CN7

VDD	1	RFU
nRST	2	IOREF
	3	RESET
	4	VDD
VCC	5	VCC
	6	GND
	7	GND
	8	VIN

VDD
VCC

CN9

AIN0	1	A0
AIN1	2	A1
AIN2	3	A2
AIN3	4	A3
AIN4	5	A4
AIN5	6	A5

KeyLED
KeyLED.Sch

KEY0	WKUP
KEY1	K2
KEY2	K3
KEY3	K4
LD0	LED1
LD1	LED2
LD2	LED3
LD3	LED4

Sensor
sensor.Sch

I2CPMC	I2CPMC
I2CVIO	I2CVIO
SCL	SCL1
SDA	SDA1
INT	INT
LDR	LDR
RDY	RDY

NB-IoT
nbiot.sch

RST	NB_RST
NB_ON	NB_ON
RXD	TXD2
TXD	RXD2

U5
MM32F031C6

VDD_M

R34 10K

C17 104P

Pins top: 48 VDD_M, 47 GND, 46 LED4, 45 LED3, 44 Boot0, 43 LED2, 42 STBY, 41 RDY, 40 LDR, 39 LED1, 38 SYNC, 37 SWCLK

1	VBAT		PD3	36	NB_RST
K2 2	PC13		PD2	35	NB_ON
K3 3	PC14		PA13	34	SWDIO
K4 4	PC15		PA12	33	USB , DP
X1 5	PD0		PA11	32	USB , DM
X2 6	PD1		PA10	31	RXD1
NRST 7	NRST		PA9	30	TXD1
GND 8	VSSA		PA8	29	I2CINT
VDD_M 9	VDDA		PB15	28	MOSI
AIN0 10	PA0		PB14	27	MISO
AIN1 11	PA1		PB13	26	SCLK
TXD2 12	PA2		PB12	25	NSS0

WKUP AIN0

Pins bottom: 13 RXD2, 14 AIN2, 15 AIN3, 16 AIN4, 17 AIN5, 18 I2CVIO, 19 I2CPMC, 20 INT, 21 SCL1, 22 SDA1, 23 GND, 24 VDD_M

X1 R48 510K X2
X2 8MHz R46 510
C21 20P C23 20P
Boot0 R43 10K

VDD_M
C18 104P C22 104P C20 104P

CN2 MicroUSB

VCC	1		
DM	2	R16 22[opt]	USB , DM
DP	3	R11 22[opt]	USB , DP
ID	4		
GND	5		

VCC U7 XC6206 , 3.3V VDD
| 3 | Vin | Vout | 1 |
XC6206-SOT23
C24 104P C25 105P

CN6

SCL	1	SCL1
SDA	2	SDA1
AREF	3	VDD
GND	4	GND
SCK	5	SCLK
MISO	6	MISO
PWM/MOSI	7	MOSI
PWM/SSEL	8	NSS0
PWM	9	WKUP
GPIO	10	K2

CN10

GPIO	1	K3
PWM	2	K4
PWM	3	LED1
GPIO	4	LED2
INT PWM	5	LED3
INT	6	LED4
CPU_TX	7	TXD2
CPU_RX	8	RXD2

Connective
connective.Sch

TXD1	TXD1
RXD1	RXD1
SYNC	SYNC
TXD2	TXD2
RXD2	RXD2
SCL1	SCL
SDA1	SDA
I2CINT	INT

Emulator
emulator.Sch

SWCLK	SWCLK
SWDIO	SWDIO
nRST	RST
RXD1	TXD
TXD1	RXD
WKUP	WEAKUP

CN1 MicroUSB

VCC
VCC
DM R4   22 USB_DM
DP R1   22 USB_DP
ID
GND

R3
10K

1 2 3 4 5

48 VDD_E 47 GND 46 PB9 45 PB8 44 BOOT0 43 PB7 42 PB6 41 PB5 40 PB4 39 PB3 38 PA15 37 PA14

VDD VSS PB9 PB8 BOOT0 PB7 PB6 PB5 PB4 PB3 PA15 PA14

U2
MM32L373PF

VDD_E
1   VBAT
LED2 2   PC13
LED1 3   PC14
4   PC15
X1_E 5   PD0_OSCI
X2_E 6   PD1_OSCO
RESET_E 7   NRST
GND 8   VSSA
VDD_E 9   VDDA
tVC 10 PA0
tIC 11 PA1
oVD 12 PA2

VDD 36 VDD_E
VSS 35 GND
PA13 34 SWDIO_E
PA12 33 USB_DP
PA11 32 USB_DM
PA10 31 R25 2K2
PA9 30 R27 510 D1
PA8 29
PB15 28
PB14 27
PB13 26 VDD_E
PB12 25

RXD
TXD
1N4148

WEAKUP

R9
100K

PA3 PA4 PA5 PA6 PA7 PB0 PB1 PB2 PB10 PB11 DVSS VDD
13 14 15 16 17 18 19 20 21 22 23 24
tVD tSWCLK tSWDIO tRST tSWO GND SPK GND VDD_E VDD

X1_E X2_E
R7 510K
X1 8MHz
R8 510
C3 20P
C14 20P

VDD_E
LD1 RED LD2 GREEN
R2 510 R6 510 R5 100K
LED2 LED1
C6 104P

VDD
R14 10K
R13 10K
tVD

CN3 SWD
VDD_E VDD
SWDIO_E CLK
GND DIO
GND RST
SWCLK_E
RESET_E

VDD_M
R12 510
C13 103P

U3
MAX9938H

R19 1K 1%
R18 1 1%
T1 SI2301
R20 1M
Low Power Mode
Run Mode
VDD

R22 10K
T2 SI2302

U1
XC6206 , 3.3V
VCC
3 Vin Vout 1
C12 10uF/16V
C5 104P
VDD_E
C4 105P
C1 104P
C2 104P
C7 104P
C8 104P

R10 51 RST
R15 51 SWDIO
R17 51 SWCLK

LED

VDD

LD6 RED
LD5 RED
LD4 RED
LD3 RED

R57 2K2
R56 2K2
R55 2K2
R54 2K2

LD3
LD2
LD1
LD0

Key

KEY0   R42   K1   VDD_M
        1K
KEY1   R44   K2
        1K
KEY2   R45   K3
        1K
KEY3   R47   K4
        1K

Photosensitive Sensor

LDR

Humidity Temperature Sensor

VDD

U10 HTS221

SCL	2	SCL
SDA	4	SDA

VDD 1
CS/MODE 6

C31 104P

VDD

T3 SI2301

VDD_S

R49 8K2

R58 VT9ON1

C27 104P

R50 1M

C26 104P

I2CPMC

RDY 3 DRDY

GND 5

2uA @1Hz

Motion tracking Sensor

I2CVIO

R52 4K7 R51 4K7 R53 4K7

SCL   SCL
SDA   SDA
INT   INT

VDD

U8 LSM6DSL

3 SCX   VDD 8
2 SDX   VDDIO 5

VDD

C29 104P

12 CS   GND 6
13 SCL/SCLK GND 7
14 SDA/MOSI
1 MISO/SA0

SCL
SDA

INT

RDY   RDY

INT

4 INT1   NC 10
9 INT2   NC 11

3uA

Pressure sensor

VDD

U9 LPS22H

SCL	2	SCL
SDA	4	SDA
INT	7	INT

VDD
VDD 10
VDDIO 1

C30 104P   C28 104P

GND 9
GND 8

VDD
6 CS/MODE SDO/SA0

RES 3
5

3uA