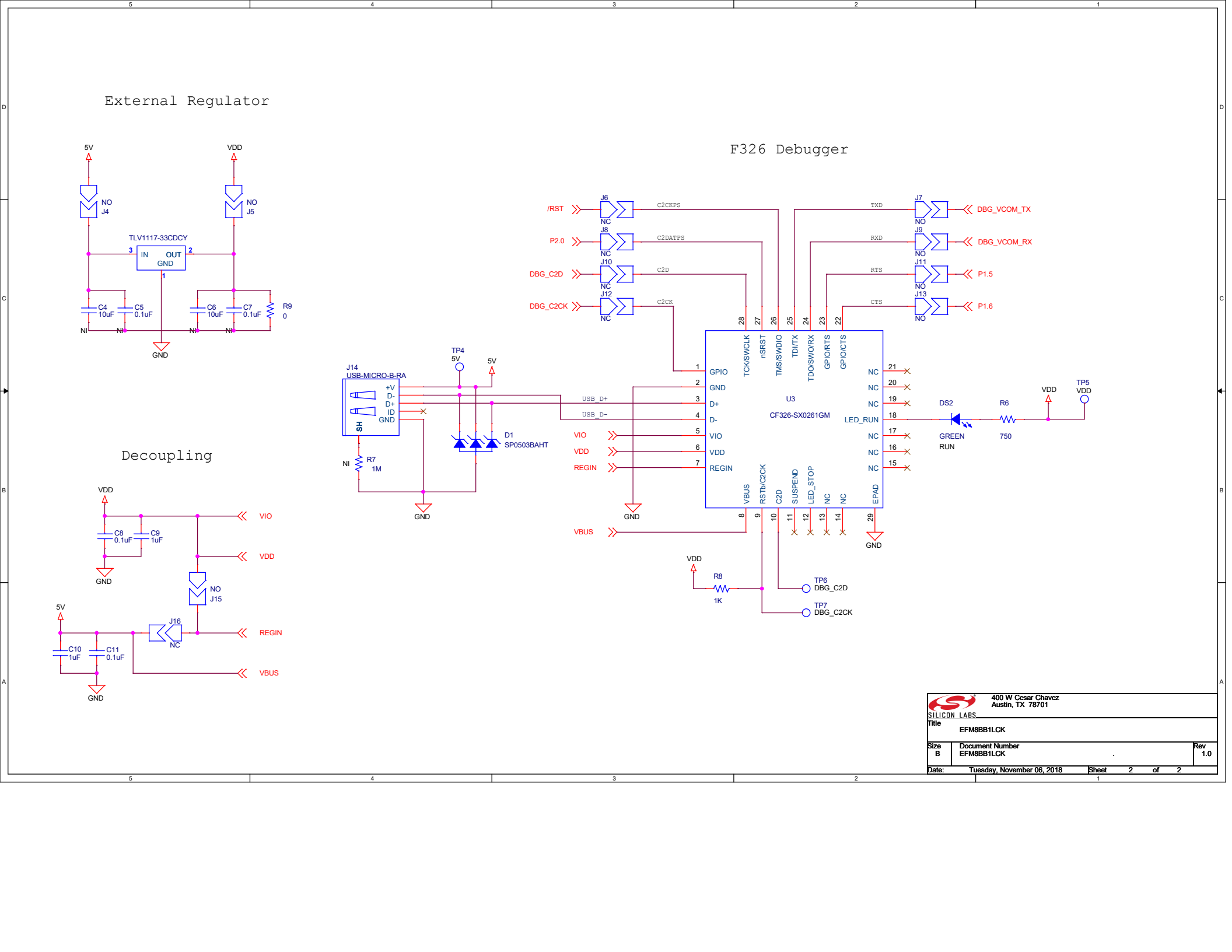


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The schematic diagram illustrates the hardware components and connections for the EFM8BB1LCK development board, organized into three main sections:

