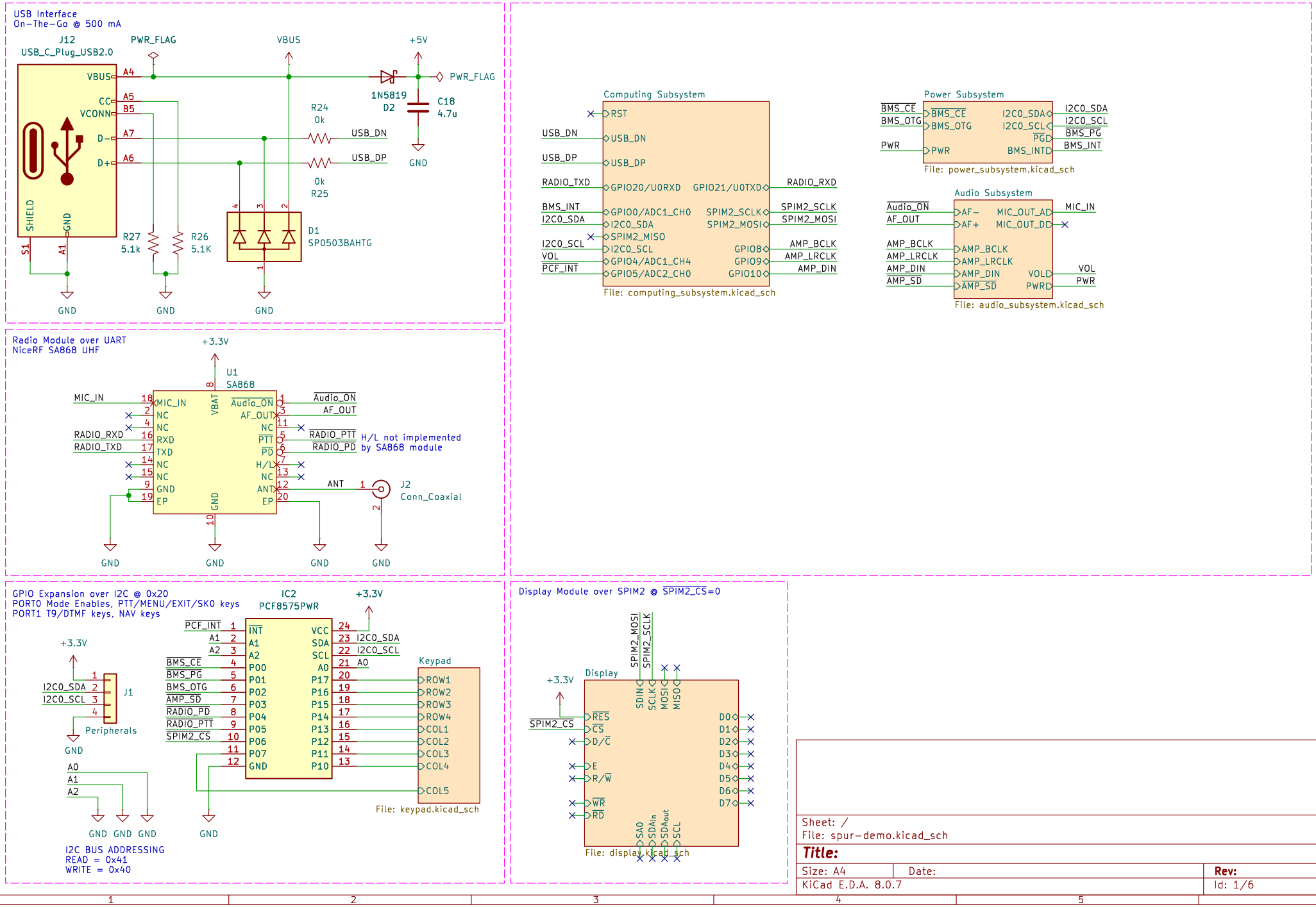
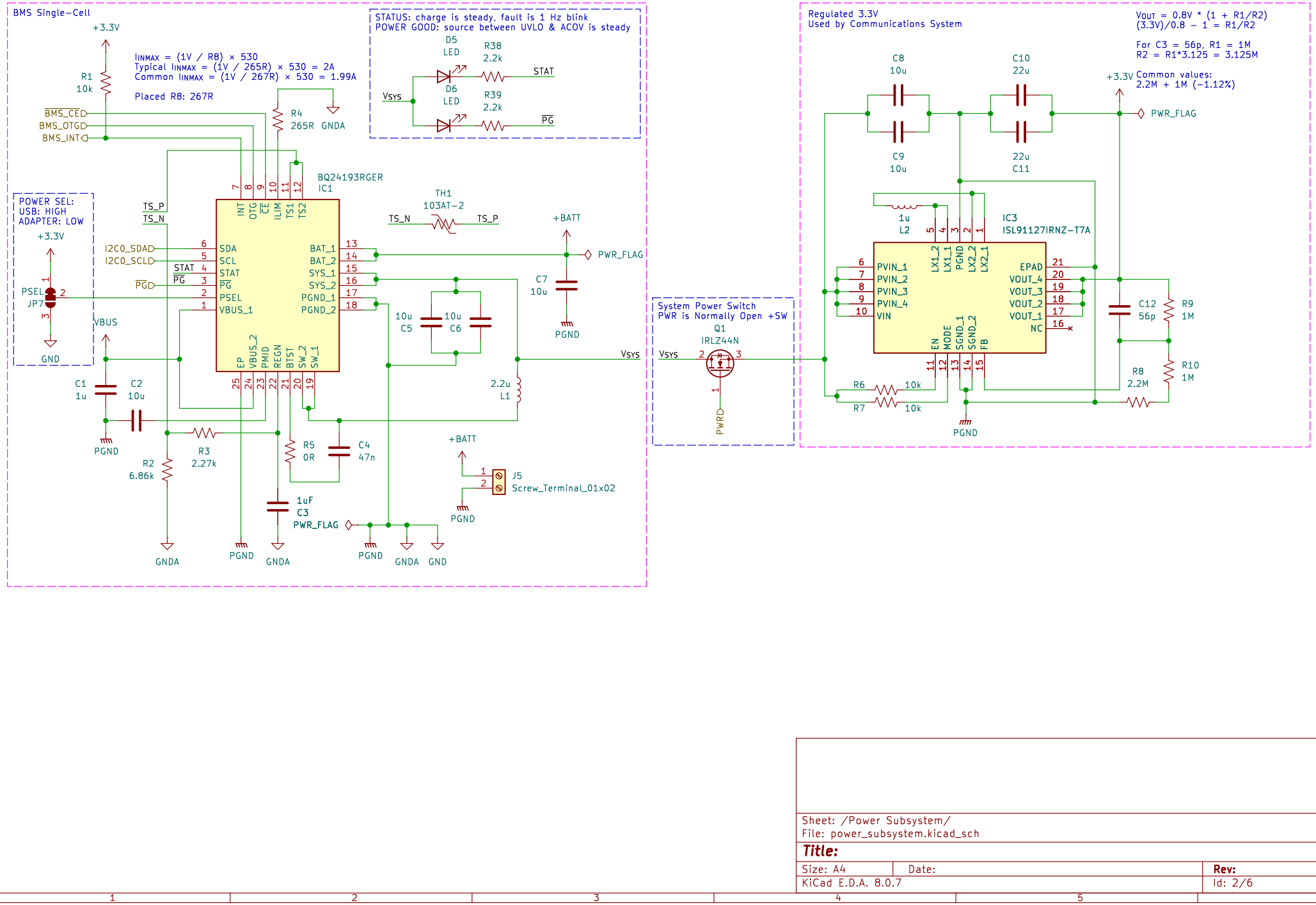

USB Interface
On-The-Go @ 500 mA
J12
USB_C_Plug_USB2.0
PWR_FLAG
VBUS
+5V
1N5819
D2
C18
4.7u
R24
0k
R25
0k
R27
5.1k
R26
5.1K
D1
SP0503BAHTG
USB_DN
USB_DP
SHIELD
GND
Computing Subsystem
File: computing_subsystem.kicad_sch
Power Subsystem
File: power_subsystem.kicad_sch
Audio Subsystem
File: audio_subsystem.kicad_sch
Radio Module over UART
NiceRF SA868 UHF
U1
SA868
H/L not implemented
by SA868 module
J2
