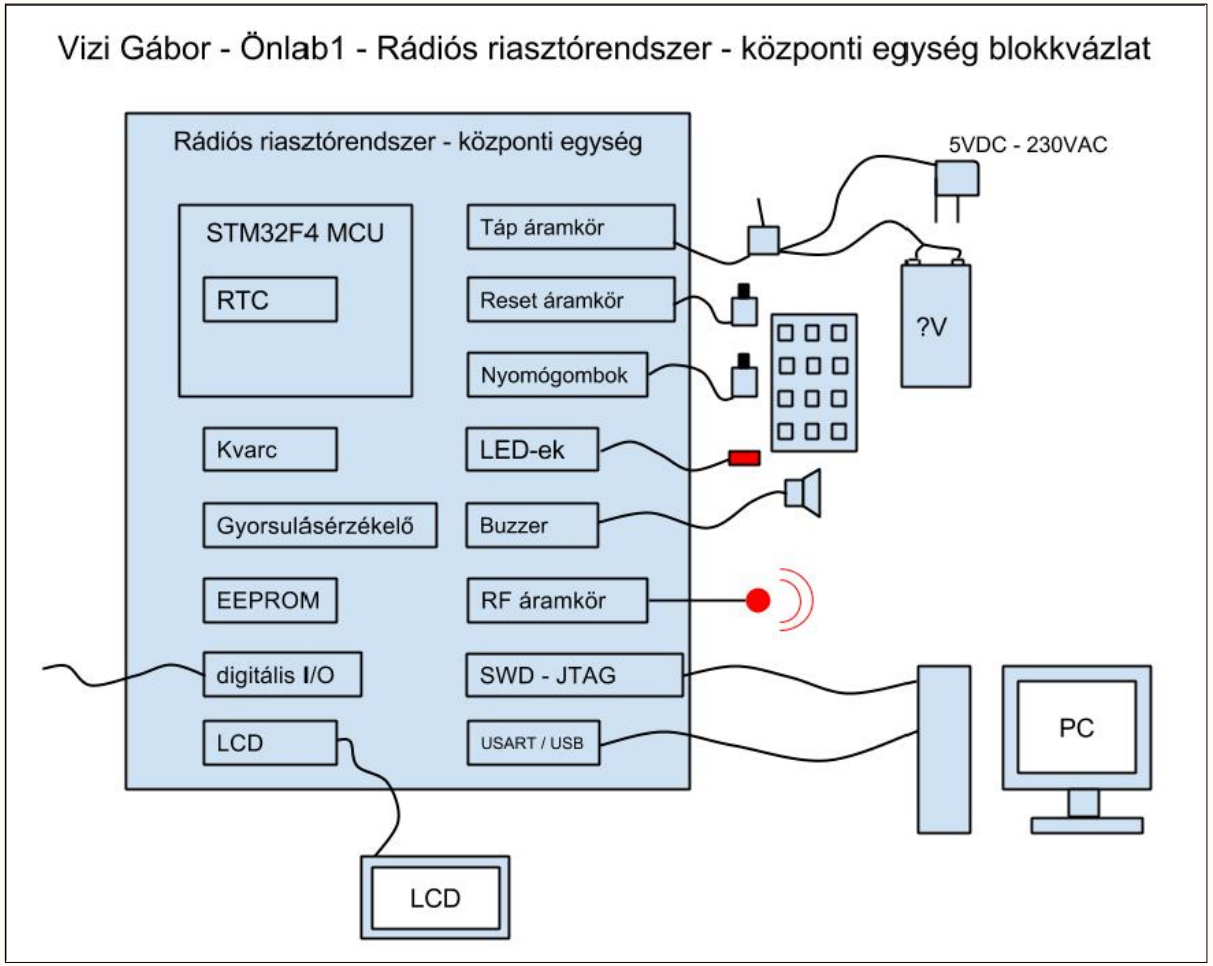
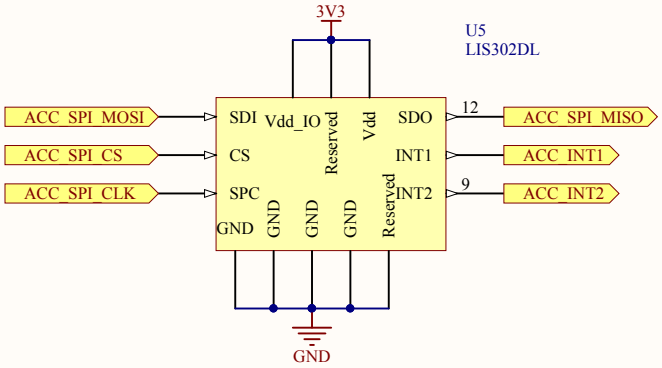
Sheet_BlockDiagram