- External Regulator:** This section shows a voltage regulator circuit using the TLV1117-33CDCY. It takes a 5V input (J4) and provides a regulated VDD output (J5). The circuit includes input capacitors C4 (10uF) and C5 (0.1uF), output capacitors C6 (10uF) and C7 (0.1uF), and a load resistor R9 (0 ohms).
- Decoupling:** This section shows decoupling capacitors for various power pins. VIO and VDD pins are decoupled with capacitors C8 (0.1uF) and C9 (1uF). The VBUS pin is decoupled with capacitors C10 (1uF) and C11 (0.1uF). A 5V input (J16) is also shown.
- F326 Debugger:** This section shows the connection of the F326 Debugger (U3, CF326-SX0261GM) to the board. The debugger's pins are connected to the board's pins as follows:
 - GPIO (1) to VIO
 - GND (2) to GND
 - D+ (3) to USB D+
 - D- (4) to USB D-
 - VDD (6) to VDD
 - REGIN (7) to REGIN
 - VBUS (8) to VBUS
 - RSTb/C2CK (9) to RSTb/C2CK
 - C2D (10) to C2D
 - SUSPEND (11) to SUSPEND
 - LED_STOP (12) to LED_STOP
 - NC (13) to NC
 - NC (14) to NC
 - EPAD (29) to GND
 - TXD (23) to TXD
 - RXD (24) to RXD
 - RTS (25) to RTS
 - CTS (26) to CTS
 - LED_RUN (18) to LED_RUN
 - GREEN RUN (17) to GREEN RUN
 - TP5 (VDD) to VDD
 - TP6 (DBG_C2D) to DBG_C2D
 - TP7 (DBG_C2CK) to DBG_C2CK

The board also includes a USB-Micro-B connector (J14), a 5V input (TP4), and a 5V output (J5).



The schematic diagram illustrates the hardware components and connections for the EFM8BB1LCK development board, organized into three main sections: External Regulator, Decoupling, and F326 Debugger.

External Regulator: This section shows a voltage regulator circuit using the TLV1117-33CDCY. It takes a 5V input (J4) and provides a regulated VDD output (J5). The circuit includes input capacitors C4 (10uF) and C5 (0.1uF), output capacitors C6 (10uF) and C7 (0.1uF), and a load resistor R9 (0 ohms).

Decoupling: This section shows decoupling capacitors for various pins. VIO and VDD pins are decoupled with capacitors C8 (0.1uF) and C9 (1uF). The REGIN pin is decoupled with capacitors C10 (1uF) and C11 (0.1uF). A 5V input (J16) is also shown.

F326 Debugger: This section shows the connection of the F326 Debugger (U3, CF326-SX0261GM) to the board. The debugger is connected to the board's pins via a USB-Micro-B connector (J14) and a USB cable. The debugger's pins are connected to the board's pins as follows:

- GPIO (1) to VIO
- GND (2) to GND
- D+ (3) to USB D+
- D- (4) to USB D-
- VDD (6) to VDD
- REGIN (7) to REGIN
- VBUS (8) to VBUS
- RSTb/C2CK (9) to RSTb/C2CK
- C2D (10) to C2D
- SUSPEND (11) to SUSPEND
- LED_STOP (12) to LED_STOP
- NC (13) to NC
- NC (14) to NC
- EPAD (29) to GND

 The debugger's TXD, RXD, RTS, and CTS pins are connected to the board's pins via a USB-Micro-B connector (J7). The debugger's TXD, RXD, RTS, and CTS pins are connected to the board's pins via a USB-Micro-B connector (J7). The debugger's TXD, RXD, RTS, and CTS pins are connected to the board's pins via a USB-Micro-B connector (J7).

