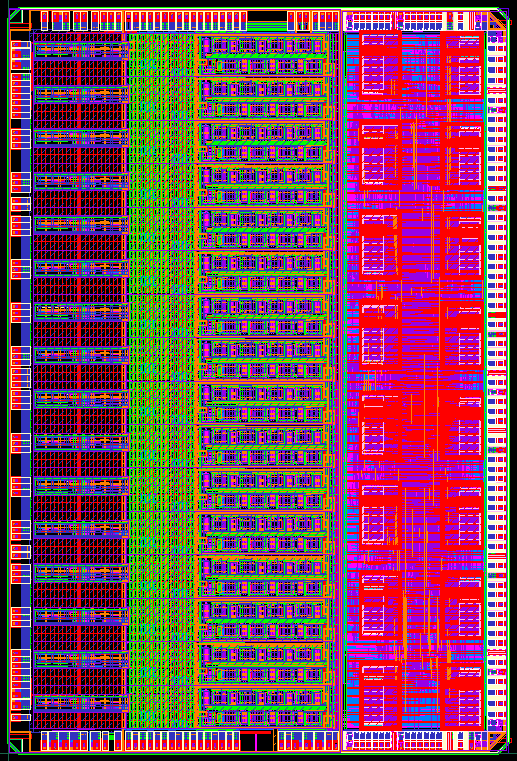
SALTRO16 Bonding Information

**Chip Layout:**

X: 5751.18um

Y: 8560.00um



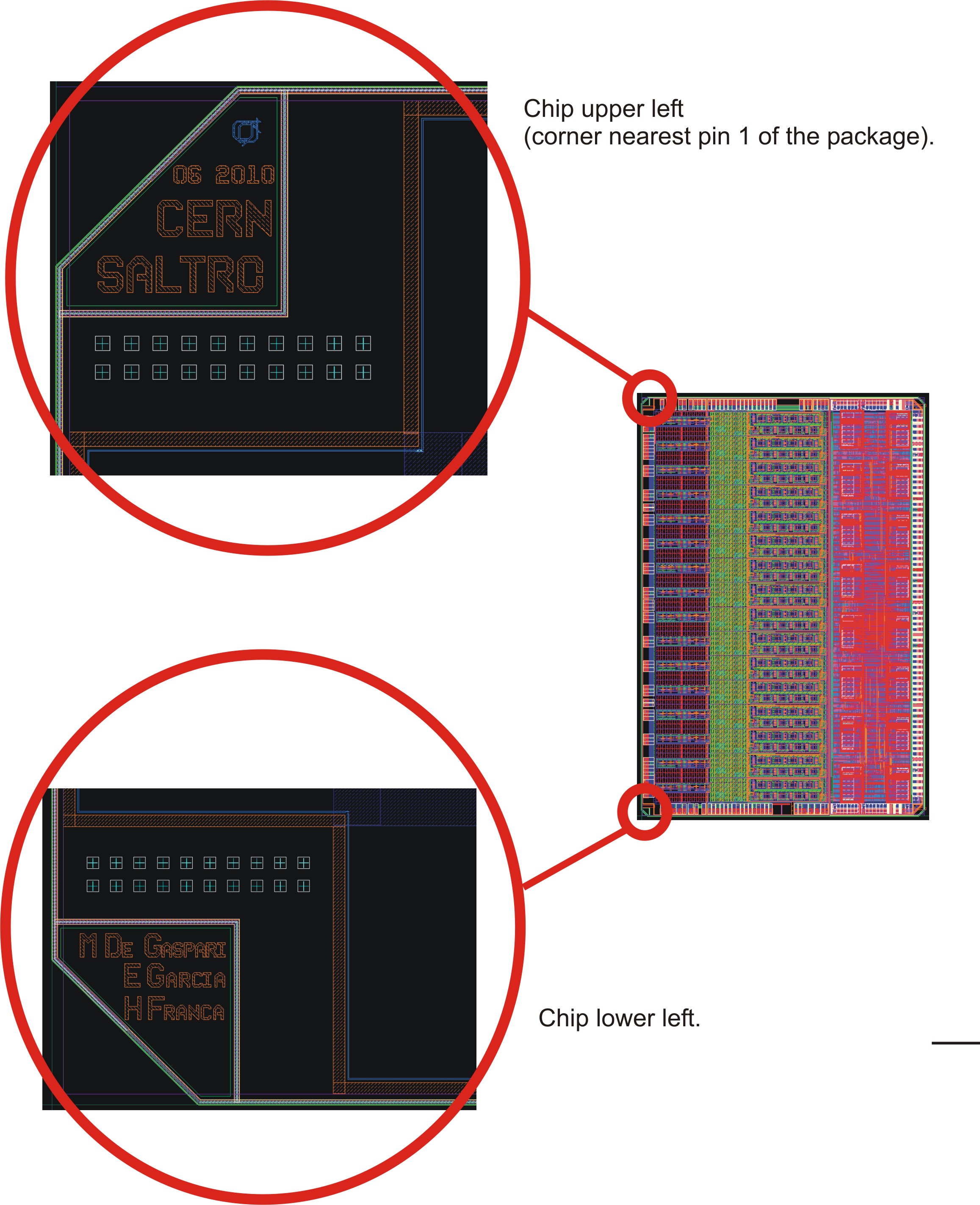
The center of the leftmost pad on the lower row (pad on silicon # 1)

