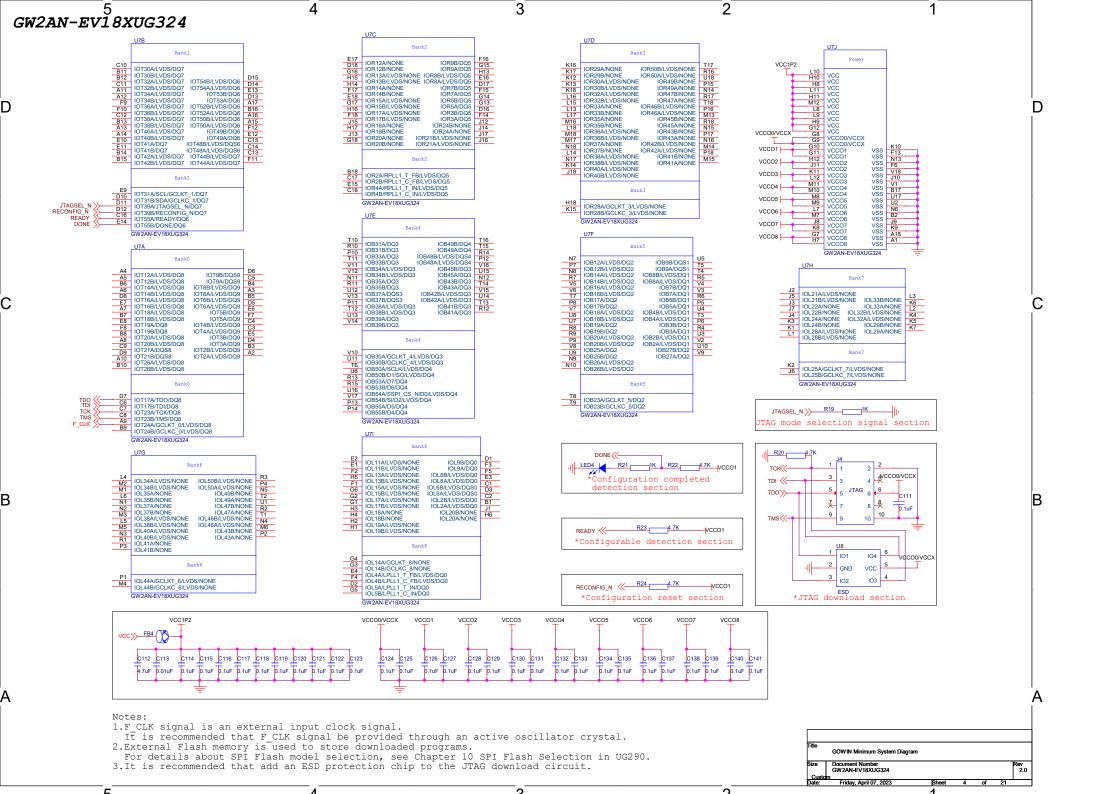
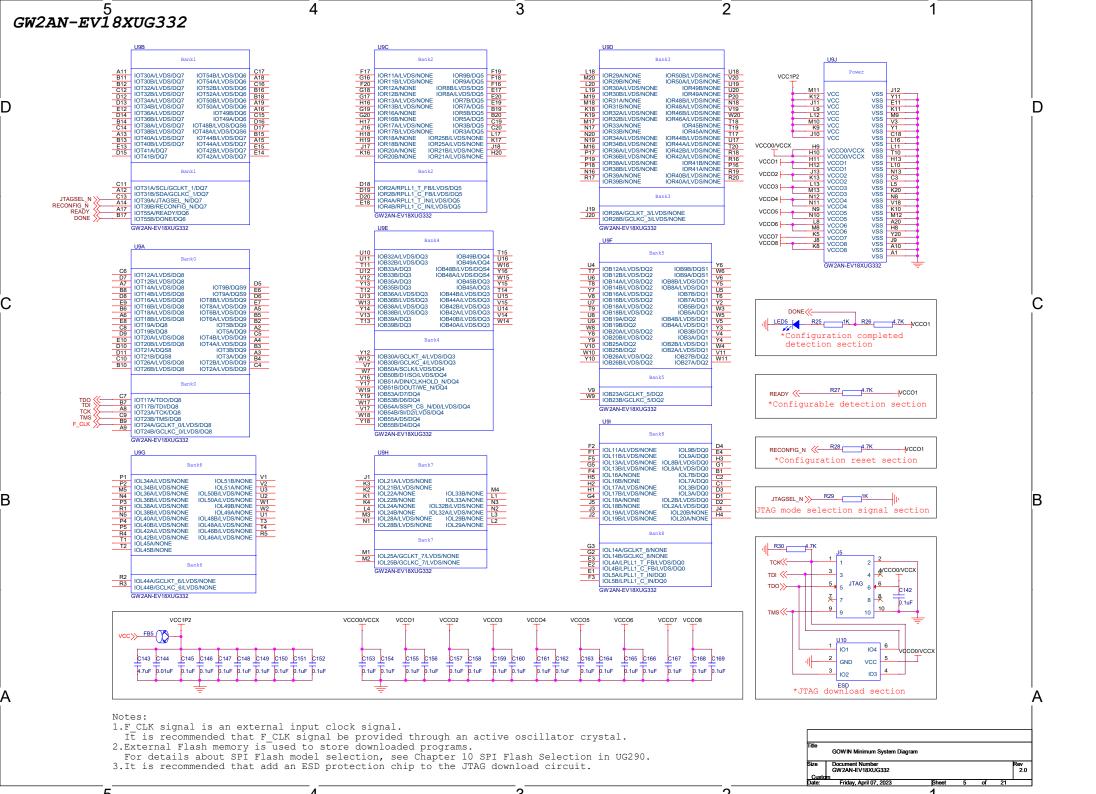
5 3 GW2AN-EV18XPG256 LIID LI1C Bank2 Bank3 J16 J14 J15 K16 IOR29B/NONE IOR30A/I \/\(\text{IOR}\) IOR11A/LVDS/NONE IOR50B/LVDS/NONE VCC1P2 IOT54B/LVDS/DQ6 B14 IOT54A/LVDS/DQ6 B12 IOT34A/LVDS/DQ7 IOT34B/LVDS/DQ7 IOR11B/LVDS/NONE IOR13A/LVDS/NONE IOR8A/LVDS/DQ5 IOR6B/LVDS/DQS5 IOR29B/NONE IOR30A/LVDS/NONE IOR50A/LVDS/NONE IOR48B/LVDS/NONE VCC VSS IOT36A/LVDS/DQ7 IOT52B/LVDS/DQ6 IOR13B/LVDS/NONE IOR15A/LVDS/NONE IOR6A/LVDS/DQS5 IOR30B/LVDS/NONE IOR31A/NONE IOR48A/LVDS/NONE VCC VSS VSS A10 F9 E11 D10 A16 K10 K7 T1 C14 F11 F14 F16 J12 H13 C12 A14 H11 IOR46B/LVDS/NONE IOT36B/LVDS/DQ7 IOT52A/LVDS/DQ6 IOR25B/LVDS/NONE J13 K14 K15 VCC VCC VCC IOT38A/LVDS/DQ7 IOT50B/LVDS/DQ6 IOR15B/LVDS/NONE IOR25A/LVDS/NONE IOR31B/NONE IOR46A/LVDS/NONE VSS F12 G13 G15 G14 L6 P14 H15 G16 H12 VSS VSS IOT38B/I VDS/DQ7 IOT50A/I VDS/DQ6 IOR17A/I VDS/NONE IOR23B/I VDS/NONE IOR32A/I VDS/NONE IOR44B/I VDS/NONE M14 IOT40A/LVDS/DQ7 IOT48B/LVDS/DQS6 IOR17B/LVDS/NONE IOR23A/LVDS/NONE IOR32B/LVDS/NONE IOR44A/LVDS/NONE F6 VCC IOT40B/LVDS/DO7 IOT48A/I VDS/DOS6 IOR19A/LVDS/NONE IOR21B/LVDS/NONE IOR34A/I VDS/NONE IOR42B/LVDS/NONE VSS E12 J9 R2 G11 A1 G8 IOT42A/LVDS/DQ7 IOT44B/LVDS/DQ7 IOR19B/LVDS/NONE IOR21A/LVDS/NONE IOR34B/LVDS/NONE VSS VCCO0/VCCX VCCO0/VCCX VCCO0/VCCX VSS VSS IOT42B/LVDS/DQ7 IOT44A/LVDS/DQ7 IOR364/LVDS/NONE IORANR/LV/DS/NONE D5 D12 G9 E13 I 14 L15 IOR36B/LVDS/NONE IOR40A/LVDS/NONE IOR38A/LVDS/NONE IOR38B/LVDS/NONE VCC01 VCCO1 VSS VSS Bank1 IOR2A/RPLL1_T_FB/LVDS/DQ5 IOR2B/RPLL1_C_FB/LVDS/DQ5 IOR4A/RPLL1_T_IN/LVDS/DQ5 IOR4B/RPLL1_C_IN/LVDS/DQ5 VCCO2 E15 D16 E14 VCCO2 H10 M13 D13 IOT31A/SCL/GCLKT 1/DQ7 VCCO2 D4 H9 IOT31B/SDA/GCLKC_1/DQ7 IOT39A/JTAGSEL_N/DQ7 VCCO3 VCCO3 JTAGSEL_N N12 VCCO3 L11 B10 RECONEIG N IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE VCCO4 IOT39B/RECONFIG_N/DQ7 VCCO4 GW2AN-EV18XPG256 C3 H8 N13 IOT55A/READY/DO6 VCCC04 DONE VCCO5 VCCO5 GW2AN-EV18XPG256 U1E VCCO5 VCCO6 GW2AN-EV18XPG256 M4 H7 R15 B2 M5 VCCO Bank4 VCC07 VCCO7 M12 VCC08 IOR32A/LVDS/DO3 IOB48B/I VDS/DOS4 VCC08 VSS Bank0 T10 R11 IOB32B/LVDS/DQ3 IOB48A/LVDS/DQS4 T14 R13 T5 IOB12A/LVDS/DQ2 IOB34A/LVDS/DQ3 IOB44B/LVDS/DQ3 IOB8B/LVDS/DQ1 R4 T3 P5 R5 R3 T2 T4 P4 N9 GW2AN-EV18XPG256 A3 IOT12A/LVDS/DQ8 IOT12B/LVDS/DQ8 IOT12B/LVDS/DQ8 E7 IOT14A/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT12B/L/DS/DQ8 IOT20B/LVDS/DQ8 IOT2DB/LVDS/DQ8 IOT2DB/L IOT12A/LVDS/DQ8 IOT8B/LVDS/DQ9 IOB44A/I VDS/DQ3 P10 IOB34B/I VDS/DQ3 N6 L7 R7 P7 IOB12B/I VDS/DQ2 IOB8A/I VDS/DQ1 A5 N11 IOT8A/LVDS/DQ9 IOB36A/LVDS/DQ3 IOB42B/LVDS/DQ3 IOB14A/LVDS/DQ2 IOB6B/LVDS/DQ1 R10 N10 M11 M10 P11 IOT6B/LVDS/DO9 IOB42A/LVDS/DO3 IOR14R/LVDS/DO2 IOR6A/LVDS/DO1 IOB36B/LVDS/DO3 IOB42A/LVDS/DQ3 IOB40B/LVDS/DQ3 IOB40A/LVDS/DQ3 IOB16A/LVDS/DQ2 IOB16B/LVDS/DQ2 JTAGSEL_N >> R1 1K IOB38B/LVDS/DQ3 IOT4B/LVDS/DQ9 IOB4A/LVDS/DQ1 R3 M7 N7 M6 IOT4A/LVDS/DQ9 IOB18A/LVDS/DQ2 IOB2B/LVDS/DQ1 TAG mode selection signal section IOT2B/I VDS/DQ9 IOB18B/I VDS/DQ2 IOB2A/I VDS/DQ1 Bank4 IOT2A/LVDS/DQ9 E9 IOT20B/LVDS/DQ8 IOB20A/LVDS/DQ2 IOB26B/LVDS/DQ2 IOT22A/LVDS/DO8 IOT26B/LVDS/DO8 IOB20B/LVDS/DO2 IOB26A/LVDS/DO2 E8 IOT22B/LVDS/DQ8 IOT26A/LVDS/DQ8 IOB30A/GCLKT_4/LVDS/DQ3 IOB22A/LVDS/DQ2 IOB24B/LVDS/DQ2 IOB30B/GCLKC_4/LVDS/DQ3 IOB50A/SCLK/LVDS/DQ4 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 R2 T6 IOB50B/D1/SO/LVDS/DQ4 IOB52A/FASTRD N/D3/LVDS/DQ4 IOB52B/QSSPI_WPN/LVDS/DQ4 IOB54A/SSPI_CS_N/D0/LVDS/DQ4 IOT17A/TDO/DQ8 ₩CC00/VCCX R12 P13 IOB23A/GCLKT 5/DQ2 IOT17B/TDI/DQ8 TDI << TCK IOT23A/TCK/DQ8 IOB54B/SI/D2/LVDS/DQ4 IOB23B/GCLKC_5/DQ2 IOT23B/TMS/DQ8 IOB55A/D5/DQ4 GW2AN-EV18XPG256 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 IOB55B/D4/DQ4 A8 GW2AN-EV18XPG256 GW2AN-EV18XPG256 TMS< Bank8 U1G U1H F4 G6 IOL15A/LVDS/NONE F3 IOL 15A/LVDS/NONE IOL 15B/LVDS/NONE IOL 16A/NONE Bank6 Bank7 IOL8B/LVDS/DQ0 IOL51B/NONE R1 G5 IOL16B/NONE IOL17A/LVDS/NONE IOL36A/LVDS/NONE IOL36B/LVDS/NONE IOL21A/LVDS/NONE IOL33B/NONE IOL8A/LVDS/DQ0 101 104 vdconvcc) IOL51A/NUNE N3
IOL50B/LVDS/NONE M2
N1 IOI 21B/I VDS/NONE IOL33A/NONE IOI 2B/I VDS/DQ0 IOL32B/LVDS/NONE K3 G2 IOL1/b/L>C G3 IOL19B/LVDS/NONE IOL19B/LVDS/NONE IOL40A/LVDS/NONE IOL22A/NONE GND VCC L5 IOL40A/LVDS/NONE IOL40B/LVDS/NONE IOL46B/LVDS/NONE IOL22B/NONE IOL32A/LVDS/NONE IOL20B/NONE IOL48B/LVDS/NONE IOL24A/NONE IOL30B/LVDS/NONE 102 103 IOL46B/LVDS/NONE IOL48A/LVDS/NONE TOT 24B/NONE IOL30A/LVDS/NONE ESD IOL28A/LVDS/NONE *JTAG download section IOI 47R/NONE IOL28B/LVDS/NONE IOL14A/GCLKT_8/NONE IOL14B/GCLKC_8/NONE F2 D3 D1 E2 D3 | IOL14B/GCLRC_8/NONE
D1 | IOL4A/LPLL1_T_FB/LVDS/DQ0
E2 | IOL4B/LPLL1_C_FB/LVDS/DQ0
| IOL5A/LPLL1_T_IN/DQ0
| IOL5B/LPLL1_C_IN/DQ0 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE DONE (1K R4 4.7K VCCO1 GW2AN-EV18XPG256 GW2AN-EV18XPG256 GW2AN-EV18XPG256 Configuration completed detection section VCC1P2 VCCONVCCX VCCO1 VCCO2 VCC03 VCCO4 VCCO5 VCCO6 VCCO7 VCCO8 vcc>> FB1 R5 4.7K *Configurable detection section C12 C20 C2 C14 C16 C17 C18 C22 C25 C9 C13 C15 C19 C21 C23 C24 C26 C27 D.10F D.10F D.10F D.10F D.10F 4 7UF 0 01UF 0 10F 0 10F 0.1uF 0.1uF 0.1uF 0.1uF h.1uF RECONFIG_N
R6
4.7K *Configuration reset section 1.F CLK signal is an external input clock signal. $\overline{\text{It}}$ is recommended that F CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 3.It is recommended that add an ESD protection chip to the JTAG download circuit. GOWIN Minimum System Diagram Document Number GW2AN-EV18XPG256 ize A3 Rev 2.0

3 2 GW2AN-EV18XPG484 4 VCC1P2 IOL51B/NONE U5 IOL51A/NONE W4 IB/LVDS/NONE Y2 IA/LVDS/NONE T1 N20 P21 M16 M17 P20 R22 M19 M18 R21 R20 IOT30A/LVDS/DQ7 IOR29A/NONE IOR51B/NONE IOL51B/NONE IOT30B/LVDS/DQ7 IOR29B/NONE IOR51A/NONE IOR30A/LVDS/NONE IOR50B/LVDS/NONE IOT32A/LVDS/DQ7 IOT32B/LVDS/DQ7 IOR30B/LVDS/NONE IOR50A/LVDS/NONE IOR31A/NONE IOR49B/NONE IOL50A/LVDS/NONE IOL49B/NONE | IOT33AD07 | IOT33BD07 | IOT34BLVDS/ID07 | IOT34BLVDS/ID07 | IOT34BLVDS/ID07 | IOT35BD07 | IOT35BD07 | IOT36BD07 | IOT36BD057 | IOT37BD057 | IOT37B IOL49A/NONE
IOL49BA/LVDS/NONE
IOL47BA/LVDS/NONE
IOL47BA/NONE
IOL47A/NONE
IOL47A/NONE
IOL46AL/VDS/NONE
IOL45BA/NONE
IOL45A/NONE
IOL43A/NONE
IOL43A/NONE
IOL43A/NONE IOL49A/NONE V4 W3 T3 T2 R6 T5 AA1 | 10R20B/NONE | 10R23B/LVDSN/NONE | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | IA/LVDS/DQ7 A18 IOT43B/DQ7 C17 IOT41A/DQ7 IOT41B/DQ7 IOT42A/LVDS/DQ7 IOT42B/LVDS/DQ7 W2 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE D19 | ORZANPILL1_T_FB/LVDS/DQS | ORZB/RPILL1_C_FB/LVDS/DQS | ORAL/RPILL1_T_IN/LVDS/DQS | ORAL/RPILL1_C_IN/LVDS/DQS GW2AN-EV18XPG484 A13
B13
IOT31A/SCL/GCLKT_I/DQ7
A16
B16
IOT39A/JTA/GSEL_NIDQ7
IOT39A/JTA/GSEL_NIDQ7
IOT39A/JTA/GSEL_NIDQ7
IOT55A/READY/DQ6
IOT55A/READY/DQ6
IOT55A/BONE/DO6 JTAGSEL_N RECONFIG_N READY DONE IOR28A/GCLKT_3/LVDS/NONE GW2AN-EV18XPG484 GW2AN-FV18XPG484 U3E Bank4 A813 IOB31A/DQ3
A714 IOB31B/DQ3
Y14 IOB39B/DQ3
W12 IOB39B/DQ5/DQ3
W12 IOB39B/DQ5/DQ3
A715 IOB39B/DQ5 BankS IOB49B/DQ4 IOB49A/DQ4 IOB48B/LVDS/DQS4 IOB48A/LVDS/DQS4 IOB45B/DQ3 IOB45A/DQ3 IOB45B/LVDS/DQ3 IOB44A/LVDS/DQ3 IOL33B/NONE IOL32AL/DS/NONE IOL32AL/DS/NONE IOL32AL/DS/NONE IOL31B/NONE IOL30AL/DS/NONE IOL30A IOB9B/DQS1 IOB9A/DQS1 IOB8B/LVDS/DQ1 IOB8A/LVDS/DQ1 IOB7B/DQ1 IOB7A/DQ1 AA4 V7 U8 AA5 AB4 Bank0 W17 W16 AA19 AATS (USSSHDUS)
715 (USSSHDUS)
AATB (USSSHDUS)
AATB (USSSHDUS)
AATB (USSSHDUS)
AATB (USSSHDUS)
713 (USSSHDUS)
713 (USSSHDUS)
AATB (USSSHDUS)
AATB (USSSHUS)
AATB (USSSHUS) IOT 12A/I VDS/DO8 IOT9B/DQS9 IOB/A/DQ1 IOB6B/LVDS/DQ1 IOB6A/LVDS/DQ1 IOB5B/DQ1 IOT 128/LVDS/DQ8 IOT 13A/DQ8 IOT 13B/DQ8 IOB43B/DQ3 IOB43A/DQ3 IOL29B/NONE IOL29A/NONE IOT 14A/I VDS/DQ8 IOT7B/DQ9 IOT7A/DQ9 IOB42B/I VDS/DQ3 IOB5A/DQ1 IOT14B/LVDS/DQ8 IOT15A/DQ8 IOT15B/DQ8 IOB4B/LVDS/DQ1 IOB4A/LVDS/DQ1 IOB41B/DQ3 IOB41A/DQ3 IOT6A/LVDS/DQ9 IOB3B/DQ1 IOB3A/DQ1 IOT16A/LVDS/DQ8 IOT16B/LVDS/DQ8 IOT5B/DQ9 IOT5A/DQ9 IOB18B/LVDS/DQ2 IOB19A/DQ2 K2 K1 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOT4B/LVDS/DQ9 IOT4A/LVDS/DQ9 IOT18A/LVDS/DQ8 IOT18B/LVDS/DQ8 IOB19B/DQ2 IOB20A/LVDS/DQ2 IOB20B/LVDS/DQ2 IOT19A/DQ8 IOT3B/DQ9 A10 OT198/DQ8
E10 IOT198/DQ8
C11 IOT20ALVDS/DQ8
E11 IOT20ALVDS/DQ8
IOT22ALVDS/DQ8
IOT22ALVDS/DQ8
IOT25B/DQ8
IOT25B/DQ8 IOT3A/DQ9 IOT2B/LVDS/DQ9 IOT2A/LVDS/DQ9 IOT27A/DQ8 IOT27A/DQ8 IOT26B/LVDS/DQ8 IOT26A/LVDS/DQ8 IOB21A/DQS2 IOB21A/DQS2 IOB21B/DQS2 IOB22A/LVDS/DQ2 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 IOB24B/LVDS/DQ2 Y13
AA14
IOB30A/GCLKT_4/LVDS/DQ3
AB6
IOB30B/GCLKC_4/LVDS/DQ3
Y7
IOB50A/SCLK/LVDS/DQ4
I115
IOB51A/DIN/CLKHOLD_N/DQ4 JTAGSEL N >> R7 AA9 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 IOL9B/DQ0 IOL9A/DQ0 IOL8B/LVDS/DQ0 A6 C7 IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 'AG mode selection signal section GW2AN-EV18XPG484 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 IOL8A/LVDS/DQ0 IOL7B/DQ0 IOL7A/DQ0 V17 IOB54B/SWDZ/LV T16 IOB55A/D5/DQ4 IOB55B/D4/DQ4 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 R8 4.7K IOL6A/LVDS/DQS0 DONE (TCK< IOL3B/DQ0 IOL3A/DQ0 IOL3B/LVDS/DQ0 IOL2A/LVDS/DQ0 4 AVCCOOVCCX R9 1K R10 4.7K VCCO1 TDI <<-RECONFIG_N
R11 4.7K VCCO1 R12 4.7K VCCO1 *Configuration completed JTAG TDO > В C28 0.1uF IOL20B/NONE *Configuration reset section *Configurable detection section IOL20A/NONE 8 🕺 VCC1P2 VCCO0/VCCX VCCO1 VCC02 VCCO3 vcc>>FB2 E1 | IOL14A/GCLKT_8/NONE | E4 | IOL14B/GCLKC_8/NONE | IOL4A/LPL1_T_FB/L/DS/DQ0 | IOL5A/LPL1_T_FB/L/DS/DQ0 | IOL5B/LPL1_T_IN/DQ0 | IOL5B/LPL1_T_C_IN/DQ0 | IOL5B/LPL1_T_D_IN/DQ0 | IOL5B/LPL1_T_D_IN/DQ IO4 6 101 vdcoovcc: 043 044 045 046 047 048
0.1uF VCC 5 GND 2 IO3 4 3 IO2 GW2AN-EV18XPG484 *JTAG download section VCC03 VCCO4 VCC05 VCCO6 VCCO7 VCC08 1.F CLK signal is an external input clock signal. It is recommended that F_CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. C61 C62 C63 C64 C65 C66 C67 C68 C69 C70 C71 C72 C73 C74 C75 C76 C77 C78 C79 C80 C81 C82 C83 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. D.1uF D.1uF D.1uF D.1uF D.1uF 0.1uF 3.It is recommended that add an ESD protection chip to the JTAG download circuit. GOWIN Minimum System Diagram

