

CTR 24-01 GHz MMIC

Quick Reference Guide

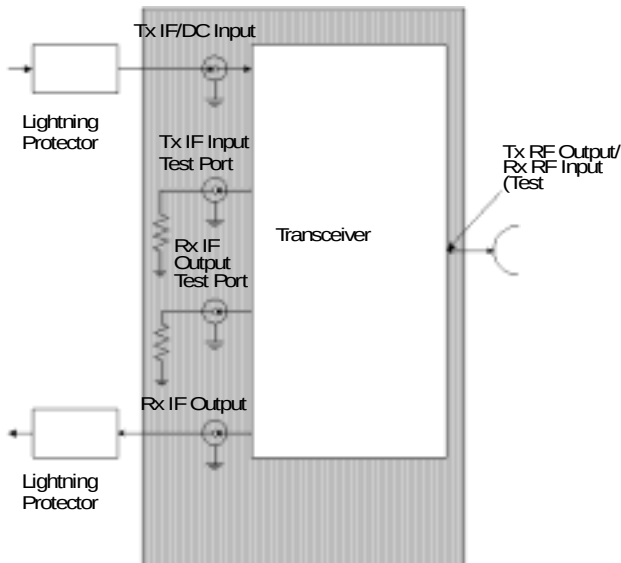
Product Overview

The CTR 24-01 MMIC (DSVG12BA) 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 24-01M Transceiver

Figure 1: CTR 24-01M Block Diagram



CTR 24-01 GHz MMIC Specification

Table 1: CTR 24-01M Technical Specifications

TX	IF Input	RF Output
Frequency Range 24-01M	450-650 MHz	25.05 - 25.25 GHz
Output Level (P1 dB)		≥ 23.0 dBm, -40° to $+30^{\circ}$ C ≥ 22.5 dBm, $+30^{\circ}$ to $+50^{\circ}$ C ≥ 22.5 dBm, $+50^{\circ}$ to $+60^{\circ}$ C
Input Impedance	50 Ohms	
Input/Output Connector	N-Type Female	N/A (integrated antenna)
Input/Output VSWR	1.925:1 (or 10 dB), maximum	N/A (integrated antenna)
Gain (mid-band at room temperature not including antenna)		32 $\pm$ 1.0 dB, minimum
Gain Variation		± 5.5 dB over all conditions
Gain Flatness		± 2 dB over 200 MHz BW
LO leakage		< -43 dBm (outband)
Frequency Stability		< ± 4 ppm over all conditions
Tx Noise Power		-115 dBm/Hz, maximum
Tx IF Test Port Coupling		-16 $\pm$ 1 dB

Antenna	CTR
Frequency	24.25 - 26.5 GHz
Frequency Band	2426
Gain	36.5 dBi $\pm$ 0.9 dB
Polarity	Cross Pole (dual polarization)
Beam Width (azimuth) Beam Width (elevation)	2.5 $\pm$ 0.2°, maximum 2.5 $\pm$ 0.2°, maximum
Port-to-Port Isolation	35 dB, minimum
Cross-Polarization Discrimination	> 30 dB
Diameter	14" (35 cm)

RX	RF Input	IF Output
Frequency Range 24-01M	24.25 - 24.45 GHz	150 - 350 MHz
Input/Output Connector	N/A (integrated antenna)	N-Type female
Input P1 dB	-18 dBm	
Output Impedance	N/A	50 Ohms
Input/Output VSWR	N/A	1.925:1, max (or 10 dB)
Gain (mid-band at room temperature not including antenna)		28 ±1.0 dB
Gain Flatness		±2.0 dB over bandwidth
Gain Variation		±5.5 dB over all conditions
Frequency Stability		<±4 ppm over all conditions

Power Requirements	CTR
Input Voltage	18 VDC
Input Inrush Current	<7.5 A max
Input Power	50 Watts, maximum
Environmental	CTR
Humidity	100% condensing
Altitude	3000 meters
Operating Wind Resistance	50m/second on all surfaces
Operating Temperature	-40° to +60°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	11.41 KG

Converted Frequency Formula

Use the following formula to calculate the converted frequency:

$$\text{TX: } f_{\text{RF OUT}} (\text{GHz}) = f_{\text{IF IN}} (\text{GHz}) + 24.6$$

$$\text{RX: } f_{\text{IF OUT}} (\text{GHz}) = 24.6 - f_{\text{RF IN}} (\text{GHz})$$

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



Information is subject to change without notice.
Nortel reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.
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