NTP #:411-1333-923
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CTR 28-08 GHz MMIC

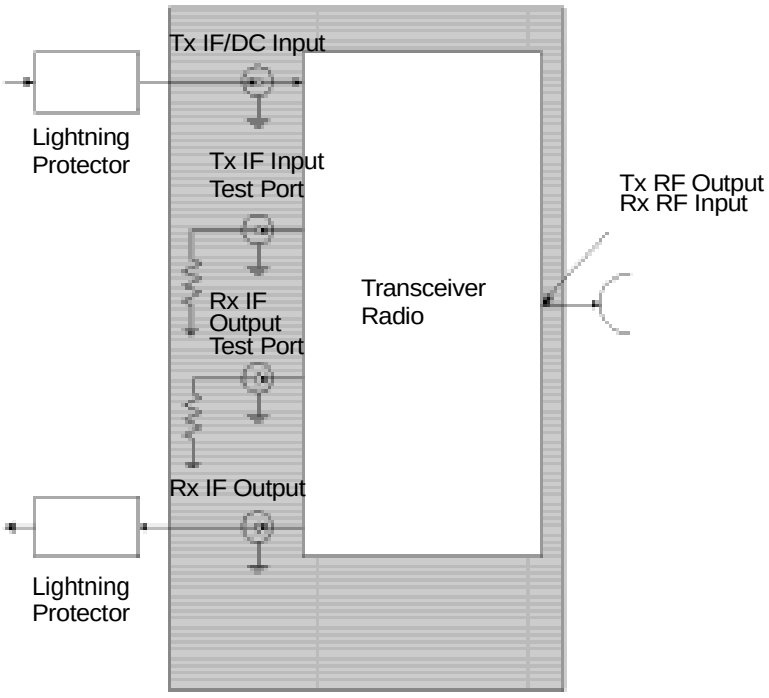
Quick Reference Guide

Product Overview

The CTR 28-08 MMIC (NTVG16BH) outdoor transceiver is a customer premise transceiver designed to operate in various Receiver (Rx) and Transmitter (Tx) frequency bands. 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 28M Transceiver

Figure 1: CTR 28M Block Diagram



CTR 28-08 MMIC Specification

Table 1: CTR 28-08M Technical Specifications

TX	IF Input	RF Output
Frequency Range 28-08M	500-650 MHz	27.85-28.00 GHz
Output Level (P1 dB)		≥23 dBm, -40° to +55° C
Output Level (IP3)		> +31 dBm
Input Impedance	50 Ohms	
Input/Output Connector	N-Type Female	N/A (integrated antenna)
Input/Output VSWR	1:93:1 maximum	N/A
Gain (not including antenna)		33 dB
Gain vs. Temperature		±2.0 dB (-40° to +55° C)
Gain Flatness		±2.0 dB over bandwidth
Frequency Stability		<±4 ppm, Over all Conditions
Noise Figure	24.5 dB	
Tx IF Test Port		Type SMA jack (F)

Antenna	CTR
Frequency	27.5 - 31.3 GHz
Frequency band	2731
Bore-sight Gain (Azimuth)	37.4 ±1.4 dB
Polarity	V/V or H/H determined mechanically on installation
Beam Width (azimuth) Beam Width (elevation)	2.6±TBD°, minimum 2.6±TBD°, minimum
Flanges	WR-42
Port-to-Port Isolation	35 dB, minimum
Cross-Polarization Discrimination	> 30 dB
Diameter	14" (35 cm)

RX	RF Input	IF Output
Frequency Range 28-08M	27.50 - 27.65 GHz	150-300 MHz
Input/Output Connector	N/A (integrated antenna)	N-Type Female
Output Impedance		50 Ohms
Input/Output VSWR	N/A (integrated antenna)	1:93:1 maximum
Gain (not including antenna)		28.0 ±1.0 dB
Gain Flatness		±2.0 dB over bandwidth
Gain Stability		±2.0 dB over temperature
Frequency Stability		<±4 ppm
Noise Figure		7.8 dB, -40° to +55° C
Rx IF Test Port		Type SMA jack (F)

Power Requirements	CTR
Input Voltage	±48 VDC, 3A. max diplexed with TX cable
Input Inrush Current	4.5A max
Input Power	54 Watts, maximum
Environmental	**CTR**
Humidity	100% condensing
Altitude	10,000 feet
Operating Wind Resistance	50m/second on all surfaces
Operating Temperature	-40° to +55°C
Storage Temperature Range	-45° to +70°C (packaged)
Solar Loading	ETS 300 019 class 4.1 1120W/m^2, 50°C max.
Mechanical	**CTR**
Size (Length x Height x Width)	14" x 14" x 11" (35.6 x 35.6 x 27.9 cm)
Weight without brackets	25 lbs. (11.41 KG)

Converted Frequency Formula

Use the following formula to calculate the converted frequency:

TX: $f_{\text{RF OUT}}$ (GHz) = $f_{\text{IF IN}}$ (GHz) + 27.35

RX: $f_{\text{IF OUT}}$ (GHz) = $f_{\text{RF IN}}$ (GHz) - 27.35

Note: Electrostatic deposition powder coat, scratch free.

Note: Vent holes are covered with a Goretex™ patch.

Note: The transceiver mounts to a vertical pole of 2.5” to 4.5” outside diameter. It has a range of motion of 90° over and -60° under horizon. The bases of the antenna mount can rotate ±180°.

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