Figure 1. STEVAL-SILKTA01 circuit schematic (1 of 21)

Fail safe module digital I/O domain
con14-2x7-strip-female   J2

Module 0

Fail safe module digital I/O domain
con14-2x7-strip-female   J4

Module 1

Fail safe module MCU domain
con12-2x6-strip-female

J3

Fail safe module MCU domain
con12-2x6-strip-female

J5
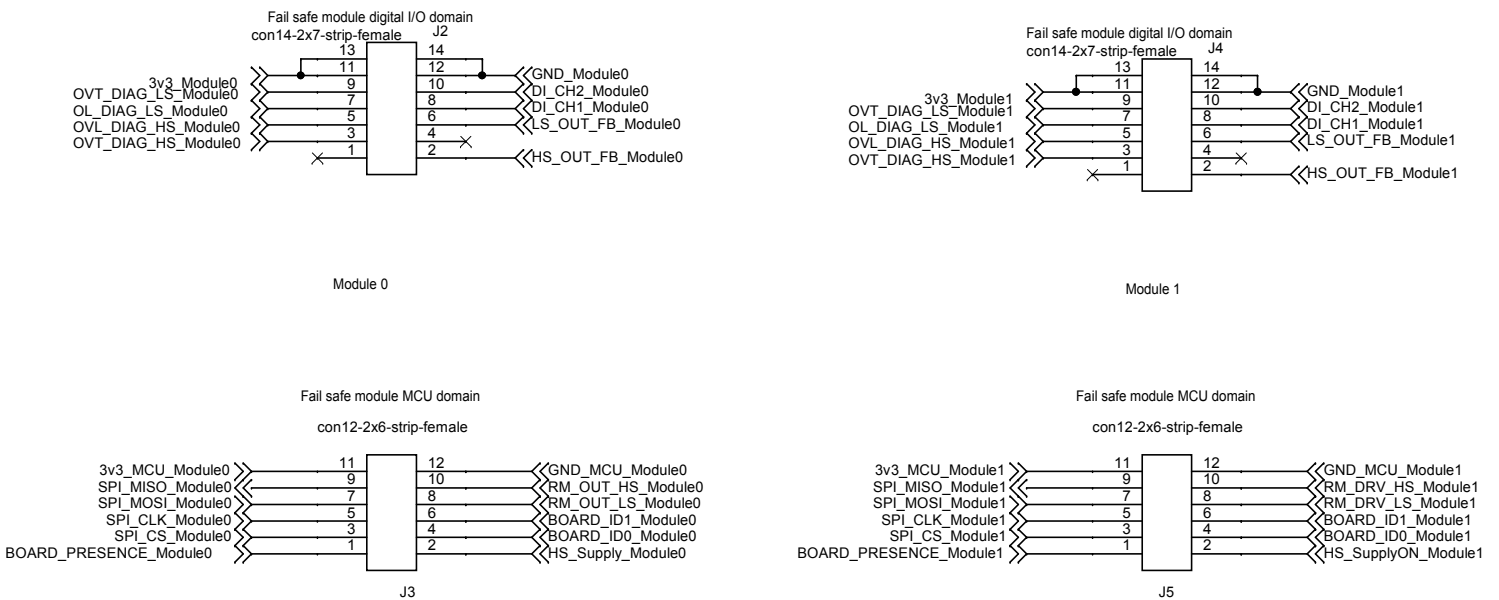
Figure 2. STEVAL-SILKTA01 circuit schematic (2 of 21)

U46

VDD_IN	1	VDD1	VDD2	8	VDD_ISO
OUT1	2	RX1	TX2	7	IN1_ISO
IN1	3	TX1	RX2	6	OUT1_ISO
GND	4	GND1	GND2	5	GND_ISO

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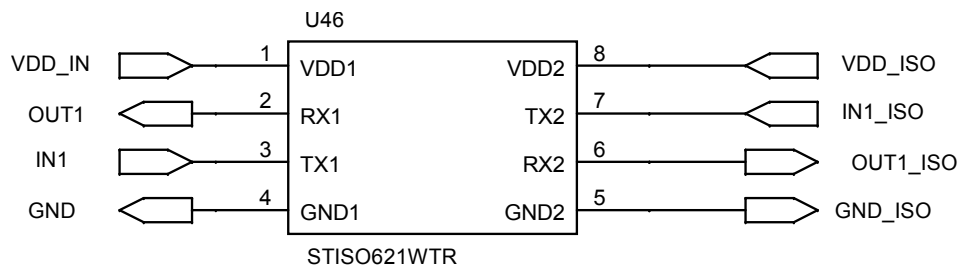
Figure 3. STEVAL-SILKTA01 circuit schematic (3 of 21)

U45

VDD_IN	1	VDD1	VDD2	8	VDD_ISO
OUT1	2	RX1	TX2	7	IN1_ISO
IN1	3	TX1	RX2	6	OUT1_ISO
GND	4	GND1	GND2	5	GND_ISO

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STEVAL-SILKT01 - Rev 3 - November 2024
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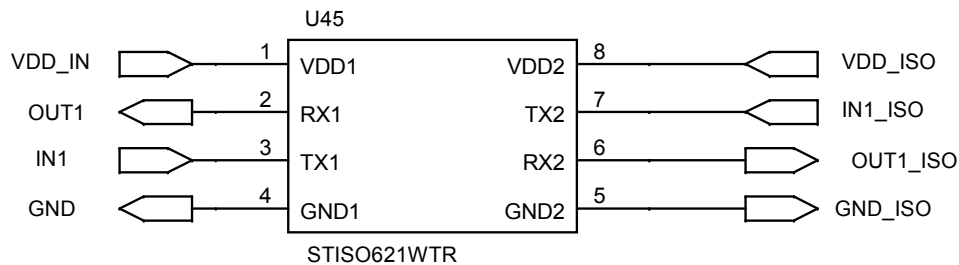
Figure 4. STEVAL-SILKTA01 circuit schematic (4 of 21)

U38

Pin	Signal		Signal	Pin
VDD_IN	1 VDD1		VDD2 8	VDD_ISO
OUT1	2 RX1		TX2 7	IN1_ISO
IN1	3 TX1		RX2 6	OUT1_ISO
GND	4 GND1		GND2 5	GND_ISO

STISO621WTR
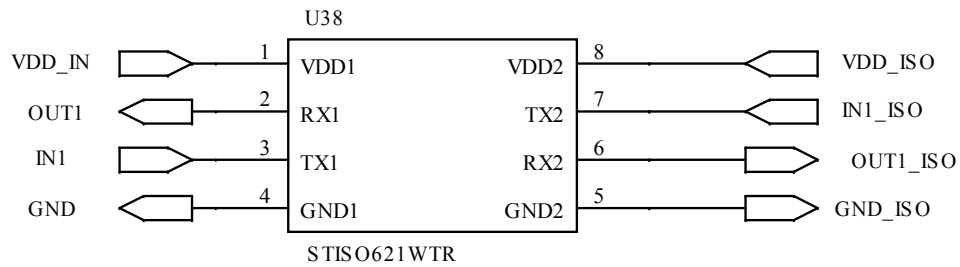
Figure 5. STEVAL-SILKTA01 circuit schematic (5 of 21)

U32

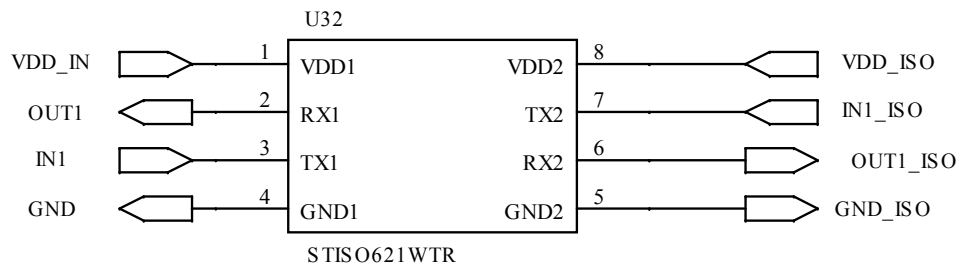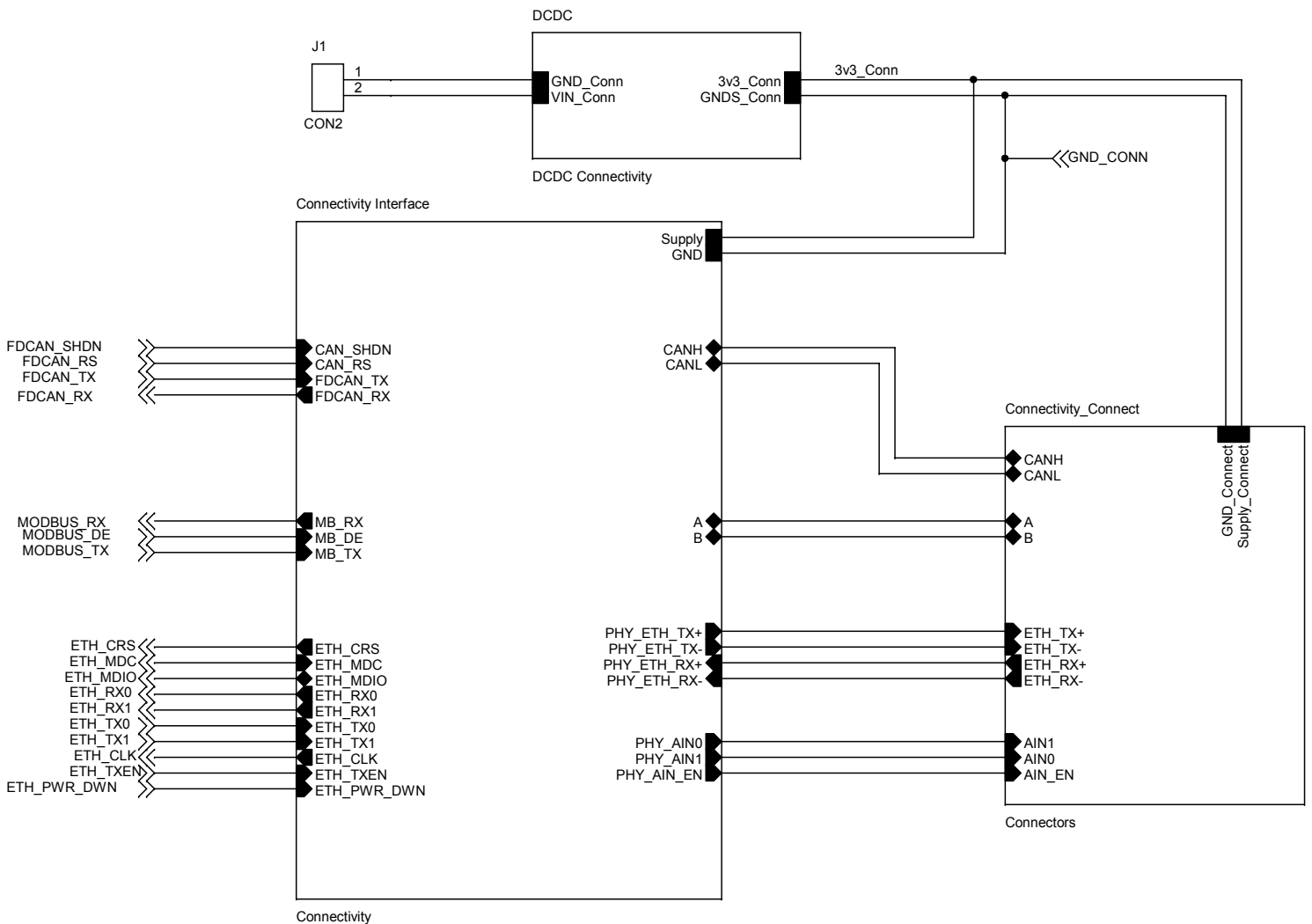| Pin	Signal		Signal	Pin
VDD_IN	1 VDD1		VDD2 8	VDD_ISO
OUT1	2 RX1		TX2 7	IN1_ISO
IN1	3 TX1		RX2 6	OUT1_ISO
GND	4 GND1		GND2 5	GND_ISO

