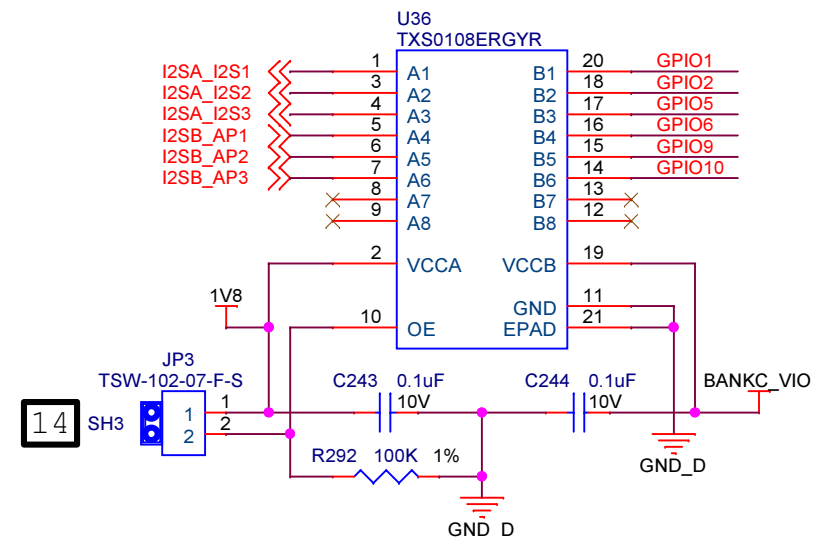
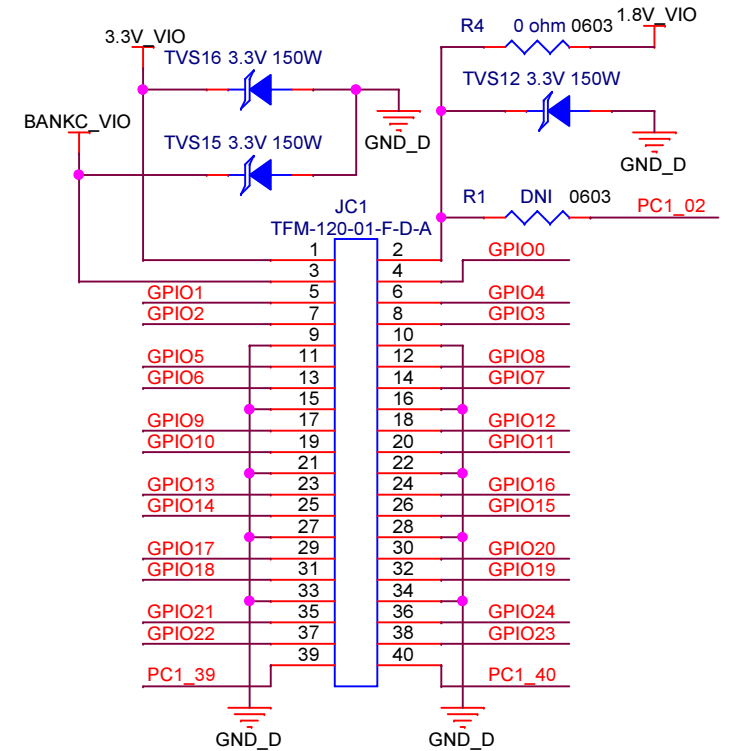
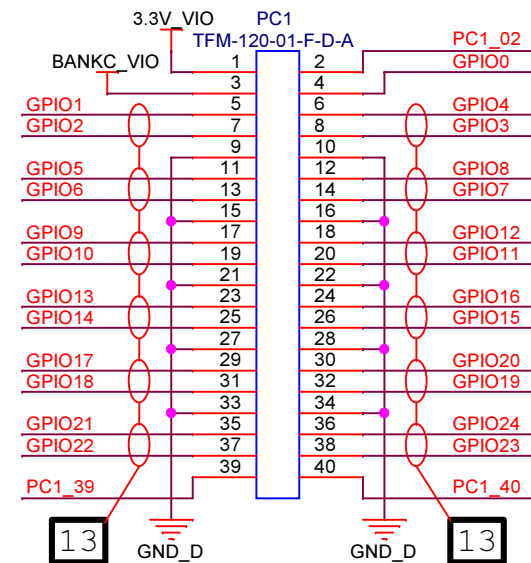
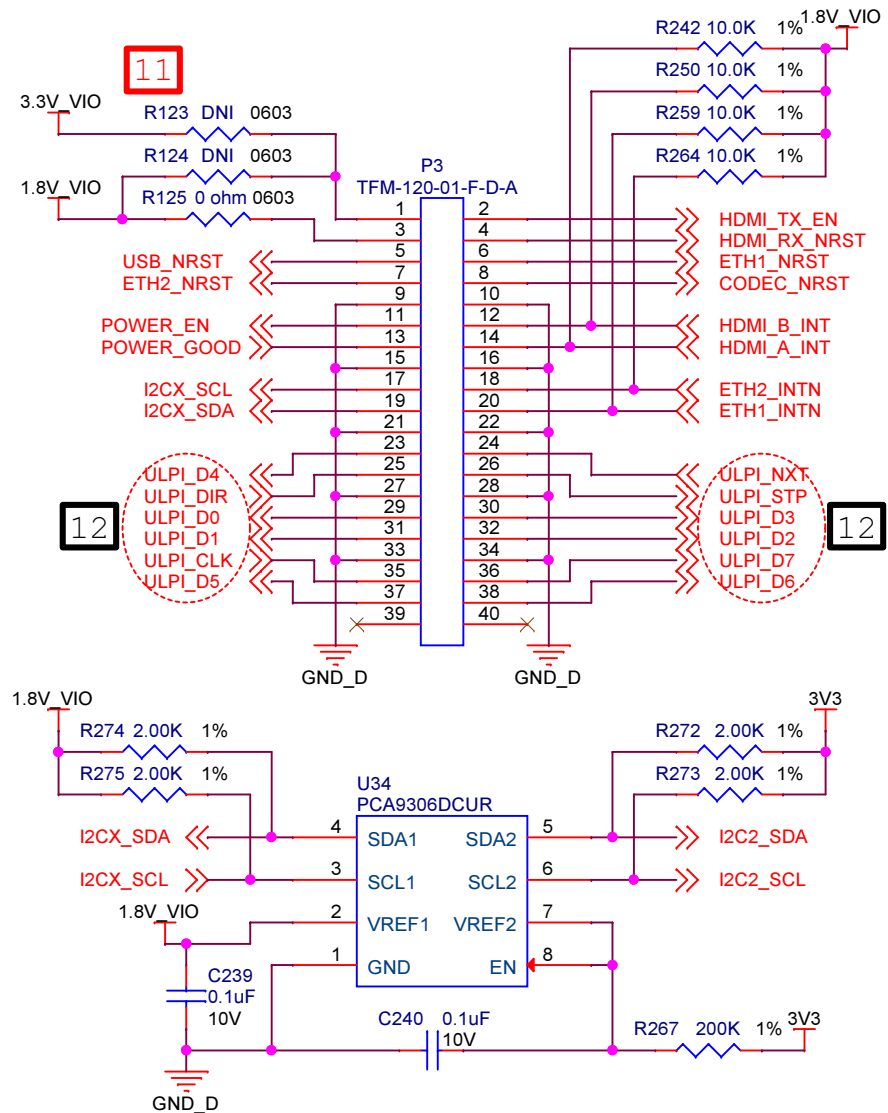


