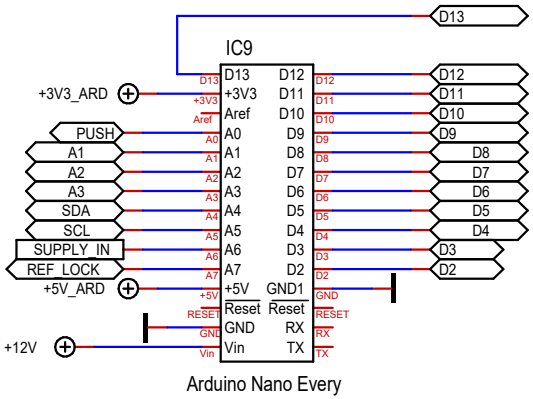
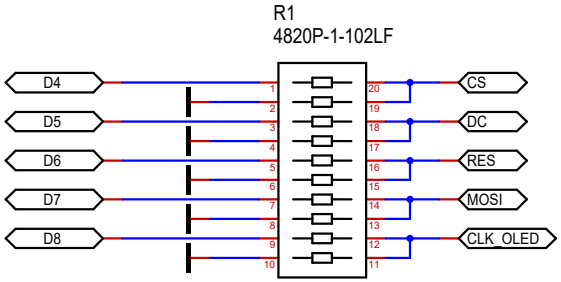
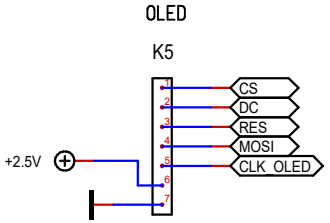
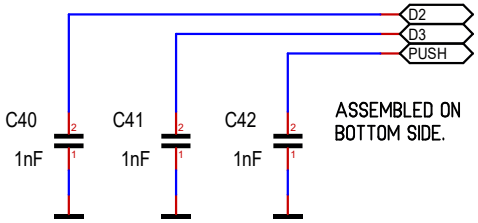
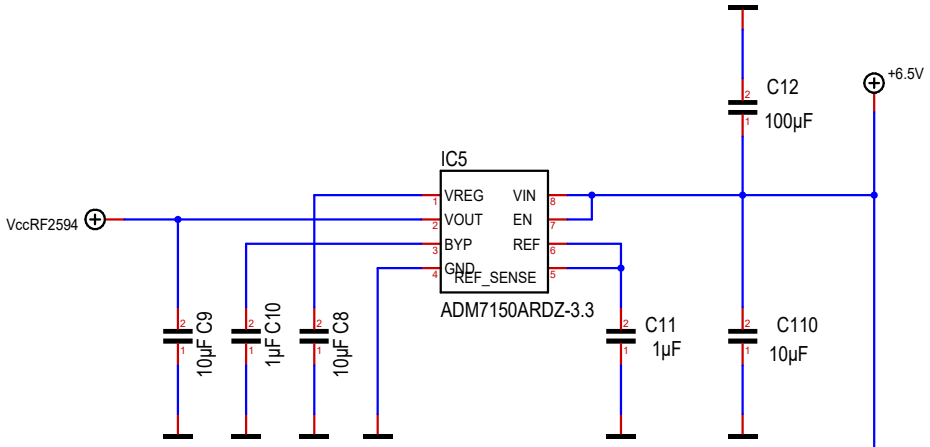
DISPLAY