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Figure 6. STEVAL-SILKTA01 circuit schematic (6 of 21)

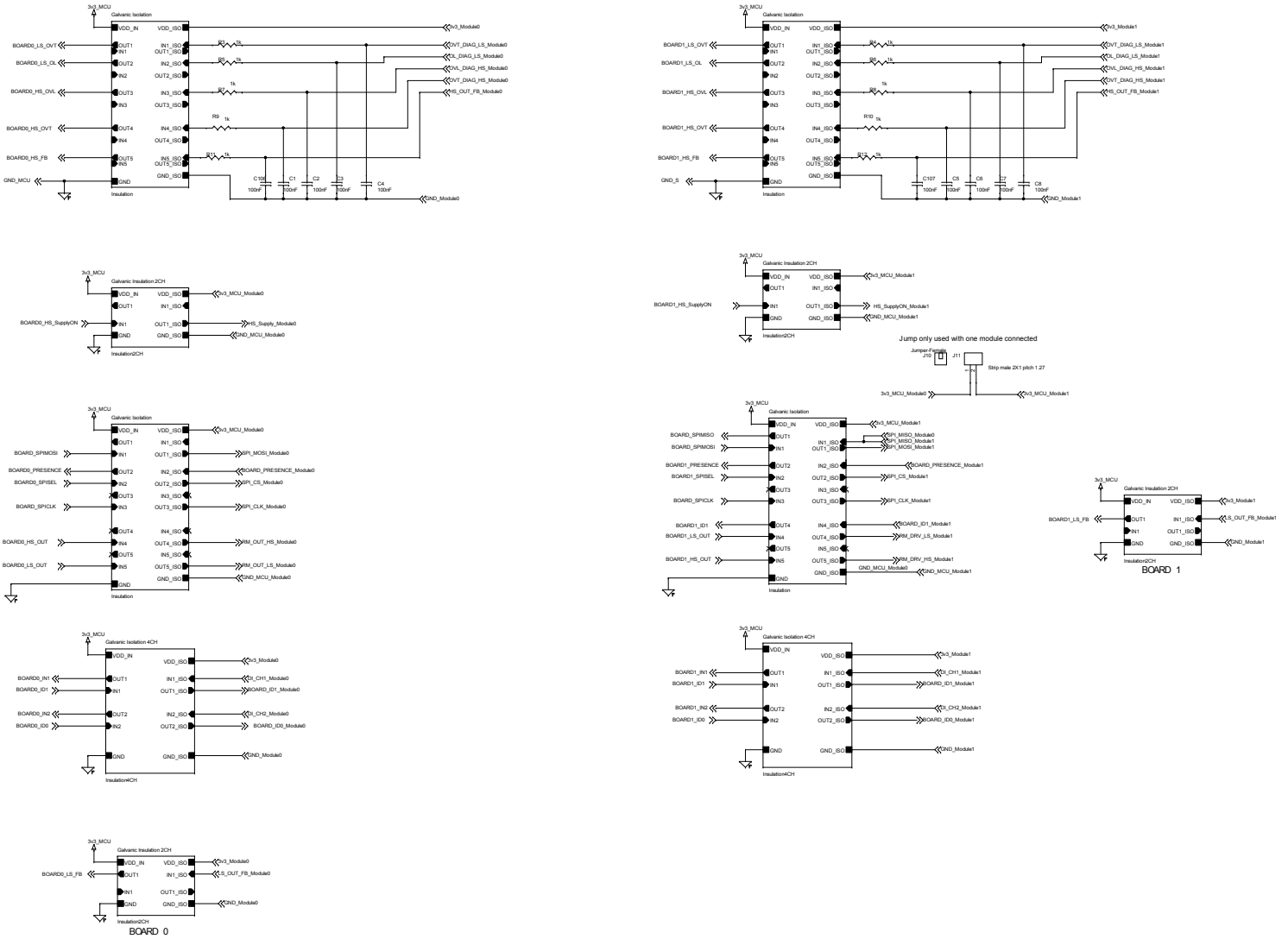**Figure 7. STEVAL-SILKTA01 circuit schematic (7 of 21)**
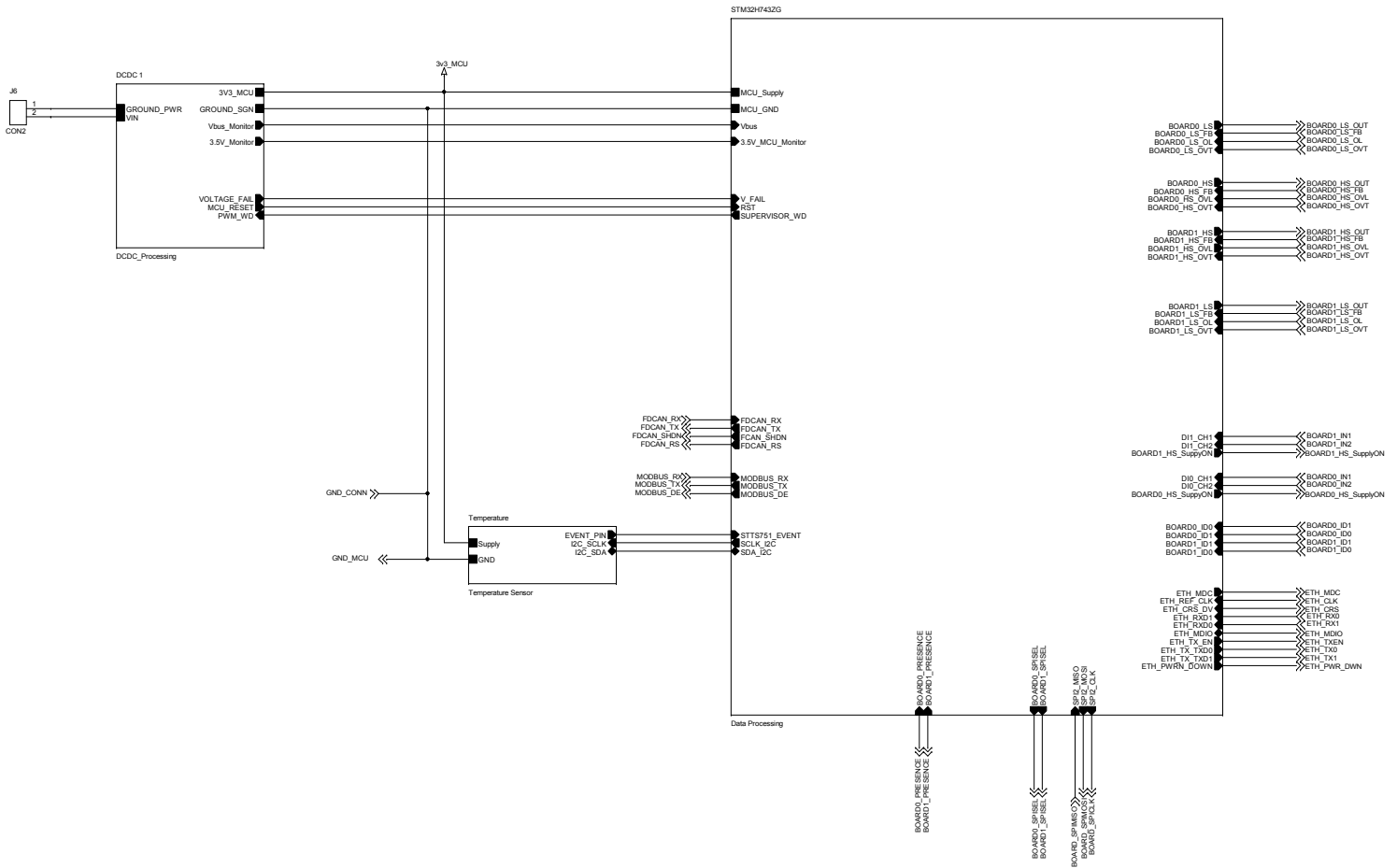
Figure 8. STEVAL-SILKTA01 circuit schematic (8 of 21)

Figure 9. STEVAL-SILKTA01 circuit schematic (9 of 21)

Figure 10. STEVAL-SILKTA01 circuit schematic (10 of 21)

Figure 11. STEVAL-SILKTA01 circuit schematic (11 of 21)

Figure 12. STEVAL-SILKTA01 circuit schematic (12 of 21)

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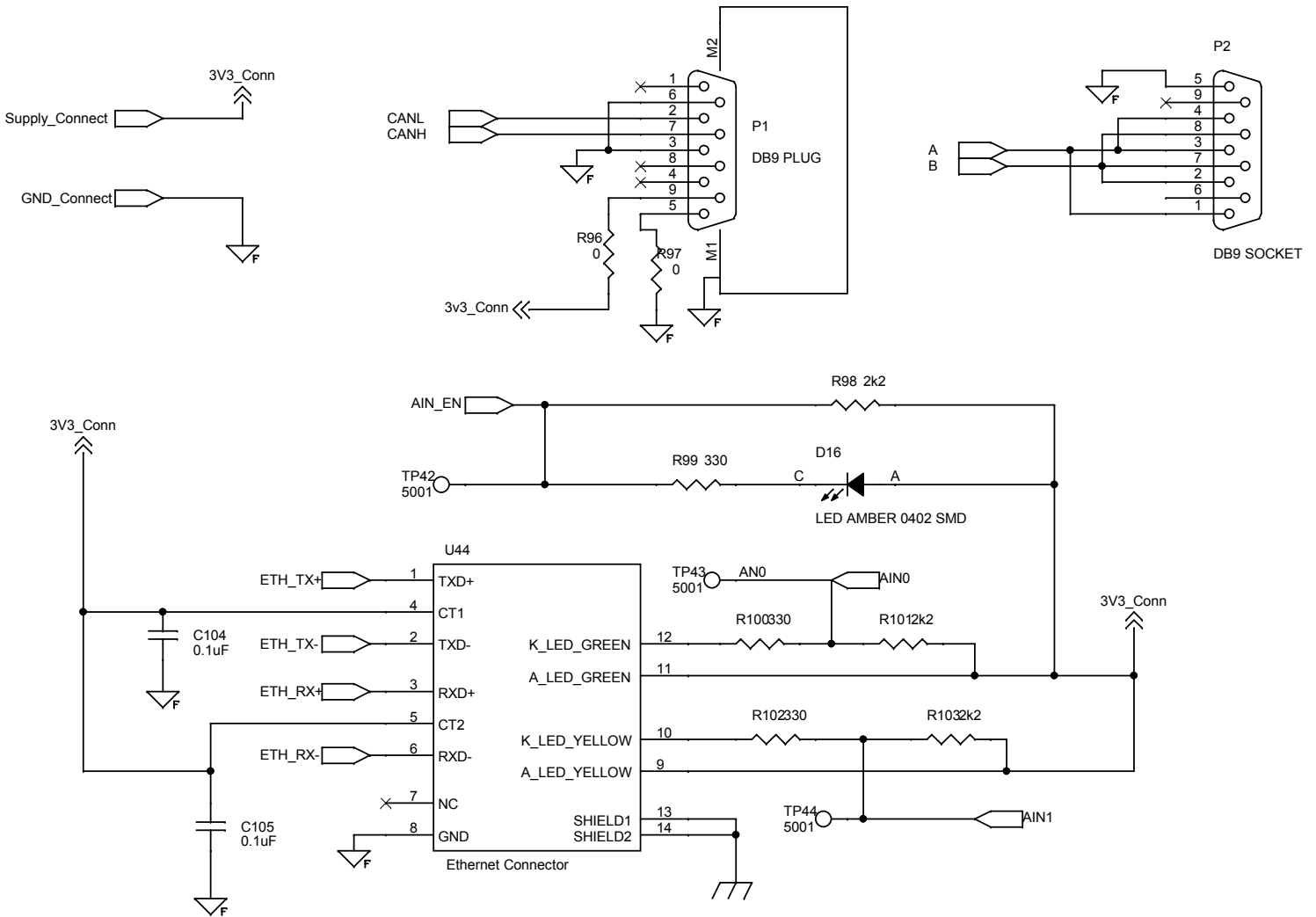**Figure 13. STEVAL-SILKTA01 circuit schematic (13 of 21)**

