1 Measurement conditions

input：DC380V（PFCout）

out1：５Ｖ１０Ａ（No-load voltage setting: 4.7V, load current: sudden change from 100% to 0%）

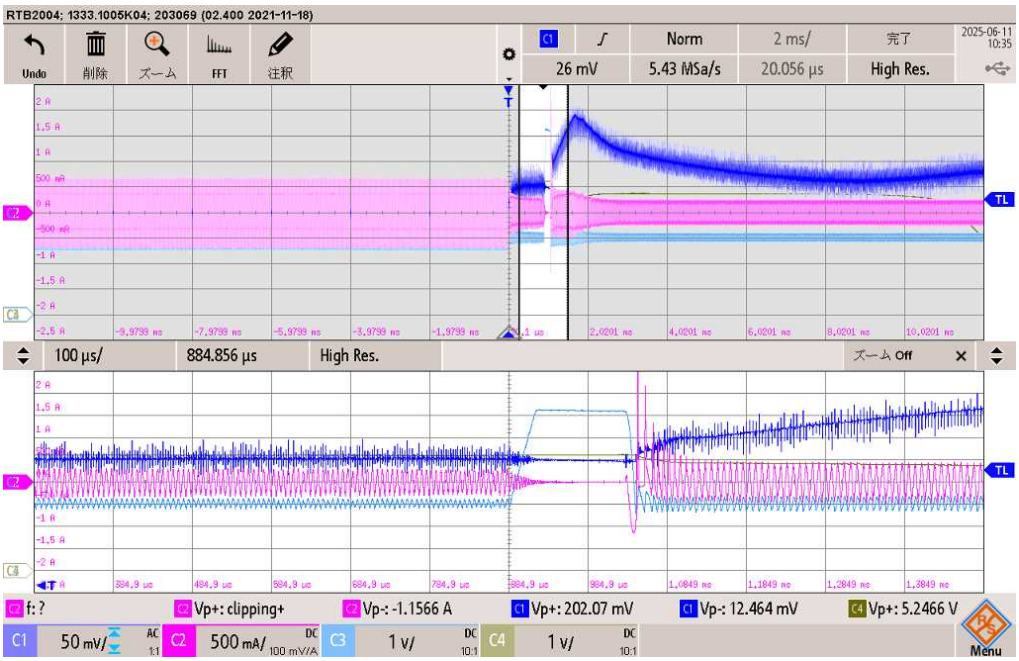
out2：２４Ｖ２Ａ（No load）

2.Observed waveform

2.1 Waveform when 5V output suddenly changes from 100% to 0% [2ms/div],

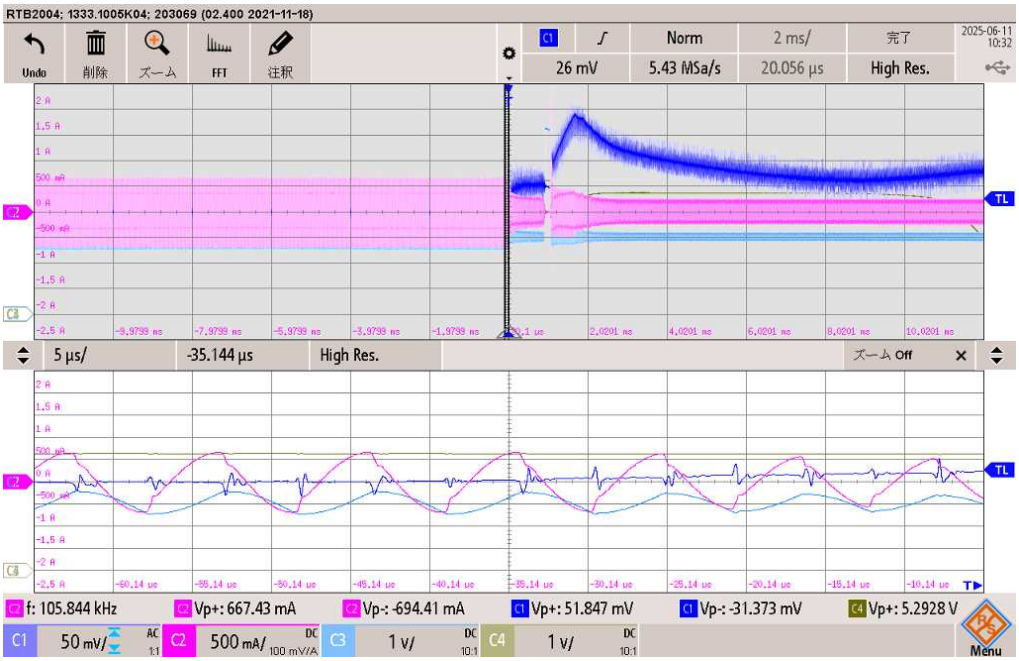
Enlarged waveform 1 [100 μ sec/div]

It appears that the LLC control frequency cannot be raised above 200kHz, and the VCR terminal voltage momentarily latches up to about 7V, temporarily reaching the control limit.