- NOTES:
- ③ All grouped signal traces to be length matched must include trace lengths on snickerdoodle per piSmasher Matched Trace Lengths spreadsheet 15081802-07.
 - ④ Grouped signal traces to be length matched to within 50mils from PA2 and PB2 to U6 with 50ohm single-ended impedance.
 - ⑤ Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.
 - ⑥ Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.

- ⑦ Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.
- ⑧ Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.
- ⑨ Grouped signal traces to be length matched to within 50mils from PB2 and PB1 to U8 with 50ohm single-ended impedance.
- ⑩ Signal trace to be routed with 50ohm single-ended impedance.

		krtkl inc. 350 Townsend Street Suite 301A San Francisco, CA 94107 +1 415 857 4857		TITLE piSmasher SBC	
		DRAWN BY B. Hammond		DATE 6/27/2018	
CHECKED BY J. Weatherbee		DATE 6/27/2018		SIZE B	
APPROVED BY R. Cousins		DATE 6/27/2018		DRAWING NO. 15081802-01	
				REV 4.1	

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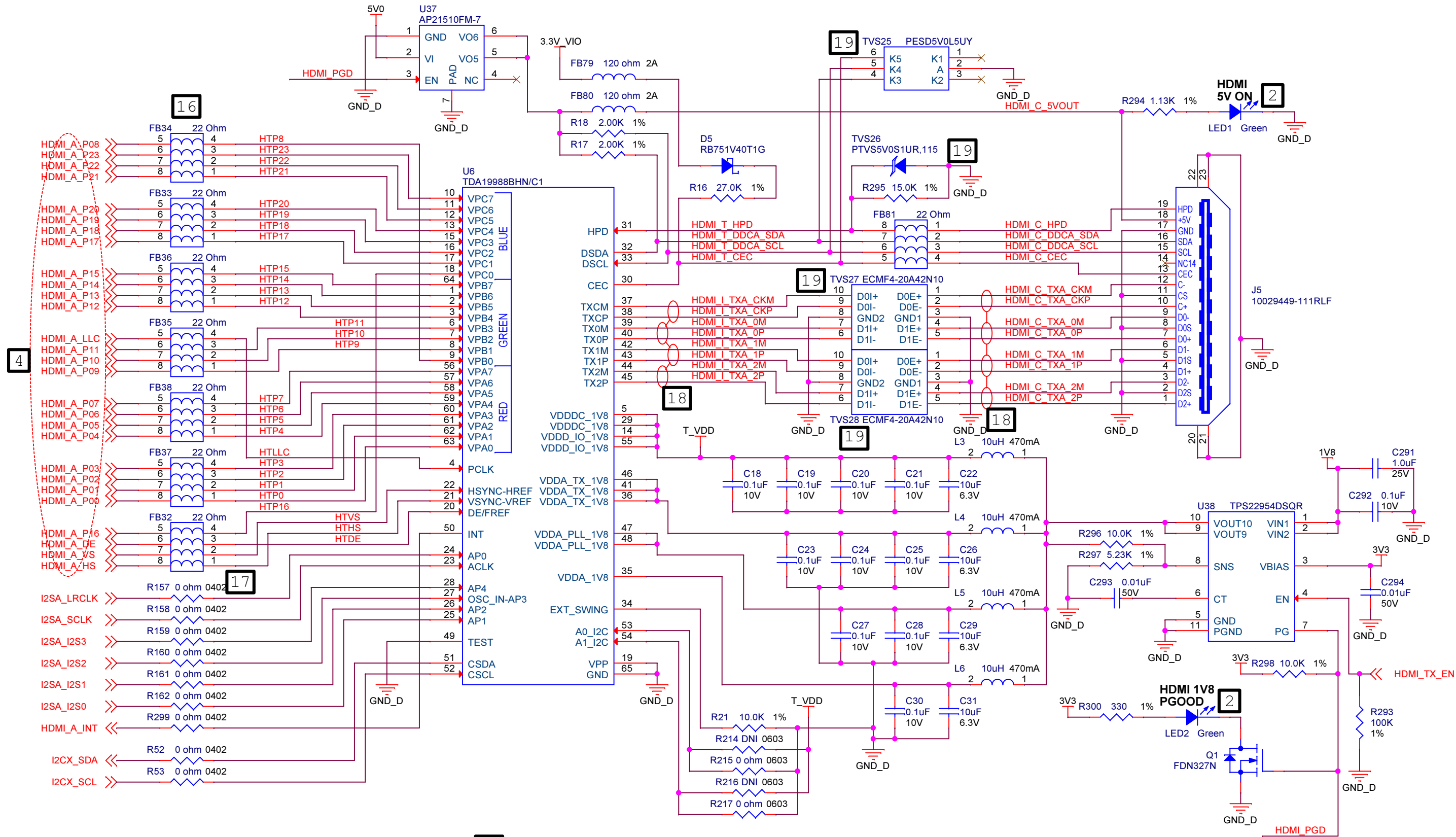


