



Cellular Bridge

2.4 GHz Radio Systems Cell Modem



Cellular Bridge



OVERVIEW

The Cellular Bridge combines world class radio technology with globally deployable cellular technology, Verizon or SIM based cellular addressability. The “Bridge” is designed to give ease of cellular deployment with the ability to reduce cellular connection fees by combining cell phone connectivity and world class proprietary radios at 2.4 GHz.

The basic application allows for the consolidation of a radio network into the cellular public infrastructure. This hybrid product, one which uses more than one technology, is appropriate for several applications that include:

- New field development, reduced infrastructure, reduced connection fees, reliable data transfer.
- Retrofit deployment, where the number of cell connections can be reduced improving ROI and reducing operating cost.
- Long term network development, the Cellular Bridge can avoid infrastructure costs associated with maintaining line of sight when it functions as “Tower Replacement Module”.
- Used as an alternative where repeater locations or higher antenna heights are not an option.

APPLICATIONS



Oil & Gas



Smart Grid



Water & Wastewater



Precision Agriculture

KEY FEATURES

- Available on Most Networks: Available on Verizon and most SIM-based Networks (AT&T, T-Mobile, Telus, Bell, & More)
- Supports FreeWave serial radios in 2.4 GHz
- Wide Input Voltage Range: +12 VDC to +24 VDC
- Industrial Grade Specifications: -40° C to +75° C (Verizon) -30° C to +75° C (SIM-Based ei. AT&T)
- External RS232 / RS485 Serial Port
- Terminal Server port provide access to configuration, data, diagnostics, and external serial port
- Informative LED display provides cellular connectivity status as well as FreeWave’s standard CD, Tx and CTS LEDs
- Configuration available on local serial port or over the Internet
- Compatible with FreeWave’s diagnostic software
- Improved Deployment Time: Simplifies network design

MODEL	DIMENSIONS	PRODUCT OPTIONS
CB-2.4-SM	156 L x 168 W x 54 H (mm)	SIM Card
CB-2.4-V	156 L x 168 W x 54 H (mm)	Verizon Network

Cellular Bridge Technical Specifications

		CB-2.4-SM	CB-2.4-V
CELLULAR BRIDGE SPECIFICATIONS	Frequency for Cell Modem	Verizon 800/1900 MHz; EV-DP Rev / CDMA2000 1xRTT AT&T/T-Mobile Tri-Band HPSA-850 / 1900 / 2100 MHz9; Quad-Band GSM / GPRS / Edge-850 / 1800 / 1900 MHz	
	Indicator Lights	Cellular Status and Standard FreeWave Radio; CD, Tx, CTS	
	Data Connector	Port 1 - DB9 Diagnostics and Programming/RS232 Port 2 - DB9 Data RS232 / RS485	
	Antenna Connector	Cell - SMA (f) Radio - TNC (f)	
CELL BRIDGE POWER CONSUMPTION	Operating Voltage	+12 VDC to +24 VDC	
	Typical	267 mA	
	Peak	1.7 A	
FHSS TRANSMITTER	Frequency Range	2.4 to 2.483 GHz	
	Output Power	10 mw to 500 mW with option to limit at 100 mW	
	Data Link Range	20 mile, Clear Line of Sight	
	Occupied Bandwidth	230 KHz	
	Hopping Patterns	15 per Band, 105 total, user selectable	
	Hopping Channels	75 to 80, user selectable	
	Hopping Bands	7, user selectable	
	Frequency Zones	16 Zones, 7 Channels per Zone	
FHSS RECIEVER	Sensitivity	105 dBm for BER 1×10^{-4} 103 dBm for BER 1×10^{-4}	
	IF Selectivity	40 dBm at fc +/- 230 kHz	
	Dynamic Range	+10 dBm 3rd Order Intercept Point at Input Connector	
GENERAL INFORMATION	Operating Temperature	-30° C to +75° C (-22° F to +167° F) (Verizon)	-40° C to +60° C (-22° F to +140° F) (SIM)
	Humidity	0 to 95% non-condensing	
	Dimensions	156 L x 168 W x 54 H (mm)	
	Weight	800 g ; 1.75 lbs	

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



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