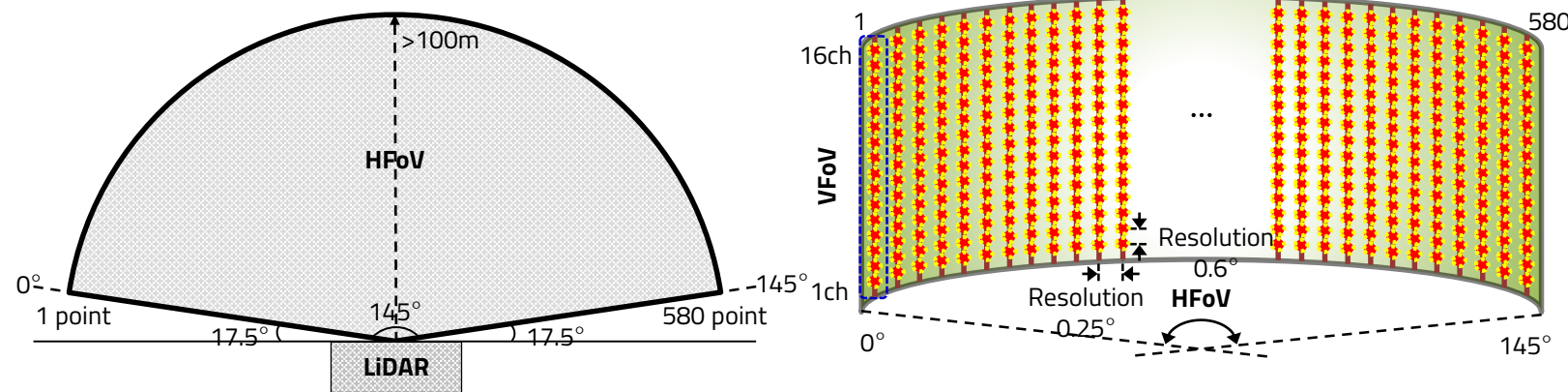


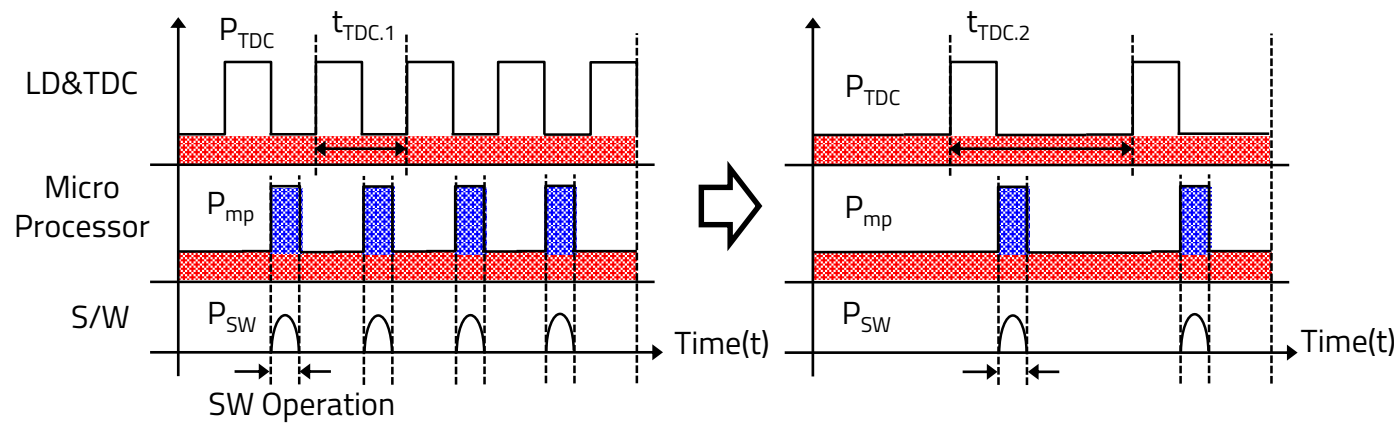
(a) LiDAR sensor block diagram

Speed(km/h)	$T_x$	Resolution( $^{\circ}$ )	$T_x$ rate(%)
$S \geq 100$	580	0.25	100
$100 > S \geq 80$	483	0.3	83.23
$80 > S \geq 60$	414	0.35	71.38
$60 > S \geq 40$	362	0.4	62.41
$40 > S \geq 0$	322	0.45	55.52

