
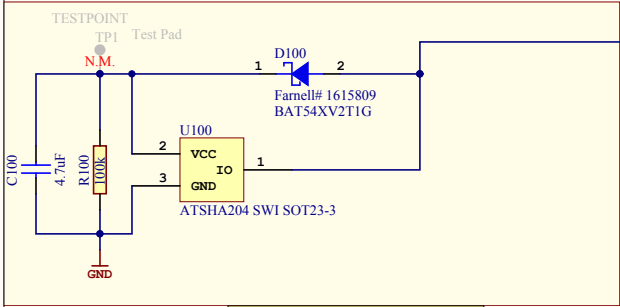
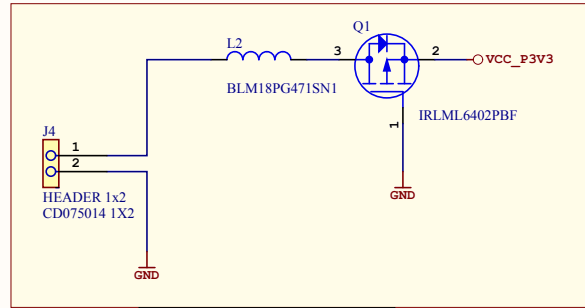
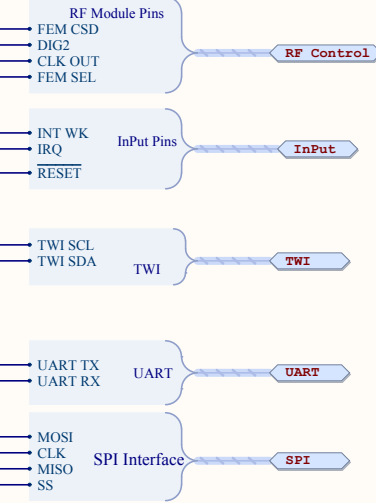
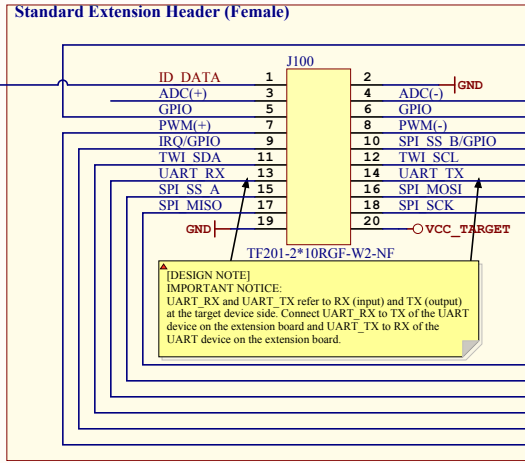


ATMEL India		SANJAYY			
RMZ Millenia		2	msk		
143, Dr. MGR Roa		*			
Chennai					
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Document number: *			Revision	4	
TITLE: XPRO_Extension_TopLevel_Template_4L					
XPRO_Extension_ZB_Board_TopLevel.SchDoc					

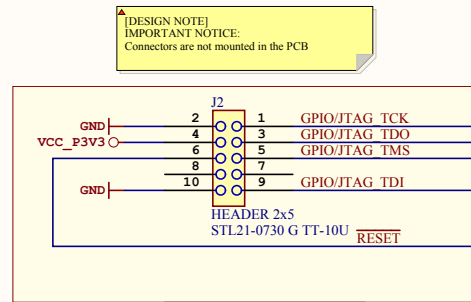
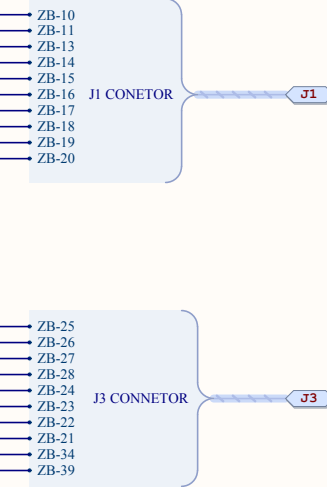
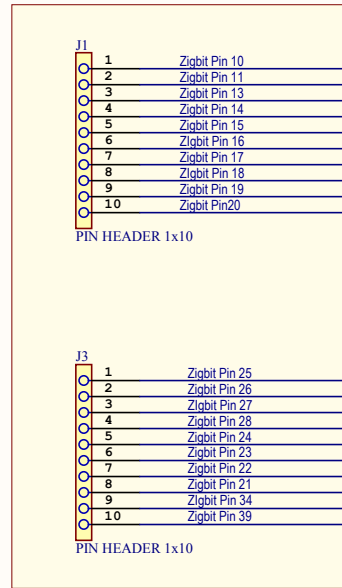


#### Extension Identification


[DESIGN NOTE]  
The ATSHA204 is powered through an IO Pin from the EDBG on an MCU board. R100 is present to drain the capacitor C100 when power is removed from an MCU board.



