Radio Frequency Exposure Report

On Behalf of

Prentke Romich Company

FCC ID:	**2AD9PACN1000**
Product Description:	**Accent 1000**
Model No.:	**ACN1000**
Supplementary Model:	**N/A**
Prepared for:	**Prentke Romich Company** 1022 Heyl Rd. Wooster, Ohio 44691
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1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Applicant:	**Prentke Romich Company**
Address of Applicant:	1022 Heyl Rd. Wooster, Ohio 44691
Manufacturer :	**Prentke Romich Company**
Address of manufacturer:	1022 Heyl Rd. Wooster, Ohio 44691

General Description of E.U.T

Items	Description
EUT Description:	Accent 1000
Model No.:	ACN1000
Trade Name:	N/A
Supplementary Model:	N/A
Frequency Band:	EEE 802.11b/g, IEEE 802.11n HT20 (ISM Band) : 2412MHz～2462MHz, IEEE 802.11n HT40 (ISM Band) : 2422MHz～2452MHz
Number of Channels:	IEEE 802.11b/g, 802.11n HT20:11 Channels 802.11n HT40:7 Channels
Type of Modulation:	IEEE 802.11b：DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g：OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20/40：OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Gain:	0.88dBi
Antenna Type:	Integral Antenna
Rated Voltage:	Input: 18VDC 3.4A from AC/DC adapter;7.4VDC from battery
Adapter description:	Model No:MENB1060A1800N02; Manufacturer: SL POWER and AULT Input: 100-240V~ 50-60Hz 1.5A Max ; Output:18.0V 3.4A

Remark: * *The test data gathered are from the production sample provided by the manufacturer.*

1.2 Objective

The objective of the following report is used to demonstrate that EUT operated in a manner that ensures the public is not exposed to radio frequency energy levels in excess of the relative provisions of FCC 47CFR Part 1.1307

1.3 General Description of Test

Items	Description
EUT Frequency band	☒ FHSS: 2.400GHz ~ 2.483GHz ☒ WLAN: 2.400GHz ~ 2.483GHz ☐ WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐ WLAN: 5.745GHz ~ 5825GHz ☐Others: _____
Device category	☐Portable (<20cm separation) ☒Mobile (>20cm separation) ☐Others _____
Exposure classification	☐Occupational/Controlled exposure (S = 5mW/cm2) ☒General Population/Uncontrolled exposure (S=1mW/cm^2) ☐Others: _____
Antenna diversity	☒Single antenna ☐Multiple antennas: ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Max. output power	13.69dBm (0.0234W)
Antenna gain (Max)	0.88dBi (Numeric gain:1.22)
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation
Note: *1. The maximum output power is 14.60dBm (0.0288W) at 2437 MHz (with 1.22 numeric antenna gain.)* *2. For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20 cm, even if the calculations indicate that the MPE distance would be lesser.*	

1.4 Human Exposure Assessment Results

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

Where E = *Field Strength in Volts / meter*
P = *Power in Watts*
G = *Numeric antenna gain*
d = *Distance in meters*
S = *Power Density in milliwatts / square centimeter*

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and
*d (cm) =100 * d (m)*

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \qquad \textit{Equation 1}$$

Where d = *distance in cm*
P = *Power in mW*
G = *Numeric antenna gain*
S = *Power Density in* mW/cm^2

EUT parameter (data from the separate report)	
Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$	Where G: numerical gain of transmitting antenna; TP: Transmitted power in watt; d: distance from the transmitting antenna in meter
Max average output power in Watt (TP)	13.69dBm (0.0234W)
Antenna gain (G)	0.88dBi (Numeric gain: 1.22)
Exposure classification	S=1mW/cm^2
Minimum distance in meter (d) (from transmitting structure to the human body)	20cm (0.2m)
Yields $S = \frac{30xPxG}{3770d^2}$, P=0.0234W, G=1.22, d=0.2 S=0.0056mW/cm^2 Or $d = \sqrt{\frac{30xPxG}{3770S}}$, S=1, P=0.0234W, G=1.22 d=0.0150m	
Conclusion: S=0.0056mW/cm^2 is significant lower than the General Population Exposure Power Density Limit 1mW/cm^2 or except the distance when human body proximity to the antenna is less than1.50cm then will reach the General Population Exposure Power Density Limit (For mobile or fixed location transmitters, the maximum power density is 1.0 mW / cm^2 even if the calculation indicates that the power density would be larger.)	