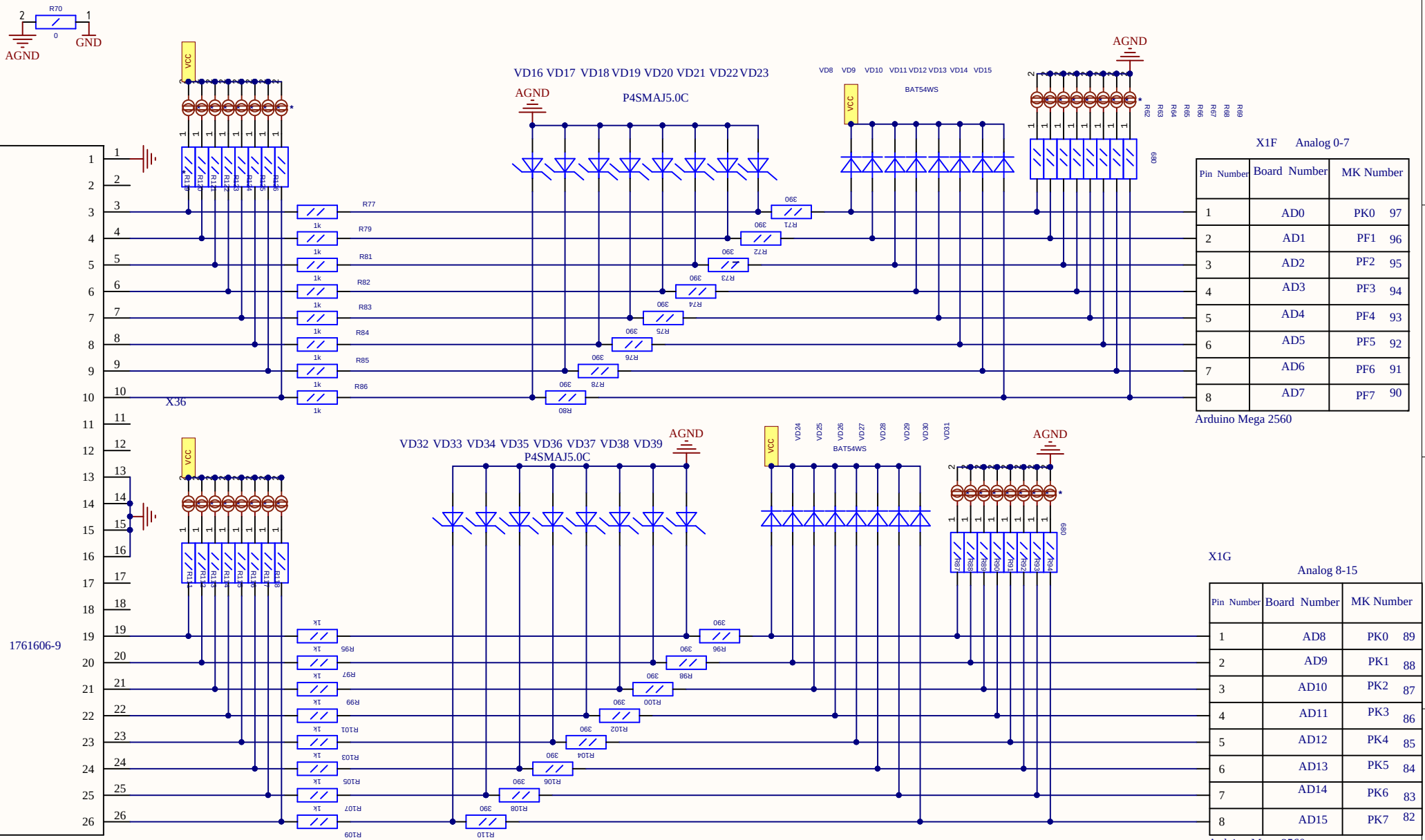

R70
0
AGND
GND
VCC
VD16 VD17 VD18 VD19 VD20 VD21 VD22 VD23
P4SMAJ5.0C
VD8 VD9 VD10 VD11 VD12 VD13 VD14 VD15
BAT54WS
R62 R63 R64 R65 R66 R67 R68 R69
680
X36
R77 R79 R81 R82 R83 R84 R85 R86
1k
390
R71 R72 R73 R74 R75 R76 R78 R80
X1F Analog 0-7
Pin Number | Board Number | MK Number
1 | AD0 | PK0 97
2 | AD1 | PF1 96
3 | AD2 | PF2 95
4 | AD3 | PF3 94
5 | AD4 | PF4 93
6 | AD5 | PF5 92
7 | AD6 | PF6 91
8 | AD7 | PF7 90
Arduino Mega 2560
VD32 VD33 VD34 VD35 VD36 VD37 VD38 VD39
P4SMAJ5.0C
VD24 VD25 VD26 VD27 VD28 VD29 VD30 VD31
BAT54WS
R87 R88 R89 R90 R91 R92 R93 R94
680
1761606-9
R95 R97 R99 R101 R103 R105 R107 R109
1k
390
R96 R98 R100 R102 R104 R106 R108 R110
X1G
Analog 8-15
Pin Number | Board Number | MK Number
1 | AD8 | PK0 89
2 | AD9 | PK1 88
3 | AD10 | PK2 87
4 | AD11 | PK3 86
5 | AD12 | PK4 85
6 | AD13 | PK5 84
7 | AD14 | PK6 83
8 | AD15 | PK7 82
Arduino Mega 2560
Title
Size: A4
Number:
Revision:
Date: 10.06.2019
Time: 18:43:56
Sheet of
File: C:\Users\electron2\Desktop\готовые проекты\всякое\LightHub\Analog Inputs.SchDoc
Altium Limited
L3, 12a Rodborough Rd
Frenchs Forest
NSW
Australia 2086
Altium

ARDUINO MEGA PIN

XIO

X1A — Arduino Mega 2560

MK Number		Board Number	Pin Number	
