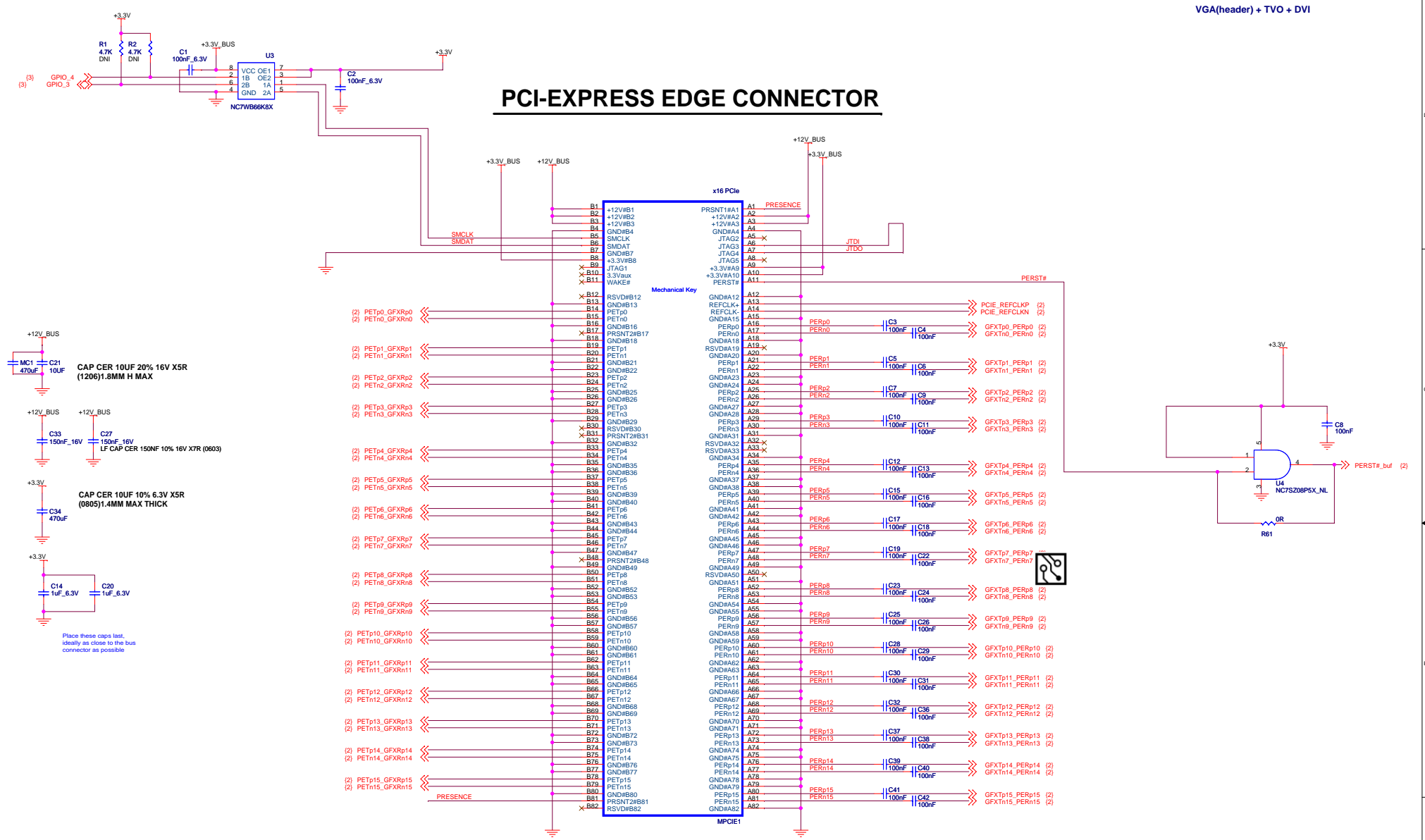
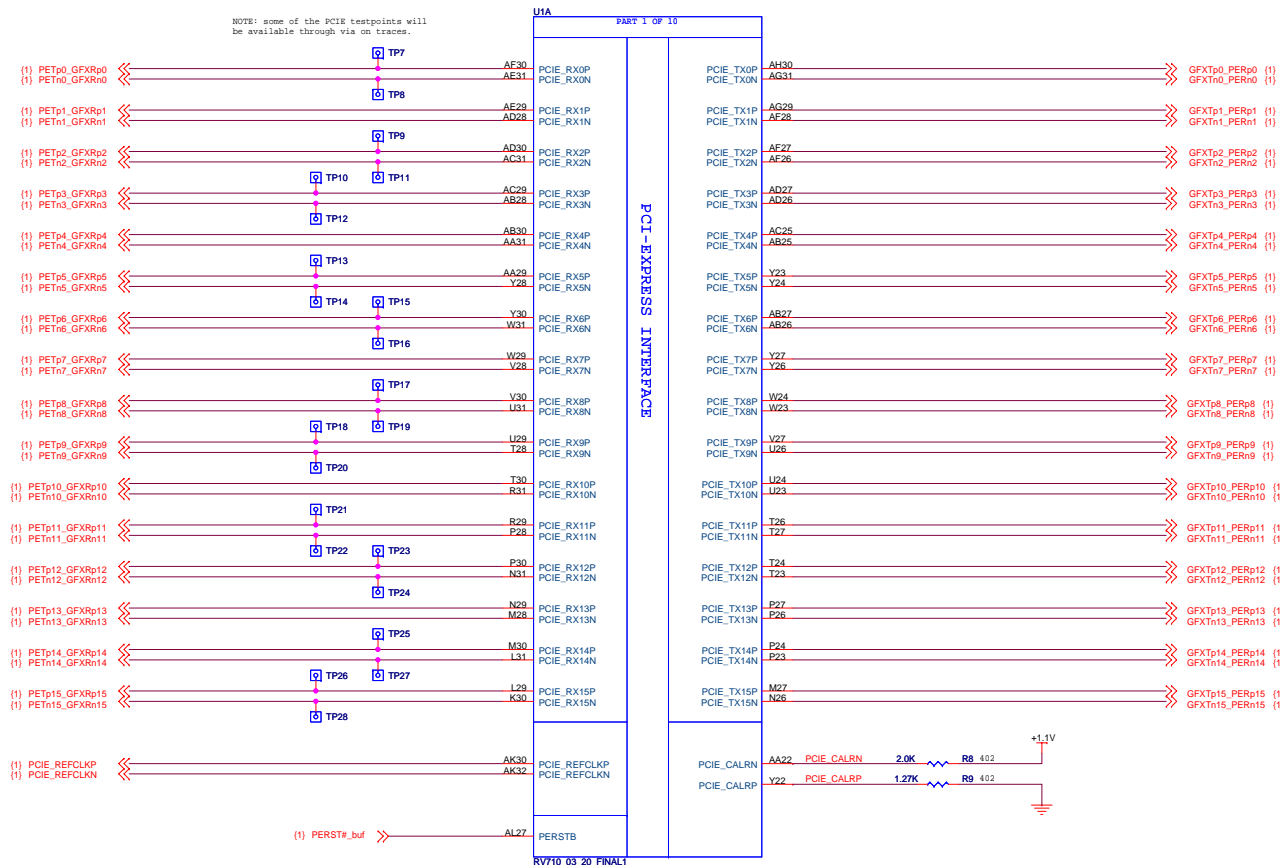
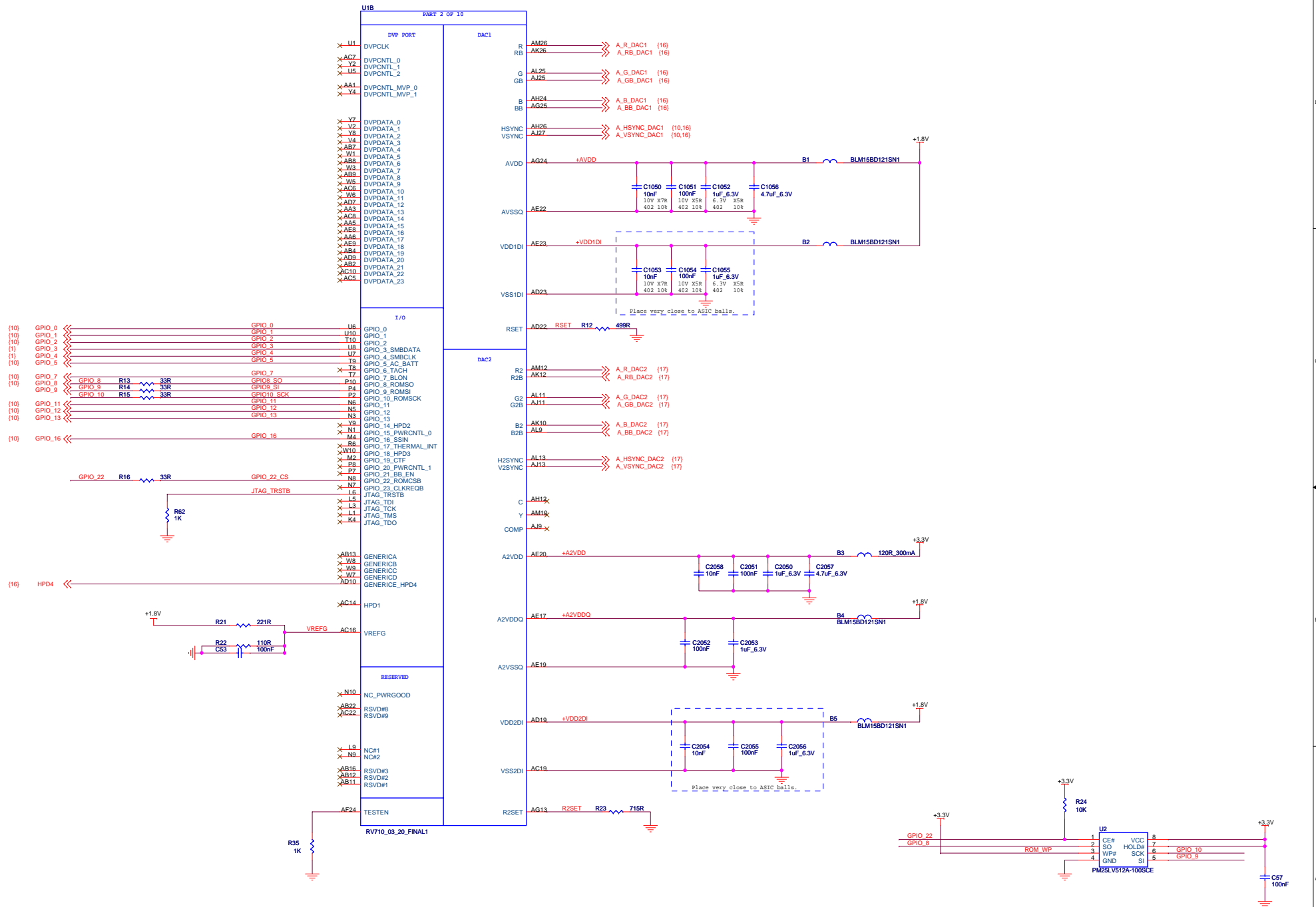