NOTES:

- 11** Warning: snickerdoodle rev 3 and earlier have +1.8V on J3 pin 1 and an unconnected J3 pin 3. Please confirm connections for J3 pin 1 and pin 3 prior to connection of external hardware. For use with snickerdoodle rev 3 and earlier, install a 0 ohm 0603 resistor at R124. For use with snickerdoodle rev 4 and later, a 0 ohm 0603 resistor can be installed at R123 if needed.

- 12** Grouped signal traces to be length matched to within 50mils with 50ohm single-ended characteristic impedance.
- 13** Grouped signal traces to be length matched to within 50mils with 100 ohm characteristic impedance for each differential pair.
- 14** Install jumper SH3 across JP3 pins 1 and 2 to enable the extended HDMI audio channels on PC1 and JC1.

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		Interconnect 2		15081802-01	
CC BY SA		<small>Copyright 2015 krtkl inc. This schematic is made available under a Creative Commons Attribution-ShareAlike 4.0 International License. To view a copy of this license please visit http://creativecommons.org/licenses/by-sa/4.0/</small>		B	
<small>DRAWN BY</small> B. Hammond		<small>DATE</small> 6/27/2018		<small>REV</small> 4.1	
<small>CHECKED BY</small> J. Weatherbee		<small>DATE</small> 6/27/2018		<small>SHEET 3</small> OF 10	
<small>APPROVED BY</small> R. Cousins		<small>DATE</small> 6/27/2018			



NOTES:

- 2 LEDs to be on top side of board not in snickerdoodle keepout area with labels as indicated.
- 4 Grouped signal trace lengths to be minimized from PB2 and PA2 to U6 with 50ohm single-ended impedance. Signal HDMI_A_LLC from PB2.38 to U6.31 to have the longest trace length of the group including the trace lengths to U14 on snickerdoodle Rev. 4.1.

- 16 Place ferrite beads FB32 through FB38 as close to U6 as possible.
- 17 Place resistors R157 through R162 as close to U6 as possible.
- 18 Grouped signal traces to be length matched to within 10mils with 100ohm characteristic impedance for each differential pair.
- 19 Place TVS diodes as close to J5 as possible in line with traces to U6.



