

B

Master Freq	Resolution (Bits)	Tuning Word Width (Bits)	Nominal Supply (V)	I Supply Total (Max.)	FS Iour Nominal (mA)	Compliance Range (V)	REFCLK Multiplier	On-Board Comparator	I/O Interface	Package	Digi-Key Part No.	Price Each		
												1	25	100
25MHz	10	32	Single (+3.3), Single (+3.6), Single (+5.0)	15mA	4	1.5	No	No	Parallel	48-LQFP	AD9831ASTZ-ND	12.25	11.03	9.78
25MHz	10	32	Single (+3.3), Single (+3.6), Single (+5.0)	15mA	4	1.35	No	No	Serial	16-TSSOP	AD9832BRUJ-ND AD9832BRUZ-ND	10.78 9.80	9.71 8.82	8.61 7.83
50MHz	10	32	Single (+5.0)	60mA	20	1.0	No	No	Parallel	48-TQFP	AD9830ASTZ-ND AD9830ASTZ-ND	20.19 19.31	18.85 18.02	17.50 16.74
50MHz	10	28	Single (+2.3 to +5.5), Single (+2.5), Single (+2.7), Single (+3.0), Single (+3.3), Single (+3.6), Single (+5.0)	8mA	3	0.8	No	Yes	Serial	20-TSSOP	AD9834BRUJ-ND AD9834BRUZ-ND	10.66 9.70	9.60 8.73	8.52 7.75
75MHz	10	28	Single (+2.3 to +5.5)	8.7mA	3	0.8	No	Yes	Serial	20-TSSOP	AD9834CRUZ-ND	11.28	10.16	9.01
50MHz	10	32	Single (+5.0)	40mA	4	1.35	No	No	Serial	16-TSSOP	AD9835BRUZ-ND	11.28	10.16	9.01
125MHz	10	32	Single (+3.3), Single (+5.0)	96mA	20	1.5	No	Yes	Parallel, Serial	28-SSOP	AD9850BRSZ-ND	21.83	20.37	18.92
180MHz	10	32	Single (+3.0), Single (+3.3), Single (+3.6), Single (+5.0)	130mA	20	1.5	Yes	Yes	Parallel	28-SSOP	AD9851BRSZ-ND	23.93	22.33	20.74
250MHz	10	32	Single (+1.8)	63.5mA	4.6	0.8	Yes	No	Parallel, Serial	32-LFCSP	AD9913BCPZ-ND NEW!	17.03	15.89	14.76
300MHz	12	48	Single (+3.3)	922mA	20	1.0	Yes	Yes	Parallel, Serial	80-LQFP	AD9852ASTZ-ND	26.93	25.13	23.34
300MHz	12	48	Single (+3.3)	1210mA	10	1.0	Yes	Yes	Parallel, Serial	80-LQFP	AD9854ASTZ-ND	29.18	27.23	25.29
400MHz	10	32	Multi (+1.8, +3.3)	N/A	20	2.05	Yes	No	Serial	48-TQFP	AD9859YSVZ-ND	17.21	16.06	14.92
400MHz	14	32	1.8 and 3.3 or 1.8	N/A	10	2.05	Yes	No	Serial	48-TQFP	AD9951YSVZ-ND	24.26	22.64	21.03
400MHz	14	32	Multi (+1.8, +3.3), Single (+1.8)	N/A	10	2.05	Yes	Yes	Serial	48-TQFP	AD9952YSVZ-ND AD9953YSVZ-ND AD9954YSVZ-ND	27.35 26.03 30.44	25.53 24.29 28.41	23.70 22.56 26.38
500MHz	10	32	Multi (+1.85, +3.3), Multi (+1.8, +3.3)	105mA 180mA	10	2.3	Yes	—	Serial	56-LFCSP	AD9958BCPZ-ND AD9959BCPZ-ND	35.70 65.52	33.32 61.16	30.94 56.79
1.0GHz	10	32	Multi (+3.3, +5.0)	N/A	40	3.8	No	No	Parallel, Serial	100-TQFP	AD9858BSVZ-ND	79.64	74.33	69.02
1.0GHz	14	32	Single (+1.8), Single (+3.3)	N/A	20	0.5	Yes	No	Parallel, Serial	100-TQFP	AD9910BSVZ-ND	61.61	57.50	53.40
1.0GHz	14	48	Multi (+1.8, +3.3)	759mA	20	0.5	Yes	—	Serial	100-TQFP	AD9957BSVZ-ND	37.05	34.58	32.11
1.0GHz	14	48	Multi (+1.8, +3.3)	394mA	—	0.5	Yes	Yes	Serial	64-LFCSP	AD9912BCPZ-ND	65.73	61.35	56.97
2.7GHz	14	48	Multi (+1.8, +3.3)	N/A	10	2.3	No	No	Serial	48-LFCSP	AD9956VCPZ-ND	30.44	28.41	26.38
Evaluation Board for AD9831												146.25	—	—
Evaluation Board for AD9832												150.00	—	—
Evaluation Board for AD9833												150.00	—	—
Evaluation Board for AD9834												150.00	—	—
Evaluation Board for AD9850/FS												250.00	—	—
Evaluation Board for AD9910												376.25	—	—
Evaluation Board for AD9912												268.75	—	—
Evaluation Board for AD9913												268.75	—	—
Evaluation Board for AD9954												268.75	—	—
Evaluation Board for AD9957												376.25	—	—
Evaluation Board for AD9958												268.75	—	—