is taken as the reference (X=0, Y=0)

The indicated sizes refer to the sizes of the CHIPEDGE layer.

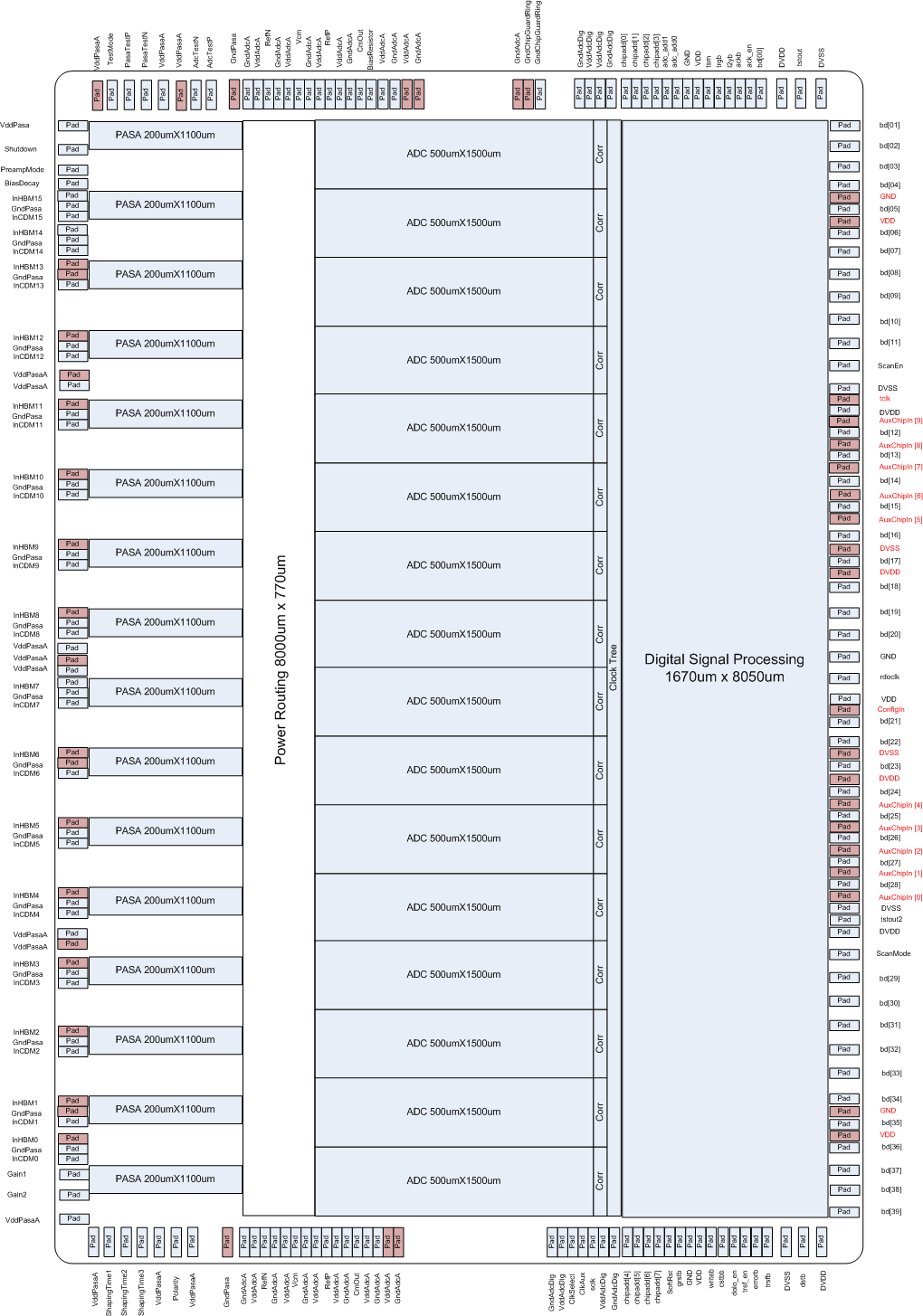
**The Logo positions.**

The chip has two logos. Both logos are located on the left side of the chip as shown below. The upper left logo is to be located nearest pin 1 of the package.