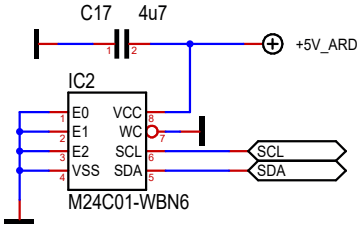




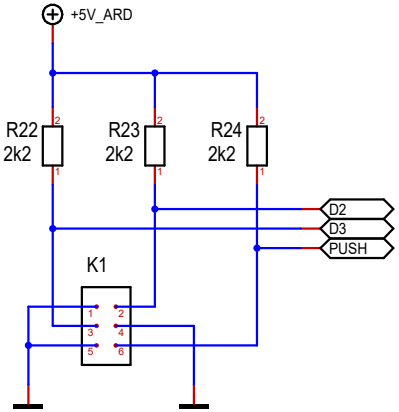


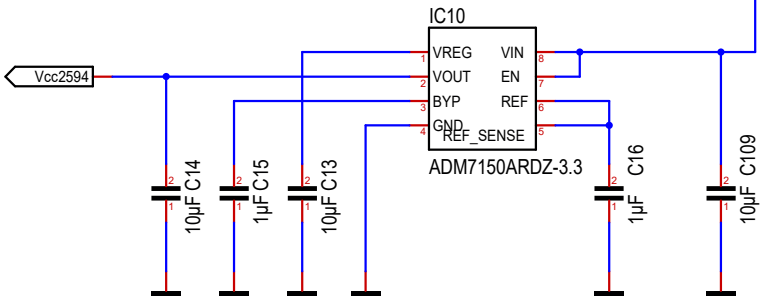


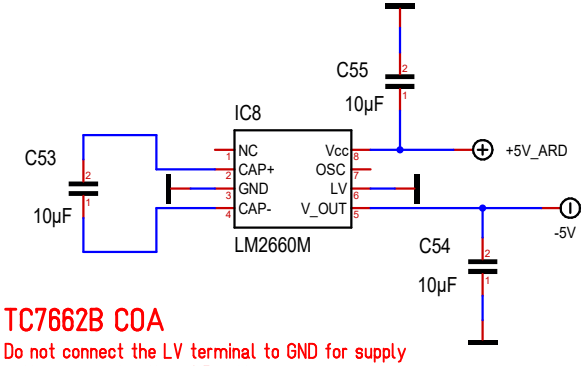




KEYBOARD



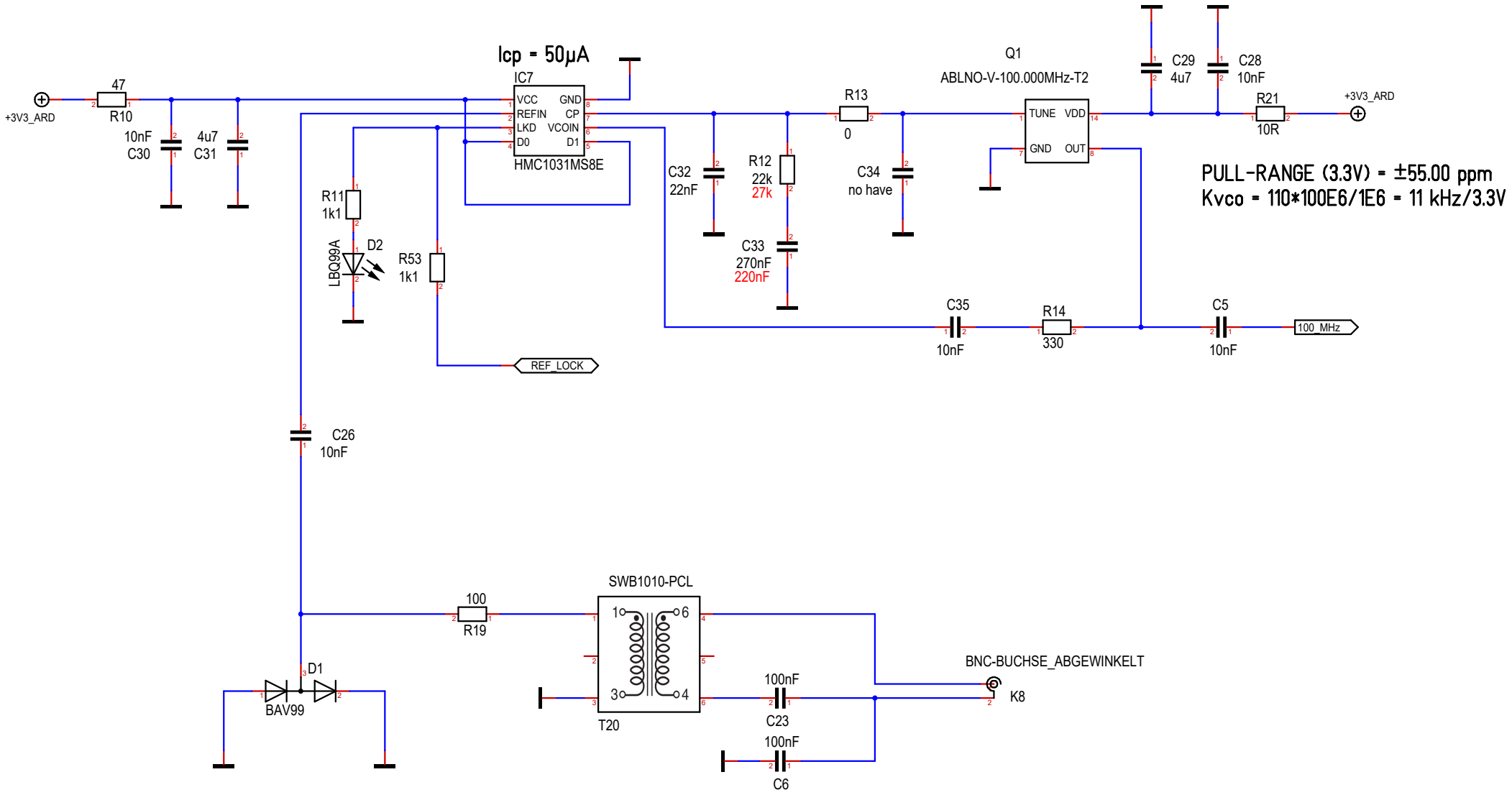




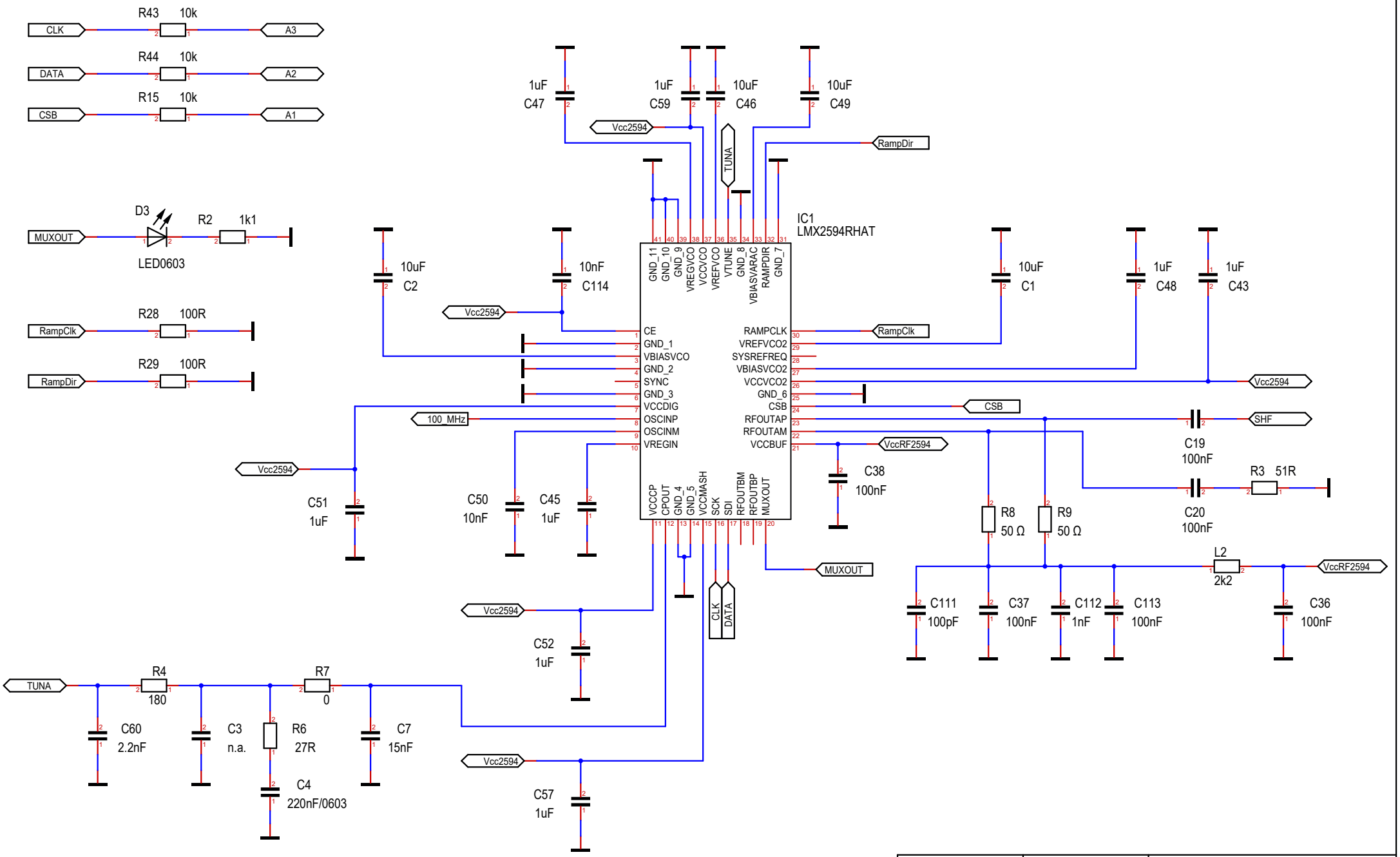
TC7662B COA

Do not connect the LV terminal to GND for supply voltages greater than 3.5 volts.

Massstab	101.39%	Alexander C. Frank	Blatt : Arduino Nano Every
Änderung	16.09.2021	16:42	ETH QUANTUMOPTICS
Ausgabe	16.09.2021	16:43	
Datei	Teramod_LMX2594_V51.T3001		



Massstab	101.39%	Alexander C. Frank	Blatt : Reference 100 MHz
