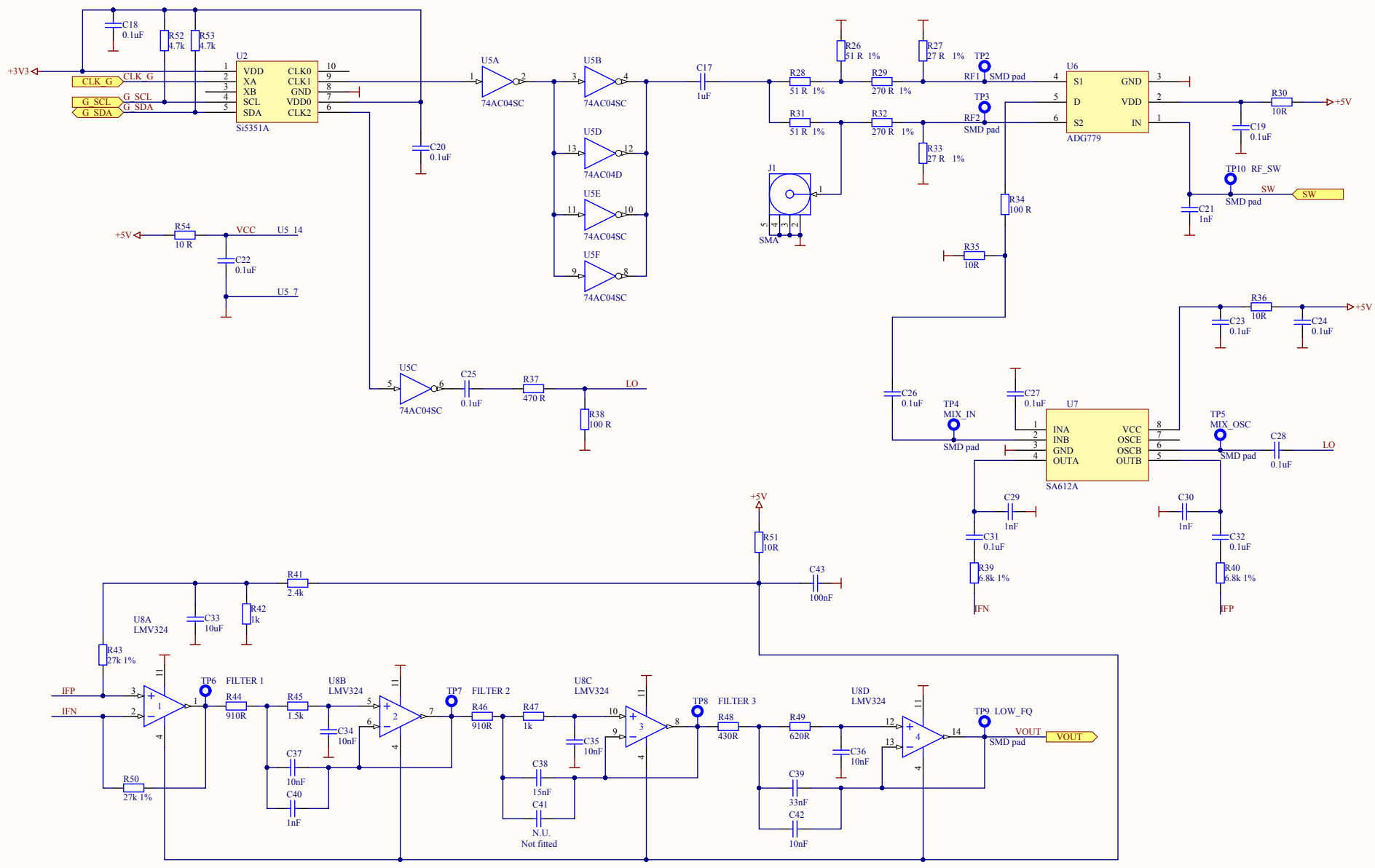
