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5Pairs LVDS/MIPI INPUT (X16)

2*SWITCH

2*BUTTON

4*LED

OSC 50MHz

GOWIN 高云

GW1NR9LV9LQ144P

GPIO

USB to JTAG

10Pairs LVDS/MIPI OUTPUT(X16)

LDO 1.2V/1.8V/2.5V/3.3V

Mini USB

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U1 — GW1NR-9K-LQFP144P

R8 33 — MODE1
R6 33 — MODE0
R5 33
R9 4.7K — DONE — VCC2P5
D5
R10 4.7K — RECONFIG_N — VCC1P8
R12 4.7K — READY
R11 33 — FPGA_CLK

X2 — OSC_S4_5032
IN VCC
GND OUT
FB1
C31 10nF

U3 — SN74AVC4T245PWR
VCCA VCCB
OEn_1 B1_1
OEn_2
DIR_1 B1_2
DIR_2
A1_1 B2_1
A1_2
A2_1 B2_2
A2_2
GND1 GND2

R20 1K, R21 1K, R22 1K, R23 1K, R2 1K
C79 0.1uF, C71 0.1uF

VCC3P3, VCCO0/VCCO1, VCC1P2, VCC1P8, VCC2P5, VCCO2

FPGA_CLK_B
F_KEY2_B
F_KEY1_B
F_KEY2
F_KEY1
FPGA_CLK

Decoupling capacitors:
VCC2P5: C27 0.1uF, C21 0.1uF
VCCO0/VCCO1: C23 0.1uF, C25 0.1uF, C19 0.1uF, C29 0.1uF
VCC1P2: C1 0.1uF, C2 0.1uF, C3 10uF, C4 10uF, C5 0.1uF, C6 0.1uF, C7 10uF, C8 10uF
VCCO2: C9 0.1uF, C11 0.1uF
VCC1P8: C15 0.1uF, C17 0.1uF

VCC5

U10

	NC1	GND	8
	EN	FB	7
	IN	Out	6
	NC2	NC3	5
	GPAD		9

TPS7A7001

C42
10uF

R53
30.1K

R52
169K

VCC3P3

FB3

C45
10uF

VCC5

U30

	NC1	GND	8
	EN	FB	7
	IN	Out	6
	NC2	NC3	5
	GPAD		9

TPS7A7001

C13
10uF

R1
30.1K

R3
76.8K

VCC1P8

FB7

C14
10uF

VCC5

U11

	NC1	GND	8
	EN	FB	7
	IN	Out	6
	NC2	NC3	5
	GPAD		9

TPS7A7001

C48
10uF

R54
30.1K

R55
44.2K

VCC1P2

FB4

C47
10uF

VCC5

U12

	NC1	GND	8
	EN	FB	7
	IN	Out	6
	NC2	NC3	5
	GPAD		9

TPS7A7001

C50
10uF

R56
30.1K

R57
121K

VCC2P5

FB5

C49
10uF

D3

R24   10K

VCC5

VCC2P5
VCCO2
VCC1P2

J3
1
2
3

VCC2P5
VCCO0/VCCO1
VCC1P2

J1
1
2
3

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GPIO, LED, KEY, LVDS/MIPI Schematic

RN1 (33) — F_A_IO1→H_A_IO1, F_A_IO2→H_A_IO2, F_A_IO3→H_A_IO3, F_A_IO4→H_A_IO4
RN2 (33) — F_A_IO5→H_A_IO5, F_A_IO6→H_A_IO6, F_A_IO7→H_A_IO7, F_A_IO8→H_A_IO8
RN3 (33) — F_A_IO9→H_A_IO9, F_A_IO10→H_A_IO10, F_A_IO11→H_A_IO11, F_A_IO12→H_A_IO12
RN4 (33) — F_A_IO13→H_A_IO13, F_A_IO14→H_A_IO14, F_A_IO15→H_A_IO15, F_A_IO16→H_A_IO16
RN5 (33) — F_A_IO17→H_A_IO17, F_A_IO18→H_A_IO18, F_A_IO19→H_A_IO19

RN6 (33) — F_B_IO1→H_B_IO1, F_B_IO2→H_B_IO2, F_B_IO3→H_B_IO3, F_B_IO4→H_B_IO4
RN7 (33) — F_B_IO5→H_B_IO5, F_B_IO6→H_B_IO6, F_B_IO7→H_B_IO7, F_B_IO8→H_B_IO8
RN8 (33) — F_B_IO9→H_B_IO9, F_B_IO10→H_B_IO10, F_B_IO11→H_B_IO11, F_B_IO12→H_B_IO12
RN9 (33) — F_B_IO13→H_B_IO13, F_B_IO14→H_B_IO14, F_B_IO15→H_B_IO15, F_B_IO16→H_B_IO16
RN10 (33) — F_B_IO17→H_B_IO17, F_B_IO18→H_B_IO18, F_B_IO19→H_B_IO19, F_B_IO20→H_B_IO20
RN11 (33) — F_B_IO21→H_B_IO21, F_B_IO22→H_B_IO22, F_B_IO23→H_B_IO23, F_B_IO24→H_B_IO24
RN12 (33) — F_B_IO25→H_B_IO25, F_B_IO26→H_B_IO26, F_B_IO27→H_B_IO27, F_B_IO28→H_B_IO28
RN13 (33) — F_B_IO29→H_B_IO29, F_B_IO30→H_B_IO30, F_B_IO31→H_B_IO31, F_B_IO32→H_B_IO32
RN14 (33) — F_B_IO33→H_B_IO33, F_B_IO34→H_B_IO34, F_B_IO35→H_B_IO35, F_B_IO36→H_B_IO36

J14 (Header)
H_A_IO1…H_A_IO19 / H_A_IO2…H_A_IO18 (pins 1–20)

J13 — DC3_Header_40P_2R54TD
H_B_IO1…H_B_IO35 / H_B_IO2…H_B_IO36 (pins 1–40), VCC3P3

J15
F_LVDS_A1_P…F_LVDS_A5_P / F_LVDS_A1_N…F_LVDS_A5_N

LVDS termination resistors:
- R136 100 : F_LVDS_A1_P — F_LVDS_A1_N
- R137 100 : F_LVDS_A2_P — F_LVDS_A2_N
- R138 100 : F_LVDS_A3_P — F_LVDS_A3_N
- R139 100 : F_LVDS_A4_P — F_LVDS_A4_N
- R140 100 : F_LVDS_A5_P — F_LVDS_A5_N

LEDs (VCC2P5)
- R13 1K — LED1 — F_LED1
- R14 1K — LED2 — F_LED2
- R15 1K — LED3 — F_LED3
- R16 1K — LED4 — F_LED4

KEY1 — TF1105F160Q
K1, K2, KO1, KO2 ; VCC3P3, D1, R119 10K, R127 1K, C88 47uF, F_KEY1

KEY2 — TF1105F160Q
K1, K2, KO1, KO2 ; VCC3P3, D2, R120 10K, R128 1K, C89 47uF, F_KEY2

SW1 — EG1218
VCCO0/VCCO1, R17 1K, F_SW1
SW2 — EG1218
VCCO0/VCCO1, R19 1K, F_SW2

J18
F_LVDS_B6_P…F_LVDS_B10_P / F_LVDS_B6_N…F_LVDS_B10_N

J16
F_LVDS_B1_P…F_LVDS_B5_P / F_LVDS_B1_N…F_LVDS_B5_N

M1, M2, M3, M4, M5, M6, M7, M8