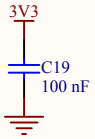


Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT		
Size A4	Number		Revision V2
Date:	2014.06.24.	Sheet of	Block Diagram
File:	C:\Users\..\Sheet BlockDiagram.SchDoc	Drawn By:	Vizi Gábor - GKPQHH

Sheet_Accelerometer

Accelerometer

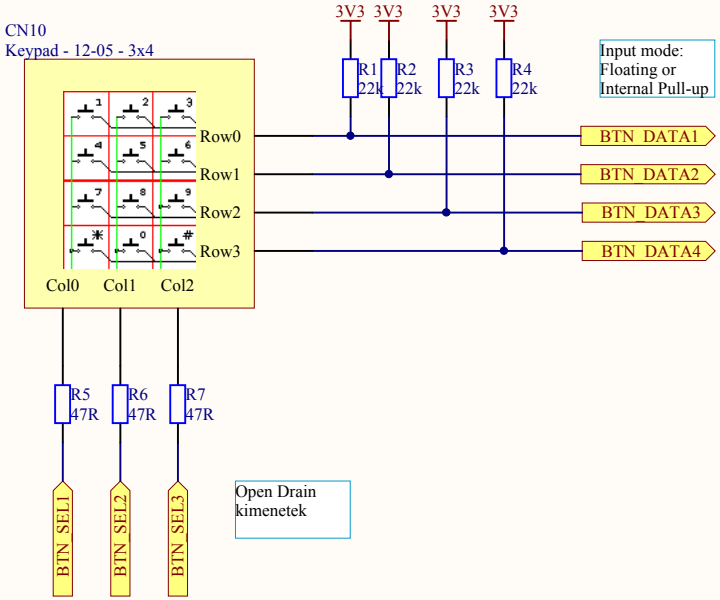




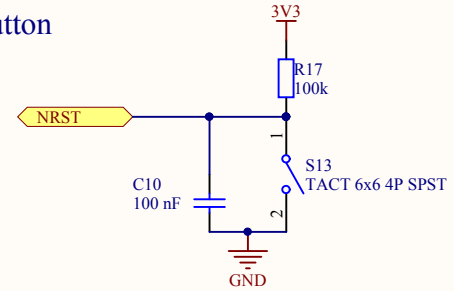
Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT		
Size A4	Number		Revision V2
Date:	2014.06.24.	Sheet of	Accelerometer
File:	C:\Users\..\Sheet_Accelerometer.SchDoc	Drawn By:	Vizi Gábor - GKPQHH