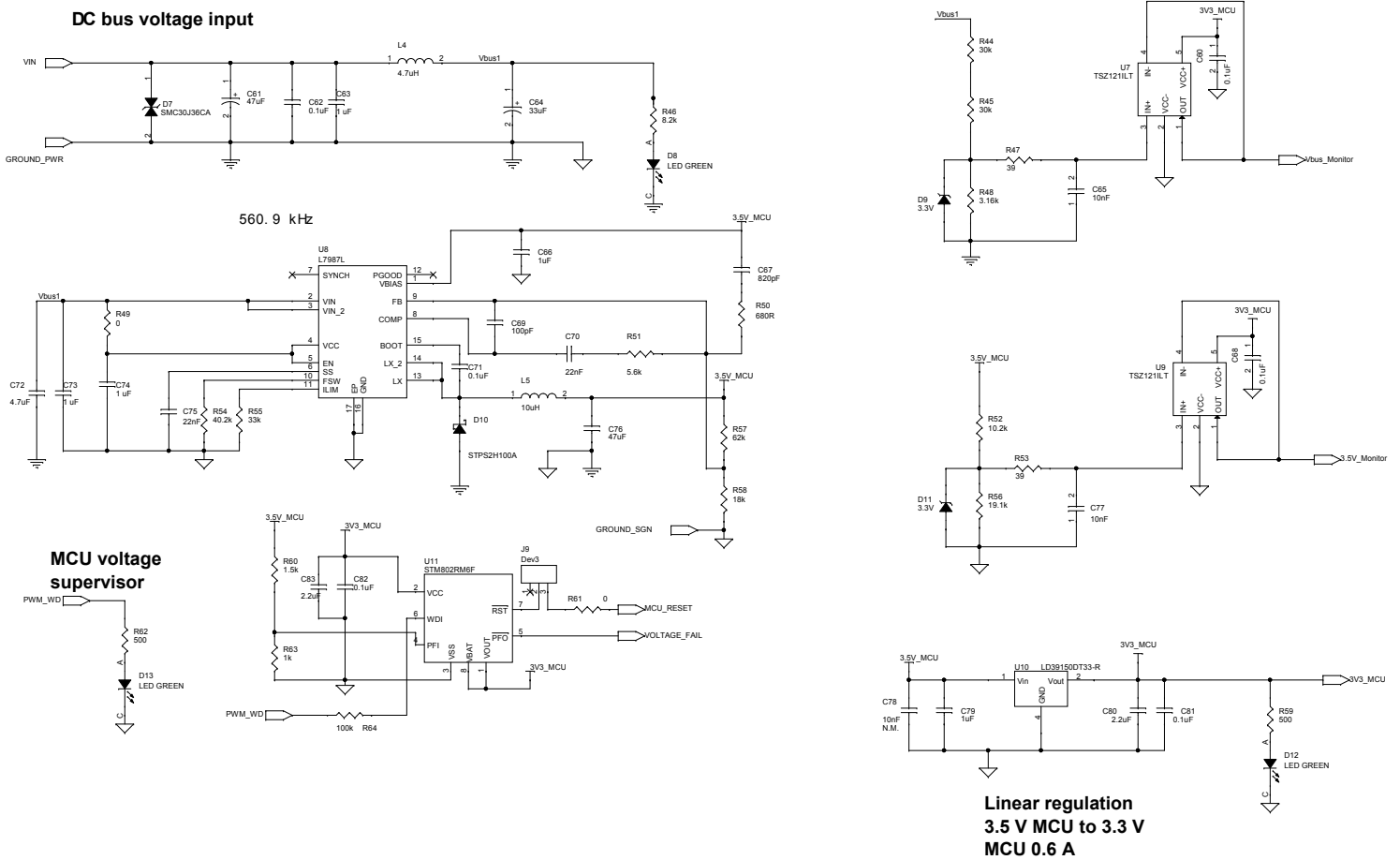**Figure 14. STEVAL-SILKTA01 circuit schematic (14 of 21)**

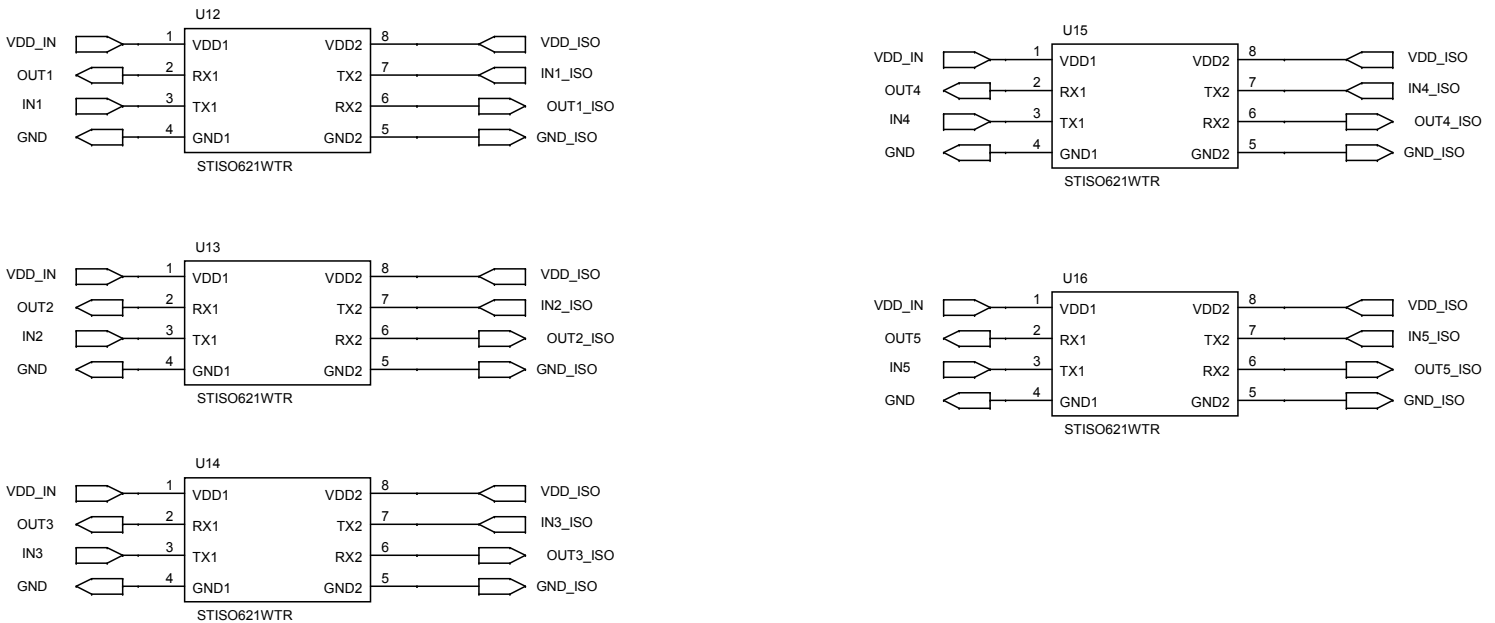**Figure 15. STEVAL-SILKTA01 circuit schematic (15 of 21)**
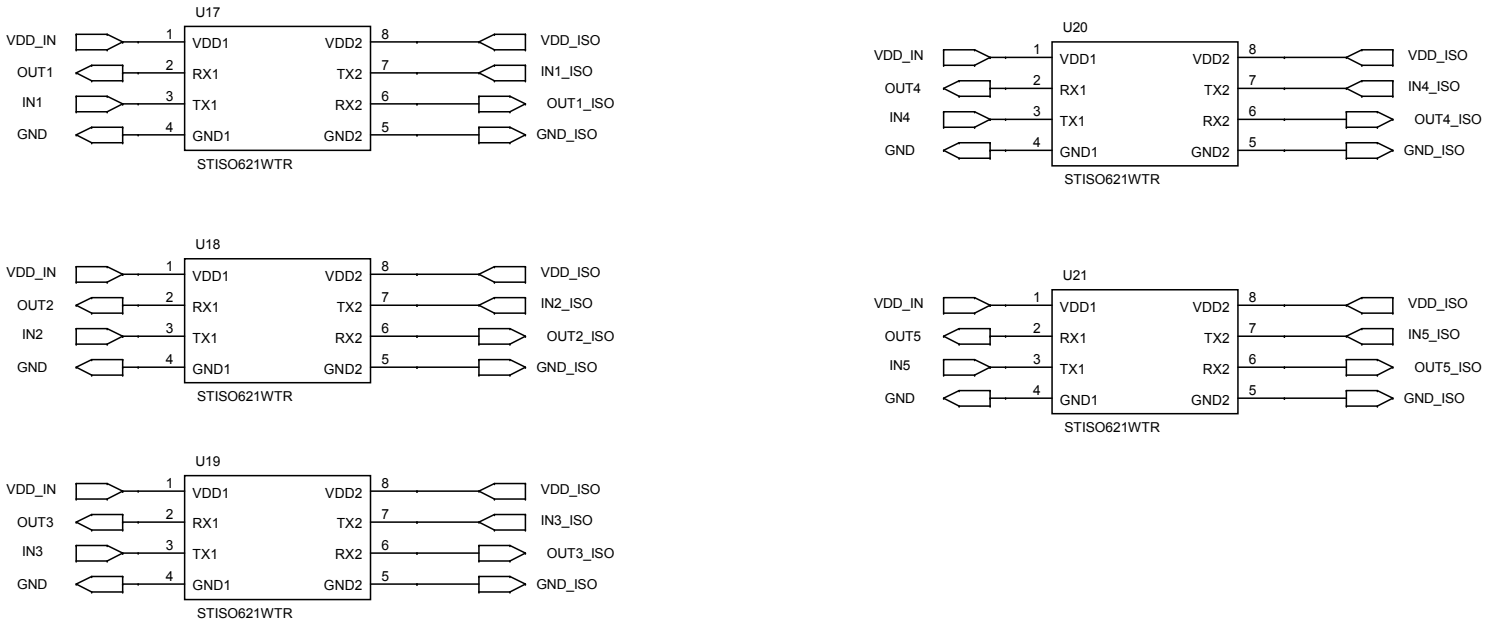
Figure 16. STEVAL-SILKTA01 circuit schematic (16 of 21)
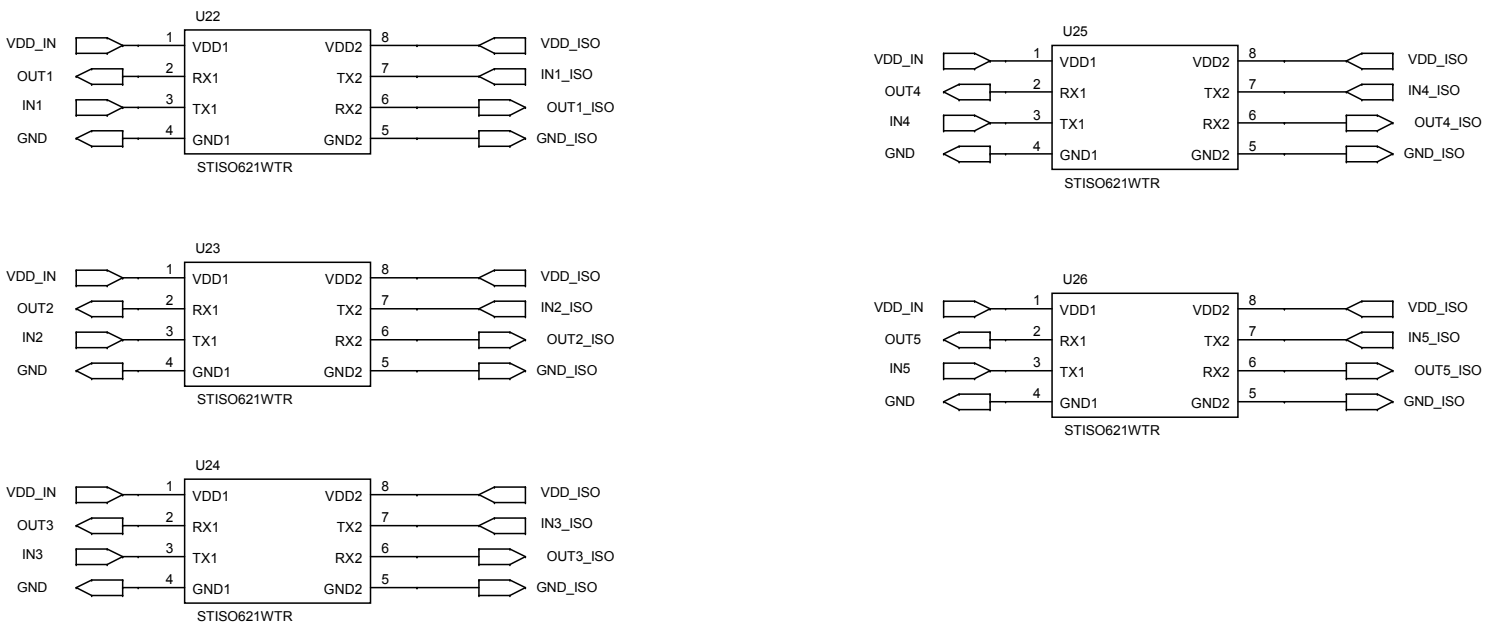

