+5V

FB3
1k@100M

C19
1u

5v_filter

5v_rf

C9
100n
GND

C13
1u

C15
100n
GND

GND

add some extra caps for tuning

antenna rectangular
5 turns of 0.4 mm
width and pitch in
50mm by 10mm area

R1
330

L1
560n

ST25R95

+3V3

C24
100n

C25
1u

R12
10k

R13
10k

GND

AE1
Antenna_Dipole

39p
C3

C6
100p

C10
100p

32 VPS_TX

VPS 13
ST_R1 21

+3V3 +3V3

xx
C1

110p
C2

GND
C7
100p

C11
100p

L2
560n

5 RX1
1 TX1
2 TX2
6 RX2

IRQ_IN 12
IRQ_OUT 14

R4 0

nfc_irq_in
nfc_irq_out

39p
C4

R2
330

27.12MHz

rfid_xin
rfid_xout

29 XIN
30 XOUT

SPI_CLK 18
SPI_MOSI 17
SPI_MISO 16
SPI_SS 15

spi_clk_rfid
spi_mosi_rfid
spi_miso_rfid
spi_ss_rfid

R9 0
R10 0
R11 0

spi_sclk
spi_mosi
spi_miso
spi_nss

Y1

9 ST_R0

+3V3

R5 0 R7
R6 0 R8

C14
10p

C17
10p

C20
1n

8 GND_RX
31 GND_TX
22 GND
33 GND

SSI_1 20 rfid_ss1
SSI_0 19 rfid_ss0

ssi_0 = 1, ssi_1 = 0
i think, but lets be sure

GND

GND

GND

GND

GND

U2

caps C1,C2 around xtal should be
CL=(C1*C2)/(C1+C2)+Cstray where
CL from xtal DS and cstray approx 2-7pF
CL=10 pF, Assume Cstray=5pF so lets pick 10pF

GND

+5V +3V3

to_keypad_tx
from_keypad_rx

J3
Conn_01x05

GND

U3
STM32G051GxU

PA0 6
PA1 7
PA2 8
PA3 9
PA4 10
PA5 11
PA6 12
PA7 13
PA8 16

spi_sclk
to_keypad_tx
from_keypad_rx
spi_nss
nfc_irq_out
spi_miso
spi_mosi

PA15 22
PA14 21
PA13 20
PA12 19
PA11 18

lcd_e
swd_clk
swd_io
lcd_rw
lcd_rs

J2
swd

GND

+3V3

C30
1u

GND

V0 is NC on my module

+3V3

R3
10k

nrst

5 NRST

PB0 14
PB1 15
PB3 23
PB4 24
PB5 25
PB6 26
PB7 27
PB8 28

nfc_irq_in
lcd_d0
lcd_d1
lcd_d2
lcd_d3
lcd_d4
lcd_d5

lcd_rs 4 RS
lcd_rw 5 R/W
lcd_e 6 E

SW1
SW_Push

C21
100n

1 PC14
2 PC15
3 PC6

lcd_d6
lcd_d7

lcd_d0 7 DB0
lcd_d1 8 DB1
lcd_d2 9 DB2
lcd_d3 10 DB3
lcd_d4 11 DB4
lcd_d5 12 DB5
lcd_d6 13 DB6
lcd_d7 14 DB7

+3V3

K 16
A 15

GND

GND

+3V3

FB4
1k@100M

mcu_vcc_t 1

C29
1u

3 mcu_vcc

VDD
GND

C27
1u

C28
100n

GND

U4
FC2004C03-NSWBBW-91*E

GND

J1
USB_B_Mini

F1
500mA

Q1
CPH3350-TL-W

FB1
600@100MHz

+5V

U1
BA33BC0FP-E2

+3V3

1 VBUS
3 D+
2 D-
4 ID

vin

v_fused

v_potected

C5
10u

C8
10u

C12
330n

1 VIN VOUT 3
GND 2

C18
22u

Shield 6

GND

GND

R18
10k

GND

GND

GND

GND

GND

1 J4
2 v_sup

GND