Conn_Coaxial
GPIO Expansion over I2C @ 0x20
PORT0 Mode Enables, PTT/MENU/EXIT/SK0 keys
PORT1 T9/DTMF keys, NAV keys
IC2
PCF8575PWR
Peripherals
Keypad
File: keypad.kicad_sch
I2C BUS ADDRESSING
READ = 0x41
WRITE = 0x40
Display Module over SPIM2 @ SPIM2_CS=0
Display
File: display.kicad_sch
Sheet: /
File: spur-demo.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 8.0.7
Id: 1/6



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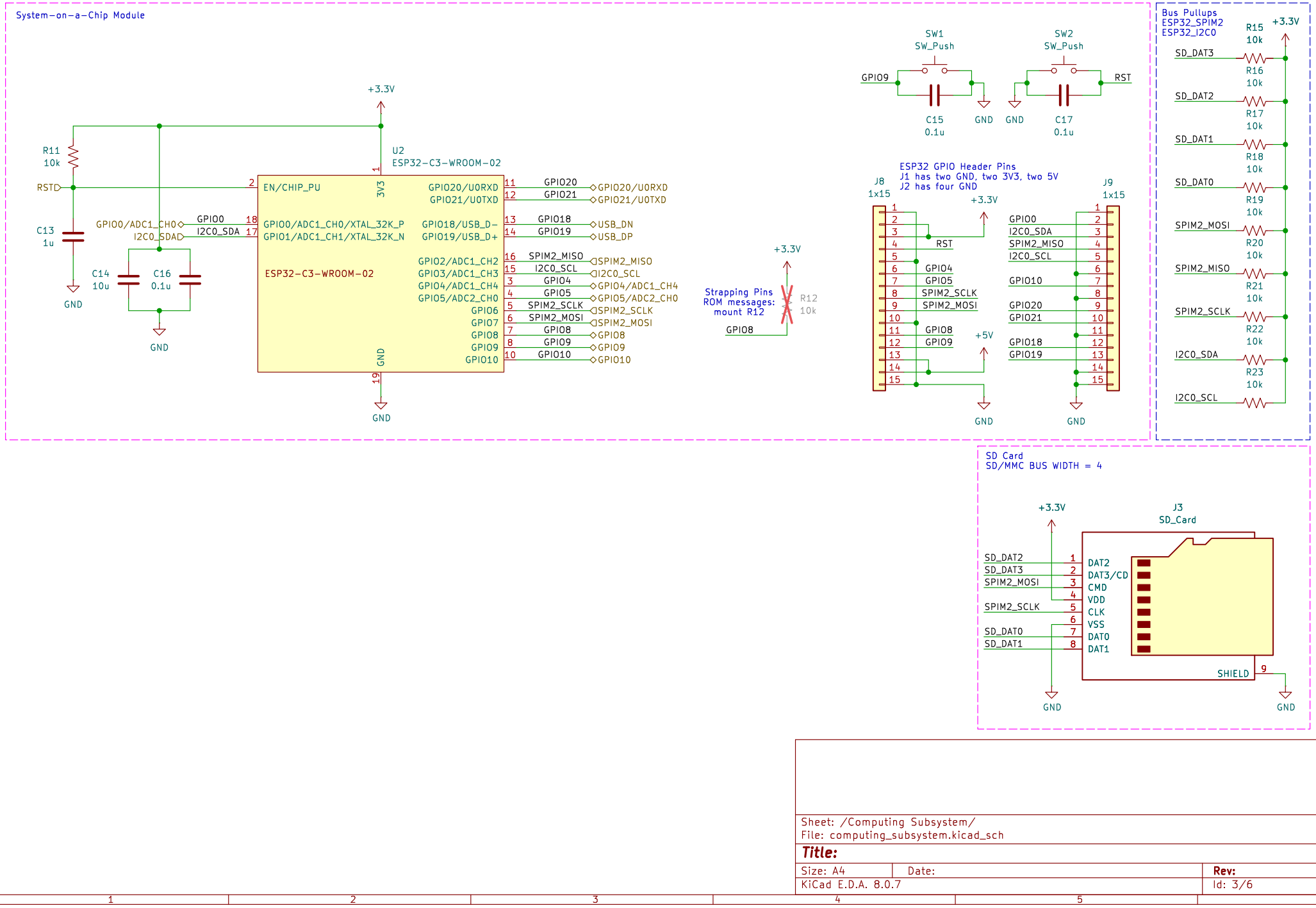