Figure 17. STEVAL-SILKTA01 circuit schematic (17 of 21)
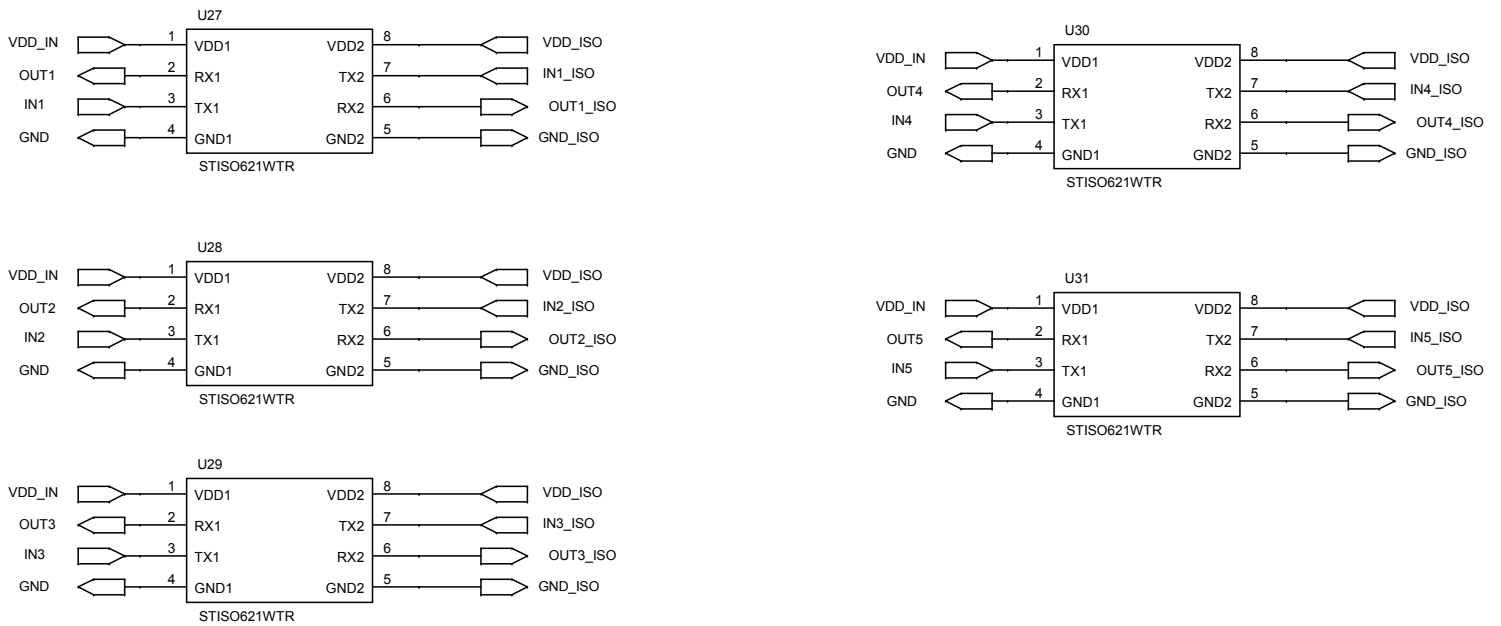
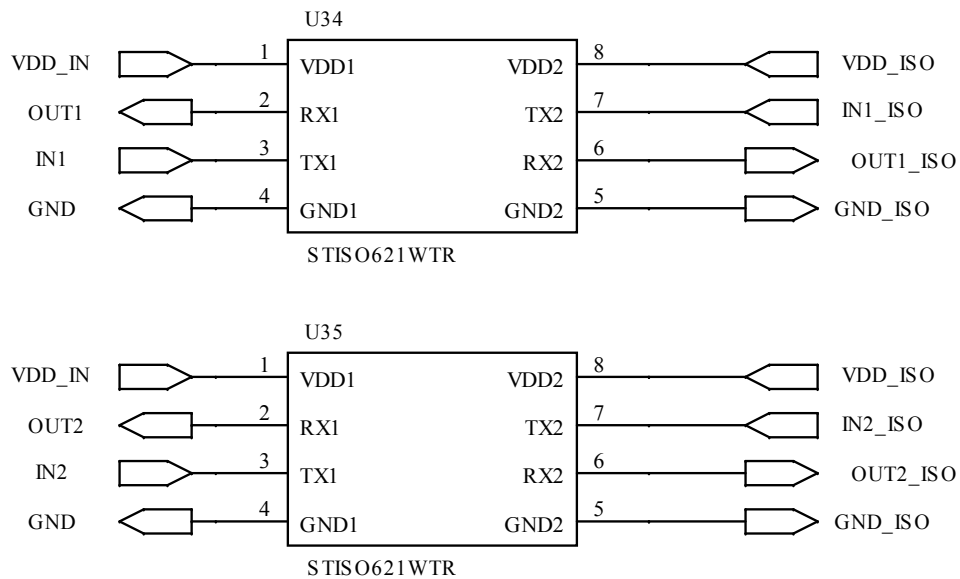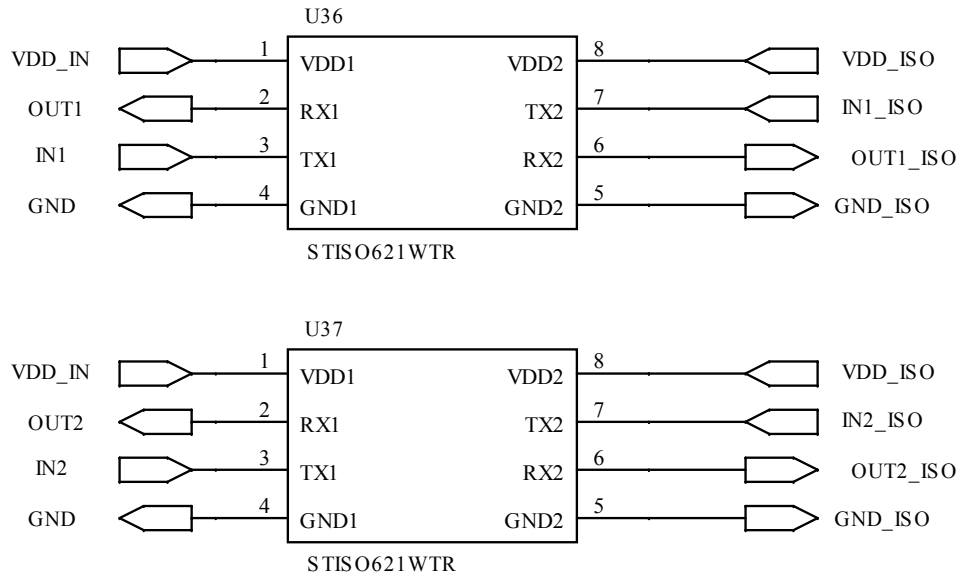**Figure 18. STEVAL-SILKTA01 circuit schematic (18 of 21)**

U27

VDD_IN — 1	VDD1	VDD2 — 8 — VDD_ISO
OUT1 — 2	RX1	TX2 — 7 — IN1_ISO
IN1 — 3	TX1	RX2 — 6 — OUT1_ISO
GND — 4	GND1	GND2 — 5 — GND_ISO

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U28

VDD_IN — 1	VDD1	VDD2 — 8 — VDD_ISO
OUT2 — 2	RX1	TX2 — 7 — IN2_ISO
IN2 — 3	TX1	RX2 — 6 — OUT2_ISO
GND — 4	GND1	GND2 — 5 — GND_ISO

STISO621WTR

U29

VDD_IN — 1	VDD1	VDD2 — 8 — VDD_ISO
OUT3 — 2	RX1	TX2 — 7 — IN3_ISO
IN3 — 3	TX1	RX2 — 6 — OUT3_ISO
GND — 4	GND1	GND2 — 5 — GND_ISO

STISO621WTR

U30

VDD_IN — 1	VDD1	VDD2 — 8 — VDD_ISO
OUT4 — 2	RX1	TX2 — 7 — IN4_ISO
IN4 — 3	TX1	RX2 — 6 — OUT4_ISO
GND — 4	GND1	GND2 — 5 — GND_ISO

STISO621WTR

U31

VDD_IN — 1	VDD1	VDD2 — 8 — VDD_ISO
OUT5 — 2	RX1	TX2 — 7 — IN5_ISO
IN5 — 3	TX1	RX2 — 6 — OUT5_ISO
GND — 4	GND1	GND2 — 5 — GND_ISO

STISO621WTR

Figure 19. STEVAL-SILKTA01 circuit schematic (19 of 21)

U34

VDD_IN — 1	VDD1	VDD2 — 8 — VDD_ISO
OUT1 — 2	RX1	TX2 — 7 — IN1_ISO
IN1 — 3	TX1	RX2 — 6 — OUT1_ISO
GND — 4	GND1	GND2 — 5 — GND_ISO

STISO621WTR

U35

VDD_IN — 1	VDD1	VDD2 — 8 — VDD_ISO
OUT2 — 2	RX1	TX2 — 7 — IN2_ISO
IN2 — 3	TX1	RX2 — 6 — OUT2_ISO
GND — 4	GND1	GND2 — 5 — GND_ISO

