

I2 Series

I2-G-C Industrial 2.4 GHz Data Radio



I2-G-C



I2-G-RG

OVERVIEW

The FreeWave Technologies family of board level radios provides outstanding performance and versatility in a small footprint that is ideal for internally mounted applications. The I2-G offers a cost effective solution that allows customers to incorporate wireless communications into a wide variety of applications. With more interface options available, a surface mount design, and no additional RF shielding, this OEM radios has tremendous flexibility for use in applications around the world.

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

APPLICATIONS



Government & Defense

KEY FEATURES

- **High Speed:** 115.2 kbps Throughput
- **Long Range:** 20 miles (32 km)
- **Error free communication:** 32 bit CRC with automatic retransmission
- **Industrial Grade Specifications:** 100% tested for RF performance from -40° C to +75° C
- **Versatile:** Radio can function as Master, Slave, Repeater and Slave/Repeater
- **Input voltage range:** +6 to +30 VDC at full RF output power. Receive current is less than 115 mA @ 12 VDC
- **Secure:** Proprietary spread spectrum technology prevents detection and unauthorized access
- **Noise Immunity:** Superior performance in noise congested environments
- Separate diagnostic serial connector allows real-time local diagnostics and setup menu access
- 100% backward compatibility with every FreeWave 2.4 GHz radio

MODEL	FORM FACTOR	PRODUCT OPTIONS
I2-G-C	127 L x 61 W x 11 H (mm)	Board Level
I2-G-RG	173 L x 112 W x 35 H (mm)	Ruggedized Enclosure

I2-G-C 2.4 GHz Industrial Radio Technical Specifications

		Board Level	Ruggedized Enclosure		
TRANSMITTER	Frequency Range	2.4 to 2.483 GHz (FHSS)			
	Output Power	5 mW to 500 mW			
	Data Link Range	20 miles, 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			
	Occupied Bandwidth	230 kHz			
	Frequency Zones	16 Zones, 5 Channels per zone			
RECEIVER	Sensitivity	-105 dBm for BER 1×10^{-4} -103 dBm for BER 1×10^{-6}			
	IF 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	FHSS Technology			
	Data 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	DB9 Female, DCE		
POWER REQUIREMENTS	Operating Voltage	+6 to +30 VDC			
	Typical Current	Mode	+6 VDC	+12 VDC	+30 VDC
		Transmit	375 mA	295 mA	140 mA
		Receive	120 mA	80 mA	51 mA
		Idle	9 mA	5 mA	3 mA
GENERAL INFORMATION	Operating Temperature	-40° C to +75° C			
	Humidity	0 to 95% non-condensing			
	Dimensions	127 L x 61 W x 11 H (mm)	173 L x 112 W x 35 H (mm)		
	Weight	53 g	605 g		
	RF Connector	SMA straight, or reversed SMA, or none			

Contact your FreeWave reseller or sales rep for implementation details.

FreeWave Radios Require Professional Installation. Specifications may change at any time without notice. ©2013 FreeWave Technologies, Inc.



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