Änderung	16.09.2021	16:42	ETH QUANTUMOPTICS
Ausgabe	16.09.2021	16:43	
Datei	Teramod_LMX2594_V51.T3001		



Massstab	101.39%	Alexander C. Frank	Blatt :LMX2594
Änderung	16.09.2021	16:42	ETH QUANTUMOPTICS
Ausgabe	16.09.2021	16:43	
Datei	Teramod_LMX2594_V51.T3001		

PLLatinum Sim

File Options Data Export Resources Help

7500 to 15000 MHz

Fosc 100 MHz

x 1

Fpd 100 MHz

Kpd 15 mA PFD

CPout

R3 C2 R2 C1 C3

Vtune

Fvco 14000 MHz

÷ 140

÷ 2

Fout 7000 MHz

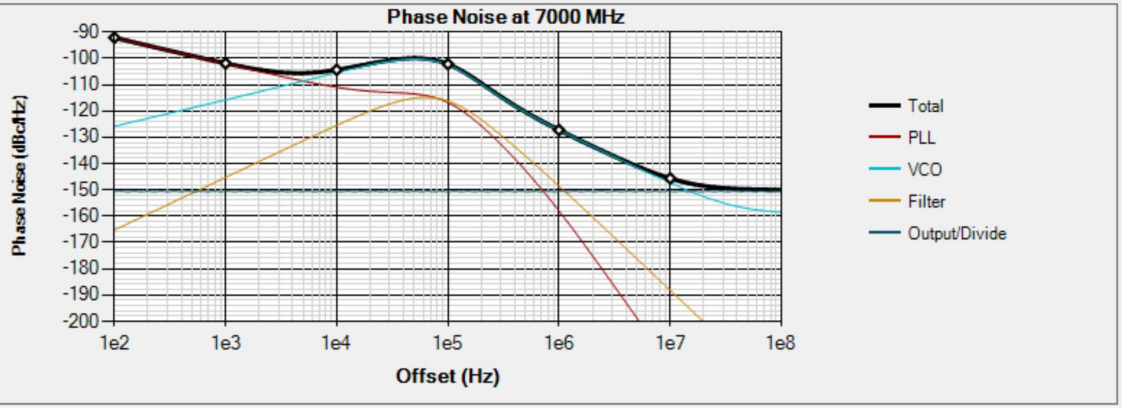
Feature Level
- Simple
- Intermediate
- Advanced

Loop Filter Components

C1	15 nF		
C2	220 nF	R2	0.027 kΩ
C3	2.2 nF	R3	0.18 kΩ

VCO Characteristics

Kvco	187.2	MHz/V
VCOCap	70	pF



Select Device | Filter Designer | Phase Noise | Spurs | Lock Time | Bode Plot

Architecture
Order
der

Parameters

Calculate Loop Filter

Design Target Actual

andwidth 75 kHz Auto 80.268434 kHz

Forced Component Values

C1	nF	R1	kΩ
C2	nF	R2	kΩ
C3	nF	R3	kΩ
C4	nF	R4	kΩ

Performance Summary

Setup Conditions on Phase Noise, Spur, and Lock Time Tabs

Parameter	Achieved
Jitter (fs)	115.9
Phase Noise at MKR1 (dBc/H	-92.1
Phase Noise at MKR2 (dBc/H	-101.8
Phase Noise at MKR3 (dBc/H	-104.3
Total Analog Lock Time (us)	76.9