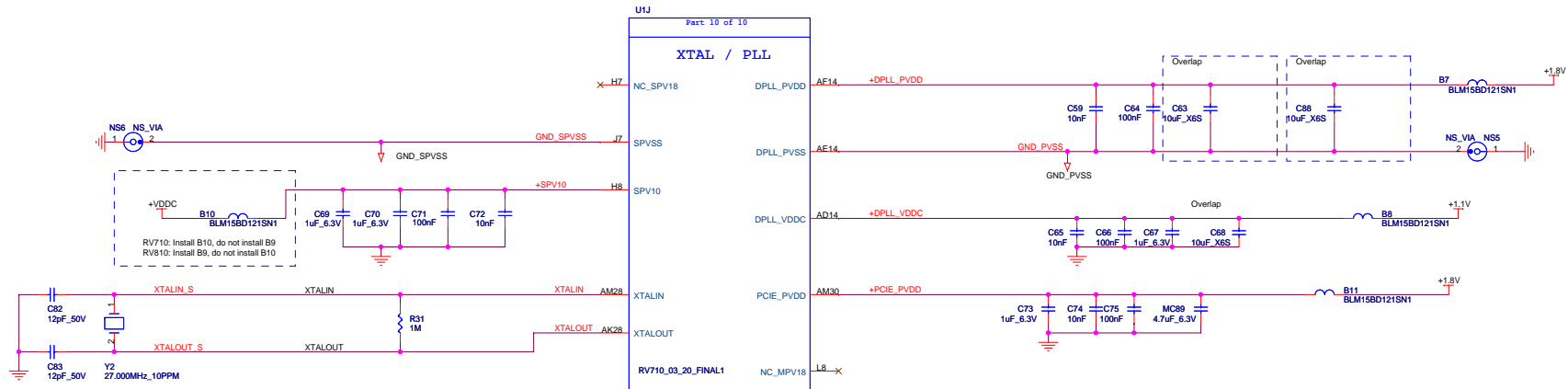
PCI-EXPRESS EDGE CONNECTOR



SYMBOL LEGEND	
DNI	DO NOT INSTALL
#	ACTIVE LOW
	DIGITAL GROUND
	ANALOG GROUND





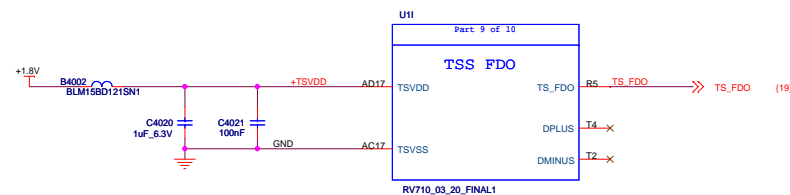
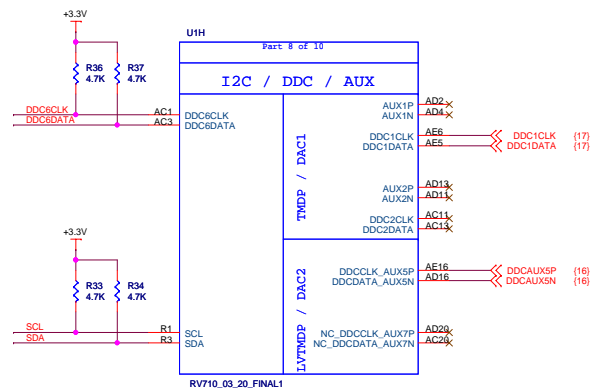


DDC6 BUS:

I2C Address	Function	Device
0x90	I2C VDDC Control	DS4402
0x98	LM63 - External Temperature Sensor	LM63

SCL / SDA BUS:

I2C Address	Function	Device
N/A	N/A	N/A

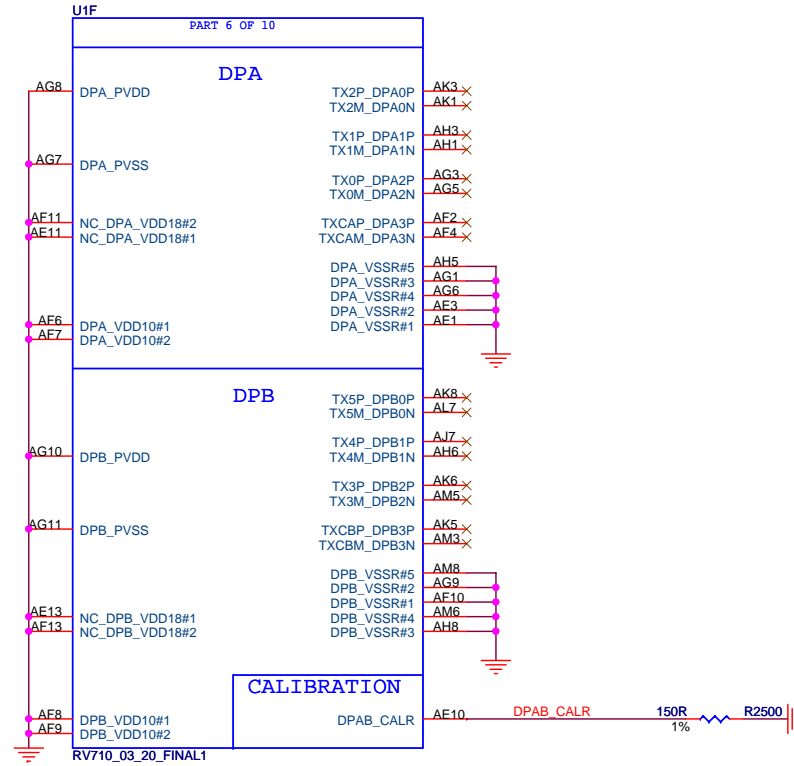


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 Sheet 4 of 22



TMDP INTERFACE



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Date: Thursday, December 04, 2008 Rev 0
 Sheet 5 of 22

Title RH LP RV710 DDR2 VGA (header) TVO DVI Doc No. 105-B750XX-00A

LVTMDP INTERFACE

U1G
Part 7 of 10

The diagram illustrates the LVTMDP interface circuitry, showing power planes (DPE, DPF), calibration signals, and component values.

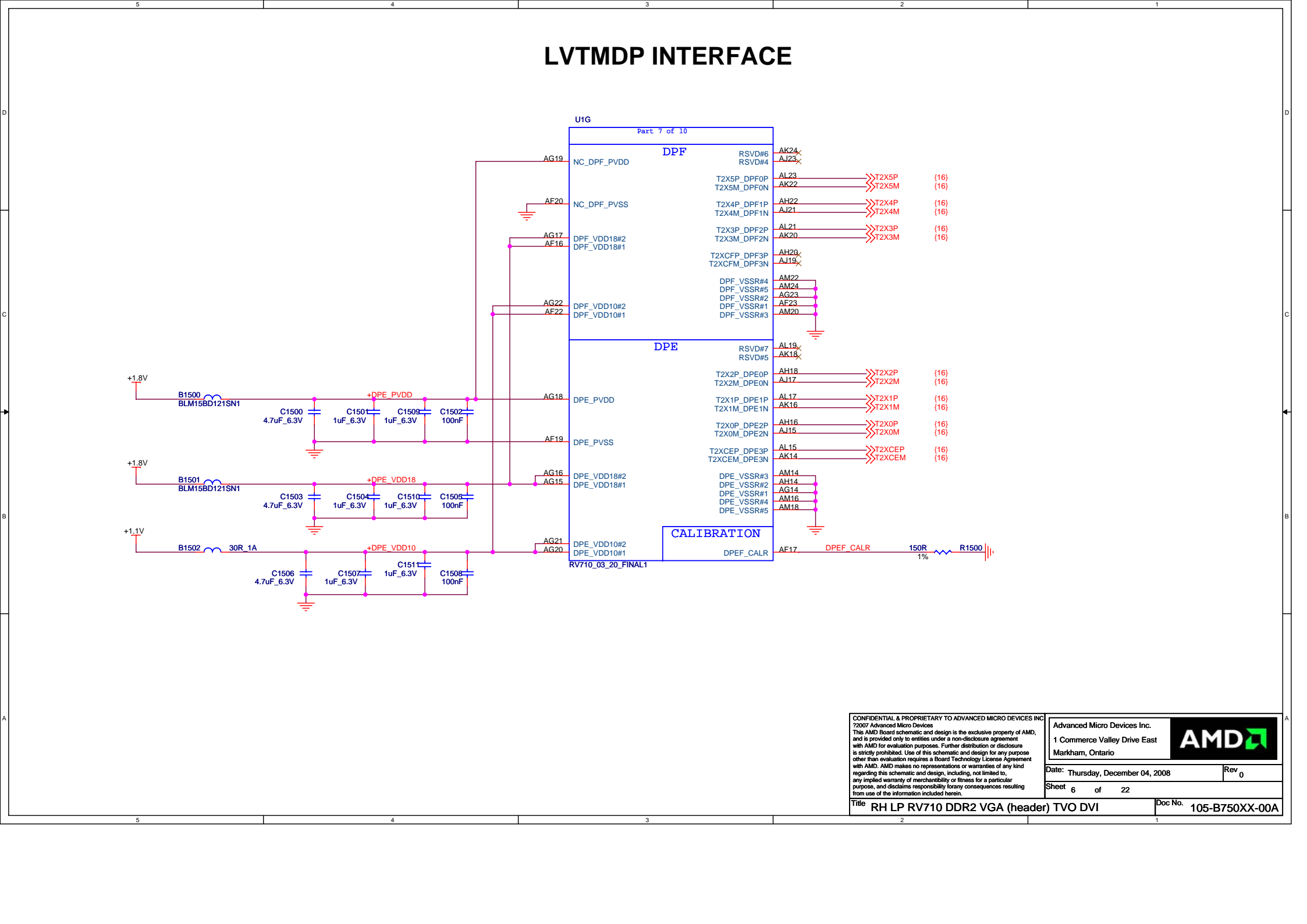
Power Planes:

- DPE (Display Port Embedded)**: Includes pins AG18 (DPE_PVDD), AF19 (DPE_PVSS), AG16 (DPE_VDD18#2), AG15 (DPE_VDD18#1), AG21 (DPE_VDD10#2), and AG20 (DPE_VDD10#1).
- DPF (Display Port Front Panel)**: Includes pins AG19 (NC_DPF_PVDD), AF20 (NC_DPF_PVSS), AG17 (DPF_VDD18#2), AF16 (DPF_VDD18#1), AG22 (DPF_VDD10#2), and AF22 (DPF_VDD10#1).

Calibration: The CALIBRATION section shows the DPEF_CALR signal connected to pin AF17 via a 150R resistor and R1500.

