

Document reference:		PCB reference:			Date: (dd/mm/yyyy)				
NT.LBR0004.01 - Smart Monitoring Node Based on STM32 and SPZB260		STEVAL-IFS015V1			9/3/2009				
Company:									
STMicroelectronics									
Category	S. No.	Reference Designator	Component Description	Package	Manufacturer	Manufacturer's ordering code / Orderable Part Number	Supplier	Supplier Ordering Code	Quantity
ST Devices	1	U1	Voltage Regulator (3v Output)	SOT- 223	ST	LD1117STR	ST	LD1117STR	1
	2	U2	Step up Converter	TSSOP8	ST	L6920D	ST	L6920D	1
	3	U3	Battery Charger	DFN6	ST	STBC08PMR	ST	STBC08PMR	1
	4	U4	Microcontroller working as Host for all the Devices Connected	LQFP48 (7 X 7)	ST	STM32F103C8T6	ST	STM32F103C8T6	1
	5	U5	MEMS	QFPN-16	ST	LIS331DLH	ST	LIS331DLH	1
	6	U7	Temperature Sensor (Analog)	SOT323-5	ST	STLM20W87F	ST	STLM20W87F	1
	7	U8	Low Voltage Detector	SOT23-3	ST	STM1061N29WX6F	ST	STM1061N29WX6F	1
	8	J3	ZigBee Module containg SN260 Device	SMD	ST	SPZB260	ST	SPZB260	1
	9	D1,D2	Power Diode	SMA	ST	STPS1L30A	ST	STPS1L30A	2
	10	Q2	NPN Transistor	SOT - 23	ST	2STR1215	ST	2STR1215	1
	11	Q1	P- Channel Power MOSFET	SOT- 223	ST	STN3PF06	ST	STN3PF06	1
	12	D8	Schotky Diode	SMD	ST	BAT54JFILM	ST	BAT54JFILM	1
Other Devices	13	U6	Humidity Sensor	Through Hole	Honey - Well	HIH--4003 or HIH-4000	Dishant Impex	HIH--4003 or HIH-4000	1
Crystal and Oscillator	14	Y1	Crystal 8MHz	Through Hole	ABRACON	ABL-8.000MHZ-B2	Mouser Electronics	815-ABL-8-B2	1
	15	Y2	Crystal 32.768kHz	Through Hole	ABRACON	AB26T-32.768KHZ	Mouser Electronics	815-AB26T-32.768KHZ	1
Connectors and jumpers	16	SW2	Tact Switch	Through Hole	ALPS	SKHHAPA010	Mouser Electronics	688-SKHHAP	1
	17	SW1	Slide Switches DPDT On-On (Power On/Off)	Through Hole	C&K Components	OS202011MA0QN1	Mouser Electronics	611-OS202011MA0QN1	1