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piSmasher SBC

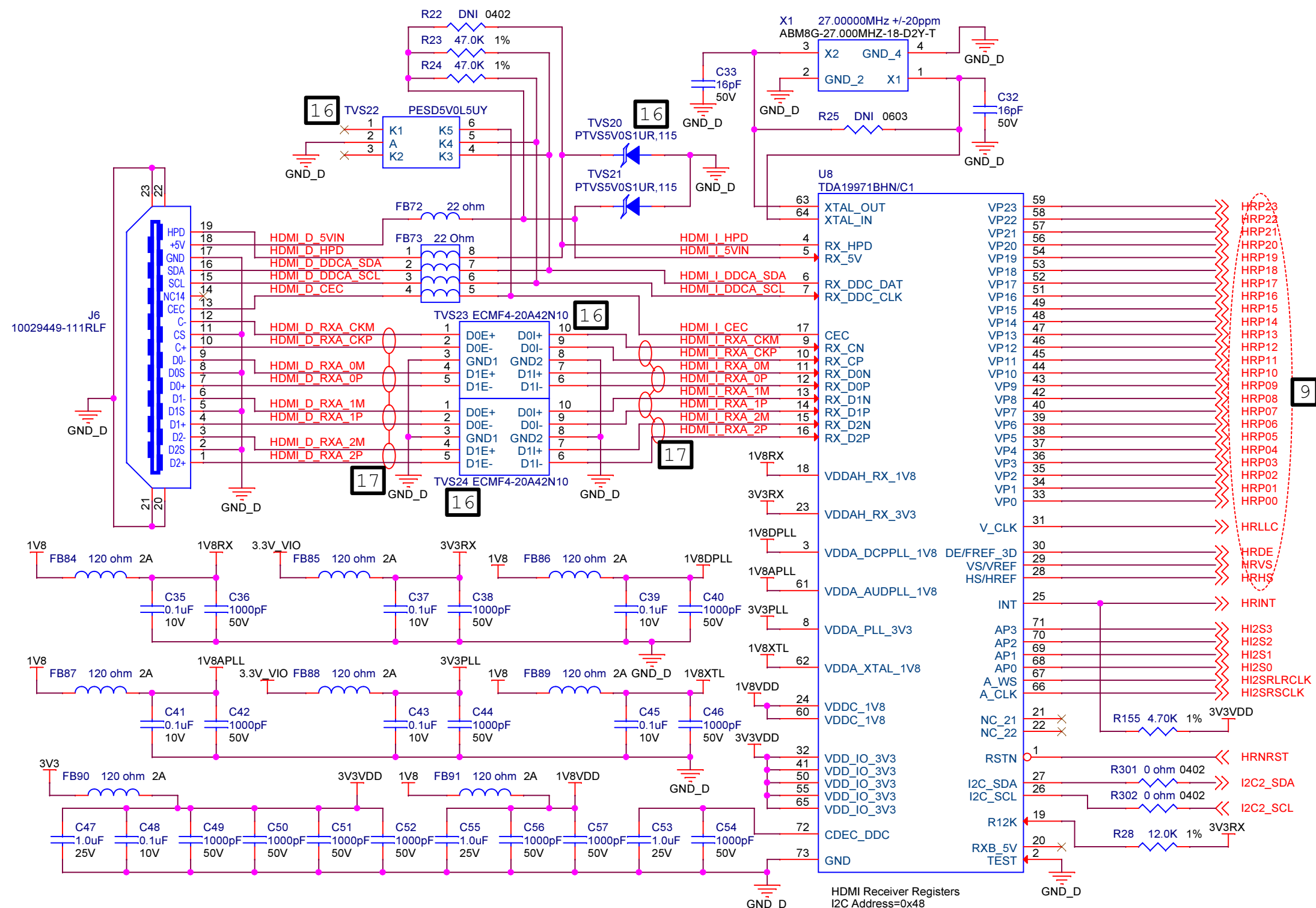
PATH /

DESCRIPTION
HDMI Transmitter

NAME	DATE
DRAWN BY B. Hammond	6/27/2018
CHECKED BY J. Weatherbee	6/27/2018
APPROVED BY R. Cousins	6/27/2018

