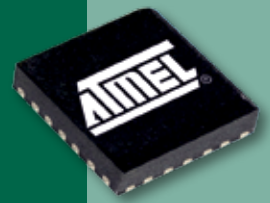
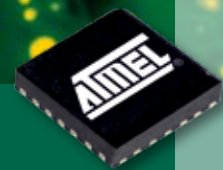




➔ **RF Selection Guide**



## RF Overview

Category	Frequency / Band	Functions	Devices
LF Receivers	125 kHz	Ultra Low-power 3D Wake-up Receiver w/ RSSI	ATA5282
	125 kHz	Ultra Low-power 1D Wake-up Receiver	ATA5283
LF Trigger Devices	125 kHz	Antenna Driver/Transmitter for TPMS Applications	ATA5276
	125 kHz	Antenna Driver/Transmitter for PEG Applications	ATA5278
RFID Devices	125 kHz	TAG - Read-only, 128-bit ROM	e5530 / TK5530 Transponder
	125 kHz	TAG - Read/Write, 320-bit EEPROM, Secure Authentication	e5561 / TK5561 Transponder
	125 kHz	TAG - Read/Write, 264-bit EEPROM, On-chip Capacitor	T5554 / TK5554 Transponder
	125 kHz	TAG - Read/Write, 320-bit EEPROM	ATA5567 / no Transponder
	125 kHz	TAG - Read/Write, 320-bit EEPROM, Sensor Input	ATA5570 / no Transponder
	125 kHz	TAG - Read/Write 1,000-bit EEPROM, On-chip Capacitor	ATA5558 / no Transponder
	125 kHz	TAG - Read/Write : 264 Bit EEPROM / Anti-collision	TK5551 Transponder Only
	125 kHz	Reader - Read/Write, Secure Applications	U2270B
	125 kHz	Transponder Interface to Microcontroller	U3280M
	125 kHz	U3280M + MARC4 Microcontroller	U9280M
	13.56 MHz	TAG - Read/Write, 1K EEPROM, ISO 14443-B, Crypto	AT88SC0104CRF
	13.56 MHz	TAG - Read/Write, 2K EEPROM, ISO 14443-B, Crypto	AT88SC0204CRF
	13.56 MHz	TAG - Read/Write, 4K EEPROM, ISO 14443-B, Crypto	AT88SC0404CRF
	13.56 MHz	TAG - Read/Write, 8K EEPROM, ISO 14443-B, Crypto	AT88SC0804CRF
	13.56 MHz	TAG - Read/Write, 16K EEPROM, ISO 14443-B, Crypto	AT88SC1616CRF
	13.56 MHz	TAG - Read/Write, 32K EEPROM, ISO 14443-B, Crypto	AT88SC3216CRF
	13.56 MHz	TAG - Read/Write, 64K EEPROM, ISO 14443-B, Crypto	AT88SC6416CRF
	13.56 MHz	TAG - Read/Write, 2K EEPROM, ISO 14443-B, no Crypto	AT88RF020
	860 - 960 MHz	TAG - Read/Write, 1K EEPROM, Atmel Unique ID	ATA5590
	ISM Transceivers	315 MHz	ASK / FSK
315 MHz		ASK / FSK Full Duplex	ATA5823
313 - 317 MHz		ASK / FSK Low IF	ATA5423
343 - 347 MHz		ASK / FSK Low IF	ATA5425
433 - 435 MHz		ASK / FSK Low IF	ATA5428
433 - 435 or 868 - 870 MHz		ASK / FSK	ATA5811
433 - 435 or 868 - 870 MHz		ASK / FSK Full Duplex	ATA5824
913 - 917 MHz		ASK / FSK Low IF	ATA5429
2.40 - 2.483 MHz		Supports Frequency Hopping (ETSI) and Digital Modulation (FCC)	ATR2406
2.4 GHz		Tx/Rx Front End	T7024
ISM Transmitters	310 - 330 MHz	ASK / FSK w/ High Output Power	T5753
	300 - 330 MHz	ASK / FSK w/ PLL and Micro	ATAR862X-YYY-TNZ3
	310 - 440 MHz	ASK / FSK w/ PLL and VCO	U2741B
	310 - 440 MHz	ASK / FSK ( 2.2V - 4.0V )	ATA2745
	313 - 317 MHz	ASK / FSK w / Integrated FSK Application	ATA5756
	429 - 439 MHz	ASK / FSK w/ High Output Power	T5754