Recommend Fpd, Kpd, and Auto Checkbox Setup

Strategy: Balance for Spurs

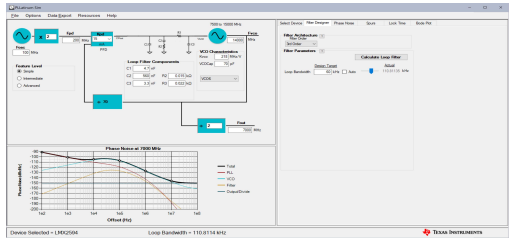
C2max nF

FpdMin MHz

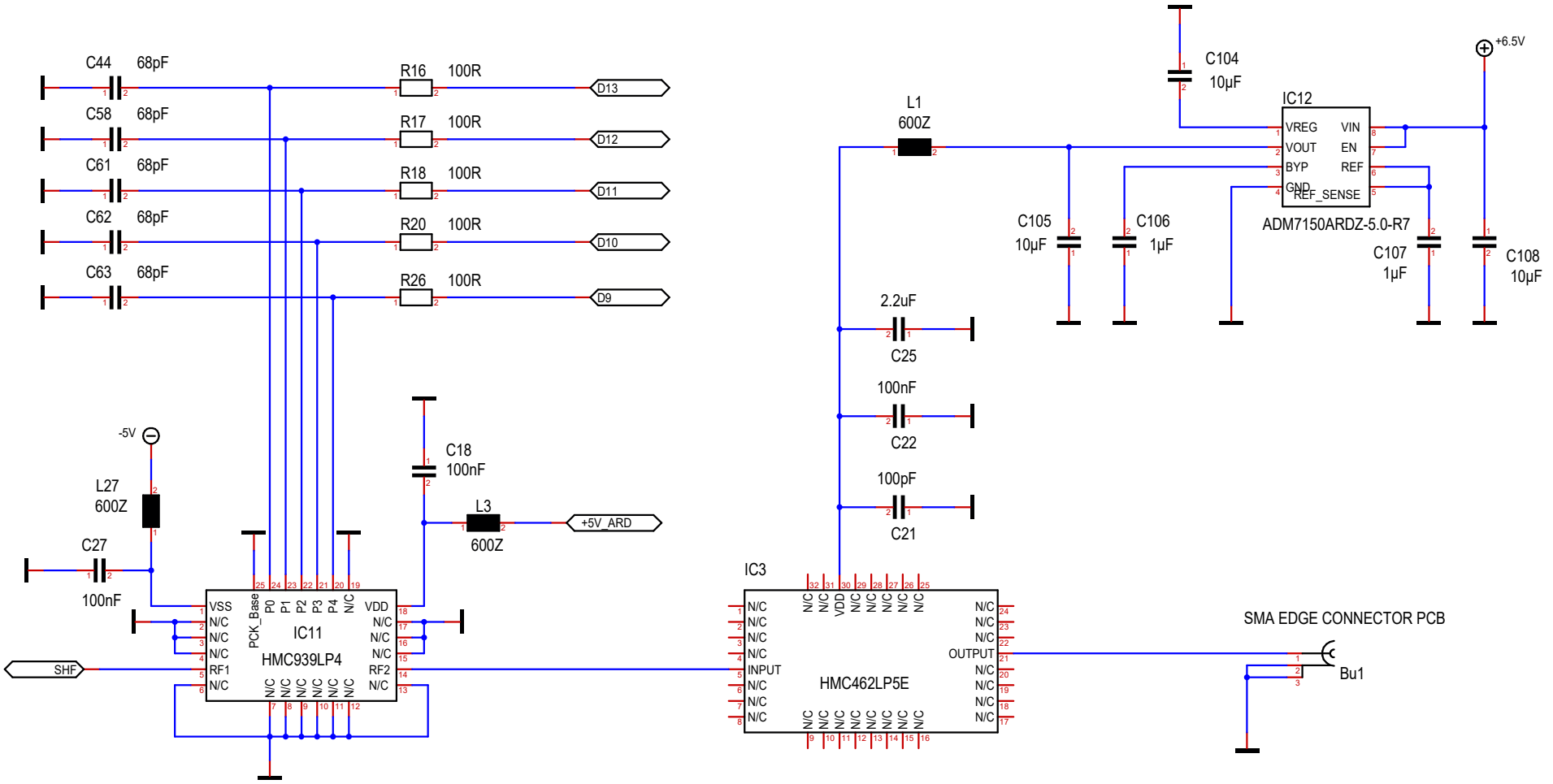
Device Selected = LMX2594

Loop Bandwidth = 80.2684 kHz

Texas Instruments



Massstab	101.39%	Alexander C. Frank	Blatt :Loop Filter
Änderung	16.09.2021	16:42	ETH QUANTUMOPTICS
Ausgabe	16.09.2021	16:43	
Datei	Teramod_LMX2594_V51.T3001		



Truth Table

Control Voltage Input					Attenuation State RF1 - RF2
P4 16 dB	P3 8 dB	P2 4 dB	P1 2 dB	P0 1 dB	
High	High	High	High	High	Reference I.L.
High	High	High	High	Low	1 dB
High	High	High	Low	High	2 dB
High	High	Low	High	High	4 dB
High	Low	High	High	High	8 dB
Low	High	High	High	High	16 dB
Low	Low	Low	Low	Low	31 dB

Any Combination of the above states will provide an attenuation approximately equal to the sum of the bits selected.

Noise Figure: 2.5 dB @ 10 GHz
Gain: 13 dB
P1dB Output Power: +14.5 dBm @ 10 GHz
Self-Biased: +5V @ 66mA
50 Ohm Matched Input/Output

Massstab	101.39%	Alexander C. Frank	Blatt : Amplitude
Änderung	16.09.2021	16:42	ETH QUANTUMOPTICS
Ausgabe	16.09.2021	16:43	
Datei	Teramod_LMX2594_V51.T3001		

