

PCI-EXPRESS EDGE CONNECTOR

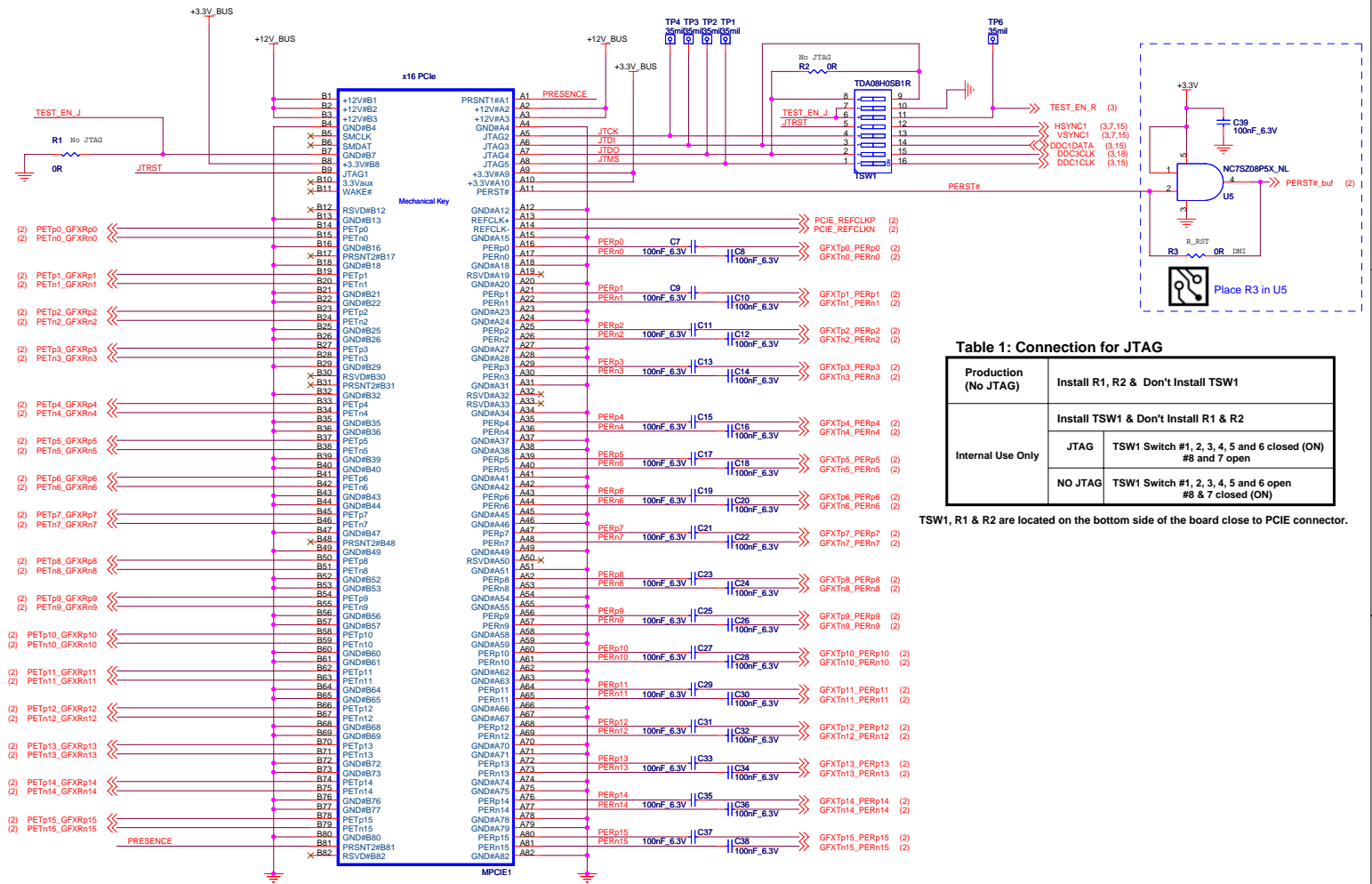
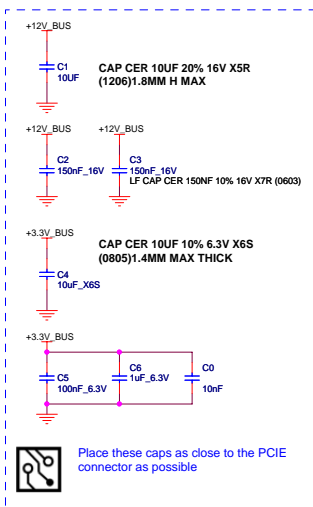




Table 1: Connection for JTAG


Production (No JTAG)	Install R1, R2 & Don't Install TSW1	
Internal Use Only	Install TSW1 & Don't Install R1 & R2	
	JTAG	TSW1 Switch #1, 2, 3, 4, 5 and 6 closed (ON) #8 and 7 open
	NO JTAG	TSW1 Switch #1, 2, 3, 4, 5 and 6 open #8 & 7 closed (ON)

TSW1, R1 & R2 are located on the bottom side of the board close to PCIE connector.

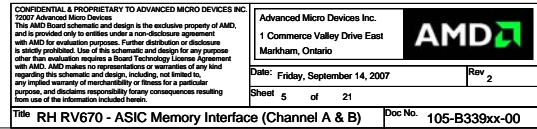
SYMBOL LEGEND	
DNI	DO NOT INSTALL
#	ACTIVE LOW
	DIGITAL GROUND
	ANALOG GROUND
BUO	BRING UP ONLY