**Pad names and location:** Pads in brown are left unbound (NC).

Pad on silicon #1



A total of 229 pads are located on the die; only 180 are bonded.

The table below shows the bonding connections required between the Pads on the silicon and the pins on the package. The origin for the coordinates is the center of the leftmost pad in the lower row of pads, units are um.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pin # on Package** | **Pin # on Silicon** | **Pin Name** | **CenterX** | **CenterY** |
| NC | 167 | VddPasaA | 0.00 | 8398.09 |
| 1 | 168 | VddPasaA | -329.55 | 8068.55 |
| 2 | 169 | Shutdown | -329.55 | 7943.55 |
| 3 | 170 | PreampMode | -329.55 | 7818.55 |
| 4 | 171 | BiasDecay | -329.55 | 7693.55 |
| 5 | 172 | InHBM15 | -329.55 | 7620.55 |
| 6 | 173 | GndPasaA | -329.55 | 7547.55 |
| 7 | 174 | InCDM15 | -329.55 | 7474.55 |
| 8 | 175 | InHBM14 | -329.55 | 7401.55 |
| 9 | 176 | GndPasaA | -329.55 | 7328.55 |
| 10 | 177 | InCDM14 | -329.55 | 7255.55 |
| NC | 178 | InHBM13 | -329.55 | 7055.10 |
| NC | 179 | GndPasaA | -329.55 | 6982.10 |
| 11 | 180 | InCDM13 | -329.55 | 6909.10 |
| NC | 181 | InHBM12 | -329.55 | 6555.10 |
| 12 | 182 | GndPasaA | -329.55 | 6482.10 |
| 13 | 183 | InCDM12 | -329.55 | 6409.10 |
| NC | 184 | VddPasaA | -329.55 | 6271.60 |
| 14 | 185 | VddPasaA | -329.55 | 6192.60 |
| NC | 186 | InHBM11 | -329.55 | 6055.10 |
| 15 | 187 | GndPasaA | -329.55 | 5982.10 |
| 16 | 188 | InCDM11 | -329.55 | 5909.10 |
| NC | 189 | InHBM10 | -329.55 | 5555.10 |
| 17 | 190 | GndPasaA | -329.55 | 5482.10 |
| 18 | 191 | InCDM10 | -329.55 | 5409.10 |
| NC | 192 | InHBM9 | -329.55 | 5055.10 |
| 19 | 193 | GndPasaA | -329.55 | 4982.10 |
| 20 | 194 | InCDM9 | -329.55 | 4909.10 |
| NC | 195 | InHBM8 | -329.55 | 4555.10 |
| 21 | 196 | GndPasaA | -329.55 | 4482.10 |
| 22 | 197 | InCDM8 | -329.55 | 4409.10 |
| 23 | 198 | VddPasaA | -329.55 | 4308.10 |
| NC | 199 | VddPasaA | -329.55 | 4232.10 |
| 24 | 200 | VddPasaA | -329.55 | 4156.10 |
| 25 | 201 | InHBM7 | -329.55 | 4055.10 |
| 26 | 202 | GndPasaA | -329.55 | 3982.10 |
| 27 | 203 | InCDM7 | -329.55 | 3909.10 |
| NC | 204 | InHBM6 | -329.55 | 3555.10 |
| NC | 205 | GndPasaA | -329.55 | 3482.10 |
| 28 | 206 | InCDM6 | -329.55 | 3409.10 |
| NC | 207 | InHBM5 | -329.55 | 3055.10 |
| 29 | 208 | GndPasaA | -329.55 | 2982.10 |
| 30 | 209 | InCDM5 | -329.55 | 2909.10 |
| NC | 210 | InHBM4 | -329.55 | 2555.10 |
| 31 | 211 | GndPasaA | -329.55 | 2482.10 |
| 32 | 212 | InCDM4 | -329.55 | 2409.10 |
| 33 | 213 | VddPasaA | -329.55 | 2271.60 |