• RoHS Compliant

antenna Antennas and GPS Module



Dimensions in mm

Fig.	Description	Frequency	Gain (Typ. @ 2.4GHz)	Digi-Key Part No.	Cut Tape Price Each			Tape and Reel		Antenna Part No.
					1	25	100	Qty.	Pricing	
Antennas										
1	Titanis Swivel SMA	2.4GHz	4.1dBi	627-1000-ND†	43.75	34.38	25.01	—	—	2010B4844-01
2	Titanis Swivel RPSMA	2.4GHz	4.1dBi	627-1001-ND†	38.00	31.50	24.00	—	—	2010B6090-01
3	Picea Swivel	2.4GHz	4.1dBi	627-1002-ND†	19.00	17.00	13.00	—	—	2010B5771-04
4	Comata SMD	2.4GHz	-0.5dBi	627-1010-1-ND	3.80	3.40	3.00	2,000	1400.00/M	3030A6111-01
5	Ruta SMD	2.4GHz	4.1dBi	627-1011-1-ND	4.77	4.27	3.77	1,000	1632.00	3030A5839-01
6	Mica SMD	2.4GHz	1.2dBi	627-1012-1-ND	3.80	3.40	3.00	1,000	1300.00	3030A5887-01
7	Impexa SMD	2.4GHz	0.2dBi	627-1009-1-ND	5.25	4.50	3.75	2,000	2000.00/M	3030A5645-01
8	Flavis Snap-In	2.4GHz	4.0dBi	627-1013-1-ND	2.28	2.04	1.80	1,000	600.00	3030A6150-01
9	Flavis Snap-In	2.4 / 5.0GHz	4.0dBi	627-1014-1-ND	2.28	2.04	1.80	1,000	600.00	3030A6250-01
10	GPS SMD	1.575 ±5MHz	-0.5dBi	627-1003-ND†	6.20	5.60	5.00	—	—	1020B5743-01
11	Fusca SMD	2.4 - 2.5GHz	0.4dBi	627-1005-ND†	8.00	6.75	5.50	—	—	1020B5786-01
12	GPS SMD	1.575 ±5MHz	-0.5dBi	627-1015-1-ND	8.06	7.70	6.81	1,000	2270.00	A10137
13	Fusca SMD	2.4 - 2.5GHz	0.4dBi	627-1016-1-ND	3.49	3.12	2.74	1,000	1252.00	A10192-L
GPS Antenna Module and Evaluation Kit										
14	GPS Module with SiRFstarIII™			627-1019-ND†	51.50	42.75	39.90	—	—	M10214
15	Evaluation Kit for SiRFstarIII™ Module			627-1020-ND†	330.00	—	—	—	—	M10214-K1