+5V			1	+5V
+5V			2	
78	PA0	22	3	PA0
77	PA1	23	4	PA1
76	PA2	24	5	PA2
75	PA3	25	6	PA3
74	PA4	26	7	PA4
73	PA5	27	8	PA5
72	PA6	28	9	PA6
71	PA7	29	10	PA7
60	PC7	30	11	PC7
59	PC6	31	12	PC6
58	PC5	32	13	PC5
57	PC4	33	14	PC4
56	PC3	34	15	PC3
55	PC2	35	16	PC2
54	PC1	36	17	PC1
53	PC0	37	18	PC0
50	PD7	38	19	PD7
70	PG2	39	20	PG2
52	PG1	40	21	PG1
51	PG0	41	22	PG0
42	PL7	42	23	PL7
43	PL6	43	24	PL6
44	PL5	44	25	PL5
45	PL4	45	26	PL4
46	PL3	46	27	PL3
47	PL2	47	28	PL2
48	PL1	48	29	PL1
49	PL0	49	30	PL0
22	PB3	50	31	(MISO)
21	PB2	51	32	(MOSI)
20	PB1	52	33	(SCK)
19	PB0	53	34	(SS)
GND		54	35	GND
GND		55	36	

Arduino Mega 2560

X1B — PWL

MK Number		Board Number	Pin Number	
2	RX0	0	1	PE0(RX0)
3	TX0	1	2	PE1(TX0)
6	PWM	2	3	PE4
7	PWM	3	4	PE5
1	PWM	4	5	PG5
5	PWM	5	6	PE3
15	PWM	6	7	PH3
16	PWM	7	8	PH4

X1C — JP6 — Arduino Mega 2560

MK Number		Board Number	Pin Number	
	SCL	-	1	
	SDA	-	2	
	AREF	-	3	AREF
	GND	-	4	
26	PWM	13	5	PB7
25	PWM	12	6	PB6
24	PWM	11	7	PB5
23	PWM	10	8	PB4
18	PWM	9	9	PH6
17	PWM	8	10	PH5

X1D — COMMUNICATION — Arduino Mega 2560

MK Number		Board Number	Pin Number	
43	SCL	21	1	SCL
44	SDA	20	2	SDA
45	RX1	19	3	RXD1
46	TX1	18	4	TXD1
12	RX2	17	5	RXD2
13	TX2	16	6	TXD2
63	RX3	15	7	RXD3
64	TX3	14	8	TXD3