3 5 GW2AN-EV18XUG256 Bank1 Bank2 Bank3 VCC1P2 IOT34A/LVDS/DQ7 IOT34B/LVDS/DQ7 IOT54B/LVDS/DQ6 IOT54A/LVDS/DQ6 IOR11A/LVDS/NONE IOR11B/LVDS/NONE IOR8B/LVDS/DQ5 IOR8A/LVDS/DQ5 IOR29A/NONE IOR29B/NONE IOR50B/LVDS/NONE IOR50A/LVDS/NONE vss VCC IOT36A/LVDS/DQ7 IOT52B/LVDS/DQ6 IOR13A/LVDS/NONE IOR13B/LVDS/NONE IOR6B/LVDS/DQS5 IOR30A/LVDS/NONE IOR48B/LVDS/NONE VSS VSS A16 K10 K7 VCC A10 F9 G12 F14 C15 N16 P16 IOT36B/LVDS/DQ7 IOR30B/LVDS/NONE IOR48A/LVDS/NONE IOT52A/LVDS/DQ6 IOR6A/LVDS/DQS5 A14 IOT38A/LVDS/DQ7 IOT50B/LVDS/DQ6 IOR15A/LVDS/NONE IOR25B/LVDS/NONE IOR31A/NONE IOR46B/LVDS/NONE VCC VSS VSS F16 F12 J13 IOR318/NONE IOR32A/LVDS/NONE IOR32A/LVDS/NONE N15 M15 B13 A12 IOT38B/I VDS/DQ7 IOT50A/I VDS/DQ6 IOR15B/LVDS/NONE IOR25A/I VDS/NONE IOR46A/I VDS/NONE VCC H15 G16 IOT40A/LVDS/DQ7 IOT48B/LVDS/DQS6 IOR17A/LVDS/NONE IOR23B/LVDS/NONE IOR44B/LVDS/NONE M14 L13 K11 VSS F6 E12 J9 R2 IOT40B/LVDS/DO7 IOT48A/LVDS/DOS6 IOR17B/LVDS/NONE IOR23A/LVDS/NONE IOR44A/LVDS/NONE VCC VSS IOT42A/LVDS/DQ7 IOT44B/LVDS/DQ7 IOR19A/LVDS/NONE IOR21B/LVDS/NONE IOR34A/LVDS/NONE IOR42B/LVDS/NONE VCC VSS VCCO0/VCCX VCCO0/VCCX VCCO0/VCCX IOT42B/LVDS/DQ7 IOT44A/LVDS/DQ7 IOR19B/LVDS/NONE IOR21A/LVDS/NONE IOR3/R/LVDS/NONE IOR/24/LVDS/NONE D5 D12 G9 E13 VSS VSS L16 M16 IOR36A/LVDS/NONE IOR40B/LVDS/NONE L15 IOR36B/LVDS/NONE IOR38A/LVDS/NONE VCC01 IOR40A/LVDS/NONE VCCO₁ VSS VSS Bank1 VCCO1 K12 VCCO2 VSS VSS IOR38B/LVDS/NONE VCCO D13 IOT31A/SCL/GCLKT 1/DQ7 IOR2A/RPLL1_T_FB/LVDS/DQ5 VCCO2 D4 H9 IOT31B/SDA/GCLKC_1/DQ7 IOT39A/JTAGSEL_N/DQ7 IOR2B/RPLL1_C_FB/LVDS/DQ5 IOR4A/RPLL1_T_IN/LVDS/DQ5 VCCO3 VCCO3 VSS VSS VSS VSS VSS VSS VSS VSS Bank3 JTAGSEL_N VCCO3 B10 E14 N12 L11 RECONEIG N IOT39B/RECONFIG_N/DQ7 IOR4B/RPLL1_C_IN/LVDS/DQ5 VCCO4 VCCO4 K9 N5 K8 H16 IOR28A/GCLKT_3/LVDS/NONE READY IOT55A/READY/DO6 GW2AN-FV18XUG256 VCCC04 DONE IOT55B/DONE/DO6 IOR28B/GCLKC_3/LVDS/NONE VCCO5 VCCO5 GW2AN-EV18XUG256 M4 H7 J7 E4 GW2AN-EV18XLIG256 R15 VCCO6 VCC06 VCC07 VCCO7 Bank4 U5F VSS M12 VCCO8 VSS Bank0 Bank5 IOB32A/LVDS/DQ3 IOB48B/LVDS/DQS4 R11 IOB32B/LVDS/DQ3 IOB34A/LVDS/DQ3 IOB48A/LVDS/DQS4 IOB44B/LVDS/DQ3 GW2AN-EV18XUG256 IOT12A/I VDS/DQ8 IOT8B/I VDS/DQ9 IOB12A/I VDS/DQ2 IOB8B/I VDS/DQ1 B4 L10 R13 R6 A5 T3 P5 R5 R3 T2 T4 P4 IOT12B/LVDS/DQ8 IOT8A/LVDS/DQ9 IOB34B/LVDS/DQ3 IOB44A/LVDS/DQ3 IOB12B/LVDS/DQ2 IOB8A/LVDS/DQ1 N6 L7 R7 IOT14A/LVDS/DO8 IOT6B/LVDS/DO9 IOB42B/LVDS/DO3 IOB14A/LVDS/DO2 IOR6R/LVDS/DO1 IOB36A/LVDS/DO3 OT14B/LVDS/DQ8 IOB14B/LVDS/DQ2 JTAGSEL_N >> R13 IOT18A/LVDS/DQ8 IOB16A/LVDS/DQ2 IOT4B/LVDS/DQ9 IOB38A/LVDS/DQ3 IOB40B/LVDS/DQ3 IOB4B/LVDS/DQ1 C7 E6 D7 M11 IOB38B/LVDS/DQ3 B3 T11 IOT18B/LVDS/DQ8 IOT4A/LVDS/DQ9 IOB40A/LVDS/DQ3 IOB16B/LVDS/DQ2 IOB4A/LVDS/DQ1 TAG mode selection signal section IOT20A/LVDS/DQ8 IOT2B/I VDS/DQ9 IOB18A/I VDS/DQ2 IOB2B/I VDS/DQ1 IOT2A/LVDS/DQ9 E9 IOT20B/LVDS/DQ8 IOB18B/LVDS/DQ2 IOB2A/LVDS/DQ1 N9 M8 L9 N8 IOT22A/LVDS/DO8 IOT26B/LVDS/DO8 IOB20A/LVDS/DO2 IOB26B/LVDS/DO2 E8 D8 IOT22B/LVDS/DQ8 IOT26A/LVDS/DQ8 IOB20B/LVDS/DQ2 IOB26A/LVDS/DQ2 T9 P9 IOB30A/GCLKT_4/LVDS/DQ3 IOB30B/GCLKC 4/LVDS/DQ3 IOB22A/LVDS/DQ2 IOB24B/LVDS/DQ2 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 R14 P6 T6 IOB50A/SCLK/LVDS/DQ4 IOB50B/D1/SO/LVDS/DQ4 Bank5 IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 ₩ccoovccx TDI < R8 IOB23A/GCLKT_5/DQ2 TCK IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 IOB23B/GCLKC 5/DQ2 OT24A/GCLKT 0/LVDS/DQ8 R14 GW2AN-EV18XUG256 A8 8 IOT24B/GCLKC 0/LVDS/DQ8 IOR55R/D4/DO4 GW2AN-EV18XUG256 GW2AN-EV18XUG256 TMS< Bank8 IOL15A/LVDS/NONE G6 F3 F1 Bank6 Bank7 D2 C1 C2 IOL16A/NONE IOL8B/LVDS/DQ0 IOL8A/LVDS/DQ0 101 104 /ccoo/vcc IOI 36A/I VDS/NONE IOI 51B/NONE IOI 21A/I VDS/NONE IOL33B/NONE IOI 16B/NONE IOL36B/LVDS/NONE IOL51A/NONE IOL21B/LVDS/NONE IOL33A/NONE IOL17A/LVDS/NONE GND VCC K4 L5 K5 IOL50B/LVDS/NONE IOL32B/LVDS/NONE IOL 17B/LVDS/NONE IOI 40A/I VDS/NONE IOL22A/NONE IOL2A/LVDS/DO0 103 IOL40B/LVDS/NONE IOL50A/LVDS/NONE IOL22B/NONE IOL32A/LVDS/NONE IOL19A/LVDS/NONE IOL20B/NONE 102 IOL464/LVDS/NONE IOI 48B/I VDS/NONE IOL24A/NONE TOT 30B/LV/DS/NONE IOL19B/LVDS/NONE IOI 20A/NONE M3 H5 ESD IOL46B/LVDS/NONE IOL24B/NONE *JTAG download section IOI 47A/NONE IOL28A/LVDS/NONE IOL28B/LVDS/NONE IOL47B/NONE IOL14A/GCLKT_8/NONE IOL14B/GCLKC_8/NONE IOL4A/LPLL1 T FB/LVDS/DQ0 DONE (IOL25A/GCLKT_7/LVDS/NONE IOL44A/GCLKT_6/LVDS/NONE IOL4B/LPLL1_C_FB/LVDS/DQ0 LED3 ¬1K R16 ⊢ R15 4.7K VCCO1 IOL5A/LPLL1_T_IN/DQ0 IOL5B/LPLL1_C_IN/DQ0 IOL44B/GCLKC 6/LVDS/NONE IOL25B/GCLKC 7/LVDS/NONE GW2AN-EV18XUG256 GW2AN-EV18XUG256 Configuration completed GW2AN-EV18XLIG256 detection section VCC00/VCCX VCCO1 VCCO2 VCC03 VCCO4 VCC05 VCCO6 VCCO7 VCC08 R17 4.7K VCC>> FB3 *Configurable detection section C101 C102 C85 C90 C103 C104 C105 C106 C107 C88 C89 C91 C92 C95 C96 C97 C99 C100 C108 C109 C110 0.1uF 0.1uF .1uF 0.1uF 0.1uF .1uF .1uF .1uF .1uF 0.1uF RECONFIG_N
R18 4.7K *Configuration reset section Notes: 1.F CLK signal is an external input clock signal. It is recommended that F CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. GOWIN Minimum System Diagram 3.It is recommended that add an ESD protection chip to the JTAG download circuit. Document Number GW2AN-EV18XUG256 ize A3 Rev 2.0





3 2 GW2AN-EV18XUG400 4 U11A Bank0 Bank2 Bank4 B4 1071284.V0SO08
A44 1071284.V0SO08
A5 1071284.V0SO08
B5 1071384.008
B6 1071384.V0SO08
A5 1071484.V0SO08
A5 1071484.V0SO08
B7 1071884.V0SO08
A7 107184.V0SO08
B7 1071884.V0SO08
B7 107184.V0SO08
B7 107184.V0SO08 | P11 | IOB32ALVDSIDQ3 | P11 | IOB32ALVDSIDQ3 | P11 | IOB32ALVDSIDQ3 | P11 | IOB32ALVDSIDQ3 | P12 | IOB32BLQ3 | IO | IOR9B/DQ5 | D20 IOT9B/DQS9 IOT9A/DQS9 IOR11A/LVDS/NONE IOR11B/LVDS/NONE IOB49B/DQ4 IOB49A/DQ4 VCC1P2 IOT8B/LVDS/DQ9 IOT8A/LVDS/DQ9 IOB48A/LVDS/DQS4 IOL21A/LVDS/NONE VSS | E16
VSS | E10
VSS | ALVDS/DQ5 IOR78/DQ5 IOR7A/DQ5 /LVDS/DQS5 IOR5B/DQ5 IOR5B/DQ5 IOR5A/DQ5 G15 IOT6A/LVDS/DQ9 B2 D5 E6 F7 IOL21B/LVDS/NONE IOR7A/DQ5 IOR6B/LVDS/DQS5 IOB45A/DQ3 IOL22A/NONE VCC VCC VCC VCC VCC VCC VCC VCC IOR6A/LVDS/DQS5 IOB44A/LVDS/DQ3 IOL23A/LVDS/NONE M10 J11 M12 | ORSB/IDOS | F16 | ORSB/IDOS | ORSB/IDOS | ORSB/IDOS | F15 | ORSB/IDOS | ORSB IOL23B/LVDS/NONE IOL24A/NONE IOB42A/LVDS/DQ3 IOB41B/DQ3 IOB41A/DQ3 IOB40B/LVDS/DQ3 IOB40A/LVDS/DQ3 VCC00/VCCX H8 H10 H9 VCC00/VCCX VCC00/VCCX VCC00/VCCX VCC01 VCC01 | Y12 | IOB30A/GCLKT_4/LVDS/DQ3 | W6 | IOB30B/GCLKC_4/LVDS/DQ3 | IOB50A/SCLK/LVDS/DQ4 | IOB51A/IDIN/CLKHOLD N/DQ4 | IOB51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/CLKHOLD N/DQ51A/IDIN/ L1 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOT22B/LVDS/DQ8 VCC02 J13 VCC03 VC VCCO1 -VCC01 VCC02 VCC03 VCC03 VCC03 VCC04 IOB50B/D1/SO/LVDS/DQ4 IOB51B/DIN/CLKHOLD_N/DQ4 IOB51B/DOUT/WE N/DQ4 GW2AN-EV18XUG400 D17 | IOR2A/RPLL1 T FB/LVDS/DQ5 | IOR2B/RPLL1 C FB/LVDS/DQ5 | IOR4A/RPLL1 T IN/LVDS/DQ5 | IOR4B/RPLL1 T IN/LVDS/DQ5 | IOR4B/RPLL1 C IN/LVDS/DQ5 E8 C7 IOT17A/TDO/DQ8 C9 IOT17B/TDI/DQ8 IOT23A/TCK/IDQ8 IOT23A/TCK/IDQ8 IOT23B/TMS/IDQ8 IOT24B/GCLKT_0LV/DS/IDQ8 IOT24B/GCLKT_0LV/DS/IDQ8 IOT24B/GCLKC_0LV/DS/IDQ8 IOB52A/FASTRD_N/D3/LVDS/DQ4 IOB52B/QSSPI_WPN/LVDS/DQ4 IOB53A/D7/DQ4 GW2AN-EV18XUG400 VCCO4 VCCO5 VCCO5 VCCO5 VCCO6 IOB53B/D6/DQ4 IOB54A/SSPI_CS_N/D0/LVDS/DQ4 IOB54B/SI/D2/LVDS/DQ4 VCCO6 [-Bank3 VCC06 VCC07 VCC07 VCC08 VCC08 GW2AN-EV18XUG400 U11B VCCO7 IOR51B/NONE
IOR50B/LVDS/NONE
IOR50B/LVDS/NONE
IOR50B/LVDS/NONE
IOR49B/NONE
IOR49B/NONE
IOR49B/LVDS/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR46B/LVDS/NONE
IOR46B/LVDS/NONE
IOR46B/LVDS/NONE IOR29A/NONE
IOR29B/NONE
IOR30AIL/DS/NONE
IOR30BIL/DS/NONE
IOR31A/NONE
IOR31B/NONE
IOR32AIL/DS/NONE
IOR32AIL/DS/NONE
IOR33A/NONE
IOR33A/NONE Bank1 U11F IOL7A/DQ0 IOL68/LVDS/IDQS0 IOL6ALVDS/DQS0 IOL3B/IDQ0 IOL3A/DQ0 IOL2B/LVDS/IDQ0 IOL2ALVDS/DQ0 IOL20B/NONE IOL20A/NONE VCCO8 -| A12 | IOT30ALVDS/DQ7 | A13 | IOT30BLVDS/DQ7 | A13 | IOT32ALVDS/DQ7 | G111 | IOT32BLVDS/DQ7 | IOT32ALVDS/DQ7 | IOT32ALVDS/DQ7 | IOT34BLVDS/DQ7 | IOT34BLVDS/DQ7 | IOT34BLVDS/DQ7 | IOT36BLVDS/DQ7 | IOT36BLVDS/DQ7 | IOT38BLVDS/DQ7 | IOT3BBLVDS/DQ7 | IOT3BBLVDS/DQ IOT54B/LVDS/DQ6 IOT54A/LVDS/DQ6 IOT53B/DQ6 IOT53A/DQ6 IOT52B/LVDS/DQ6 IOT52A/LVDS/DQ6 A20 B19 F14 Bank5 GW2AN-EV18XUG40 IOB9B/DQS1 IOB9A/DQS1 IOB8B/LVDS/DQ1 IOB8A/LVDS/DQ1 U11G | DR33ANONE | DR33ANONE | DR33ANONE | DR34ANONE | DR34BNONE | DR34 Bank6 IOT52ALVDS/DQ6 IOT51B/DQ6 IOT51A/DQ6 IOT50B/LVDS/DQ6 IOT50A/LVDS/DQ6 IOT49B/DQ6 | U.5 N3 N4 IOL34A/LVDS/NONE IOR46A/LVDS/NONE IOBERII VIDS/DO B14 IOT38BLVDS/DQ7
A15 IOT38BLVDS/DQ7
B15 IOT40ALVDS/DQ7
A16 IOT40BLVDS/DQ7
B16 IOT42BLVDS/DQ7
G12 IOT42BLVDS/DQ7
F12 IOT43A/DQ7
A17 IOT43B/DQ7
B17 IOT44BLVDS/DQ7 IOR45B/NONE IOR45A/NONE IOB5B/DQ1 IOL14A/GCLKT 8/NONE IOL50B/LVDS/NONE 14B/LVDS/NONE U20
14A/LVDS/NONE 10R43B/NONE 10R43B/NONE 10R43B/NONE 2B/LVDS/NONE 2B IOT49A/DQ6 IOR44B/I VDS/NONE IOB5A/DQ1 IOL14B/GCLKC_8/NONE IOL4A/LPLL1_T_FB/LVDS/DQ0 IOL4B/LPLL1_C_FB/LVDS/DQ0 IOL50A/LVDS/NONE IOB4B/LVDS/DQ1 IOB4A/LVDS/DQ1 IOT45B/DQ7 IOT45A/DQ7 IOL5A/LPLL1_T_IN/DQ0 IOL5B/LPLL1_C_IN/DQ0 IOL48B/LVDS/NONE IOR42B/LVDS/NONE IOR42A/LVDS/NONE IOL48A/LVDS/NONE IOL47B/NONE GW2AN-EV18XUG400 IOL47A/NONE IOL46B/LVDS/NONE IOL46A/LVDS/NONE IOT44B/LVDS/DQ7 C11 | IOT31A/SCL//GCLKT_1/DQ7 | C13 | IOT31B/SDA/GCLKC_1/DQ7 | D13 | IOT39A/JTAGSEL_N/DQ7 | C17 | IOT39B/RECONFIG_N/DQ7 | IOT5SA/READY/DQ6 | IOT5SB/DONE/DQ6 | JTAGSEL_N >> R31 1K K19 IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE RECONFIG_N READY DONE GW24N-FV18YIIG400 W9 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 U1 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE GW2AN-EV18XUG400 GW2AN-FV18XUG400 GW2AN-FV18XUG400 R32 vcc >> FB6 LED6 R33 1K R34 4.7K VCCO1 TCK< 4 AVCCOOVCCX Configuration completed TDI ≪
 0172
 0173
 0174
 0175
 0176
 0177
 0178
 0179
 0180
 0181
 0182
 0183
 0184