| NC | 214 | VddPasaA | -329.55 | 2192.60 |
| NC | 215 | InHBM3 | -329.55 | 2055.10 |
| 34 | 216 | GndPasaA | -329.55 | 1982.10 |
| 35 | 217 | InCDM3 | -329.55 | 1909.10 |
| NC | 218 | InHBM2 | -329.55 | 1555.10 |
| 36 | 219 | GndPasaA | -329.55 | 1482.10 |
| 37 | 220 | InCDM2 | -329.55 | 1409.10 |
| NC | 221 | InHBM1 | -329.55 | 1069.55 |
| NC | 222 | GndPasaA | -329.55 | 996.55 |
| 38 | 223 | InCDM1 | -329.55 | 923.55 |
| NC | 224 | InHBM0 | -329.55 | 850.55 |
| 39 | 225 | GndPasaA | -329.55 | 777.55 |
| 40 | 226 | InCDM0 | -329.55 | 704.55 |
| 41 | 227 | Gain1 | -329.55 | 579.55 |
| 42 | 228 | Gain2 | -329.55 | 454.55 |
| 43 | 229 | VddPasaA | -329.55 | 329.55 |
| 44 | 1 | VddPasaA | 0.00 | 0.00 |
| 45 | 2 | ShapingTime1 | 125.00 | 0.00 |
| 46 | 3 | ShapingTime2 | 250.00 | 0.00 |
| 47 | 4 | ShapingTime3 | 375.00 | 0.00 |
| 48 | 5 | VddPasaA | 453.90 | 0.00 |
| 49 | 6 | Polarity | 607.97 | 0.00 |
| 50 | 7 | VddPasaA | 699.34 | 0.00 |
| NC | 8 | GndPasaA | 846.36 | 0.00 |
| 51 | 9 | GndAdcA | 968.89 | 0.00 |
| 52 | 10 | VddAdcA | 1049.26 | 0.00 |
| 53 | 11 | RefN | 1133.57 | 0.00 |
| 54 | 12 | GndAdcA | 1217.89 | 0.00 |
| 55 | 13 | VddAdcA | 1298.26 | 0.00 |
| 56 | 14 | Vcm | 1382.57 | 0.00 |
| 57 | 15 | GndAdcA | 1466.89 | 0.00 |
| 58 | 16 | VddAdcA | 1547.26 | 0.00 |
| 59 | 17 | RefP | 1631.57 | 0.00 |
| 60 | 18 | VddAdcA | 1713.26 | 0.00 |
| 61 | 19 | GndAdcA | 1798.89 | 0.00 |
| 62 | 20 | CmOut | 1880.57 | 0.00 |
| 63 | 21 | VddAdcA | 1962.25 | 0.00 |
| 64 | 22 | GndAdcA | 2043.93 | 0.00 |
| NC | 23 | VddAdcA | 2125.61 | 0.00 |
| NC | 24 | GndAdcA | 2207.29 | 0.00 |
| 65 | 25 | GndAdcDig | 2728.90 | 0.00 |
| 66 | 26 | VddAdcDig | 2806.10 | 0.00 |
| 67 | 27 | ClkSelect | 2883.30 | 0.00 |
| 68 | 28 | ClkAux | 3013.30 | 0.00 |
| 69 | 29 | sclk | 3143.30 | 0.00 |
| 70 | 30 | VddAdcDig | 3273.30 | 0.00 |
| 71 | 31 | GndAdcDig | 3350.73 | 0.00 |
| 72 | 32 | chipadd [4] | 3585.32 | 0.00 |
| 73 | 33 | chipadd [5] | 3658.32 | 0.00 |
| 74 | 34 | chipadd [6] | 3731.32 | 0.00 |
| 75 | 35 | chipadd [7] | 3804.32 | 0.00 |
| 76 | 36 | SoftRst | 3877.32 | 0.00 |
| 77 | 37 | grstb | 3950.32 | 0.00 |
| 78 | 38 | GND | 4023.32 | 0.00 |
| 79 | 39 | VDD | 4100.32 | 0.00 |
| 80 | 40 | writeb | 4173.32 | 0.00 |
| 81 | 41 | cstbb | 4246.32 | 0.00 |
| 82 | 42 | dolo\_en | 4319.32 | 0.00 |
| 83 | 43 | trsf\_en | 4392.32 | 0.00 |
| 84 | 44 | errorb | 4465.32 | 0.00 |
| 85 | 45 | trsfb | 4538.32 | 0.00 |
| 86 | 46 | DVSS | 4663.32 | 0.00 |
| 87 | 47 | dstb | 4788.32 | 0.00 |
| 88 | 48 | DVDD | 4913.32 | 0.00 |