Component Values:

- Resistors: B1500, B1501, B1502, 30R, 1A, 150R, R1500.
- Capacitors: C1500, C1503, C1506, C1507, C1508, C1509, C1510, C1511, C1512, C1513, C1514, C1515, C1516, C1517, C1518, C1519, C1520, C1521, C1522, C1523, C1524, C1525, C1526, C1527, C1528, C1529, C1530, C1531, C1532, C1533, C1534, C1535, C1536, C1537, C1538, C1539, C1540, C1541, C1542, C1543, C1544, C1545, C1546, C1547, C1548, C1549, C1550, C1551, C1552, C1553, C1554, C1555, C1556, C1557, C1558, C1559, C1560, C1561, C1562, C1563, C1564, C1565, C1566, C1567, C1568, C1569, C1570, C1571, C1572, C1573, C1574, C1575, C1576, C1577, C1578, C1579, C1580, C1581, C1582, C1583, C1584, C1585, C1586, C1587, C1588, C1589, C1590, C1591, C1592, C1593, C1594, C1595, C1596, C1597, C1598, C1599, C1600, C1601, C1602, C1603, C1604, C1605, C1606, C1607, C1608, C1609, C1610, C1611, C1612, C1613, C1614, C1615, C1616, C1617, C1618, C1619, C1620, C1621, C1622, C1623, C1624, C1625, C1626, C1627, C1628, C1629, C1630, C1631, C1632, C1633, C1634, C1635, C1636, C1637, C1638, C1639, C1640, C1641, C1642, C1643, C1644, C1645, C1646, C1647, C1648, C1649, C1650, C1651, C1652, C1653, C1654, C1655, C1656, C1657, C1658, C1659, C1660, C1661, C1662, C1663, C1664, C1665, C1666, C1667, C1668, C1669, C1670, C1671, C1672, C1673, C1674, C1675, C1676, C1677, C1678, C1679, C1680, C1681, C1682, C1683, C1684, C1685, C1686, C1687, C1688, C1689, C1690, C1691, C1692, C1693, C1694, C1695, C1696, C1697, C1698, C1699, C1700, C1701, C1702, C1703, C1704, C1705, C1706, C1707, C1708, C1709, C1710, C1711, C1712, C1713, C1714, C1715, C1716, C1717, C1718, C1719, C1720, C1721, C1722, C1723, C1724, C1725, C1726, C1727, C1728, C1729, C1730, C1731, C1732, C1733, C1734, C1735, C1736, C1737, C1738, C1739, C1740, C1741, C1742, C1743, C1744, C1745, C1746, C1747, C1748, C1749, C1750, C1751, C1752, C1753, C1754, C1755, C1756, C1757, C1758, C1759, C1760, C1761, C1762, C1763, C1764, C1765, C1766, C1767, C1768, C1769, C1770, C1771, C1772, C1773, C1774, C1775, C1776, C1777, C1778, C1779, C1780, C1781, C1782, C1783, C1784, C1785, C1786, C1787, C1788, C1789, C1790, C1791, C1792, C1793, C1794, C1795, C1796, C1797, C1798, C1799, C1800, C1801, C1802, C1803, C1804, C1805, C1806, C1807, C1808, C1809, C1810, C1811, C1812, C1813, C1814, C1815, C1816, C1817, C1818, C1819, C1820, C1821, C1822, C1823, C1824, C1825, C1826, C1827, C1828, C1829, C1830, C1831, C1832, C1833, C1834, C1835, C1836, C1837, C1838, C1839, C1840, C1841, C1842, C1843, C1844, C1845, C1846, C1847, C1848, C1849, C1850, C1851, C1852, C1853, C1854, C1855, C1856, C1857, C1858, C1859, C1860, C1861, C1862, C1863, C1864, C1865, C1866, C1867, C1868, C1869, C1870, C1871, C1872, C1873, C1874, C1875, C1876, C1877, C1878, C1879, C1880, C1881, C1882, C1883, C1884, C1885, C1886, C1887, C1888, C1889, C1890, C1891, C1892, C1893, C1894, C1895, C1896, C1897, C1898, C1899, C1900, C1901, C1902, C1903, C1904, C1905, C1906, C1907, C1908, C1909, C1910, C1911, C1912, C1913, C1914, C1915, C1916, C1917, C1918, C1919, C1920, C1921, C1922, C1923, C1924, C1925, C1926, C1927, C1928, C1929, C1930, C1931, C1932, C1933, C1934, C1935, C1936, C1937, C1938, C1939, C1940, C1941, C1942, C1943, C1944, C1945, C1946, C1947, C1948, C1949, C1950, C1951, C1952, C1953, C1954, C1955, C1956, C1957, C1958, C1959, C1960, C1961, C1962, C1963, C1964, C1965, C1966, C1967, C1968, C1969, C1970, C1971, C1972, C1973, C1974, C1975, C1976, C1977, C1978, C1979, C1980, C1981, C1982, C1983, C1984, C1985, C1986, C1987, C1988, C1989, C1990, C1991, C1992, C1993, C1994, C1995, C1996, C1997, C1998, C1999, C2000, C2001, C2002, C2003, C2004, C2005, C2006, C2007, C2008, C2009, C2010, C2011, C2012, C2013, C2014, C2015, C2016, C2017, C2018, C2019, C2020, C2021, C2022, C2023, C2024, C2025, C2026, C2027, C2028, C2029, C2030, C2031, C2032, C2033, C2034, C2035, C2036, C2037, C2038, C2039, C2040, C2041, C2042, C2043, C2044, C2045, C2046, C2047, C2048, C2049, C2050, C2051, C2052, C2053, C2054, C2055, C2056, C2057, C2058, C2059, C2060, C2061, C2062, C2063, C2064, C2065, C2066, C2067, C2068, C2069, C2070, C2071, C2072, C2073, C2074, C2075, C2076, C2077, C2078, C2079, C2080, C2081, C2082, C2083, C2084, C2085, C2086, C2087, C2088, C2089, C2090, C2091, C2092, C2093, C2094, C2095, C2096, C2097, C2098, C2099, C2100, C2101, C2102, C2103, C2104, C2105, C2106, C2107, C2108, C2109, C2110, C2111, C2112, C2113, C2114, C2115, C2116, C2117, C2118,



LVTMDP INTERFACE

The diagram illustrates the LVTMDP interface for the RV710 GPU. It shows the connection of the DPF and DPE blocks to various power and signal pins. The power planes for +DPE_PVDD, +DPE_VDD18, and +DPE_VDD10 are shown with decoupling capacitors. The signal pins for T2X5P, T2X5M, T2X4P, T2X4M, T2X3P, T2X3M, T2X2P, T2X2M, T2X1P, T2X1M, T2X0P, T2X0M, T2XCEP, and T2XCCEM are connected to specific pins on the GPU. A calibration pin DPEF_CALR is also shown.

U1G
Part 7 of 10

DPF

RSVD#6
RSVD#4
T2X5P_DPF0P
T2X5M_DPF0N
T2X4P_DPF1P
T2X4M_DPF1N
T2X3P_DPF2P
T2X3M_DPF2N
T2XCFP_DPF3P
T2XCFM_DPF3N
DPF_VSSR#4
DPF_VSSR#5
DPF_VSSR#2
DPF_VSSR#1
DPF_VSSR#3

DPE

RSVD#7
RSVD#5
T2X2P_DPE0P
T2X2M_DPE0N
T2X1P_DPE1P
T2X1M_DPE1N
T2X0P_DPE2P
T2X0M_DPE2N
T2XCEP_DPE3P
T2XCCEM_DPE3N
DPE_VSSR#3
DPE_VSSR#2
DPE_VSSR#1
DPE_VSSR#4
DPE_VSSR#5

CALIBRATION

DPEF_CALR

RV710_03_20_FINAL1

AG19 NC_DPF_PVDD
AF20 NC_DPF_PVSS
AG17 DPF_VDD18#2
AF16 DPF_VDD18#1
AG22 DPF_VDD10#2
AF22 DPF_VDD10#1
AG18 DPE_PVDD
AF19 DPE_PVSS
AG16 DPE_VDD18#2
AG15 DPE_VDD18#1
AG21 DPE_VDD10#2
AG20 DPE_VDD10#1

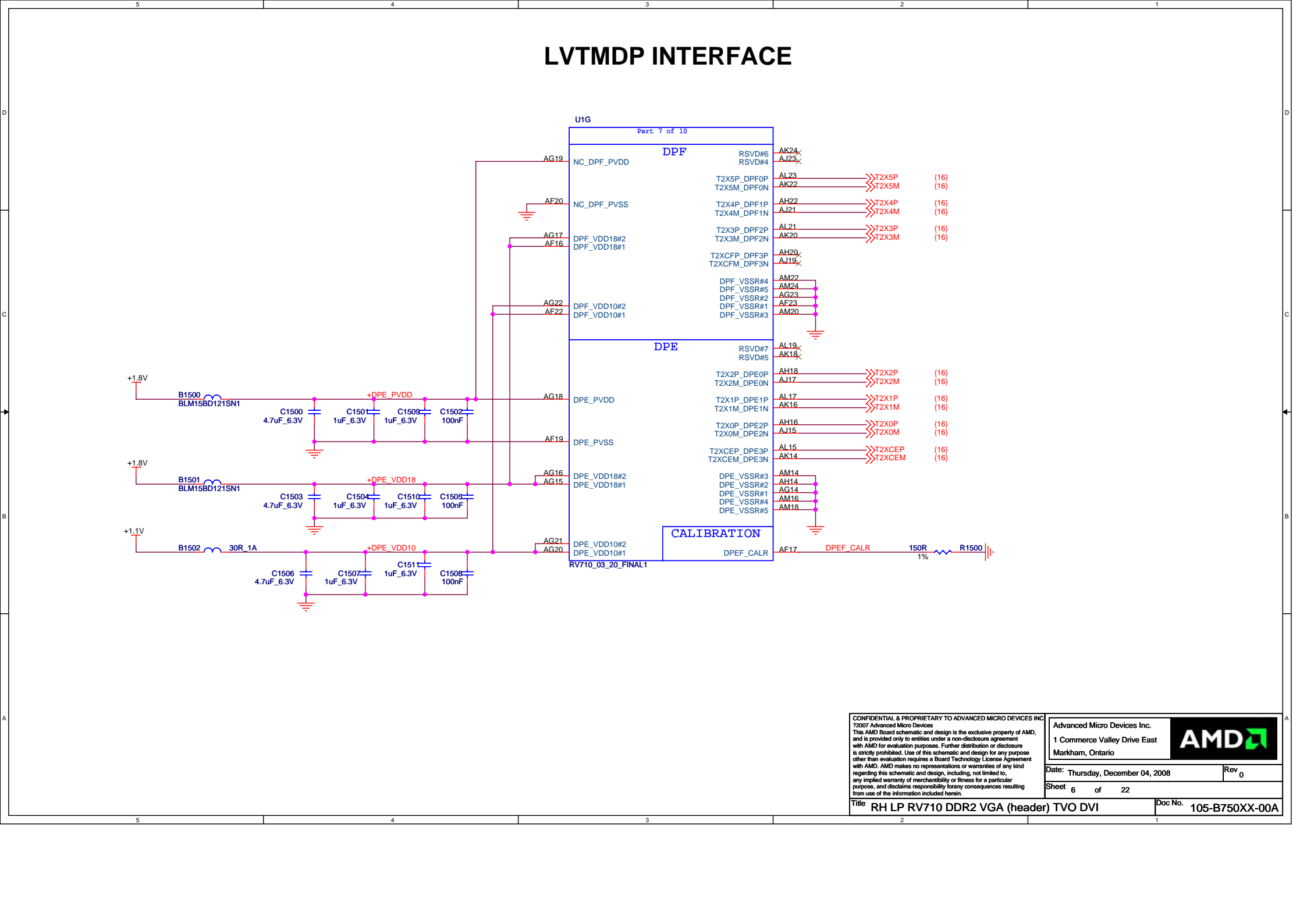
+DPE_PVDD
+1.8V
B1500 BLM15BD121SN1
C1500 4.7uF_6.3V
C1501 1uF_6.3V
C1509 1uF_6.3V
C1502 100nF