[DESIGN NOTE]  
Battery Connector with reverse protection




[DESIGN NOTE]  
IMPORTANT NOTICE:  
JTAG Programming Connector

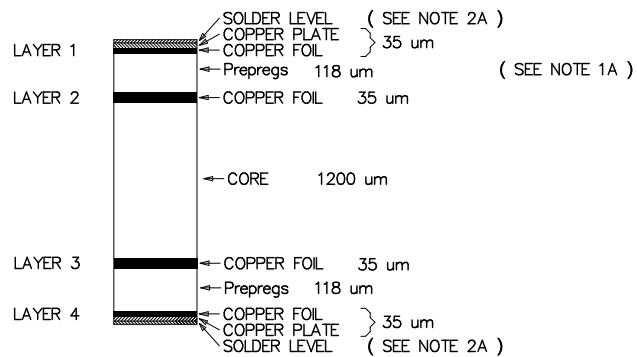
ATMEL India	SANJAYY		
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143, Dr. MGR Roa			
Chennai			
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Document number:	*	Revision	4
TITLE: XPRO_Extension_Connector_Template_4L			
XPRO_Extension_ZB_Board_Connector.SchDoc			



J100 20 pins Header	Xpro MCU board interface 20 pins functions	MegaRFR2	Xmega256	RF212B/RF233
1	ID_Data	ID_data		
2	GND	Ground		
3	ADC(-)	NC	NC	NC
4	ADC(+)	NC	NC	DIG2
5	GPIO	NC	NC	FEM_CSD
6	GPIO	NC	NC	CLKM
7	PWM(-)	RESET	RESET	RESET
8	PWM(+)	CLKI	GPIO/TC	FEM_SEL
9	GPIO/IRQ	PD7/T0	PE4/TC	IRQ
10	SPI_SS_B/GPIO	PE4/WK_INT	PD2/WK_INT	SLP_TR
11	TWI_SDA	TWI_SDA	TWI_SDA	TWI_SDA
12	TWI_SCL	TWI_SCL	TWI_SCL	TWI_SCL
13	UART_RX	ZB_TX	ZB_TX	NC
14	UART_TX	ZB_RX	ZB_RX	NC
15	SPI_SS	SPI_SS	SPI_SS	SPI_SS
16	SPI_MOSI	SPI_MOSI	SPI_MOSI	SPI_MOSI
17	SPI_MISO	SPI_MISO	SPI_MISO	SPI_MISO
18	SPI_SCK	SPI_SCK	SPI_SCK	SPI_SCK
19	GND	Ground		
20	Vcc	3.3V supply Voltage		

NC: No Connection

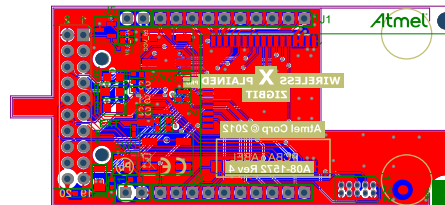
ATMEL India		SANJAY YADAV		 Enabling Unlimited Possibilities	
RMZ Millenia 2		MSK			
143, Dr. MGR Roa		*			
Chennai					
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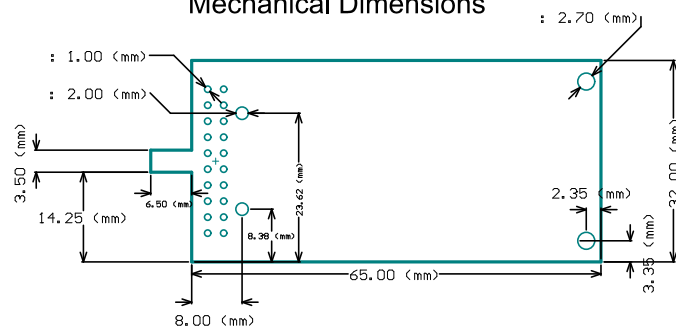
NOTE 1A: DIELECTRIC FR4  
2A: SURFACE PROTECTION: Chemical Gold  
THE BOARD MUST BE RoHS COMPLIANT