| 89 | 49 | bd[39] | 5259.72 | 365.50 |
| 90 | 50 | bd[38] | 5259.72 | 490.50 |
| 91 | 51 | bd[37] | 5259.72 | 615.50 |
| 92 | 52 | bd[36] | 5259.72 | 740.50 |
| NC | 53 | VDD | 5259.72 | 852.60 |
| 93 | 54 | bd[35] | 5259.72 | 963.60 |
| NC | 55 | GND | 5259.72 | 1074.60 |
| 94 | 56 | bd[34] | 5259.72 | 1185.60 |
| 95 | 57 | bd[33] | 5259.72 | 1296.60 |
| 96 | 58 | bd[32] | 5259.72 | 1407.60 |
| 97 | 59 | bd[31] | 5259.72 | 1518.60 |
| 98 | 60 | bd[30] | 5259.72 | 1629.60 |
| 99 | 61 | bd[29] | 5259.72 | 1740.60 |
| 100 | 62 | ScanMode | 5259.72 | 1851.60 |
| 101 | 63 | DVDD | 5259.72 | 1962.60 |
| 102 | 64 | tstout2 | 5259.72 | 2073.60 |
| 103 | 65 | DVSS | 5259.72 | 2184.60 |
| NC | 66 | AuxChipIn[0] | 5259.72 | 2295.60 |
| 104 | 67 | bd[28] | 5259.72 | 2406.60 |
| NC | 68 | AuxChipIn[1] | 5259.72 | 2517.60 |
| 105 | 69 | bd[27] | 5259.72 | 2628.60 |
| NC | 70 | AuxChipIn[2] | 5259.72 | 2739.60 |
| 106 | 71 | bd[26] | 5259.72 | 2850.60 |
| NC | 72 | AuxChipIn[3] | 5259.72 | 2961.60 |
| 107 | 73 | bd[25] | 5259.72 | 3072.60 |
| NC | 74 | AuxChipIn[4] | 5259.72 | 3183.60 |
| 108 | 75 | bd[24] | 5259.72 | 3294.60 |
| NC | 76 | DVDD | 5259.72 | 3405.60 |
| 109 | 77 | bd[23] | 5259.72 | 3516.60 |
| NC | 78 | DVSS | 5259.72 | 3627.60 |
| 110 | 79 | bd[22] | 5259.72 | 3738.60 |
| 111 | 80 | bd[21] | 5259.72 | 3849.60 |
| NC | 81 | ConfigIn | 5259.72 | 3960.60 |
| 112 | 82 | VDD | 5259.72 | 4071.60 |
| 113 | 83 | rdoclk | 5259.72 | 4182.60 |
| 114 | 84 | GND | 5259.72 | 4293.60 |
| 115 | 85 | bd[20] | 5259.72 | 4404.60 |
| 116 | 86 | bd[19] | 5259.72 | 4515.60 |
| 117 | 87 | bd[18] | 5259.72 | 4626.60 |
| NC | 88 | DVDD | 5259.72 | 4737.60 |
| 118 | 89 | bd[17] | 5259.72 | 4848.60 |
| NC | 90 | DVSS | 5259.72 | 4959.60 |
| 119 | 91 | bd[16] | 5259.72 | 5070.60 |
| NC | 92 | AuxChipIn[5] | 5259.72 | 5181.60 |
| 120 | 93 | bd[15] | 5259.72 | 5292.60 |
| NC | 94 | AuxChipIn[6] | 5259.72 | 5403.60 |
| 121 | 95 | bd[14] | 5259.72 | 5514.60 |
| NC | 96 | AuxChipIn[7] | 5259.72 | 5625.60 |
| 122 | 97 | bd[13] | 5259.72 | 5736.60 |
| NC | 98 | AuxChipIn[8] | 5259.72 | 5849.60 |
| 123 | 99 | bd[12] | 5259.72 | 5962.60 |
| NC | 100 | AuxChipIn[9] | 5259.72 | 6075.60 |
| 124 | 101 | DVDD | 5259.72 | 6188.60 |
| NC | 102 | tclk | 5259.72 | 6301.60 |
| 125 | 103 | DVSS | 5259.72 | 6414.60 |
| 126 | 104 | ScanEn | 5259.72 | 6527.60 |
| 127 | 105 | bd[11] | 5259.72 | 6640.60 |
| 128 | 106 | bd[10] | 5259.72 | 6753.60 |
| 129 | 107 | bd[09] | 5259.72 | 6866.60 |
| 130 | 108 | bd[08] | 5259.72 | 6979.60 |