File: power_subsystem.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.7		Id: 2/6



Sheet: /Computing Subsystem/
File: computing_subsystem.kicad_sch

Title:

Size: A4	Date:	**Rev:**
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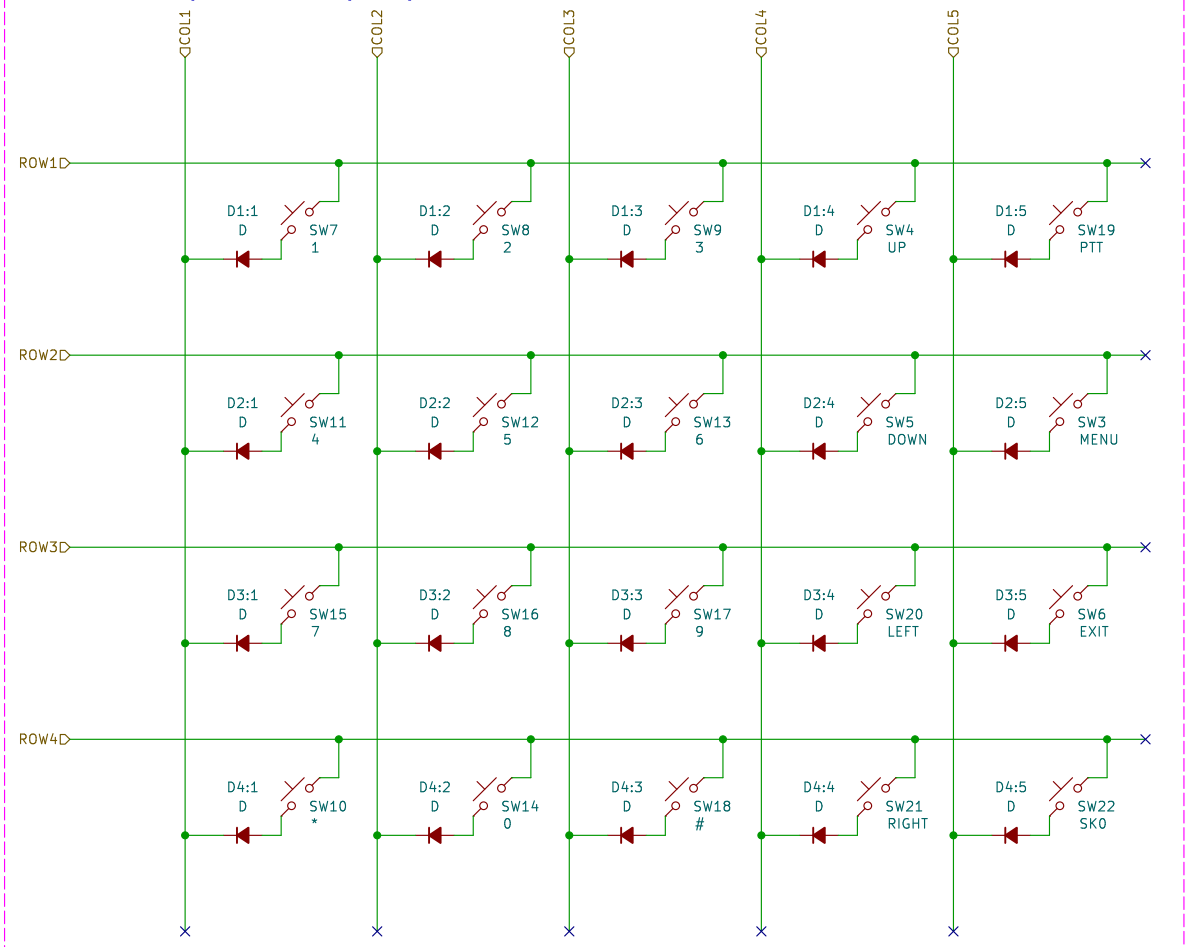
Keypad Matrix
Application Note: The ROW pins get pulled up by the GPIO expander, with one ROW being pulled down.
The scanner relies on the COL pins being read in as a logic swing to low.
Remarked as Domino Logic, a rail-to-rail logic swing occurs.