	429 - 439 MHz	ASK / FSK w/ PLL and Micro	ATAR862X-YYY-TNZ4
	432 - 448 MHz	ASK / FSK w / Integrated FSK Application	ATA5757
	868 - 928 MHz	ASK / FSK w/ High Output Power	T5750
	868 - 928 MHz	ASK / FSK w/ PLL and Micro	ATAR862X-YYY-TNZ8
	ISM Receivers	300 - 450 MHz	ASK / FSK w/ 5 - 20V Data Interface, IF 300 MHz Bandwidth
300 - 450 MHz		ASK / FSK w/ Integrated VCO, IF 300 kHz Bandwidth	ATA3741P2
300 - 450 MHz		ASK / FSK w/ 5-20V Data Interface: IF 600 MHz BW	ATA5743P6
300 - 450 MHz		ASK / FSK w/ Integrated VCO, IF 600 kHz Bandwidth	ATA3741P3

Category	Frequency / Band	Functions	Devices	
ISM Receivers	300 - 450 MHz	ASK w/ Integrated VCO, IF 600 kHz Bandwidth	ATA5744N	
	300 - 450 MHz	ASK / FSK w/ Integrated VCO + RSSI Output	ATA3742P3	
	310 - 440 MHz	ASK / FSK (4.5V - 5.5V)	ATA3745	
	868 MHz	ASK / FSK w / Integrated LC-VCO + PLL Filter	ATA5760N	
	915 MHz	ASK / FSK w / Integrated LC-VCO + PLL Filter	ATA5761N	
	900 MHz	Single-conversion Device w/ PLL Demodulator	U2766B	
Application-specific ICs	GPS Receiver	RF Receiver / LNA / Baseband Controller	ATR0601/0610/0621/0622/0625/0630/0635	
	3.5 GHz	WiMax Transceiver	AT86RF535B	
	2.5 GHz	WiMax Transceiver	AT86RF525B	
	2.3 GHz	WiMax Transceiver	AT86RF523B	
	2.4 GHz	ZigBee™ Transceiver	AT86RF230	
	2.4 GHz	802.11 Power Amplifier	ATR7032	
	900 MHz	Cordless Phone IC, CTO Programmable Transceiver	U3600BM	
	300 - 500 MHz	PA for Family 2-way Radio, Power Metering	ATR0981	
	50 - 1 GHz	Quadrature Modulator for Mobile Base Stations, RF Links	UT2790B-N	
	30 - 300 MHz	Quadrature Demodulator for Mobile Base Stations, RF Links	U2793B-N	
	1 GHz	Quadrature Demodulator for Mobile Base Stations, RF Links	U2794B	
	(DECT) Digital European Cordless Phone ICs	2.4 GHz	Transceiver w/ Low IF	ATR2806
		2.4 GHz	LNA/PA	T7026
2.4 GHz		Front End + PA + LNA	U7004B	
2.4 GHz		LNA/PA + Antenna Switch Cont.	U7006B	
3.3 GHz		VCO/PLL + Voltage Regulator	ATR2807	
2.9 GHz		Transceiver w/VCO and Regulator	ATR2808	
5.8 GHz		Double-conversion, Triple-balanced Mixer	ATR2809	
5.8 GHz		Transceiver w/VCO and Regulator	ATR2820	
5.8 GHz		Power Amplifier	ATR7035	
5.8 GHz		Power Amplifier	ATR7040	
5.8 GHz		Up-converting Mixer w/Buffer Amplifier	ATR7039	
Terrestrial Radio ICs		AM/FM	Antenna Amplifier (LNA) with Integrated AGCs (QFN+SSO avail.)	ATR4251
		AM/FM	Antenna Amplifier (LNA)	ATR4254
	AM/FM	Receiver w/Digital Tuning	ATR4255	
	AM/FM	Frequency Synthesizer, to Be Used with ATR4258	ATR4256	
	AM/FM	PLL (RDS Application), 4 Switched Outputs	ATR4285	
	AM/FM	PLL (RDS Application), 1 Switched Output	ATR4289	
	AM/FM	Receiver for Analog AM/FM Radios (Global Reception)	ATR4258	
