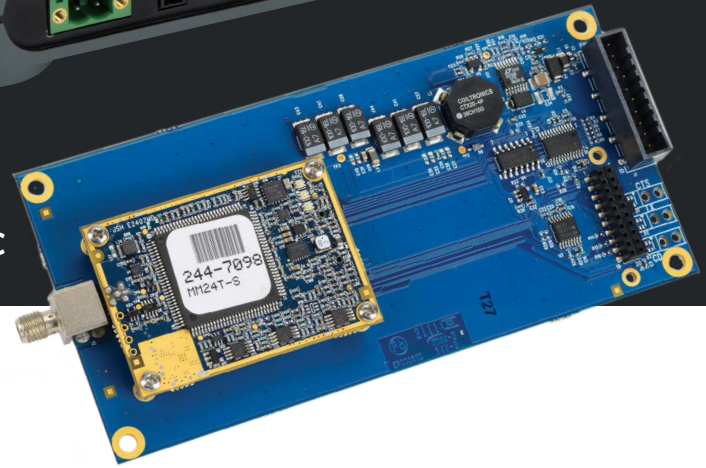


## GX Series

GX-C, GX-CE, & GX-T



GX-C



Building on the success of our 900 MHz product family, the FreeWave GX Series of 2.4 GHz industrial radios provides our customers the performance, reliability and quality that our customers have come to know and expect in all of our products in a globally available spectrum and full ETSi, FCC, IC, RoHS, and UL Class I, Division 2 certificates.

The GX is a cost effective solution that allows customers to incorporate wireless communications into a wide variety of applications. Offered is a board level product and in an enclosure, the GX provides tremendous flexibility for use in applications around the world ranging from oil and gas to golf carts, water systems and more.

The GX is backward compatible with the I2 Series of FreeWave radios, enabling existing customers to leverage and extend their existing investment.

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

### Key Features

**Versatility:** Gateway, Endpoint, Repeater, or simultaneous Endpoint and Repeater function in a single radio

**Long Range:** 32 km (20 miles) with clear line of sight with the ability to extend through Repeaters

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

**Secure:** Using Frequency Hopping Spread Spectrum (FHSS) technology; available with 128- and 256-bit AES encryption

**Error Free Communications:** 32-bit CRC with automatic retransmissions

**Low Power Consumption:** Ideal for solar, battery, and DC applications

**Industrial Grade:** Operating temperature from -40°C to +85°C

Transmitter	
Frequency Range	2.4 to 2.483 GHz
Output Power	Up to 500 mW with option to limit to 100 mW
Range	Up to 32 km (20 miles) with clear line of sight
Channel Spacing	230 kHz
RF Data Rate	115.2 or 153.6 kbps, user-selectable

Receiver	
Sensitivity	-105 dBm @ 115.2 for BER 10 <sup>-4</sup> -103 dBm @ 153.6 kbps BER 10 <sup>-6</sup>
Selectivity	20 dB at fc +/- 230 kHz 60 dB at fc +/- 290 kHz
System Gain	132 dB

Data Transmission	
Type	Frequency Hopping Spread Spectrum
Modulation	2 level GFSK
Data Throughput	80 or 115.2 kbps Un-compressed, measured assuming 75% frequency availability
Error Detection	32-bit CRC, retransmit on error
Data Encryption	Options: 128- and 256-bit AES encryption
Hopping Zones	16 zones, 5 channels per zone, user-selectable
Hopping Bands	7, user-selectable
Hopping Channels	3 groups of 80, user-selectable
Hopping Patterns	15 per band, 105 total, user-selectable
Protocol	RS232 / RS422 / RS485

Power Requirements				
Operating Voltage	+6 to +27 VDC			
Current Consumption	Voltage	Transmit	Receive	Idle
	+6 VDC	375 mA	120 mA	9 mA
	+12 VDC	295 mA	80 mA	5 mA
	+30 VDC	140 mA	51 mA	3 mA

Interfaces	
Data Interface	10-pin header with locking clamp 2.5 mm (0.1 in) spacing power / data connector
Diagnostics Interface	Separate diagnostic connector <b>Board level:</b> Separate 20-pin PCB header <b>Enclosed:</b> 3-pin PCB header
RF Connector	<b>Board level:</b> Right-angle female SMA <b>Enclosed:</b> Female TNC

General Information	
Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Humidity	0 to 95%, non-condensing
Dimensions	<b>Board level:</b> 127 L x 61 W x 11 H (mm) 5.0 L x 2.4 W x 0.43 H (in)
	<b>Enclosed:</b> 173 L x 107 W x 35 H (mm) 6.81 L x 4.21 W x 1.38 H (in)
Weight	<b>Board level:</b> 53 g (0.12 lbs)
	<b>Enclosed:</b> 504 g (1.11 lbs)

Certifications	
UL	Class I, Division 2
FCC	Part 15

Information to Order	
Model Number	Description
GX-C	Board Level, UL
GX-CE	Rugged Enclosure
GX-T	Board Level, TTL