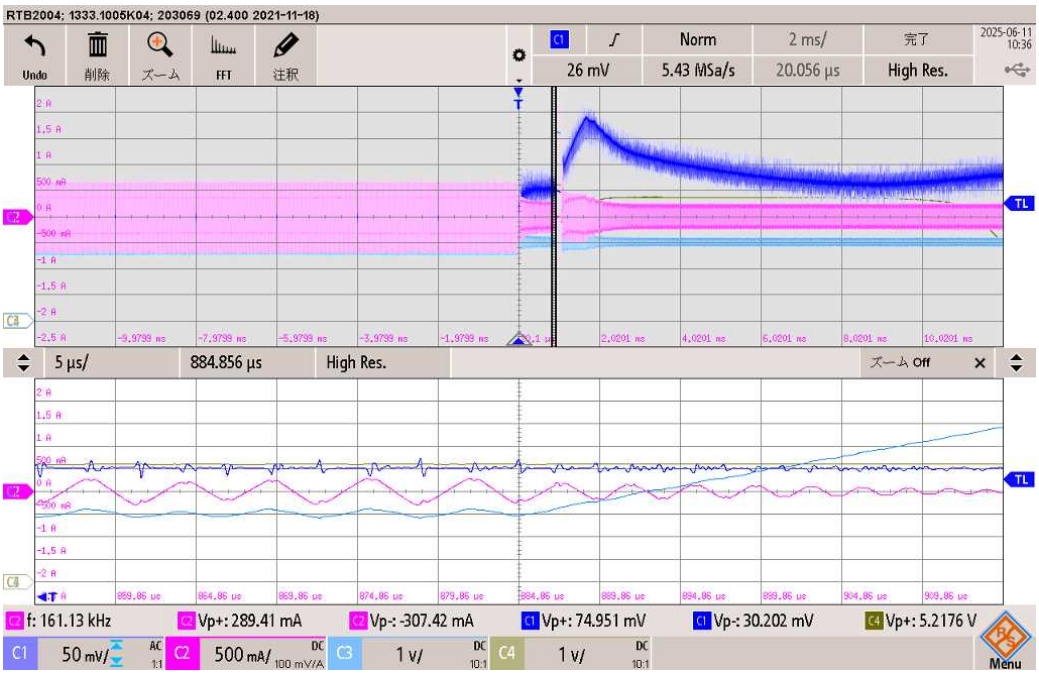


C1: 5Vout [50mV/div], C2: T1 primary current [500mA/div], C3: VCR pin voltage [1V/div], C4: FB pin voltage [1V/div]

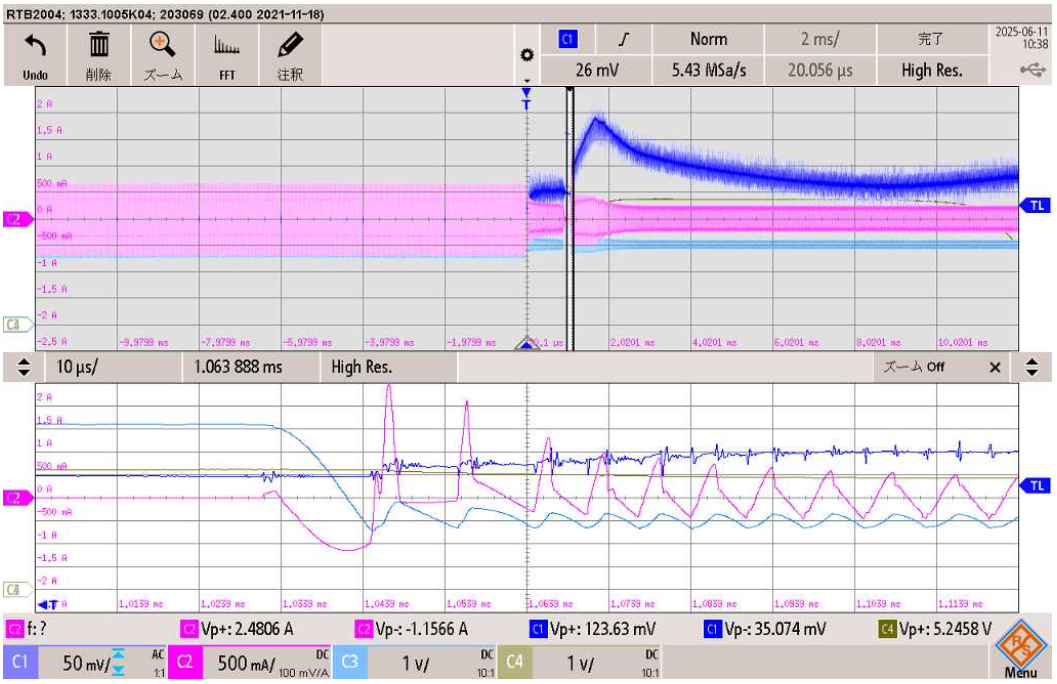
2.2 Same as above Enlarged waveform 2 [5 μ sec/div]