| 131 | 109 | bd[07] | 5259.72 | 7092.60 |
| 132 | 110 | bd[06] | 5259.72 | 7203.90 |
| NC | 111 | VDD | 5259.72 | 7315.20 |
| 133 | 112 | bd[05] | 5259.72 | 7426.50 |
| NC | 113 | GND | 5259.72 | 7537.70 |
| 134 | 114 | bd[04] | 5259.72 | 7650.70 |
| 135 | 115 | bd[03] | 5259.72 | 7775.70 |
| 136 | 116 | bd[02] | 5259.72 | 7900.70 |
| 137 | 117 | bd[01] | 5259.72 | 8025.70 |
| 138 | 118 | DVSS | 4913.32 | 8398.09 |
| 139 | 119 | tstout | 4788.32 | 8398.09 |
| 140 | 120 | DVDD | 4663.32 | 8398.09 |
| 141 | 121 | bd[00] | 4538.32 | 8398.09 |
| 142 | 122 | ack\_en | 4465.32 | 8398.09 |
| 143 | 123 | ackb | 4392.32 | 8398.09 |
| 144 | 124 | l2yb | 4319.32 | 8398.09 |
| 145 | 125 | trgb | 4246.32 | 8398.09 |
| 146 | 126 | tsm | 4173.32 | 8398.09 |
| 147 | 127 | VDD | 4096.32 | 8398.09 |
| 148 | 128 | GND | 4023.32 | 8398.09 |
| 149 | 129 | adc\_add0 | 3950.32 | 8398.09 |
| 150 | 130 | adc\_add1 | 3877.32 | 8398.09 |
| 151 | 131 | chipadd [3] | 3804.32 | 8398.09 |
| 152 | 132 | chipadd [2] | 3731.32 | 8398.09 |
| 153 | 133 | chipadd [1] | 3658.32 | 8398.09 |
| 154 | 134 | chipadd [0] | 3585.32 | 8398.09 |
| 155 | 135 | GndAdcDig | 3350.38 | 8398.09 |
| 156 | 136 | VddAdcDig | 3273.30 | 8398.09 |
| 157 | 137 | VddAdcDig | 3196.22 | 8398.09 |
| 158 | 138 | GndAdcDig | 3119.14 | 8398.09 |
| 159 | 139 | GndChipGuardRing | 3010.58 | 8398.09 |
| NC | 140 | GndChipGuardRing | 2937.58 | 8398.09 |
| NC | 141 | GndAdcA | 2837.41 | 8398.09 |
| NC | 142 | GndAdcA | 2292.92 | 8398.09 |
| NC | 143 | VddAdcA | 2211.24 | 8398.09 |
| 160 | 144 | GndAdcA | 2129.56 | 8398.09 |
| 161 | 145 | VddAdcA | 2047.88 | 8398.09 |
| 162 | 146 | BiasGate | 1966.20 | 8398.09 |
| 163 | 147 | CmOut | 1883.20 | 8398.09 |
| 164 | 148 | GndAdcA | 1798.89 | 8398.09 |
| 165 | 149 | VddAdcA | 1718.52 | 8398.09 |
| 166 | 150 | RefP | 1634.20 | 8398.09 |
| 167 | 151 | VddAdcA | 1552.52 | 8398.09 |
| 168 | 152 | GndAdcA | 1466.89 | 8398.09 |
| 169 | 153 | Vcm | 1385.20 | 8398.09 |
| 170 | 154 | VddAdcA | 1303.52 | 8398.09 |
| 171 | 155 | GndAdcA | 1217.89 | 8398.09 |
| 172 | 156 | RefN | 1136.20 | 8398.09 |
| 173 | 157 | VddAdcA | 1054.52 | 8398.09 |
| 174 | 158 | GndAdcA | 968.89 | 8398.09 |
| NC | 159 | GndPasaA | 852.30 | 8398.09 |
| 175 | 160 | AdcTestP | 766.67 | 8398.09 |
| 176 | 161 | AdcTestN | 683.67 | 8398.09 |
| NC | 162 | VddPasaA | 582.66 | 8398.09 |
| 177 | 163 | VddPasaA | 453.90 | 8398.09 |
| 178 | 164 | PasaTestN | 375.00 | 8398.09 |
| 179 | 165 | PasaTestP | 250.00 | 8398.09 |
| 180 | 166 | TestMode | 125.00 | 8398.09 |