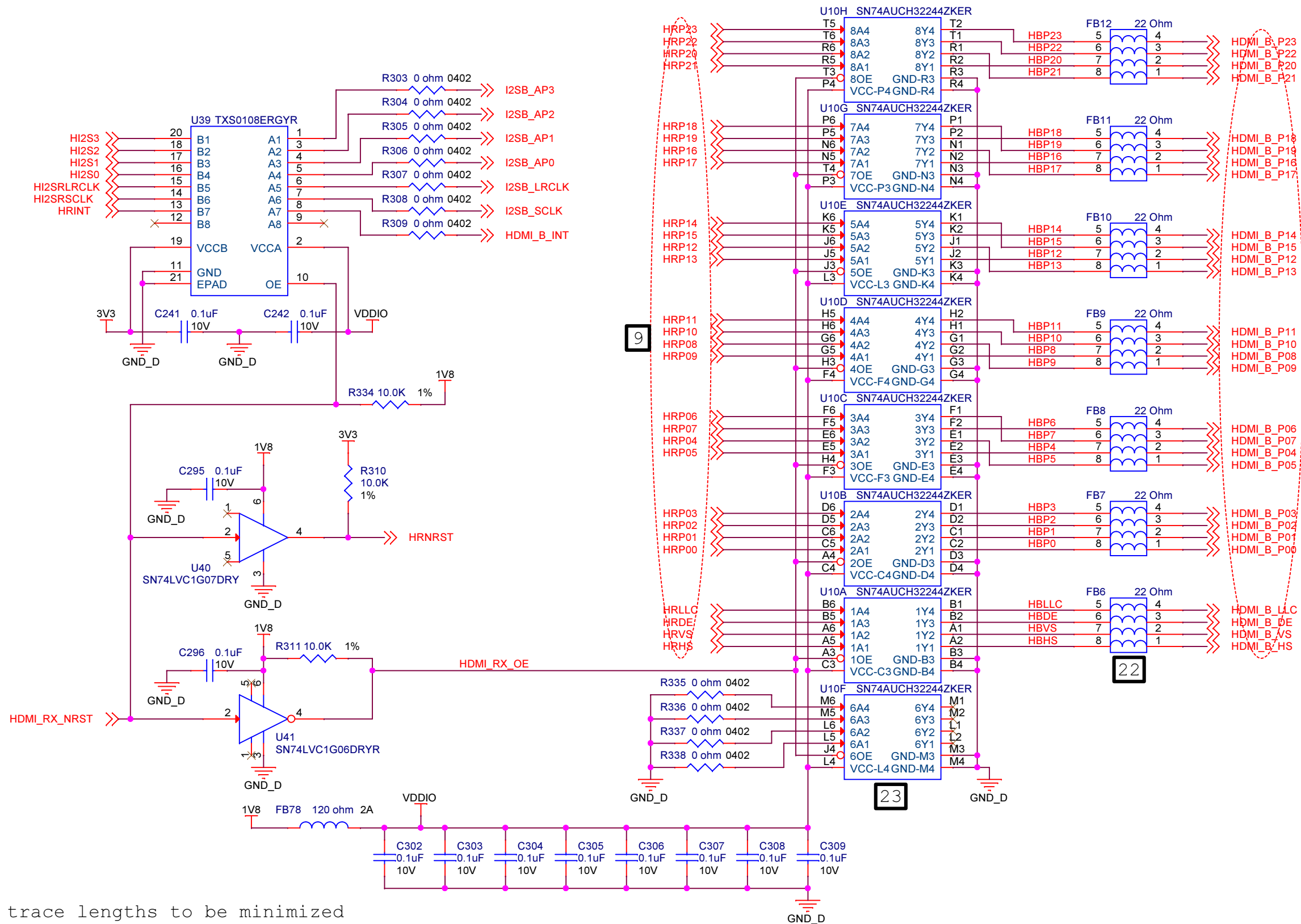
SIZE	DRAWING NO.	REV
B	15081802-01	4.1

SHEET 4 OF 10



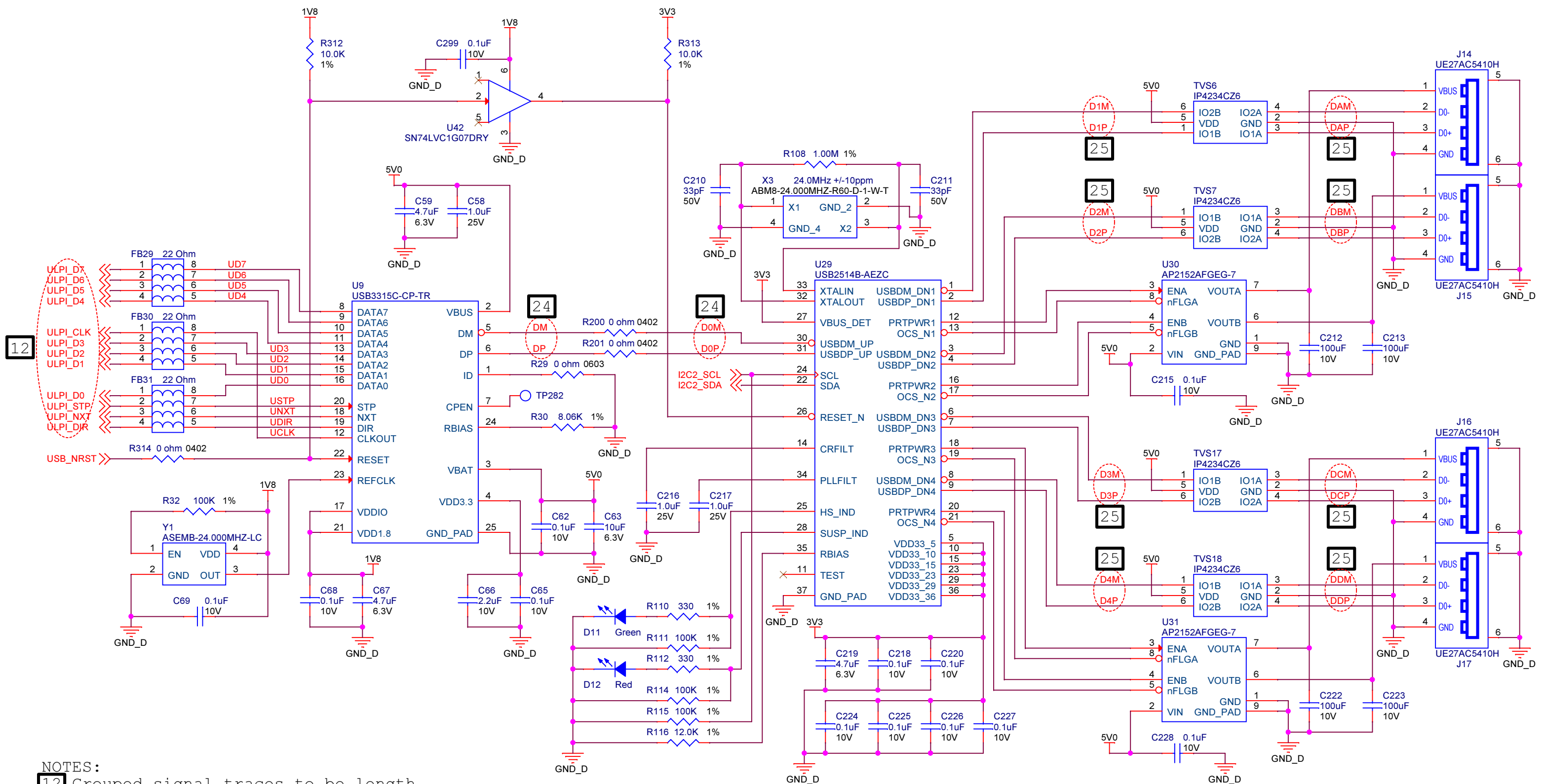
- NOTES:
- 9 Grouped signal trace lengths to be minimized from PB1 and PB2 to U6 with 50ohm single-ended impedance. Signal HDMI_R_LLC from PB1.38 to U8.31 to have the longest trace length of the group including the trace lengths to U14 on snickerdoodle Rev. 4.1.
 - 20 Place TVS parts as close to J6 as possible in line with traces to U8.
 - 21 Grouped signal traces to be length matched to within 10mils with 100ohm characteristic impedance for each differential pair.