Sheet: /Keypad/		
File: keypad.kicad_sch		
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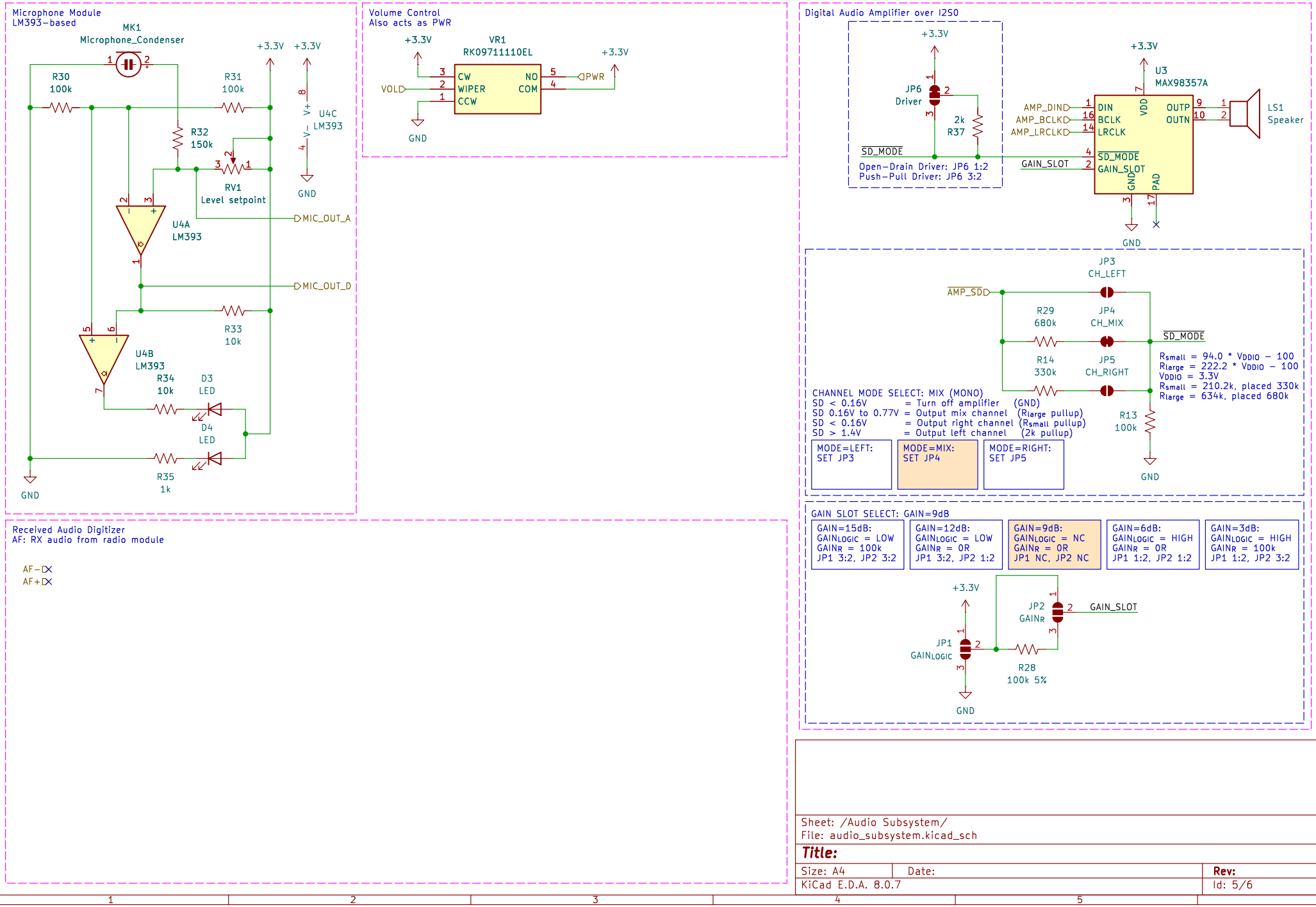
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.7		Id: 4/6


Microphone Module
LM393-based
MK1
Microphone_Condenser
+3.3V
+3.3V
R30
100k
R31
100k
R32
150k
RV1
Level setpoint
U4C
LM393
GND
U4A
LM393
MIC_OUT_A
MIC_OUT_D
R33
10k
U4B
LM393
R34
10k
D3
LED
D4
LED
R35
1k
GND
Volume Control
Also acts as PWR
+3.3V
VR1
RK09711110EL
