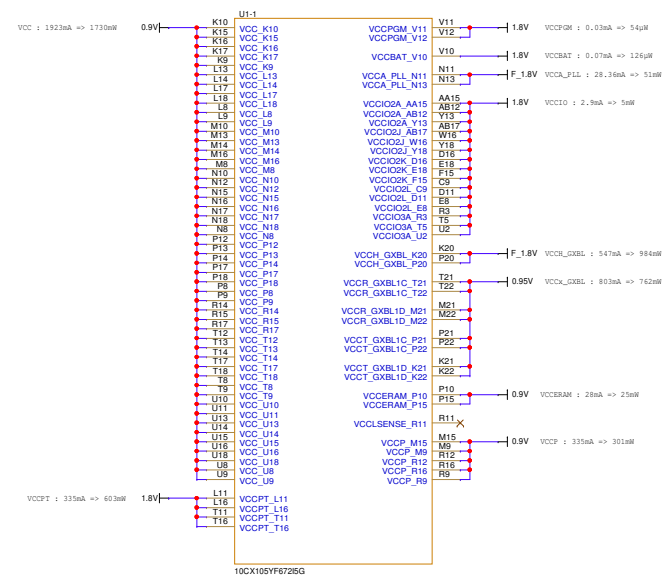
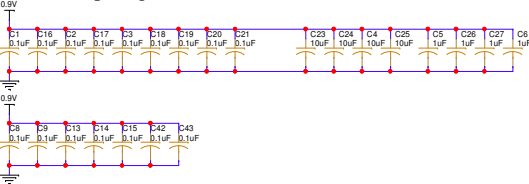


| orolia | | |
|-------------------------------|----------------------------------|---------------|
| Title: OVERVIEW | | |
| Size: A2 | Document Number: ART_CARD | Rev: 3 |
| Date: Thursday, June 24, 2021 | | |
| FILE NAME: ART_CARD | Sheet: 1 of 7 | |

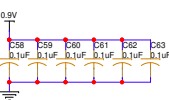
FPGA POWER SUPPLY



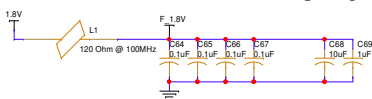
VCC Decoupling



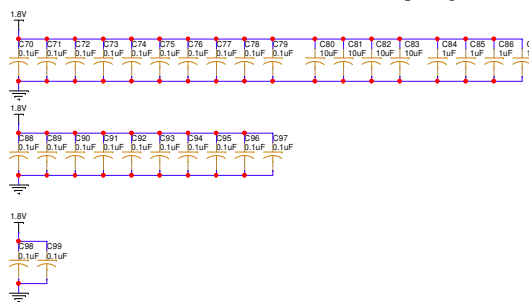
VCCP and VCCERAM Decoupling



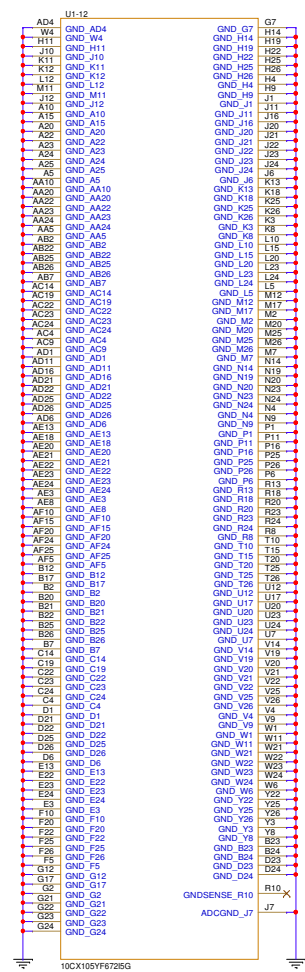
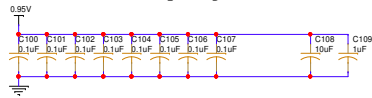
VCCA_PLL and VCCH_GXBL Decoupling



