



**THE DATASHEET OF
RF430F5144CIRKVRQ1**



Car access product family



Product bulletin

The new car access product family from Texas Instruments encompasses solutions for both vehicles and keys, such as transponders for mechanical keys and integrated MSP430™ ultra-low-power microcontroller-based devices. TI's solutions are Advanced Encryption Standard-128 embedded and include low-frequency, ultra-high-frequency and microcontroller functions.

Features include ultra-low current consumption in both active and standby mode, an extended communication range for active wakeup, passive immobilizer function, a 3D immobilizer and wireless charging. Optimized timing in receive mode allows for

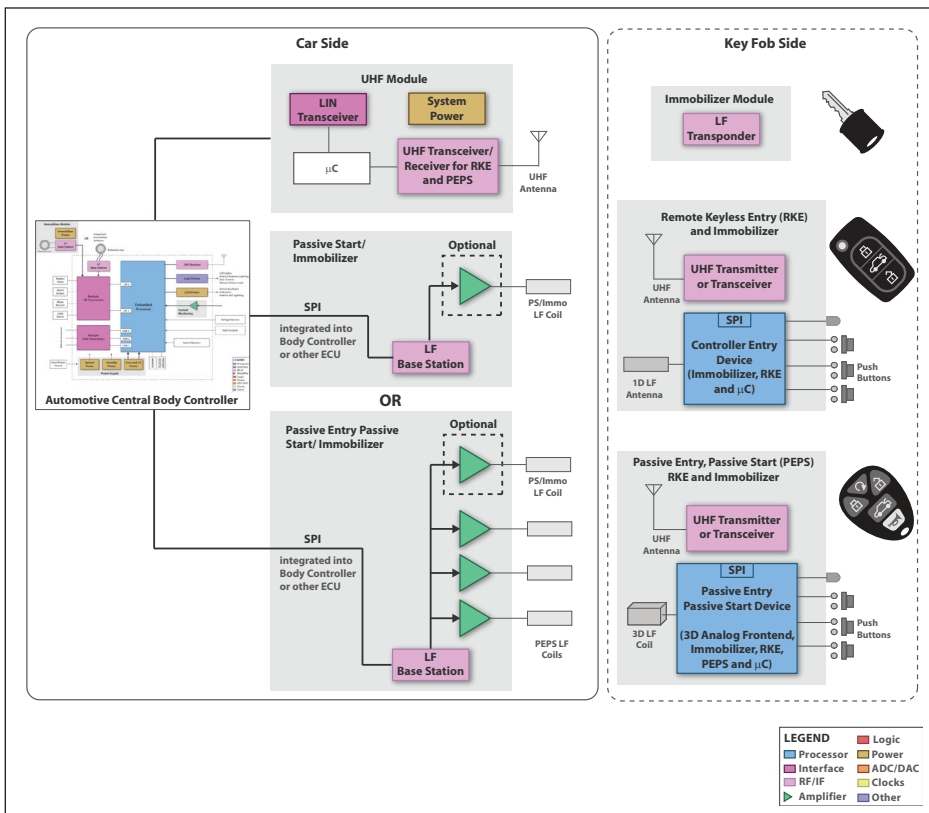
ultra-low-energy polling to reduce overall power consumption. Designs will also benefit from digital RSSI, transport keys, anti-collision functionality and ciphered modes. For more information, see www.ti.com/solution/car_access_system.

Vehicle Key Features

- Low-frequency (LF) transceiver device with four channels for passive entry/passive start, immobilizer and wireless charging
- LF transmitter device with eight half-bridge drivers for passive entry/passive start
- LF transceiver device for passive entry/passive start and immobilizer function

Key fob Key Features

- Integrated IC with 3D wake receiver, 3D immobilizer and MSP430 microcontroller
- Integrated IC with LF immobilizer function plus MSP430 microcontroller
- Plastic wedge transponder



Devices car (ECU)		Supply voltage	Channels	Tx	Frequencies	Modulation	Rx	Standby current	I/Os	Package	Temperature
TRF4140	BAST ²	3-20 V	4	1 Ap	0-500 kHz	FM/AM	0.5 mVpp	15 µA	6	48QFP	-40° to +125°C
TPIC84134		7-38 V	8	0.9 Ap	134 kHz	—	—	50 µA	—	28TSSOP	-40° to +105°C
TPIC84125		7-38 V	8	0.9 Ap	125 kHz	—	—	50 µA	—	28TSSOP	-40° to +105°C
TMS3705B	BAST	5 V	1	0.2 Ap	134 kHz	FM	1.5 mVpp	15 µA	—	SO16	-40° to +85°C
CC1151-Q1		3 V	1	10 dBm	Sub-1 GHz	ASK, FSK, GFSK, MSK	—	0.7 µA	3	32QFN	-40° to +125°C
CC1131-Q1		3 V	1	-	Sub-1 GHz		-114 dBm	0.7 µA	3	32QFN	-40° to +125°C
CC1101-Q1		3 V	1	10 dBm	Sub-1 GHz		-114 dBm	0.7 µA	3	32QFN	-40° to +125°C

