

Q. Can tET/tPET Series Modules achieve a PWM Output Accuracy of less than 1 ms?

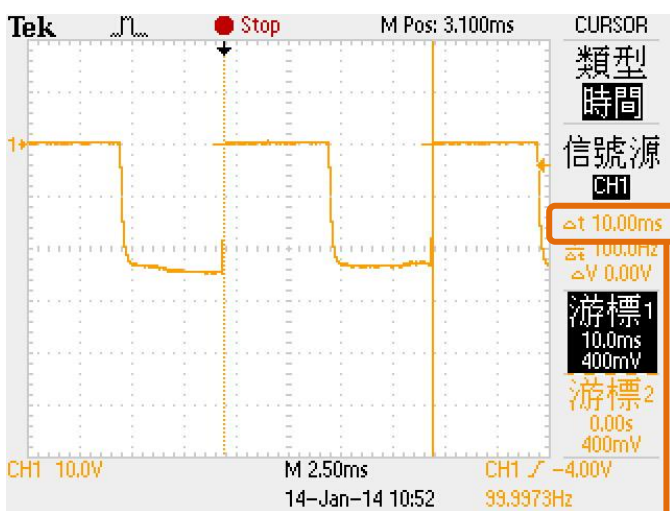
A: Yes. Based on testing by ICP DAS, a PWM output accuracy of less than 1 ms (Accuracy < 1 ms) can be achieved for duty cycle values ranging from 5 to 15 ms, and the performance is very stable. Note that other functions, e.g., Frequency Measurement, should not be enabled while PWM output is active as this will reduce the PWM accuracy.

■ The test environment is as follows:

Operating System:	Windows XP SP3
Module:	tPET-P2C2
Firmware Version:	v1.2.8
Measuring Instrument:	Oscilloscope

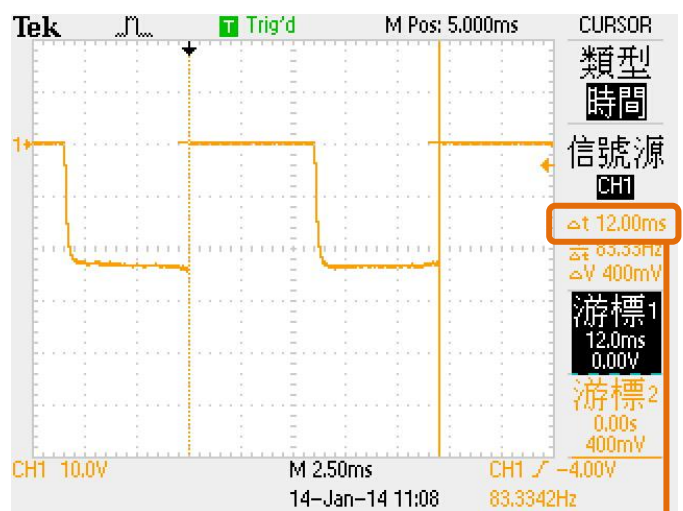
■ The following figures illustrate the output accuracy for a range of duty cycle values from 5 to 15 ms:

➤ Figure 1: Duty Cycle = 5 ms



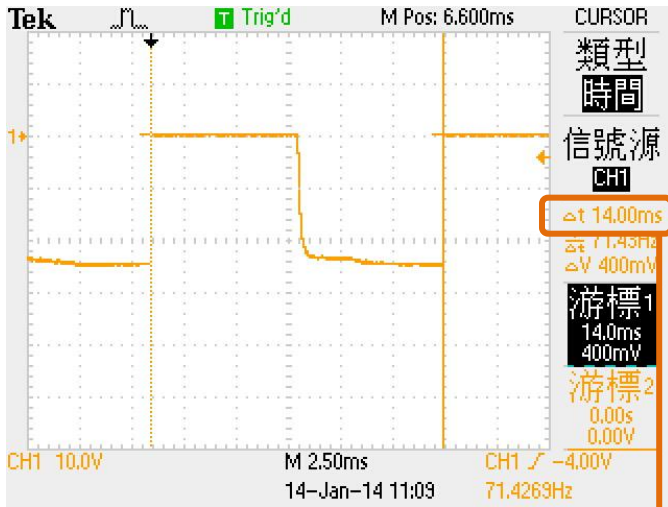
Error =
 Desired Duty Cycle (High and Low) – Measured delta t
 = (5 ms x 2) – 10.00 ms = 0 ms (< 1 ms)

