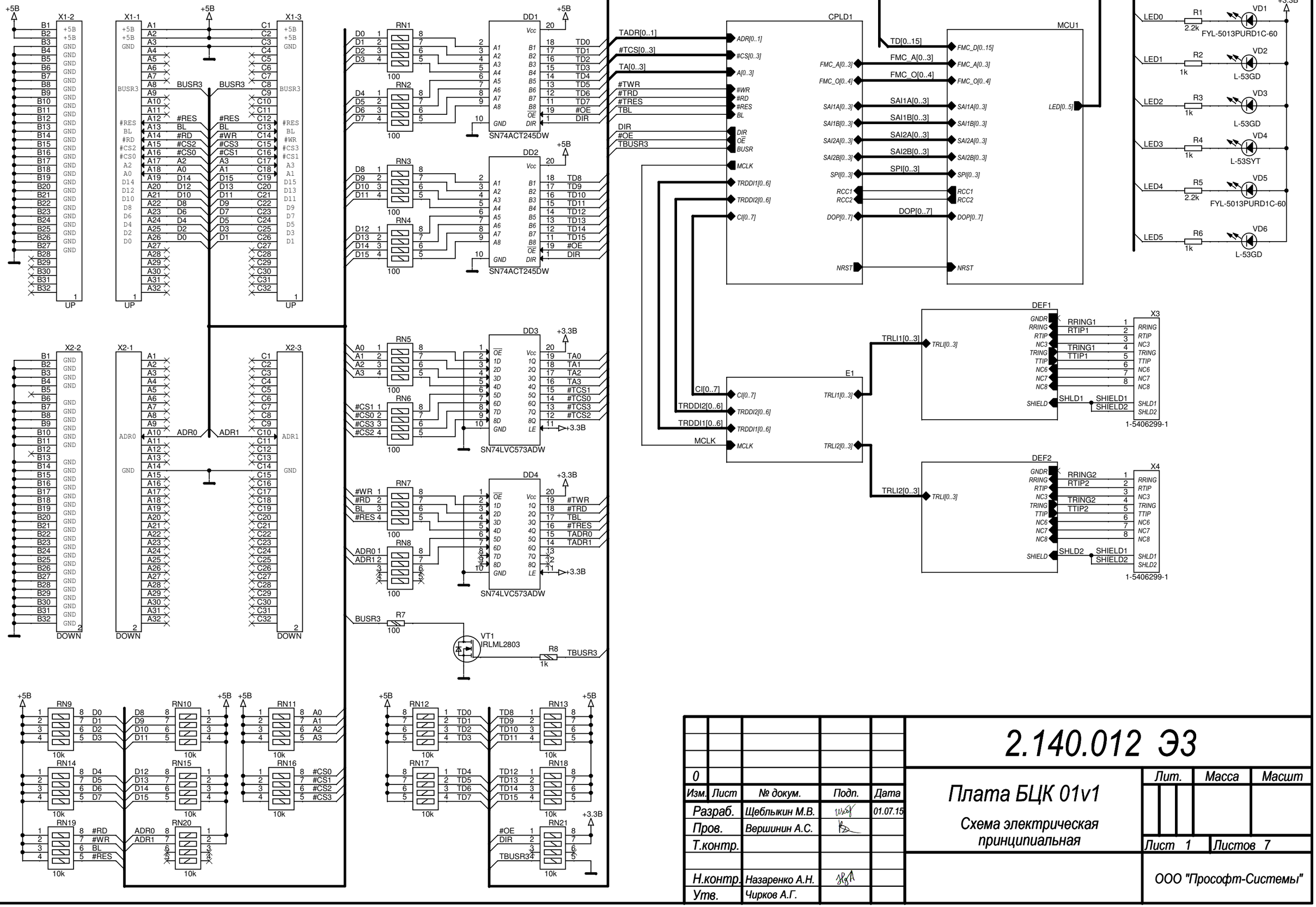

					2.140.012 Э3	
0						
Изм.	Лист	№ докум.	Подп.	Дата	Плата БЦК 01v1	Лит. / Масса / Масшт
Разраб.		Щеблыкин М.В.		01.07.15	Схема электрическая принципиальная	
Пров.		Вершинин А.С.				Лист 1 / Листов 7
Т.контр.						
Н.контр.		Назаренко А.Н.				ООО "Прософт-Системы"
Утв.		Чирков А.Г.				