 010F
 0.10F
 0.1uF 0.1uF 0.1uF 0.1uF detection section JTAG C199 C200 TDO >> 8 8 В R35 4.7K *Configurable detection section 101 104 1.F CLK signal is an external input clock signal. VGCO0/VCC It is recommended that F CLK signal be provided through an active oscillator crystal. GND VCC 2. External Flash memory is used to store downloaded programs. 3 IO2 103 RECONFIG_N
R36 4.7K VCCO1 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. *JTAG download section 3.It is recommended that add an ESD protection chip to the JTAG download circuit. *Configuration reset section GOWIN Minimum System Diagram

3 2 4 GW2AN-EV18XUG484 Bank2 Power VCC1P2 | IOROBJDQ5 | F19 | IOROBJDQ5 | F18 | IOROBJDQ5 | G22 | IORBALVDS/IOQ5 | F22 | IORBALVDS/IOQ5 | E20 | IORBALVDS/IOQ5 | E21 | IORBALVDS/IOQ55 | E22 | IORBALVDS/IOQ55 | E25 | IORBALVDS/IOQ55 | I Y12 T12 V13 U13 IOB31B/IDQ3 IOB32A/LVD IOB32B/LVD IOB33A/DQ3 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 | 1937.003 IOT30A/LVDS/DQ7 IOL33B/NONE IOT30B/LVDS/DQ IOL33A/NONE IOL32B/LVDS/NONE IOT32A/LVDS/DQ IOT32B/LVDS/DQ7 IOL32A/LVDS/NONE IOL31B/NONE L11 L12 M11 M12 N10 | IOT338D07 | IOT34ALVDS/D07 | IOT34BLVDS/D07 | IOT34BLVDS/D07 | IOT35BD07 | IOT35BD07 | IOT36BLVDS/D07 | IOT37BD057 | IOT37BD07 IOT33B/DQ7 IOL31A/NONE IOL30B/LVDS/NONE IOL30A/LVDS/NONE IOL29B/NONE IOL29A/NONE | IORSB/IOO5 | D19 VCCO0/VCCX IOB42A/LVDS/DQ3 IOB41B/DQ3 IOB41A/DQ3 IOB40B/LVDS/DQ3 IOB40A/LVDS/DQ3 IOB40A/LVDS/DQ3 C7 VCC00/VCCX VCC00/VCCX VCC00/VCCX VCC00/VCCX VCC00/VCCX VCC00/VCCX M2 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOT44A/LVDS/DQ7 94A/LVDS/DQ7 IOT43B/DQ7 IOT43A/DQ7 GW2AN-EV18XUG484 VCC00/ VCC01 VCC01 VCC01 VCC01 VCC02 IOT41B/DQ7 IOR23B/LVDS/NONE IOR23A/LVDS/NONE IOR22B/NONE IOR22A/NONE VCCO1 IOT42A/LVDS/DQ7 IOT42B/LVDS/DQ7 B17 AB12 IOB30A/GCLKT_4/LVDS/DQ3 | 1083AGCLKT 4.KVDSRO3 | 1083AGCLKT 4.KVDSRO3 | 1095 | 1083AGCLKT 4.KVDSRO3 | 109 | 1085ASCLKT.VSDO3 | 109 | 1085ASCLKT.VSDO3 | 109 | 1085ASCLKT.VSDO3 | 1095ASCLKT.VSDO3 | 1095ASCLKT.V F20 VCC01 VCC02 VCC02 VCC02 VCC02 VCC02 VCC02 VCCO2 U13I B12 IOT31A/SCL/GCLKT_1/DQ7
E14 IOT31B/SDA/GCLKC_1/DQ7
E15 IOT39A/JTA/GSEL_N/DQ7 JTAGSEL_N RECONFIG_N READY DONE VCCO3 M18 N15 P15 IOT39B/RECONFIG_N/DQ7 IOT55A/READY/DQ6 IOT55B/DONE/DQ6 GW2AN-FV18XUG484 CIMPANI EV/10VI IC/00 VCCO4 GW2AN-FV18XUG486 VCCO5 Bank0 Bank3 | IOR51B/NONE | Y20 | W19 | W20 | W18 | W20 | W18 | W20 | W18 | W20 | W2 U13G IOT 124/I VDS/DOR IOTOR/DOS0 IOR20A/NONE M19 IOR29A/NONE IOR29B/NONE IOR30A/LVDS/NONE IOR30B/LVDS/NONE IOR31A/NONE IOR31B/NONE IOT9A/DQS9 IOL20A/NONE Bank6 VCCO6 J1 IOL19A/LVDS/NONE P4 NS 01-34AL VDSNONE NS 01-34AL IOT14A/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT7B/DQ9 IOT7A/DQ9 IOR49B/NONE IOR49A/NONE N18 N22 P21 N20 N19 R22 R21 P22 P20 T22 T21 P19 P18 IOL51B/NONE IOT15A/DQ8 IOT15B/DQ8 IOT6B/LVDS/DQ9 IOT6A/LVDS/DQ9 IOR32A/LVDS/NONE IOR32B/LVDS/NONE IOR33A/NONE IOR48B/LVDS/NONE IOR48A/LVDS/NONE IOR47B/NONE IOR47A/NONE VCCO7 VCCO7 VCCO8 VCCO8 VCCO8 IOL50B/LVDS/NONE IOL50A/LVDS/NONE | G2 | OL14A/GCLKT_B/NONE | G1 | OL14A/GCLKT_B/NONE | G2 | OL14B/GCLKC_B/NONE | G4 | OL14A/FLH_1_T_FBI_V/DS/DQ0 | OL5ALPLL1_T_G/FBI_V/DS/DQ0 | OL5ALPLL1_T_I/NDQ0 | OL5ALPLL1_T_I/NDQ0 | OL5ALPLL1_T_I/NDQ0 | IOT16A/LVDS/DQ8 IOT16B/LVDS/DQ8 IOT5A/DQ9 IOR33B/NONE IOR34A/LVDS/NONE IOR34B/LVDS/NONE IOT18A/LVDS/DQ8 IOT18B/LVDS/DQ8 IOT4A/LVDS/DQ9 | OL48BI/UDSINONE | OL47BINONE | OL47BINONE | OL47BINONE | OL47ANONE | OL46BI/UDSINONE | OL45BINONE | OL45BINONE | OL45BINONE | OL43BINONE | OL43AINONE | OL43AIN IOT 19A/DQ8 IOT 19B/DQ8 IOT3B/DQ9 IOT3A/DQ9 VSS GW2AN-EV18XUG484 IOT2B/LVDS/DQ9 IOT20A/LVDS/DQ8 | IOT ZUALL VUSTICAGO | IOT20B/LVDS/DQ8 | IOT21A/DQS8 | IOT21B/DQS8 | IOT22A/LVDS/DQ8 | IOT22B/LVDS/DQ8 | IOT25B/DQ8 | IOT25B/DQ8 IOT26B/LVDS/DQ8 IOT26A/LVDS/DQ8 U13F Bank5 BankO JTAGSEL N >> R37 1K AA6 AB6 W6 IOB12A/LVDS/DQ2 IOB13A/DQ2 IOB13B/DQ2 IOB9B/DQS1 IOB9A/DQS1 88B/LVDS/DQ1 88B/LVDS/DQ1 AA5 AB4 IOB7B/DQ1 'AG mode selection signal section V1 IOL44A/GCLKT_6/LVDS/NONE IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 IOB9A/DQS1 IOB8B/LVDS/DQ1 IOLAAR/GCLKC 6/LVDS/NON M22 M21 IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 GW2AN-EV18XUG484 IOB14A/LVDS/DQ2 IOB14B/LVDS/DQ2 IOB8A/LVDS/DQ1 IOB7B/DQ1 AA4 T8 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 GW2AN-EV18XUG484 IOR74/DO1 R38 4.7K IOB6B/LVDS/DQ1 IOB6A/LVDS/DQ1 IOB6A/LVDS/DQ1 IOB5B/DQ1 IOB5A/DQ1 IOB4B/LVDS/DQ1 IOB4A/LVDS/DQ1 IOB3B/DQ1 DONE (тск<<-*Configuration completed 4 AVCCOOVCCX TDI <<-RECONFIG_N
R41 4.7K VCCO1 READY (R42 4.7K VCCO1 JTAG TDO > В 0.1uF A39 (OB18BILVDS/IOU2 AB9 (OB19A/DQ2 T10 (OB19B/IOQ2 U10 (OB20ALVDS/IOQ2 V90 (OB20BLVDS/IOQ2 V10 (OB21A/DQS2 V10 (OB21A/DQS2 V10 (OB22ALVDS/IOQ2 T11 (OB22BLVDS/IOQ2 U11 (OB22BLVDS/IOQ2 U11 (OB2ABLVDS/IOQ2 U11 (OB2ABLVDS/IOQ2 *Configuration reset section *Configurable detection section IOB3A/DQ1 8 - 8 IOB3A/DQ1 IOB2BILVDS/IDQ1 IOB2ALVDS/IDQ1 IOB2ALVDS/IDQ2 IOB26BILVDS/IDQ2 IOB26BILVDS/IDQ2 IOB26BILVDS/IDQ2 IOB25B/IDQ2 IOB25A/DQ2 VCC03 VCC1P2 VCCO0/VCCX VCC01 VCCO2 vcc >> FB7 U14 AA11 IO4 6 101 vdcoovcc 0.1uF 0.1uF 0.1uF 0.1uF VCC 5 0.1uF 0.1uF 0.1uF 0.1uF C232 C233 C234 C235 C236

D.1uF D.1uF D.1uF D.1uF D.1uF C223 C224 C225 C226 C227 GND 2 10.1uF 10.1uF 10.1uF 10.1uF 10.1uF IO3 4 3 IO2 AA10 AB10 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 *JTAG download section GW2AN-FV18XUG484 VCCO4 VCC05 VCCO6 VCCO7 VCC08 1.F CLK signal is an external input clock signal. It is recommended that F_CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. C237 C238 C239 C240 C241 C242 C243 C244 C245 C246 C247 C248 C249 C250 C251 C252 C253 C254 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 0.1uF 3.It is recommended that add an ESD protection chip to the JTAG download circuit. GOWIN Minimum System Diagram

3 5 GW2AN-LV18XPG256 LI15D U15B U15C U15J Bank3 Bank2 J16 J14 J15 K16 IOR29A/NONE IOR29B/NONE IOR50B/LVDS/NONE VCC1P0 IOT54B/LVDS/DQ6 B14 IOT54A/LVDS/DQ6 B12 IOT34A/LVDS/DQ7 IOT34B/LVDS/DQ7 IOR11A/LVDS/NONE IOR11B/LVDS/NONE IOR8B/LVDS/DQ5 IOR8A/LVDS/DQ5 IOR29B/NONE IOR30A/LVDS/NONE IOR50A/LVDS/NONE IOR48B/LVDS/NONE VCC VSS IOT36A/LVDS/DQ7 IOT52B/LVDS/DQ6 IOR13A/LVDS/NONE IOR13B/LVDS/NONE IOR6B/LVDS/DQS5 IOR30B/LVDS/NONE IOR31A/NONE IOR48A/LVDS/NONE VCC VSS VSS A10 F9 E11 D10 A16 K10 K7 G12 F14 C15 J12 H13 C14 F11 C12 A14 H11 P16 N15 IOR46B/LVDS/NONE IOT36B/LVDS/DQ7 IOT52A/LVDS/DQ6 IOR6A/LVDS/DQS5 IOT38A/LVDS/DQ7 IOT50B/LVDS/DQ6 IOR15A/LVDS/NONE IOR25B/LVDS/NONE IOR31B/NONE IOR46A/LVDS/NONE VCC VSS F16 F12 L6 P14 IOT38B/I VDS/DQ7 IOT50A/I VDS/DQ6 IOR15B/LVDS/NONE IOR25A/I VDS/NONE IOR32A/I VDS/NONE IOR44B/I VDS/NONE VCC VCC VSS VSS K15 M14 H15 G16 IOT40A/LVDS/DQ7 IOT48B/LVDS/DQS6 IOR17A/LVDS/NONE IOR23B/LVDS/NONE IOR32B/LVDS/NONE IOR44A/LVDS/NONE F6 VCC IOT40B/LVDS/DO7 IOT48A/I VDS/DOS6 IOR17B/LVDS/NONE IOR23A/LVDS/NONE IOR34A/I VDS/NONE IOR42B/LVDS/NONE VSS E12 J9 R2 A1 G8 IOT42A/LVDS/DQ7 IOT44B/LVDS/DQ7 IOR19A/LVDS/NONE IOR21B/LVDS/NONE IOR34B/LVDS/NONE VSS VCCO0/VCCX VCCO0/VCCX VCCO0/VCCX VSS VSS IOT42B/LVDS/DQ7 IOT44A/LVDS/DQ7 IOR19B/LVDS/NONE IOR21A/LVDS/NONE IOR364/LVDS/NONE IORANR/LV/DS/NONE D5 D12 G9 E13 I 14 L15 IOR36B/LVDS/NONE IOR40A/LVDS/NONE IOR38A/LVDS/NONE IOR38B/LVDS/NONE VCC01 VCCO1 VSS VSS Bank1 VSS VSS VSS VCCO2 VCCO2 H10 M13 D13 IOT31A/SCL/GCLKT 1/DQ7 IOR2A/RPLL1_T_FB/LVDS/DQ5 VCCO2 D4 H9 IOT31B/SDA/GCLKC_1/DQ7 IOT39A/JTAGSEL_N/DQ7 IOR2B/RPLL1_C_FB/LVDS/DQ5 IOR4A/RPLL1_T_IN/LVDS/DQ5 VCCO3 VCCO3 JTAGSEL_N ` VSS VSS VSS VSS N12 VCCO3 B10 E14 L11 RECONEIG N IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE VCCO4 IOT39B/RECONFIG_N/DQ7 IOR4B/RPLL1_C_IN/LVDS/DQ5 VCCO4 IOT55A/READY/DO6 GW2AN-I V18XPG256 VCCC04 H8 N13 DONE VCCO5 VCCO5 GW2AN-LV18XPG256 VSS VSS VSS VSS VCCO5 VCCO6 GW2AN-I V18XPG256 U15E M4 H7 R15 B2 M5 VCCOR U15F VCC07 VCCO7 Bank4 U15A M12 VCC08 VCC08 VSS Bank0 IOB32A/LVDS/DQ3 IOB48B/LVDS/DQS4 R11 T14 T5 IOB12A/LVDS/DQ2 IOB32B/LVDS/DQ3 IOB34A/LVDS/DQ3 IOB48A/LVDS/DQS4 IOB44B/LVDS/DQ3 IOB8B/LVDS/DQ1 GW2AN-LV18XPG256 A3 IOT12A/LVDS/DQ8 IOT12B/LVDS/DQ8 IOT12B/LVDS/DQ8 E7 IOT14A/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT12B/L/DS/DQ8 IOT20B/LVDS/DQ8 IOT2DB/LVDS/DQ8 IOT2DB/L IOT12A/LVDS/DQ8 IOT8B/LVDS/DQ9 L10 R13 N6 L7 R7 P7 IOB12B/I VDS/DQ2 IOB8A/I VDS/DQ1 A5 IOT8A/LVDS/DQ9 IOB34B/LVDS/DQ3 IOB44A/LVDS/DQ3 IOB14A/LVDS/DQ2 IOB6B/LVDS/DQ1 R5 R3 T2 T4 P4 N9 IOT6B/LVDS/DO9 IOB42B/LVDS/DO3 IOR14R/LVDS/DO2 IOB36A/LVDS/DO3 IOR6A/LVDS/DO1 IOB16A/LVDS/DQ2 JTAGSEL_N >> R43 IOB16B/LVDS/DQ2 IOT4B/LVDS/DQ9 IOB38A/LVDS/DQ3 IOB40B/LVDS/DQ3 IOB4A/LVDS/DQ1 R3 M11 IOB38B/LVDS/DQ3 M7 N7 M6 T11 IOT4A/LVDS/DQ9 IOB40A/LVDS/DQ3 IOB18A/LVDS/DQ2 IOB2B/LVDS/DQ1 TAG mode selection signal section IOT2B/I VDS/DQ9 IOB18B/I VDS/DQ2 IOB2A/I VDS/DQ1 IOT2A/LVDS/DQ9 E9 IOT20B/LVDS/DQ8 IOB20A/LVDS/DQ2 IOB26B/LVDS/DQ2 IOT22A/LVDS/DO8 IOT26B/LVDS/DO8 IOB20B/LVDS/DO2 IOB26A/LVDS/DO2 E8 IOT22B/LVDS/DQ8 IOT26A/LVDS/DQ8 IOB22A/LVDS/DQ2 IOB24B/LVDS/DQ2 T9 P9 IOB30A/GCLKT_4/LVDS/DQ3 IOB30B/GCLKC_4/LVDS/DQ3 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 R44 P6 T6 IOB50A/SCLK/LVDS/DQ4 IOB50B/D1/SO/LVDS/DQ4 IOT17A/TDO/DQ8 ₩CC00/VCCX IOB23A/GCLKT 5/DQ2 IOT17B/TDI/DQ8 TDI << TCK IOT23A/TCK/DQ8 IOB23B/GCLKC_5/DQ2 IOT23B/TMS/DQ8 GW2AN-LV18XPG256 C255 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 A8 R14 IOR55R/D4/DO4 U15I 0.1uF GW2AN-LV18XPG256 GW2AN-LV18XPG256 TMS< Bank8 U15G U15H F4 G6 IOL15A/LVDS/NONE F3 IOL 15A/LVDS/NONE IOL 15B/LVDS/NONE IOL 16A/NONE Bank6 Bank7 IOL8B/LVDS/DQ0 IOL51B/NONE R1 G5 IOL16B/NONE IOL17A/LVDS/NONE IOL36A/LVDS/NONE IOL36B/LVDS/NONE IOL21A/LVDS/NONE IOL33B/NONE IOL8A/LVDS/DQ0 101 104 vdconvcc) IOL51A/NUNE N3
IOL50B/LVDS/NONE M2
N1 IOI 21B/I VDS/NONE IOL33A/NONE IOI 2B/I VDS/DQ0 IOL32B/LVDS/NONE K3 G2 IOL1/b/L>C G3 IOL19B/LVDS/NONE IOL19B/LVDS/NONE IOL40A/LVDS/NONE IOL22A/NONE GND VCC L5 IOL40A/LVDS/NONE IOL40B/LVDS/NONE IOL46B/LVDS/NONE IOL22B/NONE IOL32A/LVDS/NONE IOL20B/NONE IOL48B/LVDS/NONE IOL24A/NONE IOL30B/LVDS/NONE 102 103 IOL46B/LVDS/NONE IOL48A/LVDS/NONE TOT 24B/NONE IOL30A/LVDS/NONE ESD IOL28A/LVDS/NONE *JTAG download section IOI 47R/NONE IOL28B/LVDS/NONE IOL14A/GCLKT_8/NONE IOL14B/GCLKC_8/NONE F2 D3 D1 E2 | 10L14B/GCLRC_8/NONE | 10L4A/LPLL1_T_FB/LVDS/DQ0 | 10L4B/LPLL1_C_FB/LVDS/DQ0 | 10L5A/LPLL1_T_IN/DQ0 | 10L5B/LPLL1_C_IN/DQ0 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE DONE (1K R46 4.7K VCCO1 GW2AN-LV18XPG256 GW2AN-LV18XPG256 GW2AN-LV18XPG256 Configuration completed detection section VCC1P0 VCCONVCCX VCCO1 VCCO2 VCC03 VCCO4 VCCO5 VCCO6 VCCO7 VCCO8 VCC>> FB8 R47 4.7K *Configurable detection section C256 C257 C258 C259 C260 C261 C262 C263 C264 C265 C266 C267 C268 C269 C270 C271 C272 C273 C274 C275 C276 C277 C278 C279 C280 C281 D.1uF D.1uF D.1uF D.1uF D.1uF 4 7UF 0 01UF 0.1uF 0.1uF RECONFIG N K R48 4.7K *Configuration reset section 1.F CLK signal is an external input clock signal. $\overline{\text{It}}$ is recommended that F CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 3.It is recommended that add an ESD protection chip to the JTAG download circuit. GOWIN Minimum System Diagram ize A3 Rev 2.0 GW2ANJ V18XPG256

