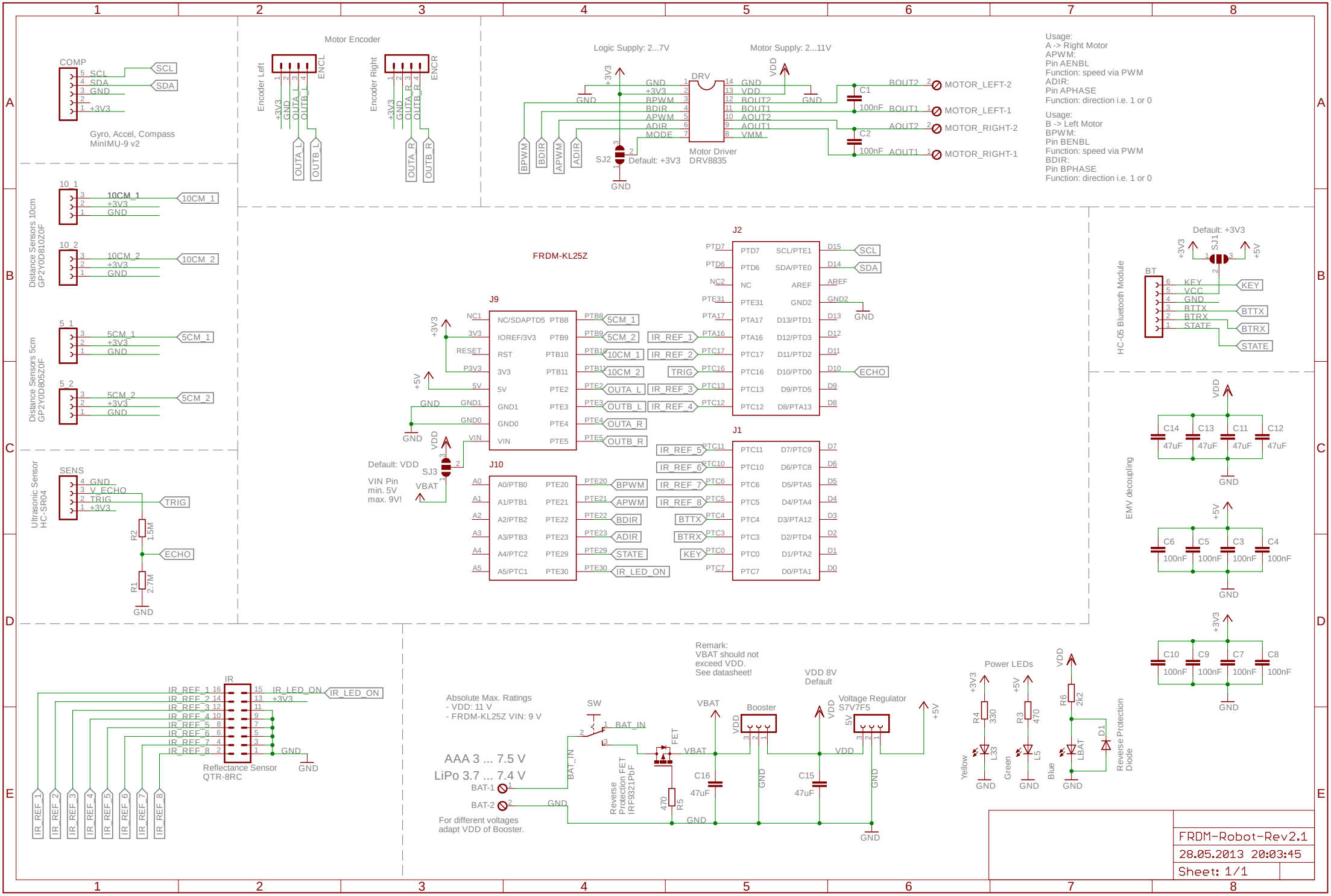
COMP
SCL
SDA
GND
+3V3
Gyro, Accel, Compass
MinIMU-9 v2
Motor Encoder
Encoder Left
Encoder Right
ENCL
ENCR
OUTA_L
OUTB_L
OUTA_R
OUTB_R
Logic Supply: 2...7V
Motor Supply: 2...11V
DRV
Motor Driver
DRV8835
BPWM
BDIR
APWM
ADIR
SJ2
Default: +3V3
C1
C2
100nF
BOUT2
BOUT1
AOUT2
AOUT1
MOTOR_LEFT-2
MOTOR_LEFT-1
MOTOR_RIGHT-2
MOTOR_RIGHT-1
Usage:
A -> Right Motor
APWM:
Pin AENBL
Function: speed via PWM
ADIR:
Pin APHASE
Function: direction i.e. 1 or 0
Usage:
B -> Left Motor
BPWM:
Pin BENBL
Function: speed via PWM
BDIR:
Pin BPHASE
Function: direction i.e. 1 or 0
Distance Sensors 10cm
GP2Y0D810Z0F
10_1
10_2
10CM_1
10CM_2
Distance Sensors 5cm
GP2Y0D805Z0F
5_1
5_2
5CM_1
5CM_2
Ultrasonic Sensor
HC-SR04
SENS
V_ECHO
TRIG
ECHO
R2 1.5M
R1 2.7M
FRDM-KL25Z
J2
J9
J10
J1
IR_REF_1
IR_REF_2
IR_REF_3
IR_REF_4
IR_REF_5
IR_REF_6
IR_REF_7
IR_REF_8
IR_LED_ON
Default: VDD
VIN Pin
min. 5V
max. 9V!
SJ3
VBAT
Default: +3V3
SJ1
HC-05 Bluetooth Module
BT
KEY
VCC
BTTX
BTRX
STATE
EMV decoupling
C14 47uF
C13 47uF
C11 47uF
C12 47uF
C6 100nF
C5 100nF
C3 100nF
C4 100nF
C10 100nF
C9 100nF
C7 100nF
C8 100nF
IR
Reflectance Sensor
QTR-8RC
Absolute Max. Ratings
- VDD: 11 V
- FRDM-KL25Z VIN: 9 V
AAA 3 ... 7.5 V
LiPo 3.7 ... 7.4 V
BAT-1
BAT-2
For different voltages
adapt VDD of Booster.
SW
BAT_IN
FET
Reverse
Protection FET
IRF9321PbF
R5 470
C16 47uF
C15 47uF
Remark:
VBAT should not
exceed VDD.
See datasheet!
Booster
VDD 8V
Default
Voltage Regulator
S7V7F5
Power LEDs
R4 330
R3 470
R6 2k2
L33
L5
LBAT
D1
Yellow
Green
Blue
Reverse Protection
Diode
FRDM-Robot-Rev2.1
28.05.2013 20:03:45
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