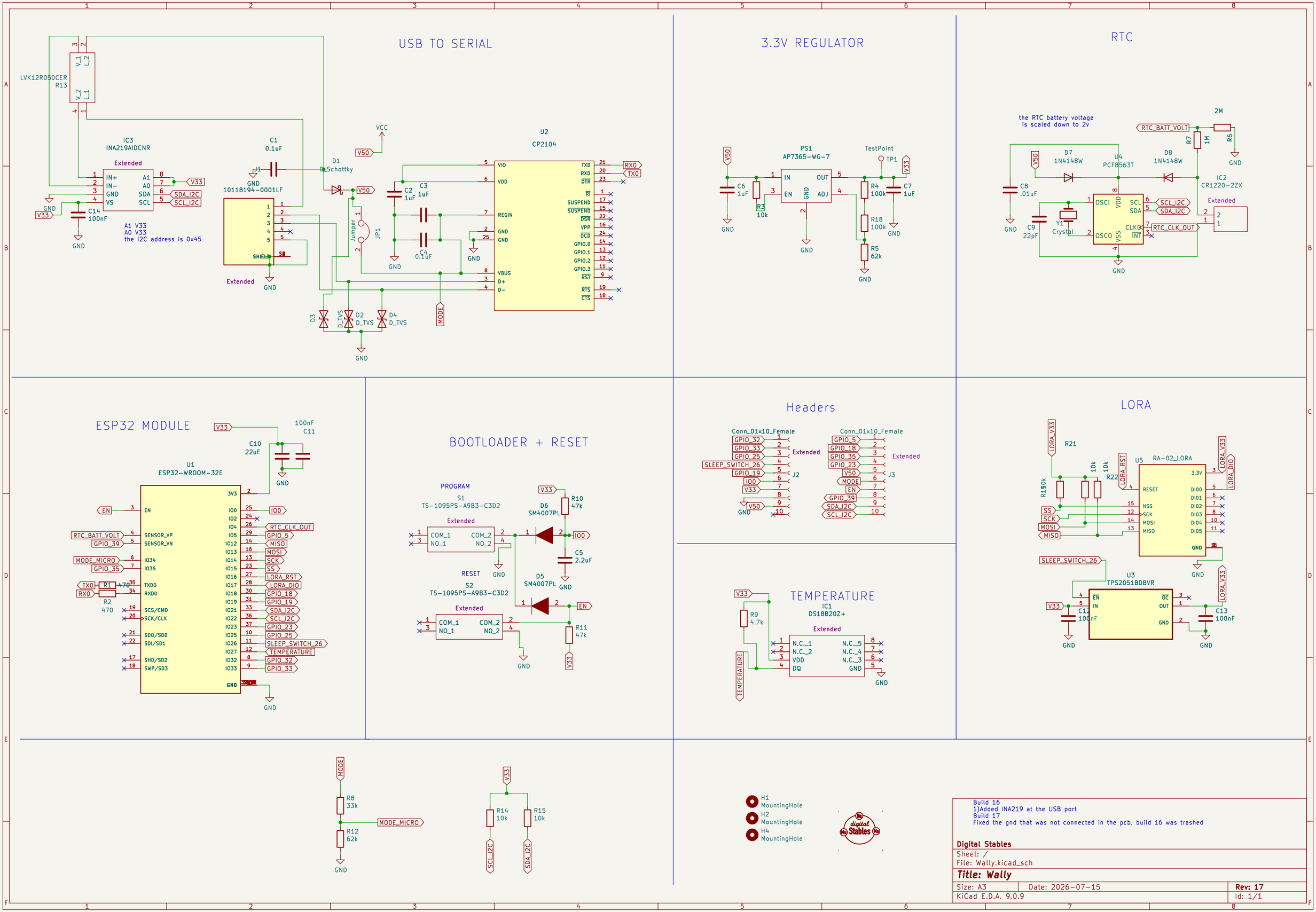
USB TO SERIAL
LVK12R050CER
R13
IC3
INA219AIDCNR
Extended
IN+
IN−
GND
VS
A1
A0
SDA
SCL
V33
SDA_I2C
SCL_I2C
C14
100nF
A1 V33
A0 V33
the I2C address is 0x45
C1
0.1uF
J1
10118194-0001LF
SHIELD
D1
D_Schottky
VCC
V50
C2
1uF
C3
1uF
C4
0.1uF
Jumper
JP1
U2
CP2104
VIO
VDD
REGIN
GND
VBUS
D+
D−
TXD
RXD
DTR
RI
SUSPEND
DSR
VPP
DCD
GPIO.0
GPIO.1
GPIO.2
GPIO.3
RST
RTS
CTS
RX0
TX0
D3
D_TVS
D2
D_TVS
D4
D_TVS
MODE
3.3V REGULATOR
PS1
AP7365-WG-7
IN
EN
OUT
ADJ
C6
1uF
R3
10k
TestPoint
TP1
R4
100k
C7
1uF
R18
100k
R5
62k
RTC
the RTC battery voltage
is scaled down to 2v
RTC_BATT_VOLT
2M
R7
1M
R6
D7
1N4148W
U4
PCF8563T
D8
1N4148W
IC2
CR1220-2ZX
C8
.01uF
C9
22pF
Y1
Crystal
OSCI
OSCO
VDD
VSS
SCL
SDA
CLKO
INT
RTC_CLK_OUT
ESP32 MODULE
U1
ESP32-WROOM-32E
C10
22uF
100nF
C11
EN
RTC_BATT_VOLT
GPIO_39
MODE_MICRO
GPIO_35
TX0
RX0
R1
470
R2
470
SENSOR_VP
SENSOR_VN
IO34
IO35
TXD0
RXD0
SCS/CMD
SCK/CLK
SDO/SD0
SDI/SD1
SHD/SD2
SWP/SD3
3V3
IO0
IO2
IO4
IO5
IO12
IO13
IO14
IO15
IO16
IO17
IO18
IO19
IO21
IO22
IO23
IO25
IO26
IO27
IO32
IO33
RTC_CLK_OUT