X1E — ICSP — Arduino Mega 2560

Pin Number	Board Number	MK Number	
1	ICSP	MISO	22
2	ICSP	+5V	
3	ICSP	SCK	20
4	ICSP	MOSI	21
5	ICSP	RESET	
6	ICSP	GND	

X2 — UEXT

тактовый i2c	TXD3	RXD3	
	SCL	SDA	
тактовый spi	MISO	MOSI	MOSI
	SCK	PE5	CSL

U1 — DS2482S-100+ — I2C/SMBus to 1-Wire Bridge

U2 — CAT811TTBI-GT3 — Microprocessor Reset Circuit

VT1 — IRML 6302

D1 — P4SMAJ5.0C

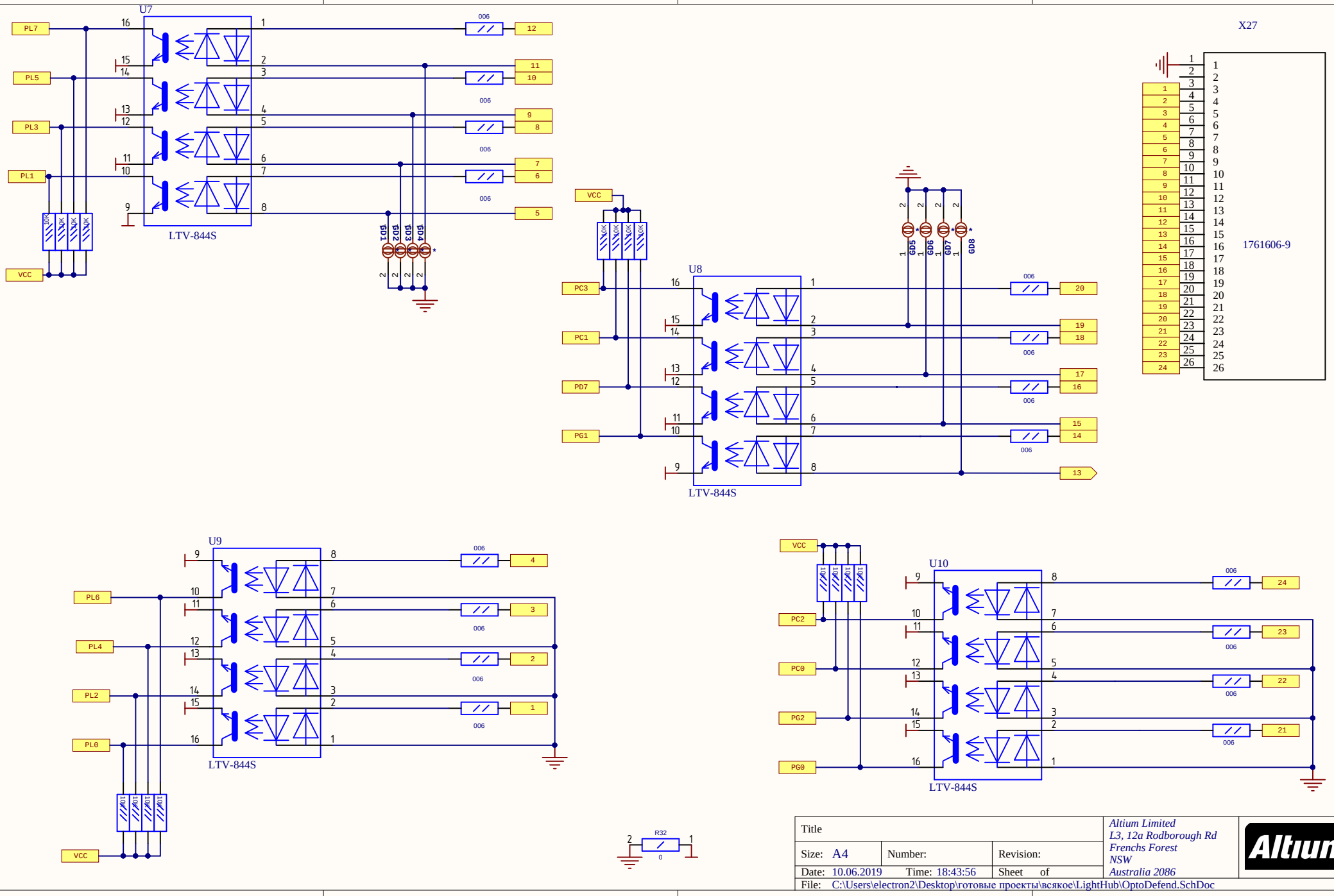
U3 — ULN2803ADW — POWER OUTPUTS

U4A, U4B — WIZ850 — WIZ850io

RJ45 X35 — UNPROTECTED