+DPE_VDD18
+1.8V
B1501 BLM15BD121SN1
C1503 4.7uF_6.3V
C1504 1uF_6.3V
C1510 1uF_6.3V
C1508 100nF

+DPE_VDD10
+1.1V
B1502 30R 1A
C1506 4.7uF_6.3V
C1507 1uF_6.3V
C1511 1uF_6.3V
C1508 100nF

AF24 AK24
AJ23 AK23
AL23 T2X5P (16)
AK22 T2X5M (16)
AH22 T2X4P (16)
AJ21 T2X4M (16)
AL21 T2X3P (16)
AK20 T2X3M (16)
AH20 T2X2P (16)
AJ19 T2X2M (16)
AM22 T2X1P (16)
AM24 T2X1M (16)
AG23 T2X0P (16)
AF23 T2X0M (16)
AM20 T2XCEP (16)
AL19 T2XCCEM (16)
AK18 T2XCCEM (16)
AH18 T2XCEP (16)
AJ17 T2XCCEM (16)
AL17 T2XCEP (16)
AK16 T2XCCEM (16)
AH16 T2XCEP (16)
AJ15 T2XCCEM (16)
AL15 T2XCEP (16)
AK14 T2XCCEM (16)
AM14 T2XCEP (16)
AH14 T2XCCEM (16)
AG14 T2XCEP (16)
AM16 T2XCEP (16)
AM18 T2XCCEM (16)

AF17 DPEF_CALR 150R 1% R1500



LVTMDP INTERFACE

U1G
Part 7 of 10

DPF

RSVD#6
RSVD#4
T2X5P_DPF0P
T2X5M_DPF0N
T2X4P_DPF1P
T2X4M_DPF1N
T2X3P_DPF2P
T2X3M_DPF2N
T2XCFP_DPF3P
T2XCFM_DPF3N
DPF_VSSR#4
DPF_VSSR#5
DPF_VSSR#2
DPF_VSSR#1
DPF_VSSR#3

DPE

RSVD#7
RSVD#5
T2X2P_DPE0P
T2X2M_DPE0N
T2X1P_DPE1P
T2X1M_DPE1N
T2X0P_DPE2P
T2X0M_DPE2N
T2XCEP_DPE3P
T2XCEM_DPE3N
DPE_VSSR#3
DPE_VSSR#2
DPE_VSSR#1
DPE_VSSR#4
DPE_VSSR#5

CALIBRATION

DPEF_CALR

Power and Signal Connections:

- +DPE_PVDD:** Connected to AG18, AF19, and AG19. Decoupled with C1500 (4.7uF_6.3V), C1501 (1uF_6.3V), C1509 (1uF_6.3V), and C1502 (100nF).
- +DPE_VDD18:** Connected to AG16, AG15, and AF16. Decoupled with C1503 (4.7uF_6.3V), C1504 (1uF_6.3V), C1510 (1uF_6.3V), and C1508 (100nF).
- +DPE_VDD10:** Connected to AG21, AG20, and AF17. Decoupled with C1506 (4.7uF_6.3V), C1507 (1uF_6.3V), C1511 (1uF_6.3V), and C1508 (100nF).

Signal Connections:

- RSVD#6:** Connected to AK24 and AJ23.
- RSVD#4:** Connected to AL23 and AK22.
- RSVD#7:** Connected to AL19 and AK18.
- RSVD#5:** Connected to AL17 and AK16.
- T2X5P_DPF0P:** Connected to T2X5P (16).
- T2X5M_DPF0N:** Connected to T2X5M (16).
- T2X4P_DPF1P:** Connected to T2X4P (16).
- T2X4M_DPF1N:** Connected to T2X4M (16).
- T2X3P_DPF2P:** Connected to T2X3P (16).
- T2X3M_DPF2N:** Connected to T2X3M (16).
- T2XCFP_DPF3P:** Connected to T2XCFP (16).
- T2XCFM_DPF3N:** Connected to T2XCFM (16).
- DPF_VSSR#4:** Connected to AM22.
- DPF_VSSR#5:** Connected to AM24.
- DPF_VSSR#2:** Connected to AG23.
- DPF_VSSR#1:** Connected to AF23.
- DPF_VSSR#3:** Connected to AM20.
- T2X2P_DPE0P:** Connected to T2X2P (16).
- T2X2M_DPE0N:** Connected to T2X2M (16).
- T2X1P_DPE1P:** Connected to T2X1P (16).
- T2X1M_DPE1N:** Connected to T2X1M (16).
- T2X0P_DPE2P:** Connected to T2X0P (16).
- T2X0M_DPE2N:** Connected to T2X0M (16).
- T2XCEP_DPE3P:** Connected to T2XCEP (16).
- T2XCEM_DPE3N:** Connected to T2XCEM (16).
- DPE_VSSR#3:** Connected to AM14.
- DPE_VSSR#2:** Connected to AH14.
- DPE_VSSR#1:** Connected to AG14.
- DPE_VSSR#4:** Connected to AM16.
- DPE_VSSR#5:** Connected to AM18.

Other Components:

- B1500:** Inductor, BLM15BD121SN1.
- B1501:** Inductor, BLM15BD121SN1.
- B1502:** Inductor, 30R 1A.
- R1500:** Resistor, 150R 1%.

RV710_03_20_FINAL1

LVTMDP INTERFACE

U1G
Part 7 of 10

DPF

RSVD#6
RSVD#4
T2X5P_DPF0P
T2X5M_DPF0N
T2X4P_DPF1P
T2X4M_DPF1N
T2X3P_DPF2P
T2X3M_DPF2N
T2XCFP_DPF3P
T2XCFM_DPF3N
DPF_VSSR#4
DPF_VSSR#5
DPF_VSSR#2
DPF_VSSR#1
DPF_VSSR#3

DPE

RSVD#7
RSVD#5
T2X2P_DPE0P
T2X2M_DPE0N
T2X1P_DPE1P
T2X1M_DPE1N
T2X0P_DPE2P
T2X0M_DPE2N
T2XCEP_DPE3P
T2XCEM_DPE3N
DPE_VSSR#3
DPE_VSSR#2
DPE_VSSR#1
DPE_VSSR#4
DPE_VSSR#5

CALIBRATION

DPEF_CALR

Power and Signal Connections:

- +DPE_PVDD:** Connected to AG18, AF19, and AG19. Decoupled with C1500 (4.7uF_6.3V), C1501 (1uF_6.3V), C1509 (1uF_6.3V), and C1502 (100nF).
- +DPE_VDD18:** Connected to AG16, AG15, and AF16. Decoupled with C1503 (4.7uF_6.3V), C1504 (1uF_6.3V), C1510 (1uF_6.3V), and C1508 (100nF).
- +DPE_VDD10:** Connected to AG21, AG20, and AF17. Decoupled with C1506 (4.7uF_6.3V), C1507 (1uF_6.3V), C1511 (1uF_6.3V), and C1508 (100nF).

Signal Connections:

- RSVD#6:** Connected to AK24 and AJ23.
- RSVD#4:** Connected to AL23 and AK22.
- RSVD#7:** Connected to AL19 and AK18.
- RSVD#5:** Connected to AL17 and AK16.
- T2X5P_DPF0P:** Connected to T2X5P (16).
- T2X5M_DPF0N:** Connected to T2X5M (16).
- T2X4P_DPF1P:** Connected to T2X4P (16).
- T2X4M_DPF1N:** Connected to T2X4M (16).
- T2X3P_DPF2P:** Connected to T2X3P (16).
- T2X3M_DPF2N:** Connected to T2X3M (16).
- T2XCFP_DPF3P:** Connected to T2XCFP (16).
- T2XCFM_DPF3N:** Connected to T2XCFM (16).
- DPF_VSSR#4:** Connected to AM22.
- DPF_VSSR#5:** Connected to AM24.
- DPF_VSSR#2:** Connected to AG23.
- DPF_VSSR#1:** Connected to AF23.
- DPF_VSSR#3:** Connected to AM20.
- T2X2P_DPE0P:** Connected to T2X2P (16).
- T2X2M_DPE0N:** Connected to T2X2M (16).
- T2X1P_DPE1P:** Connected to T2X1P (16).
- T2X1M_DPE1N:** Connected to T2X1M (16).
- T2X0P_DPE2P:** Connected to T2X0P (16).
- T2X0M_DPE2N:** Connected to T2X0M (16).
- T2XCEP_DPE3P:** Connected to T2XCEP (16).
- T2XCEM_DPE3N:** Connected to T2XCEM (16).
- DPE_VSSR#3:** Connected to AM14.
- DPE_VSSR#2:** Connected to AH14.
- DPE_VSSR#1:** Connected to AG14.
- DPE_VSSR#4:** Connected to AM16.
- DPE_VSSR#5:** Connected to AM18.

Other Components:

- B1500:** Inductor, BLM15BD121SN1.
- B1501:** Inductor, BLM15BD121SN1.
- B1502:** Inductor, 30R 1A.
- R1500:** Resistor, 150R 1%.

RV710_03_20_FINAL1

LVTMDP INTERFACE

U1G
Part 7 of 10

DPF

RSVD#6
RSVD#4
T2X5P_DPF0P
T2X5M_DPF0N
T2X4P_DPF1P
T2X4M_DPF1N
T2X3P_DPF2P
T2X3M_DPF2N
T2XCFP_DPF3P
T2XCFM_DPF3N
DPF_VSSR#4
DPF_VSSR#5
DPF_VSSR#2
DPF_VSSR#1
DPF_VSSR#3

DPE

RSVD#7
RSVD#5
T2X2P_DPE0P
T2X2M_DPE0N
T2X1P_DPE1P
T2X1M_DPE1N
T2X0P_DPE2P
T2X0M_DPE2N
T2XCEP_DPE3P
T2XCEM_DPE3N
DPE_VSSR#3
DPE_VSSR#2
DPE_VSSR#1
DPE_VSSR#4
DPE_VSSR#5

CALIBRATION

DPEF_CALR

Power and Signal Connections:

- +DPE_PVDD:** Connected to AG18, AF19, and AG19. Decoupled with C1500 (4.7uF_6.3V), C1501 (1uF_6.3V), C1509 (1uF_6.3V), and C1502 (100nF).
- +DPE_VDD18:** Connected to AG16, AG15, and AF16. Decoupled with C1503 (4.7uF_6.3V), C1504 (1uF_6.3V), C1510 (1uF_6.3V), and C1508 (100nF).
- +DPE_VDD10:** Connected to AG21, AG20, and AF17. Decoupled with C1506 (4.7uF_6.3V), C1507 (1uF_6.3V), C1511 (1uF_6.3V), and C1508 (100nF).