	18	BT2	3V Li-Ion Coin Battery holder	Through Hole	Renata	HU2032-LF	Mouser Electronics	614-HU2032-LF	1
	19	BT1	Header for 3.7V Li-ion Battery Connection	Through Hole	Any				1
	20	J1	Mini USB Connector	USB Mini B-Type	Mill-Max Manufacturing Corp.	897-43-005-00-100001	Digikey	ED90341C TND	1
	21	J5	Header for Stack Updation of Zigbee Module SPZB260	SMD	Samtec	FTSH-105-01-F-DV-K	Integetered Electronics	FTSH-105-01-F-DV-K	1
	22	J2	JTAG Connector	20 - pin (pitch 2.54mm)	3M Electronic Solutions Division	30320-6002HB	Mouser Electronics	517-30320-6002	1
	23	J4 (*Please see the note1 also)	Connector to solder on the Graphical Display ( Please see Note2)	Header 16pin , 2.54mm Pitch	Samtec	TSW-150-23-G-S	Integetered Electronics	TSW-150-23-G-S	1
	24	J6	Connector to take Lamp LED and Alarm Signal Out of the PCB	Header 16pin , 2.54mm Pitch	Samtec	TSW-150-23-G-S	Integetered Electronics	TSW-150-23-G-S	1
<b>LEDs</b>	25	D3	Blue LED - ZigBee Activity	Through Hole, 3mm Round	Kingbright	WP7104QBC/D	Mouser Electronics	604-WP7104QBC/D	1
	26	D4	Green LED - Power status of the System	Through Hole, 3mm Round	Kingbright	WP7104GC	Mouser Electronics	604-WP7104GC	1
	27	D5	Orange LED - Indication of Battery Charging ongoing	Through Hole, 3mm Round	Kingbright	WP7104NC	Mouser Electronics	604-WP7104NC	1
	28	D6	Red LED - Alarming Signal Indicator	Through Hole, 3mm Round	Kingbright	WP7104SRC/D	Mouser Electronics	604-WP7104S	1
	29	D7	Yellow LED - Light Lamp	Through Hole, 3mm Round	Kingbright	WP7104YC	Mouser Electronics	604-WP7104YC	1
<b>Capacitors</b>	30	C25,C26	10pF	SMD0402	Any				2
	31	C23,C24	20pF	SMD0402	Any				2
	32	C27	4.7nF	SMD0402	Any				1
	33	C21,C22	10nF	SMD0402	Any				2
	34	C1,C2,C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C14,C15	100nF	SMD0402	Any				15
	35	C19,C20	47uF	SMD0402	Any				2
	36	C16, C17, C18	Tantalum Cap 10uF	SMD1206	Rohm Semiconductor	TCA1A106M8R	Digikey	511-1463-1ND	3
<b>Inductors</b>	37	L1	22uH (630 MA)	SMD (6.0mm X 6.0mm X 1.2mm ) (L X W X H)	Taiyo Yuden	NR6012T220M	Digikey	587-1708-1ND	1
	38	L2	1uH (Reactance 600 at 100MHz)	SMD0805	Murata	BLM21B601S	Digikey	490-1046-1ND	1
<b>Resistors</b>	39	R27, R28, R29, R30, R36, R43	0	SMD0402	Any				6
	40	R2, R3	100	SMD0402	Any				2
	41	R4, R5	220	SMD0402	Any				2
	42	R31, R32	330	SMD0402	Any				2
	43	R7, R8	470	SMD0402	Any				2
	44	R42, R44	511	SMD0402	Any				2

	45	R1, R34, R35, R40	1k	SMD0402	Any				4
	46	R41	1k4	SMD0402	Any				1
	47	R6	2k7	SMD0402	Any				1
	48	R37	3k9	SMD0402	Any				1
	49	R25, R26, R46, R47	4k7	SMD0402	Any				4
	50	R9,R10,R11,R12,R13,R14,R15,R16, R17, R18, R19, R20, R21, R22, R48,	10k	SMD0402	Any				15
	51	R23	15k	SMD0402	Any				1
	52	R38	22k	SMD0402	Any				1
	53	R39	33k	SMD0402	Any				1
	54	R24	180k	SMD0402	Any				1
	55	R33, R45	1M	SMD0402	Any				2
<b>Misc Components</b>	56	BZ1	BUZZER	AXIAL	CUI Inc	CEP-2242	Digikey	102-1115-ND	1
	57	LDR 1	Light Dependant Resistor	Through Hole	Advanced Photonix Inc	PDV-P5001	Digikey	PDV-P5001-ND	1
	58	-	Graphical LCD Display	PCB	TechStar	TS12232C	Shenzhen Techstar Electronics	TS12232C	
	59	-	Header for Graphical LCD	Header 16pin , 2.54mm Pitch	Samtec	SSQ-108-01-G-D	Integerated Electronics	SSQ-108-01-G-D	1
	60	-	Support for Graphial Display	1pin mail Berg Strip	Samtec	TSW-150-17-G-S	Integerated Electronics	TSW-150-17-G-S	1
	61	-	Led Spacer	3mm	Keystone Electronics	8917	Mouser Electronics	534-8917	1
	62	-	Led Spacer for LDR	3mm	Keystone Electronics	8914	Mouser Electronics	534-8914	1
				<b>PCB Manufacturing</b>	Hi-Q				1
				<b>Casing</b>	OKW	A9051107 and A952047 and A9151017	Schurter Electronics (India)	A9051107 and A952047 and A9151017	1

Note1:

Note2:

Note:

Note:

Note:

Header J4 is the mail BergStrip which is cut to the size and soldered on the PCB. This is used to connect the PCB with the Graphical Display.

This is the female Berg Strip which is soldered on the Graphical Display TS12232C, so that the display can be attached on the PCB through J4

Out of R28 and R29, only one to be mounted.

Out of R27 and R39 sre not to be mounted.

Components SW2, BT1, J5 and J6 are not mounted. So their cost is not taken into account during calculations.