

Power and FPGA

Power.sch

Ethernet

Ethernet.sch

Clock

Clock.sch

RF Frontend

RFFrontend.sch

Input Output

InputOutput.sch

PA

PA.sch

PCB
PB1

CASE
EN1

PROG
PG1

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Sheet: /

File: hermeslite.sch

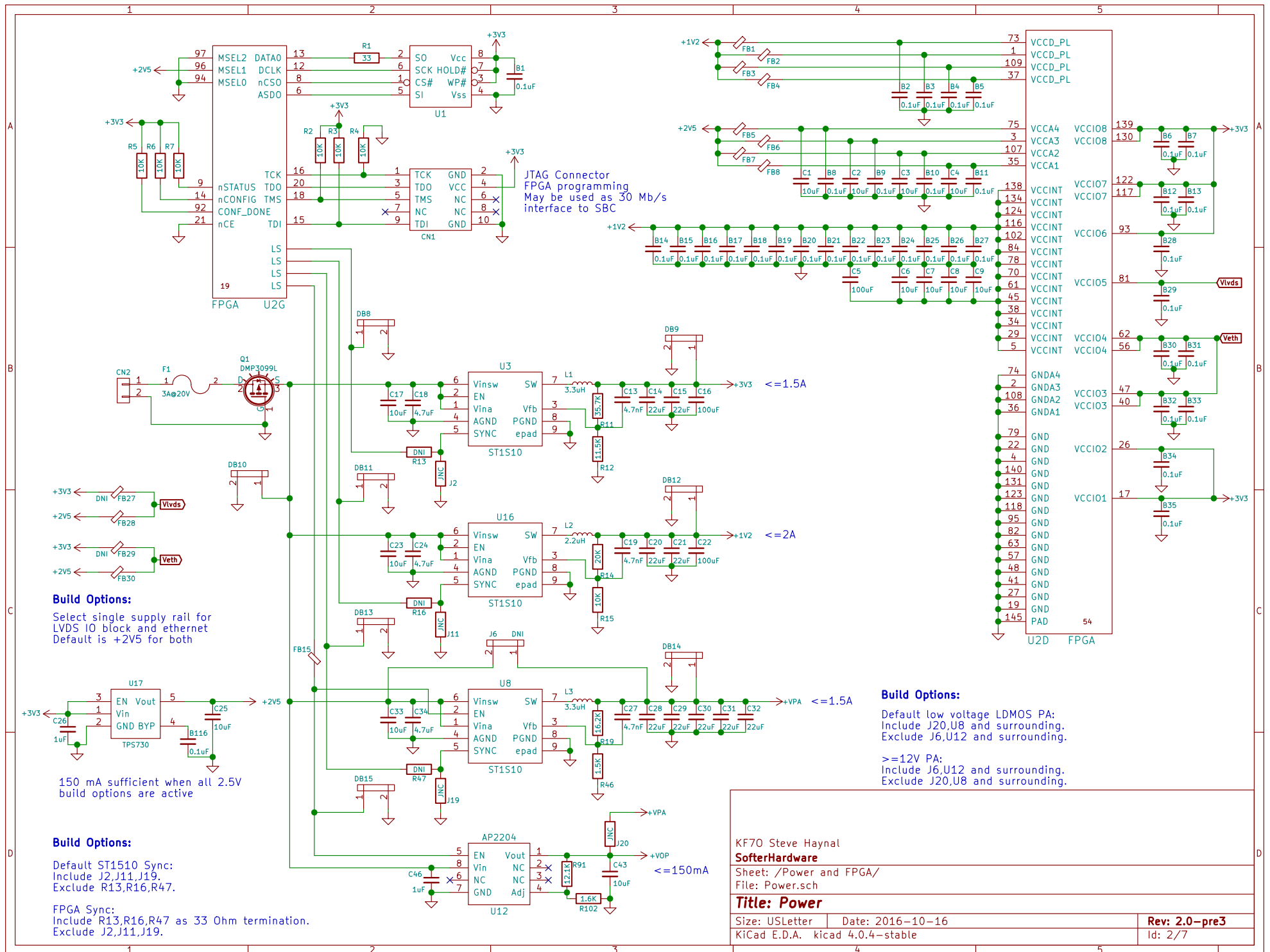
Title: **Hermes-Lite**

Size: USLetter | Date: 2016-07-17

KiCad E.D.A. kicad 4.0.4-stable

Rev: **2.0-pre2**

Id: 1/7



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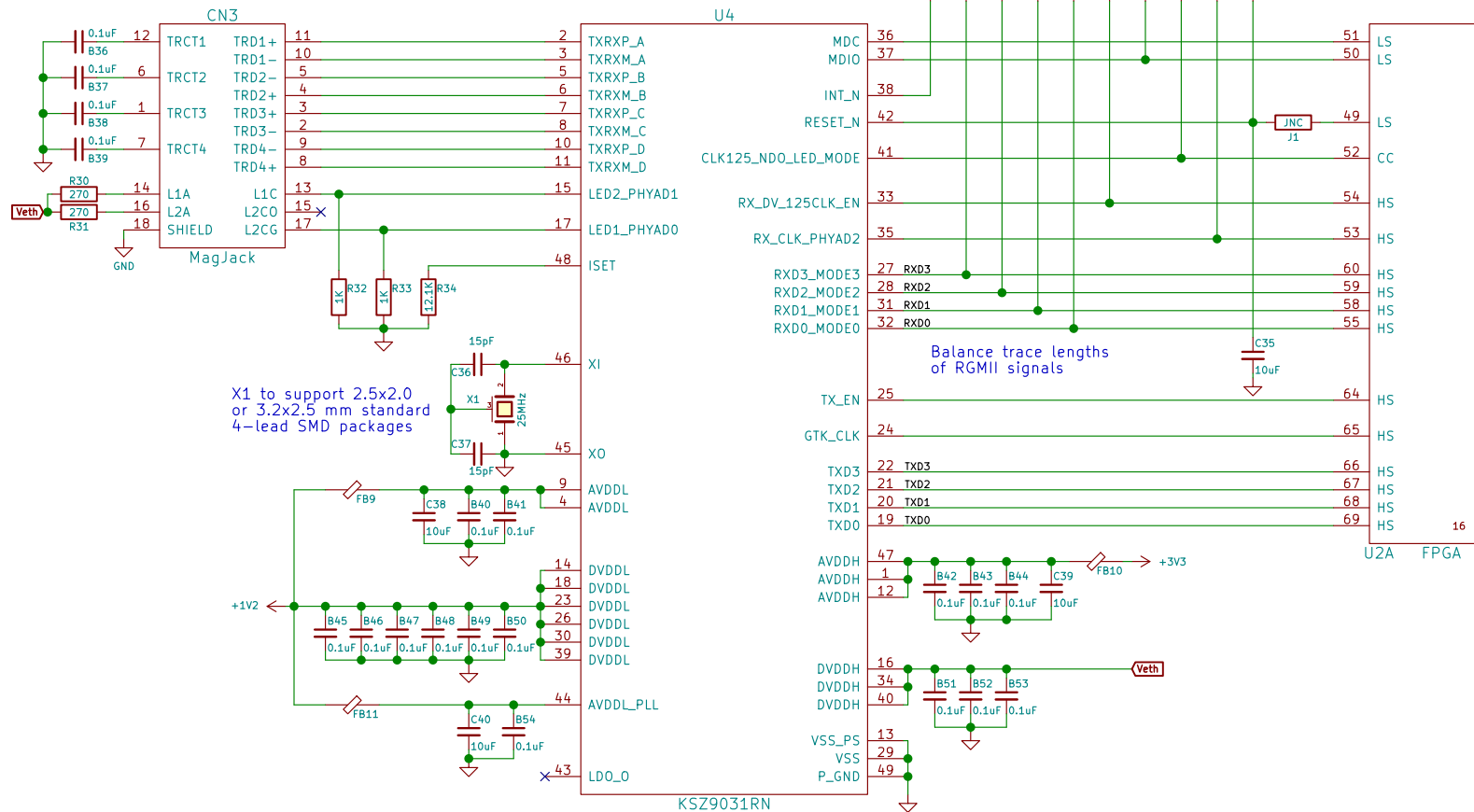
SofterHardware

