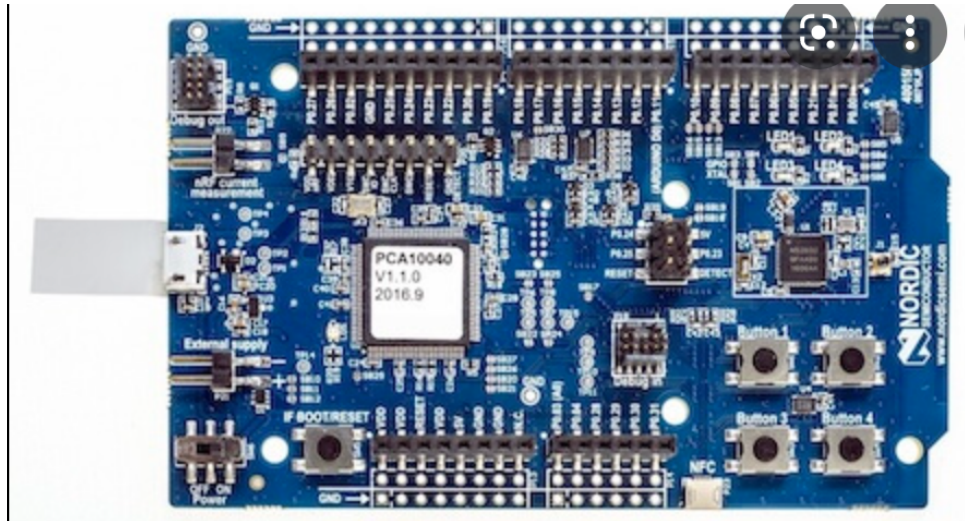


Govelo Bike-Hardware Verification code first/Second/Third stage

1. Pin definition for nRF52832 (Initial Version) if the change will be noticed in future. (please base on the nRF52 DK)



a. Pin Definition

	Parts	SW Suggestion (Pin)	MEMO	Verify pin function
MCU	nRF52832 DK Board			
Bluetooth	nRF52832			
	RESET	P0.21		
NFC	nRF52832	P0.09 and P0.10		
Slow CLK	XTL 32.768k	P0.00 P0.01		
Peripheral	MPU6050	P0.26 (SDA) P0.27(SCL) P0.30(/INT)	INT can not connection if not interrupt function	
	(Temperature)	P0.03		
	(Humidity)	P0.04		
	DET -V	P0.02		
	Magnetic sensor	P0.13,P0.14		
	Buzzer	P0.18		
	LED	P0.17		

Moto	STSPIN820 (Moto Driver)	P0.11~P0.16 ; P20,P0.22~P0.25 ; P P0.28~P0.31	<pre> #define STBY 5 #define DIR1 29 #define STCK1 24 #define MODE1_1 25 #define MODE1_2 28 #define MODE1_3 29 #define STATUS1 31 ; #define DIR2 22 #define STCK2 8 #define MODE2_1 16 #define MODE2_2 15 #define MODE2_3 12 #define STATUS2 11 </pre>	
UART		P0.05~p0.08 (DEBUG TX P0.06)		
Power Control	POWER ON/OFF 12V and 3.3v	P0.19,P0.20		

Pin Definition Detail

NEW		MODULE NAME
P0.25	MODE1_1	M1
P0.26	SDA0	
P0.27	SCL0	
P0.28	MODE2_1	M2
P0.29	MODE3_1	M3
P0.30	INT	
P0.31	STATUS_1	EN
P0.02	DEVT	
P0.03	Temperature Sensor	
P0.04	Humidity sensor	
P0.05	STBY	NSTBY
P0.06	TXD0	
P0.07	RXD0	
P0.08	STCK2	STEP
P0.09	NFC	
P0.10	NFC	
P0.11	STATUS_2	EN
P0.12	MODE3_2	M3
P0.13	M18-OUT2	
P0.14	M18-OUT1	
P0.15	MODE2_2	M2
P0.16	MODE1_2	M1
P0.17	LED DATA	
P0.18	BUZZER	
P0.19	POWER ON/OFF 12V	
P0.20	POWER ON/OFF 3.3v	
P0.21	RESET	
P0.22	DIR_2	DIR
P0.23	DIR_1	DIR
P0.24	STCK_1	STEP

2. The flow of the Testing (for Custom PCB 12/3.3 V and Debug and I2C) - first Stage

The Stage flow purpose, help the HW to check the Power pin, Debug pin, and I2C pin to verify and build the Custom PCB Hardware Development Environment. also confirm the ICE and Hardware jump wire environment and tool for the next stage,