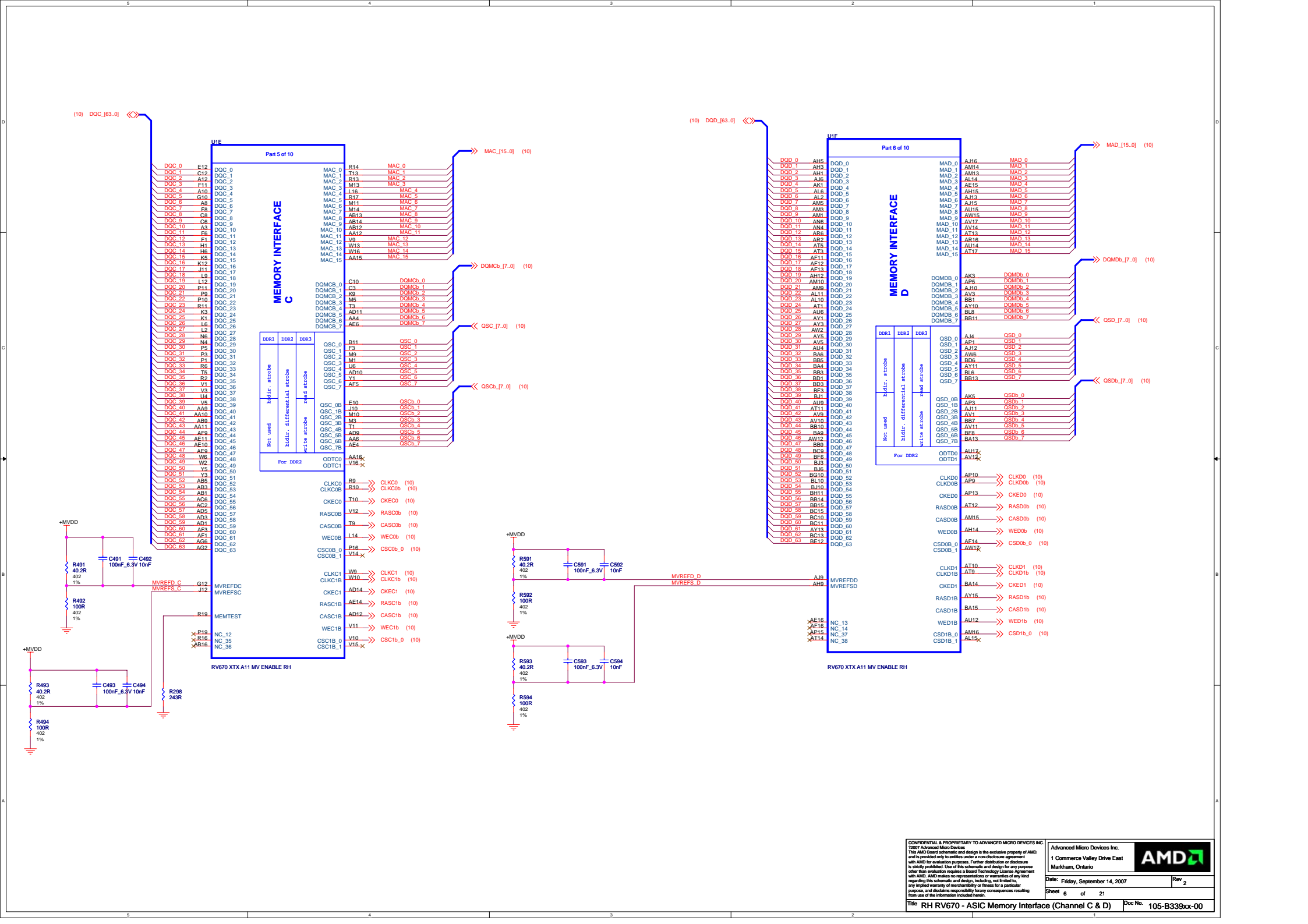
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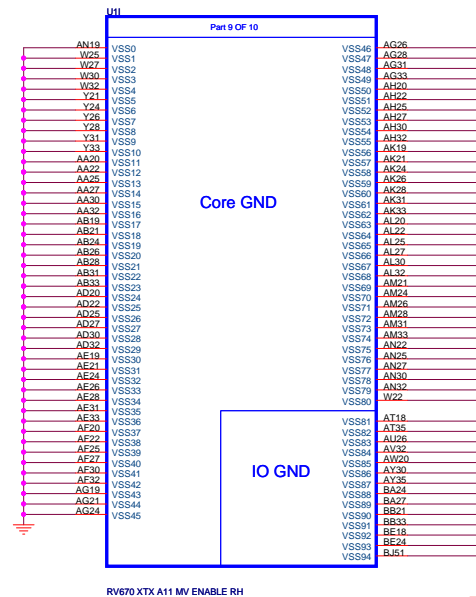
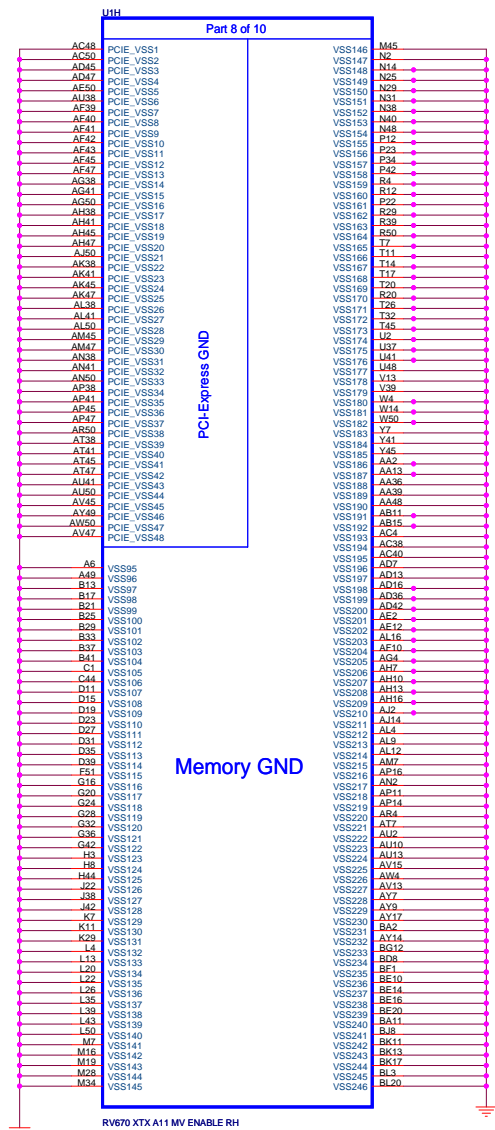
Title: **DLL6470 DLL5550**