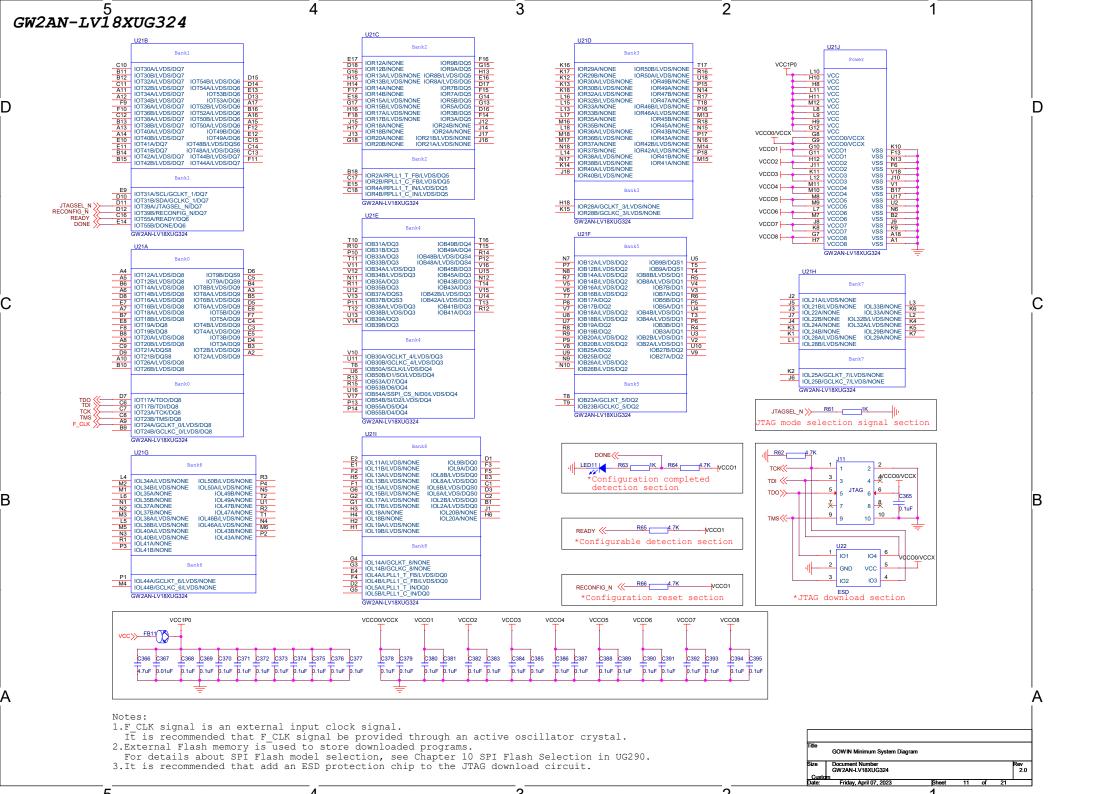
3 2 GW2AN-LV18XPG484 4 U17B Bankl Bank3 Power VCC1P0 | RESTRICT IOR11A/LVDS/NONE IOR11B/LVDS/NONE IOR12A/NONE IOT30A/LVDS/DQ7 IOR9B/DQ5 IOR29A/NONE IOR51B/NONE IOL51B/NONE IOL51B/NONE US IOL51A/NONE W4 IOT30B/LVDS/DQ7 IOR9A/DQ5 IOR29B/NONE IOR30A/LVDS/NONE IOR51A/NONE IOT32A/LVDS/DQ7 IOT32B/LVDS/DQ7 IOR12B/NONE IOR13A/LVDS/NONE IOR8A/LVDS/DQ5 IOR30B/LVDS/NONE IOR50A/LVDS/NONE IOR31A/NONE IOR49B/NONE IOL50A/LVDS/NONE IORTSALVDS/NONE
IORTSALVDS/NONE | IOT348H07 | IOT34AH1V0SH07 | IOT34BH1V0SH07 | IOT34BH1V0SH07 | IOT34SH07 | IOT35BH07 | IOT36BH1V0SH07 | IOT37BH087 | IOT IOT33B/DQ7 IOR7A/DQ5 IOL49A/NONE J20 G20 | IORGAILVDS/IDUSS | 10R5B/IDOS | 10R5B/IDOS | 10R3B/IDOS | 10R3B/IDOS | 10R3B/IDOS | 10R25B/IVDS/INONE | 10R25B/IVDS/INONE | 10R25B/IVDS/INONE | 10R25A/IVDS/INONE | 10R25A/IVDS/INONE | 10R25A/IVDS/INONE | 10R25A/IVDS/INONE | 10R25B/IVDS/INONE | 10R5B/IVDS/INONE | 10R5 IOL47B/NONE IOL47B/NONE IOL47A/NONE IOL46B/LVDS/NONE IOL46A/LVDS/NONE IOL45B/NONE IOL45A/NONE IOT50A/LVDS/DQ6 IOT49B/DQ6 IOT49A/DQ6 IOT48B/LVDS/DQS6 IOT48A/LVDS/DQS6 T5 AA1 IA/LVDS/DQ7 A18 IOT43B/DQ7 C17 IOT41R/DQ7 IOR20A/NONE IO IOR20B/NONE IO IOR21A/LVDS/NONE IOR21B/LVDS/NONE IOR23A/I VDS/NONE IOR38A/LVDS/NONE IOR42B/LVDS/NONE IOR38B/LVDS/NONE IOR41B/NONE IOR39B/NONE IOR41A/NONE IOT42A/LVDS/DQ7 IOT42B/LVDS/DQ7 IOR22B/NONE IOR22A/NONE F22 U20 W2 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE IOR40A/LVDS/NONE IOR40B/LVDS/NONE GW2AN-I V18XPG484 A13
B13
IOT31A/SCL/GCLKT_1/DQ7
A16
B16
IOT31B/SDA/GCLKC_1/DQ7
IOT39B/RECONFIG NDQ7
IOT39B/RECONFIG NDQ7
IOT5SB/DONE/DQ6
IOT5SB/DONE/DQ6 D19
C21
IOR2A/RPLL1_T_FB/LVDS/DQ5
E19
D20
IOR4A/RPLL1_T_IN/LVDS/DQ5
IOR4B/RPLL1_C_IN/LVDS/DQ5
IOR4B/RPLL1_C_IN/LVDS/DQ5 JTAGSEL_N RECONFIG_N READY DONE N22 N21 IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE Bank7 GW2AN-I V18XPG484 GW2AN-I V18XPG484 H1
J3
OL21A/LVDS/NONE
L5 IOL21B/LVDS/NONE
L4 IOL22B/NONE
IOL22B/NONE
K3 IOL22B/LVDS/NONE
L6 IOL22B/LVDS/NONE
L7 IOL24A/NONE
U2 IOL24B/NONE
U2 IOL24B/NONE
U3 IOL28A/NONE
U3 IOL28A/NONE
U3 IOL28A/LVDS/NONE
U3 IOL28A/LVDS/NONE
U3 IOL28A/LVDS/NONE
U3 IOL28A/LVDS/NONE
U3 IOL28A/LVDS/NONE IOL33B/NONE
IOL32B/LVDS/NONE
IOL32B/LVDS/NONE
IOL32B/LVDS/NONE
IOL31B/NONE
IOL31B/NONE
IOL30B/LVDS/NONE
IOL30B/LVDS/NONE
IOL30B/LVDS/NONE U17F Bank5 Bank8 W6 W7 AB5 Y6 V8 W8 IOB12A/LVDS/DQ2 IOB12B/LVDS/DQ2 IOB13A/DQ2 IOB13B/DQ2 IOL9B/DQ0 IOL9A/DQ0 IOL8B/LVDS/DQ0 IOL8A/LVDS/DQ0 IOB9B/DQS1 IOB9A/DQS1 IOB8B/LVDS/DQ1 U17A AA4 V7 U8 AA5 AB4 AA6 R9 R10 Bank0 V8 IOB138/IDQ2
W8 IOB14A/LVDS/DQ2
V9 IOB14B/LVDS/DQ2
W9 IOB15A/DQ2
AB8 IOB15B/DQ2
IOB16A/LVDS/DQ2 IOB7B/DQ1 IOT 12A/I VDS/DQ8 IOT9B/DQS9 N2 IOL28A/LVDS/NONE IOT 128/LVDS/DQ8 IOT 13A/DQ8 IOT 13B/DQ8 IOBSRILVIDS/DO1 IOB6A/LVDS/DQ1 IOB5B/DQ1 IOLGA/LVDS/DOS IOL16A/NONE IOL3B/DQ0 IOT 14A/I VDS/DQ8 IOT7B/DQ9 IOT7A/DQ9 IOB16B/LVDS/DQ2 IOB17A/DQ2 IOB17B/DQ2 IOB5A/DQ1 IOL16B/NONE IOL3A/DQ0 VSS P22 VSS AB22 VSS A14 VSS A1 G2 IOL16B/NONE
G1 IOL17A/LVDS/NONE
K6 IOL17B/LVDS/NONE
K7 IOL18A/NONE
H3 IOL18B/NONE
IOL19B/LVDS/NONE
IOL19B/LVDS/NONE IOT14B/LVDS/DQ8 IOT15A/DQ8 IOT15B/DQ8 IOB4B/LVDS/DQ1 IOB4A/LVDS/DQ1 IOL2B/LVDS/DQ0 IOL2A/LVDS/DQ0 K2 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOT6A/LVDS/DQ9 IOB18A/LVDS/DQ2 IOB3B/DQ1 IOL20B/NONE K5 IOT16A/LVDS/DQ8 IOT16B/LVDS/DQ8 IOB18B/LVDS/DQ2 IOB19A/DQ2 IOB3A/DQ1 GW2AN-LV18XPG484 IOB2B/LVDS/DQ1 IOT5A/DQ9 IOT4B/LVDS/DQ9 IOT4A/LVDS/DQ9 IOT18A/LVDS/DQ8 IOT18B/LVDS/DQ8 IOB19B/DQ2 IOB20A/LVDS/DQ2 IOB20B/LVDS/DQ2 IOT19A/DQ8 IOT3B/DQ9 A10 OT198/DQ8
E10 IOT198/DQ8
C11 IOT20ALVDS/DQ8
E11 IOT20ALVDS/DQ8
IOT22ALVDS/DQ8
IOT22ALVDS/DQ8
IOT25B/DQ8
IOT25B/DQ8 IOB21A/DQS2 IOB21A/DQS2 IOB21B/DQS2 IOB22A/LVDS/DQ2 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 IOT3A/DQ9 B3 IOT2B/LVDS/DQ9 D4 IOT2A/LVDS/DQ9 E13 IOT27B/DQ8 C12 IOT27A/DQ8 A11 Bank4 E1 | IOL14A/GCLKT_8/NONE | E3 | IOL14B/GCLKC_8/NONE | O3 | IOL4A/LPLL1_T_FB/LVDS/DQ0 | IOL4B/LPLL1_C_FB/LVDS/IDQ0 | IOL5B/LPLL1_C_IN/DQ0 AB13 (BB1HAD23 AB14) (BB1HAD23 AB15) (BB1HAD23 AB16) (BB1HAD23 GW2AN-I V18XPG484 JTAGSEL N >> R49 AA9 | IOB23A/GCLKT_5/DQ2 | IOB23B/GCLKC_5/DQ2 A6 C7 IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 AG mode selection signal sectio | OB43B/DQ3 | W15 | W15 | OB42B/LVDS/DQ3 | OB422A/LVDS/DQ3 | OB418/DQ3 | OB418/DQ3 | OB40B/LVDS/DQ3 | OB40B/LVDS/DQ3 | OB40A/LVDS/DQ3 | OB40A/ GW2AN-LV18XPG484 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 B9 IOT23B/I MS/DQ0 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 R50 4.7K DONE << TCK< LED9 R51 1K R52 4.7K NCCO1 4 AVCCOOVCCX TDI <<-RECONFIG_N
R53
4.7K
VCCO1 R54 4.7K VCCO1 *Configuration completed JTAG TDO > В 6 8 C282 8 D.1uF *Configuration reset section *Configurable detection section Y13
AA14
IOB30A/GCLKT_4/LVDS/DQ3
AB6
IOB30B/GCLKC_4/LVDS/DQ3
V16
IOB50A/SCLK/LVDS/DQ4
V16
IOB50B/D1/SO/LVDS/DQ4
U15
IOB51A/DIN/CLKHOLD_N/DQ4
U15 | IOBS0A/GCLKT_4L/US/DQ3 | IOBS0B/GCLKT_4L/US/DQ3 | IOBS0B/SCLKL/US/DS/DQ4 | IOBS0B/SCLKL/US/DS/DQ4 | IOBS1A/DIN/CLKHOLD_N/DQ4 | IOBS1A/DIN/CLKHOLD_N/DQ4 | IOBS2A/FASTRO_N/D3/L/US/DQ4 | IOBS2A/FASTRO_N/D3/L/US/DQ4 | IOBS3A/D7/DQ4 | IOBS3A/D7/DQ4 | IOBS3B/D6/DQ4 VCC1P0 VCCO0/VCCX VCCO1 VCC02 VCCO3 vcc>>FB9 V19 W18 T15 U16 AA20 U18 IO4 6 101 vdcoovcc: C308 C309 C310 C311 C312
 C283
 C284
 C285
 C286
 C287
 C288
 C280
 C290
 C291
 C292
 C293
 C293
 C294
 C295
 C296

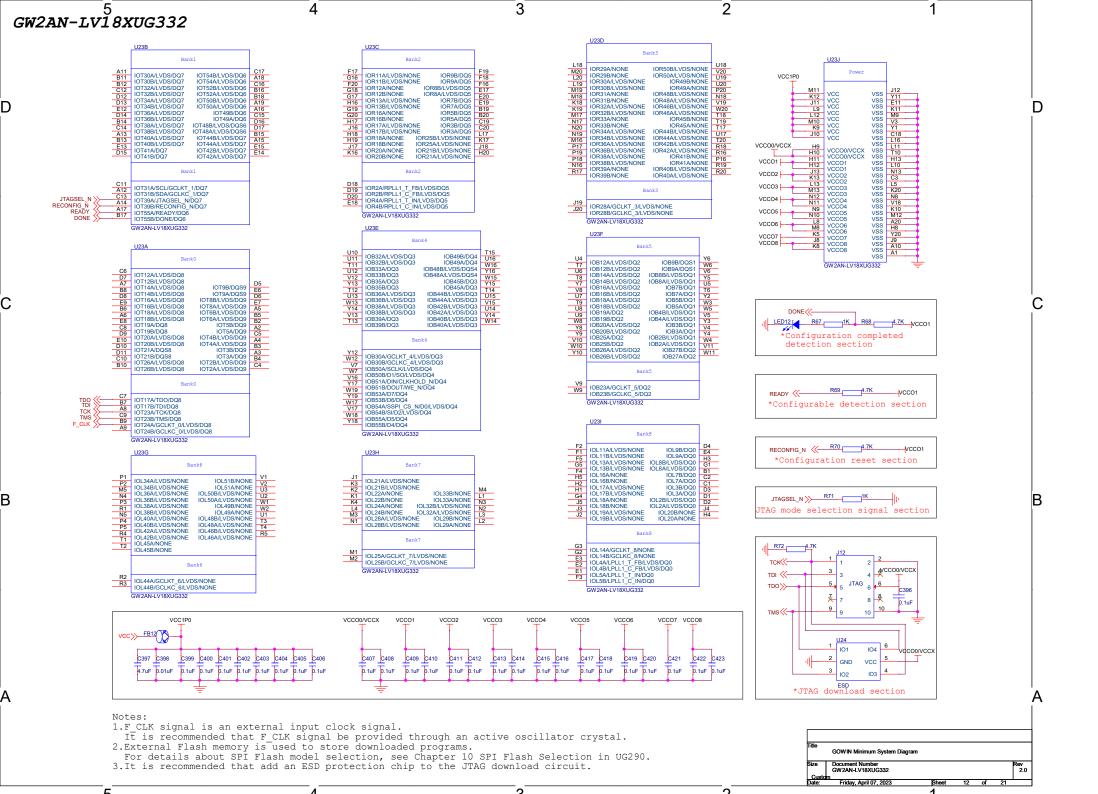
 A.70F
 D.10F
 D.10F

 C297
 C298
 C299
 C300
 C301
 C302

 D.1uF
 D.1uF
 D.1uF
 D.1uF
 D.1uF
 D.1uF
 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF VCC 5 GND 2 AA20 IOBS3B/D6/DQ4 IOBS4A/SSPI_CS_N/D0/LVDS/DQ4 IOBS4B/SI/D2/LVDS/DQ4 IOBS4B/SI/D2/LVDS/DQ4 IOBS5B/SI/D2/LVDS/DQ4 IO3 4 3 IO2 *JTAG download section IOBSSR/D4/DO/ GW2AN-I V18XPG484 VCC03 VCCO4 VCC05 VCCO6 VCCO7 VCC08 1.F CLK signal is an external input clock signal. It is recommended that F_CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. C315 C316 C317 C318 C319 C320 C321 C322 C323 C324 C325 C326 C327 C328 C329 C330 C331 C332 C333 C334 C335 C336 C337 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 0.1uF 0.1uF 0.1uF 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 3.It is recommended that add an ESD protection chip to the JTAG download circuit.