Legend:

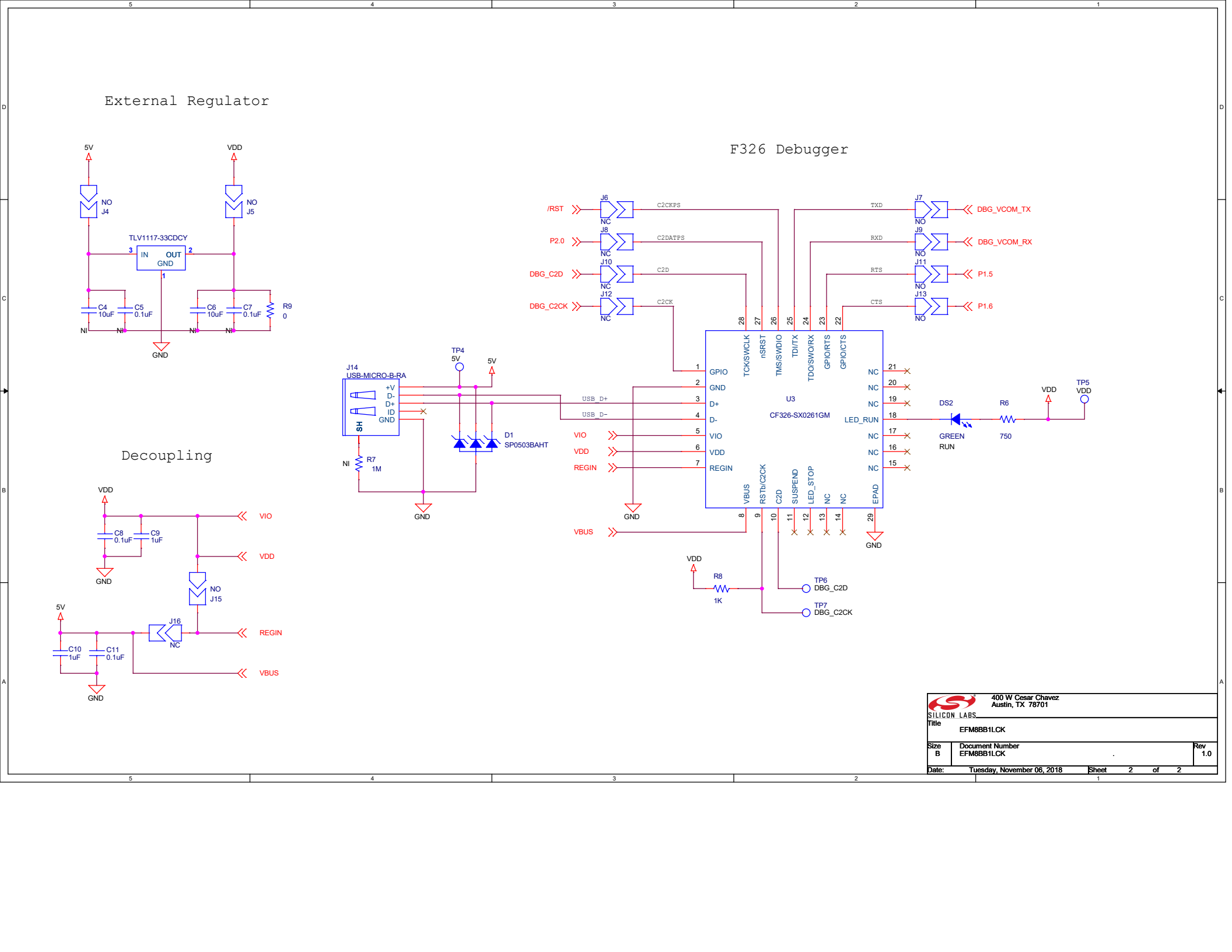
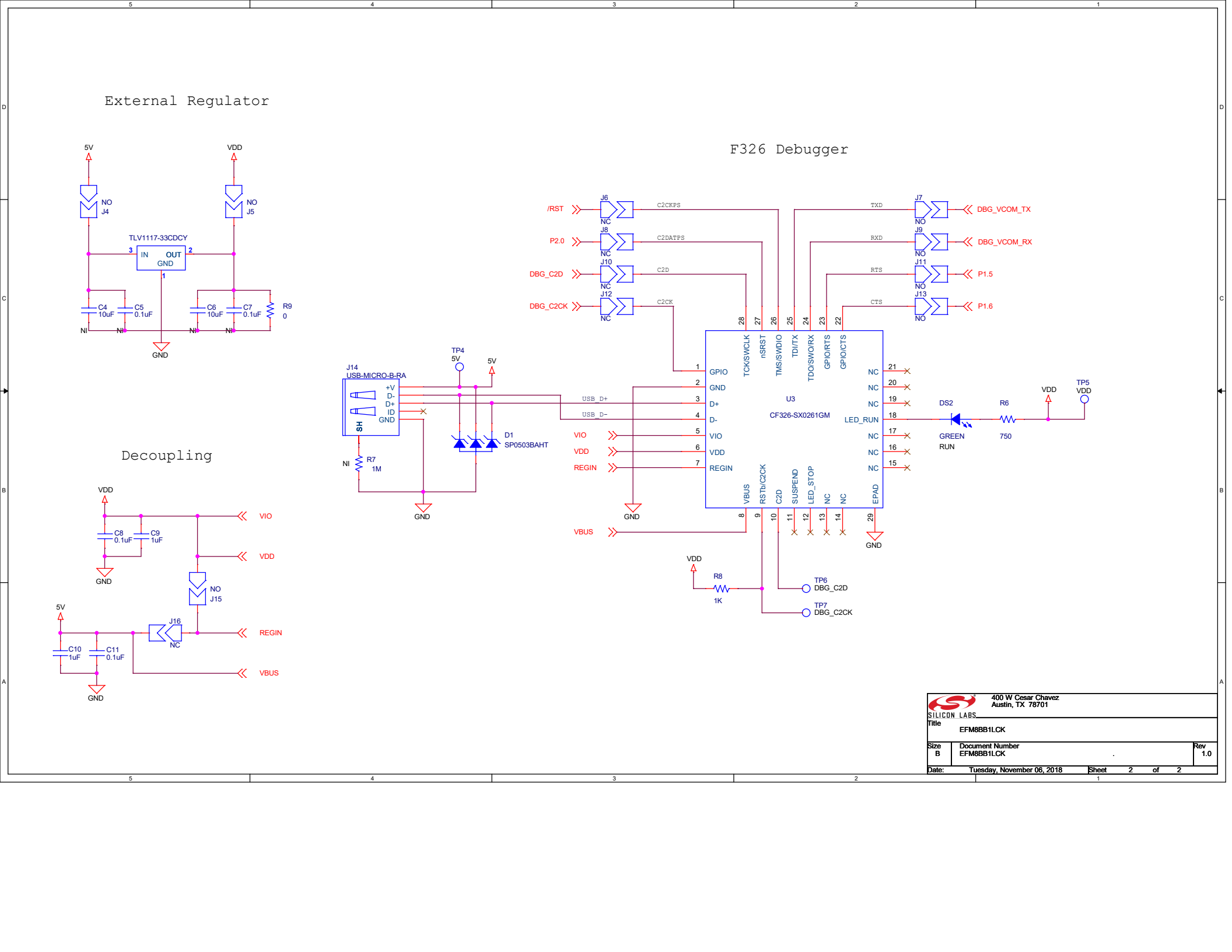
- NO: Not Occupied
- NC: Not Connected
- VBUS: USB Bus
- VDD: 3.3V
- VIO: I/O Voltage
- REGIN: Register Address
- RSTb/C2CK: Reset/Debug Clock
- C2D: Debug Data
- SUSPEND: Suspend
- LED_STOP: LED Stop
- NC: No Connection
- EPAD: External Pad
- TXD: Transmitter
- RXD: Receiver
- RTS: Request to Send
- CTS: Clear to Send