The size of the opening of each pad is 95.03um x 62.00um.

The minimum pad pitch is 73um.

Total # signal IOs: 115.

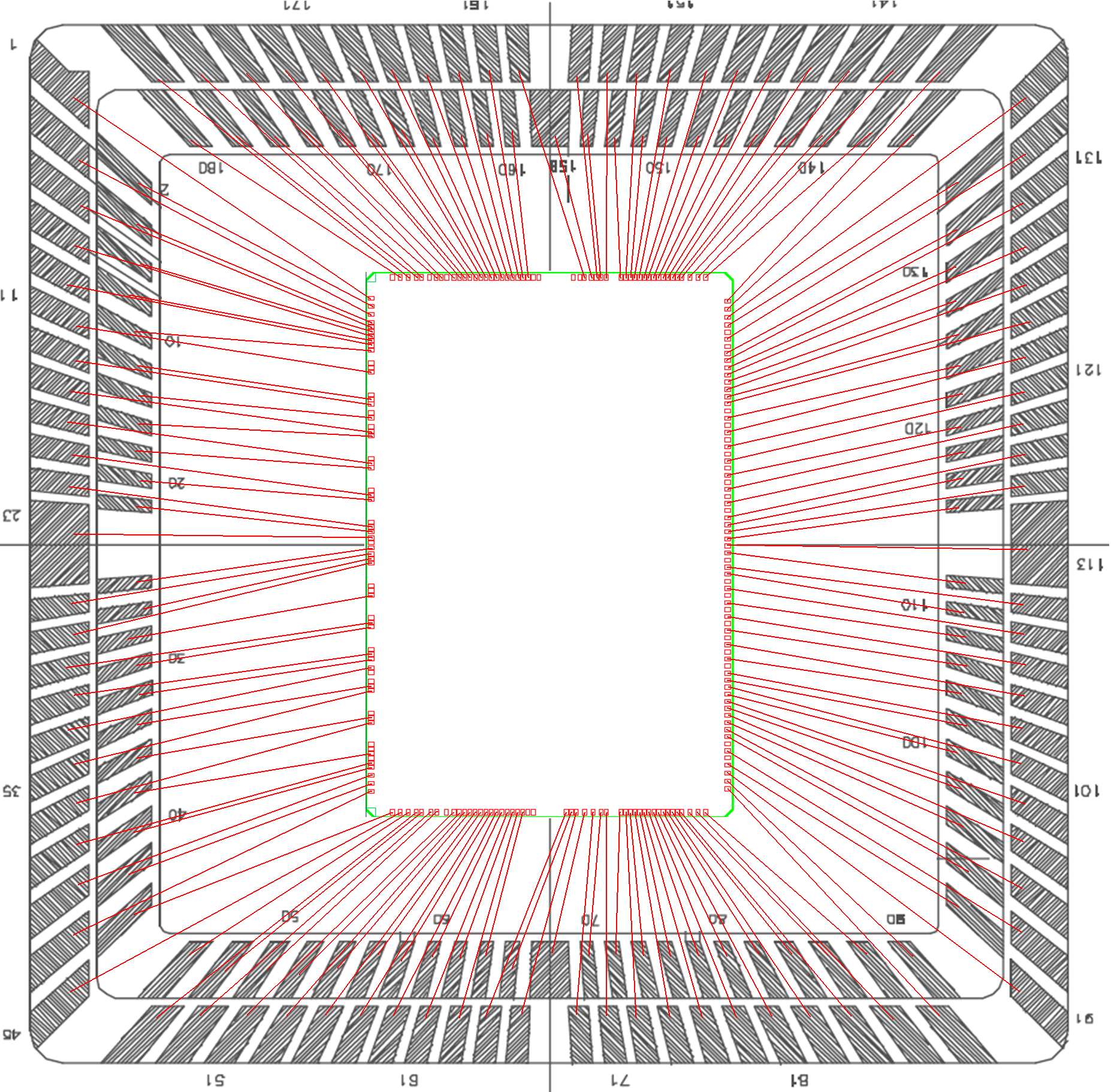
Total # power pins: 65.