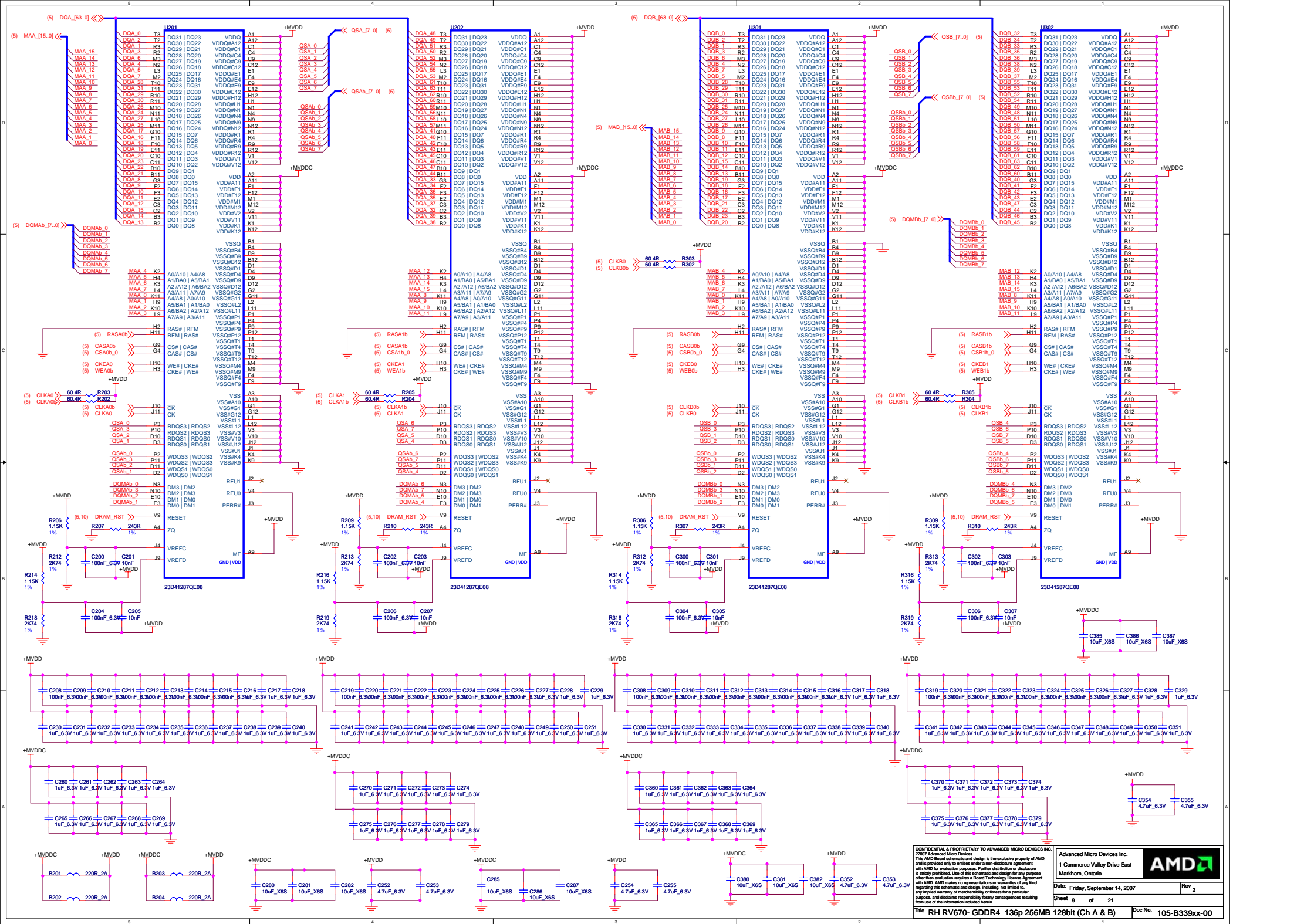
Advanced Micro Devices Inc. 1 Commerce Valley Drive East Markham, Ontario			
Date: Friday, September 14, 2007		Rev 2	
Sheet 1 of 21		Doc No: 105-2000-00	

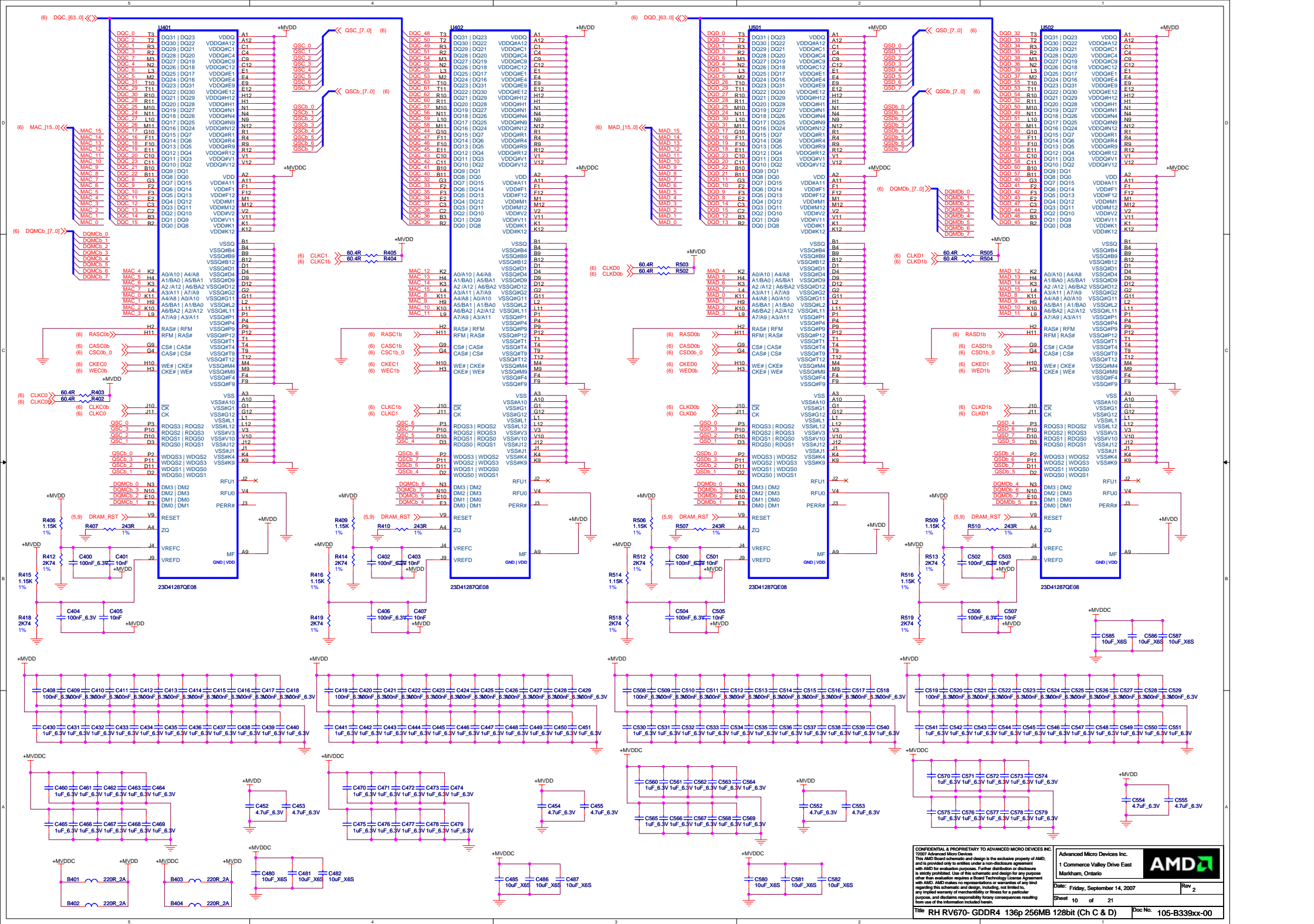
The schematic diagram illustrates the BLM15BD121SN1 board layout, showing the connection of various components to the central chip. The components are organized into sections: VIDEO & MULTIMEDIA, DAC/CRT, and DAC2 (TV/CRT). The central section shows the BLM15BD121SN1 chip with its pins and connections. The schematic includes a legend for the components, such as resistors (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, R806, R807, R808, R809, R810, R811, R812, R813, R814, R815, R816, R817, R818, R819, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R830, R831, R832, R833, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R844, R845, R846, R847, R848, R849, R850, R851, R852, R853, R854, R855, R856, R857, R858, R859, R860, R861, R862, R863, R864, R865, R866, R867, R868, R869, R870, R871, R872, R873, R874, R875, R876, R877, R878,