Signal Connections:

- RSVD#6:** Connected to AK24 and AJ23.
- RSVD#4:** Connected to AL23 and AK22.
- RSVD#7:** Connected to AL19 and AK18.
- RSVD#5:** Connected to AL17 and AK16.
- T2X5P_DPF0P:** Connected to T2X5P (16).
- T2X5M_DPF0N:** Connected to T2X5M (16).
- T2X4P_DPF1P:** Connected to T2X4P (16).
- T2X4M_DPF1N:** Connected to T2X4M (16).
- T2X3P_DPF2P:** Connected to T2X3P (16).
- T2X3M_DPF2N:** Connected to T2X3M (16).
- T2XCFP_DPF3P:** Connected to T2XCFP (16).
- T2XCFM_DPF3N:** Connected to T2XCFM (16).
- DPF_VSSR#4:** Connected to AM22.
- DPF_VSSR#5:** Connected to AM24.
- DPF_VSSR#2:** Connected to AG23.
- DPF_VSSR#1:** Connected to AF23.
- DPF_VSSR#3:** Connected to AM20.
- T2X2P_DPE0P:** Connected to T2X2P (16).
- T2X2M_DPE0N:** Connected to T2X2M (16).
- T2X1P_DPE1P:** Connected to T2X1P (16).
- T2X1M_DPE1N:** Connected to T2X1M (16).
- T2X0P_DPE2P:** Connected to T2X0P (16).
- T2X0M_DPE2N:** Connected to T2X0M (16).
- T2XCEP_DPE3P:** Connected to T2XCEP (16).
- T2XCEM_DPE3N:** Connected to T2XCEM (16).
- DPE_VSSR#3:** Connected to AM14.
- DPE_VSSR#2:** Connected to AH14.
- DPE_VSSR#1:** Connected to AG14.
- DPE_VSSR#4:** Connected to AM16.
- DPE_VSSR#5:** Connected to AM18.

Other Components:

- B1500:** Inductor, BLM15BD121SN1.
- B1501:** Inductor, BLM15BD121SN1.
- B1502:** Inductor, 30R 1A.
- R1500:** Resistor, 150R 1%.

RV710_03_20_FINAL1

LVTMDP INTERFACE

U1G
Part 7 of 10

DPF

RSVD#6
RSVD#4
T2X5P_DPF0P
T2X5M_DPF0N
T2X4P_DPF1P
T2X4M_DPF1N
T2X3P_DPF2P
T2X3M_DPF2N
T2XCFP_DPF3P
T2XCFM_DPF3N
DPF_VSSR#4
DPF_VSSR#5
DPF_VSSR#2
DPF_VSSR#1
DPF_VSSR#3

DPE

RSVD#7
RSVD#5
T2X2P_DPE0P
T2X2M_DPE0N
T2X1P_DPE1P
T2X1M_DPE1N
T2X0P_DPE2P
T2X0M_DPE2N
T2XCEP_DPE3P
T2XCEM_DPE3N
DPE_VSSR#3
DPE_VSSR#2
DPE_VSSR#1
DPE_VSSR#4
DPE_VSSR#5

CALIBRATION

DPEF_CALR

Power and Signal Connections:

- +DPE_PVDD:** Connected to AG18, AF19, and AG19. Decoupled with C1500 (4.7uF_6.3V), C1501 (1uF_6.3V), C1509 (1uF_6.3V), and C1502 (100nF).
- +DPE_VDD18:** Connected to AG16, AG15, and AF16. Decoupled with C1503 (4.7uF_6.3V), C1504 (1uF_6.3V), C1510 (1uF_6.3V), and C1508 (100nF).
- +DPE_VDD10:** Connected to AG21, AG20, and AF17. Decoupled with C1506 (4.7uF_6.3V), C1507 (1uF_6.3V), C1511 (1uF_6.3V), and C1508 (100nF).

Signal Connections:

- RSVD#6:** Connected to AK24 and AJ23.
- RSVD#4:** Connected to AL23 and AK22.
- RSVD#7:** Connected to AL19 and AK18.
- RSVD#5:** Connected to AL17 and AK16.
- T2X5P_DPF0P:** Connected to T2X5P (16).
- T2X5M_DPF0N:** Connected to T2X5M (16).
- T2X4P_DPF1P:** Connected to T2X4P (16).
- T2X4M_DPF1N:** Connected to T2X4M (16).
- T2X3P_DPF2P:** Connected to T2X3P (16).
- T2X3M_DPF2N:** Connected to T2X3M (16).
- T2XCFP_DPF3P:** Connected to T2XCFP (16).
- T2XCFM_DPF3N:** Connected to T2XCFM (16).
- DPF_VSSR#4:** Connected to AM22.
- DPF_VSSR#5:** Connected to AM24.
- DPF_VSSR#2:** Connected to AG23.
- DPF_VSSR#1:** Connected to AF23.
- DPF_VSSR#3:** Connected to AM20.
- T2X2P_DPE0P:** Connected to T2X2P (16).
- T2X2M_DPE0N:** Connected to T2X2M (16).
- T2X1P_DPE1P:** Connected to T2X1P (16).
- T2X1M_DPE1N:** Connected to T2X1M (16).
- T2X0P_DPE2P:** Connected to T2X0P (16).
- T2X0M_DPE2N:** Connected to T2X0M (16).
- T2XCEP_DPE3P:** Connected to T2XCEP (16).
- T2XCEM_DPE3N:** Connected to T2XCEM (16).
- DPE_VSSR#3:** Connected to AM14.
- DPE_VSSR#2:** Connected to AH14.
- DPE_VSSR#1:** Connected to AG14.
- DPE_VSSR#4:** Connected to AM16.
- DPE_VSSR#5:** Connected to AM18.

Other Components:

- B1500:** Inductor, BLM15BD121SN1.
- B1501:** Inductor, BLM15BD121SN1.
- B1502:** Inductor, 30R 1A.
- R1500:** Resistor, 150R 1%.

RV710_03_20_FINAL1

LVTMDP INTERFACE

U1G
Part 7 of 10

The diagram illustrates the LVTMDP interface circuitry for the RV710 GPU. It shows three power planes: +DPE_PVDD, +DPE_VDD18, and +DPE_VDD10, each with its own decoupling network consisting of capacitors (C1500-C1508) and inductors (B1500-B1502). The DPF (Display Port Front Panel) section includes pins for NC_DPF_PVDD, NC_DPF_PVSS, DPF_VDD18#2, DPF_VDD18#1, DPF_VDD10#2, and DPF_VDD10#1. The DPE (Display Port Embedded) section includes pins for DPE_PVDD, DPE_PVSS, DPE_VDD18#2, DPE_VDD18#1, DPE_VDD10#2, and DPE_VDD10#1. A CALIBRATION section is also present, featuring a DPEF_CALR pin connected to a 150R resistor and a 1% tolerance resistor R1500. The diagram also shows various signal pins for T2X5P, T2X5M, T2X4P, T2X4M, T2X3P, T2X3M, T2X2P, T2X2M, T2X1P, T2X1M, T2X0P, T2X0M, T2XCCEP, and T2XCCEM. The board identifier is RV710_03_20_FINAL1.

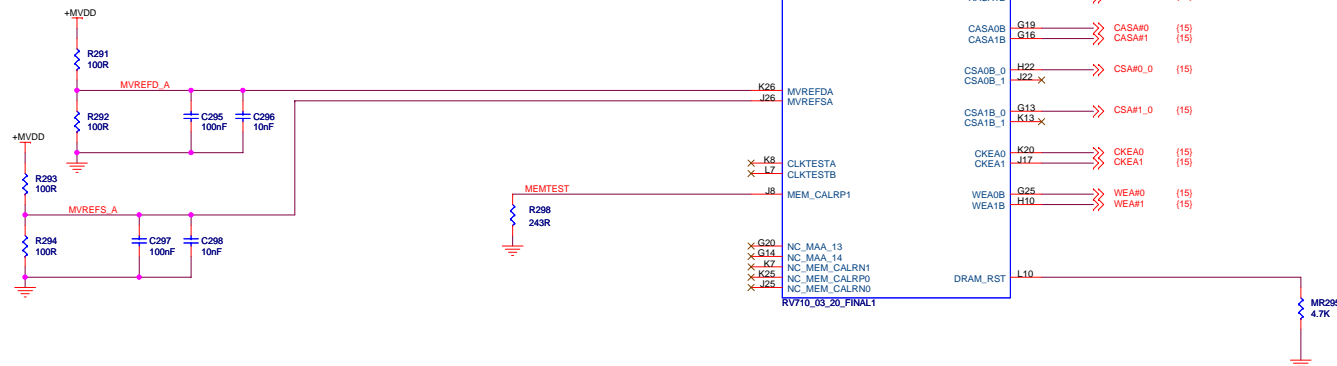
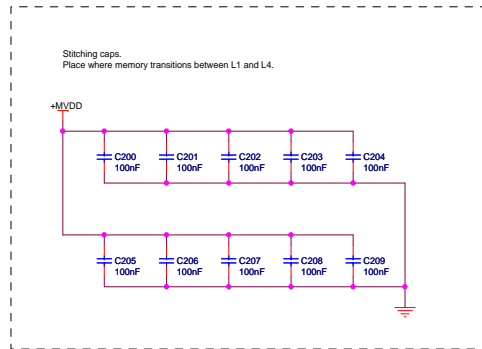
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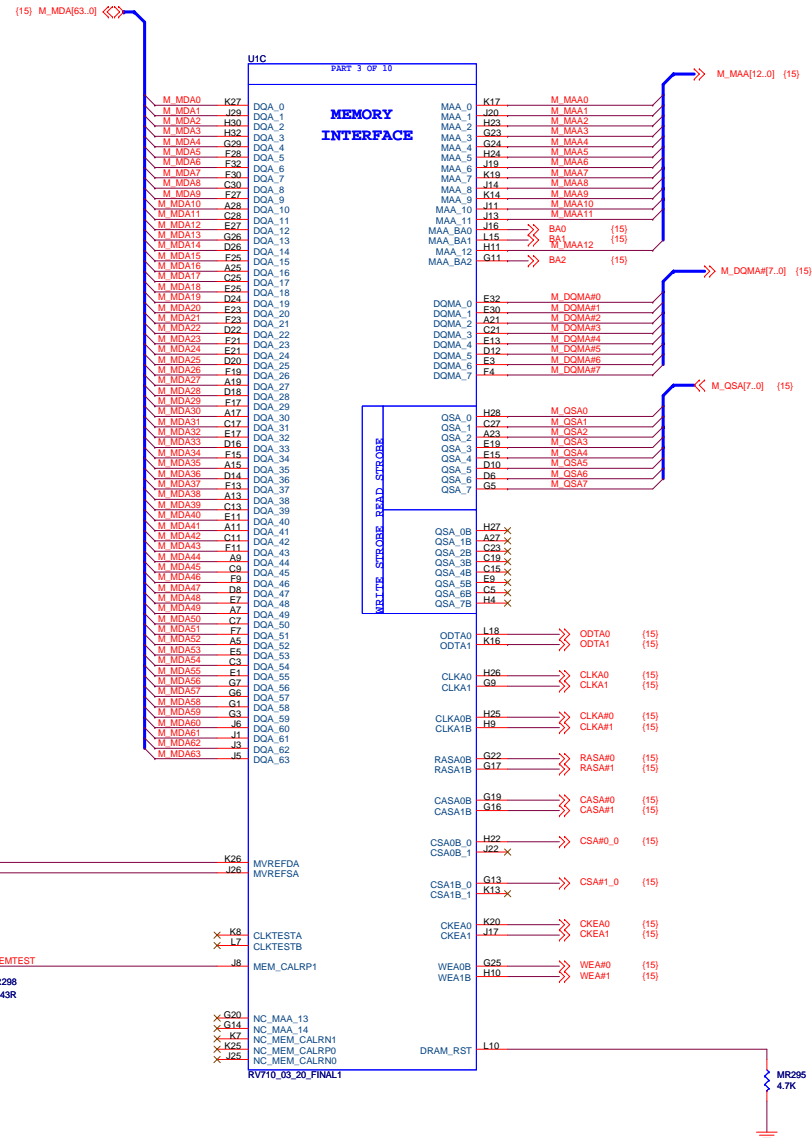
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Sheet 6 of 22