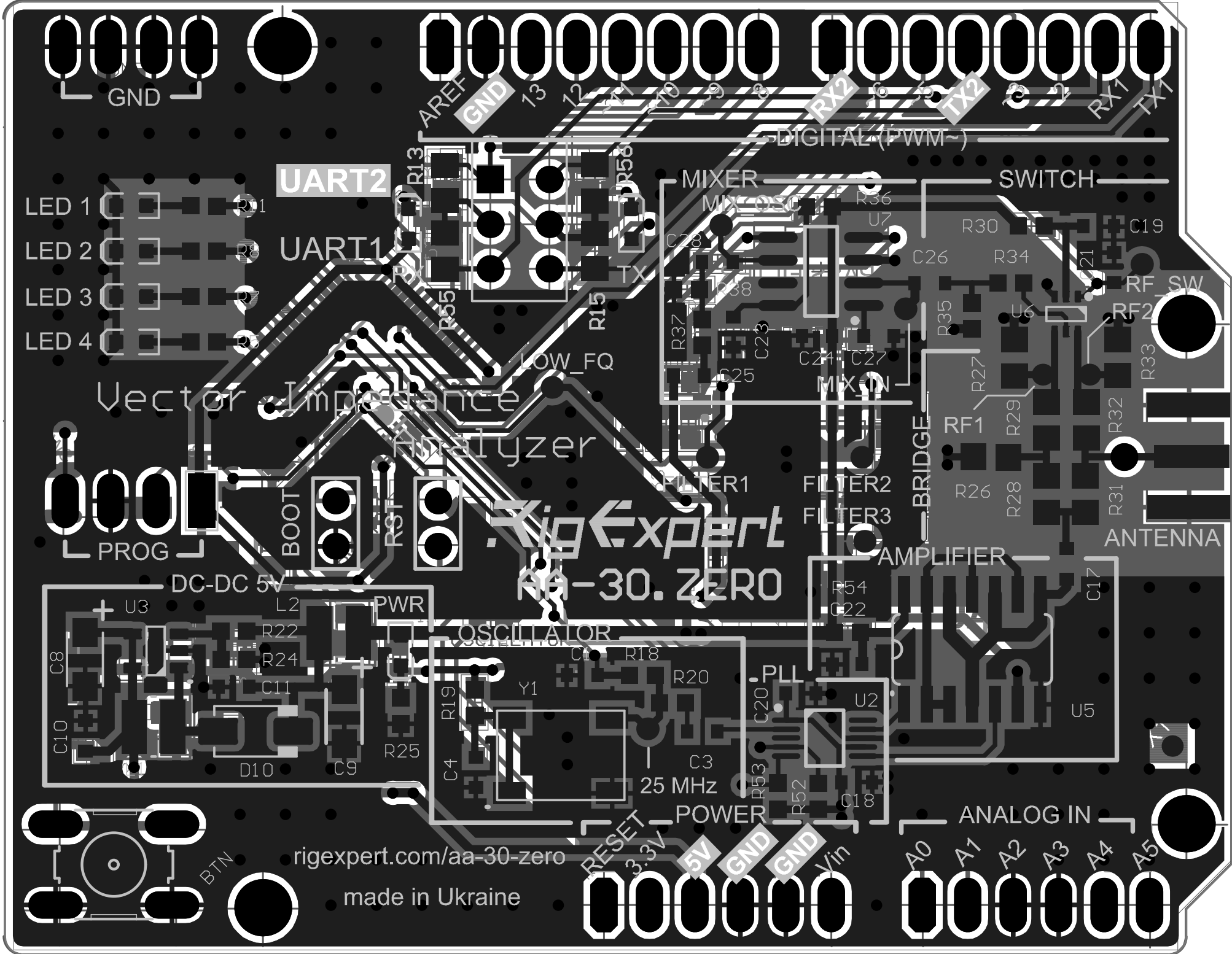