3 5 GW2AN-LV18XUG256 U19B U19C U19D U19J Bank1 Bank3 Bank2 VCC1P0 IOR50B/LVDS/NONE P15 N14 IOT54B/LVDS/DQ6 IOT54A/LVDS/DQ6 IOR11A/LVDS/NONE IOR11B/LVDS/NONE IOR8B/LVDS/DQ5 IOR8A/LVDS/DQ5 IOR29A/NONE IOR29B/NONE IOT34A/LVDS/DQ7 IOT34B/LVDS/DQ7 vss VCC IOT36A/LVDS/DQ7 IOT52B/LVDS/DQ6 IOR13A/LVDS/NONE IOR13B/LVDS/NONE IOR6B/LVDS/DQS5 IOR30A/LVDS/NONE IOR48B/LVDS/NONE A16 K10 K7 VSS VSS VCC A10 F9 G12 F14 C15 IOT36B/LVDS/DQ7 IOR30B/LVDS/NONE IOT52A/LVDS/DQ6 IOR6A/LVDS/DQS5 IOR48A/LVDS/NONE A14 IOT38A/LVDS/DQ7 IOT50B/LVDS/DQ6 IOR15A/LVDS/NONE IOR25B/LVDS/NONE IOR31A/NONE IOR31B/NONE IOR46B/LVDS/NONE VCC VSS VSS F16 F12 B13 A12 IOT38B/I VDS/DQ7 IOT50A/I VDS/DQ6 IOR15B/LVDS/NONE IOR25A/I VDS/NONE IOR46A/I VDS/NONE VCC H15 G16 IOT40A/LVDS/DQ7 IOT48B/LVDS/DQS6 IOR17A/LVDS/NONE IOR23B/LVDS/NONE IOR32A/LVDS/NONE IOR44B/LVDS/NONE VSS F6 E12 J9 R2 M14 IOT40B/LVDS/DO7 IOT48A/LVDS/DOS6 IOR17B/LVDS/NONE IOR23A/LVDS/NONE IOR32B/I VDS/NONE IOR44A/I VDS/NONE VCC VSS IOT42A/LVDS/DQ7 IOT44B/LVDS/DQ7 IOR19A/LVDS/NONE IOR21B/LVDS/NONE IOR34A/LVDS/NONE IOR42B/LVDS/NONE VCC VCC00/VCCX VCCO0/VCCX VCCO0/VCCX IOT42B/LVDS/DQ7 IOT44A/LVDS/DQ7 IOR19B/LVDS/NONE IOR21A/LVDS/NONE IOR3/R/LVDS/NONE IOR42A/I VDS/NONE D5 D12 G9 E13 VSS VSS L16 L14 K13 M16 IOR36A/LVDS/NONE IOR40B/LVDS/NONE L15 VCCO1 IOR36B/LVDS/NONE IOR40A/LVDS/NONE VCCO₁ VSS VSS Bank1 IOR38A/LVDS/NONE VCCO1 K12 VCCO2 IOR38B/LVDS/NONE VCCO VSS VSS D13 IOT31A/SCL/GCLKT 1/DQ7 IOR2A/RPLL1_T_FB/LVDS/DQ5 VCCO2 D4 H9 IOT31B/SDA/GCLKC_1/DQ7 IOT39A/JTAGSEL_N/DQ7 IOR2B/RPLL1_C_FB/LVDS/DQ5 IOR4A/RPLL1_T_IN/LVDS/DQ5 VCCO3 VCCO3 VSS VSS VSS VSS VSS VSS VSS VSS Bank3 JTAGSEL_N VCCO3 B10 E14 N12 L11 RECONEIG N IOT39B/RECONFIG_N/DQ7 IOR4B/RPLL1_C_IN/LVDS/DQ5 VCCO4 VCCO4 K9 N5 K8 READY IOR28A/GCLKT 3/LVDS/NONE IOT55A/READY/DO6 GW2AN-I V18XUG256 VCCC04 DONE IOT55B/DONE/DOR IOR28B/GCLKC_3/LVDS/NONE VCCO5 VCCO5 GW2AN-I V18XIIG256 M4 H7 J7 E4 U19E GW2AN-I V18XLIG256 R15 VCCO6 VCC06 VCC07 VCCO7 Bank4 U19A U19F VSS M12 VCCO8 VCCOS VSS Bank0 Bank5 IOB32A/LVDS/DQ3 IOB48B/LVDS/DQS4 R11 IOB32B/LVDS/DQ3 IOB34A/LVDS/DQ3 IOB48A/LVDS/DQS4 IOB44B/LVDS/DQ3 T5 R6 N6 L7 R7 P7 M7 GW2AN-LV18XUG256 B4 D6 E7 B7 IOT12A/I VDS/DQ8 IOT8B/I VDS/DQ9 IOB8B/I VDS/DQ1 L10 IOB12A/I VDS/DQ2 R13 A5 T3 P5 R5 R3 T2 T4 P4 IOT12B/LVDS/DQ8 IOT8A/LVDS/DQ9 IOB34B/LVDS/DQ3 IOB44A/LVDS/DQ3 IOB12B/LVDS/DQ2 IOB8A/LVDS/DQ1 IOT14A/LVDS/DO8 IOT6B/LVDS/DO9 IOB42B/LVDS/DO3 IOR14A/I VDS/DO2 IOB6R/LVDS/DO1 IOB36A/LVDS/DO3 OT14B/LVDS/DQ8 IOB14B/LVDS/DQ2 R55 JTAGSEL_N >>-IOT18A/LVDS/DQ8 IOT4B/LVDS/DQ9 IOB38A/LVDS/DQ3 IOB40B/LVDS/DQ3 IOB16A/LVDS/DQ2 IOB4B/LVDS/DQ1 C7 E6 D7 M11 IOB38B/LVDS/DQ3 B3 T11 IOT18B/LVDS/DQ8 IOT4A/LVDS/DQ9 IOB40A/LVDS/DQ3 IOB16B/LVDS/DQ2 IOB4A/LVDS/DQ1 TAG mode selection signal section IOT20A/LVDS/DQ8 IOT2B/I VDS/DQ9 IOB18A/I VDS/DQ2 IOB2B/I VDS/DQ1 IOT20B/LVDS/DQ8 IOT2A/LVDS/DQ9 IOB18B/LVDS/DQ2 IOB2A/LVDS/DQ1 N9 M8 L9 N8 M6 IOT22A/LVDS/DO8 IOT26B/LVDS/DO8 IOB20A/LVDS/DO2 IOB26B/LVDS/DO2 E8 D8 IOT22B/LVDS/DQ8 IOT26A/LVDS/DQ8 IOB20B/LVDS/DQ2 IOB26A/LVDS/DQ2 T9 P9 IOB30A/GCLKT_4/LVDS/DQ3 IOB30B/GCLKC 4/LVDS/DQ3 R56 P6 T6 J10 IOB50A/SCLK/LVDS/DQ4 IOB50B/D1/SO/LVDS/DQ4 Bank5 IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 ₩ccoovccx TDI < TCK IOT23A/TCK/DQ8 IOB23A/GCLKT_5/DQ2 IOT23B/TMS/DQ8 IOB23B/GCLKC 5/DQ2 C338 OT24A/GCLKT 0/LVDS/DQ8 R14 GW2AN-LV18XUG256 A8 8 IOT24B/GCLKC 0/LVDS/DQ8 IOR55R/D4/DO4 0.1uF GW2AN-LV18XUG256 GW2AN-LV18XUG256 U19I TMS< Bank8 U19G U19H IOL15A/LVDS/NONE IOL15B/LVDS/NONE G6 F3 F1 G5 Bank6 Bank7 D2 C1 C2 B1 H6 F5 IOL16A/NONE IOL8B/LVDS/DQ0 IOL8A/LVDS/DQ0 101 104 /cco0/vcc IOI 36A/I VDS/NONE IOI 51B/NONE IOI 21A/I VDS/NONE IOL33B/NONE IOI 16B/NONE IOL36B/LVDS/NONE IOL51A/NONE IOL21B/LVDS/NONE IOL33A/NONE G4 G2 G3 IOL17A/LVDS/NONE IOL2B/LVDS/DQ0 GND VCC K4 L5 K5 IOL50B/LVDS/NONE IOL32B/LVDS/NONE IOI 40A/I VDS/NONE IOL22A/NONE IOI 17B/I VDS/NONE IOL2A/LVDS/DO0 103 IOL40B/LVDS/NONE IOL50A/LVDS/NONE IOL22B/NONE IOL32A/LVDS/NONE IOL19A/LVDS/NONE IOL20B/NONE 102 IOL464/LVDS/NONE IOI 48B/I VDS/NONE IOL 2//A/NONE TOT 30B/LV/DS/NONE IOL19B/LVDS/NONE IOI 20A/NONE M3 H5 ESD IOL46B/LVDS/NONE IOL24B/NONE IOL30A/LVDS/NONE *JTAG download section IOI 47A/NONE IOL28A/LVDS/NONE IOL28B/LVDS/NONE IOL47B/NONE F2 D3 D1 IOL14A/GCLKT_8/NONE IOL14B/GCLKC_8/NONE IOL4A/LPLL1_T_FB/LVDS/DQ0 DONE (IOL44A/GCLKT_6/LVDS/NONE IOL25A/GCLKT_7/LVDS/NONE IOL4B/LPLL1_C_FB/LVDS/DQ0 ¬1K R58 ⊢ 4.7K VCCO1 IOL44B/GCLKC 6/LVDS/NONE IOL25B/GCLKC 7/LVDS/NONE IOL5A/LPLL1_T_IN/DO0 IOL5B/LPLL1_C_IN/DQ0 GW2AN-LV18XUG256 GW2AN-LV18XUG256 Configuration completed GW2AN-I V18XIIG256 detection section VCC00/VCCX VCCO1 VCCO2 VCC03 VCCO4 VCC05 VCCO6 VCCO7 VCC08 R59 4.7K VCC>> FB10 *Configurable detection section C342 C343 C344 C345 C346 C347 C348 C349 C350 0353 0354 C339 C340 C351 C352 0355 0356 C357 C358 C359 C360 C361 C362 C363 C364 0.1uF 0.1uF 0.1uF 0.1uF .1uF).1uF).1uF 0.1uF .1uF .1uF).1uF .1uF 0.1uF RECONFIG_N (R60 4.7K *Configuration reset section Notes: 1.F CLK signal is an external input clock signal. It is recommended that F CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. GOWIN Minimum System Diagram 3.It is recommended that add an ESD protection chip to the JTAG download circuit. ize A3 Rev 2.0 GW2ANJ V18XLIG256





3 2 GW2AN-LV18XUG400 4 Bank0 Bank2 Bank4 B4 1071284.V0SO08
A44 1071284.V0SO08
A5 1071284.V0SO08
B5 1071384.008
B6 1071384.V0SO08
A5 1071484.V0SO08
A5 1071484.V0SO08
B7 1071884.V0SO08
A7 107184.V0SO08
B7 1071884.V0SO08
B7 107184.V0SO08
B7 107184.V0SO08 | W18 | IOR9B/DQ5 | D20 IOT9B/DQS9 IOT9A/DQS9 IOR11A/LVDS/NONE IOR11B/LVDS/NONE VCC1P0 IOT8B/LVDS/DQ9 IOL11A/LVDS/NONE IOT8A/LVDS/DQ9 VSS | E16
VSS | E10
VSS | ALVDS/DQ5 IOR78/DQ5 IOR7A/DQ5 /LVDS/DQS5 IOR5B/DQ5 IOR5B/DQ5 IOR5A/DQ5 G15 IOT6A/LVDS/DQ9 B2 D5 E6 F7 OL11B/LVDS/NONE J9 H12 L12 J10 M10 J11 M12 IOL9B/DQ0 IOR7A/DQ5 IOR6B/LVDS/DQS5 IOL13A/LVDS/NONE VCC VCC VCC VCC VCC VCC VCC VCC IOL9A/DQ0 G4 G3 H3 H4 G2 G1 J6 J5 H2 IOL9A/DQ0 IOL7B/DQ0 IOL7A/DQ0 ILVDS/DQS0 ILVDS/DQS0 ILVDS/DQS0 ILVDS/DQS0 G6 | IOTSAPD9 | F7 | IOTSAPD9 | F7 | IOTSAPD9 | G7 | IOTSAPD9 | G IOR6A/LVDS/DQS5 Y14 IOB35B/DQ3 W14 IOB36A/LVDS/DQ3 Y15 IOB36B/LVDS/DQ3 W15 IOB38A/LVDS/DQ3 P12 IOB38A/LVDS/DQ3 IOB39A/DQ3 IOB39B/DQ3 IOL15A/LVDS/NONE | ORSB/IDOS | F16 | ORSB/IDOS | ORSB/IDOS | ORSB/IDOS | F15 | ORSB/IDOS | ORSB IOL6B/LVDS/IDQS0 IOL3B/IDQ0 IOL3B/IDQ0 IOL3A/IDQ0 IOL2B/LVDS/IDQ0 IOL2A/LVDS/IDQ0 IOL20B/NONE IOL20A/NONE IOL16B/NONE
IOL17A/LVDS/NONE
IOL17B/LVDS/NONE
IOL18A/NONE
IOL18B/NONE
IOL19A/LVDS/NONE
IOL19B/LVDS/NONE VCC00/VCCX H8 H10 H9 VCC00/VCCX VCC00/VCCX VCC00/VCCX VCC01 VCC01 W12 IOB30A/GCLKT_4/LVDS/DQ3
W6 IOB30B/GCLKC_4/LVDS/DQ3
Y6 IOB50A/SCLK/LVDS/DQ4
1144 IOB50B/D1/SQ/LVDS/DQ4 VCCO1 IOT22B/LVDS/DQ8 VCC02 J13 VCC03 VC | WE | DBSA/SCLIKI/USSID04 | THE | DBSA/SCLIKI/USSID04 | T E2 E1 C2 C1 D2 D1 IOL14A/GCLKT_8/NONE IOL14B/GCLKC_8/NONE IOL4A/LPLL1_T_FB/LVDS/DQ0 IOL4B/LPLL1_T_FB/LVDS/DQ0 IOL5A/LPLL1_T_IM/DQ0 IOL5B/LPLL1_C_IM/DQ0 VCC01 VCC02 VCC03 VCC03 VCC03 VCC04 D17 | IOR2A/RPLL1 T FB/LVDS/DQ5 | IOR2B/RPLL1 C FB/LVDS/DQ5 | IOR4A/RPLL1 T IN/LVDS/DQ5 | IOR4B/RPLL1 T IN/LVDS/DQ5 | IOR4B/RPLL1 C IN/LVDS/DQ5 E8 C7 IOT17A/TDO/DQ8 C9 IOT23A/TCK/DQ8 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 IOT24A/GCLKT_0LVDS/DQ8 IOT24B/GCLKT_0LVDS/DQ8 GW2AN-LV18XUG400 VCC04 VCC05 VCC05 VCC05 VCC06 VCC06 VCC07 VCC07 VCC07 VCC08 GW2AN-LV18XUG400 VCCO6 [-Bank3 GW2AN-LV18XUG400 VCCO7 Dank1 IOR51B/NONE IOR51A/NONE IOR50B/L/DS/NONE IOR50A/L/DS/NONE IOR49B/NONE IOR49B/NONE IOR48B/L/DS/NONE IOR48A/L/DS/NONE U25F IOL51B/NONE IOL51A/NONE IOL50B/LVDS/NONE IOL50A/LVDS/NONE IOL49A/NONE IOL49A/NONE IOL48B/LVDS/NONE VCCO8 ► | A12 | IOT30ALVDS/DQ7 | A13 | IOT30BLVDS/DQ7 | A13 | IOT32ALVDS/DQ7 | G111 | IOT32BLVDS/DQ7 | IOT32ALVDS/DQ7 | IOT32ALVDS/DQ7 | IOT34ALVDS/DQ7 | IOT34BLVDS/DQ7 | IOT34BLVDS/DQ7 | IOT36BLVDS/DQ7 | IOT36BLVDS/DQ7 | IOT38BLVDS/DQ7 | IOT3BBLVDS/DQ7 | IOT3BBLVDS/DQ IOT54B/LVDS/DQ6 IOT54A/LVDS/DQ6 IOT53B/DQ6 IOT53A/DQ6 IOT52B/LVDS/DQ6 IOT52A/LVDS/DQ6 A20 B19 F14 Bank5 GW2AN-I V18XUG400 R16 T7
T8 IOB12A/LVDS/DQ2
WS IOB12B/LVDS/DQ2
YS IOB14A/LVDS/DQ2
P9 IOB14A/LVDS/DQ2
R9 IOB16B/LVDS/DQ2
W7 IOB16B/LVDS/DQ2
Y7 IOB18A/LVDS/DQ2
VB IOB18B/LVDS/DQ2
VB IOB18B/LVDS/DQ2
VB IOB18B/LVDS/DQ2 IOB9B/DQS1 IOB9A/DQS1 IOB8B/LVDS/DQ1 IOB8A/LVDS/DQ1 U25H IOT52ALVDS/DQ6 IOT51B/DQ6 IOT51A/DQ6 IOT50B/LVDS/DQ6 IOT50A/LVDS/DQ6 IOT49B/DQ6 IOR47B/NONE IOL47B/NONE Bank7 IOR46B/LVDS/NONE IOR46A/LVDS/NONE IOR45B/NONE IOB6B/LVDS/DQ1 IOL46B/LVDS/NONE IOL33B/NONE IOL33A/NONE 2B/LVDS/NONE 2A/LVDS/NONE 77 IOB18ALVDS/DQ2 V8 IOB18BLVDS/DQ2 U9 IOB19A/DQ2 V9 IOB19B/DQ2 T9 IOB20ALVDS/DQ2 W8 IOB21A/DQS/2 V8 IOB21A/DQS/2 B14 IOT38BLVDS/DQ7
A15 IOT38BLVDS/DQ7
B15 IOT40ALVDS/DQ7
A16 IOT40BLVDS/DQ7
B16 IOT42BLVDS/DQ7
G12 IOT42BLVDS/DQ7
F12 IOT43A/DQ7
A17 IOT43B/DQ7
B17 IOT44BLVDS/DQ7 | OR468/NONE | V20 | OR468/NONE IOL46A/LVDS/NONE IOL21A/LVDS/NONE IOB5B/DQ1 IOL45A/NONE J1 IOL218/LVDS/NONE IOL228/NONE IOT49A/DQ6 IOB5A/DQ1 IOL45B/NONE IOL32B/LVDS/NONE | IOL22A/NONE | IOL22B/NONE | IOL22B/NONE | IOL23B/L/USS/NONE | IOL23B/L/USS/NONE | IOL24B/NONE | IOL24B/NONE | IOL26B/NONE | IOL26B/NONE | IOL26B/NONE | IOL28B/L/USS/NONE | IOL28B/L/USS IOT48B/LVDS/DQS6 IOT48A/LVDS/DQS6 IOB4B/LVDS/DQ1 IOB4A/LVDS/DQ1 IOT45B/DQ7 IOT45A/DQ7 IOB21A/DQS2 IOB21B/DQS2 IOB22A/LVDS/DQ2 IOB3A/DQ1 U1 IOL44A/GCLKT_6/LVDS/NONE IOR40B/LVDS/NONE IOR41A/NONE IOR41B/NONE IOT44B/LVDS/DQ7 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 IOL44B/GCLKC 6/LVDS/NONE GW2AN-LV18XUG400 IOB24B/LVDS/DQ2 C11 | IOT31A/SCL//GCLKT_1/DQ7 | C13 | IOT31B/SDA/GCLKC_1/DQ7 | D13 | IOT39A/JTAGSEL_N/DQ7 | C17 | IOT39B/RECONFIG_N/DQ7 | IOT5SA/READY/DQ6 | IOT5SB/DONE/DQ6 | JTAGSEL_N >> R73 1K K19 IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE RECONFIG_N READY DONE L1 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE W9 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 GW2ANJI V18YI IG400 GW2AN-LV18XUG400 GW2AN-I V18XUG400 GW2AN-I V18XUG400 R74 vcc >> FB13 (LED13 R75 1K R76 4.7K VCCO1 4 AVCCOUVCCX Configuration completed TDI ≪
 6
 6
 1427
 2428
 2429
 2430
 2431
 2432
 2433
 2434
 2435
 2436
 2437
 2438

 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 1
 detection section JTAG TDO >> 8 8 В R77 4.7K *Configurable detection section 101 104 1.F CLK signal is an external input clock signal. VGCO0/VCC It is recommended that F CLK signal be provided through an active oscillator crystal. GND VCC 2. External Flash memory is used to store downloaded programs. 102 103 RECONFIG_N (R78 4.7K For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. *JTAG download section 3.It is recommended that add an ESD protection chip to the JTAG download circuit. *Configuration reset section

3 2 GW2AN-LV18XUG484 4 U27B Bankl Bank4 Power 921 - 10R11ALVDSMONE
938 - 10R11BLVDSMONE
938 - 10R11BLVDSMONE
939 - 10R12BMONE
939 - 10R12 VCC1P0 IOT30A/LVDS/DQ7 IOL33B/NONE IOB49B/DQ4 AB19
IOB49B/DQ4 AA18
IOB48B/LVDS/DQS4
IOB48A/LVDS/DQS4
AB18 IOT30B/LVDS/DQ IOL33A/NONE IOL32B/LVDS/NONE IOT32A/LVDS/DQ IOT32B/LVDS/DQ7 IOL32A/LVDS/NONE L11 L12 M11 M12 N10 IOL31B/NONE IOT33B/DQ7 IOB48A/LVDS/DQS4 IOL31A/NONE IOL30B/LVDS/NONE IOL30A/LVDS/NONE | IORBAIL/VDS/IDUSS | IORSB/IDDS | IORSB/IDD IOB44B/LVDS/IDQ3 Y17
IOB44A/LVDS/IDQ3 Y17
IOB44A/LVDS/IDQ3 AA17
IOB43B/IDQ3 IOB43B/IDQ3 IOB42B/LVDS/IDQ3 V15
IOB42B/LVDS/IDQ3 AA16 IOL29B/NONE IOL29A/NONE VCC00/VCCX G10 VCC00/VCCX VCC00/VCCX VCC00/VCCX VCC00/VCCX VCC00/VCCX M2 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOT44A/LVDS/DQ7 IOB39B/DO3 IOB40D/LVDS/DQ3 94A/LVDS/DQ7 IOT43B/DQ7 IOT43A/DQ7 GW2AN-LV18XUG484 VCC00/ VCC01 VCC01 VCC01 VCC01 VCC02 IOT41B/DQ7 K20 IOR20A/NONE IOR20B/NONE IOR21A/LVDS/NONE IOR21B/LVDS/NONE IOR23A/LVDS/NONE IOR22B/NONE IOR22A/NONE VCCO1 IOT42A/LVDS/DQ7 IOT42B/LVDS/DQ7 AB12