	AM/FM	RF Front End for Digital-IF Radios (AM/FM/IBOC/DRM)	T4260	
	DAB - Digital Audio Bdcst	L-Band Down-converter	ATR2730 (Green Package)	
	DAB - Digital Audio Bdcst	One-chip Front End - High Integration	ATR2731 (Green Package)	
	DAB - Digital Audio Bdcst	Integrated DAB One-chip Front End (Dual Band)	ATR2732	
	DAB - Digital Audio Bdcst	Integrated DAB One-chip Front End (Band 3 Only)	ATR2733	
	DAB - Digital Audio Bdcst	Digital Baseband	ATR2740	
	FM - TV/VCR	Double FM Demodulator	U2860B	
	FM - TV/VCR	Single FM Demodulator	U2861B	
	QSS + AM - TV/VCR	Demodulator	U4468B	



## RFID

Frequency	Function	Part Number	Read/Write Capability	Memory Bits	Number of Zones	Security	ISO/IEC	Anti-collision Function	Temp. Range (Degree C)	Baud Rate	Demo / Development Kit	Un-obstructed Distance Typ.	Package
125 kHz	TAG Transponder	e5530 TK5530	Read-only	128 ROM			11784/11785 FDX-B Compliant		-40 to 125	RF/8 to RF/128	TMEB8704 ATAK2270		Wafer, SO8, Waffle PK, Transponder
125 kHz	TAG Transponder	TK5551	Read/Write	224 User 40 System		Write Protection - Blockwise		AOR (Answer on Request)	-40 to 85	RF/8 to RF/128	TMEB8704 ATAK2270		Transponder
125 kHz	TAG Transponder	T5552 TK5552	Read/Write	992 User 64 System		Write Protection - Blockwise			-25 to 75	RF/16 and RF/32	TMEB8704 ATAK2270		Wafer, Transponder
125 kHz	TAG	T5554	Read/Write	224 User 40 System		Write Protection - Blockwise			-40 to 85	RF/8 to RF/128	TMEB8704 ATAK2270		Wafer, Micromodule
125 kHz	TAG	ATA5558	Read/Write	1024 User 320 System		Write Protection - Blockwise		Deterministic	-40 to 85	RF/2 to RF/64	ATA2270-EK1		Wafer
125 kHz	TAG Transponder	e5561 TK5561	Read/Write	288 User 32 System		-- Encryption - AUT64 -- Write Protection - Blockwise			-40 to 85	RF/32 and RF/64	TMEB8704		Wafer, Transponder
125 kHz	TAG	ATA5567	Read/Write	224 User 96 System		Write Protection - Blockwise		AOR (Answer on Request)	-40 to 85	RF/2 to RF/128	TMEB8704 ATAK2270 ATA2270-EK1		Wafer, SO8, Waffle PK, Micromodule
125 kHz	TAG	ATA5570	Read/Write	224 User 96 System		Write Protection - Blockwise		AOR (Answer on Request)	-25 to 105	RF/2 to RF/128	TMEB8704 ATAK2270 ATA2270-EK1 ATAB5570		Wafer SO8
125 kHz	Reader	U2270B	Read/Write						-40 to 105	5 Kbps	TMEB8704 ATAK2270 ATA2270-EK1		SO16
125 kHz	Reader	U9280M (U2270B+MARC4)	Read/Write						-40 to 105	5 Kbps			SSO20
13.56 MHz	TAG	AT88SC0104CRF	Read/Write	1K EEPROM	4		14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	-40 to 85	106 Kbps		Up to 10 cm	Die/Tag/ Module
13.56 MHz	TAG	AT88SC0204CRF	Read/Write	2K EEPROM	4		14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	-40 to 85	106 Kbps		Up to 10 cm	Die/Tag/ Module