Sheet_Buttons

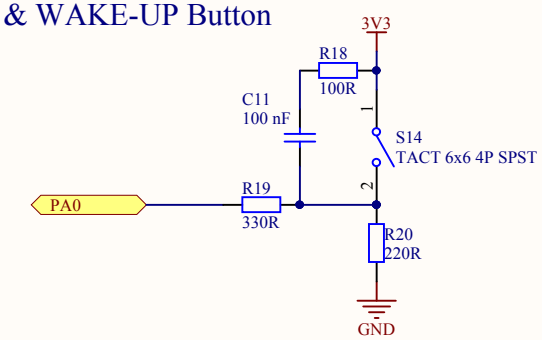
3x4 Keypad



RESET Button



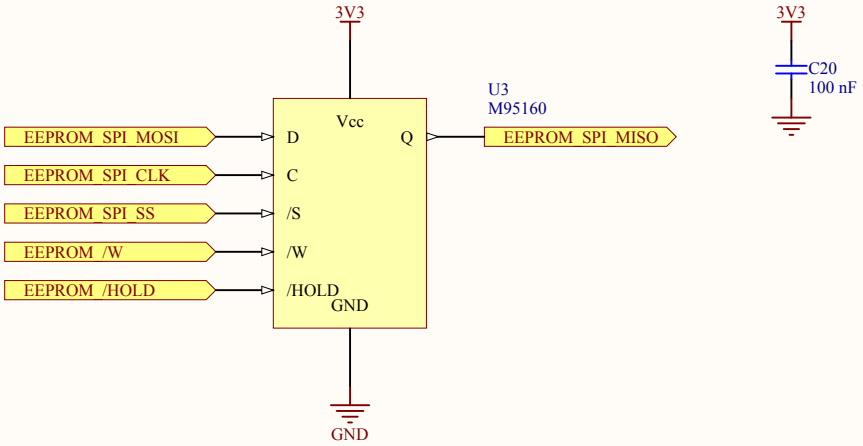
USER & WAKE-UP Button



Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT	
Size A4	Number	Revision V2
Date:	2014.06.24.	Sheet of Buttons
File:	C:\Users\..\Sheet_Buttons.SchDoc	Drawn By: Vizi Gábor - GKPQHH