➤ Figure 2: Duty Cycle = 6 ms



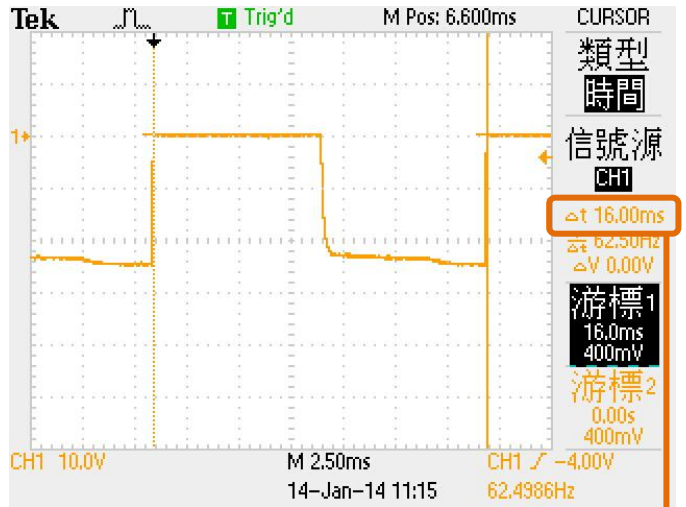
Error =
 Desired Duty Cycle (High and Low) – Measured delta t
 = (6ms x 2) – 12.00 ms = 0 ms (< 1 ms)

➤ Figure 3: Duty Cycle = 7 ms



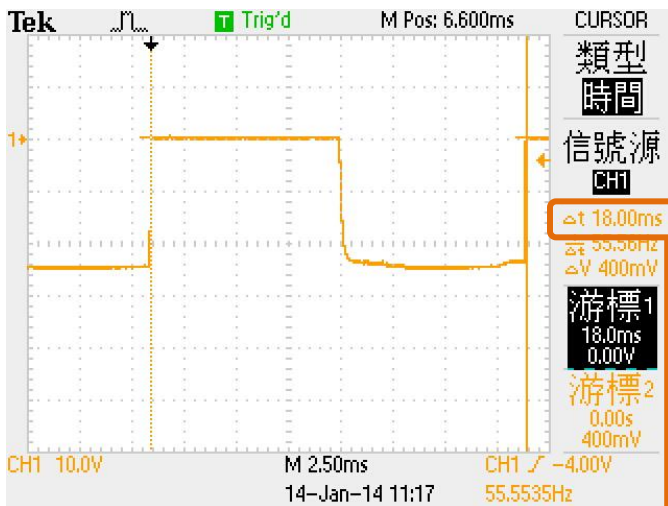
Error =
 Desired Duty Cycle (High and Low) – Measured delta t
 = (7 ms x 2) – 14.00 ms = 0 ms (< 1 ms)

➤ Figure 4: Duty Cycle = 8 ms



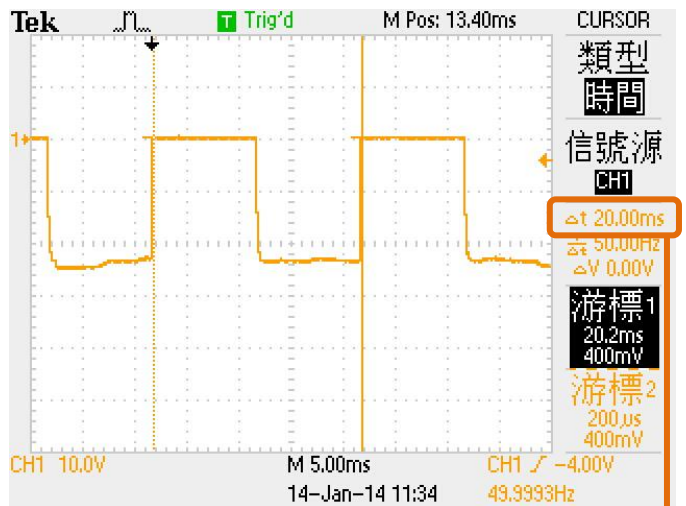
Error =
 Desired Duty Cycle (High and Low) – Measured delta t
 = (8 ms x 2) – 16.00 ms = 0 ms (< 1 ms)

