RESPONSE TO ITEMS REQUESTED BY
FCC - OET
Correspondence #: 11209
on 28 December, 1999:

Re: FCC ID OOX-NCL1100
Applicant: Waverider Communications (Canada), Inc.
Correspondence Reference Number: 11209
731 Confirmation Number: EA95321
Date of Original E-Mail: 12/28/1999

1) Please submit information requested in item # 4 of the 10/27/1999 fax.
*** The process gain measurements must be submitted at the highest data rate for each Chip/symbol rate.

2) When measuring the output power, the RBW must be greater than the 6 dB bandwidth and the VBW must be greater than the RBW. The 6 dB bandwidth of the device is about 12 MHz wide. Retest with the proper analyzer settings or use a power meter.

3) List all antennas, the antenna gain, the output power and total EIRP(Power in dBm + Antenna gain in dBi) for each.

4) The submitted RF exhibit is under review and will be forwarded as soon as possible.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 60 days of the original e-mail date may result in application dismissal pursuant to Section 2.917 (c) and forfeiture of the filing fee pursuant to section 1.1108.

Responses to these four items are found on the following pages.

RESPONSE TO #1…

The Waverider model NCL-1100 module runs only at a data rate of 11 MBS, and a chip to symbol ratio of 8:1, this was the only rate used, and reflects the system parameters in use for the jamming margin test submitted with the filing. This test was performed on a Product using the Harris Chipset, at the same designated rates, and the results were submitted with this product filing, as per the e-mail from Greg Chumack, referenced in the Technical Report.

RESPONSE TO #2…

From the original test report, Power output recorded on 31 August, 1999:

2.6 Power Output Test Performed

For the 15.247b measurement, the output of the Waverider model NCL 1100 module, including bandpass filter and lightning arrestor, was connected via a short jumper cable created only for this measurement, into the input of the HP E4407B Spectrum Analyzer. The unit was configured to run in a continuous transmit mode, with a pseudo-random test code supplied by software to provide modulation. The HP receiver was set to a 5 MHz Bandwidth, and the transmitted signal was then stored, with the peak signal level stored. This power level was collected for the lowest, highest and middle channels and can be seen in the chart presented below.

CHANNEL	CENTER FREQ (MHz)	LIMIT (dBm)	MEASURED POWER (dBm)	MARGIN (dB)
1	2412	30 dBm	15.17	14.83
3	2432	30 dBm	15.66	14.34
6	2462	30 dBm	17.00	13.00

From a retest performed on 24 January,2000, using a calorimetric power meter:

Power output measured with Gigatronics 8542C power meter (with 80301A Shottky diode sensor head), and compared to the power read with the HP E4407B Spectrum analyzer in a 5 MHz bandwidth. The sample tested at this time was a different sample than the one tested previously; this sample has a serial number of 015717.

CHANNEL	FREQUENCY (MHz)	LIMIT (dBm)	POWER ANALYZER	MARGIN (dB)	POWER METER	MARGIN
1	2412	30 dBm	15.4	14.6	14.9	15.1
2	2422	30 dBm	15.6	14.4	15.5	14.5
3	2432	30 dBm	15.8	14.2	15.9	14.1
4	2442	30 dBm	16.2	13.8	16.3	13.7
5	2452	30 dBm	15.9	14.1	16.0	14.0
6	2462	30 dBm	15.2	14.8	15.3	14.7

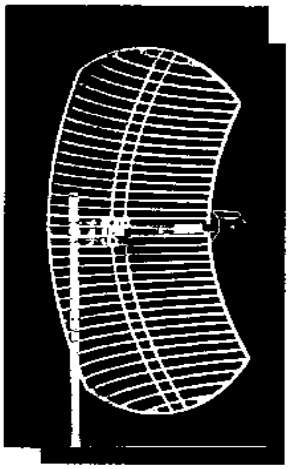
RESPONSE TO #3…

The Waverider wireless bridge is an exclusive fixed, point to point system, that uses a 24 dBi gain parabola mounted on a pipe or tower in a fixed outdoor application. Below is the specifications for the Conifer 26T-2400. At the bottom of the specification sheet is a set of calculations detailing the system radiated power output parameters.