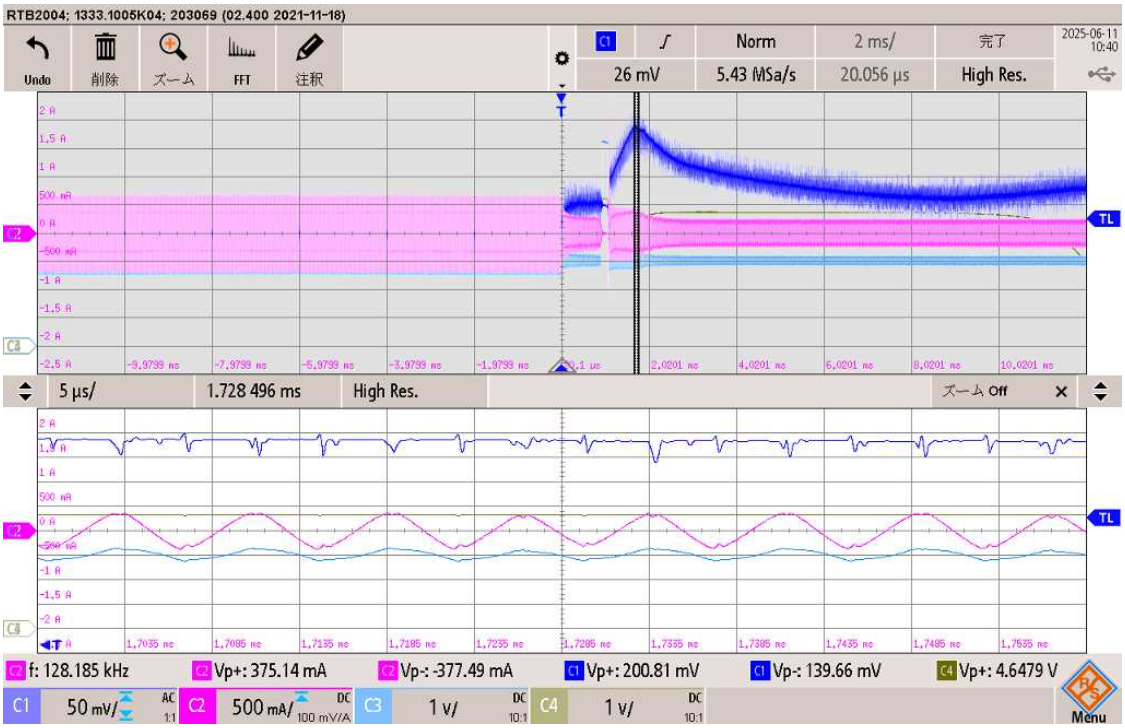
2.3 Same as above Enlarged waveform 3 [5 μ sec/div]



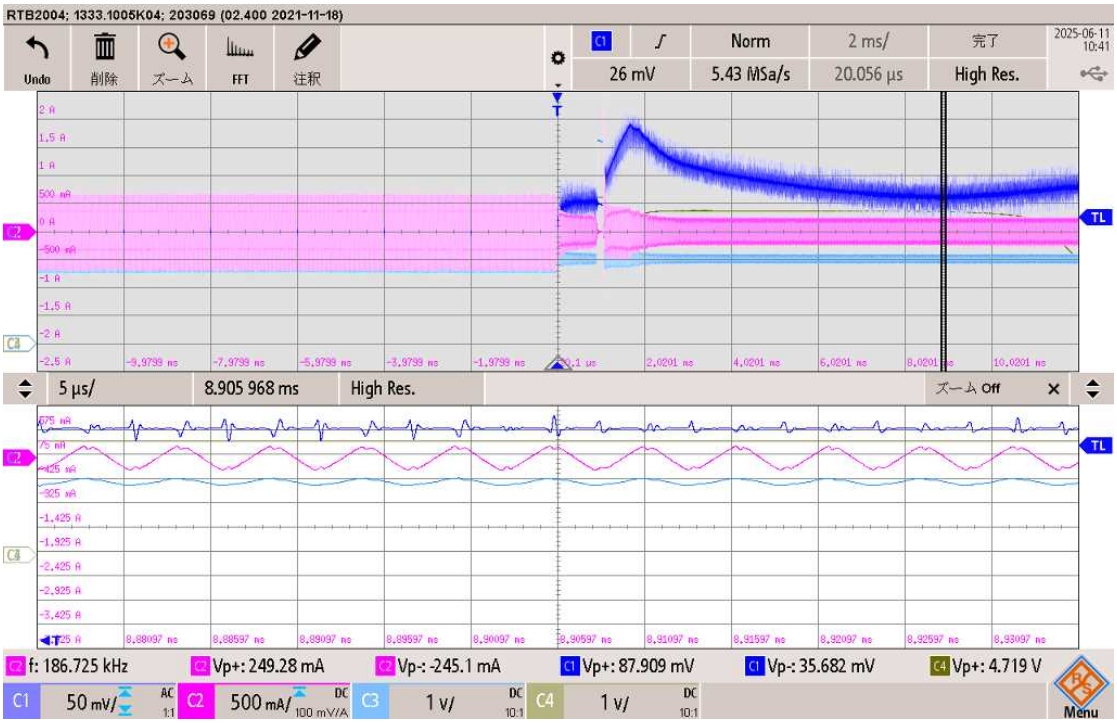
2.4 Same as above Enlarged waveform 4 [10 μ sec/div]