(d)  $T_x$  of speed



(b) HFOV and frame



(c) Variable transmission period

**Algorithm** : Accuracy control based speed

**Goal** : Determine  $T_x$   
 $S$  : a speed of the vehicle  
 $A$  : accuracy of the sensor  
 $D$  : a sensing delay  
 $D_0$  : a base sensing delay  
 $T_x$  : the number of the laser's transmission

**Function** : SpeedBasedControl( $S$ )

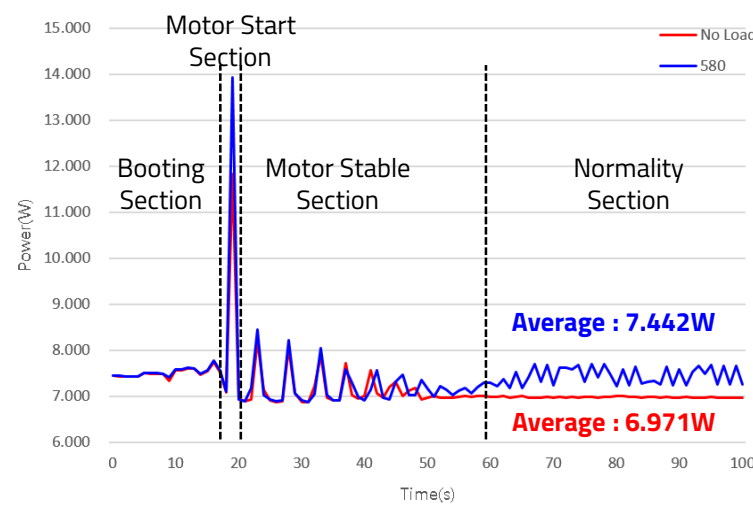
$D = D_0$   
**if**  $40 > S \geq 0$  **then**  
 $A = 55.52\%$   
**elseif**  $60 > S \geq 40$  **then**  
 $A = 62.41\%$   
**elseif**  $80 > S \geq 60$  **then**  
 $A = 71.38\%$   
**elseif**  $100 > S \geq 80$  **then**  
 $A = 83.23\%$   
**else**  
 $A = 100\%$   
 $T_x = 580 \times A$

