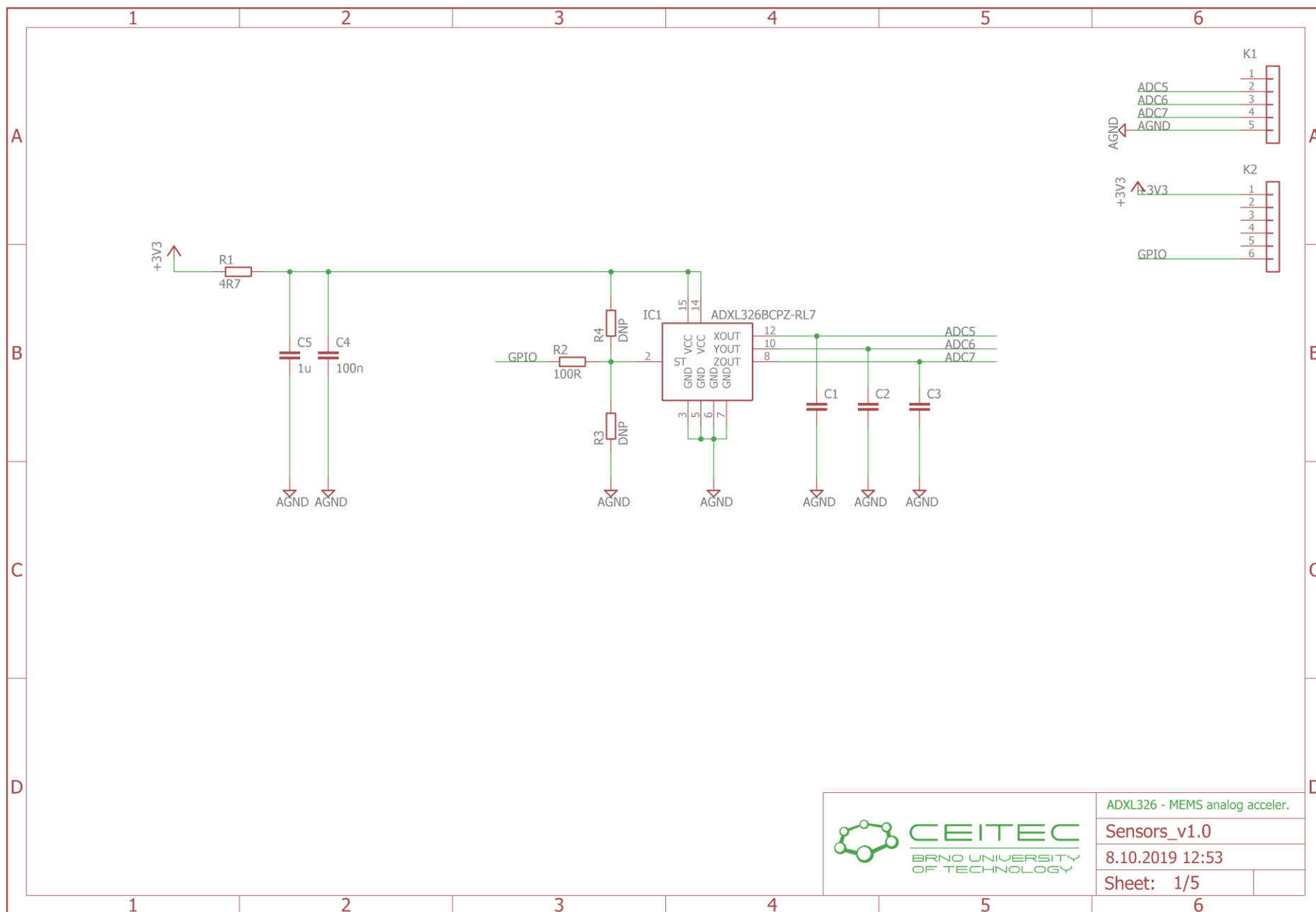