VCCPT, VCCPGM, VCCBAT and VCCIO Decoupling



VCCR/VCCT Decoupling

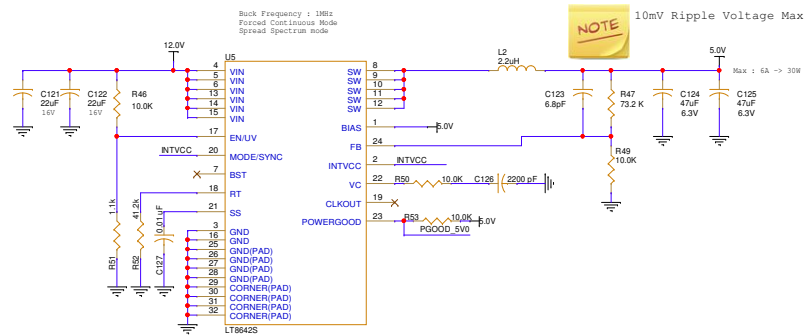


The image shows a complex PCB layout for an FPGA-based system. The layout is divided into several sections:

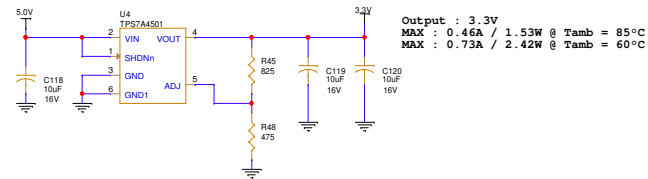
- Top Section:** Contains various signal traces and components, including a JTAG connector, a power supply section, and a clock section. The components are labeled with their values and types, such as resistors (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, R181, R182, R183, R184, R185, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R210, R211, R212, R213, R214, R215, R216, R217, R218, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230, R231, R232, R233, R234, R235, R236, R237, R238, R239, R240, R241, R242, R243, R244, R245, R246, R247, R248, R249, R250, R251, R252, R253, R254, R255, R256, R257, R258, R259, R260, R261, R262, R263, R264, R265, R266, R267, R268, R269, R270, R271, R272, R273, R274, R275, R276, R277, R278, R279, R280, R281, R282, R283, R284, R285, R286, R287, R288, R289, R290, R291, R292, R293, R294, R295, R296, R297, R298, R299, R300, R301, R302, R303, R304, R305, R306, R307, R308, R309, R310, R311, R312, R313, R314, R315, R316, R317, R318, R319, R320, R321, R322, R323, R324, R325, R326, R327, R328, R329, R330, R331, R332, R333, R334, R335, R336, R337, R338, R339, R340, R341, R342, R343, R344, R345, R346, R347, R348, R349, R350, R351, R352, R353, R354, R355, R356, R357, R358, R359, R360, R361, R362, R363, R364, R365, R366, R367, R368, R369, R370, R371, R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, R386, R387, R388, R389, R390, R391, R392, R393, R394, R395, R396, R397, R398, R399, R400, R401, R402, R403, R404, R405, R406, R407, R408, R409, R410, R411, R412, R413, R414, R415, R416, R417, R418, R419, R420, R421, R422, R423, R424, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437, R438, R439, R440, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500, R501, R502, R503, R504, R505, R506, R507, R508, R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698, R699, R700, R701, R702, R703, R704, R705, R706, R707, R708, R709, R710, R711, R712, R713, R714, R715, R716, R717, R718, R719, R720, R721, R722, R723, R724, R725, R726, R727, R728, R729, R730, R731, R732, R733, R734, R735, R736, R737, R738, R739, R740, R741, R742, R743, R744, R745, R746, R747, R748, R749, R750, R751, R752, R753, R754, R755, R756, R757, R758, R759, R760, R761, R762, R763, R764, R765, R766, R767, R768, R769, R770, R771, R772, R773, R774, R775, R776, R777, R778, R779, R780, R781, R782, R783, R784, R785, R786, R787, R788, R789, R790, R791, R792, R793, R794, R795, R796, R797, R798, R799, R800, R801, R802, R803, R804, R805, R8

| POWER NEED | : | FPGA : | OCXO : | Comp : | TOTAL |
|--------------|---|--------|--------|--------|----------|
| On 12V : | : | : | 7500 : | : | 7500 mW |
| On 11V_ANA : | : | : | : | 80 : | 80 mW |
| On 5.0V : | : | : | 350 : | : | 350 mW |
| On 3.3V : | : | : | 243 : | : | 243 mW |
| On 1.8V : | : | 1643 : | : | 61 : | 1704 mW |
| On 0.95V : | : | 762 : | : | : | 762 mW |
| On 0.9V : | : | 2056 : | : | : | 2056 mW |
| | | | | -> | 12695 mW |