Sheet: /Power and FPGA/
 File: Power.sch

Title: Power

Size: USLetter Date: 2016-10-16
 KiCad E.D.A. kicad 4.0.4-stable

Rev: 2.0-pre3
 Id: 2/7



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Sheet: /Ethernet/

File: Ethernet.sch

Title: Ethernet

Size: USLetter Date: 2016-10-16

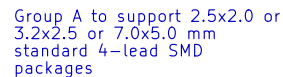
KiCad E.D.A. kicad 4.0.4-stable

Rev: 2.0-pre3

Id: 3/7

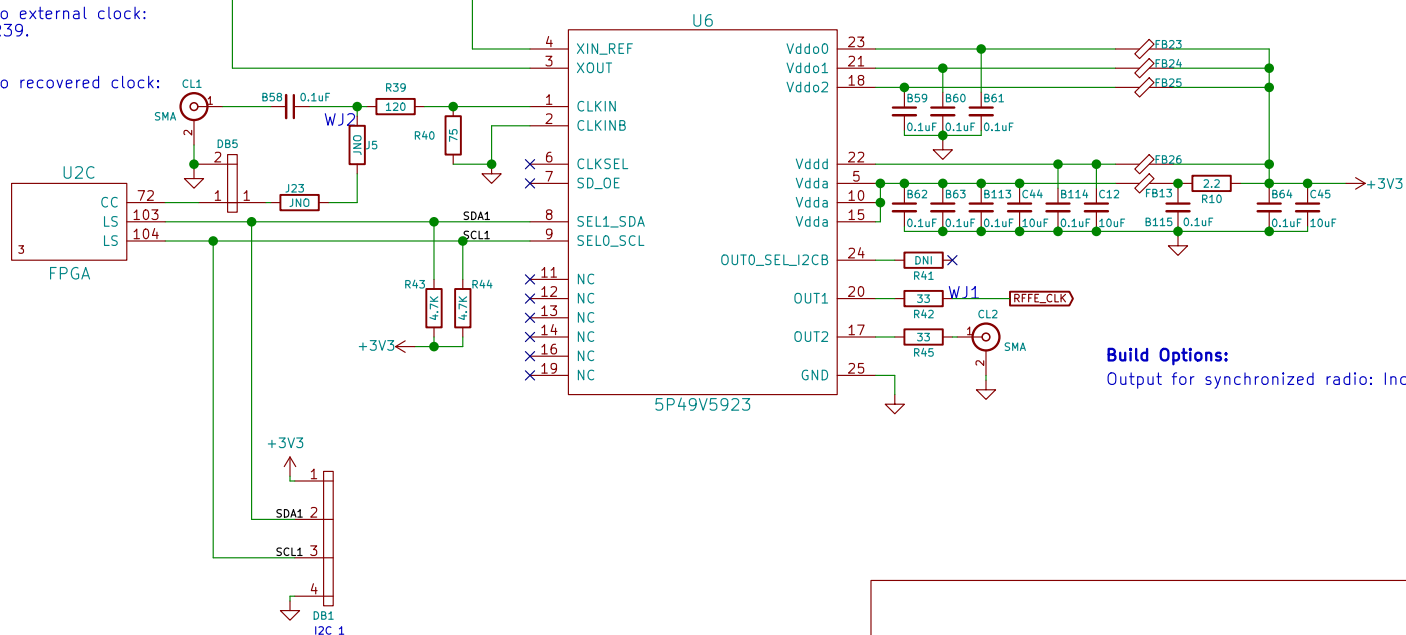
Default Versa with oscillator: Include FB12,C41,B56,B57,X2. Include R36,R38 if required by oscillator. Exclude B55,R35,R37,U5,J3,J4,C42.
Versa with VCO: Include FB12,C41,B56,B57,X2,U5,R35,R37,B55. Exclude R36,R38,J4,J3,C42.
Versa with crystal: Include X2 as crystal, B57 as jumper, J4,J3,C42, R38 as 15pF. Exclude FB12,C41,B56,U5,R35,R36,R37,B55.

No Versa but oscillator to AD9866: Exclude all Versa components, build for oscillator, connect WJ3 to WJ1.
 No Versa but external clock to AD9866: Exclude all Versa components and oscillator components. Wire from WJ2 to WJ1.
 See RF Frontend sheet for additional AD9866 clock options



Synchronized radio external clock:
Include CL1,B58,R39.
Exclude J23,J25.

Synchronized radio recovered clock:
Include J23,J5.
Adjust R39,R40. S
Optional CL1,B58.



Output for synchronized radio: Include R45,CL2.