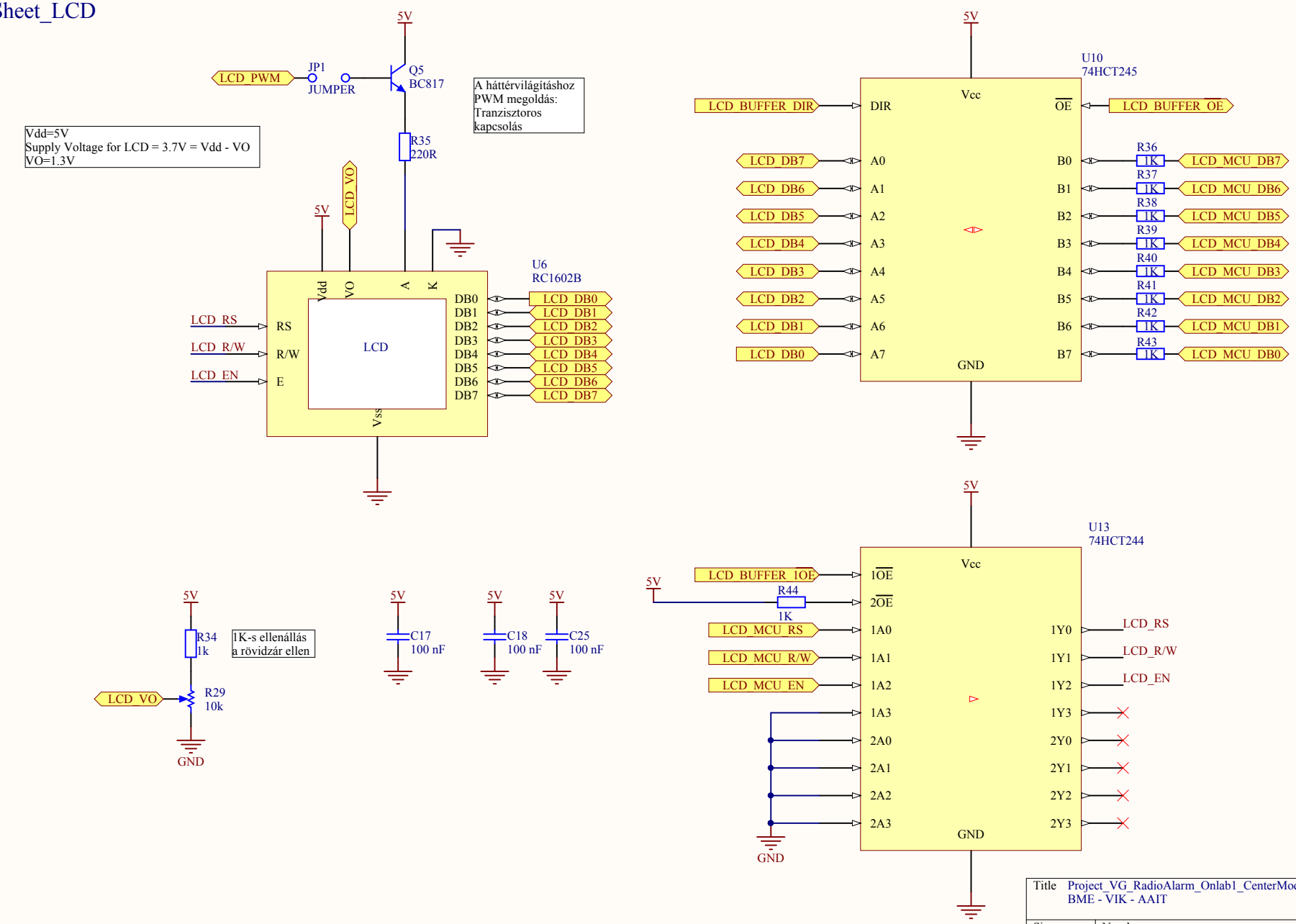
Sheet_EEPROM

EEPROM



Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT	
Size A4	Number	Revision V2
Date: 2014.06.24.		Sheet of EEPROM
File: C:\Users\..\Sheet_EEPROM.SchDoc		Drawn By: Vizi Gábor - GKPQHH

Sheet_LCD



Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT	
Size A4	Number	Revision V2
Date:	2014.06.24.	Sheet of LCD
File:	C:\Users\..\Sheet_LCD.SchDoc	Drawn By: Vizi Gábor - GKPQHH

Sheet_LEDs