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				PATH /	
		Copyright 2015 krtkl inc. This schematic is made available under a Creative Commons Attribution-ShareAlike 4.0 International License. To view a copy of this license please visit http://creativecommons.org/licenses/by-sa/4.0/		DESCRIPTION HDMI Receiver Part 1	
				REV 4.1	
DRAWN BY B. Hammond		DATE 6/27/2018		SIZE B	
CHECKED BY J. Weatherbee		DATE 6/27/2018		DRAWING NO. 15081802-01	
APPROVED BY R. Cousins		DATE 6/27/2018		SHEET 5 of 10	



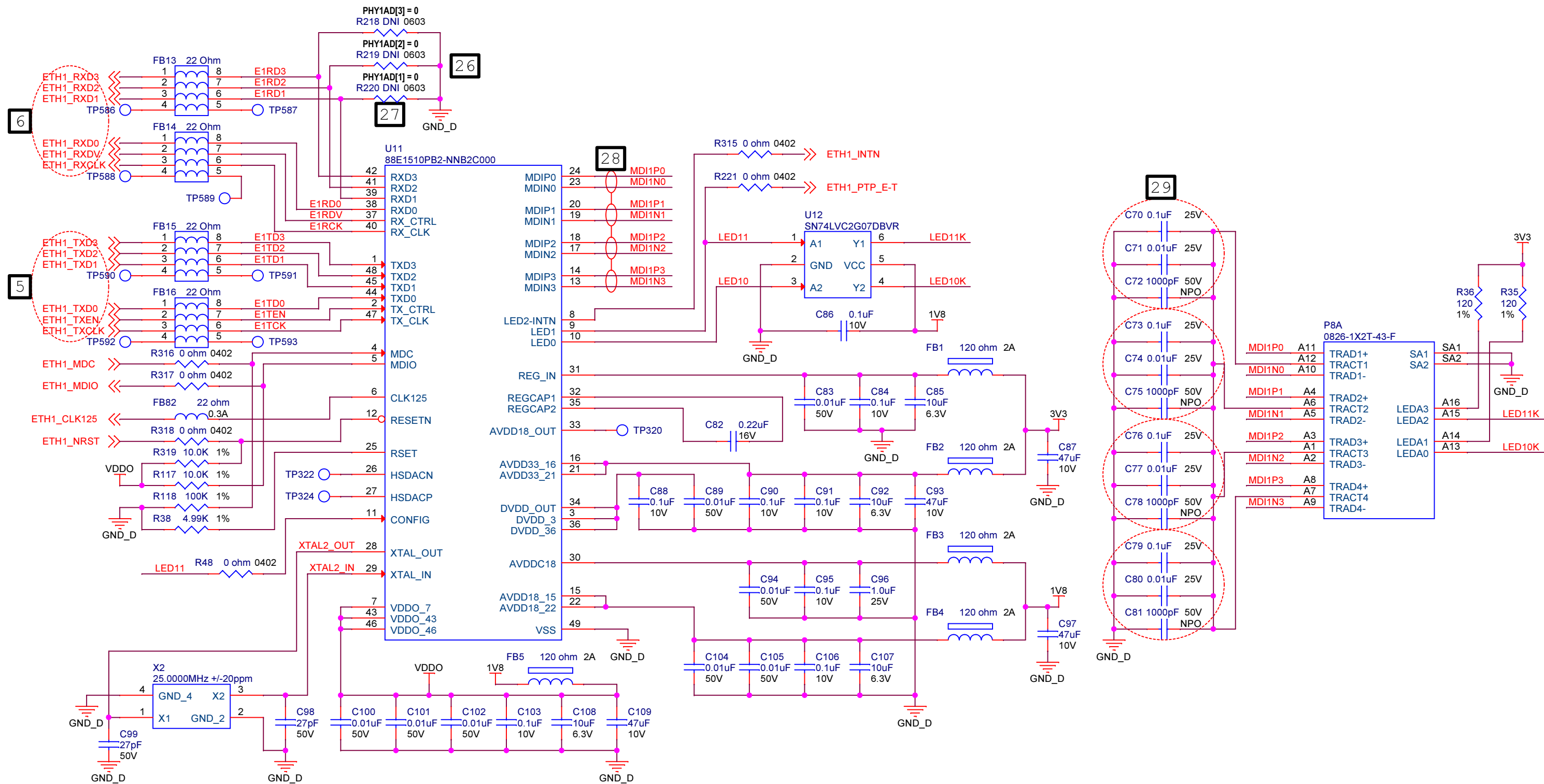
NOTES:

- 9 Grouped signal trace lengths to be minimized from PA1 and PA2 to U8 with 50ohm single-ended impedance. Signal HDMI_B_LLC from PA1.38 to U8.31 to have the longest trace length of the group including the trace lengths to U14 on snickerdoodle Rev. 4.1.
- 22 Place ferrite beads FB6 - FB12 as close to U10 as possible.
- 23 Place U10 as close to U8 as possible.