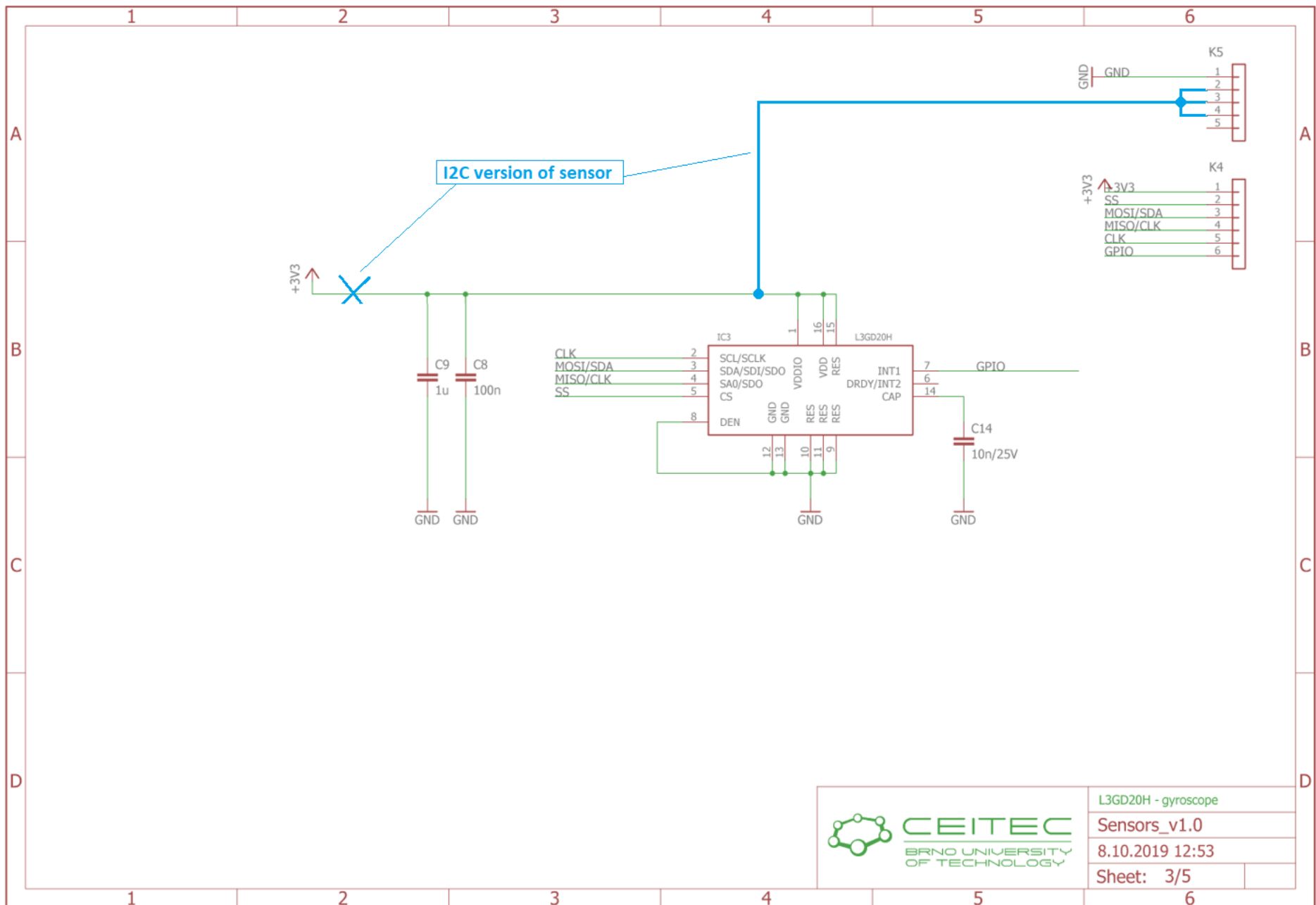# BUT SlotCar Sensors boards