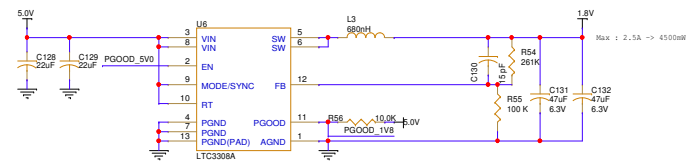
12V to 5V Switch Converter



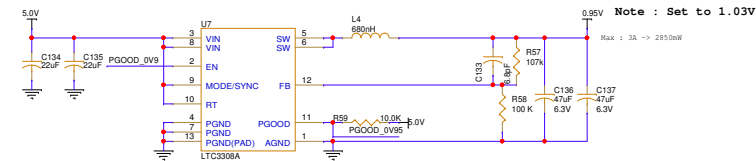
5V to 3.3V LDO Converter



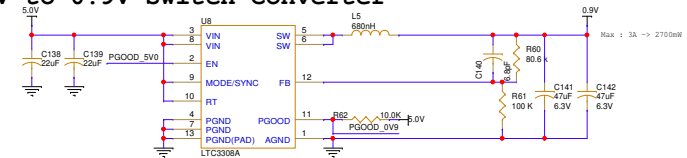
5V to 1.8V Switch Converter



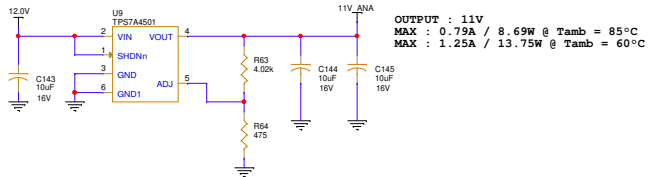
5V to 0.95V Switch Converter




5V to 0.9V Switch Converter



ANALOG POWER SUPPLY



| | | | | | |
|---|---------------------------------|--|--------------|----------|--------------|
| DEFAULT | | | | | |
|  | | | | | |
| Title POWER SUPPLY | | | | | |
| Size A2 | Document Number ART_CARD | | | | Rev 3 |
| Date: | Thursday, June 24, 2021 | | | | |
| FILE NAME | ART_CARD | | Sheet | 4 | of 7 |

OSCILLATOR POWER SUPPLY

3.3V 5.0V 11V ANA

1206 C165 250nW

R65

Do Not Suf

R66 0

R67 0

Do Not Suf

Fc ~ 100kHz

L6 15uH 2A

L7 120 Ohm @ 100MHz 5A

C146 22uF 25V

C147 22uF 25V

C148 22uF 25V

C150 22uF 25V

OSC_POWER

[illegible]

EuroPack COCOCO 36x27mm

Power : 3W (nom.) to 6W (Startup)

38x27mm NCOCOCO

Power : 1W (nom.) to 2W (Startup)

7 bit I2C Address = x70, ALL FUNCTIONS

52x42mm NCOCOCO

Power : 3W (nom.) to 7.5W (Startup)

[illegible][illegible][illegible]

HARMONIC FILTER

The diagram illustrates a harmonic filter circuit. The input signal passes through a series combination of inductor L11 (330 nH) and capacitor C161 (680 pF). Following C161, the circuit branches into two parallel paths. The first path contains inductor L12 (330 nH). The second path contains capacitor C164 (680 pF) in series with resistor R80 (49.9 ohms). These two paths recombine, and the resulting signal is sent to the output terminal FREQ_OUT. The bottom line of the circuit is connected to ground.

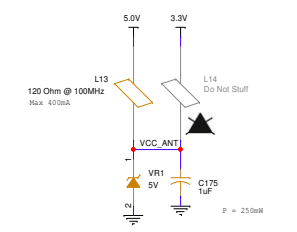
LOGIC VOLTAGE-LEVEL TRANSLATOR

From 5V/3.3V to 1.8V

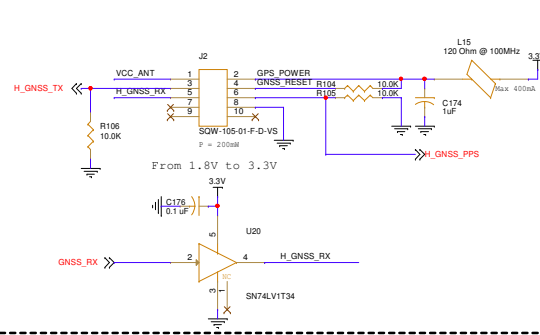
From 1.8V to 3.3V

Chip Scale Atomic Clock

ANTENNA POWER SUPPLY



GNSS RECEIVER



GNSS STANDOFF