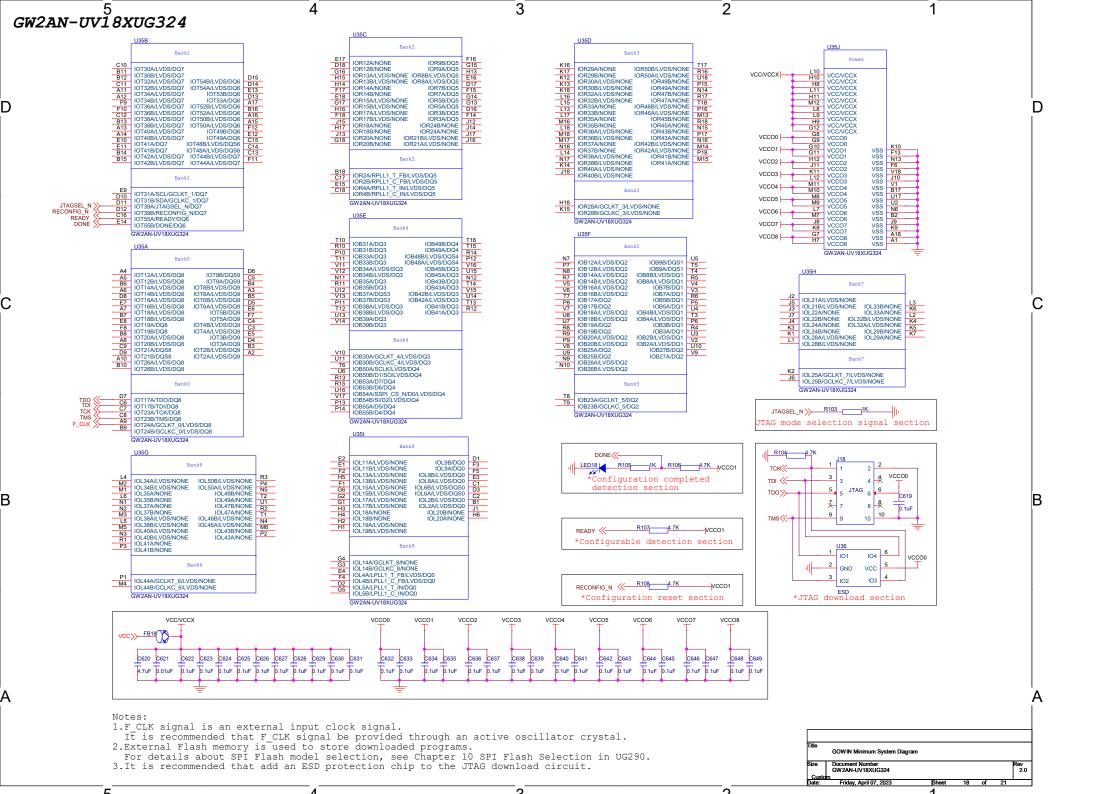
AB12 B17 U271 F20 VCC01 VCC02 VCC02 VCC02 VCC02 VCC02 VCC02 VCCO2 B12
A12
IOT31A/SCL/GCLKT_1/DQ7
E14
IOT31B/SDA/GCLKC_1/DQ7
IOT39AJ/TAGSEL_N/DQ7
IOT30BJ/BFC/ONFIG_N/DQ7 C21
C22
D22
D22
D21
D21
OR2&RPL1_C_FB/LVDS/DQ5
IOR4&RPL1_T_IN/LVDS/DQ5
IOR4&RPL1_C_IN/LVDS/DQ5 E1 IOL11A/LVDS/NONE | OLITALVBSINONE | G3 | OLITALVBSINONE | G3 | OLITALVBSINONE | OLIZANONE | OLI JTAGSEL_N RECONFIG_N READY DONE VCCO3 M18 N15 P15 IOL9A/DQ0 IOL8B/LVDS/DQ0 IOT39B/RECONFIG_N/DQ7 IOT55A/READY/DQ6 IOT55B/DONE/DQ6 GW2AN-I V18XUG484 IOL8A/LVDS/DQ0 IOL7B/DQ0 IOL7A/DQ0 VCC03 VCC03 VCC04 VCC04 VCC04 VCC05 VCC05 VCC05 VCC05 VCC05 VCC06 VCC06 VCC06 VCC06 VCC06 VCC06 VCC06 IOL7A/DQ0 IOL6B/LVDS/DQS0 IOL6A/LVDS/DQS0 IOL3B/DQ0 IOL3A/DQ0 IOL2B/LVDS/DQ0 IOL2A/LVDS/DQ0 IOL20B/NONE IOL20A/NONE VCCO4 R14 W16 R10 U27A Bank3 GW2AN-I V18XUG484 VCCO5 [-Bank0 M20 M19 M16 N16 U27G IOR29A/NONE IOR51B/NONE IOR51A/NONE IOT 124/I VDS/DOR IOTOR/DOS0 Bank6 IOT12A/LVDS/DQ8 IOT12B/LVDS/DQ8 IOT13A/DQ8 IOT13B/DQ8 IOT14A/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT9A/DQS9 IOT8B/LVDS/DQ9 IOT8A/LVDS/DQ9 IOR30A/LVDS/NONE IOR30B/LVDS/NONE | NIRS | NIRSON | NIR IOR50B/LVDS/NONE VCCO6 P4 N5 IOL34A/LVDS/NONE IOR49B/NONE IOR49A/NONE IOL51B/NONE V5 IOL51A/NONE W4 NS 10.134AL/VDS/NONE
NG 10.134BL/VDS/NONE
NF 10.134 IOT7B/DQ9 IOT7A/DQ9 Bank8 IOR48B/LVDS/NONE IOT15A/DQ8 IOT15B/DQ8 IOT6B/LVDS/DQ9 IOT6A/LVDS/DQ9 IOR48A/I VDS/NONE IOL50B/LVDS/NONE VCCO7 VCCO7 VCCO8 G2 G1 IOL14A/GCLKT_8/NONE E4 IOL14B/GCLKC_8/NONE F5 IOL4A/LPLL1_T FB/LVDS C1 IOL4A/LPLL1_T FB/LVDS IOL5A/LPLL1_T IN/DQD IOL5A/LPLL1_T IN/DQD IOR47B/NONE IOR47A/NONE IOT16A/LVDS/DQ8 IOT16B/LVDS/DQI IOT5A/DQ9 IOR46B/LVDS/NONE VCCO8 VCCO8 IOL4A/LPLL1_T_FB/LVDS/DQ0 IOL4B/LPLL1_C_FB/LVDS/DQ0 IOT18A/LVDS/DQ8 IOT18B/LVDS/DQ8 IOR46A/LVDS/NONE IOT4A/LVDS/DQ9 IOR45B/NONE IOL5A/LPLL1_T_IN/DQ0 IOL5B/LPLL1_C_IN/DQ0 IOT3B/DQ9 E6 IOT3A/DQ9 A2 | IOR45E/NONE | 177 | IOR46A/NONE | 178 | IOR46A/NONE | 178 | IOR46A/NONE | 178 | IOR46A/NONE | IOR46A/NONE | IOR46A/NONE | IOR46A/NONE | IOR46A/NONE | IOR41A/NONE | IOR4 IOT 19A/DQ8 IOT 19B/DQ8 VSS GW2AN-LV18XUG484 IOT2B/LVDS/DQ9 IOT20A/LVDS/DQ8 | IOT ZUALL VUSTICAGO | IOT20B/LVDS/DQ8 | IOT21A/DQS8 | IOT21B/DQS8 | IOT22A/LVDS/DQ8 | IOT22B/LVDS/DQ8 | IOT25B/DQ8 | IOT25B/DQ8 | T2 | IOL39B/NONE | IOL40A/LVDS/NONE | IOL40B/LVDS/NONE | R7 | IOL41B/NONE | IOL41B/NONE | IOL42A/LVDS/NONE | IOL42B/LVDS/NONE IOT26B/LVDS/DQ8 IOT26A/LVDS/DQ8 U27F Bank5 BankO JTAGSEL N >> R79 AA6 AB6 W6 IOB12B/LVDS/DQ2 IOB13A/DQ2 IOB13B/DQ2 U2 V1 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE IOB9B/DQS1 IOB9A/DQS1 88B/LVDS/DQ1 88B/LVDS/DQ1 AA5 AB4 IOB7B/DQ1 'AG mode selection signal section IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 IOB9A/DQS1 IOB8B/LVDS/DQ1 IOR28A/GCLKT 3/LVDS/NONE GW2ANJ V18YHG484 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 IOB14A/LVDS/DQ2 IOB14B/LVDS/DQ2 IOB8A/LVDS/DQ1 IOB7B/DQ1 AA4 T8 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 IOR74/DO1 R80 4.7K IOB6B/LVDS/DQ1 IOB6A/LVDS/DQ1 DONE (IOB6A/LVDS/DQ1 IOB5B/DQ1 IOB5A/DQ1 IOB4B/LVDS/DQ1 IOB4A/LVDS/DQ1 IOB3B/DQ1 TCK< 4/CC00/VCCX *Configuration completed TDI <<-RECONFIG_N
R83 4.7K VCCO1 R84 4.7K VCCO1 JTAG TDO N В C458 0.1uF A39 (OB18BILVDS/IOU2 AB9 (OB19A/DQ2 T10 (OB19B/IOQ2 U10 (OB20ALVDS/IOQ2 V90 (OB20BLVDS/IOQ2 V10 (OB21A/DQS2 V10 (OB21A/DQS2 V10 (OB22ALVDS/IOQ2 T11 (OB22BLVDS/IOQ2 U11 (OB22BLVDS/IOQ2 U11 (OB2ABLVDS/IOQ2 U11 (OB2ABLVDS/IOQ2 *Configuration reset section *Configurable detection section IOB3A/DQ1 8 🕺 IOB3A/DQ1 IOB2BILVDS/IDQ1 IOB2ALVDS/IDQ1 IOB2ALVDS/IDQ2 IOB26BILVDS/IDQ2 IOB26BILVDS/IDQ2 IOB26BILVDS/IDQ2 IOB25B/IDQ2 IOB25A/DQ2 VCC1P0 VCCO0/VCCX VCC01 VCCO2 VCC03 VCC >> FB14 AA11 IO4 6 101 vdcoovcc C459 C460 0.1uF VCC 5 C461 C462 C463 C464 C465 C466 C467 C468 C469 C470 C471 C472 C477 C478 C479 C480 C481 C482 C483 C484 C485 GND 2 10.70F | 0.010F | 0.10F D.1uF D.1uF D.1uF D.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF IO3 4 3 IO2 AA10 AB10 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 *JTAG download section GW2AN-I V18XUG484 VCCO4 VCC05 VCCO6 VCCO7 VCC08 1.F CLK signal is an external input clock signal. It is recommended that F_CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. C491 C492 C493 C494 C495 C496 C497 C498 C499 C500 C501 C502 C503 C504 C505 C506 C507 C508 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 0.1uF 3.It is recommended that add an ESD protection chip to the JTAG download circuit.

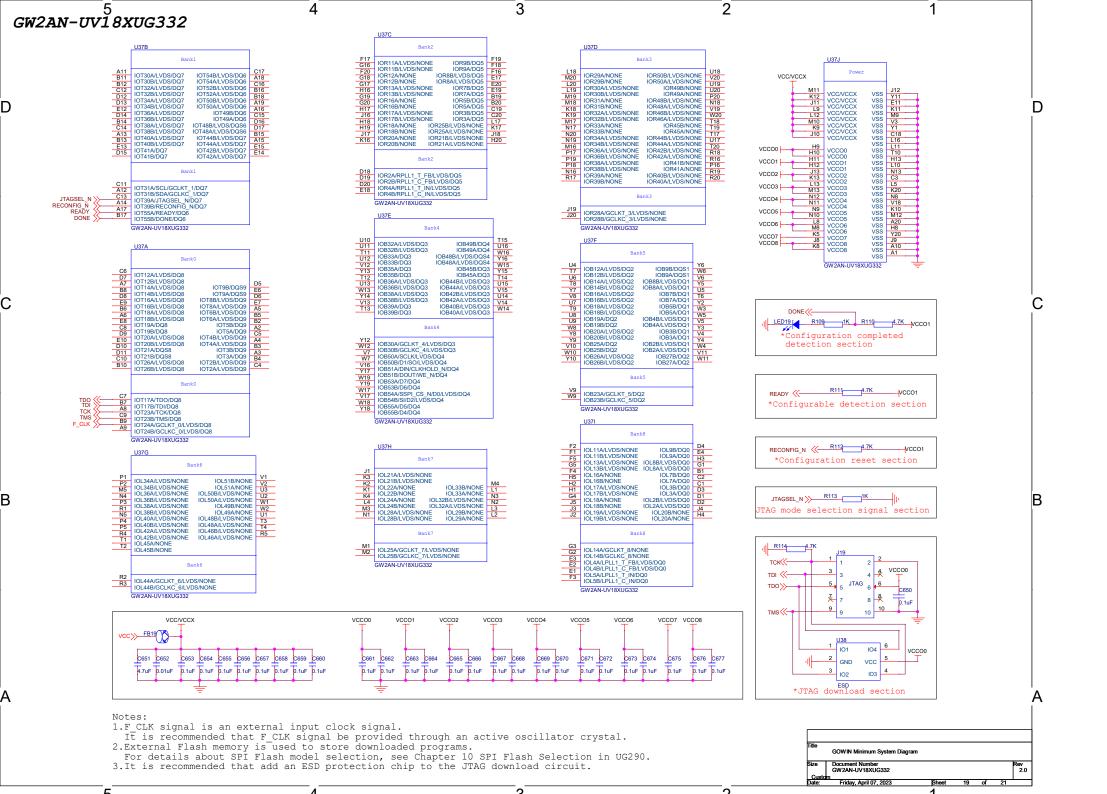
3 5 GW2AN-UV18XPG256 U29J Bank3 Bank2 IOT54B/LVDS/DQ6 B14 IOT54A/LVDS/DQ6 B12 IOT34A/LVDS/DQ7 IOT34B/LVDS/DQ7 IOR11A/LVDS/NONE IOR11B/LVDS/NONE IOR8B/LVDS/DQ5 IOR8A/LVDS/DQ5 IOR50B/LVDS/NONE IOR50A/LVDS/NONE IOR29A/NONE VCC/VCCX vcc/vccx VSS IOR29B/NONE IOT36A/LVDS/DQ7 IOT52B/LVDS/DQ6 IOR13A/LVDS/NONE IOR13B/LVDS/NONE IOR6B/LVDS/DQS5 IOR30A/LVDS/NONE IOR30B/LVDS/NONE IOR48B/LVDS/NONE VCC/VCCX VCC/VCCX VSS VSS A10 F9 E11 D10 G12 F14 C14 F11 C12 A14 C15 J12 IOR48A/LVDS/NONE IOT36B/LVDS/DQ7 IOT52A/LVDS/DQ6 IOR6A/LVDS/DQS5 IOT38A/LVDS/DQ7 IOT50B/LVDS/DQ6 IOR15A/LVDS/NONE IOR25B/LVDS/NONE IOR31A/NONE IOR46B/LVDS/NONE VCC/VCCX VSS F16 F12 L6 P14 N15 M15 IOT38B/I VDS/DQ7 IOT50A/I VDS/DQ6 IOR15B/LVDS/NONE IOR25A/I VDS/NONE IOR31B/NONE IOR46A/I VDS/NONE VCC/VCCX VSS H15 G16 IOT40A/LVDS/DQ7 IOT48B/LVDS/DQS6 IOR17A/LVDS/NONE IOR23B/LVDS/NONE IOR32A/LVDS/NONE IOR44B/LVDS/NONE VCC/VCCX VSS M14 F6 IOT40B/LVDS/DO7 IOT48A/I VDS/DOS6 IOR17B/LVDS/NONE IOR23A/LVDS/NONE IOR32B/I VDS/NONE IOR44A/I VDS/NONE VCC/VCCX VSS VSS J9 R2 IOT42A/LVDS/DQ7 IOT44B/LVDS/DQ7 IOR19A/LVDS/NONE IOR21B/LVDS/NONE IOR34A/LVDS/NONE IOR42B/LVDS/NONE VCC/VCCX VCC00 VCCO0 IOT42B/LVDS/DQ7 IOT44A/LVDS/DQ7 IOR19B/LVDS/NONE IOR21A/LVDS/NONE IOR34B/I VDS/NONE IOR/24/LVDS/NONE VSS VSS L16 L14 K13 K12 M16 D5 IOR36A/LVDS/NONE IOR40B/LVDS/NONE L15 IOR36B/LVDS/NONE IOR38A/LVDS/NONE VCCO1 VCCO1 VSS VSS VSS VSS VSS IOR40A/LVDS/NONE Bank1 VCCO2 IOR38B/LVDS/NONE VCCO2 H10 M13 D13 IOT31A/SCL/GCLKT 1/DQ7 IOR2A/RPLL1_T_FB/LVDS/DQ5 VCCO2 D4 H9 IOT31B/SDA/GCLKC_1/DQ7 IOT39A/JTAGSEL_N/DQ7 IOR2B/RPLL1_C_FB/LVDS/DQ5 IOR4A/RPLL1_T_IN/LVDS/DQ5 VCC03 VCCO3 Bank3 JTAGSEL_N N12 VCCO3 VSS VSS VSS VSS VSS VSS VSS VSS B10 E14 L11 RECONEIG N VCCO4 IOT39B/RECONFIG_N/DQ7 IOR4B/RPLL1_C_IN/LVDS/DQ5 VCCO4 C3 H8 N13 IOR28A/GCLKT 3/LVDS/NONE IOT55A/READY/DO6 GW2AN-UV18XPG256 VCCC04 DONE IOR28B/GCLKC_3/LVDS/NONE VCC05 VCCO5 VCCO5 VCCO6 GW2AN-HV18XPG256 GW2AN-UV18XPG256 U29E M4 H7 R15 B2 M5 VCCOR VCC07 VCCO7 Bank4 U29A M12 VCC08 VCC08 VSS Bank0 Bank5 IOB32A/LVDS/DQ3 IOB48B/LVDS/DQS4 R11 T14 IOB32B/LVDS/DQ3 IOB34A/LVDS/DQ3 IOB48A/LVDS/DQS4 IOB44B/LVDS/DQ3 GW2AN-UV18XPG256 A3 IOT12A/LVDS/DQ8 IOT12B/LVDS/DQ8 IOT12B/LVDS/DQ8 E7 IOT14A/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT14B/LVDS/DQ8 IOT12B/L/DS/DQ8 IOT20B/LVDS/DQ8 IOT2DB/LVDS/DQ8 IOT2DB/L T5 R6 N6 L7 R7 P7 M7 IOT12A/LVDS/DQ8 IOT8B/LVDS/DQ9 IOB12A/I VDS/DQ2 IOB8B/I VDS/DQ1 L10 R13 A5 IOT8A/LVDS/DQ9 IOB34B/LVDS/DQ3 IOB44A/LVDS/DQ3 IOB12B/LVDS/DQ2 IOB8A/LVDS/DQ1 IOT6B/LVDS/DO9 IOB42B/LVDS/DO3 IOB14A/LVDS/DO2 IOR6R/LVDS/DO1 IOB36A/LVDS/DO3 IOB14B/LVDS/DQ2 R85 JTAGSEL_N >>-IOT4B/LVDS/DQ9 IOB38A/LVDS/DQ3 IOB40B/LVDS/DQ3 IOB16A/LVDS/DQ2 IOB4B/LVDS/DQ1 R3 M11 IOB38B/LVDS/DQ3 T11 IOT4A/LVDS/DQ9 IOB40A/LVDS/DQ3 IOB16B/LVDS/DQ2 IOB4A/LVDS/DQ1 TAG mode selection signal section IOT2B/I VDS/DQ9 IOB18A/I VDS/DQ2 IOB2B/I VDS/DQ1 PΔ IOT2A/LVDS/DQ9 E9 IOT20B/LVDS/DQ8 IOB18B/LVDS/DQ2 IOB2A/LVDS/DQ1 N9 M8 L9 N8 IOT22A/LVDS/DO8 IOT26B/LVDS/DO8 IOB20A/LVDS/DO2 IOB26B/LVDS/DO2 L8 P8 T8 E8 IOT22B/LVDS/DQ8 IOT26A/LVDS/DQ8 IOB20B/LVDS/DQ2 IOB26A/LVDS/DQ2 T9 P9 IOB30A/GCLKT_4/LVDS/DQ3 IOB30B/GCLKC_4/LVDS/DQ3 IOB22A/LVDS/DQ2 IOB24B/LVDS/DQ2 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 R86 P6 T6 IOB50A/SCLK/LVDS/DQ4 IOB50B/D1/SO/LVDS/DQ4 Bank5 IOT17A/TDO/DQ8 VCCOO IOT17B/TDI/DQ8 TDI << TCK IOT23A/TCK/DQ8 IOB23A/GCLKT_5/DQ2 IOT23B/TMS/DQ8 IOB23B/GCLKC 5/DQ2 C509 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 A8 R14 GW2AN-UV18XPG256 IOR55R/D4/DO4 0.1uF GW2AN-UV18XPG256 GW2AN-UV18XPG256 TMS< U29H IOL15A/LVDS/NONE IOL15B/LVDS/NONE G6 F3 F1 G5 G4 G2 G3 Bank6 Bank7 IOL16A/NONE IOL8B/LVDS/DQ0 101 104 vccon IOI 36A/I VDS/NONE IOI 51B/NONE IOI 21A/I VDS/NONE IOL33B/NONE IOL8A/LVDS/DQ0 IOL2B/LVDS/DQ0 IOL2A/LVDS/DQ0 IOL20B/NONE F5 IOI 16B/NONE L3 IOL36B/LVDS/NONE
K4 IOL36B/LVDS/NONE
L5 IOL40B/LVDS/NONE
K5 IOL46B/LVDS/NONE
L4 IOL46B/LVDS/NONE
P1 IOL47A/NONE
IOL47B/NONE IOL36B/LVDS/NONE IOL51A/NONE IOL21B/LVDS/NONE IOL33A/NONE IOL17A/LVDS/NONE GND VCC IOI 50B/LVDS/NONE IOL32B/LVDS/NONE IOL22A/NONE IOI 17R/I VDS/NONE IOL50A/LVDS/NONE IOL22B/NONE IOL32A/LVDS/NONE IOL19A/LVDS/NONE 102 103 N1 M3 IOI 19B/I VDS/NONE IOL48B/LVDS/NONE IOL 2//A/NONE TOT 30B/LV/DS/NONE IOI 20A/NONE H5 ESD IOL48A/LVDS/NONE IOL24B/NONE *JTAG download section IOL28A/LVDS/NONE IOL28B/LVDS/NONE F2 D3 D1 IOL14A/GCLKT_8/NONE IOL14B/GCLKC_8/NONE IOL4A/LPLL1_T_FB/LVDS/DQ0 IOL4B/LPLL1_C_FB/LVDS/DQ0 DONE (IOL44A/GCLKT 6/LVDS/NONE IOL25A/GCLKT_7/LVDS/NONE E2 E3 1K R88 4.7K VCCO1 IOL44B/GCLKC 6/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOL5A/LPLL1_T_IN/DQ0 IOL5B/LPLL1_C_IN/DQ0 GW2AN-UV18XPG256 GW2AN-UV18XPG256 Configuration completed GW2AN-UV18XPG256 detection section VCC/VCCX VCC00 VCCO1 VCCO2 VCC03 VCCO4 VCCO5 VCCO6 VCCO7 VCCO8 VCC>> FB15 R89 4.7K *Configurable detection section C510 C511 C512 C513 C514 C515 C516 C517 C518 C519 C520 C521 C522 C523 C524 C525 C526 C527 C528 C529 C530 C531 C532 C533 C534 C535 D.1uF D.1uF D.1uF D.1uF D.1uF 4 7UF 0 01UF 0.1uF 0 10F 0 10F 0.1uF 0.1uF 0 JuE RECONFIG_N
R90 4.7K *Configuration reset section 1.F CLK signal is an external input clock signal. $\overline{\text{It}}$ is recommended that F CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 3.It is recommended that add an ESD protection chip to the JTAG download circuit. GOWIN Minimum System Diagram ize A3 Rev 2.0 GW2AN-IIV18XPG256