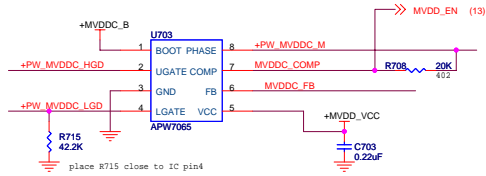






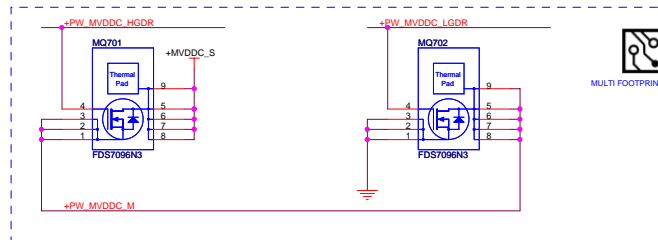






Layout guideline

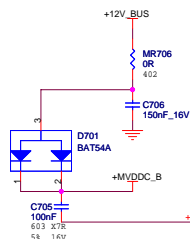
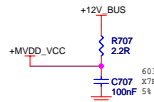
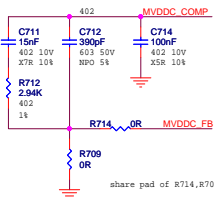
- 1-Position the controller (U703) such that LGATE(pin4) is the closest to gate of the MOSFETs. You can place the gate resistors R721 and R722 next to the gate of the MOSFETs. Make the gate drive traces (PW_MVDDC_LGD and PW_MVDDC_HGD) as short and as wide as possible to reduce the trace inductance.
- 2-Place the bypass capacitors for Vcc as well as Boost caps as close to the controller as possible. They are as follows:
Vcc bypass cap is C703, and Boost cap is C705.
- 3-Voltage amplifier compensation network: Place C714 close to the pin 7. Place the rest of the compensation network close to the pins 7 and 6. These are R710, R711, R713, C713 and R712, C711 and C712.

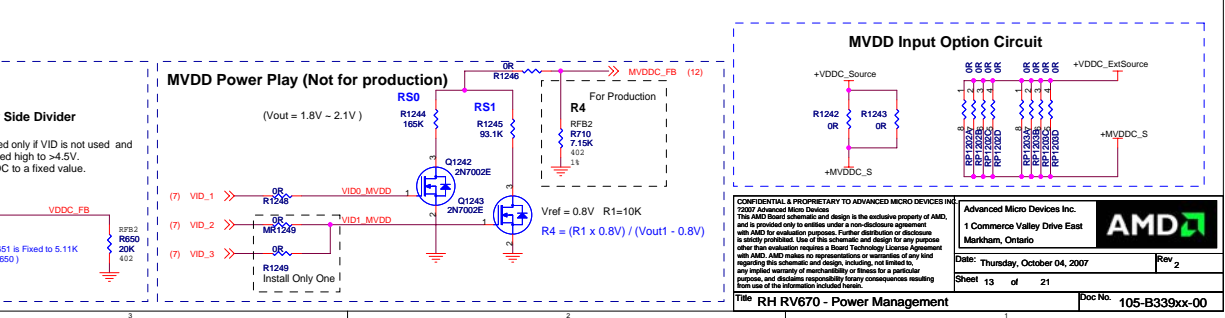
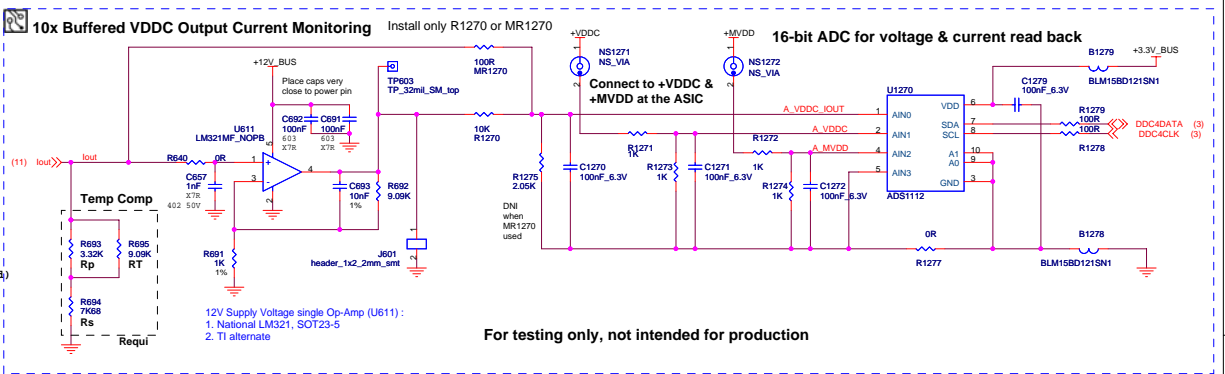
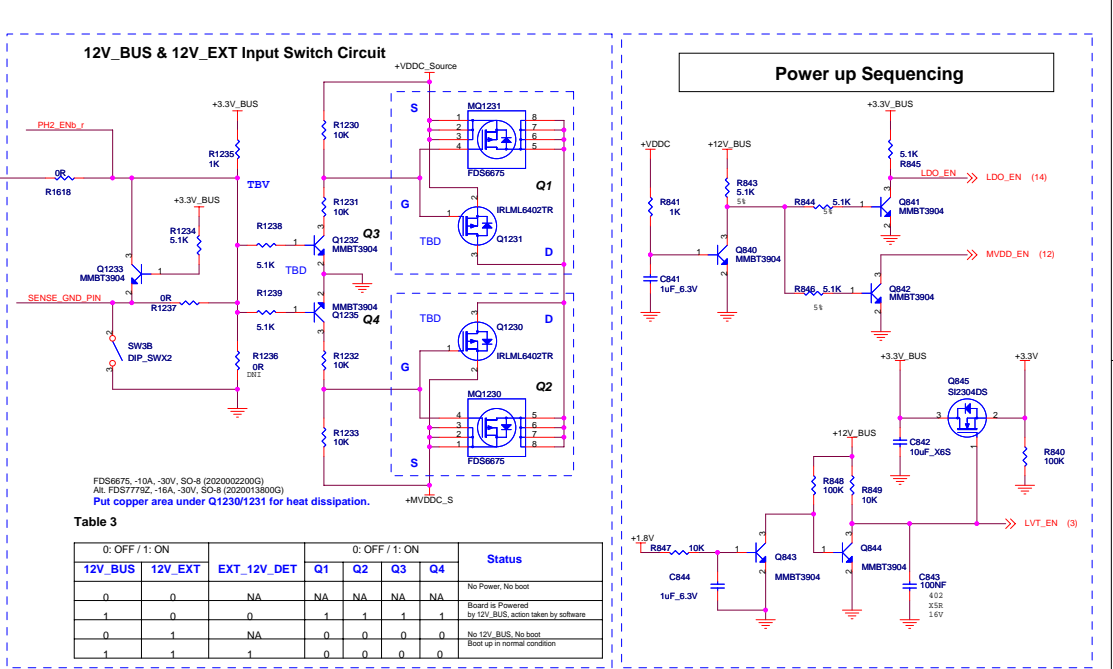
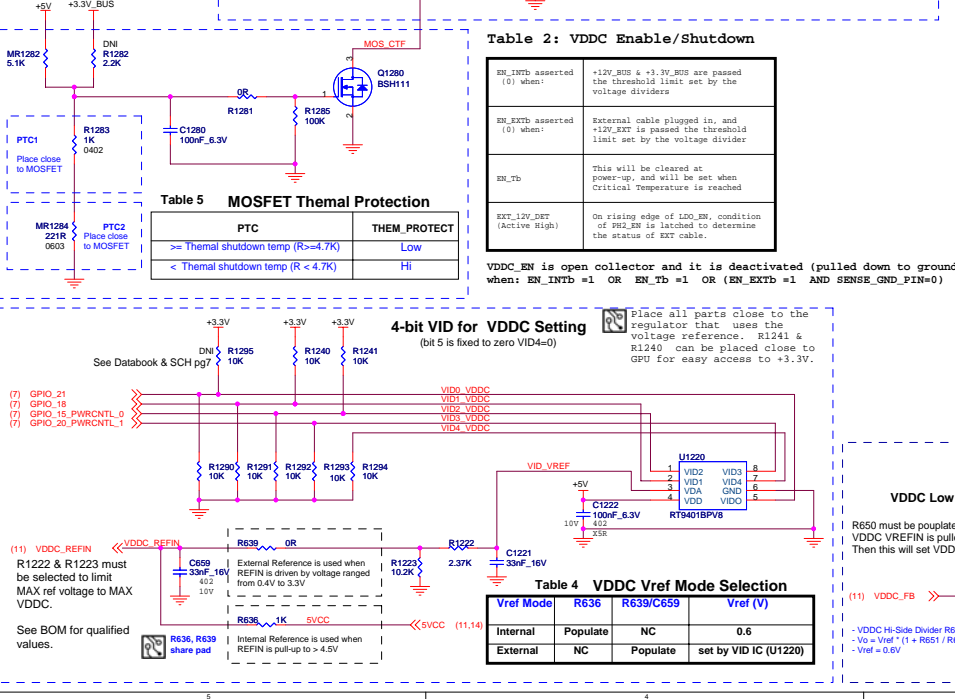
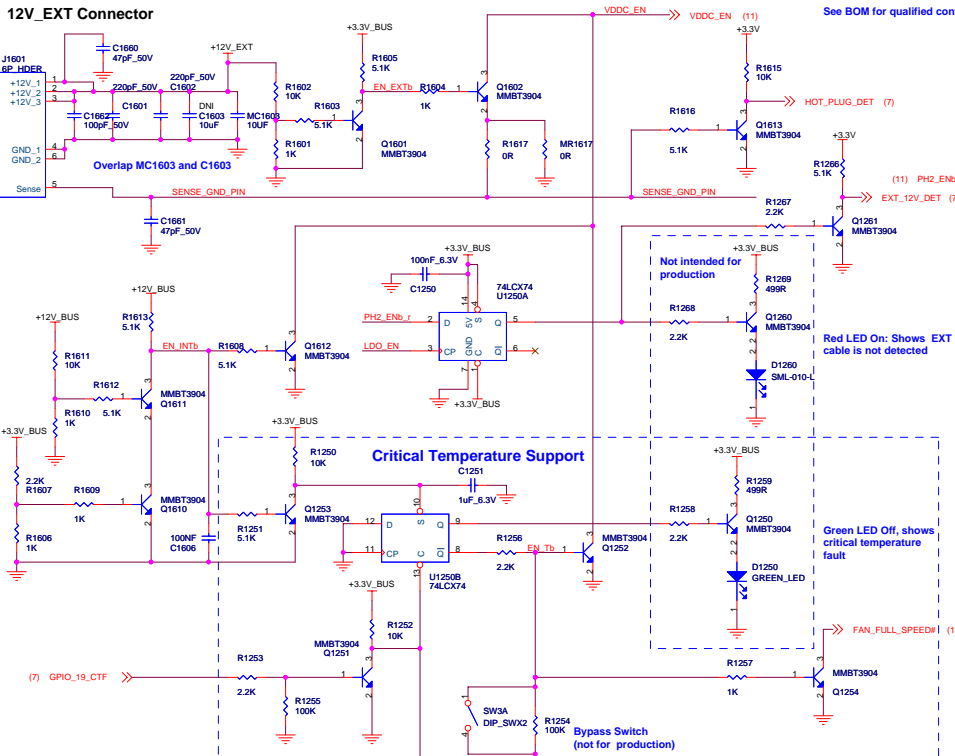


