

# P Series

\*1.35 to 1.39 GHz Military Radio



P-C



P-CE

## APPLICATIONS



Government & Defense

## OVERVIEW

The P-Series military products are designed to meet the rigorous demands of government and other users worldwide. This 1.35 to 1.39 GHz product is available as an OEM “mini” board level and enclosed radio. FreeWave military products share the same features as our other radios that assure accurate data transmission, with automatic retransmission, and high speed hopping.

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

## KEY FEATURES

- **High Speed:** 115.2 kbps maximum throughput
- **Reliable:** 100% tested for performance from -30° C to +60° C
- **Flexible:** User-programmable RS232/RS485
- **Long Range:** Up to 60 miles with clear Line of Sight (LOS)
- **Low Signal Performance:** RISC-based signal demodulation with matched filter
- **Low Power Consumption:** 75 mA @ 5 VDC
- **Powerful Diagnostic Tools:** Including signal level dBm and Transmit Power, at no additional charge
- **High Noise Immunity:** Superior performance in noise congested environments

MODEL	DIMENSIONS	OPTIONS
P-C	72.64 L x 61.8 W x 19.7 H (mm)	Straight MCX Female Connector / Board Level
P-T	72.64 L x 61.8 W x 19.7 H (mm)	Straight MCX RF Connector / Board Level
P-CE	173 L x 107 W x 35 H (mm)	Ruggedized Enclosure
P-CR	72.64 L x 61.8 W x 19.7 H (mm)	Right Angle MCX Female Connector / Board Level
P-TR	72.64 L x 61.8 W x 19.7 H (mm)	Right Angle MCX RF Connector / Board Level

# \*P-Series 1.35-1.39 GHz Military Radio Technical Specifications

PRELIMINARY

		P-C	P-T		
TRANSMITTER	Frequency Range	1.35 to 1.39 GHz			
	Output Power	1 W (5 W with external amplifier)			
	Data Link Range	60 miles, Clear Line of Sight			
	Modulation	2 level GFSK			
	Occupied Bandwidth	230 kHz			
	Hopping Channels	50 to 112 (out of 172), User Selectable			
	Hopping Patterns	15 per Band, 105 total, user selectable			
	Hopping Bands	7, User Selectable			
RECEIVER	Sensitivity	-108 dBm @ BER 10 <sup>-4</sup>			
	IF Selectivity	20 dB at fc ± 230 kHz			
	System Gain	136 dB			
DATA TRANSMISSION	Error Detection	32 bit CRC, Retransmit on error			
	Data Throughput	115.2 kbps			
	Data Encryption	FHSS Technology			
	Protocol	RS232/RS485	TTL		
	Connector	10 pin header with locking ramp, 0.1 inch spacing power/data connector			
POWER REQUIREMENTS	Operating Voltage	+4.75 VDC to +5 VDC			
	Typical Current (mA)	<b>Mode</b>	<b>+6.5 VDC</b>	<b>+12 VDC</b>	<b>+30 VDC</b>
		<b>Transmit</b>	1 A	500 mA	200 mA
		<b>Receive</b>	120 mA	75 mA	40 mA
		<b>Idle</b>	30 mA	20 mA	9 mA
<b>Sleep</b>	8 mA	5 mA	2 mA		
GENERAL INFORMATION	Operating Temperature	-40° C to +75° C			
	Humidity	0 to 95% non-condensing			
	Dimensions	L x 61.8 W x 19.7 H (mm)			
	Weight	67 g			

\* This device is regulated under the U.S. International Traffic in Arms Regulation (ITAR). These regulations control the Export and Import of the defense articles. The device may only be sold or transferred to a non-U.S. party (in the U.S. or abroad) after authorization is obtained from the U.S. Department of State. Customer (a) agrees to comply with ITAR regulations and (b) shall be responsible for obtaining all necessary U.S. Government authorizations required to ensure compliance with these and other applicable U.S. Laws. Please contact FreeWave for export control information for specific products.



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