3 2 4 GW2AN-UV18XPG484 U310 U31D U31G U31B Bank3 Bank6 Bankl VCC/VCCX R2 | OL34ALVDSNONE R3 | OL34ALVDSNONE R3 | OL34BLVDSNONE | OL3 IOR11A/I VDS/NONE IOR9B/DQ5 IOR29A/NONE IOR51B/NONE IOI 34A/I VDS/NONE IOL51B/NONE G19 E21 D22 J17 J16 E22 F20 G20 G21 G22 J18 K17 K16 H20 H21 K18 IOR9B/DQ5 IOR9A/DQ5 IOR8B/LVDS/DQ5 H18 IOL51B/NONE U5 IOL51A/NONE W4 IOT30A/LVDS/DQ7 IOR11B/LVDS/NONE IOR51A/NONE VSS P0
VSS VSS P0
VSS P0
VSS P0
VSS P0
VSS P0
VSS P0
VSS P1
VSS P IOT30B/LVDS/DQ7 IOR12A/NONE IOR30A/LVDS/NONE IOR30B/LVDS/NONE IOR50B/LVDS/NONE IOL50B/LVDS/NONE IOR8A/LVDS/DQ5 IOR7B/DQ5 IOR7A/DQ5 C22 P20 R22 M19 M18 R21 R20 V20 IOT32A/LVDS/DQ7 IOR12B/NONE IOR50A/LVDS/NONE IOL50A/LVDS/NONE IOT32B/LVDS/DQ7 IOR13A/LVDS/NONE IOR13B/LVDS/NONE IOR31A/NONE IOR31B/NONE IOR49B/NONE IOR49A/NONE VCC/VCCX IOL49B/NONE IOL49A/NONE IOR6B/LVDS/DQS5 IOL48B/LVDS/NONE | IOT348H07 | IOT34AH1V0SH07 | IOT34BH1V0SH07 | IOT34BH1V0SH07 | IOT34SH07 | IOT35BH07 | IOT36BH1V0SH07 | IOT37BH087 | IOT IOT33B/DQ7 IOR14A/NONE IOL48A/LVDS/NONE IOL47B/NONE IOL47A/NONE IOR5B/DQ5 G17 IOR5A/DQ5 F18 T18 AA22 VCCO0 L IOT446/LVDS/DQ7 IA/LVDS/DQ7 A18 IOT43B/DQ7 C17 IOT41R/DQ7 IOR39A/NONE IOR39B/NONE IOR41B/NONE IOR41A/NONE VCCO1 P16 IOR39B/NONE IOR40A/LVDS/NONE W2 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE IOT42R/LVDS/DQ7 IOR40B/LVDS/NONE VCCO2 A13
B13
IOT31A/SCL/GCLKT_I/DQ7
A16
B16
IOT39A/JTAGSEL_N/DQ7
IOT39B/RECONFIG_N/DQ7
IOT35A/READY/DQ6
IOT55A/READY/DQ6
IOT55A/READY/DQ6
IOT55A/READY/DQ6 IOR2A/RPLL1_T_FB/LVDS/DQ5 IOR2B/RPLL1_C_FB/LVDS/DQ5 IOR4A/RPLL1_T_IN/LVDS/DQ5 IOR4B/RPLL1_C_IN/LVDS/DQ5 N22 N21 IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE JTAGSEL_N RECONFIG_N READY DONE VCCO3 [GW2AN-UV18XPG484 GW2AN-LIV18YPG484 Bank7 H1
J3
OL21ALVDS/NONE
L5
OL22BLVDS/NONE
U22ANONE
U32OU2BRONE
U32OU2BRONE
U32OU2BRONE
U40U2BRONE
U60U2BRONE
U60U2BRONE
U60U2BRONE
U60U2BRONE
U60U2BRONE
U60U2BRONE
U60U2BRONE U31F IOL33B/NONE IOL32B/LVDS/NONE IOL32B/LVDS/NONE IOL32A/LVDS/NONE IOL31B/NONE IOL31A/NONE IOL30B/LVDS/NONE IOL30A/LVDS/NONE IOL30B/LVDS/NONE Banks VCCO4 L | IOL98/DQ0 | E2 | IOL98/IVS/DQ0 | J7 | IOL88/IVVS/DQ0 | J6 | G5 | IOL78/IVDS/DQ0 | IOL78/IVDS/DQ50 | IOL68/IVDS/DQ50 | G6 | G6 | IOL7A/DQ0 | IOL68/IVDS/DQ50 | IOC68/IVDS/DQ50 | IO IOB9B/DQS1 IOB9A/DQS1 IOB8B/LVDS/IDQ1 IOB8A/LVDS/IDQ1 IOB7B/DQ1 IOB7A/DQ1 IOB6B/LVDS/IDQ1 IOB6A/LVDS/IDQ1 IOB6B/LDQ1 IOB5B/DQ1 IOB5A/DQ1 W6 W7 IOB12A/LVDS/DQ2 AB5 IOB12B/LVDS/DQ2 Y6 IOB13A/DQ2 V8 IOB13A/DQ2 V8 IOB14A/LVDS/DQ2 V9 IOB14B/LVDS/DQ2 V9 IOB15A/DQ2 Y5 AA4 U31A VCCO5 Bank0 IOB14A/LVDS/DQ2 IOB14B/LVDS/DQ2 IOB15A/DQ2 IOB15B/DQ2 IOB16A/LVDS/DQ2 IOL29A/NONE IOT 12A/I VDS/DQ8 IOT9B/DQS9 AB2 T8 IOT 128/LVDS/DQ8 IOT 13A/DQ8 IOT 13B/DQ8 VCCO6 IOL3B/DQ0 IOL3A/DQ0 Y9 AA7 AB7 U10 T10 Y8 AA8 V10 Y11 U11 T11 U9 IOB16B/LVDS/DQ2 IOT 14A/I VDS/DQ8 IOT7B/DQ9 IOT7A/DQ9 IOB17A/DQ2 IOL2B/LVDS/DQ0 VSS VSS VSS IOT 14B/LVDS/DQ8 IOB17B/DQ2 IOB18A/LVDS/DQ2 IOT 15A/DQ8 IOT 15B/DQ8 K2 IOL25A/GCLKT_7/LVDS/NONE IOT6A/LVDS/DQ9 IOB18B/LVDS/DQ2 IOL20A/NONE VSS IOL25B/GCLKC 7/LVDS/NONE IOT16A/LVDS/DQ8 IOT16B/LVDS/DQ8 IOB19A/DQ2 IOB19B/DQ2 GW2AN-UV18XPG484 IOT5A/DQ9 IOT4B/LVDS/DQ9 IOT4A/LVDS/DQ9 IOB20A/LVDS/DQ2 IOB20B/LVDS/DQ2 IOT18A/LVDS/DQ8 IOT18B/LVDS/DQ8 U31E IOT19A/DQ8 IOT3B/DQ9 IOB21A/DQS2 A10 IOT198/IDQ8 | IOT198/IDQ8 | IOT198/IDQ8 | IOT208/LVDS/IDQ8 | IOT208/LVDS/IDQ8 | IOT228/LVDS/IDQ8 | IOT228/LVDS/IDQ8 | IOT258/IDQ8 | IOT258 | OT3A/DQ9 | G7 | DT3A/DQ9 | B3 | DT2A/LVDS/DQ9 | E13 | C12 | IOT27A/DQ8 | A11 | C12 | A11 | C13A/DQ8 | C12 IOB21A/JUS2 IOB21B/DQS2 IOB22A/LVDS/DQ2 IOB22B/LVDS/DQ2 IOB24A/LVDS/DQ2 IOB24B/LVDS/DQ2 IOB26A/LVDS/DQ2 ! IOB25B/DQ2 ! IOB25A/DQ2 E1 | F3 | IOL14A/GCLKT_8/NONE | E4 | IOL14B/GCLKC_8/NONE | D3 | IOL4ALPLL1_T_FBILVDS/IDQ0 | IOL5ALPLL1_T_FBILVDS/IDQ0 | IOL5ALPLL1_T_IM/DQ0 | IOL5B/LPLL1_C_IN/DQ0 | IOL5B/LPLL1_C_IN/D Bank4 GW2AN-LIV18XPG484 JTAGSEL N >> R91 1K AA9 Y10 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 A6 C7 IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 AG mode selection signal section GW2AN-UV18XPG484 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 IOB36A/LVDS/DQ3 IOB36B/LVDS/DQ3 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 IOB37A/DOS3 R92 4.7K IOB37B/DQS3 IOB38A/LVDS/DQ3 DONE (тск<<-IOB38B/LVDS/DQ3 4 VCC00 AB17 IOB39A/DQ3 IOB39B/DQ3 LED16 R94 1K R93 4.7K VCCO1 TDI <<-RECONFIG_N
R95 4.7K VCCO1 R96 4.7K VCCO1 *Configuration completed JTAG TDO > 0.1uF *Configuration reset section *Configurable detection section 8 - 8 713
A88
A88
A88
A88
DESBASCLKT_4ILVDSID03
A88
77
DESBASCLKILVDSID04
VIII
DESBASCLKILVDSID04
VIII
DESBASCLKILVDSID04
VIII
DESBASCLKILVDSID04
VIII
DESBASCLKILVDSID04
VIII
DESBASCLKILVDSID04
DESBASCLKILVDSI VCC/VCCX VCC00 VCCO1 VCC02 VCCO3 vcc >> FB16 IO4 6 101 VCC00
 C537
 D538
 D539
 D540
 D541
 D542
 D543
 D544
 D546
 D547
 D548
 D549
 D550

 R.7uF
 D.1uF
 0.562 0.563 0.564 0.565 0.566 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF VCC 5 GND 2 AA20 IUB53B/D6/DQ4
W19 IOB54A/SSPI_CS_N/D0/LVDS/DQ4
V17 IOB54B/S/ID2/LVDS/DQ4
IOB55A/D5/DQ4
IOB55A/D5/DQ4 0.1uF 0.1uF IO3 4 3 IO2 *JTAG download section GW2AN-LIV18XPG484 VCC03 VCCO4 VCC05 VCCO6 VCCO7 VCC08 1.F CLK signal is an external input clock signal. It is recommended that F_CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. C569 C570 C571 C572 C573 C574 C575 C576 C577 C578 C579 C580 C581 C582 C583 C584 C585 C586 C587 C588 C589 C590 C591 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 0.1uF 0.1uF 0.1uF 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.10F 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 3.It is recommended that add an ESD protection chip to the JTAG download circuit. GOWIN Minimum System Diagram

3 5 GW2AN-UV18XUG256 U33C U33D Bank1 IOR50B/LVDS/NONE P15 IOR50A/LVDS/NONE N14 IOT34A/LVDS/DQ7 IOT34B/LVDS/DQ7 IOT54B/LVDS/DQ6 IOT54A/LVDS/DQ6 IOR8B/LVDS/DQ5 IOR8A/LVDS/DQ5 IOR29A/NONE IOR29B/NONE IOR11A/LVDS/NONE VCC/VCCX -IOR11B/LVDS/NONE VCC/VCCX vss IOT36A/LVDS/DQ7 IOT52B/LVDS/DQ6 IOR13A/LVDS/NONE IOR6B/LVDS/DQS5 IOR30A/LVDS/NONE IOR48B/LVDS/NONE VCC/VCCX VCC/VCCX VSS VSS G12 F14 F16 F12 A10 F9 N16 P16 C15 A16 IOT36B/LVDS/DQ7 IOR13B/LVDS/NONE IOR30B/LVDS/NONE IOT52A/LVDS/DQ6 IOR6A/LVDS/DQS5 IOR48A/LVDS/NONE A14 IOT38A/LVDS/DQ7 IOT50B/LVDS/DQ6 IOR15A/LVDS/NONE IOR15B/LVDS/NONE IOR25B/LVDS/NONE IOR31A/NONE IOR46B/LVDS/NONE VCC/VCCX VSS VSS J13 K14 B13 A12 IOT38B/I VDS/DQ7 IOT50A/I VDS/DQ6 IOR25A/I VDS/NONE IOR31B/NONE IOR46A/I VDS/NONE VCC/VCCX H15 IOT40A/LVDS/DQ7 IOT48B/LVDS/DQS6 IOR17A/LVDS/NONE IOR23B/LVDS/NONE IOR32A/LVDS/NONE IOR44B/LVDS/NONE VCC/VCCX VSS M14 IOT40B/LVDS/DO7 IOT48A/LVDS/DOS6 IOR17B/LVDS/NONE IOR23A/LVDS/NONE IOR32B/LVDS/NONE IOR44A/I VDS/NONE VCC/VCCX VSS E12 J9 R2 IOT44B/LVDS/DQ7 IOR21B/LVDS/NONE IOR34A/LVDS/NONE IOR42B/LVDS/NONE VCC/VCCX VSS IOT42B/LVDS/DQ7 IOT44A/LVDS/DQ7 IOR19B/LVDS/NONE IOR21A/LVDS/NONE IOR3/R/LVDS/NONE IOR42A/I VDS/NONE VCCO0 VSS VSS L16 L14 K13 K12 M16 D5 D12 G9 E13 IOR40B/LVDS/NONE VCC00 IOR36A/LVDS/NONE L15 IOR36B/LVDS/NONE IOR38A/LVDS/NONE VSS VSS VSS VSS IOR40A/LVDS/NONE VCCO1 Bank1 Bank2 VCCO1 IOR38B/LVDS/NONE VCCO D13 IOT31A/SCL/GCLKT 1/DQ7 IOR2A/RPLL1 T FB/LVDS/DQ5 VCCO2 D4 H9 IOT31B/SDA/GCLKC_1/DQ7 IOT39A/JTAGSEL_N/DQ7 IOR2B/RPLL1_C_FB/LVDS/DQ5 VCCO3 VCCO3 VSS VSS Bank3 JTAGSEL_N IOR4A/RPLL1_T_IN/LVDS/DQ5 IOR4B/RPLL1_C_IN/LVDS/DQ5 VCCO3 B10 E14 N12 L11 VSS VSS VSS VSS VSS VSS VSS RECONEIG N IOT39B/RECONFIG_N/DQ7 VCCO4 VCCO4 K9 N5 K8 READY IOR28A/GCLKT 3/LVDS/NONE IOT55A/READY/DO6 GW2AN-UV18XUG256 VCCCO4 DONE IOT55B/DONE/DOR IOR28B/GCLKC_3/LVDS/NONE VCCO5 VCCO5 GW2AN-HV18XHG256 M4 H7 J7 E4 GW2AN-LIV18XLIG256 R15 VCCO6 VCC06 VCC07 VCCO7 U33A U33F VSS M12 VCCO8 VSS Bank0 Bank5 R9 IOB32A/LVDS/DQ3 IOB48B/LVDS/DQS4 IOB48A/LVDS/DQS4 GW2AN-UV18XUG256 B4 D6 E7 B7 IOT12A/I VDS/DQ8 IOT8B/I VDS/DQ9 IOB12A/I VDS/DQ2 IOB8B/I VDS/DQ1 M9 IOB32B/I VDS/DQ3 T14 R6 N6 L7 R7 P7 M7 T3 A5 IOT12B/LVDS/DQ8 IOT8A/LVDS/DQ9 IOB34A/LVDS/DQ3 IOB44B/LVDS/DQ3 IOB12B/LVDS/DQ2 IOB8A/LVDS/DQ1 P10 R10 IOT14A/LVDS/DO8 IOT6B/LVDS/DO9 IOB44A/LVDS/DO3 IOB14A/LVDS/DO2 IOR6R/LVDS/DO1 IOR34R/LVDS/DO3 N11 M10 OT14B/LVDS/DQ8 IOB42B/LVDS/DQ3 IOB14B/LVDS/DQ2 R97 JTAGSEL_N >>-IOT18A/LVDS/DQ8 IOT4B/LVDS/DQ9 IOB36B/LVDS/DQ3 IOB42A/LVDS/DQ3 IOB16A/LVDS/DQ2 IOB4B/LVDS/DQ1 C7 E6 D7 N10 M11 P11 T11 B3 IOT18B/LVDS/DQ8 IOT4A/LVDS/DQ9 IOB40B/LVDS/DQ3 IOB16B/LVDS/DQ2 IOB4A/LVDS/DQ1 IOB38A/LVDS/DQ3 TAG mode selection signal section IOT20A/LVDS/DQ8 IOT2B/I VDS/DQ9 IOB38B/LVDS/DQ3 IOB40A/LVDS/DQ3 IOB18A/I VDS/DQ2 IOB2B/I VDS/DQ1 IOT2A/LVDS/DQ9 E9 IOT20B/LVDS/DQ8 IOB18B/LVDS/DQ2 IOB2A/LVDS/DQ1 IOT22A/LVDS/DO8 IOT26B/LVDS/DO8 IOB20A/LVDS/DO2 IOB26B/LVDS/DO2 L8 P8 T8 E8 D8 M8 IOT22B/LVDS/DQ8 IOT26A/LVDS/DQ8 IOB20B/LVDS/DQ2 IOB26A/LVDS/DQ2 IOB22A/LVDS/DQ2 IOB22B/LVDS/DQ2 IOB24B/LVDS/DQ2 IOB24A/LVDS/DQ2 IOB30A/GCLKT_4/LVDS/DQ3 IOB30B/GCLKC_4/LVDS/DQ3 IOB50A/SCLK/LVDS/DQ4 P9 P6 T6 Bank5 IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 IOB50B/D1/SO/LVDS/DQ4 IOB52A/FASTRD N/D3/LVDS/DQ4 VCCON TDI < TCK IOT23A/TCK/DQ8 IOB52B/QSSPI_WPN/LVDS/DQ4 IOB54A/SSPI_CS_N/D0/LVDS/DQ4 IOB23A/GCLKT_5/DQ2 **JTAG** IOT23B/TMS/DQ8 IOB23B/GCLKC 5/DQ2 C592 OT24A/GCLKT 0/LVDS/DQ8 IOB54B/SI/D2/LVDS/DQ4 T15 R14 GW2AN-UV18XUG256 A8 8 IOT24B/GCLKC 0/LVDS/DQ8 IOB55A/D5/DO4 0.1uF IOB55B/D4/DQ4 GW2AN-UV18XUG256 TMS<< GW2AN-UV18XUG256 Bank8 U33G IOL15A/LVDS/NONE IOL15B/LVDS/NONE G6 F3 F1 G5 Bank6 Bank7 IOL16A/NONE IOL8B/LVDS/DQ0 101 104 VCC00 IOI 36A/I VDS/NONE IOI 51B/NONE IOI 21A/I VDS/NONE IOI 33B/NONE IOI 16B/NONE IOI 8A/I VDS/DQ0 K4 L5 K5 IOL36B/LVDS/NONE IOL51A/NONE IOL21B/LVDS/NONE IOL33A/NONE IOL17A/LVDS/NONE IOL2B/LVDS/DQ0 GND VCC H4 IOL32B/LVDS/NONE IOI 40A/I VDS/NONE IOL50B/LVDS/NONE IOI 22A/NONE IOI 17B/I VDS/NONE IOL2A/LVDS/DO0 103 IOL40B/LVDS/NONE IOL50A/LVDS/NONE IOL22B/NONE IOL32A/LVDS/NONE IOL19A/LVDS/NONE 102 IOL464/LVDS/NONE IOI 48B/I VDS/NONE IOI 24A/NONE TOL 30B/LVDS/NONE IOI 19B/I VDS/NONE IOI 20A/NONE M3 H5 ESD IOL46B/LVDS/NONE IOL24B/NONE *JTAG download section IOL28A/LVDS/NONE IOL28B/LVDS/NONE IOI 47A/NONE IOL47B/NONE IOL14A/GCLKT_8/NONE IOL14B/GCLKC_8/NONE IOL4A/LPLL1_T_FB/LVDS/DQ0 DONE (IOL44A/GCLKT_6/LVDS/NONE IOL25A/GCLKT_7/LVDS/NONE IOL4B/LPLL1_C_FB/LVDS/DQ0 J3 R99 4.7K VCCO1 IOL44B/GCLKC 6/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOL5A/LPLL1_T_IN/DQ0 IOL5B/LPLL1_C_IN/DQ0 GW2AN-UV18XUG256 GW2AN-UV18XUG256 Configuration completed GW2AN-HV18XHG256 detection section VCC00 VCCO1 VCCO2 VCC03 VCCO4 VCC05 VCCO6 VCCO7 VCC08 R101 4.7K VCC>> FB17 *Configurable detection section C597 C598 C599 C600 C601 C602 C593 C594 C595 C596 C603 C604 C605 C606 C607 C608 C609 C610 C611 C612 C613 C614 C615 C616 C617 0.1uF 0.1uF .1uF).1uF).1uF 0.1uF .1uF .1uF 0.1uF RECONFIG_N
R102 4.7K *Configuration reset section Notes: 1.F CLK signal is an external input clock signal. It is recommended that F CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. GOWIN Minimum System Diagram 3.It is recommended that add an ESD protection chip to the JTAG download circuit. Document Number GW2AN-UV18XUG256 ize A3 Rev 2.0