Component Values:

- Capacitors: C4, C6, C7: 10uF; C5, C8, C9, C10, C11: 0.1uF; C11: 1uF.
- Resistors: R7: 1M; R8: 1K; R9: 0.
- Diodes: D1: SP0503BAHT.
- Connectors: J14: USB-Micro-B-RA; J16: USB-Micro-B-RA.
- ICs: U1: TLV1117-33CDCY; U3: CF326-SX0261GM.

Revision History:

Rev	Description	Date
1.0	Initial Release	Tuesday, November 06, 2018



Eval Board Name	EFM8BB1LCK
Revision	1.02

CreationDate	Proto Rev	Released
7/24/2019	4.00	0

End product must be RoHS compliant

NI	Quantity	Part Reference	Value	Rating	Voltage	Tolerance	Type	PCB Footprint	ManufacturerPN	Manufacturer
	1	C1	4.7uF		10V	±10%	X5R	C0603	C0603X5R100-475K	Venkel
	3	C2 C8 C11	0.1uF		10V	±10%	X7R	C0603	C0603X7R100-104K	Venkel
	3	C3 C9 C10	1uF		10V	±10%	X7R	C0603	C0603X7R100-105K	Venkel
	1	D1	SP0503BAHT	300mW	20V		TVS	SOT143-AKKK	SP0503BAHTG	Littlefuse
	1	DS1	YELLOW					LED0603-KA	LTST-C190KSKT	LITE-ON TECHNOLOGY CORP
	1	DS2	GREEN					LED0603-KA	LTST-C190KGKT	LITE-ON TECHNOLOGY CORP
	1	J14	USB-MICRO-B-RA				USB	MICRO-USB-B-RA-SMT	ZX62-B-5P	HIROSE
	2	R1 R6	750	1/10W		±1%	ThickFilm	R0402	CR0402-10W-7500FT	Venkel
	5	R2 R3 R4 R5 R8	1K	1/10W		±1%	ThickFilm	R0402	CR0402-10W-1001FT	Venkel
	2	S1 S2	MOMENTARY				Tactile	SW4N6.5X4.5-PB	EVQ-PAD04M	PANASONIC CORP
	1	U1	EFM8BB1_QSOP24				MCU	SOP24N6.0P0.635	EFM8BB10F8G-A-QSOP24	SiLabs
	1	U3	CF326S1343DGM				MCU	QFN28N5X5P0.5	CF326S1343DGM	SiLabs

Not Installed Components

NI	Quantity	Part Reference	Value	Rating	Voltage	Tolerance	Type	PCB Footprint	ManufacturerPN	Manufacturer
NI	2	C4 C6	10uF		10V	±10%	X5R	C0603	C0603X5R100-106K	Venkel
NI	2	C5 C7	0.1uF		10V	±10%	X7R	C0603	C0603X7R100-104K	Venkel
NI	2	JP1 JP2	HEADER 1x12				Header	CONN1X12	TSW-112-07-T-S	Samtec
NI	1	JP3	HEADER 2x10 RA				Header	CONN2X10-MRA	TSW-110-25-G-D-RA	Samtec
NI	1	R7	1M	1/16W		±1%	ThickFilm	R0603	CR0603-16W-1004F	Venkel
NI	1	R9	0	1A			ThickFilm	R0603	ERJ-3GEY0R00V	Panasonic
NI	5	TP1 TP4 TP5 TP8 TP9	BLUE				Loop	TESTPOINT	151-205-RC	Kobiconn
NI	4	TP2 TP3 TP6 TP7	WHITE				Loop	TESTPOINT	151-201-RC	Kobiconn
NI	1	U2	TLV1117-33CDCY		3.3V		LDO	SOT223	TLV1117-33CDCY	TI