2.16 Media Wear

Write the 2F signal on every track of a new disk, and read the output level of all of the tracks and record. After 3,000,000 read passes on track 35, the output level of all tracks should be 80% minimum of the originally measured value of each track.

2.17 Disk Motor

The disk motor speed shall be controlled by a PWM signal from the host computer. The specifications of the disk motor are as follows:

2.17.1 Speed Control Range

a. Speed at 9.4% duty cycle of PWM with the diskette in place and head at TK0 (measured at 25 +/- 3 degrees C) shall be:

$$305 < V_{low} < 380\text{rpm}$$

b. Speed at 91% duty cycle of PWM with diskette in place and head at TK79 (measured at 25 +/- 3 degrees C) shall be:

$$625 < V_{high} < 780\text{rpm}$$

c. Over the full environmental range as specified in Section 2.5, and with a diskette in place the following speeds must be guaranteed including all jitter and drift effects:

With the head positioned at TK0 and the PWM set to 9.4%, the motor speed must be less than 390 rpm.

With the head positioned at TK79 and the PWM set to 91%, the motor speed must be greater than 605 rpm.

2.17.2 Linearity

Non-linearity of the disk motor speed shall be less than 2.0%.

Linearity is defined as,

$$\text{Linearity} = \left| \frac{Vx - Vr}{Vr} \right| \times 100\%$$

where :

$$Vr = \frac{(Va - Vb)}{81.6} (x - 9.4) + Vb$$

Vx : Measured speed at a PWM duty cycle of x %.
Va : Measured speed at a PWM duty cycle of 91%.
Vb : Measured speed at a PWM duty cycle of 9.4%.