X5
X6
1
2
1
2
PLS-2
PLS-2
+5B
DA1
+3.3B
R9
VD7
C1
68uF
C2
1uF
3
1
Vi
GND
Vo
Vo
2
4
ADP3339AKCZ-3.3
C3
1uF
1k
KP-1608SGC

+3.3B
MCU_VDD
C4 2.2uF
C5 2.2uF
C6 2.2uF
C7 2.2uF
C8 0.1uF
C9 0.1uF
C10 0.1uF
C11 0.1uF
C12 0.1uF
C13 0.1uF
C14 0.1uF
C15 0.1uF
C16 0.1uF
C17 0.1uF
C18 0.1uF
C19 0.1uF

+3.3B
FB1
+3.3BA_MCU
BLM31PG601SN1
MCU_VDDA
C20 1uF
C21 0.1uF
+5B
LOGIC
C22 0.1uF
C23 0.1uF
+3.3B
LOGIC
C68 0.1uF
C69 0.1uF

+3.3B
E1_VDDT
C24 68uF
C25 68uF
C26 0.1uF
C27 0.1uF
C28 0.1uF
C29 0.1uF
+3.3B
E1_VDDR
C30 68uF
C31 68uF
C32 0.1uF
C33 0.1uF
C34 0.1uF
C35 0.1uF

+3.3B
FB2
+3.3BA_E1
BLM31PG601SN1
E1_VDDA
C36 1uF
C37 0.1uF
C70 0.1uF
+3.3B
E1_VDDIO
C38 2.2uF
C39 0.1uF
C40 0.1uF
C41 0.1uF
C42 0.1uF
C43 0.1uF

+3.3B
FB3
+3.3B_CPLD
BLM31PG601SN1
CPLD_VCC
C44 10uF
C45 0.1uF
C46 0.1uF
C47 0.1uF
C48 0.1uF
C49 0.1uF
C50 0.1uF
C51 0.1uF
C52 0.1uF
C53 0.1uF
C54 0.1uF
C55 0.1uF
C56 0.1uF
C57 0.1uF

0					2.140.012 Э3	Лист 3
Изм.	Лист	№ докум.	Подпись	Дата		

C58
0.1uF
R10
60.4
R11
60.4
R12
0
R13
0
C59
1uF
R14
0
R15
0
2RX+
2RX-
2TX+
2TX-
TR1
1CT:1CT
1CT:2CT
VD11
VD12
TRLI[0..3]
TRLI.RTIP
TRLI.RRING
TRLI.TTIP
TRLI.TRING
NetGroup
L1
PE-65857NL
3RX+
3RX-
3TX+
3TX-
VD8
VD9
VD10
VD13
VD14
VD15
F1
F2
F3
F4
RTIP
RRING
GNDR
TTIP
TRING
NC3
NC6
NC7
NC8
R16
75
R17
75
R18
75
R19
75
R20
75
R21
75
C60
1000pF
SHIELD

C61
0.1uF
R22
60.4
R23
60.4
R24
0
R25
0
C62
1uF
R26
0
R27
0
2RX+
2RX-
2TX+
2TX-
TR2
1CT:1CT
1CT:2CT
VD19
VD20
TRLI[0..3]
TRLI.RTIP
TRLI.RRING
TRLI.TTIP
TRLI.TRING
NetGroup
L2
PE-65857NL
3RX+
3RX-
3TX+
3TX-
VD16
VD17
VD18
VD21
VD22
VD23
F5
F6
F7
F8
RTIP
RRING
GNDR
TTIP
TRING
NC3
NC6
NC7
NC8
R28
75
R29
75
R30
75
R31
75
R32
75
R33
75
C63
1000pF
SHIELD