Title RH LP RV710 DDR2 VGA (header) TVO DVI Doc No. 105-B750XX-00A

MEMORY INTERFACE



DIVIDER RESISTORS	DDR2
MVREF TO 1.8V	100R
MVREF TO GND	100R



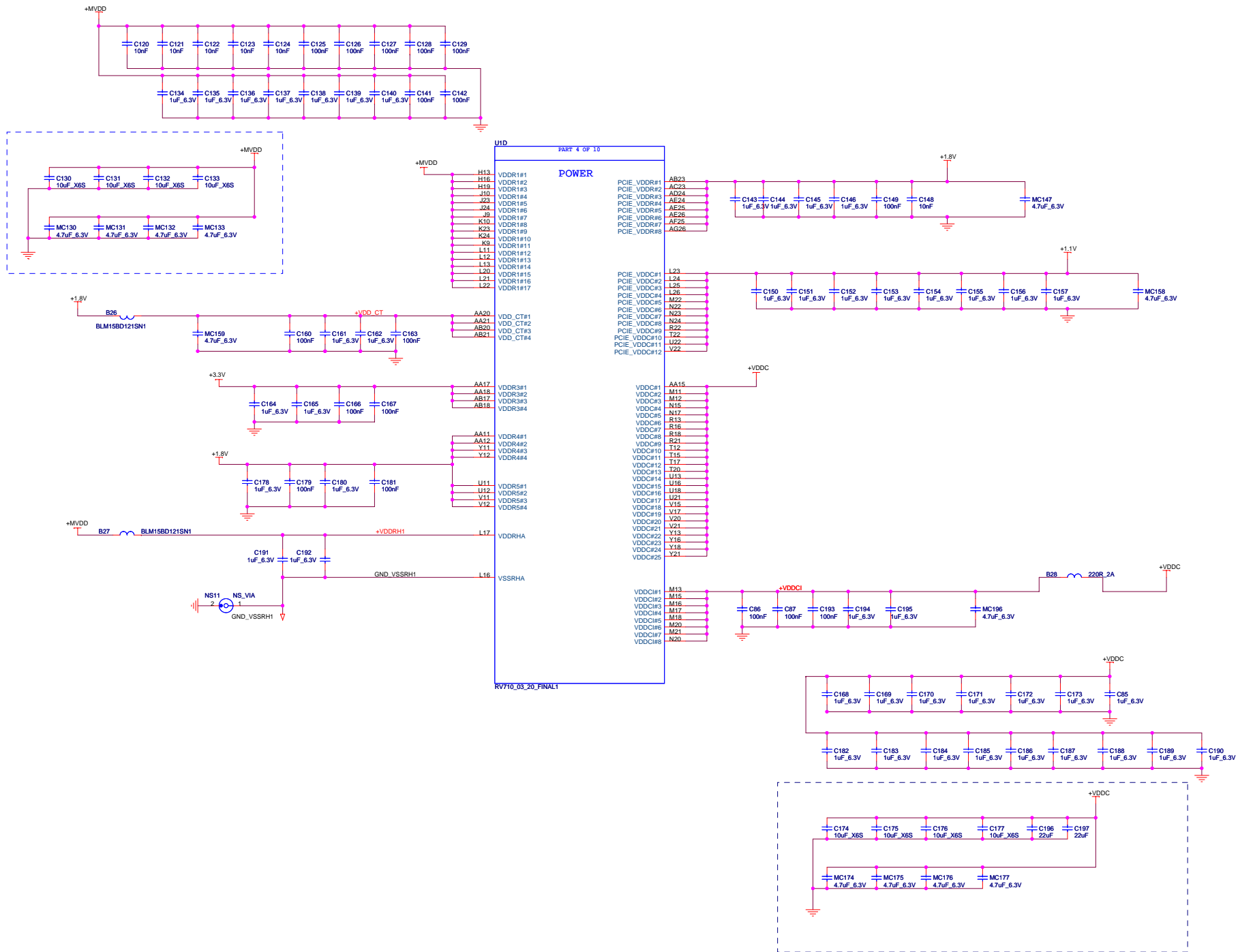
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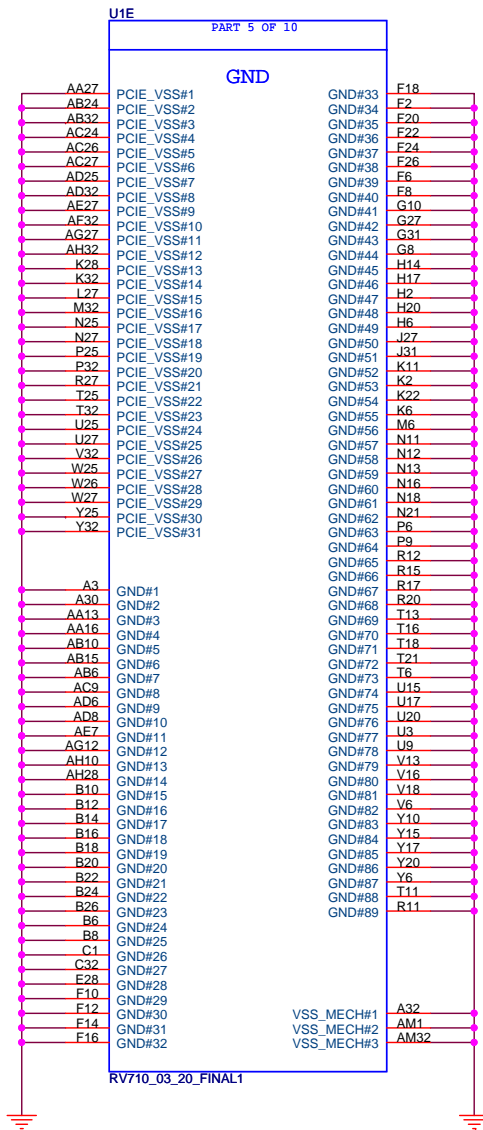
Title RH LP RV710 DDR2 VGA (header) TVO DVI		Doc No. 105-B750XX-00A
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 Sheet 8 of 22
 Title RH LP RV710 DDR2 VGA (header) TVO DVI Doc No. 105-B750XX-00A





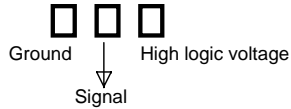
PIN BASED STRAPS

Pull-Down Resistors are for BU until built-in pull-downs are verified.



Overlap pads to save space
and to prevent assembly of
both resistors.

Layout



PIN BASED STRAPS



VIP_DEVICE_STRAP_EN
0: Driver would ignore the value sampled on VHAD_0 during reset
1: Driver would use the value sampled at reset from VHAD_0 to determine whether or not a VIP slave device (e.g. Theater chip) is connected (i.e. 0 indicates yes, 1 indicates no).

VGA_DISABLE : 1 for disable (set to 0 for normal operation)

GPIO(0) - TX_PWRS_ENB (Transmitter Power Savings Enable)
0: 50% Tx output swing for mobile mode
1: full Tx output swing (Default setting for Desktop)

GPIO(1) - TX_DEEMPH_EN (Transmitter De-emphasis Enable)
0: Tx de-emphasis disabled for mobile mode
1: Tx de-emphasis enabled (Default setting for Desktop)

GPIO(2) - BIF_GEN2_EN (5.0 GT/s Enable)
0: Default. (Driver Controlled Gen2)
1: Strap Controlled Gen2

GPIO(13, 12, 11) - CONFIG[2..0]
100 - 512Kbit M25P05A (ST)
CONFIG[2] 101 - 1Mbit M25P10A (ST)
101 - 2Mbit M25P20 (ST)
CONFIG[1] 101 - 4Mbit M25P40 (ST)
101 - 8Mbit M25P80 (ST)
CONFIG[0] 100 - 512Kbit Pm25LV512 (Chingis)
101 - 1Mbit Pm25LV010 (Chingis)

AUD[0]

A_HSYNC_DAC1 (3,16)

AUD[1]

BIF_CLK_PM_EN
0 - Disable CLKREQ# power management capability
1 - Enable CLKREQ# power management capability

[GPIO_5 : GPIO_16]

Quimonda [0:0]
Hynix [0:1]
Samsung [1:0]

RESERVED :Internal use only. Other logic must not affect this signal during RESET.

