RESET
XCLK
PWDN
LED
D6
D4
D0
D7
D2
SCL
SDA
VSYNC
HREF
D5
D3
PCLK
D1

VCC
R2 22k
R3 22k

VCC
C19 0.1uF
GND
GND

U4
8 VCC
WP_N 3
HOLD_N 7
CS_N 1 CS_FLASH
SCK 6 SCK
4 VSS MISO 2 MISO
DAP MOSI 5 MOSI

R4 100k
VCC

VCC

GND
VCC
GND
VCC

C30 47uF
C31 47uF
C1 47uF
GND

VCC
C39 10nF
C5 0.1uF
C7 0.1uF
GND

U3 NRF24L01SMD
18 15 7
VDD VDD VDD
RF_CE 1 CE
CS_RF 2 CSN
SCK 3 SCK
MOSI 4 MOSI
MISO 5 MISO
RF_IRQ 6 IRQ
ANT2 13
ANT1 12
VDD_PA 11
VSS VSS VSS VSS VSS
DVDD IREF XC2 XC1
0 8 14 17 20
19 16 9 10

U5 2450BM14A0002
3 BAL UNBAL 1
4 BAL NC 6
5 DC GND 2
GND

U6 ANTENNA

C4 2.2nF
GND

X1 16 MHz
C2 12pF
C6 12pF
GND

C3 33nF
R1 22k
GND
GND

GND
C17 0.1uF
C16 0.1uF
C15 0.1uF
C14 0.1uF
C9 0.1uF
VCC

U1
24 VDD_1
36 VDD_2
48 VDD_3
9 VDDA
1 VBAT
BOOT0 44 BOOT0
NRST 7 NRST
PH0-OSC_IN 5
PH1-OSC_OUT 6
PC14-OSC32_IN 3
PC15-OSC32_OUT 4

D0 10 PA0   PB0 18 HREF
D1 11 PA1   PB1 19 VSYNC
D2 12 PA2   PB2 20 PCLK
D3 13 PA3   PB3 39 SCK
D4 14 PA4   PB4 40 MISO
D5 15 PA5   PB5 41 MOSI
D6 16 PA6   PB6 42 CS_FLASH
D7 17 PA7   PB7 43 CS_RF
29 PA8   PB8 45 SCL
30 PA9   PB9 46 SDA
PWDN 31 PA10   PB10 21 XCLK
RESET 32 PA11
33 PA12   PB12 25 LED
34 PA13   PB13 26
37 PA14   PB14 27
RF_IRQ 38 PA15 PB15 28

23 VSS_1   PC13 2 RF_CE
35 VSS_2
47 VSS_3
8 VSSA
49 EP   VCAP1 22
C18 4.7uF
GND
GND

STM32F411CE

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