COMPENSATION CIRCUIT

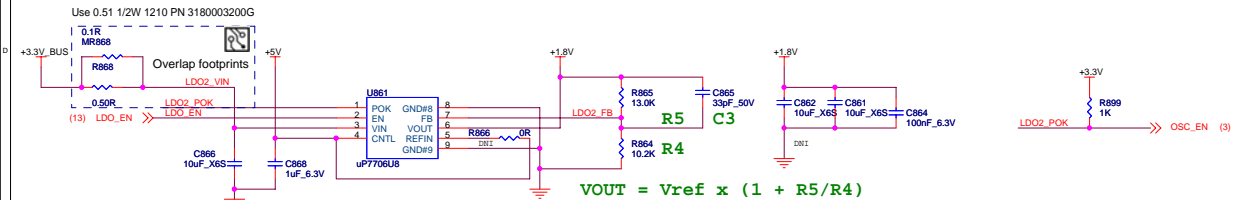
FILTERED SMPS VCC

BOOT CIRCUIT

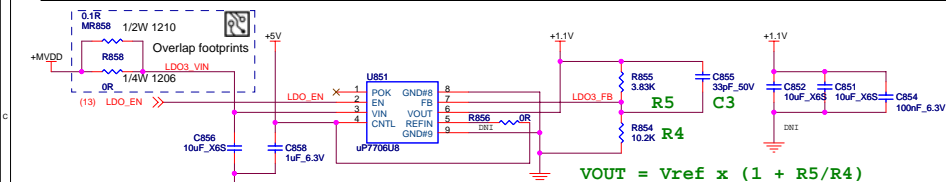




LDO #2: Vin = 2.5V to 3.6V MAX Vout = +1.8V +/- 3% Iout = 0.8A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling