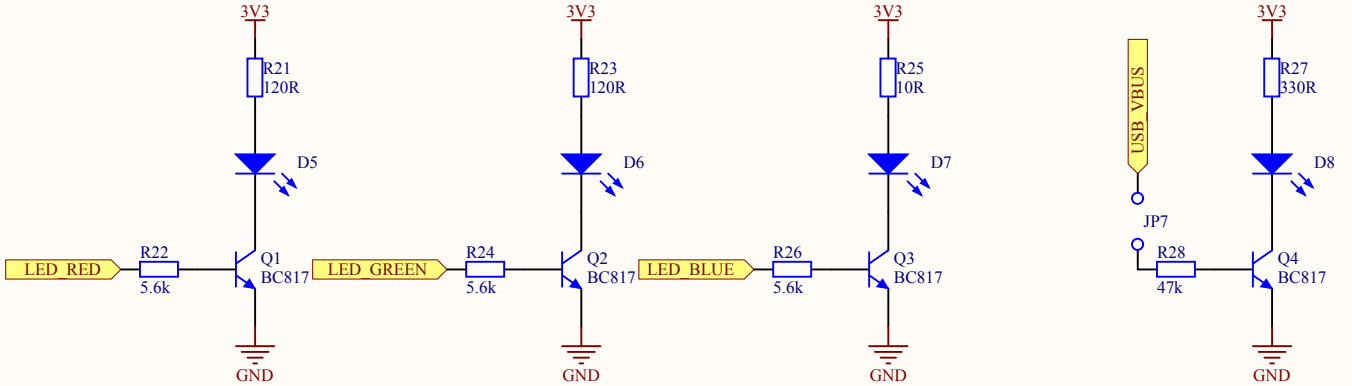
LEDs

Alarm LED
Red
2,1V -> 10mA
3,3V-2,1V = 1,2V
1,2V / 10mA = 120 Ohm

All Right LED
Green
2,1V -> 10mA
3,3V-2,1V = 1,2V
1,2V / 10mA = 120 Ohm

Power LED
Blue
3,4V -> 10mA
0Ohm

USB VBUS LED
Green
STM32F4 devkit's
schematic



Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT	
Size A4	Number	Revision V2
Date:	2014.06.24.	Sheet of LEDs
File:	C:\Users\..\Sheet_LEDs.SchDoc	Drawn By: Vizi Gábor - GKPQHH