2.5 Same as above Enlarged waveform 5 [5 μ sec/div]

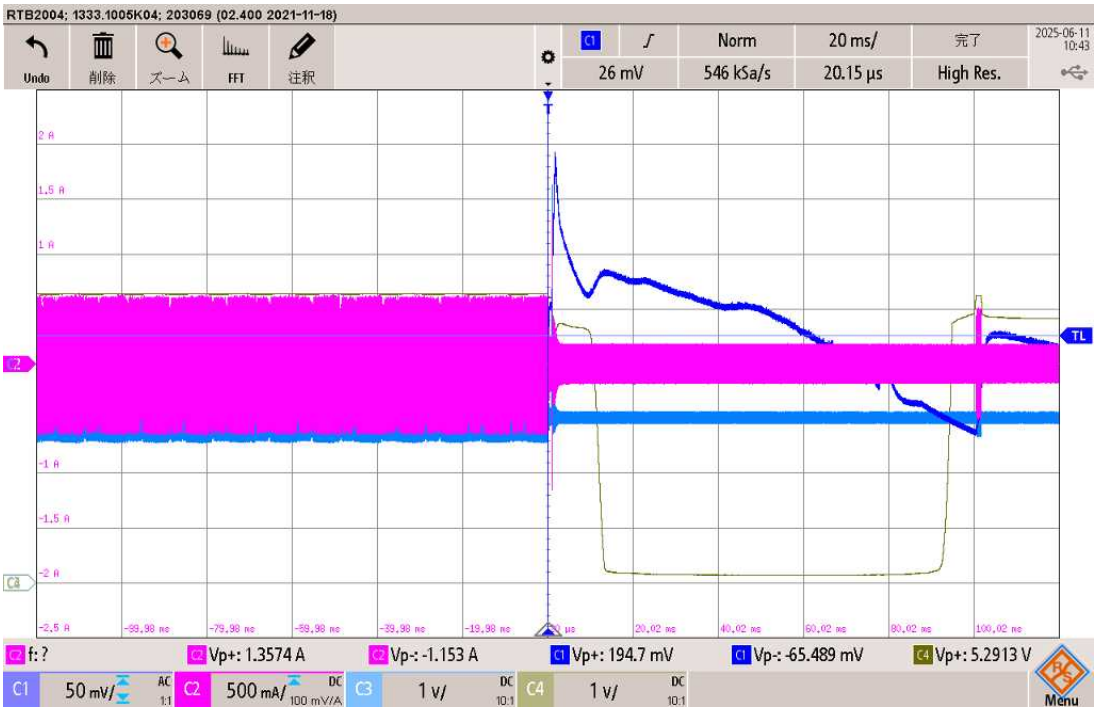


2.6 Same as above Enlarged waveform 6 [5 μ sec/div]



2.7　Waveform when 5V output suddenly changes from 100% to 0% [20ms/div]

Since the LLC control frequency cannot be rise above 200kHz, the 5V output voltage increases by approximately 200mV when the output current changes from 100% to 0%, deteriorating the transient response.



2.8　Same as above Enlarged waveform [5 μ sec/div]

Due to secondary side feedback, even if the FB pin voltage drops, the control frequency remains at approximately 189 kHz and cannot be increased above 200 kHz, delaying the convergence time to the 5V set value.　Due to secondary side feedback, even if the FB pin voltage droops, the control frequency remains at about189kHz and cannot be increased above 200kHz.