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Title: Clock

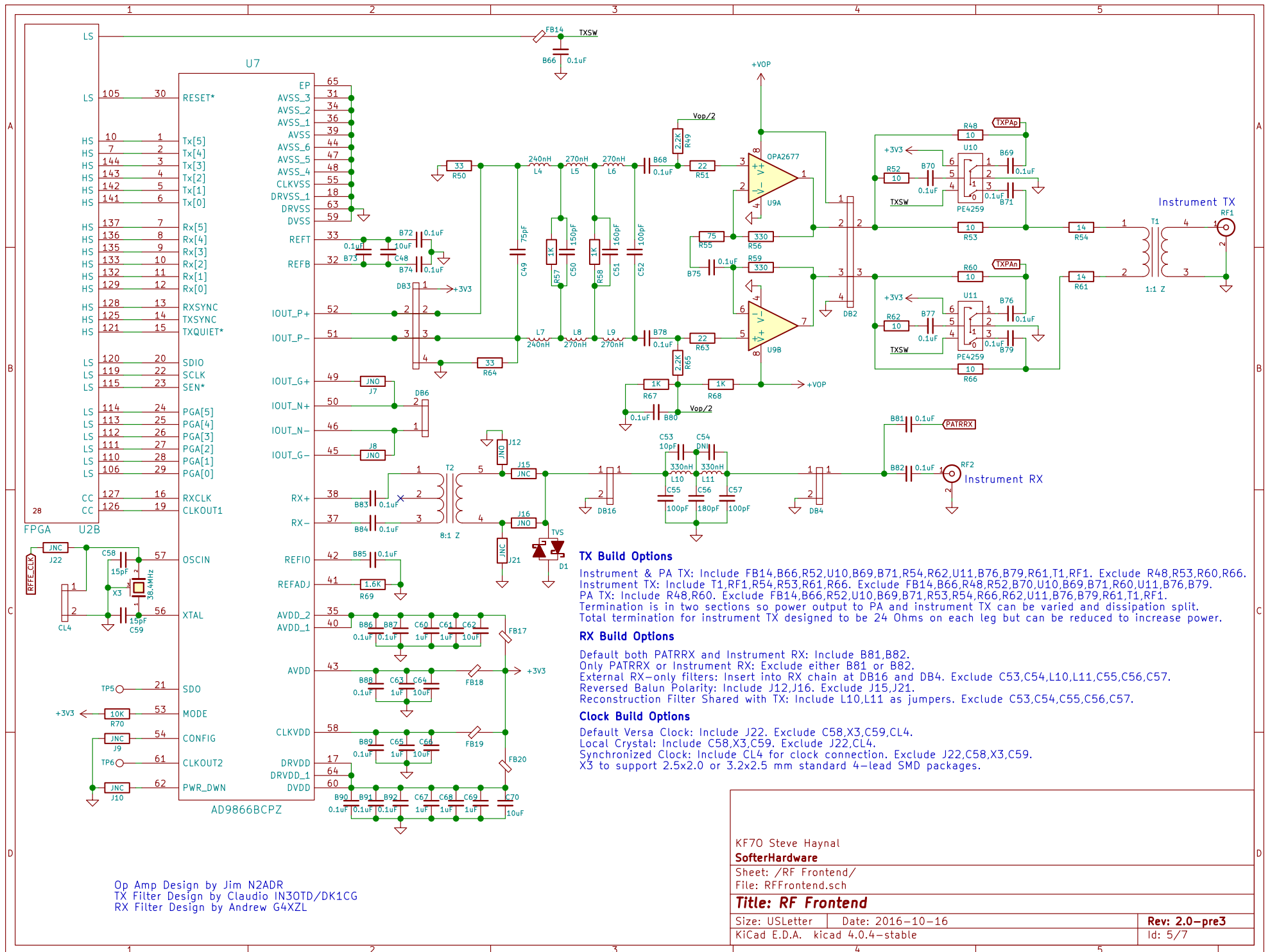
Title: Clock

Size: USLetter Date: 2016-10-16

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Rev: 2.0–pre3

Id: 4/7



Op Amp Design by Jim N2ADR
TX Filter Design by Claudio IN30TD/DK1CG
RX Filter Design by Andrew G4XZL