13.56 MHz	TAG	AT88SC0404CRF	Read/Write	4K EEPROM	4	-- 64-bit Encryption Algorithm -- Encrypted Checksum -- Encrypted Password	14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	-40 to 85	106 Kbps		Up to 10 cm	Die/Tag/ Module
13.56 MHz	TAG	AT88SC0804CRF	Read/Write	8K EEPROM	8	-- Stream Encryption -- Password and Authentication	14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	-40 to 85	106 Kbps		Up to 10 cm	Die/Tag/ Module
13.56 MHz	TAG	AT88SC1616CRF	Read/Write	16K EEPROM	16	-- Write Protection -- Access Keys -- Write Lock Mode -- Tamper Sensors	14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	-40 to 85	106 Kbps		Up to 10 cm	Die/Tag/ Module
13.56 MHz	TAG	AT88SC3216CRF	Read/Write	32K EEPROM	16		14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	-40 to 85	106 Kbps		Up to 10 cm	Die/Tag/ Module
13.56 MHz	TAG	AT88SC6416CRF	Read/Write	64K EEPROM	16		14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	-40 to 85	106 Kbps		Up to 10 cm	Die/Tag/ Module
13.56 MHz	TAG	AT88RF020	Read/Write	2K EEPROM	1	-- Unique Serial Number -- Factory Programmed -- Write Protection - Page (8 Bytes)	14443-2:2001 Type B Compliant 14443-3:2001 Type B Compliant, Anti-collision	Timeslot	0 to 70	106 Kbps		Up to 10 cm	Die/Tag/ Module
860-960 MHz	TAG	ATA5590	Read/Write	1K EEPROM		Unique Serial Number	18000-6, 15961, 15963, GTAG	Deterministic Binary Trees or Slotted Aloha		60 Kbps	ATAK559001-9 ATAK559001-1	up to 15M	

## RF Products - Technical Features

Function	Part Number	Frequency (MHz)	Modulation	TX Output Power	RX Sensitivity	Max. Data Rate	Supply Voltage (V)	Active Current	Sleep Mode Current	Temperature Range (Degree C)	Bandwidth (kHz)	RSSI	Channel Programming	Multi-channel FHSS	Duplex	Package
Transceiver	ATR2406	2,400-2,483	GFSK	4 dBm	-93 dBm	1.152 Mbit/s	2.9-4.6	TX: 42 mA RX: 55 mA CW	< 10 µA	-10/+65	864, 1.728	Yes	Yes	Yes/FHSS	Half	QFN32
Transceiver	ATA5423	312.5-317.5	ASK/FSK	10 dBm	TBD	20 Kbit/s FSK 10 Kbit/s ASK	2.4-3.6 4.4-6.6	TBD	Typ. 10 nA	-40/+85	185	Yes	Yes	Yes/Modified	Half	QFN48
Transceiver	ATA5425	342.5-347.5	ASK/FSK	10 dBm	TBD	20 Kbit/s FSK 10 Kbit/s ASK	2.4-3.6 4.4-6.6	TBD	Typ. < 10 nA	-40/+85	185	Yes	Yes	Yes/Modified	Half	QFN48
Transceiver	ATA5428	431.5-436.5 865-870	ASK/FSK	10 dBm	TBD	20 Kbit/s FSK 10 Kbit/s ASK	2.4-3.6 4.4-6.6	TBD	Typ. < 10 nA	-40/+85	185	Yes	Yes	Yes/Modified	Half	QFN48
Transceiver	ATA5429	912.5-917.5	ASK/FSK	10 dBm	TBD	20 Kbit/s FSK 10 Kbit/s ASK	2.4-3.6 4.4-6.6	TBD	Typ. < 10 nA	-40/+85	185	Yes	Yes	Yes/Modified	Half	QFN48
Transceiver (Auto Grade)	ATA5811	433-435 867-870	ASK/FSK	10 dBm	-106 dBm FSK -113 dBm ASK	20 Kbit/s FSK 10 Kbit/s ASK	2.4-3.6 4.4-6.6	TX: 15.8 mA Rx: 10.5 mA	Typ. < 10 nA	-40/+105	185	Yes	Single Channel	No	Half	QFN48