+3.3V
VOL
CW
WIPER
CCW
NO
COM
PWR
GND
Digital Audio Amplifier over I2S0
+3.3V
JP6
Driver
2k
R37
SD_MODE
Open-Drain Driver: JP6 1:2
Push-Pull Driver: JP6 3:2
+3.3V
U3
MAX98357A
AMP_DIN
AMP_BCLK
AMP_LRCLK
DIN
BCLK
LRCLK
VDD
OUTP
OUTN
LS1
Speaker
SD_MODE
GAIN_SLOT
GND
PAD
GND
JP3
CH_LEFT
AMP_SD
R29
680k
JP4
CH_MIX
SD_MODE
R14
330k
JP5
CH_RIGHT
Rsmall = 94.0 * VDDIO - 100
Rlarge = 222.2 * VDDIO - 100
VDDIO = 3.3V
Rsmall = 210.2k, placed 330k
Rlarge = 634k, placed 680k
CHANNEL MODE SELECT: MIX (MONO)
SD < 0.16V = Turn off amplifier (GND)
SD 0.16V to 0.77V = Output mix channel (Rlarge pullup)
SD < 0.16V = Output right channel (Rsmall pullup)
SD > 1.4V = Output left channel (2k pullup)
R13
100k
GND
MODE=LEFT:
SET JP3
MODE=MIX:
SET JP4
MODE=RIGHT:
SET JP5
GAIN SLOT SELECT: GAIN=9dB
GAIN=15dB:
GAINLOGIC = LOW
GAINR = 100k
JP1 3:2, JP2 3:2
GAIN=12dB:
GAINLOGIC = LOW
GAINR = 0R
JP1 3:2, JP2 1:2
GAIN=9dB:
GAINLOGIC = NC
GAINR = 0R
JP1 NC, JP2 NC
GAIN=6dB:
GAINLOGIC = HIGH
GAINR = 0R