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Sheet: /RF Frontend/

File: RFFrontend.sch

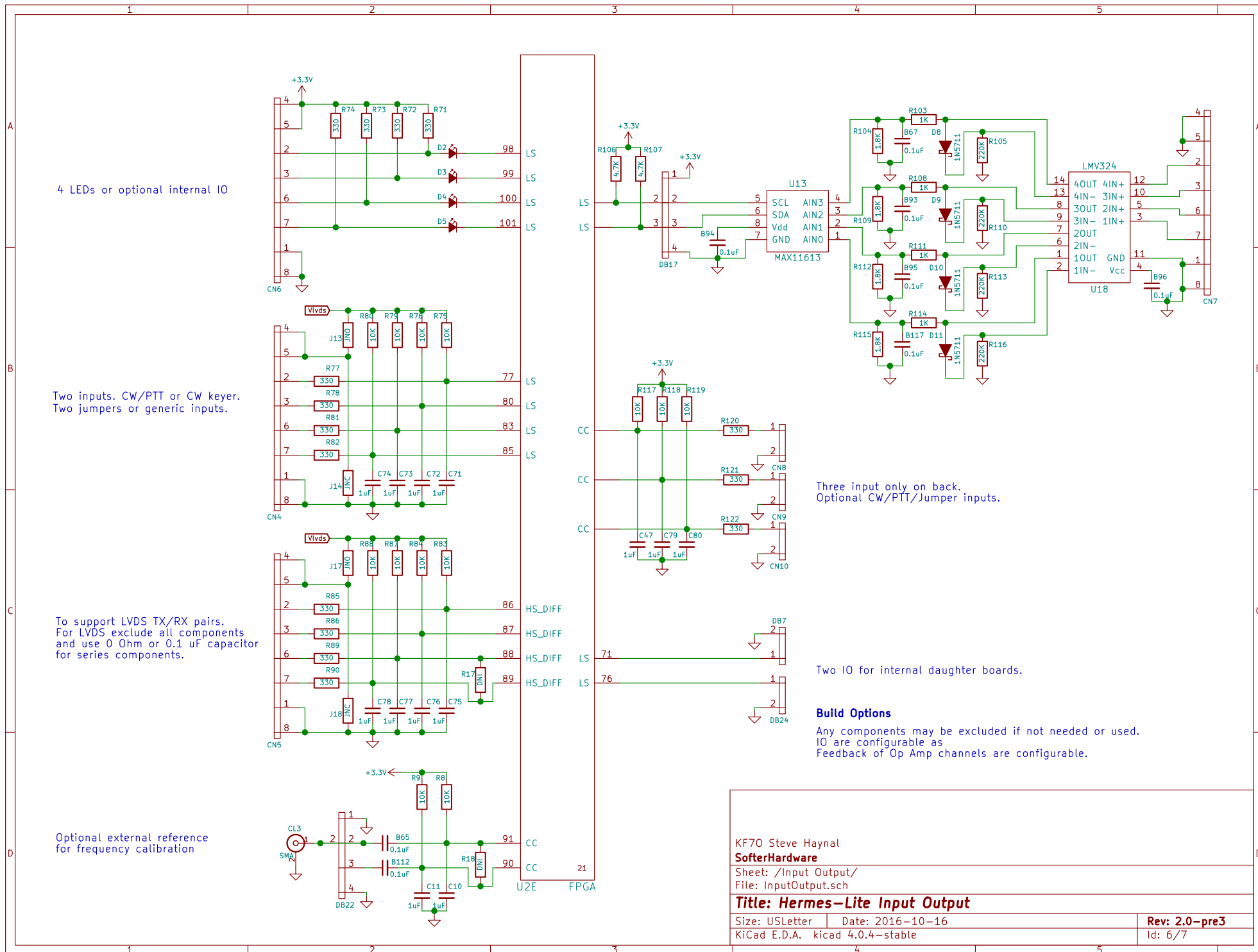
Title: RF Frontend

Size: USLetter Date: 2016-10-16

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Rev: 2.0-pre3

Id: 5/7



All values are first-cut place holders. To be refined with simulation and experimentation.

Build Options

Any or all components may be excluded if PA is unused.

SOT-89 or TO-220 LDMOS supported on main circuit board.
TO-220 mounts to side of enclosure.
SOT-89 dissipates heat to PCB and side of enclosure.

Deafult build uses 2 AFT05MS003 mounted on main board.

PLD-1.5 and alternate SOT-89 supported by adapter board.
Adapter board dissipates heat to side of enclosure.

Build Options

Leave relay off for external filter board
Tap RX and TX at relay through holes
Extra grounds on relay footprint