† Bulk Δ RHCP @ 1575MHz

artaflex WirelessUSB™ Modules



Operating in the 2.4GHz ISM band, the Falcon series modules are based on Cypress's WirelessUSB LP technology. The modules offer low-power consumption and deliver data rates up to 1Mbps, with ranges between 50 meters for print antenna devices up to 1 kilometer for devices equipped with a power amplifier. Additionally, WirelessUSB LP features direct sequence spread-spectrum (DSSS) technology, which provides the industry's most robust immunity for interference from other technologies like 802.11b/g, Bluetooth, cordless phones and microwave ovens. The modules feature a data

transmission rate of up to 1Mbps with an average latency of below 2 milliseconds. The modules are certified with modular grants by the Federal Communications Commission (FCC), the European Telecommunications Standards Institute (ETSI), and Industry Canada, translating into modular approval and eliminating the need to test for RF compliance. • **AWP24S:** WirelessUSB module with print antenna • **AWS24S:** WirelessUSB module with miniature SMA for use with external antenna • **AWA24S:** WirelessUSB and PA module with print antenna • **AWP24U:** WirelessUSB dongle

Features	Data Rates		Range	Operating Current (mA)	Operating Voltage (V)	Dimensions (mm)	Digi-Key Part No.	Price Each			Artalex Part No.
	DSSS (kbps)	GFSK (Mbps)						1	10	100	
Integrated Print Antenna	250	1	50 Meters	21	2.4 - 3.6	38.1 x 25.4	748-1000-ND	12.99	9.99	7.99	AWP24S
External Antenna Connector	250	1	50 Meters	21	2.4 - 3.6	38.1 x 25.4	748-1001-ND	16.99	13.99	10.99	AWS24S
Integrated Power Amplifier	250	1	up to 1 Kilometer	<100	2.4 - 3.6	25.4 x 20.3	748-1003-ND	31.99	24.99	19.99	AWA24S
WirelessUSB Dongle											
Full Speed USB (12Mbps)	250	1	30 Meters	40	5	59 x 20	748-1002-ND	31.99	24.99	19.99	AWP24U

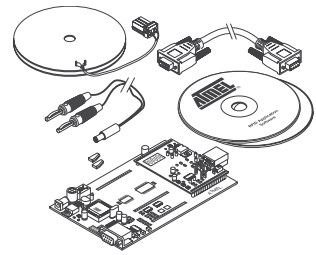
Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

More Product Available Online: www.digkey.com



RFID Demo Kit

The RFID application kit is designed to present the key features of various RFID products from Atmel Wireless and Microcontrollers. **The included software version IDS 5 supports the following products:** • U2270B on the reader side • TK5530/e5530 on the transponder side • 5551/T5557 on the transponder side • TK5552 on the transponder side • TK5561/e5561 on the transponder side • U9280M on the transponder side
Kit Includes: • Base Station Coil • Serial Cable • Demo Board • Sample Transponders



Description	EPROM (Bytes)	Digi-Key Part No.	1	Price Each	25	100
125kHz	224	TK5551M-PP-NDΔ	3.87	3.24	2.70	
	3,128	TK5530HM-232-PP-ND†	2.60	2.06	1.98	
RFID Application Kit		ATA2270-EK1-ND◆	397.67			