STISO621WTR

Figure 20. STEVAL-SILKTA01 circuit schematic (20 of 21)

U36

VDD_IN — 1	VDD1	VDD2 8 — VDD_ISO
OUT1 — 2	RX1	TX2 7 — IN1_ISO
IN1 — 3	TX1	RX2 6 — OUT1_ISO
GND — 4	GND1	GND2 5 — GND_ISO

STISO621WTR

U37

VDD_IN — 1	VDD1	VDD2 8 — VDD_ISO
OUT2 — 2	RX1	TX2 7 — IN2_ISO
IN2 — 3	TX1	RX2 6 — OUT2_ISO
GND — 4	GND1	GND2 5 — GND_ISO

STISO621WTR

Figure 21. STEVAL-SILKTA01 circuit schematic (21 of 21)

Supply

R65
2.7k

U40

R66
20kOhms

EVENT_PIN
I2C_SCLK
I2C_SDA
GND

2 EVENT
1
6 SCL
5 SDA
GND

VDD 3

Addr/Therm 4
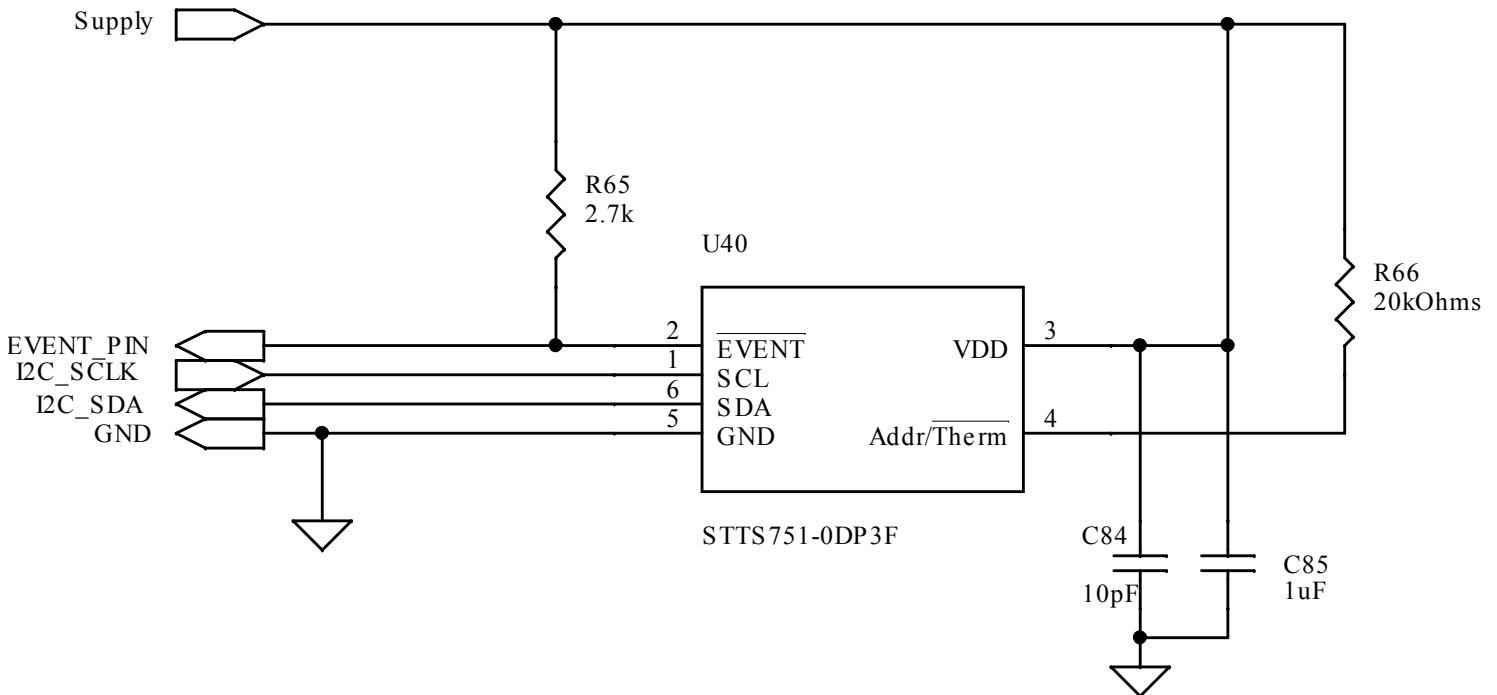
STTS751-0DP3F

C84
10pF

C85
1uF

Figure 22. STEVAL-SILKTB01 circuit schematic (1 of 12)
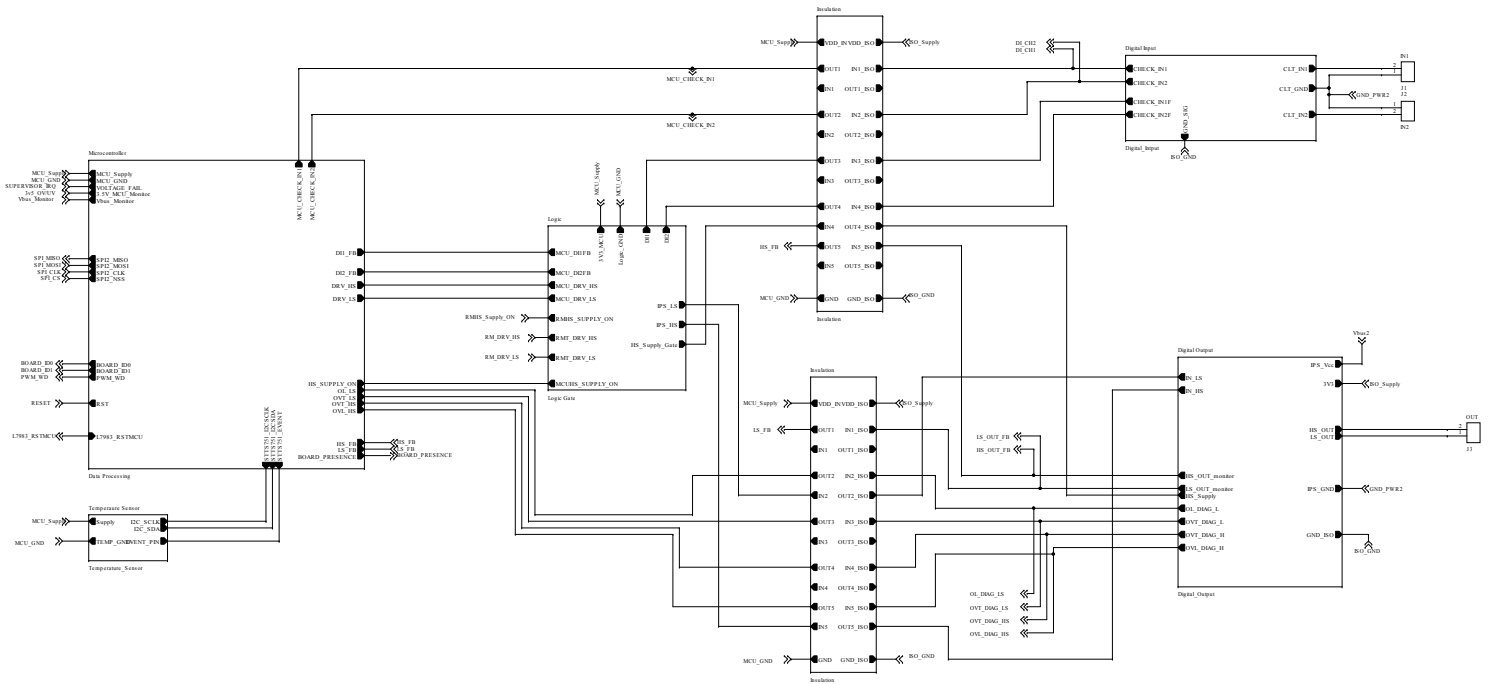
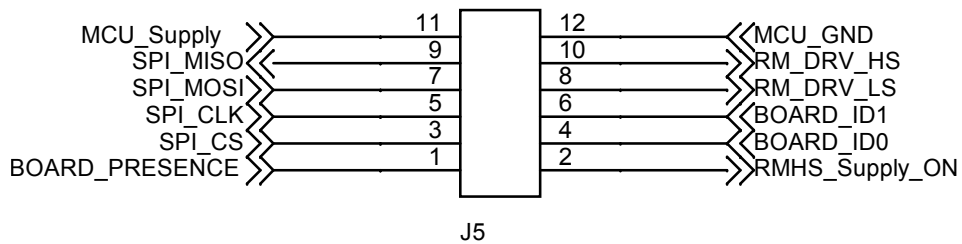**Figure 23. STEVAL-SILKTB01 circuit schematic (2 of 12)**

CON 7X2 pitch 2.54 90G

ISO_Supply — 13 / 11 / 9 — 14 / 12 / 10 — ISO_GND
OVT_DIAG_LS — 7 — 8 — DI_CH2
OL_DIAG_LS — 5 — 6 — DI_CH1
OVL_DIAG_HS — 3 — 4 — LS_OUT_FB
OVT_DIAG_HS — 1 — 2 — HS_OUT_FB

J4

CON12

MCU_Supply — 11 — 12 — MCU_GND
SPI_MISO — 9 — 10 — RM_DRV_HS
SPI_MOSI — 7 — 8 — RM_DRV_LS
SPI_CLK — 5 — 6 — BOARD_ID1
SPI_CS — 3 — 4 — BOARD_ID0
BOARD_PRESENCE — 1 — 2 — RMHS_Supply_ON

J5
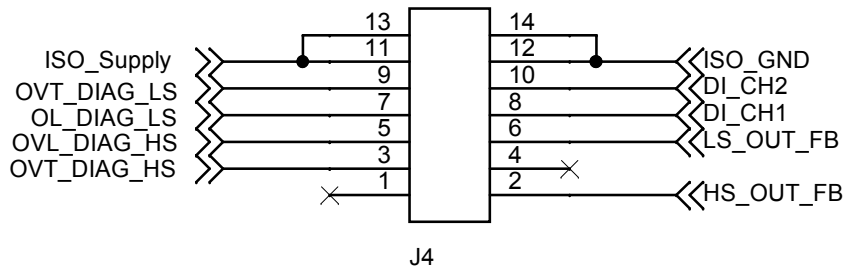
Figure 24. STEVAL-SILKTB01 circuit schematic (3 of 12)