**Bonding diagram** in package PGA180:

Upper left logo

Package pin #1

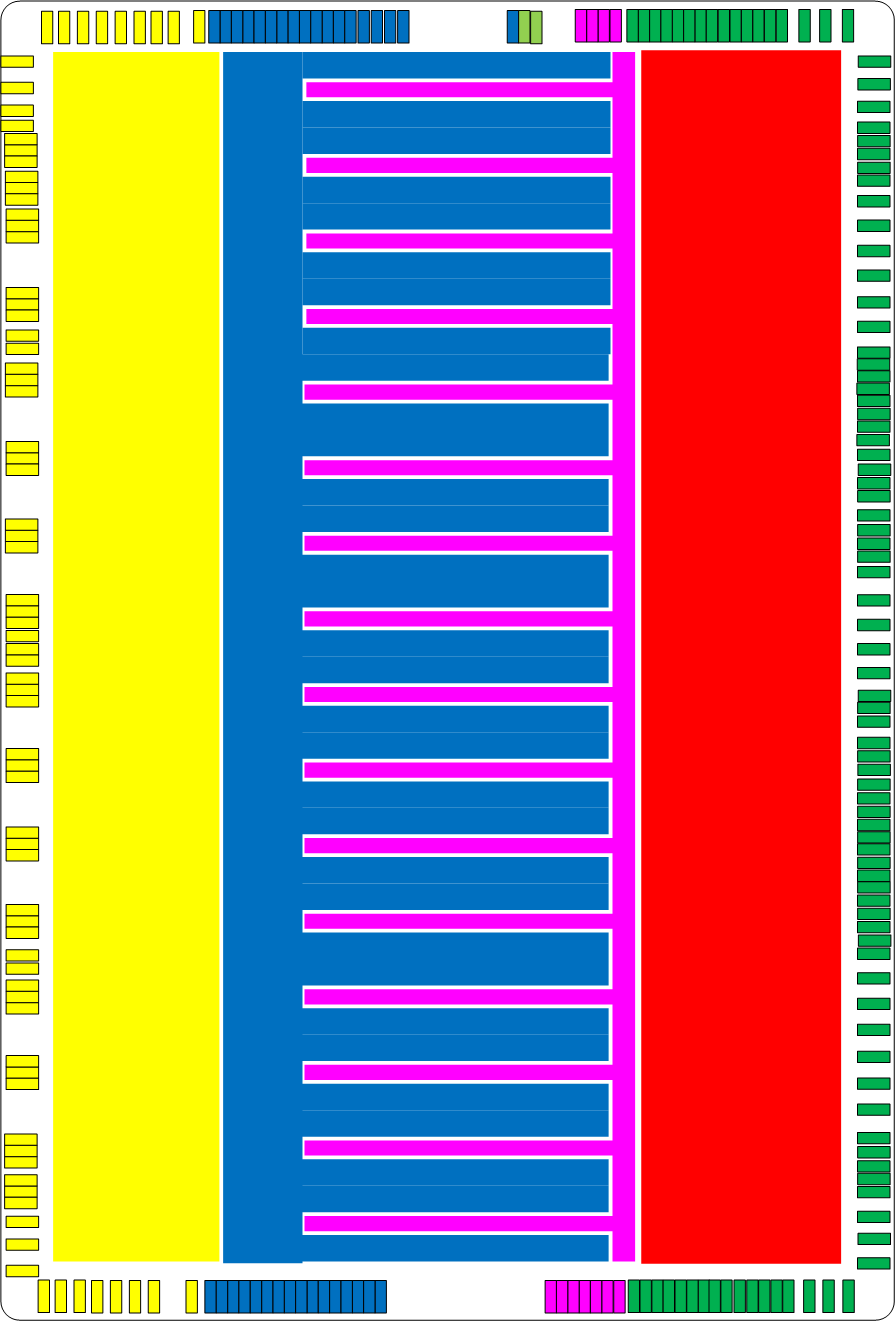
Pad on silicon #168



Lower left logo

Orientation of the silicon die: package pin #1 corresponds to pad on silicon #168.

Power domains:



Yellow: power domain of GndPasaA / VddPasaA; 135mW @ 1.5V.

Blue: power domain of GndAdcA / VddAdcA; 600mW @ 1.5V.

Purple: power domain of GndAdcDig / VddAdcDig; 150mW @ 1.5V.

Red: power domain of GND / VDD; 150mW @1.5V.

Green: power domain of DVSS / DVDD; 150mW @ 2.5V.

Light green: connection to the chip guard ring.

Next page:

Connections of the signals on the pins of the package. The colors correspond to the power domains. The grey rectangles are meant to identify the analog inputs of each channel and the PasaTest and AdcTest IOs of the test channel.

PasaTest

AdcTest

19

172

144

149

153

166

154

136

150

145

139

135

128

122

117

129

123

118

97

108

109

104

98

91

75

82

90

83

76

113 rdoclk

177 Vdd

174 Gnd

173 Vdd

171 Gnd

170 Vdd

168 Gnd

167 Vdd

165 Vdd

164 Gnd

161 Vdd

160 Gnd

159 Gnd

158 Gnd

157 Vdd

156 Vdd

155 Gnd

148 Gnd

147 Vdd

140 DVdd

138 DVss

125 DVss

124 DVdd

114 Gnd

112 Vdd

103 DVss

101 DVdd

88 DVdd

86 DVss

79 Vdd

78 Gnd

69 sclk

67 ClkSelect

68 ClkAux

71 Gnd

70 Vdd

59

66 Vdd

65 Gnd

64 Gnd

63 Vdd

61 Gnd

60 Vdd

57 Gnd

58 Vdd

55 Vdd

54 Gnd

52 Vdd

51 Gnd

48 Vdd

46

50 Vdd

49

45

38

32

27

28

22

18

13

7

8

180

39 Gnd

36 Gnd

34 Gnd

31 Gnd

29 Gnd

26 Gnd

21 Gnd

19 Gnd

17 Gnd

15 Gnd

12 Gnd

9 Gnd

6 Gnd

43 Vdd

44 Vdd

33 Vdd

24 Vdd

23 Vdd

14 Vdd

1 Vdd

