Mounting Holes

MH1 MOUNTING HOLE 3MM
MH3 MOUNTING HOLE 3MM
MH2 MOUNTING HOLE 3MM
MH4 MOUNTING HOLE 3MM

JP2
P1V8
P1V8 UART 0 RXD GPX1.0 R3 1k
UART 0 TXD GPX1.1 R4 1k
P5V0 GPX1.5

JP3
P1V8 P14 GPX1.1
P15 GPX1.0
P16 P17 P5V0

JP4 / ISP
D12 D11
D13
RESET P5V0

U2 FXMA2102
VCCA VCCB
A0 B0 RX-I
A1 B1 TX-O
GND OE
C5 0.1uF
R11 10k F R12 10k F
C6 0.1uF P5V0

U1 TCA6416APWR
GPX1.0 22 SCL
GPX1.1 23 SDA
1 INT INT1
3 RESET
24 VCCP
2 VCCI
21 ADDR
12 GND
P00 4 P01 5 P02 6 P03 7 P04 8 P05 9 P06 10 P07 11 P10 13 P11 14 P12 15 P13 16 P14 17 P15 18 P16 19 P17 20
R1 10k F R2 10k F P5V0
C3 0.1uF C1 0.1uF C2 0.1uF

JP1 (KFC)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
P14 P15 P16 P17

JP8 HEADER 2X2
SPI 1.CSN 2 SPI 1.CLK 1
SPI 1.MISO 4 SPI 1.MOSI 3

U4 SST25WF020
P1V8 R13 1k R14 1k R15 1k
SPI 1.CSN 1 CE# VDD 8
SPI 1.MISO 2 SO RST#/HOLD# 7
3 WP# SCK 6 SPI 1.CLK
4 VSS SI 5 SPI 1.MOSI
R16 10k F
R17 1k R18 1k
C14 0.1uF C15 0.1uF
P1V8

P5V0 R5 10k F R6 10k F
C4 0.1uF
SW1 CTT-1102S9
RESET
Q1 2N7002K
GPX1.5
C7 20pF C8 20pF
Y1 ATS160SM
P5V0 C9 0.1uF C10 0.1uF
C11 0.1uF

U3 ATMEGA328
29 RESET (SCK)PB5 17 D13
7 XTAL1 (MISO)PB4 16 D12
8 XTAL2 (MOSI)PB3 15 D11
6 VCC (SS)PB2 14 D10
4 VCC (OC1)PB1 13 D9
18 AVCC (ICP)PB0 12 D8
20 AREF (ADC5)PC5 28 A5
21 AGND (ADC4)PC4 27 A4
5 GND (ADC3)PC3 26 A3
3 GND (ADC2)PC2 25 A2
(ADC1)PC1 24 A1
(ADC0)PC0 23 A0
(AIN1)PD7 11 D7
(AIN0)PD6 10 D6
(T1)PD5 9 D5
(T0)PD4 2 D4
(INT1)PD3 1 D3
(INT0)PD2 32 D2
(TXD)PD1 31 D1
(RXD)PD0 30 D0

JP5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
R7 1k F R8 10k F P5V0
D1 Blue D2 Red

TX-O R9 1k
RX-I R10 1k

P5V0
C12 220uF JP6 1 2 3 D5
C13 220uF JP7 1 2 3 D3

Title
Size A4 Number Revision
Date: 2014-05-15 Sheet of
File: D:\hw\..\U3 IO Board.SchDoc Drawn By:

Comment	Description	Designator	Footprint	LibRef	Quantity
0.1uF	CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF,16V,10%,X7R,1005, CAP CER 100nF,16V,10%,X7R,1005, CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF 16V 10% X7R 1005, CAP CER 100nF 16V 10% X7R 1005	C1, C2, C3, C4, C5, C6, C9, C10, C11, C14, C15	CAPC1608L	CAP-NP-100nF-10%-16V-X7R-1005	11
20pF	CAP CER 20pF 50V 5% NP0 1005	C7, C8	CAPC1608L	CAP-NP-20pF-5%-50V-C0G-1005	2
220uF		C12, C13	220uF(6.3pie)	Component_1	2
Blue	LED Blue 1608	D1	1.6X0.8X0.6	LED-Blue-1608	1
Red	LED LED 1608	D2	1.6X0.8X0.6	LED-RED-1608	1
	Header, 20-Pin	JP1, JP5	HDR1X20	Header 20	2
	2mm Pitch Header	JP2	PH03-08DS(12.8mm)	CON-A3B-8PA-2DSA	1
	Header, 5-Pin, Dual row	JP3	2x5_HEADER	Header 5X2	1
ISP	Header, 3-Pin, Dual row	JP4	2X6 HEADER	Header 3X2	1
		JP6, JP7	1x3_HEADER	Component_1	2
HEADER 2X2		JP8	A3B-04PA-2DSA	HEADER 2X2	1
2N7002K	MOSFET N-CH 60-V (D-S)	Q1	SOT23	FET-NCH-2N7002K	1
10k F	RES 10kΩ 1% 1005	R1, R2, R5, R6, R8, R11, R12, R16	RESC1608L	RES-10K-F-1005	8
1k	RES 1kΩ 5% 1005	R3, R4, R9, R10, R13, R14, R15, R17, R18	RESC1608L	RES-1K-J-1005	9
1k F	RES 1kΩ 1% 0603	R7	RESC1608L	RES-1K-F-0603	1
CTT-1102S9	Tact SW	SW1	ITS-1150D	SW-CTT-1102S9	1
TCA6416APWR	LOW-VOLTAGE 16-BIT I2C AND SMBus I/O EXPANDER WITH INTERRUPT OUTPUT, RESET, AND CONFIGURATION REGISTERS	U1	TCA6416APWR	MPU3050	1
FXMA2102	Dual Supply, 2-Bit Voltage Translator/Buffer/Repeater/Isolator for I2C Applications	U2	FXMA2102L8X	FXMA2102	1
ATMEGA328	8-bit Atmel Microcontroller with 4/8/16K Bytes In-System Programmable Flash	U3	ATMEGA168	ATMEGA168	1
SST25WF020	SPI Serial Flash	U4	SST25WF020AT	SST25WF020-40-5I-SAF	1
ATS160SM	Crystal 16MHz 20pF 30p	Y1	ATS160SM	ATS160SM	1