DCDC

VCC_MCU

2
1

J6

Vbus2

VCC_DI/O

2
1

J7

GND_PWR2

L7983_RSTMCU

Supply 1
GND_1

Supply 2
GND_2

L7983_RSTMCU

3V3_MCU
GND_MCU

3v5_Monitor

MCU_RESET
VOLTAGE_FAIL
PWM_WD
Vbus_Monitor

3V3_ISO
GND_ISO

MCU_Supply
MCU_GND

3v5_OV/UV

RESET
SUPERVISOR_IRQ
PWM_WD
Vbus_Monitor

ISO_Supply
ISO_GND

Power_Management
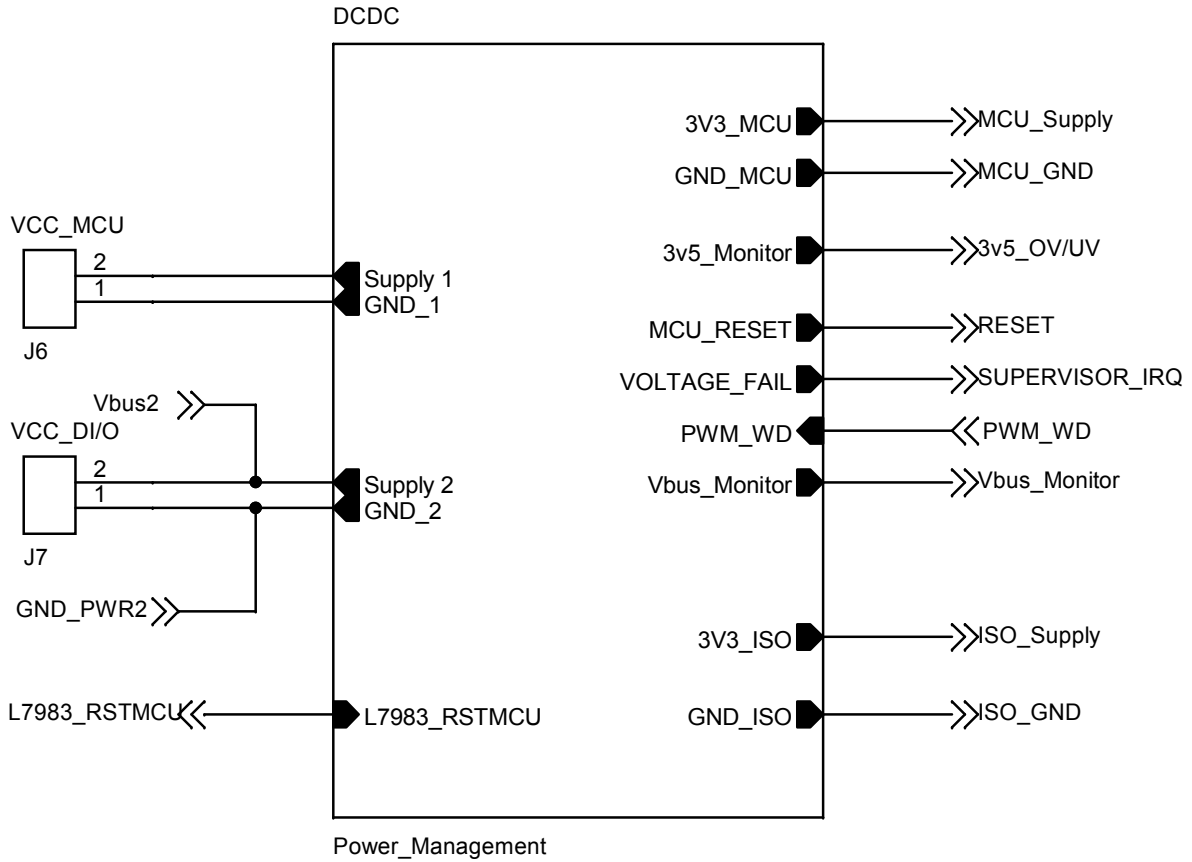
Figure 25. STEVAL-SILKTB01 circuit schematic (4 of 12)
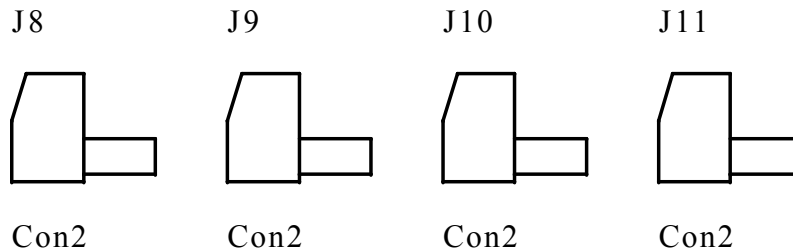
J8

Con2

J9

Con2

J10

Con2

J11

Con2

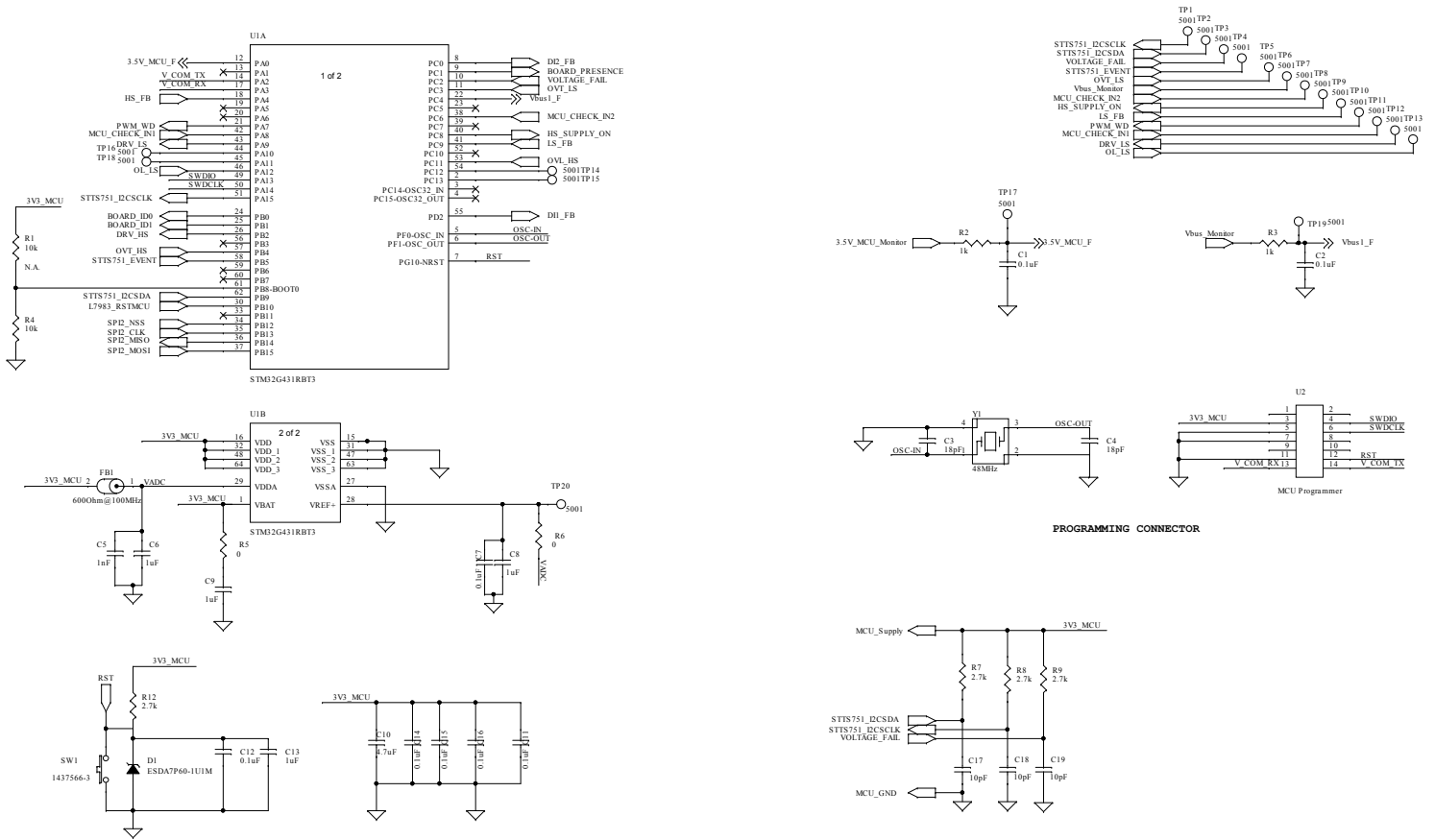## Figure 26. STEVAL-SILKTB01 circuit schematic (5 of 12)

Figure 27. STEVAL-SILKTB01 circuit schematic (6 of 12)

