

# Available Equipment for Wireless Sensor Network Nodes

Vendor	Product	Estimated price per node for low volume orders	Processor	Frequency (MHz)	Storage (KiB)		Transmission			Protocols			OS		IPSO-alliance	Remarks
					Primary	Secondary	802.11	802.15.4	Bluetooth	IPv4	IPv6 <sup>1</sup>	Zigbee	TinyOS	Contiki		
Arch Rock	IPthermal Node	\$270	—	—	—	—	×	✓	×	×	✓	×	—	—	✓	Integrated product suite
Atmel	Raven	\$50	ATmega3290P	—	—	—	×	✓	×	✓	✓	✓	—	✓	✓	
Crossbow	IRIS	\$110 <sup>2</sup>	ATmega1281	16	8	128	×	✓	×	— <sup>3</sup>	— <sup>3</sup>	✓	✓	— <sup>3</sup>	×	
Crossbow	Micaz	\$100	ATmega128L	16	4	128	×	✓	×	— <sup>3</sup>	×	✓	✓	✓	×	
Crossbow	Imote2	\$300	Intel PXA271	416 <sup>5</sup>	128	32768	×	✓	×	✓	✓	✓	✓	—	×	Ability to run standard Linux-kernel
Crossbow	TelosB	\$100	TI MSP430	8	10	48	×	✓	×	✓	✓	— <sup>3</sup>	✓	✓	×	
Dust Networks	M2510	— <sup>2</sup>	—	—	—	—	×	✓	×	—	—	—	—	—	✓	Supports industry standard WirelessHART-protocol
Eistec	Mulle v3.1	\$200	M16C/62P	24	31	384	×	×	✓	✓	— <sup>3</sup>	×	✓	—	×	
Eistec	Mulle v3.2	\$210	M16C/62P	24	31	384	×	×	✓	✓	— <sup>3</sup>	×	✓	—	×	
Eistec	Mulle v4.1	\$210	M16C/62P	24	31	384	×	×	✓	✓	— <sup>3</sup>	×	✓	—	×	
Eistec	Mulle v5.2	\$200	M16C/62P	24	31	384	×	✓	×	✓	— <sup>3</sup>	— <sup>3</sup>	✓	—	×	
Ember	EM250/260	— <sup>2</sup>	XAP2b	12	5	128	×	✓	×	✓	×	✓	— <sup>3</sup>	—	✓	
GainSpan	GS1010	\$500 <sup>2</sup>	ARM7	44	192	384	✓	×	×	✓	×	×	— <sup>3</sup>	—	✓	
Jennic	JN5139	\$150 <sup>2</sup>	—	16	96	192	×	✓	×	— <sup>3</sup>	✓	✓	— <sup>3</sup>	— <sup>3</sup>	✓	Bundled SDK encapsulates 6LoWPAN in proprietary protocol for 802.15.4-transport
Jennic	JN5148	\$130 <sup>2</sup>	—	32 <sup>5</sup>	128	512	×	✓	×	— <sup>3</sup>	✓	✓	— <sup>3</sup>	— <sup>3</sup>	✓	Bundled SDK encapsulates 6LoWPAN in proprietary protocol for 802.15.4-transport
Libelium	Squidbee	\$200	ATmega328	16	2	32	— <sup>3</sup>	✓	— <sup>3</sup>	— <sup>3</sup>	×	✓	×	×	×	Arduino-based product
National Instruments	WSN-32xx	\$500	—	—	—	—	×	✓	×	—	—	—	—	—	✓	Integrated product suite
National Instruments	WLS-94xx	\$680	—	—	—	—	✓	×	×	✓	—	—	—	—	✓	Integrated product suite
Redwire, LCC	RedBee	\$80 <sup>2</sup>	MC13224V	24	96	128	×	✓	×	✓	✓	✓	— <sup>3</sup>	✓ <sup>6</sup>	×	
Sensinode	NanoSensor	\$300	TI CC2431	32	8	128	×	✓	×	✓	✓	— <sup>3</sup>	— <sup>3</sup>	✓	✓	
Sentilla	JCreate	\$90	TI MSP430	—	—	—	×	✓	×	— <sup>3</sup>	✓	— <sup>3</sup>	✓	✓	×	
Shimmer	Main	\$280	TI MSP430	8	10	48	×	✓	✓	— <sup>3</sup>	— <sup>3</sup>	— <sup>3</sup>	✓	— <sup>3</sup>	×	
Shockfish SA	TinyNode184	\$100	TI MSP430	16	8	92	×	×	×	—	—	—	✓	—	×	Uses 868/915MHz-radio
SmartProjects	Arduino Duemilanove	\$30	ATmega328	16	2	32	✓	✓	✓	✓	×	✓	—	—	×	Open hardware opens up opportunities but might involve higher development costs.
SoftBaugh	DZ1611	\$160	TI MSP430	8	10	48	×	✓	×	—	—	✓	— <sup>3</sup>	— <sup>3</sup>	×	
SoftBaugh	DZ1612	\$160	TI MSP430	8	5	55	×	✓	×	—	—	✓	— <sup>3</sup>	—	×	
SOWNet Technologies	T-Node	\$90	—	—	4	128	×	×	×	—	—	—	✓	—	×	Uses 868MHz-radio
Sun	SunSPOT	\$300	ARM920T	180	512	4096	×	✓	×	— <sup>3</sup>	— <sup>3</sup>	— <sup>3</sup>	—	—	✓	

<sup>1</sup> Also includes 6LoWPAN

<sup>2</sup> Also offers cheaper stand-alone modules for OEM-customers to integrate into their own nodes/projects

<sup>3</sup> Should be possible but not confirmed or not yet supported

<sup>4</sup> Partial functionality might be possible to achieve

<sup>5</sup> Scalable frequency

<sup>6</sup> Development work in progress

Prices last updated in September 2009

Given prices might be somewhat misleading due to different scope of shipment from individual vendors.

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**Legend:**

✗ No or not available

✓ Yes or available

— Not applicable or no information available from vendor

