

Certification Exhibit

**FCC ID: HSW-DNT2400P
IC: 4492A-DNT2400P**

**FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210**

ACS Report Number: 11-0099.W06.11.A

Manufacturer: RFM / Cirronet Inc.
Model(s): DNT2400PC, DNT2400PP

RF Exposure

General Information:

Applicant: RFM / Cirronet
 ACS Project: 11-0099
 Environment: General Population/Uncontrolled Exposure

MPE Calculation – Mobile Exposure Conditions

Operating Parameters:

Maximum Transmitter Conducted Power 17.64 dBm, 58 mW
 Maximum Antenna Gain(Mobile Conditions) 9 dBi peak
 Maximum System EIRP 26.64 dBm, 461.3 mW

The Power Density (mW/cm²) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

MPE Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure*							
Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)
2409.33	17.64	1.00	58.08	9	7.943	20	0.092

Maximum Transmit Duty Cycle / Power Calculation – Portable Exposure Conditions

Operating Parameters:

Maximum Transmitter Conducted Power 17.64 dBm (58 mW)
 Maximum Antenna Gain (Portable Conditions) 3.47 dBi peak
 Maximum packet length 90 bytes
 Hop time (dwell time) 10 milliseconds
 Bit duration 2 microseconds

Maximum packet size the radio can transmit on a given hop is:

Maximum data payload + overhead (5 bytes) = 95 bytes

The maximum Length of transmission per hop is:

(95*8)*2us = 1.52 ms

The Portable unit can transmit only once per hop. The resulting transmitter duty cycle is:

1.52ms / 10ms = 15.2%

Source-Based Time-Averaged Power is: 58mW* 0.152 * 2.22 = 19.604 mW

1. Per KDB 447498(a)(i), a device may be used in portable exposure conditions with no restrictions on host platforms when the source-based time-averaged output power is ≤ 60/f(GHz) mW.

$$60/(2.46711) = 24.32 \text{ mW.}$$

2. Per IC Radio Standards Specification RSS-102 Issue 4, March 2010; SAR evaluation is required except when the device operates above 2.2 GHz and up to 3 GHz inclusively, and with output power (i.e. the higher of the conducted or radiated (e.i.r.p.) source-based, time-averaged output power) that is less than or equal to 20 mW for general public use.