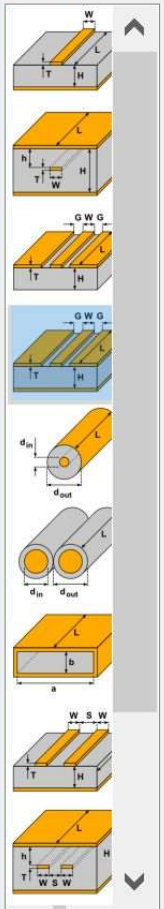
JLC PCB Material JLC 7628

Code		Length (l)		Width (w)		Height (h)		Power
Imperial	Metric	inch	mm	inch	mm	inch	mm	Watt
0201	0603	0.024	0.6	0.012	0.3	0.01	0.25	1/20 (0.05)
0402	1005	0.04	1.0	0.02	0.5	0.014	0.35	1/16 (0.062)
0603	1608	0.06	1.55	0.03	0.85	0.018	0.45	1/10 (0.10)
0805	2012	0.08	2.0	0.05	1.2	0.018	0.45	1/8 (0.125)
1206	3216	0.12	3.2	0.06	1.6	0.022	0.55	1/4 (0.25)
1210	3225	0.12	3.2	0.10	2.5	0.022	0.55	1/2 (0.50)
1218	3246	0.12	3.2	0.18	4.6	0.022	0.55	1
2010	5025	0.20	5.0	0.10	2.5	0.024	0.6	3/4 (0.75)
2512	6332	0.25	6.3	0.12	3.2	0.024	0.6	1

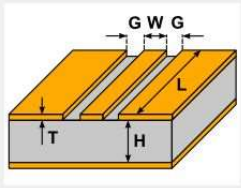
QucsStudio HF-Leitungsberechnung 4.2.2

Datei Hilfe

Auswahl



Koplanar-Leitung mit Rückseite



Eigenschaften

ε_r	4.6	
tan δ	2e-4	
spez. Widerstand	1.72e-8	
μ_r,c	0.999994	
Rauigkeit	1	μm
T	35	μm
H	0.2	mm

Parameter

Frequenz: 15 GHz

Abmessungen

W	0.328756	mm	(•) ändern
G	0.2	mm	( ) fest
L	100	mm	

HF-Eigenschaften

Z0	50	Ohm
Winkel	3102.98	Grad

Ergebnisse

Eindringtiefe:	0.53894 μm
ε_r,eff:	2.96765
ohmsche Verluste:	1.02178 dB
dielektrische Verluste:	0.039853 dB
Einmodigkeitsbereich:	0 Hz ... 48 GHz