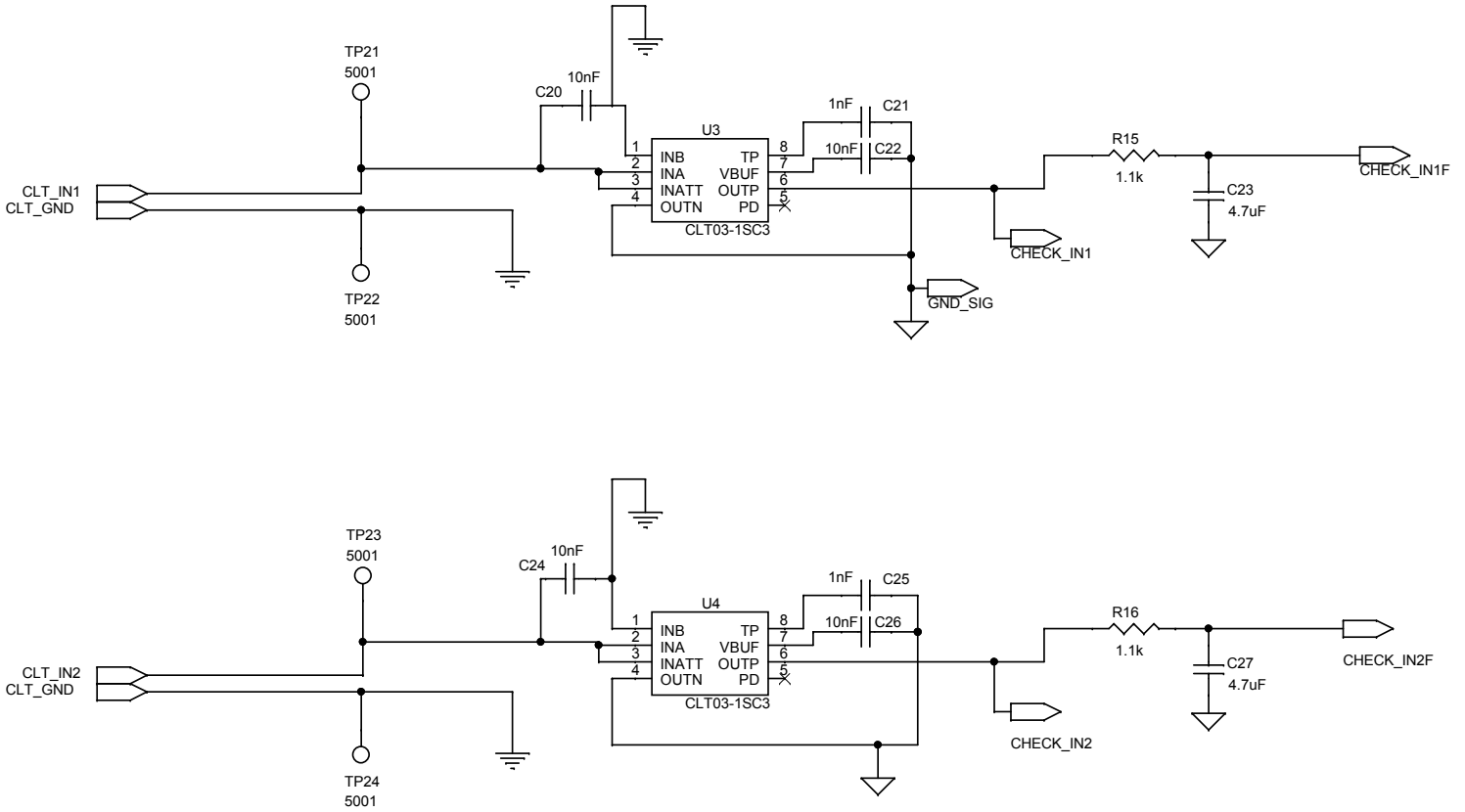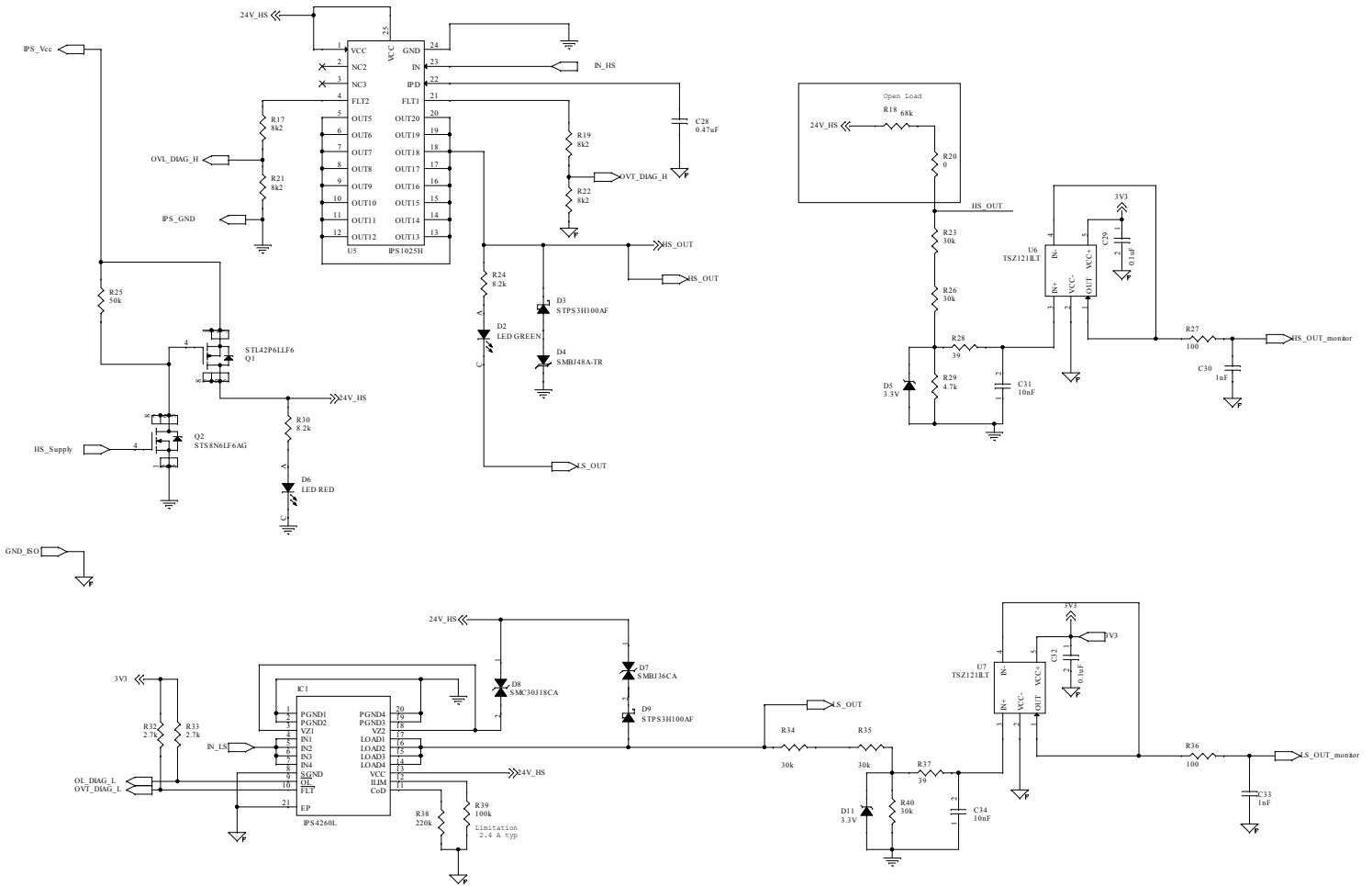**Figure 28. STEVAL-SILKTB01 circuit schematic (7 of 12)**
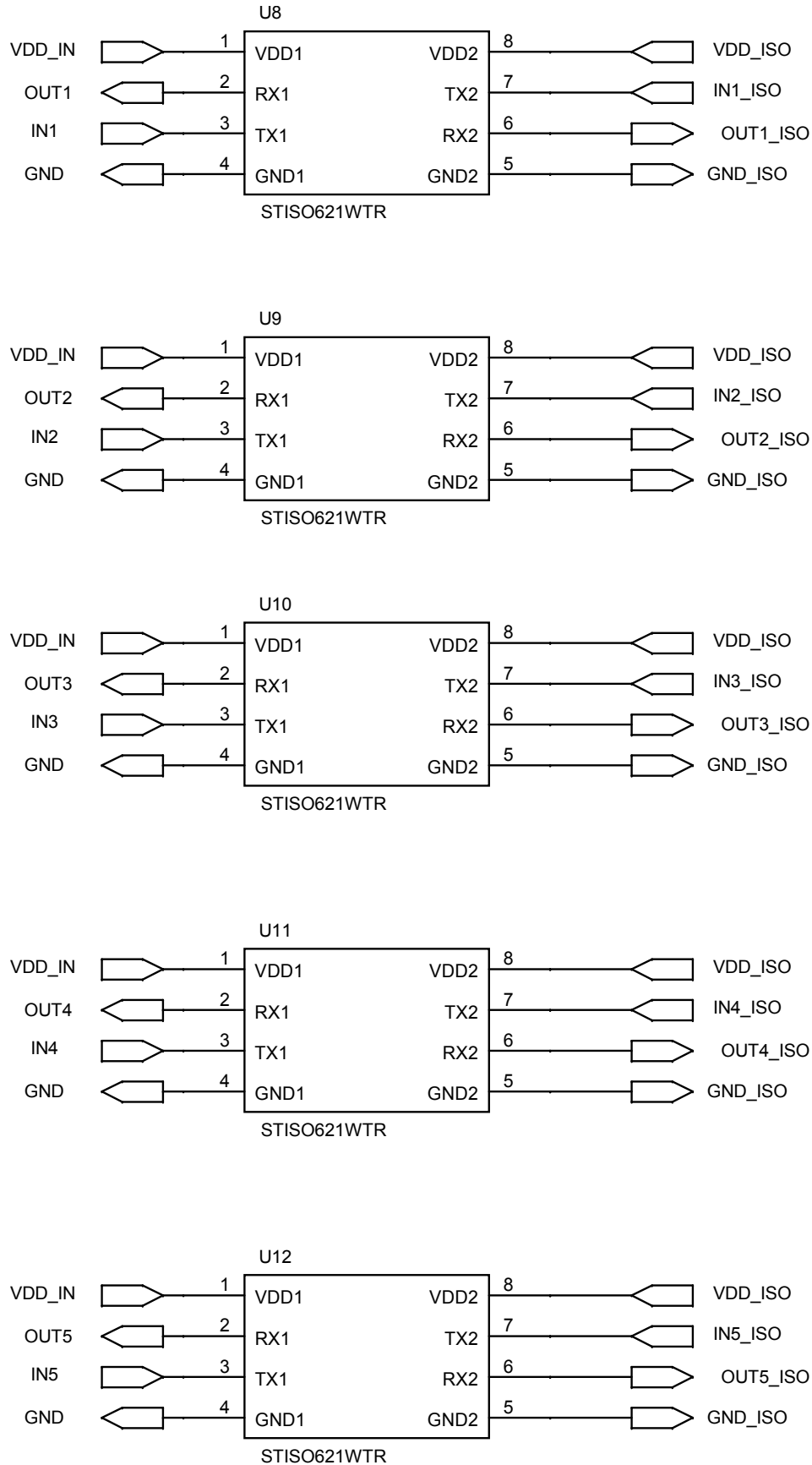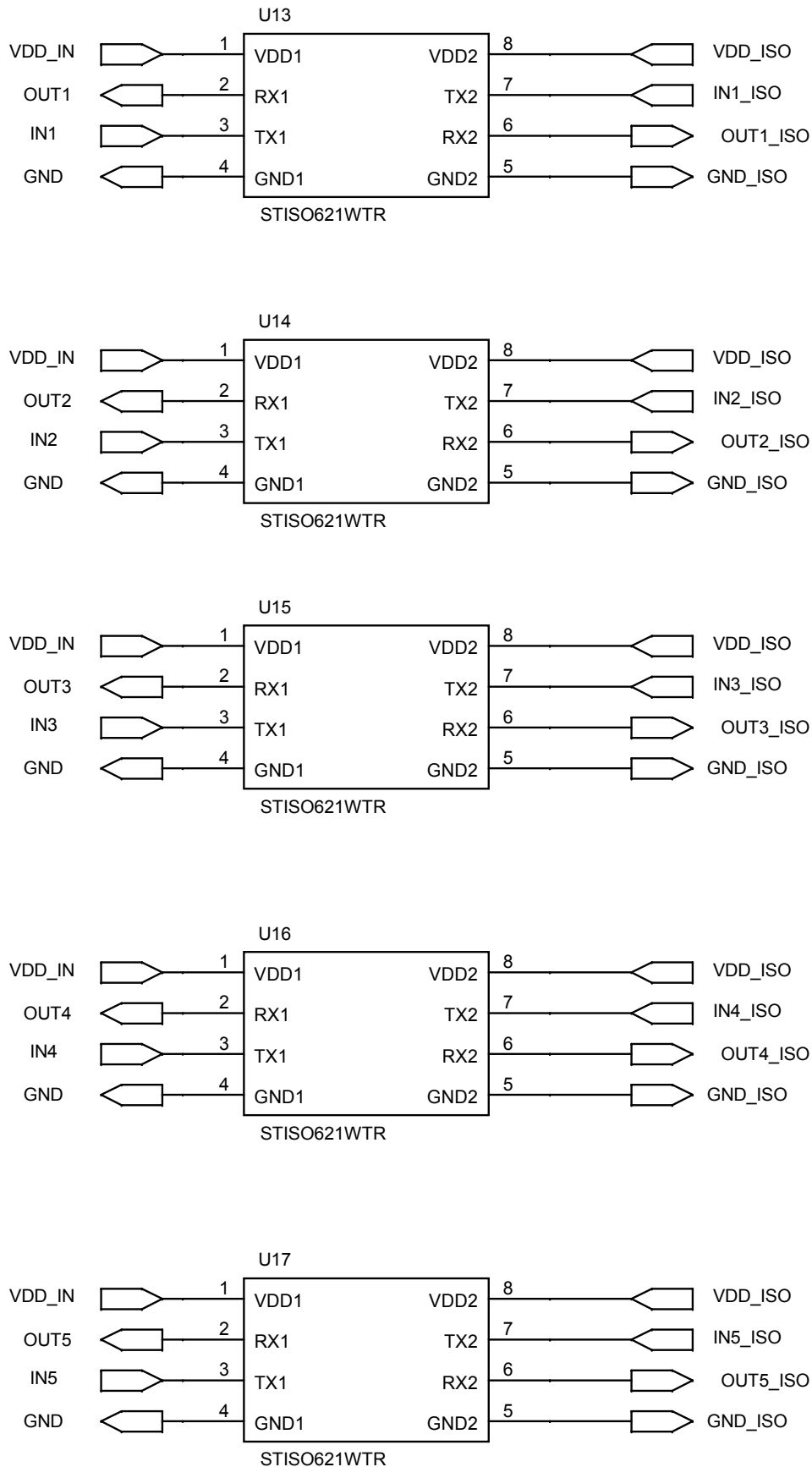
Figure 29. STEVAL-SILKTB01 circuit schematic (8 of 12)

U8

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT1	2 RX1	TX2 7	IN1_ISO
IN1	3 TX1	RX2 6	OUT1_ISO
GND	4 GND1	GND2 5	GND_ISO

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U9

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT2	2 RX1	TX2 7	IN2_ISO
IN2	3 TX1	RX2 6	OUT2_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

U10

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT3	2 RX1	TX2 7	IN3_ISO
IN3	3 TX1	RX2 6	OUT3_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

U11

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT4	2 RX1	TX2 7	IN4_ISO
IN4	3 TX1	RX2 6	OUT4_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