Δ Read/Write † Read only ◆ RoHS Compliant

Smart RF Devices

Description	Package	Digi-Key Part No.	Price Each			Tape and Reel†	
			1	25	100	Qty.	Pricing
UHF ASK/FSK Receiver IC, 4.5 – 5.5V, 300 – 450MHz	20-SOIC	ATA3741P2-TGOYCT-ND†◆	8.11	6.79	6.04	2,000	4900.00/M
UHF ASK/FSK Receiver IC, 4.5 – 5.5V, 300 – 450MHz	20-SOIC	ATA3741P2-TGYSY-ND◆	8.11	5.27	4.90	—	—
UHF ASK/FSK Receiver IC, 4.5 – 5.5V, 300 – 450MHz	20-SOIC	ATA3741P3-TGOYCT-ND†◆	8.11	6.79	6.04	2,000	4900.00/M
UHF ASK/FSK Receiver IC, 4.5 – 5.5V, 300 – 450MHz	20-SOIC	ATA3742P3-TGOYCT-ND†◆	8.73	7.31	6.50	2,000	5270.00/M
UHF ASK/FSK Receiver IC, 4.5 – 5.5V, 310 – 440MHz	20-SOIC	ATA3745P3-TGOYCT-ND†◆	6.34	5.31	4.72	2,000	3840.00/M
UHF ASK/FSK Receiver IC, 4.5 – 5.5V, 310 – 440MHz	20-SOIC	ATA3745P3-TGYSY-ND◆	6.34	4.14	3.84	—	—
UHF ASK/FSK Wideband Transceiver IC, 2.4 – 3.6V / 4.4 – 6.6V, 315MHz	48-QFN	ATA5423-PLQWCT-ND†	6.86	5.75	5.11	4,000	4140.00/M
UHF ASK/FSK Wideband Transceiver IC, 2.4 – 3.6V / 4.4 – 6.6V, 345MHz	48-QFN	ATA5425-PLQWCT-ND†◆	6.86	5.75	5.11	4,000	4140.00/M
UHF ASK/FSK Wideband Transceiver IC, 2.4 – 3.6V / 4.4 – 6.6V, 434MHz / 868MHz	48-QFN	ATA5428-PLQWCT-ND†◆	6.86	5.75	5.11	4,000	4140.00/M
UHF ASK/FSK Wideband Transceiver IC, 2.4 – 3.6V / 4.4 – 6.6V, 915MHz	48-QFN	ATA5429-PLQWCT-ND†◆	6.86	5.75	5.11	4,000	4140.00/M
UHF ASK/FSK Wideband Transceiver IC, 2.4 – 3.6V / 4.4 – 6.6V, 434MHz / 868MHz	48-QFN	ATA5811-PLHCT-ND†	8.79	7.37	6.14	4,000	5931.00/M
UHF ASK/FSK Wideband Transceiver IC, 2.4 – 3.6V / 4.4 – 6.6V, 315MHz	48-QFN	ATA5812-PLQCT-ND†	8.79	7.37	6.14	4,000	5931.00/M
Low-IF ISM Single-Chip Transceiver IC, 2.9 – 3.6V, 2.4GHz	32-QFN	ATR2406-PNQG 86CT-ND†◆	3.83	2.85	2.50	4,000	2225.00/M
WDECT/ISM Single-Chip Transceiver IC, 3 – 4.6V, 2.4GHz	48-QFN	T2803-PLHCT-ND†	16.13	13.50	11.25	—	—
Wireless Data Micro Transmitter, 315MHz	20-TSSOP	AT86RF401U-6GS-ND	3.14	2.63	2.19	—	—
SiGe IF Receiver/Demodulator, 65 – 300MHz	16-TSSOP	T0797-6CPCCT-ND†	10.32	8.64	7.20	1,000	6960.00
SiGe IF Receiver/Demodulator, 65 – 300MHz	16-TSSOP	ATR0797-6CPCCT-ND†◆	9.25	7.74	6.45	1,000	6235.00
SiGi Universal Usable RF Power Amplifier, 3.5V, 135 – 900MHz	28-PSSOP	T0905-TSPHCT-ND†	9.68	8.10	6.75	1,000	6525.00