➤ Figure 5: Duty Cycle = 9 ms



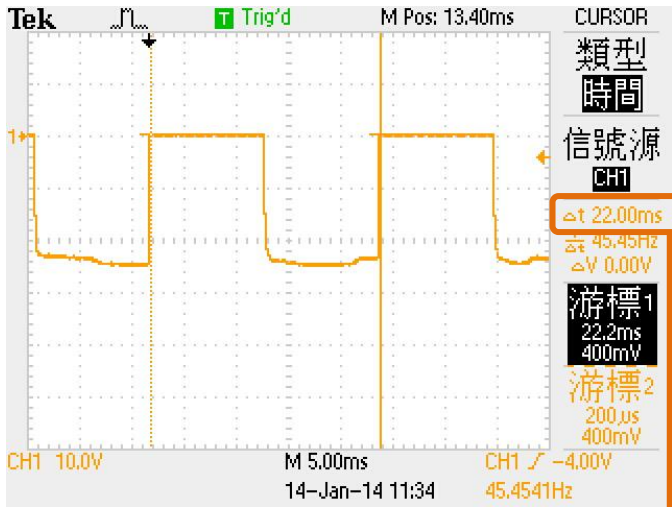
Error =
 Desired Duty Cycle (High and Low) – Measured delta t
 = (9 ms x 2) – 18.00 ms = 0 ms (< 1 ms)

➤ Figure 6: Duty Cycle = 10 ms



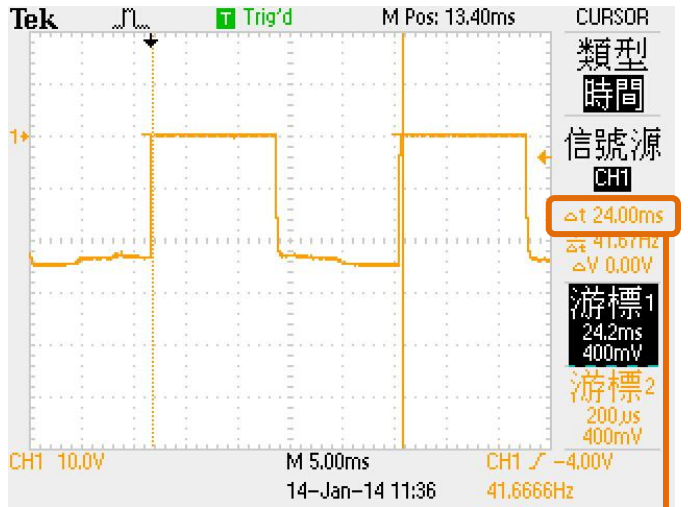
Error =
 Desired Duty Cycle (High and Low) – Measured delta t
 = (10 ms x 2) – 20.00 ms = 0 ms (< 1 ms)