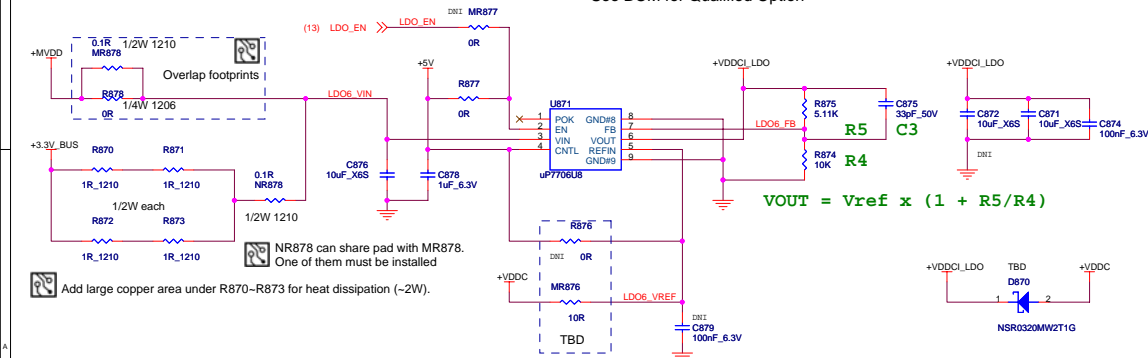
LDO #3: Vin = +1.70V to 2.1VMAX Vout = +1.1V +/- 3% Iout = Up to 1.3A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling



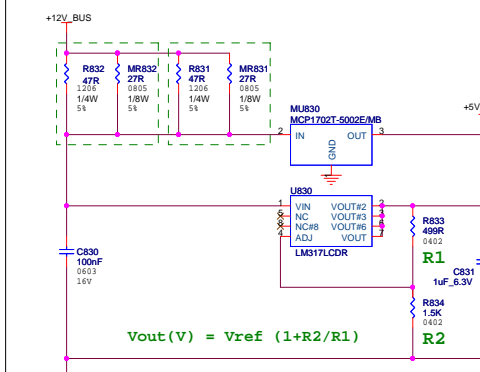
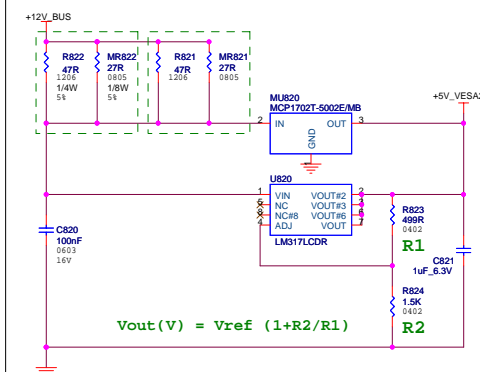
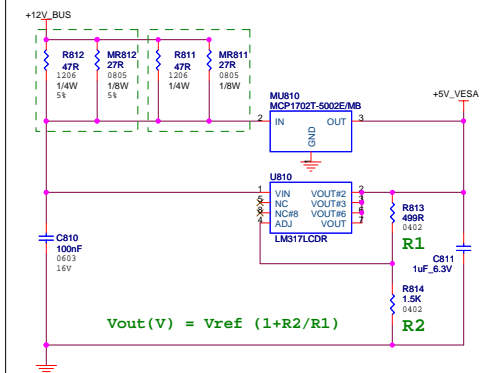
LDO #6: For fixed output voltage: $V_{in} = +1.70V$ to $2.1V$ MAX $V_{out} = +1.20V \pm 3\%$ $I_{out} = 1.3A$ (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling

LDO #6: For tracking VDDC: $V_{in} = TBD$ $V_{out} = TBD$ $I_{out} = 1.3A$ (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling

See BOM for Qualified Option



Regulators for +5V, +5V_VESA and +5V_VESA2



Install only R839 or MR839
See BOM for qualified option

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Date: Friday, September 14, 200

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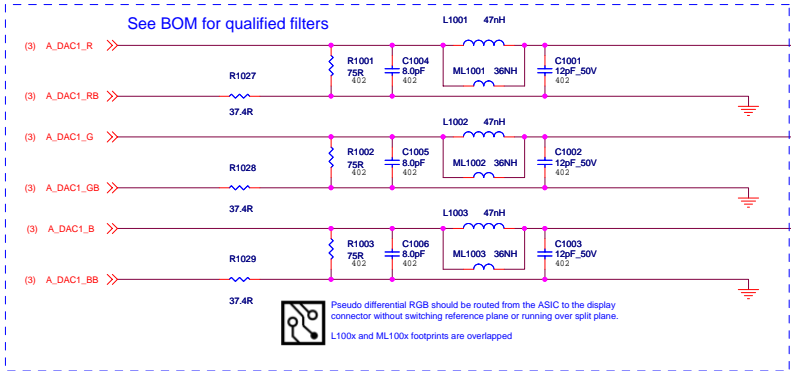
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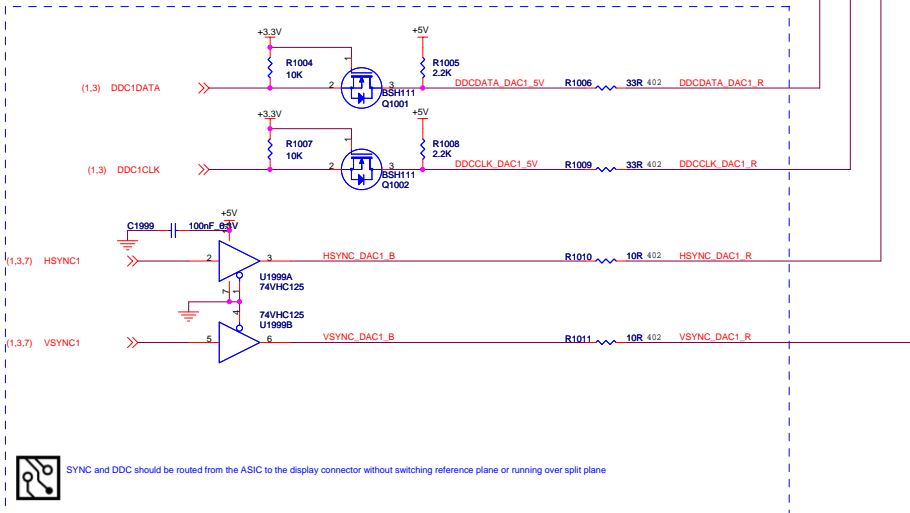
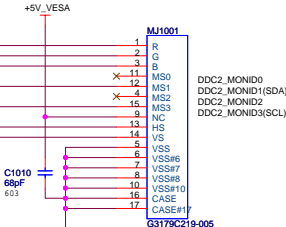
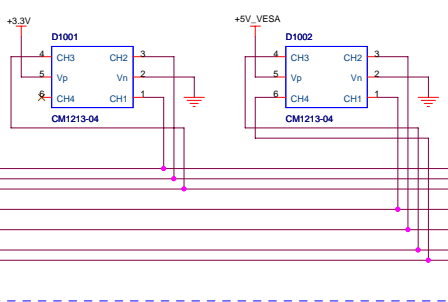
2007	Rev 2
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Title RH RV670 - Linear Regulators