Title		CPU and Power	
Size	Number	Revision	
A3	REU.1301	1.6	
Date:	22.09.2017	Sheet of	1
File:	E:\@s.chumak\...Page1.SchDoc	Drawn By:	Chumak



Title		PLL, MIXER and LPF	
Size	Number	Revision	
A3	REU.1301	1.6	
Date:	22.09.2017	Sheet of	2
File:	E:\@s.chumak\1\Page2.SchDoc	Drawn By:	Chumak



GND

UART2

UART1

LED 1

LED 2

LED 3

LED 4

Vector Impedance Analyzer

RigExpert  
AA-30.ZERO

PROG

BOOT

DC-DC 5V

PWR

OSCILLATOR

MIXER

SWITCH

FILTER1

FILTER2

FILTER3

AMPLIFIER

ANTENNA

DIGITAL (PWM)

[rigexpert.com/aa-30-zero](http://rigexpert.com/aa-30-zero)

made in Ukraine

RESET

3.3V

5V

GND

GND

Vin

ANALOG IN

A0

A1

A2

A3

A4

A5

AREF

GND

13

12

11

10

9

8

RX2

16

15

TX2

14

13

12

RX1

11

TX1

10

9

8

C26

R30

R34

C19

RF SW

RF2

R33

R32

R31

R35

R27

R29

R26

R28

R25

R21

R20

R18

R15

R13

R11

R9

R7

R5

R3

R1

R0

R-1

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R-222

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R-226

R-227

R-228

R-229

R-230

R-231

R-232

Item #	Part Number	Component	Description	Quantity	Notes
1	C1	100pF	Chip capacitor 0603	1	
2	C2	0.1uF	Chip capacitor 0603	1	
3	C3	0.1uF	Chip capacitor 0603	1	
4	C4	0.1uF	Chip capacitor 0603	1	
5	C5	0.1uF	Chip capacitor 0603	1	
6	C6	0.1uF	Chip capacitor 0603	1	
7	C7	0.1uF	Chip capacitor 0603	1	
8	C8	10uF	Tantalum Capacitor TAJA 10V	1	
9	C9	10uF	Tantalum Capacitor TAJA 10V	1	
10	C10	0.1uF	Chip capacitor 0603	1	
11	C11	10uF	Chip capacitor 0603	1	
12	C12	10uF	Tantalum Capacitor TAJA 10V	1	
13	C13	10uF	Tantalum Capacitor TAJA 10V	1	
14	C14	10uF	Tantalum Capacitor TAJA 10V	1	
15	C15	0.1uF	Chip capacitor 0603	1	
16	C16	0.1uF	Chip capacitor 0603	1	
17	C17	1uF	Chip capacitor 0603	1	
18	C18	0.1uF	Chip capacitor 0603	1	
19	C19	0.1uF	Chip capacitor 0603	1	
20	C20	0.1uF	Chip capacitor 0603	1	
21	C21	1uF	Chip capacitor 0603	1	
22	C22	0.1uF	Chip capacitor 0603	1	
23	C23	0.1uF	Chip capacitor 0603	1	
24	C24	0.1uF	Chip capacitor 0603	1	
25	C25	0.1uF	Chip capacitor 0603	1	
26	C26	0.1uF	Chip capacitor 0603	1	
27	C27	0.1uF	Chip capacitor 0603	1	
28	C28	0.1uF	Chip capacitor 0603	1	
29	C29	1uF	Chip capacitor 0603	1	
30	C30	1uF	Chip capacitor 0603	1	
31	C31	0.1uF	Chip capacitor 0603	1	
32	C32	0.1uF	Chip capacitor 0603	1	
33	C33	10uF	Chip capacitor 0603	1	
34	C34	10uF	Chip capacitor 0603	1	
35	C35	10uF	Chip capacitor 0603	1	
36	C36	10uF	Chip capacitor 0603	1	
37	C37	10uF	Chip capacitor 0603	1	
38	C38	10uF	Chip capacitor 0603	1	
39	C39	10uF	Chip capacitor 0603	1	
40	C40	10uF	Chip capacitor 0603	1	
41	C41	0.1uF	Chip capacitor 0603	1	Not fitted
42	C42	10uF	Chip capacitor 0603	1	
43	C43	1000pF	Chip capacitor 0603	1	
44	D1	LED	Super high brightness of surface mount LED	1	Red
45	D2	LED	Super high brightness of surface mount LED	1	Yellow
46	D3	LED	Super high brightness of surface mount LED	1	Yellow
47	D4	LED	Super high brightness of surface mount LED	1	Green
48	D5	LED	Super high brightness of surface mount LED	1	Yellow
49	D6	LED	Super high brightness of surface mount LED	1	Yellow
50	D7	L14148	Small Signal Fast Switching Diode	1	
51	D10	RS-14	Surface Mount Schottky Barrier Rectifier	1	
52	D11	LED	Super high brightness of surface mount LED	1	Green
53	DND	Ground plane	LS connector, pitch 2.54 mm, 4.0mm	1	Not fitted
54	J1	SMA	SMA Connector Jack, Female Socket Board Edge, End Launch Bolder	1	
55	L1	10uH	SMD Power Inductor 10UH B00M 250 MHz	1	
56	L2	10uH	SMD Power Inductor 10UH B00M 250 MHz	1	
57	L3	10uH	Chip resistor 0605	1	
58	P1	Digital 1	PLS connector, pitch 2.54 mm, 8.4mm	1	Not fitted