Title	*		
Size: A3	Number:*	Revision:*	
Date: 10.06.2019	Time: 18:43:56	Sheet* of *	
File: C:\Users\electron2\Desktop\готовые проекты\всякое\LightHub\LightHub2.SchDoc			

Altium



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Size: A4	Number:	Revision:	
Date: 10.06.2019	Time: 18:43:56	Sheet of	
File: C:\Users\electron2\Desktop\готовые проекты\всякое\LightHub\OptoDefend.SchDoc			

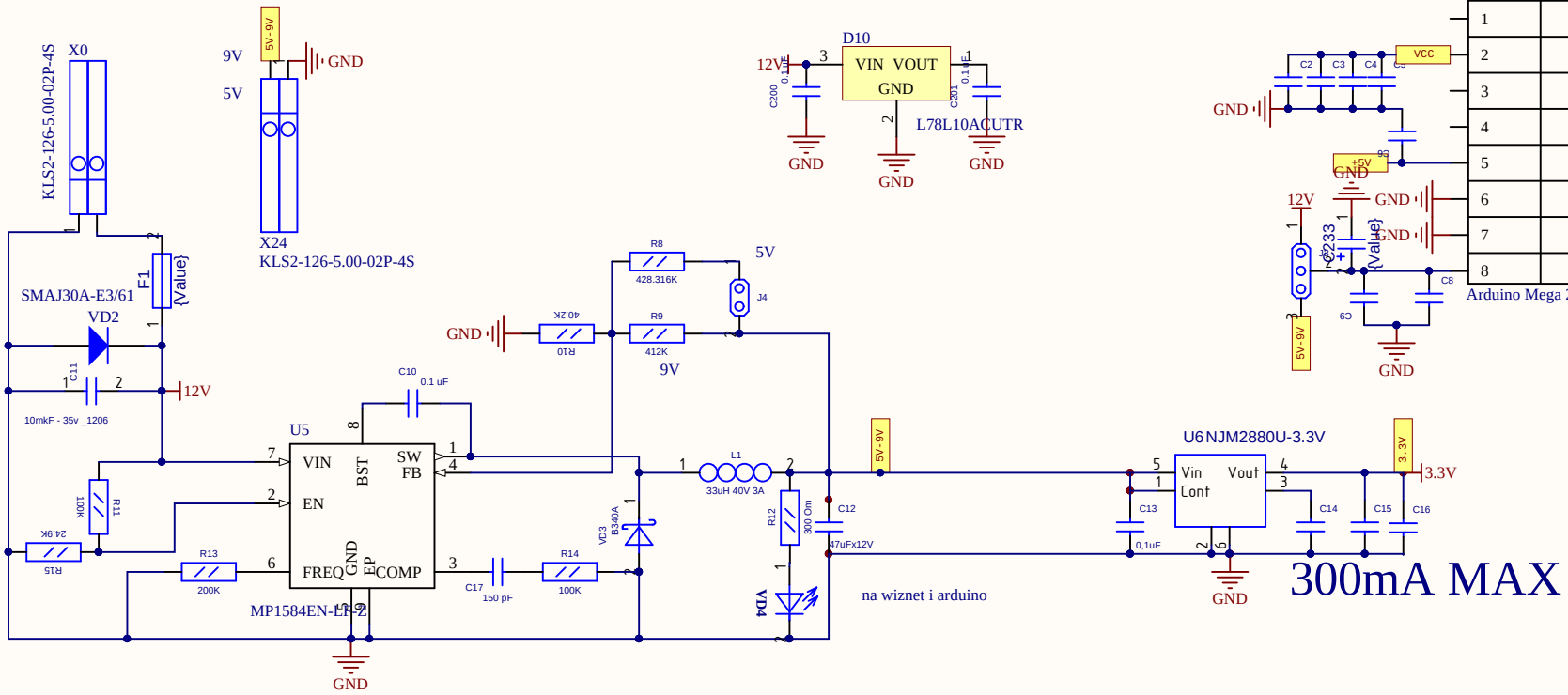
210=(412*x)/(412+x)
412x=210(x+412)
202x=8652
x=428.316