Sheet_MCU

IT-s
ACC_INT1 - PC1
ACC_INT2 - PC2
RF_INRQ - PC3
BTN_DATA1 - PC4
BTN_DATA2 - PA4
BTN_DATA3 - PA3
BTN_DATA4 - PA2

PC13
TAMPER: alarm out

PB3
JTD0-TRACESWO

PA14
JTCK-SWCLK

PA13
JTMS-SWDIO

PA12
OTG_FS_DP
USART1_RTS

PA11
OTG_FS_DM
USART1_CTS

PA10
OTG_FS_ID
USART1_RX

PA9
OTG_FS_VBUS
USART1_TX

PA8
OTG_FS_SOF
USART1_CK

PA5
SPI1_SCK

PA6
SPI1_MISO

PA7
SPI1_MOSI

U1
STM32F107RCT6
STM32F105xx-107xx
LQFP64

Pin	Left	Right
1	Vbat	Vdd_3
2	RF_Reset	PC13_TAMPER_RTC
3	OSC32_IN	PC14-OSC32_IN
4	OSC32_OUT	PC15-OSC32_OUT
5	OSC_IN	PD0_OSC_IN
6	OSC_OUT	PC1_OSC_OUT
7	NRST	NRST
8	ACC_SPI_CS	PC0
9	ACC_INT1	PC1
10	ACC_INT2	PC2
11	RF_nIRQ	PC3
12	Vssa	
13	3V3	Vdda
14	PA0	PA0-WKUP
15	RF_NSS	PA1
16	BTN_DATA4	PA2
17	BTN_DATA3	PA3
18	Vss_4	
19	3V3	Vdd_4
20	BTN_DATA2	PA4
21	SPI1_SCK	PA5
22	SPI1_MISO	PA6
23	SPI1_MOSI	PA7
24	BTN_DATA1	PC4
25	BTN_SEL2	PC5
26	BTN_SEL1	PB0
27	BTN_SEL3	PB1
28	LED_RED	PB2
29	LED_GREEN	PB10
30	LED_BLUE	PB11
31	3V3	Vss_1
32		Vdd_1
33		PB12
34		PB13
35		PB14
36		PB15
37		PC6
38		PC7
39		PC8
40		PC9
41		PA8
42		PA9
43		PA10
44		PA11
45		PA12
46		PA13
47		Vss_2
48		Vdd_2
49	SWCLK	
50	LCD_BUFFER_DIR	
51	LCD_BUFFER_OE	
52	LCD_MCU_EN	
53	LCD_MCU_R/W	
54	LCD_MCU_RS	
55	SWO	
56	LCD_BUFFER_1OE	
57	Buzzer	
58	DI_1	
59	DI_2	
60	EEPROM_/W	
61	BOOT0	
62	EEPROM_/HOLD	
63	EEPROM_SPI_SS	
64	Vss_3	

3V3
C21 100 nF
C22 100 nF
C23 100 nF
C24 100 nF

ACC_SPI_CLK — SPI1_SCK — SPI1_SCK
ACC_SPI_MISO — SPI1_MISO — SPI1_MISO
ACC_SPI_MOSI — SPI1_MOSI — SPI1_MOSI
RF_SCK
RF_MISO
RF_MOSI
EEPROM_SPI_CLK
EEPROM_SPI_MISO
EEPROM_SPI_MOSI

SWDIO
LCD_PWM
USB_D+
USART1_RTS
USB_D-
USART1_CTS
USB_ID
USART1_RX
USB_VBUS
USART1_TX
USB_SOF
USART1_CK

LCD_MCU_DB0
LCD_MCU_DB1
LCD_MCU_DB2
LCD_MCU_DB3
LCD_MCU_DB4
LCD_MCU_DB5
LCD_MCU_DB6
LCD_MCU_DB7

Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT	
Size A4	Number	Revision V2
Date:	2014.06.24.	Sheet of MCU
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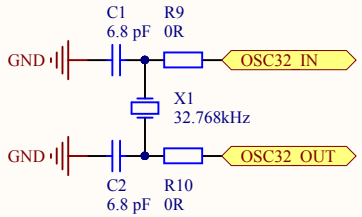
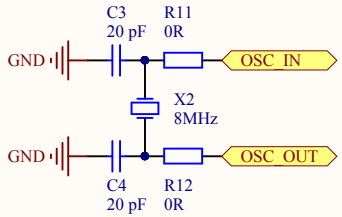
Sheet_Others