High Linearity SiGe Active Receiver Mixer, 5V, 800 – 1000MHz	16-TSSOP	T0780-6CPCCT-ND†	12.31	10.31	8.59	1,000	8301.00
Transceiver Base Station Board for ATA5423, 315MHz	—	ATAB5423-3-WB-ND◆	198.17	—	—	—	—
Transceiver Base Station Board for ATA5425, 345MHz	—	ATAB5425-3-WB-ND◆	198.17	—	—	—	—
Transceiver Base Station Board for ATA5428, 434MHz	—	ATAB5428-4-WB-ND◆	198.17	—	—	—	—
Transceiver Base Station Board for ATA5428, 868MHz	—	ATAB5428-8-WB-ND◆	198.17	—	—	—	—
Transceiver Base Station Board for ATA5429, 915MHz	—	ATAB5429-9-WB-ND◆	198.17	—	—	—	—
Reference Design for T5753, 315MHz	—	ATAB5753-ND	298.85	—	—	—	—
Reference Design for T5754, 434MHz	—	ATAB5754-ND	298.85	—	—	—	—
Reference Design for T5750, 868MHz	—	ATAB5750-8-ND	298.85	—	—	—	—
Reference Design for T5750, 915MHz	—	ATAB5750-9-ND	298.85	—	—	—	—
PC-Controlled Application Board for U6815M or T6816 with Dual Hex DMOS Output Driver	—	ATAB6816-ND◆	184.87	—	—	—	—
PC-Controlled Application Board for T6817 with Dual Triple DMOS Output Driver	—	ATAB6817-ND◆	184.87	—	—	—	—
PC-Controlled Application Board for T6818 with Triple Half-Bridge DMOS Driver	—	ATAB6818-ND◆	184.87	—	—	—	—
PC-Controlled Application Board for T6819 with Triple Half-Bridge DMOS Driver with PWM Function	—	ATAB6819-ND◆	184.87	—	—	—	—
RF-Module Development Board for ATR2406	—	ATR2406-DEV-BOARD-ND	419.25	—	—	—	—
Long Range RF-Module Development Board for ATR2406 / ATmega88	—	ATR2406-DEV-BOARD2-ND	419.25	—	—	—	—
Starter Kit for STK500, 315MHz	—	ATAKSTK511-3-ND	642.85	—	—	—	—
Starter Kit for STK500, 868MHz	—	ATAKSTK511-8-ND	642.85	—	—	—	—
Starter Kit for STK500, 915MHz	—	ATAKSTK511-9-ND	642.85	—	—	—	—
RAC Unidirectional Kit, 315MHz	—	ATAKSTK512-3-ND◆	330.00	—	—	—	—
RAC Unidirectional Kit, 434MHz	—	ATAKSTK512-4-ND◆	330.00	—	—	—	—
Evaluation Kit with ATR2406 and ATmega88 Boards	—	ATR2406-DEV-KIT2-ND	1075.00	—	—	—	—
RF Design Kit, 868MHz	—	ATAK5750-60-N-ND	849.25	—	—	—	—
RF Design Kit, 915MHz	—	ATAK5750-61-N-ND	849.25	—	—	—	—
RF Design Kit T5754, 434MHz, 600kHz Bandwidth, with SAW Filter	—	ATAK5754-43P6-S-ND	849.25	—	—	—	—
Development Kit for ATA5744U (USA)	—	ATAK4015744U-ND	752.50	—	—	—	—
Development Kit for AT86RF401U	—	AT86RF401U-EK1-ND	320.35	—	—	—	—

