

LC SERIES

ADVANCED
RADIO
TECHNOLOGIES



The LC Series are low cost, low current, UHF and 869MHz synthesized transceivers, transmitters and receivers, designed to mount directly onto a client's printed circuit board and, with compliancy to EST300-220 for licensed exempt operation, will provide a fast track route to market.

CONTROL INTERFACE

The LC module is designed to interface with a microprocessor or a pre-programmed PIC modem processor, with baud rates and channels selected via a suitable switch or processor. Pre-programmed PICs may be purchased from the sales office, or information on synthesizer loading and control software for the product is available on request.

LOW POWER

The LC Series operates from a 5VDC supply and the transmitter can be adjusted to produce an RF output power of between 5mW – 750mW with good efficiency. Add to that a very low current receiver and the LC Series is the perfect module for battery and solar powered applications.

RF POWER CONTROL

The LC's RF output power can be adjusted over the range 5mW – 750mW via an internal pre-set potentiometer or by applying an external voltage from a potentiometer or MPU.

RECEIVED SIGNAL STRENGTH (RSSI)

The RSSI is available as a voltage relative to the received signal strength. This voltage can be used to decide if the link path is acceptable.

DATA INTERFACE

A DC input and output path is provided to the transceiver to accommodate various forms of modulation. However, for optimum performance the PIC modem with its programmable over the air baud rate is recommended.



TECHNICAL SPECIFICATIONS

General

Frequency Range:	LC450 LC869	406 - 475MHz 869 - 870MHz
Programmable Bandwidth:	UHF 869	Any 12MHz slot 1MHz
Power Requirements:	5VDC RX Current 22mA TX Current at 500mW 350mA	
Number of Channels:	Any number within the programmable bandwidth	
Min. Programmable Channel Step:	6.25 or 10KHz	
Channel Spacing:	UHF 869MHz	12.5KHz 25KHz
Temperature & Frequency Stability:	2.0ppm -30°C to +50°C	
Size:	78mm W x 52 H x 20 H	
Weight:	120gms	
Connectors:	Interface 15 Way 2.54mm Pitch pins Socket provided with each unit.	
Approvals:	Products within the range have been tested to the following specifications. For further information contact the sales office. European CE: ETS300-220 ETS 301-489	

Transmitter

RF Output Power:	5mW - 750mW adjustable
Max. Deviation:	±7.5KHz max
Adj. Channel Power:	Better than 60dB
Spurious Emissions:	To ETS300-220
Modulation Input:	DC - 2.4KHz for a 12.5KHz channel
Rise Time:	<9mS

Receiver

Sensitivity:	-122dBm for 12dB SINAD de-emphasised response -118dBm for 12dB SINAD flat response
Spurious and Image Response:	>65dB
Blocking:	>85dB relative to 1µV
Intermodulation:	>60dB
Adjacent Channel:	>65dB at 12.5KHz
IF Frequencies:	45MHz and 455KHz
Spurious Emissions:	To ETS300-220
Signal Output:	250mV, DC - 2.4KHz for a 12.5KHz channel
RSSI Output:	-122dBm to -40dBm
Mute Response Time:	<3mSec

Optional PLC Modem & Controller

Features:	Power down/save, channel selection, lead in delay, lead out delay, 8051 UART interface running mode 3 at 9600bps and test mode
Channel Selection:	Via 8051 interface or hard wired switch
Parity:	Odd, Even or None
Stop bits:	1 or 2
Data bits:	7 or 8
Signalling Formats:	Programmable for use within a 12.5KHz channel: FFSK, V23, Bell202 up to 1200baud, 2400 baud uses coherent 1200/2400Hz (1200/1800Hz by special order) GMSK at 4800 baud
NRZI:	On or Off