Doc No.	105-B339xx-01
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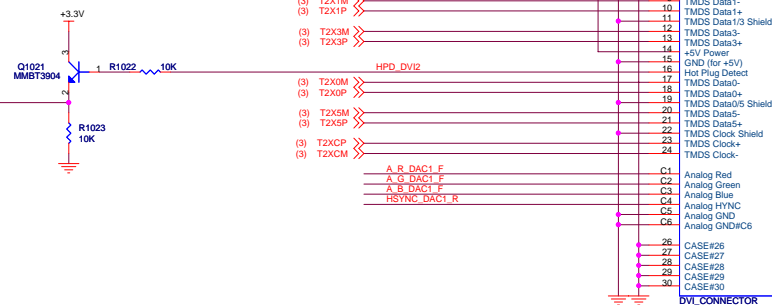


For ESD Protection



DB15 pin	Standard VGA	DDC1 Host	DDC2B or DDC2B+ Host	DDC2AB Host	DDC1/2 Display
11	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Optional SDA
12	Monitor ID bit 1	Data from display	SDA	SDA	Optional SDA
4	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Optional SCL
15	Monitor ID bit 3	Open	Open	Open	Optional SCL
9	N/C	+5V	+5V	+5V	Optional
Hardware Support	No	Yes	Yes	No	Yes

Based on VESA Display Data Channel (DDC) Standard Ver. 3 Dec. 15, 1997



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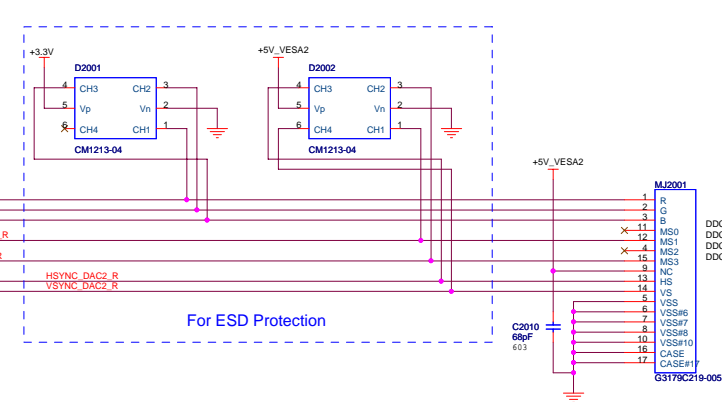
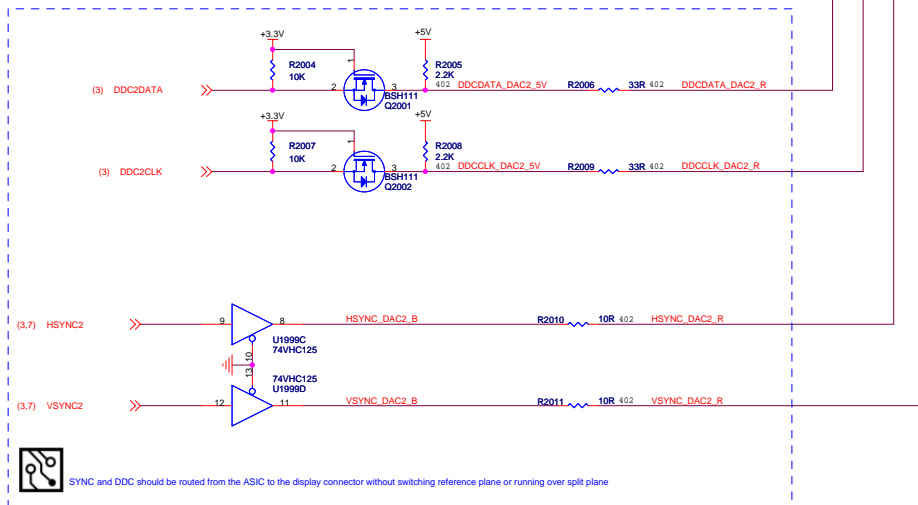
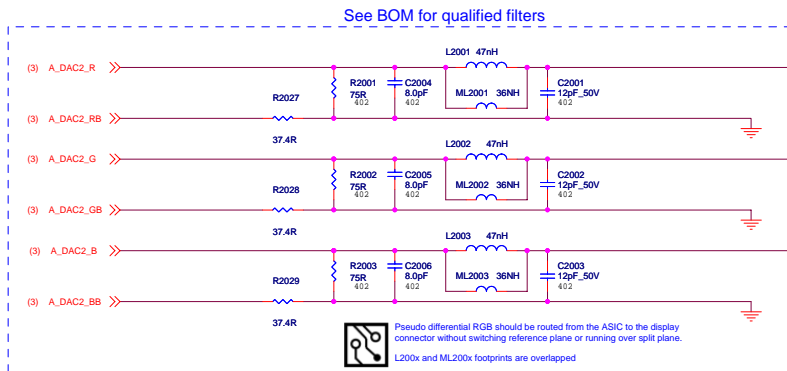
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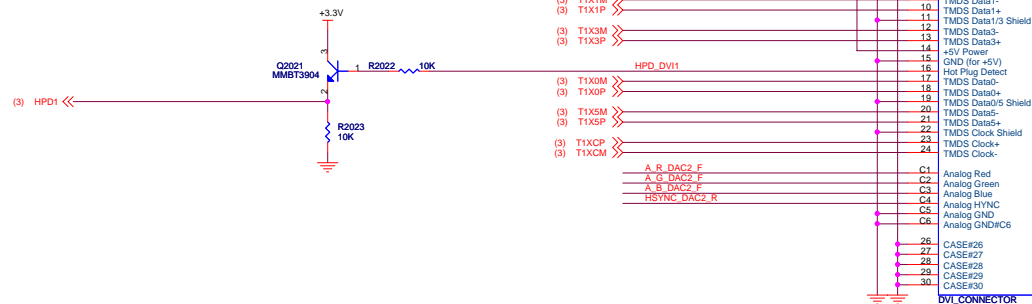
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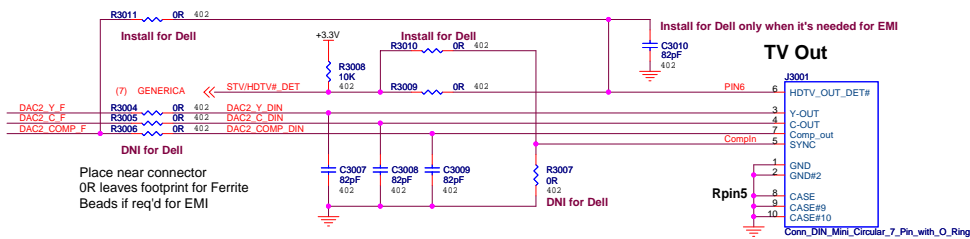
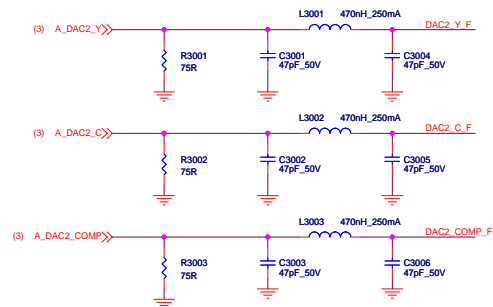
Title: RH RV670 - DAC1/TMDS2



