SECTION 2

TESTS AND MEASUREMENTS

TEST AND MEASUREMENTS

2.1 Configuration of Tested System

The sample was tested per ANSI C63.4, Methods of Measurement from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (1992). Conducted and radiated emissions data were taken with the test receiver or spectrum analyzer's resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was off throughout the evaluation process. Interconnecting cables were manipulated as necessary to maximize emissions. Interconnecting cables were manipulated as necessary to maximize emissions. A block diagram of the tested system is shown in Figure 1. Test configuration photographs for spurious and fundamental emissions are shown in Figure 2.

The sample used for testing was received by U.S. Technologies on August 20, 1999 in good condition.

2.2 Test Facility

Testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and submitted to the FCC, and accepted in their letter marked 31040/SIT. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number IC2982.

2.3 Test Equipment

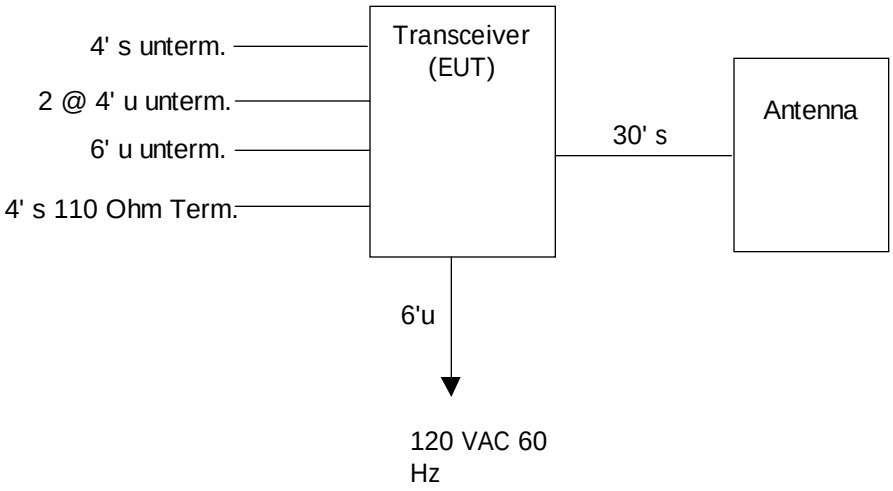
Table 2 describes test equipment used to evaluate this product.

2.4 Modifications

No modifications were made by US Tech, to bring the EUT into compliance with FCC Part 15 limits for the transmitter portion of the EUT or the Class A Digital Device Requirements.

FIGURE 1

TEST CONFIGURATION



Test Date: September 11-13, 1999
UST Project: 99-723
Customer: LinkaNet Labs
Model: FIRELINK 2000

FIGURE 2a

Photograph(s) for Digital Device and Spurious Emissions (Front)

Test Date: September 11-13, 1999
UST Project: 99-723
Customer: LinkaNet Labs
Model: FIRELINK 2000

FIGURE 2b

Photograph(s) for Digital Device and Spurious Emissions (Back)

Test Date: August 31, 1999
UST Project: 99-723
Customer: LinkaNet Labs
Model: FIRELINK 2000

FIGURE 2c

Photograph(s) for Digital Device Conducted Emissions

Photograph not available

TABLE 1

EUT and Peripherals

PERIPHERAL MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID:	CABLES P/D
Transceiver (EUT) LinkaNet Labs	FIRELINK 2000	None	008LNL001 (Pending)	2 @ 4' u unterm. 6' u unterm. 4' s 110Ω term. 4' s unterm. 6' u power cord
Antenna Conifer	parabolic dish with 23 dBi gain	None	None	30 ' s

TABLE 2
TEST INSTRUMENTS

TYPE	MANUFACTURER	MODEL	SN.
SPECTRUM ANALYZER	HEWLETT-PACKARD	8593E	3205A00124
SPECTRUM ANALYZER	HEWLETT-PACKARD	8558B	2332A09900
S A DISPLAY	HEWLETT-PACKARD	853A	2404A02387
COMB GENERATOR	HEWLETT-PACKARD	8406A	1632A01519
RF PREAMP	HEWLETT-PACKARD	8447D	1937A03355
RF PREAMP	HEWLETT-PACKARD	8449B	3008A00480
HORN ANTENNA	EMCO	3115	3723
HORN ANTENNA	EMCO	3116	9505-2255
BICONICAL ANTENNA	EMCO	3110	9307-1431
LOG PERIODIC ANTENNA	EMCO	3146	9110-3600
LISN	SOLAR ELE.	8012	865577
LISN	SOLAR ELE.	8028	910494
LISN	SOLAR ELE.	8028	910495
THERMOMETER	FLUKE	52	5215250
MULTIMETER	FLUKE	85	53710469
FUNCTION GENERATOR	TEKTRONIX	CFG250	CFG250TW15059
PLOTTER	HEWLETT-PACKARD	7475A	2325A65394

2.6 Antenna Description (Paragraph 15.203)

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

LinkaNet Labs will sell the FIRELINK 2000 with one of the following antennas.