NOTES:

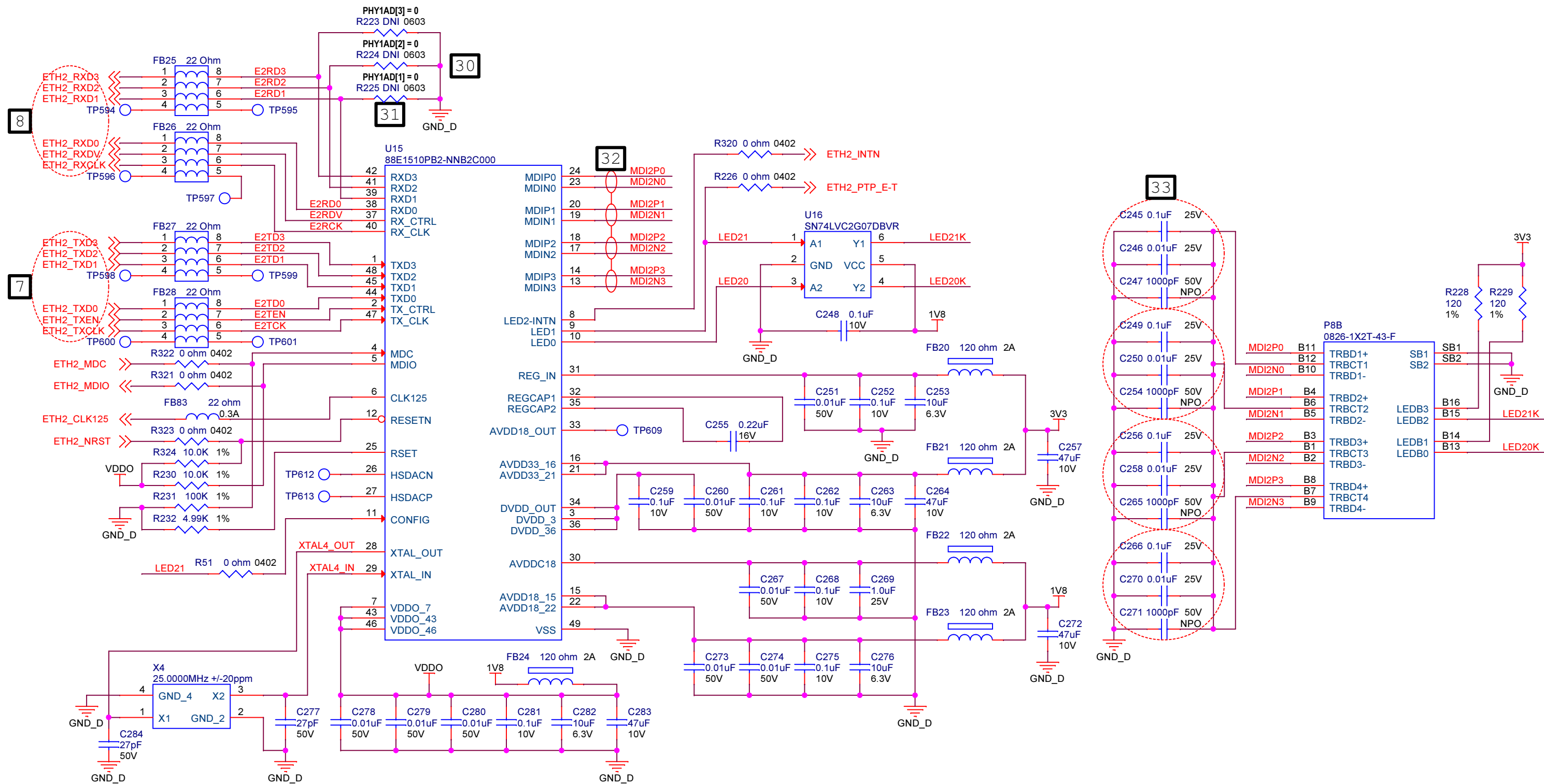
- 12** Grouped signal traces to be length matched to within 50mils with 50ohm single-ended characteristic impedance.
- 24** Grouped pair of differential signals to be length matched to within 10mils with 90ohm characteristic impedance.
- 25** Grouped pairs of differential signals to be length matched from U9 to J13 to within 10mils with 90ohm characteristic impedance.



NOTES:

