NTP #: 411-1333-921
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CTR 28-07 GHz MMIC

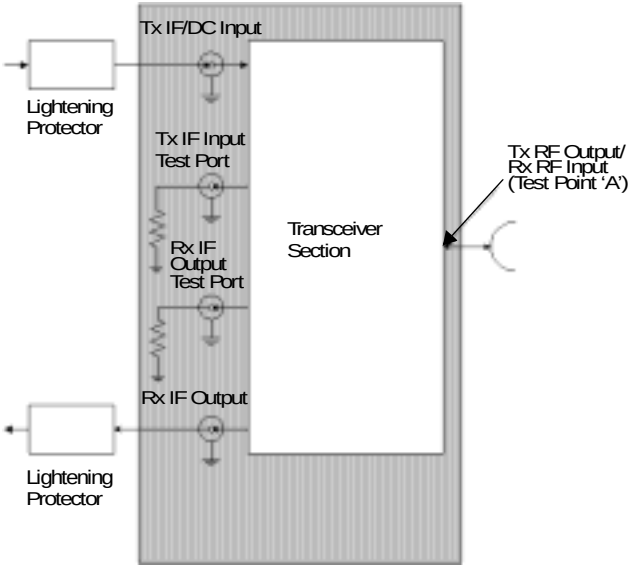
Quick Reference Guide

Product Overview

The CTR 28-07 MMIC (NTVG16CA) 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 and 1.3 equipment.

CTR 28-07M Transceiver

Figure 1: CTR 28M Block Diagram



CTR 28-07 MMIC Specification

Table 1: CTR 28-07M Technical Specifications

TX	IF Input	RF Output
Frequency Range 28-07M	500-650 MHz	28.20-28.35 GHz
Output Level (P1 dB)		≥23 dBm, -40° to +55° C
Output Level (IP3)		+31.0 dBm
Input Impedance	50 Ohms	
Input/Output Connector	N-Type Female	N/A
Gain (not including antenna)		32.0 ±0.6 dB
Gain Variation		±5.0 dB over all conditions
Gain Flatness		±1.9 dB over bandwidth
Frequency Stability		<±4 ppm over all conditions
Noise Power		-115 dBm/Hz
TX Test Port		SMA female
TX IF Test Port Coupling		-16±1 dB

Antenna	CTR
Frequency	27.5-28.31.3 GHz
Frequency Band	2731
Gain	36.2 dBi, minimum
Polarity	Cross Pole (dual polarization)
Beam Width (azimuth) Beam Width (elevation)	2.5±TBD°, minimum 2.5±TBD°, minimum
Cross-Polarization Discrimination	> 30.0 dB
Diameter	14" (35 cm)

RX	RF Input	IF Output
Frequency Range 28-07M	29.10-29.25 GHz	250-400 MHz
Input/Output Connector	N/A	N-Type Female
Output Impedance		50 Ohms
Gain (not including antenna)		28±0.6 dB, minimum
Gain Variation		±5.0 dB over all conditions
Gain Flatness		±1.9 dB over bandwidth
Frequency Stability		<±4 ppm,over all conditions
Noise Figure		≤ 7.2 dB, maximum
LO Leakage	-35 dBm, maximum	
RX Test Port		SMA female
RX IF Test Port Coupling		-14±1 dB

Power Requirements	CTR
Input Voltage	-48 VDC, 3.5A. max diplexed with TX cable
Input Current	<1.5 Amp
Input Power	55 Watts, maximum
Environmental	**CTR**
Humidity	100% condensing
Altitude	10,000 feet
Wind Resistance	50m/second on all surfaces
Operating Temperature	-40° to +55°C
Storage Temperature Range	-55° to +70°C
Mechanical	**CTR**
Size (Length x Width)	10.55" x 11.63" (26.4 x 29 cm)
Weight without brackets	25 lbs. (11.1 KG)

Converted Frequency Formula

Use the following formula to calculate the converted frequency:

TX: $f_{RF\ OUT}$ (GHz) = 28.85 (GHz) - $f_{IF\ IN}$ (MHz)

RX: $f_{IF\ OUT}$ (MHz) = $f_{RF\ INPUT}$ (GHz) - 28.85 (GHz)

Note: The antenna has an option of a hydrophobic coating that can help to reduce ice build-up effect.

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°.

Note: The module connector is N-Type female. The receive IF input/output cables present a male N-Type connector. The Tx IF and the Rx IF test ports are SMA-Type female.

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