- 2.1 initial all pin definition (UART for P0.06, I2C for P0.26,P0.27 and Power Control for P0.19 and P0.20)
- 2.2 Printf ("Testing Custom PCB");
- 2.3 initial I2C and Write/Read MPU6050 Chip ID.
- 2.4 Printf ("MPU6050 CHIP ID is 0x%x" ,ChipID);
- 2.5 Set the P0.19 is high and P0.20 is low and sleep 5 sec.
- 2.6 Printf ("Set the POWER Control PIN High and Low");
- 2.7 Set the P0.19 is low and P0.20 is high and sleep 5 sec.
- 2.8 Printf ("Set the POWER Control PIN Low and High");
- 2.9 Set the P0.19 is high and P0.20 is high and sleep 5 sec.
- 2.10 Printf ("Set the POWER Control PIN High and High");
- 2.11 Pending the code (While(1){;})

3. The flow of the Testing (for Custom PCB 12/3.3 V and Debug and ADC) - Second Stage

The Stage flow purpose, help the HW to check the other Module pin, please follow the pin definition section 1, to verify and build the Custom PCB Hardware Development Environment. also confirm the ICE and Hardware jump wire environment and tool for the next stage,

- 3.1 Modify the initial all pin definition (please follow the Section1 pin definition)
- 3.2 Printf ("Testing Custom PCB Stage 2 ");
- 3.3 initial LED (P0.17, OutPUT), please reference the LED Driver "WS2812"
- 3.4 Printf ("WS2812 Display ");
- 3.5 Set the P0.17 to Blue and sleep 5 sec.
- 3.6 Set the P0.17 to GREEN and sleep 5 sec.
- 3.7 Set the P0.17 to RED and sleep 5 sec.
- 3.8 Set the P0.17 to "0" Close.
- 3.9 Printf ("Set the MOTO ");
- 3.10 Printf ("Set the STSPIN820"); Please follow the Pin

```

#define STBY 5

#define DIR1 23
#define STICK1 24
#define MODE1_1 25
#define MODE1_2 28
#define MODE1_3 29
#define STATUS1 31
}

#define DIR2 22
#define STICK2 8
#define MODE2_1 16
#define MODE2_2 15
#define MODE2_3 12
; #define STATUS2 11

```

3.11 Printf ("Set the STSPIN820 Step ClockWise");

3.12 Set STSPIN820 ClockWise 1 sec.

3.13 Printf ("Set the STSPIN820 Step CounterClockWise");

3.14 CounterClockWise 1 sec.

3.15 Printf ("Set the ADC for AIN0 m AIN1 and AIN2"); pin is P0.2 , P0.3 and P0.4

```

3.16 While Loop {
    read AIN0, AIN1 and AIN2
    printf(AIN0.Value,AIN1.Value,AIN2.Value);
    Sleep 1 sec
}

```

4. The flow of the Testing (for Custom PCB 12/3.3 V Control pin and Moto, Beep, and ADC) - Third Stage

The Stage flow purpose, help the HW and SW integration Job, please follow the pin definition section 1, to verify and build the Custom PCB Hardware Development Environment. also confirm the ICE and final Hardware jump wire environment and tool for the next stage,

4.1 Printf ("Testing Custom PCB Stage 3 ");

```

4.2 initial all pin definition (UART for P0.06, I2C for P0.26, P0.27, and P0.30
4.3 Printf ("Testing I2C 6 axis and INT pin function");
4.4 initial I2C and Write/Read MPU6050 Chip ID.
4.5 Printf ("MPU6050 CHIP ID is 0x%x" ,ChipID);
4.6 Check the INT Pin (P0.30), if interrupted, then Printf ("MPU6050 raise the
interrupt");

4.7 initial pin 3.3v Control (P0.20) and set that pin is High
4.8 initial LED (P0.17, OutPUT), please reference the LED Driver "WS2812"
4.9 Printf ("Testing WS2812 LED ");
4.10 Set the P0.17 to Red/Blue/Green per sec 3 times.
4.11 initial pin 3.3v Control (P0.20) and set that pin is Low

4.12 initial pin 12v Control (P0.19) and set that pin is High
4.13 initial BEEP (P0.18, OutPUT),
4.14 Printf ("Testing BEEP ");
4.15 SET BEEP BEEP twice Time
4.16 initial Magnetic (P0.13 is Magnetic_1 "Default is High", P0.14 is Magnetic_2
"Default is High") and MOTO (Magnetic for Follow pin definition),
4.17 Printf ("Testing Magnetic and MOTO Magnetic_1 for MOTO1, Magnetic_2 for
MOTO2");
4.18 Printf ("Keep magnetic_1 induction close to iron");
4.19 Wait and if Magnetic_1 (P0.13) is Low then MOTO 1 activity 3 sec
4.20 Printf ("Keep magnetic_2 induction close to iron");
4.21 Wait and if Magnetic_2 (P0.14) is Low then MOTO 2 activity 3 sec
4.22 initial pin 12v Control (P0.19) and set that pin is Low

4.23 Printf ("Set the ADC for AIN0 m AIN1 and AIN2"); pin is P0.2, P0.3, and P0.4
4.24 While Loop {
    read AIN0, AIN1, and AIN2
    printf(AIN0.Value,AIN1.Value,AIN2.Value);
    Sleep 1 sec
}

```