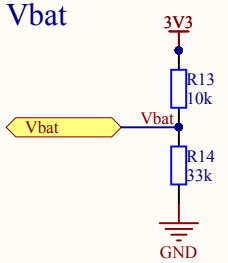
X1 crystal for RTC



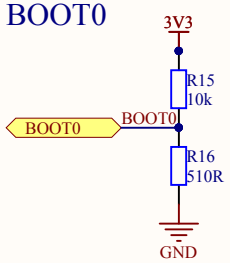
X2



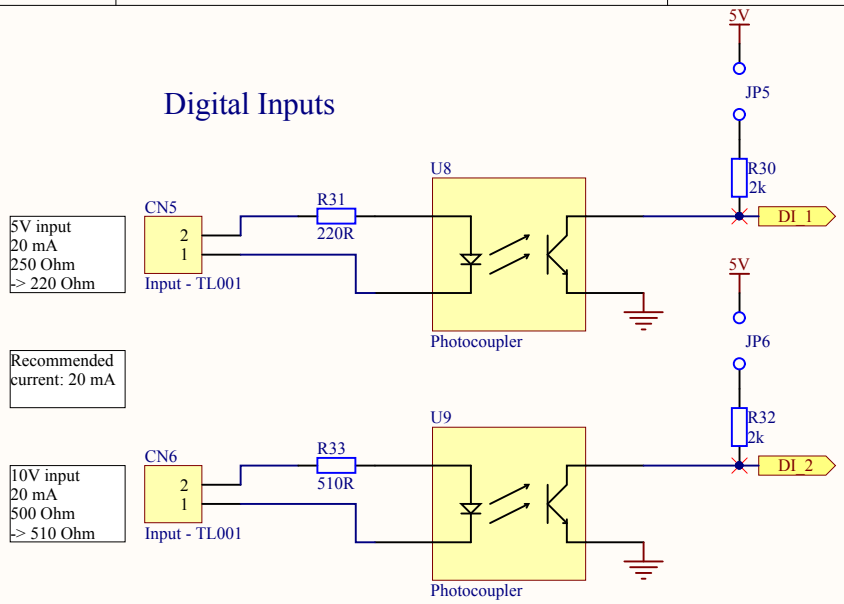
Vbat



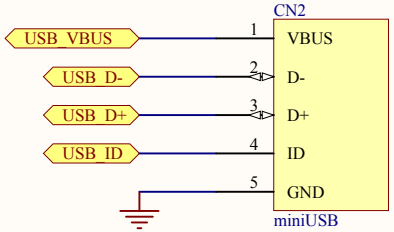
BOOT0



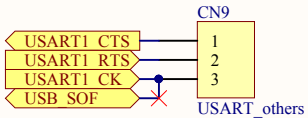
Digital Inputs



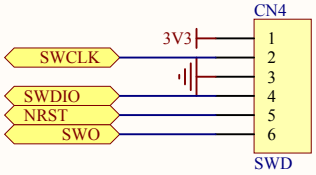
USB OTG

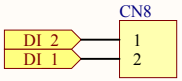


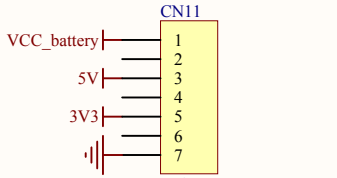
pins for RS-232
and others



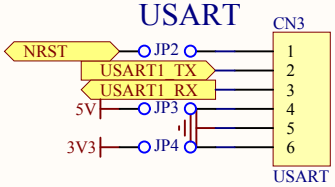
SWD







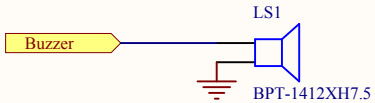
USART



Recommended
converter:
USB 2.0 - UART
TTL 3.3V / 5V
Serial converter
CP2102

Buzzer

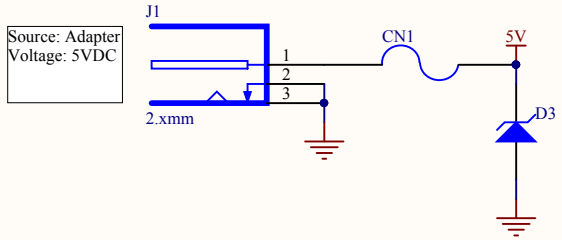
Buzzer
With built-in circuit



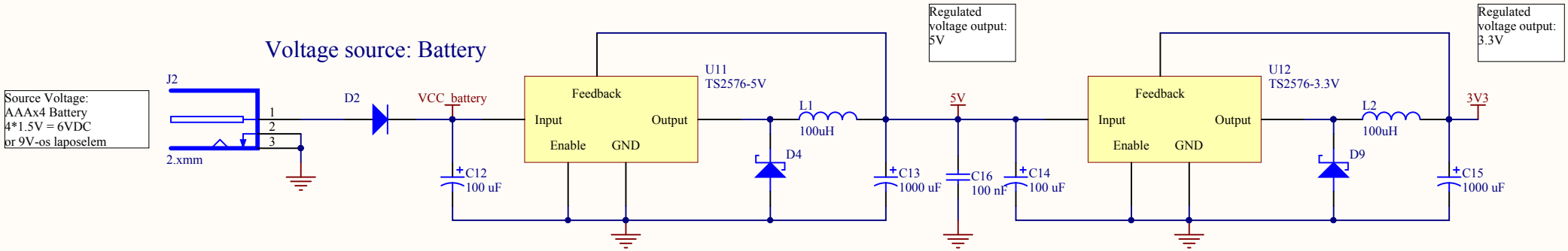
Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT	
Size A4	Number	Revision V2
Date:	2014.06.24.	Sheet of Others
File:	C:\Users\..\Sheet_Others.SchDoc	Drawn By: Vizi Gábor - GKPQHH