MANUFACTURER	MODEL	GAIN dBi
Conifer	13T-2400	10
Conifer	18T-2400	17
Conifer	26T-2400	23

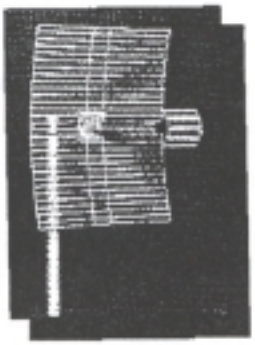
*For antenna specifications, please see the following pages.

The EUT and antenna incorporate standard N-Style connectors. Due to the type of installation and given the directional nature of the antenna, this unit will only be professionally installed.

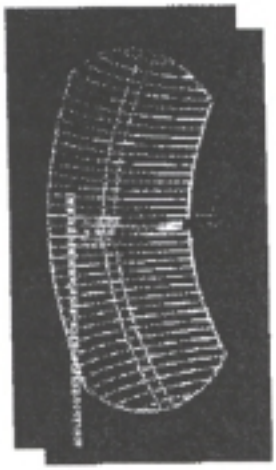
RECEIVE ANTENNAS 13/18/26

HIGH PERFORMANCE ANTENNAS 2.4 - 2.5 GHz

MODEL 13T-2400*



MODEL 18T-2400*



MODEL 26T-2400*

*U.S. Patent 5,191,350

Model 13	Stamped Aluminum
Model 18	Cast Magnesium Alloy
Model 26	Cast Magnesium Alloy

FEATURES

- Lightest weight grid antenna with low wind resistance.
- Stamped aluminum 13 and die-cast 18/26 manufacturing processes provide unmatched uniformity resulting in consistently high performance from every antenna.
- Magnesium Alloy is comparable to anodized aluminum but weighs 33% less.
- Antennas and mounting hardware are manufactured with nonferrous material which will not rust. Magnesium alloy, stainless steel and aluminum.
- No need for mechanical adaptors - one size fits all!
- Antennas can be mounted in horizontal, vertical, or 45° polarity.
- Easy installation.
- Antenna elevation adjustment up to 60°.
- Compact packaging for shipment.
- Five Year Limited Warranty. Contact factory for details.

URS ISO 9001

CONIFER CORP. • 1400 N ROOSEVELT • BURLINGTON, IA 52601
800-843-5419 (U.S.) • 319-752-3507 (Int'l) • 319-753-5508 FAX

CONIFER II®
WIRELESS TELECOMMUNICATION TECHNOLOGY

PERFORMANCE SPECIFICATIONS*

	MODEL 13T-2400	MODEL 18T-2400	MODEL 26T-2400
Reflector Material	Stamped Aluminum	Cast Magnesium Alloy	Cast Magnesium Alloy
Mounting Hardware	Stainless Steel	Stainless Steel	Stainless Steel
Gain	10 dBi	17 dBi	23 dBi
Input Frequency	2400 - 2500 MHz	2400 - 2500 MHz	2400 - 2500 MHz
-3 dB Beam Width	22°	14°	7.5°
Cross Polarity Rejection	>20 dB	>23 dB	>26 dB
Front to Back Ratio	>20 dB	>23 dB	>31 dB
Impedance @ Output	50 OHMS	50 OHMS	50 OHMS
Elevation Adjustment	60° in 10° Increments	60° in 10° Increments	Optional
VSWR (Average)	1.4:1 @ 2450 MHz	1.4:1 @ 2450 MHz	1.4:1 @ 2450 MHz
Overall Size (Inches)	11.5 x 11.75 x 15 (28.75 x 29.38 x 37.5 cm)	16 x 20 x 15 (40.0 x 50.0 x 37.5 cm)	23.5 x 39.25 x 15 (58.75 x 98.13 x 37.5 cm)
Weight	2.1 lbs. (1.05 Kg)	2.7 lbs. (1.22 Kg)	5.4 lbs. (2.43 Kg)
Mounting	1" - 2" O.D. Mast (2.5 - 5.0 cm)	1" - 2" O.D. Mast (2.5 - 5.0 cm)	1" - 2" O.D. Mast (2.5 - 5.0 cm)

*Specifications subject to change without notice.

MANUFACTURED IN BURLINGTON, IOWA

Model 26T-2400