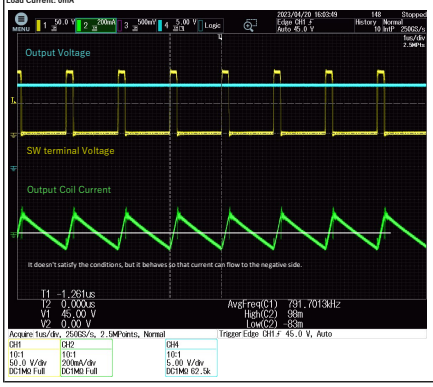
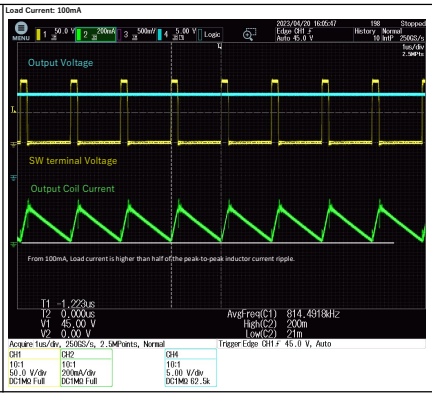
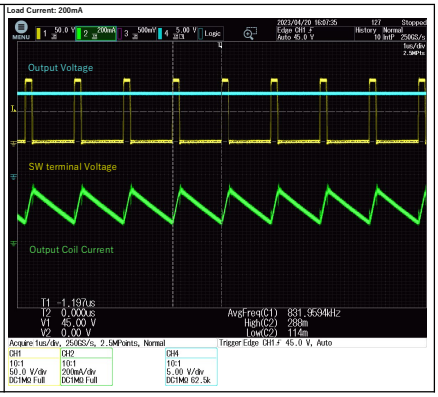
Load Current: 0mA



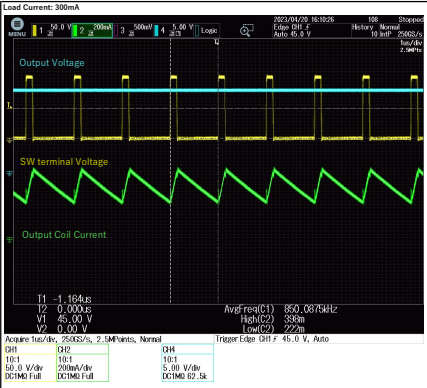
Load Current: 100mA



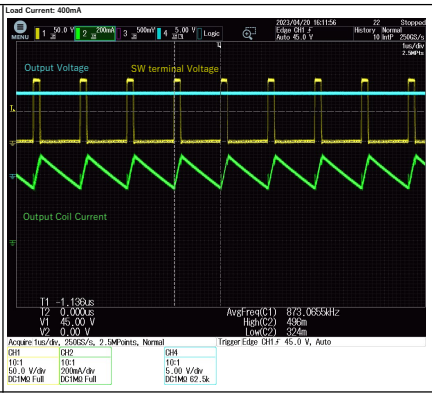
Load Current: 200mA



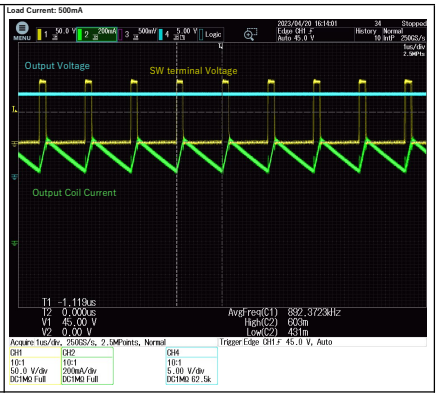
Load Current: 300mA



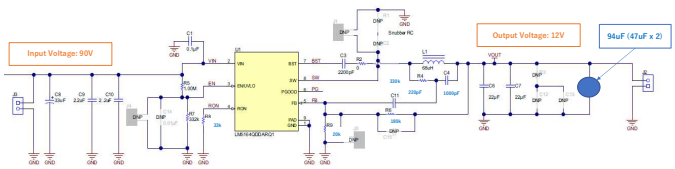
Load Current: 400mA

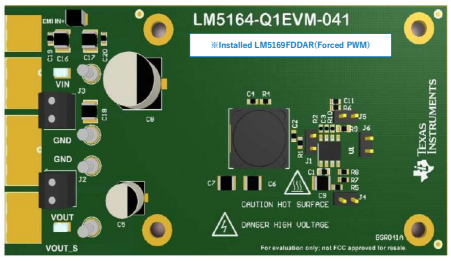


Load Current: 500mA



■Evaluation board

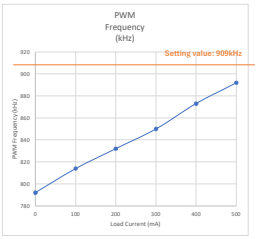




Constant change list
- PWM frequency setting… R8：33k
- Voltage setting… R6：180k、R9：20k
- Ripple Generation Methods（TYPE 3）… R4：330k、C4：1000p、C11：220p
- Adding the electrolytic capacitor to the output: 94uF(47uF x 2)

■Variation of PWM frequency with load current

Load Current (mA)	PWM Frequency (kHz)
0	792
100	814
200	832
300	850
400	873
500	892



＞Load current is higher than half of the peak-to-peak inductor current ripple.

→If you follow this design method, CCM starts at 100mA.
However, the PWM frequency increases in proportion to the output current.
Furthermore, although it is set to 909 kHz, it actually becomes a low frequency.

①Why do these changes occur?
②Could you tell us how to suppress the fluctuation of the PWM frequency?
③Does it change with the choice of Ripple Generation Methods(3 TYPE)?

Our request:
We would like to design LM5169F with a constant frequency regardless of the load current, please tell us the design method.