3 2 GW2AN-UV18XUG400 4 Bank0 Bank2 Bank4 B4 1071284.V0SO08
A44 1071284.V0SO08
A5 1071284.V0SO08
B5 1071384.008
B6 1071384.V0SO08
A5 1071484.V0SO08
A5 1071484.V0SO08
B7 1071884.V0SO08
A7 107184.V0SO08
B7 1071884.V0SO08
B7 107184.V0SO08
B7 107184.V0SO08 G16 F18 G17 IOR11A/LVDS/NONE E20 IOR12B/IUVDS/NONE IOR12B/INONE F79 IOR12B/INONE F20 IOR13B/L/US/NONE IOR15B/L/US/NONE IOR15B/L/US/NONE IOR16B/IUVDS/NONE IOR16B/IUVDS/NONE IOR16B/IUVDS/NONE IOR16B/IUVDS/NONE IOR16B/IUVDS/NONE IOT9B/DQS9 IOT9A/DQS9 VCC/VCCX IOT8B/LVDS/DQ9 IOR8B/LVDS/DQ5 IOT8A/LVDS/DQ9 IOR8A/LVDS/DQ5 VSS | E16
VSS | E10
VSS | VCC/VCCX VCC/VCCX IOR6A/LVDS/DQS5 VCC/VCCX IOR15B/L/DS/NONE
IOR16B/NONE
IOR16B/NONE
IOR17B/L/DS/NONE
IOR17B/L/DS/NONE
IOR18B/NONE
IOR18B/NONE
IOR18B/NONE
IOR19B/L/DS/NONE
IOR19B/L/DS/NONE J10 M10 J11 M12 K12 H13 VCC/VCCX VCC/VCCX VCC/VCCX VCC/VCCX VCC/VCCX H17 H18 H19 H16 G20 J17 H20 J18 J16 IOR3A/DQ5 IOR3A/DQ5 IOR3A/DQ5 IOR25B/LVDS/NONE IOR25A/LVDS/NONE IOR23B/LVDS/NONE IOR23A/LVDS/NONE H8 VCC00 H9 VCC00 H11 VCC01 J12 VCC01 VCCO0 ---Bank6 VCCO1 -IOT22B/LVDS/DQ8 VCCO2 U1 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE VCC01 VCC02 VCC03 VCC03 VCC03 VCC04 D17 | IOR2A/RPLL1 T_FB/LVDS/DQ5 | IOR2B/RPLL1 C_FB/LVDS/DQ5 | IOR4A/RPLL1 T_IN/LVDS/DQ5 | IOR4B/RPLL1 T_IN/LVDS/DQ5 | IOR4B/RPLL1 C_IN/LVDS/DQ5 | IOR4B/RPLL1 C_IN/LVDS/DQ E8 C7 IOT17A/TDO/DQ8 C9 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 IOT24A/GCLKT_0LVDS/DQ8 IOT24A/GCLKT_0LVDS/DQ8 IOT24B/GCLKC_0LVDS/DQ8 GW2AN-UV18XUG400 GW2AN-UV18XUG400 U39I VCC04 VCC05 VCC05 VCC05 VCC06 VCC06 VCC07 VCC07 VCC07 VCC08 | H6 | IOL11ALVDS/NONE | F7 | IOL11BL/DS/NONE | F7 | IOL13AL/DS/NONE | G4 | IOL13AL/DS/NONE | G3 | IOL13AL/DS/NONE | G3 | IOL13BL/DS/NONE | H3 | IOL13BL/DS/NONE | H2 | IOL13BL/DS/NONE | G1 | IOL13BL/DS/NONE | G1 | IOL13AL/DS/NONE | G1 | IOL13AL/DS/NONE | G1 | IOL13AL/DS/NONE | IOL13BL/DS/NONE | IOL1 VCCO6 [-Bank3 K16
L177
L0220AHONE
L177
L0220BHONE
L177
L0220BHONE
L177
L0220BHONE
L178
L0220BHONE
L178
L0220BHONE
L0230BHONE
L0230BHONE GW2AN-UV18XUG400 U39B VCCO7 IOR51B/NONE
IOR50B/LVDS/NONE
IOR50B/LVDS/NONE
IOR50B/LVDS/NONE
IOR49B/NONE
IOR49B/NONE
IOR48B/LVDS/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR47B/NONE
IOR46B/LVDS/NONE
IOR46B/LVDS/NONE
IOR46B/LVDS/NONE
IOR46B/LVDS/NONE
IOR46B/LVDS/NONE Dank1 U39F VCCO8 -IOT54B/LVDS/DQ6 IOT54A/LVDS/DQ6 IOT53B/DQ6 IOT53B/DQ6 IOT52B/LVDS/DQ6 IOT52B/LVDS/DQ6 IOT52B/LVDS/DQ6 IOT52B/LVDS/DQ6 IOT52B/LVDS/DQ6 | A12 | IOT30ALVDS/DQ7 | A13 | IOT30BLVDS/DQ7 | A13 | IOT32ALVDS/DQ7 | G111 | IOT32BLVDS/DQ7 | IOT32ALVDS/DQ7 | IOT32ALVDS/DQ7 | IOT34ALVDS/DQ7 | IOT34BLVDS/DQ7 | IOT34BLVDS/DQ7 | IOT36BLVDS/DQ7 | IOT36BLVDS/DQ7 | IOT38BLVDS/DQ7 | IOT3BBLVDS/DQ7 | IOT3BBLVDS/DQ Banks GW2AN-LIV18XUG400 | THE IOB9B/DQS1 IOB9A/DQS1 IOB8B/LVDS/DQ1 IOB8A/LVDS/DQ1 IOB7A/DQ1 U39H IOT52ALVDS/DQ6 IOT51B/DQ6 IOT51A/DQ6 IOT50B/LVDS/DQ6 IOT50A/LVDS/DQ6 IOT49B/DQ6 Bank7 IOR46A/I VDS/NONI B14 IOT38BLVDS/DQ7
A15 IOT38BLVDS/DQ7
B15 IOT40ALVDS/DQ7
A16 IOT40BLVDS/DQ7
B16 IOT42BLVDS/DQ7
G12 IOT42BLVDS/DQ7
F12 IOT43A/DQ7
A17 IOT43B/DQ7
B17 IOT44BLVDS/DQ7 IOR45B/NONE IOR45A/NONE J2 | IOL21A/LVDS/NONE | IOL22A/LVDS/NONE | IOL22A/NONE | IOL22B/NONE | IOL22B/NONE | IOL23A/LVDS/NONE | IOL2 IOL33B/NONE P2
IOL33A/NONE N2
32B/LVDS/NONE N1
IOL31B/NONE L7
IOL31B/NONE L6
IOL31A/NONE L6 Bank8 IOB5B/DQ1 IOT49A/DQ6 IOR44B/I VDS/NONE IOB5A/DQ1 IOR44A/LVDS/NONE IOR43B/NONE IOR43A/NONE IOT48B/LVDS/DQS6 IOT48A/LVDS/DQS6 IOB4B/LVDS/DQ1 IOL32A/LVDS/NONE IOT45B/DQ7 IOT45A/DQ7 IOB3B/DQ1 IOB3A/DQ1 IOL5B/LPLL1 C IN/DQ0 IOT44B/LVDS/DQ7 IOL29A/NONE C11 | IOT31A/SCL//GCLKT_1/DQ7 | C13 | IOT31B/SDA/GCLKC_1/DQ7 | D13 | IOT39A/JTAGSEL_N/DQ7 | C17 | IOT39B/RECONFIG_N/DQ7 | IOT5SA/READY/DQ6 | IOT5SB/DONE/DQ6 | JTAGSEL_N >> R115 K19 IOR28A/GCLKT_3/LVDS/NONE IOR28B/GCLKC_3/LVDS/NONE RECONFIG_N READY DONE GW2ANJ IV18XI IG400 W9 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 L1 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE GW2AN-LIV18XLIG400 GW2AN-LIV18XLIG400 GW2AN-LIV18XLIG400 vcc >> FB20 LED20 R117 1K R118 4.7K VCCO1 TCK< 4 VCC00 Configuration completed TDI ≪ | 0690 | 0691 | 0692 | 0693 | 0694 | 0695 | 0696 | 0697 | 0698 | 0699 | 0690 | 0691 | 0692 | 0791 | 0792 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | 0794 | C700 C701 C702 C703 C704 detection section JTAG C706 TDO >> 8 8 В R119 4.7K *Configurable detection section 104 6 101 VCC00 1.F CLK signal is an external input clock signal. It is recommended that F CLK signal be provided through an active oscillator crystal. GND VCC 2. External Flash memory is used to store downloaded programs. 102 103 RECONFIG_N
R120
4.7K
VCC01 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. *JTAG download section 3.It is recommended that add an ESD protection chip to the JTAG download circuit. *Configuration reset section

3 2 GW2AN-UV18XUG484 4 U41B Bankl #BILVDS/DD6 822
#BILVDS/DD6 A27
644LVDS/DD6 C79
10T588/DD6 C79
10T588/DD6 C79
20T528LVDS/DD6 A20
20T528LVDS/DD6 A20
20T528LVDS/DD6 A20
20T528LVDS/DD6 A20
20T54/DD6 A20
20T54/DD7 A20
20 Bank4 Power VCC/VCCX 021
021 IOR1 1AL VDS MONE
037 IOR1 1BL VDS MONE
037 IOR1 1BL VDS MONE
122 IOR1 2BL VDS MONE
122 IOR1 2BL VDS MONE
123 IOR1 2BL VDS MONE
124 IOR1 2BL VDS MONE
125 IOR1 2BL VDS MONE
126 IOR1 2BL VDS MONE
127 IOR1 2BL VDS MONE
128 IOR1 2BL VDS MONE
129 IOR1 2BL VDS M IOT30A/LVDS/DQ7 IOR9B/DQ5 IOB31A/DQ3 vcc/vccx IOL51B/NONE IOT30B/LVDS/DQ IOR9A/DQ5 IOB31B/DQ3 IOB32A/LVDS/DQ3 IOT32A/LVDS/DQ IOR8B/LVDS/DQ5 VCC/VCCX IOT32B/LVDS/DQ7 IOR8A/LVDS/DQ5 IOB32B/LVDS/DQ3 IOB33A/DQ3 VCC/VCCX AA13 (0833A/D03 (0833A/D03 (0833A/D03 (0833A/D03 (083A/L/V)SD03 (0 L11 L12 M11 M12 N10 IOT33B/DQ7 IOR7A/DQ5 VCC/VCCX IOR6B/LVDS/DQS5 IOR6A/LVDS/DQS5 IOR6A/LVDS/IDQS
IOR5B/IDQS
IOR5B/IDQS
IOR3B/IDQS
IOR3A/IDQS
IOR3B/IDQS
IOR36B/INONE
IOR26B/INONE
IOR26B/INONE
IOR25B/ILVDS/INONE
IOR24B/INONE
IOR24B/INONE
IOR24B/INONE
IOR25B/ILVDS/INONE
IOR25B/ILVDS/INONE
IOR23B/ILVDS/INONE VCC/VCCX VCC/VCCX VCC/VCCX VCC/VCCX N11 N12 N13 VCC00 VCC00 VCC00 vccon L IOT44A/LVDS/DQ7 4A/LVDS/DQ7 IOT43B/DQ7 C17 VCC00 VCC01 VCC01 VCC01 VCC01 VCC01 VCC02 IOT41B/DQ7 K19 IOR20B/NONE IOR21A/LVDS/NONE IOR21B/LVDS/NONE IOR23A/I VDS/NONE VCCO1 IOT42A/LVDS/DQ7 IOT42B/LVDS/DQ7 IOR22B/NONE IOR22A/NONE B17 AB12 IOB30A/GCLKT_4/LVDS/DQ3 U2 V1 IOL44A/GCLKT_6/LVDS/NONE IOL44B/GCLKC_6/LVDS/NONE MATZ DESIGNACIÓN - ALVOSEDOS DE DESIGNACIÓN - ALVOSEDOS DE DESIGNACIÓN DESIGNACIÓN DE DE DESIGNACIÓN DE DE DE DESIGNACIÓN DE DE DE DE DESIGNACIÓN DE DE DE DE DE DE DESIGNACIÓN DE DE DE D IOB30B/GCLKC_4/LVDS/DQ3 IOB50A/SCLK/LVDS/DQ4 F20 VCC01 VCC02 VCC02 VCC02 VCC02 VCC02 VCC02 VCCO2 GW2AN-LIV18XLIG484 B12
A12
IOT31A/SCL/GCLKT_1/DQ7
E14
IOT31B/SDA/GCLKC_1/DQ7
IOT39AJ/TAGSEL_N/DQ7
IOT30BJ/BFC/ONFIG_N/DQ7 C21 | OR2A/RPLL1_T_FB/LVDS/DQ5 | D22 | OR2B/RPLL1_C_FB/LVDS/DQ5 | D074B/RPLL1_C_IN/LVDS/DQ5 | OR4B/RPLL1_C_IN/LVDS/DQ5 | OR4B/RPL JTAGSEL_N RECONFIG_N READY DONE VCCO3 M18 N15 P15 VCCO3 IOT39B/RECONFIG_N/DQ7 IOT55A/READY/DQ6 IOT55B/DONE/DQ6 GW2AN-UV18XUG484 Dank? CIMPANI LINASVI ICAS | 17 | K5 | OL21AL/DS/NONE | K4 | OL22BL/DS/NONE | OL22BL VCCO4 IOL33B/NONE
IOL33A/NONE
IOL32B/LVDS/NONE
IOL32A/LVDS/NONE
IOL31B/NONE
IOL31A/NONE
IOL30B/LVDS/NONE R14 W16 R10 Bank3 GW2AN-LIV18XLIG484 VCCO5 [-Bank0 M20 M19 M16 N16 U41I IOR20A/NONE IOR51B/NONE IOR51A/NONE IOT 124/I VDS/DOR IOTOR/DOS0 Bank8 IOT12A/LVDS/DQ8 IOT12B/LVDS/DQ8 IOT13A/DQ8 IOT13B/DQ8 IOT14A/LVDS/DQ8 IOT14B/LVDS/DQ8 | M16 | IOR39B/NONE | IOR30B/LVDS/NONE | IOR30B/LVDS/NONE | IOR31B/NONE | IOR31B/NONE | IOR31B/NONE | IOR32A/LVDS/NONE | IOR32A IOT9A/DQS9 IOL30A/LVDS/NONE VCCO6 M6 IOR49B/NONE IOR49A/NONE IOLOR/DOD NIB 10831ANONE
207 IOST BRINDONE ONE
207 IOST BRINDONE
207 IOST BRIN IOT7B/DQ9 IOT7A/DQ9 IOR48B/LVDS/NONE IOL8B/LVDS/DQ0 IOT15A/DQ8 IOT15B/DQ8 IOT6B/LVDS/DQ9 IOT6A/LVDS/DQ9 IOR48A/I VDS/NONE IOL8A/LVDS/DQ0 VCCO7 VCCO7 VCCO8 VCCO8 VCCO8 IOR47B/NONE IOR47A/NONE IOL7B/DQ0 IOL7A/DQ0 IOT16A/LVDS/DQ8 IOT16B/LVDS/DQI IOT5A/DQ9 IOR46B/LVDS/NONE IOL6B/LVDS/DQS0 L1 IOL25A/GCLKT_7/LVDS/NONE IOL25B/GCLKC_7/LVDS/NONE IOT18A/LVDS/DQ8 IOT18B/LVDS/DQ8 IOR46A/LVDS/NONE IOL6A/LVDS/DQS0 IOT4A/LVDS/DQ9 IOR45B/NONE IOL3B/DQ0 IOT 19A/DQ8 IOT 19B/DQ8 IOT3B/DQ9 IOT3A/DQ9 IOR45A/NONE IOL3A/DQ0 VSS GW2AN-UV18XUG484 IOL2B/LVDS/DQ0 IOL2A/LVDS/DQ0 GW2AN-UV18XUG484 IOT2B/LVDS/DQ9 IOT20A/LVDS/DQ8 IOR44A/LVDS/NONE | IOT ZUALL VUSTICAGO | IOT20B/LVDS/DQ8 | IOT21A/DQS8 | IOT21B/DQS8 | IOT22A/LVDS/DQ8 | IOT22B/LVDS/DQ8 | IOT25B/DQ8 | IOT25B/DQ8 IOR43B/NONE IOR43B/NONE IOR43B/IVOS/NONE IOR42B/IVDS/NONE IOR42B/IVDS/NONE IOR41B/NONE IOR41B/NONE IOL20B/NONE IOL20A/NONE IOT26B/LVDS/DQ8 IOT26A/LVDS/DQ8 U41F Bank5 G2
G1 10L14A/GCLKT 8/NONE
E4 10L14B/GCLKC 8/NONE
E5 10L4A/JPLL1_T_FBIL/DS/DQ0
G1 10L5A/LPLL1_T_FBIL/DS/DQ0
10L5A/LPLL1_T_N/DQ0
10L5B/LPLL1_C_N/DQ0
10L5B/LPLL1_C_N/DQ0 AA6
AB6
W6
V7
IOB13A/DQ2
IOB13B/DQ2
IOB13B/DQ2 BankO JTAGSEL N >> R121 1K 'AG mode selection signal section IOT17A/TDO/DQ8 IOT17B/TDI/DQ8 IOR28A/GCLKT 3/LVDS/NONE IOB144/LVDS/DO2 IOT23A/TCK/DQ8 IOT23B/TMS/DQ8 IOR28B/GCI KC 3/I VDS/NONE IOB14B/LVDS/DQ2 IOB15A/DQ2 7.48 (1814BL/USSIDO2 2.48 (181 IOT24A/GCLKT_0/LVDS/DQ8 IOT24B/GCLKC_0/LVDS/DQ8 rl R122 4.7K DONE < TCK< 4 VCC00 *Configuration completed TDI <<-RECONFIG_N
R125
4.7K
VCCO1 R126 4.7K VCCO1 JTAG TDO > В 0.1uF *Configuration reset section *Configurable detection section 8 - 8 VCC/VCCX VCC00 VCC01 VCCO2 VCC03 vcc >> FB21 IO4 6 101 VCC00 0727 0728 0729 0730 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF VCC 5 C731 C732 C733 C734 C735 C740 C741 C742 C743 C744

D.1uF D.1uF D.1uF D.1uF D.1uF GND 2 0.1uF 0.1uF 0.1uF 0.1uF 0.1uF IO3 4 3 IO2 AA10 IOB23A/GCLKT_5/DQ2 IOB23B/GCLKC_5/DQ2 *JTAG download section GW2AN-UV18XUG484 VCCO4 VCC05 VCCO6 VCCO7 VCC08 1.F CLK signal is an external input clock signal. It is recommended that F_CLK signal be provided through an active oscillator crystal. 2.External Flash memory is used to store downloaded programs. C745 C746 C747 C748 C749 C750 C751 C752 C753 C754 C755 C756 C757 C758 C759 C760 C761 C762 For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290. 0.1uF 3.It is recommended that add an ESD protection chip to the JTAG download circuit. GOWIN Minimum System Diagram