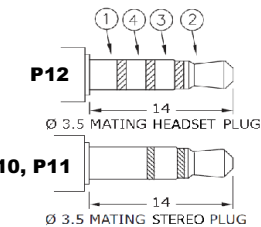
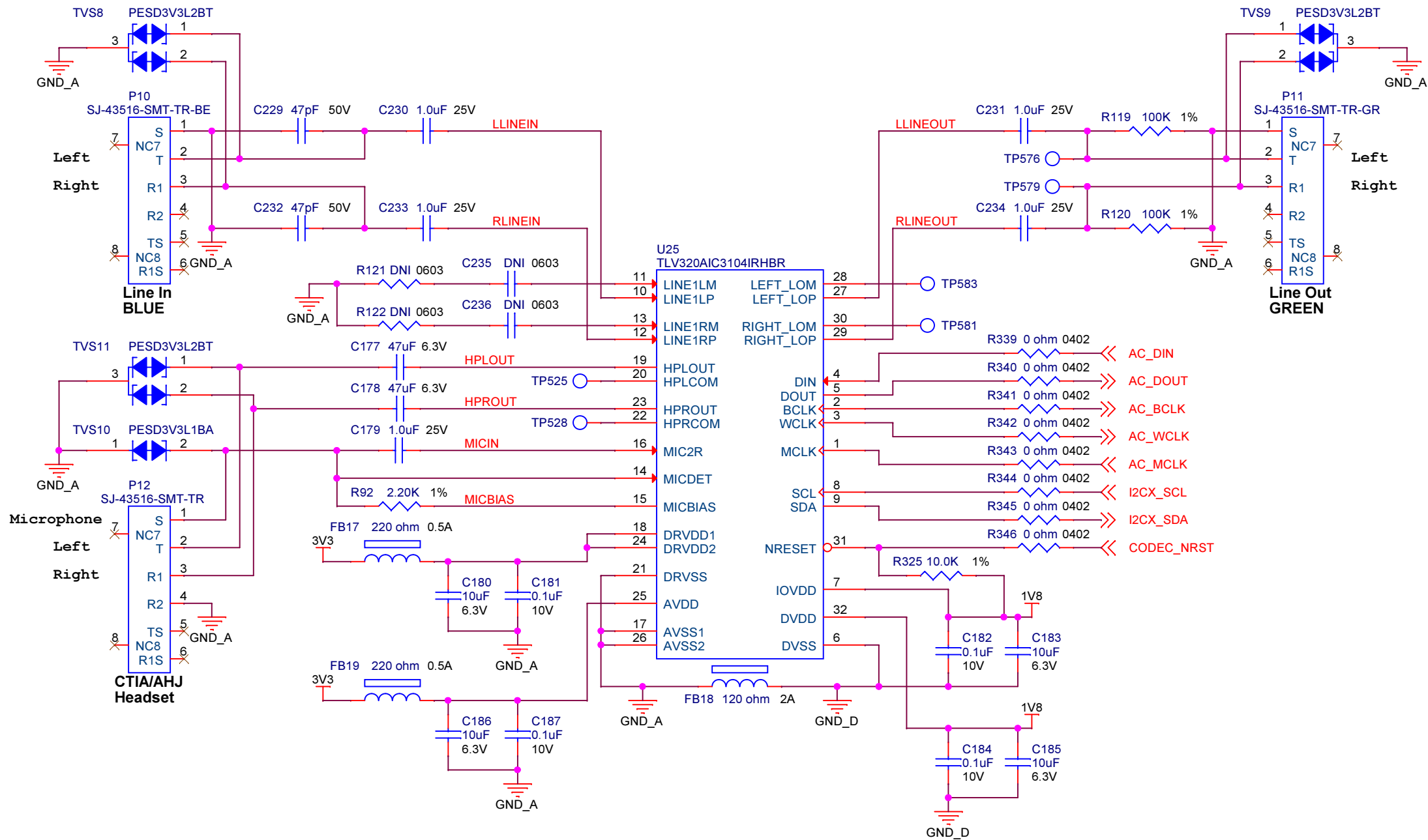
- 5 Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.
- 6 Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.
- 26 Install a 0 ohm resistor to set the corresponding PHYAD bit to a logic '1'
- 27 Place resistors as close as possible to the corresponding traces from PB2.
- 28 Grouped signal traces to be length matched to within 10mils with 100 ohm characteristic impedance for each differential pair.
- 29 Place each group of capacitors as close to the associated pin on P8 as possible.

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		Ethernet Transceiver 1 DESCRIPTION		15081802-01 SHEET 8 OF 10	
		DRAWN BY B. Hammond	DATE 6/27/2018	SIZE B	REV 4.1
<small>Copyright 2015 krtkl inc. This schematic is made available under a Creative Commons Attribution-ShareAlike 4.0 International License. To view a copy of this license please visit http://creativecommons.org/licenses/by-sa/4.0/</small>		CHECKED BY J. Weatherbee	DATE 6/27/2018	APPROVED BY R. Cousins	

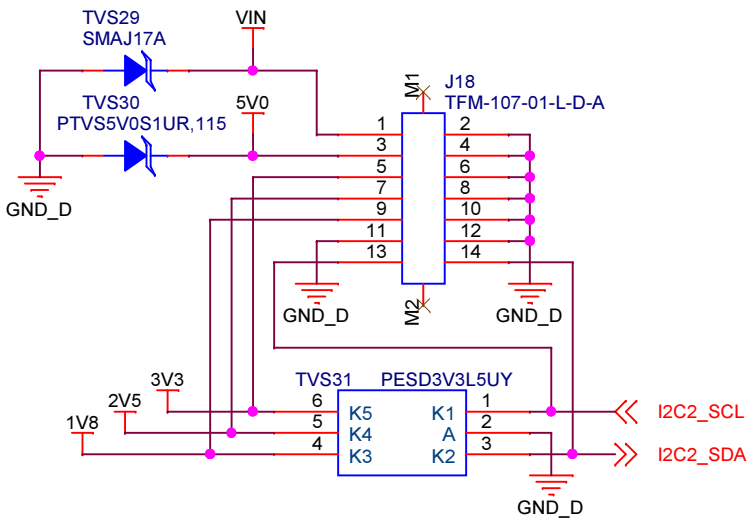


NOTES:

- 7 Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.
- 8 Grouped signal traces to be length matched to within 5mils with 50ohm single-ended characteristic impedance.
- 30 Install a 0 ohm resistor to set the corresponding PHYAD bit to a logic '1'
- 31 Place resistors as close as possible to the corresponding traces from PB2.
- 32 Grouped signal traces to be length matched to within 10mils with 100 ohm characteristic impedance for each differential pair.
- 33 Place each group of capacitors as close to the associated pin on P8 as possible.



Model No.	SJ-43516-SMT
Schematic	
PIN	
1	sleeve
2	tip
3	ring 1
4	ring 2
5	tip switch
6	ring switch





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DRAWN BY

CHECKED BY

APPROVED BY

B. Hammond

J. Weatherbee

R. Cousins

6/27/2018

6/27/2018

6/27/2018

TITLE

piSmasher SBC

PATH

/

DESCRIPTION

Audio Codec

SIZE

B

DRAWING NO.

15081802-01

REV

4.1

SHEET 10

of 10