- All passive components are 0805 size
- All components are placed from the TOP side only
- DNP means Do Not Populate
- Some DNP components can be populated (e.g. as the I2C pull-ups, self-test functionality, I2C/SPI bus etc.). For the details see datasheets.
- Missing values of some components should be calculated according to the application requirements.
- Do not populate all connectors (K1 … K10).
- Please find BOM at the end of this document

Changes:

v2 – change of the supply voltage rail for I2C versions (connected to pins 2,3,4 of K1)

K1
1
ADC5   2
ADC6   3
ADC7   4
AGND AGND   5

K2
+3V3 +3V3   1
              2
              3
              4
              5
GPIO   6

+3V3

R1
4R7

C5   C4
1u   100n

AGND AGND

R4
DNP

IC1   ADXL326BCPZ-RL7

GPIO R2   15 14
      100R   VCC VCC
                2 ST   XOUT 12 ADC5
                              YOUT 10 ADC6
                              ZOUT 8   ADC7
                  GND GND GND GND
R3   3 5 6 7
DNP

AGND   AGND   AGND

C1   C2   C3

AGND AGND AGND AGND AGND

ADXL326 - MEMS analog acceler.

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I2C version of sensor

+3V3

GND | GND

K3
1
2
3
4
5

+3V3 | +3V3
SS
MOSI/SDA
MISO/CLK
CLK
GPIO

K4
1
2
3
4
5
6

+3V3

C7
1u

C6
100n

GND GND

IC2   ADXL343BCCZ

1   6
CS   VDDIO   VDD

SS   7
MOSI/SDA   13   SDI/SDA/SDIO
CLK   14   SCLK/SCL   INT1   8   GPIO
MISO/CLK   12   SDO/ADR   INT2   9

GND GND GND
2   4   5

CLK   R5   MISO/CLK
      DNP

GND

+3V3

R9   R10
DNP   DNP

MOSI/SDA

CLK

K5

GND | GND
1
2
3
4
5

I2C version of sensor

K4

+3V3 | +3V3
SS
MOSI/SDA
MISO/CLK
CLK
GPIO
1
2
3
4
5
6

+3V3

C9
1u

C8
100n

GND   GND

IC3   L3GD20H

CLK   2   SCL/SCLK
MOSI/SDA   3   SDA/SDI/SDO
MISO/CLK   4   SA0/SDO
SS   5   CS

             1   VDDIO
             16 VDD
             15 RES

             7   INT1   GPIO
             6   DRDY/INT2
             14 CAP

8   DEN

GND GND   RES RES RES
12 13   10 11 9

GND

C14
10n/25V

GND

K7

GND	1
ADC7	2
ADC5	3
ADC6	4
AGND	5

K8

+3V3	1
	2
	3
	4
	5
	6

+3V3

R6

C11   C10
1u   100n

AGND AGND

IC4   MXR9150MZ

VDD1 VDD2 VDD3

X_OUT   13   R7 0R   ADC5
Y_OUT   12   R11 0R   ADC6
Z_OUT   2   R12 0R   ADC7

5   DI1
16 DI2

VSA1 VSA2 SCK1 SCK2

AGND

C15   C16   C17
DNP   DNP   DNP

AGND AGND AGND

K9

GND | GND
1
2
3
4
5

K4

+3V3 | +3V3
SS
MOSI/SDA
MISO/CLK
CLK
GPIO
1
2
3
4
5
6

I2C version of sensor

C13
1u

C12
100n

GND GND

IC5   MXC62320MP

MISO/CLK   6   SCL   VDD   8
MOSI/SDA   7   SDA   VDD2 5

COM GND
2   3

GND

R8 10k
R13 10k

MISO/CLK

MOSI/SDA

CEITEC
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OF TECHNOLOGY

MXC62320 - I2C therm. acceler.