### DETAIL A ( CROSS-SECTION )

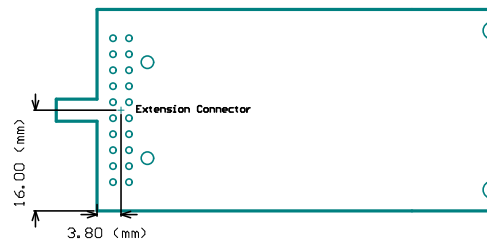
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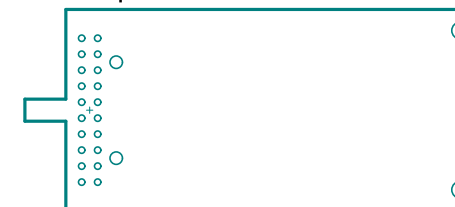
### Mechanical Dimensions




### Connector Placement

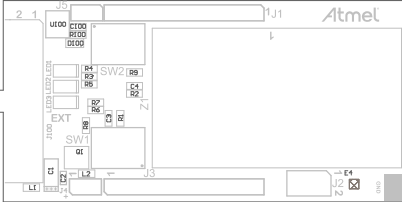


### Testpoint Placement



 <small>ATMEL NORWAY Veire Røsten 79 N-7075 Tiller</small>	ENGINEER	TITLE	
	PCB DESIGNER		
	DATE 4/25/2013	PART NO.	REV.
	FILE NAME AOB-1572_RevA.PcbDoc	DWG NO.	SCALE