Transceiver (Auto Grade)	ATA5812	313-316	ASK/FSK	10 dBm	-107 dBm FSK -113.5 dBm ASK	20 Kbit/s FSK 10 Kbit/s ASK	2.4-3.6 4.4-6.6	TX: 15.7 mA Rx: 10.5 mA	Typ. < 10 nA	-40/+105	185	Yes	Single Channel	No	Half	QFN48
Transceiver	ATA5823	312.5-317.5	ASK/FSK	10 dBm	-106.5 dBm FSK -112.5 dBm ASK	20 Kbit/s FSK 10 Kbit/s ASK	2.15-3.6 4.4-5.25	TX: 15.7 mA Rx: 10.5 mA	Typ. < 10 nA	-40/+105	220	Yes	Yes	Yes	Half /Full	QFN48
Transceiver	ATA5824	431.5-436.5 862-872	ASK/FSK	10 dBm	-105.5 dBm FSK -111.5 dBm ASK	20 Kbit/s FSK 10 Kbit/s ASK	2.15-3.6 4.4-5.25	TX: 15.8 mA Rx: 10.5 mA	Typ. < 10 nA	-40/+105	220	Yes	Yes	Yes	Half /Full	QFN48
Receiver	ATA3741	300-450	ASK/FSK		-110 dBm/ -104 dBm	10 Kbit/s Manchester	4.5-5.5	7 mA	190 µA	-40/+105	300/600	No	Single Channel	No		SO20
Receiver	ATA3742	310-440	ASK/FSK		-110 dBm/ -104 dBm	10 Kbit/s Manchester	4.5-5.5	7 mA	190 µA	-40/+105	300/600	Yes	Single Channel	No		SO20
Receiver	ATA3745	310-440	ASK		-110 dBm/ -104 dBm	10 Kbit/s Manchester	4.5-5.5	7 mA	190 µA	-40/+85	300/600	No	Single Channel	No		SO20
Receiver	ATA5743	300-450	ASK/FSK		-110 dBm/ -104 dBm	10 Kbit/s Manchester	4.5-5.5	7 mA	170 µA	-40/+105	600	No	Single Channel	No		SO20 SSO20
Receiver	ATA5744	300-450	ASK/PWM		-110 dBm	10 Kbit/s Manchester	4.5-5.5	7 mA	190 µA	-40/+105	600	Yes	Single Channel	No		SO20 SSO20
Receiver	ATA5745	433-435	ASK/FSK		-113 dBm/ -107 dBm (2.4 Kb/s)	10 Kbit/s (ASK) 20 Kbit/s (FSK) Manchester	2.7-3.3 4.5-5.5	6.5 mA	max. 2 µA	-40/+105	420	Yes	Single Channel	No		QFN24
Receiver	ATA5746	313-317	ASK/FSK		-114 dBm/ -108 dBm (2.4 Kb/s)	10 Kbit/s(ASK) 20 Kbit/s (FSK) Manchester	2.7-3.3 4.5-5.5	6.5 mA	max. 2 µA	-40/+105	420	Yes	Single Channel	No		QFN24
Receiver	ATA5760	868-870	ASK/FSK		-112 dBm/ -106 dBm	10 Kbit/s Manchester	4.5-5.5	7 mA	170 µA	-40/+105	600	No	Single Channel	No		SO20
Receiver	ATA5761	902-928	ASK/FSK		-112 dBm/ -106 dBm	10 Kbit/s Manchester	4.5-5.5	7 mA	170 µA	-40/+105	600	No	Single Channel	No		SO20
Transmitter	U2741B	300-450	ASK/FSK	2 mW (3 dBm)		20 Kbit/s	2.0-5.5	10 mA	350 nA	-40/+85			Single Channel	No		SSO16
Transmitter	ATA2745	310-440	ASK	2 mW (3 dBm)		20 Kbit/s	2.0-5.5	10 mA	10 µA	-40/+85			Single Channel	No		SSO16
Transmitter	T5750	868-928	ASK/FSK	3.5 mW (5.5 dBm)		32 Kbit/s	2.0-4.0	8.5 mA	190 µA	-40/+85			Single Channel	No		TSSOP8
Transmitter	T5753	429-439	ASK/FSK	6 mW (7.5 dBm)		32 Kbit/s	2.0-4.0	9 mA	350 nA	-40/+125			Single Channel	No		TSSOP8
Transmitter	T5754	310-330	ASK/FSK	6.3 mW (8 dBm)		32 Kbit/s	2.0-4.0	9 mA	350 nA	-40/+125			Single Channel	No		TSSOP8