TV OUT STANDARD 0 - PAL TVO 1 - NTSC TVO

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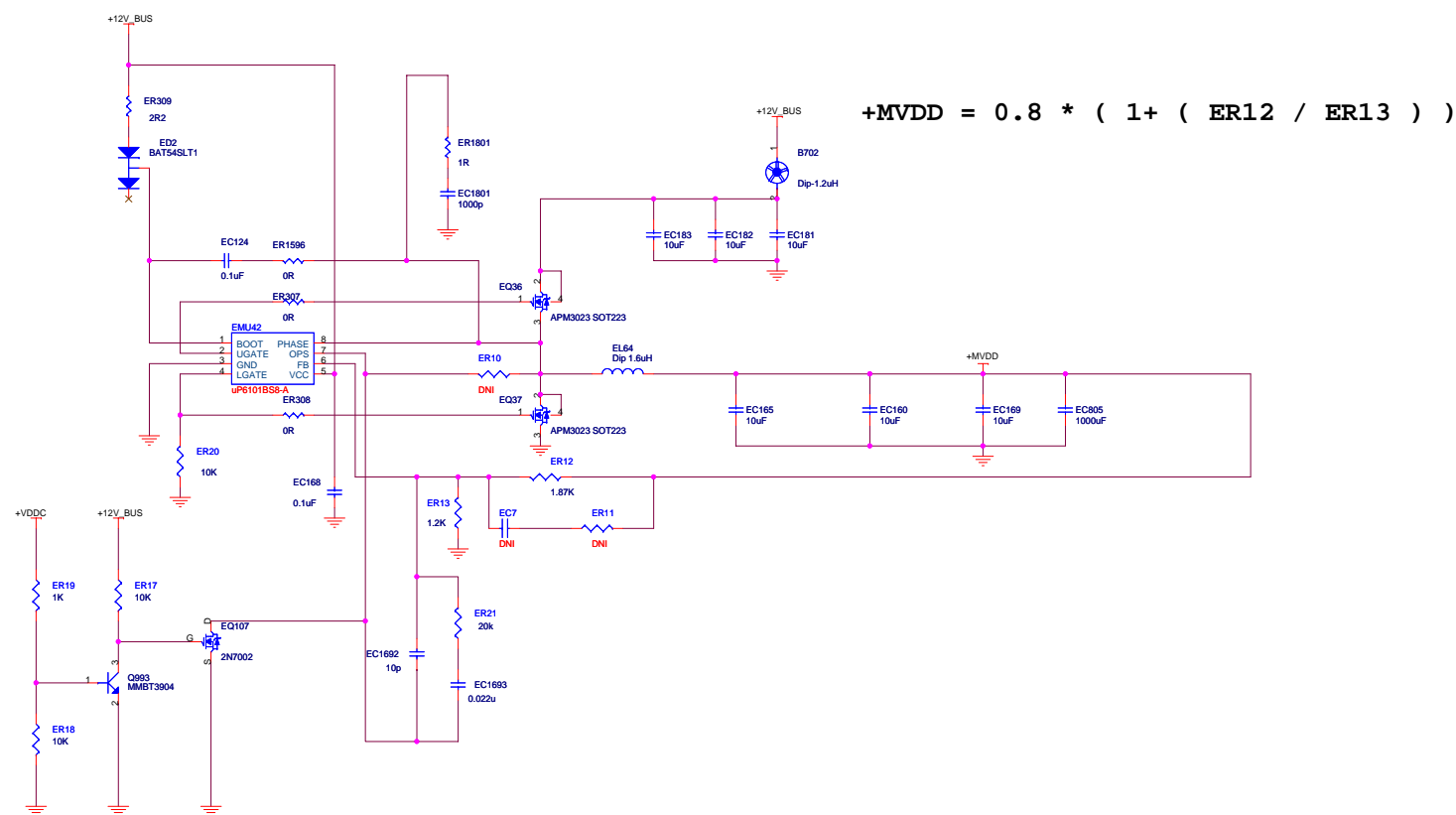
Rev 0

Sheet 10 of 22

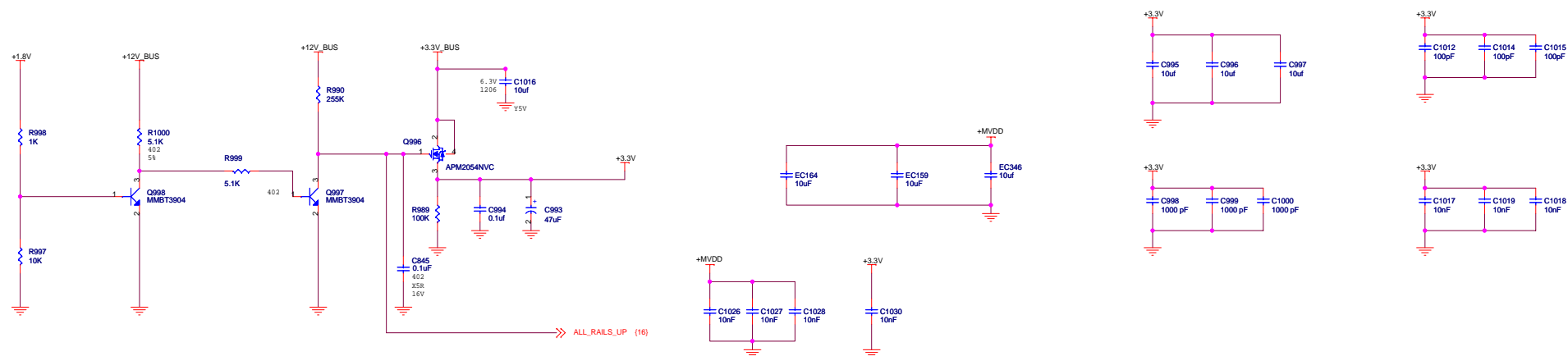
Title RH LP RV710 DDR2 VGA (header) TVO DVI

Doc No. 105-B750XX-00A





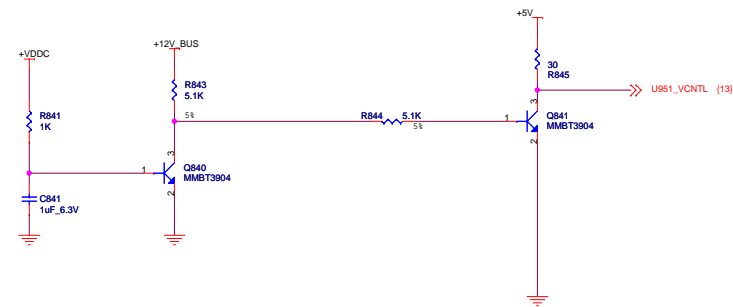
Memory Power Seq





$$V_{out}=1.25V \cdot [1+(R_{305}/R_{304})]$$





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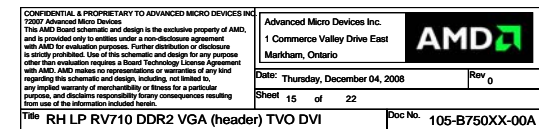
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Sheet 14 of 22

Title RH LP RV710 DDR2 VGA (header) TVO DVI Doc No. 105-B750XX-00A



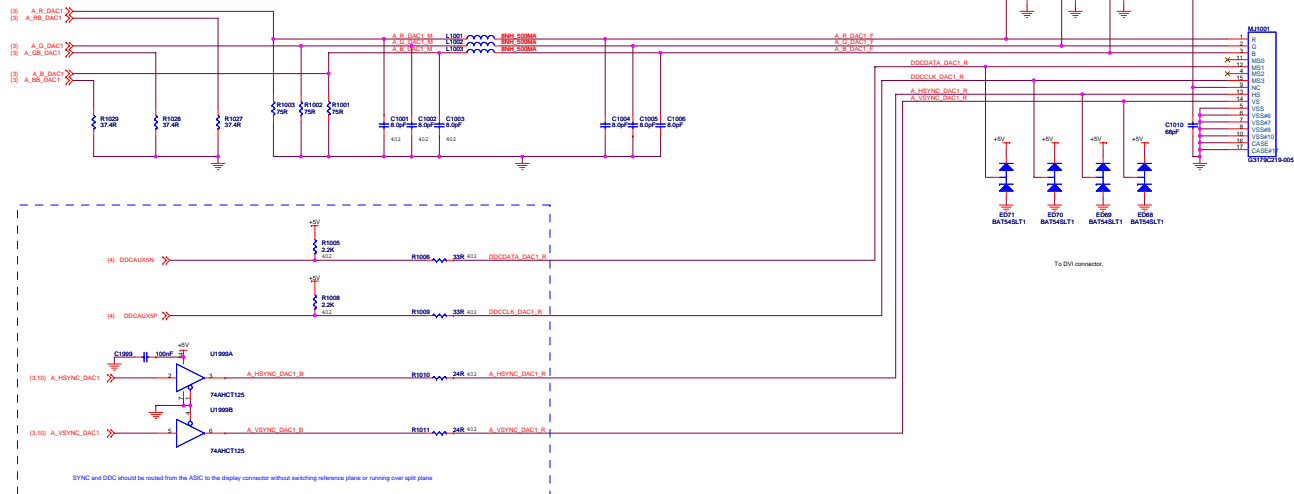
MAX DENSITY: 64Mx16



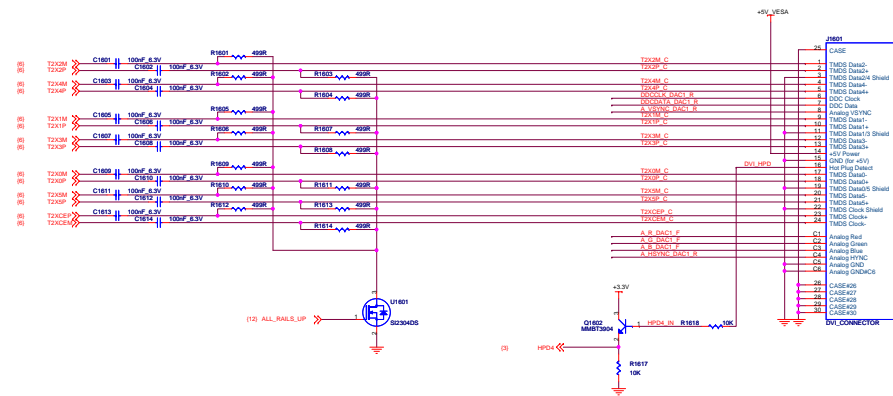
DAC 1 OUTPUT



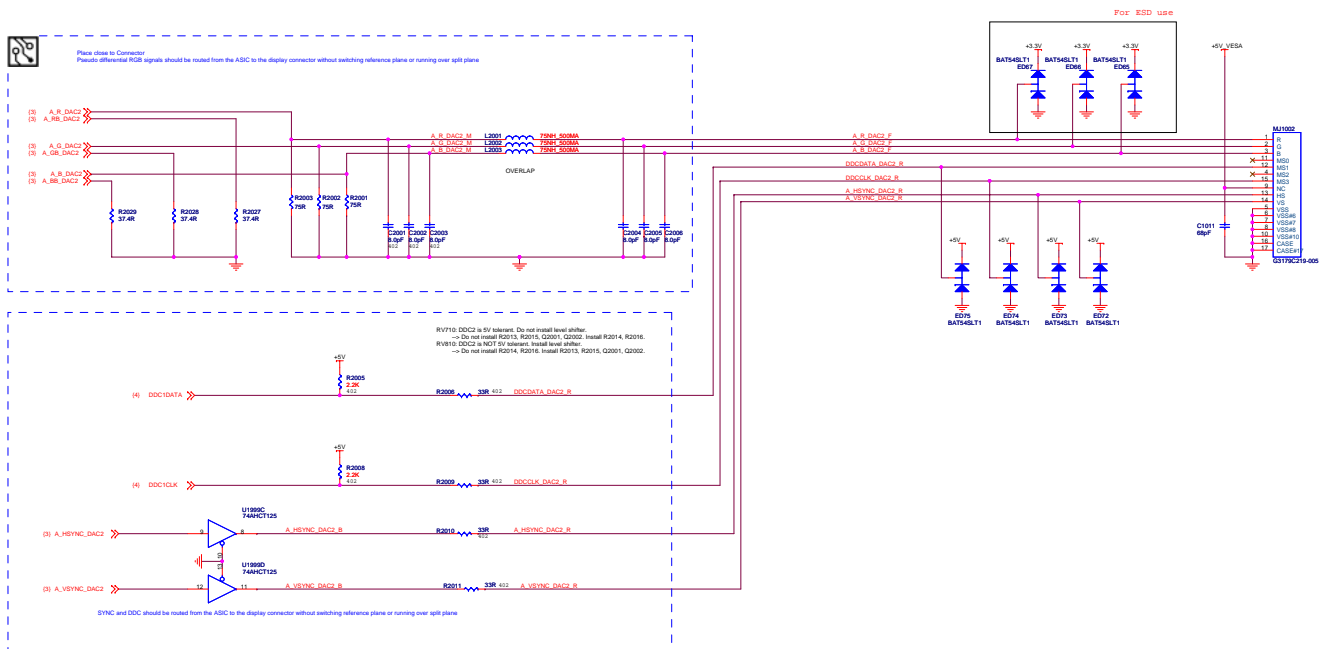
Place close to Connector
Pseudo differential RGB signals should be routed from the ASIC to the display connector without switching reference plane or running over split plane
Resistors are footprint options for the inductors. Footprints should be overlapped. (R1024-26)

