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Certification Exhibit

FCC ID: R7PIWRS4

FCC Rule Part: 15.247

ACS Report Number: 09-0412.W03.11.A

Manufacturer: Cellnet Technology Inc.
Model: Gridstream DCIWR

Manual

Gridstream Series IV IWR Radio Data Sheet



General

The Gridstream Series IV Integrated WanGate Radio (IWR) provides a basis for a powerful RF wireless mesh network for remote data collection. The radio provides full two-way peer-to-peer communication to all devices within the network. The Gridstream Series IV IWR also offers advanced functionality, such as individual message prioritization, additional memory for localized intelligence, and a programming language Device Control Word (DCW) used to provide interface and control to distributed automation equipment.

The Gridstream Series IV IWR has one RS-232 serial port for the LAN Packet Port (LPP) and one RS-232/485 serial port for the Transparent Packet Port (TPP). The LAN Packet Protocol Port is used to communicate to devices that use the Gridstream IWR LAN Packet Protocol, such as a PC with configuration or diagnostic software. The Transparent Packet Port is a general-purpose data port that is used to transport byte-oriented data, such as DNP 3.0, Modbus, or DF1.



Figure 1. Gridstream Series IV IWR Radio

Gridstream Series IV IWR Radio Usage

The Gridstream Series IV IWR Radio, P/N 26-1309, was engineered specifically for varied needs of residential and commercial applications. It enables access to the RF mesh network using a standard RS-232 connection.

Useful features of the Gridstream Series IV IWR Radio include:

- User-friendly interface via RadioShop for configuring the Gridstream Series IV IWR Radio. The interface provides:
 - Current status information
 - Logical configurations for:
 - LPP port
 - TPP port
- Simultaneous connections per RS-232 interface by:
 - LPP applications
 - TPP applications

Regulatory Compliance

FCC (Part 15.247)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.



Changes or modifications not expressly approved by Landis+Gyr for compliance could void the user's authority to operate the equipment.

FCC Class B

This equipment has been tested and found to comply with the limits for Class B digital service, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to connect the interference by one or more of the following measures:



- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

RF Exposure

The equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 22cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Gridstream Series IV IWR Radio Specifications

Table 1. General Series IV IWR Specification

Electrical (General)		
Input Voltage Range	6 - 28 VDC	
Input Current (in transmitting mode)	320 mA typical (12 VDC operation)	
Input Current (in receiving mode)	38 mA typical (12 VDC operation)	
RF Frequency Range	902-928 MHz	
Channel Spacing	100 kHz, 300 kHz (depending on mode)	
RF Data Rate	9.6-38.4 Kbps (100 kHz channels), 9.6-115.2 Kbps (300 kHz channels)	
Receiver		
Sensitivity (at 10% packet error rate)	-112 dBm (9.6 Kbps), -102 dBm (115.2 Kbps) typical	
Co-channel rejection	10 dB Typical	
Adjacent Channel Rejection	30 dB Typical	
Alternate Channel Rejection	45 dB Typical	
Transmitter		
Output Power (at Antenna Connector)	126 mW (21 dBm)/316 mW (25 dBm)/1 Watt (30 dBm)	
Modulation Type	2-FSK, GFSK	
Modulation Index	1	
Out-of-band Spurious Emissions	<-70 dBc	
Antenna Requirements		
Type	Vertically polarized, omnidirectional	
Gain	≤ 5 dBi	
Processing		
CPU	M16C/65P	
Clock Speed	14.7456 MHz	
SRAM Memory	47 kbytes internal + 512 kbytes external	
FLASH Memory	768 kbytes internal + 1 Mbytes external	
Data Ports/Formats		
	LAN Packet Port	Transparent Port
Serial Interface	RS-232C; DB9 female; 1200 to 115,200 bps	RS-232C/RS-485; DB9 Female; 300 to 38,400 bps
Protocol	Gridstream LAN Packet Protocol	Any Asynchronous Byte-Oriented Protocol
Parity	None	None
Data Bits	8	7 or 8
Stop Bits	1	1 or 2
Duplex	Full	Full

Table 1. General Series IV IWR Specification(Continued)

Mechanical	
Enclosure	Extruded Aluminum
Power Connection	Molex Mini-fit
Dimensions	4.250" W x 5.770" D x 1.720" H
Weight	1.10 lbs
Antenna	SMA Type, Female
Operating Temperature Range	-40° to 85° C
Storage Temperature Range	-40° to 85° C

Contact Information:	Technical Support: 1.888.390.5733	Internet: www.landisgyr.com	E-mail: solutionsupport.na@landisgyr.com
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