➤ Figure 7: Duty Cycle = 11 ms



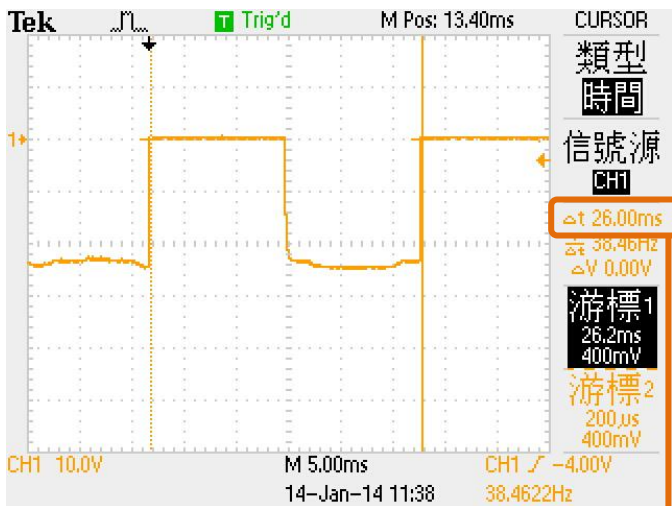
Error =
Desired Duty Cycle (High and Low) – Measured delta t
 = (11 ms x 2) – 22.00 ms = 0 ms (< 1 ms)

➤ Figure 8: Duty Cycle = 12 ms



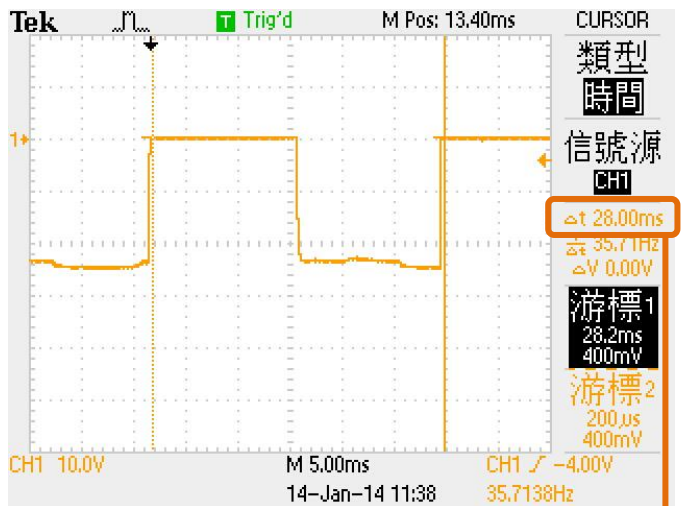
Error =
Desired Duty Cycle (High and Low) – Measured delta t
 = (12 ms x 2) – 24.00 ms = 0 ms (< 1 ms)

➤ Figure 9: Duty Cycle = 13 ms



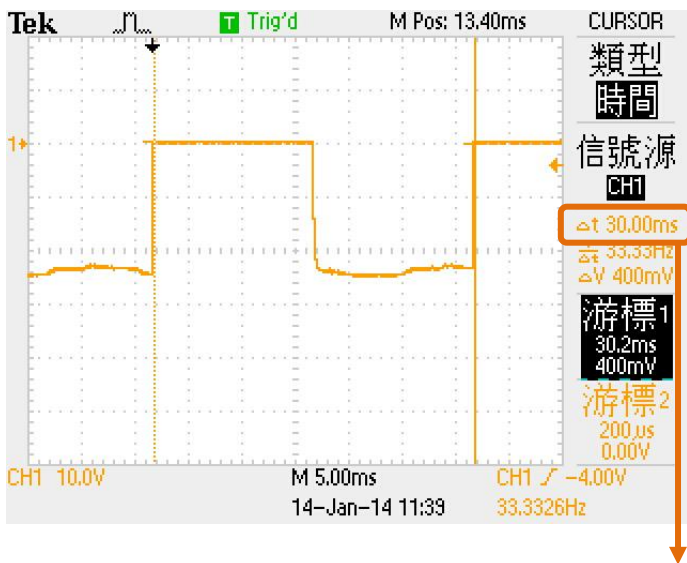
Error =
Desired Duty Cycle (High and Low) – Measured delta t
 = (13 ms x 2) – 26.00 ms = 0 ms (< 1 ms)

➤ Figure 10: Duty Cycle = 14 ms



Error =
Desired Duty Cycle (High and Low) – Measured delta t
 = (14 ms x 2) – 28.00 ms = 0 ms (< 1 ms)

➤ Figure 11: Duty Cycle = 15 ms



Error =
 Desired Duty Cycle (High and Low) – Measured delta t
 = (15 ms x 2) – 30.00 ms = 0 ms (< 1 ms)