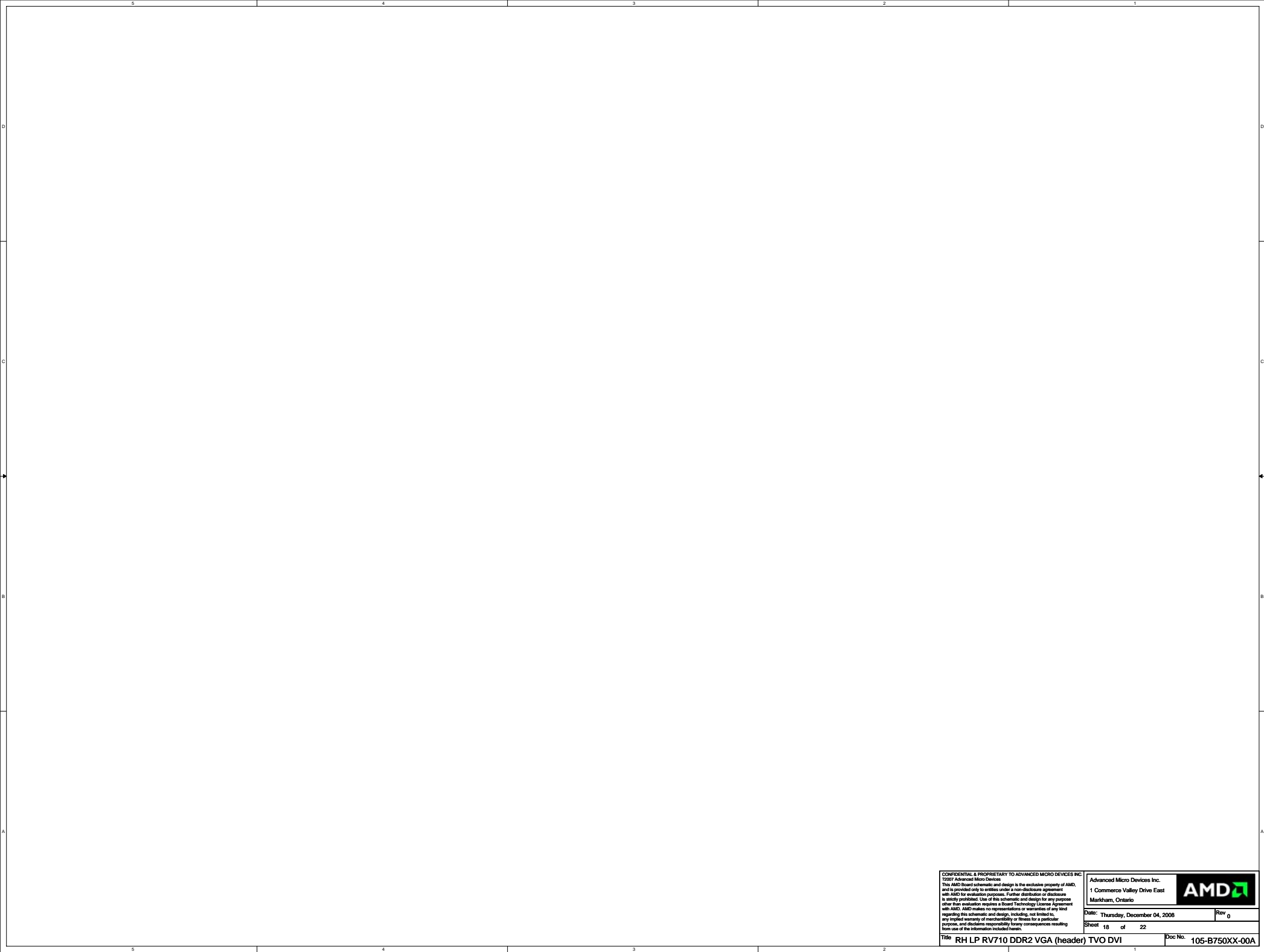


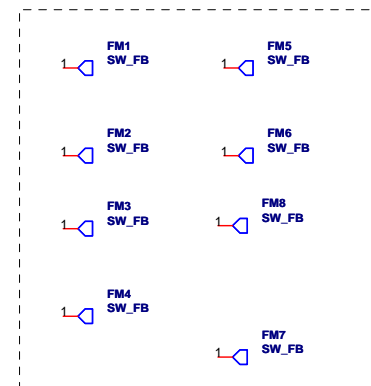
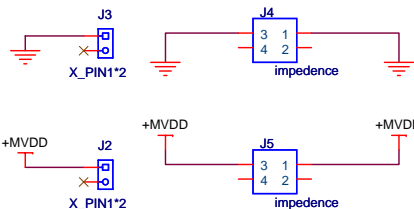
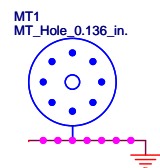
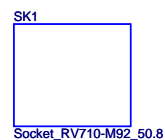
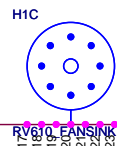
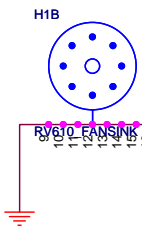
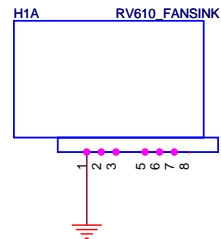
DPE / DPF OUTPUT



DAC 2 OUTPUT







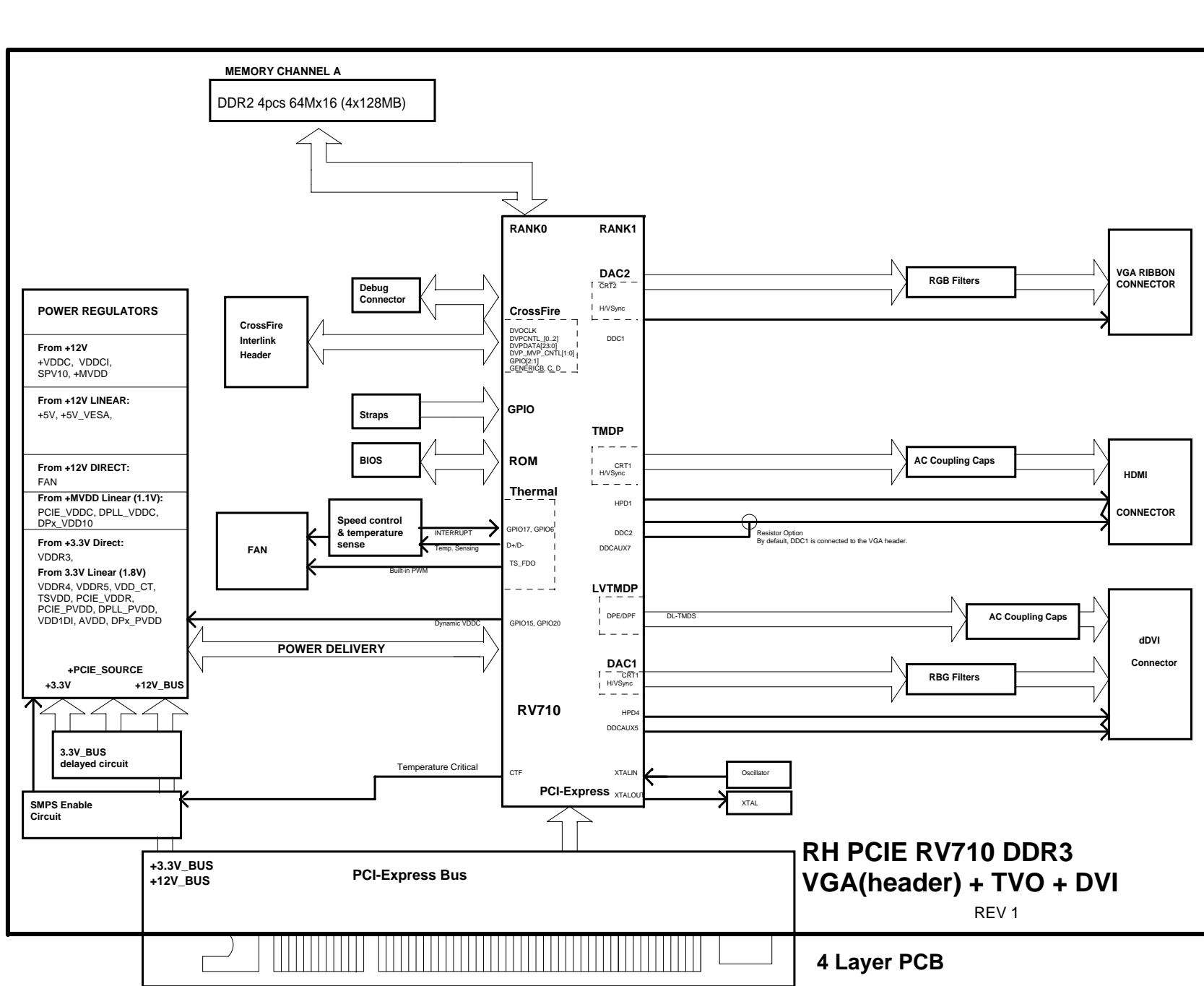
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Sheet 20 of 22

Title RH LP RV710 DDR2 VGA (header) TVO DVI Doc No. 105-B750XX-00A



RH PCIE RV710 DDR3 VGA(header) + TVO + DVI REV 1

4 Layer PCB

<div>AMD</div>			Title		Schematic No.		Date:	
			RH LP RV710 DDR2 VGA (header) TVO DVI		105-B750XX-00A		Thursday, December 04, 2008	
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 0
Sch Rev	PCB Rev	Date	RV710 ENGINEERING BOARD REVISION DESCRIPTION					
01	00A	2008.04.02	INITIAL RELEASE OF CUSTOM-WIDE BOARD. BASED ON B625 REV06.					
</								