Atmel



E1

TP2

ZB\_VCC

VCC\_3.3V

TP1

1 2

WIRELESS **X** PLAINED PRO  
ZIGBIT

S3

S1

S2

Atmel Corp © 2012

TP3

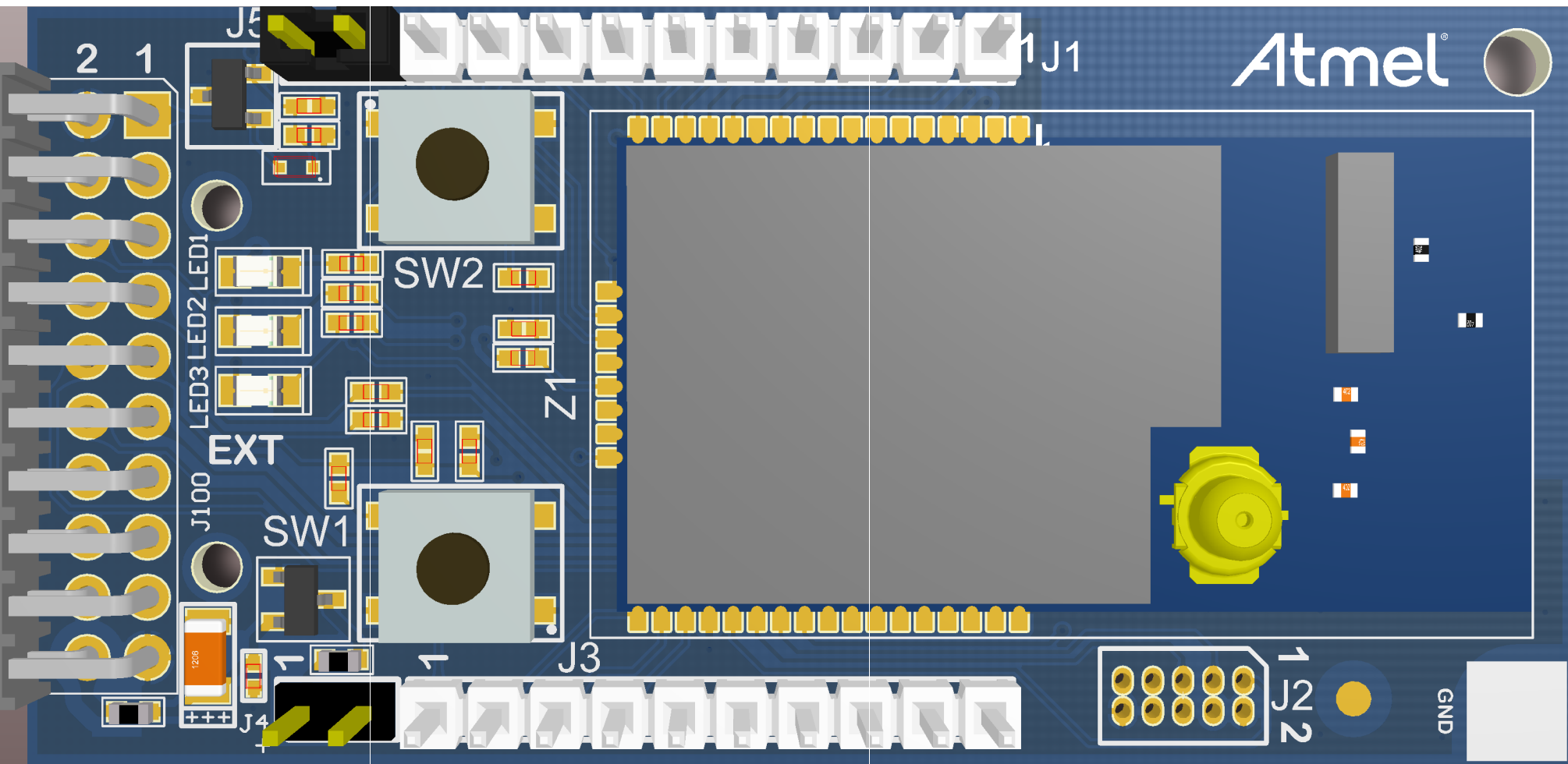
POP LABEL  
A08-1572 Rev 4



E2

19 20

Atmel®





**WIRELESS X PLAINED<sup>PRO</sup>**  
**ZIGBIT**

Atmel Corp © 2012

PCBA LABEL  
A08-1572 Rev 4

ZB\_VCC

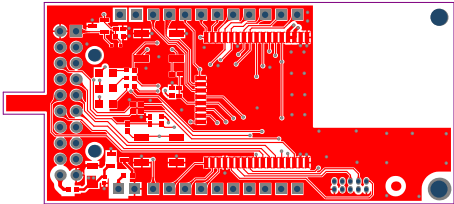
VCC\_3.3V

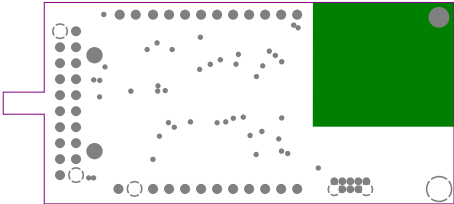
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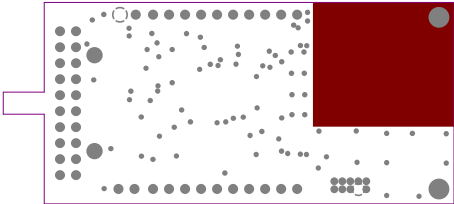
S1