X1H

Power

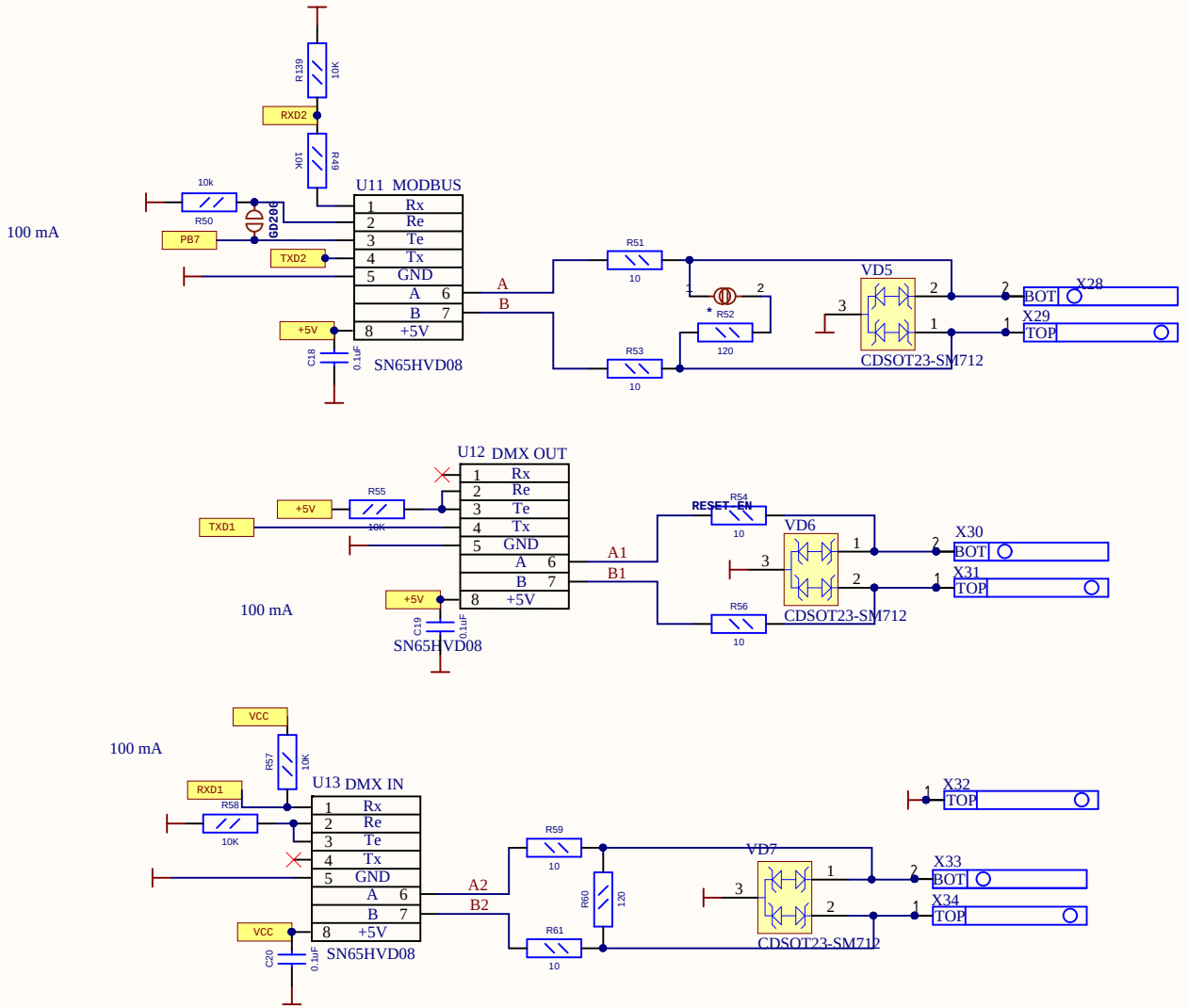
Pin Number	Board Number	MK Number
1		
2	IOREF	
3	RESET	
4	3V3	
5	5V	
6	GND	
7	GND	
8	Vin	

