SIEMIC, INC.
Accessing global markets

2206 Ringwood Avenue
San Jose, CA 95131
Tel: 408-526-1188
Fax: 408-526-1088
Email: TCB@siemic.com

Letter of Average Power-Source Based Calculation for RFID Radio

Reason for Amendment (current / obsolete)	Revision History		Approved Date
	From	To	
Initial Release (current)	1.0	1.0	Dec-04-2006

August 21, 2008

To:
Federal Communications Commission
Authorization and Evaluation Division

Average Power-Source Based Calculation P4T RFID Radio certification FCC ID: I28RFID-M5ECZ-01

1- Typical worst case:
Label length: 1"
Max print speed: 3ips
Typical encode time: 120ms
Power= 233mW (23.7dBm)
Encode time = 120ms
Print time = 403 ms
Print and encode time = 523ms
Duty cycle = 120/523
=> typical worst case .2294 x 233mW = **53.45mW** Average.

2- SW default error case:
Label length: 1"
Max print speed: 3ips
Typical encode time: 120ms
Power= 233mW (23.7dBm)
Encode time = 4 attempts (1 initial attempt@200ms and 3 retries@200ms)- So 800ms for SW default error case encode time for a bad RFID Tag.
Print time = 613 ms [333ms for printing itself + the initial packet and response packet overhead (typically 70ms).]
Print and encode time = 1413ms
Duty cycle = 800/1413
=> SW default error case .5662 x 233mW or **131.92mW** Average

3- The worst case encoding errors:
On a roll, 98% of the time, encoding is successful.

Thus

Average Power Source Based Calculation is 55.02mW (53.45mWx98% + 131.92*mWx2%)

This demonstrates the P4T RFID Radio is below applicable SAR thresholds.

Sincerely,

Charles A. Derrow
Manager, Compliance Engineering
Tel: 847.793.5719
cderrow@zebra.com