Изм.	Лист	№ докум.	Подпись	Дата	2.140.012 Э3	Лист 6
0						

DD7-1
FMC
FMC_D[0..15]
FMC_D0 85
FMC_D1 86
FMC_D2 114
FMC_D3 115
FMC_D4 58
FMC_D5 59
FMC_D6 60
FMC_D7 63
FMC_D8 64
FMC_D9 65
FMC_D10 66
FMC_D11 67
FMC_D12 68
FMC_D13 77
FMC_D14 78
FMC_D15 79
PD14/FMC_D0
PD15/FMC_D1
PD00/FMC_D2
PD01/FMC_D3
PE07/FMC_D4
PE08/FMC_D5
PE09/FMC_D6
PE10/FMC_D7
PE11/FMC_D8
PE12/FMC_D9
PE13/FMC_D10
PE14/FMC_D11
PE15/FMC_D12
PD08/FMC_D13
PD09/FMC_D14
PD10/FMC_D15
FMC_A[0..3]
FMC_A0 10
FMC_A1 11
FMC_A2 12
FMC_A3 13
PF00/FMC_A0
PF01/FMC_A1
PF02/FMC_A2
PF03/FMC_A3
M_FMC_DOP[0..4]
FMC_O[0..4]
M_FMC_DOP[0..4]
M_FMC_DOP.NE1
M_FMC_DOP.NL
M_FMC_DOP.NOE
M_FMC_DOP.NWAIT
M_FMC_DOP.NWE
123
137
118
122
119
PD07/FMC_NE1
PB07/FMC_NL
PD04/FMC_NOE
PD06/FMC_NWAIT
PD05/FMC_NWE
NetGroup
STM32F446ZET6
DD7-2
M_SAI1A[0..3]
SAI1A[0..3]
M_SAI1A[0..3]
M_SAI1A.FS
M_SAI1A.MCLK
M_SAI1A.SCK
M_SAI1A.SD
3
1
4
5
PE04/SAI1_FS_A
PE02/SAI1_MCLK_A
PE05/SAI1_SCK_A
PE06/SAI1_SD_A
NetGroup
M_SAI1B[0..3]
SAI1B[0..3]
M_SAI1B[0..3]
M_SAI1B.FS
M_SAI1B.MCLK
M_SAI1B.SCK
M_SAI1B.SD
21
19
20
2
PF09/SAI1_FS_B
PF07/SAI1_MCLK_B
PF08/SA1_SCK_B
PE03/SAI1_SD_B
NetGroup
M_SAI2A[0..3]
SAI2A[0..3]
M_SAI2A[0..3]
M_SAI2A.FS
M_SAI2A.MCLK
M_SAI2A.SCK
M_SAI2A.SD
81
141
82
80
PD12/SAI2_FS_A
PE00/SAI2_MCLK_A
PD13/SAI2_SCK_A
PD11/SAI2_SD_A
NetGroup
M_SAI2B[0..3]
SAI2B[0..3]
M_SAI2B[0..3]
M_SAI2B.FS
M_SAI2B.MCLK
M_SAI2B.SCK
M_SAI2B.SD
124
35
36
49
PG9/SAI2_FS_B
PA01/SAI2_MCLK_B
PA02/SAI2_SCK_B
PF11/SAI2_SD_B
NetGroup
M_SPI1[0..3]
SPI[0..3]
M_SPI1[0..3]
M_SPI1.MOSI
M_SPI1.MISO
M_SPI1.SCK
M_SPI1.NSS
43
42
41
40
PA07/SPI1_MOSI
PA06/SPI1_MISO
PA05/SPI1_SCK
PA04/SPI1_NSS
NetGroup
STM32F446ZET6
+3.3B
R35
5.1k
DD7-3
NRST
25
NRST
RCC
RCC1
RCC2
100
99
PA08/RCC_MCO_1
PC09/RCC_MCO_2
R36
220
ZQ1
C66
16.0MHz
C67
22pF
22pF
24
23
PH1/OSC_OUT
PH0/OSC_IN
9
6
PC15/OSC32_OUT
PC14/OSC32_IN
R37
510
138
48
BOOT0
PB2/BOOT1
+3.3B
143
PDR_ON
STM32F446ZET6
DD7-4
JTAG
PB03/JTDO
133
JTDO
PB4/NJTRST
PA15/JTDI
PA14/JTCK
PA13/JTMS
134
110
109
105
NJTRST
JTDI
JTCK
JTMS
2
4
6
8
X9
NJTRST
JTDI
JTCK
JTMS
JTDO
3V3
GND
NC
1
3
5
7
+3.3B
JTAG MCU
Распиновка разема
PBD-X зеркальна
относительно IDC-X!
LED
PG12
PG11
PG10
PD3
PD2
PC10
127
126
125
117
116
111
LED0
LED1
LED2
LED3
LED4
LED5
LED[0..5]
TP
PF5
PC13
PE1
PG15
PB6
PB5
PG14
PG13
15
7
142
132
136
135
129
128
TP0
TP1
TP2
TP3
TP4
TP5
TP6
TP7
X10
TP MCU
1
2
3
4
5
6
7
8
DOP
PG3
PG4
PG5
PG6
PG7
PG8
PC6
PC7
88
89
90
91
92
93
96
97
DOP0
DOP1
DOP2
DOP3
DOP4
DOP5
DOP6
DOP7
DOP[0..7]
STM32F446ZET6
DD7-6
VDDA
VREF+
VSSA
33
32
31
+3.3BA_MCU
VCAP_1
VCAP_2
71
106
VBAT
6
+3.3B
C64
2.2uF
C65
2.2uF
VDDUSB
95
+3.3B
VDD
17
+3.3B
30
39
52
62
72
84
108
121
131
144
VSS
16
38
51
61
83
94
107
120
130
STM32F446ZET6