Kopiere Komponente in Zwischenablage

Kopiere in Zwischenablage inklusiv Schaltung

Massstab	101.39%	Alexander C. Frank	Blatt : FR4
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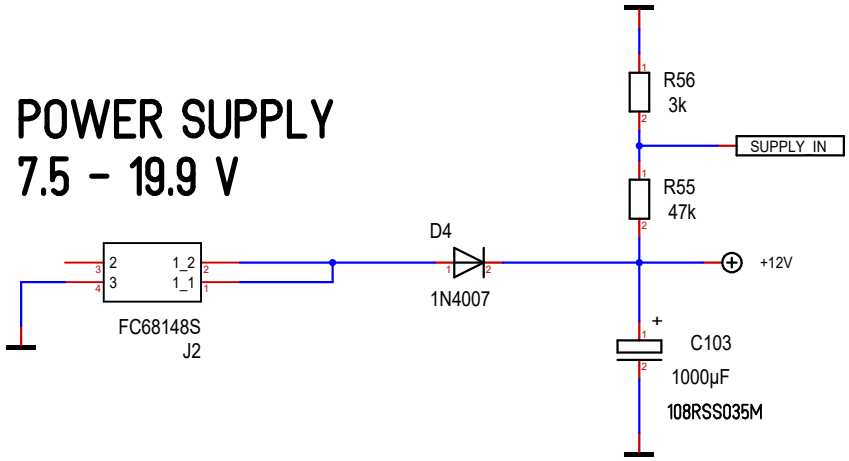
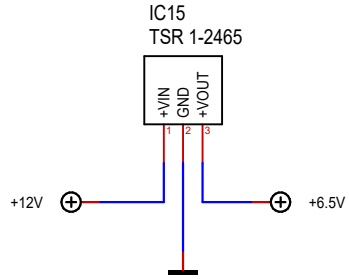
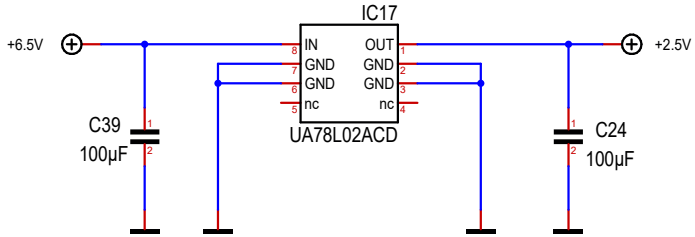
POWER SUPPLY
7.5 - 19.9 V



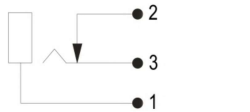
Chip	ATMEGA4809			
Clock	20 MHz			
Memory	48 KB FLASH	6 KB SRAM		
Interfaces	USB	SPI	I2C	UART
Voltages	5V INPUT-USB	6-21V INPUT-VIN	5V OPERATING	
Pinout	14 DIGITAL	6 PWM	8 ANALOG	
Dimensions	18 x 45 mm			



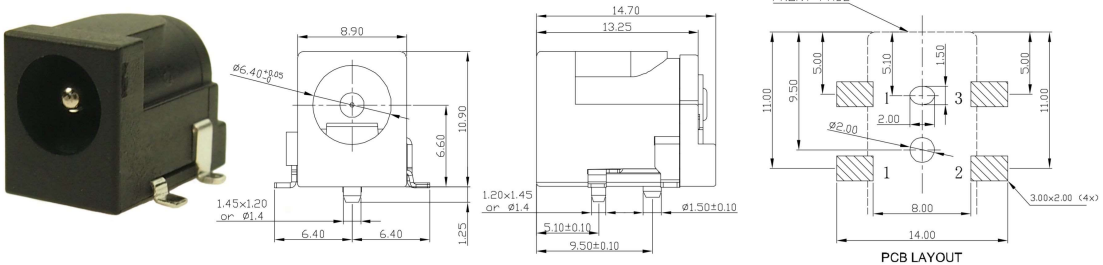


DC-10AS 2.1mm Pin
DC-10BS 2.5mm Pin

Part No. FC68148S
Part No. FC68149S
Add Suffix 'T' for taped.



SCHEMATIC - ALL MODELS



For further information, contact sales@cliffuk.co.uk

Massstab	101.39%	Alexander C. Frank	Blatt : Power Inlet
Änderung	16.09.2021	16:42	ETH QUANTUMOPTICS
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