BAST: Basestation transceiver, BAST²: Basestation transceiver/transmitter

Devices key fob		Encryption	Flash	RAM	EEPROM	Immobilizer	Wake receiver	Standby current	I/Os	Package	Temperature range
RF430F5144	CRAID	AES	16 kB	1 kB	1024 B	3D	3D	4.9 µA	15+8	48QFN	-40° to +85°C
RF430F5155	CRAID	AES	16 kB	1 kB	2048 B	3D	3D	4.9 µA	15+8	48QFN	-40° to +85°C
RF430F5175	CRAID	AES	32 kB	2 kB	2048 B	3D	3D	4.9 µA	15+8	48QFN	-40° to +85°C
MRF2615	RAID	AES	—	—	256 B	1D	3D	4.7 µA	8	30TSSOP	-40° to +85°C
MRF2678	RAID	AES	—	—	2048 B	3D	3D	4.7 µA	8	30TSSOP	-40° to +85°C
RF430F1313	CED	AES	4 kB	256 B	256 B	1D	—	50 nA	11	30TSSOP	-40° to +85°C
RF430F1323	CED	AES	8 kB	256 B	256 B	1D	—	50 nA	11	30TSSOP	-40° to +85°C
TRPWS21	DST	AES	—	—	256 B	1D	—	—	—	Wedge	-40° to +85°C
TRPBS27	DST	AES	—	—	2048 B	1D	—	—	—	Block	-40° to +85°C

CRAID: controller remote access identification device, RAID: remote access identification device, CED: controller entry device, DST: digital signature transponder

TI Worldwide Technical Support

Internet

TI Semiconductor Product Information Center Home Page
support.ti.com

TI E2E™ Community Home Page
e2e.ti.com

Product Information Centers

Americas Phone +1(972) 644-5580
Brazil Phone 0800-891-2616
Mexico Phone 0800-670-7544
 Fax +1(972) 927-6377
 Internet/Email support.ti.com/sc/pic/americas.htm

Europe, Middle East, and Africa

Phone
 European Free Call 00800-ASK-TEXAS (00800 275 83927)
 International +49 (0) 8161 80 2121
 Russian Support +7 (4) 95 98 10 701
Note: The European Free Call (Toll Free) number is not active in all countries. If you have technical difficulty calling the free call number, please use the international number above.
 Fax + (49) (0) 8161 80 2045
 Internet www.ti.com/asktexas
 Direct Email asktexas@ti.com

Japan

Phone Domestic 0120-92-3326
 Fax International +81-3-3344-5317
 Domestic 0120-81-0036
 Internet/Email International support.ti.com/sc/pic/japan.htm
 Domestic www.tij.co.jp/pic

Asia

Phone
 International +91-80-41381665
 Domestic Toll-Free Number
Note: Toll-free numbers do not support mobile and IP phones.
 Australia 1-800-999-084
 China 800-820-8682
 Hong Kong 800-96-5941
 India 1-800-425-7888
 Indonesia 001-803-8861-1006
 Korea 080-551-2804
 Malaysia 1-800-80-3973
 New Zealand 0800-446-934
 Philippines 1-800-765-7404
 Singapore 800-886-1028
 Taiwan 0800-006800
 Thailand 001-800-886-0010
 Fax +8621-23073686
 Email tiasia@ti.com or ti-china@ti.com
 Internet support.ti.com/sc/pic/asia.htm

Important Notice: The products and services of Texas Instruments Incorporated and its subsidiaries described herein are sold subject to TI's standard terms and conditions of sale. Customers are advised to obtain the most current and complete information about TI products and services before placing orders. TI assumes no liability for applications assistance, customer's applications or product designs, software performance, or infringement of patents. The publication of information regarding any other company's products or services does not constitute TI's approval, warranty or endorsement thereof.

B011012

The platform bar and MSP430 are trademarks of Texas Instruments.
 All other trademarks are the property of their respective owners.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46, latest issue, and to discontinue any product or service per JESD48, latest issue. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products (also referred to herein as "components") are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI's terms and conditions of sale of semiconductor products. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers' products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers' products and applications, Buyers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of significant portions of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI components or services with statements different from or beyond the parameters stated by TI for that component or service voids all express and any implied warranties for the associated TI component or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards which anticipate dangerous consequences of failures, monitor failures and their consequences, lessen the likelihood of failures that might cause harm and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI's goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed a special agreement specifically governing such use.

Only those TI components which TI has specifically designated as military grade or "enhanced plastic" are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components which have **not** been so designated is solely at the Buyer's risk, and that Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components as meeting ISO/TS16949 requirements, mainly for automotive use. In any case of use of non-designated products, TI will not be responsible for any failure to meet ISO/TS16949.

Products

Audio	www.ti.com/audio
Amplifiers	amplifier.ti.com
Data Converters	dataconverter.ti.com
DLP® Products	www.dlp.com
DSP	dsp.ti.com
Clocks and Timers	www.ti.com/clocks
Interface	interface.ti.com
Logic	logic.ti.com
Power Mgmt	power.ti.com
Microcontrollers	microcontroller.ti.com
RFID	www.ti-rfid.com
OMAP Applications Processors	www.ti.com/omap
Wireless Connectivity	www.ti.com/wirelessconnectivity

Applications

Automotive and Transportation	www.ti.com/automotive
Communications and Telecom	www.ti.com/communications
Computers and Peripherals	www.ti.com/computers
Consumer Electronics	www.ti.com/consumer-apps
Energy and Lighting	www.ti.com/energy
Industrial	www.ti.com/industrial
Medical	www.ti.com/medical
Security	www.ti.com/security
Space, Avionics and Defense	www.ti.com/space-avionics-defense
Video and Imaging	www.ti.com/video

TI E2E Community

e2e.ti.com

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View RF430F5144CIRKVRQ1](#) on WIN SOURCE

 [Texas Instruments](#) Information

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management