† For Tape and Reel part number, change CT-ND to TR-ND. † Cut Tape ◆ RoHS Compliant

AVR® Z-Link™ ZigBee™

AVR Z-Link provides an industry-leading 2.4GHz transceiver bundled with an 8-Bit RISC microcontroller (ATMEGA). The AT86RF230 radio gives you the highest link budget of any 802.15.4 radio on the market today. The ATMEGA series of AVR MCUs enables you to choose from 32KB to 256KB to fit the needs of your design.



Description	Package	Digi-Key Part No.	Price Each			Atmel Part No.
			1	25	100	
MCU ATMEGA644 / AT86RF230	44-TQFP	ATMEGA644ZAV-10AU-ND	11.48	8.49	7.58	ATMEGA644ZAV-10AU
	44-QFN	ATMEGA644ZAV-10MU-ND	11.48	8.49	7.58	ATMEGA644ZAV-10MU
	40-DIP	ATMEGA644ZAV-10PU-ND	11.48	8.49	7.58	ATMEGA644ZAV-10PU
MCU ATMEGA1281 / AT86RF230	64-TQFP	ATMEGA128RZAV-8AU-ND	15.87	11.73	10.48	ATMEGA128RZAV-8AU
	64-QFN	ATMEGA128RZAV-8MU-ND	15.87	11.73	10.48	ATMEGA128RZAV-8MU
MCU ATMEGA1280 / AT86RF230	100-TQFP	ATMEGA128RZAV-8AU-ND	16.86	12.47	11.13	ATMEGA128RZAV-8AU
	64-QFN	ATMEGA128RZAV-8MU-ND	16.86	12.47	11.13	ATMEGA128RZAV-8MU
MCU ATMEGA2561 / AT86RF230	64-TQFP	ATMEGA256RZAV-8AU-ND	19.67	14.55	12.99	ATMEGA256RZAV-8AU
	64-QFN	ATMEGA256RZAV-8MU-ND	19.67	14.55	12.99	ATMEGA256RZAV-8MU
MCU ATMEGA2560 / AT86RF230	100-TQFP	ATMEGA256RZAV-8AU-ND	21.03	15.55	13.89	ATMEGA256RZAV-8AU
	Low-Power 2.4 GHz Transceiver	AT86RF230-ZU-ND	6.28	4.97	4.53	AT86RF230-ZU

ATAVRRZ502 RF Accessory Kit

The RZ502 RF Accessory Kit enables point to point links development, debugging and demonstration. More advanced network topologies can be developed by adding additional RF accessory kits. The kit is top modules for the STK500 AVR starter kit and requires a STK500 and STK501 for development purposes.

ATAVRRZ502-ND \$99.00

ATAVRRZ200 Demonstration Kit

The RZ200 Demonstration Kit enables development, debugging and demonstration on 802.15.4/ZigBee™ networks. The kit contains five 802.15.4 compatible 2.4GHz Radio-Controller Board (RCB) with AT86RF230 radio and ATmega1281V microcontroller.

ATAVRRZ200-ND \$499.00

ATAVRRZ201 Controller Boards and Software Kit

The kit contains five 2.4GHz 802.15.4 compliant and ZigBee compatible Radio-Controller Boards equipped with ATmega1281V microcontroller and AT86RF230 transceiver. By offering additional RCB's, the RZ201 kit complements the RZ200 kit, enabling demonstration of larger wireless networks based on 802.15.4/ZigBee™.

ATAVRRZ201-ND \$229.00

ATAVRRZ541 Packet Sniffer Kit

The RZ541 Packet Sniffer Kit is the ideal platform for analyzing 802.15.4/ZigBee™ wireless networks. Included is the basic edition of the Sensor Network Analyzer software from Daintree Networks which enables visualization, measurement and analysis of large networks.

ATAVRRZ541-ND \$238.07

NEW! ATAVRRZRAVEN 2.4GHz Evaluation Kit

The RZ RAVEN 2.4GHz Evaluation and Starter Kit enables development, debugging and demonstration of a wide range of low power wireless applications including IEEE 802.15.4™, 6LoWPAN and ZigBee™ networks. The RZ RAVEN kit comprises two AVR Raven boards (AVRRRAVEN) with 2.4GHz transceiver, on board picoPower™ AVR application processors and LCD display, and one USB stick (AVRRZUSBSTICK) with a 2.4GHz transceiver for USB connection to your PC.

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