Arduino Mega 2560



1,5 А на 5В =7,5 Вт, укладывается в логику....тогда на входе при кпд приблизительно 80 % потребляемая мощность составит 9,4 Вт. На 24 Волтах это примерно 400мА

Title			Altium Limited L3, 12a Rodborough Rd Frenchs Forest NSW Australia 2086
Size: A4	Number:	Revision:	
Date: 10.06.2019	Time: 18:43:56	Sheet of	
File: C:\Users\electron2\Desktop\готовые проекты\всякое\LightHub\Pitanie.SchDoc			



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Size: A4	Number:	Revision:	
Date: 10.06.2019	Time: 18:43:57	Sheet of	
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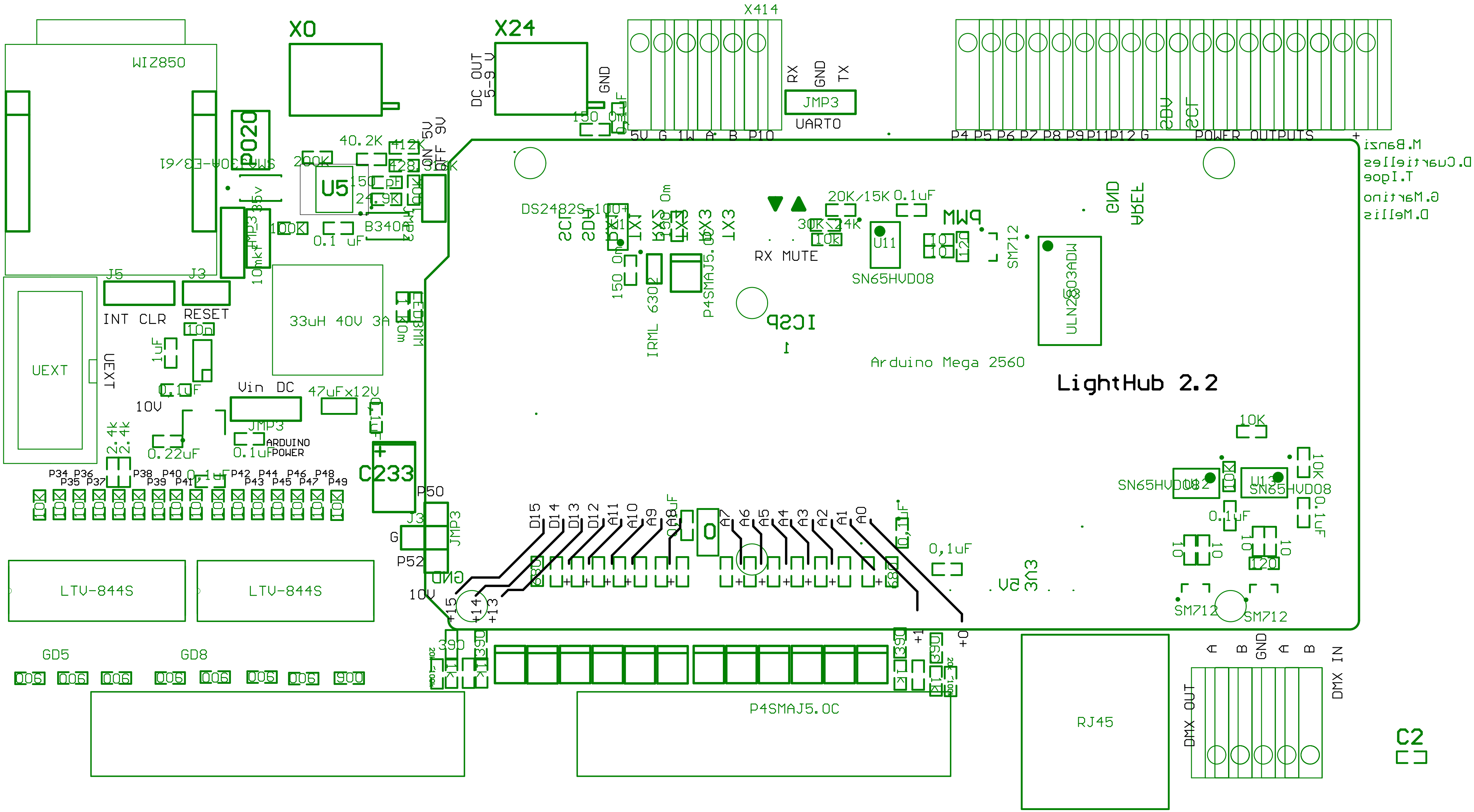
LightHub 2.2
Arduino Mega 2560
WIZ850
X0
X24
X414
DC OUT
5-9 V
GND
RX
GND
TX
JMP3
UART0
5V G 1W A B P10
P4 P5 P6 P7 P8 P9 P11 P12 G
POWER OUTPUTS
M.Banzi
D.Cuartielles
T.Igoe
G.Martino
D.Mellis
U5
40.2K
200K
150 pF
24.9K
B340A
100K
0.1 uF
ON 5V
OFF 9V
DS2482S-100
RX MUTE
20K/15K
0.1uF
30K/24K
10k
U11
SN65HVD08
PWM
SM712
ULN2803ADW
GND
AREF
ICSP
IRML 6302
P4SMAJ5.0C
J5
J3
INT CLR
RESET
UEXT
33uH 40V 3A
Vin DC
47uFx12V
JMP3
ARDUINO
POWER
0.22uF
0.1uF
10V
C233
P50
P52
G
P34 P36 P38 P40 P42 P44 P46 P48
P35 P37 P39 P41 P43 P45 P47 P49
LTV-844S
LTV-844S
GD5
GD8
D15 D14 D13 D12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
+15 +14 +13
+1
+0
0,1uF
5V
3V3
10K
SN65HVD08
U12
U13
120
RJ45
P4SMAJ5.0C
DMX OUT
DMX IN
A B GND A B
C2