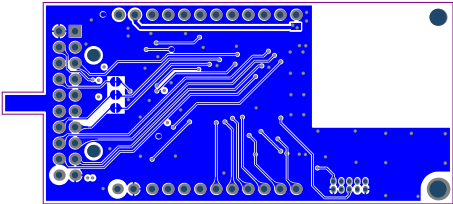
S2











Fitted	Designator	Quantity	MPN	Manufacturer	Value	Description	Comment
Fitted	C1	1	TR3A106K016C1700	vishay	10u	SMD tantalum capacitor, ESR = 1.7, 3216-18 (EIA) 1206,	CAP-POL
Fitted	C2	1	GRM155R71H102K	Murata	1nF	Ceramic capacitor, SMD 0402, X7R, 50V, 10 %, (de16672)	CAP-NONPOL
Fitted	C3, C4	2			4.7n	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10% (de35287)	CAP-NONPOL
Fitted	C100	1	GRM155R60J475ME87D	Murata	4.7uF	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20% (de33687)	Recommended by Escatec. No datasheet available yet.
Fitted	D100	1	BAT54XV2T1G	ON Semiconductor	BAT54XV2T1G	Schottky diode, If:200mA, Vf:0.35V, Vrm:30V, SOD-523	Famell# 1615809
Fitted	E1, E2	2	SJ-5076	3M	SJ-5076	2.8mm adhesive feet, diam 8.0mm	RUBBER FEET
Fitted	FIXTURE1	1		ESCATEC	XPRO Zigbit Carrier Board Jupiter Test Fixture	XPRO Zigbit Carrier Board Jupiter Test Fixture	JIG
Fitted	J1, J3	2			PIN HEADER 1x10	1x10 pin header, 2.54mm pitch, THM	J1, J3
Fitted	J2	1	STL210730G 11-10U	Gary	PIN HEADER 2x5	2x5 pin header, 1.27mm pitch, THM	HEADER 2x5
Fitted	J4, J5	2	CD075014 1X2	Freber	CD075014 1X2	1x2 pin header, 2.54 mm pitch, Pin-in-Paste THM	HEADER 1x2
Fitted	J100	1	F201-2*10RGF-W2-NF	Pro-data International Corp	TF201-2*10RGF-W2-NF	2x10 female pin header receptable, right-angled, 2.54mm pitch, THM, Pin In Paste	
Fitted	JS1	1	SNT-100-BK-G	SAMTEC	SNT-100-BK-G	Jumper cap for 2.54mm pinheader	To be used by request from ESCATEC
Fitted	L1, L2	2	BLM18PG471SN1	Murata	BLM18PG471SN1	SMD RF inductor 0603, Z=470Ohm (@100MHz), Max R(dc)=0.65Ohm, Max current=1A	INDUCTOR
Fitted	LABEL1	1	505462	ACT Logimark AS	Label PCBA	PCBA identification label PP Top White Gloss	PCBA_LABEL
Fitted	LED1	1	EL17-21USRC	Everlight	EL17-21USRC	LED, Red, wave length=639nm, SMD 0805, ±70°	LED_12
Fitted	LED2	1	EL17-21SYGC	Everlight	EL17-21SYGC	LED, Green, wave length=575nm, SMD 0805, ±70°	LED_12
Fitted	LED3	1	17-21UYC/ S530-A3/ TR8	Everlight	EL17-21UYC/ A2	LED, Yellow, wave length=591nm, SMD 0805, ±70°	LED_12
Fitted	PCB1	1	A08-1572	NCAB	XPRO Extension Zigbit Carrier Board PCB	XPRO Extension Zigbit Carrier Board PCB	PCB
Fitted	PCBA	1		ESCATEC	XPRO Zigbit Carrier Board PCBA documentaion	PCBA documentation for XPRO Zigbit Carrier Board : A08-1572	DOCUMENTATION
Fitted	Q1	1	IRLML6402PBF	International Rectifier	IRLML6402PBF	P-CH MOSFET, -30V, -3.7A continuous,RDS(ON)=0.050hm@VGS=4.5V, RDS(ON)=0.080hm@VG S=-2.5V	MOSFET_P_GSD
Fitted	R1, R2, R100	3			100k	Thick film resistor, SMD 0402, 1/ 16W, 1%	[NoValue], [NoValue], R2
Fitted	R3, R4, R5	3			680R	Thick film resistor, SMD 0402, 1/ 16W, 1%	R2
Fitted	R8, R9	2			39R	Thick film resistor, SMD 0402, 1/ 16W, 1%	R2
Fitted	SW1, SW2	2	SKRAAKE010	ALPS	SKRAAKE010	6.2x6.2 mm SMD tact switch, same as A08-0091 but less force is needed	Can be ordered in low volumes from Mouser
Fitted	TEST1	1				XPRO Zigbit Carrier Board FixtureTest SW	TEST
Fitted	TESTDOC1	1				XPRO Zigbit Carrier Board production test procedure	TESTDOC
Fitted	U100	1	ATSHA204-TSU-T	ATMEL	ATSHA204 SW1 SOT23-3	ATSHA204 with 1-wire interface and SOT23-3 package	ATSHA204_SOT23
Fitted	Z1	1	ATZB-S-1-256-1-0-C	ATMEL	ATZB-S-1-256-1-0-C	Zigbit with ATmega256RFR2	ATZB-S-1-256-1-0-C
Not Fitted	E4	0			FIDUCIAL 1.5mm	Fiducial point for PCB coordinates 1.5mm pad and 3mm hole in mask	
Not Fitted	R6, R7	0			0R	Thick film resistor, SMD 0402, 1/ 16W, 1%	
Not Fitted	TP1, TP2, TP3	0			Test Pad	Single SMD testpad	