

# CTR 31 GHZ PLUMB

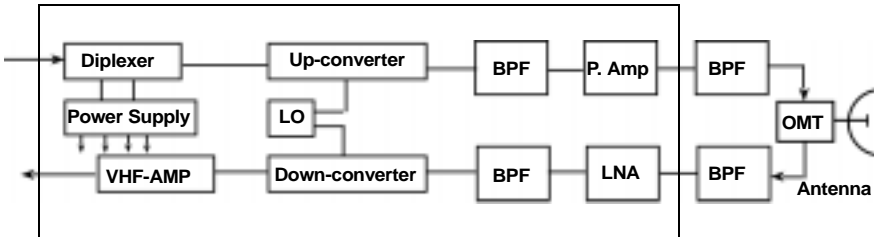
## Product Overview

The CTR 31GHz outdoor transceiver (NTVG 22-AA) is a customer premise transceiver designed to operate in various Receiver (Rx) and Transmitter (Tx) frequency bands upstream. It is a Nortel Networks Reunion product that operates in conjunction with base station products, as well as customer premise products. It is compatible with Reunion's Release 1.2, 1.3 and 1.4 equipment.



CTR 31GHz Transceiver

Figure 1: CTR 31GHz Block Diagram



## CTR 31GHz Specification

**Table 1: CTR 31 GHz Technical Specifications**

TX	IF Input	RF Output
Frequency Range 31-01P1	450-525 MHz	31.225-31.3 GHz
Output Level (P1 dB)		$\geq 21$ dBm, $-40^{\circ}$ to $+55^{\circ}$ C
Output Level (IP3)		$> +28$ dBm
Input Impedance	50 Ohms	
Input/Output Connector	N-Type Female	WR-28 Cover Flange
Gain (not including antenna)		$30 \pm 1$ dB
Gain Flatness		$\pm 1.5$ dB over bandwidth
Gain vs. Temperature		$\pm 3.0$ dB ( $-40^{\circ}$ to $+55^{\circ}$ C)
Frequency Stability		$< \pm 2$ ppm, ( $-40^{\circ}$ to $+55^{\circ}$ C)

Antenna	CTR
Frequency	31.225-31.3 GHz
Gain	36.5 dB
TX / RX wave polarity	linear, single pole (horizontal or vertical)
Beam Width (3 dB)	$2^{\circ}$
Diameter	1' (30.5 cm)

<b>RX</b>	<b>RF Input</b>	<b>IF Output</b>
Frequency Range 31-01P1	31.0-31.075 GHz	225-300 MHz
Input/Output Connector	WR-28	N-Type Female
Input IP3	-18 dBm	
Output Impedance		50 Ohms
Gain (not including antenna)		37±1 dB, minimum
Gain Flatness		±2.0 dB over bandwidth
Gain Stability		±3 dB over temperature
Frequency Stability		<±2.0 ppm, (-40° to+55° C)
Noise Figure		<7.5 dB, -40° to +30° C < 8.0 dB, +30° to +55° C

<b>Power Requirements</b>	<b>CTR</b>
Input Voltage	±18 VDC, 3A. max diplexed with TX cable
Input Current	<3 Amp
Input Power	54 Watts, maximum
<b>Environmental</b>	<b>CTR</b>
Humidity	100% condensing
Altitude	10,000 feet
Operating Temperature	-40° to +55°C
Storage Temperature Range	-60° to +75°C
<b>Mechanical</b>	<b>CTR</b>
Size (Height x Diameter)	15.2" x 12.4" (38.5 x 31.5 cm)
Weight without brackets	7 lbs. (3.2 KG)

## Converted Frequency Formula

Use the following formula to calculate the converted frequency:

$$\text{TX: } f_{\text{RF OUT}} (\text{GHz}) = f_{\text{RF IN}} (\text{GHz}) + 30.775 \text{ GHz}$$

$$\text{RX: } f_{\text{IF OUT}} (\text{GHz}) = f_{\text{RF IN}} (\text{GHz}) - 30.775 \text{ GHz}$$

## Technical Assistance Contact Information

In case additional technical assistance is required, or the transceiver unit is damaged upon receipt, contact Nortel Networks.

Nortel Networks Broadband Wireless Access (BWA) provides 24-hour customer service and technical support to ensure your service operation is trouble-free.

If you have questions or need technical support, contact Nortel Networks Broadband Wireless Access at the following telephone numbers:

- In the USA and Canada, call 972-BWA-ETAS/972-292-3827



Information is subject to change without notice.  
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