Bill of Materials

Bill of Materials for Project [LightHub.PrjPCB] (No PCB Document Selected)

Source Data From: LightHub.PrjPCB
Project: LightHub.PrjPCB
Variant: None

Creation Date: 10.06.2019 18:44
Print Date: 10-Jun-19 6:44:12 PM

#Column Name	Footprint	Comment	LibRef	Designator	Description	Quantity
	JMP2	J3	JMP2	1, J7		2
	0805	1uF	C_0805	C1	0805	1
	0603	0,1uF	C_0805_VARIAN	C2, C3, C4, C5, C6, C7, C8, C9, C13	C_0805_VARIANT_2	9
	0603	0.1 uF	C_0805_VARIAN	C10, C200, C201	C_0805_VARIANT_2	3
	1206-0805	10mkF - 35v	C_0805+1206	C11	C_0805+1206	1
	0805	47uFx12V	C_0805	C12	C_0805	1
	0603	10n	C_0805_VARIAN	C14	C_0805_VARIANT_2	1
	0603	1uF	C_0805_VARIAN	C15, C16	C_0805_VARIANT_2	2
	0603	150 pF	C_0805_VARIAN	C17	C_0805_VARIANT_2	1
	0603	0.1uF	C_0805	C18, C19, C20		3
	L-TIP-D	LIT_ТИП-D	LIT_ТИП-D	C233		1
	SOT-89_L	L78L10ACUTR	CMP-0244-0039	D10	Positive Voltage Regulator, 10V, 4-Pin SOT	1
	1812	P020	F2920	F1		1
	"0"	"0" D	"0" D	GD1, GD2, GD3, GD4, GD5, GD6, GD7	SMD solder JUMPER	42
	JMP3	JMP3	JMP3	J1, J2, J3, J6		4
	JMP2	JMP2	JMP2	J4		1
	JMP3		JMP3	J5		1
	L-Kitai	33uH 40V 3A	L-Kitai	L1	33uH 40V 3A	1
	0603	2.4k	R_0805	R1, R2		2
	0603	150 Om	R_0805	R3, R4, R5		3
	0603	10k	R_0805, R0603	R6, R20, R21, R22, R23, R24, R25, R26,	[NoValue], 0603	23
	0603	100k	R_0805	R7, R11, R14, R127, R128, R129, R130,		15
	0603	428.316K	R_0805	R8		1
	0603	412K	R_0805	R9		1
	0603	40.2K	R_0805	R10		1
	0603	1 KOm	R_0805	R12		1
	0603	200K	R_0805	R13		1
	0603	24.9K	R_0805	R15		1
	0603	900	R_0805	R16, R17, R18, R19, R28, R29, R30, R31		16
	1206	0	R1206	R32, R70		2
	0603	10	R_0805	R51, R53, R54, R56, R59, R61		6
	0603	120	R_0805	R52, R60		2
	0603	680	R_0805	R62, R63, R64, R65, R66, R67, R68, R69		16
