ESP32-U4WDH

+3.3V
C20 10u
C19 1u
C9 0.1u
GND
L4 2.0nH
+3.3V
R4 5k1
RESET
C21 100n
GND
R5 5k1
IO13
R8 5k1
+3.3V
GND
R7 5k1
+3.3V
R6 5k1
FLASH
C16 100n
GND

+3.3V
L5 Huaxin
C6 0.1uF
GND
C8 10nF
R12 20k
C2 3.3nF
GND

+3.3V
C11 1uF
GND R3
R2 499
CRYSTAL1 40MHz
C12 22PF
C13 22PF
GND

U3
ESP32-U4WDH DUAL-CORE

1 VDDA
2 LNA_IN
3 VDD3P3
4 VDD3P3
5 SENSOR_VP
6 SENSOR_CAPP
7 SENSOR_CAPN
8 SENSOR_VN
9 CHIP_PU
10 VDET_1
11 VDET_2
12 32K_XP
13 32K_XN
14 GPIO25 DAC1
15 GPIO26 DAC2
16 GPIO27
17 MTMS
18 MTDI
19 VDD3P3_RTC
20 MTCK
21 MTDO
22 GPIO2
23 GPIO0
24 GPIO4

49 GND
48 CAP1
47 CAP2
46 VDDA
45 XTAL_P
44 XTAL_N
43 VDDA
42 GPIO21
41 U0TXD
40 U0RXD
39 GPIO22
38 GPIO19
37 VDD3P3_CPU
36 GPIO23
35 GPIO18
34 GPIO5
33 SD_DATA_1
32 SD_DATA_0
31 SD_CLK
30 SD_CMD
29 SD_DATA_3
28 SD_DATA_2
27 GPIO17
26 VDD_SDIO
25 GPIO16

IO36
IO39
IO34
IO35
IO32
IO33
LRCK
BCK
built in DAC's awful

IO21
U0TXD
U0RXD
DATA
IO19
IO23
IO18
IO5
SDI/SD1
SDO/SD0
SCK/CLK
SCS/CMD
SWP/SD3
SHD/SD2
IO17 STROBE
VDD_SDIO
IO16 RESET

GND
C18 0.1u
GND
C10 1uF
GND
+3.3V
C7 0.1uF
GND

DAC

VCC
R1 1M
SD_MODE
DATA
GAIN
VCC GND
C1 0.1u
C5 0.1u
GND

DAC
MAX98357AETE+T
1 DIN
2 GAIN_SLOT
3 GND
4 SD_MODE#
5 N.C.
6 N.C.
7 VDD
8 VDD
16 BCLK
15 GND
14 LRCLK
13 N.C.
12 N.C.
11 GND
10 OUTN
9 OUTP
17 EP

BCK
LRCK
L1 300
L2 300
OUT+
GND
C3 220pF
C4 220pF
GND
GND
GND

POWER

LDO
AMS1117-3.3V
1 ADJ/GND
2 VOUT
3 VIN
4 VOUT
VCC
C15 10u
GND GND
+3.3V
C14 22u
GND

USBC
VCCVCC
A4 VBUS   B4
A12 GND   B12
VBUS
GND
GND GND

TERMINALS

CN1
AUDIO OUT
OUT+
5
4 dummy
2
3
1
GND

POWER
2541WV-02P
VCC
1
2
GND

U1
2541WV-02P
SD_MODE
GAIN
1
2

UART
2541WV-02P
U0TXD
U0RXD
1
2

TITLE: ESP32-based smart speaker
REV: 1.0
Company: Your Company
Sheet: 1/1
Date: 2024-07-23
Drawn By: mateojosebuteler