**Licensed Spectrum** LRS140 Industrial 1.4 GHz Data Radio

LRS-140CSU

## **KEY FEATURES**

High Speed: 19.2 kbps throughput

Long Range: 30 mile range with clear line of sight

**Error Free Communication:** 32 bit CRC with automatic retransmission

**Industrial Grade Specifications:** 100% tested for RF performance from -30°C to +60°C

Input Voltage Range: +6.5 VDC to +30 VDC at full RF output power. Receive current is less than 90 mA @ 12 VDC

**Separate Diagnostic:** Serial connector allows real-time local diagnostics and setup menu access

**Diagnostics:** Include signal level in dBm and transmit current

**Noise Immunity:** Superior performance in noise congested environments

1.427 to 1.432 GHz licensed radios are available with a userprogrammable RS232/RS485/RS422 interface

## **OVERVIEW**

LRS-140RC

FreeWave Technologies offers a licensed band radio in the recently approved 1.4 GHz band. This radio has applications wherever radios are preferred ranging from Oil & Gas to municipalities and more. This OEM product has tremendous flexibility for use in applications around the world. The LRS140 is offered as a board level product (LRS140- CSU) and in an enclosure (LRS140- RC)

All radios are designed, manufactured and tested in Boulder, Colorado

### **Specifications**

MODEL	FORM FACTOR	OPTIONS
LRS-140CSU	128 L x 61.8 W x 19.7 H (mm)	Board Level
LRS-140RC	173 L x 105 W x 35 H (mm)	Ruggedized Enclosure



# **TECHNICAL SPECIFICATIONS**

#### TRANSMITTER

Frequency Range	1.427 to 1.432 GHz	
Output Power	Programmable to 611 mW	
Data Link Range	30 miles, clear line of sight	
Modulation	2 and 4 level GFSK	
Occupied Bandwidth	12.5 kHz, 25 kHz	
Frequency Channels	200 Channels @ 25 kHz	
	400 Channels @ 12.5 kHz	

#### RECEIVER

Sensitivity	-108 dBm for BER 1x 10 <sup>-6</sup> (2 level GFSK)	
	-98 dBm for BER $1x10^{-4}$ (4 level GFSK)	
Selectivity	20 dB at fc +/- 460 kHz (2nd IF)	
System Gain	136 dB at 2 level GFSK; 126 dB at 4 level GFSK	

#### DATA TRANSMISSION

Error Detection	32 bit CRC, retransmit on error
Link Throughput	9.6 kbps at 2 Level GFSK; 19.2 kbps at 4 level GFSK
Data Interface	Serial
Protocol	RS232/RS485/RS422
Data Connector	Board Level: 10-pin header with locking ramp,
	0.1 inch spacing, power/data connector

Ruggedized Enclosure: 3-pin PCB header

#### DIAGNOSTICS

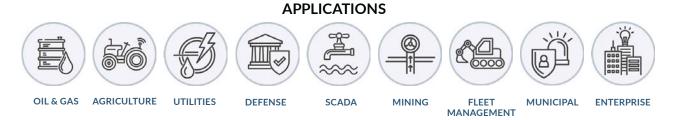
**Connector** SMA, TNC-Enclosed version only (female connectors)

#### **POWER REQUIREMENTS**

Operating Voltage	+6.5 VDC to +30 VDC			
+6.5 VDC Typical Current				
Transmit: 1 A	Receive: 150 mA	Idle: 40 mA		
+12 VDC Typical Current				
Transmit: 500 mA	Receive: 90 mA	Idle: 30 mA		
+30 VDC Typical Current				
Transmit: 200 mA	Receive: 12 mA	Idle: 12 mA		

#### **GENERAL INFORMATION**

Operating Temperature		-30°C to +70°C
Humidity		0 to 95% non-condensing
Dimensions Boar		evel:
	128 L x 61.8 W x 19.7 H (mm)	
		ized Enclosure:
		105 W x 35 H (mm)
Weight	Board L	evel: 74.4 g
	Ruggedized Enclosure: 604.4 g	
Antenna Connector		Board Level: SMA
		Ruggedized Enclosure: TNC



## **CONTACT US**

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