59	P2	Digital 2	PLS connector, pitch 2.54 mm, 8.4mm	1	Not fitted
60	P3	Power	PLS connector, pitch 2.54 mm, 6.4mm	1	Not fitted
61	P4	Analog	PLS connector, pitch 2.54 mm, 6.4mm	1	Not fitted
62	P5	PROG	PLS connector, pitch 2.54 mm, 4.0mm	1	Not fitted
63	P6	BOOT	Header, 2-Pin	1	Not fitted
64	P8	RST	Header, 2-Pin	1	Not fitted
65	R1	10 R	Chip resistor 0603	1	
66	R2	10k	Chip resistor 0603	1	
67	R3	1k	Chip resistor 0603	1	
68	R4	2 R	Chip resistor 0603	1	
69	R5	100R	Chip resistor 0603	1	
70	R6	100 R	Chip resistor 0603	1	
71	R7	430R	Chip resistor 0603	1	
72	R8	430R	Chip resistor 0603	1	
73	R9	150 R	Chip resistor 0603	1	
74	R10	0.6k	Chip resistor 0603	1	
75	R11	430R	Chip resistor 0603	1	
76	R12	430R	Chip resistor 0603	1	
77	R13	100 R	Chip resistor 0605	1	
78	R14	100 R	Chip resistor 0605	1	
79	R15	10R	Chip resistor 0605	1	
80	R16	10k	Chip resistor 0605	1	
81	R17	100 R	Chip resistor 0605	1	
82	R18	10 R	Chip resistor 0605	1	
83	R19	10 R	Chip resistor 0605	1	
84	R20	220 R	Chip resistor 0605	1	
85	R21	10R	Chip resistor 0605	1	Not fitted
86	R22	300k 1%	Chip resistor 0603 1%	1	
87	R23	10k	Chip resistor 0603 1%	1	
88	R24	100k 1%	Chip resistor 0603 1%	1	
89	R25	0.6k	Chip resistor 0603 1%	1	
90	R26	0.1 R 1%	Chip resistor 0605 1%	1	
91	R27	27 R 1%	Chip resistor 0605 1%	1	
92	R28	0.1 R 1%	Chip resistor 0605 1%	1	
93	R29	270 R 1%	Chip resistor 0605 1%	1	
94	R30	10R	Chip resistor 0605 1%	1	
95	R31	0.1 R 1%	Chip resistor 0605 1%	1	
96	R32	0.1 R 1%	Chip resistor 0605 1%	1	
97	R33	27 R 1%	Chip resistor 0605 1%	1	
98	R34	100 R	Chip resistor 0605	1	
99	R35	10R	Chip resistor 0605	1	Not fitted
100	R36	10R	Chip resistor 0605	1	
101	R37	470 R	Chip resistor 0605	1	
102	R38	150 R	Chip resistor 0605	1	
103	R39	0.6k 1%	Chip resistor 0603 1%	1	
104	R40	0.6k 1%	Chip resistor 0603 1%	1	
105	R41	0.4k	Chip resistor 0603	1	
106	R42	1k	Chip resistor 0603	1	
107	R43	27k 1%	Chip resistor 0603 1%	1	
108	R44	0.10R	Chip resistor 0603	1	
109	R45	0.1k	Chip resistor 0603	1	
110	R46	0.10R	Chip resistor 0603	1	Not fitted
111	R47	1k	Chip resistor 0603	1	
112	R48	4.30k	Chip resistor 0603	1	
113	R49	0.20k	Chip resistor 0603	1	
114	R50	0.7k 1%	Chip resistor 0603 1%	1	
115	R51	10R	Chip resistor 0603	1	
116	R52	4.7k	Chip resistor 0603	1	
117	R53	4.7k	Chip resistor 0603	1	
118	R54	10 R	Chip resistor 0605	1	Not fitted
119	R55	10R	Chip resistor 0605	1	
120	R56	10R	Chip resistor 0605	1	Not fitted
121	S1	SWITCH	SWITCH-SPST 30MA 6V	1	Not fitted
122	S2	Button	Button	1	Not fitted
123	TP1	IC MUX	Fastpoint	1	SMD pad
124	TP2	RF1	Fastpoint	1	SMD pad
125	TP3	RF2	Fastpoint	1	SMD pad
126	TP4	MIX IN	Fastpoint	1	SMD pad
127	TP5	MIX OUT	Fastpoint	1	SMD pad
128	TP6	PL1 ER 1	Fastpoint	1	SMD pad
129	TP7	PL1 ER 2	Fastpoint	1	SMD pad
130	TP8	PL1 ER 3	Fastpoint	1	SMD pad
131	TP9	LOW F0	Fastpoint	1	SMD pad
132	TP10	RF LOW	Fastpoint	1	SMD pad
133	J1	STM32F0R018	ARM® Cortex-M0 STM32F0 R018 Microcontroller IC 32-bit 48MHz 128KB (128K x 8) FLASH 48-LQFP (7x7)	1	
134	D2	HS301A	ICC-PROGRAMMABLE ANY-FREQUENCY CMOS CLOCK GENERATOR + VCO	1	
135	J3	TPS1040	Boost Switching Regulator IC Positive Adjustable 1.20V Output 500mA (Switch) SC-74A, SOT-752	1	Alternate MPD0201
136	J4	LM1117-3.3	Linear Voltage Regulator 3.3V, 800mA	1	Not fitted
137	J5	LM4040	1.4V Precision 1.4 Pin 500uA	1	
138	J6	AD0779	CMOS 1.8 V to 5.5 V, 2.5 V SPDT Switch 2:1 Mux in Tiny SC70 Package	1	
139	J7	SA612A	Double-balanced mixer and oscillator	1	
140	J8	LMV324	Low-Voltage Rail-to-Rail Output Operational Amplifiers	1	14-Pin Outline Integrated Circuit 1.27 mm Pitch
141	Y1	25 MHz	SMD Clock Oscillator 25MHz 50ppm	1	