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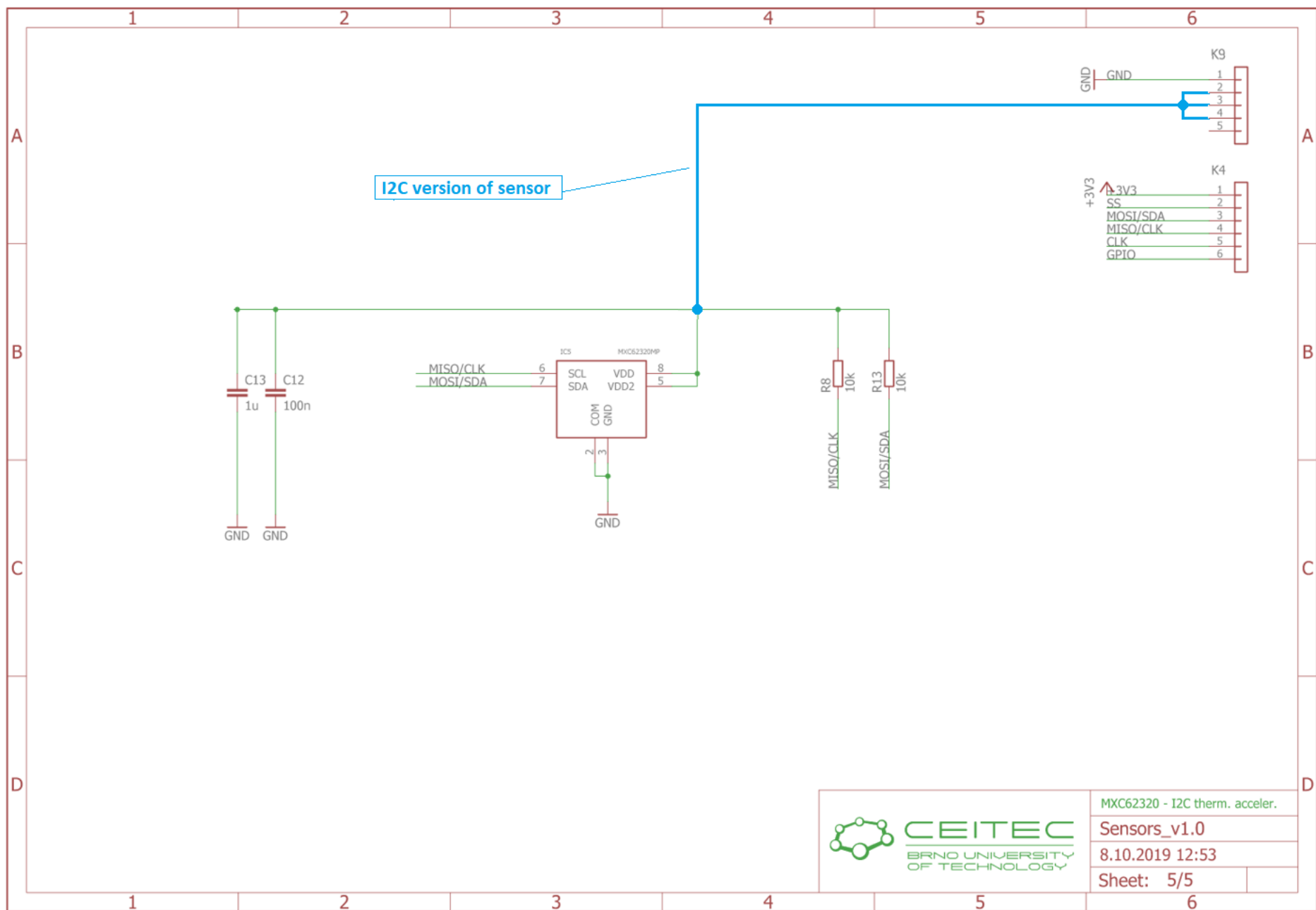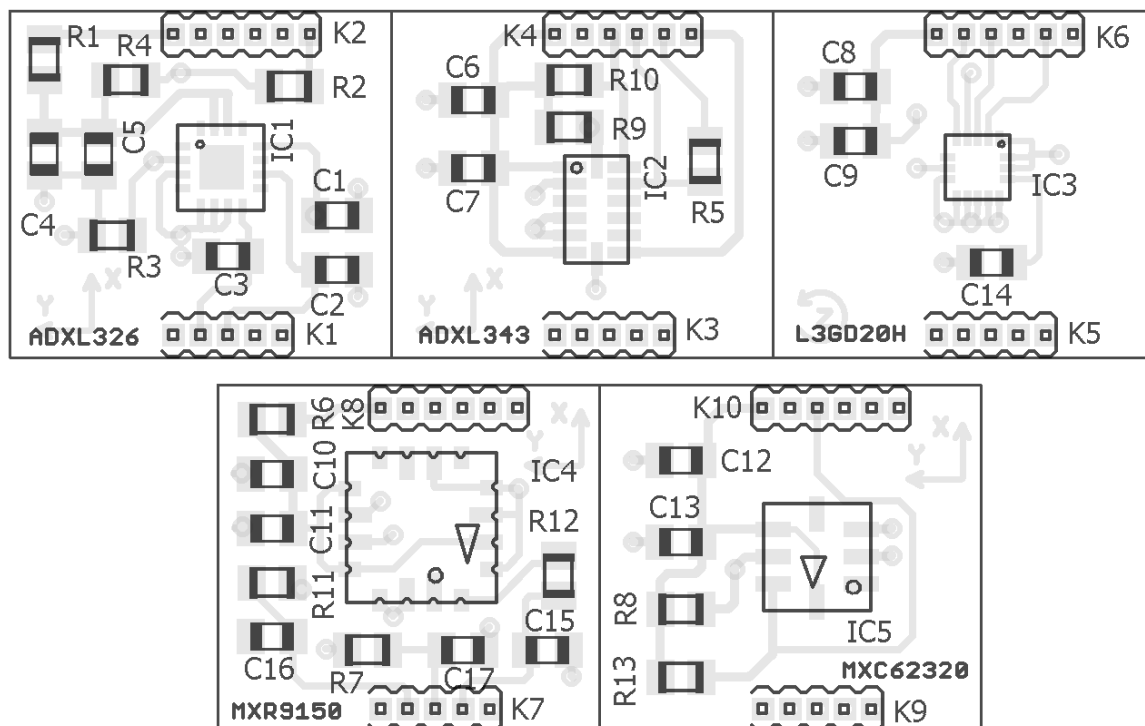
Qty	Value	Device	Package	Parts
3		C-EUC0805K	C0805K	C1, C2, C3
3	0R	R-EU_M0805	M0805	R7, R11, R12
1	100R	R-EU_M0805	M0805	R2
5	100n	C-EUC0805K	C0805K	C4, C6, C8, C10, C12
2	10k	R-EU_M0805	M0805	R8, R13
1	10n/25V	C-EUC0805K	C0805K	C14
5	1u	C-EUC0805K	C0805K	C5, C7, C9, C11, C13
2	4R7	R-EU_M0805	M0805	R1, R6
1	ADXL326BCPZ-RL7	ADXL326	LFCSP-LQ-16	IC1
1	ADXL343BCCZ	ADXL343BCCZ	LGA14(CC-14-1)	IC2
3	DNP	C-EUC0805K	C0805K	C15, C16, C17
5	DNP	R-EU_M0805	M0805	R3, R4, R5, R9, R10
1	L3GD20H	L3GD20H	LGA16L	IC3
1	MXC62320MP	MXC62320MP	LCC8	IC5
1	MXR9150MZ	MXR9150MZ	LCC16	IC4