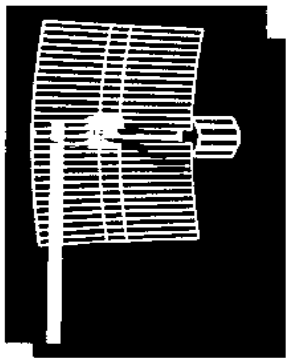
Wireless Antennas

For World-Wide Applications
WLAN/ISM
2.4 - 2.5 GHz*

MODEL
26T-2400*



MODEL
18T-2400*



*U.S. Patent 5,191,350

FEATURES

- Die-cast 18/26 manufacturing processes
- Magnesium Alloy is superior to anodized aluminum and weighs 33% less
- Low wind loading
- Manufactured with nonferrous materials; magnesium alloy, stainless steel and aluminum
- Compact packaging
- No mechanical adaptors required to mount the feed
- Five Year Limited Warranty

BENEFITS

- Consistent high performance from every antenna
- Lightest weight and most durable grid antennas
- Operational in most all weather environments
- No rust!
- Saves on shipping costs
- One feed fits both antennas
- Guaranteed reliability

*Contact factory for other frequency options.

CONIFER II*
WIRELESS TELECOMMUNICATION TECHNOLOGY
URS ISO 9001
1400 N Roosevelt, Burlington, IA 52601
Phone 800-843-5419 (U.S.), 319-752-3607 (Int'l)
Fax 319-753-5508, email <conifer@conifercorp.com>

PERFORMANCE SPECIFICATIONS*

	MODEL 18T-2400	MODEL 26T-2400
Input Frequency	2400 - 2500 MHz	2400 - 2500 MHz
Gain	18 dBi	24 dBi
-3 dB Beam Width	14°	7.5°
Front to Back Ratio	>23 dB	>31 dB
Polarity	Dual	Dual
Cross Polarity Rejection	>23 dB	>26 dB
VSWR (Average)	1.3:1 @ 2400-2500 MHz	1.3:1 @ 2400-2500 MHz
Impedance @ Output	50 OHMS	50 OHMS
Connector "N" Type**	Male	Male
Coaxial Pigtail - RG8**	24 inches	24 inches
Input Power	50 Watts	50 Watts
Windloading @ 100 MPH @ 140 MPH	 39.4 lbs. 77.9 lbs.	 97.0 lbs. 199.5 lbs.
Elevation Adjustment	60° in 10° Increments	60° in 10° Increments
Size	16 x 20 x 15 inches (40.64 x 50.80 x 38.10 cm)	23.5 x 39.25 x 15 inches (60.95 x 91.44 x 38.10 cm)
Weight	2.7 lbs. (1.22 Kg)	5.4 lbs. (2.43 Kg)
Reflector Material	Cast Magnesium Alloy	Cast Magnesium Alloy
Mounting Hardware	Stainless Steel	Stainless Steel
Mounting	1" - 2" O.D. Mast (2.54 - 5.08 cm)	1" - 2" O.D. Mast (2.54 - 5.08 cm)

*Specifications subject to change without notice.
**Contact factory for other options.

MANUFACTURED IN BURLINGTON, IOWA

Only the Conifer 26T-2400 antenna is supplied with the system:

Pout + Gain: 17 DBm + 24 dB = 41 dBm (eirp)

Pout of 17 dBm measured maximum.

Antenna gain of 24 dBi quoted gain.

For this antenna, 15.247(b)(3)(i) allows:

Pout + Gain < 48 dBm (eirp)

30 dBm {1 watt allowed by 15.247 (b)(1)} less { (24-6) / 3 } or 6 dB = 24 dBm

so 24 dBm (allowed power) + 24 dB (antenna gain) = 48 dBm (eirp)

RESPONSE TO #4…

This response has been created separately, and submitted into the RF safety folder.

Kenneth Boston
EMC Lab Manager
L. S. Compliance, Inc.