U12

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT5	2 RX1	TX2 7	IN5_ISO
IN5	3 TX1	RX2 6	OUT5_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

Figure 30. STEVAL-SILKTB01 circuit schematic (9 of 12)

U13

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT1	2 RX1	TX2 7	IN1_ISO
IN1	3 TX1	RX2 6	OUT1_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

U14

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT2	2 RX1	TX2 7	IN2_ISO
IN2	3 TX1	RX2 6	OUT2_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

U15

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT3	2 RX1	TX2 7	IN3_ISO
IN3	3 TX1	RX2 6	OUT3_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

U16

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT4	2 RX1	TX2 7	IN4_ISO
IN4	3 TX1	RX2 6	OUT4_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

U17

VDD_IN	1 VDD1	VDD2 8	VDD_ISO
OUT5	2 RX1	TX2 7	IN5_ISO
IN5	3 TX1	RX2 6	OUT5_ISO
GND	4 GND1	GND2 5	GND_ISO

STISO621WTR

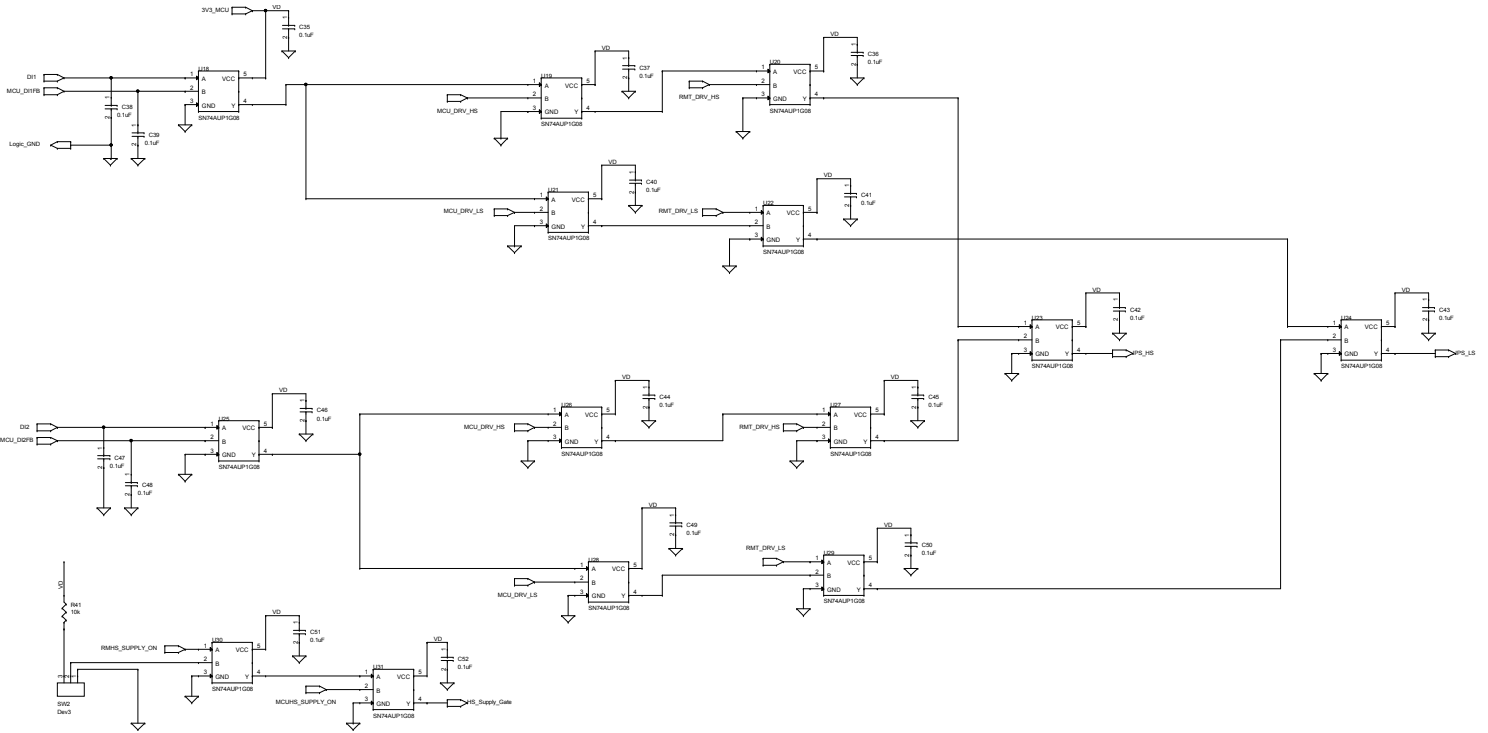**Figure 31. STEVAL-SILKTB01 circuit schematic (10 of 12)**

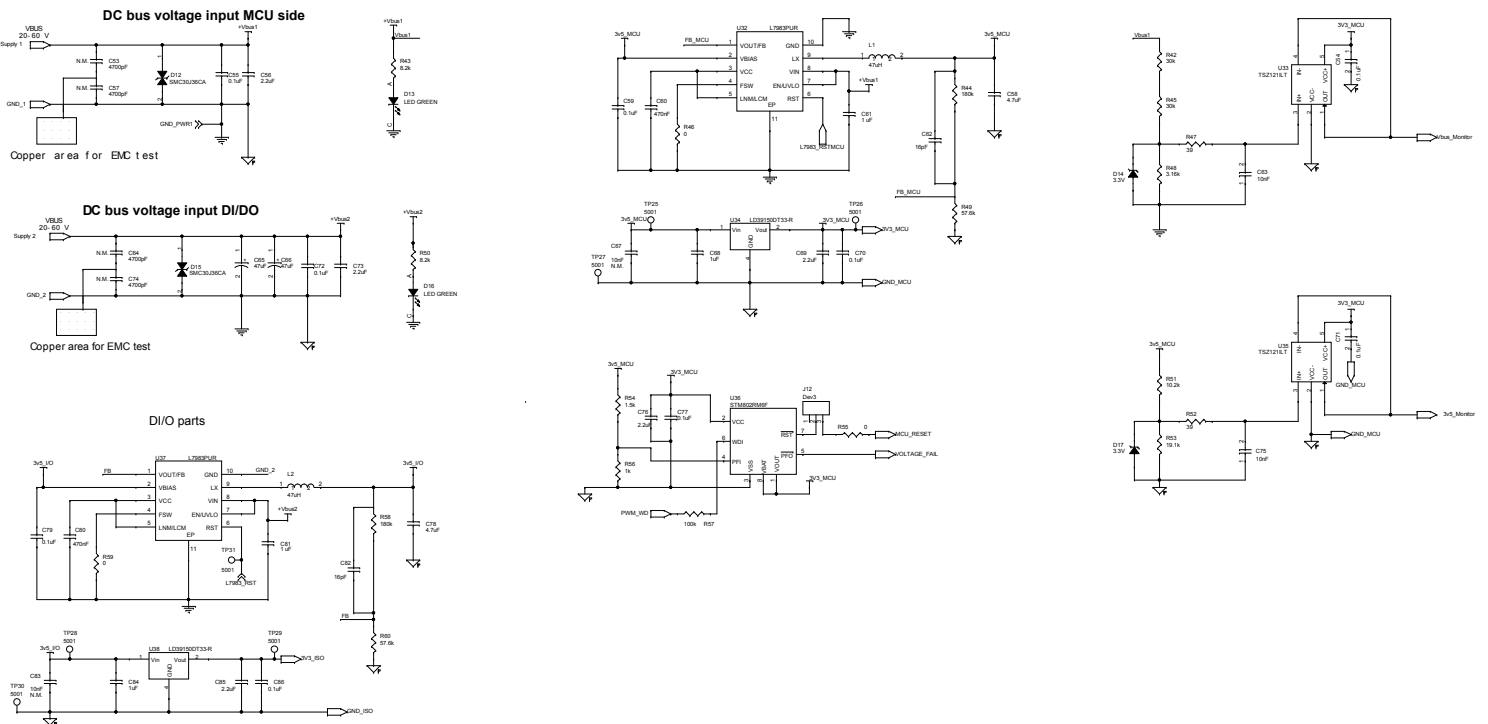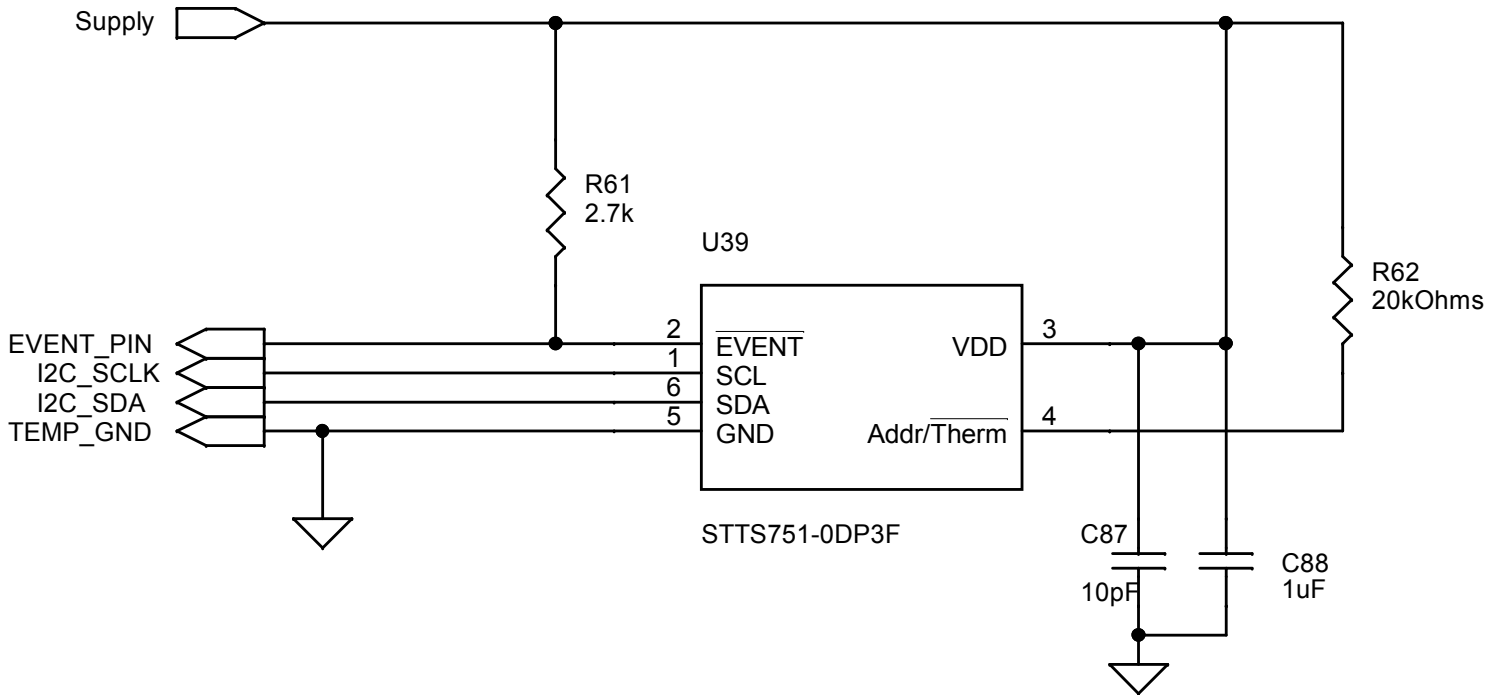**Figure 32. STEVAL-SILKTB01 circuit schematic (11 of 12)**

Figure 33. STEVAL-SILKTB01 circuit schematic (12 of 12)

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