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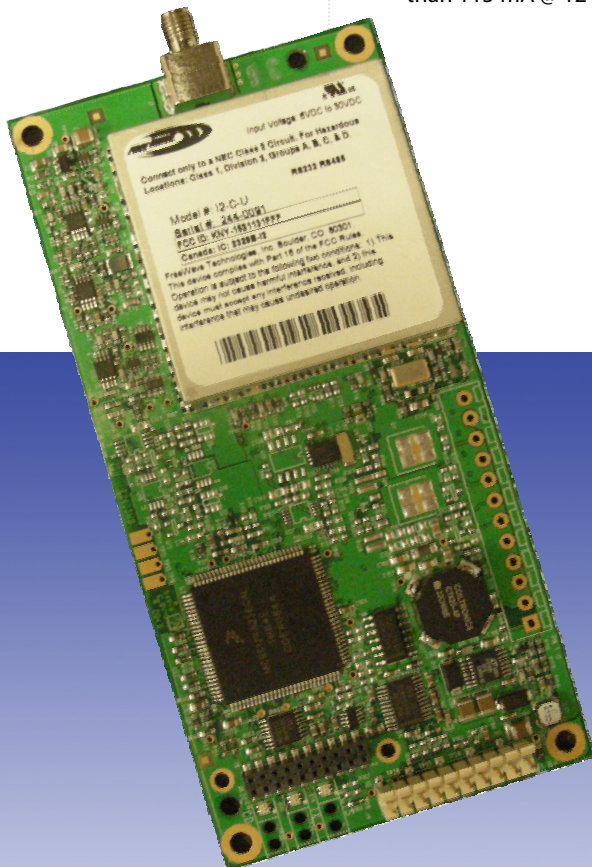
I2 Series

I2-C Industrial 2.4 GHz Radio

The FreeWave Technologies family of board level radios provides outstanding performance and versatility in a small footprint that is ideal for internally mounted applications. This board level radio offers a cost effective solution that allows customers to incorporate wireless communications into a wide variety of applications. With more interface options available, a 6.0 to 30 VDC input voltage, RF tested over a temperature range of -40°C to $+75^{\circ}\text{C}$, surface mount design, and no additional RF shielding, this OEM board level radio has tremendous flexibility for use in applications around the world.

Features

- Frequency Hopping Spread Spectrum.
- High Speed - Throughput of 115.2 Kbps.
- Long Range - 20 miles (32 km).
- Error-free Communications - 32 bit CRC with automatic retransmission.
- Industrial Grade Specifications - 100% tested for RF performance from -40°C to $+75^{\circ}\text{C}$.
- Master, Slave, Repeater and Slave/ Repeater functions in a single radio.
- Input voltage range is 6.0-30 VDC at full RF output power. Receive current is less than 115 mA @ 12 VDC.
- Separate diagnostic serial connector allows real-time local diagnostics and setup menu access.
- Diagnostics, including signal level in dBm and transmit current.
- Secure - Proprietary spread spectrum technology prevents detection and unauthorized access.
- 100% backward compatibility with every FreeWave 2.4 GHz radio ever shipped.
- Noise Immunity - Superior performance in noise congested environments.



I2 Series

I2-C Industrial 2.4 GHz Radio

Technical Specifications

Transmitter				
Frequency Range	2.4 - 2.483 GHz (FHSS)			
Output Power	5mW to 500mW			
Range - Line of Sight	20 miles (32 km) with clear line of sight			
Modulation	2 level GFSK, 115.2 Kbps or 153.6 Kbps			
Hopping Patterns	15 per Band, 105 total, user selectable			
Hopping Channels	75 to 80, user selectable			
Frequency Zones	16 Zones, 5 Channels per zone			
Occupied Bandwidth	230 kHz			
RF Connector	SMA straight, or reversed SMA, or none			
Receiver				
Sensitivity	-105 dBm for BER of 10 ⁻⁴ ; -103 dBm for BER of 10 ⁻⁶			
Selectivity	20 dB at fc +/- 230 kHz 60 dB at fc +/- 290 kHz			
System Gain	132 dB			
Data Transmission				
Error Detection	32 bit CRC, Retransmit On Error			
Data Encryption	Dynamic Key Substitution			
Link Throughput	115.2 Kbps standard speed, 80 Kbps low speed. <i>Uncompressed; measured assuming 75% frequency availability.</i>			
Data Interface	RS232 /RS485 /RS422			
Data Connector	10-pin header with locking ramp, 0.1 inch spacing power/data connector. Separate diagnostics connector.			
Power Requirements				
Operating Voltage	6.0 to 30 VDC			
Current (mA)	Mode	6.0 VDC	12 VDC	30 VDC
	Transmit	375	295	140
	Receive	120	80	51
	Sleep	9	5	3
General Information				
Operating Temperature Range	-40° C to +75° C			
Dimensions	127 L x 61 W x 11 H (mm)			
Weight	53 g			
Humidity	0 to 95% non-condensing			

FreeWave Radios Require Professional Installation. Specifications may change at any time without notice. ©2009 FreeWave Technologies, Inc.

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