JP1 1:2, JP2 1:2
GAIN=3dB:
GAINLOGIC = HIGH
GAINR = 100k
JP1 1:2, JP2 3:2
+3.3V
JP2
GAINR
GAIN_SLOT
JP1
GAINLOGIC
R28
100k 5%
GND
Received Audio Digitizer
AF: RX audio from radio module
AF-
AF+
Sheet: /Audio Subsystem/
File: audio_subsystem.kicad_sch
Title:
Size: A4
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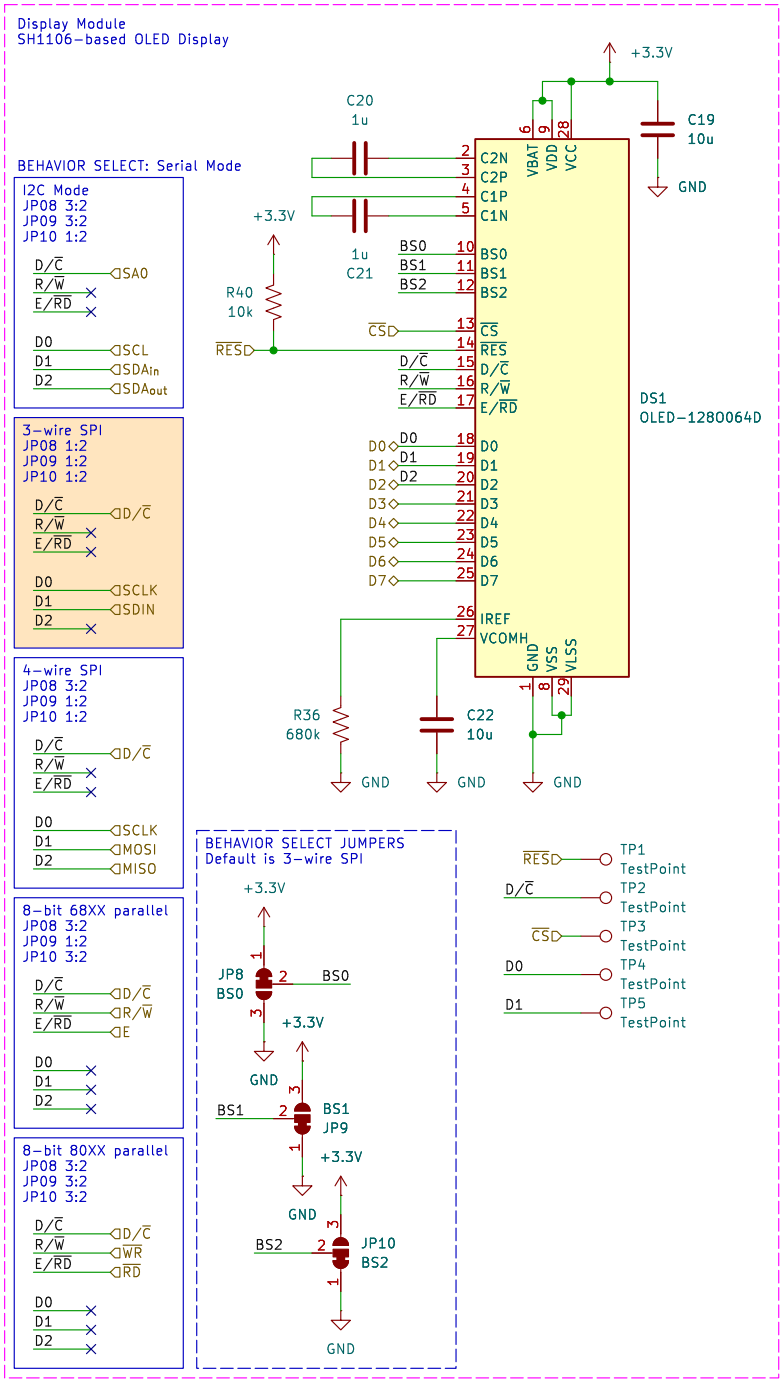

Sheet: /Display/
File: display.kicad_sch

Title:

Size: A4	Date:	**Rev:**
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