	0603	390	R_0805	R71, R72, R73, R74, R75, R76, R78, R80		16
	0603	1k	R_0805	R77, R79, R81, R82, R83, R84, R85, R86		16
	0603	20k ~100k	R_0805	R111, R112, R113, R114, R115, R116,		16
	MAXM-SO-8	DS2482S-100+	CMP-2000-0618	U1	Single-Channel 1-Wire Master, 2.9 to 5.5 V,	1
	SOT143 - dup	CAT811TTBI-G	CAT811TTBI-G	U2		1
	DW0018A_L	ULN2803ADW	CMP-2000-0735	U3	Darlington Transistor NPN, 50 V, 0.5 A, -4	1
	WIZ850	WIZ850	WIZ850	U4	WIZ850	1
	SOIC127P60	MP1584EN-LF-Z	MP1584EN-LF-Z	U5	Conv DC-DC Single Step Down 4.5V to 28V	1
	SOT89-5	NJM2880U-3.3V	NJM2880U	U6	NJM2880U	1
	LTV 844S	LTV-844S	LTV-844S	U7, U8, U9, U10		4
	SN65HVD08	SN65HVD08	SN65HVD08	U11, U12, U13		3
	SMA	P4SMAJ5.0C	P4SMAJ5.0C	VD1, VD16, VD17, VD18, VD19, VD20,	[NoValue], P4SMAJ5.0C Polarity: Color	17
	VISH-DO-214	SMAJ30A-E3/61	CMP-0548-0022	VD2	Transient Voltage Suppressor, 6.40 to 231 V	1
	SODFL127P6	B340A	B340A	VD3	B340A диод щоттки 40В 3А	1
	0603	LED3MM	LED3MM	VD4		1
	BOUR-SOT23	CDSOT23-SM71	CMP-2000-0508	VD5, VD6, VD7	Surface Mount TVS Diode, 17 A Ipp, -55 to	3
	SOD323	BAT54WS	BAT54WS	VD8, VD9, VD10, VD11, VD12, VD13,	BAT54WS, диод шоттки	16
	SOT-23	IRML 6302	IRML 6302	VT1		1
	KLS2-126-5.0	KLS2-126-5.00-0	KLS2-126-5.00-0	X0, X24	DG126-5.0-02P-14 клеммник винтовой	2
	ARDUINO ME	Arduino Mega 25	Arduino Mega 25	X1		1
	Uext Male	UEXT	UEXT	X2		1
	ELT250-2.54	ELT250-2.54 To	ELT250-2.54 To	X3, X5, X7, X8, X10, X12, X14, X15, X17,	клеммник зажимной	16
	ELT250-2.54	ELT250-2.54 Bot	ELT250-2.54 Bot	X4, X6, X9, X11, X13, X16, X18, X20, X2	клеммник зажимной	13
	IDC_26	1761606-9	IDC_26	X27, X36	Header, Pin, Idc, Amp-Latch, 26 Pos, Low	2
	RJ45	RJ45	RJ45	X35		1
						304

Approved **Notes**