GPIO_5
MISO
MOSI
SCK
SS
LORA_RST
LORA_DIO
GPIO_18
GPIO_19
SDA_I2C
SCL_I2C
GPIO_23
GPIO_25
SLEEP_SWITCH_26
TEMPERATURE
GPIO_32
GPIO_33
BOOTLOADER + RESET
PROGRAM
S1
TS-1095PS-A9B3-C3D2
COM_1
NO_1
COM_2
NO_2
RESET
S2
TS-1095PS-A9B3-C3D2
D6
SM4007PL
R10
47k
C5
2.2uF
D5
SM4007PL
R11
47k
Headers
Conn_01x10_Female
J2
J3
GPIO_32
GPIO_33
GPIO_25
SLEEP_SWITCH_26
GPIO_19
IO0
V33
V50
GPIO_5
GPIO_18
GPIO_35
GPIO_23
MODE
EN
GPIO_39
SDA_I2C
SCL_I2C
TEMPERATURE
IC1
DS18B20Z+
R9
4.7k
N.C._1
N.C._2
VDD
DQ
N.C._5
N.C._4
N.C._3
LORA
LORA_V33
R21
R19
10k
R22
10k
LORA_RST
U5
RA-02_LORA
RESET
NSS
SCK
MOSI
MISO
3.3V
DIO0
DIO1
DIO2
DIO3
DIO4
DIO5
LORA_DIO
SLEEP_SWITCH_26
U3
TPS2051BDBVR
EN
IN
OC
OUT
C12
100nF
C13
100nF
R8
33k
R12
62k
MODE_MICRO
R14
10k
R15
10k
H1
MountingHole
H2
MountingHole
H4
MountingHole
digital Stables
Build 16
1)Added INA219 at the USB port
Build 17
Fixed the gnd that was not connected in the pcb, build 16 was trashed
Digital Stables
Sheet: /
File: Wally.kicad_sch
Title: Wally
Size: A3
Date: 2026-07-15
Rev: 17
KiCad E.D.A. 9.0.9
Id: 1/1