(e) Accuracy control algorithm

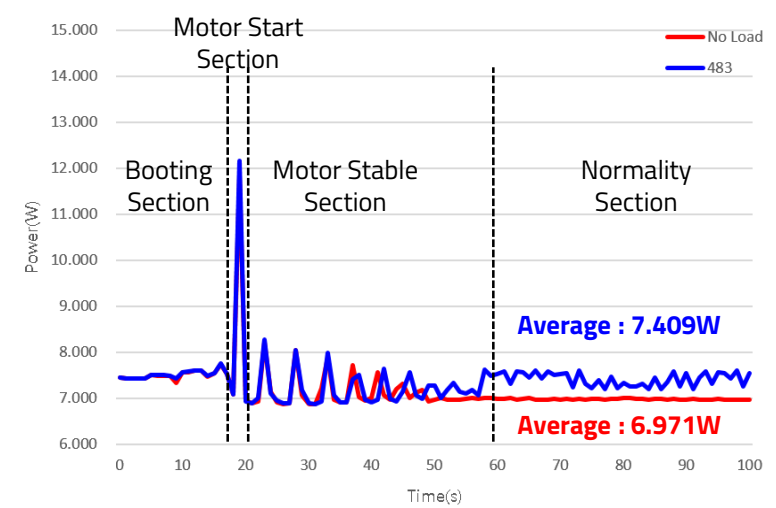


Power Measurement

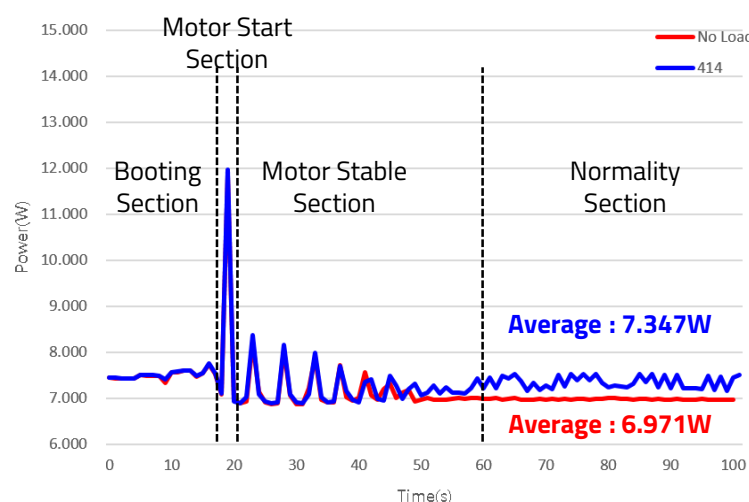
(f) Verification system



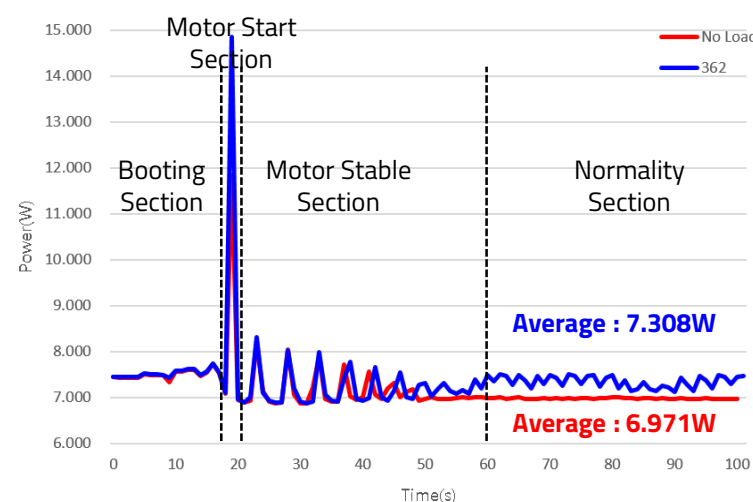
(g) Result from 580 point



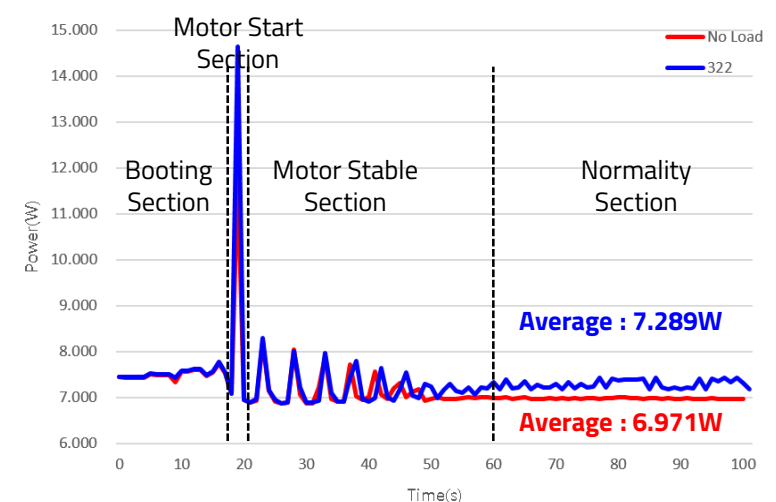
(h) Result from 483 point



(i) Result from 414



(j) Result from 362 point



(k) Result from 322 point