

Actual size (23 mm x 41.4 mm)

## ProFLEX™

2.4 GHz 802.15.4 / ZigBee® / 6LoWPAN  
Module

### PRODUCT DESCRIPTION

The ProFLEX01-R2 module integrates a high performance 2.4 GHz IEEE 802.15.4 radio, based on Texas Instruments CC2520 & CC2591 with MSP430F5437A microcontroller, in a cost effective, pre-certified footprint.

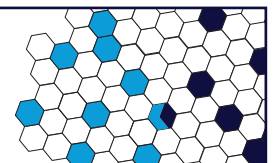
The ProFLEX comes preloaded with the TI MAC-Stack that can be used with the LSR host serial interface. Easily load the TI ZigBee stack or MAC onto the module and create your own network. Full debug and programming capabilities are included to develop custom applications. Offers simple network protocols for either Star Networks or LSR's FLEXConnect™ simple repeating serial communication API (via UART).

### FEATURES AND BENEFITS

- Supports 802.15.4 / ZigBee® / 6LoWPAN
- Ultra-low power MSP430 MCU platform
- Industrial operating temperature: -40° to +85°C
- FCC (USA), IC (Canada) and ETSI (Europe) Module Certification
- Based on Texas' Instruments CC2520 & CC2591 Transceiver
- Low power operation mode
- ProFLEX System-on-Chip (SoC) hardware option also available
- License options available to purchase or integrate modular design

### LEVERAGE THE POWER AND SIMPLICITY OF FLEXCONNECT™

Deliver range extension without the complexities of a full mesh network



## PROFLEX MODULE PERFORMANCE

SPECIFICATION	VALUE
Footprint	23 mm x 34.5 mm
Operating Temp	-40 to +85° C
Operating Voltage	2.0 V to 3.3 V
Transmit Power	20 dBm
Sensitivity	-98 dBm, 1% PER

For full specifications on ProFLEX01-R2, please refer to datasheet.

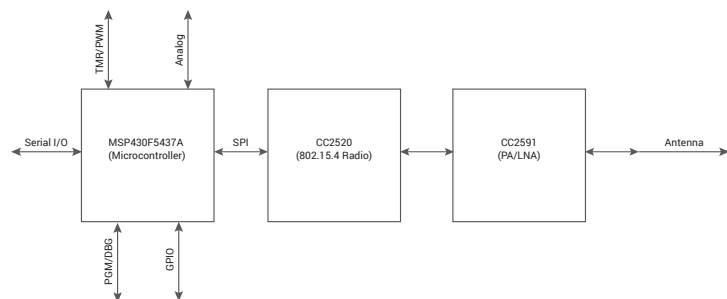
TECHNICAL DETAILS
TI CC2520 2.4 GHz DSSS Radio Transceiver
TI CC2591 RF Front End
Ultra Low Power MSP430F5437 Microcontroller
256K Flash / 16K RAM

KEY FEATURES
Simple Network Protocols
Star Networks
FLEXConnect - Simple repeating serial communication API (UART)
Z-Stack™ ZigBee network protocol
AES encryption for secure network
Integrated inverted-f antenna or U.FL connector for external antenna

## ORDER INFORMATION

PART NUMBER	DESCRIPTION
450-0075	ProFLEX01-R2 PCB Inverted F Antenna
450-0076	ProFLEX01-R2 U.FL Connector
450-0101	ModFLEX™ Mini Gateway Ethernet (MGE)
450-0102	ModFLEX™ Mini Gateway USB (MGU)
450-0004	ProFLEX Development Kit
450-0058	ProFLEX Arduino Shield
450-0035	ProFLEX01-SOC PCB Inverted F Antenna
450-0044	ProFLEX01-SoC with U.FL Connector (not available through distribution)

These LSR products are all REACH and EU ROHS compliant.



LSR is the leader in Wireless Product Development, offering true end-to-end solutions through its array of services and technical expertise.



### Design Services

LSR delivers complete system solutions from concept to manufacturing. We are your wireless M2M solutions partner, providing complete turnkey services and solutions.

- RF Design/Engineering
- Software/Firmware Design
- Antenna Design
- Industrial Design
- Mechanical Engineering



### EMC Testing & Certification

At LSR, we understand it is critical for your company to have a compliant product supported by the appropriate documentation, ready for deployment into the market. LSR provides the experience and knowledge to provide quality test services that meet your timeline and budget.

- On-Site FCC / IC /CE EMC Certification
- Wireless & Antenna Testing
- EMC Testing
- International Testing Services



### Wireless Products

LSR offers the fastest, lowest cost way to add wireless capabilities to your product concept. LSR's fully-certified modules and antennas accelerate your time-to-market and support the full breadth of communication technologies, including:

- Wi-Fi®
- Bluetooth®
- Bluetooth® Smart
- ZigBee®
- 802.15.4 & proprietary protocols