Sheet_Power

Voltage source: Adapter



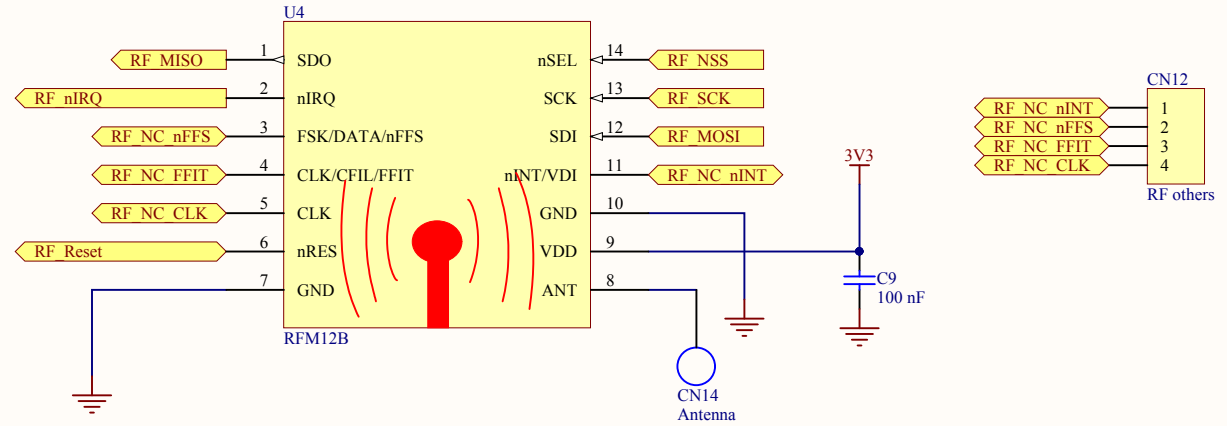
Voltage source: Battery



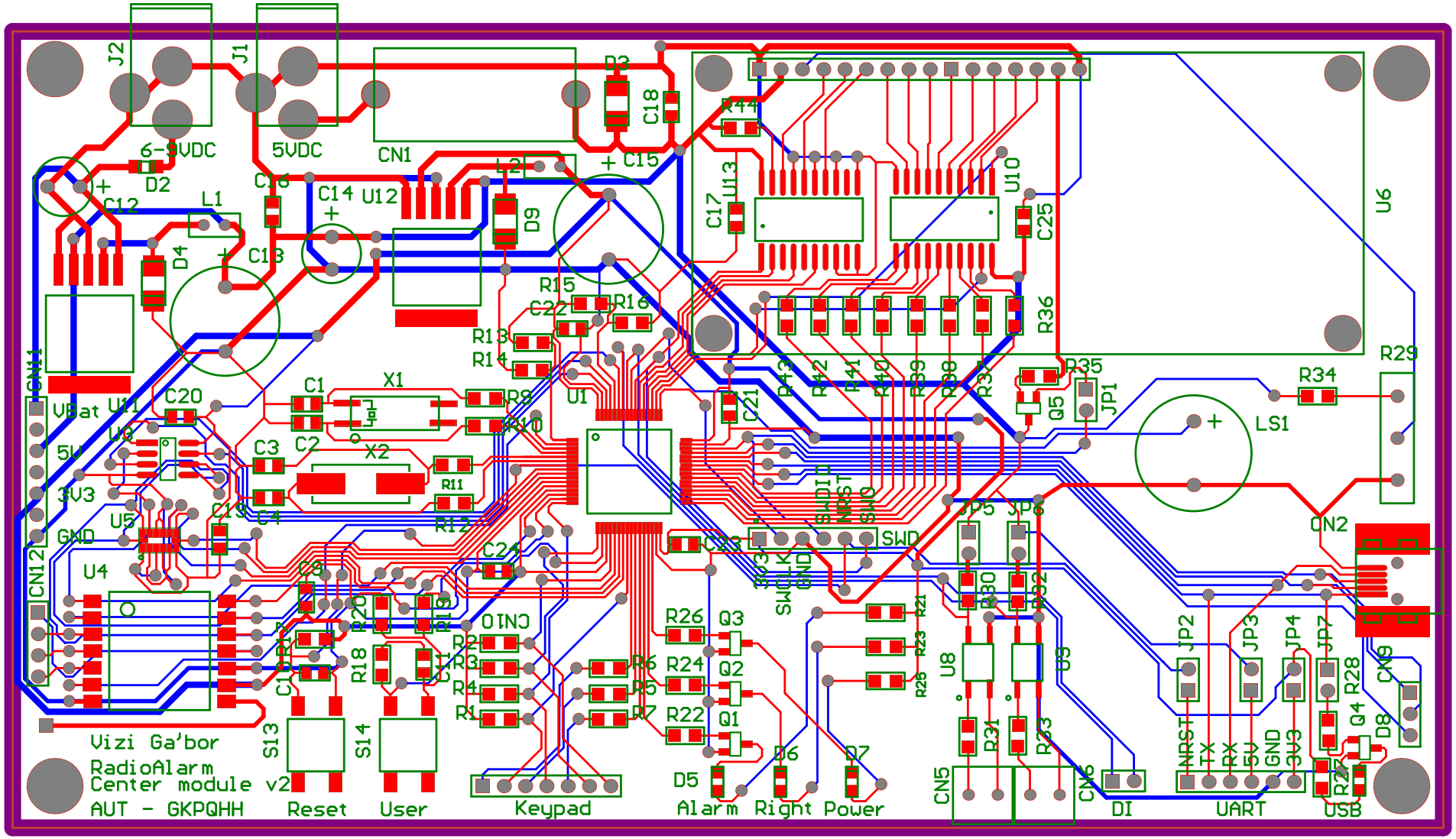
Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT	
Size A4	Number	Revision V2
Date:	2014.06.24.	Sheet of Power
File:	C:\Users\..\Sheet_Power.SchDoc	Drawn By: Vizi Gábor - GKPQHH

Sheet_RF

Transceiver



Title	Project_VG_RadioAlarm_Onlab1_CenterModule BME - VIK - AAIT		
Size A4	Number		Revision V2
Date:	2014.06.24.	Sheet of	RF
File:	C:\Users\..\Sheet_RF.SchDoc	Drawn By:	Vizi Gábor - GKPQHH


Vizi Ga'bor
RadioAlarm
Center module v2
AUT - GKPQHH
Reset
User
Keypad
Alarm
Right
Power
DI
UART
USB
6-9VDC
5VDC
VBat
5V
3V3
GND
SWD
SWCLK
SWDIO
NRST
SWO
NRST
TX
RX
5V
GND
3V3