DB15 pin	Standard VGA	DDC1 Host	DDC2B or DDC2B+ Host	DDC2AB Host	DDC1/2 Display
11	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Optional
12	Monitor ID bit 1	Monitor ID bit 1	Monitor ID bit 1	Monitor ID bit 1	Optional
4	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Optional
15	Monitor ID bit 3	Open	Monitor ID bit 3	Monitor ID bit 3	Optional
9	N/C	+5V	+5V	+5V	Optional
Hardware Support	Mechanical Key	Yes	Yes	No	Yes

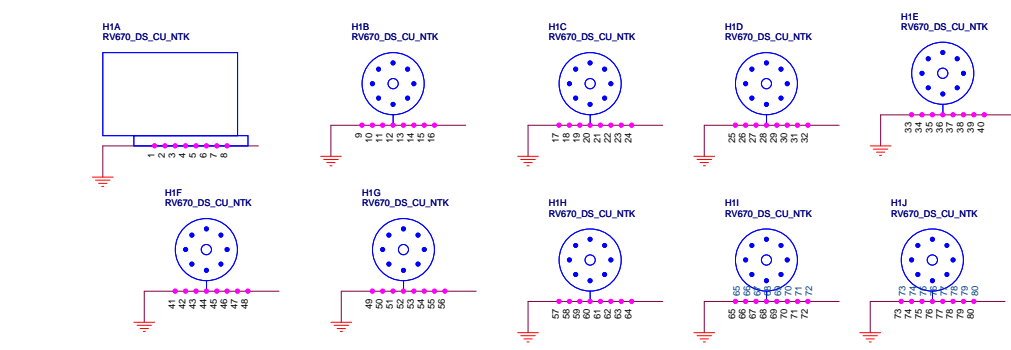
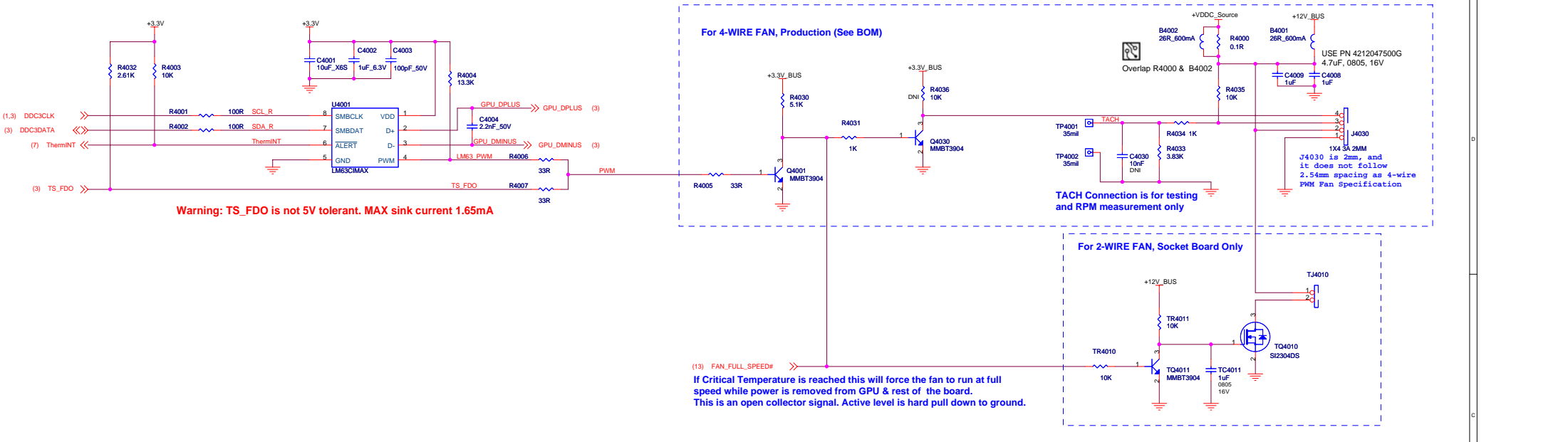
Based on VESA Display Data Channel (DDC) Standard Ver. 3 Dec. 15, 1997

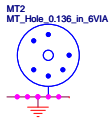
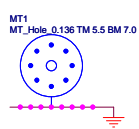
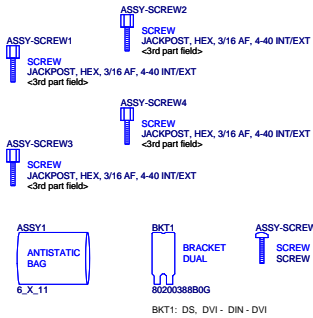




- 4-pin Svideo MiniDIN P/N 6070001000G







<div>AMD</div>			Title		Schematic No.		Date:				
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			REVISION HISTORY						NOTE: This schematic represents the PCB, it does not represent any specific SKU. For Stuffing options (component values, DNI , ? please consult the product specific BOM. Please contact AMD representative to obtain latest BOM closest to the application desired.		Rev 2
Sch Rev	PCB Rev	Date	REVISION DESCRIPTION								
0	00A	07/05/11	Initial design for RV670 GDDR4 (Gladiator)								
1	00B	07/07/29	<div><div>(pg 1) Adding R1 and connecting switch #7 of TSW1. Some mother boards require PCIE pin B7 to be grounded. Table-1 updated accordingly</div><div>(pg 7) Adding R64 and MR64 to select HOT_PLUG_DET or ThermINT as the interrupt source.</div><div>(pg 13) Adding R1617, MR1617, R1616, Q1613, R1615, R1618, and R1619 as option to support hot plug detection of external cable.</div><div>(pg 13) Adding R1282, MR1282, R1283, MR1283, R1284, MR1284, R1281, R1285, Q1280, and C1280 as option for thermal protection for VDDC SMPS MOSFETs</div><div>(pg 13) Adding MC1603, Moving series resistors R1244 and R1245 from source of Q1242 & Q1245 to the drain side. It is for consistency between B340 and B339</div><div>(pg 13) Adding ADC block similar to B340 (U1270 & surrounding components). This feature allows digital readback of actual VDDC voltage, MVDD voltage and VDDC current.</div><div>(pg 14) Adding D870 as option for power up sequencing</div><div>(pg 18) Adding heatsink symbol/footprint</div></div> <div><div>(Layout) Clean up of silk screen and correcting free text "JTAG ON" to "NO JTAG" on the bottom side to match Tabel-1 on pg-1</div><div>(DFM) Increasing clearance between C968, C150, R292, R294 and the clip bumpers and between C575, R1254 & mounting holes.</div></div>								
2	00	07/08/29	<div><div>(pg 16) Adding back C2001</div><div>(pg 13) Removing overlapped parts R1284, and MR1283 to address DFM</div><div>(pg 13) Adding C1660, C1661, and C1662 to improve EMI</div><div>(Layout) Fill in the gap between vias in +MVDD and +VDDC planes</div></div>								

